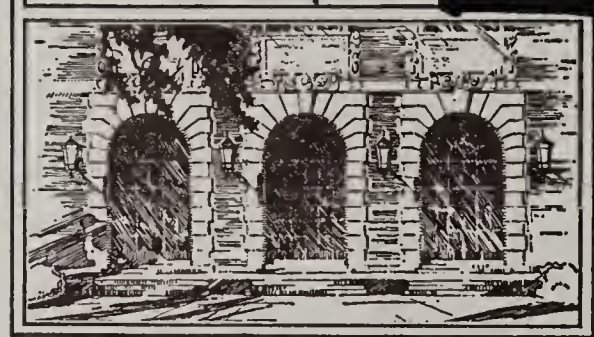
LIBRARY OF THE
UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

610.5
AM
v. 38
no. 1 - 26
Cop. 6 [redacted]



THE JOURNAL

OF THE

American Medical Association

A MEDICAL JOURNAL CONTAINING THE

OFFICIAL RECORD OF THE PROCEEDINGS OF THE ASSOCIATION, AND THE PAPERS READ AT THE ANNUAL MEETING, IN THE SEVERAL SECTIONS, TOGETHER WITH THE

MEDICAL LITERATURE OF THE PERIOD

EDITED FOR THE ASSOCIATION UNDER THE DIRECTION OF THE BOARD OF TRUSTEES

BY

GEORGE H. SIMMONS, M.D.

VOLUME XXXVIII

JANUARY—JUNE

1902

CHICAGO
AMERICAN MEDICAL ASSOCIATION PRESS.
1902

"The American Medical Association, though formally accepting and publishing the reports of the various Standing Committees (and Sections), holds itself wholly irresponsible for the opinions, theories or criticisms therein contained, except otherwise decided by special resolution."—TRANSACTIONS, 1851.

A-1
v. 38
no. 1-26
Cop. 6

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, JANUARY 4, 1902. No. 1.

Original Articles.

THE SPECIFIC AND NON-SPECIFIC LESIONS OF THE BRAIN RESULTING FROM SYPHILIS AND THEIR INFLUENCE UPON DIAGNOSIS, PROGNOSIS AND TREATMENT.

J. T. ESKRIDGE, M.D.

Alienist and Neurologist to the St. Luke's Hospital; Consulting Alienist and Neurologist to the Arapahoe County Hospital.

DENVER, COLO.

That syphilis is due to a specific poison that is capable of causing the development of luetic lesions in non-infected persons is an indisputed fact. Whether this micro-organism belongs to the vegetable kingdom and may be classed among the bacteria, or whether it may be found in the lower forms of the animal kingdom and may be classed with the plasmodia, or whether it may occupy a place between the bacteria and plasmodia must be determined by the scientific investigator. We are as ignorant of the true nature of the virus as was Fernelius, when nearly 400 years ago he formulated the seven laws of syphilis. Syphilis of the brain can not be acquired except the virus enter the blood or other juices of the body through a denuded mucous or cutaneous surface. From the external manifestations of syphilis that we are able to observe, we are justified in reasoning concerning the internal manifestations of the disease, the early developments of which we can not see. While the virus of syphilis reaches the different portions of the body through the medium of the blood and the other fluids of the body, yet it attacks the most vulnerable solid tissues with which it comes in contact. This is shown by the development of a chancre at the point at which it finds entrance into the body. The most vulnerable tissues of the body seem to be the skin, the exposed mucous surfaces, especially of the mouth and throat, the iris and the membranes and blood vessels of the central nervous system, those of the brain standing first. It is a well-known clinical fact that when the skin, mouth, nose and iris escape, or to express it differently, in the absence of the secondaries, the brain and probably other viscera are much more likely to be affected. This would indicate that the virus expends its force on the tissues which it first attacks, or probably the true condition might be better expressed by saying that when the virus of syphilis once invades a tissue that that tissue then loses much of its resisting power to the poison and is most likely to be the seat of subsequent manifestations of specific lesions.

Pathologic Conditions of the Intracranial Structures in Syphilis of the Brain.—The lesions of the brain that may directly or indirectly result from syphilis may be divided into three classes: 1, the specific or luetic lesions, those that are caused by the poison of syphilis and by nothing else; 2, those lesions of the brain that may have a specific or non-specific origin, and 3, the non-specific lesions of the brain that occur as indirect results of the syphilitic virus.

It is of the utmost practical importance when possible to distinguish between the specific and non-specific lesions affecting the intracranial structures. Unless such a differential diagnosis is made we are at a loss as to treatment and totally at sea in regard to prognosis. Only the specific lesions, those that occur as direct results of the poison of syphilis, are especially remediable to antisyphilitic treatment; while the numerous injuries caused by the presence of specific lesions or the degenerations resulting from toxemic or other blood states which may possibly result from syphilis, are in no way specific in character, and yield no more readily to antisyphilitic treatment than do lesions resulting from causes wholly unassociated with syphilis.

Gumma.—The typical specific lesions of the brain is the gumma. The first thing observed, especially in the meninges, is a small spot of inflammation. This soon leads to a knot of granulation tissue, which has been variously described as gray, grayish-red, semi-translucent or gelatinous. Early the new-formed tissue is extremely cellular and later becomes fibro-cellular. This mass of ill-formed granulation tissue, while it may continue to increase in size, soon begins to undergo caseation and fibroid degeneration in one or many spots. Evidence of congestion and inflammation mark the first stage and hyperplasia with degeneration, the second. The formation of the gumma is the direct result of inflammation, which undoubtedly has been lighted up by the poison of syphilis. It will be seen that it differs from the ordinary products of inflammation in being less highly organized and in having a greater tendency to degeneration. When the inflammation set up by the virus of syphilis is acute and violent, the inflammatory products at first vary but little from those of an ordinary or non-specific inflammation. It takes time for the gumma to assume its characteristic form. One of the greatest characteristics of specific intracranial inflammation, especially of the meninges, is its tendency to hyperplasia. The gumma varies in size from a line in diameter to several inches. It may be yellowish, reddish or of a grayish-white appearance, yet it usually has, when of recent formation, the feel and consistence of glue. No matter how large the gumma may become, nor how long it may have existed, it never becomes highly organized.

1027555

The degeneration may take place in one or two ways; either by caseation and fibroid degeneration, or by fibroid degeneration alone. Formation of masses of cicatricial tissues occurs as the result of fibroid degeneration. Gummatous deposits may be single, but they are frequently multiple. The brain substance adjacent to the gumma rarely ever remains intact, as the inflammation spreads to this. Gummata are most commonly found at the base of the brain, especially early, and the region of the interpeduncular space is a favorite site for the deposition of the products of specific inflammation. The sixth and branches of the third cranial nerve are often affected in the early stage. Gummata are often found on the cortex of the brain, invading the sulci, especially of the so-called motor region. They occasionally are found in the pons, rarely in the substance of the cerebrum and least frequently in the substance of the cerebellum. Gummatous inflammation of the membranes, both of the pia and dura is frequent, in fact, this is the most common form of intracranial specific inflammation. In inflammation of the membranes the tendency to hyperplasia is very great and the membranes, especially the pia, become so thick in the neighborhood of the optic chiasma as to present the appearance of a tumor. Inflammation of the dura is usually diffuse and the tissue form undergoes the fibroid change. It is thought to be most common in inherited syphilis. In the pia the inflammation is more commonly local, and the inflammatory products may undergo caseous, or fibroid change.[1] Finally, the walls of the arteries are frequently the seat of inflammation and of gummatous deposits. The sheaths of the cranial nerves undoubtedly may become specifically inflamed, and the nerves themselves damaged, either by extension of the inflammation, by pressure from gummata, or by constriction caused by the cicatricial tissue. That the nerve fibers and the brain substance have a greater immunity from the poison of syphilis primarily than do the meninges, the nerve sheaths and the blood vessel walls seems to be almost, if not, universally conceded, but that the brain and nerve substances are never the primary seat of specific inflammation, is doubtful, to say the least.

Some of the Specific Lesions and the Non-specific Ones that Result from Syphilis.—We must remember that while a specific poison is the cause of gummata, these by their presence, lessening intracranial space, by their irritating effects, encroaching upon and injurying adjacent structures, produce intracranial lesions that are in no way specific in character. Before considering the walls of the blood vessels, as affected by syphilis, let us try to study some of the effects of specific inflammation of the meninges. In an attempt at a differential diagnosis between the direct and indirect effects of syphilis, we must keep widely separated the idea of specificity and non-specificity.

I can not reiterate too often that this distinction is of the greatest practical importance in the prognosis and treatment of every case of intracranial syphilis. For the one class of lesions early in the disease, we have approximately specific medicaments; for the other there is no known medication of especial value. Recent gummata at the base of the brain exert pressure on the solid structures and interfere with their functions, the symptoms of the disturbed function depending upon the size of the deposits and their situation. The cranial nerves are compressed and irritated, and the membranes are inflamed. If appropriate treatment is instituted in the early stage, before caseous and fibroid degeneration takes place, and before injuries to the structures compressed become well advanced, the whole morbid process may be removed and a cure, so far as the local brain trouble is concerned, is complete. But, unfortunately, vigorous treatment is not always instituted early; it does not take long for compression of nervous tissue to impair permanently, although it may not destroy, the function. Caseous and fibroid degeneration sets in early. Although the gummatous substance may be completely absorbed, the fibroid and caseous degeneration leads to the formation of cicatrices and bands of contracting cicatricial tissue. These are non-specific lesions, are not specially influenced by specific medicaments, and remain to compress and throttle the cranial nerves and keep up irritation to a greater or less extent in the membranes and in the brain substance. If, perchance, they remain latent, they mark the situation for subsequent specific inflammation on the application of any of the various exciting causes. It is to these non-specific lesions at the base of the brain, which have resulted from specific inflammation, that many cases of impairment of vision, blindness, ocular paralysis, and chronic basilar headaches are due. These, of course, fail to respond to antisyphilitic agents. Many cases of optic nerve atrophy and of permanent paralysis of one or more ocular muscles may be thus explained, both in children and adults; for, it must be remembered that gummata occur as the result of hereditary syphilis as well as from that which has been acquired.

Gummata on the convex surface of the brain are most likely to occur in and around the motor convolutions. The effects, both from the specific and non-specific lesions, on these structures, the cortex and membranes, are the same as when the inflammation takes place at the base, but the symptoms are different. The same remarks apply to the effects of syphilitic growths within the brain substance. It may be added that intracerebral syphilitic growths are rare and probably arise from some portion of the pia. The characteristic form of specific intracranial inflammation is syphilitic meningitis. It is doubtful whether this form of meningitis, in the true sense of the word, is ever acute. In other words, an apparently acute attack of syphilitic meningitis is secondary to a pre-existing local and chronic specific inflammation of the membranes. If this is true, and I have seen no reason to doubt it, a syphilitic meningitis is always subacute or chronic; although acute outbreaks are not uncommon. Great thickening of the cerebral membranes sometimes takes place from specific inflammation. These thickened areas or patches in the membranes denote chronicity, and in consequence, while they are due to syphilitic inflammation, they are degenerative in character, composed of bands of firm fibrous tissue, the results of caseous and fibroid degeneration, and are not purely syphilitic in character. At the base of the brain these bands of fibrous degeneration are most commonly found in the neighborhood of the optic chiasma and in the interpeduncular space. Syphilitic meningitis, involving the convexity of the brain, is not infrequent, especially affecting the pia over the anterior and parietal lobes in the vicinity of the longitudinal fissure. According to my experience, when the dura is inflamed in this region the pia rarely altogether escapes; especially have I observed this when the cranial bones of the vault have been inflamed. The pia,

1. Gowers: Littsomian Lectures on Syphilis and the Nervous System, 1892.

on the other hand, may be inflamed and the dura remain free. In syphilitic inflammation of the pia the cortex is involved in the inflammatory and degenerative processes. We have a meningo-encephalitis which is partly due to meningitis and partly to degeneration of the arteries of the cortex. Here, again, while the specific inflammation has been mild and the specific exudate comparatively slight, the non-specific lesions are extensive, very destructive, will not respond to antisyphilitic medication, and hence are permanent in their effects.

There is one other change in the membranes to which I wish to direct attention. This is chronic thickening of the dura in the posterior cerebral fossa. It is commonly found in childhood as the result of inherited syphilis. I have only seen one case of this affection. It occurred in a child about 3 years of age, the offspring of infected parents. It had been sick for several weeks before it was admitted into the Arapahoe County Hospital. The head was extremely retracted; the body became greatly emaciated; but the patient lived, after it came under my care, one year. At the autopsy the dura of the posterior fossa, especially that portion surrounding the pons and medulla, was thickened, and the seat of old fibrous deposits. Some of these cases are said to have recovered. It is just possible that some cases of reported recovery from tubercular meningitis may have been cases of syphilitic meningitis.

Blood Vessels in Syphilis of the Brain.—We now pass on to syphilitic inflammation and degeneration of the blood vessels of the brain. Syphilitic endarteritis and peri-arteritis have been observed and minutely described by nearly every writer on syphilis of the brain, but so little has been said about syphilis of the veins that I shall quote from a case cited by Mickle.[2]

CASE 1.—Female, aged 45, died in an epileptiform attack due to hemorrhage at the brain base, from rupture of a syphilitic vein. There were clear signs of early general paralysis, and tabetiform ones due to diffuse embryonic meningo-myelitis. Syphilitic lesions affected the large vessels of the brain and cord. A diffuse vascular lesion affected the cerebral gray cortex, and in a less degree the subjacent white substance.

The large arteries of the brain present slight patches of ordinary secondary obliterative endarteritis; but the chief lesion is an infiltration of the embryonic cells in the adventitia, forming an intense peri-arteritis, diffuse, but in places nodular —the first stage of a gummatous process. In the veins the muscular connective tunic is lesed; in them the infiltration, although usually diffuse, takes here and there a nodular character, even more clearly, and so as to form miliary gummata when "caseification" sets in. The venous lesion exceeds the arterial at the brain base, where it has led to hemorrhage, and at the surface of the cord, and is largely independent of the meningeal and arterial lesion. The endovena does not show any proliferation; when it is affected it is so through invasion by the gummatous process. Hence, the ulterior tendency of the luetic arterial lesion is to narrowing, obliteration, and their results; in the veins, to hemorrhage.

Personally, I have not met with a case of venous hemorrhage due to syphilitic degeneration of the vessel.

ARTERIES: Gowers, in speaking of arterial degeneration, states that "except in the arteries of the brain and in the aorta, syphilitic disease is scarcely known."[3] In this he is mistaken, as syphilitic degeneration of the spinal arteries is not uncommon.

The walls of the medium, and sometimes of the larger, arteries of the brain are affected by a syphilitic inflammation and gummatous deposit, involving especially the inner coats—the intima and endothelial lining—of the vessels. This process is known as endarteritis, and on account of the tendency to obliterate the caliber of the affected vessel is sometimes spoken of as arteritis obliterans. In some cases, before the caliber of the vessel is closed, a small branch given off by the vessel is blocked and the blood supply to a very small area of the brain may be cut off. If a small artery, especially of the cortex, is thus closed, the collateral circulation may be sufficient to prevent necrotic softening, but it may not be sufficient to maintain the normal condition of the part, and this may explain the spots of induration found in the cortex of the brain, especially in syphilitic children. When the caliber of a medium or large vessel is occluded, necrotic softening in the area of distribution of the affected artery must take place, as the collateral circulation of the brain is so meagre that Nature is unable to provide against such violence. It is important to remember that the final closure of the vessel is due not to gummatous deposits, but to a blood clot formed at the narrowed portion of the vessel. Thus, while the greater portion of the vessel's caliber has been occluded by a specific lesion, the closure is finally completed by non-specific material that is not specially influenced by anti-syphilitic treatment. We have, then, in all cases of syphilitic occlusion of a vessel two non-specific lesions; one, the blood clot that completes the occlusion of the vessel, and the other the necrotic softening in the area of the brain to which the occluded vessel is distributed. These facts should be borne in mind in the prognosis and treatment of all cases of syphilitic thrombosis.

Gowers states: "A second effect is the production of aneurysm of the larger arteries—those that are the special seats of the disease."[3] The explanation given for the formation of aneurysm is inflammation and degeneration of the vessel wall by which extensible fibroid tissue is substituted for the elastic elements.

Mills, in his volume on "Disease of the Brain and the Cranial Nerves," says peri-arteritis attacks the smaller arteries and may give rise to miliary aneurysm and hemorrhage. In a case recently under my observation peri-arteritis involving the nutrient vessels of the pons resulted in local softening and death. Peri-arteritis of the nutrient vessels of the brain is not rare, but hemorrhage into the brain substance from specific inflammation of the vessel is infrequent.

I shall not tarry to discuss cases of supposed specific inflammation of the substance of the brain. Charcot and Gombault reported a case of chronic disseminated inflammation, with foci in the cerebrum, pons and optic nerves, and the tissue in many of the foci had undergone caseation. Barlow has observed foci of sclerosis in the cortex of the brain, without arterial degeneration in syphilitic children.

Gowers observes: "The spinal nerves seem to escape the influence of syphilis, and the cranial nerves suffer chiefly at the base of the brain, where several are involved in a focus of inflammation. To this some of the nerves to the eyeball seem to offer an exception; they may suffer alone. The facial nerve presents a remarkable freedom. The nerves that arise from the side of the medulla are often involved, especially the hypoglossal and spinal accessory causing palsy of the tongue, palate and vocal cord on one side. These palsies are seldom due to any other cause, so that their occurrence should suggest syphilis at once to your mind."[4]

2. W. Julius Mickle: On Syphilis of the Nervous System, Brain, 1895, part 1, pp. 115, 116.
3. Gowers: Syphilis and the Nervous System, p. 19.
4. Gowers: Littsomian Lectures, Syphilis and the Nervous System, 1892, p. 43.

Many of the nerve degenerations, both nuclear and system, are caused by the poison of syphilis. Some of these are evidently due to a primary degeneration of the nerve elements, and others may result from inflammation of the interstitial tissue. Whatever may be the method by which the degeneration is brought about when it has once occurred, antisyphilitic treatment can do no good.

It should be borne in mind that multiple lesions in syphilis of the brain are the rule. It is not uncommon to find most of the larger arteries at the base of the brain affected with gummatous deposits. In cases of syphilitic tumors of the brain it is the exception to find the blood vessels healthy. On the other hand, the walls of the arteries are the seat of numerous gummatous deposits, while the other structures of the brain are free from the appearance of syphilitic disease. We may conclude from this that the blood vessel walls are the most vulnerable intracranial tissue to the virus of syphilis.

TREATMENT OF NEURASTHENIA.*

J. G. BILLER, M.D.
CHEROKEE, IOWA.

I suppose we all recognize the fact that there never can be any ready-made, hand-me-down treatment for neurasthenia. When we consider neurasthenia from an etiological standpoint, and then attempt from this consideration to evolve a rational treatment that will not only cure the patient but at the same time make him or her comfortable enough to live until the cure is effected, we certainly have ample food to satisfy our appetite for conundrums.

It is all very well to say that the principal causes of neurasthenia are toxin, malnutrition, fatigue, or emotions, and that the treatment depends upon the cause. This of course is so, but it is just as true that we may have a patient that is long on causes and has a neurasthenia that is caused by all of these conditions combined, and this is not all, as the nervous system governs and controls all the organs of the body, and as these organs take advantage of the weakness and irritability of their masters to act in all sorts of irregular and uncomfortable ways, it is no easy task to tell whether their action depends upon the neurasthenia, or the neurasthenia depends upon them. When we consider this jumbled up mess of cause and effect and effect and cause, it is not surprising that we sit down in despair and wonder what to do first. I find it best to first carefully examine the patient, being sure to ascertain the condition of each and every organ as well as possible; also inquire into the habits of the patient. This examination may or may not give us much information, but if it does not, it gives the patient confidence in us, or at least helps to do so, and this I consider a very important part of the treatment.

CONFIDENCE OF THE PHYSICIAN.

All of us, of any considerable experience, have treated many cases of neurasthenia successfully and probably as many more without success, and as we carefully review our work we are unable to see why one patient should have recovered, and another failed to do so. It is often humiliating to see a patient whom we have failed to benefit, gradually and continuously improve, under possibly the same treatment, in the hands of another physician. We may break the force of the fall by declaring that there was nothing the matter, or they would have improved just the same in our hands. I do not believe that such is the case. The different results are due simply to the fact that we did not have the confidence of the patient, and our successor did. I have become so certain that confidence in my ability to do the very best that can be done for them is such a necessary factor in the bringing about of a cure in these cases, that I rarely take charge of a case of neurasthenia where there seems to be a lack of faith in me; it is true that it sometimes takes more tact and management than I possess, to successfully pass them over, and I am forced to treat them, but I do so with my mind fully prepared for their departure.

Do not think that I believe the only thing necessary to cure these people is faith; for, such is not the case; but a neurasthenic nervous system is lame, and in such a condition that it must have someone as a nervous crutch to help it along from time to time, until once more strong enough to go alone, and as a rule the attending physician must be the support. This is plainly demonstrated by the fact that, after seeing the physician and having a chance to relate their various bad feelings, and being reassured that these are nothing to be alarmed at, etc., for considerable time the patient gets along nicely. But after so long a time we have to go over the same ground again; they require the same reassuring and once more are strengthened and feel better for a longer or shorter period varying according to the condition of their nervous system or the external conditions brought to bear upon it. These things often seem childish to us, who are strong and well, but they are important to the patient, and it is for this reason that our visits and consultations with these people should not be hurried nor too far apart.

DIET.

Proper feeding is an important, and often neglected part of the treatment. I have seen delicate women who were what we might call natural neurasthenics—that unfortunate class who are launched into life with a nervous system so frail that it can scarcely supply sufficient nerve force to meet the ordinary demands of living—I have seen these delicate women systematically starved for years, while they underwent all kinds of scientific treatment: drugs galore, electricity, massage, and even starvation by rule at well-known sanitariums. After having endured these things, without benefit, while in the hands of men of reputation and skill, they naturally wandered outside of the regular routine and took in the novelties, as osteopathy, etc. After all this I have seen them improve as if by magic when put on a liberal diet of common-sense food, accompanied by such medication as assists nature in digesting and assimilating the food taken. It is not feeding these people properly to place them on a diet composed of these high-priced concentrated foods, that one teaspoonful equals in nourishing power the flesh of two oxen and ten sacks of flour; their stomachs will not stand it, more padding is required. Neither is chopped feed, no matter how well roasted, nor how well and attractively it may be packed, nor how skilfully advertised, nor how highly endorsed by medical authority. We are too apt to think that, because the patient complains of unpleasant and disagreeable sensations in the stomach after having taken food, that the stomach is being worked beyond its capacity, and that the amount of food must be diminished. It has often been a surprise to me to see how one of these starved and pampered

---

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Hugh T. Patrick and H. A. Tomlinson.

stomachs will behave, when its complaints are treated with silent contempt, and it is regularly and frequently filled with plain nourishing food, such as oatmeal and cream, stale bread and butter, milk, potatoes and beefsteak, soft cooked eggs, etc.

All cases of neurasthenia do not require to be put on a stuffing diet; but nearly all want some considerable attention paid to it. While many cases are suffering from underfeeding or rather no feeding, many others are suffering from overfeeding, or wrong feeding. It is no unusual thing to find men who are exhausted by long and hard mental work, attempting to get rid of their depressed feeling by taking large and heavy meals, which simply aggravate their trouble. I have recently seen one of these men whose occupation required the most exacting and continual mental effort for eight hours during the night, who habitually took a breakfast of baked beans and pork, or a large beefsteak and fried potatoes and finished with some kind of pie, usually mince; then go home and to bed to awake a few hours later, with a palpitating heart and all sorts of paresthesia, which frightened him terribly. This particular man had been under treatment for many months for his neurasthenia, but no inquiry had ever been made as to his diet, although he had consulted several physicians. The rapidity with which he improved when put on a more rational diet, demonstrated the importance of the physician knowing how much and what kind of food his patients are eating, if he expects to treat them successfully.

FRESH AIR.

Another important thing in the treatment of these cases is plenty of fresh air, and it is strange to say that although there is no end of this great necessity which is all about us, yet our patients suffer more for the want of it than we fully realize. This is well shown by the fact that we have all learned by experience to expect that these delicate cases, which I have referred to as natural neurasthenics, will have a sick spell along towards spring of each year. I have thought these attacks could often, and possibly always, be avoided if these unfortunate people could only have an abundance of fresh air, obtained out of doors during the winter. We hardly realize how long and continuous is the confinement of these frail women, in the close rooms of one of our atrocious modern homes, where often every device that money can purchase and mechanical ingenuity contrive is brought into play to shut out fresh air, and replace it with overheated air that probably has been in the house for days and weeks. It seems impossible to contrive ways and means that will make it possible to get them out each day for a longer or shorter time. They are too feeble to stand the physical exertion necessary to keep them warm, and the weather is too cold for them to get out and sit around without taking exercise; still each year I become a little more determined, and insist a little stronger on their not staying in the house all the time.

REST.

Rest is also of great importance in neurasthenia, both mental and physical rest, and in no way is this obtained so well as in sleep, which is nearly always poor in this class of people. Good feeding and good air does much to help them sleep, but occasionally and sometimes frequently, for a time, these people must have a suporific. I have found sulfonal, in small doses, usually the best for this, but it should only be dispensed by the physician himself, and if possible the patient should not know what he is taking. For, often the rest by night is desired, only to enable the patient to carry on some exhausting labor during the day, and if he has the drug in his own hands he will get to depending upon it and may do himself much harm, not only by acquiring the habit of using a hypnotic, but also by enabling him to benumb nature and wear himself out without realizing what he is doing; I think the physician should not become a party to any such thing. If people want to ruin themselves mentally and physically we may not be able to prevent it, but we can refrain from helping them. It is sometimes impossible to have people take the required amount of rest at home, where everything continually reminds them of the work they are attempting to forget and abstain from; for this reason it may be wise to advise a change, but this should be done carefully; too frequently the change taken is only a change from one form of labor to another, and the patient comes back to you in a worse condition than when he went away. If he is sent from home he should be sent where he will be able to rest, not where he will have to rush here and there to visit this person and that historical place; these things will divert the mind, but do not rest the tired brain or body, and the latter is the necessary thing, and though some diversion may be required to make the rest bearable, we must keep the fact in mind that this is but of secondary importance.

MEDICINAL TREATMENT.

Besides the proper feeding, fresh air, and rest, I believe there is a large field for the judicious use of medicine, but to attempt to cure one of these cases, by using the so-called tonics, will be disappointing to both patient and physician. The remedies that I have found of benefit are those that assist in digestion and increase the activity of the liver; the latter organ is too much neglected.

I have been surprised at the benefit that has been derived from a quarter grain of calomel every second night for a week or so; it often produces great pain in the bowels and nausea, but after this, the stomach acts better, the bowels are not distended with gas, and there is a general feeling of well-being in the patient. Besides these, it is necessary to relieve the many distressing sensations which are annoying the patient. I will not attempt to enumerate these, for they are all so well known to us that it would be a waste of time to do so. I will add that I have found, as a rule, that the older and more simple remedies are usually the producers of the best results in relieving these things and do not leave as bad a condition as many of the newer and higher-priced ones.

In closing this paper, I wish to say that I am well aware that the ideas here advanced are not new. I have found them of importance in my own work, and so generally ignored in the practice of many with whom I come in contact, that I feel it my duty to keep continually calling the attention of the profession to rational management of this affecion, instead of being lead hither and thither by those will-o'-the-wisps, so persistently dangled before us by interested parties.

DISCUSSION.

DR. J. H. MCBRIDE, Los Angeles, Cal.—It is a significant fact that the man who first gave us a rational treatment for a certain class of nervous disorders, Dr. Weir Mitchell, was the author of those beautiful essays called "Characteristics," which show how thoroughly he understood human nature and what we may call the psychology of daily life. The physician who does not grasp the mentality of his neurasthenic patients

may cure some of them, but he will cure them by accident, for the mental condition is the first thing to understand. A very important consideration in the management of the neurasthenic is the outdoor life and exercise. In Southern California where we have 340 sunny days in the year we have an ideal climate for such people. The neurasthenic should be told by the physician how far to walk and how often and when. The details should not be left to others. A veranda or pavement is not a good place for an invalid to walk. Walking on a pavement is much like running a sewing machine. The soft, yielding ground is the better place. The patients should be forbidden to climb hills until they have grown strong. A patient of mine lately overdid this and had to return to bed. I can hardly endorse the Doctor's prescription of oatmeal and cream. Oatmeal is a pasty mass and the mixture is not easily disposed of by the delicate stomach. The indigestion and prostration of many of these people are not infrequently aggravated by their living on liquid diet. I recently began treating a lady who for many months had lived almost exclusively on liquid diet. I gave her a beefsteak at noon, and she said she had less trouble with it than with any meal for a great while.

DR. JOHN PUNTON, Kansas City—The treatment of neurasthenia is very important from the standpoint of the general practitioner, and I think the question of expense ought to be considered in any paper on the subject. Many patients who would attempt to follow the plan of treatment outlined in Dr. Biller's paper would require a considerably larger bank account than they could command. It is necessary to make some provision for the poorer neurasthenics, as well as for those who subsequently become insane, because I believe there is a close relationship between neurasthenia and insanity. In fact, it has been claimed that the more serious forms of neurasthenia are really forms of insanity. It is very difficult to draw a line of demarcation between an aggravated neurosis and mild melancholia. I think every state should make some provision for neurasthenics belonging to the poorer class.

DR. C. EUGENE RIGGS, St. Paul—In the treatment of neurasthenia the best tonic is good food. The iron preparations are of value in their proper place, but better than these and more essential is nourishing and easily digestible food. Nor should we underrate the importance of the confidence of the patient in the physician, although I do not regard this as absolutely essential, because if we have the case well in hand, and understand this subject as professional men should, we can so handle our patients that faith will come in consequence of the success of our treatment. As to whether we should advise a neurasthenic to travel or not, that is a two-edged sword. It may benefit him or it may harm him. I remember the case of a man who had apparently recovered from his neurasthenia. He took a continental tour, and while away from home developed acute melancholia and finally committed suicide. I know of other cases where travel resulted disastrously, and I feel that in any case it should be advised with much caution.

DR. HAROLD N. MOYER, Chicago—I think that the problem we have to deal with in the treatment of neurasthenia varies in different parts of the country and according to a man's clientele. We have to adapt our treatment along the general lines laid down by the essayist, but it must be modified according to the indications of the individual case. I would emphasize the suggestion that a large dose of "Doctor" should be given with any form of treatment. In two cases of neurasthenia under observation during the last winter one was cured by complete rest, and in the other the patient recovered under a modified rest cure, a modification of the treatment in both of these cases consisting of keeping the patient in the open air for several hours each day, even when the weather was very cold. On the first day one remained in the open air for four hours, on the second day for six hours and on the third day for eight hours. The improvement in this case was immediate and remarkable. The nutrition was influenced beyond anything I had ever seen in connection with the rest cure. In another case, where I was not able to have the patient taken out of doors and could only remove the windows of her apartment for a part of the day, the result of the treatment was not quite so marked, but still it was satisfactory. I simply mention these instances to show the value of out-of-door treatment in a climate like that of Chicago in mid-winter, which I consider far ahead of that of Florida or Los Angeles or any of the so-called "soft" climates.

DR. F. SAVARY PEARCE, Philadelphia—In regard to the best form of exercise for neurasthenics I would recommend horseback riding, for the twofold reason that the patient does not exert himself too much and gets plenty of fresh air, and furthermore, because a man can not think about himself while riding horseback. I have seen excellent results follow this form of exercise. I certainly disagree with the suggestion made by Dr. Punton regarding state aid in the care of neurasthenics. For the same reason, I would dissent from the possibility of anything in the line of institutional treatment in these cases, because we wish to remove these patients from an environment which would tend to increase their introspection.

THE CHAIRMAN, DR. H. A. TOMLINSON, St. Peter, Minn.—The question of proper feeding in its relation to the treatment of nervous disease is a very important one, and its consideration leads one to appreciate the force of the dictum of Sidney Smith: "The Lord made the food, but the Devil made the cooks." The physician himself is not sufficiently acquainted with the chemistry of food, or its proper preparation, to say how it should be prepared and know when it is properly done. Food is more often spoiled in cooking than improved and wrong preparation will make any food indigestible. People in general have queer tastes and appetites, and this is especially true with regard to neurasthenics. Another important element in the treatment of these cases is elimination. While we are coming to appreciate the important part played by autointoxication, we are not as fully alive to the fact that the results which follow from that intoxication are made possible by faulty elimination.

In the care of the neurasthenic at his own home we meet with the difficulty of dealing with a certain class of people who have neither the domestic facilities to properly care for the patient, nor the mental training necessary to appreciate the importance of the various phases of treatment; and it therefore becomes essential, as Dr. Moyer has already pointed out, that a large element of "Doctor" should enter into the treatment of these cases, and that the attending physician should carefully train a member of the family to carry out his instructions. The foolish sympathy and constant solicitude on the part of the various members of the family, as well as the lack of will power to control the patient, often renders futile the efforts of the physician in the treatment of these cases. These may appear to be trivial points, but I believe that many failures are due to our not appreciating them.

DR. J. G. BILLER, in reply—In regard to the question of diet, I only referred to it in a general way. I agree with the gentleman who spoke of the value of beefsteak as an article of diet in these cases. I look upon large, well-cooked steaks as a very important part of the diet. The majority of our cases of neurasthenia occur among poor people, and it is a conundrum to know what to do with them. The burden falls on the physician, who frequently lays down his rules of treatment only to find at his next visit that they have been amended at the suggestion of some of the neighbors. As regards travel in these cases, it is a thing which should be prescribed with care. I recently had an illustration of its harmful influence in the case of a neurasthenic woman who was in very good circumstances financially. She was an ambitious and intelligent woman, who did a great deal of intellectual work, reading papers before societies, etc., and in the course of time she broke down and developed symptoms of neurasthenia. Frequently, at night, she would have attacks when she thought she was going to die. I did what I could for her, and fortunately, about that time, she developed typhoid fever; this gave her a good rest and when she recovered from the typhoid her neurasthenic symptoms had also disappeared. Subsequently, she again took up her literary work and traveled extensively, attempting to visit as many historical points as possible, and as a result of this she again developed symptoms of neurasthenia, for which she is now, I believe, under the care of an osteopath.

THE NERVOUS RELATION IN DISEASES OF THE NUTRITIVE SYSTEM.*

HENRY S. DRAYTON, A.M., M.D.
NEW YORK CITY.

We may postulate as a general statement that those who have given attention to the causal relations of American dyspepsia are agreed that our social habits, our methods of business, our irregularities and excesses of diet, and our nerve excitability, lie at the bottom of most of our stomach troubles. As a single causal factor it would be agreed that the wear and tear incident upon our excessive nerve activities as a people are much too severe for the maintenance of gastric integrity. The strain almost continuously put upon the central nervous system reacts disastrously at the sympathetic foci of food conversion. Nevertheless, it is not the amount of work actually done, not the muscular exertion nor the nerve labor in itself that are responsible for the diseases of the stomach and intestine; but it is the manner in which the work is done, the excitement and irritation to which we subject ourselves.

AIDS TO DIGESTION.

With this very brief reference to the etiologic factors of our national dyscrasia, let me pass to a brief consideration of the trend of opinion with a large class of pathologists concerning the treatment of gastric disorders, which may be introduced in the following parliamentary style: Whereas digestive enfeeblement is due to incapacity of the organism for the proper conversion and assimilation of food substances, to-wit—the stomach failing to secrete its normal juices, the liver being incompetent to produce sufficient bile, the pancreas too feeble to supply its quota of emulsifying fluid to the duodenum, the spleen overcrowded for the exercise of its function, it is necessary to supply in some convenient form, as mechanically or chemically prepared, compositions and extracts organic or inorganic, which shall aid to the effective operation of the digestive apparatus, and thus supplement the needs of human nature for tissue nutrition.

How respondent to this is the manifestation of interest on the part of druggist and chemist, who would supply the physician with the organic derivatives, the peptonates and the diastases, and other kindred incitants of stomach function! The professional consensus is thus complemented by the commercial or business interest, and it would appear that such a combination should meet the popular demand in so happy a fashion as to furnish relief to all digestional woes. But is this the case? Really far from it. Indeed, so far from it that there are some physiologists who assert that we are almost as much in the dark with regard to understanding the vital procedure of digestion as were our grandfathers; and however skilfully we may treat stomach and intestine our peptonates and maltates and enzymes will have but a limited range of usefulness. Whether the trouble of our patient be salivary, peptonic, amylaceous, hepatic or what not, the products of the laboratory fail to produce the intended effect.

One has said of amylaceous dyspepsia: "It has long been a problem of the profession, a *bete noire* of disease which we could not reach. If we used alkalies we rendered the saliva too alkaline; if we prescribed acids we neutralized the naturally existing alkalies, so necessary in that fluid. . . . It does not always happen that digestion occurs in the test tube exactly as it is thought to occur in the human stomach; there are, however, many things to be gathered in the study of digestive ferments from theories in the lecture room and tubes in the laboratory."

The experiments of Beaumont with Alexis St. Martin, and the later experiments with tubes that are introduced into the stomach of the living subject furnish many lessons regarding what nature does with this or that substance.

NATURE'S RESOURCES.

In our zeal to provide aids and substitutes for digestion the proper value and capacity of natural function seems to be overlooked. We limit the power and quality of the nervous apparatus having relation to gastric function and need to be reminded that nature has endowed it with a very broad field of adaptation as concerns foodstuffs; it will appropriate to the purpose of nutrition substances widely different in composition. From the whale blubber of the Eskimo to the viscid clay of the Ottomacs its capability of conversion indicates a protean diversity, so that the term "omniverous" of the naturalist is not far-fetched in its application to the human alimentary function.

Of the races and tribes of the world scarcely two feed alike, yet all find in the products of their habitat sufficient material, be it animal or vegetable, of the land, sea or air, to satisfy the cravings of appetite. The peasantry and laboring masses of Europe content themselves for the most part with cereals—oatmeal, bread, potatoes, rice, barley and maize—with the addition of vegetables, milk, butter, cheese, oil, etc., according to custom, or necessity. The well-to-do Englishman demands his mutton chop or rib of beef as essential to his vigor, while the Scotchman maintains a higher degree of general robustness on his porridge and milk. The hardy "bashi-bazouk," after a day's hard fighting amid the mountains of the Caucasus, regales himself with black bread and onions, while that Yankee of the far East, the nimble Jap, is content with a handful of rice to begin and end a day of severest toil.

It is not long since physiologists found it necessary to modify views on tissue nutrition that had been regarded for a long time as standard. The teaching that foods were divided into muscle-building proteids and the oxidizing carbonaceous foods is now disproved, and we are more certain that nitrogenous or proteid tissues are not alone the result of proteid compounds and that fat accumulation in the body is not due altogether to consumption of fats and carbohydrates. It is also known to the experimental observer that hard work has little if any effect in the consumption of nitrogenous tissues beyond the degree of such consumption when the person is at rest; while muscular activity is attended with loss of carbonaceous matter. The disposition of mankind at large to use a large proportion of the carbonaceous compounds in their diet is thus seen to be but a natural expression of physical need.

Assuming, however, that such a proposition as that proposed by Professor Voit to be correct, namely, that in the foodstuffs required to maintain equality between bodily income and expenditure, there should be five times as much of the fats and carbohydrates as of the proteids, man has but to eat sufficient food to obtain these proportions at least. It must be noted that the proportion above stated is the result of studying the relation of diet to physical exertion. People generally respect the demands of the appetite and pay little attention to eco-

* Read at the Fifty-second Annual Meeting of the American Medical Association in the Section on Physiology and Dietetics, and approved for publication by the Executive Committee.

nomic principles in their choice of a dietary. To be sure, more regard is paid by modern society to the hygiene of diet than formerly—yet is dyspepsia less common among us? I would not go the length of Fothergill in decrying the use of artificial digestives, but I feel justified in maintaining with Manges that the usefulness of the various ferments, etc., in gastric disorders is a limited one. Further, I would call attention to the fact that this opinion finds a recognition in most of the later treatises on the physiology of digestion or diseases of the stomach.

RELATION OF NERVE FATIGUE.

While the chemist may obtain results in tube or beaker that appear very definite in character as regards the potency of a certain enzyme, it must be appreciated that the biochemistry of the human body is quite another thing, that the processes of life have certain peculiar properties in their operation that are entirely wanting in the action of the pepsin or the ferment that is mechanically placed in the laboratory tube. Certain reactions may be positive enough in the test tube, but in the stomach those reactions may never occur, or be so modified by the conditions within the stomach as to be quite negative in result. Hence it is that the physician is so often disappointed in the sequelæ of a treatment of which he had formed a most sanguine view. The nervous relation of alimentation, the vital sources of gastric change, had not been sufficiently considered; the power of the stomach secretions to decompose and change, and counteract the remedies exhibited had not been adequately estimated.

Further still, it is to be considered that nature has reserves that may be put into the gastric field and do excellent work in cases considered desperate. Even in the absence of pepsin or rennet in the secretions of the stomach membrane, there are the various enzymes and salts of the pancreatic, hepatic and intestinal secretions that are capable of doing the work of conversion. Kellogg[1] reports as one result of a careful examination of the stomach contents of nearly 4000 patients having chronic disorders of that organ, that a deficient amount of ferments was discovered in but 1 per cent. of them all. The fact that these ferments exist in the body and that their deficiency may be the cause of intestinal disorders is the chief warrant for the administration of the artificial substitutes. Probably it is no libel to say that a large number of us employ them as a convenient form of placebo in cases where the patient's condition suggests little if any active medication. This is done, too, with the impression that if the ferment does no good it will do no harm—an illogical notion, and really pernicious in effect. These artificial substitutes for the natural products of a living organism may do harm. This has been urged by Brunton, Laabe, Grote and others, and in the circulars and "essays" of the manufacturers we may daily read of the inadequacy and inequality of this or that peptonate marketed by some competitor.

But of the contentions and rivalries and theories of chemists and dieteticians, the great body of people care not a jot. To satisfy appetite is the main purpose of eating with them, and that which is simple, "hearty" and coarse is preferred to the elaborate dishes of the epicure. Note the buxom men and women, the plump, red-cheeked children of the laboring classes, especially those from other lands; their intelligence rises not into the realm of contemplating their food through the glasses of the hygienist. The sturdy mechanic sits down to a table that is laden with a stew, or a roast, or a soup, flanked with a side dish of potatoes or cabbage, a liberal chunk of bread and a cup of coffee or tea, eats to contentment, and afterward goes to his bench or recreation without a thought of his stomach. Your cultivated merchant or professional man, fastidious and finical in his eating, is troubled with a rebellious stomach; his nerves are over-sensitive. The elaborate variety he deems of so much importance to good digestion and thorough nutrition does not save him from pyrosis and constipation.

The hospitals and sanitariums for chronic disease are attended in the great majority by dyspeptics. These furnish us a history of nerve function irritated and worn by irregularities and negligence, and if they find relief and healing at their chosen retreat, it is because of its simple food and restful régime.

CONCLUSIONS AND COROLLARIES.

Looking at the subject of nutritive failure from the point of view of nerve fatigue it is not so remarkable that the broken-down stomach will exhibit as a rule a ready capability for the recovery of its functions when given the needed opportunity by the abandonment of the unnatural course of life that has impaired it. If in ordinary affections of the alimentary system the nerves play an important part, how much more important is their relation to wasting diseases, such as tuberculosis, carcinoma, ulcers, diabetes, chronic nephritis, etc., diseases that force the food question into most conspicuous notice! I believe myself warranted in saying that here especially the office of the nerve centers is accentuated and must be taken into careful account with regard to any treatment. In kidney maladies prohibition of starchy foods, oils and fats may appear to modify symptoms favorably, yet the continued decline of the patient in strength indicates that the good supply of proteids we may put into his stomach is not properly assimilated. The "restricted diet" is not what is indicated, and we return to the "all around" feeding; there follows a gain in weight and the patient feels better generally.

But does the absence of carbohydrates in the so-called "diabetic dietary" prevent the production of sugar? No. The blood contains sugar, normally. The tissues contain a good proportion of the carbohydrates, and thus in themselves furnish the material for the organic production of glucose. These are facts to be appreciated in our management of kidney derangements. A healthy man could not live on a purely nitrogenous diet, as Landois says, and as experience teaches; so that in a disease of such rapid metabolism as diabetes it is apparent that the food should be as much as possibly of the mixed variety.

That the nervous apparatus of the stomach must play a large part in the diabetic expression seems to me to be clearly made out by the fact obtained in the exhibition of codein, to which high value is very properly given as a remedy in the therapy of diabetes. Several years ago while on my way to Northern Vermont to attend a consultation I fell in with an elderly clergyman, who, learning somehow of my profession, gave me a history of his experience as a diabetic. He had been a missionary in Africa for many years, and finally, on account of the malady, was compelled to withdraw from active service. On his route homeward he fell in with an eminent English physician, who put him on "codeia" with such excellent effect that he found himself after a little time in a comparatively comfortable state, and he assured me that this was the situation at the time of our meeting.

A little thought upon a case such as this would make

1. Modern Medicine, March, 1896, p. 57.

sufficiently clear the relation of the nervous system to the gastric and renal lesions involved in functional innutrition and convince us of the existence of a neuro-alimentary dyscrasia as the basic clemtn in the malady. The pathologic showings, such as we have, of the importance of the duodenum as a functional center for those metabolic changes by which saccharine matter is derived, intimate the relation of the "second stomach" to the etiologic factors in diabetes. Dr. J. M. Allen, in a paper before the Association, in 1899, reviewed the symptoms, and pathologic evidences in twenty-six cases, and arrived at the conclusion that it is the duodenum in which chiefly occur the lesions that are causative of the dreaded malady. Taking into consideration the origin and distribution of the par vagum and the connection of the duodenum with the sympathetic centers, he is inclined to regard "peripheral irritation as the more probable factor in the disturbance of the glycogenic function. Brown-Sequard and others have well established the fact that reflex irritation is sufficient to arrest and prevent secretion, and, if continued long enough, to produce structural change of tissue."

TREATMENT.

In the detail of treatment founded upon these conclusions, he advises the taking of such foods only as can be digested in the stomach, thus allowing the duodenum to rest, and preventing congestion. For the control of reflex irritation morphin or chloroform three times a day is advised. The principle in view is not deprivation of the carbohydrates in the food given, for the sake of avoiding the excessive secretion of sugar, but to supply the diabetic with ample nutritive material, and at the same time afford the nidus of functional derangement the quiet essential to recovery of normal condition. The use, then, of codeia by the older physicians is seen to have a physiologic foundation, and, with our better comprehension of the procedure of digestion, we should be enabled to combine the principle of rest with the principle of appropriate feeding in treating diabetes and allied maladies more successfully.

Reviewing the points involved in the field I have traversed with such brevity, is it not clear that one factor in the vital economy of the human constitution has been much neglected, viz., the relation of the nervous system to digestion? Is it not a matter of oversight that heredity may be a causative factor of diabetes, or that a gouty diathesis has a relationship to its existence, or that there is a possible connection between it and a disordered pancreas, as Von Mering and Lepire appear to insist? Nevertheless, the chief objective in the management of diabetes is to bring about a better nutritive condition, an improved constitutional feeling, a more cheerful view of one's personal relations to life.

On this account have we not resorted to methods in treating dyspeptic cases that were either quite unnecessary or contributory to greater disturbance of the alimentary organism? Instead of inducing calm have we not considered it necessary to give excitants and stimulants to arouse the weak and atonic stomach, when what was really required by its nervous apparatus was rest? After all our generalizations we have not fathomed the mysteries of nutrition, and the fact remains that nature in the recesses of subconscious activity can better manage the procedure of tissue building and repair than we can with all the wonderful array of tonics, emulsions and extractions. If it be rational to "give the devil his due," it should be more reasonable to give the gastro-intestinal system credit for capacity to do its own work, and not hastily or deliberately interpose obstacles to hamper or prevent its effort to serve us.

DISCUSSION.

DR. WINFIELD S. HALL, Chicago—I believe the recommendations of Dr. Drayton are in line with a general movement in the medical profession, namely, that of a very much less degree of medical interference and of giving Nature a chance. I am heartily in sympathy with his views regarding the giving of digested and partly digested foods. I believe the custom has the same deleterious effect upon the alimentary canal as that of putting an arm into a sling and expecting its muscles to develop. We can not develop the secretory glands if we furnish for them the substances which they ought to be allowed to secrete for themselves.

DR. H. S. DRAYTON, in reply—We are organized naturally to want those stuffs which we deem foods. We have different degrees of appetite, and it is impossible for anyone to determine the exact amount of food which should be placed within the stomach of an individual. Experiments have been made by many biologists without special result in this regard. We remember the case of a distinguished professor, Dr. Oliver Wendell Holmes. He lived for many years by rule. He did not reach the age of a centenarian, though he died an old man, to be sure, probably attaining the good age because of his method. We see men living beyond the period of Oliver Wendell Holmes who give little thought to the quantity of food that they should eat. If we look over the array of old men in this country we would find that the majority belong to the class who are indifferent as to the quality and quantity of food which they take from day to day, and certainly quite indifferent to the scientific relations of their food.

LIVING ON BREAD.*

ALEXANDER HAIG, M.A., M.D. OXON., F.R.C.P. LOND.
Author of "Uric Acid as a Factor in the Causation of Disease."
LONDON, ENG.

There are several forms of the uric acid free diet as I have elsewhere mentioned,[1] such as: 1, that which consists of milk, cheese, potatoes and fruit, and contains no bread; 2, that which contains these things with more or less bread and breadstuffs, and 3, the form with which I am concerned to-day, in which bread and breadstuffs form the chief sources of nourishment and a small quantity of fruit and vegetables are taken merely as sauces for the bread.

For the sake of comparison I shall give the approximate quantities required in each of these diets for a man of 140 pounds weight, who is supposed to be young and leading an active life, and therefore requiring a rather full diet, one that will yield 3.3 grs. of urea per pound of body weight per day.

The milk, cheese, potato and fruit diet for this man would be about:

		Per cent. albumin.		Albumin.
2½ oz. cheese	containing	33	=	350 grs.
3 pints milk,	"	3	=	787 "
15 oz. potatoes,	"	2	=	126 "
16 oz. fruit,	"	2	=	137 "
Total				1400 grs.

We see at once that this is a diet containing a large amount of fluid, and that nearly all the nourishment is obtained from the milk and cheese.

The mixed diet might be:

---

* Read at the Fifty-second Annual Meeting of the American Medical Association in the Section on Physiology and Dietetics, and approved for publication by the Executive Committee.

1. "Diet and Food," J. & A. Churchill, London, 3d Ed., 1901.

		Per cent. albumin.		Albumin.
10 oz. bread,	containing	8	=	340 grs.
2 oz. oatmeal,	"	12	=	104 "
2 pints milk,	"	3	=	525 "
1½ oz. cheese,	"	33	=	210 "
1 oz. nuts,	"	16	=	68 "
18 oz. fruit and vegetables	"	2	=	153 "
Total				1400 grs.

And lastly the diet with which I am now specially concerned might be for the same man:

		Per cent. albumin.		Albumin.
11 oz. bread,	containing	8	=	340 grs.
12 oz. biscuit,	"	10	=	516 "
2 oz. rice,	"	5	=	43 "
4 oz. macaroni,	"	11	=	188 "
4 oz. oatmeal,	"	12	=	208 "
5 oz. potatoes,	"	2	=	39 "
4 oz. fruits,	"	2	=	32 "
Butter and oil *ad lib.*				
Total				1400 grs.

The bread may be taken chiefly as toast, or, like the rice and macaroni, it may be made into pudding.

A biscuit may be eaten after the meals, simply carried in the pocket and eaten between times, when there is an appetite. This is one of the points with regard to such a diet, that toast biscuits and similar breadstuffs can be eaten almost all day long without strict attention to meal times; they can be added after the meal is over or before the next meal is begun, in a way and to an extent that milk and cheese could not be used, without causing severe dyspepsia.

The oatmeal may be taken as porridge twice a day, and it should be thoroughly well cooked, not ten minutes or twenty minutes, but it should be placed in a double kettle and left on the fire or by the side of it all day. The same is true of rice and macaroni; they can not be too well cooked.

The porridge may be mixed with a liberal allowance of butter and some salt, though others may prefer sugar. The rice may be eaten with olive oil and salt, or with fruit or jam. The potatoes may be mixed with oil or butter and eaten with the bread, biscuits and cereals; or other vegetables in season may be substituted for them and used in the same way. The fruit may be taken with the bread and cereals, either raw or cooked, or as jam, or in puddings.

No doubt there are many who can not at once take as much bread and breadstuffs as are here given, and I myself, when a meat eater, used to be a great meat eater, and rarely took more than three or four ounces of breadstuffs in a day. But the habit of eating larger quantities can be gradually acquired, and I myself can now manage sixteen ounces a day without difficulty.

Those who can not take the above quantities of bread and cereal foods must take a little milk and cheese, say: one ounce cheese, 33 per cent. or 140 grains albumin; one pint milk, 3 per cent. or 262 grains albumin, a total of 402 grains, and then take sufficient cereal foods to supply 1000 grains of albumin.

Though I can not do it myself, there are some who can live on the above breadstuff diet, which, of course, can be modified by substituting other cereals in ways I have no space to mention, and my experience seems to show that those who do live on such a diet, or even on its modified form, with a little milk and cheese, gain several important advantages. First of all, many people are unable to take much milk and cheese, partly because they do not like them, partly because they fail to digest them; while bread is a much more important article of diet all the world over. It is more generally eaten and to a larger extent than any animal food, and it is only in a comparatively small part of certain countries, chiefly in Europe and America, where the diet has come to consist almost entirely of flesh, that bread has come to be but little used. It has long appeared to me that this which is pre-eminently the food of man is deserving of study and attention.

Then milk and cheese, if taken beyond quite small quantities, may undoubtedly cause constipation and pale, powdery evacuations, which are so hard as to increase the discomforts of piles, from which meat eaters so often suffer, and even to tear the mucous membrane at the anal orifice. Milk especially, under the conditions which attend its distribution in large towns, is a vehicle for many diseases, and to be rendered even moderately safe must be boiled or sterilized. Again, milk in any quantity, as when two to three pints per day are taken, may cause dyspepsia from a mere excess of fluid; this tends to dilate the stomach, it dilutes the gastric and intestinal juices, and the result is that fermentation and dyspepsia may take the place of digestion.

Similar unfortunate results are produced by the silly practice of putting in uric acid containing foods with one hand, and trying with the other to wash out the excess of this substance by copious libations of fluid far in excess of thirst and its demands. As I have for years been pointing out, it is far better to leave the uric acid outside the body, and then there will be no need to dilate the stomach—as the Germans are said to do with excess of beer—or gorge the blood vessels and even dilate the heart with fluids for which there is no necessity, and which are, after all, of but very little use in eliminating uric acid.

So far as I know there is but one rule: Eat when you are hungry and drink when you are thirsty; and if you go beyond this you are certain to suffer; but to introduce unnecessary uric acid and then to try to wash it out with unnecessary water is to pile suffering upon suffering, even to the destruction of life itself.

Similarly in disease, as in the high blood pressure conditions from which flesh eaters and tea drinkers so frequently suffer, it is little short of insane to pour in fluids in excess of the demands of thirst. Look at these poor sufferers, how they improve on a drug that frees the capillaries and lowers blood pressure and allows of a diuresis; see how they improve further on a purge of calomel and colocynth that sweeps out a few pints of fluid from the intestines. And yet the very people who have watched this improvement may go on in thoughtless routine to pour into the patient hour after hour ounces of fluid in excess of the requirements of the body, far in excess of thirst, for in such cases there is often none, with the result that they dilate the stomach, gorge the vessels and increase the dilatation of the heart, which it was their object to diminish.

The great advantage of the bread diet in certain conditions of dyspepsia, and especially in conditions of high blood pressure, morbus cordis, and dilated heart, is that it is a dry diet; that the fluid taken can be reduced to one and one-half pints or even one pint in twenty-four hours, till nature asks for more by making the patient thirsty, and then alone can we be sure that we are not giving too much. The great point in the taking of breadstuffs and that which prevents them from causing dyspepsia, is their thorough and complete mixing with the saliva in the mouth; and this is greatly facilitated by taking them in a dry state except for a little butter. And

for this reason dry breadstuffs, as toasted bread, biscuits, rusks, into which the saliva can penetrate easily, are much more readily and certainly digested than such things as new bread, bread and milk, porridges or milky puddings, into which the saliva can only get slowly and with difficulty and after more or less dilution with other fluids.

There are some people who can take breadstuffs in any of these conditions and digest them without difficulty or dyspepsia, but those who do suffer should remember to take them only in that condition in which complete mixing with the saliva is possible and easy; dry breadstuffs can generally be taken by every one and eaten at irregular hours and between meals without dyspepsia. Even the possession of teeth is not necessary, for if dry breadstuffs are well sucked, they become completely mixed with saliva and softened by the aid of the tongue and gums. So that those whose teeth have been ruined by the fibers of meat and fish, for which nature never intended them, can continue to live on a breadstuff diet even without any teeth at all.

There is one other advantage of breadstuffs which I have also mentioned elsewhere, namely, their relatively slow digestion and metabolism, in virtue of which they give a steady supply of force and urea over a number of hours, thus accounting at least in part for the great powers of endurance shown by the animals that live on them.

And now I give a figure to illustrate one or two points with regard to this. It shows the hourly excretion of urea in grains on two days, which are placed on the same

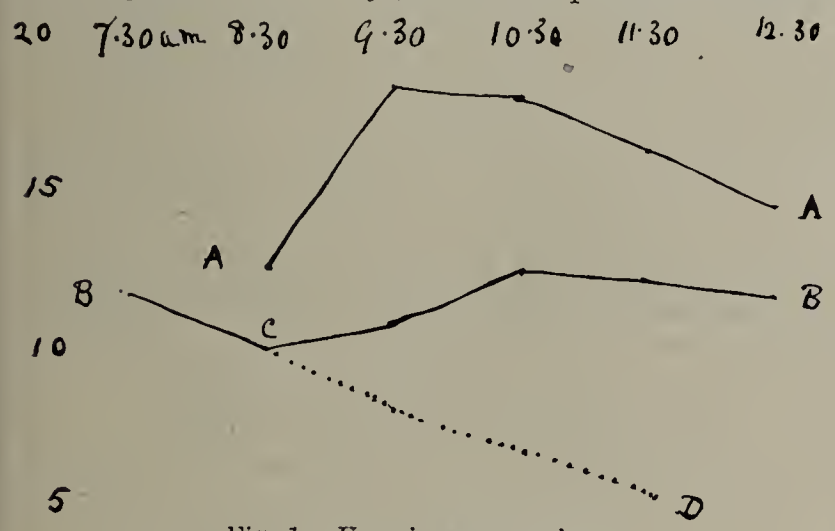


Fig. 1.—Urea in grs. per hour.

paper for purposes of comparison. The curve AA shows the effect on the hourly excretion of urea of taking half a pint of milk at 8:30 a. m., no food or drink having been taken since the previous night. The curve BB shows the effect of taking at the same hour a nearly equivalent meal of albumins in the form of toast and biscuits with some water. The broken line CD shows the probable fall of urea if no food had been taken at 8:30, and is a continuation of the fall which was taking place from 7:30 to 8:30 as shown in the line BC.

The position of urea at 8:30 on these two mornings differed by some two grains, and the fall in urea that was taking place or that would have taken place if no food had been continued probably differed also. The absolute effect of the albumins taken as bread is the difference between the lines CD and CB, and the absolute effect of those taken as milk is the difference between AA and a relatively similar fall to that in CD. The object for which the figure is given is to draw attention to the fact that 130 grains of albumin taken as milk at 8:30 a. m. produce a much more rapid rise in the formation and excretion of urea than a similar quantity of albumins taken as toast and biscuit, and that the rapid rise is followed by a rapid fall. It also shows that the albumins and force from milk are largely worked off in the first two hours after it is taken, while those from breadstuffs are spread over a longer period; the rise is slower and continued longer.

As I have elsewhere said, those who get their albumins from milk are in the position of a motor supplied with a quick burning oil which gives out great force for the first two hours, but is sooner at the end of its resources, while those who get albumins from breadstuffs can not produce so much force in the first two hours, but will be able to go on longer.

This is a part of the physiology that lies behind the superior powers of endurance shown by grain-eating animals; for, as I have for some years been pointing out,[2] strength and power rise with rising urea, and fall with falling urea, and, in fact, are in all conditions proportional to urea; so that the collapse that follows on severe dyspepsia or shock, is little more than the suspension of absorption of albumins from the stomach, with the consequent suspension of the formation of force and urea. The digestion and metabolism of flesh much resembles that of milk, hence the lion and tiger can give out enormous force over a relatively short period of time, while the elephant, the bull or the horse can outlast them, and perhaps produce even more absolute force in a longer period.

This is probably what patients mean when they say—and it is, I think, a common experience—that a meal of breadstuffs lasts longer than a meal of meat; for with falling urea and diminished force production, the need for more albumins is felt as hunger. This may come after a meal of milk or flesh, say in three hours, but after a meal of similar albumin value in the breadstuffs, not for four hours.

Breadstuffs form a very convenient diet for those who are moving about the world, for they can be obtained almost anywhere, while milk and cheese it is often difficult or impossible to get. Breadstuffs also can, if necessary, be conveniently carried in the form of grain, meal, rice, macaroni or biscuits.

These cereals have been the foods of mankind in the past, and they are still the foods of the great majority, and only in parts of a few countries where flesh eating has been carried to great excess, have they fallen somewhat into the background. But here, as elsewhere, the majority are right, and the minority pay an enormous price for their unnatural but stimulating food. Among the flesh eaters, disease and death are rampant, the natural term of human life is but rarely attained, and even the shortened life is too often rendered both useless and miserable.

Let any one who might at first sight be disposed to doubt this statement observe for himself how many meat eaters and tea drinkers between the ages of 17 and 23 have normal blood, not merely normal as compared with a standard fixed by meat eaters, but normal as compared with that of those of the same age who have never touched meats. Let him observe how many flesh-eaters from the age of 45 onwards have either normal blood or normal circulation, and do not suffer either from dyspepsia, depression and insomnia on the one hand, or from arthritis, lumbago, sciatica or bronchitis on the other—not to mention Bright's disease and diabetes.

DISCUSSION.

DR. WINFIELD S. HALL, Chicago—I believe that one could

2. "Diet and Food," Ed. i, 1898, Ch. 1.

scarcely have kept track of the rapidly growing literature of this question of the influence of the metabolism of nitrogenous food upon the general nutrition without being impressed with the effect that in the vast majority of cases in England and America the general custom is to take too much nitrogenous food—too much meat. It seems to me that there are two rather antagonistic positions taken in Dr. Haig's paper. I can not reconcile his statement concerning the perfect parallelism of nitrogenous ingesta and egesta with varying muscular force and work capacity, with his insistence upon a bread diet. Bread diet is largely a carbonaceous food and has to be taken in very considerable quantities to get a sufficient amount of albumin. The muscular power varies largely with the oxid of the carbonaceous rather than of the nitrogenous element. The nitrogenous element is, I consider, absolutely essential up to a certain amount. After that it is excreted or oxidized day by day, so that the nitrogenous excreta after a certain minimum is going to vary with the nitrogenous ingesta. This maintains the nitrogenous equilibrium. I have read nearly all that Dr. Haig has written, and am in sympathy in general with his opinions. I wish sincerely that he were here, for I believe he would clear up this which seems to be an ambiguity in his presentation of the subject.

Dr. David Paulson, Chicago—It is surprising how little attention the medical profession gives to the subject of practical dietetics. We have been so busy studying pathology and surgery that we have but little time to give to dietetics, the very neglect of which is causing so much material for pathological study. Something which Dr. Haig wrote several years ago led me to undertake some experiments to determine whether or not the quantities set down in the ordinary text-books were not in excess of the real amount required by the human system. I, therefore, selected ten medical students and had them weigh the exact amount of fully toasted bread consumed each day for two weeks. The majority of this class of ten students were young men and women who were working their way through medical college. The average amount consumed was 16 ounces a day of nearly water-dry bread. Every member of the class gained in weight, some as much as three pounds on 16 ounces of bread a day. A second experiment was undertaken upon nearly 300 healthy young people, and it was found that they consumed on the average 16 ounces of starch, 2.8 ounces nitrogenous food, and 1.5 ounces of fat; this investigation was continued for several weeks. It may be fairly assumed that this is not far from the normal proportions, as these young people selected the food for themselves from an extensive bill of fare. Their weight was taken at the end of each week, and the entire experiment was conducted with the most careful and scientific accuracy by the Battle Creek Sanitarium Laboratory of Hygiene. It was shown from this that the figures set down by Pettenkofer and others are entirely too large for us to follow, in this country at least, and, secondly, that we normally use a larger amount of carbonaceous food than has been generally supposed. One part nitrogenous to four parts carbonaceous, as has been suggested by some, is certainly altogether too high. This tends to overstock the system with nitrogenous food elements and tends to produce the uric acid diathesis. I do not agree with all Dr. Haig's conclusions, yet I do believe that the medical profession is greatly indebted to him for the valuable researches that he has made in dietetic lines. I have been interested in noticing the power of endurance possessed by persons who live on a uric-acid-free diet. It has been my fortune to study some of the leading long distance runners, etc., and a number of the most successful of them live upon an entirely non-flesh dietary. The long-distance bicycler, Nelson, is, I believe, a vegetarian. In these long distance races the flesh-eaters will generally lead for a short time, but the non-flesh eaters will almost invariably out-distance them, and get off their bicycles as though they had had no special exertion, while the others often have to be assisted. Another cycler who a few years ago made a large number of successful long-distance records used no meat, nor tea, nor coffee. He stated to me that when he started out on short-distance runs the meat-eaters could out-distance him, but when they had reached the last ten or fifteen miles they would be nearly used up, while he would be almost as fresh as when he had ridden only fifteen or twenty miles. I have been much interested in metabolism of nitrogens, and believe that there is much more to this subject than we now see. I hope we shall soon acquire more definite and satisfactory knowledge in this direction.

Dr. James Putney, Charleston, W. Va.—It seems to me as if Dr. Haig were seeking to secure recognition of facts which physiologists have recognized for some time. The average of nitrogenous food is given as 100 grams per day. In the interesting account which Dr. Paulson has given us we see that the students live upon 16 ounces of bread per day, about 2 ounces of nitrogenous material. This is not so much out of the way so far as statistics go. It seems to me, too, that Dr. Haig is taking a one-sided view in his remarks about uric acid results. It is well recognized to-day that there are two classes of uric acid cases—cases of dietetic origin, and cases of tissue destruction origin. I question whether the larger class is not the latter. It is true that we find among those people whose muscular exercise is deficient a tendency to ingest excessive quantities of food. This gives rise to the assumption that disorders of the nitrogenous metabolism are due to that fact. It should also be remembered that there is an equality in the gastric function. Nothing is better recognized to-day than the fact of the breaking down of the leucocytes attended with the development of uric acid. This indicates the distinction between those cases of nitrogenous disorders of metabolism traceable to the short cut, which the nitrogenous elements of food in excess take and the long course which the nitrogenous metabolism of tissues involves. As an illustrated case on this I want to submit the following: Mr. G., 59 years, full habits, temperate, good history, when he partook of full meat diet suffered most intense headaches and would be in bed for a day or so. With meat diet cut off, he would not have attacks until he returned to meat diet again.

The Chairman, Dr. Charles M. Hazen, Richmond, Va.—I fancy Dr. Haig wishes most of all to insist upon a vegetable source of albumin, so as to get rid of ready-formed uric acid and other waste nitrogenous matter. In a recent monograph by Dr. Mallet, of the University of Virginia, it is shown conclusively that such products as kreatin and kreatinin whenever present in meats simply load up the system with proteid material of no value whatever. The point was touched upon in our discussion of the last paper in connection with food products from animals, in which it was stated that exhausted beef could not furnish proteids suitable for food.

METAMORPHOPSIA VARIANS.*

WILLIAM H. DUDLEY, M.D.

OPHTHALMIC AND AURAL SURGEON TO THE EASTON HOSPITAL.
EASTON, PA.

It is possible in presenting this subject that the writer is simply going over ground that has been well covered before; though, with the endeavor to find some reference to it during the past five years, I have left no opportunity unimproved to do so, and yet without success. In fact, the subject of metamorphopsia, except that caused by the correction of astigmatism, has received but very little attention by any writer on ophthalmology to whose works I have had access; and if the cases of this variety are as uncommon as I am led to believe, the following may prove of some interest.

On June 6, 1896, while examining C. F., aged 45, for his refraction, and when obtaining his best vision with his right eye, he remarked that it was difficult to make out the line—the 30-foot line—on account of the rapid movement of the letters. He stated that they would approach each other, and again separate quite rapidly, and that the different letters of the line were continually moving up and down in an extremely irregular manner,

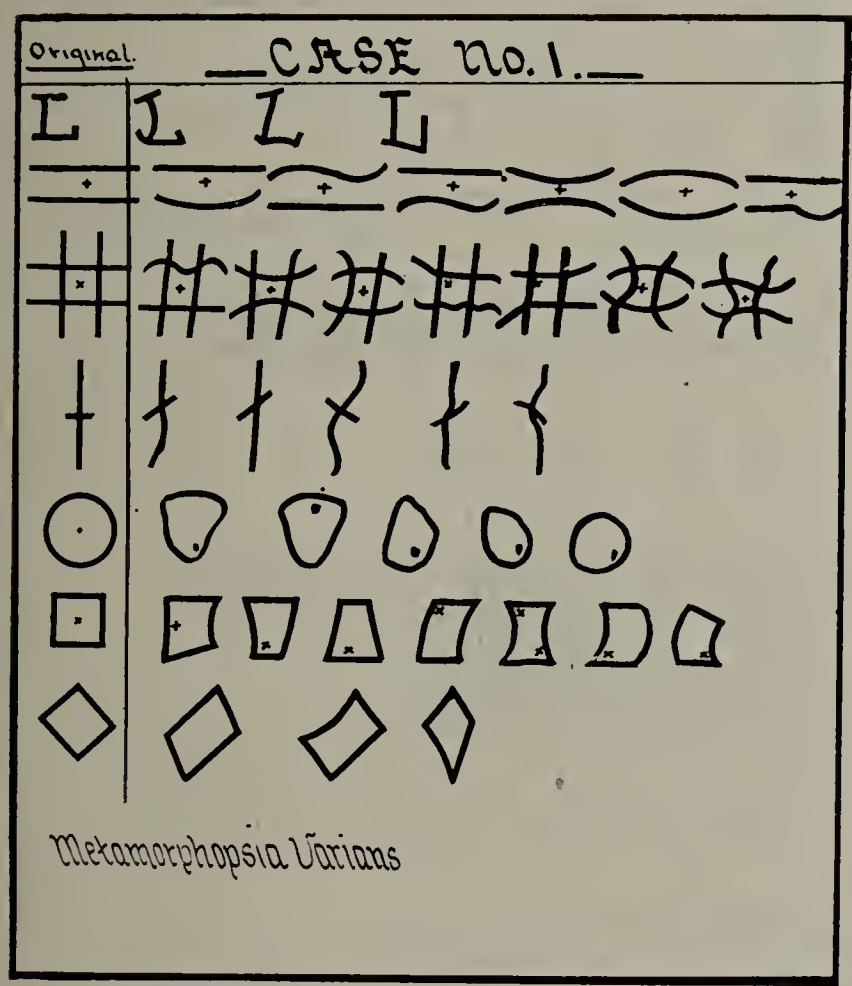
* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee of the Section: Drs. J. A. Lippincott, Casey A. Wood and H. V. Würdemann.

and at the same time the outline of the various letters were undergoing continual change.

Inasmuch as this patient was a man of more than ordinary intelligence, occupying the position of superintendent of the erecting department of one of our large railroad repair shops, I felt bound to pay some attention to his statements and investigate the subject somewhat farther.

I will state here that the left eye was found normal, with the exception of a moderate amount of hyperopia, which when corrected with +1.25 D.S., saw 20/20+, and that in binocular vision, no metamorphopsia was present.

The right eye was then placed under full mydriasis, and the various anatomical parts studied separately. The cornea showed no variations from the normal, by focused or reflected light, and although a mechanic, it showed no maculæ caused by foreign bodies, which such patients are likely to present. Examined by the Javal ophthalmometer, model 1889, it showed one-half diopter of astigmatism with the axis 105°, but perfectly regular;



all the circles and radiating lines on the large disc of this instrument were perfect.

In using the skiascopic mirror, no irregularities of the refractive media could be made out. The aqueous was clear, and the lens was transparent throughout.

The lens was now examined for possible irregularity of outline, or density, or the possibility of a lenticonus; but the reverse shadow at the point of greatest refraction, which is present in these cases, was absent, as well as the wheel-like motion, which is observed in the shadow, where the central portion of the illuminated area has a greater degree of refraction than that surrounding it; in short, the skiascope revealed nothing unusual in an eye with +.75 D.S. and +.50 D.C. axis 105°, which was his proper correction.

Neither the plain mirror nor the ophthalmoscope showed any variation from the normal in the appearance of the vitreous, which was absolutely clear throughout. The result of the examination of the background of the eye was equally negative. The appearance of the optic disc, distribution of blood vessels, as well as the macula, were entirely free from any abnormality.

In observing the diagrams, the left-hand column represents the original figures, the remainder, those seen by the patient.

The changes which were said to take place in certain outlines were now studied, and he was directed to do this at a distance of fifteen feet, and was asked to record on a tablet some of the changes which these various outlines underwent. At first he was directed to look, with the left eye covered, at a 100-foot L, when the letter took on the various changes represented on the diagram. Next he was asked to look at two parallel lines 100 millimeters long and 25 millimeters apart, with a small cross in the center between them, when all and many more of the changes here represented took place. I will state here that all of these drawings are copies of those made by the patient himself, while the examination was being made.

He was then directed to observe a double cross, with a small cross in the center, of the same general dimensions as the former figure, with the result that all the lines underwent rather rapid changes in their shape and direction; sometimes the vertical lines were more affected, and sometimes the horizontal, and sometimes they were all affected at once, as will be observed in the diagrams. He was then directed to look in succession at a vertical line, about 10 centimeters long, with a small cross at its middle; a circle 6 centimeters in diameter, with a dot in its center; a square 4 centimeters across, with a small cross in its center, and a diagonal square of about the same dimensions as the previous figures, fixing his vision on the small cross, and the distorted figures here shown are a few of the shapes these figures presented.

This examination was made both with and without his glasses on; with his pupils wide; and also with his accommodation intact, and the result was always the same.

These observations were continued with the patient looking through a stenopeic slit, and the pinhole disc, when the result was the same, with the exception that the changes were much slower. Various colored glasses were also used, and the only difference observed was a reduction of the rapidity of the changes; and it appeared to make no difference by what means the reduction of light entering the eye was obtained, whether by the stenopeic slit, the pinhole or by colored glass, or by glass of different colors so far as my observations went.

The reduction of the frequency of the changes by reducing the amount of light entering the eye was utilized in making the diagrams; for with full illumination the rapidity of changes was so great that it was very difficult to carry the impression long enough to record it on paper, while with a colored glass, or a narrow slit, it could be done much more readily.

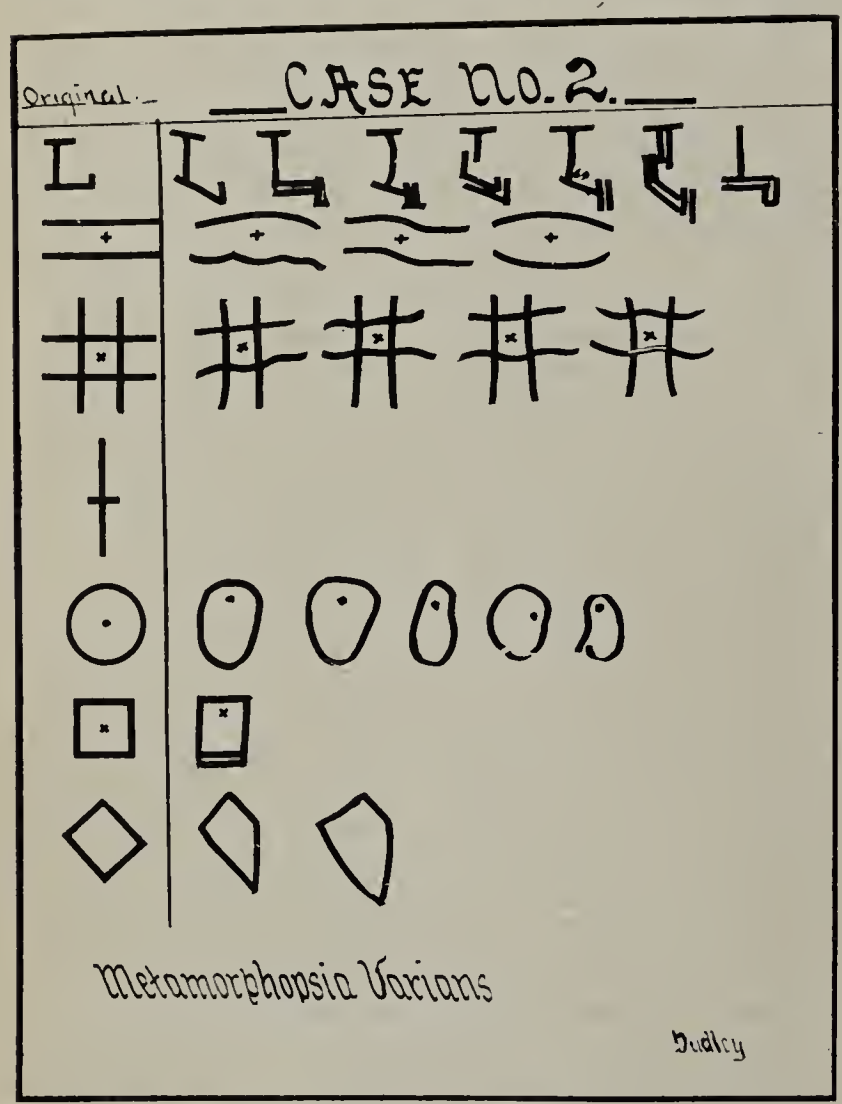
In order to determine the area of this metamorphosic region, the patient was directed to look at the various corners of one of the large diagrams and the metamorphopsia was found to extend a little over a degree in either direction, which is about as far from the point of fixation as the average individual would be able to state whether a line was straight or curved, especially with the added confusion of constantly changing position of the lines in the intervening space.

CASE 2.—Mr. J. H. M., aged 50, consulted me May 24, 1897, in reference to his refraction. The same methods of examination described in the previous case were used in this, but no lesion or physiological peculiarity in any of the refractive media or fundus could be made out.

While examining his right eye for his distance vision he complained that the letters did not retain their shapes or positions in the line, and that some of them would disappear, to return an instant later; others would move up and down about one-half their height, but not much sidewise.

This gentleman is a merchant, though at times he has paid considerable attention to landscape drawing and painting, and was, therefore, able to reproduce on paper quite accurately what he saw.

In going over the subject with him I used the same diagrams which were used in the previous case, and the accompanying drawings represent as nearly as possible some of the forms which these figures took on. While looking at a word at reading distance one or two of the letters in the center of the word would move up, and the whole word would be likely to form a curve, with its convexity up, to remain but an instant, and then to return to take on some other unusual form. In studying



these figures, it will be noticed that the horizontal lines are the ones most affected, while the vertical lines changed but little.

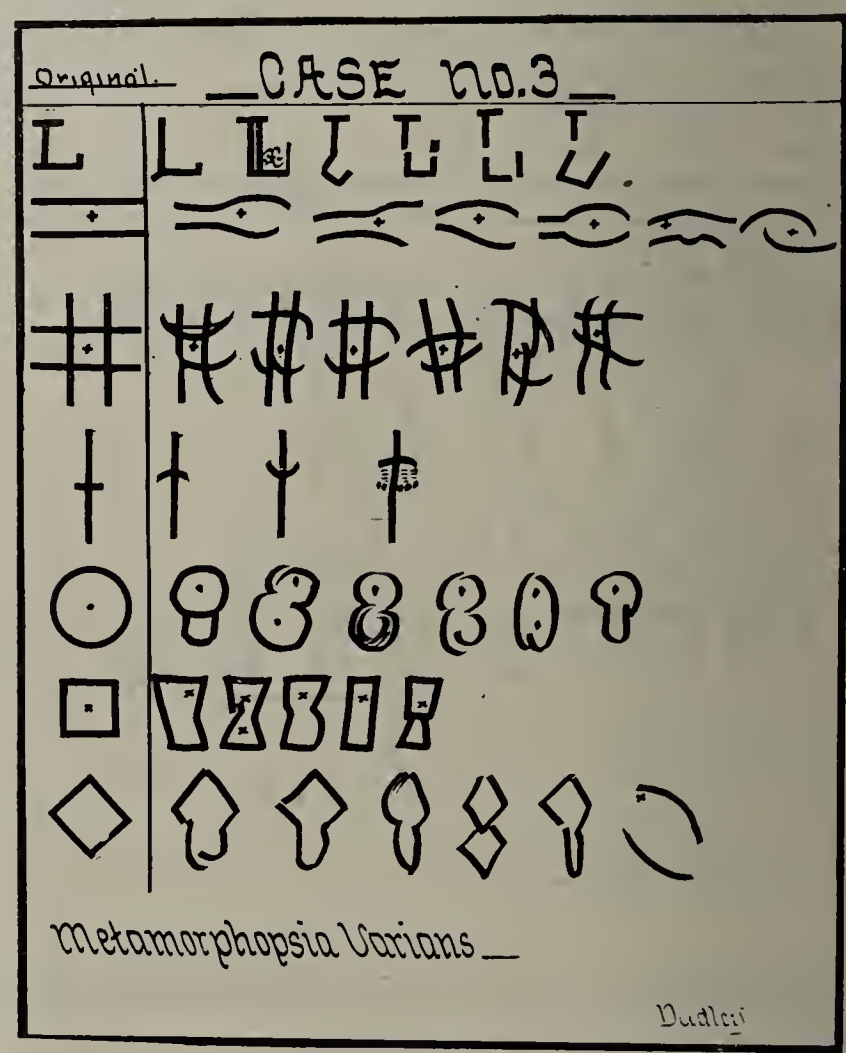
As this patient's home is several hundred miles from Easton, it has been impossible to obtain but a single opportunity of studying his case; by correspondence, however, I learned a year or so after my examination, that whenever he used the right eye alone the same varying metamorphopsia was present.

CASE 3.—Mr. G. M. R., aged 57, came June 23, 1898, for an examination of his eyes, and here again while examining his right eye, the patient complained of the letters moving about and changing their shapes.

As this gentleman, like the others, was a man of more than ordinary intelligence, a member of a large wholesale firm in the town, I felt I might rely upon his statements, and accordingly went through all the various methods of examination as in the previous cases, and therefore unnecessary to repeat here. The result was negative so far as the eye itself was concerned, but inasmuch as there were some points so unlike the others they may be described. For example: while looking at the circle, it appeared to elongate; then a constriction would appear near the center, when it will appear for an instant like a figure 8, and sometimes with a dot in both circles and sometimes not.

While looking at the vertical line with the cross, the cross would curve sometimes up and sometimes down, and at the same time would appear double, and the two cross lines would approach and become one, and again separate. In looking at the square with the dot in the center, this figure would undergo many of the changes observed in the circle; it would elongate and sometimes become contracted in the center and sometimes not, and also would occasionally have two dots, one in the upper and one in the lower part.

In studying the diamond-shaped figure it sometimes took on nearly the figure of 8 form, as in the square and circle, but when looking at the left corner of the



diamond, the upper left and the lower right lines take on convex curves without the other side lines being seen at all.

In order to determine the actual extent of the metamorphosic region, he was requested to look at the center of a card with radiating lines, and was asked to observe how far these lines were affected from the point of fixation, and a careful measurement showed the area to cover about one degree, or thirty minutes either way from the point of fixation.

In observing the changes which took place in the various figures, this patient stated that when he gazed steadily at a figure for a few seconds it would go through certain changes for the period of a few seconds, when the changes would cease and remain stationary till the point of fixation was changed a little or he winked, when the process was set in motion again.

In this case, as in No. 1, the reduction of the intensity

of light was followed by a reduced frequency of the changes, and was made use of in the same manner in making the diagrams. In this case the vision of the affected eye was 20/40 and was not improved by glasses; in fact, by skiascopy the eye appeared emmetropic, and doubtless without the metamorphopsia it would have had full acuity of vision. In this case also the left eye was emmetropic and vision normal.

This patient feels that he is able to fix pretty accurately the time when this disturbance began; he states that when about 15 years old he began to shoot with the rifle and became something of a crack shot, but at about 25 years of age he found he could hit nothing, became discouraged and gave up the rifle, though he did not know that the eye did not see as well as the other till becoming presbyopic and was examined for glasses.

In reference to the cause of the peculiar changes which these outlines undergo when observed by these patients, I have endeavored to settle the question as nearly as possible in reference to the refractive media, and it seems to the writer that pathological changes and physiological peculiarities of this region can be eliminated, as cause of the metamorphopsia.

At first I was inclined to believe that the location of this disturbance must be central, but upon more careful study of reported cases of hemianopsia it seems that those due to destruction of the visual center of one side, the vision at the macula has been preserved on both sides, which if true, would leave but one location for the disturbance, viz., in the retina, and this of a form not producing ophthalmoscopic lesion.

It may be suggested that some small lesion of the retina producing a metamorphopsia, being accompanied with a small amount of nystagmus, might be held responsible for this visual disturbance. In endeavoring to settle this question I had Case 3 look through the Maddox groove, and it did not show the rapid oscillation of the line which one might expect, if a nystagmus existed; though I am of the opinion that in some cases of monocular nystagmus this disappears in binocular vision, which would render this test invalid. I may also state that in examining these cases with the ophthalmometer there was no oscillation observable.

It is now five years since my observations began with the first case and three years since Case 3 was first examined, and recent examination of both of these cases shows the same varying form of metamorphopsia to exist.

It will be noticed that all three cases were males; in each the right eye is the one affected; and inasmuch as they were unable to get the metamorphopsia in binocular vision, neither became aware of his defect till about the time he became presbyopic and had his eyes tested separately.

DISCUSSION.

DR. S. D. RISLEY, Philadelphia—The very careful and elaborate study Dr. Dudley has made of his cases removes the paper from the realm of discussion since all conceivable causes of metamorphopsia seems to have been excluded. I am inclined to believe that minor grades of metamorphopsia are not so rare as would seem to be indicated in literature, but I have always been able to discover its cause. The chief interest in Dr. Dudley's cases therefore seems to center about the absence of any explanation for the distortion of the images, in the three instances he has presented for consideration.

DR. G. C. SAVAGE, Nashville, Tenn.—In the cases of metamorphopsia presented to us in his paper, Dr. Dudley has considered that the cause could be either refractive, retinal or mental. By means of retinoscopy he was not able to find any refractive cause that would account for the metamorphopsia. With the ophthalmoscope he was not able to find any changes in the fundus. He was, therefore, almost forced to the conclusion that the metamorphopsia was mental. I do not agree with the Doctor that there are three causes for metamorphopsia. The one of his three that I would leave entirely out of the question would be the mental. I do not believe that there is a mental metamorphopsia. If there had been a refractive trouble in either of his cases that could have caused the visual changes, he would have detected same by means of the retinoscope. I believe it possible for retinal changes to exist that would result in metamorphopsia without our being able to detect any thing wrong by means of the ophthalmoscope. In any thickening of the choroid behind the macula, whether that thickening be due to the exudation of serum or a deposit of plasma, there must of necessity be a disturbance in the relationship of the cones. Every cone and every rod should point towards the center of retinal curvature. LaConte has beautifully said that "the rods and cones see ends on." If these ends are pointed towards the center of retinal curvature there could be no metamorphopsia other than refractive, but if they be so disturbed that some point in one direction and some in another, then metamorphopsia must exist. We all know how patients complain of metamorphopsia when there is a beginning central choroiditis. If Dr. Dudley's cases had been congenital, I would be inclined to the idea of a loose arrangement of the rods and cones. The variableness of the metamorphopsia in his reported cases constitutes an interesting feature.

A PLEA FOR GREATER UNIFORMITY OF STRENGTH AND EXACTNESS IN OUR MEDICAL ARMAMENTARIUM.*

C. F. WAHRER, M.D.
FT. MADISON, IOWA.

The subject of my paper may not be new to anyone here, and, like the longing for immortality and the fabled Fountain of Youth, may be somewhat utopian in its nature, yet we must not forget that keeping eternally at it has often been followed by good results.

We certainly can not admire Shakespeare for the originality of his subject-matter, for everything he wrote was either old history or romance before he was born, but the manner in which he put it, and the way he said things and made his hearers and readers feel it, there is where Shakespeare is great. So if I can impress you with what I have to say in such a manner that you can all feel it, and so it will do good, my ambition will be satisfied.

We are all aware that in the good old days we guessed at many things, at diagnosis, at etiology, at pathology if it was considered at all, and also at the therapeutics that entered into our treatment. We do some of these things better now. We diagnose almost perfectly, by means of instruments of precision, by reasoning, by an improved symptomatology, by bacterial and chemical tests, by reflexes and many other means. The microscope also aids in our pathology, which in many instances we may call perfect. We know more of the etiology of diseases and this alone also suggests the treatment. Of these achievements we are not only reasonably proud, but feel that we are peculiarly blessed that we live in this *x*-ray age, so full of possibilities for us all. But in one thing still much, very much indeed, is desired, and that is after all the main thing, namely, our therapeutic means of combating disease. We may be somewhat blinded by the fact that the number of our remedies is wonderfully increased. Many old and use-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon and N. S Davis, Jr.

less remedies are now no more used, toads' eyes, lizards' tails and bats' wings, and the blood of black cats, bugs and other vermin are no more the source of our therapeutic resources; neither do we now use metal tractors to draw out the diseases, nor do we any more depend upon the royal touch, nor fear witches nor the evil eye. Osteopathy, christian science and absent treatment have replaced all these.

Notwithstanding all this, I want to ask you seriously, has this branch of medicine, namely, materia medica, as far as real merit of the matter that enters into our remedies, kept step with the rapid advancement of other departments of the healing art? I believe I must answer this negatively; not because chemists and pharmacists have been idle, neither has experimental therapeutics been slow to come to our aid, for, as before said, many new and really valuable remedies have been discovered, old ones replaced by better ones, or new uses found for the old ones, but we have not paid sufficient attention to the quality of the goods we use in fighting disease.

You know by this time that fluid extract of ergot varies as one to fifty, gelsemium the same, that cannabis indica varies all the way from nothing up to the most lethal and intoxicating character, while opium, digitalis and ipecac, the latter now almost extinct, vary from two to a hundred fold, not only in the finished product, but in the original drug, depending on locality of growth, methods used in preservation, age, and finally, in preparation. Even the rules of the pharmacopeia are faulty in giving us drugs of uniform strength, especially when we consider the fluid extracts, the solid and powdred extracts, tinctures, elixirs and other forms made from these. If to all this we add the cupidity and dishonesty and ignorance of many manufacturers, and the insufficient laws governing the output of their laboratories, and augment this by ignorant, dishonest druggists, and often careless and sometimes ignorant prescribers, the outlook for the sick man is anything but cheerful. I hope I shall never get sick.

Now what is the use of making a diagnosis, which entails so much study and worry? We auscultate, percuss, and look through the microscope; we analyze blood, urine, and sputum; we make bacteriological cultures, and test eyes, hearing, and the reflexes; we palpate; we explore with the *x*-ray, sounds, specula, meatoscopes, laryngoscopes, and otoscopes; we catheterize ureters, and a few of us, at least, examine the fundus of the eye with an ophthalmoscope, and in fact, what do we not do to a patient? Well, we finally arrive at a diagnosis. We know what is the matter; then we begin to prescribe, and the trouble begins.

Without going into details and naming the drugs that fail in relieving a given symptom, I just desire to say, that it may be put down as an axiom that good, well-made medicines when applied by a wise physician, usually respond as we desire, and, when they do not and we feel sure of our diagnosis, the blame properly rests with the preparation we use. This calls, on our part, for preparations made according to some uniform standard, by an honest, upright manufacturer, who has a proper pride, coupled with a sensitive conscience, in his business; one who feels that human life and happiness depend upon him as much as they depend upon the doctor who uses his products. He should feel that his is a high calling, not only for the dollar and dime, but also for that noble cause that makes life worth living. But since there are almost thousands who are the opposite, who have only the commercial side in view, we must use only such products, in the absence of suitable laws to protect us and our patients, as we know are reliable either in their very nature, or by the guarantee of the manufacturer.

Of the first class are the alkaloids, glucosids, and well-known mineral derivatives. Such alkaloids as morphin, quinin, cinchonidin, strychnin, cocain, atropin, and the glucosids, like digitonin, digitalin and others; the mineral salts, like calomel, iron, sulphur, silver, and others we know, are more reliable than are the crude drugs from which they are made, or any of their pharmacal preparations, especially when made by unscrupulous manufacturers. And when these same unscrupulous men offer us polypharmacal mixtures of the handorgan and shotgun variety, we are all the more at sea. Why should any physician allow some fake manufacturing firm to prescribe for him some anti-phthisine, anti-pneumonine, anti-dyspepsin, or anti-febrin, that has not even a qualitative label on it, and if it pretends to have, it is only partly so—saying it contains 1 per cent. iron, 2 per cent. quinin and other valuable ingredients, mixed in a menstruum of which we are the sole patentees. Thousands such mixtures are offered physicians daily in their offices by wily sample fiends who are sent out by these vampire manufacturers. The worst of all is, that the profession buy these slops, and even give testimonials, many of them signed by Pro. Big Medicine-man of the College of Physicians and Surgeons of Sodom and Gomorrah, who recommended them to his classes and could not practice medicine without them.

Every professor in a medical college who gives such testimonials to proprietary and polypharmacal nostrums should be promptly dismissed from his chair; then let him give his undivided attention to the nostrum mill of which he is undoubtedly a silent partner.

There is a whole city full of prominent doctors somewhere on the banks of the Mississippi, nearly every one of whom has given testimonials to poppyine, anti-somnia, or Teapot's chlorids. And there are others! I am glad to state, however, that we have a few who strive for higher things, and these should be encouraged.

Merck of Darmstadt, Germany, and such as Parke, Davis & Co., of Detroit, Mich., are striving to prepare drugs and medicaments that are of standard strength and uniformity. These goods they call standardized, and the process, standardization. With some products they accomplish this by filling them to a certain percentage with their active principles, and where such is not possible, to test them physiologically on animals and control experiments.

If we encourage the manufacturers of such goods, and use whenever we can alkaloids and mineral products and their uniform salts, looking to quality and never to price, and ask for similar laws to the pure food laws enacted in some of the states and some foreign countries, we can then hope for a better state of things, and a more cheerful outlook for the sick man. This might be brought about also in a measure by just such bodies as the great American Medical Association. Let a committee be appointed to memorialize the committee that revises the pharmacopeia, to introduce better and surer methods in the manufacture of medicines; also let it memorialize Congress to give us laws to protect the consumer of drugs, the same, at least, as protects the butter eater from oleomargarine. Such a committee may finally accomplish something.

As long as we use uncertain missiles, at uncertain distances, with the uncertain hope that something may do some good, I see no use in drilling our medical recruits

for four or five years, at an immense expense of money and energy, unless we can equip them at the end of that time with a more exact and uniform armamentarium. Remember you may possess the diagnostic ability of a Flint, an Osler or a Loomis, the therapeutic knowledge of an Eichhorst, Wood or Hare, and yet all this ability is perfectly helpless in the presence of inert drugs and dishonest medical purveyors and manufacturers.

However, declamation is useless. Let us do something and keep at it till we succeed. Much of the present evil is due to the fact that many doctors do not study their texts on materia medica as assiduously as when they crammed for their diplomas, but they read trade journals and floating literature on semi-proprietary preparations, whose virtues are extolled by their exploiters. These are little less than common nostrums, and are only combinations of well-known ingredients, one of which is usually some form of alcohol. Let us all stop this, study more faithfully our materia medica, the physiologic action of medicines, and their bearing upon pathologic lesions, and in a short time much of this evil will pass way. Only when we ask for better things can we hope to get them.

STANDARDIZATION OF CRUDE DRUGS AND GALENICAL PREPARATIONS.*

ALBERT B. LYONS, M.D.

DETROIT, MICH.

Does a given quantity of any medicinal agent produce under similar conditions approximately the same therapeutic or toxic effects? There can be but one answer to this question, and that an affirmative one. Granted that individual susceptibility shows surprisingly wide variations, and that vital reactions are profoundly modified by accidental causes, not always obvious, it remains true that from a certain dose of any potent drug we expect to obtain certain definite results, which we regard necessary for the restoration of our patient to a normal status.

It is true that in adjusting the dose in each particular instance, we take into account the factors of age, sex, general physical condition and known idosyncrasy on the part of the patient; the very fact that we do this places emphasis on our convicition that a given dose will produce in a normal subject reactions of a definite known kind and degree. In other words, we assume that the medicine we prescribe is uniform in activity.

When that medicine is a definite chemical compound we may have confidence that one grain or one gram of it will under identical conditions produce identical effects, provided, of course, that the remedy itself is exhibited in the same physical condition in each instance—an important proviso sometimes.

A large proportion, however, of the drugs we prescribe are not of definite chemical composition. Such remedies as opium, henbane, nux vomica, digitalis and ergot consist of crude products of the vegetable kingdom, containing variable proportions of certain active constituents. The most of us find it still necessary to use this class of remedies in our practice. They constitute, indeed, the greater proportion of our materia medica, and claim and receive recognition in all the pharmacopeias of the world.

Many of them, it is true, contain definite active constituents which we also employ—in some cases almost to the exclusion of the drug from which they are derived. We no longer prescribe Peruvian bark as an antiperiodic; quinin is every way better. We use constantly strychnin, atropin, morphin, codein, etc., where, a generation or two ago, we should have had no choice but to prescribe the crude drugs from which these alkaloids are respectively prepared. There are not wanting those who insist that scientific medication requires that we abandon altogether the use of crude drugs, or their galenical preparations, in favor of the active constituents to which is due in each case the therapeutic efficiency of the agent. That is the goal towards which we are tending, but it is a goal as yet far off. For another decade at least we must continue to depend to a large extent upon remedies compounded in Nature's laboratory. The pharmacopeia that must serve us for these ten years must still contain herbs, roots, barks, seeds and fluid extracts, tinctures and similar preparations, and we shall still be compelled to prescribe these if we are to give our patients the benefit of every resource of medication.

In the case of a number of valuable drugs, we have as yet no scientific method of determining beforehand the activity of a given sample. We do not know positively what is the active constituent, nor we have no means of determining with any precision how much of the known active constituent is present. We may judge something of the quality of the drug by its odor or by its taste. Otherwise we must find out what work it will do by actual trial. Must that trial be made upon our patients? Surely not, if it can be done in any other way. True, we may often feel our way in the use of a remedy without prejudice to the welfare of our patient, but the plan is one not to be adopted except in case of necessity. A very much better plan is that of trying the remedy upon some of the lower animals, condemning any which does not produce the effects recognized as those normally produced by the drug in question.

This, however, is a branch of my subject which I barely touch in passing. I wish rather to deal with the class of drugs that contain a definite known active principle, which can be easily isolated and quantitatively determined.

To what extent are drugs of this class found actually to vary in strength? That depends upon the drug. In the case of leaves, herbs and roots, it is common to find one sample two, three, five or even ten times as strong as another. The conditions under which the plant is grown, the season of collection, the length of time it has been kept in stock, the care or want of care that has been taken to guard it from the injurious effects of atmospheric moisture, all have their influence, greater or less, in the case of different drugs. The bark of a tree or shrub, particularly the root bark, shows less variation in strength, and less susceptibility to injury from moisture of the air, and seeds, provided they are properly ripened, are still more uniform and stable in composition; but even in the case of seeds, one sample may often be found to have twice the activity of another.

These facts have been better known generally to pharmacists than to physicians. Manufacturers of fluid extracts began, twenty years ago, to attempt to standardize some of their products by assay. The value of the principle was recognized at once by physicians, and the more progressive manufacturers have continuously improved their assay processes so that their products to-day are substantially uniform in strength, if susceptible of exact assay. Many of the assay processes in use by them are

---

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon and N. S. Davis, Jr.

confessedly imperfect, yet even an imperfect method of standardization is better than none at all.

Our pharmacopeia is far behind the manufacturing pharmacists in this regard. The only crude drugs whose strength is regulated by assay in the pharmacopeia of 1890 are opium and cinchona bark. Crude opium must contain at least 9 per cent. of morphin; powdered opium not less than 13 per cent. nor more than 15 per cent., while cinchona bark must have not less than 5 per cent. of total alkaloids and at least 2.5 per cent. of quinin. The pharmacopeia provides also for jalap, the requirement that it shall contain at least 12 per cent. of resin, and for scammony that 75 per cent. of it shall be soluble in ether.

Owing to government supervision of importations of opium, the standard in the case of that drug has been reasonably well maintained. It is doubtful whether any particular attention has been paid to the standard for cinchona bark except by some of the manufacturing pharmacists and by a few conscientious retail druggists, unless it has been in some state like Ohio, where pharmacopeial standards have been enforced by local legislation. It is certain that jalap of pharmacopeial standard is hard to obtain anywhere.

The present pharmacopeia does not provide standards for preparations of cinchona, like the fluid extract and tincture, but it does so for the various galenical preparations of opium, except the camphorated tincture, and for those of nux vomica. The pharmacopeia of 1900, which will not be issued certainly much before 1903, will enlarge very greatly the list of drugs and galenicals for which standards are prescribed. It is safe to say that belladonna, coca, colchicum, hydrastis, ipecac and stramonium will be included in the new list, together with all their galenical preparations. In the case of nux vomica, the assay will determine the amount not of total alkaloids, as at present, but of strychnin, which is now recognized as practically the only active principle of the drug.

Unfortunately, standardization of drugs by physiologic or pharmacologic tests has been ruled out in the instructions given to the present pharmacopeial revision committee. While I recognize the fact that this class of tests necessarily lacks the mathematical exactness which is inseparable from a chemical assay, and, while I admit that there is a certain force in the objection that tests made on the lower animals may be very misleading with regard to the potency of a drug in its action on man, I am sure that standardization based upon these tests, in the case of drugs like these which are liable to be wholly worthless, is better than no standardization at all. If the pharmacologic tests are liable to be misleading, so also are many of the chemical tests. In most cases there are present several alkaloids differing widely in activity. An example of this is seen in nux vomica. Heretofore the total content of alkaloid has been taken as a measure of the value of the drug. Conclusions based on such an assay are correct only provided strychnin constitutes a certain fixed percentage of the total alkaloid. In fact, this is approximately true, so that it does not greatly matter whether you state that a given sample of the drug contains 3.2 per cent. of total alkaloid, or that it contains 1.45 per cent. of strychnin, if you remember that about 45 per cent. of the alkaloid is strychnin.

The practical difficulty is in separating accurately strychnin from brucine in the assay process. As yet the problem is not satisfactorily solved, and variations amounting even to 10 per cent. of the whole amount are liable to occur in the determinations of strychnin made by different analysts. As close an approximation as that we might hope to make in assays by pharmacologic tests.

So in the assay of the mydriatic drugs. We know that in these drugs there exist two isometric alkaloids, hyoscyamin and atropin, besides other bases. We have no method of separating these two alkaloids where the total amount present weighs only a few milligrams—rarely as much as half a grain. We do not yet know accurately how these two alkaloids compare with one another qualitatively or quantitatively in activity, although that subject is now under investigation. It seems to me that it may be possible to judge as to the practical value of a sample of such a drug as belladonna almost as closely by testing the effects it produces on the eye as by a chemical assay. This statement will not seem so strange in the mouth of a chemist, when I say that in some test assays of belladonna leaves made recently by a number of experienced analysts using the same assay processes, results were obtained ranging from 0.24 to 0.41 per cent. of alkaloid, one result indeed falling below 0.20. This is, of course, an extreme case, but when so much is claimed for the exactness of chemical determinations, it is only right that such extreme instances should be taken into consideration.

That our pharmacopeia should so define every article of the official materia medica that prescribers can rely upon obtaining substantially uniform results from the remedies they employ, every one will admit, and this means that the principle of standardization should be adopted wherever it is applicable.

Several practical questions will arise, however, that admit of difference of opinion. The first of these concerns crude drugs. Shall we fix for these a definite, absolute standard, so that if a particular sample of the drug is either below or above that standard it must be rejected? Or shall we simply fix a minimum limit of strength, as we have done hitherto in the case of crude opium? The latter course seems to me to be the only practical one. It will be understood that such drugs are not to be administered in substance, but simply to be employed in the preparation of standardized tinctures.

It may seem at first to some that there is no need in that case of having a standard at all. Not so, for it is impracticable to make standard galenical preparations from drugs containing less than a certain proportion of active principle. The preparation would be greatly overloaded with inert matter.

In the case of drugs that are occasionally prescribed in substance, the pharmacopeia should, as in the case of opium again, provide a standardized powder, adjusted accurately to a fixed definite strength. The ordinary retail pharmacist, of course, could not supply such a powder. Only large manufacturers or dealers could afford the necessary expense and labor involved in making such adjustment of strength, which could only be effected by mixing in the requisite proportions drug below with drug above the required strength, or by the use of a suitable diluent such as sugar of milk.

The problem how to compel the retail druggist to furnish only standard powders in filling the physicians' prescriptions is one that immediately presents itself. Unless physicians understand the matter thoroughly and are in earnest in insisting upon the use only of standardized preparations in filling their prescriptions, the pharmacopeia will remain in this particular a dead letter. Do not understand me to say that physicians themselves will have to do the necessary police work to

secure this end. All that they need do is to post themselves to begin with on the requirements of the new pharmacopeia, and then let the druggists know that they *must have* only the standard drugs and preparations of the pharmacopeia dispensed in filling their prescriptions. The enterprise of manufacturing houses that are keenly competing for the druggists' patronage will do the rest, even without recourse to legal enactments. It is apathy on the part of physicians with regard to matters pertaining to pharmacy that generates in the pharmacist apathy with regard to his professional obligations, which include scrupulous adherence to the requirements of the pharmacopeia.

The practical questions which just now vitally interest the physician are those of the actual standards to be fixed in the new pharmacopeia. The settling of these questions we can not afford to leave wholly in the hands of mere pharmacists. We understand better than they do the importance of conservatism with regard to changes in the character of pharmacopeial preparations. We know very well that more than 50 per cent. of the prescribers in our country—I purposely put the figure low—will not know anything about any changes that may be made in the pharmacopeia of 1900. They will write "Tinct. opii" of "Fl. Ext. nucis vom." as they have been in the habit of writing it, assuming, if they know at all that there is a new pharmacopeia, that there has been no material change in the strength of those preparations. Certainly 25 per cent. of the druggists, to put the figure again a low one, will continue to use the official galenical preparations made in accordance with the pharmacopeia of 1890—or 1870 perhaps—either on the assumption that no material change can have been made in the formulas, or else with the certainty that the physicians who prescribe them expect to get what they have always had under the official names in question.

On the other hand, there is a class of pharmacists to whom changes in pharmacopeial formulas, made with reference to some ideal of uniformity from the pharmacist's standpoint, seem a matter of small consequence. From such men comes the recommendation, for example, that all the tinctures of the new pharmacopeia be made in the proportion of one part of the drug in five fluid parts of the product.

How, then, shall we determine the new standards? We of the pharmacopeial revision committee desire to get an authoritative expression on this question from a representative body of physicians, such as this one. My own view is that the aim should be to make the new standardized tincture as nearly as possible identical in activity with the tincture prepared by the present official method from drug of average good quality.

In the case of tinctures, indeed, I incline to favor the plan that has been adopted in the British pharmacopeia, of making the various tinctures of such strength that the ordinary dose would be in each case a certain quantity. The British pharmacopeia makes two classes of tinctures; in one the ordinary full dose is a teaspoonful, in the other it is 15 minims. This seems to me confusing. If there is to be posological uniformity at all, it ought to be absolute uniformity, otherwise mistakes would be even more liable to occur than were there no pretense of uniformity. As a matter of fact, our present tinctures, with very few exceptions, might be included in one class or the other, of those of the British pharmacopeia. My suggestion has been to eliminate altogether the exceptional tinctures, such as those of aconite and veratrum viride, and in some way distinguish in the nomenclature the "potent" from the "normal" tinctures, the latter those having a teaspoonful dose.

Except as slight changes in strength may seem to secure more perfectly uniformity of dose in preparations having the same generic name, my view is that the new standards should aim to leave official preparations as nearly as possible of their present strength.

An important case, and one that demands special consideration, is that of the tincture of opium. The strength of this much used tincture has undergone important changes in the past. Thirty years ago it was made of such strength that thirteen minims (more exactly 13.2) represented one grain of opium, supposed to contain 10 per cent. morphin. In the revision of 1880 the strength of the opium used was raised to 12 to 16 per cent., and one grain of this opium was to be contained in about 11 minims (10 grains) of the tincture. In 1890 the strength of the opium was restricted to 13 to 15 per cent. morphin, and now 10.5 minims of the tincture were to represent one grain of opium.

Soon after the pharmacopeia of 1880 was issued some of the prominent manufacturers adopted as a standard for tincture of opium, six grains of morphin (hydrated) to the fluid ounce, which was about the average according to official requirements. The same standard continued to be used by manufacturers under the pharmacopeia of 1890, although very near the minimum requirement. For twenty years, therefore, the tincture of opium has been maintained by the influential manufacturing houses at a uniform fixed standard, and a very large part of the tincture now used in this country is thus standardized.

It is now proposed in the coming revision of the pharmacopeia to make the standard for powdered opium 14 to 14.5 per cent. hydrated morphin and maintain at the same time the ratio of 1 to 10 between powdered opium and the tincture. This means an increase in the strength of tincture of opium amounting to from 5 to 10 per cent. Is this advisable or even justifiable?

Consider in the first place the fact that our tincture of opium is already much stronger than the corresponding preparations of the British or the German pharmacopeias. If any change at all were to be made, it seems to me that it should be in the opposite direction. The present standard of 1.325 per cent. of morphin, or 7½ grains morphin sulphate (equivalent) to the fluid ounce, is certainly not a convenient one. An increase in strength such as that proposed would enable us to set the standard at the very convenient figure of 8 grains morphin sulphate (equivalent) to the fluid ounce, or one grain to the fluidram. This certainly would facilitate calculations, and possibly this consideration in the minds of some would outweigh the objection that it involves a change of about 6 per cent. in the strength of one of the most important of our medicaments.

Personally, I favor retention for the present at least of the standard to which we have become accustomed, since it is so widely accepted by manufacturing pharmacists. If a change is thought admissible, it should certainly be, as I have already said, in the direction of bringing our pharmacopeia more nearly in accord with those of other countries. A change even in this direction of as much as 10 per cent. in the strength, I do not think would be advisable. It would require fully as great a change as this to meet the German pharmacopeia half way. The discrepancy between our tincture and that used by our neighbors on the north is so great that compromise is quite out of the question. A return to the standard in use previous to 1880 would put us fairly

in harmony with them, but such a change can hardly be advised. It is not greater, indeed, than that made in the revision of 1880, but at that time exact standards had not come into general use.

If we reduce the strength of the tincture from 1.325 to 1.25* per cent. morphin, it is perhaps all that we can do at present towards bringing our pharmacopeia into agreement with those of other countries. One fluid ounce of the tincture, in that case, would contain the equivalent of very nearly 7 grains of morphin sulphate, 8.4 minims, instead of 8 minims as at present, containing ⅛ grain of the morphin salt.

The following table shows the comparative strength of the tinctures in question:

	Grains opium to fl. oz.	Per cent. morphin (hydrated) in opium.	Grains morphin to fl. oz.	Grains morphin sulphate to fl. oz.	Number of minims = ⅛ gr. morphin sulphate.
U. S. P., 1870. . . .	37 5	10+	3.75+	4 69+	12 9—
U. S. P., 1880. . . .	43 6±	12 to 16	5.23 to 6.97	6.54 to 8.72	9.2 to 6.9
U. S. P., 1890. . .	45.56	13 to 15	5.92 to 6.83	7.40 to 8.54	8.1 to 7.0
Proposed 1900	45.56	14 to 14.5	6.38 to 6.61	7.97 to 8.26	7.5 to 7 3
Present standard	. . .	. . . . .	6.00	7 50	8 0
Brit. P., 1898. . .	34 2±	10 6+	3 63+	4.53+	13 2 –
German P., 1890	44.0±	10 6+	4.66+	5 83+	10.3 –
Author's suggesti'n	. . . .	. . . . .	5.69	7.11	8 4
Alternative	. . . .	. . . . .	6.40	8.00	7.5

I have said enough to indicate the nature of the problems which are engaging the attention of the revision committee, and I hope that I have brought home to you as physicians your individual and collective responsibility in relation to the solution of these problems. If I have in any measure succeeded in this, the object of this paper has been accomplished.

DISCUSSION.

PROF. C. S. N. HALLBERG, Chicago, said that standardization of crude drugs, if not the burning question, is at least one of those now before the Committee on Revision of the Pharmacopeia. Until the seventh decennial revision, that is to say previous to the revision of 1890, there was no normal standard fixed for any drug, except for opium, for which there was a minimum of 10 per cent. of morphin established. The Pharmacopeia of 1890 required that dry powdered opium should not contain less than 12 nor more than 16 per cent. of morphin; rather a wide range when its therapeutic applications are considered. In the decennium of 1880-90, there had been a great deal of work performed, especially by Dr. Lyons and others, upon alkaloidal assays, and it was thought that the principle of fixation of alkaloidal strength of drugs would be quite largely applied in the revision of 1890. But it was found, by the time the Convention assembled in Washington, that the progress that had been made had not been so great as to warrant the application of this principle to more than three drugs, opium, cinchona and nux vomica, and to the preparations of opium and nux vomica, but not to the preparations of cinchona. Since then, the work has gone on apace, especially among the Germans, but also in this country. In laboratories of Philadelphia, and the University of Michigan at Ann Arbor, particularly, processes have been formulated which would be applicable to drugs for analysis; but whether these processes can be extended to every drug and alkaloid, or active principle of glucosidal character, is another question. He was inclined to believe that as long as studies in the constitution of drugs are still incomplete (the active principle of aconite, for example, has not been accurately determined at the present time, and digitalis and other drugs of like character are still unsettled as to the character or identity of their active constituents), it would be a pretty difficult problem to attempt to fix any definite value to these drugs in the Pharmacopeia. He did not, therefore, believe that this principle of standardization could be extended to many more drugs than has already been done, or carried out except in a very limited way. He believed that physicians should have some guarantee that the preparations they are using, such as digitalis and ergot, should have at least the minimum of what has been determined to be the active principle. It is due to physicians that this much of the principle of standardization should be preserved; but to lay down definitely the exact proportion of the principal constituents of each drug is a little too much to require. We have not yet reached the stage when that can be done with safety. There are so many men on the Revision Committee who understand the needs of the profession in this respect, that the speaker had no doubt that it will be carefully considered and the principle applied as far as compatible with safety.

F. J. WULLING, Minneapolis, Chairman of Delegates from the American Pharmaceutical Association, expressed his hearty concurrence with what had been stated in the paper and by the preceding speaker. He believed that a representative body like this Section could exert much influence in bringing about a condition of affairs so desirable as the standardization of the crude drugs and preparations of the Pharmacopeia. Druggists have knowledge of the different varieties and varying qualities of drugs in the market, and with the exception of what has been done by the Pharmacopeia, they have no methods of determining the value of these drugs. At the present time, there is no sure way for the physician to determine the value of the drug or preparation which he orders, that is to say, of determining the active constituents, and their proportion so as to base his dosage upon that fact. The speaker agreed with Prof. Hallberg that we have no process of analysis, at present, to determine the active principle of digitalis; unfortunately as soon as one is formulated, someone else immediately shows that it is unreliable and that it varies in its results. While there are many difficulties in the way, still he felt that progress has been made in applying the principle of standardization; and he hoped to see it extended further. For example, he had recently had a specimen of belladonna shown to him, which appeared to be a first-class specimen of the drug. He used it to make a tincture, and found upon dispensing it that physicians reported that they could get no therapeutic effect from it. He tested it upon a dog and obtained no result at all. Further investigation proved that the drug was inert; it contained no atropin. It was a handsome specimen in appearance, but it contained absolutely no active principle. At the present day, the druggist must depend largely upon the physical appearance of drugs unless the tests are given in the Pharmacopeia. The careful pharmacist tests every tincture to see what effect it has and to satisfy himself that there is some virtue in the drugs, not in a very scientific way perhaps, but still it does test their value. We have at present some methods of standardizing crude drugs, and the speaker believed it advisable to adopt these processes in the next revision, and make others as they arise. We can not do all that we desire at once, but we can make a beginning. Dr. Lyons had stated his belief that the ordinary druggist does not have the appliances for carrying out the processes recommended by the Pharmacopeia. The speaker believed that, from personal observation, he would be safe in saying that about 10 per cent. of the pharmacists have the proper appliances to make such analyses, according to the processes recommended in the Pharmacopeia; and he thought that the other 90 per cent. would do well to supply themselves from prominent houses that make standardized preparations. But it does not rest entirely with the pharmacists. Physicians should interest themselves in this subject far more than they do. They should acquaint themselves with the requirements of the Pharmacopeia and insist upon having official preparations. If they do insist, the druggists will only be too glad to supply them. We know that physicians of late years have not confined themselves to the official preparations, but prescribe a number of commercial preparations not in the Pharmacopeia. Possibly, this may be largely due to the greater convenience of ready-made pharmaceuticals. Some years ago, he had taken occasion to interview a number of physicians to solicit their

* 1.25 grams in 100 c.c. of the tincture.

support for the "National Formulary" and he was quite successful in obtaining their help. Physicians told him that they wished their drugs to be reliable, and if they specified the manufacturer, it was in order to obtain a good article; if they felt assured that they could always get a reliable tincture or fluid extract, they would prescribe them in preference to the proprietary preparations. Attention of physicians should be drawn to the "National Formulary" of the American Pharmaceutical Association, because it contains formulas especially prepared to relieve physicians of the necessity of prescribing secret proprietary preparations which are not compatible with the dignity of physicians and which they prefer not to use. Some physicians hesitate about writing extemporaneous prescriptions on account of incompatibility and of making unpleasant combinations. They find it more convenient to order pills already made, and save themselves trouble. The speaker urged that the members of the Section use their influence to have the medical colleges of this country introduce the Pharmacopeia as a text-book. As it is, many physicians have never seen a copy of the Pharmacopeia and do not know it from the Dispensatory. He thought that most of our colleges pay very little attention to pharmacy, which is a great mistake. If practical pharmacy and materia medica were made more prominent in the curriculum of the medical colleges, he thought that the new graduate would be better qualified to practice his profession. He had met physicians who had never seen iodid of potassium! One physician told him that he did not know whether paregoric contained any opium or not! Where there is power, as there is in this Association, if it be used judiciously, much can be accomplished. With regard to standardization, he thought that it should be accomplished as far as possible at once or without unnecessary delay.

DR. A. M. WILSON, Kansas City, said that some years ago a class of men about to graduate from a medical school, about fifty in number, came to him for private instruction, and he found that not one of them could tell the difference between a tincture and a fluid extract. Although not practicing pharmacy for several years, he still has a private laboratory and is much interested as a graduate in pharmacy in the subject under discussion. We all know that a prescription, say for tincture of belladonna, taken to a half dozen different druggists would very probably bring back a different preparation from each one. He was, therefore, in favor of standardization. He advocated a better understanding between physicians and druggists, and thought that it would be better if the medical graduate could be made more of a druggist than he is at present. While the foundation of medicine is diagnosis and pathology, the superstructure is pharmacology and therapeutics. The text-books, however, are devoted almost entirely to pathology and say very little about the administration of drugs. He was certain that no satisfactory understanding can be reached until the physician knows as much as the druggist. At present, the Pharmacopeia is a sealed book to the physician and the average student coming out from a medical school is not competent to prescribe drugs, and therefore may easily be led off into Eddyism or other vagary. Out of a class of 122. that went out from a Kansas City medical school, there was only a very few who knew anything about the Pharmacopeia or the preparation of drugs. We should realize the tremendous responsibility of this subject and endeavor to have pharmacology more thoroughly taught. He believed in the use of standard drugs upon the standard human being, and he hoped that the effort to secure uniformity would succeed for the happiness of posterity and reputation of the medical profession.

DR. W. L. DICKERSON, St. Louis, Mo., said that with reference to the criticism that medical students go out without any knowledge of materia medica, he thought that it could not be any different under the present arrangement of studies. The student taking a four-years' course is expected to complete his studies of materia medica and pharmacy in the first year. He said that it would be better if these studies were made continuous throughout the four-years' course. He was glad that the revision of the Pharmacopeia was in the hands of authorities who are giving due attention to the subject of standardization. The strength and dosage of tinctures are very variable and he thought that there could be no uniformity as long as the strength of tinctures varied all the way from 5 to 35 per cent.

DR. N. S. DAVIS, JR. (Chairman), said that he had for a number of years given much thought to the subject and he approved of the adoption of standardization of drugs and preparations just as soon and as far as possible. At present, however, the field in which it can be done with safety is very restricted. As a member of the Revision Committee, he had endeavored to carry out one plan, which he had always desired, and that was to make the Pharmacopeia more useful to medical men. He thought that physicians should be interested in it just as much as druggists are; it is the common standard for the two professions. It has not, hitherto, been arranged for physicians, but for druggists, and is not especially interesting to medical men, although it might be made a useful work in reference for both. With regard to instruction in medical schools, medical students in their first year acquire a certain amount of information with regard to materia medica and pharmacy, just as they do of physiology, information which they afterwards make use of during the remainder of their course at college. It can not be said with propriety that these studies are discontinued at the end of the first year, because they constantly make use of them throughout the entire four-years' course. He thought it very necessary in order to obtain definite results from drugs, to use products which are standardized, in preference to allowing the prescriptions to be filled with unreliable preparations which would not yield uniform results. Returning to the Pharmacopeia, he said that, in his opinion, all the new remedies should be placed therein, in order that physicians might be able to consult the Pharmacopeia for the latest authoritative information about drugs. It should not be a volume of standards, nor attempt to say with authority what drugs should be used, but a reference book. It should, therefore, contain all the newer drugs, whether they had been tested or not; these possibly might be put in an appendix, but all the new ones as well as the older preparations should be contained in it; the latter because they are still used by some physicians. As regards teaching of materia medica in the leading medical schools at the present time, laboratory courses are given in pharmacy, where the students are made familiar with the appearance of crude drugs, their chemical tests, and how to make the preparations. This course is supplemented by one on the physiologic effects of drugs. As students so taught come out and enter the profession, he felt sure that they will be far better informed as to the effects of drugs than those who graduated some years ago, of the class to which the last speaker had referred. It can not be said that these subjects do not receive sufficient consideration in our principal medical schools.

THE PROPER MANAGEMENT OF THE TUBERCULOUS LUNG.*

NORMAN BRIDGE, A.M., M.D.
LOS ANGELES, CAL.

How to manage a lung infected with tuberculosis so as to give it the best possible chance of recovery is a great desideratum, and only second in importance to the general management of the system as a whole.

A better understanding of the normal process of recovery of tuberculosis and of diseased lung tissue in general, makes it necessary for us to revise our notions of the proper hygiene and management of the tuberculous lung. It is necessary that we should recast our theories of cure and change our procedures with the lungs themselves. We must learn new ways, or rather

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee. Drs. Thomas Hunt Stucky, Leon L. Solomon and N. S. Davis, Jr.

the ways of Nature, as shown by wide observation of disease in other parts of the body and by experience with sick lungs themselves; and we need to reject and relegate to the rubbish pile a lot of doctrines that have been held and followed with the faithfulness of devotees by the public and profession alike. Some of these doctrines originated in the theories of non-professional persons with a superficial knowledge of physiology, and grew out of their reasoning as to what ought to be the truth, and therefore ought to be the procedure. It is an interesting as well as a pathetic fact that the profession has in the past fallen so readily and innocently into the habit of believing and following the theories of the lay public. It is likewise pathetic that we of the profession are wont to continue to rock along in the old ways for decades without stopping to consider whether better ways are possible. Some things by the light of this day must become axioms.

1. Shallow breathing is important and beneficial for a tuberculous lung that has to breathe. Better than that is no breathing. The good rule to put a sick organ at rest finds no exception here. Quiescence gives the forces of Nature the best chance. Put the sick lung part to rest if possible. The effects on the tuberculous lung of serum or gas in the pleural cavity in compressing the organ and so putting it to rest, have almost invariably been good, and they have gone far toward a demonstration of this proposition.

2. Deep breathing, or an occasional deep breath, is often urged as a measure to expand the lungs, which is a thing that has been supposed to be useful in tuberculosis, as well as to favor expectoration. The exit of the products of the disease is vital to prevent the occurrence of fever, and fever or the poison that causes it or both are what, if they last long enough, wear out the life of the patient. Many of us have been, I am convinced, guilty of giving this advice too freely, even recklessly and without pondering the effects of the measure. If it is so vital that phlegm within the tubes shall be expelled promptly a better way is to teach the patient to cough at the end of an expiration, when half the effort will accomplish the purpose; for this maneuver partially collapses or narrows the bronchi (and cavities if there are any) so that phlegm masses are more easily caught by air currents; and makes it possible for a small amount of air on the distal side of such a mass to expel it with great ease, when moving outward and into larger tubes with only a moderate degree of air pressure.

But are we sure pus within the bronchi is so very harmful? Fever is probably produced much less by absorption from within the bronchi than many of us have been ready to think. There is strong reason to believe that highly poisonous phlegm may remain inside the tubes for a long time without doing much harm. The real seat of mischievous absorption is, probably, mostly infected areas outside the walls of the tubes or the substance of the tube walls themselves. The patient suppresses his cough because cough appears to his mind synonymous with sickness; so if he can by any trick resist it he is in his estimation getting well. The doctor is likely to blame him for retaining his phlegm lest its poison shall be absorbed and produce fever; but it is almost certain that the benefit done to his lung by the quiescence of the organ due to suppression of the cough, a great deal more than counterbalances any injury done by absorption from within the bronchi.

3. Quiescence of the lung favors the limitation of the disease by fibrosis around and within the part involved, with the smallest amount of fibrous tissue; and the smallest amount that can be effective is always desirable. Deep breathing does violence to the fresh, new fibrous tissue and so probably stimulates the further and excessive growth of it, exactly as manipulation of an open sore tends to an increase of scar tissue. Sometimes a patient recovers or is in a fair way to recover from his tuberculosis, to die from the damage due to excessive fibrosis. For, while moderate fibrosis is a conservative process, excess of it may be dangerous by cutting off the blood supply of the parts and so leading to destructive ulceration of lung tissue, dyspnea, debility and death.

4. There is no particular need of or significance in the popular efforts in the real or supposed expansion of the chest by deep breathing and wide movements of the arms. These measures may do well enough for the healthy who fear they may get sick, but never for the victims of pulmonary tuberculosis; and no arm movements or raising or retracting of the shoulders can ever expand a chest anyway, since the shoulders glide over muscular masses around the cone of the chest without changing its diameter or its position. That they can so act is a layman's theory, founded in poor knowledge of anatomy.

5. Altitudes do not help the sick with lung tuberculosis by expanding to a greater degree the air vesicles. The theory is fallacious, unphysiologic and wrong. The benefits of altitude must be explained on the theory of the increased number of the red blood corpuscles even if they are reduced in size, and of attendant and other advantages to the general nutrition of the body. These advantages are not discounted when we try to explain them on the rational ground of known physiologic changes, instead of on supposititious grounds which are founded in error.

6. Breathing through diminutive contrivances of tubes with large inlet and smaller outlet so as to produce increased pressure within the chest to expand the air vesicles, is harmful if any effect at all is produced. At best it only does the thing that every act of coughing produces, and produces with less harm than the steady, long continued pressure in the sustained effort at blowing, that so many people have practiced.

7. The habit of public speaking is distinctly harmful in consumption, doubtless because it increases the motion of the lungs and increases the pressure within them. It has been the practice of many of their physicians to permit clergymen with mild tuberculosis to continue preaching. I am satisfied that it is wrong and that the rule should be with every such patient to stop all public speaking, until at least a year after recovery is complete.

8. Every act of coughing must *ipso facto* increase the pulmonary air pressure and so tend to stretch the air vesicles and disturb the new and soft fibrous tissue and favor absorption into the veins and lymphatics of the lung. So cough should be minified as far as is consistent with free expectoration of the accumulated phlegm, and coughing efforts should be made with as little pressure as possible. Let a patient cough at the end of a profound expiration and he will discover that he can raise his phlegm with a quarter of the air pressure that he would use if he coughed at the end of a deep inspiration, with every bronchus and cavity stretched to its utmost. There is much cough that is useless since it fails to bring up any phlegm whatever. It is a blind automatic effort of the sensitive nerves of the irritated mucous membrane, provoked by some irritation beside that of phlegm that can be expelled. As this tends to injure the air vesicles and increase fibrosis we should en-

deavor to lessen it as far as possible by means not of anodynes administered internally, but perhaps by soothing inhalants, warm clothing and careful attention to the needs of the system as a whole. Anodynes may become necessary occasionally as the lesser of the two evils.

9. Posture of the diseased part is usually forgotten as a factor in either the diagnosis or management of tuberculosis. That in one-sided tuberculosis, cough and wheezing are increased by lying recumbent on one side, and are decreased by reversing the posture, is a valuable aid in diagnosis, and points almost unerringly, if it is early in the progress of the case, to disease on the side that is undermost when the symptoms are excessive. This is due to the influence of gravity on the phlegm. When the substance can flow downward into larger tubes or into the windpipe, râles decrease and there is less tendency to cough. When the flow is distally toward and into tubes decreasing in size râles increase, and cough is produced by contact with healthy bronchial surfaces. Except in the rarest cases, it is only when the disease extends to the very surface of the lung that this symptom is wholly absent.

To keep the sick part uppermost favors the outflow and exit of disease products and so is useful for the part itself. To lie on the well lung therefore lessens useless cough and so far keeps the sick lung quiescent and gives it better opportunity for recovery. But on the other hand it favors the flow into the undermost and well lung, by gravity and suction together, of pus and other fluids, sometimes to the extent of carrying the disease to normal tissues; and this is the greatest misfortune of all. How much any hypostatic congestion of the well lung in this posture may handicap it and predispose its tissues to acquire tuberculosis must be a matter of conjecture, but there can be no question that to keep an uninfected lung in safety is a paramount duty.

It is a common observation that tuberculosis begins in the right apex, and as it recovers there breaks out in the bronchi of the left side, not at the very apex as was the case on the right side, but in the region of the second interspace and where it might be expected to appear if it should be an infection conveyed through the left main bronchus. By reason of the angle of this bronchus with the trachea the erect posture of the body favors the return of phlegm into the left rather than the right side, and this fact may well account for most of the cases of spread of the disease to the left lung in the region named and under the circumstances described. But it is only fair to assume that some of these cases are due to lying on the left side to avoid the coughing and wheezing threatened by a diseased right lung. And it is a serious question how far the patient should indulge himself in posture to escape the discomfort of coughing, when he is thereby in danger of an extension of the disease. I am coming to doubt whether in cases of much phlegm it would not be better to lie on the diseased side most of the time while in bed, turning to the opposite side occasionally to assist in coughing out the phlegm, than to pursue the usual course of keeping the sick side uppermost. It is true that such a procedure favors the flow of fluids distally and into perhaps uninfected small bronchi, but the quiet respiration of sleep would hardly do this, while it might suck phlegm into the large bronchi of the opposite side. Then the uppermost lung in lateral decubitus probably always expands more and does more breathing than the other one, and this is an unfortunate proportion; the major work ought to be done by the well lung.

10. There is now no reason to doubt the great value of immobilization of the diseased lung, especially in those cases where (the lesion being unilateral) one healthy lung remains capable of taking on extra duty. This doctrine has greater force and value in tuberculosis than any other disease.

Gas inflation of the pleural cavity, according to the method of Murphy, is undoubtedly the best way to accomplish this purpose where it can be done. But it is often inapplicable by reason of extensive adhesions preventing the distension of the cavity; by reason of lack of the proper apparatus; of lack of experience or skill on the part of the physician; or of courage on the part of the patient or his friends. It is chiefly adapted to the incipient stage of the disease and before adhesions have taken place; and adhesions develop as a rule rather early in pulmonary tuberculosis. At the same time many of the patients that show most benefit from fixation of the diseased lung, and that most need it, are more advanced cases, that are even more deserving of consideration, if less promising for recovery. External fixation ought to come into vogue for these patients, for it may be applied to nearly all unilateral cases in all stages of the disease, and has the merit of relative harmlessness, ease of application and general adaptability. From it patients often experience great benefit even from the moment of its application.

11. The method consists in fixing the diseased side as far as possible by means of numerous strips of firm adhesive plaster or some other apparatus, as a plaster of Paris splint or one made of some other material. In using the plaster the strips are drawn tightly about the side, ending somewhat beyond the median line of the body and are spread out in divergent lines extending from below the axilla, where they are gathered to avoid discomfort to the patient. Thus applied they do not interfere with the free movement of the well side, while they exercise a firm pressure on the side to be stilled. By this measure the ribs of the side may be considerably restricted in their excursions in respiration, and the lung beneath be likewise restricted in action. The reduction in the lung motion is, of course, less than that of the ribs, since the mediastinum constitutes a partition between the two sides of the chest that is movable to quite a degree by reason of its elasticity, and will always allow the lung we attempt to confine to expand in a measure, by itself stretching over toward the side of greater motion. But the partition, with the weight of the heart and great vessels, exercises some physical force against lateral movements, and that, such as it is, helps the efforts toward fixation of the lung.

Even if one side of the chest wall and the mediastinum were fixed and immovable, still wide excursions of the diaphragm could easily neutralize to a large extent the effects of this condition and allow all parts of the lung, except the very apex, to expand rather freely. The motion thus produced would be greatest at the base of the lung and shade off toward the apex where it would be slight.

The movements of the diaphragm may be minified by voluntarily breathing exclusively with the chest movements. It is possible for one to create a habit of doing this, but the average patient probably never will accomplish it, for he has too little fortitude and continuity in mental attention for so severe a test. And even if it were possible we could not expect the habit to be carried into the hours of slumber, which are quite as important as any other part of the day. But it is unwise and unfair to tax a consumptive with the duty of watching the

manner of his breathing. To be quiet and protect others from his expectoration is about all we ought to ask him to do.

The diaphragm may be to a very large degree immobilized by pinning a firm bandage around the abdomen, and thus abolishing as far as possible abdominal breathing. The bandage should be made of stout and inelastic cloth; should reach from the epigastrium to the pubic bone and extend over the lower ribs above, and the pelvis to near the hip-joints below. It should be drawn as snug as the patient can bear with comfort, and be fastened with safety pins placed not over an inch apart. To prevent it from sliding up and gathering about the waist the ordinary perineal thigh straps may be used.

The strips for the chest wall should be a good article of rubber adhesive plaster, or some other adhesive material, two inches wide. They should be drawn firmly and applied with the chest erect and in the state of extreme expiration; they should be numerous enough to cover the whole side, should overlap freely, and be sure to extend some three or four inches beyond the median line both front and back.

In applying the strips it is important to avoid placing them so that they will cut under the arm. If the arm is in the position of extreme elevation when the uppermost horizontal strip is applied it will almost certainly be placed too high and hurt the skin when the arm is brought down and carried in that position. The best way to apply this one, as for that matter all of them, is with the arm hanging by the side, the plaster being first carried under the arm and applied to the axillary line at the proper height, after which the ends may be stretched into place with the patient in full expiration. Then a number of strips should be applied diagonally in such a way as to avoid the axillary region. The strip that begins over the epigastrium ends at the inner end of the spine of the scapula on the well side; and the one that begins at the upper point of the sternum ends below the scapula of the well side. Thus the strips in the upper part spread out like a fan both front and back, while the lower ones are nearly or quite horizontal. The best rule as to the sequence of application of the strips is to fix the lowest horizontal one first, then the next above and so on, the diagonal ones at the top coming last. The patient should expire freely as the ends of each strip are drawn to place. Finally two strips of plaster superimposed should be drawn firmly over the shoulder, between the acromion and the neck, and extend down front and back lower than the horizontal strips and pressed firmly against all of these. These pieces tend to fix the upper ribs and give comfort to the chest. It is better not to have them stick to the shoulder. This may be prevented by first placing over the latter two layers of soft cloth extending to the diagonal strips of plaster. When well and fully applied the side of the chest is almost completely covered by the plaster.

The plaster dressing should, when once well applied, be allowed to remain unmolested as long as it serves the purpose of fixing the chest wall, or until it becomes annoying to the patient by producing some irritation of the skin. Then it may be taken off and the skin be washed with alcohol or dusted freely with bismuth, or some skin dusting powder, to remove any particles of plaster, when, if conditions are favorable, it should be reapplied as before. This round of measures should be repeated as many times successively as the case requires.

The skin is sometimes irritated considerably by the plaster, and pimples and slight excoriations occur. But these usually recover in a day or two when the plaster is removed; then it can be reapplied. The skin irritation is useful to the lung and intercostal tissues rather than otherwise; moreover, the skin often seems to become after a while toughened or accustomed to the plaster, so that this ceases to irritate.

The greatest difficulty is in the tendency of the plaster to creep or slide, and as soon as it becomes so slack as to cease to keep the chest considerably immobilized it should be removed at once, and be reapplied as soon as possible. A surgical appliance much needed is a plaster that is highly adhesive and that once applied will not creep at all; but perhaps these conditions are impossible.

An interesting effect of the strapping, discoverable after it has been maintained for many days, is a restriction of motion in the affected side after the adhesive strips are removed. By idleness the respiratory muscles of this side acquire the habit of rest; and by increased duty those of the opposite side take on a habit of larger activity.

The abdominal bandage does no harm in any way except by depriving the abdominal organs of their accustomed gentle and natural massage due to the habitual movements of them that are produced by abdominal breathing. But this lack can easily be compensated for by removing the bandage occasionally and freely manipulating the abdomen. The bandage does not need to be so tight as to interfere with the circulation or press downward harmfully the pelvic organs, as tight lacing so often does. The purpose is solely to stop abdominal breathing as far as possible or as far as is consistent with good digestion and elimination; and abdominal breathing may usually be almost or quite abolished without interfering seriously with these functions.

The effect of this measure for immobilization of the chest will be found, in many cases, to be highly beneficial; in some cases the instant comfort experienced by the patient is a striking feature even where no chest pains have existed previously. The comfort comes from a quieting of the noises in the chest and from a feeling of rest. In substantially no case is it harmful, provided there is one healthy lung to be used; and it is borne without special discomfort by a large proportion of patients. A catalogue of the good effects includes: 1, considerable relief from useless cough; 2, increased ease in expectorating; 3, relief from the annoyance of râles and wheezings, which tantalize some patients into desperate insomnia if not into the grave; 4, relief of pain in the chest walls; 5, relief from a sense of fatigue in the chest which so many patients have; 6, lessening of fever, and consequently improvement in general nutrition and tone; 7, lessening of danger of hemorrhage and assistance in recovery from its effects; 8, aid in the healing of cavities, especially small ones; 9, decrease in the amount of fibrosis beyond what is necessary for a conservative force. There can be no question that immobilization in this way is a sustained benefit to the process of recovery; and I do not know of any other harmless measure that gives so much comfort to the average patient, except the inflation of the pleural cavity with gas.

But these good effects in tuberculosis do not comprise all the advantages that are sure to accrue from the faithful use of this measure. It has been used for the pains of pleuritis for many years; it is just as proper for intercostal neuralgia and for pleurodynia, as for any other pain in the chest that is produced by the motion of respiration. It may be used with benefit for empyema after drainage has been established; it will help toward the collapse of the cavity and early healing with a minimum

of fibrous tissue, and thus with more final use of the lung. It ought also in such cases to lessen the danger of amyloid degeneration of important organs from prolonged suppuration. It ought to be tried faithfully in bronchiectasis confined to one lung, in the hope of lessening the amount of fibrous tissue produced by the disease and so making the havoc to the lung and general system less.

THE NATURE AND HISTO-PATHOLOGY OF THE EPIPHARYNGEAL TONSIL.

NORVAL H. PIERCE, M.D.
CHICAGO.

The body which is known as the third, pharyngeal, or better, epipharyngeal tonsil, and when hyperplastic, as adenoids, is situated at the superior part of the posterior wall of the epipharyngeal space, and constitutes the upper portion of Waldeyer's ring, the median and lower portions of which are completed respectively by the faucial and lingual tonsils, the whole being connected by a system of delicate lymphatic vessels and nodes.

While the honor of first disclosing the local and remote significance of adenoids belongs to Wilhelm Meyer, first in 1868, then in 1873, their existence can hardly be said to have been altogether unknown to the ancient writers. Although he was ignorant of the real cause, Hippocrates, in the 7th Book of Epidemics, gives the clinical picture of adenoids with the concomitant ear discharge, headache, irregularity of the teeth, V-shaped palate, etc. We may gather from Celsus that the effects of adenoids were not unknown to him. Pliny mentions them. Semon draws attention to a picture of a Prince of Spain painted in 1524, in which the artist has portrayed the facies peculiar to those affected with mouth breathing. Schneider (1655), Santorini (1724), Haller (1764), Lacauchie (1853), and Luschka (1868) more or less perfectly described the morphology of the epipharyngeal body, and it was the latter investigator who first conferred on it the name, since generally accepted, the tonsilla pharyngea. Henle, Koelliker and His were the first to examine its histological structure, and to show the histological similarity existing between this and other remote lymphoid structures, namely, the spleen, the thymus, lymph glands, solitary follicles and Peyer's patches in the intestinal walls. Henle called it conglobular; Koelliker, cytogenous; His, lymphoid tissue. Woake's idea as to adenoids being of a papillomatous nature has long since been proven erroneous. Indeed, this adenoid tissue is widely distributed throughout the body. It is abundant in the pharynx; in the esophagus it is almost absent, and in the stomach inconstant; but it abounds in the intestinal canal, especially in the ileo-cecal region, while in the rectum and about the anus it again becomes scant or altogether absent. It is found in the conjunctiva, in the tear ducts and in the mucosa of the female genitals. The trachea is rather free from the adenoid structure; but in the larynx it is constant, and is most frequently abundant in the ventricles and the interarytenoid region, on the free edge of the epiglottis, on the petiolus, in the aryepiglottic folds and in the sinus pyriformis.

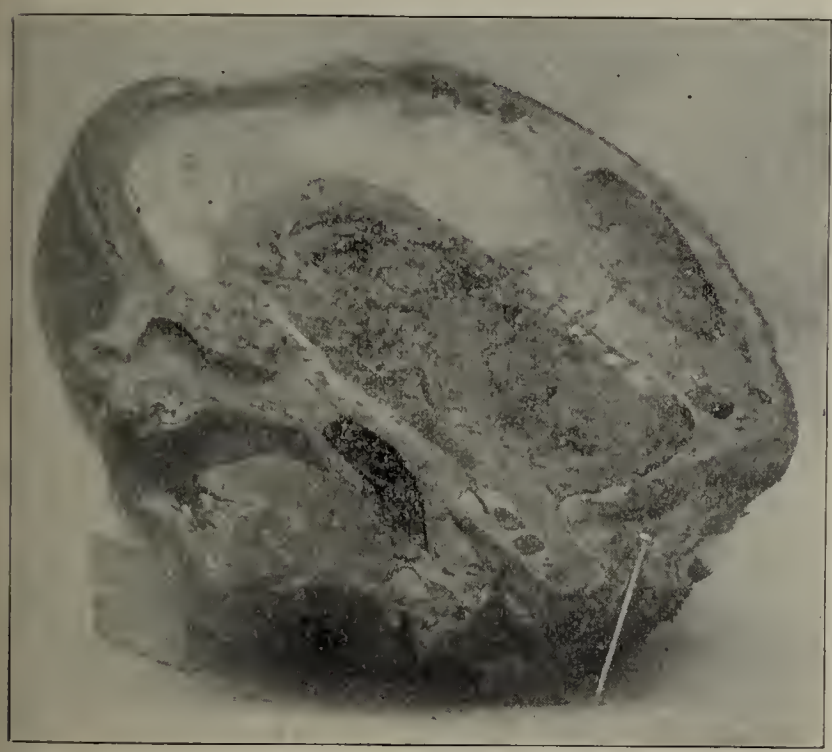


Figure 1.
Showing size and position of a normal epipharyngeal tonsil.

Figure 2.
Showing adenoid tissue embracing Rosenmüller's Groove.

Knowledge of the distribution of adenoid tissue in the postnasal space and adjacent structures is of practical import, inasmuch as the whole or any part of it is liable to undergo hyperplastic change.

The normal pharyngeal tonsil may be said to occupy the space reaching laterally from one Eustachian cushion to the other, and from the superior margin of the choanæ above, to the arcus atlantis below. It is flat and traversed by three to five or more vertical grooves, which tend to converge at its lower end; several fissures are usually found running from side to side, intersecting the former. It measures from 4 to 6 mm. in thickness. From here the adenoid tissue reaches over the soft palate into the middle meatus of the nose and along the floor, where it may be often detected by anterior rhinoscopy as a linear projection of pale pink color (Shäffer, Winckler, Hellman). The accumulation is so great on the median walls of the postnasal space and at the ostium of the Eustachian tube that Teutleben suggests that it be called the tubal tonsil. It enters the walls of the tube itself as far as its upper third. Trautman contended that adenoid vegetations never have their origin in Rosenmueller's groove in the im-

mediate neighborhood of the tubal ostium, while B. Fränkel, Shäffer and others have contended that such origin is frequently found. Reference to Fig. 2 shows growth growing directly from the aforesaid region.

Embryologically the pharyngeal contents are associated by means of Landzert's canal with the pituitary body and pineal gland. But as far as I have been able to ascertain the exact relationship of the tonsilla with the hypophysis is not known. According to Stohr the metamorphosis of leucocytes into the fibrillar structure of adenoid tissue begins in the third month of fetal life. In the sixth month the pharyngeal tonsil is formed. At birth, however, a pharyngeal tonsil is very rudimentary, scarcely visible to the naked eye in most cases. Only exceptionally do we find its hyperplastic enlargement beginning before the end of the first year. In the majority of children from the 5th year to puberty the accretion is at its height. From this time on, its tendency is toward involution. In individual instances we have the most varied exceptions to the rule. Thus we may have large masses of adenoids remaining after puberty and into adult life, or we may see voluminous masses undergoing rapid spontaneous disappearance at any age before puberty. We must remember, however, that it does not require large masses of adenoid tissue in infants to greatly interfere with nasal respiration.

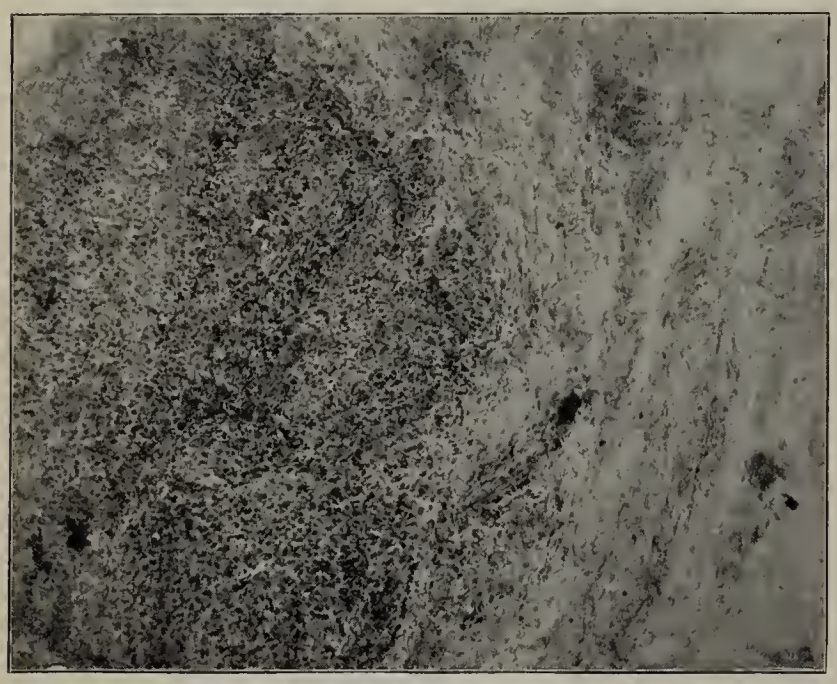


Figure 3.
Showing ripening of embryonal into adult connective tissue in an epipharyngeal tonsil removed from a lad at puberty.

The size, shape, color, and consistency of the hyperplastic pharyngeal tonsil vary greatly. Its size may cause it to completely or incompletely fill the postnasal space. Meyer divided them as to shape into folious, conical, pectinate and lemelliform varieties. The archtypal form is that with a broad base, sharply defined, of rather hard consistency, hemispherical in shape and with more or less deep sagittal and transverse furrows crossing its surface. The other varieties may be regarded as the result of modification in corrugation due to anomalies in the normal sagittal and transverse furrows. The color may be pale pink, red or purple. Density varies according to the relative amount of lymphoid and connective tissue a growth may contain, and to a certain extent with its vascularity. The surface may be coarsely granular or smooth. There is little doubt but that they possess a certain degree of erectility.

This peculiar arrangement of the pharyngeal lymphatic system is not limited to man. It has been found widely distributed through the animal kingdom by Schmidt, Killian and Holl. It is constant in mammalia, with the exception of rodents, where it is very scant or altogether absent. In swine lymphatic tissue in the pharynx is especially abundant. A lymphatic body analogous to the faucial tonsil as it occurs in man is to be found in birds and in certain reptiles and amphibians.

As to the function of the pharyngeal tonsil little or nothing is known, as little as is known of the part played by the faucial tonsil. Numerous hypotheses have been advanced regarding both, but as yet none of them have been proven. Harrison Allen, reasoning from their embryological connection with the hypophysis cerebri, believed that adenoid vegetations were intimately connected with the metabolic processes of the economy; he says: "I remain of the opinion that adenoid growths, while, as a rule acting mechanically, will occasionally manifest the symptoms of a veritable disease which is allied to other affections of the blood vessels, glands and lymph systems, and which should be regarded as having a dominating influence on metabolic processes. It is thus placed in alliance with acromegaly and myxedema." The pharyngeal adenoid ring has been identified with the digestive or absorbent process on account of its histological resemblance to the adenoid structures in the intestinal walls. But the position of the epipharyngeal tonsil would seem to preclude its participation in such a process. On account of its resemblance to the structures which in fetal life are actively employed in the production of hematogenous elements, namely the spleen, thymus, liver, certain observers have endeavored to connect it with the hematopoetic process. Analogy is not born out when we remember that after birth when these organs have ceased their hematopoetic functions, the adenoid structures of the pharynx in the large majority of cases just begin to appear. Again, their great variability would militate against their participation in such an important process. Against the theory that they protect the organisms against infection we have only to recall the frequency with which they serve as portals of entry for diphtheria, scarlet fever, rheumatism, etc.

Figure 4.
Blood vessels at the base of a hyperplastic epipharyngeal tonsil, showing their radial arrangement. At *a* and *b* are shown how the fibrous tissue prevents the collapse of the blood vessels.

Hyperplasia of the pharyngeal tonsil has been ascribed to various pathological processes by numerous writers.

Michael Dansac divides them into those of tubercular, syphilitic and scrofulous origin, and bases his deductions on a histological study of 32 cases of adenoids occurring in the clinic of Gougenheim at Lariboisieri Hospital.

The relationship of tuberculosis to adenoids has furnished a theme for discussion by many writers during the last few years, and we are now in position to say that although the epipharyngeal tonsil may not infrequently be infected by the specific germ, its hyperplasia is far more often due to other causes and may be seen by the following table:

Broca in	100	cases	found	0	cases	of	tuberculosis;
Gottstein in	33	"	"	4	"	"	"
Lemoyez in	32	"	"	2	"	"	"
Brundel in	64	"	"	8	"	"	"
Plundar in	32	"	"	5	"	"	"
Luzzatti in	50	"	"	2	"	"	"
Breeger in	78	"	"	5	"	"	"
Wex in	210	"	"	7	"	"	"
Total	599			33			

Pillet found giant cells in three cases out of ten specimens examined, but we know that giant cells alone found under conditions such as those present in his cases are not evidence of tuberculosis. The reaction of adenoids to the tuberculin test has been negative in the large majority of cases.

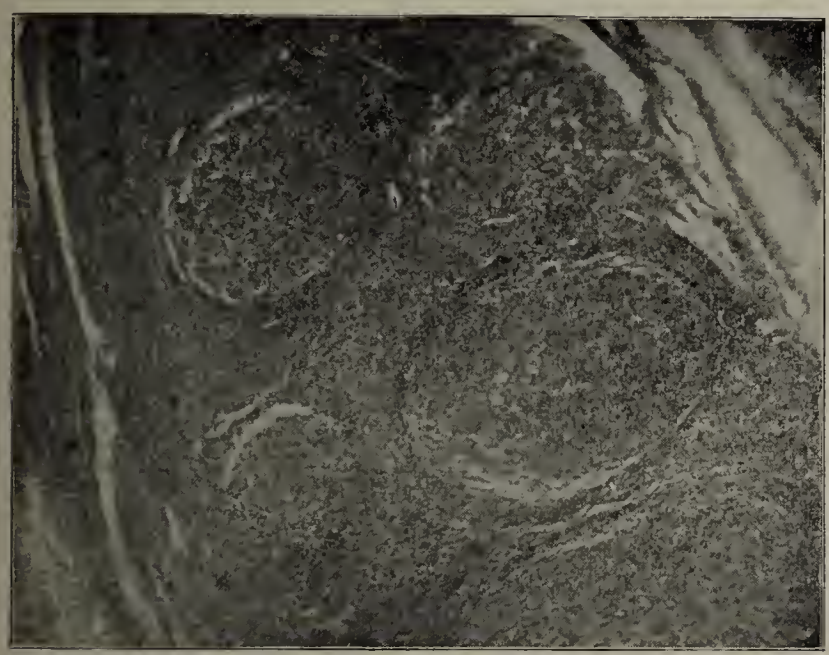


Figure 5.
Lymph follicles with their more deeply stained peripheries.

In one of G. Gottstein's cases, from which the adenoids were removed, evidences of tuberculosis were found. At the time of removal the patient was 12 years old. Six years afterwards she was again examined. Only the slightest remnant of adenoid tissue remained, which had a perfectly normal appearance and the patient herself was in possession of perfect health.

That we often find adenoids in strong healthy children, must disprove the hypothesis that they are always of tubercular, scrofulous or syphilitic origin. Causes of hyperplasia occurring in the pharyngeal tonsil are various. Among the most frequent stand the acute infectious diseases of childhood; especially provocative are scarlet fever, diphtheria, measles and whooping cough, and next to these come recurrent attacks of acute catarrhal inflammation and acute lacunar inflammation. The frequency with which these attacks occur in the epipharyngeal tonsil has been scarcely appreciated, as pointed out by Gradle.

Whether the systemic disturbances which accompany adenoids, anemia, aprosexia, etc., are in all cases due solely to their mechanical presence is scarcely probable. The recent experiments of Massini and Genta seem to prove that adenoid tissue occurring in the postnasal space possesses a secretion which when injected into rabbits causes a slowing of the pulse rate and a rise in the vascular pressure, thus placing by analogy adenoids among the glands having an internal secretion, such as the thyroid, adrenal bodies, pituitary gland, etc.

Their coincident appearance in many cases of scrofulosis is admitted. But we are all aware that in certain cases in which the general condition can scarcely be differentiated from true scrofulosis, immediately on removal of the growth in the postnasal space the vital capacity of the individual improves and the patient in a short time is restored to full health. This condition has been called by Moritz Schmidt, pseudo-scrofulosis.

HISTOLOGY.

Bickel proposes to confer the name of tonsil on only those masses of adenoid tissue which meet the following specifications: 1, a sharply-defined base; 2, diffused infiltrations of leucocytes around lymph follicles; 3, crypts and sinuses; 4, the lymphatic tissue must approach close to the surface and contain acinous glands.

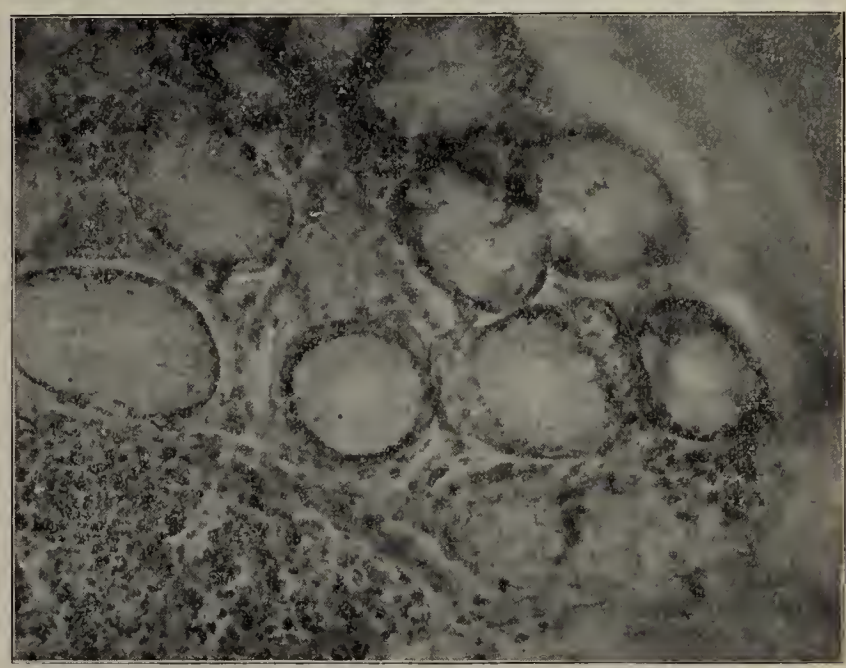


Figure 6.
Acinous glands from the deeper portions of an epipharyngeal tonsil.

The epipharyngeal tonsil possesses all of these characteristics. It is covered with epithelium, the character of which varies with the age and size of the growth; in the normal young tonsil it is rather constantly cylindrical and possessed of cilia. In the older growths, however, this cylindrical epithelium assumes more often a pavement-shaped variety and the cilia are lost. The epithelium is arranged in rows of two in the young tonsil; in the older tonsil they may increase to three or five. Immediately beneath is the limiting membrane, which as a rule is very delicate. Below this comes the substantia propria consisting of the lymph follicles, leucocytes, blood vessels and lymphatics, the whole being held together by a reticulum of connective tissue. In a number of sections stained with the fer-hematoxylin method I was unable to find a nervous structure. The size and number of the follicles in any growth vary greatly. The follicles may be so large as to be visible to the unaided eye in the stained section; there may be two to five layers from the surface to base. Nearly always the periphery of the follicles stain more intensely

than the central portion. Deep within the tissues are found the acinous glands. The arrangement of the blood vessels is somewhat fan-shaped. J. Hynitzsch has observed villous elevations within the crypts which show a great similarity to the papillomatous proliferation seen in mammary and ovarian cysto-adenoma. The same author has made a study of the cysts occurring in the hyperplastic pharyngeal tonsil and divides them into two varieties corresponding to the two types of epithelium lining the crypts, namely, the columnar and squamous cysts. These columnar epithelial cysts vary in size from a microscopic body to that of a bean, occur frequently and contain a clear ropy mucus, often rich in leucocytes and occasionally red blood corpuscles. In two cases the cysts contained multinuclear elements or giant cells. Their nuclei vary in number, are of irregular arrangement and never situated along the line of the cell, thus essentially differentiating them from giant cells found in tuberculosis. Squamous epithelial cysts are much rarer. These cysts frequently contain horny lamellæ concentrically arranged, the center composed of amorphous granular masses, fat globules and cholesterin crystals. They may be regarded in all instances as due to retention of secretion by closure of the mouths of crypts. The process of involution may be explained as follows: Maturing of the embryonal tissue takes place first in the oldest portion of the growth, which is probably at the base of the tonsil. This process, together with the peculiar fan-shaped arrangement of the blood vessels may be seen in Figure 4, and here, too, we may gain a hint as to the cause of hyperplasia in certain growths. The firm connective tissue in which the blood vessels of the base are embedded prevents diminution of their caliber and this interferes with the normal decrease in the nourishment of other portions of the growth. We thus have a relatively increased blood supply to that portion of the growth supplied by the blood vessels affected. The change of embryonal into adult connective tissue takes place in the interfollicular tissue. Each follicle is enclosed in a bag, as it were, of maturing connective tissue; this gradually contracting tends to cause the follicles to disappear by pressure atrophy.

CONCLUSIONS.

1. The tissue composing adenoids has a wide distribution throughout the body.
2. The epipharyngeal tonsil is an organ normally present in all individuals.
3. The function of the epipharyngeal tonsil is at present unknown. Whether it is simply an evolutionary vestige or has to do with metabolic or other processes is equally uncertain.
4. Its wide distribution among the various members of the animal kingdom, its embryological connections, and its identity with lymphoid structures elsewhere in the body, would suggest that the epipharyngeal tonsil *has* a function.
5. The histology and the experiments of Massini and Genta would tend to place it in the class of glands having an internal secretion.
6. The relation of tuberculosis, syphilis or scrofulosis to adenoids is not etiologic. Adenoids may be affected with tuberculosis, etc., but only as any other organ may be similarly affected.

Important Scientific Post for a Woman.—Since Nencki's death, his assistant for many years, Miss Sieber-Schumord, has been appointed director of the Institute of Experimental Medicine at St. Petersburg, in his place.

THE ROENTGEN RAYS

IN DIFFERENTIATING BETWEEN OSTEOMYELITIS, OSSEOUS CYST, OSTEOSARCOMA AND OTHER OSSEOUS LESIONS, WITH SKIAGRAPHIC DEMONSTRATIONS.

CARL BECK, M.D.
NEW YORK CITY.

In periostitis, as well as in osteomyelitis, the skiagraphic signs are well marked. Abscesses can not only be localized, but their extent is so well outlined that the technical steps of the operation can be definitely traced in advance. The feeling of security the surgeon has while proceeding under the mentorship of the skiagraph gives a satisfaction unknown in former years, when often the whole femur had to be exposed simply in order to ascertain whether all foci were detected. If the Roentgen

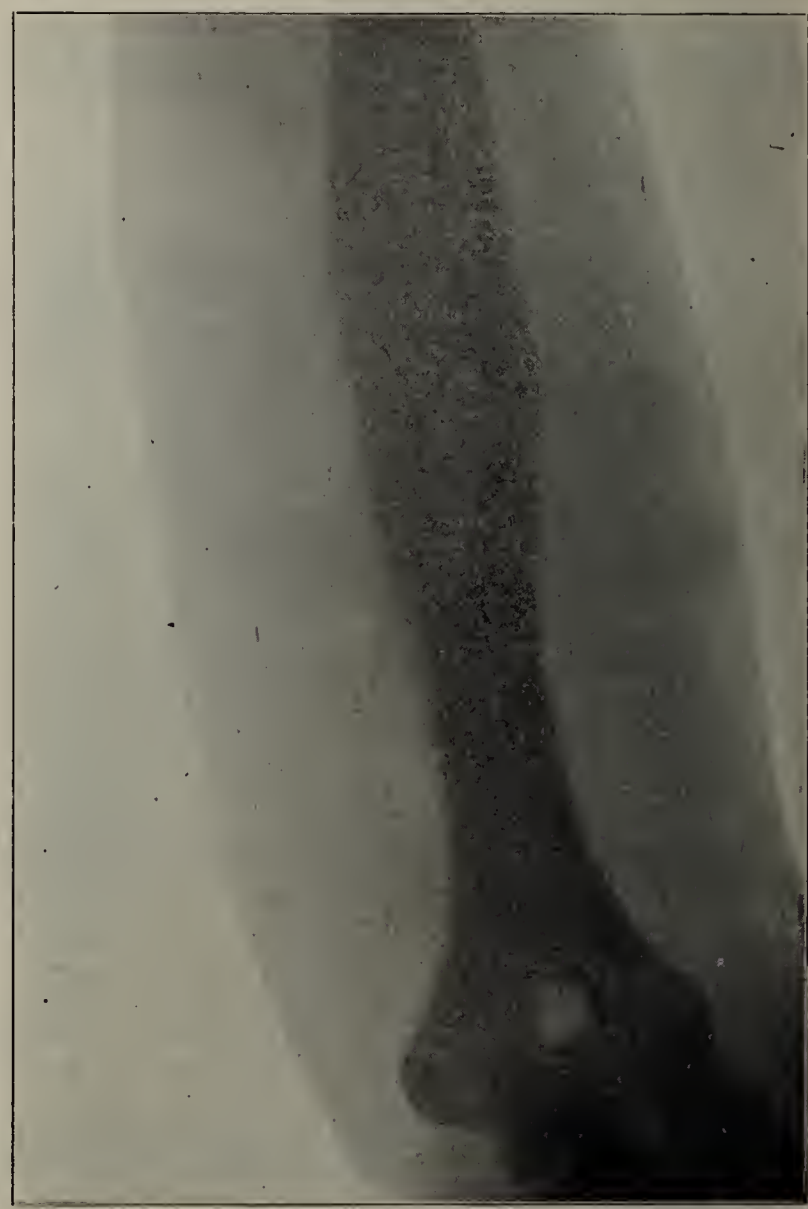


Fig. 1.—Osteomyelitic focus in the middle of the humerus.

rays show but one focus, no other regions of the bone need be attacked.

In such cases a preceding trauma often opens the avenue of infection. The pain, the edema, the fever, and general debility may be sometimes so little marked that differentiation becomes difficult. The skiagraph not only clears this difficulty of diagnosing this disease, the true etiology of which is still so obscure, but it also furnishes a trustworthy guide for the operative technic at the same time.

Osteomyelitis is of a decidedly infectious character, generally due to the invasion of the staphylococcus aureus, which fortunately has a tendency of forming circumscribed foci in the vascular tissues of the bone, viz., the medulla, and sometimes the periosteum. The predilection of osteomyelitis is for the long bones of young

individuals. It is self-evident, therefore, that the early recognition of osteomyelitic foci renders the prognosis of their evacuation extremely favorable.

In the case of a lady of 20 years, the slow onset of the symptoms did not seem to indicate an acute inflammatory process. Pain at the thickened area of the middle of the humerus, being present only temporarily, the fear of a malignant growth was apparently not unjustifiable. The skiagraph at once did away with all anxiety, since it revealed the presence of periostitic proliferations and a circumscribed osteomyelitic focus (Fig. 1). The focus was easily exposed by the chisel, under the mentorship of the skiagraph. That the skiagraph has also spoken the truth by demonstrating the integrity of the remaining portions of the humerus, was shown by the speedy recovery of the patient.

The focus was distinguished by its light shade in the midst of the dark shadow of the cortex. The regularity of the cortical line and the external proliferation distinguished it from osteosarcoma, and the absence of distension from osseous cyst.

Necrosis and other later stages of inflammatory processes can be represented still more distinctly. The size and shape of sequestra can easily be made out. It can, furthermore, be ascertained how they are located in their bony coffin and whether they still adhere or are exfoliated. Under the guidance of the Roentgen rays extraction is very easy.

Fig. 2.—Sequestrum, exfoliating from radius.

In the case of a man of 23 years, who had crushed his left little finger, amputation was deferred until septic tenontitis and tenosynovitis had developed. The extensive tissue necrosis in the muscular interstices of the forearm necessitated free and deep incisions, which showed the radius, as well as the ulna, denuded of its periosteum. Amputation was therefore authoritatively advised, but nevertheless the chances for further conservative treatment were taken. Fortunately, the process became confined to the forearm and recovery seemed to make rapid progress. Only a small fistula at the dorsum of the forearm did not close. The repeated introduction of a probe did not reveal the presence of rough bone, and we were inclined to suppress our suspicion of the presence of a sequestrum. Our surprise was great when the Roentgen rays revealed the presence of a large splinter exfoliated from the inner portion of the radius, the surface of which was covered by osteophytes (Fig. 2). The direction of the skin incision, a slight oblique, was dictated by the position of the sequestrum as shown by the skiagraph. When the sequestrum was reached it was found to be covered by thick fibrous tissue at the upper surface, while the inner and lower surfaces were exposed. This explains why the introduction of the probe gave no positive information, since it had touched only the fibrous cover and did not come in contact with the rough lateral or posterior surface. Recovery was perfect eleven days after the operation.

Fig. 3.—Arthritic changes in the enlarged external condyle.

The regeneration of osseous tissue can also be well studied in such cases by the skiagraph. Foci of the same character are sometimes formed in typhoid fever. They must be treated after the same principles.

In diagnosing inflammatory processes in the joints, great difficulties are sometimes offered. As stated before, in the case of acute rheumatism, the integrity of the articular outlines are well marked. The same applies to acute inflammatory processes due to infection. In the latter event the distension of the joint by the serous or purulent effusion may be represented by the skiagraph. In chronic rheumatic processes the articular bone line appears somewhat irregular. In arthritis the contours of the bone epiphyses appear irregular, like indentations on some portions, while others are veiled. The arthritic deposits are recognizable as light shadows

of the deformed epiphyses, as they consist of translucent uric acid salts, while their periphery is distinguished by a dark sphere. In arthritis deformans the ostitic proliferations are especially abundant and are well represented by the rays.

Figure 3 illustrates the case of a laborer of 50 years, who sustained an injury of his elbow eleven years ago. He reported that recovery took place after several months and that the elbow had remained stiff ever since. During the last few years inflammatory signs had manifested themselves, which were regarded as rheumatic. No other joints were involved. Since then he also had repeated attacks of pain in the elbow joint. When I examined the patient for the first time I found the elbow very much thickened and fixed at a sharp angle. Pressure below the external condyle caused intense pain. Crepitus, so often found in old arthritic processes, could not be produced in this instance, as the joint permitted no motion. There were no indications of tuberculosis, syphilis or gonorrhea. The skiagraph revealed the presence of mal-union (sideward displacement) of the coronoid process of the ulna, which probably had given the first impetus for the development of the arthritis deformans, the light shaded changes of which are especially well marked in the external condyle of the humerus. The left condyle shows synostosis with the olecranon. Removal of the projecting fragment by the chisel, separation of the adhesions, and the partial resection of the external condyle, the seat of predilection for the acute attacks, was advised as a therapeutic means.

In tuberculosis of the bones and the joints the Roentgen rays not only give information as to the seat and extent of the tubercular areas, but also offer the only means sometimes of differentiation from other affections, the clinical signs of which resemble it. The walls of an intra-osseous focus appear thickened. Some portions are translucent and their contours irregular. The articular outlines of a tubercular joint have lost their regularity and appear diffuse, cloudy and sometimes shaggy. In later stages, when cheesy foci have formed, for instance, their areas appear translucent. The cortex is sometimes entirely destroyed and leaves the impression of having been scooped out with a gouge. In most cases, especially when the soft tissues are also affected, atrophy is marked. Figure 4 represents the feet of a man of 58 years, who suffered from tuberculosis of the ankle joint for two years. He was treated by the injection of iodoform-glycerin and the administration of guaiacol carbonate. The left leg recovered entirely, leaving considerable deformity and ankylosis only. The astragalus shows deformity and extensive destruction. The right leg is in an acute inflammatory stage, cheesy pus being present in the ankle joint. When there is calcareous degeneration the foci appear dark-shaded.

Fig. 4.—Tuberculosis of both ankle-joints.

In the case of extensive tubercular destruction the eroded and displaced cartilages can be studied. In tubercular coxitis, the spontaneous upward dislocation of the femur and the separation of its head in the acetabulum can also be easily recognized.

The only marked signs of tubercular spondylitis consist sometimes in the presence of an abscess below Poupart's ligament, the nature of which would not be properly interpreted, if the plate did not prove the existence of vertebral changes.

It need not be said that the early detection of a tuber-

cular focus enables the surgeon to do a conservative operation, while at the late stage of extensive destruction such efforts are futile, as it is sadly illustrated by skiagraphic examination.

By realizing that so-called osteosarcoma is the most frequent of morbid growths and that of all tumors sarcoma offers the gravest prognosis, the importance of a thorough diagnosis need not be emphasized. The matrix of osteosarcoma, like that of all osseous growths, is either the periosteum or the medulla, in combination with the tissue originating from their proliferation.

Periosteal sarcoma is of a moderate hardness and contains either round, spindle or polymorphous cells. It attaches itself to the bone laterally, but may, in its further development, encircle it entirely. Periosteal sarcoma may become a real osteosarcoma at a later stage, when osseous trabeculæ are formed. The skiagraph of periosteal sarcoma is characteristic, since it shows fine spiculated trabeculæ that radiate from the surface. Periosteal sarcoma spreads rapidly and is highly malignant. Whenever the diagnosis of periosteal sarcoma is made, amputation should be insisted upon.

Sarcoma originating from the medulla is called myelogenous and is of a less malignant character. It may

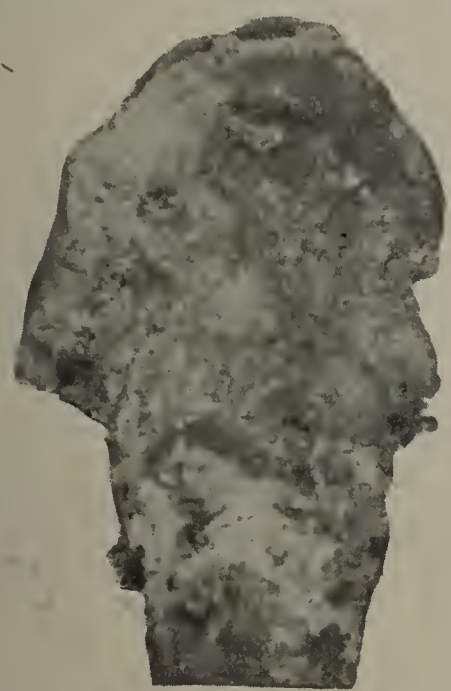


Fig. 5.—Osteosarcoma of upper third of humerus.

be classified as soft, hard, alveolar and multiple. The soft myelogenous variety shows the ordinary sarcomatous texture. Its predominating feature is the presence of round cells. It has a decidedly more benign character than the periosteal type. Therefore it justifies a conservative attempt, that is, extensive extirpation. It produces carious destruction of the spongious portion which may cause spontaneous fracture. At a later stage the osseous shell will yield to the spreading sarcomatous tissue. This variety has a predilection for the long bones, especially their ends, and predominates at the lower epiphyses of the femur, tibia, humerus and radius. Skiagraphs of the soft myelogenous variety show the absence of osseous tissue, small fragments of it being sometimes left here and there.

In the case of a woman, age 28 years, who had fallen on her hand when it was in dorsal flexion, the faint outlines of boneshell in a soft myelosarcoma were shown. The swelling resulting from the injury produced the impression that a fracture of the carpal end of the radius was sustained.

Three months after the injury, when the patient came under my observation for the first time, a small deformity was noticed just as it is observed in a badly united fracture of the carpal end of the radius. But the consistency of the epiphyseal end was soft. The skiagraph failed to show the evidence of bone tissue, only one small remnant being left at the outer aspect of the radius. Resection was advised, but before the patient submitted to it another month had elapsed, during which time the neoplasm had grown to a great extent. The result was reported as being fair, eight months after the operation.

The hard myelogenous variety generally called endosteal or central sarcoma, also shows the ordinary sarcomatous structure. Its distinguishing feature is its fibrous texture and the presence of spindle cells. Some portions contain various tissues; the spindle-cell tissues often contain giant cells. If smaller or larger bone trabeculæ are produced, it is called osteosarcoma proper;

Fig. 6.—Osteosarcoma of lower end of radius.

if there are calcareous deposits, petrifying sarcoma; and if the tissues become vascular, a telangiectatic sarcoma will be formed, so that it may be mistaken for an aneurysm.

In later stages, when there is a regressive metamorphosis, fatty or cystic degeneration may take place. In this case, neoplasms that occur especially in the femur, tibia and inferior maxilla, may attain an enormous size.

The skiagraph of osteosarcoma proper (Fig. 5) shows more osseous tissue than the former variety, but its outlines are very irregular. Osteosarcoma proper usually commences near the epiphysis of a long bone. Skiagraph No. 6 shows the irregular sarcomatous proliferation of the lower one-third of the radius in a woman of 40 years. Treatment was not resorted to until two months afterward, when the skiagraph (Fig. 7) re-

vealed the destruction of the lower third of the radius and of a large portion of the carpus. Resection was performed; the result was perfect, as was illustrated by another skiagraph taken more than four years after the operation, which showed the regeneration of the osseous tissue.

The alveolar variety is characterized by its alveolar stroma, which contains nests of large cells. They have a predilection for the bones of the skull and the trunk. The multiple variety (also called myeloma) is characterized by the presence of numerous whitish foci, which consist of small round cells. It has the same structure as the lymphoid sarcoma and is nearly exclusively found in very old individuals, for whose skull and trunk they show the same predilection as the former variety.

The skiagraph of the alveolar, as well as the multiple type, shows the foci as light irregular shades. The structure of their type, especially their manner of destroying the pre-existing bone tissues, the thin osseous walls and the trabecular formation, is the standpoint for their skiagraphic study. The intra-osseous tension is responsible for the expansion of the compact osseous layer, which is thus made gradually weaker and at last almost

Fig. 7.—Destruction of lower third of radius and portion of carpus by osteosarcoma.

entirely disappears. Thus we see that it is the abnormal and indefinite outline, or even the entire absence of the osseous cells, the cortex especially disappearing, which is more or less characteristic for the various types of osseous sarcoma in contradistinction to other bone diseases.

As to differentiation, it may be said that in aneurysm the bone would show intact. Attention was called by me to the usefulness of the Roentgen rays in a case of femoral aneurysm, which, on account of extremely thick walls, showed no pulsation, so that originally it had been taken for osteosarcoma, an amputation then having been considered. The femur appearing intact, it was evident that there was a disease of the soft tissues.

In chronic osteoperiostitis the walls appear irregular, but the irregularity is one-sided and—exteriorly—there is a globular or spindle-like shape (see Fig. 1). In tuberculosis the shade will be cloudy or shaggy. In osteomyelitis, the cortex shows nearly normal outlines (Fig 1).

The skiagraphic expression of syphilis is also characteristic. In the congenital form, large ossified areas are recognized in the epiphyses that would appear translucent in their normal cartilaginous condition. On the other hand, light areas are noted in the diaphyses as an expression of insufficient calcareous deposition. The synostosis between the cartilaginous epiphyses and the diaphyseal end appears as a very marked line, indicating the abundance of calcareous salts deposited there. Gummata show regular light-shaded foci. Their disappearance after the administration of iodid of potassium confirms the diagnosis.

Figure 8 shows the evidence of hyperostosis of the clavicle, scapula, ribs and the upper third of the humerus in a boy of 5 years. The pelvis, femur, tibia

Figure 8.

and fibula were similarly affected. The suspicion raised by the skiagraph was verified by the success of the specific therapy.

Osseous cyst showing the same clinical signs as osteosarcoma may easily be confounded with it. But in osseous cyst, while there is the same bulging as in osteosarcoma, the line of the cortex, on account of its thinness, appears narrow, but well marked and regular. The fluid center of osseous cyst renders the skiagraph translucent, the light shade showing the same regularity. The adjacent epiphyses are also normal in osseous cyst. The treatment of their various affections being difficult, the importance of a correct diagnosis is evident.[1]

Osteomyelitis, necrosis, tuberculosis, syphilis and osseous cyst demand conservative measures, while sarcoma calls for the most radical treatment. On the other hand, how painful must it be for a surgeon to find that because

1. "Osseous Cyst," Amer. Jour. Med. Sciences, June, 1901.

It is therefore permissible to expect that further investigations will render more clear the method and manner in which are produced the peculiar and destructive lesions and the serious symptoms of amebic dysentery.

ORGANIZED MEDICAL DEFENSE.

The question has frequently been asked whether it would be feasible, practical and for the best interest of our profession for medical societies to take on themselves the defense of their members when sued for alleged malpractice, etc. On the ground that what affects the honor and standing of one member, affects the honor and standing of the entire profession, it would seem that the question should be answered in the affirmative. This view was taken by the New York County Medical Association at its meeting last month, when it adopted a plan for the defense of its members in such suits. There seems to be no good reason why the outcome of the plan[1] should not be as favorable as its projectors anticipate. There is certainly no question but that an organized effort on the part of the profession will have a tendency to deter blackmailers from bringing suits and will discourage pettifogging lawyers from working up such practice among the ignorant or dishonest classes. The public, too, will obtain a different impression as to the motives that usually instigate such suits.

While it is true that suits for malpractice are more commonly brought against surgeons, yet physicians are continually subject to these worse than annoyances. And, without doubt, this class of suits is becoming more frequent, for, unfortunately, those who have attempted this form of blackmail have found the general practitioner an easy prey. The physician attacked is too often ready to compromise regardless of the fact that he knows he has done only what is right. This compromise is made from the feeling that a legal defense would entail financial sacrifices, and the average physician in such a predicament would rather settle the case by the payment of a small sum or by giving up the collection of a just debt. By so doing he thinks that he would be avoiding an unprofitable and unpleasant notoriety at least.

If this compromising affected only the individual who compromised it would not be such a serious matter. But the fact is that every case so settled is an encouragement to the bringing of other similar suits and a breeder of other blackmailing schemes. It thus becomes a question of medical polity, something which concerns the profession as a whole. From this point of view—and it is the correct one—the physician or surgeon who compromises these claims is doing a positive injury to other members of the profession as well as to himself. If the result of these suits is something that affects the many, the many must step in and unitedly defend them. An organized defense is the only feasible way of meeting the rapidly growing number of blackmailing threats and alleged malpractice suits. This new departure in association helpfulness will therefore be watched with interest by other societies.

1. See page 43.

NEWER SIGNIFICANCE OF VENEREAL DISEASE.

All who are interested in the welfare of the race, as regards the confessedly growing danger from venereal diseases, are agreed that the most potent possible prophylactic factor under present circumstances is the spread of true ideas as to these diseases, their not uncommon significance for the deterioration of the general health, and their frequent obstinancy to effectual treatment. The necessity for the education of the public has been often pointed out. As a matter of fact, medical opinion in these matters has changed very much in the last twenty years, and at present there is no subject in medicine in which popular and scientific opinions are farther apart than as to the significance and curability of venereal disease. Of this change in medical opinion the general public is, unfortunately, unaware.

Since the discovery of gonococcus, medical knowledge has advanced so rapidly that even specialists have had to modify their views so frequently as to be almost discouraged at the prospect of ever reaching absolute truth. It is almost as needless to say as it is sad to confess that these advances in knowledge, far from making the absolute cure of the disease easier, have shown rather how obstinate to treatment the disease may prove. Long ago Ricard said jestingly: "We know when a gonorrhea begins, but the Lord only knows when it will end." Only in very recent years has the realization come as to how literally true the expression may be. Finger, the well-known Vienna specialist, says[1] that there are cases of gonorrhea which, after primary treatment, run an absolutely latent course as far as the patient is concerned, though they may be manifest to the physician and may demonstrate their presence by reinfection of the patient or by immediate infection of others. As Jullien says: "An unobtrusive disease which hardly shows more than a trifling secretion, that causes no pain, does not affect the urine and does not stain the linen, is nevertheless susceptible of becoming virulently active, of taking on complications and of being transmitted." Continental authorities are not the only teachers of this frequent persistence of gonorrheal infections. Here in America, and in England, this fact is often insisted upon. Gaillard Thomas has said: "Specific vaginitis, transmitted by men who are utterly ignorant that the sins of their youth are at this late period bringing them to judgment, is one of the most frequent, most active and most direful causes of pelvic trouble in women."

It is this aspect of what has been called the milder form of venereal disease that the public ignores. A gonorrhea used to be compared to a cold in the head, and this mistaken notion, once a commonplace among medical men, still obtains outside the profession. The ne-

1. Last edition of his book, "Syphilis and the Venereal Diseases."

cessity for education in the matter is obvious. There is no doubt that the establishment of special lectureships at the universities for the teaching of the true significance of venereal disease would be a source of good in this country like it has been in Germany. The temper of our people will not permit this eminently desirable addition to the general university curriculum, but it should be kept in mind as one of the advances in practical education that must come sooner or later. Meantime the family physician must pave the way for more public instruction by insistence on the change of opinion with regard to venereal diseases that has come to medical men during the present generation.

PRELIMINARY EXAMINATIONS FOR MEDICAL DEGREE.

Thus far there are three states in the Union that provide for preliminary examinations under state auspices of those entering upon their medical studies. These examinations are especially for those not possessing collegiate degrees or other satisfactory evidences of educational qualifications; in short, they are a state assurance of proper preliminary education. The need of this has been obvious in the past, and the legal requirement in these states is evidence of the opinion of the leaders in medical reform that it still exists. We are still cheapening our profession by admitting to it the unqualified and the competition of medical schools tends to render this evil a progressive one.

It is said that in Ohio since the enforcement of the preliminary education provisions of the medical practice act, and especially during the first year, there was a serious decline in the number of students in the medical colleges of the state, the colleges of adjoining states profiting in the same proportion. Nevertheless we find the medical journals of Ohio giving evidence of the satisfactory working of the law and congratulating the profession on the elevation of the standard that has been its result. Better equipped students are coming in from other states, recognizing the prestige that comes with higher requirements and even the beginning of the second year's trial of the law shows that the loss in numbers is likely to be but temporary. The requirements in Ohio and also in New York and Pennsylvania—a good high school education—are modest enough for admission to our higher class medical schools, but they are probably all that can well be exacted at the present time. There should be no relaxation in the demands, and the time will come—the sooner the better—when still higher exactions will be the rule. The misfortune is that state preliminary examinations, in default of other satisfactory evidence of the necessary preliminary educational requirements, are not universal, which results in a hardship to the schools in those states that have adopted this principle. It may be that any general movement to bring this about in the other states would arouse some opposition, open or otherwise, from a certain class of medical colleges; but if so, what harm? It is well to know who are for progress and the best interests of the profession, and who are ready to sacrifice both for selfish personal and pecuniary considerations. Let those states that have good practice acts add this feature to them by additional legislation and let it be included when such laws are enacted in states that do not already possess them.

The public opinion that has chiefly to be educated in this matter is that of the profession itself. We have gone so long accepting a relatively inferior position—that is, relatively to what it should be—that we do not appreciate our disadvantages. Nevertheless we can not remain long in this blissful ignorance or permit any other kind of ignorance to be so much in evidence among us as it has unfortunately been in the past. The profitableness of the movement for better qualifications is already becoming evident to our Ohio brethren as it had already been to those in New York and Pennsylvania. The sooner the rest of the country realizes the fact and puts its knowledge into practice the better. There is no possible excuse nowadays for the admission to our medical colleges of those lacking in preliminary education. High schools, colleges and universities are within reach of the poorest.

THE COCAIN HABIT.

It appears that the cocain addiction is, thus far, more a particular vice of the lower classes, but as such it seems to be spreading all over the world. According to Anglo-Indian papers it has become so prevalent among the street boys and school boys in Calcutta that the government has had to take the matter up with the idea of devising means for checking the evil. While as yet it is confined to the classes mentioned, it is feared that it will spread to others. In our own country it is particularly a vice of the Southern negro, and some states and municipalities have already legislation on the subject. The policy in India as regards opium has been thus far for revenue only, and it will be interesting to observe what will be done as regards cocain.

STATE REGULATION OF MEDICAL COLLEGES AND MEDICAL EDUCATION.

One of the encouraging signs of the times is the evident interest in medical education taken by those outside of the profession. The latest is contained in the report of Prof. Delos Fall, State Superintendent of Public Instruction of Michigan. His recommendations are based on the results of a study of reports made to him by those appointed to inspect business and medical colleges. The following are his recommendations regarding medical colleges:

A standard of preliminary education should be required, and a board created to examine all students before entering upon the study of medicine. Some safe, uniform standard for graduation ought to be fixed and insisted upon as a condition precedent to a license to practice medicine. The financial solvency and stability of each institution should be more carefully guarded and insisted upon. Medical colleges should not be chartered in small towns where clinical and hospital facilities, so necessary to the proper education of a physician, are not

ordinarily found. A constant and thorough visitation and inspection of such institutions should be regularly made by a board of visitors competent to fairly judge of their merits. The capital of every medical college should be large enough to warrant the employment of men learned in their profession and the provision of equipment in all branches adequate to promise a proper medical course.

THE NATION SHOULD PAY THE LATE PRESIDENT'S PHYSICIANS.

It is reported that the executors of the estate of the late President McKinley have felt obliged in the course of their duties to ask for the bills of the physicians who attended him. These bills probably under the law constitute a legal claim which has to be met or waived by the creditors, hence the request. But it is not a matter for surprise that the surgeons are reluctant to send in their bills, which would naturally be large on account of the responsibility assumed and the other peculiar circumstances of the case. However, while the Ohio laws may require this action on the part of the executors, strict justice does not require that what the late President left should be depleted by the charges. He was stricken down at a public function while performing his official duties as President of the United States, not as a private individual, and the Nation is properly responsible for the expense which was incidental to his public position. There ought to be no question as to this point and no hesitation on the part of Congress to make an appropriation for the purpose. A corporation—as a railroad company—always considers it its duty to assume the expense of caring for its servants when injured in the performance of their duties. The Nation can certainly do no less in regard to its servants.

SUBSTITUTION EXTRAORDINARY.

Substitution as generally understood is one of the abominable evils against which physicians have to be on their guard. The only way to get rid of this evil is for a physician to insist on having his prescriptions filled by a reliable druggist, and then watch this druggist occasionally to see that he does not fall from grace. The reputation of the physician, the health, and sometimes life, of the patient depend on the correct filling of prescriptions. While we believe that very few druggists are guilty of substitution, some of them are. We refer now to the substitution of "something just as good" for a similar preparation and which the druggist may believe will answer the purpose, especially if it is cheaper. But the druggist who places his "belief" above the written instructions of the physician will be dishonest in other ways and should be treated accordingly. Our attention, however, has been called to another form of substitution that is more dangerous, more vicious, and more criminal than that referred to above, and one that is more difficult to guard against. We have received a circular letter from the Farbenfabriken of Elberfeld Company, in which they record their experience in ferreting out a despicable adulteration of their product. The facts in the case were brought out in a lawsuit and revealed that certain men were actively engaged in counterfeiting labels and boxes and filling them with all sorts of material utterly unlike the genuine and then selling them to druggists as the real article. While we believe that this form of adulteration is unique to this particular instance, it is well that we recognize the possibility of such an occurrence in the future. It is further quite probable that this form of fraud would be worked only on unscrupulous druggists who desire to buy the cheapest without regard to quality.

HUMAN AND BOVINE TUBERCULOSIS.

The New York physician who recently inoculated a young woman with alleged bovine tuberculosis has thus far succeeded in obtaining notoriety, which was probably what he desired. But the notoriety he has received is not altogether a desirable one. His experiment was poorly conceived, lacked many of the essentials for a satisfactory scientific proof of what it was intended to show, and is at last discredited by the findings of the Brooklyn health authorities that his inoculated cow did not have tuberculosis. If the young woman has the disease, as he asserts, it must, therefore, have been from some other cause. As regards the ethics of the performance there can be but one opinion. Had he been confident that Koch's views were correct and that there was no danger in the inoculation, he would have a better case, but the reverse of this was the fact, and the general impression left by the performance as to his regard for human life is not pleasant. If the woman should die, whether from consumption or any other infection introduced by the inoculation, his position would not be an enviable one. It would have been more chivalrous as well as more generally creditable to him if he had tried his experiment on himself and had left somebody else to observe the effects. Perhaps the profession would have profited more had this been the course followed.

THE EFFECT OF ALCOHOL ON NATURAL IMMUNITY.

For years the venerable N. S. Davis has fought the use of alcohol as a therapeutic agent, maintaining in the face of a more or less general professional opinion to the contrary that alcohol even as a drug is dangerous and detrimental. This teaching in regard to alcohol seems to be gaining ground and is receiving notable reinforcement from recent experimental investigations in regard to the action of this substance in infections in animals. The work of Abbott and of Laitinin, already commented upon in these columns,[1] shows conclusively that alcohol increases the susceptibility of animals to infections. Most of the experimenters have employed rather large quantities of alcohol, quantities relatively so large as to be directly toxic. In order to avoid the criticism likely to be brought against the applicability to human medicine of the results of these experiments in which large doses were used, Goldberg[2] studied the influence of small doses upon natural immunity as illustrated in the case of the pigeon with respect to B. anthracis. The pigeon is relatively little susceptible to anthrax infection. Goldberg, using a brand of Russian spirituous fluid containing 40 per cent. alcohol and no fusel oil, found that 3 c.c. make a pigeon more or less intoxicated; further, that medium and large non-intoxicating doses of alcohol

1. THE JOURNAL A. M. A., 1900, Sept. 8.
2. Centralbl. f. Bakt., Abtheil. i, 1901, xxx, 696-700, and 731-741.

materially reduce the immunity of pigeons to anthrax. Chronic alcoholic intoxication of pigeons also has the same deleterious effect; and small doses of alcohol have no therapeutic effect upon experimental anthrax in pigeons infected repeatedly with fatal doses of anthrax bacilli. Here we have another set of experiments, the results of which are directly unfavorable to alcohol. Like the results of other researches in the same line they do not furnish the slightest support for the rational use of alcohol in human infections. While it may be urged that the results of animal experiments are not directly applicable to human pathology it should be remembered that microbic infections as a rule follow the same general laws in animals as in man. In both cases the mechanisms of reactions to infection have a general likeness. There seems to be no question but that alcoholics are less able to withstand various infections than the abstinent. The gravity of pneumonia in the alcoholic is well known. To this extent at least clinical experience tallies with animal experiment, and it certainly behooves the physician to assume a decidedly skeptical attitude with respect to the often very free use of alcohol in the treatment of infections.

THE ADMINISTRATION OF IMMUNIZING SERUM BY MOUTH.

A prominent serum expert of St. Louis, one of the members of the coroner's committee to investigate the recent cases of tetanus in that city, attributes in part to an immunizing effect of internal ingestion of antitoxin, the fact that a few took the disease who were exposed by inoculation with the infected serum. In at least fifteen cases, he says, the development of tetanus was prevented by the administration of the serum by the mouth. It is not exactly clear why this was done; but the expert in question says that it was in cases in which it was intended to immunize the members of the family surrounding the diphtheritic individual. It would seem from this statement that some of these must have contracted diphtheria and received injections of the contaminated serum, which did not cause tetanus in them because of its previous ingestion. This will be, to most of the profession, a new method of immunization, though there has been in the past occasional mention in the literature of such administration. That it should have been so extensively and so effectively practiced in St. Louis is certainly remarkable. In this connection a report that comes from Iowa may also be mentioned. The State Board of Health is there confronted with the problem, whether this method of producing immunity is reliable against another disease, smallpox. A homeopathic doctor, it appears, has been giving certificates of protection to school children to whom he had administered supposed vaccine in the form of pills. The question of their efficiency has been relegated to a committee of the Board and its decision is expected at the coming meeting. There are contingencies of this form of treatment that ought to seriously affect its popularity were their possibilities generally understood. If the mucous membrane can absorb the vaccine or other antitoxin, as it must for this method to be of any value, what insurance is there against unpleasant local gastric or intestinal complications and what dosage is safe in this regard while otherwise effective? If the method is harmless because the absorbent power is slight or the gastric secretion destructive, the assurance of protection is lessened if not vitiated altogether; at least this would seem to be the case with diphtheria antitoxin. With vaccine, on the other hand, unless the secretions are protective any slight stomach or intestinal lesion of continuity, such as often exists without the knowledge of its owner, might produce very uncomfortable results. Either horn of the dilemma has its unpleasant aspects and one can only agree with the St. Louis expert when he says that this method of administration for immunizing purposes is not to be generally recommended. It is surely not supported by scientific investigation and evidence, and it certainly is not appetizing or otherwise esthetically attractive.

Medical News.

CALIFORNIA.

Los Angeles Hospital has been incorporated with a capital stock of $25,000.

Pasadena Hospital received a Christmas gift of $1000 from E. M. Fowler, Detroit, Mich., to be used in the purchase of surgical instruments and appliances for the operating room.

Fight Against Medical Law Futile.—In the case of the five Oakland individuals accused of practicing medicine without permits from the State Board of Medical Examiners, the court decided that the arguments urged against the constitutionality of the law creating the board were not such as should be sustained. He therefore overruled the demurrers and ordered the defendants to appear for trial.

Consumptives Barred.—Immigration Commissioner Hart H. North, San Francisco, has made a ruling which will prevent any alien consumptives from entering that port. The practice has been in the past to discriminate between consumptive steerage and saloon passengers. Mr. North has communicated with the authorities at Washington, and in accordance with several decisions already rendered he has decided that there is to be no class distinction and that all must be treated alike.

DISTRICT OF COLUMBIA.

Hospital for Foundlings.—The Secretary of the Interior has recommended to Congress an appropriation of $6000 for the maintenance of the Washington Hospital for Foundlings.

Casualty Hospital.—Dr. H. Wood Tobias has tendered his resignation as resident physician and has been appointed resident physician at the Columbian University Hospital. He is succeeded by Dr. Paul L. Freeman.

To Aid the Blind.—The Board of Charity has recommended to the District Commissioners that the Aid Association for the Blind be allowed compensation at the rate of $10 per month for blind persons. The board recommends that the compensation be made from the appropriation for the relief for the poor.

To Regulate Sale of Milk.—Senator Gallinger has introduced a bill to regulate the sale of milk and cream in the District of Columbia. It provides that no person shall sell or produce for sale milk or cream without a permit from the Health Officer. The granting of the permit is to be conditional with the compliance with sanitary conditions prescribed by the health officer.

School Inspection.—The Legislative Committee of the Medical Society of the District of Columbia have endorsed the action of the commissioners in recommending the appropriation of $5500 by Congress for the medical inspection of the local public schools. It is intended to appoint eleven medical inspectors at a salary of $500 per annum. It is expected that the positions will be filled from among the competent physicians in the city.

To Prevent the Sale of Unwholesome Food.—The health officer has recommended the following regulation governing the sale of meats, and the same has been approved by the commissioners. No person shall sell or offer for sale in the District of Columbia any sheep or lamb slaughtered for food until the pelt, head and feet thereof shall have been removed. Any

person violating the provision of this section shall upon conviction thereof be punished by a fine of not less than $5 nor more than $25 for each and every offense.

Surgeon-General Sternberg's Report.—The Surgeon-General reports that under the contract made by him under the act of Congress for the care of indigent sick, the Providence Hospital has admitted during the past year 1576 patients with a monthly average of 142. He also reports for the Barnes Hospital at the U. S. Soldiers' Home that 838 sick soldiers were admitted during the year. He states that there has been a decided increase in the number treated during the past two years as a result of army casualties incident to the recent campaigns in the war.

Water Supply of Washington.—Washington City has in all probability the worst-appearing and the most unhealthy water for drinking purposes of any large city in the United States, and possibly of any city in the world. Recently the water has been of a dirty-brown color with large particles of solid matter floating throughout. The Marine-Hospital Service universally reports the presence of a large number of typhoid bacilli, and their report is corroborated by the chemists of the Health Department. The large number of cases of typhoid fever in the District has attracted special attention, and in consequence of the notoriously unhealthy character of the water, and the many appeals of the local government and the citizens, it was generally agreed in Congress that a suitable filtration plant should be provided as an adjunct to the local reservoir as a necessary prevention of typhoid and other diseases. This expectancy of the District, however, is greatly jeopardized by the action of the Secretary of the Treasury in refusing to approve the recommendations of the District Commissioners for the amount of the appropriations deemed necessary by them after the most careful consideration and exercise of the greatest economy. It is sincerely hoped that Congress in its wisdom, and in the full appreciation of the menace to the public health in consequence of the filthy water supplied to the citizens of the District, will agree on the estimates furnished by the Commissioners of the District and provide, among other things, the absolutely necessary filtration plant.

Resolutions of the Medical Society in Lunacy Cases.—Dr. D. S. Lamb, president of the District Medical Society, has forwarded to the Commissioners a copy of a resolution adopted by the Society relative to the disposal of lunacy cases. He asks the Commissioners to take such action as is best adapted to secure its enactment in the new District code. The resolution is as follows:

Resolved, That the Committee on Legislation be authorized and directed to take such action as is, in its judgment, best adapted to secure the enactment of the legislation as follows:

1. Legislation providing for the detention of alleged lunatics pending the formal adjudication of the question at issue, whenever, in the judgment of two physicians of not less than three years' experience and permanent residence in the District of Columbia, such alleged lunatics are, if unrestrained, dangerous to themselves or to others, or are so situated that their environments will if continued unchanged until after such formal adjudication seriously militate against their chances of improvement or recovery.

2. Legislation authorizing the appointment of trustees to take charge of the property of persons not insane, but rendered mentally incompetent by the habitual use of drugs of any sort, in the same manner as the proposed section 115 of the proposed code of laws for the District of Columbia, prepared by the Committee on Legislation of the Bar Association, seeks to authorize the appointment of trustees to control the property of persons addicted to the use of intoxicating liquors.

Authority for the Army Medical Corps.—Mr. Hay, of Virginia, has introduced a bill in Congress to define the duties of the Medical Department of the United States Army.

The object of the bill, "is to prevent epidemics of preventable diseases in the army by giving to the medical department the power to control the sanitary conditions of camps and posts, and to place responsibility somewhere as to the health of the army. As the law now is, there is no responsibility anywhere for conditions which have cost many thousands of valuable lives, and have caused the country to pay many millions of dollars, when both could have been saved by proper legislation. There is no intention to take from the line officer in command any necessary military power. This question has been like so many others brought home to us as a result of the Spanish war. The results of present laws and army regulations were shown up with startling distinctness during the war with Spain. It is not necessary to name any particular camp; it is well known that such preventable diseases as typhoid fever, dysentery, etc., were rife in almost all of them from May, 1898, to June, 1899, the total deaths in the army was 6,619; of these 3,116 resulted from typhoid fever, dysentery, and diarrhea, all preventable diseases. Two thousand seven hundred and seventy-four of these deaths were from typhoid fever."

Mr. Hay says there were many thousands who recovered, but many of them are drawing pensions, or have applied for them; 6000 pension claims have been allowed to Spanish-American war soldiers, some 45,000 claims are still to be adjusted. About 1 to 7 has been the average allowed. A careful examination of this list will show that the two-thirds of these claimants are men who were disabled by preventable diseases, or for the representatives of men who died from these diseases. The cost to the government of such conditions is beyond computation; pensions to the disabled, pensions to widows, and dependents, the cost or replacing the dead, all of these things pile up the expenses of maintaining the army and government.

ILLINOIS.

Dr. G. W. Miller, Woodson, is seriously ill with cholelithiasis.

St. Anthony's Hospital, Rock Island, has been incorporated, the object of the corporation is to maintain a hospital and a home for the aged, and care for and educate orphans.

Smallpox in an Asylum.——The daily press of December 31 announces an outbreak of smallpox in the Home for Feeble-Minded Children at Lincoln. The institution contains over 1000 children and 183 officers and attendants. Over 100 cases are said to be in the Home.

City Health Board Loses.—Dr. Walter Ryan, Springfield, who was arrested at the instance of the city for failure to report a case of smallpox, as required by the city ordinance, was found not guilty. Dr. Ryan and the city physician differed as to the diagnosis, the city physician believing the case to be one of smallpox, while Dr. Ryan's diagnosis was chicken-pox.

Smallpox.—A few days ago 47 smallpox patients were hauled over 15 miles of rough country roads from East St. Louis to Belleville, because of a dispute of the local tradesmen with the authorities regarding payment for supplies furnished. ——Palmer has a case of smallpox.——Posey now has 25 cases, an increase of 21 in a week.——Astoria reports one case.——Virden township has filed a bill against the county for $1950 for expenses incurred in its epidemic of smallpox between October 14 and November 4.

Reports of Births and Deaths.—The State Board of Health has sent circulars to all physicians in the state calling their attention to the "Act requiring reports of births and deaths, and the recording of same; regulating the interment or other disposal of dead bodies, and prescribing a penalty for non-compliance with the provisions thereof," which became a law, January 1. The sections of this law relating to report of birth and disposal of the dead read as follows:

Section 1. It shall be the duty of every physician and midwife in the State of Illinois, who attends the birth of a child, to report said birth within thirty days after its occurrence to the county clerk of the county in which said birth takes place. Such reports shall be made on blank forms, to be prescribed and issued by the state board of health, and shall contain such information as may be directed by said board in resolutions, copies of which shall be printed on the reverse of the blank forms aforesaid. When no physician or midwife has been in attendance, then it shall be the duty of the parent, or in case of the disability of the parent, of the householder, to make said report within the time and in the manner aforesaid.

Section 2. Every physician, midwife, parent or householder, who shall comply with the foregoing provisions shall receive for each report of birth made in the manner directed by the state board of health, the sum of twenty-five cents. At the close of each quarter of the calendar year the county clerk shall certify to the county treasurer a list giving the number of births reported to him, and the names and addresses of the persons reporting the same, and payment therefor shall be made by the said county treasurer to the persons named in said list: Provided, That no duplicate report shall be paid for.

Section 3. No person shall inter, cremate, deposit in a vault or otherwise dispose of any human body, until he has received a permit so to do, as hereinafter provided, which permit shall bear date when issued, shall state the name of the deceased, the date and cause of death, the manner in which body will be disposed of and the place of such disposal, the name of the person to whom the permit is issued, and the name of the attending physician, midwife or coroner, and shall be signed by the official by whom it is issued.

Section 12. Any person or persons who shall violate any of the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than ten nor more than one hundred dollars, or shall be imprisoned in the county jail not to exceed thirty days, or shall suffer both such fine and imprisonment in the discretion of the court.

The board expresses the hope that this law will meet with the approval of the profession and that in its enforcement the board will receive its hearty assistance and co-operation. A rigid enforcement of the law will not only furnish to the board statistics of incalculable value, but will place Illinois at the head of all states in the matter of vital statistics. While in many states there are efficient systems of registration of deaths, in but one or two are births completely registered at the present time.

Chicago.

The Illinois Medical College held the opening exercises of its January term at its new college building, Washington Boulevard and Halsted Street, January 2. This building was

recently purchased by the college at a cost of $50,000, and has been remodeled and newly furnished at a cost of $15,000.

Medical Staff Candidates Examined.—The civil service commission held an examination under the direct charge of Drs. John R. Neely and Daniel R. Brower for internes at the County institutions. Of the 14 applicants 4 were women. Eleven of those who took the examination were placed on the eligible list.

Consumptives Seek Shelter.—The continuance of cold has driven consumptives in large numbers to the consumptive hospital at Dunning, materially interfering with the plans of the County Superintendent to utilize a portion of the hospital for the relief of the over-crowded condition in the hospital for the insane.

Low Death-Rate.—The statistics of the city health department show that the total mortality of 1901 will not exceed 24,300 and, figured on the minimum midyear population of the United States census office, 1,758,000, the annual rate per 1000 will be about 13.8—the lowest ever recorded for this or any other city of more than 1,000,000 population. The lowest previous rate—based on the United States census figures of population—was 14.36 per 1000 in 1897. For the previous ten years, 1890-1900, the average mortality rate was 17.67, or 21.8 per cent. higher than this probable rate for 1901.

Cook County Hospital Needs.—In his report to County Board of Commissioners, made December 23, Dr. Denslow Lewis, president of the attending staff of Cook County Hospital, made the following recommendations:

1. The construction of a separate building for skin and venereal cases. He suggests that a three-story building be erected, the first floor of which might be utilized by the County Agent for the storage and distribution of supplies.
2. Some provision should be made by the proper authorities for the care of inebriates. This includes the victims of epilepsy, apoplexy, mild insanity, heart or kidney disease, the sandbag or other form of assault or accident, who may be found unconscious on the public streets, and who are usually considered to be under the influence of alcohol. A separate building should be provided for the care of alcoholics, under the direction of the attending staff.
3. A children's pavilion apart from the hospital building is desirable. It is often advisable to permit the little patients to get out of doors, and for that reason their ward should be on the ground floor.
4. Provision for the *x*-ray work will have to be made. Probably $1500 will be needed. The laboratory is now nearly completed, and the funds from the sale of clinic tickets, together with the amounts received from voluntary reduction of salary on the part of the president and certain commissioners, will probably be sufficient for its maintenance. A photographic outfit will be needed later in the year.
5. A card index system for the proper compilation and preservation of the history sheets and other records is a necessity if periodical bulletins are to be issued showing the scientific work done at the hospital. The appropriation of $1,000 made for this purpose last year was not used because the laboratory was not completed, and it was impossible to furnish full reports of cases without instancing the pathologic findings.

IOWA.

Dubuque Detention Hospital, which has just been finished, has been inspected by the Board of Supervisors and approved. Its equipment will be provided for at once.

Iowa Methodist Hospital.—The Hospital Association has provided for the $30,000 indebtedness on the hospital at Des Moines and has decided to erect a new building, to cost $50,000.

Doctors Disagree.—Dr. James P. Scroggs, Lenox, who sued Dr. A. W. Fees, of the same place, for $5000 damages suffered by the plaintiff by reason of an article in a local paper reflecting on his professional reputation, has been awarded $800 damages.

Smallpox.—On the Winnebago Reservation 39 deaths have occurred and 11 are now ill with the disease.——In Lincoln and Stanton townships, 15 cases were found.——Council Bluffs has had 29 cases this season.——In Pekay, north of Eddyville, there are 50 cases of the disease.——Dr. John T. Tweedy, Tabor, presented a bill for $2025 for services to smallpox patients for 45 days; but the authorities allowed only $786. He has now instituted suit against the supervisors of Fremont County for the full amount of his claim.

MARYLAND.

Baltimore.

Dr. Francis Randolph Packard, Philadelphia, lectured before the Book and Journal Club, December 21, on "The Resurrectionists of London and Edinburgh." The lecture was followed by a smoker.

Dr. L. O. Howard, chief of the Division of Entomology, Department of Agriculture, lectured December 16, before the Biological Club at the Woman's College on "Mosquitoes and Their Relation to Disease."

Mortality of Baltimore.—For the week ended December 21 there were 175 deaths, an annual rate of 17.56 per 1000. Among the causes of death were pneumonia, 25; tuberculosis, 20; Bright's disease, 17; heart disease and cancer, each, 6; diphtheria and broncho-pneumonia each 4, and typhoid fever, 3.

Northeastern Dispensary Opened.—The new building of the Northeastern Dispensary was opened December 17. Dr. A. D. McConachie was elected one of the directors and dean of the staff, which includes Drs. G. C. E. Vogler, J. W. Williams, S. Rosenheim, C. N. Branin, J. C. Beck, P. E. Lilly, W. M. Pearce, D. L. Dunott, S. H. Likes, T. M. Gnier, and G. E. Starr.

Cancer and Smallpox.—The Health Commissioner reports between 400 and 500 fatal cases of cancer in this city during 1901. The disease has increased out of proportion to the population and an investigation is to be made into the matter. Smallpox has occurred here for 50 years in decennial epidemics; so far the city has escaped this year, although this is the year in which it is due.

Personal.—Dr. A. D. McConachie, who has been connected with the Presbyterian Eye and Ear Hospital for ten years, has resigned.——Dr. B. Bernard Broune is suffering from an infected wound of the hand received in an operation.——Capt. Wm. F. Lippitt, Jr., late assistant surgeon, serving in the Philippines, and who was severely wounded in the defense of the consulate at Pekin, has been ordered to duty at Fort McHenry, vice Dr. A. N. Stark, ordered to West Point.——Dr. Jesse C. Coggins, assistant physician at the Maryland Hospital for the Insane, Catonsville, sails for Europe today for the purpose of observing and studying the methods of caring for the insane in vogue there.

MICHIGAN.

Doctor Wins.—A suit for malpractice with $10,000 damages against a Middleville physician was decided by the jury, for the defendant, December 23.

Ex-Convict an Illegal Practitioner.—A colored man of Jackson, who was recently released after serving a term of five years in the state penitentiary for burglary, was recently fined $90 with an alternative of 90 days' imprisonment, for the illegal practice of medicine.

Smallpox.—Dr. M. Clark Woodmansee, Hartings, is ill with smallpox.——The disease has broken out among the Indians at Lake Vieux Desert, and is also prevalent at Crooked Lake.——At Muskegon, 17 cases have been reported.——At Birch Run, the school and churches have been closed, and all public meetings prohibited.——Potters, Calumet County, is under strict quarantine on account of 12 cases of the disease.——Two new cases have appeared at Menominee.

MINNESOTA.

St. Luke's Hospital, St. Paul, profited to the extent of nearly $2000 by the charity ball recently held.

Swedish Hospital, Minneapolis.—The new building is so nearly completed that patients will be moved into it from the old building in a few days.

New Hospital.—The contract for the construction of the new hospital for Two Harbors, has been let and the work has already commenced. The building is to cost $25,000.

Dr. Appleby Wins.—In the suit of Simon Aramowsky against Dr. T. E. W. Villiers Appleby, St. Paul, for $3000 for alleged malicious prosecution arising from the care of a child of the plaintiff, who was treated by Dr. Appleby, the jury was instructed to find for the defendant.

Increase in Smallpox.—During the fortnight ended December 16, 530 new cases were reported in the state, an increase of more than 100 per cent., as compared with the preceding two weeks. An increase in the localities affected is also noticed from 72 to 119. The disease is thus far of a very mild type, and no deaths are reported. Red Lake Falls reports 39 cases, the largest from any one locality. The total number of cases in Red Lake County is 50. Clay County reports the largest number of cases of any county, 67; 18 of the cases are in Georgetown township, and Goose Prairie and Highland Grove townships each report 14 cases. Chaska reports 24 cases, and Carver County sends in a total of 56 cases. Perham township, Otter Tail County, reports 21 cases, and the county 56. Other counties reporting a considerable number of cases are: Norman County, 28; St. Louis County, 26; Pipestone County, 25; Marshall County, 25; Kittson County, 21; Polk County, 15; Hen-

nepin County, 13; Crow Wing, Jackson and Mille Lacs counties, 11 cases each.

NEW JERSEY.

Camden Health Board.—At the meeting of the Board, December 23, it was reported that during the month there had been 32 cases of smallpox. A corps of 24 physicians is to be appointed to make house-to-house vaccinations. They are to be paid a fee of 50 cents for each vaccination, and a like amount for each revaccination.

Medical Library for Trenton.—The Trenton Medical Library Association met, December 17, and gave power to its executive committee to accept the offer of the Public Library commission to set apart a room in the Free Public Library for medical books, papers, etc., and to buy one book for every one furnished by the association. It was decided to invite all physicians, surgeons, dentists and veterinarians to join the Association, to ask each member to give what he thought was right to the fund to purchase books, the amount to be considered initiation fee and first year's dues. After the first year the annual fee will be $1. Dr. David F. Weeks is the collecting agent among the physicians and Dr. James I. Woolverton among the dentists.

Physicians Commend Camden Board.—The Medico-Surgical Society, at a recent meeting, in addition to commendatory remarks by the members on the action of the Board of Health for its prompt action in the smallpox cases, placed itself upon record by passing the following resolutions:

Resolved, That it is the consensus of opinion of this Society that the Board of Health of Camden City be commended for its prompt and efficient action in causing rigid quarantine, thus preventing a widespread epidemic of smallpox in our city; further, that the Board of Health be urged to continue the order of vaccination among all those who have not been successfully vaccinated; further, that it is the opinion of this Society that tetanus has no relation to vaccination, but is positively due to negligence on the part of those vaccinated or their parents in not having proper antiseptic care taken of their vaccination wounds, thus jeopardizing life by infection or accidental contamination; further, it is positively known to this Society, that all the cases sent to the new smallpox hospital since the beginning of the present epidemic were unvaccinated.

NEW YORK.

New York City.

Dr. Paul F. Munde, the well-known gynecologist, is very ill at his home in New York City.

Pension to Physician's Family.—The Board of Health has voted a pension of $300 to the widow of Dr. Charles H. G. Steinsieck, who died recently after having been a member of the vaccinating corps for seven years.

Dr. John F. Anderson, who was sent to England, in the interest of the U. S. Marine-Hospital Service, to study the bubonic plague, has just returned to this country, and will make a detailed report to Surgeon-General Wyman.

Physician to the Shah.—Word has reached this city that Dr. M. Elezarian Randolph, a member of the New York County Medical Association, who left this city a few months ago for a short sojourn in Persia, is now at Teheran and has been appointed the personal physician of the Shah.

The New York School of Clinical Medicine, 348 West Forty-second Street, will begin the winter series of evening lectures on January 7. These lectures are quite independent from the regular courses of instruction. All members of the medical profession are welcome. The lectures will be given every Tuesday evening up to and including March 4.

"Dr." Julius A. Ward, who recently brought suit to recover $90 which he alleged were due him for treatment of the wife of a lawyer, lost his suit, the Court holding that he is not a physician and is not entitled to collect a medical fee. He is a somatopath, and by virtue of his degree of D.D. uses the title of doctor in connection with his practice of the healing art. This verdict has encouraged the County Medical Society to prosecute him for illegally practicing medicine.

Physician at the Head of the Street Cleaning Department.—Mayor-Elect Low has selected to fill the very difficult, though highly important, position of street cleaning commissioner, Dr. John McGaw Woodbury, who served for a time as sanitary inspector of the Island of Porto Rico, and organized the first Board of Health of Ponce. After the war he was sent abroad by the United States Government, and there studied the systems of drainage and the methods of disposal of sewage and garbage and other refuse in Berlin, Frankfort and Paris.

Reorganization of the Health Department.—The charter of the city has made some radical changes in this department, which will go into effect on the first of the new year. At the present time, it consists of the president and two medical commissioners. The new board will consist of only three members, viz.: The health commissioner, who shall be the president, the health officer of the Port and the police commissioner. Mayor-Elect Low has announced the appointment of Dr. Ernest J. Lederle, the present chemist of the department, as the new health commissioner. Dr. Lederle, who is a doctor of philosophy and not a physician, is a graduate in chemistry from Columbia University. It is understood that Dr. Herman M. Biggs, at present the chief bacteriologist of the department, will be given charge of all the medical work of the department, under the title of medical officer, but the exact duties of this office have not yet been determined.

Organized Medical Defense.—The New York County Medical Association at a meeting held December 14 last, added a branch for the defense of its members against malpractice suits. This Association has employed a lawyer by the year, who in addition to representing it in all suits and threats against its members, will prosecute illegal practitioners and represent the Association in other ways. A committee previously appointed reported the following plan which was adopted:

1. The Executive Committee shall, upon request and compliance with the conditions hereinafter provided, assume the defense of suits for alleged malpractice brought against members of this Association.
2. The Executive Committee shall not undertake the defense of any suit based upon acts prior to the qualification of the accused as a member of the Association.
3. A member desiring to avail himself of the provisions of this Article shall make application to the Executive Committee through the secretary, shall sign a contract renouncing his own and vesting in the Executive Committee sole authority to conduct the defense of said suit or to settle by compromise, and shall make such other agreements as the Executive Committee may require.
4. The Executive Committee shall thereupon contract with said applicant to take full charge of said suit, to furnish all necessary legal services, to pay all necessary expenses and not to compromise said suit without consent of the accused, but the Executive Committee shall not obligate the Association to the payment of any damages awarded by decree of court or upon compromise.

Buffalo.

Death-Rate.—The health report for November of the Department of Health shows an annual death-rate of 14.44 per 1000 per annum.

Visiting Days Suspended.—The usual visiting days of the Buffalo State Hospital have been temporarily suspended because of a fear of introducing smallpox.

The Smallpox Situation.—The smallpox condition is much improved. There have been but two deaths and the cases are so mild that it is difficult to impress those affected (who are Polish and ignorant) that it is essential to have a rigid quarantine. During November, 13,792 children were vaccinated in the public schools.

Magnetic Healers Assailed.—Dr. J. B. Coakley, chairman of the board of censors of the Erie County Medical Society, commenced criminal action against an aggregation of magnetic healers calling themselves "Antonius, the Wonderful Boy Healer, and his staff." A hearing was given them in the police court, and the prosecution showed that their claims of wonderful cures were inventions, and that they took exorbitant fees from their dupes. They were held to the higher court for practicing medicine without a state license.

PENNSYLVANIA.

Hospital at Saltsburg.—A new four-story hospital building is to be erected at Saltsburg for the Clear Springs Sanatorium. It will accommodate 50 patients and will cost about $30,000.

Emergency Hospital Ready.—The Emergency Hospital on Sprogel Heights, Pottstown, was completed and turned over to the Board of Health, December 20. It is a wooden building of one story, 45 by 16 feet. It has a ward, kitchen and nurses' room.

Compulsory Vaccination Urged.—The Columbia County Medical Society at its meeting in Bloomsburg, December 20, adopted resolutions calling the attention of school boards and all persons interested to the act of June 18, 1895, regarding compulsory vaccination and urging compliance with its provisions.

Emergency Hospitals in Mines.—Emergency hospitals have been placed in the Delaware, Lackawanna and Western Company's mines, in compliance with the act of the legislature providing for their equipment before January 1. Rooms have been fitted at each of the company's mines with every appliance necessary to save the lives of injured mine workers. Dr. Wainwright, chief of staff at the Moses Taylor Hospital, Scranton, has instructed mine foremen in first-aid for the wounded.

Philadelphia.

Pocono for Phthisis.—Dr. J. E. Rothrock, State Commissioner of Forestry, believes that he has found a highly favorable climate for consumptives in the Pocono Mountains near Stroudsburg.

Appropriation for Consumptive Pavilion.—In the Finance Committee of Council's report recently made, $80,000 is allowed for the construction of a pavilion for consumptives at the Philadelphia Hospital (Blockley).

Bone Library.—The Wistar Institute of the University of Pennsylvania is said to be the sole possessor of a "Bone Library." It contains the skeletons of almost every known animal. Each skeleton is dislocated and the bones are catalogued. Thus every bone may be studied separately in its proper class. A late addition is that of skeletons of three European apes, probably the only ones in America.

Smallpox Outlook.—For the week ended December 21, 76 new cases of smallpox were reported, deaths 10. The general outlook regarding the disease is hopeful, but dangerous foci for its spread still exist. One was recently discovered in which a family, including eight children, had had the disease for a month, but had concealed the fact. When a physician was at last called three of the children were in a critical condition. one dying within a few hours. The patients were speedily removed to the Municipal Hospital and the buildings for a considerable distance from the infected house were fumigated by order of the Chief of the Bureau of Health.

Blockley Additions Blocked.—The new additions to the Philadelphia Hospital, for which excavation has already begun, were to be erected on a triangular plot of ground adjacent to the University buildings. As this location interfered with the proposed extension of the Institute of Archeology, representatives from the university appealed to the Board of Charities and Correction asking that work on the hospital buildings be discontinued. The latter, thereupon, adopted a resolution affirming that, since there is no other available site and since the contract for the buildings has been let and work already begun, it is deemed inexpedient to make any change in the plans proposed and the site selected. The contest may be carried to the courts for settlement.

DOMESTIC.

Plague in Hawaii.—A Chinaman died November 13 at Honolulu of the bubonic plague. Two deaths occurred from plague a week previously on the Island of Kauai.

No Yellow Fever in Porto Rico.—Dr. W. F. Smith, secretary of the Superior Board of Health, in contradiction to the statement of a Spanish newspaper, states that "no deaths from yellow fever have occurred in Porto Rico during the past three years, and no cases have been known during the past year."

The American Society of Naturalists and Affiliated Societies met at the University of Chicago, December 30 to January 2. This body consists of the following societies: The American Morphological Society, the Association of American Anatomists, the American Physiological Society, the American Psychological Society, The Western Philosophical Society, and the Society of American Bacteriologists. The meetings were all well attended and proved to be the most successful of the sessions ever held. We expect to have something to say of some of these societies next week.

Hawaiian Physicians Must Understand English.—Hereafter only physicians who are able to speak the English language will be given certificates allowing them to practice medicine in the Hawaiian Territory. The resolution to that effect was adopted by the Board of Health November 27 only after an animated discussion between the lay and the medical members, in which the former insisted that a knowledge of the English language was not a necessary adjunct to the learning of a medical practitioner. The physicians were in the majority at the meeting, however, and the new rule providing that examinations in the future be held only in the English language was adopted by a vote of three to two.

CANADA.

Montreal Medico-Chirurgical Society.—At the last regular meeting of this society the following officers were elected for the current year: President, Dr. George E. Armstrong; first vice-president, Dr. H. S. Birkett; secretary, Dr. Alfred T. Bazin; treasurer, Dr. Jack; trustees, Drs. Perrigo, G. A. Brown and F. J. Shepherd.

Ontario Medical Library Association.—The following gentlemen have been elected officers for the year 1902: President, Dr. J. F. W. Ross; vice-presidents, Drs. R. A. Reeve, A. A. Macdonald, and W. J. Greig; secretary, Dr. H. J. Hamilton; treasurer, Dr. H. A. Bruce; curator, Dr. N. A. Powell; assistant curator, Dr. W. J. Wilson.

Smallpox in Ontario.—The disease is still rapidly spreading throughout the province, a dozen or more cases being reported to the Provincial Board of Health, daily. Since the first of October there have been 580 cases reported with only three deaths. There are now over 433 cases in the province. Ottawa has over 90 cases while Toronto has two.

Physician Violates Hygienic Regulations.—The Province of Quebec Board of Health has entered action against a physician of St. Marcel, Richelieu County, for violating the smallpox regulations. He was himself attacked by smallpox and still went even into the neighboring parish of Bagot County, without reporting his case to the health authorities of either county.

Appointments.—Dr. C. D. Parfitt, late of the Johns Hopkins Hospital, has been appointed resident physician at the Gravenhurst Sanitarium, Muskoka.——Dr. J. Alexander Hutchinson, Montreal, senior surgeon of the Grand Trunk Railway, has been appointed surgeon-in-chief of the Central Vermont.——Dr. W. H. Piersol, Toronto, has been appointed instructor in biology and histology at Toronto University.

New Vaccination Order for Quebec.—The Board of Health of the Province of Quebec has ordered every municipal council in that province to adopt, promulgate and cause to be obeyed, by-laws, to provide that two days after such by-laws come into force, any person who can not establish that he has been successfully vaccinated within seven years or unsuccessfully within six months, will be liable to a fine of $5, with another dollar for each day of delay, if he does not become vaccinated at once.

Quebec Doctors Must Pay Annual Assessment.—Mr. Justice Dorion in the circuit court has just rendered a judgment of some interest to the medical profession in the province of Quebec, in the case of the College of Physicians and Surgeons against Dr. Auguste Bourbonnais, M. P., for Soulanges. According to the ruling of the judge a doctor must pay his annual assessment of $2 to the governing body of the profession, or cease the practice of his profession. Judgment was rendered for the plaintiffs for $24 with costs so the doctor must have been some twelve years in arrears.

British Columbia Items.—Vancouver is to erect a new hospital at a cost of $100,000. The last annual report of the Victoria Royal Jubilee Hospital shows that there were 807 in-patients treated during the year and 154 out-patients. The receipts from all sources amounted to $38,091, the amount received from pay patients being $18,208.——The provincial Board of Health has issued special instructions to health officers and inspectors with regard to milk depots and dairies, and hereafter persons of uncleanly habits or afflicted with disease will be prohibited from dealing in or handling milk.

Field Hospital for South Africa.—The Imperial authorities have accepted the offer of a Field Hospital from Canada for service in South Africa. It will have no connection with the Third Contigent which will leave Halifax about the last of January, but will form a distinct unit by itself. Dr. A. N. Worthington of Sherbrooke, Que., will go in charge as surgeon-colonel, he having already served in South Africa with the Canadian Artillery. Dr. H. D. Johnson of Charlottetown, P. E. I., will be lieutenant and Dr. Jones of Halifax, captain. Two other medical practitioners will accompany it, Drs. Roberts and H. E. Tremayne of Toronto.

Muskoka Cottage Sanitarium.—The medical superintendent, Dr. J. H. Elliott, has made his report for the past hospital year. Of the 99 cases treated during the year, 15 have been discharged apparently cured, and 29 with the disease arrested. Of the latter number, 14 gave promise of cure had their financial condition permitted a longer sojourn in the hospital. It is considered highly satisfactory that in 44 out of 99 cases the disease had undergone more or less complete subsidence. The average gain in weight has been 13 pounds, and there has been an average gain in those remaining over three months of 14½ pounds. The cases were classified on admission as follows: Incipient, 24; advanced, 43; far advanced, 32.

FOREIGN.

Pellagra Congress.—The second National Italian Anti-pellagra Congress will meet at Bologna next May.

Royal Commission on Tuberculosis.—This committee has accepted two farms in Essex offered for experimental purposes.

Smallpox in London.—The smallpox epidemic is steadily increasing. On December 28 there were 637 cases under treatment.

Dr. Samuel Smiles, of London, author of the "Self Help" series, celebrated his 90th birthday on December 23. His last book, "A Publisher and His Friends," netted him $10,000, which he divided among his children as a Christmas gift.

Certificate of Physical and Mental Capacity in Marriage.—The Bohemian Medical Society has had introduced into the Austro-Hungarian Reichstag a bill to regulate marriage by making a certificate of physical and mental capacity obligatory for candidates for matrimony.

Italian in Medical Congress.—Baccelli has declined an invitation to address the coming International Medical Congress at Madrid, on the ground that Italian is not recognized as one of the official languages. He appeals to his compatriots to hold aloof also from the Congress on this account.

Death of Professor Loehlein.—Germany has lost one of her most prominent and public-spirited gynecologists in Hermann Löhlein of Giessen. Science owes to him the introduction and scientific foundation of pelvic measurements, and innumerable contributions to the literature. He has been publishing regularly since 1890 some of his lectures, etc., under the title "Questions of the Day in Gynecology."

The Centennial of the "Internat" in France.—The internes of Paris have completed their arrangements for the celebration of the centennial of the founding of the system of internes in hospitals. It will occur during several days in the first week of April and will include a ceremonial assembly, banquet and dedication of the monument in the inner court of the Hotel Dieu to the memory of the internes who died victims of their professional devotion, of which many touching stories are told.

Dr. A. Campbell Clark, a leading British alienist, died, November 28, from influenza with visceral complications. He was well known from his contributions to psychiatric literature and especially as an expert on asylum management and construction. He was a pioneer in his country in the movement for the scientific training of attendants on the insane and was one of the authors of a practical treatise on the subject. His best-known work is "A Clinical Manual of Mental Diseases" published in 1897. His professional work was almost entirely in asylums, he having been connected with them since his graduation from the University of Edinburgh in 1886.

Behring Proclaims the Successful Immunization of Cattle Against Tuberculosis.—In his recent address at the Stockholm Academy of Sciences as the recipient of one of the Nobel prizes, Behring announced the success of his efforts to immunize cattle against tuberculosis. His method is similar to Pasteur's immunization of sheep against anthrax, that is, the injection of attenuated tubercle bacilli from man. The next step is to determine the minimal effective amount and reduce the expenses of this protective measure. He stated that he intends to devote the Nobel prize to this end. He announced that he considers himself justified in asserting even now, that the immunization of cattle against tuberculosis is an established fact.

Correspondence.

Hydrophobia Rabies and Dr. Dulles.

PHILADELPHIA, Dec. 17, 1901.

To the Editor:—In THE JOURNAL of Dec. 7, 1901, I note the following item: "*Rabies.*—Salmon's paper is a discussion and convincing analysis of the statistics, combating the statements of Dulles and others who argue that hydrophobia does not exist." Although I might despair of correcting the misapprehensions of persons who could attribute to me such an absurdity after reading any of my papers on the subject of rabies or hydrophobia, I will state, for the information of those who have not seen any of these papers and who might be excused for misunderstanding me, that I have never denied the existence of hydrophobia. I have repeatedly asserted in public and in print the position I have for years held, namely that the word "hydrophobia" should, for the present, be used as we use the word "convulsions," to describe a condition but without prejudice as to its cause. I published nearly eighteen years ago a paper in which I gave an account of the occurrence of this condition in more than thirty diseases, and I think it reasonable to ask that the profession would make itself acquainted with the facts of this nature which are within its reach before giving itself up to a theory, the adoption of which is about as bad, in my opinion, as giving oneself up to an exclusive dogma in practice, in that it fills its votaries with an unwarranted content with their present attainments and shuts them off from those open-minded and logical methods of investigation which alone can furnish the proper ground for a just appreciation of the work of others.

My idea is that we must first eliminate from our equation the large number of cases presenting the clinical picture of hydrophobia and afterwards study in a properly critical way what is left, and then we may find a definition of the word that will stand. At present the subject is obscured by much that is irrelevant, and certain disputants do not seem *(me judice)* to appreciate this sufficiently.

With due deference to those who regard my views as unsound, after twenty years of striving to learn the truth I am of the conviction that clinical hydrophobia in man and the disease in animals called rabies and judged by its inoculability in the un-natural way taught by Pasteur are not the same specifically. Of the former there are many causes besides the bites of animals suffering with rabies.

To the scientific arguments in Salmon's valuable and forceful paper I am now preparing a reply; for I think it contains some statements that would be better for decision of the premises on which they are founded. C. W. DULLES, M.D.

Car Sanitation.

INDIANAPOLIS, Dec. 17, 1901.

To the Editor:—The dispatches announce that a new palace car company with a capital of $5,000,000 has been organized in New York. This company will, perforce, build new cars, and it seems to me now is the time for those members of the medical profession who believe in helping their fellowmen to emphatically demand proper ventilation, without draughts. Surely such a thing is possible. It is to lack of ventilation, to which must be attributed the coughs, catarrhs, colds and cases of pneumonia and grip which so frequently are acquired on sleeping cars. White blankets should also be furnished, so when they are soiled and dirty, the passenger, who is paying large dividend producing prices, will know it. The traveling public is very particular in regard to having white, clean sheets and pillow cases, but is singularly silent about the colored blankets which so frequently emit musty and bodily odors.

Then would it not also be a convenience and a distinct advanced step in car sanitation to adopt Dr. Fulton's suggestion and have special sinks in the toilet rooms over which the ablutions of the mouth could be performed? At present, the washings of the mouth and teeth and the voidance of oral excrement, during the process, are discharged into the wash basins. It would be a good thing also to do away with carpets and have rugs on rubber tiled floors. Rubber tiling is as beautiful as vitrified tile; it is impervious, furnishes a sure footing and will withstand the motion of the cars. Rugs could be taken out at any terminal and others put in which had been dusted, steamed and sterilized. What an improvement this would be over the dirt-stiffened, spit-soaked carpets now so much in evidence! There seems to be no substitute for plush. Leather is too cold and slippery, and cane is too hard, cold and also slippery. The best way to handle this matter would be to have the backs and bottoms of the seats removable; then they could be taken out, dusted with the air blast, and sterilized. How comfortable it would be to know that the plush of your sleeping-car section was even occasionally thoroughly dusted and sterilized. J. N. HURTY, M.D.

Secretary Indiana State Board of Health.

Feeing the Nurse.

BISMARCK, N. D., Dec. 20, 1901.

To the Editor:—In THE JOURNAL of the 14th inst. you comment on what you evidently consider an undesirable innovation in medical practice in England, viz., the dividing of the fee, in obstetric cases, with the nurse. This is not by any means a new custom in England, nor is it attended by the evil results that might be anticipated; and if it could be carried out in some localities in this country many a practitioner would be glad to practice a system that would save any "booking" of obstetric fees.

Over twenty years ago I was an assistant to a general practitioner in the east end of London, and a large part of his practice consisted of obstetric work, in a rather poor part of the city. The usual fee for such cases was one guinea, 21 shillings, and it was the custom to hand the odd shilling to the nurse. On the physician's last visit to the case, usually on the tenth day after the confinement, the fee was handed to him *by the nurse* and he politely passed over the shilling. Even with patients who had accounts standing for other attendance it was customary to pay cash for labor cases and it was to the nurse's interest to keep patients posted in this respect because in case of failure she lost her "tip."

As the practice was common with all physicians it was no benefit to any particular one and was only a part of the almost universal system of "tipping" that prevails in most European countries.

F. R. SMITH, M.D.

Appendectomy—Surgical History.

CINCINNATI, Dec. 16, 1901.

To the Editor:—I thank Dr. Frank Woodbury for calling my attention (THE JOURNAL, page 1620, Dec. 14, 1901) to Dr. Thomas G. Morton's case of appendectomy—April 23, 1887.

In my investigation Dr. Morton's case was overlooked. It is to be regretted. In this paper, as in all I present, honest criticism is coveted.

In the question of priority, I will say that Dr. Stemen of Fort Wayne, Ind., stated to me yesterday that he made a diagnosis of appendicitis, performed a celiotomy and removed the appendix during 1884.

I am indeed sorry that these facts did not appear in my paper.

Very truly,

B. MERRILL RICKETTS, M.D.

Registration of Non-Resident Physicians Discontinued.

BOWLING GREEN, KY., Dec. 17, 1901.

To the Editor:—Since your recent publication giving the requirements of the various states for licenses to practice medicine this Board has been over-run with applications from all over the Union from physicians who do not expect to practice medicine in Kentucky at present, if ever. Our law makes no provision for the registration of non-resident physicians. For a time those living near our borders in adjoining states were permitted to register, but, upon the advice of our counsel, even this has been discontinued.

Very respectfully,

J. N. MCCORMACK, M.D.,
Secretary State Board of Health.

Married.

HUGH J. DEATH, M.D., to Miss May Thirkield, both of Franklin, Ohio, December 11.

E. T. BOYD, M.D., to Miss Sadie E. Edwards, both of Leadville, Colo., December 12.

ALBERT B. DEERING, M.D., Boone, Iowa, to Miss Jean Miller, Cheyenne, Wyo., December 18.

JAMES C. CARTER, M.D., to Miss Corinne Greer, both of Knoxville, Tenn., December 17.

J. F. TAYLOR, M.D., Briggs, Texas, to Miss Ola Fowler, Meridian, Texas, December 22.

VIRGIL L. TUPPER, M.D., to Miss Mary H. Cranage, both of Bay City, Mich., December 12.

JOHN CASSEL BUCKWALTER, M.D., to Miss Edna Wright, both of St. Louis, December 23.

GEORGE B. NORBERG, M.D., to Miss Janette Lockwood, both of Kansas City, Mo., December 11.

GEORGE E. MARTIN, M.D., Anna, Ohio, to Miss Anna Williamson of Sidney, Ohio, December 17.

CHARLES C. MOFFETT, M.D., Lorain, Ohio, to Miss Elsie Long, of Elyria, Ohio, December 19.

WILLIAM E. SAWYER, M.D., St. Louis, Mo., to Miss Irene Borders of Sparta, Ill., December 18.

DAVID CHARLES STRONG, M.D., Wichita, Wan., to Miss Mary Alice Glenn of Chicago, December 25.

G. C. TRUEHART TAYLOR, M.D., to Miss Bernice Stephenson, at Huntington, W. Va., December 11.

JOHN R. PIPES, M.D., Avon, Ohio, to Miss Carrie K. Williams of Cleveland, Ohio, December 11.

CHARLES A. ELLIS, M.D., Sherman, N. Y., to Miss Alice Miles, at Buffalo, N. Y., December 15.

JOHN WILLIAM COE, M.D., New York City, to Miss Mamie Clark of Lexington, Ky., December 25.

AUGUST FREDERICK LEMKE, M.D., to Miss Jessie Josephine Stewart, both of Chicago, December 21.

W. J. LONERGAN, M.D., Princeton, Wis., to Miss Anna Hafer of Marshfield, Wis., November 8.

ROBERT B. PEARSON, M.D., to Miss Lucelia W. Lippincott, both of Bonaparte, Iowa, December 11.

PAUL JOSEPH GELPI, M.D., to Miss Marie Annette Hincks, both of New Orleans, La., December 26.

LOUIS F. WEAVER, M.D., Syracuse, N. Y., to Miss Emma A. Hubel of Woodstoke, Ont., December 16.

LYNN HARRISON, M.D., Butler, Ind., to Miss Effie A. Baldwin of Conandaigua, Mich., December 11.

J. J. YATES, M.D., Roberson Fork, Tenn., to Miss Anna Pickens of Mooresville, Tenn., December 9.

JAMES F. KENDRICK, M.D., West Charleston, Vt., to Miss Rose Sherburne of Glover, Vt., December 4.

J. EDGAR WHEAT, M.D., Fernando, Cal., to Miss Luna Murphy of East Los Angeles, Cal., December 4.

ESTELLE H. HENDERSON, M.D., Newbern, Va., to Miss Loula Wallace of Pulaski City, Va., November 27.

OTIS W. MILLER, M.D., to Miss Helen M. Sahn, both of St. Louis, Mo., at Clayton, Mo., December 23.

HUGH A. BARBEE, M.D., Point Pleasant, Pa., to Miss Mary Esther Byers of Pittsburg, Pa., December 18.

ANDREW HARSCHER, M.D., to Miss Louise Ludwig, both of St. Louis, Mo., at Clayton, Mo., December 18.

HUGH LIVINGSTON, M.D., Hopkinton, Iowa, to Miss Hattie Stewart of New Hartford, Iowa, December 17.

SAMUEL E. LLOYD, M.D., to Miss Regina Bowen, both of Towson, Baltimore County, Md., December 11.

ROSCOE A. CARTER, M.D., Lynden Center, Vt., to Miss Grace Mae Densmore of St. Johnsbury, Vt., December 10.

CHARLES R. GRAHAM, M.D., Tullahoma, Tenn., to Miss Minnie Lee Jacobs of Murfreesboro, Tenn., December 11.

JOHN BRADFORD WATERS, M.D., Hartford, Conn., to Miss Edith Mills Decker of New York City, December 18.

W. C. MEHARG, M.D., Grayton, Ala., to Miss Zula, daughter of Dr. Philip H. Brothers, of Zula, Ala., December 5.

WILLIAM CARVER, M.D., son of Dr. Joseph B. Carver, to Miss Lillian Bacon, both of Fort Scott, Kan., December 10.

HENRY HARRINGTON JANEWAY, M.D., New Brunswick, N. J., to Miss Elizabeth, daughter of Dr. L. Duncan Bulkley, New York City, December 23.

Deaths and Obituaries.

George Bayles, M.D. College of Physicians and Surgeons, New York City, 1859, died at his home in Orange, N. J., December 20, from heart failure, after an illness of two days, aged 65. On the outbreak of the Civil war Dr. Bayles offered his services to the government and was appointed assistant surgeon. He served throughout the war, and at its close held the rank of major and surgeon. He was made sanitary inspector of Lexington, Ky., and later inspector of children's diseases for the New York Board of Health. In 1879 he moved to Orange, N. J. He became a member of the New York Academy of Medicine in 1867, was a member of the American Medical Association, Orange Mountain Medical Society, a member and ex-president of the Essex District Medical Society and a member of the New Jersey State Medical Society. During the Spanish-American war he served as post surgeon at Fort Hancock.

Donald S. Campbell, M.D. University of Michigan, 1877, a prominent physician and specialist on diseases of the ear, nose, throat and lungs, died at the Detroit Sanatorium, December 17, from typhoid fever, after an illness of three weeks, aged 44. After his graduation, Dr. Campbell studied four years in Scotland and England, and in 1883 was a member of the Greeley relief expedition to the Arctic. In 1885 he settled in Detroit. He was a member of the Detroit Medical Society, Michigan State Medical Society, American Electro-Therapeutic Association and of the American Medical Association.

Rush S. Huidekoper, M.D. University of Pennsylvania, Philadelphia, 1877, died at Philadelphia, December 17, after an operation for inflammatory chest disease, aged 47. He gained prominence by reason of his successful fight in the United States Senate for an organized veterinary service for the United States Army. In 1898 he was appointed chief surgeon of the First Army Corps with the rank of lieutenant-colonel, was stationed at Chickamauga, and was prominent in the "embalmed" beef investigation.

J. Milton Hadley, M.D. University of Pennsylvania, Philadelphia, 1860, who served throughout the Civil war as a surgeon on the Confederate side, and thereafter practiced two years in Oakes, Orange County, N. C. He moved to La Grange in 1867 and died at his home in the latter place, December 13, aged 65. He was one of the organizers of the Lenoir County Medical Association, and at one time its president, and a member and vice-president of the State Medical Society.

Richard L. Butt, M.D. New York University, 1846, died at his home in Midway, Ala., December 18, after an illness of 18 months, aged 77. He served as surgeon during the Civil war on the staffs of Generals Jackson, Van Dorn and Forest. At the close of the war he practiced in Memphis, Tenn., but in 1875 moved to Midway. He had been a member of the national and state medical associations, and was once president of the Bullock County Medical Society.

Caleb Du Hadway, M.D. Missouri Medical College, St. Louis, Mo., 1867, who had practiced in Jersey County, Ill., ever since his graduation, died at his home in Jerseyville, December 21, from paralysis, aged 68. He was a surgeon in the Confederate service for two years, a member and some time president of the Jersey County Medical Society, and is credited with being the discoverer of the anesthetic properties of carbolic acid.

William E. Bowman, M.D. Rush Medical College, Chicago, 1886, a prominent physician of Elkhart, Ind., was instantly killed, December 18. He was driving home from a professional call at Bremen, Ind., and while crossing the tracks of the Lake Shore road at Mishawaka, his buggy was struck by the fast mail and he and his driver instantly killed. Dr. Bowman had resided in Elkhart for fifteen years. He was 38 years old.

Fred James Perry, M.D. Rush Medical College, Chicago, 1892, one of the most prominent physicians of Fort Atkinson, Wis., died at St. Joseph's Hospital, Milwaukee, December 19, from appendicitis, for which an operation was performed a week previous. He was a member of the Central District and State Medical Societies and of the American Medical Association. He was 36 years of age.

Jesse Groome Shoemaker, M.D. University of Pennsylvania, Philadelphia, 1886, prominent as a citizen and practitioner of Phoenixville, Pa., died at his home in that place, December 14, after a lingering illness, aged 35. He was president of the Phoenixville Hospital and a member of the State Board of Health and the Chester County Medical Society.

Nelson E. Jones, M.D. Western Reserve University, Cleveland, 1846, the oldest practitioner of Pickaway County, Ohio, died at his home in Circleville, from uremia after a long illness, December 15, aged 80. He served as surgeon of the Board of Enrollment for the Twelfth Ohio District through the Civil War and thereafter served on the pension examining board.

Salmon Hudson, M.D. Starling Medical College, Columbus, Ohio, 1862, one of the oldest and best-known physicians of Medina County, died at his home in Medina, Ohio, December 11, from paralysis, after an illness of three years, aged 81. During the Civil war he served as assistant surgeon in the 23d and 11th Ohio Volunteer Infantry.

James R. Deane, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1860, assistant surgeon in the Navy during the Civil war and for a quarter of a century an esteemed practitioner of Newton Highlands, Mass., died December 6 at his home, after a protracted illness, aged 68. He was a member of the Massachusetts Medical Society.

William Hilleary Johnson, M.D. University of Maryland, Baltimore, 1849, died at his home in Adamstown, Frederick County, Md., after a long illness, December 13, aged 74. He was a surgeon in the Confederate service during the Civil war, and since its close had resided and practiced in Adamstown until his retirement in 1899.

James Sawyer, M.D. Medical School of Maine, Brunswick, 1846, formerly a member of the state legislature, from which he resigned to serve as surgeon throughout the Civil war, and thereafter a practitioner in Biddeford, Maine, died at his home in that place after an illness of two days, from paralysis, December 18, aged 79.

De Witt J. Jordan, M.D. Kentucky School of Medicine, Louisville, 1892, who recently moved from Indianapolis to Anderson, Ind., was frozen to death in a snowstorm, near Rosedale, Ind., while making a professional call, December 13. He was 30 years old and was a member of the American Medical Association.

James W. Smith, M.D. Berkshire Medical College, Pittsfield, Mass., 1847, the oldest practicing physician in Ohio, died at his home in Wellington, December 10, from paralysis, after an illness of ten days, aged 80. He served with distinction throughout the Civil war, and at its close held the rank of colonel.

John C. Mayfield, M.D. Tulane University, New Orleans, La., 1874, state quarantine officer at Galveston, Texas, for the past five years, and previously a practitioner at Velasco, Columbia and Richmond in that state, died at San Antonio, December 19, from kidney disease, after a protracted illness, aged 51.

Peter Drayer, M.D. Starling Medical College, Columbus, Ohio, 1867, one of the most prominent and oldest physicians of Eastern Indiana, for 35 years a resident of Hartford City, died from consumption at his home in that city, December 20, aged 61. He was a member of the American Medical Association.

James Henry Munn, M.D. Louisville (Ky.) Medical College, 1887, one of the most prominent physicians of Florence County, S. C., and a member of the American Medical Association, died at his home in Hyman, December 7, after an illness of several weeks, from acute pulmonic phthisis, aged 38.

John Stark, M.D. University of Glasgow, Scotland, 1863, a widely-known physician of Kansas City, Mo., and during the Civil war a surgeon on the staff of Gen. George B. McClellan, died at his home in Kansas City, December 17, from pneumonia after an illness of eight days, aged 60.

Daniel McFarlane, M.D. Edinburgh, Scotland, 1864, prominent and beloved as a practitioner for nearly 30 years in Keola, Iowa, died while attending a patient, near that town, December 10, from heart disease, aged 60. He was a member of the American Medical Association.

James R. Deane, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1860, assistant surgeon in the Navy during the Civil war and for a quarter of a century an esteemed practitioner of Newton Highlands, Mass., died December 6 at his home, after a short illness.

Robert W. Tate, M.D. Long Island College Hospital, Brooklyn, for thirteen years a practitioner in Greensboro, N. C., and once vice-president of the North Carolina Medical Society, died at his home in Chadbourn, N. C., November 29.

James Kent Harper Jacobs, M.D. University of Maryland, Baltimore, 1897, died suddenly at Centreville, Queen Ann's County, Md., December 18, aged 45. He practiced at Kennedysville, Kent County, until 1897, when he removed to Centreville.

Alexander Jackson, M.D. Harvard University Medical School, Boston, 1843, a prominent physician of Plymouth,

Mass., from his graduation until his retirement in 1890, died at the home of his son in Boston, December 12, aged 82.

Benjamin F. Kibler, M.D. University of Maryland, Baltimore, 1880, died at his residence in Dayton, Rockingham County, Va., from consumption, after a long illness, December 8. He had practiced in Dayton for about fifteen years.

William J. McConkey, M.D. University of Glasgow, Scotland, 1854, who had practiced thirty years in Mapleton, Ohio, and then moved to Canton, died at his home in that city from cancer of the stomach, December 5, aged 70.

George Bridges Henshaw, M.D. Harvard University, Boston, 1894, formerly bacteriologist to the Cambridge Board of Health, and a practicing physician of Cambridge, Mass., died at New Rochelle, N. Y., December 19.

Nicholas J. Wilson, M.D. University of Nashville, Tenn., 1860, died at his home in Byhalla, Miss., December 10, after a brief illness, aged 67. He had practiced medicine in and around Byhalla for more than forty years.

Lucius L. Wakefield, M.D. Rush Medical College, Chicago, 1863, one of the best-known physicians of Central Illinois, died at his home in Summum, December 23, aged 66. He leaves an estate valued at $100,000.

Ephraim F. Leake, M.D. University of Pennsylvania, Philadelphia, 1845, who had practiced medicine in Frankford, Philadelphia, since 1847, died at his home in that city, December 13, after a short illness, aged 80.

Levi M. Dixon, M.D. Missouri Medical College, St. Louis, 1867, for many years a practitioner in Nevada and Vernon County, Mo., died from tuberculosis at his home in Nevada, December 11, after a prolonged illness.

Robert W. Murphy, M.D. Bellevue Hospital Medical College, New York, 1871, a California pioneer, and for many years a practitioner in San Francisco, Cal., died at his home in that city, December 7, aged 80.

Frederick J. Murdock, M.D. Kansas City Medical College, 1891, a practitioner of Kansas City, Mo., died December 23, at St. Joseph's Hospital, Kansas City, after an illness of one week, from meningitis, aged 45.

Thomas Waterman, M.D. Harvard Medical School, Boston, 1868, known as an expert on insanity, died at his home in Boston, December 14, from heart failure following an operation on the throat, aged 59.

John W. Runcie, M.D. Jefferson Medical College, 1871, an old and respected physician and citizen of Fort Branch, Ind., died at his home in that place, December 17, from cerebral hemorrhage, aged 74.

Peter Mehring, M.D. Washington University, St. Louis, Mo., 1879, for twenty years a practitioner of Portage des Sioux, Mo., died, December 19, at his home in that place from pneumonia, aged 59.

Everett J. Whitehead, M.D. University of Michigan, Ann Arbor, 1890, of Columbus, Ohio, died at Kaneth, Va., where he had gone to nurse a sick brother, from pneumonia, December 17, aged 42.

Wiley Elias Gainey, M.D. Grant University, Chattanooga, Tenn., 1893, an esteemed physician of Mayo, Fla., died at his home in that place from bronchitis after a long illness, December 15.

John H. Bell, M.D. New York University, 1865, one of the best-known physicians of Southwest Michigan, and once mayor of Benton Harbor, Mich., died at his home in that city, December 29.

Elias P. Ileff, M.D. Long Island College Hospital, Brooklyn, 1877, a successful practitioner of Newark, N. J., died at his home in Newark, N. J., December 22, after an illness extending over a year.

Andrew Gilroy, M.D. University of Vermont, Burlington, 1884, a practitioner of Jewett City, Conn., died at the home of his mother in Norwich, Conn., from consumption, December 12, aged 38.

Conrad J. Crounse, M.D. Albany Medical College, 1846, who had practiced in Clarkesville, N. Y., for more than 45 years, died at his home in that place, December 12, aged 79.

George W. Akard, M.D. University of Tennessee, Nashville, 1888, a practitioner of Springtown, Parker County, Texas, died suddenly at Weatherford, Texas, December 19.

C. H. Kermott, M.D., for the past twelve years agency physician at Fort Totten, N. D., died December 11, at his residence in Fort Totten, from pneumonia, aged 65.

Orrin E. Miner, M.D. New York University, 1859, the oldest physician in Noank, Conn., died at his home in that village, December 22, after a lingering illness.

Alfred S. Wiley, M.D. Dartmouth Medical College, Hanover, N. H., 1888, died from typhoid fever, at his home in Newton Highlands, Mass., December 20.

Loretta J. Pettit Baird, M.D. University of Minnesota, Minneapolis, 1894, died suddenly from embolism at her home in Rushmore, Minn., December 17.

Hiram Leonard Ives, M.D. Albany Medical College, died at the Samaritan Hospital, Troy, N. Y., December 17, from pleuro-pneumonia, aged 62.

Green R. Price, M.D. Grant University, Chattanooga, Tenn., 1894, died suddenly at his home in Waco, Ga., December 20, from heart disease.

John B. Fella, M.D., Wurzburg, died at his home in Toledo, Ohio, after a lingering illness from bronchial phthisis, December 14, aged 67.

Clinton S. Chase, M.D. Castleton (Vt.) Medical College, 1854, died from pneumonia at his home in Detroit, December 15, aged 70.

John F. Bigelow, M.D. Rush Medical College, Chicago, 1882, died at Cook County Hospital, December 28, from pneumonia.

George E. Dixon, M.D. University of Vermont, Burlington, 1892, died at his home in Milton, Vt., December 20.

William S. Barrickman, M.D., Fairfield, Ill., died at his home in that place, December 17.

Book Notices.

The Principles of Pathological Histology. By Harvey R. Gaylord, M.D., and Ludwig Aschoff, M.D., with an introductory note by William H. Welch, M.D. Quarto, 354 pages, with 81 Engravings in the Text and 40 Plates. Cloth, $7.50. Philadelphia and New York: Lea Brothers & Co.

The handsome volume before us is worthy of more than a casual review. The authors have prepared an atlas covering the ground of a good course in practical microscopic pathology of the special organs, accompanied by descriptive text. The volume is divided into three parts: 1. Microscopic Technique; 2. Pathological Histology of Organs; 3. The Principles of Optics and Photomicrography.

In Part I, there is a general introduction with regard to care in the use of the microscope. This is followed by a description of the methods for the manipulation of fresh material and later of the methods for the preparation of hardened material. The whole section on technique has been well done. The authors have been liberal with regard to the number of methods recommended, and while in a volume of this size and scope it is scarcely possible to include all, or even the good methods, yet very few of the better technical procedures will be found to be lacking. We should have been glad to have found more emphasis laid upon the use of the dissecting microscope—the hand-lens; to have seen mention made of Bardeen's freezing microtome; to have had Weigert's method of neuroglia staining described as well as Mallory's; to have seen the original Nissl method and Held's modification of it introduced, and to have had some attention paid to the very important work of Fischer on the fixation and staining of protoplasm. (It is mentioned in a foot-note only.)

The second part, which comprises almost three-quarters of the whole volume, is the part to which the reviewer's attention must be more particularly directed. Without preamble, the structure and pathologic alterations of heart muscle are taken up, and this is followed successively by similar treatment of the skeletal muscles, liver, kidney, pancreas, lung, mucous membranes, serous membranes, vascular system, lymph nodes, spleen, genital organs, tumors and blood. Just what has de-

termined the order of presentation does not seem clear, as the arrangement of topics in the series scarcely corresponds to any of the ordinary sequences of description or consideration. Under each heading, a series of characteristic pathologic changes are considered by number, each number apparently corresponding to a section given out in the microscopic course. Thus, under heart muscle, we find specimens of the following lesions described: 1, fatty degeneration; 2, invasion of the heart muscle by fat cells; 3, parenchymatous degeneration (cloudy swelling); 4, brown atrophy; 5, abscess in the heart muscle; 6, myocarditis chronica fibrosa; 7, tuberculosis of the heart muscle; 8, fragmentation of the myocardium. Of these eight specimens described, five are illustrated by photomicrographs.

The treatment of the various topics is very much like that accorded them in the better courses in pathologic histology in this country and in Germany. The choice of subjects conforms very closely to that met with in such courses. We are not struck by any particularly new features, nor is one impressed by the absence of typical preparations usually described.

Each topic is preceded by a very brief epitome, dealing with the normal structure of the part—a feature which, it may be remembered, is characteristic of Orth's text-book. There is something to be said in favor of such an introduction, but much depends upon the way it is made. Now that we have such excellent text-books upon normal histology and microscopic anatomy, and now that in all good medical schools very fair courses upon the normal structure are given to students before they approach the subject of pathology, there no longer exists that need that previously obtained for a description of normal structures given in a text-book on pathology. The descriptions given in Orth's book were of particular value, because they emphasized especially those features of normal structure and of normal relations which were of unusual significance for the explanation of pathologic changes in the organ. No attempt, however, was made by Orth in his text-book to give a full description of normal structures. Indeed, his remarks were limited chiefly to hints with regard to the normal from the pathologist's view-point—hints at relations which the teacher of normal histology or microscopic anatomy, unless he were a pathologist, would be likely to overlook. Gaylord and Aschoff have, it seems to us, missed this point entirely. The descriptions they give of normal structure are brief general descriptions, such as might be given to the most elementary class in normal microscopic work. These descriptions are utterly inadequate for the medical student who is approaching modern pathology. They are sure to be criticised severely by students who have taken good courses on the microscopic structure of normal organs, and to insufficiently prepared students they can only be misleading for they will yield the impression that the normal descriptions here to be found are adequate as knowledge preliminary to the study of diseased organs. Some of these descriptions of normal structure are more unfortunate than others. The descriptions of the kidney, lung and bone marrow are very poor. In the remarks on the normal structure of the intestines, the solitary follicles are not distinguished from Peyer's patches; Auerbach's plexus is mentioned, but nothing is said of Meissner's; the astonishing remark is made, on p. 162, that "the mucosa of the small intestine is thrown into more or less regular transverse folds, the villi." In the description of the lymph gland, where lymph cord is intended, the authors use the expression "radiating structures of lymphocytes." In the description of the tracts of the central nervous system, we find the statement that "the anterior pyramidal tracts are composed of motor fibers from the ganglion cells of the anterior horns of the same or opposite side" (!) On page 214 the impression is given that Marchi's method and the Weigert-Pal method may be used indiscriminately for demonstrating degenerated tracts, nothing being said about the use of the two methods in different stages of degeneration.

The text of the descriptions of pathologic lesions themselves is better, and in general may be considered as brief but adequate. The descriptions of pathologic lesions in the lung are particularly good; the section on arteriosclerosis is also good. The specimens from the genital organs are well chosen, and, as a rule, well described. The section on tumors is certainly one of the best parts of the book. The descriptions are modern, clear, and, so far as tested, accurate. Gaylord's views on the etiology of carcinoma are developed with reserve, and the bibliography is reviewed with a special reference to parasitic origin.

The section on the blood, written by Lyon, is exceptionally good. Seldom have we seen compressed into such narrow limits so many data on the pathology of the blood. On the other hand, the section on the nervous system is so fragmentary and so superficial that it would have been much better to have omitted it altogether. The description of the lesions in dysentery is also insufficient. The distinction between amebic and other forms is mentioned, but the characterization of the lesions in the different types has been overlooked. The same is true with regard to abscesses of the liver. The local reaction in so-called amebic abscesses is quite different from that to be met with in true abscess, due to pyogenic bacteria.

The illustrations in the book—and these are undoubtedly the principal feature of the publication—consist in large part of photomicrographs reproduced by the heliotype process, and here it is a pleasure to testify to the complete success of the photographs and their reproduction. We know of no similar aggregation of photomicrographs covering this ground, and rejoice that such a collection as those to be found in the book before us is now available to students. The subjects have been evidently very carefully chosen, and suitable powers of magnification have been employed. In a majority of instances the details are sharp. This is especially true if a hand-lens be used to examine the heliotype reproductions. The authors have been wise in making a majority of the photographs with low amplification. Photography does not yet yield such good results with high powers as it does with low. In a few instances the effects would have been much better had better specimens been available for the photograph. One can easily see that the fixation has been imperfect in some of the preparations. But pathology is not like normal microscopic anatomy. One can not multiply preparations at will, but must avail himself of those which come into his hands. The legends to the figures have been carefully written and are very helpful as explanations. The photographs are supplemented by a number of lithographic plates.

If the atlas had been published as a series of plates with legends, and the text omitted, there would have been but little to criticise. As it is, the errors in the text may easily be corrected in a subsequent edition, when, no doubt, also, the typographical errors met with will disappear. We notice, among others, "Erlich" for "Ehrlich;" iodine" for iodide;" "Friedlander" for "Friedländer;" "Lowit" for "Löwit;" "Stohr" for "Stöhr;" "lumenæ" instead of "lumina;" "thrombus and embolen" instead of "thrombosis and embolism;" "Marschalkz" for "Marschalko."

The terminal section of the volume deals with the principles of optics and photomicrography. It will be welcomed by those who wish to do practical work in this interesting field. Full directions for setting up photomicrographic apparatus, for supplying the source of light and for the arrangement of filters, are given. Hints as to the kinds of photographic plates to employ, modes of developing the plate, and the method of making lantern slides are successively dealt with. There is a short note on tricolor photography—a method which has been employed to a very slight extent in the illustration of the volume before us. The results, as judged by plates XXXVA and XXXVB do not warrant any very extensive use of this method at present. While we have frankly pointed out the defects of this volume, we do not wish to leave too unfavorable an impression of it. Students who seek a guide for the laboratory work in a course in pathologic histology may be helped by the illustrations in this volume of Gaylord and Aschoff.

THE CENTURY BOOK FOR MOTHERS. A Practical Guide in the Rearing of Healthy Children. By Leroy Milton Yale, M.D., Formerly Lecturer on the Diseases of Children at Bellevue Hospital Medical College, New York; and Gustav Pollak, Editor of "Babyhood." Cloth. Pp. 461. Price, $2.00 net. New York: The Century Co. 1901.

The scope of this work is advice to the prospective mother before her babe is born, and for the care of her child through

its infancy. The chapter on Preparation for Motherhood is brief but sensible and practical, including diet, dress, exercise, care of the breasts, selection of the nurse, outfit for the lying-in chamber, for the baby basket, etc. This is followed by chapters on the nursery, the baby's bath, hours of sleeping, feeding, air and exercise, dress, growth and development, disorders from improper feeding, evidences of illness and domestic treatment. The latter includes the simplest of remedies and remedial measures, how to give medicines, nursery emergencies, etc. The above is but a brief outline of what appears in part one. In part two are considered all the various ailments to which children are subject. The method adopted in this part is peculiar, certainly practical, although not systematic. It is in the form of replies to queries sent by mothers to the authors while they were editors of the magazine *Babyhood*. The queries cover all the perplexities of daily nursery life and include every simple ailment. The answers are full, sensible, and all that could be desired to satisfy the most querulous and anxious mother. The advice and directions given are just what might be expected from a conscientious scientific physician to one of his patients. The language used is free from dogmatism, simple in style, and void of technicalities. The object, as stated by the author, is to help the intelligent mother to become the alert and judicious guardian of the nursery rather than to tempt her to play the part of the physician and to dabble in dosing. The book is one that can be conscientiously recommended to a young mother by her physician. We know of none that is so thoroughly satisfactory in every way and we only wish there were more of such books to put into the hands of the laity.

Miscellany.

Pasteur Treatment of Hydrophobia in Mexico.—The last *Boletin* of the Mexican National Board of Health reports that since the Pasteur treatment of hydrophobia was introduced in 1888, 4000 persons have been treated. The total mortality has been only 3 per 1000.

Medal for Fornier.—Professor Fournier of Paris relinquishes his clinic at the Hospital Saint Louis with the present scholastic year. His friends intend to present him with a medal; subscriptions are received by Dr. Rueff, 106 Boulevard Saint Germain, Paris. A subscription of 25 francs or $5, entitles one to a copy of the medal.

Mechanical Cure of Fetid Atrophying Rhinitis.—In order to induce proliferation at the atrophying points, Flatau implanted a row of ivory pegs at the point of insertion of the lower turbinal in two cases of fetid, atrophying rhinitis. The results were evident in the course of a few months; the bone had increased in size and the secretions had altered their nature, with almost complete cure in two years. He states in his communication to *Deutsche Praxis*, 1900, 12, that the implanting of the pegs after spraying with hydrogen dioxid and submucous injection of cocain, was a very simple operation.

Wiring an Aortic Aneurysm.—Dr. J. M. T. Finney operated on an aneurysm of the arch of the aorta by wiring and electricity at the Good Samaritan Hospital, December 8. The patient, a mulatto, aged 41, had a large pulsating globular mass projecting forward in the upper sternal region. A large aspirating needle lacquered to near its point was thrust first horizontally through the skin over the tumor, then turned perpendicularly and thrust directly down until blood began to flow through it. A wire coiled on a spool was then passed in through the needle until 10 feet had entered. Then a galvanic current of 9.5 milliamperes was passed through it, the negative pole being over the back, the positive connected with the end of the wire. The current was passed for one hour, the blood flow ceasing as soon as the connection was made. The patient felt no pain, being anesthetized with cocain. Dr. F. says 44 cases have been operated on by this method, the recoveries being one in five. He has had 2 recoveries in 9 cases. The wire which he uses consists of 30 parts of copper and 1000 of silver. He prefers the mild current for an hour rather than a strong one for a few minutes. The patient is doing well up to the present (December 14). After using the current the needle was withdrawn, the wire cut off near the surface and its end pushed under the skin.

Counter-Irritation in Southern Luzon.—The following letter and photograph recently received by the Surgeon-General of the Army is published as an item of interest relating to primitive medical practice among the natives of the Department of Southern Luzon:

TABACO, ALBAY, P. I., Oct. 20, 1901.

Chief Surgeon, Neuva Caceres:—I have the honor to forward the enclosed photograph to illustrate the peculiar Bicol practice known as *Tangkong*. This skin stretching is quite universally practiced among the Bicols and while it obtains more generally among the poorer classes I have occasionally seen a suspicious bump on the back of the neck of even high caste Filipinos. The elevations observed in the picture are the result of repeated stretchings of the skin and I have seen instances where the hypertrophy was so pronounced as to resemble the mammæ of an ordinary girl at puberty. The operation is performed by grasping the skin of the back of the neck firmly between the semi-flexed index and middle fingers, drawing it out as far as possible and letting go again and again. As the skin is successively stretched it becomes quite elastic and when it becomes very sensitive a strong salt solution is applied and the operation is repeated. It is used as a general cure-all, but its greatest virtue lies in the relief it affords in severe headache. One can readily understand that such would be the case, since it is nothing more or less than counter-irritation, but why a whole nation should employ such a method until the resulting hypertrophy of the connective tissue has made the tangkong almost as permanent a feature of these people as their dark skin or straight hair is hard to explain. The operation is usually practiced by the *Parabolong*, as the native medicine man is called, but not necessarily so, as any one can do it. Leeching, cupping, the application of cataplasms or vesicants and the employment of the scarificator are general procedures in most diseases and the sick Filipino is fortunate if he escapes having at least one of these practiced upon him, even while employing one of the more intelligent native physicians. I have seen native prisoners with hundreds of scars from scarification upon their bodies. The accompanying photograph was taken of a number of prisoners of war, selected at random from a company, every member of which showed some evidence of having submitted to the process. Surgeons in the Philippines must have noticed this matter and probably know more of it than I am able to tell, but I merely describe it in order to enrich the archives of the Department of Southern Luzon.

GEORGE A. ZELLER,
Capt., Asst. Surg., U. S. V.

Societies.

Memphis (Tenn.) Medical Society.—This Society met, December 17, and elected the following officers: Dr. Alfred Moore, president; Dr. Edwin Williams, vice-president; Dr. James L. Barton, secretary and treasurer.

Weber County (Utah) Medical Society.—At the regular meeting of this Society the following officers were elected for 1902: Dr. Chester E. Coulter, president; Dr. Amasa S. Condon, vice-president; Dr. George A. Dixon, treasurer; Dr. Harry B. Forbes, secretary, and Dr. James M. Harris, librarian.

Pulaski County (Ill.) Medical Association.—This Association met for organization at Mound City, and elected Dr. Marcus L. Winstead, Wetaug, president; Dr. John F. Hargan, Mound City, vice-president, and Dr. Charles J. Boswell, Beechwood, secretary and treasurer.

Hamilton (Ontario) Medical Association.—At the annual meeting of this body, held December 6, the following officers were re-elected: Dr. Robert R. Wallace, president; Dr. Edward B. O'Reilly, vice-president; Dr. Walter Langrill, treasurer; Dr. W. Crawford, corresponding secretary, and Dr. Warren White, recording secretary.

Tri-State Medical Association of the Carolinas and Virginia.—The fourth annual meeting of this Association will be called to order in Asheville, N. C., February 25. All fellows intending to read papers will please communicate with the secretary, Dr. Hubert A. Royster, Raleigh, N. C., giving title, not later than January 15.

Orleans Parish (La.) Medical Society.—At the annual meeting of this Society, December 14, the following officers were elected: Dr. Hermann B. Gessner, president; Dr. Albert Graner, Dr. Sidney P. Delaup, and Dr. Gordon King, vice-presidents; Dr. I. I. Lemann, recording secretary; Dr. Jacob A. Storck, librarian, and Dr. William H. Seemann, treasurer.

New York Academy of Medicine.—Dr. V. P. Gibney has been elected vice-president; Dr. Walter Lester Carr, a member of the Committee on Admissions, and Dr. Walter B. James a member of the Committee on Library. In the Section on Laryngology and Rhinology, Dr. Emil Mayer has been elected chairman, and Dr. Z. L. Leonard, secretary of this Section.

Allen County (Ind.) Medical Society.—The annual meeting of this Society was held at Fort Wayne, Ind., December 23. Dr. W. A. Evans, Chicago, delivered an address on the "Economic Relations of Tuberculosis." The following officers were elected: Dr. Samuel H. Havice, president; Dr. Elmer E. Morgan, secretary; Dr. William P. Whery, treasurer, and Drs. George L. Greenawalt, George B. M. Bower and Budd Van Sweringen, censors, all of Fort Wayne.

Alexander County (Ill.) Medical Association.—The physicians of Alexander County met at Cairo, December 17, and organized this Society with the following officers: Dr. Samuel B. Cary, president; Dr. James W. Dunn, vice-president; Dr. John T. Walsh, secretary and treasurer, and Drs. Alpheus A. Bondurant, James H. Oakley and James McManus, censors, all of Cairo. The first regular meeting will be held in January, and the annual meeting in April.

Oklahoma County (Okla.) Medical Association.—This Association was organized December 4. At its second meeting, December 11, by-laws and constitution were adopted and a paper on "Penetrating Wounds" by Dr. R. D. Long, Oklahoma City, was read. The society will meet semi-monthly in Carnegie Library, Oklahoma City. Its officers are: Dr. Claudius B. Bradford, president; Dr. R. D. Long, vice-president, and A. D. Young, secretary and treasurer.

Tri-State Medical Association.—The Tri-State Medical Association of Western Maryland, West Virginia and Western Pennsylvania, met in semi-annual session at Cumberland, Md., December 19. Papers were read as follows: "The Radical Cure of Hernia," Dr. R. W. Stewart, Pittsburg; "The Medical Side of Surgical Cases," Dr. I. N. Love, New York; "Incipient Tuberculosis," Dr. C. C. Johnston, Pittsburg; "Uremia," Dr. C. C. Jacobs, Frosburg; "Pneumonia," Dr. A. F. Speicher, Elk Lick, Pa. A banquet followed.

New York State Charities Aid Association.—At the annual meeting of this Association held in New York during the past week, Dr. George G. Wheelock reported that the charities administration of the Borough of Manhattan had been improved by providing two salaried resident physicians for the insane pavilion at Bellevue Hospital. There was still need for the exclusion of pauper labor in the department, and a new building for Bellevue Hospital was urgently demanded. Reports from the county committees throughout the state showed a general improvement in the almshouses, but every state hospital is now caring for from 100 to 500 more inmates than can be properly accommodated.

THE WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Eleventh Annual Meeting, held in Chicago, Dec. 18 and 19, 1901.

President, Dr. A. F. Jonas, Omaha, Neb., in the Chair.

An Address of Welcome was delivered by Dr. Alexander Hugh Ferguson, Chicago, to which an eloquent response was made by Dr. Joseph Eastman, Indianapolis.

An Old Shoulder Dislocation, with Report of a Case.

DR. J. RUDIS-JICINSKY, Cedar Rapids, Iowa, read a paper with this title. The object of the author in making this report of an apparently simple case was to show what the *x*-ray could do for the profession in the investigation of luxations, fractures, and in observations of the growth of the callus, the bones themselves, etc., and to furnish an aid in the interpretation of the *x*-ray findings. Before one could interpret correctly the fluoroscopic image or the skiagraph of certain parts, when their relationships were altered by disease or trauma, he should have always before him a skiagraph picture of the normal parts, and of their normal relations. After taking all the other precautions of a proper technique into consideration, one could not go astray. Moreover, the eye would be prepared to take in much which would otherwise not be seen. The *x*-ray enabled one to determine through a plaster cast or other dressing the exact position of the fragments. After reporting a case at great length of an old shoulder luxation, the author dwelt upon the value of the *x*-ray in cases of fractures, etc.

DR. LEWIS SCHOOLER, Des Moines, Iowa, endorsed the value of the *x*-ray in old dislocations of the shoulder, especially in cases where the swelling was so great as to obscure some of the landmarks and render the diagnosis difficult by the usual method. While in nearly all cases the examining surgeon could make a diagnosis with satisfaction without the aid of the *x*-ray, yet it was a consolation to have one's diagnosis verified by a competent operator of the *x*-ray machine.

Treatment of Irreducible Backward Dislocation of the Astragalus by Opening the Joint and Repositing the Same.

DR. W. JEPSON, Sioux City, Iowa, after detailing a case and going extensively into the literature of the subject, summarized his observations as follows: 1. His own experience and the results of recorded cases led him to believe that it would rarely be possible with present knowledge and technique to bring about a reduction of a backward dislocation of the astragalus without opening the joint and bringing about a reposition of the bone by direct manipulation. 2. With our present command of aseptic surgery he could see no reason why this should not be undertaken in all cases uncomplicated by severe infection, with good prospects of securing nearly a perfect result. 3. Removal of the astragalus should be reserved for such cases as where the bone was completely separated from its ligamentous attachments, consequently having no adequate source of blood supply. 4. If amputation be resorted to only when the dislocation was compound and infected to a degree impossible of removal, the patient's life was jeopardized by the septic intoxication or infection.

Some Internal Injuries of the Knee Joint.

DR. M. L. HARRIS, Chicago, called attention to two varieties of injuries to the inner structures of this joint which, he believed, were more common than the attention heretofore given them would seem to indicate. These injuries might be produced in one of two ways: 1. By the direct application of force, as might occur in a fall upon the knee, or by the forcible impingement of a more or less pointed object against this

portion of the joint. 2. By pinching or crushing the apex of the mass in the angle between the femur and tibia, as might occur when these bones were slightly separated during hyperflexion or sudden wrenching. The cases narrated by the author illustrated the serious and persistent disablement that might occasionally result from comparatively slight pathologic changes affecting the inner structures of the knee joint, and showed the necessity of operative treatment in those cases following an injury in which the characteristic symptoms persisted after the usual treatment of the joint by rest and immobilization.

Ankylosis of Joints.

DR. JOHN B. MURPHY, Chicago, recommended arthroplasty for the relief of ankylosis without destructive bone defects. Ankylosis and contractures were of three varieties: 1, atrophy of soft parts; 2, union (fibrous and bony) between joint surfaces; 3, a combination of one and two. The essayist referred to the experimental work of Chlumsky, of Würzburg, who decided that the best way to relieve such joints was to treat them precisely on the same basis as one would non-union of fractures from the interposition of foreign material between the fragments. He experimented with several kinds of material, absorbable and non-absorbable, to determine the best material to use, but finally abandoned the use of foreign materials and resorted to a plastic operation in the neighborhood of the joint for its relief. The method of Chlumsky was described, the essayist stating that he had adopted it in several cases with good results.

Treatment of Dislocation of the Clavicle Through Open Wound.

DR. JAMES E. MOORE, Minneapolis, said that some recent writers had advocated the treatment of such a dislocation by wire suture, but he had been unable to find any literature upon the subject. Quite recently he had treated a case by cutting down upon the dislocated bone, replacing it and the surrounding soft parts, and fastening them there by means of silver wire and catgut sutures. The result was very satisfactory and the findings were instructive.

Etiologic Factors in the Production of Tumors.

DR. GEORGE HALLEY, Kansas City, Mo., read this paper. No theory had been broad enough to account for all the phenomena characteristic of benign or malignant tumors. Inflammatory conditions that almost invariably produced some kind of tumefaction were for a long time regarded as the principal factor in their production. Many things, however, in the inflammatory conditions in no way comported with the ordinary processes found in tumor growths, and the products of most of the tumor growths were utterly unlike those of the inflammatory process. But as inflammation was believed to be principally due to irritation, it was held to be the prime factor in the production of morbid growths. The author dwelt at length upon the various forms of tumors. One constantly occurring element in all benign tumors was the connective tissue. Sometimes it predominated and sometimes it was held in abeyance. Its presence was never wanting. Of all the tissues in the body, it most readily responded in physiologic activity to irritating processes. In inflammatory changes it was found to be the reconstructing agent. It was not wonderful, therefore, that we had in this tissue the essential part, if not the entire mass, composed of this tissue. Was the connective-tissue germ cell altered in quality? Had it been inoculated by a plastic material altered in quality by an irritant, or had there been a coalescence of protoplasmic germs from other tissues? We had not yet determined this, but he took it that along these lines, if not exactly, yet relatively near to it, would be found the true etiology of the benign tumor.

Surgical Procedures in Removal of Fibromyoma of Uterus.

DR. JOSEPH EASTMAN, Indianapolis, opened the Symposium on Fibromyoma by reading a paper on the above subject. He said the morphology of the tumor and the environment of the patient should be considered before selecting the method to remove the tumor. Clay, of Manchester, operated for the first time, in 1844, for the removal of fibromyoma of the uterus. After speaking of the early history of removal of myoma of the uterus, Dr. Eastman described the first case that he operated on, Feb. 3, 1887; also the method pursued by him at that time, which can be found in the literature on this subject.

Myomectomy; Its Place in the Treatment of Fibromyoma of the Uterus.

DR. O. BEVERLY CAMPBELL, Chicago, said the operation of myomectomy was not applicable to all cases of fibromyomata of the uterus, but could apply only to well selected cases. This operation did not supplant panhysterectomy, hysteromyomectomy, and the different procedures for relief of fibromyomata, but took its place as one of the recognized rational procedures, and as it was a conservative measure, it should be the favorite procedure when possible. A critical bimanual examination through the vagina and rectum under complete anesthesia would usually admit of the diagnosis of cases amenable to this operation. All of the different varieties of fibromyomata, namely, the subperitoneal, the interstitial and the submucous, may be treated by this method. By many operators it had been limited to the pedunculated subperitoneal variety. However, it had now been successfully applied to every variety of fibromyomata, with satisfactory results as to the immediate mortality rate and permanency of cure. The author concludes that myomectomy should be the preferred method in every case where possible to do so without extra risk to the patient, and where the ovaries can be conserved with the uterus. Operative interference should be advised in every case of fibromyomata where after a careful examination myomectomy was considered possible. The operation of myomectomy was, at all times, as safe in cases where it was applicable, as hysteromyomectomy and panhysterectomy, and very many times almost a minor procedure practically free of risk. That the early diagnosis of fibromyomata should be insisted upon with a view of enlarging the percentage of cases in which myomectomy may be applicable.

Management of Uterine Fibromyomata Complicated by Pregnancy.

DR. MILES F. PORTER, Fort Wayne, Ind., after referring to the literature on this subject and reporting an interesting case, gave the following conclusions: 1. Pregnancy was a frequent and serious complication of uterine fibromyomata. 2. If, because of their size or location, they were likely to interfere with gestation or jeopardize the patient's life, they should be removed. 3. Each case was a law unto itself, and should be treated accordingly. 4. The tumor and not the pregnancy was the disease, and therefore any procedure which resulted in leaving the tumor and removing the pregnancy was unjustifiable. This, of course, was not meant to apply to those cases in which the fibroids did not interfere in any way, either with gestation or labor. 5. Pregnancy did not materially add to the risk of operations for uterine fibroids, so far as the mother was concerned. 6. The life of the mother, the life of the child, and the question of future offspring were the most important matters to be considered in reaching a conclusion as to the treatment of a case of uterine fibroids complicated with pregnancy.

Treatment of Fibroids of the Uterus by Electricity, and Present Status.

DR. FRANKLIN H. MARTIN, Chicago, said that in the light of our knowledge there was a time when the galvanic treatment of fibroids of the uterus by experts was legitimately the most conservative treatment possessed for a majority of those troublesome neoplasms. Now, the removal of fibroids with the knife by experts was the most conservative treatment for the majority of these difficulties. There was a time when the author submitted practically all his fibroid cases to the Apostoli treatment, because this treatment scarcely ever failed to materially benefit the patients; it symptomatically cured a large percentage, and occasionally the tumor seemed to disappear. It accomplished these results without subjecting the patient to a procedure which possessed any legitimate mortality. Gradually the evolution of the surgery for fibroids had reversed the relative position of the galvanic treatment. He

considered vaginal and abdominal hysterectomies and myomectomies for fibroids, giving rise to serious symptoms, with their legitimate mortality reduced to one and two per cent., as remedies more conservative in their results than the treatment of the same tumors with electricity. He believed this, because hysterectomies and myomectomies, with a small percentage of risk, were the only remedies which absolutely relieved the difficulties in all cases. Electricity relieved frequently, symptomatically cured, but seldom actually removed the tumor, and the treatment was tedious to the patient, and occupied much time of the physician in administering it. The present status of the electrical treatment of fibroids of the uterus was, in his opinion, that it had been properly superseded by surgery as a conservative remedy. He now recommended the former in the following cases only: 1. As a local and general tonic, and as a relief of pressure and reflex pains and of hemorrhage in cases with complications contra-indicating surgery. 2. In all interstitial fibroids where operative assistance was absolutely refused by the patient. 3. In tumors of small size of the interstitial variety in which hemorrhages were the principal symptom in women within one or two years of the menopause.

DR. W. O. HENRY, Omaha, Neb., in the discussion which followed the Symposium, thought that the electrical treatment of these tumors was overdone, and that to-day it was largely abandoned. As to myomectomy where there was no complications requiring the removal of the tubes and ovaries, where the growth did not involve the entire depth or thickness of the uterus, so that this organ might be left intact, it was the operation to be performed. He agreed with Dr. Porter as to the removal of fibroid tumors that complicated pregnancy. As to panhysterectomy for uterine fibroids, he objected to it, as a rule. He thought it was better to save as much of the cervix as possible, thus securing a better vault for the vagina and a better support for the uterus.

DR. VAN BUREN KNOTT, of Sioux City, Iowa, said that myomectomy as a conservative procedure in the treatment of neoplasms of the uterus needed no support. It was commonly accepted to-day as the method of election in cases in which it was applicable. He recalled a case of myomectomy performed on a woman three months advanced in pregnancy, who was subsequently delivered at full term of a healthy male child.

DR. B. B. DAVIS, Omaha, said, as to myoma complicating pregnancy, that the tumor should be removed, if possible, before the woman became pregnant, but frequently patients consulted physicians with that complication. He endorsed practically all Dr. Porter had said in regard to the subject. He condemned the induction of abortion before delivering or removing the tumor, and mentioned a case in which he was called in consultation, one of the physicians recommending that that would be the best method.

DR. C. H. MAYO, Rochester, Minn., mentioned the case of a woman, 30 years of age, on whom he operated last June for a tumor complicating her first pregnancy. The tumor proved to be a degenerating fibroid, with free fluid in the abdomen. The adhesions and tumor were much larger than the pregnant uterus. The tumor was removed; the woman made an uninterrupted recovery, and he expected later to be compelled to do a Porro operation, but in due time the woman was delivered of a healthy living child and recovered.

DR. A. C. BERNAYS, St. Louis, Mo., expressed himself in favor of myomectomy where it could be done. He recalled two cases of very large fibroids in which he found that myomectomy was an excellent method of enabling him easily to make a hysterectomy. He believed that in both of those cases he could not have made a hysterectomy without making a myomectomy of the very large tumor first.

DR. CHARLES H. WALLACE, St. Joseph, Mo., was interested in the paper of Dr. Campbell, and said that myomectomies were of recent origin. Myomectomy was comparatively easy of performance in properly selected cases. As to tumors complicating pregnancy, he would follow the advice of Dr. Porter.

DR. J. N. WARREN, Sioux City, Iowa, combated the idea that myomectomy was an easy operation to do, and without any particular danger attending it. He regarded it as a formidable operation, and always attended with considerable hemorrhage, excepting in the subserous variety, where there was a pedicle and the surgeon could incise the serosa around it and simply peel the tumor out; but in the majority of cases where he had a combination of the interstitial and subserous varieties, it might be necessary to go through the entire thickness of the uterine wall; then it was not a simple operation It was one that required not only great dexterity, but good judgment in determining exactly the limits of the myomatous mass which was to be removed.

DR. W. A. TICHENOR, Chicago, seconded the remarks of the last speaker as to the formidability of myomectomy. If there were one or two small tumors close to the peritoneal surface, it was not difficult to shell them out. On the other hand, if there were eight or nine tumors of fair size, and the surgeon undertook to remove them all from the surface of the uterus, he would get the uterus pretty well riddled with incisions for their removal, and it was not a safer operation, in his judgment, than a hysterectomy.

DR. JAMES E. MOORE, Minneapolis, endorsed the paper of Dr. Campbell. All would agree that what was conservatism a few years ago was no longer conservatism. There was one point he wished Dr. Campbell had emphasized, namely, the possibility of doing myomectomy through the vagina. Within three weeks he operated through Douglas' pouch for the removal of a tubal pregnancy before rupture, and incidentally removed two fibroids, one of which was situated in the anterior wall of the uterus, well down toward the bladder, yet it was not difficult to remove it.

DR. DONALD MACRAE, JR., Council Bluffs, Iowa, commended the paper of Dr. Campbell, and said it was the sinew of conservatism. These fibroid tumors should be operated upon and removed as soon as they are diagnosticated.

DR. LEWIS SCHOOLER, Des Moines, Iowa, said the trend of the discussion seemed to be in the direction of operating on uterine fibroids by some method or other. He thought there was hardly a practitioner in the room who did not know of some of these fibroids having existed for ten or fifteen years in women without producing any disturbance. He did not think it was well to operate for their removal as soon as they were discovered. There were some women who had passed the menopause, others who were near it, and still others who would probably not give birth to children, in whom these fibroids caused absolutely no trouble. Some of these cases could be let alone.

The discussion was then closed by the various essayists.

(To be continued.)

FIFTH DISTRICT BRANCH OF THE NEW YORK STATE MEDICAL ASSOCIATION.

Special Meeting, held at Newburg, Nov. 20, 1901.

President, Dr. Emil Mayer, in the Chair.

Appendicitis.

DR. JOHN B. DEAVER, Philadelphia, read a paper on this subject. He said that he had operated for this disease several hundred times a year, yet he felt that the only truly conservative course in the treatment of this affection was the resort to the aseptic scalpel of the surgeon as soon as the diagnosis of appendicitis had been made. The first step to a correct understanding of this affection was a study of the antemortem and not the postmortem pathology. If the profession generally had an opportunity to see a large number of cases of appendicitis on the operating table the lesson there learned would not be lost. The three cardinal symptoms are pain, tenderness and rigidity. There is usually a sudden onset of pain in a healthy individual. The typical tenderness of appendicitis was not that carelessly elicited, but that obtained by the pressure of a single finger, and it was confined to a very small area. Rigidity of the neighboring part of the rectum was usually present from the onset, though it could not be detected frequently at first because of the delicacy of palpation required. A light touch was essential and the palpation

should be begun at some distance from the affected region. The diseases most apt to be confounded with appendicitis are typhoid fever, extra-uterine pregnancy, cholecystitis and acute mechanical intestinal obstruction. Strangely enough typhoid fever was the most difficult to differentiate from a mild case of catarrhal appendicitis. Gurgling was not usually present in appendicitis and the presence of a leucocytosis would usually exclude typhoid fever. The history, the location of the point of greatest tenderness and the character and distribution of that tenderness together with a rectal examination, would usually enable the physician to differentiate between appendicitis and cholecystitis. Appendicitis is not infrequently accompanied by more or less jaundice. The practice of keeping a patient under observation to see if the case would become operative was to be severely condemned. He did not hesitate to say that it was unjustifiable to delay after the diagnosis of appendicitis had been made. Time and again had he seen valuable lives sacrificed on this altar of procrastination. The ideal time to operate in appendicitis was in the stage of appendiceal colic. The procrastination which allows a walled-off abscess to form was to be deprecated. In the healing of an appendiceal abscess the contraction attendant upon the process of healing often results in acute mechanical obstruction. So much did he fear this complication that he was accustomed to operate as soon as there were present paroxysmal abdominal pain, nausea, vomiting, slight tympany and an inability to pass flatus or to have a movement of the bowel as a result of the use of purgatives or high enemata. It was most important to evacuate all abscesses, using no chemical antiseptics for irrigation.

Dr. Parker Syms, New York City, said that some years ago a man was thought to be too radical who advised operation in all cases of appendicitis, but the prevalent opinion of the present day was in favor of such a course. In a case of fulminating appendicitis before perforation had taken place there were no symptoms except such as would be found in cases of very mild catarrhal appendicitis. An operation done before the occurrence of perforation was one of the simplest in surgery.

Dr. L. W. Hotchkiss, New York City, said that the position of a surgical practitioner who has no well-formulated views on the treatment of appendicitis is a most unfortunate one, and it is not surprising that such a person shrinks from seeing these cases in consultation. In the opinion of the speaker, there was no more danger from operating during an attack of appendicitis than in the interval, and he thought the position taken recently by many in favor of the interval operation had done a good deal of harm. He was personally in favor of an early and radical operation, and the employment of a simple technique, doing away as far as possible with the use of gauze.

Dr. Irving S. Haynes, New York City, said that it was not always possible to find the appendix when it is only moderately tender. The appendix often occupies a position across the psoas muscle, and hence if the patient were instructed to raise the knee, thus making this muscle tense and bringing it up nearer the surface, it would be found easier to elicit this tenderness.

Dr. E. D. Ferguson, Troy, said that he was one of those who regard appendicitis as a surgical disease, yet he could not altogether agree with the statements made in the paper. It should not be forgotten that the operation done in the height of the attack furnishes a mortality of from 15 to 17 per cent., according to statistics recently published by Dr. Deaver himself. What was the natural mortality of all cases of appendicitis when not operated on? He had long pondered upon this question, and had in the past few years evolved a rule for his own guidance. He was willing to admit that the interval operation had been overworked, yet according to Dr. Deaver's statistics the mortality of the interval operation is less than one per cent. He knew of no more reliable and extensive statistics than those from which he had just quoted, and hence these figures brought us face to face with an important practical question. According to his own experience, purulent accumulations occur in 10 per cent. of cases of appendicitis, and the explosive forms in less than 2 per cent. If one operated within 24 hours it was probable that there would not be much septic material outside of the appendix, and one could do an aseptic operation with excellent chances of success. We should be just as thorough as Dr. Deaver in removing pus pockets, but it was an entirely different matter to remove an appendix. It was often most difficult to find the appendix even on the postmortem table, and hence to go on and separate adhesions in the living subject seemed to him highly improper. The appendix should be removed if it could be done without danger of exposing the uncontaminated portion of the peritoneal cavity.

Dr. Deaver replied that the mortality of 15 per cent., quoted by the last speaker, had been correctly given, but this rate had been produced very largely by operating on many cases coming first to him with large abscesses. One could not rightly compare cases in which the diagnosis had been made positive at operation with those in which it was only conjecture, there having been no confirmation of the diagnosis by actual inspection. He was most careful not to disseminate sepsis, and for that reason he opened into the healthy peritoneum beyond the abscess, and by the proper disposition of gauze was able in most cases to secure good results. The whole matter resolved itself into a question of technique.

Etiology and Treatment of Bright's Disease.

Dr. Charles E. Quimby, New York City, read this paper. He divided the cases of Bright's disease into two great classes, those of pure inflammation and those of cellular degeneration. The chief etiologic factors were: 1, defective vascular supply; 2, toxic depression of cellular metabolism, and 3, functional strain. He thought there was more renal disease due to obstipation and impaction of feces than to any other one cause. The first sign or symptom of Bright's disease would be found in the vascular system. Successful treatment was possible only in the early stages. The perverted function of the nutrient organs must be restored, the toxins neutralized and the kidneys let alone. One should refrain from increasing the toxic strain by giving digitalis. When pneumatic differentiation could be had other methods of stimulating the heart would not be required. The main purpose of the paper was to show that chronic Bright's disease is the result of very common conditions, and that success in its treatment depends upon skill in detecting the signs of approaching trouble and functional failure and averting the same.

Dr. John Winters Brannan, New York City, said that the chief points in the treatment of Bright's disease were the restriction of proteid food, the prohibition of strong alcoholic liquors, the encouragement of a free use of the alkaline waters and the promotion of the action of the skin and bowel. The patient should be warmly clad and chilling of the body surface should be avoided. Occasionally drugs were of service. Nitroglycerin was sometimes of great value. Laxatives must be given to secure a free action of the bowels. In the main, the treatment of Bright's disease was hygienic and dietetic rather than medicinal. Scarlet fever was the most important cause of renal disease. Two cases were narrated, one the result of scarlet fever, and the other dependent upon chilling of the surface of the body.

Dr. F. P. Hammond, New York City, spoke of the difference in red and white meats in their relation to the production of toxemia. It had been stated that persons may take white meat because of the shortness of the fiber without such disturbance of digestion that would result from the ingestion of red meat, a point worth remembering in connection with the management of cases of Bright's disease, where so much depends upon the avoidance of toxemia.

Dr. Quimby, in closing, referred to the question of dietetics. His rule was to exclude meats of every kind, and he was sure that the results were far more satisfactory than where half-way measures were used. He would also exclude eggs. Sometimes a diet of hot water and meat would succeed when an exclusively vegetable diet would not answer well. A mixed diet seemed to be particularly harmful.

DR. E. ELIOT HARRIS, New York City, introduced the following resolution, which was adopted:

Resolved, That the Committee on Public Health of this District be requested to investigate the matter of the water supply and the ice supply of the cities and towns of this district, and report back a plan for the better protection of the public health from the contamination of drinking water.

DR. FREDERIC W. LOUGHRAN, New York City, chairman of the Committee on Public Health of the Fifth District, called attention to the unusual prevalence of smallpox at this time throughout the state, and the need for legislation to secure systematic vaccination. He said that statistics show that smallpox has gained a foothold only in those countries having no compulsory vaccination law. The members were urged to make personal effort to secure the needful legislation.

CINCINNATI ACADEMY OF MEDICINE.

Regular Meeting, held Nov. 25, 1901.

The President, Dr. N. P. Dandridge, in the Chair.

Mycosis of the Fauces.

DR. J. A. THOMPSON reported the case of Miss B., aged 18 years, working in a tobacco factory. In December, 1900, her throat felt uncomfortable and she examined it herself with the aid of a hand mirror. Seeing a number of white spots on the tonsil she became alarmed and consulted a physician. She was under the care of this practitioner for several months. During this there were attacks of inflammation, when the throat would be moderately painful. There were other intervals when there would be no subjective symptoms. At no time was there any fever or any other constitutional symptoms that might be traced to the local disease in the throat. The white spots were always present on examination. Examination showed a grayish-white mass protruding from every crypt on the left tonsil. Some of these grayish-white papillæ were black at the summit. There was no congestion of the membrane. The lower portion of the right tonsil was unaffected. At the upper portion between the pillars of the fauces, where they were protected from mechanical irritation, were three large outgrowths. The patient had never complained of any discomfort about the tongue, but examination with the laryngoscope showed three affected nodules in the lingual tonsil. The above symptoms are sufficient to make a diagnosis of that rare condition—mycosis of the fauces. This disease is due to a growth of some kind of mold. Molds are frequently present in the mouth, but only in rare instances do they find conditions favorable for their growth. The changes which make it possible for them to develop in the fauces are not known. In the few reported cases an attack of acute inflammation like follicular tonsillitis or diphtheria seems to have preceded the growth of the leptothrix. The growth may be either superficial or deep-seated. It may grow either on the epithelium or penetrate and destroy it. It generally grows in the crypts of the tonsils and protrudes from their mouths. From the tonsil the growth usually extends to the lymphatic tissue at the base of the tongue, the lingual tonsil, and may involve other parts of the faucial mucosa. There is little or no inflammation of the affected mucous membrane. The subjective symptoms are stiffness and soreness of the affected parts. The masses in the crypts of the tonsils can be differentiated from the cheesy contents frequently found there by the difference in color and by the fact that the cheesy mass can be easily pressed out while the mold can not be separated without rupture of blood vessels and some hemorrhage. The only disease which it resembles in appearance is acute follicular tonsillitis. The inflammatory and constitutional symptoms of the latter disease together with the history should make the differentiation easy. Mycosis of the fauces is not dangerous to life, but there is no tendency to spontaneous recovery. Without treatment the disease usually persists as long as the patient lives. Local applications of medicines to the affected areas seem to have no influence on the growth of the mold. The only successful treatment has been the destruction of the membrane from which it grew, either by the galvano-cautery or by direct excision. In the present case the treatment adopted was excision of the infected areas in the tonsil with the Myles tonsil punch. Examination of the removed portions showed that the growth had extended deeply into the tissues of the tonsil. The galvano-cautery was used on the infected areas in the tongue. While the process of cure was tedious, the final recovery was complete.

Apoplexy in the Visual Center Without Any Other Symptom of Motor or Sensory Paralysis.

DR LOUIS STRICKER reported the case of a laborer, 60 years of age. He related that during the previous two weeks he had been employed in the preparation of mushroom beds in a closed cellar. In doing this he had hauled and spread over the floors some twelve loads of manure, and at night, on coming out of this cellar, he always felt more or less dizzy, his eyes were suffused with tears, but that gradually this latter condition gave way to excessive dryness. On the afternoon of September 27, he states, on coming up out of the cellar he seemed even more dizzy than usual, and his gait was so unsteady that a policeman meeting him inquired if he were drunk. The officer assisted him home where he immediately collapsed into a chair, and during the course of the evening gradually sank into what appeared a deep sleep. The people with whom he was making his home tried to get him upstairs, but only succeeded in getting him as far as the back staircase where he finally woke at about 4 a. m. He groped his way as best he could to his room and after a day's intermission, resumed his work; but from this day forward he found that his vision was very much blurred and that he could not read. He gives a family history of being a widower, 60 years of age, having raised a family of seven children; that he drinks moderately, does not smoke, denies all venereal disease, and states that he has never had any serious illness. Examination of his heart shows this to be normal, but evidences of atheroma are evident and his pulse is not compressible. This case presents two important and essentially different conditions. First, that relating to the conjunctivæ, and second, that connected with his sight. On inspection, lower lids were relaxed, and the conjunctivæ dry and glistening. He stated that this condition had only made itself evident since he had been occupied in the cellar spreading this manure. This fact is interesting in that it shows a form of conjunctivitis particularly apt to occur in stablemen. The gases which arise from the manure are ammoniacal in nature, owing to the urea present in the horse urine. This ammonia gas leads to conjunctivitis, excoriations and blepharitis, so frequently observed in stablemen. The ammonia gas inhaled in a closed cellar may have been sufficient to have stimulated the heart's action to a degree capable of producing a cerebral hemorrhage, in a case such as the present, where there are atheromatous changes in the vessels, and thus lead to a small localized hemorrhage. The second condition was a localized hemorrhage. The man stated that everything viewed appeared to be partially enveloped in a cloud, that at a distance he could read fairly well, but that it was impossible for him to read a paper, since the upper half of all the letters were practically gone. If he looked at an object in the ordinary way, he could not see it, but if he turned his head toward his left and then looked at objects, they appeared perfectly clear. In looking at an object he stated that three-fourths of it was clear, whereas the upper right quadrant was wanting. The same condition was disclosed where each eye was examined separately for this symptom. Hence attention was immediately attracted toward some form of hemianopsia. His fields were taken, as per charts, disclosing a sector-like defect in the right left eye from 15 degrees to the nasal side to 105 degrees to the temporal; in the right eye, from 15 degrees to the temporal side to 105 degrees to the nasal. Both fields were slightly contracted, and in the area of the defect there was still an area of about five degrees extending around the point of fixation. His color sense was perfect in the retained portions of his fields. Since then his fields have been regularly taken each week, and though the general size of the defective area has remained practically the same, still there has been this im-

portant improvement, in that the area around the center of fixation has gradually been increased in the left eye up to ten degrees, whereas, on the right, it is still about five degrees, the point of practical importance being that with the return of central vision he is again enabled to read and is no longer so conscious of this defect in his visual field. The defect being projected forward and to the left, would naturally suggest the lesion in the brain to be located in the right hemisphere. A careful examination disclosed that the consensual reaction of his pupils is perfect; that he has no paralysis of the sphincters of the pupil, or of accommodation, nor has he any paralysis of other ocular muscles. He showed no form of other sensory or motor paralysis nor did he disclose any other form of psychic involvement. The interesting question naturally was to try if possible to form some idea as to the location of the lesion. From its gradual onset it appeared to be a thrombus, or a small localized hemorrhage.

DR. R. B. TATE reported a "Case of Smallpox Simulating a Threatened Abortion."

DR. M. L. HEIDINGSFELD presented a patient with lupus erythematosus of the face in a girl of 10, treated with resorcin held in a solution of gelanthum, which remedy is capable of holding resorcin in 50 per cent. solution. The girl had only been under this treatment for a few weeks but in that time had shown a remarkable improvement.

Papilloma of the Bladder.

DR. JOSEPH RANSOHOFF presented a specimen of papilloma of the bladder removed two weeks ago from a man aged 40; for a year he had had frequently recurring hemorrhages from the bladder until he had become almost exsanguinated. He complained of great pain on urination; on account of blood clots in the bladder the cystoscope could not be used, but with sound in the bladder and finger in the rectum the tumor could readily be felt. Spinal anesthesia was used and a suprapubic cystotomy made; the tumor was found attached to the mouth of the left ureter from which it was removed by means of the thermo-cautery. The wound was not entirely closed as he feared vesical sepsis.

DR. H. H. HOPPE presented a case of recurrent epileptic seizures. A tumor was found at the superior portion of the left temporo-sphenoidal lobe, and should have produced sensory aphasia but did not. The tumor was the size of a hen egg and pressed against cortex. There had been no headache.

SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Regular Monthly Meeting, held Dec. 10, 1901.

Dr. John C. Spencer in the Chair.

Gastrectomy.

DR. E. G. FRISBIE presented a case: A. G. B., male, aged 42 years; occupation, glass-blower. Previous history was good. Present trouble began in June, 1901, when he began to suffer pain after eating and "bloated feeling." Weight was 112. He presented himself October 14, weighing 105. Examination of abdomen revealed nodule about two inches long in left hypochondrium, rolled under finger and retreated under rib. October 15, examination of stomach contents after test meal gave the following result: No free hydrochloric acid present, lactic and butyric acids present. Diagnosis was malignant tumor of the stomach. October 24, operation was made by Dr. E. E. Kelly and Dr. C. A. Dozier assisting; incision was to left of median line over the tumor, which was found to occupy the lesser curvature of the stomach, extending from near the pylorus half way to the esophageal opening. Tumor was excised with a margin of one and a half inches of sound tissue at either side, more than half of the viscus on the lesser curvature and about half of the greater curvature being removed. Opening closed with three rows of sutures and the duodenum attached by a Murphy button to the lower angle of the stomach. Patient suffered almost no pain after the first six hours, vomited a little bloody fluid for two days, after which remained perfectly comfortable. Nutritive enemata were given till sixth day after operation, then liquid food by stomach alone; some feeding by stomach began the fourth day. Murphy button passed on the fourteenth day, some soft food having been allowed three days before. Patient sat up on fifteenth day and went home on the twenty-first. One month after operation patient was able to eat salmon, bread, potatoes, rice, apple-sauce and milk to the amount of 27 ounces at one meal, digested perfectly and with no discomfort. Patient has gained 12 pounds in weight in six weeks since operation and is now engaged in his occupation of glass-blower, wearing an abdominal belt of pure rubber which seems to give better support than the ordinary webbing. Examination of the tumor revealed an adeno-carcinoma with much colloid degeneration.

The Uniform Principle in Performing Operations for Lacerated Perineum, Cystocele, Rectocele and Prolapse.

DR. HENRY J. KREUTZMANN read this paper. The object of plastic operative interference is to restore the parts to their normal condition, by bringing those layers of tissue into apposition again that were in apposition before their separation. In the so-called "classical" operations we find that they consist in the denudation of the vaginal tissue over the injured part and union of the wound surface through suture. In his opinion every one of these operations thus performed was lacking in the certainty of bringing the proper tissues into apposition in every case. The rational operation that will bring success consists in separation by careful dissection and direct, exact union of those layers of tissue which belong to each other. The practical application of this principle in the operations under discussion could be divided into four different acts: 1. Dividing the vagina, cutting down into the septum between vagina and bladder or between vagina and rectum. 2. The detachment of the prolapsed diverticle of the bladder from the vagina, if necessary from the uterus, or separation of the rectum from the vagina. 3. The careful apposition of the fascial tissue and of the muscles that belong to each other, by direct, exact, buried suture. 4. To finish the operation, the vaginal flaps may be resected and united or they may be united without any resection, as the individual operator sees fit in every single case. The way in which division of vagina and septum was made was immaterial. He made a short incision in the case of cystocele over its lower part, longitudinal or T-shaped, and divided from there bluntly to the sides and upward, separating the vagina from the bladder; then the median incision was carried forward as far as the case demanded, forming thus two flaps. In operations upon the posterior vaginal wall he made a crescentic incision from carunele to carunele on the margin between the vaginal mucous membrane and the outside skin, and separated bluntly the vagina from the rectum. The division in every case was carried as far as it was necessary for the exposure of the septum-fascia and muscles. To unite the septum-fascia it was necessary to carefully preserve it on the anterior as well as on the posterior vaginal wall. Union was made by directly suturing this torn and stretched fascia and the muscles. It depended on how much was taken up in the grasp of the needle whether one or two tiers of sutures were made, but that which was important was that the separated tissues were brought into exact apposition under control of the eye and finger. The union was made in front of the bladder or in front of the rectum, these organs being pushed back so that the needle would not enter into their structure. No matter what the operation was, whether for a slight laceration, for cystocele or for complete prolapse, the principal of procedure was always exactly the same. The different operations differed only in the extent to which the separation of the layers was carried and in the extent to which auxiliary operations were called into requisition. In cases of prolapse the only proper permanent radical procedure was operation. When the patient had entered the hospital for the purpose of a plastic operation, why not at the same time, without additional risk, perform some operation that would insure permanently the uterus in good position? He either performed the Alexander operation or made a vaginal fixation. Real vaginal fixation should be done only in women who were beyond the possibility of conception. In cases of complete pro-

lapse he sutured the uterus into the vagina after the bladder had been pushed up sufficiently, sewing the vaginal flaps directly on the uterus, using the uterus as a pelotte, thus preventing the descent of the bladder. The uterus in such cases must be fixed in the paracopal tissue; to insure its staying there it is fastened to the fascial tissue running down from the pubis. In women who might become pregnant the fixation of the vaginal flaps upon the lower part of the uterus, without opening the vesico-uterine pouch was in order.

Some Forms of Conjunctivitis Considered Etiologically.

DR. C. S. G. NAGEL read this paper. So-called "simple conjunctivitis" as an affection *sui generis*, has been known for many years before the days of bacteriology as an infectious disease, but its bacteriologic origin was established by the discovery of the Koch-Weeks' bacillus. Clinically, there was a severe catarrh with purulent secretion, which was sometimes difficult to diagnose from the ordinary non-contagious form. This form of conjunctivitis had been studied by accurate observers in widely separated localities. Another etiologically well-defined form of simple conjunctivitis was that caused by the diplo-bacillus of Morax-Axenfeld. This was a markedly infectious form, sub-acute or chronic, probably very frequent and widespread, under the form of a not very severe blepharo-conjunctivitis, affecting the angles, hence its old name of ophthalmia angularis. A third type of primary simple conjunctivitis etiologically well-defined was that caused by the diplococcus lanceolatus. This type presented itself as an eminently acute catarrh with abundant water secretion, containing here and there some formed particles and tending to heal spontaneously after a few days. Children were far more liable to the disease than adults, though with the latter the affection might be protracted or even become chronic. As severe corneal complications were very rare the prognostic importance of an early differential diagnosis as against blennorrhea was obvious. The pneumococcus being to a large degree a normal occupant of the mouth and upper air passages of man, the thought was suggested whether under certain conditions it might not become virulent and the simultaneous appearance of conjunctivitis with catarrhal condition of the air passages gave support to this view. The so-called blennorrheic conjunctivitis was by no means caused solely by the gonococcus. Perfectly typical cases had been seen in which no gonococci could be found, but by far the larger percentage of the severer form of blennorrhea was due to the gonococcus. Again, another form was the pseudo-membranous conjunctivitis. Clinically, the difference between mild and severe cases was very marked. Etiologically, the latter were due almost exclusively to Loeffler's bacillus, which was also sometimes found in the milder cases, doing away with the etiological difference between croupous and diphtheritic conjunctivitis. Since the acute catarrhal forms of conjunctivitis resembled each other so much in the beginning, a bacteriologic examination was absolutely necessary in order to arrive at an exact diagnosis.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, held Dec. 16, 1901.

The President, Dr. Parker Syms, in the Chair.

Decidua Maligna.

DR. FREDERICK HOLME WIGGIN presented this specimen. The patient, after missing three menstrual periods, had a severe hemorrhage, and had passed pieces resembling those discharged in cases of uterine mole. The uterus was found to be as large as an orange. She was curetted, but this gave rise to such an alarming hemorrhage that her life was endangered, and it was accordingly decided to perform hysterectomy to save her life. After the removal of the organ the diagnosis of decidua maligna had been made. No metastases in the lungs could be detected.

DR. F. M. JEFFRIES exhibited under the microscope slides taken from this specimen, and stated that while he was unable in this instance to make a positive diagnosis he felt reasonably sure that the specimen represented an early stage of decidua maligna, and in this view he was supported by Dr. O. H. Schultze.

Present Status of the Use of Tuberculin and of Products Obtained Directly or Indirectly from Tubercle Bacillus in Pulmonary Tuberculosis.

DR. E. A. DE SCHWEINITZ, chief of the Biochemic Laboratory at Washington, D. C., said that the standard tuberculin was sterilized glycerin solution of a culture of the tubercle bacilli containing the germs and their products. Experiments had been carried out on animals which were closely akin to man, i. e., on monkeys and baboons. A ring-tailed monkey and a baboon had been inoculated with a culture of human tubercle bacilli, and had been kept in separate cages. The monkey died in six weeks and the baboon in eight weeks, and all of the organs were found to be the seat of tubercular infiltrations. The opinion seemed to prevail at the present time that tuberculin should be used very carefully for diagnostic purposes.

Early Diagnosis of Pulmonary Tuberculosis with Exhibition of X-Ray Pictures of Diseased Lungs.

DR. J. EDWARD STUBBERT, Liberty, N. Y., was the author of this paper. He said that by early diagnosis he meant one made during what might be called the pre-bacillary stage. Out of a number of cases of incipient pulmonary tuberculosis at Liberty, 15 per cent. had been apparently cured and 63 per cent. sufficiently improved to return to their homes and become useful citizens. A slight hacking cough, with or without expectoration, slight rise of temperature, and disturbance of digestion were important early symptoms. Small pulmonary hemorrhages sometimes gave rise to no appreciable physical signs until some weeks afterward. Flattening of the clavicles, diminished expansion on the affected side, seen best posteriorly, and restriction of the movements of the diaphragm on the affected side were important physical signs in the early stage. In most instances high-pitched and prolonged expiration was present. Râles at this stage were rarely present, and the absence of tubercle bacilli from the sputum did not exclude tuberculosis. According to his experience syphilitics reacted to tuberculin. There was nothing distinctive about the anemia, which was an effect and not the cause of the disease. He had found the *x*-rays of value in the early diagnosis of pulmonary tuberculosis. It was best to apply the fluoroscope to the bare chest, and beginning at the apex move it downward towards the base of the lungs. In about 30 per cent. of normal chests the right apex appeared less clear than the left. If the pleura were affected it would often give rise to a slight haze. If the patient were instructed to take a long breath it would be noted that the normal side became clearer while the diseased side remained unchanged. A practiced eye could detect with the *x*-rays incipient foci. The restricted motion of the diaphragm on the affected side was almost pathognomonic.

Demonstration on Cadaver of the Surgical Anatomy of the Lung.

DR. IRVING S. HAYNES exhibited a case of long-standing empyema and directed attention to what he called the costo-phrenic sinus, i. e., the space between the lower border of the lung and the lower angle of the reflected pleura. This space did not exist in health. Although the text-books on physical diagnosis stated that the pleura rose much higher than the clavicle, as a matter of fact the "pleural cone" did not extend more than one-half to three-quarters of an inch above the first rib. As this part of the lung was not able to expand it followed that it was very poorly aerated.

Surgical Procedures for Pulmonary Tuberculosis.

DR. WILLIAM G. LE BOUTILLIER presented this paper. He said that the obstacles to be surmounted in the surgery of the lungs were both operative and diagnostic. Nitrogen gas had been introduced into the pleural cavity for the purpose of holding the diseased lung at rest, and while the method was practically free from danger it was still on trial. When there were cavities nitrogen gas was useless unless there were numerous adhesions. Suppuration in the thorax should be an indication for prompt operation.

Treatment of Pulmonary Tuberculosis.

DR. CHARLES E. QUIMBY dwelt in this paper upon the great importance of promoting the general nutrition and improving the pulmonary circulation. He was strongly in favor of giving these patients alcohol, believing that the resulting stimulation was of the greatest importance. Aromatic bitters, mercury and arsenic were all useful medicinal agents. Hydrotherapy or vigorous dry rubbing of the skin would be found exceedingly useful, and inhalations, if properly employed, were almost always beneficial. Antiseptics seemed to have the power of diminishing the exudate.

DR. WILLIAM G. SCHAUFFLER, of Lakewood, N. J., spoke of some of the every-day problems confronting the physician who had to deal with tuberculous individuals of slender means.

DR. H. P. LOOMIS was not so enthusiastic as Dr. Stubbert over the diagnostic aid rendered by the *x*-rays, for the shadows revealed by this means were so numerous as to be very perplexing. At one time, the speaker said, he had injected tuberculin into 15 cases of advanced pulmonary tuberculosis, and they had failed to give any reaction. An early physical sign of pulmonary tuberculosis was the presence of localized râles heard under the scapula when the arm was drawn forward. Heredity was not a potent factor here; the all-important one was the personal element.

DR. S. A. KNOPF spoke of the advantages of what he called the sanatorium treatment at home.

CHICAGO NEUROLOGICAL SOCIETY.

Regular Meeting, held Oct. 24, 1901.

DR. HUGH T. PATRICK in the Chair.

DR. H. GRADLE presented a patient with bitemporal hemianopsia and discussed the probable site and nature of the lesion causing the symptom.

Myasthenia Gravis.

HUGH T. PATRICK presented a patient who was believed to have myasthenia gravis. He was a negro (not pure) 25 years of age, a cooper, and had been practically well until five years ago when the present trouble began. He first noticed weakness of the arms when at work, which soon involved the legs and was accompanied by a dull ache or feeling of intense fatigue. He early noticed that a short rest would relieve the symptoms, which would then reappear after a few minutes of work. He gradually grew worse and had been able to do no work for three years. The most striking symptom was a generalized myasthenic condition present, to some extent at all times, but enormously increased by a short period of activity. For instance, after a rest he could start off at a brisk rate and with almost a normal gait, but would rapidly weaken, and after walking about a block be compelled to come to a standstill. After a short rest he could again proceed as before. There was no particular involvement of limited groups of muscles as has been the rule in reported cases. The muscles about the shoulders and neck and the pelvo-femoral group seemed to be weaker than others, but the eye muscles, face muscles and muscles of mastication, although not vigorous, were not weaker than those of the extremities. The myasthenic electric reaction was present to a very limited degree and the deep reflexes also showed some slight exhaustion after being rapidly elicited twenty or thirty times. As the blood, urine, feces and all the thoracic and abdominal organs were normal and there were no conclusive evidences of organic involvement of the nervous system, the author was driven to a diagnosis of myasthenia gravis.

DR. C. W. LODOR inquired of the mental condition of the patient, as to whether speech was slow and intellect sluggish. Dr. Sippy asked whether there were not present some symptoms of Addison's disease and whether the tension of the pulse had been noted. Dr. Goodkine called attention to the fact that no mention was made of the condition of the patient's voice.

DR. PATRICK, in reply, stated that while the man's voice was not strong and speech was slow, the intellect seemed normal, there was no bronzing of the skin discoverable and the pulse was soft and normal.

Lessons of Conus Medullaris and Cauda Equina.

DR. BERTRAM W. SIPPY, in his thesis upon lesions of the conus medullaris and cauda equina, said that the symptoms produced by their disease are well defined; but they may be readily overlooked unless one is familiar with the clinical picture produced. It is desirable both clinically and anatomically to limit the conus medullaris to the third, fourth and fifth sacral and coccygeal segments. Disease of those segments of the cord shows characteristic sensory and motor disturbances. Sensation is impaired in an area symmetrically distributed which involves the integument of the penis, scrotum, perineum, anus, inner aspect of the buttocks, and posterior surface of the thighs. The sensibility of the mucous membrane of the penis and rectum may also be dulled. If the lesion is sufficiently destructive, the muscular power of the bladder and the rectum may be seriously impaired, sexual power lost, and bed-sores may develop.

Lesions of certain fibers of the cauda equina may produce a clinical picture very similar to that of conus disease. It is extremely important to be able to recognize and differentiate the two conditions since caudal disease may often be amenable to surgical treatment. The essayist reported nine cases in which disease of one or the other of these structures was involved. The etiologic factors included focal myelitis, tumor of the conus, spinal column injury, tumor of the vertebræ, and tubercular spondylitis. The symptoms of a conus lesion were observed in one case of tabes. Autopsy was held on the case in which tumor of the conus existed. The areas of anesthesia in those cases in which the adjacent cord was involved showed a striking similarity, and did not correspond accurately to the areas previously mapped out by others who have contributed to the subject of spinal localization. The general resemblance, however, was very close.

A few of the more important points given in differential diagnosis between diseases of the cauda equina and conus medullaris are here appended. Except when due to trauma, disease of the cauda usually develops slowly, producing symptoms more or less characteristic of "root disease." Pain upon movement is first felt in the lower extremities. Later the pain becomes spontaneous and persistent with exacerbations. Subsequently, anesthesia develops. If the lesion is uniform, the cutaneous distribution of its central fibers are the first areas affected. Bladder and rectum symptoms may appear early and are usually present before anesthesia becomes pronounced. Motor weakness is present in proportion to the pressure on the motor fibers and, as a rule, does not appear until pain has become a prominent feature. The paralysis is characterized by loss of muscular tone. At onset, reflexes may be exaggerated; later, they are lost. Atrophies may develop. The electrical reactions may be altered. Decubitus has been noted.

Disease of the conus is characterized by the sensory and motor symptoms previously described. In addition, the symptoms are likely to develop rapidly. Sensation may not be disturbed alike for all qualities. The pain and temperature sense is likely to be more seriously affected than touch sense. Pain is absent. Decubitus is more likely to occur than in caudal disease. Above all, that which characterizes disease of the cauda, is pain. In a given case the absence of pain speaks directly for the conus lesion.

DR. SYDNEY KUH said that in all acute cases of segmental cord lesions low down, the diagnosis was made from symptoms as given at the outset and was very usually wrong, as the symptoms at first indicated a larger lesion than subsequently appeared. In making a differential diagnosis between conus and caudal lesions it is important to remember two symptoms, pain and disturbances of motility. In conus lesions there is less pain and more disturbance of motility, while in lesions of the cauda equina the reverse is true.

DR. BARKER asked Dr. Sippy whether in his various cases the overlapping of the terminal cutaneous nerves could be demonstrated. Dr. Sippy replied that while each area of skin

contained fibers from the separate segments of the cord, the overlapping was in the roots and not in the segments. He also stated that disturbances of pain and temperature were more sharply outlined than touch.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

PRESCRIPTION WRITING, VII.

(Continued from Vol. xxxvii, p. 1697.)

Frequency of Administration.

The rapidity with which a drug acts should govern, ordinarily, its frequency of administration. This rapidity of action is dependent to a great extent on the physical condition of the patient when the medicine is given. Medicines, however, as patients, may possess characteristics peculiar to themselves. These characteristics include their promptness in action and the length of time over which their physiologic action extends. In order to illustrate more fully, sulphonal may be referred to as an example. It is a preparation employed as a hypnotic. It varies, however, from the ordinary class of hypnotics in that it is extremely slow in producing sleep; consequently in order to obtain the best results it must be given three or four hours previous to the usual time for sleep. Owing to its tardiness in action, the dose should not be repeated in less than five or six hours. In this respect it differs from the bromid as a hypnotic, a second dose of which may be given in two or three hours if the first has not produced the desired results, the bromids being more prompt in their action than sulphonal.

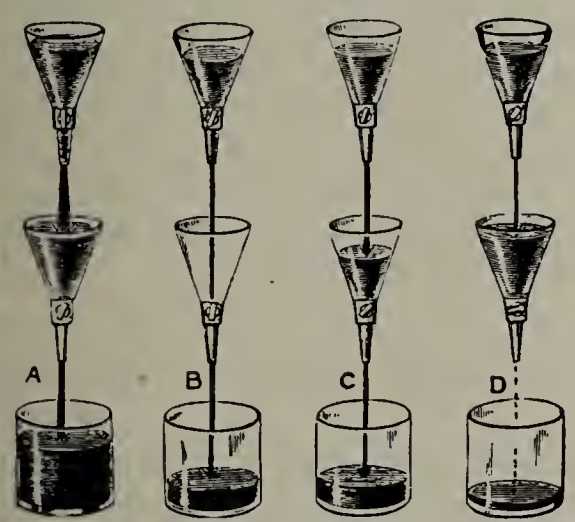


Diagram to illustrate the differences produced in the amount of a drug present in the organism by alterations in the rate of absorption and excretion. The lower funnel represents the organism. A represents the condition when a drug is rapidly introduced, as by injection into a vein. In this case the drug, *e. g.*, curara, comes to be present in large quantities in the organism, and produces its full physiological effect. This is represented by the fulness of the lower funnel. And it does this notwithstanding the rapidity of excretion, which causes the drug to be quickly eliminated and to appear copiously in the urine, as represented by the fulness of the beaker into which the fluid flows from the lower funnel. B represents the condition when a drug is slowly absorbed and rapidly excreted, as when curara is given by the stomach. In this case the quantity present in the blood at any one time is very minute, as represented by the empty condition of the lower funnel. C represents the condition when absorption is rather quicker than excretion, as when a dose of morphin is given by the stomach. D represents the conditions where absorption is moderate, but excretion is interfered with, leading to accumulation in the blood, as where an active drug is given by the mouth, and the kidneys are much degenerated.

Strophanthus may also be mentioned in this connection. This preparation is very prompt in action; yet its effects as a heart stimulant extend over several hours; the frequency of its administration should be regulated accordingly.

Dr. D. R. Brower, who was among the first to employ this preparation in governing the heart's action in cases of exophthalmic goiter, states that that organ may be constantly influenced by the medicine if the strophanthus is repeated only once every eight hours.

The frequency of administration depends also upon the FUGITIVE AND CUMULATIVE ACTION OF DRUGS.

Brunton illustrates simply and concisely how the amount of any drug circulating in the body at a given time depends on the ratio of its absorption to its elimination. He takes two funnels, each provided with a stopcock and places them one above the other. The upper funnel represents the stomach, and its stopcock the vessels through which absorption takes place; the lower funnel represents the body generally, and its stopcock the channels of elimination, the chief channel being the kidneys. If the stopcock of the upper funnel is closed no fluid will be received by the lower funnel, however full the first one may be. If the stopcock of the upper funnel is slightly opened and the lower one closed, the second funnel gradually becomes full, In other words, if elimination is prevented the drug gradually accumulates in the system, even though absorption from the stomach takes place slowly, until a large quantity is taken into the body. He carries the illustration a little further and states that by opening both stopcocks, elimination will be carried on at the same rate as absorption and thus accumulation does not take place. (See illustration.)

There are certain drugs which open both stopcocks rather widely and consequently are quickly taken into the system and as quickly eliminated. Amyl nitrite is a splendid example of this class; it is quickly taken up and within twenty minutes its power is spent. Nitroglycerin acts similarly but somewhat longer, an hour or one and a half hours passing before its influence upon the circulation ceases. All the ammonium salts, the bromid excepted, are likewise quick in their action. Croton oil comes in this class. From their rapidity in action, the foregoing preparations are classed as fugitive drugs.

There are other drugs which open the upper stopcock but have no such tendency to open the lower one. In this class may be mentioned digitalis, strychnia, arsenic, the iodids and belladonna. The cumulative tendency of these preparations is well known. Each drug mentioned in this last class produces certain toxic symptoms peculiar to itself as an indication that the full physiologic limit is reached and that absorption has taken place more rapidly than elimination. Consequently, drugs in this class, being cumulative in action, when prescribed continuously for any length of time, must either be given less frequently or in smaller doses if the toxic symptoms are to be avoided.

(To be continued.)

Treatment of Acute Bronchial Catarrh.

Yeo recommends the following:

℞.	Vini antimonialis	ʒii	8
	Spts. etheris nitrosi	ʒiv	16
	Liquoris ammon. acetatis	℥ii	64
	Tinct. camph. compos.	ʒii	8
	Aquæ q. s. ad	℥viii	256

M. fiat mistura. Sig.: Two tablespoonfuls every three or four hours.

The following containing spirits of chloroform is sometimes employed by him to allay the cough:

℞.	Ammon. carb.	gr. xxxii	2	12
	Tinct. scillæ	m. lxxx	5	
	Spiritus chloroformi	ʒii	8	
	Infusi senegæ q. s. ad	℥viii	256	

M. Sig.: Two tablespoonfuls every four or five hours.

Treatment of Atonic Amenorrhea.

The following is recommended by "Encyclopedia of Medicine" in treatment of atonic amenorrhea:

℞.	Tinct. ferri chloridi	ʒiii	12
	Tinct. cantharidis	ʒi	4
	Tinct. guaiaci ammon.	℥iss	48
	Tinct. aloes	℥ss	16
	Syr. simplicis q. s. ad	℥vi	192

M. Sig: One tablespoonful in water three times a day; or:

℞.	Ext. aloes	ʒi	4
	Ferri sulph. exsic.	ʒii	8
	Asafetidæ	ʒiv	16

M. ft. pil. c. One pill after each meal, increased to three.

In some cases the following may be employed:

℞.	Ferri sulph.	gr. xlviii	3|30
	Pulv. aloes	gr. xii	|75
	Oleoresinæ terebinthinæ	gr. xxvii	1|75
	Olei terebinthinæ	m. x	|66

M. ft. pil. No. xxx. Sig.: Two pills after meals three times a day.

Treatment of Gout.

Colchicum is regarded as one of the best preparations in this condition. It is said to be much more effective when combined with purgatives or when the bowels have been previously purged. The following combination is frequently used:

℞.	Vini colchici	℥ss	16|
	Mag. carb.	ʒi	4|
	Mag. sulph	℥ss	16|
	Aq. menth. pip. q. s. ad	℥vi	192|

M. Sig.: A teaspoonful every four hours while the pain is severe.

Medicolegal.

College Infirmary Not Exempt from Taxation.—The Court of Appeals of Kentucky holds, in the case of the Gray Street Infirmary vs. the City of Louisville, that an infirmary established as an adjunct to a medical college for the purpose of making the latter more attractive to students, and to induce attendance by reason of the instruction and clinical experience received in the infirmary, and in this way to increase the profits of the professors operating the college, can not be exempted from taxation on the ground that it is purely an institution of public charity, notwithstanding that the professors in the medical college do a great deal of charitable work in the infirmary.

Privileged Communications to Hospital Surgeons.—Section 834 of the New York Code of Civil Procedure provides that a person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity. Under this, the first appellate division of the Supreme Court of New York holds, in the personal injury case of Green vs. the Metropolitan Street Railway Company, that the testimony of an ambulance surgeon of a hospital as to what the party suing, who was taken in his ambulance to the hospital after an accident, told him about how the accident occurred, was properly excluded. In determining its admissibility, the burden was, doubtless, the court says, upon this party to show that the evidence was privileged. It may not have been necessary that the surgeon, in order to treat him, should obtain the information as to how the accident occurred; and it may well be said, from a medical standpoint, that it was not necessary for the surgeon to be informed of the details of the accident, but that information was necessary, upon the witness' own statement, to enable him to do some act as a surgeon, namely, to comply with the requirements of the hospital that he should ascertain how the accident occurred, in order that he might enter a history of the case upon the books of the hospital. The information he obtained from the party suing was distinctly for the purpose of making a hospital record. This evidence, which was excluded, was, therefore, the court holds, seeking to elicit information acquired in the line of the witness' duty, and to fulfill an obligation which devolved upon him in the line of his duty; and whatever may have been said by the party, therefore, can not be regarded as a voluntary statement. Under such circumstances, whatever the party may have said concerning the manner in which the accident happened can not be regarded as other than a privileged communication, being made, as it was, to enable the surgeon to discharge his professional duty in connection with a hospital case.

Power of Board to Employ Physician During Epidemic.—The Court of Appeals of Kentucky holds, in Walker vs. County of Henderson, that where the entire county board of health resigned their offices because the fiscal court of the county refused to make sufficient appropriation, in their judgment, for the payment of the employes of the board, and the state board of health reappointed all the former members of the county board, and directed them to resume charge of the epidemic of smallpox and pesthouse in the county, upon their reappointment by the state board, the county board had authority to resume charge of the epidemic, and to employ physicians for the treatment of patients confined in the pesthouse. This, the court goes on to say, necessarily involved the power and right to discharge those who had been employed by the fiscal court during the interregnum, and it was the duty of the fiscal court to make fair and reasonable compensation to the persons so employed, whether they approved their employment or not. The power to determine what physicians, nurses, guards, and attendants are necessary is left to the discretion of the board of health; but the power to fix the compensation of the persons so employed, like the compensation of the members of the county boards themselves, is vested in the fiscal court of the county. But neither the county board nor the fiscal court have arbitrary power in the discharge of their respective duties. The county board could not employ persons grossly in excess of the number required. Neither could the fiscal court refuse to make compensation to persons whom the county board, in the exercise of an ordinary discretion, thought necessary, under the emergency, to employ. And the court holds that, as the physician who brought this action was regularly employed by the county board to render the services sued for, namely, to take charge of the pesthouse and treat persons afflicted with smallpox, he was entitled to be paid by the fiscal court the fair and reasonable value of such services, and the fact that the physician appointed by the fiscal court refused to surrender charge of the pesthouse to him by direction of the fiscal court, or to permit him to take charge, was no reason for refusing to pay him, as the county board had undoubtedly the right to appoint, and to continue his employment as long as services were needed in the treatment of the diseased. It was not denied that he abandoned all his business, and stayed during all the period of his appointment at the pesthouse, and was at all times able, ready, and willing to discharge the duties for which he had been employed.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, December 21.

1 *The Correction of Deformities Following Osteitis of the Knee. Wisner R. Townsend.
2 On the Feasibility and Management of a Hygienic Cure of Pulmonary Tuberculosis Outside of Closed Sanatoria. (To be Concluded.) Charles L. Minor.
3 The Treatment of Abortion. Helen Hughes.
4 Amygdalotomy Rash. Edgar A. Forsyth.
5 *Report of the Committee of Seven of the Medical Society of the County of New York on the Prophylaxis of Venereal Disease in New York City. (To be concluded.) Prince A. Morrow.
6 *The Responsibility for the Recent Deaths Following the Use of Diphtheria Antitoxin and Vaccine Virus. W. R. Inge Dalton.

Medical Record (N. Y.), December 21.

7 *The Cure of Chronic Bright's Disease by Operation. George M. Edebohls.
8 *An Improved Method for Introduction of the Stomach Tube. H. Crenshaw.
9 Results of Osteotomies for the Correction of Genu Varum and Genu Valgum. Homer Gibney.
10 *A Method of Protecting the Perineum During Labor. L. E. Norfleet.

American Medicine (Philadelphia), December 21.

11 Four Cases of Typhoid Cholecystitis: Two Followed by Gallstones. Charles G. Stockton and Albert T. Lytle.

12 A Case of Subcortical Glioma of the Lower Part of the Left Ascending Frontal Convolution Successfully Removed. James Stewart.
13 Surgical Malposition of the Gall-bladder. E. D. Ferguson.
14 *The Question of Ovarian Pregnancy. J. Clarence Webster.
15 *Blindness from Inhalation and Ingestion of Methyl Alcohol. H. V. Würdemann.
16 Angioneurotic Edema; Report of a Case with a Review of the Literature. Bernard Kohn.
17 Alcohol and Insanity. Arthur S. Hamilton.

Philadelphia Medical Journal, December 21.

18 *The Value of Blood Examination in Diagnosis. Frederick J. Kalteyer.
19 *Hepatic Drainage. John B. Deaver and Edward Kemp Moore.
20 *A Study of the Initial Symptoms in 100 Recent Cases of Smallpox. William M. Welch and Jay F. Schamberg.
21 *Operative Treatment of Bladder-Descent and Sacculation. George Erety Shoemaker.
22 *On the Value of the Rectal Temperature in Pulmonary Tuberculosis. J. C. Braine-Hartnell.
23 Hallucinations: Their Pathogenesis, Clinical Import and Medicolegal Value. J. Leonard Corning.
24 *Treatment of Certain Purulent Conditions of the Antrum of Highmore Through the Natural Openings. Norval H. Pierce.
25 A Case of Morphin Poisoning; Successful Employment of Cocain as an Antidote. Albert C. Barnes.

Cincinnati Lancet-Clinic, December 21.

26 Diseases of the Eye Due to Abnormal Conditions of the Circulatory System. Louis Stricker.
27 *The Present Status of Serum Therapy. E. W. Mitchell.
28 A Case of Injury of the Head. Geo. J. Monroe.

Boston Medical and Surgical Journal, December 19.

29 *A Discussion of the Relation Between Human and Bovine Tuberculosis, with Special Reference to Primary Infection in Children Through the Alimentary Tract. A. D. Blackader.
30 *On the Necessity for Special Study and Experience in Treating Children. Frederick A. Packard.
31 Notes on X-Light: Radiable Windows in X-Light Tubes. William Rollins.
32 The Formation of Cysts in the Faucial and Pharyngeal Tonsils. J. L. Goodale.
33 Acute Intestinal Obstruction. Homer Gage.

Medical News (N. Y.), December 21.

34 *Report of the Committee of Seven on the Prophylaxis of Venereal Disease in New York City.
35 The Medical Society of the County of New York and Its Objects. Frank Van Fleet.
36 *Three Points in the Treatment of the Deformities of Infantile Paralysis. John L. Porter.
37 *Artificial Milks. Louis Kolipinski.
38 *On the Biologic Relationship of Proteids. P. A. Levene.

St. Louis Medical Review, December 21.

39 An Outsider's Glimpses of Neurology. Joseph Grindon.
40 Operation for Obstruction of the Bowels, Caused by Enterolith, Complicated with General Peritonitis. R. E. Wilson.

American Practitioner and News (Louisville, Ky.), November 1.

41 Present Status of Blood Examination. Sidney J. Meyers.
42 The Therapeutic Value of Alcohol. Leon L. Solomon.

Bulletin of the Johns Hopkins Hospital (Baltimore), November.

43 *Congenital Absence of the Abdominal Muscles, with Distended and Hypertrophied Urinary Bladder. William Osler.
44 *On a Family Form of Recurring Epistaxis, Associated with Multiple Telangiectases of the Skin and Mucous Membranes. William Osler.
45 *On the Behavior of Epinephrin to Fehling's Solution and Other Characteristics of This Substance. John J. Abel.
46 *Osteitis Deformans with Report of a Case. Arthur W. Elting.
47 *Tubercular Dacryo-adenitis and Conjunctivitis, Containing the Report of a Probable Case Ending in Spontaneous Recovery and a Review of the Previous Literature on Tubercular Dacryo-adenitis. Edward Stieren.

Richmond Journal of Practice, November.

48 *Past, Present and Future of Cancer. Stuart McGuire.
49 Spina Bifida. J. W. Henson.
50 Gastrostomy and Retrograde Dilatation in Impermeable Benign Traumatic Stricture of the Esophagus, and Internal Esophagotomy by the Abbe Sawstring Method. Hugh M. Taylor.

Denver Medical Times, December.

51 *Mother's Milk. Edward C. Hill.
52 Ocular Lesions of Smallpox. Edward Jackson.
53 "What Is Sauce for the Goose is Sauce for the Gander." Will B. Davis.
54 *Changes Necessary to Secure Interstate Medical Licenses. John A. Donovan.
55 Serum Therapy in the Treatment of Disease. Wm. Dow.
56 New Treatment of Leucorrhea and of Gonorrheal Vaginitis. Ph. Chapelle.

Indiana Medical Journal (Indianapolis, Ind.), December.

57 *The Present Status of Diphtheria. W. T. S. Dodds.
58 Ringworm and Favus. A. D. Mewborn.
59 *Malaria Following Abdominal Operations. J. T. Freeland.
60 Gunshot Wounds of the Abdomen—Recovery Without Operation. Edmund D. Clark.

Medical Dial (Minneapolis), December 1.

61 The Discreet Nurse. J. W. MacDonald.
62 Naso-Pharyngeal Catarrh a Common Cause of Middle-Ear Deafness. W. H. Cooke.
63 The Various Methods of Producing Anesthesia. E. Laval.
64 Modern Treatment of Syphilis. M. Shellenberg.
65 Some Remarks on the Etiology of Apoplexies. W. K. Walker.
66 Treatment of Blood Poisoning. J. Bryon Sloane.
67 A Case of Tetanus Successfully Treated with Antitetanic Serum. R. Graham.

Medicine (Detroit, Mich.), December.

68 *Study of a Typhoid Fever Epidemic. B. K. Rachford.
69 *Degeneracy and Political Assassination. Eugene S. Talbot.
70 A Case of Adiposis. Augustus A. Eshner.
71 Treatment of Abortion. Charles B. Reed.
72 Dilating Irrigations in the Treatment of Chronic Gonorrhea. E. A. Fischkin.

Columbus Medical Journal, November.

73 What You Can Learn by the Study of the Urine Without a Microscope. D. N. Kinsman.
74 Report of Cases Showing the Value of Analyses in Diseases of the Stomach. John Dudley Dunham.
75 Exophthalmic Goiter, with Report of a Case. Howard Whitehead.
76 Report of Cases, with Specimens. W. D. Hamilton.
77 Persia and Her Doctors. Yacob A. Sargis.

University of Pennsylvania Medical Bulletin (Philadelphia), November.

78 *The Blood in Infancy and Childhood. Alfred Stengel and C. Y. White.
79 Papilloma of the Carbuncle, with Report of a Case. William C. Posey and Edward A. Shumway.
80 *A Bacteriological Study of Dissecting-Room Cadavers. Nathaniel Gildersleeve.
81 Some Notes on the Recovery of Mercury from Animal Tissue. Edwin M. Stanton.
82 *Natural Method of Draining the Peritoneal Cavity. John G. Clark.

Pacific Medical Journal (San Francisco), December.

83 Abdominal Section—The Care of the Patient Before, During and After Operation. Winslow Anderson.
84 The Present State of the Bottini Operation, with Special Reference to Personal Experience. M. Krotoszyner.

American Medical Compend (Toledo, Ohio), December.

85 Appendicitis with Report of Cases Operated. William J. Giliette.
86 The Selection of a General Anesthetic for Brief Narcosis. L. M. Dolloway.
87 Jurisprudence—An Explanation. J. T. Woods.
88 Aspirin in Ophthalmic Practice. B. Wicherkiewicz.
89 Cholera Infantum. C. M. Deibert.
90 A Remedy Proposed for the Evil of Substitution. J. D. Williams.

Medical Council (Philadelphia), December.

91 Briefs on the Surgery of the Genito-Urinary Organs. G. Frank Lydston.
92 A Case of Tubal Pregnancy. Benj. Edson.
93 Disorders of the Sexual Function in Man—Bubo. A. H. P. Leuf.
94 The Injection Method for the Relief and Cure of Hernia. C. Fletcher Souder.
95 Medical Practice Among the Caroline Islanders. Edward E. Hyde.
96 The Injection Treatment of Hemorrhoids. Henry M. Woolman.
97 An Interesting History of a Case of Typhoid Fever. E. P. Bernady.
98 Fluoroformol (Aqua Fluoroformi). M. Loewenthal.

The Laryngoscope (St. Louis), November.

99 *Vocal Nodules. Charles H. Knight.
100 The Nose and Throat in the History of Medicine. (Continued.) Jonathan Wright.
101 *Some of the Bacteria Found in the Nose. Samuel Iglauer.
102 Edema of the Larynx. H. E. Smyth.
103 Iodated Milk (Sclavo) in Rhino-laryngeal Therapeutics. Gherardo Ferrarri.

Kansas City Medical Index-Lancet, December.

104 Scientific Research—The Indispensable Basis of All Medical and Material Progress. George Bagot Ferguson.
105 A Visit to Some of the European Eye Hospitals. Willis O. Nance.
106 A Visit to Las Vegas, New Mexico. B. H. Ewart.

107 Reminiscences of a Recent Trip Abroad, Including Visits to the London, Paris, Berlin, etc., Hospitals, Clinics, Medical Museums and Libraries, as Well as to the British Medical Association. (To be continued.) John Punton.

Maryland Medical Journal (Baltimore), December.

108 *Hydrocyanic Acid Gas in Public Health Work. John S. Fulton and Wm. R. Stokes.
109 The Treatment of Consumption in Local Sanatoria. Henry B. Jacobs.

Atlanta Journal-Record of Medicine, December.

110 The Diagnosis and Treatment of Human Actinomycosis, with Report of Two Cases. William H. Hudson.
111 Mastoid Disease, Differential Diagnosis, Examination; When We Should Operate? F. Pierce Hoover.
112 A Child One and a Half Years Old with a Single (4-Penny) Nail in Its Windpipe—Some Other Cases of Foreign Bodies in the Trachea and Esophagus Reported. Wm. Lewis Bullard.
113 Anesthesia. G. P. Haymore.
114 Carbolic Acid and Tansy Poisoning. Charles E. Boynton.

Interstate Medical Journal (St. Louis), December.

115 *Some Facts About Tetanus-Antitoxin. C. Fisch.
116 *An Historical Résumé of the Procedures Intended for the Repair of Cleft Palate with Mention of a Case. Willard Bartlett.
117 A Case of Nephrectomy, with Drainage for Tuberculosis of the Right Ureter—Secondary Nephrectomy—Apparent Cure. H. McC. Johnson.

Vermont Medical Monthly (Burlington), October 25.

118 Pulmonary Tuberculosis—A Brief Consideration of Its Etiology, Symptomatology, Diagnosis, and Treatment. H. Edwin Lewis.
119 A Third Report on Aspirin. Karl Manasse.

International Journal of Surgery (N. Y.), December.

120 *The Skull and Its Contents. W. H. Earles.
121 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
122 Appendicitis. Wm. D. Middleton.
123 A New Operation for Uterine Ventrosuspension. Wilbur F. Sterman.
124 Enormous Hypertrophy of the Prostate in the Absence of Testicles Since Early Infancy. J. E. Miller.
125 Three Cases of Appendicitis with a Moral. Courtney L. Smith.
126 Prevention of Nausea and Vomiting Attending Anesthesia. G. B. N. Clow.

New Orleans Medical Journal, December.

127 *The Effect of Alcohol on Digestion. J. A. Storck.
128 A Parasite of the Common Night-Mosquito (Culex Pungens). Henry B. Orr.
129 Otitis Media Neonatorum. O. Joachim.
130 Briefs on the Surgery of the Genito-Urinary Organs. G. Frank Lydston.

New England Medical Monthly (Danbury, Conn.), December.

131 The Case of President McKinley.
132 Report of the Autopsy. Harvey R. Gaylord.
133 Report of the Bacteriologic Examination. Herman G. Matzinger.
134 The Treatment of Uric Acid Poisoning—With Clinical Reports. Robert C. Kenner.

Medical Review of Reviews (N. Y.), November 25.

135 *Dandruff: Its Limitations and Complications. Isadore Dyer.

Medical Standard (Chicago), December.

136 The Commoner Diseases of the Eye: How to Detect and How to Treat Them. Casey A. Wood and Thomas A. Woodruff.
137 A Surgical Clinic (Exstrophy of Bladder, etc.) N. Senn.
138 Typhoid Fever; Prognosis and Prophylaxis. J. T. Moore.
139 Chronic Eczema Madidans. N. E. Aronstam.
140 The Anatomy and Physiology of the Brain and Nervous System. Herman Gasser.
141 Gunshot Wounds of the Chest; With a Report of All Such Cases Treated at the Cook County Hospital from Jan. 1, 1898, to Nov. 15, 1901. Aime P. Heineck.

Alabama Medical Journal (Birmingham), December.

142 President's Address—Medical Man and His Education. M. C. McGanon.
143 Brain Softening. Michael Campbell.
144 An Operation for Tubal Pregnancy, Complicated with Appendicitis and Fibroid Tumors of Uterus. Pugh U. Brown.
145 A Case of Chorea. F. B. Sloan.

AMERICAN.

1.—See abstract in THE JOURNAL of November 9, vol. xxxvii, p. 1266.

5.—See THE JOURNAL of December 7, vol. xxxvii, p. 1536.

6. **The Alleged Vaccine and Antitoxin Tetanus Cases.**—Dalton condemns the method of municipalities going into the business of the manufacture of antitoxin. He thinks the lesson we have principally to learn from these catastrophes is the necessity of eliminating commercialism from matters pertaining to the public health. It is false economy, to say nothing of the kind of humanity, if we do not deal with the public as with one of our own household. Boards of health should avoid scrimping economy and see that none but reliable preparations are used and should have special care for the enforcement of regulations surrounding with all possible safeguards the manufacture and sale of such articles as antitoxin and vaccine virus.

7. **Bright's Disease.**—In a former paper Edebohls advanced the proposition of the surgical treatment of Bright's disease and detailed his method. He has since operated by decapsulating the kidneys in a number of cases of chronic diffuse or interstitial nephritis and gives a table of eighteen operations. The details of some of these cases are given in the body of the article and the results in all are analyzed and discussed. The operation, he says, is not new. It has been employed by Rose and quoted by Wolff, Ferguson and occasionally by the writer as a part of the technique of nephropexy. He believes he has shown that chronic Bright's disease is curable by operation and that the present state of our knowledge does not warrant us in defining accurately the limits beyond which operation is not longer available. As a result of his experience he is prepared to operate on any case of chronic Bright's disease without incurable complications or those forbidding the use of anesthesia, and in which the probable expectation of life without operation is not less than one month. The operation is not directly and forthwith curative of Bright's disease, but it leads to a cure or improvement by establishing proper circulatory conditions.

8. **The Stomach Tube.**—Crenshaw recommends the freezing of the extremity of the stomach tube to cause temporary anesthesia in its introduction, and thus avoid nausea, gagging, etc. Freezing of the extremity of the tube has proven more satisfactory than other methods in his experience.

10. **Perineal Laceration.**—The method suggested by Norfleet is the use of anesthesia during the stormy pains. As the second stage comes on, give the patient a whiff or two of chloroform and when the head comes down enough to separate the vulva, give the chloroform to a reliable assistant and watch. When the occiput is well hooked under the pubic arch, the pain brings the extending head so far forward that the fingers feel the forehead slip under their control. At once give the word for full chloroform, and with the help of the left fingers on the child's occiput hold the head still until relaxation takes place; then slowly shell the head out by pressure on the forehead. Take plenty of time and allow the perineum to stretch as much as possible. As soon as the head is fairly out, do away with the chloroform altogether.

14.—See abstract in THE JOURNAL of November 16, vol. xxxvii, p. 1338.

15. **Methyl Alcohol Blindness.**—From a review of the literature and his own observations, Würdemann concludes that ingestion of methyl alcohol by the mouth or inhalation of its vapor has produced a sudden and in most cases complete characteristic type of blindness, tending later to partial recovery. Without a history, or long observation, it would not be possible positively to diagnose this cause, but the physician may be positive, if the case follows ingestion or inhalation of methyl alcohol with symptoms of vertigo, nausea, vomiting, etc., and with the objective appearances of immobile pupils, whitening of disk, etc., that methyl alcohol is the responsible factor.

18. **Blood Examinations.**—Kalteyer criticises the article of Deaver and Moore, published in the *Philadelphia Medical Journal* some weeks ago, in which he thinks they undervalue the importance of blood examinations for diagnosis.

19. **Hepatic Drainage.**—The importance and significance of gall-bladder disease are insisted on by Deaver and Moore, who maintain that gall-bladder surgery ought not to be relegated to

last resort procedures, but should be used when there is a tendency to recovery from the disease. If there is any marked change in the gall-bladder it is best to remove it. It is an organ of very little functional importance in the human race, and they think the day will come when the removal of the diseased gall-bladder will be considered nearly as necessary as removal of the appendix in appendicitis.

20. **Smallpox.**—The initial symptoms of recent cases of smallpox are discussed by Welch and Schamberg, who interrogated 100 patients in the Municipal Hospital of Philadelphia. The number includes 28 cases of confluent variola, 15 cases of profuse and semi-confluent eruptions, 29 eruptions of moderate severity, and 29 cases of mild varioloid. Of the 100, 22 died. Headache was the most constant of the initial symptoms. Various symptoms were present in the following percentages: Headache, 86 per cent.; chills or chilliness, 78 per cent.; backache, 70 per cent.; vertigo, 57 per cent.; vomiting, 55 per cent.; with nausea in 10 per cent. more. Chill was the first symptom in 35 cases; headache in 26; backache in 16; vomiting in 9; vertigo in 2 and general aching and pain were first in 2. In only 2 cases of the 100 was there complete absence of initial illness. One of the two admitted experiencing fatigue the day preceding the eruption. In several cases the initial illness was well marked, though not always with typical symptoms. They call attention to the fact that in a large percentage of cases admitted during the year the initial symptoms were interpreted by the physicians previously in attendance as the early manifestations of typhoid fever.

21. **Bladder-Descent and Sacculation.**—The operative procedures adopted by Shoemaker for bladder-descent in procidentia can all be done at one sitting if the patient can endure the anesthesia long enough. They are first curetting the uterus, then stripping out the hypertrophied cervix for one or two inches from the bladder in front, from peritoneum behind, and from the broad ligaments at the sides; thorough ligation of the lower lateral uterine blood supply to bring about involution of the uterus; amputation of the cervix at a point regulated by the amount of tissue hypertrophy; attaching the vagina higher up to the uterus; taking in all slack in the anterior vaginal wall, thorough repair of the perineum, with special care to pick up the lateral fasciæ. As a final step the abdomen is opened and the uterus suspended, and firmly attached to the anterior abdominal wall in women beyond the child-bearing period. In young women a light attachment is made well in front of the plane of the cornua. This, he thinks, is the most satisfactory series of operations yet devised and rarely fails to cure the procidentia and the bladder prolapse as well. In well-marked cases no one of these procedures can be omitted, though probably the suspension can be first withheld as the cases lessen in severity. He specially calls attention to the method of taking up the redundant anterior vaginal wall and supporting the bladder. The normal attachment of the anterior vaginal wall of the pelvic fasciæ is mainly at the sides, the attachment to the bladder along the median line being by loose areolar tissue which can be readily separated by the knife handle. The best method is to cut out completely all of the anterior vaginal wall down to the loose areolar tissue underlying the bladder. Inspection will show where the greatest stretching has taken place. A free incision is made directly down to the bladder wall in the median line, extending from the cervix forward as far as any widening has occurred. With the knife handle and a few snips of the scissors the bladder is then peeled off the vagina freely right and left, few vessels requiring temporary clamping, usually none. The flaps are then trimmed away on both sides with the scissors until, when their edges are brought together in the median line, all redundant tissue has disappeared. The opening may be oval or it may be broader near the cervix than at any other point, according to the location of the greatest relaxation. Two or three continuous rows of fine cumol catgut are inserted and buried one over the other, running from before backward in the cellular tissue underlying the bladder or in the wall of that organ. They serve to obliterate dead space and firmly unite all portions of the wound surface except the cut vaginal edges. These are best held together by a continuous fine silk suture, which alone pierces the vaginal mucous membrane. When finished, the direction of all these rows of sutures is from before backward. All bleeding is stopped by the suturing and no ligatures are required. Primary union is always obtained, as the operation is done under a continuous stream of water, and only instruments are brought in contact with the wound. Where there is much separation of the whole vagina from the pelvic fasciæ, the greatest care must be taken in operating on the posterior vaginal wall and perineum to catch the fascia in the stitches. The operation in these cases must always include very thorough perineal repair, the method of Emmet being preferred.

22. **Rectal Temperature in Tuberculosis.**—Braine-Hartnell concludes that: 1. In many cases the oral and axillary temperature records are untrustworthy. 2. In a few cases there is very little difference between the rectal record and the oral record. 3. The greatest discrepancy is found in the lower range of the temperature and conversely the greatest similitude in the higher ranges. 4. The rectal temperature gives in almost every case a truer idea of the amount of pyrexia. 5. If we wish to do ourselves, our patients, and our treatment justice we should insist on taking the temperature in the rectum.

24. **Antrum Disease.**—The following are the conclusions of Pierce's article: 1. That there is strong evidence to warrant the belief that in diseased antra accessory openings are more frequently found than in healthy antra. 2. That in a certain number of cases the ostium may be used to irrigate the antrum. 3. That we should in all cases, whether for diagnosis or treatment, try for the ostium or accessory openings before resorting to surgical puncture, whether through the inferior or middle meatus, the canine fossa or alveolar process. 4. That it is of no importance whether the opening through which we irrigate be the ostium or an accessory opening.

27. **Serum Therapy.**—The new antitoxic treatment of diphtheria is endorsed absolutely by Mitchell, who thinks that in it we have the means of controlling the disease. He believes in larger dosage of antitoxin. In patients over one year he gives from 2000 to 6000 units for the first dose, according to the age and the severity of the case. Under 1 year 500 to 1000 units in mild cases, 1000 to 2000 in severe cases, with the addition of 500 to 1000 in twelve hours if improvement is not marked. Of course, the most rigid aseptic precautions must be used. Experiments have shown that giving antitoxin by the mouth and by the rectum has a specific effect, but he considers that only in exceptional circumstances should it be thus given. The collected statistics of the serum treatment of tetanus show some lowering of mortality. In pneumonia the serum treatment is still *sub judice*. The reports on antistreptococcic serum are somewhat conflicting, some cases seem to respond with immediate improvement and recovery, while in others no results are obtained. This he thinks may be explained by the existence of different forms of streptococci and that the antitoxin of one may not be sufficient against that of the others. Reports of serum treatment of tuberculosis are too vague yet to be considered, and he doubts if a curative serum will be found. Plague, glanders and cholera have all been treated by serum-therapy with encouraging success.

29. **Human and Bovine Tuberculosis.**—Blackader gives first the history of the recognition of the differences between human and bovine tuberculosis, and clinical facts bearing on the intertransmission in the two forms. He thinks that the profession has unfortunately exaggerated the danger from ordinary milk. It has been misled perhaps by the frequency in which the bacilli have been reported to have existed, for many investigators have mistaken other acid-fast bacilli for true tubercle germs, and we have also been unduly afraid of a few bacilli in otherwise normal milk. There is, he thinks, little doubt that small numbers of tubercle bacilli can be introduced into the stomach with impunity, and it must be remembered also that tubercle bacilli do not develop in the milk as do many other micro-organisms, and their virulence is inhibited by

the many modes in which milk is prepared. He quotes Adami, who suggests that there may be a difference in the virulence of tubercle germs at different times which will account for some of the cases of infection described. He also, in conclusion, refers to Kossel's investigation, who found about 40 per cent. of children affected with latent tuberculosis of the glands or elsewhere. While we have given all the credit for apparent immunity in so many cases to environment and the general state of the health, it is also possible that we should consider the source from which the bacilli originally come in some cases.

30. **The Treatment of Children.**—Packard makes a number of points in regard to the difference in the medical treatment of children and adults. In the first place children can not give their subjective symptoms. We have to depend more on our own examination and we must not forget that the child is not a man cut down. Much may be learned by close observation of attitude, the character of the cry and respiration, the facies, and examination of the fontanelle as a routine matter. He points out some ways in which he thinks we are misled in estimating the frequency of certain diseases in children, for example, typhoid, where the typhoid tongue as seen in the adult is not ordinarily met with. We must also avoid falling into error in examining the chest of children, as the position of the apex beat is quite different, being higher and the second sound in the pulmonary area is louder and more clearly defined than in older persons. He also found a curious square area of dulness at the extreme left chest, posteriorly, closely resembling what has been described by Ewart as a sign of precardial effusion. He thinks the left lobe of the liver may possibly be responsible for it. The physical signs are often quite different in children and in adults; thus the cracked-pot sound can be readily developed on percussing over the healthy lung in an infant. Croupous pneumonia is another disease in which there is a great difference between children and adults, and he thinks we see much more frequently silent pneumonias and noisy pleurisies. The examination of the abdomen even offers more peculiarities than the chest. The normally large liver is one point he refers to. As regards the nervous system he refers to three points, the absence of Kernig's sign, which seems to have no significance, the slight value of the Babinski reflex and the ease in which lumbar puncture can be performed. The question of prognosis is a matter of importance. Children recover rapidly; they also die suddenly. The toxin elimination may be presumed to occur with greater facility than in the adult, and the heart has greater reserve force and reparative power than has the heart in older persons. He speaks next of the necessity of individualism in milk modification for infant food, the dangers of the routine treatment of digestive troubles, the too frequent diagnosis of intestinal parasitism, the impropriety of slitting the frenum of the tongue and the indiscriminate use of braces in rickety children, also the importance of retropharyngeal abscess, the relative easy vulnerability of the endocardium in the child, the variability of symptoms of malarial infection, etc.

34.—See The Journal of December 7, vol. xxxvii, p. 1536.

36. **Infantile Paralysis.**—The three points emphasized by Porter are : 1. The most effective treatment of deformity resulting from infantile paralysis is preventive treatment. Infantile paralysis is the cause of about 25 per cent. of the deformities that come to the orthopedic clinics. 2. Every case of paralytic deformity, however slight or severe, can be improved to some extent by appropriate treatment. 3. Simple tenotomy of the shortened tendons in these cases is of great benefit aside from the release of tension and improvement of function that result.

37. **Artificial Milk.**—The artificial milk formula recommended by Kolipinski as approximately representing the normal article, by having the proper percentage of salts and water; by being cheap, and readily prepared; the ingredient easily obtainable, fresh and sterile and the mixture palatable, is as follows: Extract of malt (syrupy), one tablespoonful; olive oil, one tablespoonful; roasted flour, two teaspoonfuls; one broken raw egg. Beat up in a bowl or dish with a spoon or eggbeater for three or four minutes and add by degrees, while stirring, a tumblerful of pure, cold drinking water. Season with table salt. To be taken one or two hours after meals. In hot weather use crushed ice or prepare the whole in a milk-shaker. This formula may be varied to meet any conditions required. The flour may be increased or diminished. The olive oil may be replaced by some other fat or fixed oil. Unsalted butter and chocolate may be worked in. The flavor is good and the after-taste pleasant. He reports a number of cases where good results followed the use of this milk substitute.

38. **Biologic Relationship of Proteids.**—Levene in this preliminary communication reports that he has followed up Uhlenhuth's researches and finds results in accordance. They indicate that chemically differing proteids are derived from the same or closely related animals and have the power of producing similar precipitates when injected into animals. It seems probable that human milk could be used for obtaining serum for the detection of human blood. He has "immunized" rabbits with milk and found that their serums will form precipitates with milk, casein, milk albumin and beef serum, though it fails with white of egg, egg albumin, egg globulin, chicken serum, etc. On the other hand animals that had received injections of the white of the egg for two months, will form precipitates with egg albumin, egg globulin, the yolk of the egg, with chicken serum, etc., and also fail to react with the milk proteid and beef serum.

43. **Congenital Absence of Abdominal Muscles.**—The case reported by Osler is remarkable. There was complete absence of abdominal muscles, showing movements of the intestines directly on the abdominal wall, which had no resistance whatever, and allowed direct palpation of the various organs beneath. There was also associated with it thoracic deformity and cryptorchidismus, and the bladder when dilated filled the hypogastric and also the umbilical region. It was impossible to see whether the bladder was adherent to the umbilical scar as in Guthrie's case, one of the two similar ones heretofore reported. In reply to a question, Dr. Bardeen, one of the associates in the Anatomical Laboratory of the Johns Hopkins University, who has been specially engaged in a study upon the development of the muscles, writes as follows: "1. It is possible that the lack of resistance normally met with in the abdominal wall by the bladder at the time the kidneys begin to secrete urine may cause the bladder to expand rather than to empty secretions into the amniotic cavity through the urethra. 2. Under normal conditions the growth of the abdominal musculature into the *membrana reuniens*, the early covering of the abdominal cavity, is preceded by the formation of a vascular plexus supplied from above by the internal mammary, from below by the epigastric artery. It is possible that an abnormal arrangement of the blood vessels in the embryo prevented the formation of this plexus, and impeded the growth of the abdominal musculature, and that at the same time circulating disturbances gave rise to the abnormal conditions found in the bladder and ureters."

44. **The Family Form of Recurring Epistaxis.**—Osler reports cases of a special form of recurring epistaxis associated with multiple small angiomas on various parts of the skin. Two of them were brothers, showing the family relation of the disease. The father and two sisters had also been nose bleeders. One of the patients had a child who presented this defect, and a grandniece, a granddaughter of the patient's elder sister, was also subject to frequent epistaxis. The third case was of a different family, with no history of any other members suffering in the same way. The paper concludes with remarks on angiomata.

46. **Epinephrin.**—Abel has investigated the chemical behavior of epinephrin, the blood-raising constituent of the suprarenal gland, and offers, in part, the following conclusions: 1. Epinephrin in its native state easily reduces silver nitrate and other metallic salts, but fails to reduce Fehling's solution. On being treated with hydrogen sulphide or with hydrochloric acid and tin in the proper medium, or on saponi-

fication of its benzoyl or acetyl derivatives in the autoclave, it becomes an energetic reducing agent for copper solution and shows an alteration in other properties. It is not quite so easily oxidized on the addition of dilute ammonia, and is more easily crystallized. 2. The commercial preparation known as adrenalin also reduces copper sulphate. It is apparent from the analytical data furnished by Aldrich that this substance is a mixture and not a chemical individual. The proposed formula $C_2H_{13}NO_3$, does not coincide with the analytical data furnished by Aldrich, and no rational formula is deducible from them. It is probably a mixture of native and reduced epinephrin with traces of foreign substances rich in nitrogen. It is hoped that a better purification, together with an analysis of its derivatives, will result in a closer approximation to the formula $C_{10}H_{11}NO_3$, which applied to reduced epinephrin, as contained in the writer's series. 3. The series of epinephrin compounds described by the writer in previous papers, have one and all retained a single benzoyl radicle, in consequence of the incomplete saponification of the original benzoyl derivative. This could not be determined with certainty until the substance was isolated by methods which avoided the process of benzoating. The epinephrin, $C_{17}H_{15}NO_4$, of his former papers was therefore in reality mono-benzoyl epinephrin, and in consequence of its ability to reduce the alkaline copper sulphate it may be further designated, reduced mono-benzoyl epinephrin. Further conclusions given show that the statement of V. Furth as to the equivalents of the substance under discussion are not correct.

46. **Osteitis Deformans.**—This condition is quite thoroughly discussed, together with a report of cases, by Elting, whose conclusions are that osteitis deformans is a chronic condition of the bone, developing in middle life or later, and is of more frequent occurrence than is generally supposed. The onset is insidious sometimes in a single bone, but usually tends to be symmetrical. There is a special tendency to involvement of the tibia and femur as well as of the frontal, occipital and parietal bones. It attacks both sexes and does not appear to be related to any constitutional disease. Its etiology is not understood. It requires from five to fifteen years to reach its maximum development. It is characterized by hypertrophy and deformity of the bone involved, either with or without pain. Microscopically it is characterized by a rarefying osteitis combined with new bone formation. The duration of the disease is indefinite. It has but comparatively little influence on the general health and is not a direct cause of death. The treatment must be purely symptomatic.

47. **Tubercular Dacryo-Adenitis.**—The title of this article gives it substance in brief, but the conclusions are as follows: "1. Tuberculosis of the conjunctiva may be either ectogenous or entogenous; tuberculosis of the lachrymal gland must be hematogenous. 2. The presence of the tubercle bacillus in tuberculous conjunctivitis and tubercular dacryo-adenitis is not a *sine qua non* of the disease. In the present case, repeated examination of the matter from the ulcers of the conjunctiva failed to show the presence of tubercle bacilli, nor did inoculation in animals produce the disease. Burnett speaks of a case he observed for more than a year in which the clinical picture was one of tuberculosis of the conjunctiva, and yet he could not find a single tubercle bacillus after repeated examinations; inoculation in rabbits likewise proved negative. 3. Tubercular dacryo-adenitis and conjunctivitis may undergo cure; surgical intervention is indicated only after therapeutic and proper hygienic measures fail, since it is a universally recognized fact that tuberculosis in other parts of the body is often cured outright spontaneously, the cure being effected by a marked increase of connective tissue."

48. This article has appeared elsewhere. See THE JOURNAL of December 12, vol. xxxvii, title 160, p. 1701.

51.—See abstract in THE JOURNAL of July 13, vol. xxxvii, p. 137.

54.—Ibid., September 28, p. 852.

57. **Diphtheria.**—The summary of Dodd's discussion is that diphtheria is a practically controllable disease. The diagnosis can be always correctly made and with antitoxin we can save 86 per cent. of all cases, and even a much higher percentage in private practice. It should be given at the earliest possible moment, in one dose sufficient to protect the cases. It is not a medicine of last resort.

59. **Malaria After Abdominal Operations.**—Freeland calls attention to the complication of malarial fever after laparotomy in malarial districts, which may lead the surgeon to credit to serious complications what is really due to infection, and recognition of this fact will sometimes clear up very satisfactorily rather threatening cases. His conclusion is that after abdominal or other major operations in malarial districts, the patient should be put on quinin and its administration kept up until recovery from the effects of the operation.

68. **Typhoid Fever.**—Rachford reports the history of a typhoid epidemic occurring in a hotel and some adjoining cottages in a watering place in Northern Michigan. A careful study of the conditions showed defective outside plumbing leading to sewage contamination of the water supply.

69. **Degeneracy and Assassination.**—Talbot reviews the history of regicides and other assassins and would-be assassins of prominent individuals, giving portraits from the best sources, including the more recent cases of Luccheni and Czolgosz. He thinks that in most of these cases the moral imbecile element was not specially prominent, excepting in Guiteau and Clement. The frequency of facial and other stigmata is rather striking in assassins whose crimes seem to be the direct outcome of their environment. The frequency of kephalonic and allied types of skull is also striking. The uselessness of capitol punishment is, he thinks, evident. As regards Czolgosz himself, he says there is no reason to believe him insane, but the logic employed to prove his sanity was not altogether scientific.

78. **Blood in Infancy and Childhood.**—Stengel and White describe the conditions of the blood found in normal infancy as regards the proportion of erythrocytes, hemoglobin, leucocytes, specific gravity, etc., and then take up the pathologic conditions. The article is too detailed to be abstracted. Illustrative cases are reported.

80. **Cadaveric Bacteria.**—Gildersleeve has investigated a number of cadavers which had been embalmed or injected and placed in protective solution for dissecting purposes. Some of these had been in cold storage vaults at a temperature of 15 F. and four had been kept in sodium chlorid vats. Bacteriologic examinations were made on the oral and nasal cavities and the skin in 8 subjects. The internal organs of the 4 subjects kept in salt solution and 19 of the cases kept in cold storage were examined also bacteriologically, both of the microscope and culture methods. Some of the results seemed extraordinary. For instance, 6 of the subjects that contained active virulent tubercle bacilli had been in cold storage between three and six months, and 2 had been in sodium chlorid vats for one to six months. The cultures were made from the caseous glands in the four tuberculous cases and staphylococcus aureus and albus found. A number of other bacilli were recognized in cultures, such as bacillus mesentericus fuscus, bacillus subtilis, staphylococcus epidermidis albus, staphylococcus pyogenes albus. These were found in the muscles of the arms and legs of three subjects which had been kept in sodium chlorid vats for 1, 4 and 6 months respectively. Lung cultures developed living bacilli in a subject who had been in sodium chlorid for four months and various other growths were obtained from the intestines, liver, spleen, gall-bladder, etc. The investigations were conducted under customary aseptic precautions and it is, as he remarks, somewhat astonishing to discover living infective organisms, such as living tubercle and staphylococcus aureus, in embalmed bodies six months after their deposition in vaults.

82. **Drainage of Peritoneum.**—Clark concludes that the peritoneum has an enormous absorbent power, being capable of taking up within an hour 3 to 8 per cent. of the entire body weight, and a number of solid particles are carried in a re-

markably short time from the peritoneal cavity through the diaphragm into the mediastinal lymph vessels and glands, and thence into the blood circulation. They are often largely transported as free bodies, swept along by the lymph currents, but later the leucocytes act as the carriers. There is, normally, a force in the peritoneal cavity which carries fluids and foreign particles toward the diaphragm regardless of posture, though it may be aided or retarded by gravity. The micro-organisms introduced into the peritoneal cavity are greatly reduced in number within the first hour, both by intra-peritoneal destruction and their rapid absorption into the general system. There is, therefore, no possibility of limiting free infectious matter to any part of the peritoneal cavity by mechanical means. Vigorous streptococci which remain behind develop within six hours a repellant or destructive quality of leucocytes, and the lethal combat is, therefore, inaugurated and well under way before drainage, as ordinarily employed, can possibly exercise any good effect. In many cases, therefore, where surgical drainage is employed the patient recovers in spite of, and not because of it. A moderate amount of even virulent organisms, carried by the blood to the lungs, liver, spleen, kidneys, gastro-intestinal tract, and bone-marrow, may be destroyed or eliminated without the least harm to the patient, whereas, if the same amount of infectious matter is detained about a surgical field in the abdominal cavity, or stagnates in a dependent pocket, they may generate myriads of others, and thus overwhelm the patient. Drainage, therefore, as ordinarily employed, is superfluous in many cases and even dangerous. The rational method is to remove all possible debris or infectious matter by thorough irrigation and then leave one liter of salt solution—0.6 of 1 per cent.—in the abdominal cavity, in order to promote and hasten natural drainage, supplemented by an enema of a liter of salt solution given while the patient is well under anesthesia in the Trendelenburg position. Under this plan the patient is greatly stimulated, shock is minimized or averted, the urinary excretion is greatly increased, and thus toxic matters are more easily eliminated without irritation to the kidneys or bladder; peritoneal infection is more quickly eliminated while yet minimum in amount; thirst is alleviated, or entirely prevented; intestinal peristalsis is promoted, and tympanitis less frequent. The early action of the intestines evacuates infectious matter thrown out into the canal by the blood-vessels of the villi. All these factors combine to reduce mortality after abdominal sections, to decrease the pain, discomforts and complications of the first forty-eight hours, and hasten the recovery. Peritoneal infusions may be dangerous in cases of ascites accompanying surgical lesions, which indicates that the natural peritoneal drainage is already deficient; therefore, to add an additional burden through the saline infusions is certainly not advisable. In general purulent peritonitis he believes that gauze packing is indicated in apparently few cases and often where it can be used, painstaking technique will reduce the necessity. He would use it in appendicitis, when there is infiltration of the adjoining tissue and peritoneum and in localizing collections of pus in the pelvis. Such cases are specially those for incision and drainage through the vagina. Suture of intestine, excision of fistulous tracks leading from the intestines to the abdominal wall, and purulent peritonitis are also conditions in which drainage through the genital tract may be advisable.

99. **Vocal Nodules.**—Knight has had the opportunity of seeing vocal nodules developing almost under his eye, and it has suggested to him several perplexing questions. The growth appeared rather suddenly after over-exercise of the voice, and treatment was ineffective until vocal exercises were tried together with inhalation of adrenalin chlorid—1-5000—when there was some very apparent improvement. He theorizes somewhat in regard to the cause and suggests the possibility of minute localized hemorrhages or of fibrous contraction of certain bundles of fibers; the overstrain of the cords might lead to an effort of nature to fortify the region of their exercise by throwing out new tissue. The idea that attrition of the vocal bands is accountable for the nodes seems to him untenable for the reason that during phonation space must remain between the bands in order to permit the blast of air. Moreover, the node often has its origin, as in this case, on the upper surface of the band. If his theory is correct, the obvious conclusion is that a faulty method of phonation is generally induced by some anomaly in the upper air tract, and can be overcome only by restoring the latter to a normal condition. In excising or destroying the nodule we remove the result and not the main cause of the difficulty.

101. **Bacteria in the Nose.**—Iglauer, who has examined nasal cultures from a number of cadavers and who has studied the literature, comes to the conclusion that the normal nasal mucus contains bacteria, but that they can not be so abundant as we would suppose from the number of bacteria inspired, for the following reasons: The surface over which the bacteria is scattered is rather large. From measurement he finds it about 154 sq. cm. in the nose and 25 in the nasopharynx. Some bacteria must reach the nasopharynx from which they are swallowed and digested. The flow of mucus and serum together with gravity tends to carry away the germs and the nasal mucus is not a good culture medium. Last and most important, the organisms which have reached the nose are expelled by the ciliated epithelium with great rapidity, and recent work seems to show that nasal epithelium has bactericidal power. The practical conclusions he deduces are: "1. It is advisable to sterilize the vestibule of the nose before operating. 2. After operation, the nostril on the operated side should be closed with a piece of cotton to act as a filter. 3. Plugging of the nasal cavity after operations is, as a rule, inadvisable, as it tends to retain the nasal secretions. 4. Nasal wounds do not heal by first intention, owing to the presence of bacteria. This also explains the occurrence of secondary hemorrhage. 5. Fever after operations and the few deaths recorded, have probably been due to the presence of pathogenic micro-organisms in the nose."

108. **Hydrocyanic Acid Disinfection.**—Fulton and Stokes give further results of their experiments with hydrocyanic acid as a disinfectant. The chemicals used are potassium cyanid, concentrated sulphuric acid and water, in the relative proportion of 1, 1.5, and 2.25. The amount of gas used was expressed in the terms of cyanid—25 grams of cyanid per 100 cubic feet of enclosed space. They connected three jars, placed at suitable relative elevations, by siphon tubes. The requisite amount of cyanid was placed in the lowest and largest jar, the intermediate jar contained water, and the upper the concentrated acid. The lower of the two siphons was automatic, and actuated by a definite height of liquid in the upper jar. It did not, therefore, operate until the last few ounces of liquid was being delivered from the upper jar into the intermediate one. By this means the operator had time to leave and close up behind him and there is no danger that the destructive chemicals will escape from their containers. The sides and floor of the room used for the experiments were covered with tar paper. The doors and windows were weather-stripped and two shelves were built across the window, and here the cages containing animals and insects were placed for easy observation. The exact moment when effervescence began was noted in their experiments and correctly timed observations were recorded. The animals and insects were exposed in tubes with cotton stoppers or in wire cages, the amount of defensive covering being always noted. House flies were killed in two to four minutes after effervescence began in the cyanid jar; wood-eating white termites in ten minutes; white rats and guinea-pigs in the same time. Roaches were killed during eight or ten minutes if confined in a tube with one inch of cotton plugging; in nineteen minutes to one hour if protected with two to nine inches of cotton plug. Bedbugs were killed in fifteen minutes. Mosquitoes, culex, were dead in two and one-half minutes in an aquarium jar covered with cheesecloth and rapidly when protected with one and two inch plugs. Other animals like the ox louse, black ant, rats, mice, etc., were readily killed. Rats exposed in cages succumbed in a very few minutes, though

after thirty seconds' exposure they could be revived. Gas tested by test-paper quite a distance from the keyhole of the door was found to be rapidly diffusible. Bread, butter and milk were exposed for twenty-four hours to the action of hydrocyanic acid in vapor three times denser than that sufficient to destroy animals and then fed to rats and no poisonous effects were observed. He thinks the advantages of the gas for disinfection are numerous. It is highly diffusible, has no injurious effect on wood work, metal, textile fabrics, paint or foodstuffs, and rapidly escapes when doors and windows are opened. It does not require special attention to openings, all that is necessary being that the gas should have free access. Of course, it is dangerous to man, but not unmanageable, and after each experiment the room was entered instantly for the purpose of removing the insects and animals, the only precaution being to suspend respiration. It is specially useful in military hygiene, disinfection of hospital tents and mess tents, which can be done by merely closing the ventilators while the disinfection is being carried on and throwing up earth to close the opening between the tent and the soil. Latrines can also be fumigated in this way. While the suggestion to use this agent is not likely to be readily accepted on account of the general belief in its deadliness, the authors believe that cyanid is about as amenable to human purposes as many other substances of less ill-repute.

115. **Tetanus Antitoxin.**—Reasons for the relatively small incidence of tetanus and fatalities in the recent St. Louis epidemic with diseased antitoxin are given by Fisch as follows: 1. The use of tetanus antitoxin. He believes in tetanus antitoxin. Nearly 60 bottles of the contaminated antitoxin serum were dispensed and anti-tetanic serum was injected in a great number of cases even before the symptoms appeared. None of them developed tetanus. In one case where the incipient muscular stiffening was observed recovery followed the use of tetanus antitoxin, but none of the cases in advanced stages of tetanus recovered. 2. The fact that the contaminated serum producing the disease contained just enough toxin to prove fatal to a certain weight of human tissue. Clinical experiments showed that .10 c.c. of serum was a fatal dose for 300 grams of guinea-pig weight, and it was concluded by comparing the average weight of children, etc., that 10 c.c. of the contaminated serum contained the approximately fatal dose for human beings weighing 50 pounds, showing that the susceptibility to tetanus toxin in man is nearly equal to that of the guinea-pig and about half that of the horse. If there had been spores or the bacilli in the serum very few of the patients would have survived. 3. The observation that a great number of immunizing doses of this serum had been administered per os, and therefore did not exert their toxic effect. In at least fifteen cases the development of tetanus was prevented by the administration of serum by the mouth. In no case was any bad effect observed. According to Fisch we have known all along that the toxin of tetanus is not absorbed by the gastro-intestinal mucous membrane. It is a fact that active tetanus bacilli are not rarely inhabitants of human and animal intestines. It is, however, established that the membranes of very young animals or infants may be intoxicated in this way, and as explanatory of this, a histologic observation is offered. In the newborn and for a short time after birth the secretion of mucus by the gastric mucous membrane is not present. The epithelial cells of the newborn appear uniformly protoplasmatic, are free from granules and sharply defined towards the free surface. Only later, in some places can small masses of mucus be demonstrated. This formation of mucus appears in certain foci and is in the beginning restricted to the most superficial layers of the protoplasm of the cells. It is possible that the absence or slight extent of mucin-formation is favorable to the absorption of the toxin. He does not recommend this method of immunizing, however, as a general practice.

116. **Cleft Palate.**—According to Bartlett, who reviews the various methods of palatal surgery, Brophy's operation is for its purpose the best procedure at our command, inasmuch as it is the only one which gives to the bony arch its proper breadth, and the only one which can by reason of the slight hemorrhage caused and the little time required, be performed upon a poorly-nourished child at a period when perfect vocalization must be secured or the golden opportunity be forever lost.

120. **The Skull and Its Contents.**—This article is surgical, bearing on the question of operation for injuries, and Earles sums up that we should use the trephine or chisel in every case of severe injury to the head, carefully examine the soft parts, and, if injured, repair at once. If this is not done at the time of injury, then as soon after as circumstances will permit, in the hope of preventing secondary sclerosis. When sclerosis has become established thoroughly excise the diseased area, substituting healthy and comparatively non-irritating union for the old diseased condition, making certain that the offending area is the one removed.

127. **Alcohol.**—The conclusions reached by Storck are that small quantities of alcohol favor salivary and gastric digestion, but large quantities inhibit all the digestive functions. Alcohol, whisky, gin and brandy are less harmful to digestion perhaps than are malt liquors and wine, but the continuous use of alcohol in any form, even in small amount, is liable to prove detrimental to digestive processes. In persons of weak digestion alcohol is harmful unless given very well diluted. It should never be given when the stomach is empty. It is valuable in disease, requiring no primary assimilation, it yields force readily to an exhausted system and in small quantities promotes appetite. It is well to bear in mind that the purer the whisky or brandy the less destructive it is to the digestive processes. According to Dujardin-Beaumetz, the toxic effects of alcohols increase with the sum of their atomic weight, with the exception of the highest and lowest. Finally, it is true, as Wood says, that: "Science in no way contradicts the experience of every *bon vivant* that the small doses of alcohol increase, and larger amounts interfere with, the activity of digestion."

135. **Dandruff.**—According to Dyer dandruff is a product of seborrheic dermatitis, an infectious and inoculable disease, though we do not as yet know the special germ. The application of resorcin in bay rum 3 to 5 per cent. is, in his opinion, an absolute cure. He has had no patients who did not recover under this treatment if they left brushes alone. The first instruction he gives to a dandruff patient is to throw his brush into the fire and not get another until he tells him, and he does not tell him until he finds the scalp free from dandruff. Resorcin sometimes gives a yellow tinge to light or gray hair. The addition of salicylic acid solution will prevent this. Where there is any reason to forbid the use of resorcin, chloral hydrate in a 2 to 5 per cent. solution may be used, or the naphthol solution in the strength of a scruple to the ounce. He believes that dandruff may have serious consequences. It often starts colonies in other parts of the body, produces seborrheic conditions in the wings of the nose, and may even aid in the production of malignant disease.

FOREIGN.

The Lancet, December 7.

Pure Urea in the Treatment of Tuberculosis. HENRY HARPER.—In this second article on the subject Harper reports seven cases treated with urea with remarkable success. He thinks it exerts a specific action on tuberculosis, quite as marked as that of mercury in syphilis, salicylate of sodium in rheumatism and iodid of potassium on bronchial asthma. The urea used was a synthetic product and he suggests that it is an interesting question whether that derived from animals would have the same effect. "Cases suitable for the administration of urea are: 1. Circumscribed pulmonary tuberculosis of the lung in which the sputum exhibits abundance of bacilli and only a limited number of cocci. 2. Enlarged tuberculous glands situated on any part of the body. 3. Tuberculous pleurisy (here in my cases urea acted like magic). 4. Tuberculous laryngitis. 5. Lupus. 6. Tuberculosis of the peritoneum with fluid in the peritoneal cavity. 7. Hydrocephalus in children. 8. Tabes mesenterica or carreau. Cases which are unsuitable are: 1. Pulmonary tuberculosis where cocci pre-

dominate, practically covering the whole field of the microscope, and the tubercle bacilli exhibit a short stumpy appearance, the typical Koch's bacillus being scanty. 2. Acute miliary tuberculosis with a high temperature (103 F. or over). 3. Gastritis. 4. The last stage of tuberculosis where the patient is dying. 5. When the patient has a temperature over 101. Mode of administration: To carry out the intensified method a beginning should be made with small doses of from 10 to 15 grains thrice daily, gradually increasing them up to 40, 50 or 60 grains as a maximum. Practically this amounts to ½ per cent. of artificial urea added to the normal quantity circulating in the blood." The way he came to prescribe urea was from the suggestion offered by the apparent immunity of gouty individuals. He asked himself if gouty salts are antagonistic to tuberculosis; is it not possible to administer these to tuberculosis? He quotes Dyce Duckworth, Harris, Beale, Weber and others in favor of this view. He believes that natural immunity has not received due recognition and he thinks there is almost a parallel in this respect between typhoid fever and tuberculosis as regards the greater susceptibility among country residents moving into town. The drift of medical opinion to-day is to ignore heredity and over-value contagion, assuming that every human being is vulnerable to tuberculosis. He suggests that the race has become somewhat immune by heredity. He has never yet seen any harm come from the administration of urea, and has obtained the best results from 40 to 50 gr. doses three times a day. The highest dose he has reached has been 70 grs. three times a day, which practically equals one-half the total quantity of urea excreted by the average healthy man. The notion current in all the textbooks that urea is a substance to be gotten rid of, is not in accordance with his experience. He now believes that uremia or anything like it can not be induced with urea, for here we have the toxalbumins to be reckoned with. The gain of flesh coincident with the ingestion of urea is an obvious fact demanding an explanation, and he suggests that it is nutritive and supplements the food. In all his cases where death followed after administering urea, mixed infection was the predominant feature, and he has come to believe that failure to respond to this drug is a differential test for true tuberculosis and mixed infection.

The Pathogenesis of Fibrous Hyperplasia. E. H. COLBECK.—The different forms of fibrosis, post-inflammatory, compensatory, fibrosis of mechanical congestion and senile fibrosis, are noticed in detail by the author. The first depends upon the increased functional activity due to increased nutrition. As regards the second, he thinks the treatment of fibroid degeneration is unscientific and incorrect. Overgrowth of tissue can not be called degeneration. The fibrosis of metabolic congestion is also a disturbance or loss of control over food supply and the relative increased nutritive stimulation of fibroid tissue cells. Senile fibrosis is also to be considered as a loss of control over nutrition, and while he has excluded the action of the nervous system in his consideration he believes it has an important influence. With the decline of functional activity there is no doubt a diminution of nervous influence, so that, with respect to their claim on nutritive supplies, the degraded functionating cells in their vegetative condition would be pitted against the purely vegetative connective-tissue cells; hence, the increased relative proliferation of the latter.

December 14.

On Duodenal Ulcer and Its Surgical Treatment. B. G. A. MOYNIHAN.—The subject of duodenal ulcer, acute and chronic, is gone over by Moynihan, who finds that it is generally situated in the first portion of the duodenum and may affect all ages, but is more frequent in men than in women. The symptoms are apt to be obscure and the co-existence of gastric and duodenal ulcer is in his opinion more frequent than generally believed, and may confuse the diagnosis. The cardinal symptoms are pain, which is generally experienced an hour or so after eating and referred to the epigastrium, or the right hypochondrium, or indefinitely to the upper part of the abdomen, hematemesis, which is an occasional and rather erratic symptom, and melena, which was observed in 9 of Perry and Shaw's 60 cases. Examination of the stools for small quantities of blood is so unusual that we must admit that this symptom may be more frequent than generally supposed. The complications are hemorrhage, perforation, cicatricial contraction, and induration and their sequelæ, periduodenitis and cancer. As regards treatment he reports two cases of perforation from acute ulcers, one treated by gastro-enterostomy by the Murphy button, the patient dying, and the other treated by stitching up the opening and drainage, with an uneventful recovery. Speed is important in this operation, the details of which are given at some length. He gives a tabulated analysis of 40 cases of operation for perforation. When subacute or chronic perforation leads to periduodenal or subphrenic abscess it should be opened in front if periduodenal, and if subphrenic, through the anterior or lateral walls of the abdomen, or through a low intercostal space. If perforation is discovered it should be closed by suture, and a drainage tube should be passed down to the abscess cavity and left in for two or more days. A case is reported. When pain and gastrorrhagia or enterorrhagia are persistent and disabling, gastro-enterostomy should be performed, to rest the part and permit the healing of the ulcer. Cicatricial contraction and induration or periduodenitis are to be treated on the same principles by gastro-enterostomy. Four cases are reported, all of which recovered.

Experimental Hemoglobinuria Caused by a Bacterial Toxin. CHARLES TODD.—In this preliminary communication Todd reports the results of experiments with bacillus megatherium on guinea-pigs and other animals. He finds it produces megatheriolysin which resembles the toxins of diphtheria and tetanus in being extra-bacillary, being unstable at ordinary temperature, but less so than tetanolysin. Heating seems to destroy it rapidly. There exists apparently an anti-body in normal serum, exercising a very considerable anti-hemolytic action which is increased on heating. Filtered cultures produce hemoglobinuria in guinea-pigs to a very marked extent, but not so much so in rabbits, when injected intravenously. He remarks that the fact that a widely distributed organism, which has hitherto been regarded as practically non-pathogenic, is capable of forming products bringing about in susceptible animals such profound blood-changes, is of the greatest interest, and though this bacillus may have no causal relation to any pathologic condition in man, the results obtained are suggestive in connection with the pathology of such diseases as blackwater fever, paroxysmal hemoglobinuria, and pernicious anemia.

British Medical Journal, December 14.

Nephrectomy, Nephrolithotomy and Lithotomy. T. R. JESSOP.—The subjects discussed by Jessop are nephrectomy in children, of which he does not speak very encouragingly, and says that he can not but emphasize the lack of confidence he feels in recommending operation in children suffering from malignant growths. Still he suggests the comparative safety of intraperitoneal inspection of the kidneys on the first suspicion of a growth, as it is only by early detection and prompt removal that we can hope to improve on our former unsatisfactory results. As regards nephrectomy in adults he is inclined to believe that the lumbar operation will be preferred in those cases in which sepsis is known or supposed to exist, and for nephrectomy in which the growth is of recent origin and of small size, while the larger renal tumors will be attacked from the front with more prospect of success in proportion to our increased knowledge and attention to details in the operation itself, and to our ability to avert death from shock. The statement that nephrectomy in the adult gives more encouraging results than in children must be qualified in that it applies not to the immediate but only to the ultimate result. The immediate operation is not the worst thing in children, it is the future outcome of the cases. The author admits change of heart as regards operation for nephrolithotomy and he now holds it to be of value as compared with his former opinion. He specially commends the method of withdrawing the

kidney from its bed and exposing it outside, then splitting it into two symmetrical halves by incision from the convex border through to the pelvis and returning it to its natural position after having passed three or four catgut sutures deeply through the substance of the organ tied with just enough force to arrest the bleeding. This plan is adopted from Dr. Henry Morris, and he has used it for the removal of stone in five cases with the most satisfactory results. He thinks it is sure not only to remove the stone, but makes the operation safer and more effective. For vesical calculus he favors suprapubic operation and litholapaxy, using the latter whenever practicable, irrespective of the age of the patient, and the former when existing conditions forbid the other or seem specially to favor a shorter and severer operation.

The Sanatorium Treatment of Pulmonary Tuberculosis. R. W. PHILIP.—The sanatorium treatment, the system, open-air exercise, rest, diet, skin hygiene, medication, site of sanatorium, general condition of patient and stage of the disease are all discussed by the author. He believes that the constitutional condition has been hitherto too little considered in the treatment of pulmonary tuberculosis. The sanatorium treatment is physiological. It can be practiced at home or at any place where there is sufficient accommodation and appreciation of what is necessary, but there are grave difficulties in the way of home treatment. Success will depend upon the thoroughness with which the physiologic conditions are fulfilled, which, therefore, depends upon the physician. He recommends the establishment of some sort of tuberculosis colony where the convalescent patients might contribute by working for the common good, remaining all the time under medical supervision.

Queries and Minor Notes.

IS ABORTION JUSTIFIABLE IN THE INSANE PREGNANT?

CINCINNATI, Dec. 18, 1901.

To the Editor:—A young woman shortly after marriage, was discovered to be mentally unsound, the character of her mental condition being akin to paranoia. Her husband is a neurasthenic with a bad heredity; her mother has paranoia and has been in the asylum 35 years; father was an inebriate. The woman is pregnant. Whether pregnancy will affect her mental condition favorably or unfavorably is uncertain; probably it will affect it very little either way. But there is little doubt the child would be a degenerate.

Now, would it be justifiable to produce an abortion to prevent the birth of such a child, or could such a procedure under the circumstances be considered criminal? P. Z.

ANS.—It would be criminal.

PARTNERSHIP WITH UNLICENSED AND NON-DIPLOMAED BROTHER.

———, MICH., Dec. 23, 1901.

To the Editor:—Will you kindly decide the following question: We have here a physician registered under the laws of this state who has taken his brother into partnership with him and passes him off as a licensed physician. This brother has not received a certificate from the State Board, nor has he a diploma from a medical college. Would it be considered proper for reputable physicians to consult with this doctor whose partner is an irregular practitioner? G. H. W.

ANS.—The case is one for the attention of the State Board of Examiners, and we would suggest that our correspondent write to the secretary, Dr. B. D. Harison, Sault Ste. Marie, and report to him the facts. It would be a good plan for a reputable physician to treat his brother practitioner who may not be doing just as he ought, in a liberal and brotherly way. Petty jealousies are often the result of misunderstandings: possibly there is some misunderstanding in this case. In any event if our correspondent will do with his fellow practitioner as good old Ben Franklin would have done in a like instance, there will be a better feeling between the two physicians in this Michigan village.

IS METALLIC PLATE USED IN TREPHINED SKULL?

LAKE CITY, COLO., Dec. 19, 1901.

To the Editor:—Will you kindly let me know through the columns of THE JOURNAL or otherwise whether modern surgeons put in silver or gold or other kind of plate when a portion of the skull is removed after fracture? Has it ever been done? If not commonly done what are the objections to it? J. G.

ANS.—The most obvious objection would be the danger of infection from without from an exposed foreign body in that situation, unless the skin healed on the plate. It has been done, but we do not see it recommended now. Transplantation of bone, replacement of bone button, or an osteoplastic flap from the external table are sometimes resorted to. The insertion of silver or gold foil over the exposed brain or meninges is sometimes performed.

MOOD OF "FIAT CAPSULA."

U. S. MARINE BARRACKS, WASHINGTON D. C., Dec. 4, 1901.

To the Editor:—One of the events of the week is the arrival of THE JOURNAL at the Dispensary here. Even a layman like myself can always find a great many articles by which the gray matter may be improved. I am, let me state, old-fashioned. In your issue of November 30, of this year, under the heading of "Therapeutics," you say "The word *misce* means, when translated, mix thou." It does. It is a command issued by the physician to the pharmacist. You proceed to say that the word "*Fiat*—meaning may be made—is in the subjunctive mood." Is it? Is not *fiat* more properly of the imperative mood? Does the doctor, in the first instance, say mix thou, and in the second, you may (if you like) make the substance into, say, six capsules, or if that number does not just suit you, please yourself? Does the doctor mean that he has no choice as to whether the patient gets his medicine in powder, capsule, or pill form? I am open to correction, but in my humble opinion the prescriber intends to be just as emphatic in the second case as in the first.

As to the parsing of the sentence "*fiant capsulæ,*" a rule of Latin syntax, which I quote from memory, is as follows: Verba substantiva nt sum, fio, existo; verba vocandi passiva ut nominor, appellor, dicor, vocor, nuncupor et his similia, utrinque eosdem casus habent. Brevis esse laboro, obscurus fio.

The word *spiritus* which you mention in the first paragraph, leads me to ask which is the correct form—*spiritus frumenti,* or *spiritus frumentis.* Respectfully, C. P.

ANS.—1. The verb *fiat* is, as was stated in THE JOURNAL of November 30, in the subjunctive mood, but with an imperative force. The imperative forms of the verb would be *fi* in the singular, and *fite* in the plural.

The reason why the more regular verb *facere* was not used in the imperative, as *fac,* "make thou" like *misce,* "mix thou" is probably because *facere,* "to make," was used also in the sense of "to administer," "to give; for instance, Cicero says: *Medicinam alicui facere,* with the meaning "to administer medicine to a person." Hence, *fac pilulas xii* could also mean "give 12 pills," and to avoid ambiguity the old physicians were obliged to use the semi-deponent and irregular *fieri,* "to become, to be made."

2. *Spiritus frumenti* is correct, the nominative being *frumentum.*

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. I. General Medicine. Edited by Frank Billings, M.S., M.D., Head of Medical Department and Dean of the Faculty of Rush Medical College, Chicago. With the Collaboration of S. C. Stanton, M.D. October, 1901. Cloth. Pp. 270. Price, per volume, $1.50. Chicago: The Year-Book Publishers.

GYNECOLOGICAL PATHOLOGY. A Manual of Microscopic Technique and Diagnosis in Gynecological Practice for Students and Physicians. By Dr. Carl Abel, Privat-Docent, Berlin. Translated and Edited by Samuel Wyllis Bandler, M.D., Adjunct Gynecologist to the Beth Israel Hospital, New York. With a Chapter on Embryology of the Female Genitalia and the Pathological Growths Developing from Embryonal Structures. Illustrated by 100 Engravings. Cloth. Pp. 237. Price, $2.50. New York: William Wood & Co. 1901.

PROGRESSIVE MEDICINE, VOL. IV, 1901. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 400 pages, 13 illustrations. Price, per annum, in four cloth-bound volumes, $10.00. Philadelphia and New York: Lea Brothers & Co.

PHOTOGRAPHIC ATLAS OF THE DISEASES OF THE SKIN. A Series of 80 Plates, Comprising More Than 100 Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y. Part VI. In 16 Portfolio parts at $1.50 each. Philadelphia and London: J. B. Lippincott Co. 1901.

PERU—HISTORY OF COCA, "The Divine Plant" of the Incas, with an Introductory Account of the Incas, and of the Andean Indians of To-day. By W. Golden Mortimer, M.D., Fellow of the New York Academy of Medicine. With 178 Illustrations. Cloth. Pp. 576. Price, $5.00. New York: J. H. Vail & Co. 1901.

OFFICIAL LIST OF PHYSICIANS AND SURGEONS Who Have Received Certificates of Registration under Public Act 237, Laws of 1899, Michigan. By Authority of State Board of Registration in Medicine. November 1, 1901. Paper. Pp. 88. Sault Ste. Marie, Mich.: News-Record Press.

A COMPLETE EXPOSE OF EDDYISM OR CHRISTIAN SCIENCE, and the Plain Truths in Plain Terms Regarding Mary Baker G. Eddy, Founder of Christian Science. By Frederick W. Peabody, Member of the Boston Bar. Paper. Pp. 68. Price, $0.25.

MEDICAL AND SURGICAL REPORTS OF THE BOSTON CITY HOSPITAL. Twelfth Series. Edited by Herbert L. Burrell, M.D.; W. T. Councilman, M.D., and Charles F. Withington, M.D. Paper. Pp. 201. Boston: Published by the Trustees. 1901.

WATER AND WATER SUPPLIES. By John C. Thresh, D.Sc. (London), M.D. (Victoria), D.P.H. (Cambridge). Third Edition, Revised and Enlarged. Cloth. Pp. 527. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

A MANUAL OF CLINICAL LABORATORY METHODS. By John Benjamin Nichols, M.D., in Charge of the Clinical Laboratory, Garfield Hospital. Illustrated. Cloth. Pp. 303. Price, $2.50. New York: William Wood & Co. 1902.

THE LIFE OF PASTEUR. By René Vallery-Radot. Tranlated from the French by Mrs. R. L. Devonshire. Vols. I and II. Cloth. Pp. 292 and 336 Respectively. Price, $7.50. New York: McClure, Phillips & Co. 1902.

REPORT OF THE SURGEON-GENERAL OF THE ARMY to the Secretary of War, for the Fiscal Year Ending June 30, 1901. Paper. Pp. 354. Washington: Government Printing Office. 1901.

New Patents.

Patents of interest to Physicians, December 3 and 10:

687,978. Sterilizer. Arthur Castle, Rochester, N. Y.
688,163. Head-bandage. Bettie P. Fields, Mason, Tenn.
687,994. Producing chemically pure hydrochloric acid. Eugen de Haen, List, near Hanover, Germany.
687,748. Automatic distributor for powders. Per B. Harje, Karpalund, Sweden.
687,750. Artificial limb. Max Held, Milwaukee, Wis.
688,102. Reducing and deodorizing residues. Walter P. Lincoln, and M. S. Greenbaum, Louisville, Ky.
688,188. Tampon. Anthony E. Magoris, Binghamton, N. Y.
688,131. Obtaining ianthone and ionone. Ferdinand Sembritzki, Holzminden, Germany.
35,373. Design, hot-water bag. John B. Miller, Chicago.
688,499. Exercising device. Wm. G. Bell, Sharonhill, Pa.
688,581. Massage instrument. Otto Bihlmaier, Brunswick, Germany.
688,458. Stereoscopic *x*-ray apparatus. Eugene W. Caldwell, New York City.
688,604. Producing blood-albumen. Max Dietrich and A. Langer, Berlin, Germany.
688,463. Making caustic alkali. Hans A. Frasch, Hamilton, Canada.
688,465. Movement cure apparatus. Ernst F. Goransson, Stockholm, Sweden.
688,734. Hernial truss. George V. House, Mount Vernon, N. Y.
688,311. Artificial limb. Lowell E. Jepson, Minneapolis, Minn.
688,688. Syringe. Walter H. Humphrey, New York City.
688,695. Hernial truss. Louis Ropers, Lincoln, Ill.
688,354. Bandage or compress. Siegmund B. Sonneborn and H. Beigel, Baltimore, Md.
688,371. Suspensory. George A. Wieland, Duluth, Minn.
688,804. Suspensory. George A. Wieland, Duluth, Minn.
35,417. Design, vaccination shield. Joseph A. Steinmetz, Philadelphia, Pa.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 12 to 18, 1901, inclusive:

John M. Banister, major and surgeon, U. S. A., from duty at the U. S. Military Academy, West Point, N. Y., to accompany troops on the transport *Buford* sailing from New York City, about Jan. 15, 1902, to Manila, P. I., where he will report for assignment in the Division of the Philippines.

Walter K. Beatty, contract surgeon, leave of absence from the Department of Colorado extended one month.

Charles E. B. Flagg, captain, asst.-surgeon, U. S. A., member of a board at Fort Grant, Ariz., to determine the fitness of certain officers for promotion.

Bower E. Himes, contract surgeon, previous orders revoked; he is relieved from duty at Fort Keogh, Mont., and will proceed to his home, Mill Creek, Pa., for annulment of contract.

William F. Lippitt, Jr., captain, asst.-surgeon, U. S. A., honorably discharged by the Secretary of War as major and surgeon, Vols., only, to take effect Dec. 31, 1901; he is relieved from duty in the Philippines, and on the expiration of his present leave will report for duty at Fort McHenry, Md.

Alexander N. Stark, captain, asst.-surgeon, U. S. A., from Fort McHenry, Md., to the U. S. Military Academy, West Point, N. Y., to relieve Major John M. Banister, surgeon, U. S. A.

Francis M. Wall, contract surgeon, from the Division of the Philippines to Fort Thomas, Ky.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending Dec. 21, 1901:

Asst.-Surgeon John B. Buchanan, appointed from Nov. 23, 1901.
Medical Director R. C. Persons, commissioned from Nov. 3, 1901.
Medical Inspector E. H. Green, commissioned from Nov. 3, 1901.
Medical Inspector L. G. Heneberger, commissioned from Oct. 29, 1901.
P. A. Surgeon H. H. Haas, commissioned from Dec. 28, 1900.
P. A. Surgeon C. A. Crawford, commissioned from June 1, 1901.
P. A. Surgeon E. Thompson, commissioned from April 19, 1901.
Asst.-Surgeon D. G. Beebe, resignation accepted, to take effect Nov. 30, 1901.
Medical Director A. L. Gihon, retired, died Nov. 16, at New York City.
Asst.-Surgeon E. Davis, died Nov. 15, at East Las Vegas, New Mexico.

Marine-Hospital Changes.

Official list of the Changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Dec. 19, 1901:

Surgeon H. R. Carter, granted leave of absence for ten days from Dec. 26, 1901.

P. A. Surgeon W. G. Stimpson, detailed as inspector of unserviceable property at the San Francisco quarantine station.

P. A. Surgeon J. B. Greene, to proceed to Malone and Roues Point, N. Y., for special temporary duty.

Asst.-Surgeon S. B. Grubbs, granted leave of absence for nine days from December 26.

Asst.-Surgeon J. F. Anderson, relieved from duty in the office of the U. S. Consul at Liverpool, England, and directed to return to the United States.

Asst.-Surgeon L. D. Fricks, granted leave of absence for thirty days from December 16.

Asst.-Surgeon W. C. Hobdy, to proceed to Jacksonville, Fla., for the purpose of making a physical examination of the Local Inspector of Hulls at that port.

Asst.-Surgeon Carroll Fox, assigned to duty in the office of the U. S. Consul at Liverpool, England, relieving Asst.-Surgeon J. F. Anderson.

Asst.-Surgeon Jos. Goldberger, granted leave of absence for fourteen days from December 21

Asst.-Surgeon J. S. Boggess, ten days' extension of leave of absence granted by bureau telegram of December 10, revoked.

Hospital Steward F. S. Goodman, relieved from duty in the Hygienic Laboratory, and directed to proceed to Key West, Fla., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward M. H. Watters, relieved from duty at Boston, Mass., and directed to proceed to Washington, D. C., and report at the Bureau for orders.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 20, 1901:

SMALLPOX—UNITED STATES.

California: San Francisco, Dec. 1-8, 1 case.
Georgia: Elberton, Dec. 12, 12 cases.
Indiana: Evansville, Dec. 7-14, 3 cases.
Maryland: Baltimore, Dec. 7-14, 1 case.
Massachusetts: Dec. 7-14, Boston, 60 cases, 6 deaths; Cambridge, 1 case, 1 death; Medford, 1 case.
Minnesota: Winona, Dec. 7-14, 2 cases.
Nebraska: Omaha, Nov. 30-Dec. 14, 22 cases; South Omaha, Nov. 30-Dec. 14, 40 cases
New Jersey: Camden, Dec. 7-14, 10 cases; Jersey City, Dec. 1-15, 23 cases; Newark, Dec. 7-14, 26 cases, 3 deaths.
New York: New York, Dec. 7-14, 10 cases, 2 deaths.
Ohio: Ashtabula, Dec. 7-14, 3 cases; Cincinnati, Dec. 6-13, 6 cases.
Pennsylvania: Allegheny City, Nov. 30-Dec. 7, 1 case, 1 death; Lebanon, Dec. 9-16, 25 cases; Norristown, Dec. 7-14, 2 cases; Philadelphia, Dec. 7-14, 125 cases, 8 deaths.
Tennessee: Dec. 7-14, Memphis, 7 cases; Nashville, 1 case.
Utah: Salt Lake City, Dec. 7-14, 2 cases.
Vermont: Burlington, Dec. 7-14, 4 cases.
Washington: Tacoma, Dec. 1-8, 1 case.
West Virginia: Wheeling, Dec. 7-14, 1 case.
Wisconsin: Fond du Lac, Dec. 3-10, 1 case; Green Bay, Dec. 8-15, 11 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Nov. 16-23, 7 cases.
Brazil: Pernambuco, Oct. 15-31, 72 deaths.
Canada: Quebec, Dec. 7-14, 25 cases; St. John, Nov. 30-Dec. 7, 16 cases; Windsor, Dec. 7-14, 1 case.
Colombia: Panama, Dec. 2-9, 25 cases.
France: Paris, Nov. 23-30, 2 deaths; Rhelms, Dec. 16-20, 2 cases.
Great Britain: Glasgow, Nov. 29-Dec. 6, 4 cases; London, Nov. 23-30, 427 cases, 23 deaths.
Russia: St. Petersburg, Nov. 16-23, 1 case.

YELLOW FEVER.

Mexico: Vera Cruz, Nov. 30-Dec. 7, 8 deaths.

PLAGUE—FOREIGN AND INSULAR.

Philippines: Manila, Oct. 12-25, 5 deaths.
India: Bombay, Nov. 19, 181 deaths; Karachi, Nov. 10-17, 49 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOL. XXXVIII. CHICAGO, ILLINOIS, JANUARY 11, 1902. No. 2.

Original Articles.

TREATMENT OF CHRONIC MYOCARDITIS.*

JOHN H. MUSSER, M.D.
PHILADELPHIA.

The condition to which attention is directed in this communication is one of chronic myocardial disease, a fibroid condition if you please, which results from, or is secondary to, sclerosis of the coronary arteries. It should be called coronary artery endarteritis, or chronic endarteritis of the coronary arteries with secondary myocarditis. This is the form which is to be kept in mind in discussing the details of treatment. It is not possible to pick out from the mass of humanity the individuals or class who are likely to be affected with this condition so as to apply measures of prevention. The patients only present themselves for treatment after the condition has become well established and our efforts are to be directed towards delaying the progress and alleviating the sufferings of the patient during the attacks of angina or dyspnea, or other myocardiac symptoms, which attend upon it, and adopting measures that will make the occurrence of these attacks infrequent. The treatment divides itself into hygienic management and medicinal management. The latter in turn depends much upon the associated lesions which are present in the case, and the amount of organic change that has taken place in the heart muscle especially.

When a case, which presents this condition of coronary endarteritis, or chronic myocarditis, comes before us, there is no question more important or so difficult to decide as that of how much rest will be required; whether he shall abstain entirely from business cares, or only partially. This depends largely upon the patient's station in life and must be decided from the standpoint of each individual case. Shall he give up his occupation entirely, or devote a few hours daily to it, while avoiding much exertion, and take the remainder of the day for rest? Much depends upon the proper decision of these questions, for the greater part of the cases are men of great responsibilities, which can not readily be given up, and our judgment of the matter means a great deal to them, as they are often busy men, who have active interests in educational, mercantile, political and other affairs. Our judgment must depend upon the conditions which we find to be present in the individual case, not only the condition of the heart and the vessels, but of other organs and the general state of the patient's health. Important to note are his excretory functions, his ability to digest sufficient food, his recuperative powers, and also the nature of his work. All these things must be considered, but we must be especially guided by the actual amount of the local sclerosis and the ability of the patient to recuperate after exercise, or the amount of fatigue that appears after ordinary exertion. In order to determine what changes must be made in his life, all the circumstances in the daily life of the individual must be weighed and given proper consideration. We must pass in review all the acts of the day, the character of his food, the power of digestion, and if there is any marked change or not in the gastric powers, and modify the character of the food and its quantity to suit the case. If dilatation or hyperacidity exists, this must be taken into account. If any tendency to gout or rheumatism is present due attention must be given to correct it. The character of the urinary secretion is to be frequently examined into for this purpose also. In short, we must be guided by all these considerations in our solution of the problem of diet. Then again, we must study the peculiarities of individual cases as to the effects of particular articles of food. Next, we must take up the question of bathing. Shall the patient be allowed to continue, if accustomed to take a cold bath in the morning, or shall he take some other form of bath in preference? Would he be benefited by the shock of cold shower or douche, or shall he be subjected to the relaxing effects of a warm bath? The answer to this, in any case, must depend upon the actual condition of the myocardium, and whether or not fatty degeneration is present, and, on the other hand, the condition of the general circulation. In the great majority of cases, the warm sponge bath at night, followed by moderate friction, will be sufficient, and all that can be safely done in the way of bathing. The saline baths as employed at Nauheim may be employed in many cases. In a few cases the steam bath, or hot-air bath, is useful, especially if the gouty or rheumatic diathesis be present. These baths may be given two or three times a week, according to effects observed. The clothing must also be looked into, but this and other hygienic matter of importance must be passed over in order to take up the question of treatment.

As regards the medicinal treatment of myocarditis, if we can settle upon a definite cause for the endarteritis or coronary artery disease, such as syphilis, this will to a large extent indicate the line of treatment to follow. In other cases, the treatment must be determined by the arterial condition, whether or not high or low arterial tension is present. In the treatment of the latter, digitalis in large or small doses, spartein, strychnin and other direct cardiac stimulants are useful. If there

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon, and N. S. Davis, Jr.

is high arterial tension present, it is the custom to give remedies which lower blood pressure, and those who give such remedies see delightful results from nitroglycerin, strontia salts and other agents which lower blood pressure. The fact is too often overlooked that some general measures also reduce blood pressure, such as purgatives. Many of these cases are benefited by salines given early in the morning, every day or two. In cases with high arterial tension, the use of magnesium sulphate every morning, or some similar salt, gives marked relief.

There are cases of chronic myocarditis, secondary to coronary artery disease, where we can not satisfy ourselves, or determine by ordinary physical signs, the exact state of the heart muscle—cases in which the condition may only be inferred from reduplication of the second sound of the heart and the state of the veins, where there is no dilatation of the heart walls. Nor, on the other hand, can we determine the existence of any hypertrophy, particularly that occurring with high arterial tension. There are cases of this kind in which the dyspnea is marked, with considerable arhythmia, in which we can not obtain any special evidence from the condition of the vessels that would indicate high arterial tension. These form a class of cases, in my mind, in which I feel that digitalis will be of benefit.

Now, as to the treatment of one or two of the clinical manifestations of myocarditis. The first we shall consider is angina pectoris. The treatment of the paroxysm is so familiar to all that it needs no argument concerning it; but the treatment in the interval should be considered. When in the course of myocarditis the attacks of angina occur, then it becomes necessary to modify the habits of life and to avoid too much active exertion. As remedial agents we use nitroglycerin, or iodid of potassium, and avoid digitalis and other preparations which increase the pressure of the blood. In using nitroglycerin, it should not be given in ordinary doses of a drop of the solution every two or three hours, but it should be rapidly increased until we get the physiological effects of the drug. Cases in the practice of the speaker had taken up to half a dram of the 1 per cent. solution three times a day with the greatest benefit. It is of this point which we wish to speak especially in the treatment of angina pectoris. In these cases in a fair measure it is in our power to prevent cardiac hypertrophy from occurring. The patient must be put upon a lower scale of life as regards exertion; as soon as he begins to live upon the same scale as an ordinary individual, with ordinary blood pressure, he will have attacks of angina pectoris.

The dyspnea of myocarditis is of two forms: That occurring with dilatation of the heart, the other with asystole. In one case, the dyspnea is almost constant, increasing into paroxysms in times of special excitement or exercise. The second form is that which occurs only in paroxysms, in attacks which take the form of sudden edema of the lungs, with chest oppression, and all the appearances of shock—pallor of surface, cold extremities, more or less anxiety, the expectoration of frothy material. Upon auscultation of the chest the bronchial tubes are found filled with râles, and on auscultation of the heart the most interesting conditions are found—arhythmia and asystole. It is often impossible to recognize any murmur on account of the râles in the chest. These cases are frequently mistaken for pulmonary conditions. Such a case must be treated first as a case of shock. We must relieve the pulmonary edema that has taken place; we must actively stimulate the heart and improve the circulation. Dry cupping of the chest and external hot applications bring the most speedy relief. There is no better remedy than morphin, administered hypodermically in small doses, for the relief of the patient. The speaker relied upon it, together with strychnia and nitroglycerin, where there is apparently a condition of high arterial tension; where this is not present morphin and strychnin alone will tide over the difficulty until the danger is past. Where there is venous stasis and lowered blood pressure, the use of digitalis and ordinary stimulants will be sufficient to overcome the condition. The speaker knows of nothing which required closer study and care in the application of therapeutic measures than these cases of chronic myocarditis. We must study not only the cardiac or cardiovascular condition, but also that of all the organs and structures of the body in order to treat them with satisfactory results and afford them the greatest amount of relief and comfort.

DISCUSSION.

DR. HENRY BEATES, Philadelphia, said that he had listened with interest to the remarks of Dr. Musser, because so far as the medical treatment of the class of cases described was concerned, experience had placed him in a position of direct antagonism to the views just expressed. He entirely agreed with the speaker in so far as the general hygienic management of these cases was concerned, and with that part of the communication which had a special reference to prophylaxis, but when the medical treatment of these cases is considered, personal experience with chronic myocarditis consequent upon endarteritis, whether it be of the coronary artery or elsewhere throughout the arterial system, compels him to take an exactly opposite position from the essayist, and to advocate the use of circulatory stimulants as a general principle, and the avoidance of circulatory depressants. The point he desired to particularly make clear was, that there is a great accumulation of blood in the venous system and a relative diminution of the volume of blood in the arteries. Hence, in these cases where the symptoms of distended veins, pallor, dyspnea, diminished renal secretion, etc., obtain, there is not increased arterial tension, but, on the contrary, marked diminution thereof. The theory advanced by the essayist is that, under these conditions we must administer large doses of cardiac depressants and notably, nitroglycerin. Let me direct attention to a strange fact; when nitroglycerin is employed in these conditions for relief, the paroxysms generally are aggravated, and still larger doses in extreme cases are then administered. The result is that the symptoms are all intensified, and when a serious collapse threatens, then the administration of these depressants is abandoned, and, in their place, is administered what should have been in the first instance, namely, digitalis, ammonia, strophanthus and alcohol. It is submitted that whenever there is increased venous congestion, other things equal, there must be lessened arterial tension. The physiology of this matter is too large a subject to be introduced in this discussion, and it must be left with the simple statement. In the intervals between the attacks of angina pectoris, there is a condition of more or less constant dyspnea, rapid irregular intermittent cardiac action, with distended veins, venous hyperemia of the kidney, cerebral venous hyperemia, or, if you choose, arterial ischemia, and a digestive tract which, by reason of the distended veins, is incapable of performing the functions of absorption. If these conditions are met by the use of remedies that stimulate the action of the arteries, not the heart especially, then these cases of chronic myocarditis will be greatly relieved and they may live in comparative comfort and the paroxysms described and the fatal result postponed for from many months to several years. He said this after an experience of many years with large numbers of cases which had been treated unsuccessfully with the use of cardiac depressants; these especial cases have been restored by the continued use of arterial stimulants to a condition of

comfort which, from the clinical phenomena presenting at the time they first came under observation, there was no reason to believe could be accomplished. The explanation of this mode of treatment is based upon the fact that it is the function of the arteries to propel the blood, and if the profession will ever realize the fact that each artery is practically a heart for the area it supplies, it will be understood that arterial tension for that area can not possibly exist while the veins of the same region are in a state of turgescence.

The remedy he had found efficient for restoring lost circulatory equilibrium, whether it be local or general, was that one derivative of digitalis manufactured by Merck, and known as digitalin Germanic. None other will do it. The ordinary official preparations of digitalis can not be relied upon to accomplish this with any degree of certainty, because the different constituents of the crude drug are possessed of varied physiologic power. Then again, they exist in a given specimen of the true drug in such varying proportions and are differently soluble in the menstruum used for the preparation, that it is impossible to state, until the actual therapeutic value of the given preparation is determined, whether the property desired is possessed or not. For illustration, alcohol dissolves certain derivatives and therefore the tincture of digitalis will contain principles which the infusion does not. He had, after careful comparative study, abandoned commercial digitalin, digitoxin, digitalin verum, in a word, all but the one especially designated. This is made by precipitating a principle from the infusion of digitalis by the use of tannin; this is subjected to a chemical process, which can not at this time be described. The administration of this especial derivative is safe, and other things equal, will invariably restore circulatory equilibrium. It should be exhibited in doses varying from one-fourth to one-half grain, from three to six times daily as especial conditions indicate. In conclusion, experience had shown that the conditions described called for the administration of arterial stimulants and especially the remedy named. Arterial depressants as a rule should never be employed. There are conditions in which rarely it is necessary to employ both, for reasons which familiarity with the physiology of circulation will make plain.

DR. S. E. SOLLY, Colorado Springs—He regretted that the essayist did not go further and mention the effects of climate upon these cases, as patients are often advised to travel and many are sensitive to climatic change. This is especially true when the change is to a high altitude. Patients with chronic myocarditis or coronary disease sent to Colorado often improve because of the lowered arterial tension which the diminished barometric pressure produces. They may do well as long as they remain quiet and avoid active exercise, but even slight exertion at a high altitude is much more dangerous for them than at sea level. On this account he did not believe that, as the rule, high climates are suited to these cases. At the same time he had been surprised to find how much many of them could do without showing ill-effects, going up Pike's Peak for instance. Of course this was accomplished without exertion as they were carried up in the train, but they did it without being injured. Though some cases reside permanently in Colorado with benefit and comfort, yet the safe rule is to send these patients to less extreme climates of moderate altitude where the air is also sunny but more equable in temperature, and while not absolutely damp has more moisture in it than that of the higher altitudes.

DR. O. T. OSBORNE, New Haven, Conn., thought that if the two speakers from Philadelphia could be brought together in consultation over a case that there would be very little difference between them in the treatment of chronic myocarditis. The special preparation of digitalin mentioned has not been sufficiently studied, as it is of recent introduction and more experimentation is needed to decide whether it is a vaso-dilator or vaso-constrictor.

DR. BEATES—It is a vascular constrictor.

DR. O. T. OSBORNE—Our information upon the effects of these remedies has been recently much extended by the discovery that there is a vaso-dilator element in the adrenal gland and it gives a stimulus for more careful study of all cardiac drugs. In the condition under consideration, we sometimes need a vaso-constrictor and sometimes a vaso-dilator, but we almost always need morphin. Nitroglycerin given over a long period is also of much value. He had often thought that the cases that occur after the age of 45 years, when the thyroid gland is beginning to atrophy, may be really due to a decrease of the functional activity of the thyroid. In fact he had found in many cases that small doses of thyroid extract have been productive of good effects. He had also used potassium iodid with satisfactory results, but believed that he had observed better continued results from the use of the thyroid in these cases.

THE INFLUENCE OF SOME OF THE COMMONER DRUGS UPON THE GASTRIC FUNCTIONS.*

BOARDMAN REED, M.D.

PHILADELPHIA.

The following observations were made in my laboratory on five persons employed in an office building in Philadelphia during February, March and April, 1901. None of them complained of their stomachs. They were not invalids or under medical treatment, though some of them realized that they were not in robust health.

In every case the stomach contents were extracted by a Kuttner rubber bulb, one hour after an Ewald test breakfast, with one exception, when the time was fifty minutes. The contents were filtered before being examined. No attempt was made to empty the stomach completely, since to do this adds needlessly to the discomfort of the procedure and does not add any important reliable information. The motor power of the stomach can be measured much more accurately and conveniently by other means.

All the persons thus experimented upon had been eating ordinary diet, and were directed to continue with the same food and under like conditions otherwise, during each period of observation.

For the sake of convenience the results of the various tests have been arranged in the form of tables, which are here given:

It is first of all noteworthy, that of these five average persons, all engaged actively in earning a livelihood and none of them complaining of any stomach symptoms, only two, Cases 1 and 2, had an approximately normal gastric secretion and peptonizing power. Case 4 showed some sourness from fermentation and far too low a figure for the combined HCl, which is a fairly accurate measure of peptonization. Other tests pointed to deficient motility in this case. The total acidity percentage of HCl was, however, about normal. The two others had less than the normal amount of HCl; indeed, a marked deficiency of it.

The tincture of nux vomica was chosen for the first test, since it is one of the most active and bitter, as well as one of the most commonly administered, of all our so-called stomachic and general tonics. The results might at first be considered rather contradictory, since in two cases (Nos. 1 and 2) the use of the remedy before meals for five days produced a lessened secretion, while in the other three there was a decided increase. This outcome is especially interesting for the reason that the depressing effect took place in the two persons whose gastric juice was practically normal, persons, therefore, who did

---

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon and N. S. Davis, Jr.

Date of Test.	Color of chyme.	Odor.	Amount of mucus.	Digested.	Total acidity.	Amount of free HCl, by Toepher's method.	Amount of combined HCl, by Toepher's method.	Remarks.
				Case 1.—Male, aged 27.				
Preliminary test Feb. 21, '01	Gray.	Normal. . . .	Small	Fairly.	62	.094	.043	From Feb. 21 to Feb 26 he took 10 gtts. tr. nux vom. before each meal.
Feb. 26, 1901.	Gray.	Normal	Small	Fairly. . . .	48	.043	.014	Motility much increased; not enough stomach contents obtained at first attempt; second time extracted at end of 50 minutes.
March 4, 1901.	Nearly white .	Sour.	More than before.	Pretty well . .	64	.102	.094	Had taken 10 gtts. dilute HCl after each meal for the 5 days before.
				Case 2.—Male, aged 23.				
Preliminary test Feb. 22, '01	Yellowish . . .	Normal	Small	Not fully . . .	36	.043	.109	From Feb. 22 to Feb. 27 he took 10 gtts. tr. nux vom. before each meal.
Feb. 27, 1901.	White.	Slightly sour .	Small	Partly.	36	.029	.080	After taking 10 gtts. tr. nux vom. before meals 5 days.
March 4, 1901.	Not noted. . .	Not noted . .	Not noted.	Not noted. . .	38	.073	.051	After taking 10 gtts. dil. HCl for 5 days after each meal.
				Case 3.—Male, aged 26.				
Preliminary test Feb. 20, '01	White. . . .	None	Moderate	Fairly.	30	.018	Not enough chyme to make the test.	Subacidity with hypermotility.
Feb. 26, 1901.	Dirty yellow .	Slightly sour .	Moderate.	Fairly.	40	.029	.043	After taking 10 gtts. tr. nux vom. before each meal for 5 days.
March 5, 1901.	Yellowish white.	Slightly sour .	Small	Fairly.	48	.065	.080	After taking 10 gtts. dil. HCl following each meal for 6 days.
April 8, 1901.	White.	Sour.	Small.	Well.	50	.054	Not enough to test for this.	During interval of month has taken HCl irregularly. Began scale pepsin after each meal.
April 19, 1901.	Yellowish white.	Aromatic . . .	Small	Well.	40	.043	.073	After taking 5 grs. of scale pepsin after each meal for 11 days.
				Case 4.—Male, aged 58.				
Preliminary test, Feb. 21, '01	White.	Sour.	Moderate, from throat.	Well.	49	.054	.023	Normal HCl; fermentation excessive; peptonization deficient.
Feb. 23, 1901.	Clear and limpid.	Sour.	Moderate, from throat.	Well.	54	.080	.051	After taking 10 gtts. tr. nux vom. before each meal for 2 days.
March 1, 1901.	White.	Sour.	Moderate, from throat.	Fairly.	60	.094	.102	After taking 10 gtts. dilute HCl after meals for 6 days.
April 2, 1901.	Not noted. . .	Not noted. . .	Moderate, from throat.	Well.	62	.109	.065	Had continued to take HCl after each meal. Now omitted HCl and began taking 5 grs. scale pepsin after meals.
April 11, 1901.	Gray.	Sour.	Moderate, from throat.	Well.	50	.065	.057	After taking 5 grs. scale pepsin after each meal for 17 days.
				Case 5.—Female, aged 34.				
Preliminary test, Feb. 22, '01	Gray.	None	Moderate	Poorly.	18	None	.021	Marked hypoacidity and hypopepsia. Began taking nux vom. before meals.
Feb. 27, 1901.	Gray.	None	None	Fairly.	26	.010	.051	After taking 10 gtts. tr. nux vom. before meals for 5 days.
March 5, 1901.	Light gray . .	None	None	Pretty well . .	46	.065	.058	After taking 10 gtts. dilute HCl after meals for 5 days.
April 8, 1901.	Light gray . .	None	None	Pretty well . .	37	.029	.047	Continued the HCl for a few days only after last test. Now began taking scale pepsin 5 grs. after meals.
April 15, 1901.	Light gray . .	None	None	Fairly.	32	.029	.040	After taking scale pepsin 5 grs. after meals for a week.

not need medicine for their stomachs; and the stimulating effect occurred in the three who exhibited manifest gastric faults, one of them a somewhat impaired motor power, and the two others a marked lack of HCl. Five cases are too few, of course, to warrant any sweeping inferences, but there has been an abundance of clinical observations which show that any organ which is functionating healthfully already, is likely to be injured by drug stimulation.

The next test, to ascertain the effect on the gastric glands of administering HCl regularly for a time, yielded remarkably striking results, which being in complete harmony with clinical observations reported of late from various parts of the world, must be accepted as conclusive.

Every one of the five persons who took 10-drop doses of dilute HCl in water after meals for a period of five to six days, experienced a very positive stimulant action upon the glands whose function it is to secrete HCl, and the two virtually normal stomachs whose glandular apparatus was depressed by the nux vomica, not only regained what had thus been lost, but had their secretion carried to a higher level than before; higher, indeed, than normal. In one of these the HCl reached a point which may be considered hyperchlorhydria. And this resulted in the short period of five days from doses of dilute HCl, which many writers regard as altogether too small to be effective.

But the mistake has frequently been made of overlooking the exceedingly important fact, that this remedy, be-

sides its occasional palliative action when given in very large doses, by aiding a deficient gastric juice directly in the work of peptonizing proteids in the stomach, in the presence of a sufficient amount of pepsin or propepsin, possesses also the property of exerting positive stimulant action upon the glands by which HCl is secreted. This point was emphasized by me in a paper read before this Section three years ago.[1] In that paper I referred also to communications upon the same subject by Hemmeter in this country, as well as by Wegele, Riegel, Reichmann and Mintz in Germany.

All the above-named authorities have become convinced that the administration of HCl as a medicine tends gradually to increase the secretion of the same acid by the stomach. In some of my cases in which there was an almost entire absence of such secretion, the administration of dilute HCl in doses of five to ten minims after meals for long periods, as three to six months continuously, has been followed at last by a restoration of the secretion to the normal amount.

The fact that small doses of HCl, in conjunction with other appropriate treatment, may produce this restorative effect, in many cases—probably in most cases in which atrophy of the glands has not developed—may be considered as fully established. It has been also proved that even small doses of HCl may set up hyperchlorhydria in normal stomachs, or aggravate it, when that condition already exists.

Three of the persons experimented upon took 5 grains of scale pepsin (that made by Parke, Davis & Company), for periods of from seven to seventeen days. They were Cases 3, 4 and 5, those whose stomachs, it will be observed, were least normal. These tests of pepsin were made about a month after finishing with the other ones, though in Case 3, the person finding HCl so beneficial, had taken a dose or two nearly every day during the interval, and Case 4 had taken it with an approach to regularity during the same time. Case 5 had taken no HCl for fully three weeks when she began the use of the pepsin after meals. None of the three took any HCl during the experiment with pepsin. Without these explanations one might infer from the results shown in the tables above, that an active preparation of pepsin, so far from exerting any restorative influence, tends to produce a lowering effect upon the gastric secretion, and possibly it may in some cases. But it will be noticed that in the trial upon the person (Case 5), who took no HCl for several weeks before the pepsin test, there was virtually no change in the amount of the HCl secretion and digestive work done before and just after the week during which pepsin was administered.

In the other two cases the falling off in the secretion of HCl and in digestive work during the period that pepsin was administered and HCl not administered, may, therefore, no doubt, be properly attributed to the withdrawal of the acid, which we now know to be our most active gastric stimulant.

It is a fair inference from these experiments that pepsin given as a digestant, though known from a large number of clinical observations to be a helpful palliative under certain conditions, does not, at least, like numerous other glandular products of the body, tend to augment the natural secretion of the same by its prolonged use.

An additional series of experiments was carried out in April, 1901. In each of five different persons, three of whom had a deficient secretion of HCl at the time, the following experiments were made, and in the case of one of them the same were repeated a week later: Small cubes of coagulated egg albumin of the same size were prepared and one of these introduced into each of four test tubes with 3 c.c. of the filtered stomach contents taken up one hour after an Ewald breakfast. Nothing further was put into tube 1; to tube 2 two grains of scale pepsin were added; to tube 3 one drop of dilute HCl, and to tube 4 both pepsin and HCl were added. All the tubes were then placed in an incubator and the temperature kept as nearly as possible at 38 C. The results of these tests need not be reported here in detail, yet a summary of them may be instructive:

In two only of the six tubes to which pepsin was added was there shown any more rapid solution of the egg than where the chyme alone was allowed to act. The analysis, in one of these two cases previously made had shown somewhat more than the normal proportion of HCl—free HCl, .094; combined, .080—and the other revealed a marked deficiency.

In the other five experiments, while in every case except one there was free HCl present though deficient in amount, there resulted a distinct retardation of the digestive process in all the tubes in which pepsin alone was added to the mixture of chyme and egg.

The addition of HCl alone produced a doubtful result in one case, i. e., there was no appreciable difference between the amount of digestion in the tube with only the stomach contents and that in which HCl was added. In three of the cases it helped more or less, though in one only slightly. In the case of one person with whose chyme the test was made twice at an interval of one week, the result was each time a positive retardation of the digestive process. The analysis of a portion of the same chyme showed the first time T.A. 50, with free HCl .065, and the second time T.A. 46 and free HCl .065, combined HCl .058—certainly not an excess of secretion.

The addition of both the HCl and scale pepsin produced a more rapid solution of the egg in each of the six trials. Test-tube experiments in digestion have, of course, much less value than when the remedies are administered to living persons. Many of us have been led to consider pepsin especially a very mild and safe remedy, which is not likely to do harm even if it can do no good. Acting on this principle, I recently prescribed moderate doses of pepsin for a very delicate lady who would not permit a test of her stomach contents to be made, and the result was a severe aggravation of her symptoms. She then informed me that she had once before experienced a similar result from the same medicine.

The increased digestive power exhibited by all the six specimens of stomach contents when pepsin and HCl were both added, even in persons the action of whose gastric juice was notably retarded by either drug alone, is curious and most interesting. It shows the folly of dogmatizing too positively as to just what part any particular element of a secretion plays in the observed effect, and the wisdom of humbly endeavoring to imitate Nature as nearly as possible in concocting remedies to supply a deficiency in the work of any organ. It is very likely that if we should combine pepsin, HCl and rennin with water and the other minor ingredients of the gastric juice in the proportions usually found in the human stomach, we should obtain a remedy of much greater effectiveness than any now in use for weak digestion.

The results of the foregoing experiments would seem to point toward the following conclusions:

1. The Place of Hydrochloric Acid in the Treatment of Diseases of the Stomach. By Boardman Reed, M.D., JOURNAL A. M. A., 1898, and Int. Med. Mag., October, 1898.

1. Perfectly normal stomachs are probably in the minority in large cities, especially among persons employed indoors.

2. In stomachs which are normal or approximately so, the digestion may be injured by a simple bitter tonic, taken even for a short time.

3. Quite moderate doses of HCl administered as a medicine may prove effective in hypochlorhydria, but are likely to do harm to normal stomachs and certain to aggravate hyperchlorhydria.

4. Pepsin rarely produces any good result when given alone, even to persons with weak digestive power, and often then retards the digestion of albuminoids.

5. Pepsin and HCl given together much more frequently do good than either administered singly.

I desire to acknowledge my indebtedness to Dr. C. B. Worden, my assistant, for his efficient services in carrying out many of the details of the above described experiments.

TREATMENT OF CHRONIC ROUND ULCER OF THE STOMACH.*

G. FUETTERER, M.D.
CHICAGO.

Medical men have always had an inherent desire to put therapy on a rational basis. This feeling could not be downed any more than truth itself; knocked down, it would rise again to renewed effort. *Cessante causa, cessat effectus,* is the never-dying war cry that rings in our ears from generation to generation. Such thought leads me to commence my paper on treatment of ulcer of the stomach with a consideration of its etiology.

A normal stomach does not digest its own tissues, neither as a whole, nor in part, and when self-digestion does take place it involves circumscribed portions, showing that there are agents contained in the gastric juice which act in harmony with certain local causes that lessen the resistance of parts of the wall of the stomach, allowing a partial self-digestion, which leads to the formation of a so-called round, peptic, perforating, chronic ulcer of the stomach. So we have two causes, one in the gastric juice, which is uniformly distributed through the interior of the stomach, and the other, which, at least during life, is always localized, and, therefore, only permits a part of the wall of this organ to become digested. Both causes have received due consideration, and still we can not say that our views concerning the etiology of ulcer of the stomach are sufficiently cleared to allow a good understanding of the factors at work and their comparative value. Hyperacidity, or rather hyperchlorhydria, of the gastric juice on one side, and local circulatory disturbances from vasomotor irregularities, embolism, atheroma, thrombosis or hemorrhage, on the other, whatever their causes may be —traumatism, chemic and thermic influences—are considered as the main factors bringing about the formation of gastric ulcers, and no doubt they all are of greatest importance. But if we consider the attempts which have been made by experiments on animals to show the value of those different factors, we are forced to admit that we have not yet arrived at a full understanding. If we review literature on this subject, we find that many successful attempts to produce artificially ulcer of the stomach in animals are recorded. Hydrochloric acid has been brought into the stomach; chemic, thermic and traumatic lesions of the mucosa have been made; blood vessels have been ligated; hemorrhages, embolisms and necroses have been produced; the nervi vagi have been cut; the duodenum was ligated, and the reports tell us that typical ulcers were produced.

I have repeated many of these experiments without being able to convince myself of their reliability. I also have succeeded in producing ulcers which in many instances had quite the appearance of ulcers as they occur in men, but a more thorough macroscopic and microscopic examination soon convinced me that they were healing ulcers, granulations covering their basis, and an epithelial covering growing towards their center from all sides. The gastric ulcer in man has no tendency to heal. It is chronic in character, and, therefore, we can not allow the statements of those to go unchallenged who have been satisfied with observing general macroscopic appearances, merely stating the presence of ulcers, without giving a detailed macroscopic and microscopic description.

Silbermann[1] has wisely considered another important factor, hemoglobinemia. Destroying hemoglobin by injections of hemoglobin and pyrogallic acid, and then causing embolisms, mechanical injuries, etc., he has produced ulcers, leading to hemorrhage and perforations, which would lead us to think that, although he does not report microscopic findings, he has produced genuine ulcers.

I have made a great many experiments, but, considering that my subject is treatment of ulcer, I shall not go into detail. I have resected mucous membrane of the stomach, removing one-third of the volume of blood of the animal right after operation. Result: After two weeks the defect was healed.

Again, mucous membrane was resected, one-third of the blood volume removed right after operation, and again as much as possible, without killing the animal, three days later. Result: After two weeks an ulcer that had the appearance of ulcer in man, but fresh granulations at its basis, and microscopic examination showed that an epithelial covering was growing from all sides towards the center of the ulcer; it was in the process of healing. Then, the same experiment was made, and the animals were allowed to live a week or two longer. Result: The ulcers had healed.

Conclusion.—A lack of volume of blood does not promote the formation of an ulcer.

After this, the same experiments were repeated, and the hemoglobin was destroyed by frequent injections of pyrogallic acid. Result: Typical ulcers which macroscopically and microscopically showed no tendency to heal. These findings compare well with our clinical experience in gastric ulcer of man.

In younger years we find gastric ulcer in combination with chlorosis, and in later years with different forms of secondary anemia, from lack of digestion or assimilation, atheroma, thrombosis, embolism, hemorrhage, thrombosis, malaria and syphilis. The general factor, anemia, or rather hemoglobinemia, is to be considered most important, while the others, the local causes, are of more secondary consideration. On this basis we must establish our plan of treatment. I feel that I can make the dictum that an ulcer of the stomach can form only when there is a certain amount of hemoglobin lacking, and that it must heal when the hemoglobin percentage is increased to a certain amount.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon and N. S. Davis, Jr.

1. Deutsche Med. Wochenschr., No. 29, 1886, p. 497.

Based on these conclusions, I proceed as follows: When an ulcer of the stomach is diagnosed, even if a copious hemorrhage from the stomach has just occurred, or, if in the absence of classic symptoms there is reason to believe that a patient has an ulcer of the stomach, then I first examine the blood, ascertaining the percentage of hemoglobin. The patient is then put to bed, the juice of five pounds of beef daily, properly prepared, is administered, until the percentage of hemoglobin becomes or approximates the normal, or nearly so, and then we prescribe a rest cure, as it is usually employed, lasting from four to six weeks, giving beef juice when necessary, always controlling the percentage of hemoglobin by regular examinations of the blood.

The general consensus of opinion as to the value of the rest cure is very favorable, and rightly so, but we must consider that by subjecting a patient who is already anemic to such a treatment, we do not meet all of the indications. By keeping the stomach quiet, we no doubt add to the chances which promote healing of the ulcer, while, on the other hand, by starving the patient, or by giving only milk and nutritive enemata, we make worse the anemic condition, thereby lessening the chances for healing of the ulcer. By administering the elements which are lacking in the blood, and putting the organ at rest, we meet both indications.

The immediate effect of the rest cure is, as a rule, very pleasing, but if we observe our cases critically after they have left "cured," we will find sufficient cause to correct our statistics, and the ultimate prognosis will appear in an entirely new light.

To outline my mode of treatment in a general way, I would recommend the following:

1. If we diagnose an ulcer of the stomach, or if, in the absence of convincing symptoms—which are so often lacking—we have cause to suspect an ulcer, we must at once ascertain the percentage of hemoglobin.

2. We advise the patient to go to bed, either in a hospital or at home, employing the services of a trained nurse.

3. We give the juice of five pounds of beef daily, as the case may require, to bring the percentage of hemoglobin up to normal as soon as possible. Prepared beef extract does not give the desired result. Peptonized beef solutions are not tolerated in sufficient quantity.

Leube-Rosenthal beef solution soon becomes objectionable to the patient.

Beef juice prepared as follows is generally well taken, and gives excellent results in uncomplicated chlorosis, and in secondary anemia, that is not caused by carcinoma, etc.

DIRECTIONS FOR PREPARING BEEF JUICE.

1. Order five pounds of finely-chopped round steak, to be brought at 8 o'clock every morning, or keep it in an ice-box from the day before. The fat should be removed before the beef is chopped.

2. Mix the meat with a teaspoonful of salt, and put it into the upper part of a double boiler. Cover without adding water.

3. Fill the lower part of the boiler with warm (not hot) water.

4. Keep the boiler on a kitchen stove for four hours, keeping the water in the lower part of the boiler just warm, so a hand can be placed on the latter without burning it. This will do, as a rule, but the use of the thermostat, regulating the temperature to 120 F., gives more uniform results.

5. Turn the beef every hour.

6. After four hours press out the juice with a potato-masher, spice, and let patient drink it in two portions, one-half at dinner and the other half at supper.

Five pounds of beef yield about a pint of juice, which will necessarily have to be taken in one portion at supper, if the patient works during the day.

In other cases, one-half should be taken at noon and the other half at supper. The juice should be of a roast-brown color.

After the percentage of hemoglobin has become normal, the patient should have nothing to eat or drink for from two to five or six days. During this time the teeth must be kept very clean, and a good mouth-wash must be used often.

Rectal-nourishing enemata may be given twice a day, preceded by a cleansing enema. Not more than one cleansing enema should be given before the food is injected. The nutritive enema may consist of one egg, five grains of pepsin, eight ounces of normal salt solution and a glass of claret mixed.

If the enemata should cause discomfort, they must be stopped immediately. I have observed serious collapse in a perfectly healthy man, 28 years of age, after such injection, and frequently discomfort was caused in others, quite out of proportion if we consider the slight benefit derived from such enemata. Nutritive enemas become really unnecessary when we allow our patients the use of large amounts of beef juice. After the days of total abstinence from eating and drinking, we give milk for a period of from four to six weeks, ordering beef juice whenever necessary. The patient is then permitted to partake of solid food, either according to Leube's diet, if all goes well, or, if I do not feel assured about the progress of the patient, Pentzold's diet is employed.

The immediate results of such treatment, if well applied to the individual case, are very gratifying indeed, but the prognosis of ulcer of the stomach is not nearly as good as our statistics would make it appear. A great part of the later complications occur, because:

1. Patients present themselves too late.

2. The diagnosis is frequently not made, because the so-called classic symptoms are not manifest.

3. Hemoglobinemia is not sufficiently considered, and, if so, not properly treated.

In conclusion, I wish to say that I am very much inclined to recommend gastro-enterostomy early, in cases of stenosis of the pylorus, particularly if I am convinced that it is caused by the scar of an ulcer of the stomach, on account of the frequency with which carcinomata originate from such ulcers, through mechanical irritation of their margins. Such a mechanical irritation is much relieved by gastro-enterostomy, and, therefore, the danger of carcinomatous development may often be averted.

Let me give the history of two cases, one to illustrate my mode of treatment and the second to show that carcinoma may develop from a very small ulcer of the stomach.

CASE 1.—Chronic round ulcer of the stomach. (Short extract from the history.)

October 22, 1900. Mr. B., aged 37 years; married, two children. Rheumatism and gout in the family. Measles, rheumatism twelve years ago, and ten or twelve times since laid up. Two or three weeks at the longest. Malaria.

Present trouble seems more indigestion, dyspepsia, bloating, sour; sometimes pains one hour, or four or five hours after meals. Pain feels as if someone had hold of his epigastrium, twisting him up. Burning pain, principally under sternum. Trouble commenced fourteen years ago, when he was traveling.

Lost from 178 pounds to 138 in a year, from 1886 to 1887. At that time more distress, no sharp pain, sometimes several weeks would go by without trouble. He feels it more during spring and fall. He never vomited. A week ago, on the 12th, he had a large hemorrhage, fainted at 2 or 3 p. m. on the closet; when he recovered there was vomiting, but apparently no blood. Had his lunch at 10:30, eating a little celery and drinking some hot Scotch whisky. At supper he had a very small oyster stew, and not half a slice of bread. At 7 a. m. took a hot water injection, and then passed a good deal of blood, most of which was dark. He fainted and came to, and after half an hour there was another small hemorrhage. Felt weak, but not excited. Urine: no albumin or sugar. Blood: specific gravity, 1049.

Diagnosis: Ulcus ventriculi; dilatatio-ventriculi; gastritis chronica.

The patient entered the hospital, and was put to bed on Oct. 22, 1900. He received the juice of five pounds of beef daily, given in three portions, and also some milk. On November 7, the specific gravity of his blood having reached 1060, he received nothing to eat or drink from November 7 at 6 p. m. to November 9 at 6 p. m., and after that milk, and off and on also beef juice. On November 23 clear soup and lentil soup, from which the lentils had been removed, was allowed. The first solid food was given on December 2, and gradually additions were made to the list of diet. He left the hospital on December 13, without having had any trouble with his stomach at any time, and his stomach has been well since.

CASE 2.—Adeno-carcinoma of the stomach originating from chronic round ulcer. (Case of Dr. G. Fütterer.)

Mrs. G., 59 years of age, comes from a healthy family, but a brother died from carcinoma of the stomach, at the age of 42. About twenty-three years ago patient had dull pains in the epigastrium, which commenced with vomiting, that occurred daily, at irregular hours, for about three months. Every year similar attacks occurred, lasting from two to three months, the last one from June, 1899, to the time of her death, on Nov. 19, 1899. While she was under my care, she was treated for ulcer of the stomach in the hospital, after Leube's method. She improved very much, the pains disappearing almost entirely, and I expected her to get well. She was very anemic. After four weeks of treatment she left the hospital. Very soon, about a month after the patient had left the hospital, the pains recurred, the anemia grew worse, and emaciation became quite marked. As she had to be kept under the influence of morphin, and, believing that a carcinoma had developed from an ulcer, I recommended operation. On Nov. 16, 1899, an operation was performed, and a very small round ulcer, about the size of a dime, was found near the lesser curvature, somewhat to the left of the middle part of the stomach. From a portion of the margin of this ulcer had developed a whitish growth, appearing in the form of two nodules, measuring 1.5 to 1 centimeter. Macroscopic inspection and later microscopic examination showed that the ulcer had not healed, and that there was no tendency to healing. The small growth was an adeno-carcinoma, with infiltration of the submucosa, and muscularis. A gland which was attached to the outer side of the affected parts of the wall of the stomach affected was in a hemorrhagic condition, but metastases have, so far, not been found. Ulcer, growth and about an inch of the stomach's wall in circumference were resected, and this whole piece has been imbedded, cut and examined microscopically. We do not intend to describe the microscopic findings, as the microphotographs show them clearly.

Conclusions.—1. Although the patient's pains had disappeared almost entirely during the application of the rest cure, which led us to believe that the ulcer had healed, we found that it did not show the slightest tendency to heal, therefore the disappearing of the symptoms does not necessarily indicate that the ulcer has healed.

2. We have seen an adeno-carcinoma develop from a round ulcer of the stomach, which was very small, indeed, and this throws new light on the prognosis of chronic round ulcer of the stomach.

DISCUSSION ON PAPERS OF DRS. REED AND FUETTERER.

DR. JAMES B. HERRICK, Chicago, said that he was convinced that the importance of medical treatment in ulcer of the stomach had been underestimated by the medical profession, speaking generally. Besides the possibility of a fatal result by hemorrhage or peritonitis, with the occurrence of perforation, there are the more remote dangers of the appearance of carcinoma in the cicatrix, or contraction of the pylorus producing obstruction for which surgery offers the only means of relief. So that whatever contributed to our knowledge of the proper treatment of the ulcer of the stomach, is of great interest and importance. He had been acquainted with Dr. Fuetterer's studies of the pathology of ulcer of the stomach, and could say that his work deserved the highest praise. It seems that he had laid more emphasis, than upon any other cause, on the influence of the blood in the causation of gastric ulcer. He had pointed out the fact that, when the hemoglobin is deficient, we get a gastric ulcer and that until this deficiency is corrected, by proper treatment, the ulcers have no tendency to get well, and, in fact, resist all medical treatment. Yet pathologists tell us that they often find stellate cicatrices which they interpret as healed ulcers which have healed without medical aid. The line of treatment must take into consideration the nature of the causes which produced the ulcer, and the agency which keeps the ulcer from healing. This latter is mainly the constant motion of the stomach, after the partaking of food, the constant motion also in walking and in other movements of the body. Perhaps above all, it is kept from healing, by constant irritation from the gastric juice which is poured out during digestion. The method of treatment which seemed to be the most natural, would be that which allowed the greatest rest to the stomach. The experience of physicians generally would seem to indicate that the more nearly perfect rest for the stomach is secured, the more satisfactory is the result. This would involve placing the patient in bed, adopting the plan of Leube, keeping the patient at rest for a few days and giving him Carlsbad salts or alkalies, in order to overcome the acidity of the stomach, and using nutritive enemata. Very good results have been reported by this method; in fact Leube reported 70 per cent. of recoveries. The speaker's own plan is to carry out a modification of the method of Leube, namely, to put the patient at rest in bed, with absolute rectal feeding for three to twenty days, thus keeping the stomach walls at rest as perfectly as possible, and making the gastric juice small in quantity, so as not to irritate the stomach and cause spreading of the ulcer. This plan of treatment has been objected to as being unnecessarily severe, but he had never seen a patient who had objected to it and he had never found a rectum that refused the injections, when carefully given. He had never had occasion to regret its adoption. In old cases the results are not so satisfactory, but they are not satisfactory by any method of treatment. The point made by Dr. Fuetterer is of great importance: that we should not forget the condition of the blood. In the treatment just referred to, he had not overlooked the condition of the blood, although he had laid greater stress upon rest than he had upon the condition of the blood. Dr. Fuetterer lays more stress upon feeding than he does upon the rest cure. The speaker's reliance was upon rest in bed and upon milk. Before the patient gets out of bed, he is put upon the old-fashioned Bland's pill or some other form of iron. Under this plan of treatment, recovery is the rule. Dr. Shattuck of Boston, after reviewing all the various methods of treatment, came to the conclusion that this method of rest, with rectal feeding, gave the best results, and that the tendency to relapse was less by it than by any other. This tendency to relapse, which has been referred to by Dr. Fuetterer, is most discouraging, and in any system of treatment the liability to relapse is to be considered. The best method of treatment, if put into a few words, in all cases of uncomplicated ulcer of the stomach, is to stop all food from going into the stomach,

including water, then to put the patient to bed and feed him by the rectum for the first few days. After this, gradually give him food by the mouth and then give iron, and, only after a number of days when the patient has regained a good proportion of hemoglobin and of his strength, to allow him to eat ordinary food. He, like the essayist, advocated operative treatment in cicatricial obstruction of the pylorus. His own opinion was that early operation offers the best hope of relief. He also thought that early operation might prevent the occurrence of carcinoma.

DR. G. FUETTERER—The feeding is a very important part of the treatment. The plan he adopted is one that can be carried out by a trained nurse or any intelligent person of the household. He begins at 7 a. m. with an enema of a pint of warm water; if retained, it quenches thirst, and if not retained, acts as a cleansing douche. Then at 8, 12, 4, 8, and at midnight, he gives a nutritive enema, consisting of a dram of somatose, one egg, and a pint of milk, to which is added a pinch of salt. The patient is instructed to retain the enema and is assisted by the nurse. These injections are continued for 6, 10, or 15 days, or until the nausea and vomiting have all disappeared; then they can be cut down gradually, as feeding by the mouth is resumed. Occasionally an enema of warm water is given to relieve the thirst. For the relief of pain, he used, as Dr. Shattuck had recommended, small doses of morphin given hypodermically, which also accomplishes a good purpose in overcoming the annoying thirst, and quieting the movements of the stomach.

GASTRIC HYPERESTHESIA AND ITS MANAGEMENT.*

CHARLES G. STOCKTON, M.D.
BUFFALO, N. Y.

The term gastric hyperesthesia has been applied to painful or distressing sensations arising in the functionating stomach, not so intense as gastralgia, but of enough severity to cause more or less discomfort to the patient. If we analyze the causes of these distressing sensations, it will be found that they depend upon various pathologic conditions. Unquestionably the term "hyperesthesia" is often improperly used. The truest use of the term is when it is applied to sensory states analogous to cutaneous hyperesthesia, so often seen in the neurotic. There is a comparatively large class of cases to which I have gradually come to apply this term. It is important that this class of cases should be distinctly understood, as the conspicuous sensory symptoms so much attract the attention of patients and physicians that there is often established a course of treatment for indigestion that really does not exist. The patients of whom I speak present symptoms that resemble those of hyperchlorhydria, and yet the conditions are not identical. Nevertheless the symptomatology is sufficiently alike to render it impossible to make a diagnosis without examining the gastric chemistry. There is commonly distress after eating, often occurring earlier than in hyperchlorhydria, also eructions of gas, and sometimes water-brash. There is often tenderness over the epigastrium, and a sensation of vague distress after meals that leads the patient to eat sparingly, hence there is loss of flesh and strength.

The examination of the stomach contents of these cases reveals the fact that the standard of hydrochloric acid is not above the normal; indeed, it is often below that seen in active individuals in good health, and still it is apparently the hydrochloric acid and the activity of the gastric digestion that causes the distress of the patient. This is shown to be true by the relief of the patient attending the use of remedies that lessen the gastric acidity and slow the digestion, and similar, though less marked benefit, follows the selection of a diet of easily digested food. If these statements be critically examined it will be seen that the claim is virtually made that people without hyperchlorhydria have symptoms of that condition. This, in fact, is very nearly a correct statement of the case.

The systematic examination of the stomach contents of many cases during the past fifteen years has led me to the conclusion that there is no fixed standard of activity of gastric digestion and of the amount of free hydrochloric acid that is present in presumably healthy people. It depends for the most part upon the general strength and activity of an individual at a given time. It has long been known that the acidity of the gastric contents of the dog is so high that it would be unbearable in the stomach of man, and so, hardy workers in the north woods have gastric secretions that enable them to easily digest foods that are for most people indigestible—and this they do by means of a gastric secretion that is very active and highly acid. I have seen such individuals free from all stomach symptoms, with free hydrochloric acid ranging from .15 to .25, and a total acidity of over 100. Such gastric chemistry would prove to be very uncomfortable to the average student or brain worker. He is more comfortable with free hydrochloric acid not above .10, and this moderate strength of free hydrochloric acid and the proportionate lowered gastric activity will be found too active—the free hydrochloric acid in too great proportion for comfort—in the stomachs of delicate females whose nervous systems are hypersensitive, and whose organisms are not properly developed by outdoor life and physical exercise. Such people are often made comfortable by lowering the gastric acidity to a point indicated by .05, and occasionally we find patients showing manifestations of hyperesthesia who are uncomfortable so long as there is a trace of free acid in the stomach and whose symptoms can be relieved when free acid is present, by the administration of alkalies and antacids, and by diluting the stomach contents with fluids. On the other hand, if one, guided by the indications of gastric chemistry alone, regards these cases as instances of hypochlorhydria, and attempts relief by giving hydrochloric acid and drugs of a stimulating character, the symptoms are at once aggravated.

It has seemed to me that the question of hyperchlorhydria must not be looked at too definitely. It is arbitrary and unphysiological to make a standard and say that above this is hyperchlorhydria, and another standard and say that below that is hypochlorhydria, without introducing the personal factor of the patient. What is hyperchlorhydria in one person woud be hypochlorhydria for another. It is possible in most cases of hyperesthesia to increase gradually the tolerance of the stomach for free hydrochloric acid and for a higher gastric activity in general, merely by improving the general health of the patient; that is to say, increasing his energy, his muscular and nervous activity. It is none the less necessary to resort to examinations of the stomach contents, and this should be done sufficiently often to make one familiar with the gastric secretion; then, by diet and treatment, the gastric activity should be kept at the highest point compatible with comfortable digestion, and yet within the limit of gastric tolerance. In this way can the stomach be developed, while the courage and resisting power of the patient are growing.

---

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon and N. S. Davis, Jr.

In order to succeed in understanding these cases one must exclude inflammatory conditions, ulcer, erosions, food stagnation, and other conditions that might give rise to the symptoms. Gastroptosis can not be excluded, as that is a frequent cause of hyperesthesia. After having made the exclusions possible, it will be found that a large number of cases that present symptoms that closely resemble hyperchlorhydria can be explained by looking at them from the standpoint here taken, and managing their diet and drugs accordingly.

As a diet it is best to select, in the beginning, one that is very bland; for instance, milk or some milk preparation. To this should be added, first, the digestible farinaceous foods, then eggs; finally, meat juice at certain meals, and later scraped meat, meat powder, and next tender steak or chop, to which may be added some of the more easily digested vegetables. Thus, the diet may be gradually increased from step to step, always being careful not to go beyond the point of toleration. When found that the allowance has been too liberal (or in case it is found necessary even with a very restricted diet), and the stomach reacts unpleasantly, it is advisable in order to relieve symptoms to give after meals antacids as soon as evidences of irritation arise. Mixtures containing sodium bicarbonate, magnesium carbonate and the bismuth and strontium salts are commonly employed. The patient who may require these remedies regularly when busy as a school teacher, dressmaker, accountant or business man, may find that the digestion is comfortable without remedies, provided a vacation is taken, or a period of rest is arranged for after each meal. When the case is of long standing, it will be found that electricity is of signal service. The continuous current should be employed with gastric electrode, the negative pole in the stomach, and a current of from 5 to 10 milliamperes, of a low voltage, should be used two or three times a week for a period of five minutes. I have sometimes seen great benefit from the faradic current used in the same way. Unquestionably benefit may be had from hydrothepray, but great care must be taken not to overdo the use of cold water. A very brief, cold spinal douche, the temperature carefully regulated, or the shower bath with the same qualifications, or the Scotch douche, are measures that can hardly be dispensed with when treating this condition as it occurs in the neurasthenic. When met with in the hysterical, great benefit follows the use of the mistura asafetida introduced per rectum, in doses of one ounce night and morning. It is necessary, however, to attend to the strength of the gastric chemistry while continuing the other measures.

It may be said that the cases to which I refer are not typical instances of gastric hyperesthesia. In reply I would say that it depends entirely upon one's conception of hyperesthesia. I have come to regard these as making up the largest class of patients to whom the term properly belongs. That the treatment is rational and suited to the condition seems apparent, for the reason that we have to deal with those in whom those distressing sensations develop in the stomach merely from the normal stimulus of food and digestion. Indeed, as has been stated, the symptoms arise when the stimulus is less than normal. It is, therefore, proper to regard these cases as instances of hyperesthesia. I am firmly convinced that there exists a misconception regarding the nature of many individuals thus affected, and that they are treated for diseases of digestion of which they are innocent.

In closing, I wish once more to insist upon the importance of the regular examinations of the stomach contents, in order that one may govern the diet intelligently. There is such a thing possible as keeping a patient too long upon a very restricted diet, and the stomach instead of gaining in power, loses quite in the same way that the biceps atrophies for the want of use. And yet, if one is too ambitious and overtaxes the stomach in these hyperesthetic cases, there is produced in the patient real suffering, loss of courage and a disinclination to take sufficient food. I regard this as one of the most practical questions relating to the so-called dyspeptic. It is probably the most frequently met with of any of the gastric disturbances. It is a mistake to regard it as a disease of the stomach; it really is a derangement of the organism of which the stomach condition may be taken as an index.

DISCUSSION.

DR. W. W. TOMPKINS, Charleston, W. Va.—In these abnormal gastric conditions, we can not always diagnose between catarrh, ulcer, and carcinoma. He had in mind the case of a patient, who, eleven years ago, had stomach disorder and who was brought to a large medical center where a distinguished specialist had given a written opinion that the patient was suffering from cancer. The patient refused operation, returned home, and is living and well to-day. The speaker had been uncertain in his diagnosis at the time, but had come to the conclusion since then that it was a case of gastric ulcer and not cancer. The diagnosis on the basis of probability would be gastric ulcer in a young female; in persons who are gluttonous at the table, it would be gastric catarrh; but in advanced middle age, it would be gastric cancer. In many cases the diagnosis is uncertain and we are in the dark. One speaker referred to cases cured in two or three weeks; his own experience, however, was that these patients do not get well in a few weeks. He wished to put himself on record as opposed to putting these patients in the hands of the surgeon. He considered it a crime to operate in all cases and the physician who sends his patients to a surgeon for operation is *particeps criminis*. He tried to keep his patients from thinking of an operation. Many cases do not need it and are better without it. The essayist spoke against prepared foods and explains a rather troublesome process to get the beef juice; but the speaker could see no objection to using a good article of commercial beef juice. With regard to the medicinal treatment, iron had been mentioned, but he preferred arsenic in the form of Fowler's solution. He also used deodorized tincture of opium in small doses with advantage.

DR. C. JONSSON, Clinton, Iowa, found it often almost impossible to differentiate between ulcer and carcinoma or neurosis of the stomach, but any of those conditions were accompanied by pain and he considers the pain as an important factor in producing malnutrition of the body in general and deficiency of hemoglobin. He finds it necessary to use an anodyne such as codein, hyoscyamus, or cannabis indica in sufficient doses to relieve the pain. The nutrition of the body will improve as a consequence and the treatment will often produce a cure.

DR. HEINRICH STERN, New York City—The administration of hydrochloric acid for the amelioration of hypochlorhydria and kindred anomalies depending to their greatest extent upon systemic malnutrition, although universally recommended, is certainly an irrational proceeding. The moment the clinician becomes better acquainted with the production of gastric hydrochloric acid, he will cease to prescribe it for gastric insufficiencies and disorders. Hydrochloric acid is by no means a product of the peptic glands as generally supposed. The hydrogen or the chlorin of the hydrochloric acid of the gastric juice must certainly be derived from the blood. The acid as such does not occur in the blood nor in the lymph. The component elements must therefore combine somewhere in the peptic glands. We find in the blood free hydrogen-ions; however, they occur in small quantities only. If the nutriment is absolutely devoid of chlorin, and if the saliva is as much as possible prevented from admixing with the food and from entering into the stomach, no hydrochloric acid can be produced in the peptic glands. This fact convinces that it is the hydro-

gen-ion of the hydrochloric acid which must be derived from the blood. The place where the hydrogen-ions combine with the chlorin-ions to form hydrochloric acid can not be the gland-cell, but must be the glandular wall. The latter is a semi-permeable membrane, which prevents passage of the free chlorin-ions, but permits on the other hand the migration of the hydrogen-ions through the membrane. The production of hydrochloric acid can not ensue without a certain stimulus. The latter is supplied by the presence of free chlorin-ions on the inner surface of the stomach wall. The administration of hydrochloric acid, it is true, may furnish such a stimulus; however, for this purpose, it is at present not prescribed at all.

DR. MARY MCCOY, Duluth—The physicians as a rule pay too little attention to the preparation of the food of patients. It is a matter of vast importance to every physician. If chlorotic patients come for treatment, you can take it for granted that if they are allowed to take improper food and indulge in every wish they will have gastric ulcer. It is therefore of very great importance that physicians should be competent to direct the proper food and its proper preparation. Let us, for illustration, take up the common advice to a patient to use cereals as an article of diet. Most patients only boil a cereal, like oatmeal, for twenty minutes, when it should be cooked at least five hours. There is too much of a tendency on the part of physicians to rely upon the patients or their friends to prepare proper articles of food. Every physician should make a special study of dietetics. The combination of food also has much to do with the causation of gastric ulcer and other stomach disorders.

DR. THOMAS MCCRAE, Baltimore—In the clinic of Dr. Osler a series of cases of gastric disorder had been studied which were of interest in relation to the papers that had just been read. It was found that the diminution of hydrochloric acid in the secretion of the stomach, to almost, or entire anacidity, not only simulated gastric hyperesthesia, but also hyperchlorhydria. Experience had shown that the administration of hydrochloric acid was not helpful, but frequently detrimental, in these cases. The question of diet is a very important one. Treatment by drugs is often not of much use. Pain and increased sensitiveness, however, should be relieved. He recommended the following formula in gastric hyperesthesia: Acid carbolici and tinctura iodi āā m. i, glycerini ʒss; to be taken when required, to relieve pain.

DR. DORA GREENE WILSON, Kansas City—In her experience with gastric ulcer, she had found that there were many cases associated with a catarrhal condition of the stomach. In such cases she had found much benefit from hydrochloric acid given in broken doses, five minims of the dilute acid to be given after each meal, and then five drops more half an hour later. This prevents fermentation and aids digestion. The results are very satisfactory when given in this way.

DR. BOARDMAN REED, Philadelphia—He was much pleased with the confirmation that Dr. Fuetterer had given from his experience of the ill effects of hydrochloric acid when given indiscriminately. There had been no lesson impressed upon him more strongly, by his clinical work, than that great harm can be done by this acid, when its administration is not based upon examination of the stomach contents, especially with persons having a normal amount of it in their gastric juice, and still more with those having an excess. Many cases of gastric disorder have been caused by HCl when prescribed without an examination of the stomach contents. It would be well if the term dyspepsia were to be abolished from our language; it means only "difficult digestion" or distress after eating, and is applied to a number of diseases, requiring widely different treatments. Some of the speakers have said that they did not see how HCl could cause increase of acid secretion from the gastric glands. A little experience with the burette would soon convince them. In cases of deficient secretion the administration of small doses will increase the activity of the glands. In cases of normal secretion, or of excessive secretion, it does much harm by causing irritation. He expressed admiration at the result reported by Dr. Fuetterer. The important observation that he had made as to the rôle which anemia exerts in the production of gastric ulcer, is novel and deserves attention, and the good effect of beef-juice in bringing about improvement is notable. In conjunction with rest in bed, it is of great value. Gastric hyperesthesia is a very important symptom in gastric disorders and calls for more attention than is ordinarily given to it. We can not lay too much stress upon the amount of hydrochloric acid present in the gastric secretion, in cases of gastric hyperesthesia. Some have an increased while others have a reduced percentage of it and the hyperesthesia is greatly increased by the administration of hydrochloric acid in the former class of cases.

DR. G. FUETTERER, Chicago, approved of the remarks of Dr. Herrick as to the value of rest in combination with the diet. In reply to Dr. Tompkins' statement about commercial meat juice, he said that his objection was that if given in equal quantities the expense would be too great; that it is not as reliable as the fresh preparation and that the comparative results do not give such an increase of hemoglobin as he had obtained from beef juice. As regards surgical interference in narrowing of the pyloric orifice from ulcer, it is no crime, and it is not criminal, to recommend gastro-pylorectomy in some cases of gastric ulcer, but on the contrary, the only humane method of relieving the patient and preventing death by starvation and the development of a carcinoma. The object in giving the beef juice is to increase the hemoglobin, since according to the views expressed in the paper the ulcer is caused by the lack of hemoglobin, and heals when the hemoglobin becomes normal. The suggestion as to the use of morphin is a very valuable one. As regards giving rest to the stomach, it is a question whether or not you do give rest to the stomach by stopping the food. The empty stomach may move as much as the stomach containing food. By giving morphin we can quiet the motion of the stomach as well as relieve the pain, and favor cicatrization.

With regard to Dr. Reed's paper the author had called attention to a very important point and that is that pepsin and hydrochloric acid should not be given indiscriminately, as they often are. He had also made another very important statement, which was that the administration of hydrochloric acid in achlorhydria not only has a transitory effect, but, in the course of time, it really brings about the restoration of the normal proportion of hydrochloric acid in the gastric secretion, which is of the highest importance. Dr. Osborne said it was a common mistake to treat cases of gastric hyperesthesia by restricting the diet, as if they were cases of dyspepsia, which they are not. Referring to Dr. Reed's paper he said that he could not understand how the administration of an acid could bring about an increase of an acid secretion. He thought the hydrochloric acid was useful in improving the general nutrition, and thus enabled the stomach to better perform its work.

DR. C. C. STOCKTON—In regard to Dr. Reed's paper, explain the fact how you may, there is a decided advantage in administering hydrochloric acid in cases where the acid is deficient. As regards Dr. Osborne's statement that the administration of the acid would not stimulate the gastric glands, so much as an alkali given before meals, he had tried the latter many times. While the observation may be true in animals, it was not true in his clinical experience, basing his remarks upon chemical tests and clinical cases; he withdraws the tube as early as possible, so that the presence of the tube will not increase the hydrochloric acid, and he found that the result was negative and that the alkali did not increase the acid secretion. The improvement of digestion after giving the HCl may be in part due to the effect upon the entire organism. He did not think that the mere administration of small doses of HCl would increase the gastric secretion, but its administration would give the stomach increased power to act. In regard to operative measures, he wanted to confirm the statement that it is wrong to allow a patient with decided obstruction from stricture at the pylorus to go without the relief to be obtained from operation. The statement with regard to morphin, that it is likely to lead to the formation of a habit, is a just criticism. He thought that hunger could be overcome by the use of cocain, which, if properly used, would accomplish the same purpose with less harm. The fact remains that small doses of ano-

dynes abolish stomach movement and pain. He had been much pleased by the remarks made by Dr. McCoy who said that the physician should devote more attention to the preparation of food. He had no doubt that many of the gastric conditions that we are called upon to treat are caused by abominable cooking. Even in the preparation of bread, we see a great many failures in the homes of our patients. It is surprising that our mortality is not greater when we reflect upon the unintelligent preparation of food all around us. As to the remark of Dr. McCrae, he would state that his own experience with gastric hyperesthesia was that pain and hyperesthesia have accompanied deficient secretion of HCl; the pain is not always increased by taking food, it comes on paroxysmally and is a distinct neurosis. Although it is accompanied by this disturbance or absence of secretion, he believed that the most intractable cases of gastralgia are those in which the gastric secretion is perfectly *nil*; but these cases are not due to atrophy of the gastric tubules, because he had seen some in which the secretions were afterwards restored. Another speaker referred to the use of hydrochloric acid after taking food in order to prevent fermentation. It is a common mistake to attribute the symptoms of pain or distress to fermentation in the stomach. Most of the prescriptions for indigestion are based upon the idea that the disorder is caused by fermentation; but his own observation had lead him to conclude that it was due to disturbed innervation, or motility, and resulting disturbance of secretion. Most of these cases are based upon some disturbance of the nervous system, and they may be treated with hydrochloric acid without benefit until that condition is removed. Distension of the stomach that is complained of, is more often a sensation of distension rather than actual distension. He asked that in cases of supposed fermentation an examination of the stomach contents be made to find out if organic acids are present or not.

STATE SUPERVISION OF MARRIAGE.*

W. H. HEATH, M.D.
OF THE DEPARTMENT OF HEALTH.
BUFFALO, N. Y.

No time need be occupied before this audience in demonstrating that marriage is the foundation and keystone of family and state integrity, or that it is the most fundamental institution of society. Nor that the family is the natural and historic basis of it, being the origin of order, law, morality, education and justice.

Neither need time be taken to show that indiscriminate union is associated with the gravest consequences, the influence of which, either directly or indirectly, is associated with the most gigantic evils, in fact with almost every offense against society and the state. It loosens the family ties, tends to immorality, and diminishes mutual and parental responsibility.

From data in the premises, exact knowledge, we are in a position now to assign to heredity its proper importance, and to coincidentally formulate some plan or procedure having for its object such practical supervision of the whole question as will minimize and ultimately eradicate the possibility of evil influence through it. There can be no question of the right as to the necessity of the state to exercise its jurisdiction in this field as in others affecting the public welfare. To preserve itself it must be strong, and its strength depends upon its future citizens and their characteristics. Heredity, the imprint of sexual union upon its product, is one of nature's fundamental, universal, immutable laws. As you breed, so shall you reap, or beget. How important, therefore, and really how imperative is it that there be serutiny and supervision, or attention given in some way over those who propose to send forth others into the world; this must be done to prevent not only the individual degenerate, but to protect society and the state from his possibilities.

As a matter of fact, the state, to a limited degree, already asserts this right and authority, though chiefly as to certain degrees of consanguinity, by no means the most important feature. It should go further and extend this to moral, economic and other factors, with established or proven unfavorable possibilities. The state having this right in the premises, it would appear that now is the auspicious time to inaugurate a change. Never before were the people more in the spirit of advance. The influence of the great discoveries and innovations in commerce, art and science have been educational in no small degree, and have prepared the public for many changes which an era ago would not have been considered. The struggle for life is growing keener, survival of the fittest more and more in evidence, the standard in everything made higher, and coincidentally with and as a result of this there is an enormous augmentation of the submerged mass. Any change, therefore, that would diminish the number bound to sink, the number who by endowment can not cope with life that confronts them to-day and that will improve with environment, is indicated. It can not, therefore, be doubted that supervision to any degree that will make the masses stronger where weak, better where in fault, will, as soon as demonstrated, command the attention it deserves.

The problem, however, is one of the greatest difficulty, dealing as it does with a custom or procedure as old as man himself. Into the problem enter both sexes, under complex conditions, prompted by the greatest emotions and the strongest passions, and that, too, at a time of life when these factors are at their highest and when reason and judgment are yet unripe.

As a step toward reform it is proposed that no marriage be performed, be legal, or the offspring thereof be legal, if the marriage be performed without license; that marriage by license be mandatory by law upon all persons entering into the matter, the contracting parties, the officiating person and the witnesses. This license should be issued by the proper authority or official, only after certain conditions have been complied with and certain data furnished (analogous in some ways to the procedure adopted in issuing a burial permit in properly organized health departments). Such license should be issued upon certain data, contained in three certificates, viz:

A. *Certificate of Health and Heredity.*—This should be furnished by the family physician, or in the absence of such, by any reputable physician. It should contain certain data covering the family history, such as: 1, age and cause of death of immediately preceding ancestors; 2, the existence of predisposition to insanity, tuberculosis, cancer or other transmissible diseases; 3, of any preceding illness bearing upon present or future health.

B. *Certificate, Either Special, Qualifying or Educational.*—This certificate should be issued upon, and represent attendance—with or without final examination—upon a short, practical common-sense course of free lectures; these to be given preferably at night, delivered under the auspices of the municipality, town or village, at some convenient place such as the high school, academy, court room, church lecture room, etc., by a suitably qualified person—matron for the females, master for males. These courses should be adapted to each sex, and

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee of the Section.

should include in a general way didactic instruction, and when indicated and practicable, should be supplemented by demonstrations in the following subjects: 1, outlines of physiology of infancy, childhood, puberty; 2, function of sex, sexual life, its care and abuse; masturbation, menstruation, childbirth, reproduction, growth and development; 3, personal hygiene, physical and mental development; 4, venereal disease, and those due to violation of sexual laws; 5, domestic and household economy, domestic hygiene and sanitation; 6, alcoholism and tobacco, and 7, morality and the moral sense. The scope could be determined by a committee of educators, composed say, of a school principal, a medical man, a lawyer, or some prominent citizen. These lectures should be modified, greater emphasis being given to that which relates respectively to each sex, and include additionally such other pertinent matter as will be conducive to good citizenship, enlightenment in civic affairs, and a high moral standard.

C. *Certificate of Ability.*—1, Evidence of capability of support, that the parties themselves and their offspring will not be a care upon the community; 2, evidence that the individual is not an habitual criminal, when such evidence seems to be indicated.

A change in the mode of procedure of such a momentous matter as marriage must of necessity, in the present state of affairs, be gradual. Real knowledge in the premises is limited to the thinking classes. Public opinion is unformed, and therefore legislative action toward this end is impracticable.

To demonstrate the feasibility and beneficial results of state supervision upon some such lines as indicated, and create public sentiment, *some inducement should be made* for those contemplating marriage to comply with the conditions and to inaugurate such a system. As an inducement certain civic advantages might be offered:

1. To contracting parties themselves.—To male contracting party there might be given, *a,* limited state military service; *b,* limited jury service; *c,* a certain number of advantageous counts in civil service examinations for public services, the fire and police departments, clerical positions, etc.

To female contracting parties there might be given, *a,* a certain number of advantageous counts in civil service examinations for the public services, as in schools, hospitals or other municipal work; *b,* privilege to vote for school boards and other minor officers.

To both the right might be given that if overtaken by adversity increased assistance from the poor department will be given them.

2. To their children.—The offspring of such unions, as a result of selective breeding, may be assumed to be capable of greater development and possibilities, and therefore of greater value to the state. To these some preferment might be accorded, much in the same lines, such as, *a,* state military exemption, or preference in promotion in that; *b,* civil service counts and preferment in police and fire departments, clerical positions; *c,* certain free scholarships when practicable.

It is proposed that for the present this special license be voluntary, because under those conditions it appeals to the individual. It need not influence the marriage of others who for reasons of their own do not desire to avail themselves of its benefits; for those the ordinary license system can be used.

The benefits to be accrued from this special license system, if carried out, are not difficult to appreciate. These especially appeal to the writer: It would throw out safeguards around the young and indiscreet, and protect womanhood against designing men; dignify and elevate the marriage ceremony; deter the vicious; educate all classes to the fact that it is a serious step and not to be undertaken lightly; enhance the status of marriage and the married state; diminish divorce; insure a higher type of progeny; diminish hereditary disease; abolish predisposition to many other diseases; improve the public health and diminish mortality; increase morality; strengthen the state, and finally, pave the way to precede some other needed reforms of a similar nature.

Objections there will be. There are to every innovation, and this will be no exception. Prominent will be the objection that it interferes with a matter ordinarily guided by instinct and sentiment, and materializes it. Then again, the difficulty of enforcing it will be brought forward. The latter is a valid objection. There would be great difficulty, but not if the system were approached gradually and if it extended throughout all the states. Another possible objection is that any qualification to marriage will be conducive to immorality. My answer is that it be by special license, optional not mandatory.

Those who prefer can be married under ordinary license. It may also be objected that statements would be falsified. To that it can be answered that all statements should be under oath, with penalty, and that the special license be optional. Further, that publicity to private matters might be a consequence. That, however, would not be true were the licensing official under court orders and the records not public. Information to the family physician is privileged communication by law.

Aside from these radical, far-reaching reforms it would greatly strengthen the moral framework if there were a revision of marriage laws, to the effect that the limit of age be increased; that the ceremony always take place in the presence of witnesses; that it be given publicity; that marriage between intoxicated persons be forbidden, and that it be invalid if the ceremony be performed after 10 p. m.

While it may not be expedient to attempt legislative action at once, it does seem clearly in the province of this great association to discuss and to agitate the question in all its bearings. It should present it to the public in a rational, scientific, practical, everyday manner, clarifying it of ambiguity and showing its great value and significance.

DISCUSSION.

DR. SENECA EGBERT, Philadelphia—It seems to me that we are not ready for such an innovation as this would mean, for the reason that the great mass of the public is not educated to it and that must come first. My experience, as a physician, as well as a teacher of hygiene, in the last twelve years has been that the great majority of humanity, even in our centers of population like the great cities, are virtually ignorant of the matters to which this subject pertains, and that it is largely through the lack of education, through the unwillingness of parents to instruct offspring and through the lack of opportunities for education in this matter that things are as they are. Now, it seems to me that to offer such a proposition as this paper suggests and to give it state authority or state sanction without a very considerable preliminary education in regard to these matters relating to sex and marriage, would be to create so much opposition that it would wreck it in the very beginning and retard the movement. The idea is unquestionably all right, theoretically, but the opposition that would arise among the public in general, it seems to me, would be so great that it would throw the movement back and prevent its development rather than help it, and for that reason I feel that we in this country—at least I know a part of the country

—are not ready for it. If I am not mistaken, there has been a proposition in this very state; a law has been offered in the Minnesota legislature to require a physical examination or a physician's certificate as a preliminary to all marriages. I do feel that I know of no locality in the country where the general education of the people and their general knowledge is not such that a measure of this kind would develop a serious opposition to rather than a general and sustaining acceptance of its requirements.

Some of the suggestions made in the paper were to my mind excellent. It seems to me that there could be no better thing offered to the public at large than these lectures, for instance, that the Doctor mentioned and suggested; but we must remember that to give a course of lectures as suggested would require a very large amount of time, say a course running through an entire winter, and though I doubt whether one series of lectures would be sufficient in which to give the public such information as they ought to receive, my experience has been that the ordinary laity are not willing to attend any series of lectures that necessitates more than six or eight different meetings. However, there is no doubt that such education would be excellent. Again, while I believe that some of the people are anxious for education in these matters, I doubt whether we will secure it best by giving lectures with state or municipal sanction. I think it will go better and quicker through private sources, and when I say private sources, I mean sources distinct from the state or the municipalities, for instance. There is a feeling that the state should not go too far in interference with the rights of an individual. Many of us have a feeling that no state and no society has a right to contravene certain of our rights. Therefore, it seems to me that for any state to establish rules to regulate this matter at the present time will lead to a worse condition of affairs than there is at present. It would lead to a disastrous condition of affairs, because people who felt that their individual rights were transgressed upon and who were not willing to follow out the requirements of such state enactments would be induced to oppose them, and there would be a worse condition of affairs than there is at the present time. There is not a particle of question about the advisability of selected marriages, but we have a great many million people in this country and, for a long time to come the marriage will be a matter of simple emotion or notion, and so I think we will have to put up with the present dangers and risks and evils until we can build up from the bottom with that education which is going to be the primary motive power that will bring about in the future such action as is outlined in this excellent paper. If it only comes soon I shall be glad.

DR. L. H. MONTGOMERY, Chicago—While we are all individually at least in favor of the steps advanced by the author, it would come under the head of being called unconstitutional. There is a good deal to be said in favor of it, but there are a few objections to it. As sanitarians, the theory sounds very plausible and the most desirable thing in every respect, but to obtain such practical results it does not seem that this is to be in the very immediate future.

DR. L. B. TUCKERMAN, Cleveland—The beauty about all these schemes for regulating the question of marriage by education of the character spoken of is that they appeal to those to whom no appeal is necessary, and, to those to whom they ought to appeal, considerations of this kind do not appeal in any way whatever, nor can they be made to appeal. The thoughtful men and women of the industrial classes are already limiting marriage to a very great extent. Hon. Carroll D. Wright has collected some statistics recently of over 17,000 of men of influence locally among the trades unions in some twenty-two cities, and out of that 17,000 there were 15,000 and over unmarried—7 out of 8. Very evidently those 15,000 did not need any caution on the question of marriage. They were the more thoughtful among their associates and the simple fact of the uncertainty of their employment, the question of whether their job of $1.50 a day would hold during their married life, made them abstain from marriage, and there is enough regulation of that kind among those who think. Those classes of industrial workers are not marrying to any great extent. That relegates the marriage question among the masses of the population to those who do not do any thinking, but simply follow a physical impulse and for those who do not do any thinking, what use is there of undertaking such educational work!

DR. F. C. VALENTINE, New York City—The state has no right to infringe upon the inborn privileges of individuals. Is it an inborn privilege of mine to take an axe and drive you all out of this room? Not at all. Yet, the possessor of a residual gonorrhea may kill the woman he marries and may cause the state to be loaded with charges, children gone blind from the gonorrhea which was transferred to an innocent woman. Of syphilis I need not speak. Eloquent men have discussed that matter thousands of years ago when they promised that the sins of the fathers would descend to the third and fourth generation. We can not, it is quite true, as long as our present, perhaps theoretically the best, form of government exists, limit the rights of the individual, and especially in this one regard. But as long as we can quarantine cholera or smallpox or scarlet fever so well, I think the state is entitled to quarantine the two diseases that kill more than all others put together. In August of last year, Neisser of Breslau, at the Congress for Venereal Diseases in Brussels, showed that gonorrhea was a disease second in frequency only to the measles. He showed it from carefully made statistics, and yet in this country we make no effort to protect the public from the devastation of this one disease. It is quite true that the committee which last year here reported on the subject of marriage of gonorrheics were practically ruled off the floor because venereal ailments are not reportable diseases. But there can be enacted laws, through your influence, which will make marriage impossible without a certificate from a qualified physician that the would-be husband is free from gonorrhea and syphilis. You say that is a very difficult and complicated task? I agree with you, until we are educated in the matter. But is it not far more difficult and complicated for the state to support blind paupers, grown blind in consequence of gonorrhea? Is it not a fact that 80 per cent. of the children born with eyesight and who went blind within forty-eight hours after their birth, lost their sight on account of gonorrhea? Is it not true that 80 per cent. of the women who died of diseases of the reproductive organs, died from gonorrhea acquired innocently from their husbands, who imagined that they were cured? Now, I do not think that all men are selfish, but I do consider ourselves the weaker sex, because no woman, I think, would intentionally marry if she could communicate any disease. Men do it through ignorance and through weakness. I therefore think it behooves this Association, and particularly this Section, to make known to the legislatures the really easy manner in which one who has suffered from gonorrhea can be examined to decide whether he is free from the disease. This subject is entirely too wide a one for any five minutes' discussion. As you well know, however, it may be treated. There are other men who will continually bring up this subject before the Section, until eventually something is done about it.

INJURIES OF THE CHOROID, WITH REPORT OF CASE.*

ELLET ORRIN SISSON, M.D.
KEOKUK, IOWA.

Injuries of choroid per se, with the exception of rupture, are so rarely seen, in fact it is so nearly impossible for them to take place without involvement of other ocular structures, that they can simply be alluded to as a possible occurrence. Small foreign bodies may pierce the sclerotic or the cornea and lens, and lodge in the choroid, and can often be detected there with the ophthalmoscope, and incised wounds of the sclerotic very frequently involve the choroid to a greater or less extent.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee of the Section: Drs. J. A. Lippincott, Casey A. Wood and H. V. Würdemann.

Hemorrhage into the choroid and retina may produce extensive changes in these membranes and impair the sight materially if the macular region is affected. Oliver[1] reports an interesting case where a boy was struck in the eye with a stone. Shortly after the injury both choroidal and retinal hemorrhages were detected. Later pigmentary and atrophic changes took place and vision was reduced to 20/40.

The most common injury, as previously stated, is rupture, the result of a contusion or a direct compression of the eyeball as a consequence of a shock, that has been imparted to the orbital or the peri-orbital bones by a blunt body, and this is very often complicated by a rupture of the external layer of the retina. In the great majority of such cases this solution of continuity of the choroidal tissues is usually single and is situated between the optic disc and macula lutea, very rarely to the nasal side. Cases of double, triple and even quadruple rupture have been seen and reported byTeillair, Fage and others.

The case that I have to report, while in the main similar to the majority, presents some peculiarities. In the first place, the rupture, which was an extensive one, was

(Rupture of the Choroid (Sisson).

to the nasal side of the papilla; secondly, the case was complicated by a spinal lesion in the lumbar region, which was said to have existed since the patient was 3 years of age. The visual disturbances were very great. The case was taken into the courts, and the questions that had to be considered were: Was the blindness the result of the injury to the choroid or the spinal lesion? Was the patient a malingerer?

T. D., age 16; May 15, 1897. Patient received a blow on the right eye from a rock thrown by a motorneer. When called, found an extensive cut in the soft tissues, covering the superciliary ridge; great swelling and ecchymosis of the lids. A further examination revealed the presence of a foreign body in the cornea, which upon removal proved to be a small piece of stone. Instilled atropin, prescribed an antiseptic wash and ordered patient put to bed. He made an uneventful recovery.

On Oct. 4, 1897, patient presented himself at my office for examination, saying that since the injury he had been almost totally blind in the eye. In the meantime he had sued the company for a large sum of money. At this time the following history was obtained. When 3 years of age, patient fell and broke his back, and has had to walk with a crutch ever since. An examination revealed the following: There was a visible angular deformity in the lumbar region of the spine, motor paralysis of the left leg and both patellar reflexes were absent. He did not remember of ever having suffered any pain at any time. An examination of the eye showed the following conditions: V. of R. E., 2.5/200; V. of L. E.. 20/15. Field of vision in R. E. was very much contracted. Pupil was of medium size, responding only to strong artificial light. A small rent existed in the lower part of the circumference of the iris. Only a very slight opacity was seen on the cornea at the spot where the foreign body had lodged. The ophthalmoscope revealed the following: To the nasal side of the optic papilla, about three papilla-diameters, and extending in a curved direction, the concavity directed towards the papilla, there was a rupture of the choroid, about four papilla-diameters in length, at the upper and lower extremities, and on either side of the rupture there were large deposits of pigment. The central part of the rupture was perfectly white, and the blood vessels could not be traced over it, showing that there had also been a rupture of the retina. The nerve head was grayish. Ophthalmoscopic appearance of left eye was normal. The usual tests showed that the patient was not a malingerer.

December 11, 1897, condition same. Patient complained of pains in the head at intervals.

January 13, 1900, V. R. E., fingers at 6 inches; L. E., 20/15. Palpebral and bulbar conjunctiva both eyes slightly injected. T was — in both eyes. Ophthalmoscopic appearance of right eye, same.

January 16, 1900, patient came to office complaining of the right side of the face paining and burning him, which he said had not existed previous to the injury. Condition of the eyes same. This was the last time patient presented himself.

These are the variety of cases that are most puzzling and upon the medical expert's opinion may hang the decision. As to just what influence, if any, was exerted by the spinal lesion is a question. We are told that in those much rarer cases of organic injury to the spinal cord, or of myelitis, or of hemorrhage in, or inflammation of its membranes, following on railway and other accidents, organic eye disease seldom results. As regards optic neuritis and optic atrophy, which used to be held as frequent consequences of spinal injuries, Thorburn[2] states that the slight spinal injuries are very common, but there is no evidence that they tend to be followed by changes in the optic disc. Such injuries are, however, in rare cases followed by chronic meningitis and myelitis, and in the latter condition there is *a priori* probability or possibility that optic neuritis may supervene.

Page[3] says there is no evidence of pathological change in the optic nerves being common in cases of spinal injury and nervous shock. Albutt[4] found hyperemia of the optic papilla with some indistinctness of its margins and overfilling of the retinal vessels, but no optic atrophy, nor tendency of the condition to pass into optic atrophy, and referred the changes he found to secondary, subacute meningitis at the base of the brain. It is now well-nigh a quarter of a century since Albutt published these views, and little or no confirmation of them has since appeared; yet even Albutt did not see optic atrophy as the result of spinal injury. In the case reported it is hardly possible that the loss of vision was the result of pre-existing spinal lesion.

The author presents this clinical picture for what it is worth, fully realizing, as stated in the outset, that the injury itself presented no very striking peculiarities, but the complications and the medicolegal aspect of the case make it of interest to the practicing specialist.

BIBLIOGRAPHY.

1. Norris and Oliver's System of Diseases of the Eye, vol. iii, p. 692.

2. A Contribution to the Surgery of the Spinal Cord, London, 1889, p. 178.

3. Railway Injuries in Their Medicolegal and Clinical Aspects, London, 1891, p. 43.

4. On the Use of the Ophthalmoscope, London, 1871, p. 197.

A NEW COMBINED ELECTRO-CAUTERY INCISOR FOR THE BOTTINI OPERATION FOR PROSTATIC OBSTRUCTION.

HUGH H. YOUNG, M.D.
Head of the Department of Genito-Urinary Surgery, Johns Hopkins Hospital Dispensary.
BALTIMORE, MD.

Although the electro-cautery operation was brought out by Bottini as far back as 1876, it was not generally adopted until 1897, when Freudenberg presented to the profession a greatly improved instrument, and followed it up by numerous convincing articles. During the past four years this operation has been performed very extensively, and we are now in a position to stop a moment, look over our results, and discuss the shortcomings of the operation, as well as its merits.

Freudenberg's large collection of operated cases probably shows very accurately the value of the procedure. The statistics are as follows: 752 cases, in which the result was good in 86½ per cent., a failure in 7½ per cent., and the mortality between 4 and 6 per cent.

These figures, if correct, undoubtedly show much better results than can be claimed for any other operative procedure. Castration, while peculiarly effective in a certain class of cases, has been woefully unsatisfactory as a routine procedure, and has justly been relegated to the list of operations historically interesting, but practically valueless.

Prostatectomy thoroughly performed is undoubtedly an operation of great value. There is no question that the statistics as to the value of this operation are entirely misleading, for many reasons; principally because in most of the recorded cases (and in all until recently) the operation was entirely inadequate—merely a nipping off of the most evident intravesical projections, leaving the equally important parts of compression in the deep urethra untouched. There is no question, however, that a thorough removal of the entire gland, which can generally be easily accomplished by enucleation with the finger, is a very successful operation, and entirely satisfactory when perfectly accomplished.

There are, however, several varieties of prostate which are unsuitable for this operation, principally the small and the sclerotic varieties. This, however, is not the principal objection, but the fact that in the majority of instances we are confronted with patients too old and too feeble to safely undergo the shock of a satisfactory prostatectomy. It is for just this class of cases that the Bottini operation has proved such a blessing, and has achieved really wonderful results. On account of the success of the cautery operations in the otherwise hopeless cases, it has become more and more the question whether it should not become the method of choice in all manner of cases. Since there are, however, a certain number of failures (10 per cent. or more) and a certain mortality (between 5 and 8 per cent.) shown by the Bottini operation, it still remains questionable whether it should replace prostatectomy, especially in younger patients. To settle this point more extended investigation is necessary. It also behooves us to study the causes of failure and fatality in the Bottini operation, with a view of finding means of obviating both as far as possible.

Among the causes of death besides uremia, shock, sepsis, etc. (presumably unavoidable), we find recorded several not unavoidable reasons, principally from improperly placed or too lengthy incisions. In the first category are deaths from the cautery blade burning its way into the rectum, due, as has been shown by Freudenberg, to the fact that the beak of the instrument became caught in a postureteral pouch, which is separated by only a short space from the rectum. In the same class are those fatal cases in which the entirely useless anterior cut was made and penetrated (as might have been expected) into the space of Retzius. In the second category are a number of cases in which the operator has rashly made his incisions too long, resulting in the rupture of the urethra in front of the prostate, and sometimes fatal hemorrhage from division of perineal vessels.

The statement of certain writers that incisions of 4.5, 5 or 6 cm. in length were often necessary to remove the obstruction is absolutely without pathological substantiation, and undoubtedly liable to lead to a great many serious blunders in the profession. Very rarely, even in the very largest hypertrophies, should an incision over 3.5 or 4 cm. be made, first because it is unnecessary, and secondly because it is dangerous. Deaths from any of the causes outlined above are preventable, and should in the future be eliminated from the statistics.

In Freudenberg's statistics, after excluding the fatal cases (4.2 per cent), we find 92 per cent. improved, 55 per cent. cured, 37 per cent. definitely improved, and 8 per cent. failures. Why should there not be a greater uniformity of results? Is the operative technique, or the instrument at fault? Turning to the instrument, we find the one of Freudenberg much preferable to that of Bottini, as has been very frequently pointed out. But there are several very evident weaknesses in even the former instrument. In the first place, since there is the greatest difference as to size, shape and condition among hypertrophied prostates, it is unreasonable to expect one single cautery blade to be suitable for all. An incision which is sufficiently deep for a medium-sized hypertrophy may be wholly inadequate for a very large one, and positively dangerous for the small fibroid forms. Then, again, one lobe is often very greatly enlarged while another is only slightly so. Are we, then, to give each the same depth of cautery incision? I have in my collection of autopsy specimens several prostates with small but very obstructive middle lobe enlargements, where the ordinary Freudenberg and Bottini instruments would have penetrated beyond the capsule and perhaps into the rectum.

It is very evident, then, that an instrument with several easily interchangeable blades of graded sizes would be a decided improvement.

There are two other defects in Freudenberg's apparatus which, while apparently trivial, are of considerable importance. The first is in the shape of the beak of the instrument as now constructed. The traction necessary to hold the beak up against the prostate during an operation will often pull it into the urethra. This is due to the fact that the beak meets the shaft at such a wide angle (or at such a slope—see Fig. 7) that even moderate traction causes it to ride over a median bar (for example) and slip into the prostatic urethra. The dangers of this accident are not small. Indeed, it has occurred several times, and has been responsible for several deaths, the cause being division of the membranous urethra, extravasation, hemorrhage, etc. In order to be certain that the beak of the instrument is against the prostate, and has not slipped into the urethra, Freudenberg has wisely advised that a finger be inserted into the rectum to determine its location before an incision is begun.

I have carefully followed this practice for the past two years, and have thus prevented several accidents, for in numerous instances have I found that a little steady traction (as in an operation) would draw the beak into the urethra. But this safeguard is not always sufficiently accurate, for while it is comparatively easy to feel the tip of the instrument turned downward toward the trigone, one can not often feel the beak with sufficient certainty when the instrument is turned to make a lateral cut, as one of my own cases demonstrated to my sorrow. (Freudenberg's instrument was being used.) The forefinger of the right hand was inserted into the rectum, and the tip of the beak definitely located to be in the bladder. The rotation was made for a lateral cut, and with the finger still in the rectum

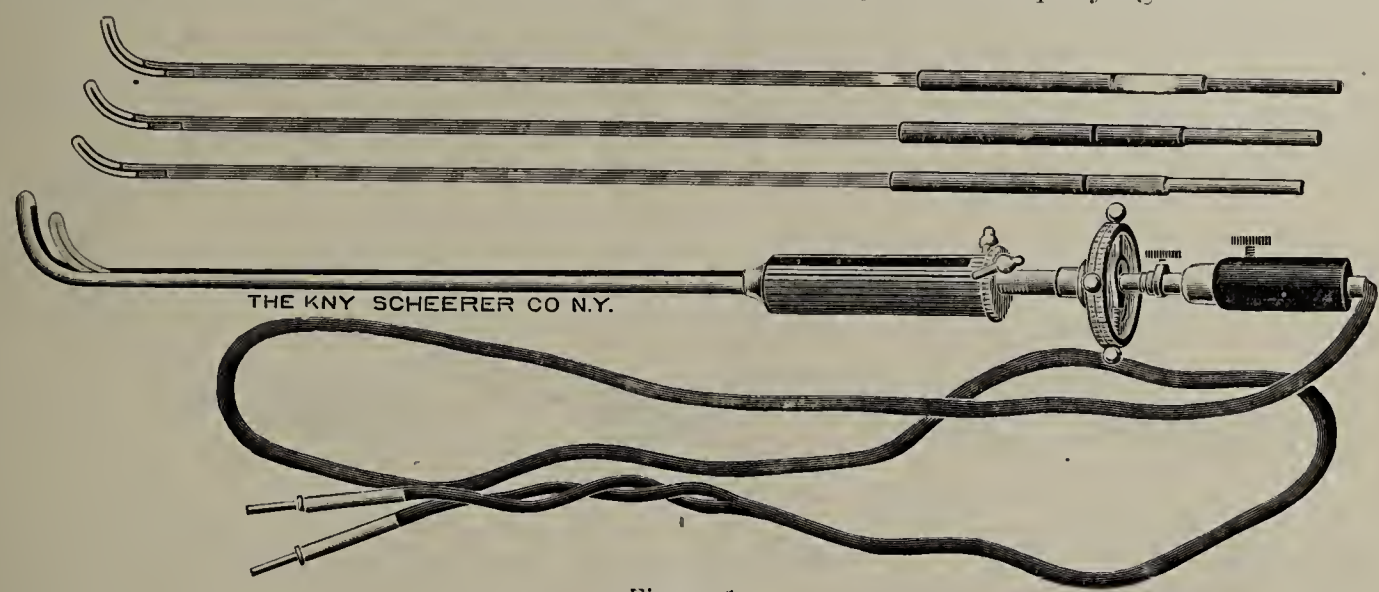


Figure 1.

traction put upon the instrument to draw the beak up snugly against the prostate. The beak was not felt to slip into the urethra, but before beginning the cautery incision another careful examination with the finger (which was kept in the rectum during the entire operation) was made and did not reveal any slipping of the beak. Despite all these precautions (which happened to be unusually carefully taken in this case) an incision of 3.5 cm. was followed by a gush of blood from the

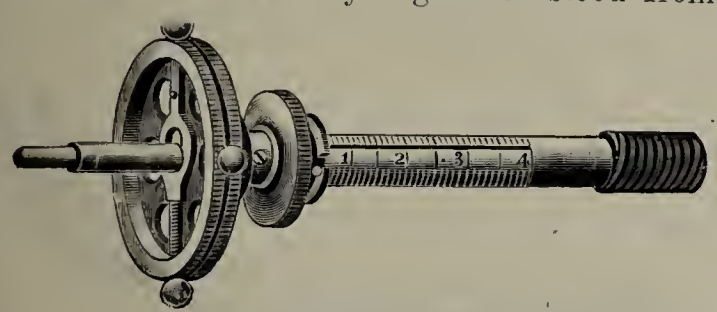


Figure 2.

meatus, and a perineal section done under cocain revealed a ruptured membranous urethra, and extravasated blood behind the triangular ligament. A timely operation saved his life, but it brought very forcibly to my mind the *need of a beak which would not slip into the urethra,* one more nearly at right angles to the shaft.

The other defect, at times quite disagreeable, was that the handle of the instrument would often become so greatly heated as to burn the hand of the operator, and sometimes to prevent his turning the contact screw to break the electrical current. Examination soon showed that this was due to bad contact. This connection was made by a flat surface coming against a cylinder, resulting in a linear contact, insufficient to conduct the high current necessary to heat the instrument without itself getting hot. This defect, while merely one of mechanical construction and easily remediable by bringing broader areas into contact, was one which frequently led to great trouble both on account of the heating of the handle and the insufficiency of the electrical current which reached the cautery knife.

Recognizing more and more during two years' work with Freudenberg's instrument the drawbacks referred to, and especially, feeling the need of blades of different size, the writer finally consulted the Kny-Scheerer Co. of New York,[1] during April, 1901, with reference to the construction of an instrument which would, if possible, fill all the requirements. After considerable experimentation we have produced, we believe, a satisfactory instrument, the construction of which is thoroughly explained by the accompanying cuts.

As seen in the illustrations, the form of Freudenberg's instrument is adhered to (Fig. 1), the only changes being in its having four interchangeable blades, a beak of different angle, a connecting handle with more extensive contact surfaces, and a few minor changes in construction. By a very simple device, the simple elevation of a sliding bar on the rotary wheel, one blade may be removed and another inserted (Figs. 2 and 3). The sliding bar working on a spring holds the rod contain-

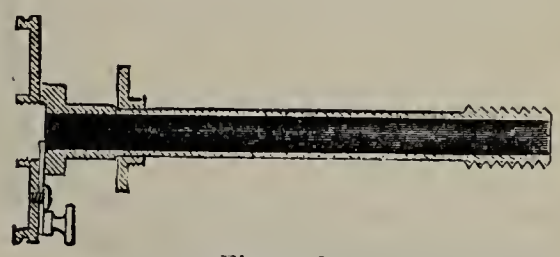


Figure 3.

ing a blade firmly attached to the screw mechanism by engaging the circular groove near its outer end (Fig. 4). We have had four blades constructed as shown in Fig. 5. The smallest having an elevation of .8 cm., the second 1.2 cm., the third 1.7 cm., and the fourth 2.1 cm.

Figure 4.

Blade No. 3 corresponds to the one usually found in Freudenberg's instrument, and is the one most generally used, while No. 2 is useful in small hypertrophies, and No. 4 for the very large. Blade No. 1 (the smallest) was constructed mainly to complete the set, and with-

1. My thanks are due to Mr. Charles Farner, mechanician, for valuable help.

out any idea of much practical value. I have been surprised, however, to find it very useful in several cases, which will be given in detail further on.

The change in the shape of the beak has been of very great comfort. The new beak (Fig. 6) can not possibly slip by the prostatic orifice into the urethra with all the outward traction which may be put upon the instrument during the operation, whereas with the Freudenberg instrument (Fig. 7) one must be constantly on his guard lest this occur. The right-angled character of the beak does not make it any harder to introduce, in fact it seems to ride over a high median bar with greater ease, having more the shape of a prostatic catheter.

The changes made in the attachment handle of the conducting cable, as shown in the diagrams, consists merely in bringing larger surfaces in closer contact. These have completely done away with the disagreeable overheating of the contact screw, which constantly occurred before.

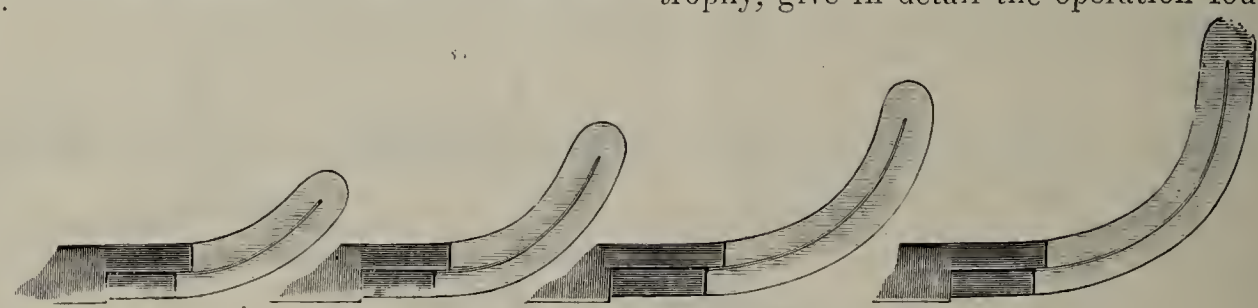


Figure 5.

During the past five months I have used this instrument on sixteen cases, and have amply proved it to be practical, and one, I think, that has overcome many of the defects to be found in Freudenberg's instrument.

We will give in abstract a few illustrative cases, but before doing so it may be well to state the measures we take to determine before operation the size, shape and character of the prostatic enlargement, and consequent selection of the blade to be used, and the length of the cuts.

Besides a systematic general physical examination,

Figure 6.

noting particularly the condition of the arteries, a very careful local examination is made as follows: *Rectal examination*, noting: the size, shape and consistence of the prostate; the relative enlargement of the two lobes, the thickness of the prostate as revealed by the finger in the rectum, and a sound in the urethra (determining in this way the thickness of the hypertrophy in the median portion); the adnexa of the prostate, vesicles, glands, rectal mucosa, etc. *Bladder examination:* 1, with catheter, noting the location, depth and character of prostatic obstruction, with residual urine, the capacity of the bladder and its tonicity; 2, with the cystoscope, noting: (a) the size, shape, location and character of intravesical prostatic hypertrophy (especially as to the condition of the median portion, whether a bar or a rounded or pedunculated lobe, and its elevation above the trigone (bas fond); the relative enlargement of the lateral lobes, etc.; (b) the condition of the bladder wall, as to trabeculation, pouch formation, diverticula, inflammation, ulcers, calculi, etc. 3. With searchers (in absence of a cystoscope), which by rotary movements may determine quite accurately the presence of a middle lobe; and the relative size of the lateral lobes, as also the presence of trabeculations, pouches, etc. *Urinary examination;* especially with reference to the character of the infection, besides the ordinary tests.

Having then determined as accurately as possible the conditions present, a plan of action is mapped out: as to whether a Bottini operation or a prostatectomy be preferable, and if the former, what blade should be chosen, in what directions should cuts be made, and what should be their length.

The following cases, including several forms of hypertrophy, give in detail the operation found applicable to each and the length of blade chosen. They demonstrate, I think, the *raison d'être* of the new combined cautery incisor, and its practical value. The work with this instrument being of recent date unfortunately prevents our showing the ultimate result obtainable, as several months must generally elapse before the full effects of the operation are secured.

CASE 1.—J. N. M., aged 71, had been suffering with urinary trouble for 4 or 5 years. During this time urination became steadily more difficult and more frequent until he now voids every one and one-half hours, night and day.

Examination showed slight, but definite, enlargement of the prostate, which was much harder than normal, but not nodular. The cystoscope showed a small median transverse bar and a

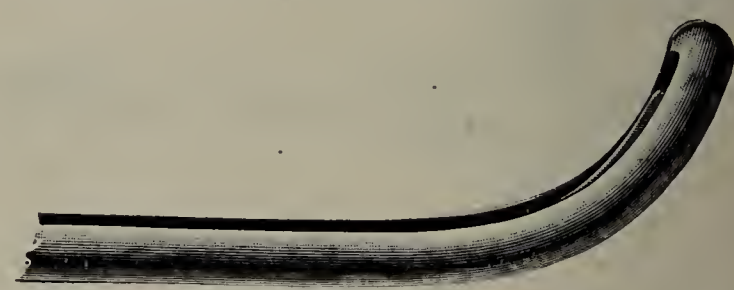
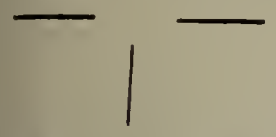


Figure 7.

slight intravesical projection from the lateral lobes, but there was really very slight intravesical enlargement of the prostate. With a finger in the rectum a very slight increase in thickness over the normal was felt between it and the instrument in the prostatic urethra. The bladder, however, showed very definite effects of obstruction, viz., considerable trabeculation and pouch formation, a residual urine of 90 c.c., and a capacity of only 250 c.c. *Remark:* We evidently had to deal with the so-called small sclerotic prostate, furnishing moderate but definite obstruction and a bladder hypertrophied and somewhat contracted. The very slight enlargement and the small amount of prostatic tissue beneath the urethra made us afraid to use Freudenberg's instrument. A thorough prostatectomy would have been impossible, and as the case appeared to be in need of the Bottini operation, we persuaded the patient to wait until the arrival of our new incisor, so that we might use a smaller blade.

On May 31, 1901, a Bottini operation was performed with blade No. 2 of our instrument, which blade seemed to suit the case exactly. Three cuts were made: one posterior, 2 cm. long; and two lateral, the right 2.5 cm., the left 3 cm., at right angles to the posterior (see diagram). The instrument was used at a high heat; time, about 1 cm. to the minute; the operation done under control of a finger in the rectum. It was evident that a larger blade would probably have cut through the posterior capsule of the prostate.



The convalescence of the patient was as usual: difficult urination for the first few days and after that a gradual improvement. The ultimate result was a complete relief of prostatic obstruction, micturition free, residual urine nil.

CASE 2.—F. E. B., aged 34, presented himself on June 30, 1901, complaining of bladder trouble. The patient had had nocturnal incontinence of urine up to the age of 14, and after that he always voided urine much too often. Seven years ago cystitis developed, and a calculus was discovered and removed by suprapubic cystotomy. The fistula did not heal till eight months afterward, and cystitis has persisted ever since. On admission he passed his urine about 6 times a day, generally with pain referred to the neck of the bladder.

Examination.—Patient was a rather neurotic young man. The urine was cloudy, acid and contained phosphates, pus cells and bacilli. The prostate examined by rectum was slightly enlarged, considerably indurated at the upper end of each lobe. The seminal vesicles were both indurated and closely bound to the upper end of the prostate. The fluid expressed from the prostate and the vesicles by massage shows pus cells. A rubber catheter was passed into the bladder, but met some constriction of the prostatic orifice. The patient had just voided, but a residual urine of 220 c.c. was found. The bladder capacity was 500 c.c. The cystoscope showed a marked trabeculation of the bladder wall, a considerable thickening of the interureteral bar, and behind it a deep pouch in which was a considerable collection of sand and small calculi, white in color.

Examination of the prostatic orifice revealed a definite thickening of the median portion in the form of a transverse bar, and behind it a fairly deep bas fond. There was no intravesical enlargement of the lateral lobes, but the entire prostatic orifice was irregular and showed numerous granulations.

Remark.—Although the patient was a young man, he had unquestionably an enlargement of the median portion of the prostate, which was causing considerable obstruction to urination, as shown by the trabeculation and pouch formations in the bladder and the presence of 220 c.c. residual urine. The prostate was undoubtedly chronically inflamed, but the enlargement, while probably inflammatory in origin, was unquestionably causing trouble, and in our opinion demanded a Bottini operation. The prostate, however, was so small that it was out of the question to use the ordinary Freudenberg blade, so that patient was asked to wait until our instrument could be completed. In the meantime he was put upon bladder irrigations and given urotropin internally.

On Sept. 13, 1901, examination showed considerable improvement in his cystitis, but the urine was still purulent. There was still 220 c.c. of residual urine present. Cystoscopic examination showed an improvement in the inflammation of the mucous membrane, and much to our surprise the considerable mass of small calculi which was previously found had disappeared. A very careful search was made with the cystoscope, but no calculous deposit could be found anywhere. There was still present the definite transverse median bar with a pouch behind it, and the bladder wall was still trabeculated. Accordingly the Bottini operation was performed, using blade No. 1 and making a single posterior cut through the median bar 2 cm. in length. There was some hemorrhage following this cut. After the operation the patient experienced considerable discomfort for a few days, but since then his condition has continued to improve.

It was intended to make three short cuts (see diagram) through the median bar with the small blade, but a burning out of some of the electrical connections in the hospital after the first cut had been made prevented the others being made.

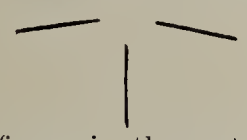
Now two months have elapsed since the operation, his condition is much improved and the residual has dropped to 150 c.c. Unless this disappears soon we shall make the two other cuts through the median bar as originally intended.

CASE 3.—G. T. H., age 73, admitted Sept. 9, 1901, complaining of prostatic hypertrophy and catheterism. Urinary difficulty began soon after the age of 50, but did not get severe until about 1 year ago, when micturition became quite difficult, and the patient had to get up two or three times at night to urinate. About 10 months ago he had to resort to a catheter, which he has used ever since, being unable to void any urine naturally. He has had several attacks of inflammation of the bladder, and both testicles have been the seat of abscesses during the last 6 months. He now catheterizes himself regularly three times a day, and suffers very little discomfort, but the passage of the instrument is often quite difficult.

Examination.—Strong, healthy-looking man, arteries slightly thickened, small nodules in both epididymes. Prostate markedly enlarged, about the size of a large orange, left lobe much larger than the right. The median furrow is deflected towards the right. The upper end of the prostate is hard to reach. The consistence is smooth, soft, not tender. Urine is acid 1014, not very cloudy; microscopically, numerous pus cells and bacilli.

Cystoscopic examination showed a very marked intravesical enlargement of the left lateral lobe, considerable enlargement of the median bar, and a lesser enlargement of the right lateral lobe, with a small rounded mass between the two lateral lobes in front. There was a very deep bas fond behind the prostate, and the bladder was very much trabeculated and inflamed. The blade of the Freudenberg instrument would have been perfectly suitable for this case.

A Bottini operation was done under chloroform, blade No. 3 being chosen. This blade is of the same size as Freudenberg's. The posterior cut was 3.25 cm. long, right lateral cut 3.25 cm. long, left lateral cut 3.5 cm. long (see diagram). The operation was done under the control of the finger in the rectum. Hemorrhage moderate and patient in splendid condition at end of operation; 1000 c.c. submammary infusion of salt solution was given as a prophylactic against uremia.



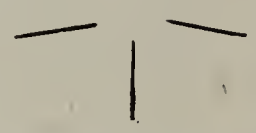
The patient made a rapid convalescence, required catheterization only three or four times after the operation, and very soon began to void urine naturally. His condition since then has steadily improved, until now the interval between urinations is every two hours during the day and longer at night. His general health has improved wonderfully, he has gained 12 pounds in two months, and will apparently get a good result.

CASE 4.—E. W. S., age 63, admitted Sept. 13, 1901, complaining of enlarged prostate catheterism. Urinary trouble began four years before with difficulty and frequency of urination, which at times had become so bad he had to use a catheter. For the past three months has had to use catheter three times a day, and has not been able to pass any urine naturally. For the last four years the patient has suffered from diabetes mellitus, which has been somewhat controlled by dieting.

Examination.—Large, healthy-looking man. The rectal examination showed a very large hypertrophied prostate, left lobe apparently larger than the right, consistence firm, but not nodular. Urine removed by catheter was acid, slightly cloudy, contained both albumin and sugar, and under the microscope showed pus cells and bacilli. After six days of diabetic diet there was barely a trace of it to be found. A rubber catheter entered the bladder with difficulty. The bladder tonicity was

only moderately good, and the capacity about 500 c.c. The cystoscope showed a marked intravesical enlargement of the left lateral lobe, which projected into the bladder as a large rounded tumor, a moderate enlargement of the median portion, and a very slight enlargement of the right lateral lobe. Behind the prostate was a very deep bas fond in which the ureters could not be seen. The bladder was considerably trabeculated and inflamed.

September 19, 1901, Bottini operation was made, under cocain and morphia. On account of the considerable size of the prostate, blade No. 3 was used, and as the left lateral lobe was much larger than the right, a much longer incision was made on that side. The posterior median cut was 3.5 cm. long, the left lateral 3.5 cm., and the right lateral 2.5 cm. (see diagram). Time taken, 1 cm. to 1 minute. Instrument was used at a white heat. There was very little hemorrhage following operation, and very little pain caused, the anesthetic being very efficient. Immediately after the operation the patient voided urine naturally, and has never been catheterized since. For the first few days there was considerable vesical spasm.



On Oct. 2, 1901, thirteen days after the operation, the following note was made: Patient now passes his urine about every two hours in a large stream and without pain. There is no dribbling; residual urine 140 c.c.; urine, acid, quite purulent, pus cells and cocci present. Sugar is still present in considerable amount.

In a letter dated Nov. 5, 1901, the patient reports that he had not used a catheter since operation, that he urinates once during night and four times during the day, that his residual urine is less than 50 c.c., that micturition is free, and the vesical inflammation greatly improved.

CASE 5.—J. P. A., age 71, was referred to me by Dr. Finney on Sept. 28, 1901. The patient gave a very long urinary history, which began with difficulty in micturition 11 years ago, when a stone was found and removed by a surgeon through a suprapubic opening. For two years following this he had a suprapubic fistula, which was finally cured by his taking up catheter life in 1895. Castration was then done by another surgeon, and several weeks later another suprapubic to remove another stone. During the next year the stones reformed and were crushed by a third surgeon. After that he was free from pain for a while, but had to use a catheter. Stones soon appeared again, and during the next twelve months four separate litholapaxies were done. In 1897 still another surgeon did a suprapubic operation and removed stones, and at the same time removed by means of the rongeur forceps a moderate-sized median lobe which was still present (despite the castration). After this operation, for the first time the patient was able to go without the use of the catheter, but micturition has been too frequent.

Status Presens.—Patient on admission complained of irritation of the bladder. He urinated every two hours during the day and twice during the night, but had no pain or discomfort during urination. Rectal examination: The outlines of the prostate were easily made out, and a little larger than normal. In the median line the prostate presented a slight but distinctly abnormal rounded mass. The lateral lobes were apparently much atrophied and sloped away from the central mass, which replaced the median groove and notch. The whole diameter of the prostate was half as large again as normal, the consistence of the lateral lobes soft and flabby. Urine was acid, 1022, containing pus cells, bacilli and cocci.

Cystoscopic examination: Rubber catheter met an obstruction about 7 inches from the meatus, but a silk one was passed with ease. Patient had just voided, but 320 c.c. of residual urine was found in the bladder. Cystoscope showed two fairly large stones in a pouch behind a considerably hypertrophied interureteral bar. The mucous membrane of the bladder was much inflamed, but not markedly trabeculated, and there were no ulcers to be seen. Examination of the prostatic orifice showed a small but definite transverse median bar behind which there was a shallow bas fond. There was no intravesical enlargement of the lateral lobes to be seen, and there were no sulci between the lateral lobes above, nor between them and the median bar.

Remark.—The castration had removed the enlargements of the lateral lobes, but the median lobe persisted, after that. The removal of this through a suprapubic opening allowed the patient to urinate without the use of a catheter, but there still remained a definite transverse bar at the median portion (the base of the middle lobe) which continued to act as an obstruction, 320 c.c. of urine remaining in the bladder after micturition. It was evident that after litholapaxy a Bottini operation should be done to remove this obstructing bar, but the amount of tissue felt beneath the instrument in the urethra was so slight that it was decided to use the smallest blade of the incisor.

On Oct. 17, 1901, under cocain and morphia, litholapaxy was done, and followed by a Bottini operation. The crushing and evacuation of the stone was easily accomplished after placing the patient in the Trendelenburg position. The largest stone was one inch in diameter. All fragments were sufficiently crushed at the first introduction of the lithotrite, to be removed by evacuation afterward. After all debris had been removed, the bladder was washed clean, cocain again inserted into the bladder and urethra, washed out after three minutes, and a Bottini operation performed. For this purpose blade No. 1, which in this case was 8 mm. high, was used. Three cuts were made through the median bar, each 1.5 cm. long, one cut being in the median line posteriorly, the other two cuts were made at angles of about 50 degrees to the median cut (see diagram). The operation was done with the forefinger of the right hand in the rectum pushing the prostatic bar into the angle of the beak of the instrument. This was done because it was feared that the length of the beak in the bladder would so depress the trigone and bar of the prostate that the knife would not penetrate it for its full depth.

The patient stood the operation well; anesthesia quite good; very little hemorrhage. He was unable to void his urine afterward, and had to be catheterized three times in the next 24 hours. When seen a week after the operation he was voiding urine quite freely and the residual had dropped from 320 to 150 c.c. and he was already feeling greatly improved. He attended his office on the fourth day after the operation.

Condition one month after operation: Steady improvement; residual now 125 c.c., sometimes more. Bladder is still large and weak in tone, but condition improving.

November 21, 1901, bladder capacity is 400 c.c., tonicity considerably improved; residual, however, 175 c.c.

CASE 6.—J. A. B., age 70, admitted Oct. 18, 1901, complaining of enlarged prostate and catheterism. His urinary trouble began ten years before with difficulty and frequency, which soon became so aggravated that he began the use of a catheter, which he has used continuously up to this time. For the past seven years he had been unable to void any urine naturally, and when admitted passed a catheter about every two hours during the day and about every three hours during the night, using a very large rubber catheter. Examination showed a very large, hard prostate and a considerable dilatation and lengthening of the urethra just in front of the prostate. The cystoscope revealed a moderate-sized stone in a pouch behind the prostate, and a very much inflamed and trabeculated bladder. There was present a considerable intravesical outgrowth of the prostate, which appeared as a collar-shaped enlargement, both lobes and the median portion being hypertrophied, the left projecting farthest into the bladder. Behind the median bar was a deep pouch. The bladder capacity was rather small. The urine, which was obtained always by catheter, contained many red blood-corpuscles, pus cells and bacilli, and was acid in reaction.

On Oct. 23, 1901, litholapaxy was done under chloroform. The operation was begun under cocain, but chloroform had to be used on account of pain. The largest diameter of stone

grasped by the instrument was 2 cm. The crushing and evacuation were both difficult on account of the great hemorrhage caused and the trabeculated condition of the bladder. Patient stood the operation well and was very much more comfortable afterwards, but still required catheterization.

On Oct. 26, 1901, a Bottini operation was done under cocain, 4 per cent., and a hypodermic of ¼ gr. of morphia. Blade No. 3 was chosen as the proper size for all of the cuts, of which three were made, one posterior through the median bar 2.75 cm. long, a right lateral 2.5 cm. long, left lateral 3 cm. (see diagram). The duration of cuts was about 1 cm. to 1 min. and a high heat was used on the blade. There was very little hemorrhage following the operation, and immediately afterward the patient voided urine.

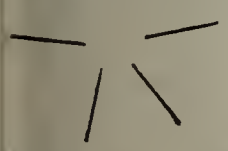
Patient made a rapid convalescence, voiding his urine freely immediately after the operation and never after required catheterization, although he had led a catheter life for seven years.

On Nov. 7, 1901, 12 days after the operation, he reported that he was rapidly improving, that he passed his urine once every three hours without any straining and was free from pain. A catheter passed four weeks after operation finds no residual urine, and the cystitis considerably improved.

CASE 7.—J. M. D., age 73, admitted October, 1901, complaining of hypertrophy of the prostate and catheterism. Urinary trouble began about seven years ago with difficulty of urination. A little later retention of urine became complete. He then began to use a catheter, and has had to use it ever since, never being able to pass any urine. He has remained in fairly good health, has had very little inflammation of the bladder, and now has to pass a catheter about every four hours, twice during night. Increasing difficulty in introducing the instrument of late has driven him to the operation.

Examination.—Large, healthy-looking man, arteries slightly thickened, heart and lungs apparently normal. Small hydrocele of right side. Prostate very much enlarged, about the size of a moderate-sized orange, lateral lobes about equally enlarged, contour round, smooth, consistence hard. Seminal vesicles indurated, but not nodular. A rubber catheter met obstruction 9½ inches from meatus. The bladder capacity was 400 c.c., tonicity rather poor. Urine acid, slightly cloudy, and contained pus cells and bacilli. The cystoscope showed a very markedly trabeculated bladder with numerous small pouches. Behind the prostate was a very deep bas fond in which the ureters could not be seen. There was considerable inflammation of the mucous membrane. Both lateral lobes and the median portion were very much enlarged, presenting a large collar-shaped intravesical hypertrophy around the urethral orifice, which projected well out into the bladder cavity. Growing from the upper portion of the lateral lobes, especially the left, were numerous small villi, which floated in the fluid but caused no hemorrhage. There was no ulceration of the surface of the prostate.

October 28, 1901. Bottini operation, cocain and morphia. Blade No. 3 was chosen. Four cuts were made, one in the median line posteriorly across the median bar 3.25 cm. long, one right lateral cut 3 cm. long. Through the left lobe two cuts were made, one lower oblique at an angle of about 75 degrees to the median posterior cut 3.25 cm. long, and an upper oblique cut at an angle of about 130 degrees to the posterior median cut also 3.25 cm. long. The direction of these cuts is best shown in the accompanying diagram. Patient stood operation well. There was very little hemorrhage, and anesthesia was quite good. Time occupied was about 1 cm. to 1 min. For the first 24 hours after operation the patient voided urine with considerable ease, after that it became more difficult, the bladder becoming irritable and catheter had to be used for six days. After that patient began to void without the use of a catheter.



Condition three weeks after operation: Patient voids about every hour, but sometimes two and one-half hours elapse between urinations. The vesical inflammation is improving, and its capacity increasing gradually. The catheter on which he depended for seven years has not had to be used for two weeks.

On November 21, 230 c.c. of urine was voided at a time with an interval of two and a half hours. Urination was fairly free, stream large. Residual urine was 10 c.c.

December 13, patient voids urine about six times in 24 hours, in amounts varying from 150 to 210 c.c.

CASE 8.—S. M. A., age 56, admitted Oct. 28, 1901, complaining of frequency of urination. His prostatic trouble began two and a half years before with difficulty of urination. Since then micturition had become gradually more frequent and difficult, and one year before he had begun the occasional use of a catheter. On admission he complained of a dull pain at the beginning of urination, which occurred every two or three hours during night and day. He had suffered considerably with inflammation of the bladder.

On examination patient was found to be a man in fairly good health. The prostate on rectal examination was found to be slightly enlarged, soft in consistence, contour smooth and round, and both lobes of about the same size. The seminal vesicles were not indurated. The urine was cloudy, specific gravity 1017, pus cells and bacilli were present in considerable number. A rubber catheter passed with some difficulty, owing to obstruction in prostatic urethra. Residual urine 185 c.c. (another examination three weeks later showed a residual of 375 c.c.). The bladder capacity was between 500 and 600 c.c.; tonicity fair. Cystoscope showed a small median bar which joined, without intervening sulci, with two very slight intravesical enlargements of the lateral lobes. Behind this median bar was a definite, but not very deep, bas fond in which the ureters lay rather close up to the prostate. The interureteral bar was considerably enlarged and behind it was a rather deep pouch. The posterior wall of the bladder was very greatly trabeculated, and between some of these trabeculæ small round and oval openings were seen which connected with extravesical pouches. About 1 inch behind the left ureter a very considerable diverticulum with a large round opening into the bladder was seen, and the cystoscope was introduced into this for some distance, and a cystoscopic examination of the diverticulum made. With a finger in the rectum and the cystoscope in the urethra the amount of prostatic tissue between them was found to be very little thicker than normal; more than in Cases 2 and 5, but much less than usual in prostatic enlargements.

The rectal examination and cystoscopic examination both showed only a slight enlargement of the prostate, but the considerable residual urine and the marked evidences of obstruction as shown by the trabeculation and pouch formation in the bladder wall made it evident that there was considerable hindrance to urination. The prostate was so small that prostatectomy would have been very difficult, although the patient was in splendid shape for any operation, and the ordinary Freudenberg instrument would undoubtedly have been dangerous to use on account of the danger of penetrating the capsule of the prostate. Blade No. 2 of our instrument appeared to be the proper size to be used, with cuts not longer than 2 cm.

On Nov. 20, 1901, a Bottini operation was performed under cocain and morphia. Blade No. 2 was used in accordance with the cystoscopic and rectal examinations as stated above; five cuts were made as shown in the diagram. One median posterior and two oblique on each side, one at an angle of 75 degrees to the median posterior, and the other at an angle of 120 degrees. Each cut was made 2 cm. in length. Patient stood operation well. There was very little hemorrhage from the cautery cuts. The catheter was not required after the operation.

On the day following the operation there was a temporary suppression of urine, which was relieved by subcutaneous infusions and digitalis.

December 13, patient has done well. Urine is voided freely, often 300 c.c. at a time. Residual urine, 0. Cystitis is improving. Result is excellent.

SUMMARY.

Reviewing the eight cases reported in full above, we find four cases (3, 4, 6, 7) in which blade No. 3 was used. All of these were fairly large hypertrophies of both lateral lobes and median portion, and were suitable cases for Freudenberg's instrument.

In two cases (1 and 8) blade No. 2 was used. In both of these the prostate was very slightly larger than normal, as shown by rectal, instrumental and cystoscopic examinations, but in both of these cases there was

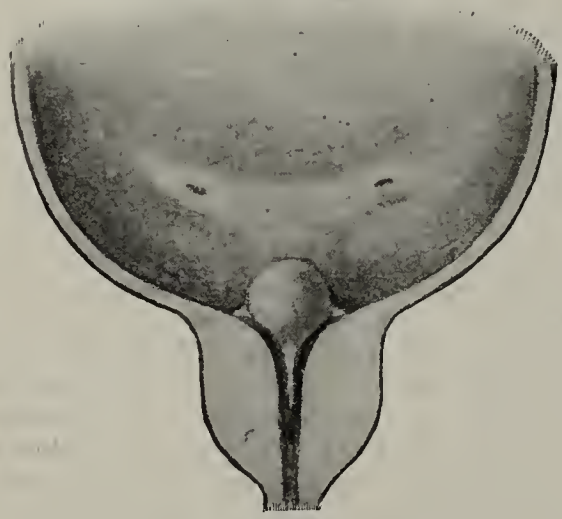


Figure 8.

marked evidence of obstruction and the cases urgently needed operation. In both cases, however, incisions made with Freudenberg's instrument would probably have penetrated beyond the confines of the prostate, but the operations were performed safely with blade No. 2 of our instrument.

In two cases (2 and 5) blade No. 1 was used. In both the obstruction was caused by a very small median bar, associated with complete atrophy of the lateral lobes (after castration) in one case and lobes of normal size in the other. In these cases the amount of tissue

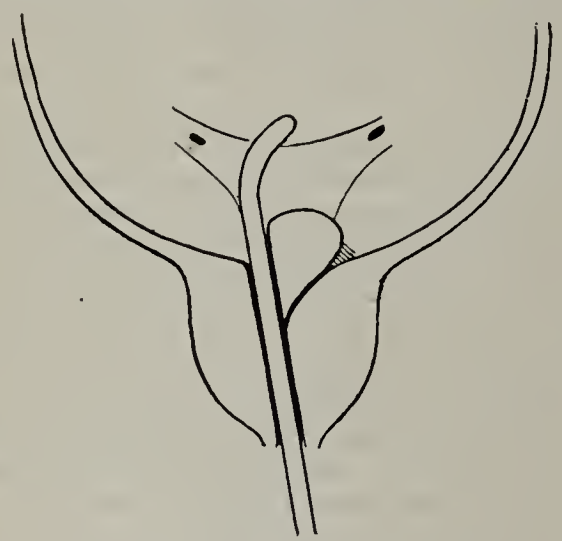


Figure 9.

beneath the instrument was so small that we feared to use even blade No. 2. In another case (not here reported) the enlargement consisted in two very large lateral lobes, associated with a complete absence of median bar, the urethra skirting the posterior surface of the prostate and the amount of tissue between the rectum and a sound in the prostatic urethra being very small. In this case we used blade No. 3 for the lateral lobes and blade No. 1 for the posterior cut.

I have not as yet used blade No. 4, and hardly think it will often be necessary except to attack a single very great hypertrophy of one lateral lobe. I have, however, seen several tremendous general hypertrophies in which it would have been necessary.

As to the efficacy of the Bottini operation, of which I was myself at first very skeptical, my experience (now of 41 operations) forces me to testify decidedly in its favor.

In 41 cases I have had 3 deaths, all men in very bad condition before operation, and 2 with pyonephrosis. Fifteen patients were over 70 years of age, 3 over 80, and among these there have been no deaths, and all but one have been cured of the prostatic obstruction. Of 13 patients who had to use the catheter, there is only one

Figure 10.

who still requires it, and this one is considerably improved. Some of my cases are of too recent date to show the ultimate results, and these I will reserve for a later publication. I am still, however, of the opinion (from an experience of 15 prostatectomies) that in certain cases, *e. g.*, men between 45 and 60, in good condition, and with easily enucleable enlargements, a complete prostatectomy is a very safe operation, and certain as to lasting results, though I must say the effects of the

Figure 11.

Bottini operation seem to be also permanent. Time, careful study of cases (especially with the aid of the cystoscope) and long-continued observation after operation can alone determine the applicability and the limitations of the principal operations for the treatment of prostatic hypertrophy.

In closing the paper I can not too strongly urge that the Bottini operation should be performed in accordance with the character of the prostatic obstruction as found by exhaustive examination as previously outlined. There is no doubt but that a perfunctory performance of the operation with one blade for all cases, and one cut

directed posteriorly and one laterally on each side, while perfectly satisfactory in a large number of cases, is insufficient in some and dangerous in others.

As shown by the writer in another paper,[1] when a decided median lobe (more or less pedunculated) is present, the ordinary operation is entirely inadequate, as the posterior cut will generally pass to one side of the median lobe and leave it to continue its obstructive work —see Figs. 8, 9, 10.[2] If, however, the cuts be so made as to pass obliquely across the base on each side of this projecting lobe,[3] I have shown that this lobe may be dropped back out of the way (Fig. 13) and a rapid atrophy induced by thus cutting off most of its blood supply (as in diagrams, Figs. 11, 12, 13). This has been abundantly proved in five cases, some of which were entirely unaffected by the usual three incisions and the prostatic obstruction immediately removed by the incisions described above.

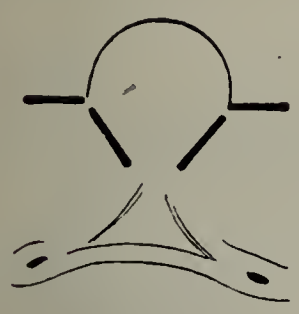


Figure 12.

Figure 13.

The cases outlined above serve to show the selection that may be made in some forms of hypertrophy as to the size of blade to use, and as to the length of incisions, their number and direction. No two cases are alike, and each should be a study unto itself.

As a rule the usual three incisions—one posterior and two lateral—are entirely sufficient for most cases; especially those of moderate hypertrophy, where with more incisions the danger of causing a slough, too large to be passed per urethram, is considerable. The same rule applies to middle lobe cases; unless the median enlargement is considerable the single posterior incision should be preferred as free from all chance of completely amputating the median lobe, and leaving it to act as a foreign body in the bladder.

In the choice as to the length of incision and the size of the blade to use there is considerable latitude and it should always be based on a careful study of the conditions present, and controlled by rectal touch.

1. Monatsberichte der Urologie, December, 1900.

2. To be more explicit: Fig. 8 shows the Y-shaped urethra, which is present in these middle lobe cases, and Fig. 9 shows how a metal instrument that has been introduced into the bladder will pass to one side the middle lobe, and not remain on top of it. Fig. 10 illustrates a case in which I performed the usual Bottini operation with no result, and a subsequent suprapubic cystotomy showed the posterior cut on one side of the middle lobe as shown in Fig. 10.

3. This is accomplished by the following maneuvers: introduce incisor, draw beak up against anterior portion of the prostatic orifice, rotate instrument 180° (hugging the prostatic orifice all the while). This will bring beak into sulcus to one side of middle lobe. Carry the rotation 45° further and beak will lie obliquely across the base of the middle lobe, ready for the first cut, Fig. 11. By reversing these movements the cut on other side of middle lobe may be similarly performed, and then the two lateral cuts made, Fig. 12. The result is shown in Fig. 13, a diagram from an autopsy specimen.

Prize for Essay on Hypodermic Use of Morphin.—Dr. J. B. Mattison, Medical Director of Brooklyn Home for Narcotic Inebriates, offers a prize of $400 for the best paper on the subject: "Does the Habitual Subdermic Use of Morphia Cause Organic Disease? If so, What?"

LICHEN PLANUS HYPERTROPHICUS.*

DAVID LIEBERTHAL, M.D.

Professor Dermatology, Illinois Medical College; Dermatologist to the Michael Reese Hospital and United Charities' Dispensaries.

CHICAGO.

There are a number of names for this affection: Lichen simplex chronicus circumscriptus; lichen verrucosus, lichen corneus, etc., most of which are appropriate to this morbid process. In the last two decades it has been the subject of lively discussion, inasmuch as some cases of this description do not yield to the administration of arsenic, others do not show any typical lichen papules, but only the verrucous patches are characteristic of this disease and hence there arises serious doubt whether in these cases we have really to deal with a true lichen-planus process or with an atypical form of mycosis fungoides—A. Neiser, Deutscher Dermatologen Congress, 1894—or with a lichenization of a localized pruritus in the sense of Brocq. Thus further, Kaposi has named cases of this appearance keratosis verrucosa papillaris.

Now, this question as to the identity of these with lichen planus has lately been answered in the affirmative, after consideration of their clinical and anatomic features.

In view of the rare occurrence of this form of lichen planus, I wish, in the course of my remarks, to cite cases which will partly illustrate the subject in question and besides bring out some pertinent points.

Symptoms.—The affection is characterized by rounded or bean-like, oblong, irregularly outlined plaques of a bluish-red, brownish-red or violet color. They are flat, warty elevations sharply defined and their surface bears numerous whitish, or grayish, bran-like, firmly adherent scales; besides, there are on the surface deep point-like and larger depressions into which horny plugs are implanted. The consistence of these lesions is quite firm and they are elevated to half an inch and free from hair. Neither spontaneously nor on pressure is pain felt, but there is severe itching and especially so on the site of the patches. Besides these, there are sometimes found brown pigmented spots and atrophied areas.

In certain of the cases typical lichen papules are seen in the neighborhood of the hypertrophied lesions, or on other parts of the body, besides corresponding lesions on the mucous membrane of the cheeks in the form of white nodules or tender white reticula. In other cases no elementary lesions whatever are found. The seat of the affection is, in the majority of cases, the anterior and, to a lesser degree, the lateral aspects of the tibia, and especially the middle third. Sometimes varicose veins are present. Inasmuch as the lesions show a tendency to aggregation and frequently a band-like arrangement in the direction of the long diameter of the limb, there may exist a relation to certain cutaneous nerves. Regionary glands are sometimes found to be enlarged.

This affection mostly occurs in males over 40 years of age. Its course may be very chronic. Thus, Lion describes a case of a female patient, 43 years of age, in whom it had existed since childhood, and showed besides the hypertrophied areas typical lichen papules. The diagnosis is not difficult for those who have seen a case, inasmuch as all the cases present much the same appearance.

Diagnosis.—It must be differentiated from the fol-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee of the Section: W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

lowing conditions: Warts, which are more cleft and have no scales on the surface; tuberculosis verrucosa cutis, in which there is found an inflammatory halo and foci of pus accumulations; lichenoid eczema, which is never of so great extent; typical cases of mycosis fungoides, where there are other characteristic symptoms, even if the tuberous patches should not be broken down, or the atypical form of Bazin, in which the tumors developing without preceding manifestations (d'emblée) soon break down into putrid fungous areas; keloid, which is smooth and painful on pressure; the discs of the keratomatous stage of sarcomatosis cutis multiplex hemorrhagica, which show a depressed central portion and no scales; ichthyosis verrucosa, which dates from childhood and has a generalized distribution, and lupus hypertrophicus, where the affection dates from childhood, presents a red basis and in the neighborhood there appear brownish-red firm nodules deeply implanted in the skin.

Etiology.—The etiology of this affection is obscure. Although we observe in most cases an arrangement of the lesions corresponding somewhat to the course of the cutaneous nerves, there seems to be but slight probability of a nervous causation. The severe itching often present can be explained in the same way as in other inflammatory conditions. Inasmuch as it occurs chiefly on the lower limbs where the circulation is somewhat impeded, and more so in middle life, it would not be too much to suspect the changed lowered circulation in the locality of being an etiologic factor, especially when we further consider that in a large percentage of the cases considerably developed varicose veins are noted. In some cases, injury preceded the development of these warty growths.

I shall describe the histopathology in connection with the microscopic findings of a specimen from *one* of my cases.

Prognosis.—The prognosis as regards the general health of the patient is favorable, although some patients suffer from intense itching, especially while they rest. This much can be said concerning the curability. Some of the cases have yielded readily to the administration of arsenic in the form of Asiatic pills; sometimes this combined with the local application of chrysarobin in traumaticin 10 per cent., or the latter alone. J. Schuetz reports good results in these cases from the local application of plastermull of mercury and arsenic. But there are other cases, where no other than surgical interference will produce results. In one of my cases a recurrence took place in spite of the total removal of the verrucous patches with the thermocautery. I am under the impression that those cases which present, besides the verrucous patches, typical lichen planus elements give better prospects in treatment than those where hypertrophic areas only are present, and especially so when the former are in larger distribution.

I wish at this juncture to report two cases which represented this affection.

CASE 1.—Male, aged 45, German, manufacturer. Father of four healthy children, and comes of healthy stock. He smokes considerably and drinks some beer; has had no venereal or skin disease and knows of none of his relatives being afflicted with such. About six years before presenting himself at my office he had an attack of rheumatism in his arms and legs, lasting about eight months. About a year later he commenced to suffer from severe itching, especially on the abdomen and extremities, and soon afterwards noticed pimples in these localities and about two years ago the lumps on his legs appeared. Different remedies were applied with varying results until his family physician referred him to me. On his first visit, August, 1900, I found the following condition: He was well built; of medium stature with a well-developed panniculus adiposus; of dark complexion with brown hair, blue eyes; body not very hairy; organs of chest and abdomen apparently normal, and no alteration in the nervous system. Urinalysis revealed nothing pathologic. As soon as the patient had undressed, he began vehemently to scratch himself, especially on the abdomen.

On the forearms, abdomen, penis, scrotum, sacral region and legs there were numerous, brownish, flat papules of polygonal outline and waxy appearance, solitary and in groups, with here and there larger lesions of more roundish outline and more bluish color, especially on the extensor surface over the wrists, and on the glans penis. On the anterior aspect of the right tibia, about its middle, was an irregular, oblong, warty patch about one inch long and three-fourths of an inch broad and corresponding with the direction of the tibia. Just below this was another roundish plaque of the size of a dime and in the line of prolongation of the first. On the anterior aspect of the left tibia, somewhat higher than the middle, was a node

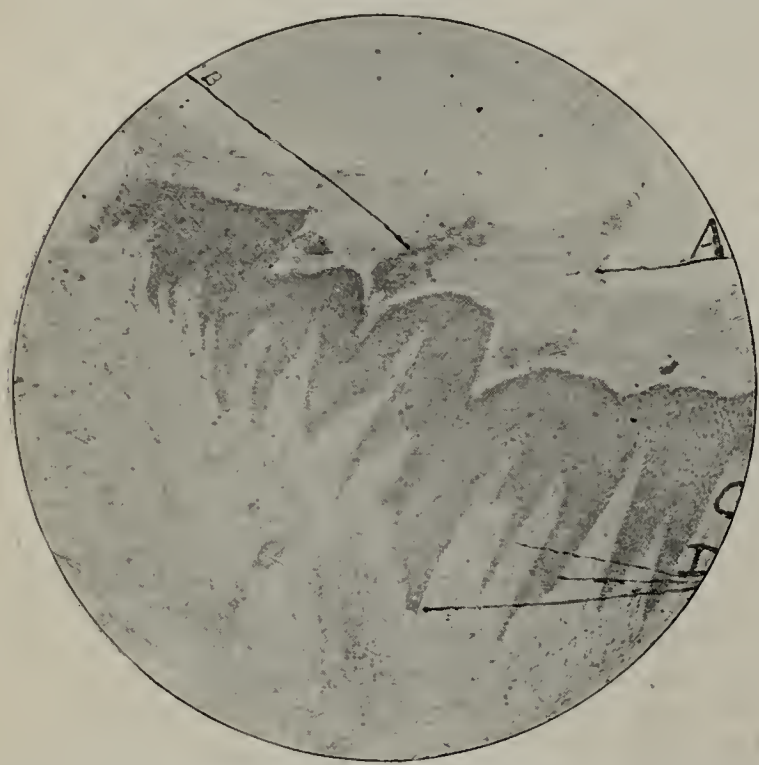


Fig. 1.—*a*, Horny plug; *b*, dilated duct of sweat-gland filled with horny mass; *c*, infiltration cells arranged in rows; *d*, irregularly shaped projections.

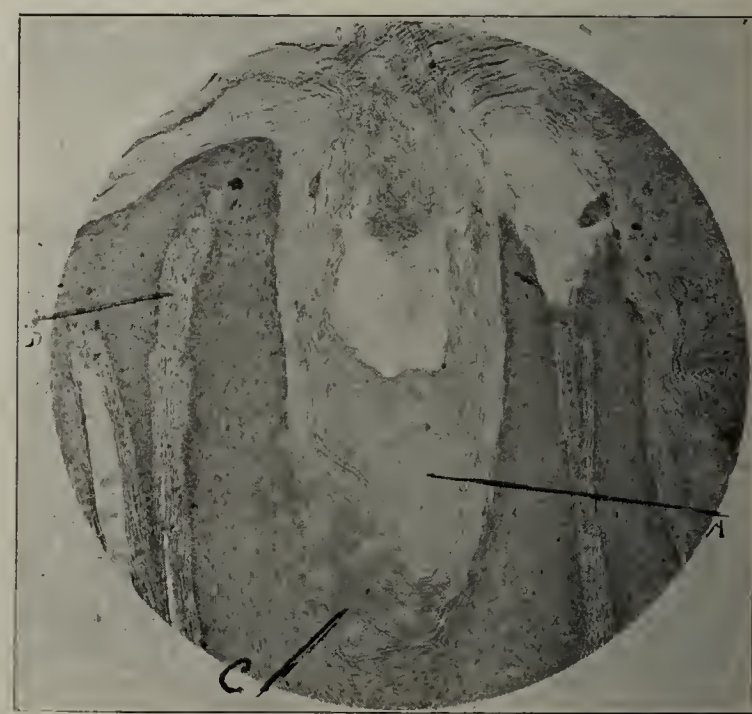


Fig. 2.—Arrangement of the infiltration cells in rows within the threadlike and elongated papilla. *a*, Horny plug; *b*, greatly broadened stratum granulosum; *c*, imperfect keratinization.

of the size and shape of a bean. These were elevated about one-fourth of an inch above the skin level, and presented all the other features of lichen planus hypertrophicus, but were not very itchy.

Closely around these warty elevations were seen numerous typical lichen papules and also dark-brown, pigmented spots. These were also found on other affected parts. On the mucous membrane of the cheeks, which was the seat of leucoplacia, lichen planus symptoms could not be observed. The patient, not residing in the city, was referred back to his family physician with the diagnosis and the suggestion to administer Asiatic pills in increasing dose up to the time of noticeable improvement, and then to gradually decrease;; the local application of oleum cadinum 20 per cent., alternating with Unna's ointment of carbolic acid and corrosive sublimate, was also recommended.

In January, 1901, I saw the patient again. All the symptoms had disappeared, but there were areas of pigmentation at the sites of the former lesions and shallow depressions at the site of the verrucous patches. I advised the continuance of two pills daily for a few months. I regret that the patient would neither give his consent to have pictures taken, nor permit the excision of a portion for histologic examination.

CASE 2.—This patient presented quite different features. Male, American, 47 years old. Manager of a musical instrument establishment. Married and has three healthy children. His mother died at 30 from unknown cause. His father, who

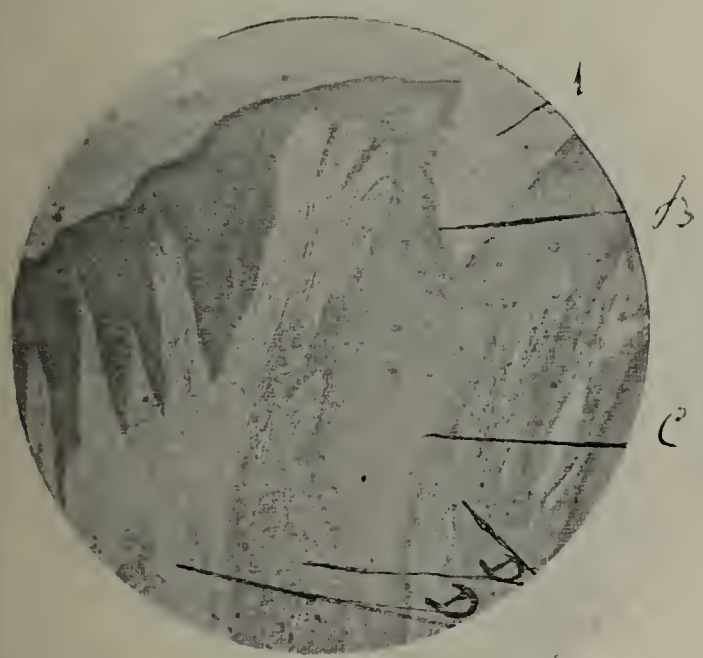


Fig 3.—*a*, Horny plug; *b*, stratum granulosum broadened; *c*, elongated and broadened epithelial projection; *d*, infiltration.

is still living at 70 years of age, is in good health, but had a red scaly skin affection of the face a few years ago, which lasted about two months and then disappeared without leaving any trace. The patient at the age of 12 had swollen glands of the neck, and at 20 he had an attack of gonorrhea. He had no other venereal disease or other illness, but suffered a fracture of the distal portion of the right ulna.

He is of active temperament and regular habits. The present affection began about seven years ago, when he was quite an enthusiastic bicycle rider. Returning from an evening ride his legs began to itch considerably, to which he paid but little attention until a few days later, when they became reddened and swollen. He consulted a physician, who prescribed a soothing application. The swelling soon subsided, but the itching continued. He did not notice any pimples. He changed physicians frequently and used all sorts of advertised remedies, but without relief. On the contrary, he grew worse and scarcely a year after the first symptoms occurred, lumps appeared on the front of the lower limb, where all the former symptoms were. These increased gradually in number and size. The itching was always present and especially at night, when his scratching caused bleeding.

I saw the patient for the first time in April, 1897. He was rather tall, strongly built and with a moderately developed panniculus, had light complexion and blue eyes. Neither internal organs nor urine revealed anything abnormal. The entire skin, with the exception of that on the lower limbs, was normal, as was also the mucous membrane of the mouth and urethra. The anterior aspect of each tibia was the seat of bluish-red elevations, extending one-fourth of an inch upward, and from the size of a pea to that of a penny; they were sharply defined and had irregular outlines, with all the other characteristic signs of an hypertrophied lichen. There were seven on the right tibia, and four on the left. The lesions on both sides were arranged quite regularly one above the other. On top of these patches were roundish, bloody excoriations. There were no typical lichen papules visible near these agglomerations nor anywhere else. For nearly eleven months I tried in vain every conceivable internal and external medication. The itching was at times subdued, but there was no noticeable change in the eruption. In March, 1898, I removed these elevations with the thermocautery. When healing was nearly completed, he left the city and I did not see him until November, 1899, when he consulted me for an urticaria on the face, which lasted about two weeks and was probably due to glycosuria. The urine showed about one-fourth per cent. of glucose, but there was no acetone and under appropriate diet the glucose disappeared. At that time I incidentally inquired

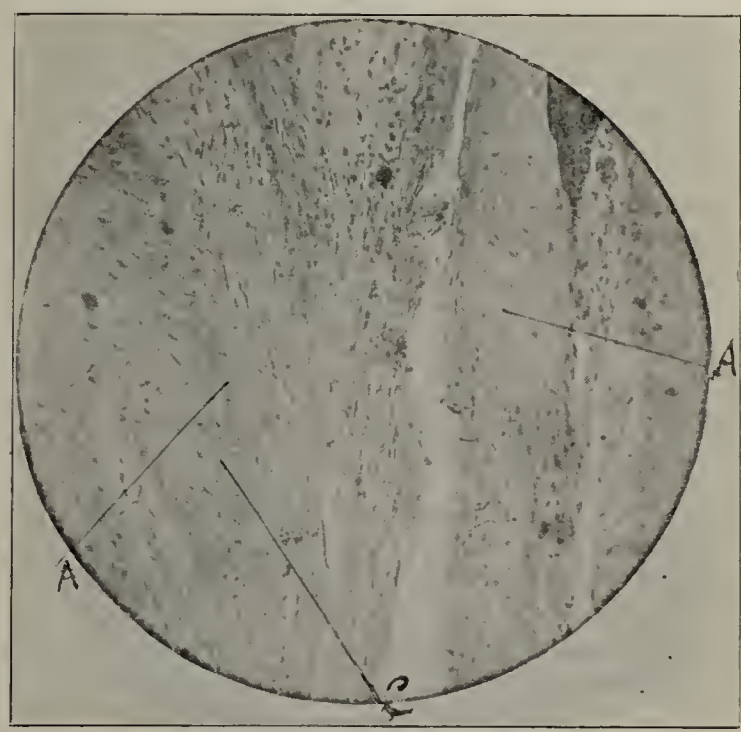


Fig. 4.—*a*, Dilated intercellular spaces, showing infiltration-cells *c*.

about his legs and learned that they were worse than ever before. On examination, I found that not only were the lesions previously removed, much larger, but there were also numerous other warty growths. On the inner side of the right tibia there was a plaque about the size of a quarter, where formerly there was one the size of a dime; it was irregular and had a hilus on its upper border. A few lines below was a roundish one the size of a dime. About one-third of an inch below this, on the site of six original lesions, was an oblong band-like plaque 2½ inches long and nearly 1 inch broad; its upper part resembled a mushroom and the whole plaque appeared like a longitudinal section of a moderately filled gut. About an inch below, was a lesion nearly the size of a dime. On the outer side of the right tibia were two lesions, one lobulated, about the size of a half-dollar, and about 2½ inches higher was the other, kidney-shaped and slightly larger than a nickel with a hilus on its upper side.

On the outer side of the left tibia near the crest there were two large patches, the upper resembling a four-leaved clover, the other like an inverted letter L. Midway between and just behind the two was a roundish one the size of a nickel. Below the left knee at the upper margin of the middle third of the tibia was a plaque the size of a dime. A year later, in November, 1900, I saw this patient again and the pictures here presented were taken. The lesions above described were all still

present besides new ones from the size of a pea to that of a dime, mostly situated in the neighborhood of the old plaques. These are marked N on the pictures. All the eruptions had irregular outlines, mostly segments of circles, indicating their origin from coalescence of roundish lesions. They were sharply defined, warty, raised about one-third of an inch with a gradually sloping periphery; they were of a grayish-violet color and presented bloody excoriations. They were beset with fine grayish-white, firmly adherent, bran-like scales and had holes or depressions from the size of a pin's point to that of a split pea, into which scaly masses extended. They were quite firm to the touch, not painful, but produced excessive itching as testified by the bloody excoriations. There were no elementary lichen lesions and no atrophic spots. I now obtained his consent to excise a piece from one of the larger growths. Having read J. Schuetz's article in the Archiv. für Dermatologie und Syphilis, 1900, in which he strongly recommended plastermull of mercury and arsenic for this affection, I tried it, carrying out the directions with painstaking accuracy, but without result. During these four years, I had looked carefully and also requested the patient to watch for pimples—elementary lesions—but found none. In April, 1901, I again saw him, when he reported less itching and his condition better. I observed on the inner side of the right tibia, near the inner side of the largest plaque, a group of about eight typical papules closely arranged. On calling his attention to

Fig. 5.—*a*, Duct of sweat-gland; *b*, irregular projections; *c*, spindle cells.

these he said he thought these were not pimples,, but scratch-marks, because they itched intensely. Having him stripped, I could find no other elementary lesions, but on the mucous membrane of his left cheek just behind the angle of the mouth I saw two somewhat acuminate white papules scarcely as large as a pin's head. During the whole time of my observation I noticed neither any varicose veins nor any nervousness; he did not lose flesh and is now as active as ever.

In November, 1900, when the pictures were taken, a piece was excised from one of the largest plaques, fixed and hardened in alcohol, embedded in celloidin, cut, and stained in hematoxylin and eosin.

The microscopic examination shows the following conditions: Stratum corneum hypertrophied, with here and there a well-stained nucleus. Within this layer are seen the ducts of the sweat glands, broadened and filled with horny masses. Prolongations of this layer in the form of broad plugs dip downward into the thickened spinous layer. These plugs are not confined to hair follicles, as can be readily seen. The stratum granulosum is broadened, especially just below the horny plugs. The stratum spinosum, which is thickened, shows widened intercellular spaces; this is more true in the deeper layers, in which are seen infiltration cells penetrating from the papillary layer. In the spinous layer vacuoles are found, but only slight colloid degeneration. The pigment is not increased. The cells of the basal layer were well shaped, being flattened only in places. The papillæ are densely infiltrated, considerably elongated; and some are thin and irregularly shaped. The capillaries, lymph spaces and blood vessels are dilated. The infiltration cells in the papillæ are largely arranged in rows. In the subpapillary layer, the infiltration is irregular and quite dense; the blood and lymph vessels are dilated and here and there is an island of sclerosed connective tissue within a heap of infiltration cells. In this and the deeper layers of the corium, there are found groups of small spindle-shaped cells, also slender reticula of connective tissue containing cells, the latter resembling the structure of a lymphatic gland.

In the deeper layers of the corium the infiltration is scanty, being chiefly around the blood and lymph vessels and the sweat glands, the ducts of some of the latter being dilated. Plasma cells were not found. Hair follicles and sebaceous glands were not present in the sections. The anatomic findings correspond to those of lichen planus, but are more highly developed.

Summary.—The question now in regard to the presence of typical elementary lesion can thus be summarized: In some cases there is a more generalized eruption; in some only a limited number, and in still others none are present in addition to the warty plaques. In my second case typical lichen planus papules were only

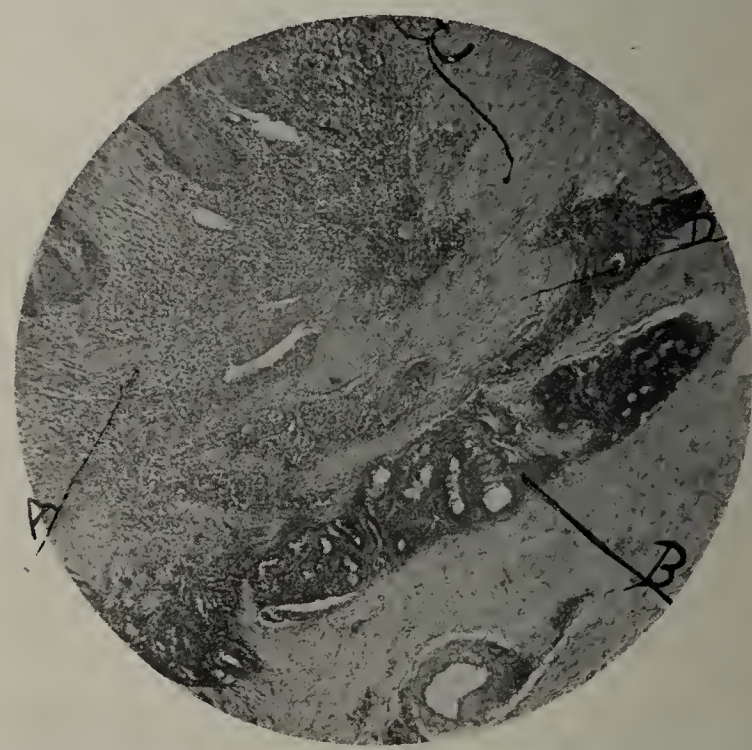


Fig. 6.—*a*, Small spindle cells in groups; *b*, sweat-glands; *c*, upper and medium part of corium; *d*, sclerosed connective tissue.

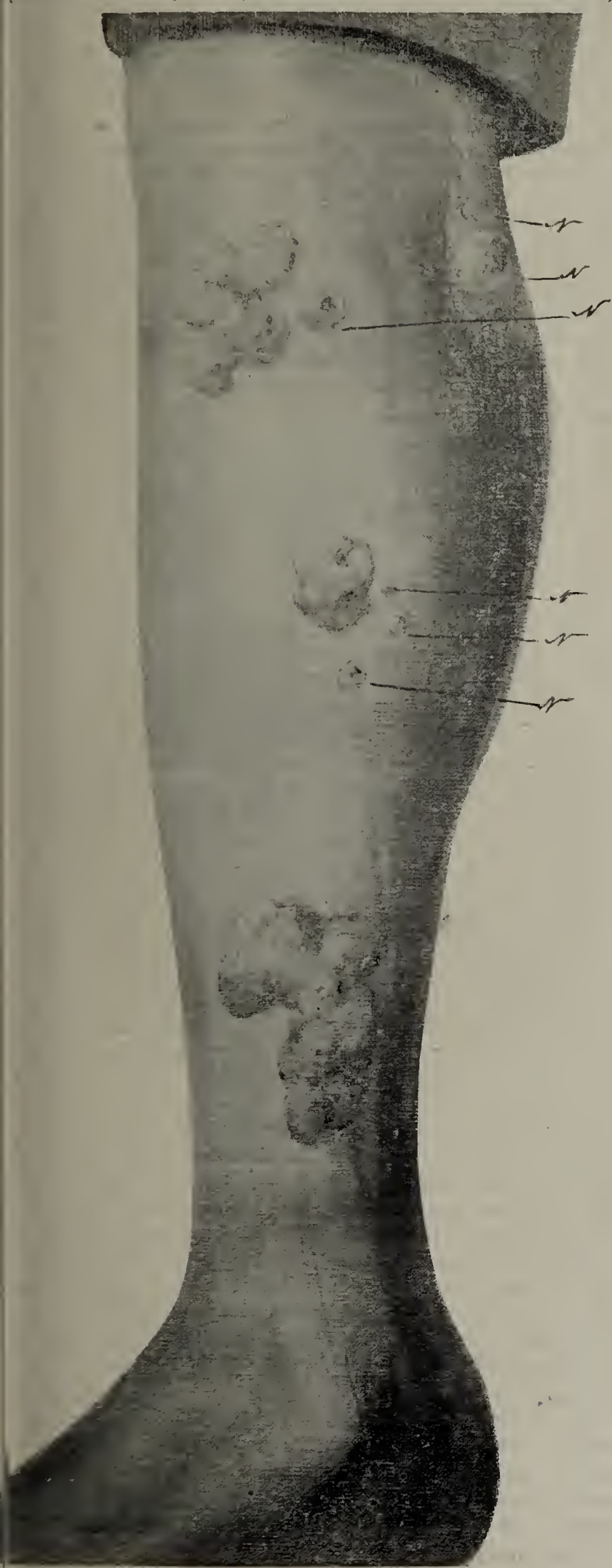
detected four years after I first saw him. We may infer, however, from the history and course of the disease that lichen planus papules may have been present at different times and been overlooked by the patient. That the verrucous lesions did develop from such, there seems to be no doubt, inasmuch as their development was evident from the coalescence of smaller ones. Sometimes, as v. Duering and Gebert emphasize, transition from the plain to the verrucous form can be observed. In other words, clinical as well as histologic considerations justify the interpretation that these verrucous plaques are a special manifestation of the lichen planus process. From the above considerations we draw the following conclusions:

1. The absence of typical elementary lesions does not justify the exclusion of hypertrophic lesions from the class lichen planus.

2. The elementary lesions will be found at one time or another during the course of the affection.

3. This verrucous manifestation of the process may be due to circulatory derangements.

4. For cases in which elementary lesions are also present, and especially more extensive in distribution,



Outer side of left limb.

he prospect of treatment seems better than for those 'hich present the verrucous growths only.

5. In some cases only repeated surgical interference 'ill remove the affection and arsenic is more likely to prove serviceable at the periods when typical elementary lesions are also present.

The camera slides which I had the pleasure of demonstrating, as well as the photomicrographs, were prepared by Dr. C. T. Gramm.

The literature of the subject is fully covered by the reports of the last fifteen years: Archiv f. Dermatologie und Syphilis; British Journal of Dermatology; Journal of Cutaneous and Genito-Urinary Diseases; Monatshefte f. Practische Dermatologie.

103 State Street.

DISCUSSION.

DR. C. W. ALLEN, New York City—I was interested in the differential diagnosis which the Doctor brought out so very well. It is not always an easy matter to make a diagnosis in these cases, and we have to run through in our minds the various things mentioned, and little differential points are of great assistance. In treating warty hypertrophic lichen of late, I have been using the curette a good deal, and have been surprised to find how very soft the tissue is, deep in under the crusts and warty tissue. I think it is a good plan sometimes to curette the border if the patch is advancing. The border will usually be found, especially deep in underneath, as soft as that of lupus erythematosus, but I do not think it is always known to dermatologists even, how soft the latter may be at the advanced border.

DR. DOUGLASS W. MONTGOMERY, San Francisco—I would not like to make a diagnosis of lichen of any form simply on the ground of lichen-like papules, because you can get papules like lichen in almost any itchy disease of the skin. Lichen itself is a rare disease in my experience.

DR. H. G. ANTHONY, Chicago—Taking all the symptoms of the case together there can be no doubt that what the Doctor described as lichen hypertrophicus is the same as the lichen corneus of the French, and that differs in nowise from lichen planus, except that it is in an advanced stage. In this form of lichen, the lesions look like the burning end of a cigar, that is, ash-colored scales on the surface of a red background, shining through the scales here and there. As to the treatment of this condition, a good deal has been said, especially by authorities in New York, on the value of large doses of mercury, and I think it may be looked upon as established that mercury in all its forms is of value in lichen planus. I have been informed that lichen rubber planus cases would tolerate considerably more than an ordinary individual. The mercury should be given in large doses, and it does not matter what preparation you use.

DR. W. T. CORLETT, Cleveland—As the illustrations were passed around I had in mind two diseases, one a form of lichen, the other sarcoma. I have never had a case identical with this although I have had lichen verrucosus, in which the lesions were very large and much more numerous. I think the Doctor has drawn his conclusions well; I am inclined to agree with him in the diagnosis. In regard to the treatment of this affection, many years ago I was strongly impressed with the value of arsenic in this special form of skin diseases, first because I had never used it, and second, because Mr. Jonathan Hutchinson recommended it, and for a good many years I believed that good results might be obtained from arsenic, although I was unable to obtain them myself. In lichen planus, although I have given arsenic in increasing doses, I have never obtained the slightest benefit, so far as I have observed. I have not pushed mercury, therefore I can not say as to that, I believe there is no drug we can give internally that will have any effect in cutting short the disease. On general principles I generally give iron, strychnin, and other tonics.

DR. L. DUNCAN BULKLEY, New York City—As the subject of the use of arsenic in lichen planus has been spoken of, I wish to mention a very striking case in a man aged 35, where the use of arsenic pushed immoderately in the hands of others had greatly aggravated the eruption, which I have observed in other cases. In this instance the eruption, which had become so severe on the hands as to incapacitate him for work, yielded very rapidly and perfectly to the chlorate of potash and nitric acid treatment, recommended by Bergh, of Norway, over twenty-five

years ago. This I have employed constantly since that time, and in many cases, with satisfactory results. The hypertrophic conditions, as described in the paper, are not very rare in lichen planus. I have had a number of cases exhibiting lesions much like those shown in the colored drawings of Dr. Lieberthal. In some instances they were the main feature of the case, in others there was also an abundant eruption of small, flat papules. In this condition internal treatment is relatively inefficacious, and strong local applications are needed, such as Unna's salve of carbolic acid and bichlorid in diachylon ointment. Beginning with a milder strength, a few grains to the ounce, I have sometimes increased it until a blistering or a suppurative action has resulted.

Dr. R. R. Campbell, Chicago—In the several cases of lichen planus which have passed under my observation I have been in the habit of administering arsenic and in each case have had most satisfactory results. In one case, which was typical and was seen by Dr. Anthony in consultation with me, I administered arsenic, pushing it as rapidly as circumstances would permit, and the results obtained in this case were most gratifying. We had the satisfaction of following the case for some time, about the diagnosis of which there could be no question.

Dr. H. C. Sumney, Omaha—I have used arsenic in Fowler's solution up to 35 drops, four times a day. A case had been treated by chlorid of potash and nitric acid. It was an undoubted case of lichen planus, part of it hypertrophied, on the arm and limbs, and we obtained very gratifying results finally with arsenic, working it up to 35 and 40 drops of Fowler's solution. Dr. Baum saw the case. We used the solution of arsenic hypodermically.

Dr. M. L. Heidingsfeld, Cincinnati—In looking over the microphotographs, and also the lantern slides of yesterday, I was impressed with one point which Dr. Lieberthal has failed to bring to our particular notice. In many of the more favorable sections there is a dense massive wall of cellular infiltration, which is sharply confined to the papular layer of the epidermis, and extending to, and slightly involving the lowest layers of epidermal cells, to such a degree that a sharp borderline between this infiltrate and the epidermis is lost, and the columnar character of the lowest layer of cells is no longer preserved. These are very constant features of lichen rubber in its earlier stages when infiltration is well marked, and to my knowledge is not encountered to any similar degree in any other process, so that the microscopic appearance is very characteristic, if not actually pathognomonic. I can concur in the statements of those members who have seen favorable results from the administration of arsenic. I can not recall a single case that has not been promptly and materially benefited by this agent. I have used the hypodermic administration almost exclusively, employing one-gram doses of 10 per cent. cacodylic acid, or 2 to 3 per cent. sodium arsenate. I recall several cases where Fowler's solution and Asiatic pills had been administered internally, even to the degree of inducing distressing symptoms, without positive results, whereas the institution of hypodermic administration was followed by prompt material improvement.

Dr. D. Lieberthal, Chicago, in reply—Dr. Allen is right in calling attention to the soft border which really can be observed in some cases. The plaques increase by spreading in the periphery, and in their beginning as long as they are quite new they are rather soft and with increasing stage of development the consistence increases. These conditions are substantiated by the pathologic findings. In regard to the presence of typical elementary lesions, it is more difficult to make a diagnosis when they are wanting. In my second case I would not have made a clinical diagnosis as readily if I had not seen such cases during my service under von Hebra in the Vienna Policlinic. The reason why I entered into details and especially so with the differential diagnosis was because in the text-books the account of this manifestation occupies about four lines. Dr. Anthony's remark about the similarity of some lesions to the effect produced by the red of the burning cigar gleaming through the ashes is correct. Concerning the administration of mercury, I can state that I used it in my second case quite actively, but without results. Dr. Corlett, I think, spoke to the point. The plaques look very much like sarcoma, and I stated in my paper the differential diagnosis between these. The remarks of Dr. Bulkley in regard to the administration of arsenic are very worthy of note. It is true enough that in a large number of cases of lichen planus, arsenic will not produce the effects desired. The effect of arsenic depends frequently on the freshness of arsenical preparations. Sometimes we have to try one after another. Furthermore, the mode of administration is important. In some cases the patient can take arsenic by mouth, in others not and we have to apply it subcutaneously or per rectum. Another important point is to see the patient frequently enough, to ascertain the limit of tolerance. I have found it expedient in every case where arsenic is administered to use an astringent as well and one of the best is iron, as was correctly remarked by Dr. Corlett. Unna's ointment sometimes proves of great value, especially if, after it is rubbed in, a woolen cover is applied and the patient is kept in bed.

NOTES ON RECENT CASES OF EXTRA-GENITAL SYPHILITIC INFECTION.*

L. DUNCAN BULKLEY, A.M., M.D.
Physician to the New York Skin and Cancer Hospital, Consulting Physician to the New York Hospital, Etc.
NEW YORK CITY.

At the meeting of this Section last year[1] I called especial attention to syphilis as a non-venereal disease, as observed in marital syphilis, hereditary syphilis, and that acquired by means of innocent extra-genital infection; the latter in social and industrial life, in the care of children, and in professional care of the sick. The instances where the disease has been in some manner innocently acquired, which have fallen under my personal observation and care, now number many hundreds, and there are constant additions. The subject of marital and hereditary syphilis is a large and interesting one, but must be illustrated on another occasion. At present it is desired to call attention to the rather frequent occurrence of extra-genital infection, as indicated by the relatively considerable number of cases which have come under my care in private and public practice during the past year, or rather since Jan. 1, 1900. On former occasions I have reported many instances of this form of infection, and the total number of cases which have come under my personal observation now amounts to about two hundred.

During the period mentioned, 21 instances of extra-genital syphilitic infection have come under my care, 12 in private practice and 9 in public; to these might be added 2 cases of chancres of undoubted venereal origin in unusual localities, 1 on the lower portion of the anterior abdominal wall, and 1 within the urethra. Many more cases have also been seen casually; for instance, at a recent meeting of the New York Dermatological Society a case was presented with chancres on the bridge of the nose, and another with one on the ball of the thumb; such are not included here. The following shows the location of the extra-genital chancres in these cases: Lip, 9; finger, 5; anus, 2; hand, 1; nostril, 1; hard palate, 1; tonsil, 1; eyelid, 1. Of these cases, 16 were in males and 5 in females; curiously enough all the 12 cases seen in private practice were in males, while in public practice there were 5 females and 4 males.

Chancre of the Lip.—Of these, 3 cases were seen in private practice and 6 in public. This location of in-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee of the Section: W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

1. Journal A. M. A., April 6, 1901.

fection is undoubtedly more common among the poorer classes, who are more careless or reckless as to the dangers from the poison than are those in the easier walks of life, who have a healthy horror of the disease. Most of the cases presented no peculiar interest; 5 were on the upper lip and 4 on the lower; 6 were males and 3 females. They all gave about the usual history of a cold sore or abrasion of the lip, which failed to heal and gradually developed a hardened patch. In almost all of the cases the patients came for treatment because of the appearance of a more or less severe general eruption, and my experience has been that rarely are these cases recognized until the advent of constitutional symptoms. It is well known, however, that long before this the local sore is giving off an intensely contagious secretion, and the profession and the public need to be aroused to the danger of neglecting, on the lips or elsewhere, suspicious sores which refuse to heal. In one case in private practice the infection was proved rather conclusively to be due to smoking the pipe of a man suffering from syphilis, who had mucous patches in the mouth. In 2 other cases in private practice it was traced to barbers, the sore beginning just below the vermilion border, at a point injured while being shaved. Several cases were attributed to the kissing of people with mucous patches. In all the cases there was marked adenopathy, either just below the chin or on one or both sides of the jaw.

Chancre of the Finger.—Of the 5 cases of chancre of the finger, 4 were in physicians, with also a fifth physician, who received an infection on the ulnar side of the back of the left hand during an operation.

One of these cases, which has only very recently come under my care, has had such severe and distressing results that it merits particular description. Five years ago, Dr. ——, aged 47, injured the skin near the nail of the right index finger, with a nail cleaner, and very soon after the part was exposed while treating a chancre of the vulva. A few weeks later there was a slight sore on the end of the finger, under the nail, which in a week or two became a rather painful, small ulcer. The nature of the trouble was not suspected until a general macular eruption appeared, and under antisyphilitic treatment the eruption disappeared very promptly and the finger healed; at the same time the severe general malaise, with fever, ceased. Five or six months later subjective symptoms appeared again, but as there were no external manifestations of syphilis, the cause was not suspected, and specific treatment was not used. For the two years following the patient was miserable, long periods of rest and much treatment for stomach and other troubles being necessary. There was a severe and steadily increasing pain in the lumbar region and about eighteen months after the finger was infected he found it difficult to go up and down stairs and to get into a carriage; the patient's legs dragged and he felt weak and tired, and yet there was no suspicion of the cause, it being all attributed to overwork.

After retiring one night in March, 1898, two years after the infection, he became delirious and for the following five days was insane. It was then suspected that the cause was syphilis, and iodid of potassium administered freely. During the next three months there was increasing motor disturbance in the lower limbs, until in June when on attempting to leave the bed the lower limbs were found to be totally paralyzed; this paralysis lasted for about five months. Power in the limbs then returned very slowly and he can now walk with difficulty with the aid of two canes, but he can not stand for more than a minute. The bladder and rectum are both partially paralyzed, requiring the use of the catheter and high rectal injections. He is at present improving rapidly under very active mixed treatment.

In the case of another physician, aged 38, who was infected beneath the left thumb-nail in May, 1884, the most severe and disfiguring tubercular lesions have appeared upon the face and within the mouth, quite incapacitating him for work; this condition has resisted treatment and recurred in an agonizing manner. There were never any severe early symptoms and he was married in June, 1888. The following year a healthy boy was born; the child is now in perfect health and well developed. His wife has had no more children, nor any miscarriages. Under very careful treatment the lesions, for which he has recently come under my care, are healing nicely, but a large amount of scar tissue will be left.

In another case of a physician, aged 33, infection took place, on the site of a wart which had been injured, on the back of the right forefinger, during the delivery of a dead child from a supposedly syphilitic woman. The earlier symptoms of constitutional syphilis have been moderately severe, but have yielded well to treatment. The other cases are still more recent and little can be said in regard to the severity of the disease.

Chancre of the Anus.—Two interesting cases of chancre on the side of the anus have been seen recently, both discovered only after the appearance of the general eruption. In 1 of them, a young man aged 28, seen in consultation, there was good reason to believe that it was due to improper practices; but in the other there was no possibility of such a cause, and mode of infection has never yet been ascertained. In a similar case, which I have already reported, the infection was traced directly to soiled bathing drawers, but in this instance no such cause existed. It must have been contracted in a watercloset, from secretions left on a paper, or possibly on hotel bed linen, for he traveled extensively. The case is worthy of special mention because of the severity of the symptoms and the length of time which elapsed before the true nature of the trouble was recognized.

Mr. J., aged 46, has long had what was called "itching piles," and has been obliged to scratch the anal region. On Dec. 27, 1900, he noticed a raw or ulcerated spot to the right of the anus, which persisted until he presented himself, April 6, 1901. Within two weeks after the ulceration was noticed there was a general eruption, quite papular in character, which was still present when seen. This had been diagnosed as chicken-pox and other conditions, but its true character had never been recognized, partly, perhaps, because of the character of the man and the absence of exposure through intercourse.

When first seen there was an abundant large, flat, papular syphilide over the body, limbs and face, which was unmistakable. The lips and mouth were also the seat of the most profuse mucous patches, producing great distress. Recognizing the nature of the eruption, I sought for a long time before finding the seat of infection. The penis was free from disease, there was no evidence of a present or past primary sore on the fingers, in the mouth, or on any part of the body, until the anal region was examined. There was then found on the right side, extending somewhat into the opening,

a partly healed, superficial ulceration, with quite a hardened base; this had existed for over three months and only palliative ointments had been used, but these served to prevent much annoyance. During all this time he had been totally without specific treatment, and had mingled freely with others, in his home and elsewhere, without the slightest suspicion of the immense danger from the profuse discharge given off by the raw mucous patches covering the lips and much of the buccal cavity. The only wonder is that there are not more cases of extra-genital infection from some of these neglected cases.

The progress of the case under very active specific treatment was remarkable. The eruption faded very promptly, the mucous lesions in the mouth healed shortly, as also did the sore in the anal region, and in a month there were only some stains to indicate the nature of the former trouble.

Chancre of the Hand.—Five months before Dr. T., aged 55, consulted me, he had noticed a sore on the back of the right hand, on the ulnar side. This had occurred after an operation on a patient where there had been much pus, and, as there was much inflammation in the sore on the hand, with the formation of abscesses on the arm, which were opened, the real nature of the infection was not recognized. Some five months later he noticed the general macular papular eruption, which had faded materially before I saw him, and when he presented himself he had also a very considerable amount of mucous patches on the tongue and lips. There had been no other infection, and he certainly had not been exposed venereally. The delay in the appearance of the eruption was probably accounted for by the severity of the ordinary pus infection already alluded to; this has been known to retard the development of the constitutional signs of syphilis.

Chancre of the Nostril.—Mr. D., aged 34, was sent to me for the diagnosis of a general eruption which had appeared first about ten days previously and had rapidly developed, covering the entire body and limbs, including the palms. He was surprised and indignant when the eruption was pronounced syphilitic, for he was a married man and had led an extremely virtuous and careful life. There was certainly no primary lesion on the penis, although the general large, papular syphiloderm existed there; neither could any site of infection be found anywhere on the body, limbs or elsewhere until attention was directed to a soreness in the right nostril, which almost occluded it. It was then learned that for fully six weeks preceding he had suffered from what he supposed to be a cold, having much trouble with the throat, and a soreness deep in the right nostril, which he considered a "cold sore." He had taken no specific treatment, as the nature of the trouble was not suspected until the advent of the eruption.

On making careful and deep examination, with the throat specialist, who had suggested the consultation, we found the right side of the septum nasi the seat of a superficial ulceration, running back nearly an inch, and half an inch or so wide. It was rather hard, with quite sharply-defined edges and a gray pultaceous floor. There was considerable swelling of the turbinated bones and some mucous patches around them. The submaxillary glands on the right side were much enlarged. The source of infection could not be traced. In another case of chancre in exactly the same location, previously reported, the poison was probably from the patient's grandchild, whom she had cared for, and who soon after died with hereditary syphilis.

Chancre of the Hard Palate.—Mr. W., aged 50, a lawyer, was brought to me by his family physician on account of a general macular eruption which had appeared a week or two previously. There was no question in regard to the diagnosis, but the same difficulty as in the other cases presented itself. How had the infection been acquired? He was a man of high moral character, who certainly had not been exposed through sexual congress. The same search was made for the site of entry of the poison, the patient being stripped, and for a long time no local sore was found on any part of the body or in the throat. Attention was then directed to a certain soreness which he had long experienced on the roof of the mouth. A well-defined ulceration was there found, in the median line about one inch from the front teeth, oval in form, and partly healed, but with a superficially ulcerated base; the submaxillary glands on each side were found enlarged. The source of infection was never ascertained, but supposed to be through eating in public places.

This patient has faithfully carried out the treatment for over a year, and has experienced as yet no serious symptoms from his disease. The eruptions faded rapidly and the ulcer on the roof of the mouth healed quickly, under active specific treatment, and his health, which had suffered greatly, improved in a remarkable manner, he regaining many of the pounds he had lost.

Chancre of the Tonsil.—Miss McG., aged 30, was brought to me by her physician, with a very profuse, large papular syphiloderm, developed principally about the mouth and face, but with also some scattered lesions on the neck, chest, and elsewhere. The throat had been sore for some weeks and on examination the left tonsil was found to be greatly enlarged, distinctly hard to the touch and with tolerably well-defined ulceration over most of its surface; the submaxillary glands on that side were large and hard. No source of infection was discovered.

Chancre of the Eyelid.—Mrs. ——, aged 32, had a sore on the edge of the lower right eyelid, extending well over its inner surface, for the treatment of which she applied to one of the eye clinics. After the appearance of a general eruption the nature of the trouble was recognized, if not before, and under proper constitutional treatment the eruption disappeared and the sore on the eyelid healed. When she came to me there was really only the scar of the chancre on the inner surface of the right lower eyelid, with some adenopathy on that side, and some remains of the already faded eruption. No history as to the source of infection could be obtained, and no suggestion as to the source of the virus could be made.

While these cases present nothing that is striking or peculiar, it was thought desirable to place them on record as instances of the accidental and innocent acquirement of syphilis aside from coitus, which are really more common than the general profession appreciates. While some of them were in physicians, who are known to be frequently exposed, over three-fourths of the whole number of cases were in lay people, who never appreciated the possibility of such an accident and who, perhaps, could not have protected themselves from it, even though aware of the danger to which they were exposed. By the repeated recording of such cases the profession and public will in time learn that syphilis is not always acquired through the act of coition, and

the stigma attached to a person infected will be in a measure removed.

DISCUSSION.

DR. L. B. BALDWIN, Chicago—The articles I have written on the subject have been chiefly addressed to dentists. In looking carefully over the text-books of dentists in not one can I find any reference made to the contagiousness of the mucous patch. That struck me immediately. I had five cases of young practitioners attending the dental colleges in Chicago who were suffering from mucous patches. I have also had four cases where I could trace the infection of the patient directly to the dentist's chair. The greater number of chancres, as I have seen them, occur in the better classes, not in the poorer classes. I do not think the question of filth or habits have much to do with the possibility of acquiring a chancre on the lips or mouth or tongue, as I do not think the chances are as great in proportion as among the better classes. Dr. Rhodes asked if I had any cases of chancre of the tonsil. I had two, and gave them to Dr. Rhodes, who collected 32 others. The chancres occurred in physicians. I have seen three, one, a physician in the West, who was suffering from chancre Dr. Baum saw with me. He had infected himself by turning a doorknob and lacerating the skin of the finger which caught in the door. He was treating several syphilitics at the time. I think medical teaching should be such that the dentist could recognize a chancre or mucous patch. There is absolutely nothing on that subject demonstrated in the Chicago colleges, and the number of mucous patches and chancres that come to the dentist, thinking that the lesion is due to some trouble with the tooth or gum, is surprising. In the last year I have had sent to me by dentists 20 or 30 cases of syphilis. One dentist said to me that he had not seen a case of syphilis of the mouth in thirty-three years of practice in Chicago. I agreed with him that he had not seen it. The subject of extra-genital chancre is very interesting as a subject, but I do not consider it nearly as important as the subject of mucous patches of the mouth, which are so directly related to the initial lesion, and they are so much more common and last so much longer that I think the subject of mucous patches of the mouth should be taken into consideration with more thoroughness than is generally shown by the profession.

DR. L. E. SCHMIDT, Chicago—Out of a series of eleven last year one was a so-called hypertrophic chancre of the lip. It assumed the size and proportion of a small pear. It was situated in the median line of the lower lip and hung over like a large protruding part of the lip. Only in the center and lower portion was there a small, rounded, glazed, eroded surface having the typical appearance of a chancre on any other part of the body. I wish to state in this connection that the rash was present when the case came under my observation. A mercurial inunction treatment was started, but the tumor remained unaffected as far as the size and appearance went. Only when iodid of potash was administered in large doses in connection with the mercurial inunction treatment did the mass commence to disappear. Now, after four months' treatment, there remains no sign of any former lesion.

DR. D. W. MONTGOMERY, San Francisco—I would speak of an instance that occurred some time ago in my own practice where a grave error might have been committed by me in the diagnosis of a chancre of the tonsil. The man was coming from Bakersfield to Los Angeles. He looked in the glass at his throat on account of uneasiness there and found a lesion on the left tonsil that he took to be a chancre. He was not a physician but was a very intelligent man and knew something of medicine. He continued his journey to Los Angeles, saw two men there that are used to seeing chancres and they took it to be a chancre. He returned immediately to San Francisco because he wished to be under the charge of some one who would take permanent care of him and he wished them to see the sore as it then existed. He first saw it on Saturday; on Sunday two physicians in Los Angeles saw it; on Monday I saw it. I took it to be a chancre, and I thought of every possibility. The only thing about it was that it was not very hard, but some chancres are not very hard, and the lymphatic nodule under the jaw was not very marked nor very hard. However, I took it to be a chancre, for it looked absolutely like one. I remarked what a beautiful photograph it would make as the man held his mouth open and depressed his tongue and one could look right down on the base. That forenoon he saw two other men, both of whom were used to seeing chancres, and they both thought it a chancre. We met in consultation that afternoon, and all three agreed that it was a chancre, but as we thought it would do him no harm we had better wait, and commenced to give large doses of tincture of iron. In three days it was vastly improved, and in seven days there was nothing left but an unevenness of the surface. I do not know what it was; there was cultivated from it a bacillus that was certainly not the diphtheria bacillus; it was larger and thicker than the diphtheria bacillus, and it was thinner and shorter than the leptothrix. I do not know what the disease was, but it was not chancre.

DR. C. W. ALLEN, New York City—I do not think the Doctor has proven at all that it was not chancre. Sometimes chancre is a very minute thing; sometimes in a few days it disappears.

DR. D. W. MONTGOMERY—He has never had any symptoms since.

DR. ALLEN—That is different. But a case like that should be observed very carefully for the next six to twelve weeks, or even longer to make sure, because not only may the chancre be almost nothing but the early eruptions be nothing. In my early days I took to Dr. Bulkley to have the diagnosis confirmed a young man who had on his body twelve spots, by actual count. It looked like measles. That was the most eruption the man ever had. He had mucous patches, which confirmed the diagnosis afterwards, but it goes to show how very slight secondary cases of syphilis may be.

The primary lesion of syphilis is not always recognized; to illustrate that point, a young man came to me who had been to a celebrated hospital in New York and had the glands of his neck cut out. I do not know what they took the lesion for, but they made a long incision and excised all the glands of his neck and then they let him go. What they were operating on was a chancre, and these glands would have gone down beautifully under iodid of potassium if the gentlemen had recognized the trouble. But they do not as a rule have chancre in their minds. It is not surprising that the average practitioner who sees a little patch of syphilis here and there should let it escape him when he sees the sores in an unusual position. I would pass for a moment an illustration of what I believe to be a very unusual chancre of the lower lid. I have had chancres about the upper lid where there was a great amount of swelling, the eye being closed for some days and where there was going to be apparently a great loss of tissue, and it was surprising to see what little scar remained after the lesion healed. I have had a chancre of the lid in a position where it could not be accounted for unless in his work he had scratched the lid.

If Dr. Bulkley had not mentioned the fact that this physician had produced a lesion near the nail, and that was where the chancre was located, I might have thought he was describing the case of a physician I treated. My man had a little chancre on the knuckle, acquired in the practice of obstetrics. It is a statement sometimes seen in the books that lesions upon the hands are followed by more severe symptoms than the ordinary form of chancre upon the tongue. I have never been able to absolutely confirm that, although such cases as related by Dr. Bulkley with paraplegia, loss of consciousness, etc., would have that appearance. My man had every once in a while slight attacks of aphasia; he would be unable to talk for some time, then he would get all right and go off on a little trip, pushing the iodids and being all right again. But it is an interesting point as to whether these lesions upon the hands are followed by more severe symptoms than the ordinary syphilis we see.

I do not think the location has much to do with it. I do not think the data we are accumulating as to where the extra-genital chancre occurs, whether in women more than in men, has any bearing on the question. Where there is a solution of continuity and the virus enters there you get the chancres, and can get them on every susceptible part of the body. Large numbers appear to come from the barber shop; some come from

midwives. In the most recent case there had been a scratch from a diaper pin at the time of infection. Dr. Bulkley's case of family syphilis transferred from the baby to the grandmother is very interesting. I read of a case in the *Medical Record* where the baby first acquired a chancre from the wet nurse and gave it to the mother, a chancre of the nipple; the mother gave it to a second child and that child probably to the father, who had a chancre on the surface between the nares. There was the wet nurse, the child, the mother, another child and the father; so the whole family got it in succession in the same innocent way.

DR. D. W. MONTGOMERY, San Francisco—I forgot to mention that, in the patient I was speaking of, the lymphatic nodule quickly went down, which would never have occurred had it been syphilitic. There was no involvement of more than two lymphatic nodules and a sufficient time has elapsed between then and now to exclude specific disease. I do not believe it was a chancre.

DR. R. R. CAMPBELL, Chicago—I do not believe the occurrence of extra-genital chancre is quite as uncommon as we are led to believe; I think they occur more frequently than we have any idea of, but I do not think the diagnosis is made, particularly by the general practitioner, and the error is made from the fact that the general practitioner expects to find the secondary symptoms of the disease adjacent to the part in which the chancre is situated, which is not the case. It has been my experience that secondary manifestations usually occur about the chest and umbilicus. In cases of chancre of the lip that have passed through the hands of a general practitioner and come under my care, in talking the case over with the physician who has treated it previous to its coming under my observation he has invariably stated that he has had the case under observation from three weeks to four months and has not seen any secondary manifestations. To the question, Have you stripped the patient and looked him over for secondary manifestations? the answer is, "No." In almost every case of that character the secondary manifestation has been demonstrated, much to the surprise of the general practitioner who has treated it. The interest in cases of extra-genital chancre lies more in the mode of infection than from the fact of its being extra-genital. Four cases of chancre of the tonsil have fallen under my observation in the past year in which no visible means of infection could be traced or demonstrated, and in patients whom I had a right to believe had nothing to gain by holding back anything of interest to the attending physician. In another case, a chancre of the lower lip, the only history obtainable was from a drinking cup. The girl had been to a public dance and had drank from a glass which had been publicly used. I think if in the teaching and text-books more stress was laid upon the fact of the appearance of the secondary eruption about the chest and umbilicus, pointing out that the glandular enlargement is adjacent to the lesion and the secondary manifestations come first on the chest and abdomen, we would have more correct diagnoses of extra-genital chancres, and without the appearance of secondary manifestations I claim no man is justified in making a positive diagnosis of chancre and beginning anti-syphilitic treatment.

DR. D. LIEBERTHAL, Chicago—I believe it was wise and appropriate for Dr. Bulkley to bring out in his paper, from a scientific point of view, and more especially from a sociological standpoint, that millions of dollars are spent for sanitary progress and thousands of dollars for the prevention of disease, for instance, measles, and there is no reason why we should not call attention to the dangers which are menacing the public. I do not see why we should not try to make the subject more popular and not let it be said that the thing is not so bad because it can be conveyed only by sexual means.

DR. W. T. CORLETT, Cleveland—I have in mind now a young man I left at home who was probably infected from the barber. This point is of interest because the public should know, their attention should be called to the matter. This young man has a facial sore. He had a little pimple; he thought it was a hair, attempted to straighten or pull it out and the result is a chancre on the cheek, at least I think it is. Sufficient time had not elapsed to make the diagnosis certain. I think it is well, as pointed out by Drs. Montgomery and Campbell, to wait until you are positive of the diagnosis. For eighteen years I have taught this to medical students, because I have seen the importance of it in coming in contact with cases treated by the general physician. So frequently a snapshot diagnosis of chancre is made; the patient is subjected to mercurial treatment; the result is the lesions disappear and years afterwards the question may arise as to whether or not the patient ever had syphilis. Those questions are so important that I think it is extremely necessary to impress upon students and others the advantage of waiting until a positive diagnosis can be made. I think it is no disadvantage in the way of treatment. Dr. Bulkley mentions a chancre resembling a "cold sore," which brought to my mind the fact that I have known a number of chancres following a cold sore. I have in mind a physician who a number of years ago had a sore on the lip. He had been treating a syphilitic patient and had a habit of stroking his mustache, with chancre as a result. With most physicians I find the chancre is on the hand, usually the right hand, not always at the border of the nail but somewhere on the index finger.

Dr. L. B. Baldwin mentioned the prevalence of syphilis in dentists. I think that is extreme. Some years ago we had a dental class with our medical class; the dental students were in the habit of coming to my office with venereal disease. Dental students in my experience are the most frequent victims of venereal disease and I suppose it is because they have absolutely no teaching. With our own students it is exceptional to have them come with venereal disease, but not so with the dental students because they are not instructed in regard to this dangerous eruption of the mouth. In regard to the severity of syphilis following extra-genital chancres, I agree with Dr. Allen that it has nothing to do with it *per se;* that the disease as such is usually neglected and goes on week after week and month after month without treatment and in those cases one expects to find and does find very severe constitutional symptoms following. In regard to the treatment of these neglected cases of course we all have special forms of treatment and we all probably have more than one method of treatment. I think in the treatment of syphilis we should not follow one routine; some by the mouth, some by inunctions, some by nitrate of silver injections. I think in severe cases nitrate of silver injections are by far the best because the most rapid and because there is an opportunity to push the drug without interfering with digestion. For many years I have used the salicylate of mercury, pushing it until the physiologic effects are produced and I only remember one instance where it was followed by an abscess.

DR. L. DUNCAN BULKLEY, in reply—I regard the points brought out in the paper of practical interest, because these cases come so unexpectedly, and if unrecognized, in families, they may produce much havoc. In regard to the relations of dentists to syphilis I think the physicians should give them every opportunity of knowing and recognizing the lesions of syphilis about the mouth. On two occasions I have lectured on the subject before the dentists of New York, exhibiting pictures and casts; it is very important that they should be able to recognize mucous patches. At the New York Skin and Cancer Hospital we had recently a course of lectures on syphilis by members of the attending and consulting staff, and the one on syphilis of the mouth, nose and throat, by Dr. Delavan, was repeated to a room full of dentists, cases being shown.

On the occasion of one of my papers on the dangers of syphilis in dentistry, before the New York Odontological Society, a physician present said, in discussion, that at the beginning of treatment of a patient with syphilis he sent him to the dentist, to have the teeth put in order, that there might be less danger of injury from the mercurials. I deprecated this practice, believing it to be better for the patient to suffer than to expose the dentist and others to the dangers of contagion; and I forbid the patient going to a dentist until I gave permission. When it is necessary for him to go I believe the dentist should

be informed of the condition of the patient, as should any other physician, and he can take the risk if he chooses, and take extra precautions against acquiring the disease or transmitting it to others.

Many of these cases of extra-genital chancre are curious and difficult of recognition. Few would suspect that this picture of chancre of the eyelid, exhibited by Dr. Allen, was of this nature; probably not two men in the medical section nor ten in the surgical section would so diagnose it. I was interested in Dr. Montgomery's case of suspected chancre of the lip. As I remarked before, these cases are sometimes very difficult of diagnosis, and opinion must sometimes be suspended for awhile. Some years ago I had a sore on the knuckle of my left hand that lasted for some weeks, which several of my confrères in New York regarded as a chancre, as I was much occupied with syphilis and had abundant opportunities for inoculation. After studying it pretty thoroughly I was satisfied that it was not such, and it healed under simple dressing, when the finger was splintered and irritation avoided. Some months afterward I had a node on the left tibia, which my friends agreed was of syphilitic origin, the result of the supposed chancre of the knuckle. But on investigation this was found to be the result of pressure on the sharp edge of my desk, as I sat writing, and this, too, disappeared under simple and proper measures without anti-syphilitic treatment. It is needless to say I never had any true signs of syphilitic infection. There is much need, therefore, of very great care in analyzing supposed cases of extra-genital chancre.

In regard to the location of the sore I may say that in my own practice, private and public, and in clinics and societies here and abroad, I have seen the primary lesion of syphilis situated on almost every portion of the body—about a hundred on the lips, dozens on the fingers and hands, many in the throat, etc. I would like to inquire of Dr. Baldwin if the 32 cases of chancre of the tonsil which he mentioned included the 15 which I reported some time ago?

DR. BALDWIN—No, they were cases collected in Chicago.

DR. BULKLEY—Since reporting these 15 cases I must have seen half a dozen or more other cases of chancre of the tonsil. They are not so very uncommon, and should not be overlooked; indeed, extra-genital chancre in various locations is far more common than is generally supposed, and accounts for the infection in many cases of old syphilis, where the sufferer is quite unconscious of the nature of the disease. I mentioned casually a case of chancre of the urethra to call attention to the possibility of having the sore in a location which may be overlooked; these cases are commonly regarded as gonorrhea. I also referred to an instance of chancre on the abdomen, just above the pubes; both of these were undoubtedly of venereal origin, but in locations not readily recognized.

In the case detailed of chancre in the region of the anus, it is very instructive to think what might have happened if the eruption had disappeared and the sore healed without the true nature of the disease being recognized. If the patient had later developed a syphilitic brain lesion, or one deep in the eye, or any serious later manifestation of syphilis, his physician would be thrown off guard by the fact that the man had not been exposed venereally and would have denied having had syphilis. The profession should be more on the lookout for these unusual cases, of which I have now seen about two hundred.

The Campaign Against Malaria in Italy.—The new law making the sale of quinin a government monopoly in Italy enables it to be sold at cost price, and brings it within the reach of the poor even in the remotest hamlets. The law also provides for the compulsory quinin treatment of malarial government and railroad officials and also of the employees of contractors, etc. Celli has recently discovered a large region in Tuscany where although swamps and anopheles abound and malaria is constantly being imported, yet it never spreads, and there has been no autochthonous malaria for twenty-five years throughout the region which was formerly a hotbed for the disease.

TRAUMATIC ARTERIO-VENOUS ANEURYSMS OF THE SUBCLAVIAN VESSELS,

WITH AN ANALYTICAL STUDY OF FIFTEEN[1] REPORTED CASES, INCLUDING ONE OPERATED UPON.*

RUDOLPH MATAS, M.D.
NEW ORLEANS.

PERSONAL OBSERVATION.

Synopsis: A case of traumatic (gunshot) arterio-venous aneurysm of the right subclavian vessels, involving the artery within the scaleni; division of the artery between ligatures placed on the first and third divisions; detachment of the anastomotic connection; lateral suture of the venous orifice; osteoplastic resection of the clavicle under eucain B. anesthesia; recovery, with partial loss of hand and forearm from arterial ischemia.

On September 8, Moise M., a young Acadian farmer, native of Rayne, Acadia Parish, La., was brought to me for treatment at the New Orleans Sanitarium. His attending physician, Dr. C. H. Power, Rayne, who kindly referred him to me and accompanied him to the sanitarium, gave the following particulars of his history and of the circumstances under which the injury was inflicted. We may premise the history of the injury by stating that he is a robust and exceptionally healthy man, aged 24, married. He is broad-chested, muscular, frugal, and temperate; very calm, collected, and courageous. In health he weighs 165 to 170 pounds, and is six feet in height. He is very industrious and active, and has always been engaged in outdoor pursuits. His past history and that of his parents, who are living, reveals no antecedents which bear upon his present troubles.

On Sept. 3, 1900, six days before his arrival at the sanitarium, and while attending a country festival near his home in Rayne, he became engaged in a personal difficulty at about 8 p. m. In the struggle that followed, he succeeded in throwing his antagonist to the ground, and, while holding him down with both hands, the latter drew a revolver from his pocket, and pressing the muzzle close to M.'s chest, fired.

Immediately after the shot M. felt the grip of his right hand relax and realized that his arm had been paralyzed. The spectators in the meantime parted the combatants, and M. was at once driven in a buggy to Dr. Power's residence, a distance of one mile. Though very weak, the patient stepped out of the buggy without assistance and walked a few steps into Dr. Power's office, when the latter saw him, about forty minutes after the shooting. After a hasty examination, sufficient to convince the doctor that the injury was of a very serious character, he applied a compress of iodoform gauze over the wound, and secured this in place with adhesive plaster. The blood had soaked through the patient's clothing and was still flowing out of the orifice of penetration when Dr. Power applied the compress. The bullet wound was small, however, and this moderate pressure succeeded in arresting the bleeding, though it was evi-

1. While this article is in press two additional observations of arterio-venous aneurysms involving the subclavian vessels have been reported by MM. Gallois and Piollet, Lyons, in a contribution on vascular injuries caused by simple fractures of the clavicle. ("Les déchirures vasculaires par fractures fermées de la clavicule," etc., in Revue de Chirurgie, Paris, No. 7, 21 année, July 10, 1901.) These observations, together with the case of Vasilyeff, in which there was ulceration of both vessels in abscess cavity, have reached me too late to be incorporated in the text, but will be found in the final table of the reported cases, which epitomizes the history of seventeen cases of arterio-venous aneurysms of the subclavian vessels, instead of the original fifteen tabulated up to the date of the meeting.

* Read at the meeting of the American Surgical Association, held in Baltimore, May 7, 8 and 9, 1901.

dent by the rising swelling in the neck that a concealed hemorrhage was now progressing actively in that region. After a few minutes' delay the patient was helped to his buggy and conveyed to his home, a distance of one mile, where he was at once put to bed and an ice bag applied over the injured area. At no time did the patient lose consciousness, and it was not until he had reached home that he showed signs of great prostration and shock, which became intensified as the night advanced and the swelling in the neck and shoulder increased.

At the examination, made early that night at the patient's home, Dr. Power, in consultation with Dr. Webb, ascertained the following facts: The patient had been wounded by a 38-caliber bullet from a Smith & Wesson revolver, and the bullet had penetrated in the right second intercostal space about three inches from the right margin of the sternum. The bullet had ranged obliquely upward and backward, inclining slightly toward the right, evidently passing under the clavicle without fracturing the bone, and finally lodging under the skin at a point corresponding to the anterior border of the trapezius, midway between the mastoid and the acromion, where it could be felt distinctly by the touch. A large swelling had formed in the neck immediately after the injury. This was caused by large hematoma, which extended from the shoulder to the angle of the jaw laterally and from the second rib to the scapular region antero-posteriorly. All external bleeding had stopped and only a bloody ooze stained the dressings. The skin for some distance around the bullet wound was powder stained and burnt. The most notable sign that attracted the attention of the attending physician at this time—not more than two hours after the injury—was the "intense throbbing or pulsation which was perceptible in the swelling on the chest and neck, and a loud thrill, which could be felt along the course of the subclavian vessels, extending over the neck up to the angle of the jaw and down the shoulder and upper arm." The pulse in the arteries of the right arm was absent. It was also noticed that the arm on the opposite side was motionless and anesthetic all over the hand and forearm. Evidently there had been a coincident lesion of the brachial plexus.

The general condition of the patient had grown worse since his return home. Coincidently with the development of the swelling and aneurysmal signs, he had become weaker; he now showed positive signs of shock and profound exhaustion; he was cadaverically pale and the skin was covered with a profuse perspiration. The pulse on the sound side was rapid and small. He had lost a considerable quantity of blood — sufficient to soak through his clothing—immediately after his injury, but this had ceased readily under slight pressure with the gauze pad applied by Dr. Power. It was evident, therefore, that this condition of progressive shock was due to the concealed bleeding in the hematoma. A compress was re-applied over the wound, and this again was covered with the ice bag. By midnight, four hours after the affray, the patient was so completely collapsed that he was believed to be moribund, and no hope was entertained of his recovery. He remained in this apparently dying condition until noon of the following day—September 4—sixteen hours after the injury, when the first signs of improvement were noticed and the patient began to rally. With this improvement the enormous swelling in the neck began to harden and contract, though the pulsation and thrill remained unchanged.

Dr. Power then states that the patient's temperature was above normal and fluctuated daily—September 4 to 8—from 100 in the morning to 103 in the evening. By absolute rest, diet, careful stimulation, and watchful nursing the patient continued to gain strength, though slowly. It was noticed, however, that the throbbing and thrill in the supraclavicular swelling continued to grow more diffuse and intense as the swelling diminished. No notable improvement was observed in the condition of the arm, which continued to be "of no use to the patient" and remained pulseless at the wrist and in the arm. This was M.'s condition when he was brought to the sanitarium in New Orleans, Sept. 8, 1900.

When I called to see him he was lying in bed, still extremely pale and exhausted from his long journey and the exertion involved in transportation from the train to the institution. His expression was anxious, and there was some complaint of pain in the neck. The right pulse, which had disappeared completely, was felt at the wrist very faintly to-day for the first time—the fifth day after the injury—showing some re-establishment of the collateral circulation. At 11:30 a. m., when the patient was admitted, his temperature was 98.8, but in the evening it rose to 101, with a pulse of 110 and respiration 22.

Upon examining the patient I first observed a dark circular slough, the size of a silver quarter, in the skin over the right second intercostal space, about three inches from the sternum. Numerous inflamed powder stains dotted the skin, testifying to the close proximity of the pistol when fired. The entire supraclavicular region is swollen, also the region of the trapezius, entirely obliterating the normal outlines of the clavicle; in the neck a space as large as the palm of the hand is bluish-black from extensive ecchymosis. The center of this spot is particularly dark and corresponds to the site of the bullet, which can be felt distinctly movable in a bed of semi-fluid hematoma. The skin of the entire supraclavicular region from the angle of the jaw to the shoulder on the right side is discolored from the deep subcutaneous extravasation. There is a very distinct subcutaneous heaving pulsation, this being most marked along the course of the subclavian vessels and the right internal jugular vein. This vessel swells and fills up the suprasternal space with each beat of the heart. The superficial veins of the neck and arm, the cephalic and basilic veins down to the elbow are all unusually prominent, and their dark-bluish color stands in conspicuous relief against the unusually pale, waxy skin. On palpation there is marked pitting on pressure from edema, over the clavicle and the entire supraclavicular region; the general pulsation seen over the supraclavicular region is distinctly confirmed by palpation. A widely diffused and intense purring thrill can be felt by the most superficial contact with the surface all over the neck, and more especially over the subclavian, jugular, cephalic, and basilic veins. The thrill appears to be transmitted in all directions from its point of greatest intensity, immediately above the middle third of the clavicle, all along the venous currents of the neck and arm as low down as the right hand. The most striking phenomenon is the peculiarly loud murmur which is heard all over the neck, chest, and arm, along the course of the venous trunks. This murmur is difficult to describe; it is a continuous hum, with diastolic whirring accentuations, and is heard with greatest intensity over the middle of the clavicle, and is harsh, buzzing, and, in fact, indescribable. Several odd comparisons were made by those who heard it, but no description or analogy appears to give an accurate idea of its extraordinary peculiarities. This murmur is so loud that it can be heard by listening attentively at a distance of nearly one inch

from the surface. This murmur, like the thrill, is propagated with greatest intensity along all the venous trunks from the bend of the elbow to the innominate veins and superior vena cava. It can be heard distinctly over the facial and temporal veins. Its vortex or loudest point is over an area the size of a silver dollar, situated just above the middle third of the clavicle, in the very center of the bullet tract, and evidently in a line with the subclavian vessels.

In spite of all this great vascular upheaval and disturbance, the work of repair was evidently progressing steadily in a favorable direction. The swelling of the original area had on the ninth day markedly subsided; the extravasation was being absorbed, and it was evident that the large stream of blood which was being poured out of the artery had found a direct outlet in the veins; these had accommodated themselves to the abnormal pressure, and were carrying off the overflow through comparatively safe channels back again into the circulation. Associated with these evidences of vascular disturbance there still remained a marked paresis of the entire right arm down to the fingers. The arm could be moved slightly by strong voluntary efforts, but pronation and supination were impossible, the arm usually remaining motionless, extended and passive by the side of the body, or it remained inert in which ever position it happened to be placed by the patient's left arm or by the hands of the attendants.

The sensibility was impaired all over the arm up to the shoulder, but sensation could be elicited by deep pricking with pins over the fingers and hand on the palmar and dorsal surfaces. The thermic sense was also greatly impaired, but the application of very hot water to the hand, as in washing this part, elicited some sensation on the part of the patient. The condition was really one of paresthesia and paresis rather than paralysis, and this encouraged the belief that the injury to the brachial plexus was a contusion and partial laceration rather than an actual division of its constituent trunks.

DIAGNOSIS.

By summarizing the evidence thus clearly presented the following points were determined: 1. That the course and direction taken by the bullet indicated that the missile had penetrated the neck by passing under the clavicle without injuring it, had crossed the path of the subclavian vessels just about where the scalenus anticus crosses the artery, and after injuring both artery and vein had grazed and contused the brachial plexus.

2. The immediate cessation of the radial pulse at the time of the injury, which continued to be imperceptible until the fifth day, and the coldness of the skin and pallid appearance of the arm, indicated that the circulation in the subclavian had been interrupted by the injury.

3. The positive and pathognomonic signs of arterio-venous aneurysm or varix, i. e., the continuous venous hum plus the rasping, buzzing double murmur heard with greatest intensity in the diastolic period—Broca and Wahl's signs, the intense vibratory purring thrill—*fremissement cataire*—propagated like a murmur at a great distance along the venous channels on the proximal and distal sides of the point of injury.

4. The spontaneous arrest of the bleeding shortly after the first primary hemorrhage, the absence of secondary bleeding, and, above all, the rapid subsidence of the hematoma while the intensity of the physical signs of aneurysm were increasing; the great fulness, pulsation, and distension of the cervical and brachial veins, more especially during the diastolic period—all clearly pointed, in fact, demonstrated, that the subclavian artery and vein had been simultaneously injured by the bullet, the perforation leading to the almost immediate formation of an arterio-venous anastomosis.

It also appeared to be most probable that the anastomosis was a direct one, aneurysmal varix, and not through an intermediary sac, varicose aneurysm, though this point could not be positively determined at the time in consequence of the swelling above and under the clavicle in the neighborhood of the bullet tract. There was, however, no distinct globular or especially defined swelling. There was only a general hard swelling over the supraclavicular space filling the lateral aspect of the neck as with a mass of recent exudates and extravasated products, all masked by a dense, doughy edema of the skin. At first the entire supraclavicular region appeared to expand and pulsate as a whole, all over, with each beat of the heart; but latterly, as the swelling diminished, the pulsation was more defined and distributed most intensely along the veins embedded in the mass of exudates.

TREATMENT.

Having sufficiently disposed of the question of diagnosis, we were now ready to consider the more serious problem of treatment. What were the indications furnished by this remarkable and rare lesion? If we bear in mind the fact that the patient had come to us for treatment on the fifth day after injury, and was still suffering from the shock and anemia incident to the primary injury, and that the eschar existed, we will realize that we had reason to consider the possible dangers that menaced this patient from two points of view: 1, the possibility of secondary hemorrhage; 2, the remote dangers incident to the formation of a secondary or consecutive aneurysm of the artery proper, with all its attendant train of evils and dangers. As to the immediate dangers of possible infection and secondary hemorrhage, we were soon able to satisfy ourselves that they, at least, could be safely eliminated by a careful observation of the patient's condition during the first four days that followed his admission to the sanitarium.

From the moment that the patient was admitted to the institution the injured surface was subjected to the most careful antiseptic treatment and methodical compression with bandages and ice bags. The whole region was carefully washed with potash soap and lysol solution—1 per cent.—followed by alcohol. Wet antiseptic compresses were applied, and the whole supraclavicular region and lateral surfaces of the neck were subjected to vigorous compression with a spica bandage, over which an elastic woven bandage was adjusted, and over this a large ice bag was applied. This firm elastic compression, with the addition of cold, promoted the absorption of exudates and extravasated products, and we hoped also that it would help to moderate the violence of the strain that was being constantly forced upon the veins through the aneurysmal orifice. With these simple measures, aided by absolute rest, a light nutritious dietary, consisting chiefly of milk, fruit, broths, and cereals, and other hygienic measures, the robust nature of the patient soon asserted itself. The temperature, which upon admission had oscillated between 101 and 102 F., gradually subsided, so that by the fourth day—ninth after injury—it rose no higher than 99. The pulse likewise moderated in frequency, and fell to 84-90. The discoloration of the surface rapidly diminished, the dark bluish-black area of extravasation being limited to the spot occupied by the bullet. The eschar at the wound of entrance fell off Sep-

tember 11—eighth day after injury—leaving behind a healthy, granulating surface. The pain and superficial tenderness over the neck and chest diminished daily; the edema, which had completely obliterated the clavicle and all the surface anatomy of the region, now subsided, and the clavicle was easily outlined under the thin skin. It was evident from all these signs of improvement that the danger of infection which we had first apprehended from the fever, the pain and the tenderness over the parts, could now be definitely eliminated. And as there was no oozing at the point of entrance or other warnings of secondary bleeding, I now felt encouraged to believe that this grave source of apprehension would also soon be eliminated. On the other hand, the physical signs of the aneurysm became, if anything, more pronounced as the edema of the skin subsided. The hum, murmur, and thrill became more noisy and turbulent, and could be studied to still greater advantage as the vessels approached the surface. The swelling and turgidity of the jugular and brachial veins also became more perceptible. The pulsation in the internal jugular was most striking. With every beat of the heart this vessel pulsated so forcibly and became so distended that it filled the entire suprasternal and pretrachcal space, thus demonstrating that while the venous system had accommodated itself to the new conditions, and was standing the great strain imposed upon it by the sudden shunting or shortcircuiting of the arterial current, the conclusion was unavoidable that a condition of permanent overdistension and engorgement was laying the foundation for future evil. The paralysis of the arm still continued; there was a slight improvement in the movements of the arm, and the sensibility of the skin was more acute, but apart from this the arm remained lifeless and inert by the patient's side.

For the moment all fear of immediate complications could be dismissed, though we realized that fully three weeks after healing would have to elapse before we could safely state that the danger of secondary hemorrhage could be entirely eliminated.[2] As the patient resided in an isolated settlement in the country, and could not remain long under our observation, the question that arose was, "Should the patient be allowed to return home, with instructions to return again for further treatment in the event that other serious developments should follow; or was it the wiser plan to anticipate the complications and dangers that the future might have in store for him, by advising an early and radical operation that would rid him of this dangerous lesion under the most favorable conditions of surgical preparation?"

While the question involved many debatable propositions, which will be more appropriately discussed in another section of this contribution, I will state that in view of the progressive improvement in the general condition of the patient, and the probability that he would escape the dangers of secondary hemorrhage and other immediate complications, I had concluded, in accordance with the classic recommendations on the subject, that I would abstain from all operative intervention, and would allow the patient to return home after the wound had healed completely. Had I known the exact anatomic relations of the aneurysmal orifice, which were only determined at the time of the operation, I would have made a special trial of systematic digital compression over the anterior scalene after all the acute reactionary swelling had subsided. But even with the favorable position of the anastomotic orifice, which was immediately in the lowest center of the scalene tendon, it is very doubtful that this mode of treatment would have succeeded, as the clavicle was directly in the way of effective compression; furthermore, in the cases in which this method had been tried it had failed altogether, and I therefore gave it little consideration. On the other hand, the patient, who had been profoundly impressed with the gravity of his injury, reminded me insistently that he would not be able to remain in the city for observation, or to return again at some future time if complications should arise, without a great sacrifice—a greater sacrifice than his limited resources would allow. He was anxious to have something done that would be decisive and that would relieve him permanently of the worry and uncertainty of a lesion which he might tolerate in time, but would always remain a menace to his comfort and even to his life.

The dangers of a radical operation and the unusual character of such an operation were fully explained to him, but he preferred to take his chances, provided there was a reasonable prospect of recovery and permanent cure.

The determined attitude of the patient, who showed himself as fearless as he was determined, coupled with my serious misgivings as to the final outcome of the case if allowed to drift along its natural course, led me, in spite of my doubt as to the wisdom of this decision, to acquiesce to the patient's courageous appeal and to give him the benefit of the operation.

Without underestimating the difficulties that were to be encountered, I still believed that by adopting a carefully prepared and matured plan of action I would be able to overcome the chief obstacles in the way of a safe dissection of the varix and complete control of its anastomotic orifice. The main objects of the operation that were kept in view were: 1. To obtain free and easy access to the entire injured area by preliminary osteoplastic section of the clavicle from its outer third to the sternoclavicular joint, which was to be disarticulated or temporarily excised. 2. To obtain complete provisional control of the subclavian circulation by applying a temporary traction-loop upon the first portion of the subclavian or innominate artery, which by lifting the vessel from its bed would occlude the main trunk and its most important collateral branch, the vertebral. 3. To completely explore by careful dissection the point of anastomotic communication existing between the subclavian artery and vein. 4. To permanently control the subclavian artery over the distal and proximal side of the anastomosis by ligature. 5. To provisionally clamp or ligate the vein above and below the venous orifice as a preliminary to the extirpation of an intervening sac that might exist between the vessels. 6. Then, if possible, to suture the venous orifice by lateral phleborrhaphy, thus allowing the venous circuit of the upper extremity to be re-established after the removal of the temporary clamps or ligatures on the vein. 7. To restore the parts to their normal condition by wiring the divided clavicle into position. Incidentally, and as a minor feature of the operation, the bullet would be extracted.

That this desirable but difficult program would be carried out in all its details I did not fully anticipate, but I did expect to accomplish the main purpose of the operation if I once succeeded in obtaining a complete control of the innominate, and obtained a free and open field for the manipulations necessary to dissect the anastomosis. As the sequel and details of the operation show, unexpected anomalies in the arterial distribution and the freedom of the collateral supply did come near

2. See Will's case, secondary hemorrhage after healing of wound, causing death three weeks after injury.

upsetting my plans and added greatly to the perils of the patient. Nevertheless, the value of a carefully planned operation and thorough preparation for emergencies was certainly well illustrated in this case, and while it may remain a debatable question whether a procedure of this kind is justifiable in just such conditions as those described in this case, it can not be denied that the final result obtained, even at the price of a mutilation of the paralyzed hand and arm, is far more satisfactory—considering the occupation and specially unfavorable conditions under which this patient was placed—than the uncertainty of leaving this grave lesion without interference to the care of nature alone.

(To be continued.)

Clinical Report.

CASE OF ACUTE PANCREATITIS WITH FAT NECROSIS—OPERATION—RECOVERY.

WILLIAM J. MAYO, A.M., M.D.
SURGEON TO ST. MARY'S HOSPITAL.
ROCHESTER, MINN.

J. C., male, aged 59, American, was admitted to St. Mary's Hospital on June 11, 1901, with the following history:

For two years he had suffered from attacks of indigestion and at times had refrained from eating for twenty-four hours or more to obtain relief. While able to attend to his professional duties during this time, he lost 25 pounds in weight.

On June 4, was suddenly seized with agonizing pain in the epigastrium, accompanied by marked symptoms of collapse, requiring anodynes and vigorous stimulation. Vomiting and retching were frequent. The abdomen became greatly distended and symptoms of acute obstruction of the bowels developed. June 5 and 6 the condition remained about the same, temperature ranging from 100 to 102, pulse from 96 to 120. Hiccough became most distressing.

The bowels acted slightly as a result of purgation and enemata but without relief to the abdominal distention. Beginning on June 6, the stomach was washed out and rectal feeding instituted with some relief to the acuteness of the symptoms, although the main features were practically unchanged. On this date an indefinite tumor of irregular outline could be detected under the right rectus above the umbilicus, in the region of the gall-bladder. On June 7 and 8 his condition was practically unchanged, the hiccough and extreme nervous unrest being most marked.

The physical examination on admission to the hospital revealed the following:

A large, heavy man, of splendid physique, vital organs in good condition excepting for a trace of albumin in the urine. The abdomen was very tympanitic. To the right of the umbilicus and above it was an irregular, indefinite mass, apparently the size of a large fist. The temperature was 101 to 102; pulse 120, and of poor quality. Patient was very restless, hiccoughing at intervals, and having every appearance of extreme illness. There was slight jaundice. The diagnosis was gangrenous cholecystitis with probable perforation. Patient was operated on at once. The abdomen was opened through the right upper rectus, coming directly upon a greatly thickened and adherent omentum, which was infiltrated with little white or brownish spots from the size of a hempseed to that of a pea or larger. On loosening the adhesions some bloody fluid escaped from the peritoneal cavity. It was now noticed that the mesentery was infiltrated in a similar manner. The peritoneum, while reddened, was unaffected. The diagnosis of fat necrosis was evident.

Raising the omentum and transverse colon, the greatly enlarged pancreas could be felt like a pudding in a tight sac. With a small aspirating needle this was aspirated in several places, withdrawing only bloody fluid. The rectus was severed laterally and a search instituted for the gall-bladder, which was found far to the right and wholly unconnected with the tumor previously detected. The gall-bladder was greatly thickened and contained one enormous stone, the size of a small hen egg. There was also some muco-purulent material in the gall-bladder. The stone was removed and a large rubber drain inserted and sutured to the opening in the gall-bladder with a catgut suture in purse-string fashion, drawn tightly to prevent leakage. The drain was brought out of a stab wound in the right groin. A large wick of gauze was placed along with the tube into the right kidney pouch. The whole of the anterior wound was closed. Time of operation was 45 minutes.

The patient was placed in bed in extreme shock, with restlessness, muscle twitching, cold perspiration, etc. Temporary delirium developed after the anesthesia had passed away. Atropin, as advised by Crile, in this form of shock, was found most efficacious. Strychnia, rectal exhibition of saline solutions, etc., were also resorted to. At the end of 18 hours an immense drainage through the rubber gall-bladder drain commenced. It was a bloody, serous fluid with little evidence of bile. This discharge was very irritating and on examination showed pancreatic fluid and bile. The quantity was so great as to saturate a large dressing every four hours. In two weeks this irritating discharge was gradually replaced by bile of a more normal appearance, and at the end of four weeks the fistula closed. The patient, while in a most critical condition for a week, slowly regained his health, leaving the hospital in seven weeks, and he is now in perfect health, up to his usual weight, and can eat and digest normally.

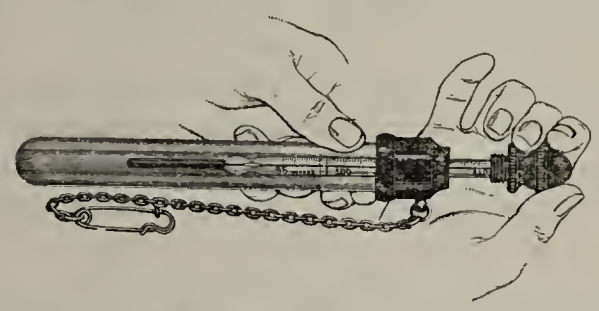
It is evident in this case that the gallstone had been the cause of a cholangitis which extended to the pancreatic ducts, with resultant acute pancreatitis and fat necrosis. The free drainage and relief of tension following the opening of the gall-bladder checked the process short of abscess formation.

The fine constitution and previous exemplary habits of the patient were great factors in the recovery.

New Instrument.

AN ANTISEPTIC THERMOMETER.

There is no doubt but that bacteria can be transmitted by the ordinary clinical thermometer, and extreme and continued care is necessary to prevent this. Ordinary washing and wiping will not suffice. The Norwich Pharmacal Co. has just



gotten out an antiseptic thermometer case which seems to meet all requirements. It is simply a glass-tube holder in which can be kept antiseptic solution without leakage and into which is screwed the thermometer as in ordinary holders. The increase in size of this over ordinary holders is so slight as to make it scarcely noticeable in the vest pocket.

War on Rats.—The cities in which the plague has made a brief appearance and then subsided, all made war upon rats as an indispensable measure. The *Brazil-Medico* is inclined to attribute the recurrence of plague at Rio Janeiro to the neglect of this measure, which was considered superfluous by the authorities. The recrudescence of the disease and the appointment of a new head of the health office has been followed by stringent measures against rats. A premium is to be paid for dead rats, and for rat dogs of a good breed, which will be bought by the municipality and distributed. Phosphorus paste is supplied on an extensive scale to the police to poison rats in sewers, docks, etc. To prevent the importing of rats to obtain the premium, the source whence the carcasses were derived must be proved.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, JANUARY 11, 1902.

NATIONAL BOARD OF MEDICAL EXAMINERS.

The necessity of devising some method for overcoming the present anomalous conditions regarding the regulation of the practice of medicine in the various states becomes more evident each year. According to the analysis of the state medical laws published in THE JOURNAL for November 16, last, there were then thirty-seven states which required examinations. Last November, Rhode Island adopted a new law requiring an examination, so that to-day there are thirty-eight states and territories which demand that hereafter all must pass an examination before being admitted to practice. Besides these there are nine states in which an examination or a diploma is required and the number of colleges recognized by some of these states is quite limited.

The conditions thus created make it a serious matter for the physician who desires to remove to another state to practice; for, the best of men, after a few years, find themselves very deficient in at least some of the branches in which they would be compelled to be examined. The young graduate, while yet well up in all the fundamental branches, desires to go through the ordeal of passing all the examinations necessary to entitle him to practice in any part of his own country. But he finds this is impossible. Hence, he selects his field, conforms to its laws, enters on his life work, and soon finds himself with the great majority—rusty in many of the branches and almost compelled to stay where he is. A remedy has been suggested in reciprocity. A few of the states have already grouped together for mutual exchange of courtesies, but reciprocity will never be universal among all the states, at least not until there is a much more uniformity in legislation than now prevails or that is likely to prevail for some years. But even a uniformity of laws will not suffice; there must be a uniformity in tests and standard, which will never come because of the multiplicity of boards of examiners, the majority of which are created by political influence and not by the selection of men qualified for the positions of examiners in scientific medicine.

In place of reciprocity it has been suggested on different occasions that there be created a national board of examiners which shall have authority to grant licenses which shall be recognized throughout the country. The constitution, however, does not place the regulation of the practice of medicine among the functions of the general government, and consequently the practical carrying out of the idea of a national board is met by obstacles not easily overcome, provided the idea is to compel the recognition of certificates from such a board by the various states. The constitutional objections would not apply to such a board as we suggest below. At least, the obstacles are no greater here than in carrying out the idea of reciprocity, so-called. In either case there must be a voluntary relinquishment of rights on the part of the state, and the state can only give its examining or licensing boards the privilege of accepting the credentials of a corresponding board of another state. Without taking space to give our reasons, we believe the ultimate results of reciprocity, as now understood, would be to lower rather than to elevate the standard.

A national board of examiners is the most practical solution of the difficulties before us, and if we were to offer a suggestion it would be that such a board should be analogous to that proposed by Dr. Roddick for the dominion qualifications in Canada where they have the same constitutional difficulties to meet as we have here, although their provinces are very limited in number compared with our states and territories.

At the present time there are three Government services, to enter which it is necessary that the applicant pass an examination. These examinations are at present held by the respective services—the Army, the Navy and the Marine-Hospital. In place of these let there be created a national board of examiners, whose certificates of qualification shall be a prerequisite to candidacy for any medical position under the Government. While ostensibly this board would be created to examine those desiring to enter the medical service of the Government, practically the acknowledged object would be the creation of a body to examine applicants and to grant certificates or diplomas which should be a guarantee of a thorough and practical medical education. In number the board should consist of not less than five or more than nine; its members should receive a good salary and devote all their time to the work, the expenses to be met by the fees of applicants. The appointments on this board might be made by the President on the recommendations of the heads of the medical department of the Army, the Navy, and the Marine-Hospital Service. It is presumed that men would be selected who would be well qualified to represent the different branches of scientific medicine—physiology, pathology, chemistry, anatomy, surgery, obstetrics, etc. The examinations should in part be conducted in hospitals and laboratories so that practical and not theoretical knowledge would be demanded. No school or system of practice should be recognized, but the examination should cover all the essentials; it should be thorough and complete, and sufficiently rigid to satisfy the demands of the most exacting of the states at the present time. It is presumed that a fair standard of preliminary education will be required, as well as a degree from a reputable medical college. The board should

times, so that no great sacrifice would be necessary on the part of those who desired to take the examination. A further practical examination might be required of those entering the Government services, but the general qualifications given by the board should be also a prerequisite for any medical employment under the government, including pension boards, etc.

If such a board were created and it required thorough qualifications before one could pass its examination, which is taken for granted, it would not be long before all the states would be willing to recognize its certificate. It would place before the ambitious in our profession a chance to get a diploma that would be an honor to its possessor and that would be registrable in every state in the Union. The state boards might still exist and act for those who cared only for a state license, but any one legally possessing a United States certificate from this national board would not have to submit to a state examination on every change of residence.

We believe that this is a practical remedy for the conditions now before us, and it is offered for the consideration of our readers.

AMERICAN SOCIETY OF NATURALISTS AND AFFILIATED SOCIETIES.

The twentieth annual meeting of the American Society of Naturalists was held at the University of Chicago December 31, 1901, and January 1, 1902, and the occasion proved to be a noteworthy one in many respects. The holding of an annual meeting in Chicago, "so far west," was regarded at first as a rather uncertain experiment, but the number in attendance and the quality of the material presented showed very clearly that Chicago, for various reasons, is far from being an unfavorable place for meetings of even the most purely scientific character.

The lecture by L. O. Howard of the Department of Agriculture on "International Work with Beneficial Insects," was a good illustration of the economic value of scientific methods applied to the study of destructive parasitic diseases of various trees and plants. The annual discussion had for its subject "The Relation of the American Society of Naturalists to Other Scientific Societies." It appears that the American Association for the Advancement of Science, also a strong organization, intends to abandon its summer meetings and that a year from now there will be a large meeting of many societies in Washington. The co-relation of the various societies, the formation of central and regional societies, and the holding of general and more local meetings—in short, the most effective organization of the purely scientific societies of the country—were considered. The problem seems not at all unlike that confronting the medical profession of the United States as it seeks to advance the interests of science by means of the many societies and associations that have been formed from time to time, often without careful consideration of the evident value of centralization, affiliation and union. The annual address by Professor Sedgwick of the Massachusetts Institute of Technology on "The Modern Subjection of Science and Education to Propaganda" was of direct bearing upon medicine. Indeed, his strongest illustrations were the propagandas carried on by the anti-vivisectionists and by the advocates of instruction in "temperance-physiology" in the common schools of this country. It will probably be a matter of considerable surprise to many readers of THE JOURNAL to learn that the instruction in physiology in the common schools of most of our states is completely subjected to propagandism of the most virulent and uncompromising character. Surely this is not a safe principle to follow in education.

Among the affiliated societies, the meetings of the Association of American Anatomists, of the American Physiological Society, and of the Society of American Bacteriologists are of direct interest from the medical point of view. The meetings of these three societies were among the most successful of any so far in their history. Brief references may be permitted to some of the many papers presented before the Physiologists and Bacteriologists. Mendel and Rettger brought forward certain observations that indicate an important relationship between the spleen and the pancreas, because an extract of the spleen when added to an extract of the pancreas greatly increases the proteolytic powers of the latter. Loeb and Lewis found that unfertilized sea urchin eggs left undisturbed in sea water for a few hours become insusceptible to fertilization, but if kept in a mixture of sea water and potassium cyanid, the latter having been allowed to evaporate, the eggs may be fertilized after seven days, the potassic cyanid apparently inhibiting certain fermentative processes in the eggs that are of a distinct mortiferous nature. Loeb also advanced an electrodynamic explanation of life phenomena to take the place of the thermodynamic explanation heretofore in vogue. Pure sodium chlorid solution of the same osmotic pressure as sea water is toxic for the fertilized eggs of Fundulus, a marine fish, the toxic effect being due to the negatively charged Cl ions, which may be neutralized by small amounts of positively charged bivalent and trivalent metal ions. Mathews showed that the effect of a salt upon nerves is dependent upon the electrical charges carried by the anions of the salts. Important deductions were made in regard to the nature of nerve impulse, electrotonus, and other electric phenomena. These experiments, which may be just hinted at for the present, show again the essential rôle played by chemico-physical factors in life phenomena.

In the Society of Bacteriologists, whose deliberations were guided by Professor Welch of Baltimore, many noteworthy investigations were presented: Novy's observations on the germicidal actions of certain organic peroxids are important because of their probable therapeutic significance. It seems that certain organic peroxids have been studied whose germicidal action is exceedingly powerful but which are harmless to human

beings and similar animals—apparently just the thing wanted for the successful treatment of many infections of the intestinal tract and elsewhere. In a supplementary note on the etiology of yellow fever presented by Dr. Carroll of the Army Medical Hospital, Washington, it was shown that the virus or cause of yellow fever, contained in the blood of yellow fever patients as demonstrated by the experimental inoculations of Reed, Carroll and Agramonte, is so small that it passes through porcelain filters. Hence it would seem to belong to the group of pathogenic agents that investigators believe are so infinitesimally small that it is hopeless to expect to find them in the sense of ocular demonstration by means of our present methods. A number of other interesting and valuable observations along bacteriologic lines, both from the standpoint of pathology as well as pure or applied bacteriology, were presented, the program being filled to the limits. Suffice it to say that the proceedings of the societies referred to indicate a gratifying activity in research in the various branches represented.

THE MEMORIAL INSTITUTE FOR INFECTIOUS DISEASES.

As noted in another column of the present issue, Mr. and Mrs. Harold F. McCormick, of Chicago, have given a considerable sum of money for the establishment of an institution for the investigation and the treatment of infectious diseases. We made an announcement of this gift some weeks ago, but at that time we were not permitted to give the name of the family, or any of the particulars. The terms of the gift confine the immediate activities of the institution to scarlet fever and allied problems. A board of trustees, the majority of whom are medical men, has been appointed, an organization effected, and the preparations are under way for the carrying on of work in rented quarters. Professor Hektoen has been selected director, and this is a guarantee that the work done at the Institute will be of the highest order and of scientific worth.

In connection with the investigation into the causes and nature of scarlet fever and other similar infectious diseases, provisions are being made for the treatment in hospital of a small number of patients. All indications point strongly to the permanent establishment before long of an institute for infectious diseases in which original investigation and clinical work will go hand in hand, the one completing and aiding the other. It is hoped, of course, that arrangements may be made also for the clinical instruction of students of medicine in the acute infectious diseases of children, a desideratum that surely may be fulfilled without in any way interfering with the main purpose of the institute. The name selected, namely, "The Memorial Institute for Infectious Diseases," indicates at once the nature of some of the motives that lead to the undertaking and also the intention of the founders to secure for it permanency and comprehensiveness.

The general object of the Institute is one that appeals to philanthropist and scientist alike. No better selection of location than Chicago could have been made. We believe that this is one of the first, if not the very first, substantial and direct gift of money to scientific medicine in Chicago. It is true that much money has been given to hospitals and similar institutions in Chicago, but we recall no considerable donation before this for the direct advancement of scientific investigation. Herein lies a noteworthy significance because the McCormick donation is another welcome instance of the direct interest that private wealth is beginning to take in the purely scientific side of medicine. Less than a year ago Mr. Rockefeller gave a large sum for medical research in various centers of this country, and the recently incorporated "Carnegie Institution" of Washington, with an endowment of $10,000,000, aims also at the furtherance of scientific investigation in medicine as well as in other branches of knowledge. The opportunities for the medical investigator in this country has consequently increased manifold within a few months—a most encouraging and stimulating fact for all those that are interested in the scientific development of American medicine.

OPERATIVE TREATMENT FOR CHRONIC NEPHRITIS.

With the evolution and growth of antisepsis and asepsis, the last quarter of a century has witnessed a remarkable expansion of the field of operative surgery. The insidious transition from structural to organic disease has forced the clinician, in many instances, to invoke the early counsel, if not the operative aid of the surgeon. The former has learned that certain affections considered strictly medical have also a distinctly surgical aspect, and that if he wishes to render his patient the best service, he must be prepared for contingencies that, while they may never arise, will in the event of their development, require speedy and skilful surgical treatment. Therefore, the clinician must early have the surgeon share with him a knowledge of the details of the case, so that both may occupy common ground and be able promptly to reach an agreement as to the procedure to be followed in accordance with the conditions that may be present. It is, for these reasons, that the plan adopted by two physicians of the Pennsylvania Hospital—a clinician and a surgeon—of delivering conjoint clinical lectures on subjects that can profitably be treated from the viewpoint of each is to be commended.

The division of labor in medical practice resulting from the evolution of specialism and due to the enormous growth and progress of medical science makes it scarcely possible for the practitioner to be expert both as clinician and as surgeon. There are, however, many conditions that at different stages demand the services of both. It will not be necessary to do more than merely advert to some of these, such as appendicitis, abscess

or gangrene of the lung, visceral malignant disease, hemorrhage secondary to gastric or intestinal ulceration, perforation of the stomach or bowel, abscess or new growth of the brain, liver or spleen, cirrhosis of the liver, and so on. To this list of diseases, essentially medical primarily, but in the treatment of which the services of the surgeon are not rarely required, Dr. George M. Edebohls[1] now adds chronic nephritis. The proposition to treat this affection by operative measures is based not alone upon theoretical considerations, but also upon an experience already comprising some eighteen cases. The suggestion for such a procedure emanated from the successful results in several cases of chronic nephritis in which nephropexy was performed for the purpose of anchoring a movable kidney. Albumin and tube casts disappeared from the urine, and the patients were restored to health. By reason of this experience, Dr. Edebohls resolved to apply surgical treatment to all cases of chronic nephritis that should come under his observation. The operation consists in exposure of the kidney through the loin, with excision of its proper capsule. All of the patients thus treated are reported to have done well. The good results obtained in these cases are attributed to the development of numerous large blood vessels, particularly arteries, that develop in the strong connective-tissue adhesions that formed between the kidneys and the surrounding tissues, the blood stream passing from the latter to the kidneys. This, it is thought, leads to gradual absorption of the interstitial or intertubular inflammatory products and exudates, thus freeing the tubules and glomeruli from compression, constriction and distortion, and permitting the re-establishment of a normal circulation, with the regenerative production of new epithelium capable of carrying on the secretory function.

The proposition here thus briefly outlined is certainly a most startling one, and it is not likely to meet at once with general acceptance; but any theoretic objections to its practical application must disappear in the face of successful results in actual experience. Of course, the operation would not be undertaken in the presence of any incurable complication or any condition forbidding the administration of an anesthetic, nor should it be undertaken unless the probable expectation of life is more than a month, inasmuch as the beneficial effects are not manifested in a much shorter time.

1. Medical Record, Dec. 21, 1901, p. 961.

HEMATOGENOUS TUBERCULOSIS.

It is a well-known fact that tuberculosis of the lungs involves by preference the apices, but no explanation that has been offered is entirely satisfactory. Deficient functional activity of the portions of lung in question would seem to be in general an adequate predisposing factor. This does not necessarily imply, however, that infection takes place invariably by way of the air passages. As opposed to the view that the air is exclusively the medium through which tubercle bacilli gain access to the apices of the lung, is the report by Baumgarten[1] of experimental observations in which injections, in not too large amount, of virulent tubercle bacilli into the uninjured urethra and bladder were followed by tuberculosis of the apices of the lungs. The same result followed subcutaneous and intraocular inoculation. When large amounts of bacilli, however, are employed, or when intravenous inoculation is practiced, miliary tuberculosis is likely to result. Under these circumstances, also, the special localization of the morbid process must be attributed to the deficient functional activity of the apices, with which sluggishness of the circulation goes hand in hand, whereby tubercle bacilli contained in the blood are more readily deposited.

1. Wiener Med. Woch., Nov. 2, 1901, p. 2049.

THE PROPOSED UNITED STATES HEALTH SERVICE.

The bill that has been introduced into both houses of Congress providing for a National United States Health Service, on the basis of the present Marine-Hospital Service, and practically a continuation of the same under another name with wider functions and responsibilities, is one that deserves the careful consideration of our profession. Two facts are self-evident. One is that the present scope of the Marine-Hospital Service is far more extensive than that originally intended and that it is under present conditions constantly extending to meet the demands. The other is that while we need a public health service the still existing present limitations of the Marine-Hospital Service under its original organization are a serious hindrance to its fully meeting the country's needs. Whether what is practically a simple change of style and title will do this, may possibly be a question open to argument and it is to be hoped it will receive due consideration. The Marine-Hospital Service includes a body of trained sanitary workers whose skill and experience would be invaluable and could hardly be dispensed with, but this does not preclude the possibility that a certain amount of reorganization would be advisable if we expect to have at once the best results. It may be that it would, but it is a question worthy of the consideration of the profession. What is needed and wanted is the best that can be had, in view of the very important functions of a national health department, and nothing short of this will be satisfactory. We must not too slightingly disregard some of the already expressed ideals of the profession as to a national board of health and which are to all appearance at least hardly embodied in the proposed legislation. These may not be all attainable, but we should secure what we can, and make certain that the proposed body is such as to command the sympathy and cordial support of those who alone can make it truly effective. We publish elsewhere the text of the bill for the careful consideration of our readers.

SPLENIC ANEMIA WITH ASCITES.

Since the systematic description by Banti in 1894 of a symptom-complex comprising enlargement of the spleen, associated with anemia, and later the development of ascites, the name Banti's disease has been applied to this disorder. Three stages in the progress of

the affection are distinguished: 1, an anemic stage, characterized by enlargement of the spleen and anemia, and lasting from three or four to ten or eleven years; 2, a transitional stage, of uncertain duration; and 3, an ascitic stage, which usually terminates fatally in from six months to a year. In Banti's opinion, the spleen is the primary seat of the disease, toxic substances being generated in it as a result of some hypothetic infectious process, entering the circulation and causing anemia, and, by passing through the liver, causing hyperplasia of the interstitial connective tissue. It has, further, been suggested that the toxic substances may be derived from the gastro-intestinal tract, reaching the spleen through the circulation. The question has been raised whether cases of so-called splenic anemia or lienal pseudoleukemia with ascites and little or no cirrhosis of the liver do not also represent a variety of Banti's disease. Various influences have been made responsible for the ascites, such as cirrhosis of the liver, stasis due to enlargement of the spleen, anemia, lymphatic obstruction from enlargement of mesenteric and retroperitoneal glands; but the question must still be considered as undecided. One of the features of the disease to which little attention has hitherto been given is a tendency to hemorrhage; thus, epistaxis, hematemesis, hemoptysis, hematuria, and other forms of hemorrhage have been noticed. The skin is generally pale, although occasionally it is pigmented. The urine may exhibit little or no change, and slight fever may at times be present. In the blood, at least in the later stages, there is a deficiency in the red and white corpuscles, and in the hemoglobin. The alkalinity of the blood has also been found increased. In diagnosis, the most important consideration is the presence of chronic enlargement of the spleen not due to ordinary causes. The condition under discussion differs from spleno-medullary leukemia in the absence of hyperleukocytosis; from lienal pseudoleukemia, in the absence of a disproportionate increase in the number of lymphocytes; and in the presence of leukopenia. In treatment, splenectomy has been recommended and practiced successfully in a number of cases. Among drugs arsenic, iron and iodin have been employed.

THE BIBLIOGRAPHIA MEDICA.

The publishers of the Bibliographia Medica, the European successor to the Index Medicus, have issued a circular in which they state that unless they obtained 250 subscribers before December 31 last, at the newly raised annual subscription price of $24, they will have to suspend its publication. It would seem that there ought to be at least 250 who are sufficiently interested to pay the price, to say nothing of the public libraries to which it is so valuable. We have to remember, however, that this is only history repeating itself; the Index Medicus in its last years went through the same experience. The fact appears to be that medical literature is increasing and that the difficulty and expense of collecting and publishing its bibliography have correspondingly increased, while the number of those calling for it in its completeness is not enlarged in proportion. If the Bibliographia Medica goes under, as there seems to be reason to fear, we may conclude that what is demanded is not such a comprehensive all-exhausting bibliography, but rather a more limited and discriminating one. Much of the medical literature of the day, as indeed of all time, is ephemeral, and its preservation is, in itself, not a matter of importance. Much of it contains nothing new; some of what is novel is only error, and a great deal too much consists in duplication, triplication and still further multiplication of the repetitions of the same facts. There are authors who seem to think that reiteration is the only way to put their work before the profession and they do this so extensively and effectively that an astonishingly large amount of print is spread over a very limited modicum of fact. Sometimes the authors publish their articles unaltered in as many different publications as will receive them; sometimes they paraphrase them slightly or extensively, but make them cover the same facts. Some have a faculty of making a small amount of material go a long way and there are medical writers whose articles can not safely be briefed in summaries of current literature for this reason. When a subject becomes popular, so to speak, like appendicitis or tuberculosis at the present time, the amount of literature produced is appalling and the culling out of what is of value in it is itself a tremendous task. There is no medical or surgical subject of importance that has not its bibliography thus encumbered with a mass of papers which, while not always without an ephemeral utility as stimulants of discussion in medical societies, etc., have no lasting value and could well be spared from the literature. Their enumeration only confuses the investigator and wastes his time and energies in useless bookwork to his disadvantage. It will be a misfortune if the Bibliographia Medica is discontinued and if, as it appears may be the case, such publications can not succeed, let us hope that a less expensive and more discriminating one will have a better reception. Even if the Bibliographia Medica should cease its publication there would still be many resources for the student of medical literature remaining. What is being done in this country is well known, but it is of interest to note that similar plans of keeping up the record of local or national as well as general medical literature are being carried out abroad. The *Revista Med. del Uruguay* has undertaken the task of publishing an index of original articles appearing in its South American exchanges. The *Rousski Vratch* is doing the same for Russia. The *Deutsche* and the *Muenchener* medical weeklies review a large part of the contemporaneous field in Germany, and certain journals are accomplishing the same in their specialties for France. None of them, however, have appeared so far to even aim at the completeness with which current literature has been indexed in The Journal for the past two years. The usefulness of the German "Jahrbücher" has long been appreciated and with all the means at his command the medical worker of the present day has altogether unprecedented facilities.

Women Physicians Receive Appointments.—Miss Steinberger, M.D., has been appointed assistant in the gynecological clinic of the Budapest University, and Miss Kurtucz, M.D., demonstrator at the Institute of Physiology.

The Organization of the Medical Profession.

I.

A Statement of Facts.

The Committee on Reorganization, appointed by the American Medical Association in 1900, which reported at the 1901 meeting of the Association at St. Paul, when preparing its report attempted to gather statistics concerning medical organization, and especially as regards the number of those who belong to medical societies. Reports were received from every state, although from some the results as to accuracy were not very satisfactory, it being impossible in some of the states to more than guess at the facts regarding the number belonging to medical societies. However, basing its conclusions on more or less reliable information, the Committee concluded that the total membership of the medical societies at that time was approximately between 34,000 and 35,000.

In arriving at these figures no attempt was made to take into account those who belong to more than one society, although in some instances one individual might belong to half a dozen or more organizations. Neither was there any allowance made for those who were only nominally members, such as those who neither attended the meetings nor kept up their dues—in other words, delinquent members and those who, according to the constitution and by-laws of the various societies, should not be classed as active members. Taking into account all these and other things, it was concluded that a fair statement to make was that not more than 33,000 physicians in this country belonged to medical societies.

The number of regular physicians in the United States is unknown. Various reports are published, these varying in number from 100,000 to 120,000. Probably the mean of these, 110,000, would be practically correct. This gives us the startling fact that **there are 77,000 physicians in the United States who do not belong to any medical society whatever.**

Those who know the value of medical societies must acknowledge that the revelation is an appalling one. It is a revelation that accounts for the wretched condition that our profession is in as a body politic and as a social factor in many ways. It is jealous, antagonistic, discordant, disorganized, powerless, without unanimity of thought or action on important questions—ethical, social or scientific—without influence socially, politically, or in any other way.

What is the cause of these conditions? Why is it that not one in three physicians belong to a medical society? Does the fault lie entirely with the two-thirds, or is it a fact that for some reason our medical societies are not such as to make membership in them both available and valuable? Can existing societies better perform the functions for which they are created and be made more available for those for whom they are intended? These are important questions and well worthy of thoughtful consideration.

It is quite probable that those who have given thought to the subject would, without hesitation, say that several things contribute to the existing conditions as regards organization. The first rests with those who are not members. These are apathetic, indifferent or ignorant of the practical value of membership in medical societies.

The second is the want of medical societies in many localities so that those who desire to become members can have the opportunity.

The third rests with the societies themselves. These are not performing their full functions as organizations representing the medical body politic; as educational or scientific bodies the majority of them are not conducted for the best interests of all their members.

Accepting these propositions as true, the remedy then will be: 1, to arouse those not now members from their apathy and indifference and convince them of the value of membership; 2, to organize and encourage medical societies in every part of the country, and 3, to stimulate existing societies to more active work and, if necessary, to adopt different methods.

Possibly a consideration of the subject of organization of the profession will not be out of place in this journal, which is the mouthpiece of the great National organization of medical men whose avowed objects and principles are:

"To federate into one compact organization the medical profession of the United States, for the purpose of fostering the growth and diffusion of medical knowledge, of promoting friendly intercourse among American physicians, of safeguarding the material interests of the medical profession, of elevating the standard of medical education, of securing the enactment and enforcement of medical laws, of enlightening and directing public opinion in regard to the broad problems of state medicine, and of representing to the world the practical accomplishments of scientific medicine." (Article II of the constitution of the American Medical Association.)

(To be continued.)

Medical News.

ILLINOIS.

Bequest to Rockford Hospital.—By the will of the late Eleanor G. Fairchild, $3000 is bequeathed to the Rockford City Hospital.

Diphtheria.—The disease is raging on Campbell's Island, a few miles above Moline, and is causing great alarm there and in Watertown on account of inefficient quarantine.——Nunda has had four deaths.——The schools at Crystal Lake have been closed on account of the disease. Syracuse has five cases.

Scarlet fever has spread from Georgetown to Himrod.——The Wingard school at New Village has been closed on account of the disease.——It prevails in Decatur to an alarming extent. In October, November and December there have occurred 84 cases, against 115 cases in the same three months in the ten preceding years. The Board of Health has been appealed to.

Cottage Hospital to Open.—The Cottage Hospital, Peoria, which has been erected at a cost of $125,000, is practically completed and will be dedicated about January 15. It has 100 rooms and two large wards, and has been constructed in accordance with the most advanced sanitary knowledge. It is a model of its kind.

Smallpox.—Venice and Granite City on December 30 quarantined against Madison, where 16 cases were found. On the next day the quarantine was raised.——The disease is reported at Boulder, Kansas, Clinton, Blair and Bible Grove townships, near Flora, Beardstown, Buckhart, Sibley and Virginia.——The cost of the recent epidemic to Sangamon County was $3638.60.——Several new cases are reported at Irvington. The schools have been closed in consequence.

New State Hospital.—The new asylum for the incurable insane at South Bartonville, near Peoria, which will be thrown open before February 1, is a group of fifteen large, airy buildings. The institution has just been completed at a cost of approximately $1,000,000, and the work of furnishing is now rapidly drawing to a close. The asylum occupies a site about five miles south of Peoria, commanding a good view of the valley of the Illinois. The buildings will have immediate accommodation for about 600 insane and 100 hospital patients, but the ultimate capacity of the institution will be about 3000. Dr. George A. Zeller, the superintendent, is now on his way from the Philippines. Dr. Carriel, Jacksonville, will act for him until his return.

Chicago.

St. Luke's Hospital, in its thirty-eighth annual report, shows that 1818 patients were treated, 36.2 per cent. of whom were charity patients. Legacies of $32,000 were received during the year. The total receipts were $100,293, and the expenses $99,899. There are 21 beds supported by individuals and firms.

Personal.—Dr. Adolph Gehrmann has returned from his European trip.——Dr. Eliza H. Root, who has been seriously ill with diphtheria contracted while caring for a relative, is now convalescent.——Corinne B. Eckley has been appointed demonstrator of anatomy in the medical and dental departments of the University of Illinois.

Diphtheria Lessening.—The Department of Health reports that diphtheria claimed the fewest number of victims in the year just closed of any in nearly a quarter of a century, notwithstanding a four-fold increase of population during the period. Between 1879 and 1900 inclusive there were 19,002 deaths recorded from this disease—a yearly average of 864, with the lowest number 531 (in 1883) and the highest, 1420 (in 1895), in the fall of which year the antitoxin treatment was begun by the health department. There were less than 500 diphtheria deaths in 1901.

A Vaccination Creed.—The Health Department has issued a circular on "Vaccination and Smallpox," on the last page of which the following vaccination creed appears:

We, the undersigned, hereby publicly profess our firm belief—based upon positive knowledge, gained through years of personal experience and study of smallpox and vaccination:

1. That true vaccination—repeated until it no longer "takes"—always prevents smallpox. Nothing else does.
2. That true vaccination—that is, vaccination properly done on a clean arm with pure lymph and kept perfectly clean and unbroken afterwards—never did and never will make a serious sore.
3. That such a vaccination leaves a characteristic scar, unlike that from any other cause, which is recognizable during life and is the only conclusive evidence of a successful vaccination.
4. That no untoward results ever follow such vaccination; on the other hand, thousands of lives are annually sacrificed through its neglect—a neglect begotten of want of knowledge.

ARTHUR R. REYNOLDS, M.D., Commissioner of Health, and HEMAN SPALDING, M.D., Chief Medical Inspector.

These circulars are furnished to lodging houses, police stations, cheap hotels, waiting rooms, factories—in short, to all places frequented by numbers of people, especially of the tramp or migrant class. Attention is called to them by placards, 10x14 inches in size, which contain the text of the vaccination creed. These placards are posted in conspicuous places about the premises and a note at the bottom informs the reader that "further information as to vaccination and smallpox is contained in the "Supplement to a Vaccination Creed," copies obtainable on the premises. The placard and circular are proving of much help to the public vaccinators, and the discussions evoked by the *ex cathedra* statements of the "creed"—which it is sought to explain in the circular in simple phrase and by frequent repetition—are begetting an intelligent interest in the subject of vaccination among classes peculiarly exposed to smallpox.

Woman's Medical College.—The daily press for the last few days has contained numerous articles relating to the proposed discontinuance of the Northwestern University Woman's Medical School emanating from more or less authentic sources. There seems still to be doubt regarding the action taken by the trustees of the university in the matter. The secretary of the board, Mr. Frank P. Crandon, on January 6, presented the following "authentic statement":

1. It has been decided to discontinue said department at the end of the current scholastic year.
2. This decision is based upon purely financial considerations. The maintenance of the Woman's Medical School has resulted in such an annual deficit for several years that the university trustees do not feel justified in continuing its operations.
3. The quality of the scholastic work in said department and the attainments and professional excellence of its graduates have always been entirely satisfactory to the university authorities.
4. Neither the board of trustees nor the executive committee has expressed any opinion which is unfavorable to women adopting the medical profession. If individual trustees have announced such a judgment such opinions are to be regarded as personal matters, and not as committing the university to similar opinions or theories.
5. There is no probability that the medical work of Northwestern University will become coeducational.

MARYLAND.

Health Officials Feast.—The officials of the Baltimore Health Department held a banquet on December 30. Speeches were made by the Mayor, Health Commissioner Bosley and Assistant Health Commissioner C. Hampson Jones.

State Aid Asked.—There are 101 institutions asking aid of the state, the total amount asked being $1,846,840. The applications vary from $1000 to $138,000, the latter sum being asked by the Springfield State Hospital for the Insane. Johns Hopkins University applies for $100,000.

The Municipal Hospital Commission, of which Dr. William H. Welch is chairman, has determined to ignore the protests against the building of the Infectious Disease Hospital on the site selected just beyond Druid Hill Park, and if the title be clear to go ahead with the purchase and erection of the building, which is so urgently needed.

The mortality of Baltimore for the week ended January 4, was 183,—102 males and 81 females. The principal causes of death were tuberculosis, 22; heart disease, 21; pneumonia, 22; Bright's disease, 19; cancer, 5; typhoid fever, 3, and diphtheria 1. The births were 333, which is accounted for by the fact that many physicians report births only at the end of each month.

Personal.—Dr. Ira Remsen, of Johns Hopkins University, was elected President of the American Chemical Society at its recent session in Philadelphia.——Dr. J. C. Coggins of the Maryland Hospital of the Insane, sailed for Europe, January 4.——Dr. Herman Westphal, formerly of the staff of the City Hospital, has returned from Europe.——Dr. Jackson Piper is in Naples.——Dr. William Turner Wooten, late on the staff of the Maryland Hospital for the Insane, Catonsville, has been appointed Assistant Surgeon, U. S. Army.

Smallpox in Baltimore.—Baltimore has been particularly fortunate with regard to the smallpox. With one exception all the cases during the past year have been imported. Prompt handling—hurrying the patient to quarantine, vaccinating all those exposed, quarantining infected houses, and destroying infected clothing—has prevented epidemics. During the year the vaccine physicians have examined 17,034 arms and vaccinated 14,385 persons. The department has given particular attention to the inspection of food products, as all milk arriving here or sold, markets, provision stores, bakeries, live stock, stables. Plumbing and drainage are systematically examined; all drinking water is inspected; also coal used by the city, etc.

Tuberculosis Commission.—In his message to the legislature the Governor, after pointing to the large mortality from tuberculosis during the past year, and the small provision made for the accommodation of consumptives, says: "I earnestly recommend for your favorable consideration the advisability of creating an unpaid commission to inquire into the presence of tuberculosis in the state, and to devise some means of dealing with it more economically and efficiently than at present. A sufficient sum should be appropriated to pay the expense incurred by said commission in making the investigation." He also recommends "that the duties of the local boards of health be defined and a uniform plan of organization and procedure be provided so that there may be no conflict of authority or divided responsibility in case of emergency."

NEW YORK.

Hospital Endowed.—The Brooks Memorial Hospital, Dunkirk, has just received an endowment of $100,000 from Mr. and Mrs. Frederick Stevens.

State Mortality.—There were 9309 deaths in this state during November. The Bulletin of the Health Department says concerning smallpox in New York State: "Smallpox has materially decreased since summer, causing ten deaths in September, eleven in October, and nine in November. Six of the deaths occurred outside of the city of New York, one in Buffalo and one in Lockport. During the month it has existed at Syracuse and vicinity; Rochester, Buffalo, Lockport, Utica, Schen-

ectady, Elmira, Binghamton, White Plains and elsewhere. At this time, the end of December, it prevails at Buffalo, Watertown, Middleton, Binghamton and Newburg."

Anti-Tuberculosis Crusade.—Sullivan County is instituting a vigorous crusade against the admission of tuberculous patients. The Liberty Board of Health has passed an ordinance imposing a fine of $50 for maintaining a hospital or sanitarium for consumptives within the village limits. The Board of Health of the town of Rockland has just adopted an ordinance imposing a fine of $50 on any resident of the town for keeping or harboring a consumptive who is not a member of the family or dependent on them for support. The Board of Health of Monticello has instructed real estate agents to discriminate against consumptives in renting property. At the Loomis Sanitarium for consumptives established four miles from Liberty, through the generosity of J. Pierpont Morgan, hundreds of consumptives are unable to secure admission.

Buffalo.

Personal.—Dr. George W. Grabenstatter has been appointed a contract surgeon in the U. S. Army and has been ordered to the Philippines.——Dr. Conrad Diehl, who has been mayor of Buffalo for the past four years, will henceforth devote his entire attention to his private practice.

Appropriations.—The Committee on Charitable Institutions of the Board of Supervisors recommend that the following amounts be appropriated to hospitals as follows: Buffalo Eye, Ear and Throat Hospital, $1800; German Hospital Dispensary, $1500, and Buffalo Eye and Ear Infirmary, $2200.

Smallpox Progress.—At the present time there are 46 smallpox cases in the Quarantine Hospital and since it proves entirely inadequate to the new cases, Health Commissioner Wende and the newly appointed Health Commissioner Green are devising means for a temporary enlargement of the hospital.

Presentation to Dr. Wende.—Health Commissioner Wende, on completion of his ten years of public service, was presented with a valuable silver service, by his co-workers in the Health Department. The presentation speech was made by City Chemist Herbert Hill, who spoke of the many advances made in the department under the guidance of Dr. Wende. In appreciation of his services as Health Commissioner, a banquet was tendered him at the Ellicott Club, January 4, at which a beautiful loving cup was presented to him. Dr. Charles Cary was toastmaster and Mr. George P. Sawyer made the presentation speech.

New York City.

The Society of the Lying-in Hospital, which has been in existence since 1798, came into possession on the first of the new year of the model million-dollar maternity hospital built for it by J. Pierpont Morgan. It is eight stories high, and has 200 beds.

New Adjutant General.—Dr. Nelson H. Henry, who has represented the 5th District in Assembly for the past three years, has been appointed by Governor Odell to be Adjutant-General of the National Guard. He is now chief surgeon of the staff of Gen. Roe with the rank of colonel. He served as a division surgeon during the Spanish war.

Deaths in 1901.—Out of the 70,808 deaths reported to the Health Department during the year 1901, 8295, or more than one-tenth, were on the records of the morgue. There were 3219 bodies of infants and children under five years consigned to the morgue, but this large number is to be explained by the many deaths occurring at birth in families too poor to bury the little waifs. Last year there were 3857 deaths by accidents, 701 suicides, 105 homicides and 1273 victims of sunstroke. The last item is particularly interesting when contrasted with the 315 deaths from the same cause in 1900. Pneumonia was reported to have caused 9128 deaths and tuberculosis 9396 deaths. While there were only 178 deaths from typhoid fever reported in 1900, there were 729 in the year just closed. The total death rate for 1901 was 20.02 per thousand. There were 80,735 births, or an excess of more than 10,000 over the number of deaths.

PENNSYLVANIA.

Memorial Bed Endowed.—Mrs. Hannah M. Wright, Washington, D. C., has given $5000 for the endowment of a bed in the Wilkesbarre City Hospital in memory of Colonel Wright, his first wife, Mrs. Eliza Jones Wright, and their son Joseph B. Wright, assistant surgeon-general, U. S. A., who died last October. Both Col. Wright and his son were born in Wilkesbarre, and started the practice of medicine in that city.

Smallpox.—Two new cases have developed at Marcus Hook.——A second physician of Frankford has come down with the disease.——On account of a case in a boarding house at Lebanon, 40 inmates were held in quarantine.——From McKean Township 9 cases are reported.——Lebanon has 34 cases.——At Hofer 3 cases are reported.——Figart reports 20 cases.——A case is reported from Wyomissing.——New Castle has 7 cases under quarantine.

Shenango Valley Hospital, New Castle.—At the annual meeting, Dr. Thomas J. Blackwood was elected president of the staff; Dr. Charles A. Reed, vice-president, and Dr. John Foster, secretary and treasurer. The new medical staff consists of Drs. Albert M. Cook, Thomas J. Blackwood and Harry Wilson; the surgical staff, of Drs. Lewis O. Phillips, Harry W. McKee and Samuel W. Perry. The hospital received $429.54 as its share of a benefit concert recently held.

Hospital Moved.—The East End Hospital, Pittsburg, has been moved to the new building on the Finley property at the Beechwood boulevard and Frankstown avenue, which the Sisters of Charity, who have charge of the hospital, purchased from the Finley estate several months ago for $100,000. Since the property was purchased, a new addition of about 14 rooms has been made to the Finley homestead, now giving the hospital accommodations for about 28 patients. The hospital property is known as Silver Lake Grove and contains six and three-fifths acres. On this site the new East End Hospital building is to be erected at a cost of $500,000.

Philadelphia.

Bequests.—By the will of the late George W. Farr, among many bequests to charity were the following: To the Rush Hospital for Consumptives, $5000; to the Pennsylvania Hospital, $10,000, the income to be applied toward ameliorating the condition of the insane poor, by establishing two free beds; for the use of the Wills' Eye and Ear Hospital, $5000; to the Philadelphia Home for Incurables, $5000; and to the Polyclinic Hospital, $2000.

Smallpox in Philadelphia.—There were 90 new cases of smallpox and 16 deaths recorded for the week ended January 4. The record is not considered unfavorable, considering the fact that cold weather has prevailed. During 1901 there were in the city 1159 cases of smallpox and 156 deaths, a mortality of 13.45 per cent. Within the week 5 cases were taken from the Philadelphia Almshouse to the Municipal Hospital. There are about 5000 inmates at the former institution, almshouse, hospital and insane department included, and the place has been put under strict quarantine, and only sick, crippled or insane are now admitted. So far, the disease has appeared in one ward only, and it is believed that further spread may be prevented.

GENERAL.

Benguet to be the Mountain Sanitarium of the Philippines.—The Philippine government has purchased 80 acres near Bagnio, the capital of the Province of Benguet, on which is to be erected a sanitarium. Buildings are to be arranged for reception of sick soldiers. "The high altitude, the bracing temperature never above 80 F., the delicious drinking water, the valuable mineral and hot waters, the gorgeous scenery and the abundant products of the soil, both vegetable and mineral," were interestingly described in THE JOURNAL of Oct. 13, 1900, by Assistant-Surgeon J. C. Minor.

The American Gynecological and Obstetrical Journal.—We regret to read in the December issue of this journal that it is to be discontinued. Dr. Emmett has given us a splendid journal; it represented the best in gynecology and obstetrics, and deserved more encouragement than it seems to have had. He has always advocated that which is for the best interests of the profession. Evidently the cause for the discontinuance is a financial one. In the editorial announcing the discontinuance, Dr. Emmett says: "The Journal to-day shows on its credit sheet a balance due from subscribers and advertisers over and above all indebtedness and expenses. It shows also that during the past ten years over 5000 subscribers have received and contracted to pay for this journal and have never paid. It shows further that over $30,000 have been lost through unpaid subscriptions by contracts freely entered into by medical men. During this time the expenses of the journal had to be met monthly in cash."

Biometrika.—The first issue of a new, and in its way unique, high-grade biologic publication, *Biometrika,* has come to hand.

Its purpose is announced to be the collection of "biological data of a kind not systematically collected or published in any other periodical," and also of "spreading a knowledge of such statistical theory as may be requisite for their scientific treatment." It is to be a special organ of those workers, not so numerous at the present time, but increasing, who study statistical questions of biology, such as those raised by the problems of evolution, inheritance, etc. The term Biometry is not a new one, but as a semi-medical specialty it is novel to most of us. The application of mathematics to the problems of life, however, is to be, it seems, a factor in the future development of biologic science and this publication is an evidence of this. Its articles are formidable to the average reader, who is not any too familiar with complex algebraic formulæ, but he can appreciate the results when given in plainer language and their application and suggestiveness is apparent. The new journal has as its editorial staff, Professors W. F. R. Wildon, of Oxford, Karl Pearson, of London, and C. B. Davenport, of Chicago, with the well-known author, Francis Galton, as consulting editor. These form the scientific partnership of biologists, mathematician and logical generalizer that, according to the latter, such work requires. It is issued from the University Press, Cambridge, England, in handsome small quarto form, appearing quarterly. It ought to have a cordial reception not only from biologists but also from that considerable class of economic biologists, the actuaries, upon whose field it also largely trenches.

Memorial Institute for Infectious Diseases.—In THE JOURNAL for November 16, we announced that one of the wealthy families of Chicago was arranging to endow in a most liberal manner an institute for the study and scientific investigation of infectious diseases. We were not at that time permitted to give the particulars, but stated that the gift was second in importance only to that made by Mr. Rockefeller. We are not at the present time permitted to give the definite amount, but it is very large. The institute is founded by Mr. and Mrs. Harold F. McCormick in memory of their son, John R. McCormick, who died of scarlet fever last year. The object of the institute is the study of infectious diseases, but scarlet fever, its cause and specific treatment will be the primary and chief work of research. The institute is sufficiently endowed to enable those engaged in the task to maintain a number of free beds for scarlet fever patients and to operate a suitable laboratory for pathologic, bacteriologic and animal experimental work. Dr. Ludvig Hektoen has been appointed director of the institute and has selected as one of his assistants Dr. George H. Weaver, of Chicago. For the present the medical members of the board of trustees will be the attending staff. The trustees appointed by Mr. and Mrs. McCormick to manage the institute are Drs. Christian Fenger, Ludvig Hektoen and Frank Billings, and Messrs. Charles L. Hutchinson and Stanley McCormick, the latter a brother of one of the donors. The officers of the board of trustees are Dr. Frank Billings, president; Stanley McCormick, vice-president; Ludvig Hektoen, secretary, and Charles L. Hutchinson, treasurer. The institute has been incorporated and preliminary work already commenced.

The Proposed National Health Service.—The following is the text of the bill introduced in Congress:

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress Assembled, That the United States Marine-Hospital Service shall hereafter be known and designated as the United States Health Service, and the supervising surgeon-general and the officers now or hereafter commissioned under the act of January 4, 1889, entitled "An Act to regulate appointments in the Marine-Hospital Service of the United States," are hereby designated as the surgeon-general, surgeons, passed assistant surgeons, and assistant surgeons of the United States Health Service; and the salaries and allowances of said officers, the surgeon-general excepted, shall be the same as now allowed by regulations of the Marine-Hospital Service. Acting assistant surgeons, hospital stewards, and employes shall be continued in employment under the United States Health Service, and shall be employed hereafter under the regulations of said service. Nothing in this act shall be held or construed so as to discharge any officer or employe now serving in the Marine-Hospital Service or to deprive any officer of his commission. The care of sick and disabled seamen and all other duties now required by law to be performed by the Marine-Hospital Service shall hereafter be performed by the United States Health Service, and all funds and appropriations now provided by law for use by the Marine-Hospital Service and all properties and rights pertaining to said service are hereby made available for use, for like purposes and in like manner, under the Treasury Department, by the United States Health Service.

SEC. 2. That the salary and allowances of the surgeon-general of the United States Health Service shall be the same as now allowed by law to be paid to the surgeon-general of the army.

SEC. 3. That commissioned medical officers, when detailed by the surgeon-general for duty in the United States Health Bureau at Washington, District of Columbia, in charge of the administrative divisions thereof, namely, marine hospitals and relief, domestic quarantine, foreign and insular quarantine, personnel and accounts, sanitary reports and statistics, and scientific research, shall, while thus serving, be assistant surgeons-general, United States Health Service, but their pay and allowances shall be the same as now provided by regulations of the Marine-Hospital Service for officers in charge of said divisions; and the senior officer thus serving shall be the assistant within the meaning of section one hundred and seventy-eight, Revised Statutes of the United States.

SEC. 4. That the President is authorized, in his discretion, to utilize the United States Health Service in times of threatened or actual war, and the commissioned medical officers of said service, while thus serving, or while serving on boards or otherwise brought into official relations with medical officers of the army or navy, shall have rank as follows: The surgeon-general ranking with and after the surgeons-general of the army and navy; assistant surgeons-general ranking with and after assistant surgeons-general of the army and medical directors of the navy; surgeons with and after surgeons of the army having rank of major, and of the navy having rank of lieutenant-commander; passed assistant surgeons with and after assistant surgeons of the army having rank of captain, and of the navy having rank of lieutenant; assistant surgeons with and after assistant surgeons of the army having rank of first lieutenant, and of the navy having rank of junior lieutenant.

SEC. 5. That there shall be an advisory board for the hygienic laboratory provided by the Act of Congress approved March 3, 1901, for the purpose of conferring with the surgeon-general of the United States Health Service relative to the investigations conducted in said laboratory. Said board shall consist of the surgeon-general of the army, the surgeon-general of the navy, the chief of the Bureau of Animal Industry of the Department of Agriculture, and the director of the said laboratory, who shall be *ex-officio* members of the board and serve without additional compensation; and five other members, to be appointed by the Secretary of the Treasury on recommendation of the surgeon-general of the United States Health Service, who shall be skilled in laboratory work in its relation to the public health, and not in the regular employment of the government. The said five members shall each receive compensation of ten dollars per diem while thus serving, together with allowance for actual and necessary traveling expenses and also hotel expenses while in conference, said conferences not to exceed ten days in any one fiscal year. The period of service of the first five of the members not in the regular employment of the government shall be so arranged that one member shall retire each year, the appointments thereafter to be for a period of five years. Appointments to fill vacancies occurring in a manner other than as above provided shall be made for the unexpired term of the member whose place has become vacant.

SEC. 6. That the President shall appoint and commission one chemist, one medical zoologist, and one pharmacologist whenever in the opinion of the surgeon-general commissioned medical officers of the United States Health Service are not available for this duty by detail, who shall be in charge of the divisions, respectively, of chemistry, zoology and pharmacology of the hygienic laboratory, and shall each have the pay and emoluments of a surgeon of the United States Health Service and be subject to the regulations of said service. The director of the said laboratory shall be an officer detailed from the corps of commissioned medical officers of the United States Health Service as now provided by regulations for such detail from the Marine-Hospital Service, and while thus serving shall have the pay and emoluments of a surgeon.

SEC. 7. That when in the opinion of the Secretary of the Treasury the interests of the public health would be promoted by a conference with the State or Territorial boards of health or health authorities, the District of Columbia included, the surgeon-general of the United States Health Service is hereby authorized, with the approval of the secretary, to invite one or more of said boards of health or authorities to send delegates, not more than one from each State or Territory and District of Columbia, to said conference, and when thus convened said delegates shall be entitled to reimbursement for their necessary expenses of travel and of maintenance not exceeding five days at the place of conference, in accordance with such regulations as may be made by the Secretary of the Treasury.

SEC. 8. That to provide uniformity in the registration of mortality, morbidity, and vital statistics it shall be the duty of the surgeon-general of the United States Health Service, after conference with the State boards of health, to prepare the necessary forms for the collection and compilation of said statistics, and said statistics, when transmitted to the United States Health Bureau on the approved forms, shall be compiled and published by the United States Health Service as a part of the health reports published by said service.

SEC. 9. That the President shall from time to time prescribe rules for the conduct of the United States Health Service. He shall also prescribe regulations respecting its internal administration and discipline, and shall prescribe the uniforms of its officers and employes; and the surgeon-general shall transmit annually to Congress, through the Secretary of the Treasury, a report of the transactions of said service.

CANADA.

The Smallpox Situation in Montreal.—Smallpox is decreasing in Montreal, there being now only 45 patients in the Civic Hospital. There have been 71 cases altogether, and at the present time there are 19 houses in quarantine.

Montreal General Hospital.—In the month of December there were admitted into the various wards of the Montreal General Hospital, 175 patients; discharged, 159; deaths, 13; average daily sick in residence, 159. There was a falling off in outdoor consultations and minor operations.

The Smallpox Situation in St. John.—It is expected that the outbreak of smallpox at St. John, N. B., will be stamped out in a short time. There are to-day less than thirty persons in quarantine, and one-half of these have recovered. In the three months since the disease manifested itself, there have been 98 cases with 22 deaths.

Toronto's Vital Statistics.—The following are the vital statistics for Toronto for 1901: Births, 4445; marriages, 2148;

leaths. 3438. Compared with last year the figures show 85 ewer births, 359 more marriages and 166 fewer deaths. The nnual number of births recorded each year for the last nine ears is as follows: 4064, 4201, 4131, 4246, 4046, 4122, 4007, 530, 4445.

Eddyism Cases Should Be Reported.—Another death nder Eddyite treatment was examined into before a coroner's ury in Toronto last week. In returning a verdict the jury ecorded their opinion that means should be taken to compel hose practicing Eddyism to report each and every case to the anitary authorities in order that the necessary precautions hould be taken to prevent the spread of contagious diseases.

Canadian Journal of Medicine and Surgery.—The fourth nnual dinner of the editorial staff of this journal was held in oronto during the past week, Dr. W. A. Young, the business nanager, presiding. Crown Attorney Curry, in responding to he toast of the legal profession, hoped to see legislation soon assed which would effectually rid the city of quacks, fakirs. nd such-like which have infested this city too much of late.

Fakirs Infesting Toronto.—Toronto seems to be overrun ith palmists, osteopathists, Eddyites and other "healers" at the resent time, if one is to judge from the almost daily prosecuions in the police court. One of the latest frauds exposed is hat is known as the "Radiant Health Circle." One could ravel in on one of the rays for the usual dollar. Two of these ave been convicted of obtaining money under false pretenses nd are at present awaiting sentence.

Insane in Toronto Gaol.—In the recent presentment of the rand Jury of the County of York, Province of Ontario, menion is made of the fact of there being 60 lunatics confined in he Toronto Gaol. The report continues that the hospitals are lso crowded, and it would appear as though the city had outrown accommodation for these classes of the community. In e House of Providence, 60 consumptives are being attended to. his was the only charitable institution which would provide or the latter before popular demand opened the hospitals gain to the consumptive.

Toronto Clinical Society.—The regular meeting of the oronto Clinical Society was held on the evening of the 3d ist., Dr. J. F. W. Ross presiding. Dr. George A. Peters reorted three cases. The first was a case of esophagostomy in young man who, while in the act of drinking a cup of tea, vallowed a dental plate with one tooth from the middle of the pper row. Other means failing for its extraction, an operaon was performed along the left frontal border of the sternoastoid. The plate had become lodged just above the cricoid, e two lateral prongs being caught transversely in the walls of e esophagus. The patient made an excellent recovery. Dr. eters showed a phosphatic calculus weighing 6 ounces, exracted suprapubically, and described his method of cutting lculi.

Personals.—At an open meeting of the Pathologic Society of oronto, held on the evening of January 4, Dr. J. George Adami, f McGill University, was present and read a paper on the Classification of Tumors."——Dr. W. H. Drummond, of Montal, the author of "L'Habitant" and other poems, will deliver e opening lecture of the University Saturday Lectures at oronto on January 18.——Surgeon-Major Duff, of Kingston, ill accompany the Third Contingent from Canada for service South Africa, as assistant surgeon.——Dr. William J. bbott, of Brockville, who is at present taking a post-graduate urse in England, has been offered and has accepted a prossorship at Cornell University, and will return this month to ter on his new duties. Dr. Abbott is a graduate of Toronto niversity.——Dr. Doughty, of Quebec, has been appointed int librarian with Dr. Dionne, of the legislative library of e province of Quebec.

FOREIGN.

Professor Virchow Injured.—On January 5, as Professor irchow was alighting from a Berlin street-car, he fell and the ght femur was broken.

Surgeon-General von Leutholdt has been appointed a laried professor in the medical faculty of the University of erlin. He thus succeeds the late Surgeon-General Kohler kewise in the university.

Suspension of the "Klinitchesky Journal."—The suspenon of this medical journal, published monthly at Moscow ring the last three years, is announced. It contained several atures that will be much missed.

A Million Dollars for Tuberculosis Sanitarium.—Sir rnest Cassel, merchant and financier, has placed £200,000 at the disposal of King Edward, to be devoted to the erection and maintenance of a sanitarium for tuberculous patients. The king has appointed the following physicians as an advisory committee: Sir William Henry Broadbent, Sir Richard Douglas Powell, Sir Hermann Weber, Sir Francis Laking and Dr. Charles Theodore Williams.

New Russian Medical Weekly.—The first number of the *Roussky Vratch* is an imposing journal of 48 pages and nearly a dozen separate departments. Seven pages are devoted to an indexed review with brief summary of the medical periodicals of Europe, England and America and also of theses presented at the Russian universities. As our readers remember, the *Vratch*, published at St. Petersburg, is discontinued this year, according to the will of its founder, Dr. Manassein, and this new periodical will take its place, with several new features. Professor Podwyssotzki, of Odessa, and Dr. Vladislavleff, of St. Petersburg, are the editors.

LONDON LETTER.

The Smallpox Outbreak Still Progressing.

The outbreak of smallpox still continues to progress. There are now 569 cases in hospital. The Metropolitan Asylums Board—a body which manages the fever hospitals—takes a very gloomy view of the outlook. A feeling of uneasiness exists that London may be on the eve of a visitation of greater magnitude than has been experienced for many years. The accommodation now existing consists of hospital ships with 250 beds, two hospitals containing respectively 1000 and 190 beds, and one in course of erection containing 300 beds—total, 1740 beds. Another hospital of 94 beds is in course of erection, but is not sufficiently advanced to be regarded as an available resource. The erratic behavior of smallpox, its sudden fluctuations and the unforeseen rapidity with which it sometimes progresses, constitute the real danger and baffle all efforts to provide an estimate. The Board, after careful consideration, has come to the conclusion that not fewer than 2500 beds should be the minimum, which should be forthcoming in the next few months, i. e., 1000 more beds should be provided. Instructions have been given to architects to immediately prepare schemes for further hospital construction at an estimated cost of $85,000.

Vaccination and the Outbreak.

It has been pointed out in THE JOURNAL that the great neglect of vaccination is largely responsible for the outbreak. Analysis of the statistics of the cases which have occurred is instructive, though it only confirms the well-attested value of vaccination. Since May, 349 cases have ended either in recovery or death. Of these 116 were fatal. The death-rate in the unvaccinated was thrice that in the vaccinated. The patients under the age of 5 were all unvaccinated; there were 23 with 19 deaths. The patients under 10 were all unvaccinated except one. Here out of 42 cases, 29 were fatal, and all those who died were unvaccinated. There were 81 cases in patients under 15, and 38 deaths; 57 of the 81 were unvaccinated. Of the 38 who died only one was vaccinated; so that of the 24 who were vaccinated, 23 came safely through the disease.

How London Copes with Infectious Diseases.

A description of the method of dealing with infectious disease of this vast metropolis, of over 5,000,000 of people, should be of special interest at the present time, as smallpox is now prevalent. The Metropolitan Asylums Board system is of its kind probably the finest organization in the world. It dates from 1867, when it was instituted to relieve the Guardians of the Poor of the care of imbeciles and fever patients who could not properly be treated in workhouses. It consists of 72 members, 54 of whom are elected by various boards of guardians, and 18 by the Local Government Board. They spend $3,500,000 annually and provide 5 services: 1, infectious hospitals; 2, ambulance service; 3, imbecile asylums; 4, training ships, and 5, state-supported children. The infectious hospitals number ten, and contain 4421 beds; in addition there are two hospitals for convalescents, containing 1464 beds. There are also the smallpox hospitals, which have been described above. All the hospitals are as well equipped as any in the world. There are six ambulance stations on land, each containing a staff, male and female, harness rooms, coach houses, stables, carriages, etc. In a case of infectious disease the doctor writes out a certificate stating its nature and all particulars, as to address, age, sex, etc. These particulars are sent by telephone to the nearest ambulance station, and almost as smartly as the fire brigade turns out, an ambulance, containing a trained nurse, is dispatched to the patient's house. If the patient is over the age of 10, a male attendant is also sent. Restoratives and refresh-

ments are carried in case they should be required for prostrate patients. The ambulances are most carefully constructed, and if necessary, are kept warm. Smallpox cases are taken to a wharf on the river, of which there are three, where they are met by one of the four paddle-wheel ambulance steamers. One of the latest built of these steamers is a steel vessel 143 feet long, 22 feet in breadth, with a five-foot draft, and 263 tons displacement. It is beautifully fitted up for the conveyance of 52 patients in a recumbent position. The steamer proceeds down the river at 14 knots an hour, the voyage occupying one and a half to two hours. During the years 1884 to 1899, over 16,000 patients have made this journey. The hospital ships occupy an isolated position in Long Reach, nearly 17 miles from London Bridge. An adjacent portion of land has been purchased, on which there has been built a laundry, accommodation for nurses, and an engine and dynamo house for electric lighting. The isolation of the patients in these floating hospitals has had immense advantages, but there are certain disadvantages, not the least of which is the liability to injury from passing craft in foggy weather, and the disastrous results likely to follow a serious outbreak of fire.

A Medical Hero.

A sad tale of the heroism of a physician in his medical work has riveted the attention not only of the profession, but of the whole people. Dr. William Smyth was dispensary physician of a district in Donegal, Ireland, which includes the Island of Arranmore, about four miles from the mainland. Its inhabitants are very poor peasants, with little notion of sanitation. An outbreak of typhus fever occurred among them. Owing to the terror inspired by the disease, Dr. Smyth could obtain no help in fighting against it. Alone each day he rowed in his boat across the stormy waters of the sound to the island. Alone he tried to perform the duties of both nurse and doctor for the sick in their miserable homes. He decided that the only chance of recovery lay in removing the patients to the mainland. But the fishermen were afraid to help him. Dr. McCarthy, government medical inspector, arrived on the scene. The two physicians brought the patients ashore in a leaky boat. The patients all recovered, but Dr. Smyth contracted the fever and died. He left a widow and eight children unprovided for. But a committee has been formed of the Ulster physicians and other influential persons to collect subscriptions for his family, and the movement has spread to England. Already it is evident that a generous response will be made to the appeal, and that his family will not suffer monetarily by his heroic devotion to duty.

Correspondence.

Official Control of Antitoxins and Vaccines.

CHICAGO, Jan. 2, 1902.

To the Editor:—The paper of Dr. Dock on "Smallpox and Vaccination" and the editorial comment thereon, "The Vaccination Question," in THE JOURNAL of December 21, following so closely the antitoxin episodes, suggests more forcibly than ever the necessity for some authoritative method of inspection and control of these remedial agents.

As has been observed, in the absence of some form of supervision or restriction by the National Government on the manufacture and sale of these biologic products the medical profession through its National Association should take the initiative and provide some means whereby the absolute identity, purity and degree of potency of at least these delicate and variable organic preparations will be assured beyond peradventure.

As is well known, the United States Pharmacopeia is now undergoing the eighth decennial Revision by a National Committee of Physicians, Chemists and Pharmacists. While this committee has recognized the desirability of admitting sera and similar products, the lack of any method within reach of ordinary pharmaceutic practice whereby their identity, purity and degree of potency may be confirmed, has been a well-nigh unsurmountable obstacle and their admission consequently held as contrary to the principle upon which Pharmacopeias have been constructed the world over since their inception.

The pharmaceutical profession, including the manufacturers, is no less anxious than the physicians to secure that uniformity in these agents which shall render their administration safe and the confidence in their efficacy by the public be maintained paramount. It naturally turns to the Pharmacopeia, since the U. S. Ph. is the only legal standard authority for medicines in every state in the Union, as well as in the medical branches of the National Government.

In view of the transcendent importance of this question it is believed that the time has now come when the American Medical Association should constitute a committee to confer with the National Committee of Revision of the U. S. Ph. for the purpose of creating a Bureau or some central authority for the inspection and control of antitoxins and vaccines. Possibly some arrangement could be made with the Bureau of Animal Industry or similar related institution.

The question of antitoxins has been solved in Germany by introducing it in the Pharmacopeia and prescribing certain rules for its examination and sale through a central controlling laboratory in Frankfurt on the Main.

The following is the introductory to the text:

Serum Antidiphtherieum—Diphtherie-Heilserum.
Arzeneibuch für das Deutsche Reich (1900).
Pharmacopœia Germanica, Editio IV.

Blood Serum from horses which are immune against diphtheria. Derived from accredited manufacturing places after it has been tested for its immunizing unit-contents, absence of germs and amount of preserving agents (phenol or tricresol) and has been approved for sale by the Royal Prussian Institute for Experimental Therapy in Frankfurt on the Main.

It occurs in liquid and in solid form. In either form this Serum must be dispensed in vials only, with the official hermetic seal, with the name and place of manufacture.

Stating: The antitoxin contents of one cubic centimeter, the total contents of one vial, the control number and the day of its official examination.

These vials are packed so as to exclude the light; in packages which also give the above mentioned information.

The seals bear on one side an eagle or a lion. The other side gives the number of the total contents of immunizing units, I. U. (I. E. Immunizirungs-einheiten.)

Hoping that THE JOURNAL, through the great Association it represents and the medical profession in general, will take this matter into consideration at once, I am, very truly,

C. S. HALLBERG,

Secretary Section Materia Medica, Pharmacy and Therapeutics; Member of Committee of Revision of the U. S. Ph.

Administration of Immunizing Serum by Mouth.

ST. LOUIS, MO., Jan. 6, 1902.

To the Editor:—I notice in THE JOURNAL of Jan. 4, 1902, an editorial headed: "The Administration of Immunizing Serum by Mouth," in which remarks in a little paper of mine published lately are commented upon in such an incorrect way that I can not refrain from asking you to insert this.

You certainly glanced only superficially at my paper; otherwise you would have found that I did nothing but assert that a still greater number of tetanus cases would have occurred during the late accident had not the tetanus toxin containing diphtheria antitoxin been administered by the mouth; so that in some and the same family the diphtheria patient injected subcutaneously died of tetanus, while the other members of the family immunized by "taking the serum per os escaped." I fail altogether to see how you have arrived at the idea that I had observed any effect of this internal administration of the serum other than negative.

As to the scientific side of the question of administering antitoxin by mouth, I would direct you to Römer's paper in the *Berl. Klin. Wochenshr.*, No. 46, 1901. C. FISCH.

[The editorial was based, so far as concerned our correspondent's paper, on the following passage: "In at least fifteen cases the development of tetanus was prevented by the administration of the serum by the mouth. These were all cases in which it was intended to immunize the members of the family surounding the diphtheritic individual." The context does not make inexcusable the impression that we received from the above statement as it apparently argues for the possibility of toxins and antitoxins being absorbed by the mucous membranes of the digestive tract in children. The concluding sentence of the article, "Although in our case this form of antitoxin administration was a very fortunate quid pro quo, it is not to be recommended as a generally indicated method," may

perhaps also be taken to convey the meaning as understood by us. It appears from his explanation that the subjects escaped tetanus in 15 cases because they took the serum only by the mouth and did not absorb it. They were cases of non-exposure; therefore, it seems hardly correct to say that the development of tetanus was prevented. If the article had read "avoided" or "escaped" instead of "prevented" the misunderstanding would not have occurred. We admitted a certain lack of understanding of the passage in the editorial and now accept the correction. Our editorial was simply intended to be a little less obscurely sarcastic as to this particular method of immunization than it appears was his article on this special point. EDITOR.]

Book Notices.

MEMOIRS AND LETTERS OF SIR JAMES PAGET. Edited by Stephen Paget, One of His Sons. With Portraits and Other Illustrations. Cloth. Pp. 438. Price, $5.00. New York and Bombay: Longmans, Green & Co. 1901.

The biography of a great man, one who has obtained his greatness by his own efforts, is always a stimulus to those who read it. This is true of the life of Paget. It gives us the aims, ambitions, personality and method of work of one who had added luster to our profession by hard work under extreme difficulties. Although he died only two years ago, Paget seems to belong to a past era in medicine, and in one sense this is so. His great work on Surgical Pathology—the book that bridged the medicine of the past with that of to-day—published in 1853, nearly fifty years ago. Born at a seaport town, Yarmouth, his boyish fancy was for the navy, and it was only by the merest accident that this fancy was not gratified. His next great attraction was botany, and in this he gained quite a reputation in his youth, collaborating with his brother in writing a description of the flora of his neighborhood. But this he realized was not a very satisfactory life-work, and he succeeded in getting apprenticed to a local surgeon, and in 1834 entered Bartholomew's, London, receiving his M.R.S.C. in 1836. Then came the "waiting time" as he expresses it, but in reality it was a working time. He was now poor, and dependent on himself, for his father had lost everything. Left to his own resources, his indomitable energy showed itself. His ambition decided him to stay in London, and as practice was naturally slow in coming he went to work writing translations and instructing any stray pupil that he could get. This was in addition to the scientific work he was carrying on. He tells us that his total receipts from practice during his first seven years was less than $700. "During the first seven years after obtaining my diploma my largest income from practice was £23 13s." But then came a change, for he tells us that at one time his annual income exceeded £10,000. This success came though after many years of hard work, work that allowed him only four or five hours sleep, and often not that much.

The book consists of an autobiography—interesting, but much too brief—and letters, with comments by his son. These give us an idea of the man as a private individual, as a great surgeon and teacher, and as an honorable member of the profession he loved. They also give an insight into the reason for his greatness—his indomitable energy and tireless work. The book tells us of the beginnings and the early developments of modern pathology, and presents the methods of work and the personality of the man who did so much for it. While the book is as interesting as a novel, above all it is instructive.

TYPHOID AND TYPHUS FEVERS. American Edition of Nothnagel's Encyclopedia. By Dr. H. Curschmann, of Leipzig. Edited, with additions, by William Osler, M.D., Professor of the Principles and Practice of Medicine, Johns Hopkins University. Handsome octavo of 646 pages, illustrated, including a number of valuable temperance charts and two full-page colored plates. Cloth, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

One of the best systems of medicine in any language is Nothnagel's Encyclopedia, heretofore a closed book to those who do not read German. Its reproduction in English will be heartily welcomed by all who know the work by reputation, and the thanks of the English-speaking profession are due the publishers for their enterprise in placing this magnificent work before them. If the first volume on typhoid and typhus fevers, now before us, is a fair sample of those which are to follow, then, indeed, shall we have a series of monographs surpassing even the original. The first volume contains 646 pages, 472 of which are devoted to the discussion of typhoid fever. The general character of this work is so well known that it would be superfluous for us to take space to enlarge upon its general character. We can say, however, that under the editorial supervision of Dr. Osler, the original German work, excellent though it is, has been much improved, greatly enlarged and enhanced in value, especially to American readers. The work is much more than simply a translation of the original, for it contains additional matter in nearly every chapter. The recent work of Americans has especially been recognized and incorporated in this monograph. Taking it all in all, the monograph on typhoid fever is the best exponent of the knowledge that we have in regard to this disease that is to be had in any language. The publishers have done their part well, the book making an excellent appearance. It is especially well and artistically bound, printed on paper above the average, so that all in all, the book is worthy of the highest commendation.

Married.

S. H. CORDONIER, M.D., Avilla, Mo., to Miss Hattie Wise of Tamalco, Ill., December 20.

ROBERT D. SISTRUNK, M.D., to Miss Corinne Coleman, both of Dade City, Fla., December 24.

PAUL C. RIETZ, M.D., Evansville, Ind., to Miss Ida Lauppe of Seward, Neb., December 25.

ELMER E. HAYNES, M.D., Belpre, Kan., to Miss Luella Adams of Abilene, Kan., December 25.

J. LEONARD JENNINGS, M.D., Danville, Va., to Miss Mary M. Ogle, at Baltimore, December 25.

HENRY A. BLAIR, M.D., San Antonio, Texas, to Miss Lillian Kratz, Edmundson, St. Louis, Mo.

THOMAS MOATE, M.D., to Miss Anna Rich, both of Gridley, Ill., at Eureka, Ill., December 19.

PAUL VAN RIPER, M.D., Beacon, Mich., to Miss Edyth A. Gage of Niles, Mich., December 25.

ELMER U. WOOD, M.D., Columbus, Ind., to Miss Minerva Bates of London, Ohio, December 26.

LOUIS J. C. BAILEY, M.D., Stonega, Va., to Jean Cruickshank. M. D., Toronto, Ontario, December 24.

WILLIAM C. PRESSLY, M.D., Troy, Tenn., to Miss Cammie Brice of Union City, Tenn., December 19.

EUGENE C. LINDSAY, M.D., Tuscumbia, Ala., to Miss Emily White of Belle Mina, Ala., December 17.

PETER JOHN, M.D., Laurinburg, N. C., to Miss Nannie Watkins of Charlotte County, Va., December 24.

ELEANOR CAPITOLA READ, M.D., Peru, Neb., to Julian D. Graves of Hillsdale, Iowa, December 30.

HORACE L. JONES, M.D., Waggoner, I. T., to Miss Nannie May Hunt of Adair, Tenn., December 27.

JAMES BRAINARD CROFF, M.D., to Carro Julia Cummings, M.D., both of Buffalo, N. Y., December 24.

AUGUSTUS SARGENT BOLSTER, M.D., to Miss Georgia Louise Houghton, both of Worcester, Mass., January 1.

JOHN DE MOTTE MILLER, M.D., Leavenworth, Kan., to Miss Florence Reasoner, at Ypsilanti, Mich., December 20.

S. P. HART, M.D., Waverly, Ill., to Miss Nola May Fletcher of Auburn, Ill., at Springfield, Ill., December 18.

WARREN H. HUNTER, M.D., to Miss Louise V. Greenwood, both of Chicago, at St. Joseph, Mich., December 31.

THOMAS A. JOYCE, M.D., to Miss Jennie B. McCaffrey of East End, Pittsburg, Pa., at Sheraden, December 28.

WILLIAM LUTHER SHOLLENBARGER, M.D., Cincinnati, Ohio, to Miss Carolyn Faber of Westwood, Ohio, December 18.

RALPH C. TILLEY, M.D., to Miss Annie Dorrel, both of Petersburg, Ky., at East Enterprise, Ind., November 28.

C. W. GREEVER, M.D., North Tazewell, Va., to Miss Nannie, daughter of Dr. Thomas G. Witten, Tazewell, December 25.

Charles Wilbur Hedges, M.D., Newkirk, Okla., to Miss Pearle Atchison Carmichael of Nashville, Tenn., December 25.

Martin Pembroke Congdon, M.D., Binghamton, N. Y., to Miss Hortense Josephine Coyne, of Scranton, Pa., December 26.

Robert Peyton Lackey, M.D., Nagadoches, Texas, to Miss Mittaise Pansy Holt of West Nashville, Tenn., December 25.

Otto F. Wellenreiter, M.D., Quincy, Ill., to Miss Mary Etta Mohler of Washington, D. C., at Quincy, Ill., December 25.

Charles M. Freeman, M.D., Metucken, N. J., to Miss Mary E. Wilkins of Randolph, Mass., at Metucken, N. J., January 1.

David Harry Rutherford Patton, M.D., Chicago, to Miss Mary Ellen Fallon of Oshkosh, Wis., at Chicago, December 23.

Robert A. Range, M.D., Elizabethton, Tenn., to Miss Mary E. Emert of Keensburg, Tenn., at Harmony Church, December 2.

Frederick Nelson Tanner, M.D., Vienna, Dorchester County, Md., to Miss May S. Purcell, at Baltimore, December 17.

William Burnham Fisk, M.D., Chicago, to Miss Georgia Antoinette Denger of Elm Grove, Fond du Lac, Wis., December 31.

George William Shera, M.D., to Miss May Finley Bishop, both of Jersey City, N. J., at Trinity Church, New York, December 18.

Harry Edwin Williams, M.D., Milton, Mass., to Miss Emma Josephine Tyler of Mount Vernon, Mass., at Augusta, Maine, December 25.

Bernard Heath Early, M.D., Blue Ridge Springs, Va., to Miss Bernardine Peyton Llewellyn, a trained nurse, at Baltimore, January 2.

Deaths and Obituaries.

Duncan McLeod, M.D. Detroit Medical College, 1873, one of the best-known physicians of Detroit, ex-health officer of the city, a member of the faculty of the Detroit Medical College, and for twenty-two years a practitioner of the city, died December 29, at his home, from pleuro-pneumonia, after an illness of two weeks, aged 53. The Wayne County Medical Society called a special meeting, December 31, at which resolutions were adopted, stating that "as a physician and as a citizen he held positions of honor and trust, which he discharged with fidelity, and in the closer relations in which it was the privilege of this Society to know him, the innate qualities of a generous heart, an honorable character and an amiable nature were fully revealed."

Oscar Dunreath Abbott, M.D. Berkshire Medical College, Pittsfield, Mass., 1850, a prominent figure in medical circles in New England for half a century, died at his home in Manchester, N. H., after an illness of two months, following an attack of la grippe, January 1, 1902, aged 77. He had served as city and county physician, as a member of the Board of Health and was a member of the State Medical Associations of Massachusetts and New Hampshire, and the Manchester Medical Association, and was consulting physician to the Elliot Hospital.

Lewis Evans Carson, M.D. Medical College of Evansville, Ind., 1876, chaplain of the 98th Indiana Infantry during the Civil war, and since 1876 in active practice in Prairieton, Ind., died at his home in that place, December 29, aged 77. He is said to have been the "friend, physician and pastor" of almost everyone in the township. He was a member of the Vigo County Medical Society and of the Æsculapian Society.

Leroy A. Merrill, M.D. University of Vermont, Burlington, 1882, for many years a practicing physician of Lonsdale, R. I., died at his home in that village, December 23, from typhoid fever, after an illness of three weeks, aged 46. He was a member of the Pawtucket Medical Society and the Rhode Island Medical Society, and was coroner and health officer of Lonsdale for several years.

Henry Fitzbutler, M.D. University of Michigan, Ann Arbor, 1872, the first colored regular practitioner to settle in Kentucky, dean and professor of materia medica and surgery in the Louisville National Medical College, and surgeon to the Auxiliary Hospital, died at his home in Louisville, December 28, from chronic bronchitis of six years' duration, aged 64.

Frederick M. Barrows, M.D. Geneva (N. Y.) Medical College, 1846, a resident of Clinton, N. Y., for nearly 70 years, and a practitioner for 55 years, died at his home in that place December 27, aged 79. Until a year ago he was in active practice, but at that time he suffered a stroke of paralysis, and a few months later became totally blind.

George D. McIlwaine, M.D. Western Pennsylvania Medical College, Pittsburg, 1895, a practitioner of Washington, Pa., who served in the Spanish-American war with the 10th Pennsylvania Infantry, U. S. V., in the Philippines, died at the residence of his father in Pittsburg, December 25, from Bright's disease, after a short illness, aged 35.

Amos C. Lewis, M.D. Cincinnati College of Medicine and Surgery, 1871, a well-known dermatologist of New York City, formerly medical superintendent of the Skin and Cancer Hospital, and at the time of his death visiting physician to the Fordham Hospital, died at his home in New York, December 28, after an illness of five weeks, aged 59.

James Snyder Mackie, M.D. College of Physicians and Surgeons, Baltimore, M.D., who practiced for several years in Baltimore, but entered the diplomatic service of the United States in 1851, remaining therein until 1864, died at his home in Newark, N. J., from apoplexy, after an illness of two days, December 30, aged 77.

John Geyer, M.D. University of Wooster, Cleveland, Ohio, 1876, a prominent German practitioner of Dayton, Ohio, died at his home in that city, December 29, after a long and painful illness, aged 56. At a meeting of the Montgomery County Medical Society, December 23, a memorial to Dr. Geyer was drafted and adopted.

George C. Devine, M.D. Jefferson Medical College, Philadelphia, 1882, who served as apothecary in the United States Navy until 1886, and then practiced in Philadelphia, where for the last 12 years he was police surgeon, died at his home in that city, December 26, after an illness of one week, from pneumonia, aged 43.

James M. Wallis, M.D. University of Pennsylvania, Philadelphia, 1847, a well-known physician of Philadelphia, died at his home in that city, December 28, aged 77. He served as surgeon throughout the Civil war, and at its close returned to Philadelphia, where he practiced until twenty years ago, when he retired.

Isaac T. Monroe, M.D. Albany (N. Y.) Medical College, 1866, a prominent physician of Granville, N.Y., and a member of the Washington County Medical Society, died at his home in Granville, December 29, after a prolonged illness, from bronchial pneumonia, aged 61.

M. W. Hamilton, M.D. Tulane University, New Orleans, a member of the Little Rock, Ark., Medical Society, died recently at that place. The Society passed resolutions expressive of its loss and of its sympathy for the bereaved relatives, at a meeting held January 2.

T. H. Wright, M.D. Louisville (Ky.) Medical College, 1873, for many years a practitioner of Pickens, Miss., died at the residence of his daughter in Washington, D. C., December 24, from Bright's disease, after a protracted illness.

Frank A. Farrell, M.D. Jefferson Medical College, Philadelphia, 1893, a practitioner of Wilkesbarre, Pa., died, December 29, at Deming, N. M., where he had gone for his health a year ago, from pulmonary hemorrhage, aged 35.

John R. Wood, M.D. Medical College of Virginia, Richmond, 1864, one of the most prominent physicians of Albemarle County, Va., died recently at his home in White Hall, Moorman's River, from Bright's disease, aged 63.

Charles J. Barnum, M.D. Tuft's Medical School, Boston, 1901, an interne at the Boston City Hospital, died at that institution, January 2, after an illness of three weeks, from typhoid fever, aged 21. He was a native of Chicago.

James L. Titterington, M.D. Missouri Medical College, St. Louis, 1886, for several terms a member of the legislature and a pioneer citizen of La Clede County, died at his home in Richland, Mo., December 25.

Frank M. Cronin, M.D. University of Pennsylvania, Philadelphia, an old and esteemed practitioner of Lancaster, Wis., died suddenly in his office in that city, from heart disease, December 25, aged 55.

Thomas A. Joyce, M.D. West Penn Medical College, Pittsburg, whose marriage on December 28 is noted in this issue, died at his home in Sheraden, Pittsburg, December 31, aged 30.

Samuel C. Webb, M.D. Albany (N. Y.) Medical College, 1854, who had practiced medicine for nearly 25 years in Homer, N. Y., died at his home in that place, December 29, aged 83.

Milton P. Mason, M.D. Western Reserve University, Cleveland, Ohio, 1854, one of the oldest residents of Mansfield, Ohio, died suddenly at his home in that city, December 26, aged 72.

Samuel H. Hudnall, M.D. New York University, 1852, who had practiced medicine in Campbell County, Va., for more than 40 years, died recently at his home in Brookneal, aged 75.

Emily A. Benn, M.D. University of Michigan, Ann Arbor, 1892, an able practitioner of Ypsilanti, Mich., died at her home in that city, January 2, after a long illness, aged 41.

Abby J. Wolverton, M.D. University of Nashville, Tenn., 1878, a prominent practitioner and capitalist of Indian Territory, died at his home in Ardmore, December 28.

P. J. McCaffrey, M.D. Vanderbilt University, Nashville, Tenn., 1899, who practiced in Ashland, Pa., and thence removed to Cleveland, Ohio, died recently, aged 23.

Frank E. Webb, M.D. University of Nashville, Tenn., 1882, died at his home in Nez Perce, Idaho, December 21.

Association News.

New Members.

The following is a list of new members for the month of December, 1901:

ALABAMA.
Dennis, G. A., Montgomery.

ARKANSAS.
Cuffman, J. H., Gurdon.
Douglass, T., Ozark.
McConnell, J. W., Huntington.
Stanley, W. T., Selma.
Wallis, Jas. C., Arkadelphia.

CALIFORNIA.
Barry, W. T., Salinas.
Canao-Marquis, F. P., San Francisco.
Hitchcock, Los Angeles.
Hutchinson, G. L., Los Angeles.
Ross, Thomas, Sacramento.

COLORADO.
Trout, A. L., Berwind.
Zodorbaum, A., Denver.

CONNECTICUT.
Jennings, G. H., Jewett City.
Lawrence, G. W., East Berlin.
Monagan, C. A., Waterbury.
Nettleton, F. I., Shelton.

DISTRICT OF COLUMBIA.
Johnston, W. W., Washington.
White, C. S., Washington.

GEORGIA.
Crawford, O. G., Sasser.
Toepel, T., Atlanta.
Wright, J. E., Macon.

IDAHO.
Kinnaird, Wm., Idaho Falls.
Conant, Jr., J. L., Genesee.
Morris, J. B., Lewiston.
Schaff, C. W., Lewiston.

ILLINOIS.
Allen, F. M., Chicago.
Baumgartner, M. M., Freeport.
Brooks, E. W., Altamont.
Caspers, Paul, Chicago.
Earle, F. B., Chicago.
Easley, W. T., Greenville.
Glasgow, E. A., Mulberry Grove.
Greenfield, C. E., Chicago.
Hall, Andy, Mt. Vernon.
Milnamow, J. T., Chicago.
Miner, E., Champaign.
Nash, F. W., Big Rock.
Pierce, F. E., Chicago.
Smith, I. C., Stockton.
White, Earl C., West Brooklyn.

INDIANA.
Alexander, W. P., Gas City.
Bowell, Bo., La Porte.
Brittain, S. H., Loogootee.
Cochran, T. C., Sharpsville.
Evans, F. A., Tell City.
Foxworthy, Frank W., Indianapolis.
Houghland, Chas. S., Milroy.
Kendle, G. C., Princeton.
McClurkin, J. C., Evansville.
Sutherland, P. N., Angola.

IOWA.
Bay, H. H., Marshalltown.
Cornell, C. W., Knoxville.
Farnsworth, D. W., Galva.
Hamilton, A. S., Independence.
Lukens, J., Oskaloosa.
McConnaughey, W. D., Prairie City.
McKaig, R. F., Wever.
Payne, Harry C., Leighton.
Payne, C. W., Boone.
Ransom, W. L., Granger.
Singleton, E. M., Marshalltown.
Stratton, M. R., Cleveland.
Tribbet, J. C., Montezuma.

KANSAS.
Atkin, E. N., Olmitz.
Cheney, E. R., Gypsum.
Sandidge, J. H., Mulberry.
Smith, C. A., Yale.

KENTUCKY.
Cox, B. D., Jackson.
Prather, H. E., Hickman.
Taulbee, J. B., Maysville, Macon County.

LOUISIANA.
Barrier, J. M., Delhi.
Cline, Isaac M., New Orleans.
Minus, David D., Crowley.
Sabatin, G. J., New Iberia.

MAINE.
Barker, F. N., Norway.
Binford, H. J., Mexico.
Chamberlain, A. H., Foxcroft.
Campbell, G. R., Augusta.
Chapman, H. M., Ashland.
Gribben, H. E., Augusta.
Higgins, Lelia, Livermore Falls.
Hill, H. B., Augusta.
Swett, A. W., Bangor.
Wadsworth, J. E., Skowhegan.

MARYLAND.
Buffington, J. A., New Windsor.
Halsted, W. S., Baltimore.
Hinebaugh, M. C., Oakland.
Kirby, F. J., Baltimore.
Pancoast, O. B., Baltimore.
Sawdrock, W. Christian, Baltimore.
Smith, F. R., Baltimore.

MASSACHUSETTS.
French, C. L., Clinton.
Hopkins, F. E., Springfield.
McGannon, T. G., Lowell.
Meigs, R. J., Lowell.
Morse, C. E., Wareham.
Robertson, W. B., Belmont.

MICHIGAN.
Conley, W. C., Ishpeming.
Cowie, D. M., Ann Arbor.

MINNESOTA.
Fischer, H. P., Shakopee.
Lyng, J. A., Alexandria.
Mowers, S. W., Brainerd.
Reiter, H. W., Shakopee.

MISSISSIPPI.
Coker, C. M., Sharon, Madison County.
Folkes, H. McM., Biloxi.
Jones, D. W., Hermanville.
Mooney, J. B., Scooba.
Payne, A. G., Greenville.
Allen, W. W., Paris.

MISSOURI.
Bragg, G. G., Huntsville.
Baker, R. W., St. Louis.
Cline, Wilburn, Appleton City.
Epstein, M. J., St. Louis.
Miller, G. H., St. Peters.

MONTANA.
Cahoon, G. W., Butte.

NEBRASKA.
Carlyle, W. L., Hastings.
Taggert, E. J., Gretna.

NEW HAMPSHIRE.
Dunbar, E. B., Manchester.
Garland, W. R., Plymouth.
Gleason, J. H., Manchester.
Palmer, Haven, Plymouth.
Shedd, G. H., North Conway.
Toye, J. E., Acworth.

NEW JERSEY.
Cunningham, Geo., Vineland.
Fee, E. K., Lawrenceville.
Philhower, G. B., Nutley.
Ridgeway, G. M., Trenton.
Teeter, C. E., Newark.
Webner, Fred, Newark.

NEW MEXICO.
Ramus, Carl, Fort Stanton.

NEW YORK.
Bradford, G. D., Homer.
Brown, L., Saranac Lake.
Coughlin, R. E., Brooklyn.
Elsberg, C. A., New York City.
Leitner, Geo. A., Pierpont, Rockland County.
Roth, Henry, New York City.
Satterwhite, P. P., New York City.
Smith, J. R., Conewango Valley.
Sweetman, Jr., J. T., Ballston Spa.
Taylor, H. L., New York City.

NORTH CAROLINA.
Stevens, M. L., Asheville.

OKLAHOMA.
Bartle, Ira B., Augusta.
Cravens, T. A., Oklahoma.
Gamble, R. A., Alva.
Hume, Chas. R., Anadarko.

OREGON.
Carll, W. E., Oregon City.
Flanagan, W. H., Grant's Pass.
Harris, T. W., Eugene.
May, W. J., Baker City.
Morse, W. B., Salem.
Parker, Wm. L., Baker City.
Prentice, F. W., Eugene.
Straw, Edwin E., Marshfield.
Williamson, W. T., Salem.

PENNSYLVANIA.
Appel, T. B., Lancaster.
Brown, W. H., Youngwood.
Cocklin, C. C., Harrisburg.
Daniell, A. W., Philadelphia.
Hartman, F. G., Lancaster.
Hobensack, J. R., Philadelphia.
Houghton, C. W., Philadelphia.
Kremer, W. H., Philadelphia.
Jopson, J. H., Philadelphia.
McCay, Robt. B., Trevorton.
Siter, E. H., Philadelphia.

RHODE ISLAND.
Hayes, A. E., Providence.
Monroe, W. C., Woonsocket.

SOUTH CAROLINA.
Knowlton, A. B., Columbia.

SOUTH DAKOTA.
Brown, E. L., Parkston.
Jackson, E. B., Mound City.
Kriesel, W. A., Milbank.

TENNESSEE.
Malone, G. B., Memphis.
Wise, E. B., Chattanooga.

TEXAS.
Dabney, B., Bonham.
Ferguson, E. S., Cameron.
Hamilton, H. J., Laredo.
Lyon, W. H., Buckholts.
Miller, J. W., Hillsboro.
Scarborough, A. O., Snyder.
Shuford, F. B., Whitewright.
Stephenson, W. O., Nevada.
Van Nuys, J. C., Franklin.

VIRGINIA.
Berlin, Lewis, Norfolk.
Martin, R. S., Stuart.
Winfree, J. M., Richmond.

WASHINGTON.
Armstrong, G. S., Spokane.
Randall, G. H., Seattle.

WEST VIRGINIA.
Linsz, H. P., Wheeling.

WISCONSIN.
Blank, H., Jackson.
Christiansen, C., La Crosse.
Glim, N. N., Ashland.
Gutsch, O. J., Sheboygan.
Leonard, C. W., St. Cloud.
McGovern, J. J., Milwaukee.
Schreiner, J. K., Westby.

Societies.

German Medical Society (San Francisco).—An association known as *Verein Deutscher Aerzte*, has been incorporated in San Francisco by Drs. E. Steltzner, Douglas W. Montgomery, Adolph G. Rosenthal, Emil O. Jellinek and Robert D. Cohn.

Clinton County (Pa.) Medical Society.—At the meeting of this Society, December 20, Dr. Saylor J. McGhee, Mill Hall, was elected president; Dr. George Green, vice-president; Dr. Robert B. Watson, Lock Haven, secretary, and Dr. Luther M. Holloway, Salona, treasurer.

South Carolina Medical Society.—The annual meeting and banquet of this Society were held at Charleston, December 9. Dr. John Forrest was elected president; Dr. Walter P. Porcher, vice-president; Dr. Cornell, secretary, and Dr. Charles M. Rees, treasurer, all of Charleston.

Los Angeles County (Cal.) Medical Association.—At the annual meeting of this Association, held December 20, Dr. Jay H. Utley was elected president; Dr. Rose T. Bullard, vice-president; Dr. John C. Ferbert, treasurer, and Dr. Charles G. Stivers, secretary, all of Los Angeles.

Medical Association of Berrien County (Mich.).—At the annual meeting recently held, Dr. Robert Henderson, Buchanan, was elected president; Dr. Edward J. Witt, St. Joseph, vice-president; Dr. Frank A. Votey, Benton Harbor, secretary, and Dr. Frank M. Kerry, Benton Harbor, treasurer.

Lawrence County (Pa.) Medical Association.—The annual meeting and banquet of this Association were held at New Castle, December 13. The following officers were elected. Dr. John Foster, president; Dr. H. Elmore Zerner, vice-president, and Dr. C. F. McDowell, secretary, all of New Castle.

Kentucky School and Hospital Medical Society.—The faculty and instructors of the Kentucky School of Medicine, Louisville, have organized a medical society, which, at its first meeting, December 6, elected Dr. William A. Jenkins, president; Dr. Charles W. Hibbitt, vice-president, and Dr. John R. Wathen, secretary.

Richmond (Va.) Academy of Medicine.—At the meeting of the Academy, December 10, the following officers were elected: Dr. Lewis C. Bosher, president; Drs. William F. Mercer, Ramon D. Garcin and Moses D. Hoge, vice-presidents; Dr. Mark W. Peyser, secretary; Dr. Edward J. Moseley, treasurer, and Dr. Marvin E. Nuckols, librarian.

Montgomery County (Ala.) Medical Association.—At the annual meeting of this Association, held in Montgomery, December 14, Dr. Glenn Andrews was elected president; Dr. John M. Sadler, vice-president; Dr. Charles T. Pollard, secretary; Dr. Shirley Bragg, treasurer, and Dr. Robert N. Pitts, county health officer, all of Montgomery.

Chesterfield County (Va.) Medical Association.—The physicians of Manchester and of Chesterfield county met at Swansboro, December 11, and organized this Association with the following temporary officers: Dr. John B. Fisher, Midlothian, president, and Dr. J. G. Loving, Swansboro, secretary. The first regular meeting and election of officers will be held January 13.

North Texas Medical Association.—The semi-annual meeting of this Association was held in Greenville, December 10, 11 and 12. Dr. Jesse B. Shelmire, Dallas, was elected president; Dr. Jarrett T. Benbrook Rockwall, vice-president; Dr. Hugh L. Moore, Van Alstyne, secretary, and Dr. Carey A. Gray, Bonham, treasurer. Fort Worth was selected as the next place of meeting.

South Texas Medical Association.—The eleventh semi-annual meeting of this Association was held in Houston, December 13 and 14. Dr. Robert T. Morris, Houston, was elected president; Dr. William Keiller, Galveston, first vice-president; Dr. H. A. Barr, Beaumont, second vice-president, and Dr. D. Stuart Wier, Houston, secretary and treasurer. The next meeting will be held at Beaumont in May.

Lamoille County (Vt.) Physicians' Association.—A meeting of the physicians of Lamoille County was held at Morrisville, December 16, and an association organized, the object of which is to establish a uniform fee-bill. The members will have a cash customer list for those who habitually neglect to pay and any physician not receiving cash for each visit will be liable to expulsion from the association.

Northwestern Ohio Medical Association.—This Association held its fifty-seventh meeting at Lima, December 12 and 13. The following officers were elected: Dr. Joseph P. Baker, Findlay, president; Drs. Charles W. Moots, Delphos, and Martin S. Cramer, Ohio City, vice-presidents; Dr. Albert S. Rudy, Lima, secretary, and Dr. Theodore M. Gehrett, Deshler, assistant secretary and treasurer. The next meeting is to be held in Findlay.

Iowa Central Medical Society.—The semi-annual meeting of this Society was held in Marshalltown, December 10. The following officers were elected: Dr. Dorr Graves, Gilman, president; Drs. Norman E. Mighell and Benjamin F. Kierulff, Marshalltown, and Dr. Hiram H. Bay, Marshalltown, secretary and treasurer. A banquet followed and the Society adjourned to meet at Oak Bluff, the country home of Dr. Mighell near Marshalltown, in June.

Philadelphia College of Physicians—Section on Gynecology.—At the annual meeting of this section on December 19, Dr. George Erety Shoemaker was elected chairman for the year and Dr. John H. Girvin was re-elected clerk. Dr. Edward P. Davis read a paper on "Retroversion and Retroflexion of the Uterus"; Dr. John M. Baldy, a paper on "Adeno-Myoma of the Uterus," and Dr. Charles P. Noble, a paper on "The Technique of Amputation of the Cervix."

Salt Lake (Utah) Medical Society.—At the meeting of this Society, December 9, a committee consisting of Drs. Andrew J. Hosmer, Emerson F. Root, and Eugene W. Whitney was appointed to revise the constitution and by-laws to make them conform to the recommendations of the American Medical Association. The following officers were elected: Dr. J. C. Elliott King, president; Dr. Eugene W. Whitney, vice-president; Dr. Archibald A. Kerr, secretary, and Dr. Augustus C. Behle, treasurer.

Hospital Medical Society (Rochester, N. Y.).—At the annual meeting of this Society, December 12, the following officers were elected: Dr. George W. Goler, president; Dr. Joseph R. Culkin, vice-president, and Dr. Charles O. Boswell, secretary-treasurer. The Society passed the following resolutions pertaining to vaccination:

WHEREAS, There is a disinclination on the part of some of the people of the city of Rochester to submit to vaccination, even in the face of a possible epidemic of smallpox, and

WHEREAS, No scientific fact is better established than the prevention of smallpox by means of vaccination repeated at proper intervals;

Resolved, That the members of the Hospital Medical Society of Rochester endorse the action of the health department of this city in recommending the vaccination of all persons not properly protected against this disease.

Suburban Medical Society.—An association has been formed whose object is to bring the physicians in the towns of Oak Park, Maywood, Melrose Park, Bellwood, Harlem, Berwyn, Riverside, La Grange, Elmhurst, Lombard, Franklin Park, Mount Clare, and River Forest, western suburbs of Chicago, into a closer social relation, and for the discussion of scientific questions. They will also help in establishing the new hospital, which will be opened in a short time in Maywood by the Servite Sisters. The building will be entirely remodeled and equipped with all the best medical appliances. A meeting and banquet were held at Maywood, December 27, at which officers were elected as follows: Dr. William F. Scott, Melrose Park, president; Dr. Clarence E. Hemmingway, Oak Park, vice-president; and Dr. William R. Livingston, Maywood, secretary and treasurer.

THE WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Eleventh Annual Meeting, held in Chicago, Dec. 18 and 19, 1901.

(Continued from p. 53.)

President Dr. A. F. Jonas, Omaha, Neb., in the Chair.

Presidential Address.—Use of the Gall-Bladder as a Suspensory Ligament for Prolapsed Liver.

DR. A. F. JONAS, Omaha, delivered the Presidential Address. He said that the liver was sometimes displaced downwards to a considerable degree; that there was usually modified function and a well-defined clinical picture belonging to this change of position. Mrs. S., aged 41, had for three years suffered from paroxysms of severe pain located in the right hepatic region. These pains, always sudden in onset, sometimes subsided in the course of one or two hours, but occasionally continued until relieved by opiates. Whether they were relieved spontaneously, or by anodynes, they were always succeeded by nausea and an aversion for food lasting for two days to a week. During the intervals she had a dragging pain in the right hypochondriac region. A year previously she had had a moderate degree of jaundice. Otherwise her history was negative. On examination her abdomen was distended and tympanitic; the abdominal walls were pendulous, soft and flabby, and covered with numerous striæ, the result of child-bearing. On palpation pain on pressure was elicited over the region of the gall-bladder, but no enlargement of that viscus could be made out. A movable lump was found between the right costal arch and the iliac crest, which proved to be the right kidney. The diagnosis was biliary calculi in the gall-bladder, and movable right kidney. Cholecystotomy and nephrorrhaphy were recommended and agreed to by the patient. After the usual preliminary preparations, a vertical incision was made, beginning at a point over the median end of the ninth rib, and extending down four inches. On entering the abdominal cavity, the lower margin of the liver was three fingers' breadth below the costal arch. The liver could very easily be elevated to its normal position, but it descended very slowly when pressure upwards was released. In appearance it was normal. The gall-bladder was easily found, and several calculi could be felt through its walls. The displaced and movable kidney could be made out. The liver could be held in place by little effort, particularly when an ordinary amount of traction was made on the gall-bladder; so the question presented itself, Why not use the gall-bladder as a suspensory ligament? Accordingly, it was sutured in the uppermost part of the wound, snugly against the costal arch, the sutures passing through the gall-bladder wall, the parietal peritoneum and muscles. Before closing the peritoneal cavity, an exploration was made for the movable kidney, but it had receded to its normal position, and could not be displaced. The peritoneum was then closed, the

remaining wound sutured in the usual way, save to allow for opening the bladder. This was done and several calculi removed. A long drainage tube was introduced, and the wound was then dressed by an antiseptic, hygroscopic pad. The drainage tube was removed in one week. The wound closed at the end of four weeks. The patient was directed to wear a snugly-fitting abdominal band. Subsequently several examinations were made. On percussion, the liver had remained in its normal position and the dragging pain had disappeared. No displacement of the kidney could be made out, although she assumed several positions, straining in various ways. It was evident that the descended kidney was dependent on the descent of the liver. In this case, unfortunately, it was not ascertained whether there was associated a downward displacement of the stomach and colon. The author concluded: 1. The cause of hepatoptosis consisted in a modification of one or more of its normal supports, or an increase in the size and weight of the liver. 2. It was impossible for the liver to descend without producing a descent of the hollow abdominal viscera. 3. The utilization of the gall-bladder as a suspensory ligament to maintain and hold in its normal position a prolapsed liver, together with certain other abdominal organs, seemed practical.

Heart Suture.

DR. B. MERRILL RICKETTS, Cincinnati, referred to malposition, displacement and malformation of the heart, and then detailed a series of experiments which he had conducted on animals with reference to suturing the heart. He stated that there were 27 cases of suture of the heart for wounds in human beings reported up to the present time, with recovery in seven instances. In this work it was necessary to use a suture that was longer-lived than ordinary catgut, and he had employed kangaroo tendon in ligating the coronary arteries and fine-silk sutures in the walls of the heart. The sutures should be applied in systole of the heart, and not during its expansion. Certain hearts were softer than others; they broke down under the use of forceps, and forceps should not be used in this work. The indications for suturing the heart had to be worked out; but it was interesting to see how readily the chest could be opened with the right kind of forceps. He had used a kind of pruning forceps in his experimental work. He had opened the chest, reached the heart, and sutured it in forty seconds (?), and he did not think it would require much more time to do this in the human being. The aspirator should not be used for anything about the heart, because injury to the coronary arteries would often result in hemorrhage and death. The time had arrived when the surgeon should no longer hesitate to open the chest for injuries of the lung and of the heart in cases of emergency.

DR. W. W. GRANT, Denver, read a paper on "Fracture of the Metacarpal Bones, and Oblique Fracture, Simple or Compound, of the Forearm," which will appear in full in THE JOURNAL.

DR. JOHN P. LORD, Omaha, narrated in an interesting manner some of the observations that he had made during a trip in Europe.

Symposium on Prostatectomies.

DR. ALEXANDER HUGH FERGUSON, Chicago, read a paper on "Total Extirpation of the Prostate Gland Through a Median Incision in the Perineum." In several cases operated on by the author his results were better than he had ever secured by the suprapubic route. He stated, 1, that it was the most direct route to the organ, and that the prostate could be removed without injuring any important structure. 2. The operation was easily performed. In all those cases in which the gland had been repeatedly inflamed, it made it more difficult to operate, but not as difficult even then to remove the prostate from below as to do the suprapubic operation. 3. The removal of the gland piece by piece enabled the surgeon to work through a small opening and prevented the bruising of the surrounding parts by the finger, which was accompanied with the removal of the gland *en masse* through the perineum. 4. Hemorrhage was avoided, so long as one was careful to work within the capsule. The hemorrhage in suprapubic prostatectomy, or in the combined method, was often very alarming. On one occasion the writer had to leave pressure forceps on blood vessels and pack the bladder tightly with gauze 24 hours. The patient narrowly escaped death from both hemorrhage and sepsis. Perineal drainage after suprapubic prostatectomy was not as complete as when the prostate was attacked from below. It was found by the writer that the danger from septicemia was not at all prominent after perineal prostatectomy, and so far had given no anxiety whatever. There was less danger of uremia. The operation took the shorter time; the anesthesia having, therefore, less effect upon the kidneys, and a minimum opportunity for sepsis made it easier for the kidneys to perform their functions. The suprapubic operation was accompanied with far more shock than the author had found following perineal prostatectomy.

DR. LEWIS SCHOOLER, Des Moines, Iowa, read a paper on the "Symptoms, Signs, Diagnosis, Prognosis and Palliative Treatment of Hypertrophy of the Prostate." The palliative treatment was divided into massage, aspiration, catheterization, dilatation, and cystotomy. In considering all of the above methods, none were intended to be radical; none were calculated to remove the cause. All were intended to partially, at least, restore functional activity and to produce results sufficiently satisfactory to prevent the need of more radical procedures, and until within the last five years they were the best that the profession possessed. The dissatisfaction with them was clearly shown by the constant aim to discover something that would give better results. In a few cases they had served the purpose well, and in the future would be resorted to in very few selected cases. But the better knowledge of the anatomy of the prostate gland and its pathology called for an advance in therapeutic resources that did something more than to secure relief with a constant menace to the life of patients through infection, as well as a method that did not require eternal vigilance and a knowledge of the fact that the life of the individual depended upon the mechanics of artificial urination.

DR. A. C. BERNAYS, St. Louis, Mo., dealt with the "Pathology and Etiology of Prostatic Hypertrophy and Suprapubic Drainage as a Method of Treatment." Suprapubic cystotomy was an operation which found its application in stone in the bladder, tumors and growths, hypertrophy of the prostate, foreign bodies, exploration of the bladder, and drainage of the bladder. It was a recognized and successful method of treatment in all of these conditions. The technique varied with the object in view. Some ten years ago the speaker had the notion that suprapubic drainage would cure prostatic hypertrophy. He reasoned that by the drain he could give complete physiologic and mechanical rest to the bladder; he could prevent the unrest due to the alternate filling and emptying of that viscus. He had hoped that the hypertrophied prostate under the influence of rest would undergo absorption and atrophy, and that a decrease in size, which might be permanent, would take place. In this latter hope he was disappointed. In all cases of hypertrophy of the prostate in which he made free permanent drainage for from three to ten weeks, the urine became normal in color, the cystitis was much improved, and in some cases entirely cured. He was convinced that as a radical cure of prostatic hypertrophy the suprapubic drainage was a failure. He spoke of hypertrophy of the prostate as a form of neoplasm or tumor. It was either a diffuse myomatous hypertrophy, or it was a localized formation of nodular myomata except in rare instances. Myoma could not be made to disappear by castration, either in men or in women, nor could it be made to do so by giving the parts in which the myomata were located physiologic and mechanical rest by means of the suprapubic drainage. His training and feelings were so much opposed to operations in the dark that the Bottini and even the popular internal urethrotomy could receive no support from him.

DR. C. H. MAYO, Rochester, Minn., discussed "Suprapubic Prostatectomy." Prostatic surgery had developed from suprapubic cystotomy. Statistics should only be considered in a general way, as representing the developing stage of prostatic surgery. One-half of the enlarged prostates could be reached either from above or below equally well, one-fourth better from above, and one-fourth better from below, and a few would

require a combined operation. The method of operation was influenced by the condition of the gland, and by other known and oftentimes unknown conditions. The lateral lobes were glandular and encapsulated; the middle might be glandular and encapsulated, or a muscular bar, or hypertrophy of mucous glands and bladder tissue. Of known conditions which influenced one's choice, the fleshy individual with thick perineum, long prostatic urethra, and high-lying prostate was one for suprapubic or combined operation. Large dilated bladders were easily reached from above, and small contracted bladders more easily from below. Those with stone present and enlarged prostate were best made from above. Of unknown conditions which influenced one's choice, he had cases of symptomatic stone not found by search, and emergency operations made in the country. These were the cases in which the suprapubic incision was the most satisfactory. Those with cystitis and old or acute secondary changes in the testes would often improve after castration. There was still a large class of prostatic sufferers in whom there were no symptoms of stone, little or no cystitis, and short perineal distance in which a perineal operation was unquestionably the better method. The ease of operation, perfect drainage and earlier recovery in chosen cases no doubt justified this choice. The special retractors of Syms and Ferguson simplified the accessibility of the gland from below, and it was quite possible from present indications that this method would be developed into the operation of the future by making earlier diagnosis of conditions and operating before the patients reached the stage of necessary suprapubic incision. Before suprapubic operation, a hypodermic of morphia was given to reduce the amount of the anesthetic. Usually chloroform was indicated, but ether was preferred. The Trendelenburg position with air inflation of bladder and finger enucleation of enlargements after incising the capsule. Suprapubic drainage should be established by closing the bladder over the tube by Witzel's method.

DR. LOUIS E. SCHMIDT, Chicago, read a paper on the "Indications and Limitations for the Bottini Operation." After discussing at length the indications and limitations of this operation, he concludes that good results of the Bottini operation will depend on the correct selection of cases, the proper technique of the operation and proper after-care, and the immediate correction of errors or mishaps.

How Shall We Treat Sepsis Following Labor and Abortion?

DR. W. O. HENRY, Omaha, in a paper on this subject, took the ground that it was important to remember that sometimes malarial and other fevers followed closely upon abortion and labor, and all such cases should be carefully distinguished from true puerperal sepsis; but having once fully determined that infection has really occurred along the genital tract, only one line of treatment was justifiable in the present state of our knowledge. Although he admitted the different varieties of infection, yet, since it was both unsafe and impractical at the present time to wait for bacteriologic examination, and since, further, the treatment he recommended was safe, practical, curative, and within the reach of every physician, he insisted upon its universal adoption. After giving somewhat elaborately the reasons for his belief, he summarized as follows: 1. Remove early with the finger, sharp curette and flushing, all debris, decidua, blood clots, and sloughing tissue which may be infected, from the uterus and from all raw surfaces in the cervix, vagina and vulva. 2. Dry all of these raw surfaces and freely apply to them 95 per cent. carbolic acid, washing away the surplus acid with sterile water. 3. Unless hemorrhage requires, leave no tubes nor packing of any kind in either the vagina or uterus. 4. Have simply carbolized 2 per cent. vaginal douche used twice a day thereafter. 5. Open the bowels freely with calomel, one-half grain every hour for four hours, then follow with Rochelle salts, until sufficient action has occurred. 6. Give quinin, three grains every four hours, followed by tincture of chlorid of iron, 15 drops, in water. 7. Give good nourishment with milk, eggs, and stimulants every four hours. 8. Let this be the routine early treatment, and hysterectomy will be rarely required. 9. Whe fixation of uterus occurs, and infiltration takes place i Douglas' cul-de-sac or the broad ligaments, or when the tube or ovaries fill with pus in acute cases, open promptly an drain through the vagina. 10. If multiple abscesses occur i the uterine wall, or the walls become badly infected, or, if nec essary, to get perfect drainage for a badly infected pelvi cavity, remove the uterus and all else necessary by the vagina route. The abdominal route is dangerous in all acute case and is seldom, if ever, justifiable.

New Method of Anchoring the Kidney.

DR. BYRON B. DAVIS, Omaha, said that this method can bes be explained by giving a report of the only operation yet don by it. A. J., unmarried female, aged 21 years, had frequen gastric crises, and a good deal of constant lumbar pain, on righ side especially. Had lost 25 pounds in weight during the pas year, and was very anxious for relief. On examination th right kidney was found freely movable, falling so low that th upper pole could be felt on bimanual examination. The le kidney was also somewhat movable. Patient entered hospita Nov. 9, 1901, for operation on right side, which was don November 11. The incision extended from the lower rib to nea the crest of the ilium, a hand's breadth to the right of th spinous processes of the vertebræ. The fatty capsule wa reached just anterior to the outer border of the quadratus lum borum, and was opened and a large part of it trimmed awa The kidney was pushed into place by a cylindrical pad place under the abdomen. When the kidney was well exposed, a incision was made through the proper capsule from one proce below the upper pole to a point 2 cm. above the lower pol This incision was placed vertically on the posterior surface nea the convex border. The capsule was stripped loose from th kidney substance from a distance of three-fourths inch ant riorly and posteriorly to the incision of the capsule. From th upper and lower extremities of the vertical incision a pe pendicular incision three-fourths inch long was made throug the capsule, this giving two flaps of capsule three-fourths inc wide by about two and one-half inches long. Next a strip th thickness of one's little finger of the other border of the qua ratus lumborum muscle was split off from the remainder of th muscle, the fibers being separated by the handle of the scalpe This separation extended from the muscular attachment to th twelfth rib downward for two and one-half inches, or the sl in the muscle was made as long as the length of the capsula flaps before described. Next, an artery forceps was passe through the slit in the muscle, made to grasp the free bord of the posterior flap of the kidney capsule and then withdraw bringing the flap of the kidney capsule through the slip i the muscle. The two capsular flaps were next brought togeth over the bundle of muscular fibers, thus isolated from th border of the quadratus lumborum, and stitched together wit a running suture of fine chromic catgut, the needle being a lowed to penetrate the muscular bundle at two or three place The lumbar wound was next closed by tier sutures of catgu the skin wound being closed with horsehair. Aside from slight infection, the wound did well. Patient was allowe up on the 22d day. The kidney thus far was in place, and th patient relieved of her former symptoms, although it was to early to predict anything of the final result. This metho was reported because it represented a new principle in trea ment.

Intestinal Obstruction from Meckel's Diverticulum.

DR. A. E. HALSTEAD, Chicago, presented the following sum mary of all cases in the literature that were accessible t him: Total number of cases reviewed, 72; males, 45; female 17; sex noted in only 62; result noted in 65; deaths, 44; r coveries, 21; percentage of mortality, 67.6; percentage of r covery, 32.4; cases operated on, 55; death in cases operate on, 27; no operation in 17; percentages of death in cases opera ed on, 49.0+; attachment or non-attachment of diverticulum diverticular ligament, mentioned in 66; point of attachme noted in 44; to mesentery in 21; to umbilicus in 14; n determined in 3; diverticulum attached, 47; and diverticulu free, 19.

Grave Abdominal Injuries Without External Evidences of Traumatism.

DR. R. HARVEY REED, Rock Springs, Wyo., read a paper in which he discussed this subject. From reading the literature, together with his own experience, he was led to the conclusion that it was the surgeon's duty to make an exploratory incision in all cases where there was grave doubt as to the real nature of an injury, and particularly so when the constitutional symptoms pointed to a condition more serious than was indicated by either the subjective or objective symptoms, provided the physical condition of the patient was such as to warrant such an operative procedure.

Immediate Effects of Intestinal Exposure.

DR. A. W. ABBOTT, Minneapolis, detailed a great many experiments on animals with a view to determining the immediate effects of intestinal exposure. From his experimental work he concluded that in operations where the intestines were exposed, the loss of water was unimportant, except in so far as it influenced the loss of heat and the drying of the surface; that the loss of heat was very important, as it temporarily placed the temperature of the intestines below the safety line of vital action, and secondarily the heat of the whole body below that which should be continuously maintained; that the drying of the peritoneum was so decided that it must disturb to some extent the anatomic relations, and the resisting and recuperating power of that membrane; that the loss of heat and the drying process must suspend for an undetermined period some of the physiologic functions of the peritoneum, and influence, to a degree as yet unknown, pathologic conditions. These conclusions the modern surgeon had reached clinically, in a general way, as shown by a short incision, protection pads, a minimum exposure of the peritoneum, and short-time operations. The writer believed that the exposure of the peritoneum should be the subject of a more critical study, and that this should be supplemented by extended experiments on the later effects, especially in their relation to peritonitis and adhesions.

Our Hospitals.

DR. H. D. NILES, Salt Lake City, spoke on this subject. He said it was very evident to the minds of physicians familiar with the situation that the methods and management that had served hospitals so well when their purpose was limited to the care of the sick within their walls, would not suffice if the hospitals were to meet present needs and fulfill their possibilities as a great system of scientific institutions distributed throughout this country, where not only the favored few but the whole profession with all the sick entrusted to their care might feel the results and participate in the benefits. So long as a hospital measured its own usefulness by the number of patients treated, the standing of each member of the staff would be estimated largely by the size of his personal following; and the commercial spirit would rule both the institution and the individual to the exclusion or great detriment of scientific work. If the profession was ever to secure a voice, it should formulate and adopt a business code that should not only meet the highest requirements of the ethics of the profession, but at the same time command the respect and win the confidence and support of the 20th century public. The object of the paper was to arouse, if possible, a more active interest in an institution that promised with the aid of medical men to become one of the most influential elements in the medical world.

Surgery of Spina Bifida.

DR. VAN BUREN KNOTT, Sioux City, Iowa, discussed the varieties of spina bifida, the clinical features, diagnosis, prognosis and treatment. After reporting four cases, he drew the following conclusions: "1. Owing to the distressing nature of the affection, the high mortality should not prevent attempts at surgical relief. 2. Meningoceles, meningomyeloceles, and syringomyeloceles may be considerably benefited by operation. 3. The improvement in function can not with certainty be estimated before operation, and pronounced evidences of nervous disturbance are not a contra-indication to excision. 4. Asepsis is absolutely essential and, although difficult to secure, may be maintained by exercising extreme care. 5. The plan of having the suture lines of the meninges and the overlying tissues on different planes will in the majority of instances prevent leakage of cerebrospinal fluid. 6. The suggestion of Pearson to prevent the escape of this fluid during a prolonged operation by stuffing the canal with gauze is valuable. 7. Large bony defects may be effectually closed by muscle much easier than by osteoplastic methods. 8. It is not necessary to keep the child off its back during the healing of the wound, as is frequently advised. 9. Children with hydrocephalus accompanying spina bifida should not be subjected to operation."

Other papers were read as follows: "Two Cases of Cysts of the Broad Ligament Complicated with Myxoma," by Dr. Edward Hornibrook, of Cherokee, Iowa; "Diffuse Sarcoma of the Uterus," by Dr. D. S. Fairchild, of Clinton, Iowa; "New Operation for Wandering Kidney," by Dr. E. Wyllys Andrews, of Chicago; "The Operative Relief of Impaired Function of the Elbow-Joint Due to Faulty Re-attachment of a Separated Internal Humeral Epicondyle," by Dr. G. G. Cottam, of Rock Rapids, Iowa.

The following officers were elected for the ensuing year: President, Dr. James E. Moore, Minneapolis, Minn.; 1st vice-president, Dr. J. R. Hollowbush, Rock Island, Ill.; 2d vice-president, Dr. W. W. Grant, Denver, Colorado; secretary-treasurer, Dr. George H. Simmons, Chicago.

St. Joseph, Mo., was selected as the place for holding the next annual meeting; time, December 29 and 30, 1902.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

PRESCRIPTION WRITING, VIII.

(Continued from page 59.)

Incompatibilities.

Prescriptions may be regarded as incompatible when they include drugs which oppose each other in their physiologic action, or when an ingredient, administered in a liquid form is insoluble in the mixture containing it, and when an ingredient is thrown out of solution by its admixture with other liquids. However, substances which are insoluble in the ordinary solvents may not be regarded as incompatible unless an even distribution can not be made through the menstruum or vehicle. A prescription is also incompatible when by combining two or more ingredients a chemical change takes place.

Incompatibilities, therefore, may arise: 1, therapeutically; 2, pharmaceutically; and 3, chemically.

PHYSIOLOGIC INCOMPATIBILITY.

Therapeutic incompatibilities take place when drugs are prescribed together which are opposite in their action upon certain parts of the system. To avoid such incompatibilities it behooves the practitioner to exercise care unless such actions are desired. The druggist is not bound to checkmate such combinations, because it is not unusual for such prescriptions to be written by the physician in order to accomplish a certain purpose. For example, in some conditions of the pulmonary circuit where there is marked congestion, perhaps from pneumonia or chronic endocarditis in some form, it may be desired from the nature of the condition to prescribe digitalis, but to avoid the high arterial tension produced by this drug, some preparation may be combined with it or given in alternate doses with the digitalis to relieve the arterial tension by producing an opposite action upon the coats of the vessel.

For such purposes the nitrites may be given. Consequently, a prescription containing such a combination as the foregoing would be regarded as therapeutically incompatible, and yet with a proper knowledge of their action, incomparable advantage sometimes may be accomplished by that method.

The prescribing of aloes with the iron preparations is of service in preventing the constipating effects of the iron; these

drugs are frequently administered together in the form of pilula aloes et ferri. It is common to include extract of hyoscyamus or extract of belladonna in laxative or purgative pills to prevent them from griping by regulating peristalsis. Caffein citrate may be combined with acetanilid in such quantities as to counteract its depressant effects on the heart. Likewise in certain individual drugs there are found principles which are antagonistic to one another in their action; in jaborandi, opium, and rhubarb, for example, there are certain antagonistic principles which exist in such proportions that one drug acts as a corrective to the other and not as a neutralizer. Morphin when given hypodermically is guarded in its action upon the heart and respiratory centers by atropin combined with it.

PHYSICAL OR PHARMACEUTICAL INCOMPATIBILITY.

A prescription is pharmaceutically incompatible when the combined ingredients composing it do not form a clear solution; however, no chemical change takes place. For examples, oily preparations and insoluble powders are pharmaceutically incompatible with water. A combination of acids and glycyrrhiza will cause the active principle glycyrrhizin to be precipitated.

Chloral hydrate will not mix with alcoholic solutions, but separates to the top of the mixture and unless the mixture is properly shaken before being administered the first few doses may contain an excess of chloral.

So in prescribing fluid extracts in aqueous solutions, their constituents, such as gums, resins, albumins, or mucilages, may be separated and thrown out of solution.

The sugar in syrups becomes crystallized if alcohol or alcoholic preparations are used in the combination.

Volatile oils should not be prescribed with aqueous solutions in greater proportion than one drop of the oil to an ounce of water in order to avoid physical incompatibility.

Saturated solutions of a drug should not be prescribed with aromatic aqueous solutions, as the volatile principle in the water will be liberated and the mixture will become cloudy. However, the taste of the bromids or iodids, in smaller quantities, is masked better when prescribed with the aromatic waters such as aqua menthæ piperitæ or aqua menthæ viridis than by the syrups.

Fluid extracts and tinctures containing resinous principles should not be prescribed with water, for the resins which are held in solution by the alcohol in the tinctures are precipitated by weakening that menstruum; under such circumstances if it is desired to use aqueous rather than alcoholic solutions, resinous principles may be suspended in an emulsion by adding mucilage of acacia, or tragacanth, which is sometimes used in its stead because its preparations preserve better.

(To be continued.)

Itching from Frost Bites (Chilblains).

Tincture of iodin lightly painted over the affected parts will, in the majority of cases, relieve the itching. As a temporary relief, immersing the parts involved in a mustard bath should be resorted to. The following combinations locally applied are very highly recommended in such cases:

℞.	Pulv. camphoræ	3i	3 75
	Vaselini	3iv	15

M. Sig.: Rub in well, night and morning; or:

℞.	Ichthyol	3iss	5 62
	Pulv. camphoræ	3i	3 75
	Lani	3ss	1 87
	Vaselini	3iv	15

M. Sig.: Apply locally night and morning and cover with cotton wool.

An application containing cocain may be used in case none of the foregoing will control the subjective symptoms. It may be combined as follows:

℞.	Cocainæ hydrochloratis	gr. iii to v	20-30
	Bismuthi subnitratis	3ss	1 87
	Vaselini	℥ss	15

M. Sig.: Apply locally night and morning.

To Prevent Chordee.

Dalton, in *Edinburgh Med. Jour.*, recommends the following as an injection:

℞.	Sol. morphinæ hydrochlor.	m. xv	1
	Cocainæ hydrochlor.	gr. ss	03
	Aquæ q. s. ad	3ii	7 5

M. Sig.: Inject into the urethra and retain for five minutes before retiring.

As an injection for residual gleet he states that astringents are required (after the irrigation treatment) when there is a thin glycerin-like discharge. The following combination is employed by him:

℞.	Zinci sulphatis		
	Plumbi subacetatis, āā	gr. ss-gr. iii	03-20
	Tinct. catechu	m. x-xxx	66-2
	Glycerini	3ss-3i	2-4
	Aquæ q. s. ad	℥i	30

M. Sig.: Use as an injection.

Treatment of Catarrhal Conjunctivitis.

The following is recommended by Terrier:

℞.	Ammon. chloridi	gr. i	06
	Zinci sulphatis	gr. iiss	15
	Camphoræ	gr. 1/6	01
	Aq. destil.	3iiiss	13 12

M. Sig.: Instill into the eye once or twice daily.

Formula for Chafing.

Dr. R. B. Elderice recommends the following in treatment of chafing under the arms and in the groins of infants:

℞.	Ichthyol		
	Tr. benzoini comp.		
	Acidi borici, āā	3i	3 75
	Petrolati	℥ii	60

M. Sig.: Apply frequently through the day.

Ether Compresses in Strangulated Hernia.

George, in *Jour. des Pract.*, reports two cases of strangulated hernia in which he could produce no effects by taxis. He saturated compresses with ether and applied them to the part and at the same time produced moderate taxis. After the compresses were kept in position for several hours reduction was accomplished without much difficulty.—*Amer. Med.*

Local Treatment in Erysipelas.

J. B. Sloan, Detroit, recommends the following in treatment of erysipelas:

℞.	Tinct. opii	3iv	15
	Ext. aconiti flu.	3ii	7 5
	Ext. belladonnæ	3iv	15
	Ext. veratri viridis flu.	3iii	11 25
	Ichthyol q. s. ad	℥iv	120

M. Sig.: Apply every three hours.

Treatment of Dysphonia (Hoarseness).

The voice should be used as little as possible. The cause should be ascertained and removed if possible and the following gargle can be employed in case of emergency when it is desired to use the voice in singing or speaking.

℞.	Acidi tannici	gr. xl	2 66
	Boroglycerin	3iss	6
	Tinct. capsici	m. xx	1 30
	Infusi rosæ q. s. ad	℥v	160

M. Sig.: Use frequently as a gargle.

Tinea Tonsurans (Barber's Itch).

The following combination is a serviceable one for the cure of barber's itch:

℞.	Ichthyol	gr. xxxv	2 33
	Sulphuris præcip.	3ii	7 50
	Vaselini	℥iss	45

M. Sig.: Apply locally at night.

Employment of Bitters in Anorexia.

According to Huchard, as stated in *Amer. Med.*, the drinking of water before meals increases the hydrochloric acid in the gastric secretions more than does the use of bitters, and a

bitters often cause the sensation of hunger he seldom prescribes them. The use of small quantities of alkaline salts causes marked increase of gastric secretions. The following may be used:

℞. Sodii phos. (neutral) .....ʒiii 11|25
Sodi bicarb. .....ʒiss 5|62

M. ft. cachets No. 1. Sig.: One cachet, a half-hour before each meal.

To increase digestion the following should be given after meals:

℞. Acidi hydrochlorici .....m. viii |50
Elix. curacao .....ʒii 60|
Aq. destil. .....Oi 480|

M. Sig.: A wineglassful after each meal.

Medicolegal.

Duty of Company Assuming Charge of Injured Person.—The Supreme Court of Mississippi holds, in Dyche vs. Vicksburg, Shreveport and Pacific Railroad Company, that the company, having assumed charge of an injured person, although it was not liable for his original injury, was charged with the duty of common humanity. It was to be charged with no higher degree of duty than that of ordinary humanity, but the jury must settle that on the facts.

Treatment of Cases by Secretary of Board of Health.—The Supreme Court of Tennessee says, in disposing of the case of Knox vs. the Mayor and Aldermen of the City of Knoxville, that the Court of Chancery Appeals held, on the proof, that the complainant was not employed to render the professional services in the treatment of smallpox patients during the prevalence of an epidemic for which he sought to recover payment, and that, so far as the city was concerned, they were rendered gratuitously and wholly without authority to bind the mayor and aldermen. It says, too, that the court found there was nothing to show that the city authorities accepted his services, or could in any way have prevented them; and that the city was given no notice that he was rendering the services charged for, and was relying on the city for pay. The fact, it goes on to state, was that at the time he claimed to have rendered these services he was in the employment of the city at a salary of $300 per annum, as secretary of the municipal board of health. The city authorities were well warranted in believing that he was rendering these services in connection with his office. Wherefore, the Supreme Court holds, under the facts found, and the law governing the case, the city was not liable for the services. Moreover, it holds that the city physician had no authority to employ him to perform such services at an extra compensation, nor any authority to incur any liability against the city.

Court of Appeals on "Oxydonor" Patent.—The United States Circuit Court of Appeals, Eighth Circuit, in Mahler vs. Animarium Company, expresses the opinion that the patented device covered by the Sanche patent, No. 587,237, of July 27, 1897, considered by itself, and apart from the force, if any, that is thereby utilized, contains no features of novelty entitling it to a patent; it being nothing more than a wire connecting two metal pads. It is furthermore of the opinion that if what is ordinarily termed an "electric current" is generated or occasioned by the attachment of the wire to two objects of a different temperature or different polarity, and if the curative effect of the device when applied to a patient is due to a slight electric force or energy thereby generated, then the device is wanting in patentable novelty. There is nothing new, it says, in the idea of using electric energy to heal disease, although it may not be well enough proven to be accepted as an established scientific truth that electricity does effect cures. Then, the court says that it has been forced to conclude, after a careful study of the specification in the patent, that the theory enunciated by the inventor, that most diseases are "due to a disturbance of the electrical equilibrium of the body," is a mere pretense; that is to say, a theory not entertained by the inventor in good faith, but put forward as an imaginary hypothesis merely for the purpose of obtaining a patent on a very simple contrivance, which was not patentable unless the claim was reinforced by some such pretended discovery. Likewise, it also concludes that the statement in the specification to the effect that the inventor does not by means of his device make use of "dynamic currents," but relies on some other mysterious and unexplained property of electricity to effect cures, is a statement which rests upon no substantial foundation, and was most likely inserted in the specification for the purpose of forestalling objections to the granting of a patent which would probably have been made if it had been conceded by the inventor that an electric current was generated and flowed along the connecting wire, to which the healing effect of the device might be attributable. For these and other reasons, the court holds that the patent in suit does not describe or cover a patentable device, and that it ought not to have been granted.

Ratification of Employment of Physician.—The case of Steiner vs. Polk County, Oregon, was brought by a physician and surgeon to recover $125 for professional services rendered to a minor who was severely injured by a gunshot wound necessitating the amputation of his leg, but who was unable to provide himself with proper care or attention, and had no relatives or friends able or willing to help him. The case was of urgent necessity, and, as the County Court was not in session, the judge thereof advised and recommended that the patient be taken to a certain hospital for treatment, and requested this physician to give him necessary medical attention, and present his bill to the County Court; saying that he did not know what the court would do, but was satisfied it would allow a reasonable compensation for his services. In pursuance of this arrangement, the physician had the patient removed to the hospital, provided with care and attention, and rendered him such professional services as were necessary. The County Court thereafter allowed and paid bills for the patient's care, board, and hospital charges, but upon the presentation of the physician's claim for professional services ordered that $41.75 thereof be allowed, and that the sum of $83.25 be disallowed. This action the physician refused to abide by, and obtained a judgment in his favor, in this case, which the Supreme Court of Oregon has affirmed. It says that there was no controversy in this case as to the value of the services rendered, the sole defense being that the county was not liable, because there never was any contract binding upon it to pay for such services. But the Supreme Court considers it immaterial whether the county judge had authority in the first instance to make a contract with the physician or not, because it holds that, after the contract or arrangement had been made and the services rendered, the County Court, in effect, ratified and approved the same. It paid the bills for all incidental expenses incurred by the physician, and when his claim for services was presented and under consideration it did not deny liability or repudiate the contract, but allowed thereon the sum of $41.75; thus, in effect, recognizing its validity, objecting thereto only on the sole ground that the amount charged was unreasonable. There could be no question, the Supreme Court declares, if the defendant were an individual or private corporation, that such an act would amount to a ratification, and it thinks the same result follows in the case of a public corporation.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, December 28.

1 *The Prevention of Laceration of the Perineum in Labor. George B. Twitchell.
2 *The Prevention of Laceration of the Perineum in Labor. Maurice A. Walker.
3 *The Prevention of Laceration of the Perineum in Labor. J. L. Andrews.
4 *A Retrospective Survey of Some of the Essential and Vital Principles Pertaining to Ano-Rectal Anatomy, Physiology, Pathology and Nomenclature in an Effort Against the Present Attempts to Radically Change and Subvert Them. William Bodenhamer.

5 Indications of Treatment in Cases of Uterine Myomata. George Tucker Harrison.
6 Report of the Committee of Seven of the Medical Society of the County of New York on the Prophylaxis of Venereal Disease in New York City. (Concluded.) Prince A. Morrow.
7 Bimanual Direction of the Head in Carus' Curve. James D. MacGaughey.
8 Both Too Rapid and Too Slow Expulsion Should be Prevented. John A. Lane.
9 Manual Retraction of the Perineum Between Pains. Theresa Bannan.
10 The Value of Partial Anesthesia. Frank S. Nicholson.
11 Fomentations and Episiotomy. Stanley P. Warren.

Boston Medical and Surgical Journal, December 26.

12 *Some Surgical Tendencies from a Medical Point of View. Reginald H. Fitz.
13 *Successful Operation Upon a Case of Brain Abscess Following Suppurative Middle-Ear Disease. Frederick L. Jack.
14 *Study of the Aphasia Persisting During Convalescence After Evacuation of the Brain Abscess. George L. Walton.
15 *Congenital Elevation of the Shoulder. Joel E. Goldthwait and Charles F. Painter.
16 Tubal Pregnancy with Double Pyosalpinx. C. H. Hare.
17 A Plea for Pain and Patient. Edmond R. Moras.

Medical Record (N. Y.), December 28.

18 The Neurotic Indications of Pre-Senility. Allan M. Hamilton.
19 Clinical Report of a Second Series of Twelve Cases Benefited by Bottini's Prostatectomy. Ramon Guiteras.
20 *On the Transmission of Yellow Fever by Vessels and Its Bearing upon Quarantine Regulations. Edmond Souchon.

Philadelphia Medical Journal, December 28.

21 Medical Care and Treatment of Inebriety. T. D. Crothers.
22 *The Typhoid Spine. William J. Taylor.
23 Cystic Liver. Israel Cleaver.
24 *The Relation of the Middle Turbinate Body to Chronic Diseases. Charles H. Baker.
25 *The Relation of the Sympathetic Nervous System to Functional Amblyopia. Harry S. Pearse.

Medical News (N. Y.), December 28.

26 *Some Surgical Tendencies from a Medical Point of View. Reginald H. Fitz.
27 *Treatment of Lobar Pneumonia. Charles G. Stockton.
28 On the Role of the Prostate Gland in Gonorrhea. Frederic Bierhoff.
29 The Neurotic Element in Infantile Eczema. Jerome Kingsbury.

Cincinnati Lancet-Clinic, December 28.

30 Professional Ethics. F. O. Wright.
31 The Need of Mental Culture. Brose S. Horne.

American Medicine (Philadelphia), December 28.

32 *Massive Infiltration Anesthesia with Weak Analgesic Solutions (Modified Schleich Method). Rudolph Matas.
33 *Technic of Fixation of Prolapsed Kidney. Augustin H. Goelet.
34 *Trophoneurosis Affecting the Hair, with Photographs of a Case. F. Savary Pearce.
35 *Observations on Tuberculosis. Henry B. Dunham.
36 *Nephritis in Malaria. John T. Moore.
37 Ludwig's Angina Complicating Typhoid Fever. William S. Robertson and Charles C. Biedert.

St. Louis Medical Review, December 28.

38 Puerperal Convulsions. T. J. Townsend.

New Yorker Medicinische Monatsschrift, November.

39 Zur Behandlung Tuberculoser Halsdrusen. Carl Beck.

Southern Medical Journal (La Grange, N. C.), December.

40 Strangulated Hernia. S. Uthgate Leigh.

Archives of Pediatrics (N. Y.), December.

41 *Primary Intestinal Tuberculosis in Children; Its Frequency and the Evidence of Its Relation to Bovine Tuberculosis. David Bovaird, Jr.
42 A Case of Primary Intestinal Tuberculosis. David Bovaird, Jr.
43 *Great Fluctuations in Temperature in the Terminal Stage of Pulmonary Tuberculosis. Samuel S. Adams.
44 *Treatment of Tuberculosis in Infancy and Childhood, with Special Reference to the Use of Guaiacol. B. K. Rachford.
45 *A Note on the Little Finger of the Mongolian Idiot and of Normal Children. J. Park West.
46 A Case of Myotonia Congenita. Charles F. Gardiner.

The Post-Graduate (N. Y.), December.

47 Colloid Cancer of the Stomach and Omentum: Diagnosis by Abdominal Paracentesis. Stephen S. Burt.
48 Gastroptosia in Its Relation to Hyperchlorhydria and Tachycardia. A. Rose.
49 Clinical Bacteriology. Hermann Lenhartz.
50 Notes from the Clinics (Pediatric Practice). A. Caille.
51 Fourth Report of the Committee of Inspection Appointed by the Executive Committee of the Post-Graduate Medical School to Review the Experiments of Dr. John F. Russell in the Treatment of Pulmonary Tuberculosis at the Post-Graduate Hospital, New York, November, 1901.

Annals of Surgery (Philadelphia), December.

52 *A Contribution to the Pathology, Diagnosis, and Treatment of Subphrenic Abscesses After Appendicitis. Charles A. Elsberg.
53 On the Differentiation Between Inflammatory Processes and Neoplasms of the Bones by the Roentgen Rays. Carl Beck.
54 On the Pathology, Symptomatology, and Diagnosis of Tuberculosis of the Peritoneum. Daniel N. Eisendrath.
55 *Treatment of Tuberculosis of the Peritoneum. Christian Fenger.
56 Tuberculosis Herniosa and Appendicitis Tuberculosa. Edward W. Andrews.
57 Obturator Hernia of the Bladder and of the Fallopian Tube. Reginald J. Gladstone.
58 *Note on X-ray Burns and Their Treatment. Thomas W. Huntington.
59 Contribution to the Surgery of True Cystic Kidney. J. Niemack.
60 Ureteral Anastomosis. William K. Turner.
61 Stone in the Bladder of a Female Child of 4 Years. Miles F. Porter.

Woman's Medical Journal (Toledo, Ohio), November.

62 Vaginal and Cervical Lacerations. Rose T. Bullard.
63 Suppuration of the Cornea. Lily Kinnier.

American Journal of Obstetrics (N. Y.), December.

64 *Ablatio Placentæ. Rudolph W. Holmes.
65 A Case of Fatal Hemorrhagic Diathesis, with Premature Detachment of the Placenta. Joseph B. DeLee.
66 *A Comparative Study of the Immediate Recovery of Patients Following Vaginal Total Abdominal and Supravaginal Hysterectomies. LeRoy Broun.
67 *The Treatment of Intraperitoneal Inflammation and Suppuration in the Pelvis and Vicinity by the Post-Cervical Incision, etc. J. Coplin Stinson.
68 Episodes in Gynecological Practice Among the Insane. W. I. Manton.
69 Considerations Regarding the Best Methods of Conducting Private Obstetric Work. W. Sinclair Bowen.
70 Twisted Pedicle in Ovarian Tumors. William P. Carr.
71 A Case of Fever During the Puerperium, Caused by a Large Lumbricoid Worm in the Intestine. D. W. Prentiss, Jr.
72 Bile-duct Forceps. James F. W. Ross.

Chicago Medical Recorder, December.

73 Case of Resection of Two-Thirds of the Liver for Angioadenoma, with Exhibition of Patient and Specimen. Carl Beck.
74 *The Infectious Origin of Purpura Hemorrhagica. A. W. Schram.
75 Report of the Pathology of a Case of Purpura Hemorrhagica. W. H. Rubovits.
76 *The Treatment of Raw Peritoneal Surfaces in Abdominal Operations. J. Clarence Webster.
77 The Mode of Incision in Vaginal Section. J. Clarence Webster.
78 "Quo Vadis," or a Search for the Truth Concerning Tenotomies for Muscular Insufficiencies, etc. Frank Allport.
79 A Case of Aneurysm of the Aorta Simulating Mediastinal Abscess. Otto T. Freer.
80 Case of Symblepharon of the Lower Lid Relieved by Skin Grafting. F. C. Hotz.
81 Morphin and Allied Drug Habits. David Paulson.
82 Superheated Dry Air in the Treatment of Acute Localized Infective and Septic Diseases: Including Pneumonia, Pleuritis, Appendicitis, Osteomyelitis; With Report of Cases. H. J. Burwash.

Northwestern Lancet (Minneapolis), December 15.

83 The Pathologic Process in Chronic Interstitial Nephritis. H. A. Tomlinson.
84 The Examination of School Children's Eyes and Ears. Frank C. Todd.
85 Treatment of Acne. Burnside Foster.
86 Herpes Zoster Ophthalmicus, with Report of a Case. Frank Reamer.

Annals of Gynecology and Pediatry (Boston), December.

87 The Treatment of Puerperal Infections at the Boston City Hospital. Frank A. Higgins.
88 Pessaries Versus Operations. George W. Kaan.
89 Osteomyelitis Following Measles. Joel E. Goldthwait.
90 A Clinical Report of Gude's Pepto-Mangan. Samuel Wolfe.

University of Pennsylvania Medical Bulletin (Philadelphia), December.

91 *The Division of the Sensory Root of the Trigeminus for the Relief of Tic Douloureux; An Experimental, Pathologic and Clinical Study, with a Preliminary Report of One Surgically Successful Case. William G. Spiller and Charles H. Frazier.

92 *Myositis Fibrosa. Montgomery H. Biggs.
93 Statistical Study of 53 Cases of Left Cecal Hernia, with Report of an Additional Case. Otto H. Forester.
94 *A Study of the Post-Operative Changes in the Blood. Charles H. Frazier and Thomas B. Holloway.

Medical Bulletin (Philadelphia), December.

95 Impetigo Contagiosa—Ecthyma—Sycosis. John V. Shoemaker.
96 Whooping Cough. William C. Hollopeter.
97 Cremation a Sanitary Necessity. William R. D. Blackwood.

The Physician and Surgeon (Detroit, Mich.), October.

98 Thoughts Concerning Medical Progress. Arthur D. Holmes.
99 Insomnia in Everyday Practice. David Inglis.
00 *The Possibility of Transmission of Tuberculosis from Cattle to Man. Owen C. Brown.
01 Stricture of the Urethra and Its Treatment. A. Henri Cote.
02 The Technique of Cocain Anesthesia. Ralph H. Spencer.
03 Practical Thoughts on Diseases of the Heart. James C. Wilson.

Hot Springs Medical Journal, December.

04 Appendicitis. J. E. Gilcreest.
05 Hemorrhagic Malarial Fever. F. H. Williams.
06 Dilatation of the Stomach. F. D. Garrett.

merican Journal of Medical Sciences (Philadelphia), December.

07 *Penetrating Gunshot Wounds of the Abdomen. Robert G. Le Conte.
08 *Report of a Case of Sporadic Trichinosis. John Chalmers Da Costa and Rae S. Dorsett.
09 Histological Description of an Eyeball, with Dropsical Degeneration of the Nuclei and Protoplasm of the Rod and Cone Visual Cells of the Retina, Which Clinically Simulated Glioma. G. E. de Schweinitz and E. A. Shumway.
10 *Combined Clinical Report of Two Cases of Aortic Aneurysm Treated by Means of Silver Wire and Electricity. Leonard Freeman and J. M. Hall.
11 A Case of Syphilitic Insanity and One of Paralytic Dementia Simulating Syphilitic Insanity. W. K. Walker, Theodore Diller and R. G. Burns.
12 A Case of Myxedema with a Study of the Blood and Urine During Treatment. Thomas P. Prout.
13 A Fatal Case of Acetanilid Poisoning. Philip King Brown.
14 Ligation of the Common Carotid Artery for Hemorrhage from the Cheek; Hemiplegia; Recurrence of Bleeding; Death. Francis T. Stewart.
15 Report of a Case of Tetanus. J. Norman Henry.
16 Mastitis Complicating Typhoid Fever. Fellowes Davis, Jr., H. S. Patterson, and A. W. Hewlett.
17 *Report of a Case of Lymphocytosis Without Glandular Enlargement, Complicated with Pneumonia. William C. White.
18 *Symptoms Pointing to the Necessity for Operative Interference in Mastoid Suppuration. Wendell C. Phillips.
19 Infection of the Rectum, with Secondary Infection of the Liver, Caused by the Bacillus Influenzæ Similis. W. Ophuls.
20 Sarcoma of the Large Intestine. John H. Jopson and Courtland Y. White.
21 On the Nature of the Disease Known as Erythema Induratum Scrofulosorum. Arthur Whitefield.
22 A Case of Lupus Erythematosus Cured by the X-ray. Richard F. Woods.
23 A Case of Lymphatic Leukemia, Apparently Developing Out of Hodgkin's Disease, Accompanied by Leukemic Lesions and Pigmentation of the Skin, Culminating in Streptococcus Infection. Grover W. Wende.
24 *A Contribution to Clinical Observations on Blood-Pressure. Herbert S. Carter.

Medical Mirror (St. Louis), November.

25 Rudolph Virchow. G. Frank Lydston.
26 Fraternalism in Medicine. I. N. Love.
27 Blood Examinations in Disease. M. R. Hughes.

Proceedings of the Pathological Society of Philadelphia, November.

28 *The Identification of the Colon Bacillus by Reactions Produced in Culture Media Containing Neutral Red. Observations on Reactions of Other Bacteria on the Same Media. R. C. Rosenberger.
29 *Amebic Abscess of Liver. J. Alison Scott.
30 *A Report and Exhibition of the Largest Recorded Aneurysm of the Heart. Roland G. Curtin.
31 A Case of Anemic Necrosis in the Wall of the Left Ventricle Above the Apex of the Heart Associated with Angina Pectoris and Locomotor Ataxia. Roland G. Curtin.
32 A Case of Interventricular Aneurysm Opening into the Right Ventricle by Ulcerative Process, and Aneurysm of the Abdominal Aorta. Roland G. Curtin.

Medical Summary (Philadelphia), December.

33 The Home Treatment of Nasal Catarrh. (Concluded.) Edwin Pynchon.
34 Electro-therapy. J. S. Waller.
35 Craniotomy—Report of Two Cases. A. B. Lichtenwalner.
36 The Diagnostic Value of Eye Symptoms. C. H. Brown.
37 Typhoid Fever. Floyd Clendenen.

Occidental Medical Times (San Francisco), December.

138 *An Address on San Francisco Health Conditions. John M. Williamson.
139 *Address, San Francisco Medical Society. George H. Evans.
140 Gallstones with Interesting Complications. Emmet Rixford.
141 Remarkable Shotgun Wound of the Thoracic Cavity, Followed by Recovery. M. A. Craig.
142 The Relation of Appendicitis to Disease of the Pelvic Organs. George B. Somers.
143 Gastro-jejunostomy: Death from an Unusual Complication. R. F. Stratton.
144 A Case of Progressive Unilateral Atrophy of the Face and Tongue. Alice M. Woods.
145 Tubal Preguancy Resembling Appendicitis—Tubal Abortion. J. Henry Barbat.
146 Plague. W. H. Kellogg.

American Journal of Surgery and Gynecology (St. Louis), December.

147 Bassini's Operation for Femoral Hernia. J. F. Binnie.
148 Multiple Myomectomy on a Pregnant Uterus Without Interruption of Gestation. L. P. McCalla.
149 Non-Surgical Treatment of Appendicitis. John C. Murphy.
150 Operative Treatment of Cirrhosis of the Liver. George H. Thompson.
151 Tuberculosis of Tubes, Ovaries, and Peritoneum. R. E. Cutts.
152 The Treatment of Certain Gynecologic Patients with Pepto-Mangan. Samuel Wolfe.
153 Woman's Hospital Reports: An Almost Fatal Vaginal Hemorrhage. Emory Lanphear.

Cleveland Medical Gazette, December.

154 A Case of Stricture of the Urethra in a Female, Complicated with Enuresis, Dilatation of the Bladder, Ureters, and Kidneys. L. B. Tuckerman.
155 A Few Remarks on the Routine Examination of Gonorrheics. Frank Oakley.
156 Some Observations on Intubations of the Larynx. William E. Lower.

Merck's Archives (N. Y.), December.

157 The Use of Camphor-Menthol in Diseases of the Nose and Throat. Lewis S. Somers.
158 Neurasthenic Urethritis: Its Preventive and Curative Therapy. (Continued.) J. M. Thompson.
159 An Index of Diseases Alphabetically Arranged, with Their Modern Treatment. G. Bjorkman.

Medical Sentinel (Portland, Ore.), December.

160 The Early Surgical Treatment of Mastoid Disease. Andrew C. Smith.
161 Exploratory Operations. Park Weed Willis.
162 Report of a Case of Myomectomy on a Pregnant Uterus Without Interruption of Gestation. L. P. McCalla.

AMERICAN.

1, 2, 3. **Laceration of the Perineum.**—Twitchell says that it is common to think of a tear as a split from the fourchette backward. This occurs in slight tears but not often in serious ones. Usually the perineum gives way at once. When a child is to be born, this oval opening is not stretched as by an entering wedge, but by having the lower end pushed away from the upper. If in swinging the head, as it extends, it slides on the perineum, the space between the pubes and the fourchette will increase; if it does not slide, the opening will not increase and the perineum will follow the motion of the head, causing decided stretching, but not enlarging the opening. Hence the importance of keeping in the vagina a lubricant which aids it. The natural lubricant is the best and should not be lessened by douches, too frequent examinations, etc. Artificial lubricants do not replace the natural one. Delaying a precipitate labor by chloroform will save the perineum in some cases, and in protracted labor the use of forceps and extraction between pain may be sufficient. The principal thing is to keep the head from coming through too quickly. Three elements are to be considered in the prevention of laceration: 1. The head should be presented in its smallest diameter. The bladder and rectum should be always empty so as not to take up any space. The patient must refrain from the use of voluntary movement at this time. The attendant should retard a too perceptible progress of the labor. In many cases the modified Walcher position is of value in protecting the perineum by its relaxing effect and permitting easy and constant observation.

Walker believes in anesthesia for preventing voluntary muscular contraction and to lessen involuntary ones, and it may be necessary to carry the anesthesia to a surgical degree during

the last few minutes. Many perinea are torn after the expulsion of the cranium by too sudden extension of the head. He avoids this by keeping the head flexed completely until its largest diameter has escaped under the arch. The posterior shoulder should always be looked after, by causing lateral flexion of the trunk.

The cause of laceration, according to Andrews, is the continuance of the powerful force after its necessity has been passed. The most frequent direct cause is imperfect flexion of the fetal head, and decided disproportion between the presenting part and the outlet, or where faulty mechanism is present, and the presenting part is pushed too far posteriorly, and not allowed to emerge safely under the pubic arch. Finally, old lacerations are liable to induce severer ones. The whole subject of prevention may be summed up: 1. Patiently and persistently endeavoring to bring the longest diameter of the presenting part in relation with the longest diameter of the outlet. 2. Securing perfect dilatation of the soft parts at the outlet. The abdominal muscles play by far the most important part in the expulsion of the head and it is an advantage that we have them under our control. He believes in the use of chloroform in these cases. The advice to support the perineum is accountable for many lacerations of the perineum; it is not the perineum which needs support, but the head, until the muscle structures have been stretched. Position is very important; he thinks the lateral better than the dorsal. The parts should be accessible to sight and touch. Forceps in certain cases are of value; for the correction of certain errors in mechanism, overflexion or overextension, they are the best means available. Episiotomy is not advised and is considered ineffective. Lacerations by the shoulders are less excusable than those by the head. If undue haste is avoided and the head lifted upward one shoulder will be behind the symphysis, while the other is safely borne over the perineum.

4. **Rectal Valves.**—Bodenhamer reviews the anatomy and its literature in regard to the rectal valves and believes that he has disproved their existence.

12.—See also ¶26 below.

13. **Brain Abscess.**—Jack reports a case of brain abscess operated upon successfully with perfect recovery.

14. **Aphasia.**—Walton gives the details of a careful examination of the same case and finds that the form partakes of Bastian's amnesia verbalis, resulting from lowered activity of the auditory word center as well as that of commissural amnesia resulting from defective transmission of stimuli to and from that center. It includes Wernicke's conduction aphasia, which denotes a break in the connection between the auditory and kinesthetic center, and is itself included in the comprehensive sensory aphasia of Oppenheim and others and the auditory sensory aphasia of Collins. That the auditory word center was not entirely destroyed was shown by the fact that the patient understood ordinary commands, but that its function was impaired was shown by the patient's inability to understand more unusual words, also his inability to produce spontaneously in conversation the desired word except of the simplest variety. It is probable, that the auditory word center itself was not involved in the encephalitis, but the moderate word deafness was due to impaired conduction of the afferent fibers conveying stimuli to that center "(subcortical sensory aphasia, pure sensory aphasia of Dejerine). The result of such lesion is obviously identical as far as understanding the speech of others is concerned. The diagnostic feature consists in the fact that if the afferent fibers only are affected the patient can still speak spontaneously, because the centers and connecting fibers necessary for this function are intact. It might be inferred, then, that in our case the auditory center was affected because he could not use spontaneous speech perfectly, but here we are met by the probability that the fibers connecting the temporal lobe with Broca's convolution were interrupted, a lesion in itself sufficient to prevent spontaneous speech. This study well illustrates our limitations in the attempt to establish the degree in which the different elements of the speech mechanism are affected in a given case. At the same time, it illustrates the accuracy with which we may differentiate the sensory from the motor form of aphasia. It seems probable that the fibers connecting the visual with the auditory center were interrupted, for he found difficulty in reading aloud, and though he could recognize an object he could not recall its name. The fibers passing in the opposite direction were doubtless also interrupted, for he could not write difficult words from dictation. That the fibers passing from the auditory area to Broca's convolution were probably impaired is shown by the fact that though he could hear and, to a certain extent, interpret from hearing, he could not talk correctly (paraphasia)." There is no reason to think that Broca's convolution was invaded and the case supports the views of Wernicke, Broca, Trousseau, and others, that there is no writing center in the sense of a center in which are stored up the kinesthetic memories of written words. The inability to write in this patient was absolutely coincident with his inability to talk. The case is discussed elaborately. Finally, two months after the examination the patient again presented himself and no defect of speech could be elicited whatever. The only trouble he had was in the use of one or two words. Recovery seemed complete.

15. **Congenital Elevation of the Shoulder.**—Goldthwait and Painter report two cases, one probably due to imperfect development of the muscular structures, analogous to congenital torticollis in which the sterno-cleido-mastoid muscle is imperfectly developed and probably due to injury at the time of birth. In the other case the position of the shoulder was associated with embryonal conditions, there being a distinct articulation between the upper angle of the scapula and the seventh vertebra. Operation on both of the cases produced a certain degree of relief.

20. **Yellow Fever.**—Souchon argues against the statement of Doty that five days from an infected port is sufficient to eliminate the danger of yellow fever introduction and enable us to dispense with quarantine. He reports a number of cases where a longer period elapsed before the outbreak of the disease.

22. **The Typhoid Spine.**—Taylor reports a case and discusses the condition. He thinks that it is hardly possible that it can be solely spinal irritation and that there is really a definite pronounced affection of the tissues in some cases at least. Deformity would seem to be present in these structural cases but absent in purely neurotic ones.

24. **The Middle Turbinate and Chronic Diseases.**—Baker argues for the relation of the morbid conditions of the turbinate to other diseases and describes three classes of cases where they may occur and where its removal is indicated: 1. Where it is associated with polypoid growths which the most careful extirpation with snare, curette, caustic, or cautery will not cure until the turbinate is removed either in whole or in part. The second indication is sinus occlusion by a swollen membrane, which is not polypoid and does not respond to other recognized means of treatment by cleansing and disinfection. He knows of two patients who died from cerebral inflammation that he knows could have been saved by early removal of the turbinate so as to permit free drainage of the infected sinuses. The third indication is fetid crusting of the discharges in the upper portion of the nasal chambers in nonspecific cases. The fifth condition is where the turbinate lies in close proximity to the more sensitive area of mucous membrane and by contact causes various nervous disturbances such as persistent sneezing, cough, asthma, headache, eye reflexes, vertigo, tinnitus, and even chorea and epilepsy which he claims can be caused this way and relieved by this operation. The sixth class is that of vasomotor rhinitis running along throughout the year. He does not claim that removal of the turbinate will cure such cases alone, but it will greatly shorten the period of suffering and give relief. The method of operating is the following: After thorough cleansing, using cocain on a cotton applicator and leaving pledgets for ten minutes between the bone and outer walls, then applying suprarenal extract or adrenalin, the attachment of the bone to the lateral wall is then severed with the Holmes middle turbinate scissors. If the rear portion is out of reach of the scissors it is cut off

ith the snare. The cavity is then packed with iodoform gauze, sually removed on the following day and frequent cleansing ith borax solution is done by the patient until healing is comlete.

25. **Functional Amblyopia.**—The conclusions of Pearse's rticle are: Our knowledge of the manifold manifestations of he disease, hysteria, in every structure of the body will not ermit us to say positively that the retinal elements, the conucting channels of visual sensation, or the visual centers hemselves, are free from the influence of this disease. The ffect upon the visual apparatus of fright, shock, emotion, ental exhaustion, overexertion, etc., is essentially the same s in hysteria, and whether the sympathetic is concerned in his action is yet a question. In view of the known sphere f action of the sympathetic and of the many cases observed hich present the same conditions in the vessels of the fundus hich the influence of the sympathetic produces elsewhere in he body, if the sympathetic does not influence the fundus essels, what does? Until a more plausible source of influence s positively demonstrated, we can not do better than accept his explanation, which is far removed from a theory.

26. **Surgical Tendencies.**—Fitz's article is largely skeptical s regards the value of many surgical operations. He gives a able of the results of exploratory laparotomies in the Massahusetts General Hospital from 1890 to 1900, making a rather oor showing. He does not think that the surgery of maligant tumors is encouraging from the statistics, though a prongation of life and relief of symptoms may be obtained in ome cases. He analyzes the cases that have been operated on the Hospital and the results rather justify his pessimistic iews. Intracranial tumors form another series than have been perated on and from 15 cases found in the decade, subsequent istory was known in 10; 8 out of 10 died the month after the peration, the 9th died at the end of ten weeks and the 10th ied seven months after a second operation, which followed the rst. Other conditions mentioned and discussed are tumors nd goiter. He thinks that advanced knowledge in the future hould be in the direction of limiting unnecessary and harmful perations, greater accuracy in the diagnosis and prognosis and ncreased knowledge of pathology and pathologic anatomy.

27. **Lobar Pneumonia.**—Stockton holds pneumonia to be a oxemia. Not every part of the patient's system resists it; he weakest one is apt to be the heart, or the blood-making rgans may fail to react and we have a lack of natural leucoytosis. There may be a secondary toxemia develop from a rippling of the liver and kidneys and the nervous system may e so injured that rest is impossible. The functional activity enerally is handicapped. We know, however, a few measures hat can be tried in almost ever case; one is a prompt calomel urge; another is the treatment of the skin, though we differ our methods. In the Buffalo General Hospital he invariably nploys hot mustard foot-baths following sponging. The genral circulation requires attention and these methods relieve igh pressure. The depressing drugs are but rarely needed. e has seen great benefit follow the cold bath after the method f the Brandt treatment. Depression of the heart is still more be feared and his method of meeting this is to strengthen it possible by the use of strychnia, giving it early, beginning ith 1/30 of a grain every two to four hours and increasing it p to even 1/10 gradually if the condition demands it. Baths, ourishment and medication should as much as possible be iven at about the same time that they may not interfere too uch with rest. The patient should not be disturbed too uch even if he sleeps beyond the expected hour, but the nurse hould be ready the minute he awakes to prevent depression, ervousness, etc., by prompt administration of nourishment, rychnia and other stimulants, if necessary. We must also ear in mind that pneumonia is a local process, and he thinks a source of satisfaction when hepatization of one lobe appears rly in the disease. Delay appears to increase the toxic action. e gives a supposititious case where there was probable conolidation of the other lung and speaks of the desirability of ostponing this. He thinks this can be accomplished, taking advantage of the constitutional symptoms already described. It is a good plan to give an additional dose of calomel, to press the hot foot-bath, support the tissues by increase in the strychnin and resort to local measures to decrease the pulmonary congestion. The best method is blood letting, 4 to 6 ounces of blood from the arm and then use dry cupping very thoroughly over the threatened area. The cup should be large and the suction strong so that a decided impression is made, and liberal inhalations of oxygen have also tided the patient over the eminent danger. In "wandering pneumonia" he thinks approaching consolidation may be aborted in this way. Lobar pneumonia is a disease that needs almost the constant presence of the attending physician in the severe cases, not in the mild ones which have a tendency to abort early. There is one particular condition in which he thinks counter-irritation is advantageous, and that is where there is delayed resolution. He has seen immediate improvement occur after failure of other methods by the use of a large fly-blister. He thinks that we are not yet ready to dispense absolutely with counterirritation in pneumonia. Finally, experience teaches him that the great fatality of senile pneumonia is mostly from the unusual toxemia, because of the inadequate functional activity of the organs of elimination. If, with stimulating, we at the same time sweat the patient and assist hepatic and renal secretion by proper means, our results will be better.

32. **Infiltration Anesthesia.**—Matas' paper is a description of an apparatus used by him which is practically an adaptation of the Potain aspiratory apparatus, identical with the contrivance described and illustrated by him in the *Philadelphia Medical Journal* of Nov. 30, 1900.

33. See abstract in THE JOURNAL, xxxvii, p. 1339.

34. **Trophoneurosis.**—The case reported and illustrated by Pearce is one of a young woman who had a heavy head of brown hair, which fell out completely within three weeks and was replaced two or three months later with a growth of snow-white hair. Some ten or eleven months since this there has been some slight return of color. There is absolutely no history of heredity of premature grayness. He thinks that trophoneurosis best explains the development of the alopecia and bleaching of the hair, but he does not express a favorable opinion as to the complete restoration of the former condition. There has lately been a general attack of herpes.

35. **Tuberculosis.**—The experience of the Rutland Sanatorium of Massachusetts is summarized by Dunham, who gives a tabulated statement of over 200 cases treated, with the average length of stay of six months. The disease was arrested in 42 per cent., very much improved in over 22 per cent., much improved in 15.4 per cent., improved in a slightly greater proportion and unimproved in less than 4 per cent. The medical management seems to have been largely symptomatic, with no routine treatment. Strychnia in small doses, iodin preparations, hypophosphites, tonics, creasote, ichthyol, methylene blue, etc., were administered according to indications. The term "arrested" as used, means a condition of apparent health. Outdoor life as much as possible is recommended; and he gives a diagram of a bed which is arranged so that the head of it, including the sleeper's head, can be shoved out of the window during the night, and in case of storms coming up he can easily pull himself back. He does not specially over-value the increase in weight under treatment. He thinks that sometimes it is not in itself a real gain. The question of exercise is discussed and says it is to be regulated largely according to the temperature. When a rise of temperature is at all prominent, complete rest in bed is enjoined. Measurement of the chest capacity and physical examinations are employed. As regards hemoptysis he has changed his opinion as to its cause and thinks that increased blood pressure is by far the most important element. It is much less likely to occur according to his statistics in old cases with excavations than in recent incipient cases, and improved drainage may have something to do with this as well as lowered pressure. An absence of drainage might favor hyperemia, causing tension and relief by hemorrhages. Exertion is also a potent factor in its causation.

The routine treatment for hemorrhage in the sanatorium is absolute rest, and quiet, cold fresh air, semi-erect posture, trunk and head cool, heroin for coughing and in urgent cases morphin hypodermically and bandages at the base of the limbs. Common salt and small doses of aconite are used in almost all cases. Ergot is never employed. Suprarenal capsule and calcium chlorid have been used with good results. Securing of free movements of the bowel is an important matter. Preparations of gelatin with a light liquid diet are ordered.

36. **Nephritis in Malaria.**—Moore gives the conclusions of his paper in the following: 1. Nephritis is not likely to occur in a single tertian infection for a short interval, say of five days. 2. A double tertian infection will produce a nephritis in a large percentage of cases if it runs only for a short time. Our percentage is 80 per cent., but I think this is too large. 3. The more chronic the case becomes of any infection the more likely to produce nephritis. 4. Malaria of long duration, or often repeated attacks will produce chronic renal disease as shown by continuous presence of albumin and casts. 5. Estivo-autumnal malaria probably gives the greatest percentage of cases of nephritis, 68.7 per cent. 6. The age of the patient, height of temperature, or specific gravity of the urine showed no relation to the presence of albumin and casts in our cases.

41. **Primary Intestinal Tuberculosis in Children.**—From a study of the subject and a careful review of the literature, Bovaird comes to the following conclusions: "1. That English reports alone show any considerable number of cases of primary intestinal tuberculosis. 2. That primary intestinal tuberculosis is a very rare affection among children in or about New York, little more than 1 per cent. of the cases of tuberculosis having this origin. 3. That the proportion of tuberculous cases found at autopsy in New York is lower than that of European observers. 4. That the evidence connecting tuberculosis among children with the consumption of milk of tuberculous cows is very scant."

43. **Temperature Fluctuations in Tuberculosis.**—Several cases are reported by Adams to illustrate the fact that wide fluctuations of temperature in the terminal stage of tuberculosis in children are not necessarily of immediate serious importance. He says that the temperature may reach 108, and in a few hours drop to 95 without any effect upon the child either mentally or physically. He explains the absence of collapse and the not unusual phenomena of hyperpyrexia by the assumption that some irritant acts upon the heat centers differently from that present in purely septic conditions.

44. **Guaiacol in Infantile Tuberculosis.**—Rachford insists on the importance of early diagnosis and treatment of tuberculosis in children, but the special purpose for which his paper was written is to call attention to the great value of guaiacol in these cases. The prescription which he has used is:

℞.	Guaiacol	ʒi	3|75
	Lanolin	ʒii	7|5
	Lard	ʒv	18|75

M. Sig.: One level teaspoonful to be rubbed into the chest at bedtime each day.

This he has employed in almost every case of tuberculosis of infancy and children for the past eight years and is convinced of its value. In cases where acute symptoms are in abeyance he prefers a substitute of carbonate of guaiacol internally for the inunction treatment. It is easy of administration, and when mixed with a little milk and sugar can be given in powder without causing complaint. It is especially valuable in intestinal and mesenteric tuberculosis. Other remedies are also mentioned, such as creosote by capsule or inhalation, iodid of iron, etc.

45. **The Little Finger in Mongolian Idiots.**—West calls attention to the symptom of curve of the little finger which has been noted in Mongolian idiots, though it is not universally observed. It was first noticed by Telford Smith some fifteen years ago. He has examined over 600 average children and found that in a large proportion of these some curvature is found, and in nearly 20 per cent. a very marked curvature. The symptom therefore is not a characteristic one.

52. **Subphrenic Abscess.**—The symptoms, pathology, diagnosis, frequency, modes of onset, prognosis, etc., of subphrenic abscess following appendicitis are described by Elsberg, who illustrates his article with reported cases and gives an analysis of others. He describes his operation for subphrenic abscess which is by resection of about two inches of the ninth and tenth ribs somewhere between the scapular and anterior axillary lines, according as the exploring needle has revealed the pus anteriorly or posteriorly. They can be resected through one incision made in the intercostal space between them and will expose the diaphragm with the liver moving below, and pleural reflection in the upper part of the wound. If the pleura appears to contain pus, aspiration should be performed, and if it is found the cavity should be opened and drained. If, however, this is needless, the upper part of the wound should be packed with gauze and the needle made to perforate the diaphragm below the resected pleura. If it perforates the abscess it should be allowed to remain in place and used as a director. A small incision of the diaphragm along the side of the needle, dilatation of the small opening with dressing forceps, and drainage according to general principles are all that is needed. If, however, the abscess is so high in the dome of the diaphragm that it can only be reached by the transpleural route, the pleural cavity can be opened through the upper part of the wound. In some cases the inflammation has obliterated the costophrenic sinus so that the pleural cavity need not be opened, and great care should be taken in this case to avoid tearing the adhesions. If the pleural cavity has to be opened it should be done as rapidly as possible, an assistant making upward pressure against the liver while the operator makes a small incision into the pleura. By this upward pressure it is often possible to so closely approximate the diaphragmatic to the costal pleura that little if any air can enter the pleural cavity when the opening is made. Usually, however, one must be satisfied with limiting the quantity of air by this procedure. Sometimes it is impossible to unite the two pleural layers by sutures. Then all that can be done is to wall off the cavity carefully with gauze. Elsberg does not agree with Beck that aseptic tamponade of the pleural sac should always be done. Incision of the diaphragm and evacuation of the pus by drainage of the abscess cavity are performed as already described.

55. **Peritoneal Tuberculosis.**—Fenger reviews the literature of tubercular peritonitis and from a summary of the whole agrees with Borchgrevink that laparotomy is not an efficient method of operation in these cases. He restates Borchgrevink's conclusions as follows: "That the laparotomy, in strong patients in whom fever is absent and their condition of good nutrition speaks for a spontaneous disappearance of the tuberculous process, is well tolerated. Laparotomy, however, in patients with fever, when the tuberculosis has a progressive character, must diminish what slight power of resistance such a patient has remaining. This power of resistance may thus yield, and death follow, or it may, by concurrence of fortunate circumstances, rebound, and the patient recover in spite of the operation. That form of peritoneal tuberculosis which exists without fever, or with only slight fever, runs in itself a favorable course. In such cases laparotomy is unnecessary. In progressive tuberculosis the operation is dangerous and should be abandoned."

58. **X-Ray Burns.**—Huntington reports a case of treatment of *x*-ray burn by excision and skin grafting, which he thinks is an efficient method of treatment of this condition. The excision should be performed through the external border so that all tissues supplied by the defective blood vessels are removed.

64. **Ablatio Placentae.**—This condition consists in the premature detachment of the normally situated placenta, and is extensively discussed by Holmes, who gives a long list of the literature. He finds it occurs about once in 200 pregnancies and is of clinical importance in about 1 in 500. The difference between the occult and open type is largely dependent upon the external bleeding in the latter. Complete blood retention in the former generally produces an exaggeration of the uterine distention and accessory tumor and more evident shock

ablatio is practically an abortion in the latter months of regnancy. The etiology is nearly identical, the mechanism in ertain respects similar; there is often a paralleled threatened bortion. The patient may and often does tide over the difficulty in the mild cases and go on to term. The mild cases must be most carefully watched, quiet induced by morphia if ecessary, icebags to the uterus, hydrastinin given instead of rgot, etc. In severe cases treatment will have to be modified y the condition of the os. If this is ready for delivery use orceps, craniotomy and version, using the operations in the rder named. Version should never be selected except when nimpeded breech extraction is possible. In severe cases of abor, the labor should be induced as rapidly as possible by riction, electricity, quinin and sugar, general stimulation, etc., nd preparation should be made to introduce a Barnes bag. ater the use of larger bags, manual dilatation, or Dührssen's ncision when the effacement is complete and he suggests that he oblique cuts offer less danger than those suggested by the riginator. If dilatation is present without effacement Dührssen's incisions have no consideration. In severe cases in abor hasten it as much as possible. Tampons should have no lace in the treatment. The membranes should be preserved ntact until delivery may be expedited. Cesarean section will e of value in selected cases, but never will be popular. If the lacenta does not follow the child at once, remove it immediately. Be prepared for postpartum hemorrhage, which is a requent sequence of the condition. Tampon the uterus early. The best remedy is extraction of the fetus. Apply this precept oo early rather than too late.

66. **Recovery After Hysterectomy.**—The various facts rought out in Broun's study lead him to the conclusion that: 1. While the finished result of a supravaginal hysterectomy is most satisfactory, the operation is, however, marred by the ossibility of a secondary infection, at times terminating atally. When this infection does occur it can be reached only y some secondary operation. 2. The chance of this infection ccurring is greatest when the subperitoneal space is drained hrough the canal of the cervical stump, or when the canal is eft open. There is every reason to close the stump, as offering the best results. 3. Total abdominal hysterectomy, though ot such a finished operation as the supravaginal, is, however, ne in which there is less likelihood of any secondary complications, and, though objectionable on account of the suppurating cavity to be closed by contraction and granulation, yet ffers to the patient a surer means of uninterrupted recovery. This conclusion, while at variance with Olshausen's large collections of cases, in which he gives a 5.6 per cent. death rate or supravaginal and a 9.6 per cent. rate for fatal hysterecomies, is, however, the only one to be drawn from this collection of consecutive cases brought together here."

67. **Post-Cervical Incision.**—Three cases are reported by tinson of pelvic inflammation and from the study of these and ther reported cases and a comparison of the methods, he raws the following conclusions: "1. That intraperitoneal elvic inflammation is strictly a surgical disease. 2. That such nflammation should be operated upon as soon as the diagnosis s made, no matter what the state of the disease. 3. That in most cases the disease is best approached and cured through the osterior cervical cul-de-sac incision. 4. That all such inflamatory masses should be freely opened, the cavities thoroughly rrigated with hot antiseptic solutions, dried, and drained with oosely packed borated gauze strips. 5. That gauze drainage hould be supplemented and aided by copious vaginal douches f 1 to 1000 hot watery solutions of potassium permanganate, iven every three or four hours until discharge, fever, etc., re gotten under control. 6. That the cul-de-sac operation is xtremely satisfactory in the treatment of intraperitoneal elvic inflammation and most of its sequelæ; the possibility of nfecting the general peritoneum is very much reduced by operating through the cul-de-sac, as all fluids in the pelvis can be asily and thoroughly evacuated along lines of gravitation. . That the vaginal incision, when performed early in the isease, cures nearly 100 per cent. of all cases; and while the ate vaginal incision is not always so certainly cured, it is equally important. 8. That in all cases wherein diffuse peritonitis is present one is obliged to complete the operation at once with laparotomy, etc.; for this reason the patient, instruments, etc., should always be prepared beforehand, in readiness, if need be, for very extensive intraperitoneal operations. 9. That the vaginal operation for pus in the pelvic cavity is less difficult to perform than when done through an abdominal opening, and although the surgery is less complete, yet the dangers are less to the patient."

74. **Purpura Hemorrhagica.**—Schram reports a case and discusses the literature. In the blood there was found a number of small, rapidly rotating bodies which had been observed previously by Letzerich and considered by him as spores, but cultures taken from the blood 36 hours before death with all possible aseptic precautions gave pure cultures of staphylococcus aureus on all media. The bacilli found by Letzerich did not seem to have been present or at least could not be produced in the cultures.

76. **Rawed Peritoneal Surfaces.**—The treatment of raw peritoneal surfaces in the abdominal cavity after operation is taken up by Webster, who thinks it has been too much neglected in the past. It is a bad thing to leave such surfaces to produce adhesions. Small patches on the peritoneum, bladder, broad ligaments, etc., can often be sewed up at once with catgut. The areas of omentum which have been freed from adhesions should never be left open; if slight they should be covered with the neighboring omentum; if extensive they should be ligated near their base and then cut away. Adherent portions of appendices epiploicæ should be removed after separation and the raw stumps buried. Raw surfaces on the intestine may be covered with continuous catgut suture, if small, but large ones can not be thus managed, and in some instances it is advisable to detach the flap of the parietal peritoneum if it is lax, or if not, he prefers to cut a thin flap from the omentum and stitch it on the raw surface of the bowel, closing the omental wound with catgut again. In very bad cases it may be advisable to resect the affected portion of the bowel, especially if much of the muscular layer is exposed. On the uterus a small surface may be sometimes covered by a running suture, but if large and numerous, drafts on the omentum may be made. He frequently cauterizes such raw surfaces so as to form a black char, which is less likely to become adherent than a raw, oozing surface. He always cuts or curettes free tags of adhesions close to their base and buries the stump, if possible, under neighboring peritoneum. A thick char can not be produced on the bowel, which can only be lightly touched with the cautery. In removing diseased tubes or ovaries he has entirely abandoned the old-fashioned method of massing the tissues together in ligatures and leaving a raw projecting pedicle. It is more satisfactory to produce no tension in the pedicle and leave no raw surface. If the ovary alone is to be removed it is simply to be cut away at the hilum, the raw surface on the back of the broad ligament being constricted and covered by a double row of continuous catgut. If the tube is to be removed the same procedure is to be carried out, the uterine end of the tube being cut out of the uterine wall to the depth of a quarter of an inch, or burned out when there is any possibility that it is not sterile. When the ovaries and tubes are to be removed he passes a ligature around the upper part of the infundibulo-pelvic ligament to secure the ovarian vessels, and another around the upper part of the broad ligament close to the uterus below the tube to secure anastomosing branches of the uterine vessels. The ovary and the tube are then removed, the uterine end of the latter being cut out of the uterine wall as above described. The raw area of the broad ligament of the uterus is closed and covered with peritoneum by continuous catgut suture. In vaginal extirpation he always tries to draw the ligatured ends of the broad ligaments downward, stitching them into the lateral fornix so that the raw stump remains entirely within the vagina. Within the last two years he has used the following plan when double tubal or ovarian swellings have been adherent behind the uterus, and when removed a raw oozing surface is left. In marked cases in order to cover the raw surfaces he has removed the diseased

swellings and the entire uterus with the exception of its anterior peritoneal layer, leaving this continuous with the broad ligaments, bleeding points on the cut surface of the peritoneal layer and of the vagina being secured. A strip of gauze is passed into the vagina, its ending resting in the pelvis just above the opening in the fornix. The broad ligaments with intervening peritoneum thus forming a flap extending across the pelvis is turned backward and stitched around the wall, so as to form a new covering on the pelvic floor. The same procedure may be carried out after removing bilateral broad ligament tumors where a large raw area is left in the pelvis. After these operations there is always some oozing of blood into the vagina but not to any marked extent. The gauze can be removed on the second or third day according to the amount of discharge and a fresh piece inserted.

91.—This article has appeared elsewhere. See THE JOURNAL, xxxvii, ¶22, p. 1728.

92. **Myositis Fibrosa.**—A case of this condition is recorded by Biggs, who reviews the condition, pointing out its varieties, the primary or idiopathic and the secondary due to trauma, ischemic disturbance, the site of the previously existing abscess or as a sequela of the non-suppurating forms of myositis, such as rheumatism, syphilis, etc., those cases due to the presence of trichinæ in the musculature and those cases occurring in conjunction with scleroderma. The symptomatology is described. The site of predilection is in the leg, the thigh and lower leg alike; there is seldom any febrile reaction or constitutional disturbance of importance, but spontaneous pain occurs with tumor and some tenderness to pressure, possibly disturbance of the thermic or tactile senses. In the secondary form we have a wider distribution of disease. It is most commonly met with in torticollis with less spontaneous pain, less tenderness as the disease subsides into the chronic state and the muscles come to a certain extent to be substituted by fibroid tissue with loss of strength and electric reaction. The prognosis is usually favorable, the condition yielding to prolonged massage and electric treatment. The case reported is apparently one of the primary idiopathic form.

94. This article has appeared elsewhere. See THE JOURNAL, xxxvii, ¶22, p. 1728.

100. **Transmission of Tuberculosis.**—Brown does not believe in the transmission of tuberculosis from milk and the flesh of tuberculous animals. He classifies the infectious diseases of animals, pointing out that diseases of a long period of incubation and slow onset, slightly influenced by treatment, are seldom transmissible, and asks why tuberculosis should be an exception.

107. **Gunshot Wounds of Abdomen.**—A case is first reported and the condition generally discussed. Le Conte recapitulates the most important points as follows: "1. Remove the patient at once to the nearest place where a clean operation may be undertaken. 2. Assure yourself positively that penetration has taken place. 3. Having demonstrated this fact, always open the abdomen and search for injuries, and make this search systematic. 4. Never wait for symptoms to tell you that profuse hemorrhage or intestinal perforation has taken place, for by that time operation will usually be useless. Lastly, remember that cleanliness and thoroughness must never be sacrificed to speed. These two are absolute essentials to success, while speed is no longer an important factor since the introduction of normal salt solution."

108. **Sporadic Trichinosis.**—DaCosta and Dorsett report a case in detail, of which the particular features are that traumatism preceded the apparent onset of the muscular trouble; that pain in the muscle was slight; tenderness of the muscle and edema of the skin were absent; that no antecedent gastro-intestinal attack occurred; that, in spite of the widespread invasion, some diseased muscles (the deltoid) did not appear to be swollen and were not tender and painful, and other invaded muscles (the opposite lower extremities) were enlarged, but gave no evidences of pain, and finally, that eosinophilia was never noted. The relation of traumatism to the trichinosis is a point of interest and he suggests several questions, for instance, whether the seat of injury constituted the point of least resistance toward the larvæ trichinæ as injury often does towards micro-organisms. It is peculiar that the disease should begin in such an unusual situation as the calf of the leg where the injury had occurred. In the conclusion of the paper Dr. Coplin suggests the possibility of a recrudescence of lesions, basing it on the more or less local active lesion (trichina, edema, myositis, etc.), with quiescent trichinæ in other muscles, the absence of marked eosinophilia, the history of the injury and the fact that injury induces inflammation of fully encapsulated, but quiescent, parasites of other but similar types, such as the echinococcus, and lastly, the evident pericapsular lymphoid accumulation, which he thinks establishes that the inflammatory phenomena which are present at the time are not necessarily related to the presence of living trichinæ.

110. **Aortic Aneurysm.**—Freeman concludes that with the present inefficiency of medical treatment and the comparative efficiency of the use of silver wire and electricity, it is probably better to resort to the use of the latter at once. The prospect of cure is, of course, in the early stages when the sac is firm and the patient in good condition. Soft unalloyed silver, devoid of spring, is preferable to hard elastic wire. It is hardly necessary to previously coil it. It is still an open question as to which is preferable, a large or small amount of wire, but theoretic advantages are in favor of the former. A strong electric current is apparently preferable to a weak one. The canula through which the wire is introduced should be inserted just within the sac and no further. There is little if any danger of bursting the aneurysm from increase of pressure due to coagulation in a portion of the sac only. Hall reports two cases in which Freeman employed this method.

117. **Lymphocytosis.**—After reporting a case, White concludes that lymphocytosis may result where there is an absence of enlarged lymph glands, from increased lymphoid tissue in the intestines and that the presence of these cells in the blood stream is probably due to mechanical causes (Ehrlich), and that lymphocytosis in the blood stream plays no part in the original inflammatory condition.

118. **Mastoid Suppuration.**—Phillips insists on early operation in mastoid diseases where a permanent remission of symptoms has not been brought about by free drainage through the drum membrane, by ice coils or poultices or by local blood-letting, and there should be no delay in operating under these conditions. The sooner it is done the better. Better hearing results will follow early operation as well as the chances of saving the patient's life. Pus pent up in mastoid cells is in a position to seriously menace vital structures. The method of operation adopted should meet one need, viz., the removal of all diseased tissue. He does not believe in the Wilde incision; local blood-letting can be obtained by much simpler methods. In cases of chronic suppuration the only hope of permanent relief is by external operation and we should certainly make an attempt to cure these cases.

124. **Blood Pressure.**—Carter's conclusions are that the average normal mean arterial pressure is for males 116 mm. Hg.; females, 113 mm. Hg. In acute nephritis the accompanying arterio-sclerosis, if present, is of slight or moderate degree. In acute nephritis the height of the blood-pressure varies, for the most part, directly with the amount of albumin in the urine. An acute parenchymatous nephritis complicating an acute infectious disease causes little or no increase in blood-pressure. The average mean arterial pressure in chronic nephritis is about 62 mm. Hg. higher than that of acute nephritis. There were no cases of chronic nephritis seen without an accompanying arterio-sclerosis. In arterio-sclerosis it is only those cases in which it is extreme that the average mean arterial pressure is raised. The most satisfactory drug for lowering blood-pressure, whether increase is due to nephritis or marked arterio-sclerosis, is sodium nitrite, best given in 2 to 3 grains every two to four hours. It acts in about twenty-six minutes, causing a reduction of 10 to 15 mm. Hg. (in marked arterio-sclerosis sometimes much more), the effect last-

ing one hour and forty-four minutes on the average. When the blood pressure is high and is accompanied by symptoms of uremia the best method of rapid reduction is phlebotomy, 5 to 8 ounces, followed by saline infusion (1400 to 1500 c.c. of hot normal salt solution) and sodium nitrite in full doses. Clinically, also, there is almost invariably improvement. Blood-pressure in aortic regurgitation, whether complicated by nephritis or not, is slow. If a mitral regurgitation is also present pressure may be nearly normal. Blood-pressure in all forms of anemia is below normal. Possible relation is suggested between lowered pressure in chlorosis and the production of gastric ulcer.

128. **The Identification of the Colon Bacillus.**—Rosenberger concludes that, while not affording a specific reaction in the case of the bacillus coli communis, neutral red agar should be classed as a valuable differentiating medium. The typhoid bacillus, while it does cause a fading of the color of the medium, never gives rise to the fluorescence noticed in some cultures of the bacillus communis. Further, the test medium should not be depended upon as the only differentiating one in examination of water, as several very common bacteria found in water give the same reaction.

129. **Abscess of the Liver.**—The points of interest in the case reported by Scott are the clinical latency with no history of previous dysentery, sudden rupture into the right pleural sac with signs of acute hemorrhagic pleurisy and development and appearance and disappearance of pyopneumothorax. The pathologic points of interest are: 1. The character of the pleural exudate: A thin brownish-red fluid, with a heavier brownish flocculent sediment, containing fatty leukocytic cells, looking like liver cells; bile pigment, fatty crystals, but no ameba, and sterile on culture. 2. The characteristic large single abscess in the right lobe, and its thick wall and viscid pus. 3. The very old lesion in the colon. 4. The curative powers of nature, which were well marked in this case, as seen in the extensive thickening of the pleura, obliteration of the diaphragm, and the two attempts to get rid of the pus through the diaphragm and rupture through the bronchi.

130. **Aneurysm of the Heart.**—The case reported by Curtin is considered of interest by him, 1, on account of the size of the cyst opening from the left ventricle which was as large as a child's head; 2, on account of the patient having lived for years not only with greatly diminished breathing capacity and severe complicating cardiac condition; and 3, the fact that the removal of 235 c.c. of blood, to accomplish which must have caused a break in the continuity of the aneurysmal walls, failed to produce any symptoms whatever.

138. **The Chinese in San Francisco.**—The President of the San Francisco Board of Health, Dr. Williamson, reports the difficulties which they have with the Chinese population, their absolute rejection of sanitary methods, their gregarious habits which make ten of them occupy the space where one could properly do so, their opium smoking, evasion of regulations, dirt, morals, etc. He says if we want relief let us have the continuance of the Exclusion Act; if we want a repetition of the labor troubles, more opium dens, prostitution, dirt, leprosy, tuberculosis, bubonic plague, then let us have the brotherhood of man in all the fulness thereof, as regards the Chinese.

139.—See abstract in THE JOURNAL, xxxvii, p. 1628.

Creosote in Pneumonia.—In the abstract of Dr. Van Zandt's article in our issue of December 28, the dose used by him is given as 7½ to 10 grains or minims every three hours to an adult. It should read carbonate of creosote, as the action of creosote itself would be altogether too irritating. The carbonate of creosote can be given in much larger doses than creosote without causing gastric irritation.

FOREIGN.

British Medical Journal, December 21.

Bacteriologic Examination of Potable Waters from the Public Health Point of View. A. C. HOUSTON.—The points mentioned as specially worthy of note in this article are: "1. That from the public health point of view knowledge is required, not so much as regards those microbes proper (peculiar, as it were) to pure water, but rather as regards those micro-organisms which are to be thought of as being of an adventitious, and possibly of a dangerous sort. 2. That as sewage is the most common and dangerous source of the pollution of potable water, further knowledge is required of the bacteria characteristic of sewage. 3. That bacteriologists have hitherto almost entirely neglected the question of the relative abundance of micro-organisms of different sort in pure and impure substances—for example, water as compared with sewage, virgin soils as compared with polluted and cultivated soils, etc. 4. That attention to this question of relative abundance has a most important bearing on the bacterioscopic analysis of potable waters from the public health point of view, because it shows that the biologic distinctions between pure and impure substances (for example, water and sewage) is so great as to be almost inconceivable, so great as to render the adoption of rigid and stringent bacteriologic standards unnecessary and inadvisable, and so great, also, as to allow the bacteriologist to detect in a water the presence of objectionable polluting material in quantity so small as to be far beyond the reach of chemical analysis. 5. That streptococci are absent from 10 c. cm. (or more); B. coli from 1, 10, it may be 100 c. cm. (or more); and B. enteritidis sporogenes from 100 to 500 c. cm. (or more) of pure waters; that is, these microbes are altogether absent or relatively so from pure waters. 6. That streptococci, B. coli and B. enteritidis sporogenes are commonly present in 1/1000 c. cm., 1/100,000 c. cm., and in 1/100 to 1/1000 c. cm., respectively, of crude sewage; that is, these microbes are present in crude sewage in great abundance. 7. That it is evident from these figures that there are tests available to the bacteriologist in the bacterioscopic examination of potable waters which far surpass in delicacy any known chemical tests. 8. That a stage may be reached in the pollution of water with sewage when the contaminating material is so small in relation to the bulk of water as to be inappreciable by chemical means, while yet yielding to bacteriologic tests unequivocal evidence of gross pollution with microbes of intestinal origin. This is a matter which has passed the stage of controversy. 9. That the presence of streptococci are to be thought of as indicating extremely recent, and B. coli less recent, but still not remote, pollution of animal sort, but that the presence of B. enteritidis sporogenes can not be considered to afford evidence of pollution bearing a necessary relation to the recent evacuation of animals. 10. That streptococci and B. coli are either altogether absent or present in sparse amount in virgin soils, and may be absent even from the polluted soils unless the contamination is of comparatively recent sort. In soils recently polluted with animal matters streptococci and B. coli are, of course, present in abundance. B. enteritidis sporogenes may be present even in seemingly virgin soils, but in sparse proportion compared with the large number found in cultivated and polluted soils. 11. That the presence of streptococci in any number in a water supply points not only to recent animal pollution, but also implies that the antecedent conditions—conditions intervening between the period of pollution of water and the time of collection of the sample—could hardly have been of so unfavorable a character as to destroy the vitality of seemingly more hardy microbes—for example, the typhoid bacillus. Quite the same can not be said for the B. coli test, since B. coli is a more hardy germ than B. typhosus. 12. That organic matter *per se* is, so far as we know, harmless; it is the bacteria apt to be associated with the organic matter that constitutes the element of danger. 13. That the amount of organic matter in a drop or even a few drops of sewage is so small as to be hardly appreciable on chemical analysis, and yet a like quantity of sewage can be shown by bacteriologic tests to harbor objectionable germs in great abundance. 14. That it is not necessary to demonstrate in a polluted water supply the presence of definitely pathogenic microbes to prove that there is danger in drinking such water. 15. That it is sufficient to show that microbes of intestinal origin are present in a water to condemn that water, because it is beyond controversy that

these micro-organisms are apt at any time to be accompanied by other bacteria which are clearly shown to cause disease in human beings. 16. That the bacteriologist can show that between a pure water and a water contaminated even with minute traces of excremental matter there exists a biologic difference not only of degree but of kind. 17. That under like conditions the chemist may fail to appreciate the pollution altogether, and most certainly can form no conception of its dangerous character. 18. That the chemist's methods of endeavoring to ascertain the truth in the analysis of water are necessarily indirect ones, and that all standards of potability are based on an assumed relationship which may or may not exist between the amount of organic matter and the number and character of associated bacteria. 19. That valuable as the chemical analysis of a water undoubtedly is, it ought in the future to occupy a secondary position, and the bacteriologic examination take its place in judging the purity or otherwise of our water supplies. 20. That until these facts are recognized and acted upon, progress in the prevention of water-borne disease must needs remain unsatisfactory."

On Rubella, Scarlatina and "Fourth Disease." P. WATSON WILLIAMS.—The author is dubious in regard to the existence of the alleged "fourth disease." He reports cases which he thinks are difficult to explain. He shows a group of scarlatinal cases exhibiting all the features that Dr. Dukes relies on as indicative of "fourth disease" and thinks that some of the cases hitherto reported as "fourth disease" were rubella, scarlatina, etc. Rubella occurs in different types as also do influenza and scarlatina, and he remarks that when it can be shown that the type of "fourth disease" protects the patient from rubella and yet occurs in those who have previously had scarlatina, the evidence of its being a distinct exanthem will certainly be very convincing, but hitherto such evidence is lacking.

Post-Scarlatinal Diphtheria and Rhinorrhea and Otorrhea. EGERTON H. WILLIAMS.—From a study of the hospital statistics of post-scarlatinal diphtherial nose and ear discharge, Williams offers the following as indicated from his study: 1. That it is advisable to cultivate all cases of rhinorrhea—aside from that of the acute stage—and otorrheas in scarlet fever cases, particularly in hospital practice. 2. That the bacilli at all resembling the diphtheria bacilli when found must be regarded as a modified variety of that organism, bearing in mind that their staining properties are often the only available means of diagnosis. 3. That systematic isolation of these rhinorrheas and otorrheas is not only justified but advisable. 4. That such isolation may be reasonably expected to reduce post-scarlatinal diphtheria incidence. 5. That it is an open question whether such mild cases require antitoxin treatment. Some cases, however, seem to indicate the use of the serum. It may do good and can do no harm. It is important also that these cases should be separated from healthy persons, even if they have not diphtherial disease. 6. That these discharges unassociated with sore throat, and therefore easily overlooked may be the cause of unaccountable outbreaks and the persistence of disease among school children.

Pneumococcus Arthritis with Notes of Seven Cases. NATHAN RAW.—Raw's conclusions are that from observation of a large number of cases of pneumonia he has found that the pneumococcus is capable of producing serious results in other parts of the body than the lungs. From his statistics he found that arthritis is a complication in 7 out of 817 cases of pneumonia or nearly 1 per cent., and his cases correspond almost exactly with those of Continental observers in that 6 were males and 1 female. In all 7 cases the pneumonia and the arthritis were both on the right side, which is probably only a coincidence though a striking one. He has also observed in some cases of pneumonia slight redness or pain of the shoulder joint of the affected side, but which subsided with the crisis. This may either precede the lung symptoms or follow the crisis or develop intercurrently. In Liverpool alcohol seems to decide in a great measure the severity of the attack, and he feels sure that one of his fatal cases would have recovered if he had not been a confirmed drunkard. The only treatment, in his opinion, is early evacuation of pus, if it can be reached. It is just possible that many cases of synovitis and arthritis occurring either during or after an attack of pneumonia or altogether independent may be due to this organism. He suggests that the name Fraenkel's diplococcus would be better than pneumococcus as its designation.

The Lancet, December 21.

Modern Methods of Vaccination and Their Scientific Basis. S. MONCKTON COPEMAN.—The history of vaccination in England is reviewed and the methods of government production of vaccine described. The author calls attention particularly to the method of vaccination by first blowing the lymph from a capillary tube on an aseptic prepared portion of the skin, and then scarifying through the droplets. It is well not to be too hasty to apply dressing, and he remarks that when every care has been taken to protect the area during the progress of the vaccination and prevent premature detachment of the crust the amount of scar remaining may be astonishingly slight. This he thinks is one of the results of the modern methods of vaccination, and shows how unnecessary old extensive scars are, which are due undoubtedly to mixed infection. Copeman reports also an interesting fact in regard to the production of vaccinia in the calf. Calves are found immune to vaccine taken directly from natural cases of human smallpox. He followed the suggestion occurring to him that the original vaccine Jenner used must have been obtained from inoculated smallpox. He utilized monkeys, which are very susceptible, and succeeded in obtaining virus which was immediately effective on the calf. He also remarks that a corroboration of this has recently come to his knowledge that the use of human inoculated smallpox in Burmah was also capable of originating effective strains of inoculated vaccine lymph.

Observations on the Etiology and Morbid Anatomy of Tuberculous Meningitis. EDMUND CAUTLEY.—The records of 27 cases of tuberculous meningitis observed during life and afterwards examined in the dead-house are analyzed by the author. He concludes that heredity means exposure to infection of weakly or predisposed children; that injury is very rarely an existing or predisposing cause; that the respiratory tract is the great channel of infection; that the alimentary tract is very rarely primarily infected; that cow's milk is very rarely if ever a source of infection; that limitation of the tubercular process to the meninges is very rare; that the prognosis is very hopeless on account of the extent of the tuberculous disease elsewhere; and that operative treatment may be discarded as experimental rather than useful. As evidence of the slight danger of ingested tubercle bacilli he calls attention to the fact that children almost invariably swallow their sputum and yet in tuberculous children intestinal involvement is exceptional.

Bulletin de l'Academie de Medecine (Paris), December 3.

The Respiratory Interchanges at High Altitudes. A. ROBIN.—The tests made on Dupasquier and others in the recent medical balloon ascensions at Paris are slightly contradictory in some points. Dupasquier found that his pulse became accelerated in an ascent lasting about three hours and attaining an altitude of 4250 meters, which is nearly 14,000 feet. The respiration increased in proportion to the altitude, but the breathing capacity and the respiratory quotient diminished inversely. The proportion of carbon dioxid decreased, while the proportion of oxygen increased during the entire ascent. The interchange of gases was promoted, especially the absorption of oxygen, which was triple the amount absorbed at the surface of the earth. The ventilation of the lungs increased with the altitude, but not in regular proportion. Tissot and Hallion also found that the oxygen absorbed increased from 3.52 and 3.6 c.c. to 6.16 and 6.46 in their tests, which are tabulated in the preceding issue of the *Bulletin*.

December 10.

Importance of Potatoes in Diabetes and Diabetic Complications. A. MOSSE.—The substitution of potatoes for bread in diabetes has proved a remarkably effective means of stimu-

lating the metabolism of sugar and thus attenuating the syndrome resulting from the diabetes. The general and local improvement has been so marked in Mossé's experience with 20 patients during the last five years that he thinks it must be ascribed to some special chemical combination in potatoes—probably the potassium salts. He found an average of 4.9 gm. of potassium to the kilogram of potato in his tests. He orders potatoes in an amount three times the amount of bread previously consumed. This supplies six times as much water, and three times as much mineral salts. It is in fact an "alkaline cure" like a course of Vichy waters. Under the influence of 500 to 3000 gm. of potato a day—generally about 1000 to 1500 gm.—the thirst rapidly and almost immediately diminished, also the glycosuria, while all the urologic symptoms were attenuated, coinciding with a general improvement. The neuralgic pains disappeared and rebellious sores and wounds in the diabetics rapidly healed. The potassium salts in the potato are in a vitalized form, and probably combine with the organic acids to form potassium carbonate. The improvement obtained on this potato diet was confirmed by a course at Vichy, in two instances. In the one case in which it failed, Vichy was also ineffectual. This patient was a woman of 47 with moderate arthritic diabetes, well tolerated, and existing for several years. In case of diabetic coma it might be possible to obtain good results from injections of an extract of potato chopped and squeezed in a bag.

Semaine Medicale (Paris), December 4.

Bladder Disturbances in Syringomyelia. J. ALBARRAN.—Only one of 6 patients with syringomyelia that happened to be inmates of the Bicêtre at about the same time recently, was free from bladder trouble. There was latent retention of urine in 3, one had cystitis with ulceration of the bladder walls, incomplete retention and secondary cord formation. Another presented total retention and a large ulceration in the bladder. Bladder troubles seem, therefore, to be frequent, contrary to the generally accepted opinion. They may be latent, merely an incomplete, aseptic retention, but this condition offers a very favorable soil for the development of infections. Trouble follows when the infection attains a certain intensity or when the retention is sufficiently pronounced to determine mechanical oppression. The lesions in the bladder differ anatomically from those of ordinary cystitis consecutive to retention. The ulceration is liable to lead to perforation and the process is evidently trophic, dependent upon a neuritic or medullary lesion. Trophic changes are frequent in syringomyelia, and it is not surprising that they should be encountered in the bladder. The ordinary lesions following aseptic or infected retention develop thus on a peculiar trophic soil. The contracting power of the bladder is liable to become impaired early. The ulceration may entail perforation and death, as in one of the cases described.

Modifications in the Respiration and Blood in the Medical Balloon Ascents.—Chauveau reported at the meeting of the Société de Biologie, November 30, that blood drawn from a dog at different times during the ascent to 3450 meters showed that the amount of carbon dioxid in the blood increased very much, but the increase in the amount of oxygen was but trifling, while the nitrogen was materially diminished. Jolly reported that tests on himself and Bonnier showed an increase in the red corpuscles of 12 per cent. The number increased from 4,760,000 on starting to 5,333,000 at 4450 meters and dropped to 4,800,000 at 2600 meters. The hemoglobin varied parallel with the number of corpuscles, attaining a proportion of 14 and 15.5 per cent. No modifications in the leucocytes were observed and no nucleated reds were discovered. Henry reported a similar increase in the reds in two dogs taken on the trip. The increase in the reds was much less marked in a third dog whose spleen had been removed a few weeks before. Bonnier noticed on the trip that his sense of hearing was diminished, but the transmission of sounds through the body was more rapid and more distinct than ever before.

Nouvelle Iconographie de la Salpetriere (Paris), xiv, 4.

Two Cases of Achondroplasia. R. CESTAN.—The want of normal cartilage development results in abnormally short bones from the early ossification of the cartilage. The muscles pile up on them until the limbs resemble the muscular development of the athlete. The fingers are spindle-shaped and spread apart at the tips like a trident. The subjects are frequently complete dwarfs. One of the cases described was a girl of 9. The photographs of 9 other cases that have been published are appended, with specimens of achondroplasia from museums and in art. Among them are the statuettes of the Egyptian gods Phthah and Bes, and the Roman emperor, Caracalla. Cestan attributes the condition to a toxic origin, and considers it a lesion extinct at birth. The achondroplasia occurs during the first months of fetal existence, before the thyroid gland has commenced its functions. Thyroid treatment, consequently, has no effect on it at any age.

Two Cases of Achondroplasia. E. APERT.—Both of the cases were male dwarfs. Apert emphasizes the hereditary character of achondroplasia, and calls attention to its occurrence in animals, especially in Ancona sheep, dachshund dogs, etc. He regards such types as a species apart; in man, at least a well characterized and hereditary type. It resembles in many respects the hereditary cleido-cranial dysostosis described by Marie. In fact the latter completes achondroplasia, as it affects the parts spared in the former. It is ossification from a membranous origin, while the other is from a cartilaginous origin.

Berliner Klin. Wochenschrift, November 25.

Aid to Diagnosis and Prognosis of Inflammation of Optic Nerve. J. HIRSCHBERG.—When one eye is covered, the pupil of the other eye becomes slightly dilated in normal conditions. This physiologic dilatation is about 1 mm. for a pupil diameter of 3 to 4 mm. In case of fresh inflammation of the optic nerve and consequent blindness, the pupil dilates to a remarkable extent when the sound eye is covered, and it does not contract when exposed to light. This pathologic dilatation is an infallible sign of the complete blindness of the eye. If it does not occur, the blindness may be assumed to be feigned or due to hysteria. In the first stage, the blindness occurs while the ophthalmoscope findings are negative. Then the findings become positive, and in the third stage, the blindness passes away, but it leaves a slight paleness. Hirschberg describes a case which passed through these three stages in one month. During the first two the pathologic dilatation was pronounced, but during the last stage the pupil contracted under the influence of light, thus showing that the blindness was subsiding and the prophecy of speedy recovery of sight was soon verified.

Early Diagnosis of Arthritis Coxae. J. A. BECKER.—The initial symptom of deforming arthritis of the hip joint is a difficulty in abduction. All the other movements of the thigh are normal, but abduction is painful. A hip splint should be applied at once with daily massage and movements. In a case described by Becker, this symptom was duly treated and cured, while the patient's brother was not treated until too late and a typical arthritis developed.

December 2.

Adrenal Diabetes. G. ZUELZER.—Blum's assertion that glycosuria appears in animals after injection of the extract of suprarenals, has been confirmed by Zuelzer's experimental research. As much as 4.4 per cent. of sugar was noted in one cat. The glycosuria, however, persists only 24 to 48 hours after the last injection. The proportion of sugar in the blood was also much increased. Further tests with alimentary glycosuria under these conditions showed a levulosuria of 0.9 and 0.5 per cent. in three animals after ingestion of 5 gm. of levulose. The glycosuria increased to 25 per cent. of the amount ingested after feeding with grape sugar. Lactosuria was also frequent after ingestion of milk sugar. The facts observed are chiefly interesting because the diabetes was induced by injection of what might be called a physiologic juice. [See editorial, December 28.]

Deutsche Med. Wochenschrift (Leipsic), November 21 and 28.

Medicine and Life at Sea. H. CURSCHMANN.—The subject

of tuberculosis among sailors was not mentioned at the recent London Antituberculosis Congress, Curschmann states, and yet the statistics of the Hamburg and Bremen hospitals show that 38 per cent. of all deaths among sailors is due to tuberculosis, and this does not include those who die at home or at sea. France reports 39 per cent. The proportion is practically the same in both the navy and the merchant marine. It is especially remarkable as the subjects are picked men in the prime of life. It illustrates the dangers of close contact between tuberculous and healthy men, and demonstrates that local relations and circumstances are capable of overcoming the most unfavorable general and personal conditions in unpredisposed individuals. The hygienic conditions on board ship for first and second-class passengers are admirable, and a sea voyage may be a favorable factor in the cure of tuberculosis, but the crowded quarters occupied by the crew, the lack of facilities for bathing, washing clothes, and disinfecting, invite contagion. Persons in advanced stages of tuberculosis should not be admitted on ships on account of the danger for the crew, especially as steerage passengers. The health of the engineers and stokers suffers from the heat and confined air, with consequent heart and kidney affections and arteriosclerosis. Nocht ascribes to this cause 16 per cent. of all deaths among sea-faring men. He found a temperature of 37.7 C. in 35 stokers with the room at 24 C., and 23 had a temperature of 38 and higher (100.5 F.). Lauenstein observed a temperature of 38 to 38.6 C. in seven previously normal men of this class. Yellow fever is the greatest scourge of sea-faring men. It is the cause of 24 per cent. of all deaths in the hospitals and probably has a total mortality of 42 per cent.

Parasitic Nature of Carcinoma. H. RIBBERT.—The only rôle played by parasites in the evolution of a carcinoma, according to Ribbert, is in the primary irritation and inflammation in the connective tissue. This inflammation separates the epithelium from its normal organic relations and renders it independent of the body, except for its nourishment, thus allowing full play to its inherent, independent faculty of proliferation. It is possible that a specific micro-organism may be the cause of the chronic primary inflammation in the connective tissue, but the subsequent proliferation is not parasitic.

Statistics of Hereditary Tuberculosis. F. F. FRIEDMANN.—In the 2984 cases of tuberculosis observed at the Berlin Charité between 1885 and 1901, hereditary antecedents were found in 983, that is, 33 per cent. of all cases; apparently negative in 751, that is, 25 per cent., and doubtful in 1250, that is, 41.8 per cent. Tuberculous brothers or sisters were mentioned in 35.6 per cent. of the 157 cases with both parents tuberculous; in 25 per cent. of the 503 cases with paternal inheritance; in 22.9 per cent. of the 323 cases with maternal inheritance; in 15.6 per cent. of the 1250 cases with dubious inheritance, and in 14 per cent. of the 751 cases with apparently negative tuberculous antecedents.

Dangers of Simultaneous Administration of Mercury and Iodids. F. LESSER.—Clinical and experimental tests with the salicylate, the thymol acetate of mercury, sublimate, and gray oil showed that they could be administered internally or applied locally while the organism was under the influence of potassium iodid, with impunity. No injurious results of any kind could be detected. But calomel applied locally or ingested, while the subject is under the influence of potassium iodid previously or simultaneously administered, forms with the iodin a caustic combination—the iodid of mercury—leading to abscess formation, ulceration, etc. No bacteria could be discovered in these ulcerations, which were exclusively of chemical origin. The iodin ingested in the form of potassium iodid is eliminated in the secretion on every mucous membrane, and when it comes in contact with calomel, the caustic compound that results is liable to form an ulceration, in the depths of which the yellow crystals of the mercury iodid are plainly visible. Rabbits treated with potassium iodid and then receiving a stomach injection of calomel, exhibited numerous ulcerations in the gastric mucosa, surrounded by a hyperemic zone showing the irritating action of the salt. The yellow crystals were found in the ulcerations and also in the stomach contents. These caustic ulcers are liable to occur in any stomach after ingestion of calomel when the system is under the influence of potassium iodid. The physician should ascertain whether the subject has been taking potassium iodid before prescribing calomel, either internally or for local application on any mucous membrane. Calomel is the best test for iodin in the organism. It discloses the presence of potassium iodid even in a 1 per 100,000 dilution. The simplest application of the test is to add a little calomel to the saliva. If it contains traces of iodin, the calomel turns yellow. As potassium iodid passes into the milk, calomel should not be prescribed for nurslings when the mother is or has been taking potassium iodid. Calomel, mercuric iodid and the biniodid all share this caustic property. The pain and distress caused by the ulcerations in the stomach in persons taking calomel after potassium iodid, have never been correctly interpreted. The pains and vomiting have been attributed to the gastro-intestinal affection for which the calomel was originally prescribed. Cases have been described of inexplicable pains, scab formation and suffocation after the local application of calomel.

Pregnancy After Nephrectomy. STEINHEIL.—Five years after one kidney had been extirpated on account of a tubercular affection, the patient, a woman of 25, apparently in good health, but rather pale, consulted Steinheil in regard to a commencing pregnancy. She had been warned of the danger of conception in her case, and he hesitated whether to induce an abortion or to let the pregnancy take its course, deciding finally on the latter. The urine contained pus and was slightly blood stained. The pregnancy terminated normally and the patient recovered, with only the drawback that permanent catheterization was necessary for a short time. The child is healthy and the mother remained in good health for twenty-one months, when she succumbed to the extension of the tuberculous process. Whether she would have survived longer if the pregnancy had been interrupted is an open question. Steinheil states that he never felt such a burden of responsibility on his shoulders as when he had to decide in this case.

Die Heilkunde (Vienna), v, 4.

Therapeutic Attempts to Promote Natural Processes in Tuberculosis. A. HOFF.—The advantages of cinnamic acid and of alcohol are combined by Hoff, who treats pulmonary tuberculosis by the internal and external application of alcohol, supplemented by an alcoholic solution of arsenic and cinnamic acid. His formula is arsenic acid, 0.1; potassium carbonate, 0.2; cinnamic acid, 0.3—boiled with distilled water to make 5 c.c. Aqueous extract of opium is then added in the amount of 0.3; brandy, 2.5; and distilled water, 2.5. Six drops are to be taken in a spoonful of water after dinner and supper, gradually increasing the dose to twenty-two drops twice a day. THE JOURNAL has frequently referred to the benefits obtained from cinnamic acid as reported by Landerer and others in the treatment of tuberculosis. Kraemer's recent statistics show that objective success was attained in 72.8 per cent. after 14 injections; in 79.7 per cent. after 20 injections; in 80.7 per cent. after 24 injections, and in 86.1 per cent. after 40 injections. Patients treated for six months and more were completely cured in many cases, and the cures have persisted for more than three years. The local alcohol compresses were applied according to Buchner's directions. In cases of rapidly progressive emaciation and high fever, Hoff orders "Peru cognac" at first and follows later with his drop mixture, which is merely a more concentrated form of the "Peru cognac." He describes a number of typical cases to prove his assertion that this method of treating pulmonary consumption is the most rational, and all in all, the best. He has had several years' experience with it, and has applied it in numerous cases both in private and dispensary practice.

Muenchener Med. Wochenschrift, November 26 and December 3.

Aid to Diagnosis of Appendicitis. H. CURSCHMANN.—For the last two and one-half years, Curschmann has had the blood examined daily in every doubtful case of inflammatory

processes in the cecum or appendix, 60 in all. He found that it was possible by counting the leucocytes to differentiate every case of appendicitis with merely a so-called fibrinous exudate, from those entailing abscess-formation, even when all other signs, such as fluctuation, shape, consistency, temperature and exploratory puncture were the same in each. The cases without an abscess were distinguished by the fact that they ran their course without any increase in the number of the white corpuscles, or with merely a slight increase at first, returning permanently to normal, or with an isolated increase in a few days. Marked increase in the number of whites occurs in the absence of an abscess, only at the commencement of the inflammatory process, and then only transiently. The number never rises above 20,000 or 22,000 in this case. If the number of leucocytes is very high in the first days or in the further course of the inflammation and remains high, if there is no other process to which the leucocytosis can be attributed, such as pneumonia, etc., the formation of an abscess can be positively assumed and surgical intervention be unconditionally determined on. Leucocytes to the number of 25,000 and more, even if observed only once, are a very suspicious sign. If noted permanently as the process continues, the diagnosis of suppuration is certain, and further hesitation is unnecessary. When the abscess has been evacuated, the leucocytes drop rapidly to the normal proportion. If the number does not decrease or if it increases again, retention of pus or an abscess elsewhere can be confidently assumed. If the abscess perforates into the intestine or bladder and is thus evacuated, the leucocytes diminish as after a surgical evacuation. The number falls rapidly if the pus finds free outlet, more slowly if it meets with hindrance. The behavior of the leucocytes is a much more reliable index of the internal process than the temperature. Curschmann tabulates the findings in a number of typical cases, showing the constant behavior of the leucocytes while the temperature and other physical signs were frequently contradictory.

Ovarian Treatment After Castration. A. FLOCKEMANN.—Ovarian medication has proved perfectly harmless in Flockemann's experience, and has been successful in warding off unpleasant symptoms after bilateral castration in a number of patients. It is not invariably effective, but the proportion of successes is so large that it ought always to be given a trial in such cases.

Sammlung Klin. Vortraege, No. 318.

Chronic Dyspeptic Diarrhea and Its Treatment. R. SCHUETZ.—In 16 cases of chronic diarrhea persisting for years, Schuetz obtained a rapid cure in less than a week, by washing out the stomach and intestines and restricting the diet to articles made of fine flour, with six eggs a day, preparations of albumin, beef tea, and, in the milder cases, white meat. Red meat, milk and vegetables were barred. He believes that these cases of chronic, rebellious diarrhea are primarily due to gastric disturbances. The impaired stomach digestion is compensated at first by the small intestine. The intestinal digestion gradually becomes impaired, with resulting diarrhea, and finally, intestinal catarrh. Two-thirds of the patients had experienced flatulency and colic at times, with vague symptoms in the abdomen, but no distinct history of stomach trouble. A chronic gastric affection was evident in 2 patients and neurasthenia in a few others. One young girl developed later tetany and scorbutus. Nine were dispensary patients. The feces had an acid odor and were full of minute bubbles. The food frequently passed undigested. In the 14 cases in which the stomach was systematically washed out, gastric achylia was found but once. The total acidity averaged high, as much as 132 to 178. Most of the cases exhibited merely a diminished secretion of hydrochloric acid, with or without atony. The motor function was excessive in one case. Drugs to check the diarrhea are absolutely contra-indicated. The patients should remain in bed during treatment or lie down for five or six hours a day. An important adjuvant is hot Wiesbaden Kochbrunnen water before meals, and after meals a little dilute hydrochloric acid or natural gastric juice from dogs.

Wiener Klin. Wochenschrift, November 21.

Diagnostic Significance of Fluctuation in Pleuritic Effusions. R. VON STENITZER.—Fluctuation occurs in pleuritic effusions much more frequently than is usually credited. The waves are shorter than in case of ascites. By bending the trunk and raising the arm, the ribs can be spread apart. In case of an effusion on the right side the assistant stands at the left of the bed and places his hand flat with slight pressure on the back of the thorax, with the middle finger in the interspace selected for the percussion, preferably between the spine and the line of the scapula, and presses firmly with the middle finger, while the physician taps as for ordinary percussion, preferably in the seventh and eighth interspaces and region of the posterior axillary line. The discovery of fluctuation is valuable for the differentiation, especially in case of a moderate effusion. In one case with signs of a serous pleuritis in a tuberculous patient and fluctuation in the seventh to ninth interspaces, friction sounds became audible later, both during inspiration and expiration, and also in the fifth interspace. The presence of fluctuation differentiated the friction sounds as not due to the rubbing together of the sheets of the pleura, nor to deposits on the costal pleura, but to floating fibers of fibrin in the serous effusion, a kind of villous pleuritis. The lack of the pectoral fremitus and of change in tone with position renders the diagnosis of a pleural effusion particularly difficult in children. When the fingers are pressed into one interspace and the hypochondrium is compressed from below, the discovery of fluctuation aids materially in the differentiation.

Meniere's Symptom Complex Cured by Electricity. J. DONATH.—In case of Menière's symptom-complex, before administering quinin, Donath advises the application of galvanic electricity with which he cured in one sitting a severe and rebellious case. Others have also had similarly favorable results.

November 28.

Mesenteric Cysts. V. BLUM.—In the case of cyst formation in the mesentery, described in this communication, recurring volvulus of the small intestine was noted, and Blum calls attention to this feature of the case as valuable for the diagnosis of these conditions. The patient was a girl, 6 years old. Five or six times in the course of a year she had suffered from violent pains accompanying constipation, but in the intervals presented no symptoms. The indications of volvulus disappeared four times after copious irrigation of the intestines, but at last presented the clinical picture of chronic invagination of the small intestine. A cyst the size of a fist was found in the mesentery, twisted several times on its axis, and the entire ileum was in a tangle around it. The child died a few hours after the operation and tubercular lesions were found throughout the mesentery and in one lung. Recurring attacks of intestinal occlusion in case of a soft, fluctuating, movable tumor near the umbilicus should suggest the possibility of a mesenteric cyst. The origin is probably tubercular or typhoid degeneration of some intestinal gland.

Simple Fastening for Permanent Catheter. L. MOSZKOWICZ.—A rubber tube about 12 cm. long is slit into four strips to within 3 cm. of the end. The tube should be just large enough to admit the catheter with friction. The ends of the four strips are fastened over another rubber tube. The catheter is passed through the unslit portion of the tube, doubled back inside the slit ends fastened to the second tube which serves for a strap. It is fastened around the glans or waist. This muzzle arrangement holds the catheter permanently in place and with slight modifications is also applicable to females.

Grece Medicale (Syra, Greece), September.

Treatment of Pott's Disease by Gradual Reduction Without Chloroform. N. ALIVIZATOS.—This method of treatment is adapted only for humps without ankylosis. The child reclines on supports at the knees and shoulders. A simple apparatus on a standard beside him accomplishes the

reduction by a gradual, slow, gentle, elastic pressure on the hump, while ropes from the same controlling wheel pass over a pulley at each end of the table, on the plane in which the child is lying, and exert extension and counterextension, at the same time, all from the same simple apparatus. The plaster cast is applied while the child is still in extension, without altering his position. There is no pain, and chloroform or any anesthesia is unnecessary. The hump should be radiographed as the first step, to determine the exact character of the lesion and to exclude those with ankylosis.

October.

A Voice from Damascus on the Subject of Tuberculosis. J. MARENGOS.—The Bedouin encampments with their pure air, sunshine, simple manner of living and enviable health, are true sanatoriums, Marengos exclaims. Phthisis is unknown. He asserts that man has become tuberculizable since he neglected the development of his body, which the ancients regarded as an actual religion. According to the law of compensation, the benefits of civilization entail phthisis, the tent life of the Bedouins brings health. Tuberculosis was almost unknown in Damascus twenty years ago, but is growing more frequent every day. Malaria is declining. The 15,000 Jews in Damascus seem to be exempt from tuberculosis. Marengos recently discovered a young consumptive in a remote village far from all apparent sources of contagion, no other case known in the community.

Treatment of Hydrocele. P. DIVARIS.—The fluid of the hydrocele will be absorbed if the absorbing power of the endothelium is rearoused. Divaris accepts this as the principle of his treatment, which consists in the evacuation of half of the fluid after an injection of cocain. He then injects four grams of 90 per cent. alcohol. This stimulates the endothelium and causes the absorption of the fluid, thus curing without pain.

Zeitschrift f. Diaet. u. Phys. Therapie (Leipsic), v, 4 to 6.

Solid Food for Typhoid Patients. A. DVORETZKY.—THE JOURNAL has referred to the success obtained by the Russians in feeding solid food to typhoid fever patients. They claim that it is a mistake to assume that the digestive powers are diminished during a fever. Also, that the fear of perforation from solid food is unfounded, as by the time it reaches the portion of the intestines affected by the typhoid process it is no longer in a solid form. The danger of adding to the fever by a mixed diet is exaggerated, they state. If the temperature does rise a trifle, this drawback is far outbalanced by the benefits to the general health. The debility and symptoms during convalescence attributed to the typhoid toxins, are in reality merely the results of starvation from the usual fluid diet. None of the physicians who report their experience with non-fluid foods has lost a patient. All were comparatively strong and lively when the fever left them and could be dismissed much sooner than the control patients. Ladyshensky reports five cases fed throughout with eggs, poultry and chops, and in the later stages with fish, potatoes, etc. Tiemen reports 32 typhoid patients kept on a mixed diet. No complications were observed in any case. The abdomen was always soft and free from meteorism.

Blood Pressure in Phthisics. M. JOHN.—About 120 patients with pulmonary tuberculosis were examined and the blood pressure and specific gravity of the blood were found normal in the early stages of the affection. As the tubercular process gained the upper hand, both decreased, before auscultation or percussion indicated the change. Both blood pressure and density are slightly above normal in case of emphysema.

Zeitschrift f. Geb. u. Gyn. (Stuttgart), xlvi, 1.

Influence of Pregnancy on Cancer of the Uterus. K. HENSE.—Pregnancy or the menopause has undoubtedly an unfavorable influence on the development of malignant disease, but it is less deadly than some imagine. Hense has found 10 cases of survival for more than five years in 82 patients operated on for uterine cancer more than five years ago, during or immediately after a pregnancy. Vaginal hysterectomy was done twenty-five times, with 9 permanent cures. French surgeons consider a pregnant woman with cancer as irremediably lost, and sacrifice the mother in favor of the child. In Germany, the surgeon operates at once, and without regard to the child. Hense has collected 122 cases of this kind. The cervix was the site of the lesion in all. Fraenkel found that 30 per cent. survived for more than five years without recurrence in 230 cases of cancer of the cervix not associated with pregnancy.

Zeitschrift f. Heilkunde, xxii, 8 and 9.

Therapeutic Value of Venesection in Uremia. K. WALKO.—A dozen typical examples are reported to demonstrate the remarkable benefits to be derived from venesection and transfusion of saline solution in certain cases of uremia. The uremic symptoms subsided while quantities of blood-stained urine, rich in sediment, were voided, accompanied in some cases by profuse sweating and diminished albuminuria. These favorable results were obtained exclusively in cases of uremia with acute nephritis, or in acute exacerbations of mild, subacute nephritis. Venesection was nearly or completely ineffectual in cases of uremia with severe chronic nephritis or contracted kidney, amyloid degeneration or large white kidney. Tests of the blood before and after the uremic attacks failed to disclose any difference in the molecular concentration. The benefit of the venesection is probably due to its arresting the vascular constriction resulting from the uremic irritation of the vasomotor centers. Venesection is, therefore, indicated in all cases of acute nephritis in which diminished secretion of urine is accompanied by edema and high vascular tension. It may prevent its transition into a chronic form. Repeated hot baths are not indicated in the treatment of nephritis with uremia except when copious diuresis follows. Otherwise the loss of water from the tissues, combined with the retention of waste products, may entail severe uremic symptoms and even death, as in a case at von Jaksch's clinic whence this communication proceeds. Infusion of salt solution is a valuable adjuvant to venesection sometimes, when the edema is not too extensive.

Glycosuria and Acetonuria in Case of Phosphorus Intoxication. K. WALKO.—Alimentary glycosuria was observed in 65.85 per cent. of 141 cases of acute phosphorus intoxication. The mortality was 30.4 per cent. In 6 cases there was spontaneous glycosuria. The liver suffers most in phosphorus poisoning, and the facts observed in these cases confirm the close connection between fatty degeneration of the liver and glycosuria. The alimentary glycosuria paralleled the severity of the intoxication, but afforded no data for the prognosis. Acetonuria was frequently observed in the first few days of the intoxication, but no connection could be discovered between it and the severity of the case or the alimentary glycosuria.

Inferior Peritoneal Adhesions. J. ALTENEDER.—Gersuny has now an experience of forty-two operations undertaken to relieve disturbances due to the formation of adhesions in the abdomen. Thirty-five cases were correctly diagnosed from the character of the pains, due to the special function or movements of the organs involved. Pain before and during micturition indicates adhesions involving the bladder. Gersuny's typical flexure adhesions cause pain just before defecation, and adhesions between the internal female genitalia are liable to induce displacements, with all their consequences, which include a liability to ectopic pregnancy as well as painful menstruation. Certain adhesions between the intestines and mesosigma entail constipation and a tendency to volvulus which can be cured by high rectal injections. Gersuny believes that chronic catarrhal inflammation of the appendix may result from the irritation caused by adhesions. The particulars of all his cases are tabulated; 12 were cured and 18 improved out of 33 followed to date. Failure to find all the adhesions or the formation of new adhesions was probably the cause of the non-success in the others.

Zeitschrift f. Klin. Med. (Berlin), xliv, 1 and 2.

Varieties of Tumors in the Kidneys. D. VON HANSE-

MANN.—There is scarcely any other organ in the body in which tumors occur so frequently and in so many varieties as in the kidney. Hansemann supports this statement by reviewing the kinds of tumors that have been recorded, and divides them into four groups: 1. Tumors developing in the parenchyma, such as cystoma, adenoma or carcinoma. 2. Tumors in the stroma, fibroma or sarcoma, or they may develop from the connective tissue or from the vessels, forming hemangioma, lymphangioma, endothelial adenoma. 3. Tumors from embryonal aberration of cells. They may be of a single kind of tissue, such as hypernephroma, lipoma or chondroma, or they may be a mixture, as in teratoma, with or without malignant transformation. 4. Pseudo-tumors, such as cyst, echinococcus, hydronephrosis, etc.

Influence of Cancer on Stomach Secretions. O. REISSNER.—After extensive study of the chemistry of the stomach in cases of cancer, Reissner is convinced that the neoplasm has no influence until it becomes ulcerated. At this stage the poisonous products of the cancer become mixed with the stomach contents and the results are extremely injurious for both the stomach and the intestines. The absence of free hydrochloric acid in such conditions is due in part to its combination and partially to the inhibition of the secretion by the poisons in the stomach contents. This assumption explains the rapid atrophy of the mucosa and the absence of uncombined acid in case of cancer of the stomach, irrespective of its site and even when it is located in an adjacent organ. The secretion is not entirely checked, but the acid is neutralized. It also explains why the free hydrochloric acid shows less variation in case of a cancer developing on the foundation of an ulcer. Cicatricial tissue has less tendency to ulceration, and the cancer develops inward rather than outward. It also explains the rapid, often sudden, disappearance of the free hydrochloric acid, and its reappearance after the ablation of the tumor, in case the atrophy has not progressed too far. The practical results of the research reported are the warning to shut off the cancer from the rest of the stomach, in case it can not be entirely removed, in order to prevent the mixing of its products with the stomach contents.

Pathologic Anatomy of the Stomach in Case of Ulcus or Carcinoma. W. A. BOEKELMANN.—Scraps of the mucous lining of the stomach, obtained during a gastro-enterostomy, from 44 patients, showed nearly normal conditions in the cases of ulcus or cicatrices, even when the lesion had lasted for eleven to seventeen years. He found in 31 out of 53 cases that an increased production of hydrochloric acid coincided with an accumulation of cells covering the lesion, or with carcinoma developing on the foundation of an ulcus. In his experience, this latter variety occurred once to 3.9 primary cancers. The duration of the latter averaged five weeks to two years in his 26 cases, while the patients with post-ulcus cancers survived several years; ten and fifteen years in 2 cases. These 2 patients had 2.1 or 2 per 1000 acid while the highest proportion in the primary cases was 0.8 per cent. He emphasizes the good condition of the stomach lining in all the post-ulcus cases, and the excessive atrophy with an ulcerating cancer, either in the stomach or duodenum. He attempts to explain these phenomena by assuming that the post-ulcus cancer is rather a local process while the primary is more a general, constitutional affection. This assumption may be verified or overthrown, perhaps, by study of recoveries after extirpation of both kinds of malignant tumors.

Janus (Amsterdam), November.

Discovery of Collodion. G. W. A. KAHLBAUM.—The encyclopedias mention Maynard as the discoverer of collodion, but Kahlbaum claims the priority for the German scientist Schoenbein. He published in December, 1846, the first description of the substance with its characteristic properties and its advantages for the treatment of wounds. C. T. Jackson in America, "the father of anesthesia," published January 6, 1847, that he had found a means to dissolve cellulose nitrate, and with his friends, Bigelow and Maynard, suggested its application to the treatment of wounds. It was known in America as Maynard's adhesive solution for many years. Schoenbein called it xyloidin. The term collodion was first applied to it by A. A. Gould, secretary of the Boston Society of Natural History. Letters which Kahlbaum has found, dated at Geneva, Switzerland, February, 1847, mention that Schoenbein's new method of treating wounds was the sensation of the day, and in March, Jung published the reports of a number of cases treated with it. Communication between Europe and America in those days excludes the possibility that the scientists in either country could have heard of the discoveries across the water in such a short time.

Cronica Med. Mexicana (Mexico), December 1.

Efficacy of Calcium Monosulphid in Diphtheria. E. L. ABOGADO.—Experiences in Mexico are confirming the efficacy of the treatment of diphtheria with calcium monosulphid recommended by R. Tissot of Switzerland. It cures mild cases without further medication, and in severe cases proves a most valuable adjuvant to antitoxin treatment. He established its efficacy in 110 cases of associated diphtheria, in 21 of mild, pure diphtheria and in 13 severe, pure cases. None of the two last groups died. The monosulphid was the only therapeutic agent employed in any of the cases. Its efficacy is probably due to its action on the associated microbes as well as on the diphtheria germs, while antitoxin is powerless against the former. He usually administers 1 cg. every hour up to 1 year of age; 1 cg. every half-hour between 1 and 3; one every fifteen minutes between 3 and 5 or 30 during the day. Between 5 and 15, one or two every fifteen minutes or 49 during the day. Adults should take 60 during the twenty-four hours, suspending the medication whenever the breath exhales the characteristic odor very intensely. He administers 5 or 6 cg. a day as a preventive measure to children exposed to contagion. He considers it a very valuable internal antiseptic and has never known of any untoward effects from its use in this way during six years of experience.

Klinitchesky Journal (Moscow), October.

Tubercular Peritonitis. P. E. ELESTRATOV.—The statistics of a number of writers on this subject show that 31.6 per cent. of 136 cases recovered with medical treatment alone, while 78.3 per cent. of 240 cases recovered after surgical intervention. On the ground of his personal observation and the reports published by others, Elestratov asserts that the variety of tubercular peritonitis which runs an almost stationary or chronic course, with moderate temperature and not much ascites, without much interference with nourishment, is capable of retrogressing to permanent recovery provided no other organs are affected by the tuberculosis. On the other hand, when the existence of tubercular foci can be established, serving as the starting-point for infection of the mesenteric glands, intestines or uterine appendages, surgical intervention is urgently indicated.

Vratch (St. Petersburg), xxii, 1901, 34.

Combined Ethyl Bromid and Chloroform Anesthesia. E. F. ZEMATZKY.—A few drops of ethyl bromid on the mask put the patient to sleep so rapidly that he has no time to realize the process. Zematzky then substitutes chloroform for the bromid and states that this combination has all the advantages and none of the disadvantages of other methods. In less than a minute, usually forty-five to fifty-five seconds, the minimum twenty seconds and the maximum two minutes, the patient has passed successively through the phases of analgesia and anesthesia to loss of consciousness, with entire absence of excitement. No accidents of any kind were observed in Zematzky's experience with more than 2000 subjects thus anesthetized or in 1000 others where he was a spectator.

Medical Use of Hypnotism. P. ROSENBACH.—Many nervous and mental affections against which the physician is otherwise powerless, can be effectively treated by hypnotism, which does not receive from physicians the consideration that it deserves. Rosenbach urges the profession to resort to it more

frequently in cases of cephalalgia, local spasms, morbid fixed ideas, phobias, insomnia, alcoholism, psychic impotence, enuresis, and other conditions resulting from neurasthenia, hysteria, etc. He appeals for relief from the regulations in Russia according to which no physician can hypnotize a patient except in the presence of other physicians and after due notification of the local medical authorities, stating not only the patient's name and the purpose for which the hypnotism is to be applied, but also the names of the witnesses.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

TEXT-BOOK OF HISTOLOGY. Including the Microscopic Technic. By Dr. Philipp Stohr, Professor of Anatomy at the University of Würzburg. Fourth American, Based upon the Ninth German Edition. Translated by Dr. Emma L. Billstein, formerly Director of the Laboratories of Histology and Embryology, Woman's Medical College of Pennsylvania. Edited, with additions, by Dr. Alfred Schaper, Professor of Anatomy, University of Breslau. Cloth. Octavo, 500 pages. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

THE PRACTICAL SERIES OF YEAR-BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume II. General Surgery, Edited by John B. Murphy, M.D., Professor of Surgery, Northwestern University Medical School. November, 1901. Cloth. Pp. 515. Price, $2.00. Chicago: The Year-Book Publishers. 1901.

NEUROLOGICAL TECHNIQUE. Some Special Histological Methods Employed for the Study of the Nervous System, Together with a Laboratory Outline for the Dissection of the Central Nervous System and the Neurological Nomenclature (BNA) Arranged in a Classified List. By Irving Hardesty, Ph.D., Instructor in Anatomy, University of California. Cloth. Pp. 183. Price, $1.75 net. Chicago: The University of Chicago Press. 1902.

THE MENTAL FUNCTIONS OF THE BRAIN, An Investigation into Their Localization and Their Manifestation in Health and Disease. By Bernard Hollander, M.D. (Freiburg I.B.), M.R.C.S., L.R.C.P. (London). Illustrated with the Clinical Records of 800 Cases of Localized Brain Derangements and with Several Plates. Cloth. Pp. 507. Price, $3.50. New York and London: G. P. Putnam's Son. 1901.

AN EXPERIMENTAL AND CLINICAL RESEARCH INTO CERTAIN PROBLEMS RELATING TO SURGICAL OPERATIONS. An Essay Awarded the Alvarenga Prize for 1901, by the College of Physicians of Philadelphia. By George W. Crile, A.M., M.D., Ph.D., Professor of Clinical Surgery, Medical Department, Western Reserve University. Cloth. Pp. 200. Price, $2.50. Philadelphia: J. B. Lippincott Co. 1901.

CLINICAL HEMATOLOGY. A Practical Guide to the Examination of the Blood with Reference to Diagnosis. By John C. DaCosta, Jr., M.D., Assistant Demonstrator of Clinical Medicine, Jefferson Medical College. Containing 8 full-page Colored Plates, 3 Charts, and 48 Other Illustrations. Cloth. Octavo, 450 pages. Price, $5.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

THIRTY-SECOND ANNUAL REPORT OF THE MANAGERS AND SUPERINTENDENT OF THE NEW YORK STATE SCHOOL FOR THE BLIND, Batavia, N. Y. For the Year 1899-1900. Paper. Pp. 45. Albany: James B. Lyon. 1901.

TRANSACTIONS OF THE LOUISIANA STATE MEDICAL SOCIETY, at Its 22d Annual Session, held at New Orleans, La., April 18, 19, 20, 1901. Cloth. Pp. 467.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 19 to 25, 1901, inclusive:

Charles Anderson, captain, asst.-surgeon, Vols., honorably discharged from the service of the United States, to take effect Feb. 10, 1902.

David Baker, lieutenant, asst.-surgeon, U. S. A., relieved from duty in the Department of California and assigned to Fort McPherson, Ga.

Peter C. Field, lieutenant, asst.-surgeon, U. S. A., former orders directing him to proceed from Fort Slocum, N. Y., to Fort Robinson, Neb., revoked.

William C. Gorgas, major and surgeon, U. S. A., detailed by the Secretary of War to represent the Medical Department of the Army at the meeting of the Pan-American Sanitary Congress, to be held in the city of Havana, Cuba, Feb. 15, 1902.

George C. Grabenstatter, contract surgeon, from Buffalo, N. Y., to San Francisco, Cal., en route for duty in the Division of the Philippines.

Vernon J. Hooper, captain, asst.-surgeon, Vols., having tendered his resignation, is honorably discharged from the service of the United States, to take effect Dec. 31, 1901.

Henry M. Hull, contract surgeon, leave of absence for ten days granted.

Jefferson R. Kean, major and surgeon, U. S. A., detailed to represent the Medical Department of the Army at the Pan-American Sanitary Congress, to be held in the city of Havana, Cuba, Feb. 15, 1902.

Elias H. Porter, contract surgeon, leave of absence for two months granted.

Albert H. Simonton, contract surgeon, former orders directing him to proceed from Fort Robinson, Neb., to Birmingham, Ala., for annulment of contract, revoked.

Blair D. Taylor, major and surgeon, U. S. A., leave of absence for one month granted.

James W. Van Dusen, lieutenant and asst.-surgeon, U. S. A., now at San Francisco, Cal., to proceed to Columbus Barracks, Ohio, for post duty, December 19; leave of absence for one month granted.

Hugo A. Wall, contract surgeon, now at San Francisco, Cal., is relieved from duty in the Division of the Philippines, and assigned to post duty at Fort Strong, Mass.

APPOINTMENTS, PROMOTIONS, CASUALTIES, ETC.

Regular Army, Appointments.—James L. Bevans, of Illinois, to be asst.-surgeon, with the rank of first lieutenant.

Retired for Disability Incident to the Service.—Major Eugene L. Swift, surgeon, Dec. 9, 1901, under acts of Oct. 1, 1890, and Feb. 2, 1901.

Volunteers, Honorably Discharged.—Major Thomas U. Raymond, surgeon, Dec. 31, 1901; Captain Walter C. Chidester, asst.-surgeon, Nov. 11, 1901; Captain Robert A. Anderson, asst.-surgeon, Nov. 16, 1901; Captain James H. McCall, asst.-surgeon, Dec. 31, 1901.

Died.—Captain John C. Orr, asst.-surgeon, Sept. 12, 1901.

Navy Changes.

Changes in the Medical Corps of the Navy, for week ending Dec. 28, 1901:

P. A. Surgeon R. T. Orvis, ordered to the *Michigan* as the relief of P. A. Surgeon W. B. Grove.

P. A. Surgeon W. B. Grove, detached from the *Michigan* and ordered home to wait orders.

Pharmacist J. Cowan, ordered to the Boston Navy Yard.

Surgeon G. Rothganger, detached from the Naval Hospital, New York, and ordered to the *San Francisco,* January 2.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, U. S. Marine-Hospital Service, during the week ended Dec. 27, 1901:

SMALLPOX—UNITED STATES.

California: San Francisco, Dec. 8-15, 1 case.

Illinois: Chicago, Dec. 14-21, 2 cases.

Indiana: Evansville, Dec. 14-21, 4 cases.

Iowa: Clinton, Dec. 14-21, 2 cases.

Louisiana: Dec. 14-21, New Orleans, 1 case; Shreveport, 5 cases.

Massachusetts: Boston, Dec. 14-21, 41 cases, 12 deaths; Cambridge, Dec. 14-21, 3 cases; Gloucester, Dec. 14-21, 2 cases; Lowell, Dec. 14-21, 6 cases; Malden, Dec. 14-21, 3 cases, 1 death; Somerville, Dec. 13-20, 1 case.

Michigan: Grand Rapids, Dec. 14-21, 1 case.

Minnesota: Minneapolis, Dec. 7-14, 7 cases.

Nebraska: Omaha, Dec. 14-21, 13 cases.

New Hampshire: Nashua, Dec. 14-21, 1 case.

New Jersey: Dec. 14-21, Camden, 15 cases; Newark, 24 cases, 12 deaths.

New York: New York, Dec. 14-21, 12 cases, 1 death.

Ohio: Ashtabula, Dec. 14-21, 1 case; Cincinnati, Dec. 13-20, 11 cases; Cleveland, Dec. 14-21, 1 case; Massillon, Dec. 7-14, 1 case.

Pennsylvania: Lebanon, Dec. 14-21, 7 cases; Philadelphia, Dec. 14-21, 76 cases, 10 deaths.

South Carolina: Greenville, Dec. 7-14, 2 cases.

Tennessee: Memphis, Dec. 14-21, 2 cases.

Utah: Salt Lake City, Dec. 14-21, 2 cases.

Vermont: Burlington, Sept. 28-Dec. 21, 55 cases.

Wisconsin: Green Bay, Dec. 15-22, 7 cases; Milwaukee, Dec. 14-21, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Nov. 23-Dec. 7, 7 cases.

Belgium: Antwerp, Nov. 23-30, 3 cases: Ghent, Nov. 30-Dec. 7, 3 deaths.

Canada: Halifax, Dec. 7-21, 21 cases; St. John, Dec. 7-21, 11 cases, 2 deaths; Windsor, Dec. 14-21, 1 case; Winnipeg, Dec. 7-14, 4 cases.

Colombia: Cartagena, Nov. 23-30, 2 deaths; Panama, Dec. 9-16, 25 cases.

France: Paris, Nov. 30-Dec. 7, 1 case.

Great Britain: Glasgow, Dec. 6-13, 4 deaths; Liverpool, Nov. 3-Dec. 7, 5 cases; London, Nov. 30-Dec. 7, 474 cases, 20 deaths.

India: Calcutta, Nov. 16-23, 3 deaths; Madras, Nov. 15-22, 2 deaths.

Italy: Naples, Nov. 23-30, 18 cases, 1 death.

Russia: Moscow, Nov. 16-30, 23 cases, 9 deaths; Odessa, Nov. 23-Dec. 7, 22 cases, 3 deaths; St. Petersburg, Nov. 23-30, 8 cases; Warsaw, Nov. 16-23, 1 death.

Spain: Corunna, Nov. 30-Dec. 7, 1 death.

YELLOW FEVER.

British West Indies: St. Lucia, Dec. 2-6, 8 cases, 6 deaths.

Mexico: Vera Cruz, Dec. 1-14, 29 cases, 15 deaths.

CHOLERA.

Cuba: Havana, Nov. 29, 1 death from S. S. *Buenos Ayres.*

India: Bombay, Nov. 19-26, 4 deaths; Calcutta, Nov. 16-23, 76 deaths; Madras, Nov. 15-22, 27 deaths.

Straits Settlements: Singapore, Oct. 27-Nov. 2, 3 deaths.

PLAGUE—FOREIGN AND INSULAR.

India: Bombay, Nov. 19-26, 358 deaths; Calcutta, Nov. 16-23, 48 deaths; Karachi, Nov. 10-17, 71 cases, 49 deaths.

Russia: Batoun, Nov. 30, 1 case.

Turkey: Constantinople, Nov. 20-27, 1 case.

Hawaii: Honolulu, Dec. 5, 1 death.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOL. XXXVIII. CHICAGO, ILLINOIS, JANUARY 18, 1902. No. 3.

Original Articles.

THE PONTO-BULBAR HEAT CENTER.*

EDWARD T. REICHERT, M.D.
PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF PENNSYLVANIA.
PHILADELPHIA.

Although our knowledge of the thermogenic mechanism is still in a formative state, we nevertheless have sufficient experimental data to warrant the conclusion that in the higher animals the heat formed arises in part as a product incident to the activities of all forms of vital processes, and in part as a specific product of specific heat-producing structures. The results of Rubner's researches leave no doubt as to the skeletal muscles possessing, besides their motorial properties, a specific thermogenic function, and, as a consequence, that these structures not only produce heat as an incident to repair, growth and motor activity, but also as a specific product. They further show that the quantity of heat which arises by virtue of this special function bears a reciprocal relationship to the amount formed as an incident to the activities of the body structures generally, increasing or decreasing in adjustment to the variations in thermogenesis caused by rest and activity, etc., and to the alterations in thermolysis which are dependent upon ever-changing internal and external conditions; so that as the output of heat incidentally produced increases or decreases, the quantity resulting from the specific thermal function of the skeletal muscles varies cooperatively in supplying the number of heat units required by the organism at any given time. Moreover, there can be no doubt that this specific thermal function is directly controlled by specific thermogenic centers, which are located in the cerebrospinal axis, although very little is known of their exact positions, functional relations and characteristics.

Since Tschechichin[1] showed, thirty-five years ago, in an experiment upon a rabbit that injury of the base of the brain may be followed by a rapid and decided rise of body-temperature, considerable valuable information has been obtained from the researches of Bruck and Günter,[2] Eulenburg and Landois,[3] Hitzig,[4] Richet,[5] Wood,[6] Aronson and Sachs,[7] Girard,[8] Baginsky and Lehmann,[9] Baculo,[10] Ott,[11] White,[12] Tangl,[13] Kemp,[14] Schultz,[15] Schreiber,[16] and myself.[17 18] A critical study of these contributions justifies the following conclusions:

1. That specific thermogenic centers exist in the brain and spinal cord, and that these centers are connected with each other and with various parts of the body, especially with the skeletal muscles and skin, by specific afferent and efferent thermogenic nerves. 2. That the centers in the brain are either thermo-accelerator or thermo-inhibitory. 3. That the center in the spinal cord is a general or reflex center. 4. That the brain centers probably affect heat production by acting upon the spinal center. 5. That the spinal center when separated by section from the brain centers is able to maintain the normal standard of heat production. 6. That the activities of these centers is largely influenced by the changes in the temperature of the blood, and by cutaneous impulses which are probably generated in the peripheries of the "heat" and "cold" nerves. 7. That the caudate nuclei contain an important thermo-accelerator center. 8. That the pons and bulb probably contain a thermo-accelerator center. 9. That a thermo-inhibitory center is located in the dog in the first cerebral convolution posterior to and in the vicinity of the sulcus cruciatus, and that possibly another such center extends downward from the junction of the supra-sylvian and post-sylvian fissures to the posterior fissure. 10. That there is no adequate evidence to lead to the belief that specific heat centers exist in any other part of the body than in those above noted.

The experimental study of the locations and functional peculiarities of heat centers is attended by many sources of fallacy, some of which are unavoidable and some so important as to materially modify or even entirely vitiate the results. Shock, hemorrhage, the pressure of a clot, circulatory and respiratory disturbances, the involvement of contiguous parts, etc., may be more or less potent disturbing factors, but shock is pre-eminently the most important. The sensitivity of the cerebrospinal axis to injury is very evident in the more or less marked disturbances of temperature, which almost invariably follow, and which sometimes are decided and persistent. In some instances a rise continues until death ensues from the excessive temperature, and in others there occurs a steady and rapid fall, which progresses until there is general functional collapse. Shock causes the temperature to decrease, and its influences may be so powerful as to not only prevent the decided rise, which ordinarily would be caused by irritation of the caudate nuclei, but even to bring on at once a rapid decrease. The ease with which the body-temperature is affected by even trifling injuries of the brain makes it necessary to be very guarded in reaching conclusions as to the specific connection of any given portion of the cerebrospinal axis with the heat mechanism, unless the effects of shock, vaso-motor palsy, etc., can be eliminated to a satisfactory degree, and the results obtained by the section, puncture, ablation, etc., be reasonably uniform and positive.

In the experiments recorded in the present contri-

* Read at the Fifty-second Annual Meeting of the American Medical Association in the Section on Physiology and Dietetics, and approved for publication by the Executive Committee: Drs. James Weir, Jr., Winfield S. Hall and Elmer Lee.

bution, essentially the same technic was pursued as in a preceding research[18] on the effects of lesions of the base of the brain upon the heat processes. Dogs were used and were thoroughly anesthetized with a mixture of ether and chloroform (3:1), a tracheal canula was inserted, the skull was trephined on a level with the upper surface of the structure to be cut, and then a slightly bent, blunt-edged probe was pushed horizontally through the brain mass and withdrawn with a downward, sweeping movement, thus cutting all the nervous matter beneath, without, however, injuring any important vessels. Such section causes but trifling hemorrhage, and a variable amount of shock, which latter is indicated by immediate effects upon the respiratory movements and circulation, and in some cases by a fall of body-temperature. Artificial respiration was practiced throughout the experiments, even though it might have been possible for the ventilation of the lungs to have been carried on effectively by spontaneous respiratory movements.

When after the section a rise of temperature occurs, the result, eliminating any probable indirect effects due to the changes in the circulation and respiratory movements, is to be attributed to a cutting off of thermo-inhibitory impulses or to the generation of thermo-accelerator impulses. If due to the former, stimulation of the part of the brain involved in the section should lessen the temperature; while if the latter, the reverse. Inasmuch as section, puncture and other forms of stimulation of the striate bodies, crura cerebri and pons cause an increase of temperature, we are justified in the conclusion that the rise is due to an irritation of thermo-accelerator centers or nerves. In the research referred to it was found that sections of the striate bodies and pons were, as a rule, followed immediately, or within a few minutes, by a decided increase of temperature; and that section of the white matter anterior to the caudate nuclei, of the thalami, and of the crura cerebri, are either not followed by a rise or by one that is usually comparatively transient and not marked. The difference is such as to suggest that in the first instance thermo-accelerator centers were irritated, and in the other, thermo-accelerator fibers. Of 11 experiments in which the section was made of the striate bodies or pons, in 8 the increase of temperature ranged from 0.98 to 4.37; in 2 it was but 0.26 and 0.27, respectively; and in one the temperature fell. In one of the last 3, the section was 2 mm. posterior to the anterior extremity of the caudate nuclei and the effects of shock were greater than those of direct irritation of the thermo-accelerator cells; in the other 2 the animals suffered even more severely from shock, one dying within 45 minutes, and the other within 1 hour and 15 minutes. In a total of 24 experiments, in 2 of which the section was made through the white matter just anterior to the caudate nuclei, in 2 where it was made through the thalami, and in 20 through the crura cerebri, in 18 cases a rise was noted—in 12 of which it was transient—in 14 it was less than 1, and in only 4 was it over 1.

In another research[17] in which the sections were made of the spinal cord at the level of the first and second cervical vertebræ, in 9 out of 10 experiments the temperature fell from the first. Probably the vasomotor palsy necessarily caused by these sections is almost solely accountable for the decrease. When sections are made of the bulb the effects are variable, and depend largely upon the extent to which the vasomotor center is involved, a fall of temperature occurring if the center is seriously affected, and a rise if not. If a rise occurs it is rarely so decided as when the section is through the pons; and the temperature curves differ in other respects. These experiments show, in a word, that sections of the caudate nuclei and pons are followed by results which, as a whole, differ materially from those caused by sections of other portions of the cerebrospinal axis at any point between the white matter anterior to the striate bodies and the level of the first and second cervical vertebræ, and they are such as to indicate that thermo-accelerator centers are located both in the caudate nuclei and ponto-bulbar region.

The main results of the research (*loc. cit.*) upon the effects of sections of the basal parts of brain are summarized in the following table.

Table 1.—Summary of the chief results of the sections anterior to the striate bodies, striate bodies, thalami, crura cerebri and pons.

	Number of experiments.	Mean maximum rise of temperature. Degrees.	Mean time of occurrence of maximum rise of temperature. hrs. min.
Sections anterior to striate bodies	2	. . . . .	. . . . .
Sections of the striate bodies	6	2.4	2:53
Sections of the thalami	2	0.12	8
Sections of the crura cerebri	20	0.8	1:20
Sections of the pons	5	2.74	4

The studies made by various investigators of the thermal functions of the caudate nuclei are more numerous, extensive and convincing than those of the ponto-bulbar region, and the results are sufficient to justify the belief that these structures contain an important thermo-accelerator center. As to the ponto-bulbar region, the data upon which rests the belief that it contains a thermo-accelerator center is to be found mainly in the reports of the experiments by Tscheschichin,[1] Bruck and Günter,[2] Wood,[6] Ott,[19] and myself (*loc. cit*). But little intrinsic value is attached to the results obtained by Tscheschichin, Bruck and Günter, and Ott. Tscheschichin found in a single experiment upon a rabbit, in which the pons was severed from the bulb, that the temperature rose from 39.7 to 41.2 (1.5) in 30 minutes. Bruck and Günter in 23 experiments upon rabbits, in which the ponto-bulbar section of puncture was practiced, noted an increase in 11. Ott in 10 experiments on rabbits, in which the pons was punctured at various points, recorded in 6 a transient rise, usually slight and ranging from 0.3 to 2.6; in the other 4 the temperature fell. In Wood's research upon dogs and rabbits it was found that "injuries of the medulla so situated as to paralyze the medullary vasomotor center, are followed by a decided fall of animal temperature; section of the medulla at the line of its junction with the pons in the dog, usually leads to an elevation of animal temperature, if the medullary vasomotor centers are not in any way impaired; section of the medulla at its junction with the pons is followed by increased heat dissipation and increased heat production, the increased heat dissipation usually not keeping pace with the increased production, so that the body temperature rises." In three experiments on dogs, in which the section—at the junction of the pons and bulb—was complete, the rises of temperature amounted to 3.25 in 1 hour and 30 minutes, 4.88 in 2 hours and 35 minutes, and 3.88 in 5 hours and 25 minutes. In 4 experiments in which the sections were incomplete, 2 being on dogs and 2 on rabbits, in 3 the section was at the junction of the pons and bulb and in one through the pons, an increase of temperature was observed in each, but the greatest rise was only 1.1.

In other experiments in which the sections were made lower in the bulb the temperature invariably fell, owing probably to the serious involvement of the vasomotor center. In my own experiments (*loc. cit.*) in which special studies were made of the temperature alterations in five dogs after the complete transverse section of the pons, in one the animal lived for less than an hour, and the temperature fell steadily from the time of the section, evidently because of severe shock; in the other four the rises were 3.48, 0.27, 2.87, and 4.34, respectively. In the experiment in which a rise of only 0.27 was recorded, the animal died within 1 hour and 15 minutes after the operation, the smallness of the rise probably being due to shock. In two calorimetric experiments the increases were 0.61 and 0.76, but these figures do not in all probability represent the highest points reached. In one of them the section was obliquely through the middle of the pons, and in the other through the point of union of the pons and bulb. The results show, in accord with Wood's, that the increase of temperature caused by pontine section is due to an increase of heat production.

This research I have supplemented by over 20 experiments upon dogs, but I have included in the present article only the records of those experiments in which autopsies showed that the *sections were complete.* The levels of the sections varied from the middle of the crura cerebri to within 3 mm. of the junction of the bulb and spinal cord. The detailed records of these experiments will be found in the accompanying tables, which also include a number from the earlier research. In the selection of the latter, only those experiments have been chosen in which the animals lived for at least two hours after the operation. When death occurred within this period, the effects of shock robbed the results of most of their value, especially for purposes of comparison of the effects of lesions of different localities upon the heat functions. The experiments are appropriately divided into four groups in accordance as the sections were through the caudate nuclei, crura cerebri, pons or bulb.

1. *Experiments in which the sections were through the caudate nuclei.*—In 6 experiments in which the level of the section varied from 2 mm. to 12 mm. from the anterior extremity of the nuclei, an increase of temperature was recorded in each (Table 2). In No. 1 it was only 0.26 and very transient, and was followed by a steady decrease for 4 hours and 15 minutes, when the experiment was ended. The section was 2 mm. from the anterior end. In the other 5 cases the rise amounted to 0.98, 4.37, 2.25 and 2.2, respectively. The average, which is 2.4, may properly be taken as approximately representing the mean maximum increase caused by the section of the nuclei at different levels as far back as 12 mm. The average time of the occurrence of the maximum increase was 2 hours and 53 minutes; in experiments 3 and 4 the maxima had not probably been attained at the time the experiments were concluded.

2. *Experiments in which the sections were through the crura cerebri.*—In 13 experiments in which the sections varied from a level close to the optic thalami to within 3 mm. of the pons, in 10 a rise occurred (Table 3). The increases were 0.04, 2.94, 1.2, 0.12, 0.4, 1.1, 0.82, 1.30, 3.64 and 0.62—the minimum was 0.04, the maximum was 3.54, and the average, 1.22. The average time of the occurrence of the maximum rise was about 3 hours, the shortest being 10 minutes, and the longest 7 hours and 30 minutes. In seven experiments the maximum was reached within three hours.

3. *Experiments in which the sections were through the pons.*—Ten experiments were made in which the pons was severed at points varying from the tip of the anterior extremity to the posterior edge (Table 4). In every one a rise occurred, varying from 1.3 to 4.86. The maxima were 3.48, 2.87, 4.34, 3.54, 4.83, 3.12, 1.3, 4.5, 4.43 and 4.86; the average increase was 3.73. The time

TABLE 2.—Records of 6 experiments in which the sections were through the caudate nuclei.

Number of experiment.	1	2	3	4	5	6
Level of the section.	2 mm. from the anterior extremity of the nuclei.	5 mm. from the anterior extremity of the nuclei.	6 mm. from the anterior extremity of the nuclei.	9 mm. from the anterior extremity of the nuclei.	12 mm. from the anterior extremity of the nuclei.	12 mm. from the anterior extremity of the nuclei.
Time after section. hrs. min.	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.	Degrees
0:02				39.28		
:03				.26		
:05				.22		
:10	38.72			.20		
:15	39.08	39.32	39.68	.22	38.45	39.32
:20	38.95	38.82	80	.32	.52	
:25	.88	.65	.82		.65	.52
:30	.72	.60	.95		.68	.62
:45	60	.50	40.08		.50	
1:00	.45		.22	.52	.32	
:15	.20	.55	.92	.85	.65	.88
:30	37.88	.55	42.22	40.35	.95	40.35
:45	.68	.88		.92		41.05
2:00		39.02	.98		.18	.18
:15	.12	.05		41.93	39.50	.30
:30	36.90	.12	43.85		40.52	.50
:45		.90	.70	42.48		.62
3:00	.72		.62		.55	
:15		40.28		.52	41.53	.55
:30	.72		.50			
:45		.30		.68	.20	.12
4:00	37.18		.75			
15		39.82	44.05	40.75	40.75	
.30	.83				.70	
Max. increase of tem. . .	0.26	0.98	4.37	3.3	2.25	2.2
Time of max. increase of tem. after section . . .	10 min.	3 hrs. 30 min.	4 hrs.	3 hrs. 15 min.	2 hrs. 30 min.	2 hrs. 30 min.

TABLE 3.—Records of 14 experiments in which the sections were through the crura cerebri.

Number of experiment.	7	8	9	10	11		3	14	15	16	17	18	19
Level of the section.	Close to thalami.	Close to thalami.	Middle of peduncles.	Middle of peduncles.	Middle of peduncles.	Middle of peduncles.	Middle of peduncles.	Within 3 mm. of the pons.	Within 3 mm. of the pons.	Within 3 mm. of the pons.	Within 3 mm. of the pons.	Within 3 mm. of the pons.	Within 3 mm. of the pons.
Time after section. hrs. min.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
0:00	....	....	....	....	....	....	....	....	....	....	38.88	....	
:05	38.78	40 22	39.42	....	....	38.9	40.18	38.60	39.00	39 38	....	....	
:10	.82	.68	.60	40.08	38.88	39.0	....	.70	38.88	40.35	....	39.23	
:15	.80	.72	.75	.15	.92	.1	....	.78	.95	....	.40	.15	39 52
:20	.60	....	.60	.18	.90	....	.3	.58	.85	.22	....	.05	.38
:25	....	.86	.45	.08	.88	....	....	.55	.95	....	.37	38.94	.22
:30	.38	....	.48	.10	.95	.2	.4	.45	39.03	.20	....	39 00	.12
:45	.37	.95	....	.18	39.16	....	.7	.25	.08	....	.12	.00	.22
1:00	....	....	40.28	.15	.28	.3	.91	....	.32	41.02	37.92	.03	.30
:15	.51	41.22	.44	.15	..	....	40.10	37.55	.58	....	.35	.85	.12
:30	.53	....	.50	.15	.12	.4	.22	....	.82	.45	36.92	.80	38 50
:45	....	.31	.62	.20	....	.6	.36	....	40 08	....	.60	.70	.49
2:00	.52	....	....	....	....	40.0	.50	36 88	.30	.67	....	.78	.25
:15	....	.90	....	.15	38.10	....	.55	....	....	....	35 65	.75	37.92
:30	.32	.71	39.83	.10	....	39.9	.00	.51	....	42.12	.10	.75	.50
:45	....	....	....	..	....	....	.70	....	....	....	34.70	80	
3:00	.20	.79	.42	.10	....	....	.70	.10	....	22	.42	85	
:15	....	....	....	....	....	.4	.48	....	....	....	.10	.90	
:30	....	.92	.18	....	....	....	....	35.65	....	.50	33.82	.87	
:45	....	....	38.52	....	....	3	.75	....	....	....	.50	....	
4:00	....	.90	..	....	....	....	.80	.48	....	.58	.10	....	
:15	....	....	....	....	....	.2	.95	....	....	....	32.82	....	
:30	....	42.00	....	....	....	....	.90	.25	....	.62	60	....	
:45	....	....	....	....	....	....	....	....	....	....	.32	....	
5:00	....	..	37.95	....	....	39.0	.82	34.88	....	.72	.30	....	
:15	....	.60	....	....	....	....	.65	....	....	.80	31 85	....	
:30	....	....	.48	....	....	39.0	.40	.40	....	.90	.55	....	
.45	....	.50	....	....	....	....	41.00	....	....	43.02	....	....	
6:00	....	....	36 40	....	....	....	40.70	....	....	42.90	....	....	
:30	....	.28	35.10	....	....	....	.10	....	....	.75	....	....	
7:00	....	.30	....	....	....	....	....	....	....	.90	....	....	
:30	....	43.16	....	....	....	....	....	....	....	.92	....	....	
Max. increase of temperature	0.04	2.94	62.	0.12	0.4	1.1	0.82	....	1.3	3 64	....	0 62	
Time of maximum increase of temperature.	10 min.	7 hrs., 30 min.	1 hr., 30 min.	1 hr., 45 min.	1 hr.	2 hrs.	5 hr., 45 min.	....	2 hrs.	5 hrs. 45 min.	....	3 hrs. 15 min.	

TABLE 4.—Records of 10 experiments in which the sections were through the pons.

Number of experiment.	20	21	22	23	24	25	26	27	28	29
Level of the section.				Anterior margin of pons.	Anterior margin of pons.	2 mm. from the crura cerebri.	3 mm. from the crura cerebri.	4 mm. from the crura cerebri.	Middle of the pons.	Low'r margin of the pons.
Time after the section. hrs. min.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
0:00	.....	38.53	.....	.....	.....	.....	.....	.....	.....	
:03	39.42	.....	.....	.....	.....	.....	.....	.....	.....	
:05	.50	.....	39.82	38 91	.....	.....	.....	.....	.....	
:10	.50	.68	.....	39.02	.....	39.00	38.80	.....	.....	
:15	.58	.....	.93	.55	38.95	.12	.70	38.90	39.03	39.30
:20	.62	.50	.....	.....	.....	.....	.....	.....	.....	
:25	.73	.....	.98	.....	.....	.....	.....	.....	.....	
:30	.90	.70	.....	40.11	40 15	.22	.55	40 20	.08	-41
:45	.....	.70	40.08	.22	.60	.40	.55	.51	.40	.75
1:00	.98	.....	.40	.35	.95	.60	.52	.89	.80	.99
:15	40.08	.....	.42	.55	41.28	.71	.50	41.30	40.35	40 35
:30	.15	.....	.80	.70	.38	.85	.50	.75	.85	.70
:45	.62	.....	41.07	.86	.45	.98	.60	42.20	41.32	.92
2:00	.88	.....	.30	.93	.55	40.10	.70	.20	.80	41.15
:15	41.28	.....	.45	41.10	.70	.22	.80	.65	.....	35
:30	.30	.....	.62	.20	.75	.38	.90	.80	42.85	.60
:45	42.20	41 40	.85	.20	.90	.49	39.00	43 05	43.00	.80
3:00	.43	.....	42.00	.50	42.10	.68	.10	.19	.40	.90
:15	.68	.....	.15	.55	.33	.88	.17	.40	.....	42.20
:30	.95	.....	.30	.52	.58	41.10	.21	.....	.46	.63
:45	43.00	.....	.49	.60	.80	.45	.28	.....	.....	43.02
4:00	.23	.....	.62	.65	43.00	.48	.30	.....	.....	.08
:15	.52	.....	.80	.70	.10	.70	.38	.....	.....	.12
:30	.70	.....	.95	.80	.15	.90	.42	.....	.....	.28
:45	.90	.....	43.20	.90	.25	42.00	.50	.....	.....	.90
5:00	.....	.....	.35	42.08	.40	.02	.52	.....	.....	44.08
:15	.66	.....	.70	.35	.53	.08	.60	.....	.....	.12
:30	.....	.....	.80	.45	.62	.12	.68	.....	.....	,16
:45	.....	.....	44.16	.....	.70	.....	.77	.....	.....	.10
6:00	.....	.....	.....	.....	.78	.....	.88	.....	.....	43.95
:30	.....	.....	.....	.....	.....	.....	.....	.....	.....	
7:00	.....	.....	.....	.....	.....	.....	40.10	.....	.....	
Max. increase of temperature	3.48	2.87	4.34	3.54	4 83	3 12	1.3	4.5	4.43	4.86
Time of max. increase of temperature.	4 hrs. 45 min.	2 hrs. 45 min.	5 hrs. 45 min.	5 hrs. 30 min.	6 hrs.	5 hrs. 30 min.	6 hrs.	3 hrs. 15 min.	3 hrs. 30 min.	5 hrs. 30 min.

of the occurrence of the maximum increase varied from 2 hours and 45 minutes to 7 hours, the average being about 5 hours. In 7 experiments the observations were continued from 5 to 7 hours, and in 3 they lasted for

from 2 hours and 45 minutes to 3 hours and 37 minutes. It is to be noted that in every experiment but 2—Nos. 20 and 29—the temperature was still rising when the experiments were concluded. The mean increase of temperature in this series was not only more marked, but steadier and more persistent than in the previous series.

4. *Experiments in which the sections were through the bulb.*—In 7 experiments the sections were through the bulb at different levels. In 2 the temperature increased steadily for over 5 hours; in one the rise was 0.68 and in the other it was 2.59 (Table 5). In the remaining 5 there occurred a slow, steady fall, which in 3 cases continued until death, and in one slightly recovered after the lapse of 4 hours and 15 minutes. In the 2 experiments in which the rise occurred the sections were in each 2 mm. from the pons. Sections of the bulb must necessarily seriously affect the vasomotor center, and it is noteworthy, when it is remembered how rapid is the fall of temperature caused by vasomotor palsy, that a rise of temperature ever occurs under such conditions. The most important results of these 4 series of experiments are summarized in Table 6.

TABLE 5.—Records of 6 experiments in which the sections were through the bulb.

Number of experiment.	30	32	32	33	34	35
Level of the section.	Close to the pons.	Close to the pons.	2 mm. from the pons.	2 mm. from the pons.	6 mm. from the pons.	3 mm. from the spinal cord.
Time after the section. hrs. min.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
0:00	....	....	....	....	....	
:05	38.84	39.78	....	39.66	39.25	
:10	..	.64	39.59	.85	.22	38.42
:15	58	.40	.62	41.10	38.87	.42
..	..	....	.80	.60	.25	.32
:30	.47	38.65	.95	41.00	.40	.30
:45	.35	.05	....	....	....	
1:00	.08	37.48	....	....	....	
:15	37.80	36.80	40.12	.06	37.00	.49
:30	.62	.10	.20	.13	36.59	.52
:45	.56	35.60	.18	.29	.32	.40
2:00	.48	34.92	.18	.33	35.00	.30
:15	.30	.50	.25	.40	34.70	.31
:30	.05	33.95	.27	.47	....	.32
:45	36.83	.51	.21	.47	....	.22
3:00	.65	32.90	.12	.47	....	.20
:15	.35	....	.18	.45	33.60	.11
:30	.08	....	.29	.42	.88	.10
:45	.63	....	.30	.41	.07	.10
4:00	.38	....	.30	.62	32.85	.05
:15	.11	....	.33	.55	.65	37.99
:30	34.89	....	.33	.58	.40	38.05
:45	.69	....	.50	.83	.11	.05
5:00	.41	....	.56	.85	31.90	.08
:15	.17	....	.58	....	....	
:30	33.85	....	.63	.81	.70	.10
:45	.74	....	....	.90	.47	.10
6:00	.50	....	....	42.10	.25	.10
:30	.23	....	....	.25	....	.10
7:00	....	....	....	....	.10	.11
Maximum of increase of temperature.	....	....	0.68	2.59	....	....
Time of max. increase of temperature after the section.	....	....	5 hrs. 30 min.	6 hrs. 30 min.	....	....

TABLE 6.—Summary of main results of the sections of the caudate nuclei, crura cerebri, pons and bulb.

	Number of experiments.	Number in which a rise of temperature occurred.	Number in which a rise of temperature did not occur	Average maximum rise of temperature. Degrees	Average time after the section of the maximum rise of temp.
Sections of the caudate nuclei.	6	6	0	2.4	2 hr. 53 min.
Sections of the crura cerebri.	13	10	3	1-22	3 hr.
Sections of the pons . . .	10	10	0	3.73	5 hr.
Sections of the bulb .	7	2	5	1.64	6 hr.

A study of the results of these experiments shows that the effects caused by the sections of the caudate nuclei, crura cerebri, pons and bulb are in each case, as a whole, quite characteristic, and that thermo-accelerator centers certainly exist in both the caudate nuclei and the ponto-bulbar region. There can be no reasonable doubt that the cause of the rise of temperature when the caudate nuclei are injured is to be found essentially or solely in an excitation of a thermo-accelerator center, because similar irritation of parts in front of, above and beneath do not give rise to any notable increase of temperature, as should be expected if the nuclei merely represented a pathway of thermo-accelerator fibers which run to or from these parts. Starting then with the caudate nuclei as a point of origin of efferent thermo-accelerator fibers, it is evident that in order to directly or indirectly reach the thermogenic tissues they should be found running through the crura cerebri, pons and bulb into the spinal cord, and that their irritation at any point along this course might be followed by an increase of temperature providing that shock, vasomotor disturbances, etc., do not interfere; and, moreover, that irritation of this thermo-accelerator pathway should cause a less marked increase than when the thermo-accelerator center itself is irritated. A comparison of the figures which illustrate the main results of caudate and crura sections (Table 6) will show that in every one of the caudate experiments a rise of temperature occurred, while in only 10 of the 13 crural experiments was there an increase; and that the increase caused by caudate section was about double that following the section of the crura. The less marked and less rapid rise after crural section is logically to be attributed to one or more of three factors: 1, to the coincident irritation of hypothetical thermo-inhibitory fibers, which run from the cortical centers to the pons and parts below; 2, to the probably more marked vascular disturbances due to the section being nearer the cardiac and vasomotor centers, and 3, to the probable absence of thermo-accelerator cells from the crura. It is by no means likely that the irritation of thermo-inhibitory fibers has any important effect; while kymograph records show that the circulatory disturbances, although more marked as a rule the nearer the section to the bulbar centers, are not sufficient to explain the smaller rise caused by crural section. It seems therefore justifiable to assume that the increase of temperature caused by the section of the crura is due to the irritation of the thermo-accelerator fibers, and that the rise is less marked than when the caudate nuclei are irritated, chiefly because of the absence of thermo-accelerator cells in the former.

This view receives additional support in the results of the experiments in which the sections were made through the pons and upper part of the bulb. In pontine section, as in section of the caudate nuclei, an increase of temperature was not only invariably observed, but it was generally more marked and much more persistent than after sections of the latter, notwithstanding the nearness of the section to the vasomotor center, and the consequent vasomotor weakness and resulting rapid heat loss. The differences in the temperature effects caused by injuries of these two bodies can not apparently satisfactorily be explained except by admitting, as previously stated, the existence of a thermo-accelerator center in the pons and bulb, and that this center is even more powerful than that in the caudate nuclei. In fact, the center must be more potent than is indicated by the actual temperature records, because the rise was undoubtedly more or less

interfered with by the effects of the depression of the vasomotor center. That the center extends for some distance in the bulb is rendered probable by the fact that a marked rise of temperature may still be observed when the section is close to or at the junction of the pons and bulb. In several experiments in which the lobes cerebellum or the cerebellar peduncles were cut, no temperature changes were in any case noted which were at all comparable to those caused by pontine section.

Not only do the mean rises in temperature vary in degree in accordance with the region affected, but the temperature curves exhibit distinct characteristics, and such as to indicate the organ involved. Thus, after section of the caudate nuclei, the temperature tends to increase for approximately three hours on an average and then subside. In the sections of the crura cerebri the mean maximum rise is reached in about the same time, but the temperature curve rises only half as rapidly. In the pontine experiments the rise is not quite

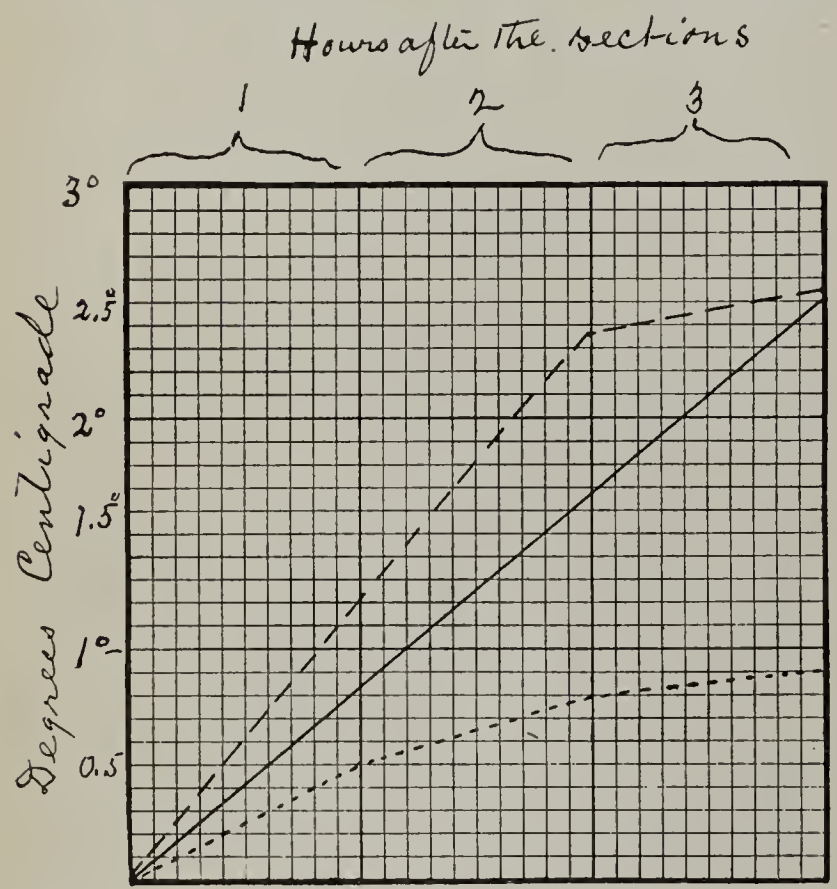


Chart of temperature curves during first three hours after the sections. The broken line is the temperature curve of the caudate series; the unbroken line of the pontine series; and the dotted line of the crural series.

so rapid as in the caudate series, but there is a marked tendency to a steady increase for from 6 to 7 hours or more, or until fatal hyperpyrexia is established. These differences can be better appreciated by a glance at the accompanying chart in which are exhibited composite temperature curves of the caudate, crural and pontine experiments. The marked differences in the mean temperature curves of the caudate and pontine sections indicate that the thermo-accelerator centers in these structures differ at least in power—the latter being the stronger—if not in other important features. That they are functionally different has been shown conclusively in experiments in which I have injected powerful pyretics and antipyretics in large doses after the sections. For instance, after section of the caudate nuclei, and after section of the crura cerebri, the administration of cocain and morphin has no effect upon the temperature changes caused by the section: cocain neither increases the rise nor hinders the fall; nor does morphin hinder the rise or hasten the fall, unless given in such quantities as to seriously affect the circulation, etc. It seems from this that the direct action of both cocain and morphin upon the heat mechanism is upon the thermo-accelerator center in the caudate nuclei. This subject has, however, so important a bearing upon febrile processes, and is of such scope, that a further consideration must be left for a special article.

BIBLIOGRAPHY.

1. Du Bois Reymond's Archiv. f. Physiol., 1866, s. 178.
2. Pflüger's Archiv f. Physiol., 1870, Bd. iii, s. 578.
3. Virchow's Archiv f. Path., 1876, Bd. lxviii, s. 245.
4. Centralbl. f. d. Med. Wissensch., 1876, s. 323.
5. Comptes Rendu de la Soc. Biologie, 1884, p. 189.
6. Fever: Smithsonian Contributions to Knowledge, 1880, No. 357.
7. Pflüger's Archiv f. Physiol., 1885, Bd. xxxvii, s. 232.
8. Archives d. Phys. Norm. et Path., 1886, T. viii, p. 281.
9. Virchow's Archiv f. Path., 1886, Bd. cvi, s. 258.
10. Centri Termici e Centri Vasomotori, Napoli, April, 1891. Riforma Medica, No. 263, November, 1892.
11. Jour. Nervous and Mental Dis., 1884, vol. xi, p. 141; Ibid., 1887, vol. xiv, p. 154; Ibid., 1888, vol. xv, p. 851. Therapeutic Gazette, 1887, vol. xi, p. 592. Fever, Thermotaxia and Calorimetry, Easton, 1889. Brain, January, 1889, p. 443.
12. Jour. of Physiol., 1890, vol. xi, p. 1; Ibid, 1891, vol. xii, p. 233.
13. Pflüger's Archiv f. Physiol., 1895, Bd. lxviii, s. 559.
14. Therapeutic Gazette, 1889, vol. xiv, p. 155.
15. Archiv f. Exper. Path. u. Pharm., 1899, Bd. lxiii, s. 193.
16. Pflüger's Archiv f. Physiol., 1874, Bd. viii, s. 576.
17. University Med. Mag., 1893, vol. v, p. 406.
18. Ibid., 1894, vol. vi, p. 303.
19. Jour. Nervous and Mental Dis., 1888, vol. xv, p. 85.

DISCUSSION.

DR. R. O. BEARD, Minneapolis—Referring to Dr. Reichert's conclusions I would suggest a possible source of error in his sections arising from the stimulation incident to section of afferent as well as efferent fibers related to the thermotaxic centers. The fillet from the ascending lateral tract of Gowers, which is believed to carry impressions of temperature to these centers, passing upward through the bulb and pons, might easily be involved in Dr. Reichert's pontine and bulbar sections; while lying in the lateral fillet, beyond the pons, it might escape in his sections of the crura. Section has always been a doubtful method of localizing centers.

PERNICIOUS ANEMIA—THE STATISTICS OF A SERIES OF FORTY CASES.*

THOMAS McCRAE, M.B., M.R.C.P.

Associate in Medicine, the Johns Hopkins University; Resident Physician, the Johns Hopkins Hospital.

BALTIMORE.

This paper is a report of a series of 40 cases of pernicious anemia which have occurred in the service of Dr. Osler in the Johns Hopkins Hospital. No attempt will be made to discuss in any detail the features of the disease or to give any extended notes of the histories of the patients. Cases in which there was any doubt as to the diagnosis have not been included. These 40 patients were among approximately 12,500 general medical admissions.

Incidence.—There were 32 males and 8 females, a rather unusual ratio for which no explanation can be given. The general admissions are about 5 males to 4 females. Large series show little difference in the number from each sex. As to age, the distribution was: 1 to 10 years, 1 case; 11 to 20, none; 21 to 30, 7 cases; 31 to 40, 6 cases; 41 to 50, 13 cases; 51 to 60, 7 cases; 61 to 70, 6 cases. It will be observed that four-fifths of the patients were over 30 years of age. The youngest was aged 10 and the oldest 66 years. In regard to race there were only 2 colored patients in the series, a proportion of 1 to 19, while the general ratio of admissions is about 1 colored to 7 white patients.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee of the Section: Frank Billings, George Dock and J. M. Anders.

Etiology.—There seemed but little of importance found in regard to this. In only one of the females did a previous confinement seem in any way connected with the onset. Mental distress and worry did not figure to any extent, there being only 3 patients who gave a history of these, although an unusual number of them were in the private wards. There was a tuberculous family history in 7 cases. Four had a history of syphilis and 14 of malaria. Previous stomach trouble had occurred in 5 and 12 had used alcohol. In one the onset followed a severe carbuncle. In the earlier cases the condition of the mouth was not noted carefully, but in the last 10 cases, carious teeth or some septic process in the mouth occurred in only 4 instances.

Complaint.—It is of interest to note the symptoms of which the patients themselves made complaint. The largest number, namely, 23, complained principally of weakness. In 11 the gastric and bowel symptoms were most marked. Four came only on account of nervous manifestations; 2 complained of the discoloration of the skin.

Onset.—The first symptom noted was weakness in 14 of the series. Weakness associated with some other condition in 9, dyspnea in 9, and digestive disturbances in 8 instances.

Symptoms.—In the histories given by the patients, of the symptoms mentioned especially, weakness was most frequent, namely, in 26 cases, change of color in 25, loss of weight in 22—a rather surprisingly large number as the usual description of the disease lays emphasis on the absence of emaciation—and shortness of breath in 16 cases. Digestive disturbances with diarrhea were present in 11 and gastric symptoms alone in 8 instances. Hemorrhages from the mucous membranes had occurred in 9 cases, and in 8 there had been some edema. Of the nervous manifestations, 4 gave a history of various sensory conditions usually tingling and numbness, one of severe pain, one of paraplegia, one of mental changes, and five of varied symptoms such as difficulty in walking, stiffness of the legs, etc.

Examination.—Of the conditions found the following were the most important. Marked emaciation was noted in 10 instances. The typical lemon-yellow color was observed in 29, and in 7 there was marked pallor without any special yellow tint. Pigmentation of the skin apart from the general discoloration was present in 8 and in 4 petechiæ were found.

In the circulatory system there was marked visible pulsation of the vessels in 16 cases. An apex systolic murmur was heard in 15, a systolic murmur everywhere over the heart in 13, and in one instance a systolic murmur was heard only in the pulmonic area. A loud systolic bruit was heard over the vessels of the neck in 12, and in 5 the complete absence of any such murmur was noted. In the examination of the abdomen, the liver was only felt in 2 instances. The spleen was felt in only 6 cases and in none of these was the enlargement at all marked, it being noted in all that "the spleen was just felt." There was marked general glandular enlargement only in 3 cases, and in 5 the majority of the glands were enlarged. Hemorrhages from the mucous membranes occurred in 8 patients during their stay in the hospital. Edema was present in 7 cases. As already noted, only in 4 out of at least 10 cases was a specially septic condition of the mouth noted.

The temperature was practically normal throughout their stay in the hospital in 10 of the series. In 27 it was more or less elevated, in 20 of these the average elevation being about 101, while in the remaining 7 it varied from 101 to 106. Three were under observation for too short a time to obtain continued records. The urine was free from albumin in 23 cases. In the remaining 17 it was present, but only in very slight amounts. In no instance was sugar found. The reaction in 37 was acid, in one neutral and in 2 alkaline. The specific gravity in 10 was below 1010, in 24 between 1010 and 1020, and in 5 between 1020 and 1030.

While the patients were under observation the gastro-intestinal symptoms were as follows: As regards the stomach, in 22 there were no disturbances of any kind; of the remaining 18 the symptoms were slight in 14 and grave in 4 instances. The bowels were normal in 16 cases, constipation was present in 14, diarrhea in 8 and alternating constipation and diarrhea in 2 instances.

Nervous manifestations were present in 10 instances. These varied from sensory disturbances alone to complete paraplegia. The cases showed so many differences that it was found impossible to classify them under any definite headings. The prevailing type was one with some sensory disturbances, especially in the extremities, associated with a more or less marked spastic condition. There was complete paraplegia in one, loss of power over the bladder in one, and marked incoördination with absence of the knee-jerks in one instance. Some degree of incoördination was frequently found. In some of the patients the nervous symptoms progressed while they were under observation, but in others some improvement was noted.

Blood.—Full counts were obtained when they first came under observation in 36 patients. The average of these was: Hemoglobin, 30 per cent. (von Fleischl); red corpuscles, 1,560,000 per c.mm.; white corpuscles, 6929 per c.mm.

Complete differential counts[1] were made in 30 of these, the average of the series being: Polymorphonuclears, 61 per cent.; small mononuclears, 31 per cent.; large mononuclears and transitionals, 4 per cent.; eosinophiles, 2 per cent. There were small numbers of myelocytes found in some of the cases, but never any marked percentage; the average was less than 1 per cent.

The average number of nucleated red cells found in counting 1000 leucocytes was 37. Of these the average of each variety was: Normoblasts, 23.4; megaloblasts, 4.7; intermediate forms, 9.4.

These figures are for the series of 30 cases. But among these there were three cases in which nucleated red cells occurred in very large numbers, namely, 262 (of which 222 were intermediate forms), 124 (of which 120 were normoblasts) and 420 (all of which were normoblasts) per 1000 leucocytes. If these three rather unusual cases be removed from the series, the average number of nucleated red cells per 1000 leucocytes for the remaining 27 cases is 12.7, and of these there were of normoblasts, 6; megaloblasts, 4.7; and intermediate forms, 2.

It is of interest to compare the differential counts in the fatal cases with those in the cases discharged improved. There were 11 of the series with a fatal termination. The relative percentages are the following:

	Death (11).	Improved (19).
Polymorphonuclears	62	61
Small mononuclears	29	31
Large do. and transitionals	4	4
Eosinophiles	2	2

1. For this as a routine, Ehrlich's triple stain was used. The classification of the leucocytes is that of Ehrlich. The fractions of percentages are not given.

The average number of nucleated cells per 1000 leucocytes along with the number of each variety was:

	Death.	Improved.
Nucleated red cells	23	47
Normoblasts	7.6	34
Megaloblasts	11	1
Intermediate forms	4	12

If, however, the three cases referred to before with the large number of nucleated red cells—all of which were discharged much improved—be subtracted from that series, we obtain very different figures, namely, an average per 1000 leucocytes of only 6.8 nucleated reds in the cases that improved, of which there were: Normoblasts, 5; megaloblasts, 7; intermediate forms, 1.

It will be noted that the average percentage of small mononuclears was lower in the fatal cases than in those that improved. This is contrary to the generally accepted view that a high percentage of these cells is of unfavorable prognostic importance. This also meant a lower absolute number of small mononuclears, as the average leucocyte count in the fatal cases was lower than in those that improved. There is also a striking difference in the average number of the nucleated red cells per 1000 leucocytes found, namely, 23 in the fatal to 8 in the non-fatal (if the three cases before mentioned be left out of the average). The variation in the relative ratios of the various forms is marked. The normoblasts comprise only 33 per cent. of all nucleated forms in the fatal and 73 per cent. in the ones that improved. The megaloblasts were 48 per cent. in the fatal and 14 per cent. in the non-fatal series. The percentage of the intermediate forms in the fatal cases is 17 per cent. to 14 per cent. in the non-fatal series. This rather suggests that as regards prognosis no special conclusion can be drawn from their occurrence.

There were 16 cases in the series with the counts of the red corpuscles below one million per cubic millimeter. Of these twelve died in the hospital. Of the remaining four, one apparently recovered completely and was admitted six years afterwards with cancer of the stomach, a second has lived for over three years and is in fairly good condition at present, while the other two can not be traced. In no one of these four cases did the red count fall below 900,000 per c.mm. In two of the fatal cases the last count before death was over one million red cells.

Results.—Death occurred in the hospital or shortly after discharge in 17 of the series. The average duration of these was practically twelve months. Eight of them, however, ran the whole course in less than six months. Fourteen were discharged improved; one of these apparently recovered completely; one was followed for four years; one is alive nearly six years afterwards, and another three years afterwards. Seven were discharged unimproved and two were not treated. The average duration of the non-fatal cases was sixteen months at the time of their admission. Twelve of these patients made substantial gains in weight. The nervous symptoms showed varying results; some progressed while under observation, and others showed gain. There was no uniformity in their course.

Treatment.—This may be alluded to briefly. It consisted generally of absolute rest in bed, fresh air, abundant good food, and arsenic. Attention was paid to the condition of the mouth, especially in the later cases. Conditions arising in the course of the disease were treated symptomatically.*

* The Discussion on papers on "Blood Count," was printed August 4, page 503.

THE PHARMACOLOGY OF THE SUPRARENAL GLAND AND A METHOD OF ASSAYING ITS PRODUCTS.*

E. M. HOUGHTON, PH.C., M.D.
Lecturer on Experimental Pharmacology, Detroit College of Medicine.
DETROIT, MICH.

Addison was the first, in 1855, to point out the great importance of the adrenals to the animal economy, showing that the disease now bearing his name was due to lesions, usually tuberculosis, of these bodies. The following year Brown-Séquard demonstrated experimentally that these glands: "1, are essential to life; 2, that they modify or destroy a substance which otherwise transforms itself into pigment; 3, that when the organs are destroyed or removed this substance collects in the blood; 4, that removal is rapidly fatal, and injection of the blood of an animal thus treated into a healthy animal leads to symptoms like those of removal." Gratiolet, Phillipeaux and Harley disputed these findings, but Brown-Séquard by another series of experiments showed that his previous conclusions were correct. Brown-Séquard's conclusions were a little later confirmed by Tizzoni. Vulpian and Virchow also in 1856 showed that a reducing agent was contained in the medulla of the suprarenal bodies, which has been observed by all subsequent chemical investigators.

Arnold, in 1866, obtained a crystalline body, but this could not be confirmed in the following year by Holm. Krukenberg, in 1885, showed that the color reactions were possibly due to pyrocatechin. This was confirmed by Brunner in 1892. Marino-Zucco, about the same time, obtained considerable quantities of neurin from these bodies, while Dutto found that neurin was present in the urine of patients suffering from Addison's disease. Marino-Zucco and Guaruceri in a later series of papers were able to show more conclusively that neurin was the toxic agent present. Moore, in 1894, made an extensive chemical study of the question and showed that the blood pressure raising substance contained in these glands was likewise the chromogenic substance of Vulpian. Fraenkel, in 1896, obtained a possible pyrocatechin derivative which he names "sphygmogenin." Moore disputed his findings and concluded that the active substance was a pyridin derivative. The same year Muhlmann, however, obtained a pyrocatechin compound. Abel likewise, in 1896, published the first of a very important series of papers in which he described a number of crystalline compounds, giving their chemical and pharmacological properties, which he had succeeded in isolating from the suprarenal glands. He concluded that the active substance was of the formula $C_{17}H_{15}NO$ and named it "epinephrin." Von Furth isolated a substance the following year, calling it "suprarenin," which he supposed to be different from epinephrin. Takamine and Aldrich, working independently in different laboratories on the question last year, referred to me about the same time for pharmacologic examination crystalline compounds which they had obtained from these bodies, which are extremely active and are probably identical, as shown by Aldrich. The name "adrenalin" has been given to the product obtained by Takamine.

Pellacani, in 1874, reported the results of some an

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacology and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon, and N. S. Davis, Jr.

mal experiments, ten years later giving a more detailed report on the subject in conjunction with Foa. These investigators injected subcutaneously and intravenously into dogs, guinea-pigs and rabbits, varying sized doses of a filtered aqueous extract of these organs. Often the animals showed no symptoms at the time of the subcutaneous injection, but were found dead the following day; others showed more or less muscular prostration and paresis; some vomited and developed symptoms of dyspnea, and apparently a few of the animals died from respiratory paralysis. Intravenous injections produced besides respiratory symptoms, at first quickening, later slowing and weakening of the heart, some of the animals becoming partially paralyzed; they found likewise that extracts of liver and kidney produced death when administered in the same manner. The results of their experiments were of little value, as shown by Alexander, Mattei and later workers. Langlois and Abelous showed that the toxemia produced by removal of these glands could be prevented by the injection of extracts of healthy glands, and that the injection of blood from acapsulated animals produced results similar to those following removal.

Several theories have been proposed to explain the function of the suprarenal glands, the most plausible being that they form a substance of vital importance to the animal economy; another receiving but little support is that an antitoxin is elaborated which neutralizes various toxic substances produced in the body. Oliver and Schafer, in 1894, published the first of a series of papers which shed much light on the subject. They support the former of these theories, finding that extracts of the medullary portion of these bodies exert a marked influence upon the striped and unstriped muscles; and produce great increase in blood pressure, from their stimulant action on the heart, blood vessels and centers in the medulla. Negative results were obtained from extracts of glands obtained from cases of Addison's disease.

Gottlieb concluded from his investigations that the active substance of the suprarenal gland increased the heart's action by stimulating the cardiac motor ganglia. He found that injection of the extract with compression of the thorax would cause the heart which had stopped beating from chloral hydrate to recommence pulsating. This fact, which has been confirmed by Radziejewski, may be of much therapeutic importance. Howell has shown that the adrenal vein contains more of this active secretion than other veins of the body. Biedl, in 1896, found that the blood pressure is enormously increased from the injection of suprarenal extracts even after section of the medulla and destruction of the spinal cord. Cleghorn showed upon the islolated mammalian heart that an extract of the adrenals produced a great increase in the force of the contractions, while similar extracts of other animal tissues had but slight influence. Wallace and Mogk found that suprarenal extracts produce a marked rise in the systemic blood pressure by contraction of the arterioles, no rise occurring in the pulmonary circulation; the heart is slowed from vagus stimulation; the heart muscle is directly stimulated, resulting in an increase in the number and force of its contractions, and that the entire action of the drug is a very fleeting one and passes off in from one to ten minutes. Hunt showed last year that suprarenal extracts contain a substance which produces lowering of blood pressure when injected into the circulation, but since the blood pressure is always greatly raised by even very minute quantities of fresh preparations, it is probably of little practical importance therapeutically.

As I pointed out last year in a paper before this Section, the rise in blood pressure varies with the amount of the active substance injected intravenously. This reaction is so constant, as shown by hundreds of experiments since the former paper was written, that it has been found, as will be shown subsequently, a very valuable means of determining the amount of active substance contained in a given preparation.

We may briefly summarize our knowledge of the pharmacologic action of the various preparations of the suprarenal gland as follows:

Transient paralysis is observed in frogs when extracts of the suprarenal or its active principle are injected into the abdominal lymph sac and death may result, if the dose be sufficiently large.

Bates, who first proposed the use of the suprarenal gland for therapeutic purposes, is of the opinion that it serves as a useful heart tonic when administered per os. but it is doubtful, judging from the results obtained in the laboratory, if sufficient quantities are ever absorbed from the alimentary canal to produce symptoms of its action. When large doses are injected subcutaneously into dogs, guinea-pigs, etc., local irritation sometimes followed by suppuration is noticed. If sufficient quantities are absorbed, excitement followed by paresis of the hind limbs, accelerated respiration and dyspnea are often noticed, and death from respiratory failure occurs. I am having a series of experiments made to determine the best methods of administration. Extremely small quantities of fresh extracts, epinephrin or adrenalin, when injected intravenously, produce almost instantly marked rise in blood pressure with slowing and strengthening of the heart beats. This rise in blood pressure is due mainly to contraction of the muscular coat of the arterioles from the local action of the substance on their walls, as is shown by perfusion experiments on frogs, etc., the stimulation of the heart muscle itself and the stimulation of the vasomotor center. The slowing of the heart is due to stimulation of the vagus center. The heart muscle cells are stimulated, the systole becoming more complete while the diastole is less perfect. In fact, except for the very fleeting influence on the circulation one might compare the action of the suprarenals to that of digitalis.

Preparations of the suprarenal gland and its active principle have been employed for numerous purposes. It has been applied with marked success as a local hemostatic to nearly all parts of the body, to prevent hemorrhage during operations, to check postpartum hemorrhage, hemorrhage from the stomach, to allay local inflammation, etc. Injected into the vein or the heart in cases of collapse during anesthesia is one of the latest suggestions; in extreme cases this may be of much importance, as unlike the digitalis series of heart tonics its toxic action is very slight.

Until recently the dried and powdered glands with or without milk sugar were the products generally employed in therapeutics. Frequent attempts were made to exhibit a liquid preparation, but it was necessary to add some antiseptic, as thymol, boracic acid, chloretone, etc., to prevent decomposition. Since we have no chemical means for assaying these products, it seemed advisable to work out a physiological method that could be readily employed by manufacturers to determine the strength of their products. As the result of investigation along numerous lines, the following method, which

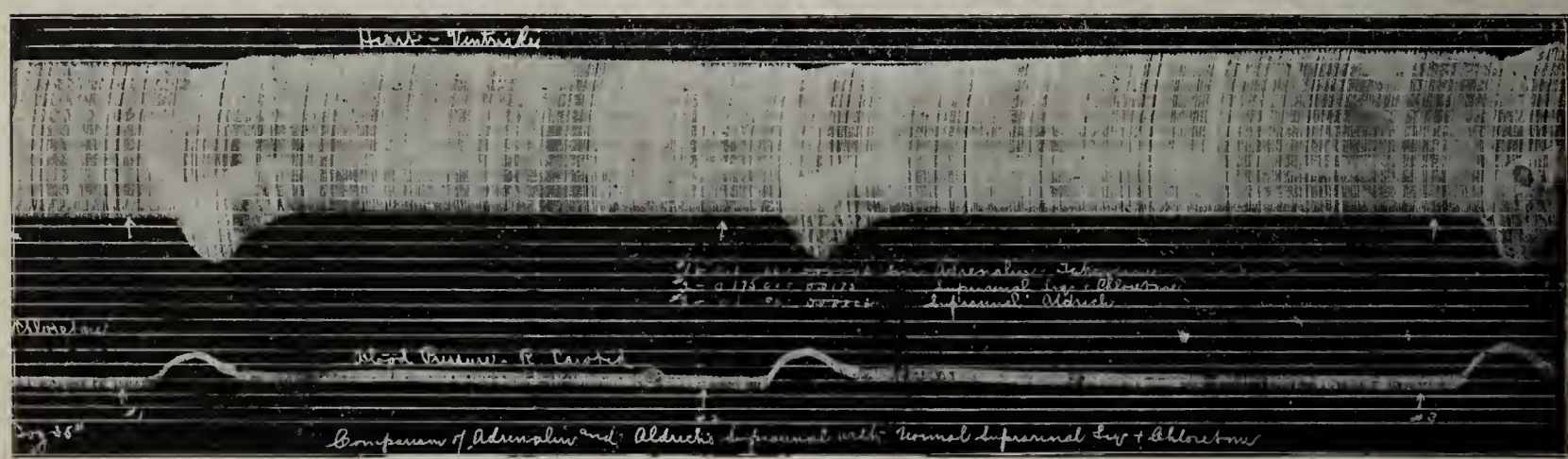
is based on the sub-maximum blood pressure obtained by injecting intravenously the preparation, dissolved in water, having removed the inert material as far as possible, and comparing the blood pressure tracings obtained with those obtained from the same animal by injecting a known quantity of a preparation of standard activity, has given me the most satisfactory results.

Hypodermic syringes, surgical instruments of various kinds, small glass canulæ, and a large-sized kymograph, with manometer arranged for taking blood pressure tracings, on continuous rolls or smoked paper, are required. The paper, whether smoked or not, should have linear rulings .5 cm. or less apart, for convenience in reading the results. Two kinds of tracings may be obtained, complete ones, where the drum is kept in constant motion, and abbreviated ones, where the drum remains at rest until the reaction is complete. If a carbon paper is employed, one or more sheets will be necessary to obtain detailed results. (See tracings Nos. 1 and 2). However, usually abbreviated tracings (See tracings Nos. 3 and 4), which gives only the maximum blood pressure obtained from each injection, are quite sufficient.

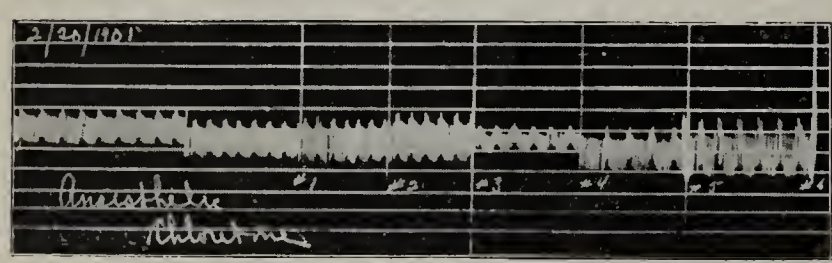
Various animals may be employed, but dogs of medium size give the best results. In any case the animal should be completely anesthetized. Since it is of great importance that the blood pressure does not fluctuate from the action of the anesthetic, I always employ chloretone given per os, instead of chloroform or ether for this purpose. Also because of the long-continued action and ease of administration, chloretone is especially valuable for this work, as the blood pressure and action of the heart remain constant for many hours.

After the animal is anesthetized the hair is clipped from the throat, the tissues severed and a glass canula of suitable size is tied in the common carotid artery,

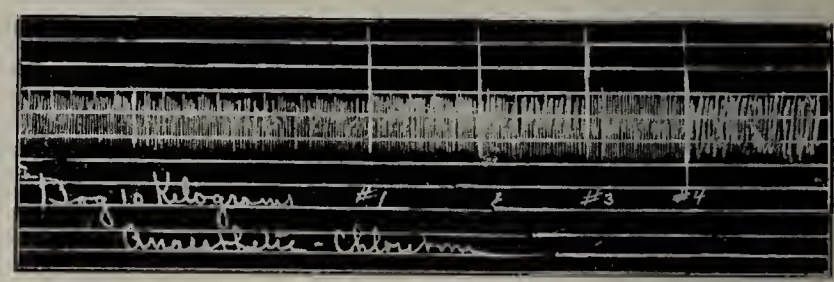
No. 1.—Complete tracing showing variations in the blood pressure from the intravenous injection of different amounts of adrenalin.



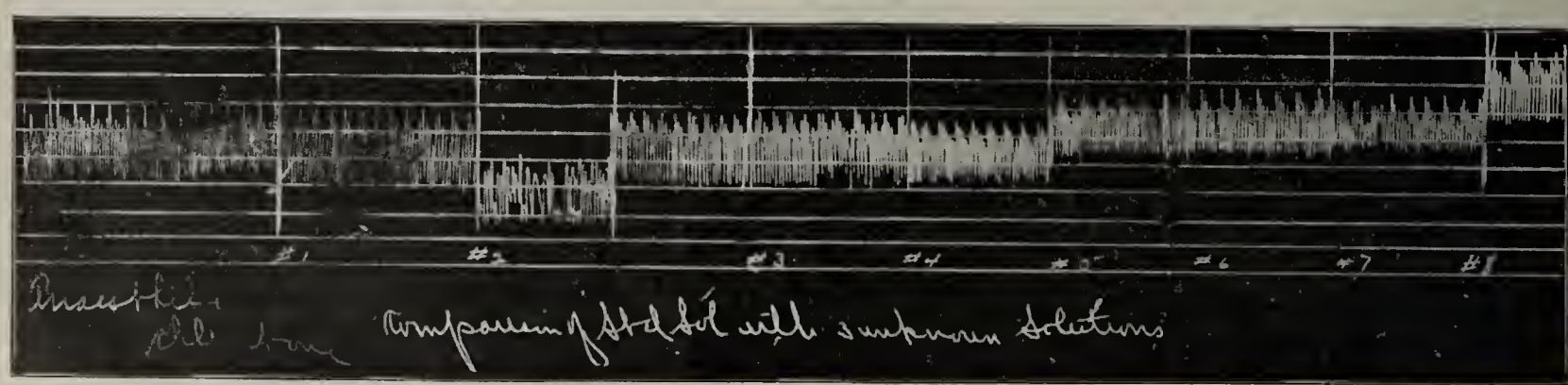
No. 2.—Complete tracing showing action on heart (above) and blood pressure (below).



No. 3.—Abbreviated blood pressure tracing.



No. 4.—Abbreviated blood pressure tracing showing the comparative action of two solutions of adrenalin. The solutions were of exactly the same strength, but the person making the assay supposed they were of different strengths until he had proven by experiment that they had the same influence on blood pressure.



No. 5.—Abbreviated tracing showing the comparative action of two solutions of adrenalin of different strengths.

which in turn is connected with a tube filled with half saturated sodium carbonate solution, to prevent the blood from clotting, leading to the manometer. The solutions—adrenalin or preparations from the suprarenal gland—for injection should be very carefully prepared, and of such a strength that they can be readily diluted in case the primary injection is found to produce too marked a rise in the blood pressure. The injections may be made either in the jugular vein or into the femoral vein, preferably the latter. As will be noticed from tracing (No. 5) an injection of the preparation that is being assayed is preceded or followed by the injection of a known quantity of a standard preparation. Sufficient time should be allowed after each injection for the blood pressure to return to the normal. The two tracings are compared, and in case the increase in pressure is not the same the solutions should be so diluted that the increase in pressure is the same, but in each case less than the maximum height. In no case, however, should a conclusion relative to the strength of a preparation be reached from the results obtained from a single animal; usually three should be employed. The animals, of course, are destroyed as soon as the experiment is completed.

At first I employed a freshly-prepared aqueous extract, 1 c.c. representing 1 gram of the fresh suprarenal gland as a standard. However, since the standard in this case varied somewhat in strength, because of oxidation, decomposition, variable amounts of blood-lowering principle, etc., the results were not entirely constant. Some months after commencing these studies, Drs. Takamine and Aldrich each supplied me with a crystalline product from suprarenal glands, which, on comparing its activity with the freshly-prepared aqueous extract, proved to be from 600 to 800 times as strong, and since it does not undergo deterioration, I have adopted it as a standard for assaying other preparations. Usually this active principle, adrenalin, is made up in solution of 1 to 10,000, a trace of hydrochloric acid being added, the same amount of hydrochloric acid being added also to the aqueous solution prepared for test purposes from the preparation which is to be assayed. It is of paramount importance in employing this method to keep the conditions during the experiment always constant.

One of my assistants, assaying unknowns prepared from adrenalin, obtained the following results, which show the reliability of the method. Similar results have been frequently obtained, and justify the employment of this method of assay until we can devise a better one.

TABLE.

Determination of the strength of three samples of adrenalin of unknown strength by comparing with a solution of known strength:

Standard.	Actual strength.	Reported Strength.
	100 per cent.	Standard.
A	85 "	88 per cent.
B	40 "	40 "
C	130 "	135 "

Adrenalin in crystalline form seems to be, as would be expected, a very stable product. On the other hand, experiments to determine the relative activity of different preparations of the suprarenal gland show quite conclusively that the liquid and powdered preparations, manufactured by the same firm, if not assayed, differ very markedly in their influence on blood pressure. In general, I have found that the fresher the product the greater the uniformity in the activity.

BIBLIOGRAPHY.

Abel: Johns Hopkins Hospital Bull., July, 1897; Johns Hopkins Hospital Bull., Sept. and Oct., 1898; Zeit. f. Physiol. Chem., vol. xxviii, p. 318, 1899; Johns Hopkins Hospital Bull., March, 1901.
Addison: 1855, Dr. Addison's Works; New Sydenham Society, 1868, p. 211.
Alexander: Beitr. z. Path. Anat. u. z. Allg. Path., Jena, 1892, Bd. xi.
Brown-Séquard: Compt. rend. Acad. d. Sc., Paris, 1856, pp. 422 and 542; Arch. Gén de Méd., Paris, 1856; Journ. de la Physiol. de l'Homme, Paris, 1858, tome i, p. 160.
Brunner: Schweizer Wochenschr. f. Phar., 1892, Bd. 30, S. 121.
Foa: Arch. per le Sc. Med., Torino, 1879, 1880, tomes iii, iv and vii; Arch. Ital. de Biol., Turin, 1883, p. 56.
Fraenkel: Wiener Med. Blätter, 1896, Nr. 14-16.
Gottlieb: Arch. f. Exper. Path. u. Pharmakol., Leipzig, 1896, S. 99.
Gratiolet: Compt. rend. Acad. d. Sc., Paris, 1856.
Harley, G.: Brit. and For. Med.-Chir. Rev., London, 1858, vol. xxi, p. 204.
Holm: Jour. f. Pract. Chemie, 1867, Bd. 100, S. 150.
Krukenberg: Virchow's Archiv, 1885, Bd. 101, S. 542.
Marino-Zuíco, F. and S.: Riforma Med., Roma, 1892, tome i.
Moore: Proceedings of the Physiological Society, Jour. of Physiology, 1894-5, March 16, vol. xvii; Jour. of Physiology, 1897, vol. 21, p. 383.
Muhlmann: Deutsche Med. Wochenschr., 1896, S. 575.
Oliver, G.: Journ. Physiol., 1895, vol. xviii, p. 235.
Oliver and Schaefer: Proc. Physiol. Soc., March, 1894 (Journ. Physiol., vols., xvi, xvii, and xviii).
Philippeaux: Compt. rend. Acad. d. Sc., Paris, 1856.
Takamine: Therapeutic Gazette, April, 1901, p. 221.
Tizzoni: Arch. Ital. de Biol., Turino, 1886, tome x, p. 372; Beitr. z. Path. Anat. u. z. Allg. Path., Jena, 1889, Bd. vi, S. 1.
Vincent, S.: Journ. Physiol., 1897, vol. xxii, p. 111.
Virchow: Virchow's Archiv, Bd. 12, 1857, p. 481.
Von Furth, O.: Zeit. f. Physiol. Chem., 1898, Bd. xxiv, S. 142; Ibid., Bd. xxiv, S. 15; Zeit. f. Physiol. Chemie, 1900, Bd. xxix, p. 105.
Vulpian: Compt. rend., 1856, Bd. 43, p. 663.
Vulpian u. Cloez: Compt. Rendu, 1857, Bd. 45, p. 340.

THE BLOOD-PRESSURE RAISING PRINCIPLE OF THE SUPRARENAL GLAND.*

JOKICHI TAKAMINE, M.D.
NEW YORK CITY.

Over forty-five years ago Addison directed attention to the relation between a disease bearing his name and certain changes in suprarenal glands. Since then many able investigators studied the nature of this interesting organ and have established beyond doubt that the suprarenal glands possess a marvelous therapeutic value.

The principal investigators in the line of the use of the therapeutic properties of the glands are Brown-Sequard, Oliver, Schafer, Pellacani, Foa, Vincent, Cybulski, Bates, Moore, Swain, Solis-Cohen, Mayer, Reichert and others.

Since the therapeutic value became known many attempts to isolate the active principle of the glands have been made by several physiological chemists. Among these we may mention Prof. J. J. Abel of Johns Hopkins Hospital, Dr. B. Moore of London University and Dr. O. v. Furth of Strassburg.

Professor Abel published the result of his investigation first in 1897. Subsequently, two or three papers on the same subject were published, wherein he announced and claimed that he had isolated the active principle of the gland in the form of its bisulphate and other salts, and named such active principle "epinephrin."

Shortly afterwards O. v. Furth reported the result of his investigation on the gland and criticised Abel's epinephrin, declaring that it is not the pure active principle, but inactive foreign matter contaminated with some of the active principle. Furth claimed the isolation by different methods in the form of iron compound and called his product "suprarenin."

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon and N. S. Davis, Jr.

Abel obtained his epinephrin by treating in an autoclave benzoyl compound obtained from the gland extract with benzoyl chlorid and sodium hydroxid after the Baumann-Schotten method; while Furth obtained suprarenin from the filtrate in which Abel considered his epinephrin did not exist.

The dispute between these two authors was not altogether amicably solved, for neither of them did obtain their product in sufficiently pure form.

Since last summer I have devoted my attention to this interesting subject and am pleased to announce that I have succeeded in isolating the active principle of the gland in a stable, pure, crystalline basic form.

While I do not desire by any means to usurp the credit due to the pioneer investigators, yet in view of the fact that neither of the authors quoted above have obtained the active principle in pure form and that there still exists some room for controversy between them, I have termed the active principle of the gland as I have isolated it, "adrenalin."

Adrenalin is a light, white, micro-crystalline substance. I have observed thus for five different forms of crystals varying according to the condition of the solution from which they were crystallized, and they are prism shape, fine needles, rhombic plates, boat or leaf shape, and wartlike shape.

Adrenalin has a slightly bitter taste and leaves a numb feeling on the tongue where it has been applied. In dry form it is perfectly stable. Adrenalin shows a slightly alkaline reaction on moistened litmus paper; phenolphthalein also indicates slight alkalinity. It is with difficulty soluble in cold water and more readily in hot water. From the hot saturated aqueous solution the crystals separate on cooling. The colorless aqueous solution of adrenalin is prone for oxidation. It absorbs oxygen from the air, changing its color from pink to red, and eventually to brown.

Adrenalin is easily soluble in acids, forming various salts. It is also soluble in alkalies, but not in ammonia or a solution of alkaline carbonate.

The following are some of the characteristic reactions: The addition of ferric chlorid to a solution of adrenalin or adrenalin salts produces a beautiful emerald green, which by careful addition of caustic alkali, becomes purple and then carmin red. It produces pink coloration with iodin and also with ammonia. It reduces silver and gold salts very energetically, and it produces a beautiful coloration at the proper strength of the solution. Oxidizing agents such as bichromates and ferricyanides behave in a similar manner.

None of the following alkaloidal reagents produces precipitation: Mercurio-potassium iodid, picric acid, tanic acid, phospho-molybdic acid, phospho-tungstic acid, mercuric chlorid, potassium bichromate and platinum chlorid.

The mode of preparing the active principle of the suprarenal glands is as follows: Suprarenal capsules finely disintegrated by suitable means are steeped in water for a period of about five hours at the temperature varying from 50 to 80 degrees centigrade, with frequent agitation and with the addition of water as it evaporates. The temperature of the mass is now raised from 90 to 95 degrees centigrade for the period of one hour, so as to coagulate as much albuminoid bodies as possible.

As the active principle of the glands are prone to absorb the oxygen from the air, to form inactive substance, it is necessary to avoid the exposure of the liquid to the air as much as possible. A layer of fat floating on the surface of the mass acts very conveniently for this purpose and at the same time it has an effect of retarding evaporation of water as well. The other method of preventing oxidation may be employed at this stage, such as carrying the steeping process in the atmosphere of carbonic acid gas. The mass is now pressed and separated from the liquid portion which contains the active principle. The residual mass is again steeped for hours in warm water, slightly acidulated with acetic or hydrochloric acid, in order to extract the residual amount of active principle. The liquid separated from the mass is now added to the first extract and allowed to separate from the oil. The clear extract is now evaporated in a vacuum pan to a suitable strength. To this concentrated solution about two to three times its own volume of strong alcohol is added, which will precipitate both inert organic and inorganic substances. The inert substances thus separated are washed with alcohol, so as to free them from the active principle. The alcohol solution is now evaporated preferably in vacuum still, whereby the alcohol used is duly recovered. To the residual liquid, ammonia is now added until the solution gets distinctly alkaline and left over for several hours. Yellowish precipitate will be formed, which is the crude adrenalin in a basic form. The precipitate is now filtered, washed with water and dried. The adrenalin usually precipitates in a light yellowish tomato-shape form, which is an agglomeration of the needly crystals under magnifying power, and is more or less contaminated with some coloring matters and some inorganic substance, chiefly phosphates.

Instead of using ammonia, sodium hydrat may be used as a precipitant, but care must be taken not to use in excess, which redissolves adrenalin. The caustic alkali may be used with advantage in the conjunction with ammonium chlorid, or caustic alkali may be used, and afterwards carbonic gas may be passed to remove the excess of caustic alkalies. In fact, the various modifications and combinations of these processes may be adopted.

In order to further purify the adrenalin, the crude adrenalin is dissolved in acid and alcohol and ether are added to a sufficient quantity. A brown-colored precipitate is produced, which chiefly consists of coloring matter and inorganic impurities. The precipitate is separated both by decantation and filtration. The filtrate is now treated by one of the above-mentioned processes, when white crystalline precipitate of adrenalin will be obtained. It is quickly filtered, washed with water and then with alcohol and dried. The process of purification may be repeated if desired.

The physiological activity of adrenalin thus isolated is astoundingly strong. A fraction of one drop of aqueous solution of adrenalin or its salt in strength of 1 to 50,000 blanches the normal conjunctiva within one minute. It is the strongest hemostatic agent known.

The intravenous injection of adrenalin produces a powerful action upon the muscular system in general, but especially upon the muscular wall of the blood vessels and the muscular walls of the heart, resulting in an enormous rise of blood pressure. The accompanying diagram shows the result of three intravenous injections of 1 c.c. of the solution of adrenalin chlorid of 1 to 100,000 into a dog weighing 8 kilograms. It raised the blood pressure corresponding to 30 millimeters of mercury.

The above result, as well as other experiments, indicate that adrenalin is over one thousand times stronger than the fresh glands.

The therapeutic applications of adrenalin are already numerous and new uses for it are constantly found out by investigators. Generally speaking, adrenalin when locally applied is the most powerful astringent and hemostatic known. It is useful in all forms of inflammation and is the strongest stimulant of the heart. It is non-irritating, non-poisonous, non-cumulative and without injurious properties. It has been used with good results in morphin and opium poisoning, in circulatory failure, in the prevention of collapse in anesthesia, and in allied conditions. It is invaluable in carrying out bloodless operations in nose, eye, ear and throat works. It has also given good results in some cases of deafness, hay fever, nasal hemorrhage and various forms of heart disease. Such authorities as Drs. Mayer, Wilson, Bates, Reichert, Ingals, Stucky, Johnson, Chambers, Curtis, Swain and many others have reported very favorable results.

A convenient form to use the adrenalin is in solution of its chlorid one part of adrenalin in one thousand parts of water. It was found desirable to add sodium chlorid to form normal salt solution. In order to insure the stability of the solution, one-half per cent. of chloroform-acetone or chloretone is added with advantage.

Adrenalin can be made in the form of tablets, usually tartrate. The tablet may be made with sodium chlorid and chloretone, so that when it is dissolved in a known quantity of water it forms a solution of desired strength.

The therapeutic efficacy of adrenalin has already been established beyond doubt, and it will unquestionably obtain a prominent place in the materia medica.

In concluding this paper, I desire to state that my thanks are due to Dr. E. M. Houghton, of Detroit, for making the physiological test, and also my thanks and large share of credit are due to Mr. Wooyenaka, my associate, for his energetic and able assistance in accomplishing this interesting investigation.

475 Central Park West.

NEGLECTED, BUT VALUABLE THERAPEUTIC MEASURES.*

GEORGE F. BUTLER, M.D.

Professor of Materia Medica and Therapeutics College of Physicians and Surgeons, Chicago, and Medical Superintendent, Alma Sanitarium, Alma, Mich.

ALMA, MICH.

In medicine the law of action and reaction is peculiarly evident in therapeutics. Remedies arise, are boomed and disappear. Some markedly efficient are flung into the background, not because of lack of value, but because of popular prejudice arising in the minds of neuropaths and for commercial reasons affecting physicians. The influence of sects in medicine in this particular is much less than is usually assumed. Sects based on opposition to any therapeutic procedure are expressions of the opinion of neuropaths rather than their cause. Such sects notoriously long retain primitive therapeutic procedures which the profession has outgrown.

Hahnemannism retains the skatologic procedures which the profession long ago rejected with disgust. Thus a Boston homeopathic firm issues a price-list of so-called animal remedies. This offers for sale at a fixed price, on page 20, potentized pediculi pubis, pediculi capitis and pediculi corporis. "Culture" would seem to have something to do with the last mentioned, for their Bostonian origin is especially dwelt upon. Page 1 offers the "acarus scabies" or "lice insect;" page 15 offers "lachryma filiæ" or "tears from a young girl in great suffering;" "carbunclus of the neck very severe" is tendered as a remedy on page 6, and page 7, in addition to the lice insect, offers adenia from the glands in Hodgkin's disease, the ailanthus "bug" and "albuminuria" or "renal albumin." "Fel gryllus Americana" or "Brazilian cricket" is offered on page 11 as a remedy for "suppression of urine." Page 2 offers "anthracin" or pus from an anthra. Page 4 offers "buboin" or pus from "syphilitic bubo." Page 5 offers "calcarea or stone of the kidney, bladder and lungs." Intestinal bladder and nose catarrh are offered on page 6. Page 7 offers a preparation of "chancre of syphilis." Page 8 offers "colostrum;" page 9, "crotalin" from the rattlesnake, as well as "diabetes mellitus" and "dropsy-semen." Cancer of the uterus, bowel, face and breast are also offered; as is also "hippozinine" from glanders, "lyssin" from hydrophobia, "osteonecrosis" pus from rectal abscess, from "caries of heel" and from septic abscess." "Electricitas" or electricity; "galvanismus" or galvanism; rubrum, flava and ceruli irides, or the red, yellow and blue rays of the spectrum, as well as "Luna" or moonshine, are also tendered as therapeutic aids to the enthusiastic Hahnemannian.

Together with these fetichistic absurdities, Hahnemannism long retained the general therapeutic procedures of the period in which it was born. Although Hahnemann claimed that the homeopathist dispensed with the necessity of employing the barbarous practice of blood-letting[1], he asserted that beginners and learners may be pardoned for using depleting processes; but if they dare to pride themselves on their pretended improvements and promulgate blood-letting and cupping as processes that are eminently homeopathic, then they make themselves ridiculous, and they ought to be pitied for their dabbling and for their bungling blindness which inflict suffering on their patients. It is laziness or a foolish predilection for the pernicious routine of allopathy, which prevents them from making themselves acquainted with the true homeopathic remedy.

This is the old story of the modern "go-as-you-please" homeopathist, who uses pellets in conjunction with ordinary medicine, but refers the cure to the pellets. The New York homeopathists adopted this system. Dr. Gray, one of the leaders, remarks[2]: "Blood-letting I have not ceased to employ during the eighteen years of my acquaintance with homeopathy. At first, by advice of my learned and lamented predecessor, Dr. Gram, it was continued on purely empirical grounds, but now, and for many years past, I apply it upon the homeopathic basis, having acquired, partly by experiment, partly by reading allopathic authorities to that end, a tolerable pathogenesis of it."

The disuse of blood-letting was simply a consequence of the pandering to popular prejudices for commercial reasons. The persons who had abused venesection joined loudest in the outcry against it. Despite prejudice, based on the fetichistic notion that the life is the blood and allied cant of the followers of Hahnemann and Thompson, blood-letting has held its own, in certain departments of medicine; with the growing knowledge of biochemistry, especially as involved in the blood serum, it is again beginning to assume its old place in

---

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon and N. S. Davis, Jr.

1. Chronic Disease, vol. vi, p. 177.
2. Homeopathic Examiner, vol. iv, 1845.

therapy. The former claim that blood-letting would quickest remove toxic products from the body, which could then be replaced with watery solutions similar to blood serum, is now strongly corroborated by the results obtained through the use of the normal salt solution.

Through the influence of the surgical operation per se, it was very emphatically pointed out some years ago by J. Williams White, Philadelphia, that but little use of this knowledge has been made. The principal use which emphasizes study of its limitations and indications has been the improvement of peritoneal tuberculosis under simple abdominal section. The rationale of this improvement is readily grasped when the fact is remembered that leucocytes are drawn toward the peritoneum by such an operation, and this would have a profound influence on the general circulation. In consequence of this, too, the leucocytes would be peculiarly stimulated toward phagocytic action in the peritoneum.

For a long time alienists have observed that traumatism exercises a beneficial influence (too frequently but brief in duration, but none the less patent) on chronic forms of insanity. Dements who have accidentally fractured a limb have been noted to improve during the period of recovery and for some time thereafter, when relapse usually takes place. In acute types recovery under these conditions is often permanent. It has also been noted that in families where idiots abound, skull fracture in infancy has led to the disappearance of the idiocy in the victim of the fracture, who, not only becomes sane, but may manifest a high order of intellect. The Australian novelist, Clarke, when a child, had a skull fracture. This was also the case with Vico, Gratry, Fusinieri, Clement VI, Malebranche and Cornelius. To skull fracture in the last three was due, as Lombroso has shown, their genius. I cite the facts simply to show that in the much neglected therapeutic procedure of counter-irritations there are therapeutic possibilities far from being realized. These procedures have fallen into disuse not because of their lack of value, but because of a popular desire for cosmetic therapy.

In no small degree, also, has this desire led to the separation of balneotherapy and hydrotherapy from pharmacotherapy. On principles whose validity is thoroughly recognized, infusions were at one time largely given in connection and coincident with baths. Clinical observation leaves no doubt that this conjunction of therapeutic measures had decidedly beneficial effects. The use of water as an alterative is now more generally recognized than at any other time, yet its employment as an adjuvant because of its alterative qualities, was never more neglected than at present. At the beginning of the century, as the American Dispensatory shows, the Brandt treatment of typhoid by balneotherapy was successfully used in the United States. From a survival of the Brandt treatment came the Kibbee treatment of yellow fever, which gave undeniably good results in the late seventies.

These early observers recognized not only the influence of balneotherapy and hydrotherapy per se, but the influence of these in extending and increasing the field and effect of pharmacotherapy. Homeopathy, distorting the essential element of the therapeutic procedure, caused its disuse. The dilution absurdity of high potency homeopathy destroyed faith in it among the scientists, at the same time creating prejudice against the correct application of the principle among laymen. The value of the principle, however, was fully sustained by the results obtained at mineral springs, but these were ascribed to the chemical constituents of the water. While, as in the case of the Hot Springs in the treatment of syphilis, evil has been wrought, it has been wrought by the reliance on the balneotherapy alone, to the neglect of other therapeutic agents as co-adjuvants. The value of these procedures when conjoined has been fully demonstrated by their use in auto-toxemias with neurasthenic elements, whether complicated by the drug habit or not. Here the use of the drip sheet, of the cold pack, of cold sponging, of the greatly diluted medicinal agent, entailing free use of water, have been fully demonstrated to be of great value. The older surgeons, before the days of anesthesia, relieved the patient's system from strain and prepared it to stand the shock of operations by these conjoined procedures. Bleeding was usually added for this purpose. Nerve strain and worry mean increased toxic products to be eliminated, and mean at the same time deficient powers of elimination. Both these conditions indicate, therefore, free uses of water, and also, that watery solutions of medicinal agents are to be employed here.

The use of compound prescription, too frequently confounded with its exact object, the shotgun has lessened since the absurdities of this last were pointed out, and since homeopathy has made the single remedy a popular shibboleth. To some extent this principle is observed in anesthesia and also in certain uses of atropin and morphin. As I pointed out some years ago, this principle could be further extended. Many prescriptions of the older clinicians contained remedies so carefully combined as to emphasize certain common properties and destroy properties antagonistic to them. These were unjustly confused with the shotgun, which was simply a blind firing in the dark, in the hope of, by a scattering fire, hitting something. In fecal anemia, for example, combinations of iron and the salines have been found to act well in conjunction with the vegetable bitters, despite the fact that these are ordinarily given to counteract each other. Sir Andrew Clarke had a favorite mixture for this purpose of the following composition: Iron sulphate, gr. xxiv; magnesia sulphate, dr. vii; aromatic sulphuric acid, dr. vi; tincture of ginger, dr. ii, and infusion of quassia, dr. xvi.

While this has been criticised as a shotgun procedure, it was, for reasons already cited, in connection with hydrotherapy, fully adapted to secure free elimination and the extended action of medicinal agents. It also met the objections to the inorganic iron compounds; another factor in its favor was the failure to arouse mental antagonism to the remedy. This antagonism is more frequently awakened by the palatability of a remedy than by its reverse, and, as states of worry increase auto-toxemia, a remedy which arouses this mental antagonism creates worry and increases auto-toxemia.

The combination just cited from Sir Andrew Clarke is one of a type in which remedies are so combined as to produce an alterative action, which increases metabolism, thereby enhancing the assimilation and benefit of a restorative agent. The physiologic conditions implied even in health by assimilation include the necessary element of elimination of toxic products.

The failure to recognize this has been the reason why iron has so often failed completely in anemia. The success of iron, quinin and strychnin when combined have been due to the recognition of this principle. The same is true of the success of the combination of certain heart tonics and alteratives, which have produced an effect where the simple heart tonics by themselves have failed. The fact has been fully demonstrated that disorders of

the heart do not depend so much on organic lesions as upon the lack of compensation. Even angina pectoris produces sclerosis of the coronary arteries so often associated with it and is not, as a rule, produced by this. The products of auto-toxemia, like toxins of the germ diseases, produce scleroses. This auto-toxemia may be of local origin, due entirely to the failure to eliminate the toxic results of nerve stress.

Arrhythmia, bradycardia and tachycardia are cardiac manifestations dependent, as Dr. G. Jacoby pointed out years ago, on disturbance of cardiac innervation with interdependent auto-toxemia. Arrhythmia is often a pure neurosis, resulting from toxemia. It is very frequently found in auto-toxemias, where there is a condition of sexual erethism which itself depends on auto-toxemia. The same is true of bradycardia and tachycardia. So long as these so continue that repair outbalances waste, the condition is not dependent on more than biochemic conditions, but when waste exceeds repair organic disease often results.

Because of this mixture of auto-toxemia and disturbed cardio-nervous action, two requirements must be met: 1, the elimination of toxic products by alterative, and 2, the control and stimulation of the local cardiac ganglia, as well as of the cardio-respiratory centers in the medulla. This is but one of a hundred combinations which might be met by careful union of medicinal agents indicated by the patho-physiologic state.

A neglected but valuable alterative nervin is copper. The therapeutists of the close of the eighteenth century believed that copper was of peculiar value in nervous diseases, where an alterative was needed as in chlorosis and anemia, and where neither iron nor arsenic was beneficial. The action of copper on the eye structures indicates that this alleged alterative action had a foundation in fact. It is a normal constituent of the blood and its toxicity has been enormously overestimated. All the therapeutists of the English-speaking countries agree as to its value as an alterative nervin. It has been found of value in all adynamic states by the French therapeutists. Among the combinations peculiarly useful are copper arsenite and copper phosphate.

Massage has undergone the usual variations of trite and useful procedures. The tendency to fashion and fads in therapy, arising from the advertising desire of fashionable physicians, has led more than once during the last two centuries to the disuse and abuse of massage, and has opened a way for the old bone-setters, who are now called osteopaths. Two decades ago they were denominated in Illinois snapping doctors. Massage has also lost caste through the erotic results of misapplication. During the last two decades of the nineteenth century massage shops, as they were called, abounded in all great cities; they received extensive advertisement in quasi reputable newspapers and created a serious prejudice against massage, of which prejudice the osteopaths have largely availed themselves. The old action of massage, as a stimulant to exercise and tissue change, however, has received constant proof sufficient to remove all prejudices against massage in the mind of the scientific therapeutist. In most of the morbid states where exercise is needed, the initial volition of the resolve to take exercise is so fatiguing that all the good effects of the subsequent exercise are nullified. Here massage peculiarly fits the case, and starts the patient on the road to recovery through the physiologic rest it gives by local physiologic exercise and fatigue, without undue strain on a weak will-balance. The Swedish movement cure is, however, contra-indicated in these cases by its mental effect on the patient, as well as its tendency to produce exhaustion. Both Swedish movement and massage in the hands of a masseur who believes in their occult origin are very dangerous, since mental suggestion of a hypnotic type is apt to affect the patient unfavorably. The most material explanation of their physiologic action should be given their patient, before they are employed, in order to avoid this untoward effect. The addition of massage and Swedish movement to the other measures employed in tabes dorsalis has peculiarly beneficial results, both from a physical and mental standpoint, since the patient learns thereby the amount of strength and motor power that he retains despite its seeming loss. Massage in sexual neurasthenic cases, while beneficial, should be carefully watched, since in this class of subjects, whether male or female, pervert tendencies are easily initiated. In all forms of chlorosis and anemia, a sluggish metabolism may be stimulated by massage as well as establishing the initial improvement in auto-intoxication. It should be remembered that in these last states, from neurotrophic causes the skin readily bruises, but such bruises from massage are of short duration, and rapidly disappear under the improvement effected by the procedure.

TUBERCULOSIS IN STATE INSTITUTIONS.*

H. M. BRACKEN, M.D.
Secretary Minnesota State Board of Health; Professor of Materia Medica and Therapeutics, University of Minnesota.
MINNEAPOLIS, MINN.

It will be impossible for me to give statistics bearing upon this disease, or to discuss the different methods in vogue in the various states in dealing with it. Such a course is not necessary however. It should be our purpose at the present time to discuss what seem to us the most approved methods, leaving the question as to what is actually done for consideration later. The institutions under the control of the state which demand our attention are schools, hospitals, reformatories and prisons, although we might well go further and discuss conditions in factories, workshops, stores, tenement-houses, etc.

EDUCATIONAL INSTITUTIONS.

Of schools there are the following: Those for children, either public or private or parochial; and the academies and colleges. Every one will concede, I presume, that tuberculous children should be excluded from the public or parochial schools for at least two reasons: 1, in order to prevent the infection of other children, for in these places the dangers of spreading infection by means of non-disinfected sputum through the use of common drinking cups, text-books, etc., is great; 2, for the good of the tuberculous child itself, for it is not good that these should be housed and cared for in the same manner as are the healthy children.

Tuberculous children should have fewer hours of study. They should have well-regulated physical exercise; especial precautions should be taken to protect them from inclement weather, wet clothing or other conditions tending to irritate the respiratory tract. Undoubtedly some one will say that these children should not be in school at all. It is hardly advisable to take such an extreme position, for many tuberculous children will, if properly cared for, overcome the disease

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee.

and become useful, educated citizens. On the other hand, if excluded from school entirely, they might grow into adult life, lacking many of the qualities of good citizens. This should not be sought after. Tuberculous school children should have among their teachers, one giving entire attention to their physical training. Weeding out from our public schools the children that are tuberculous is one of the most important functions of medical inspectors. It may not be necessary to exclude all tuberculous children from private schools, academies, colleges and universities, but all of these institutions should have thorough medical inspection, and, in connection with such, there should be definite methods of living laid down for those that are affected. The student suffering from this disease should never be allowed to room with or sleep with the non-tuberculous. It is not long since my attention was drawn to a sad case. Two university students roomed and slept together. At the outset one was tuberculous; the other was not. Neither of these young men were familiar with the nature of the tubercular infection. Probably at the outset the tuberculous individual did not even know that he had this disease. Later, the affected student died of the disease; not, however, until his roommate had also become infected, following him to the grave within a year. Such an unfortunate occurrence should not have been possible in an institution for advanced study. The physical condition of this infected student should have been known. He should have been required to live in such a way as not to have endangered others. His advanced education, if permitted at all, should have been directed by a competent physician, and he should not have had a roommate.

So far we have been dealing with schools that are in a way free from state control. There are others for which the state is directly responsible. The state schools for the blind, the deaf and dumb, the epileptics, the dependent and neglected children, reformatories, etc., can and should be thoroughly inspected, and a careful watchfulness should be kept over any of these unfortunates who may show any symptoms of tuberculosis. While it may not be necessary in all cases to isolate such children, they should most certainly have separate sleeping rooms, together with a careful regulation of out-of-door and school life. It is quite possible that many of these children are more prone to tubercular infection than are those under our general public school system.

In the schools for the feeble minded we find quite a different class of people to deal with; a people who are irresponsible and incapable; a people whom it is difficult to regulate; a people whose habits are often filthy. Strange as it may seem, one of these filthy habits is to a certain extent protective. I refer to the habit of swallowing sputum. If it were not for this habit it would be almost if not quite an impossibility to prevent the general infection of the wards and rooms in these schools. With this habit we should naturally expect to find a large percentage of cases with intestinal tuberculosis and such is the fact. The record of one institution[1] with which I am familiar, is as follows:

Year.	Average Attendance.	Deaths, Total.	Deaths from Tuberculosis.
1881	22	2	1
1882	30	2	..
1883	37	1	1
1884	45	4	..
1885	78	7	3
1886	78	9	2
1887	104	6	2
1888	157	9	3
1889	198	11	3
1890	268	12	2
1891	301	18	4
1892	305	15	5
1893	352	13	6
1894	456	24	6
1895	440	22	4
1896	435	18	4
1897	511	26	3
1898	590	39	10
1899	630	24	6
1900	668	30	11
1901 (Jan. 1 to May 5)	758	9	3
Total		301	79

1. Furnished me by Dr. Huxley, of the School for Feeble-Minded, at Faribault, Minn.

The average attendance is for the fiscal year, July 31-July 31. The deaths are for the calendar year.

W. Huxley further states, that after a careful study of the records in regard to tuberculosis at the time of admission, I believe that the year beginning April, 1900, may be taken as a fair example. There were 107 admissions. Tubercular: positive, 8; probable, 5; questionable,, 6. The positive covers those cases sufficiently advanced to warrant the statement.

Under probable are included those cases in which the findings lead to a strong suspicion of tuberculosis, but which are not sufficient to justify a positive statement of the condition.

Questionable cases comprise those where the condition of the patient, shape of the chest, expansion, etc., would lead one to be on his guard as to a favorable prognosis, but where unfavorable conditions render it impossible to demonstrate the disease clinically.

Below is a list of autopsies, performed this fiscal year:

Case.	Age. yrs.	Sex.	Tuberculosis of lung.	Tuberculosis of intestine.	Diagnosis—clinical.
A	4	F	Yes.	Yes.	Chronic enteritis.
B	28	M	"	"	Tuberculosis—general.
C	7	M	No.	No.	Nephritis.
D	9	F	Yes.	"	Tuberculosis—lung.
E	8	M	No.	"	Gastro-enteritis.
F	34	M	Yes.	Yes.	Tuberculosis—general.
G	50	M	Slight.	No.	Epilepsy.
H	10	M	No.	"	Chronic gastritis.
I*	26	M	Yes.	Yes.	Epilepsy and tuberculosis.
K†	50	M	"	"	Tuberculosis—general.
10			7	5	Three not tubercular.

* Tuberculosis demonstrated clinically about one month before death.

† In this case the patient expectorated freely and was provided with a sputum cup: tubercle bacilli were found in sputum; impossible to get sputum in other cases.

All of above were low-grade cases, except last.

Cases of marked tuberculosis are taken to the hospital, placed in a separate ward, cared for under antiseptic precautions. All outside cases are given the benefit of sunshine and open air as much as possible and those in charge are instructed as to the nature of the disease.

Dr. Rogers states that a few years ago, when the institution was not quite so badly crowded, the attending physician selected the tuberculous cases, or those in whom he suspected tuberculosis, and arranged to have them, under charge of a special attendant, out of doors in all good weather, and pretty well separated from other children when in the house. While this plan was carried out, there were fewer new cases developing in the institution than before.

As this institution is under most careful and efficient management, the record is probably up to, if not above, the average for others of a similar nature. It is noticeable that with this high mortality from tuberculosis among defectives, there is not a single instance of probable infection of attendants.

INSTITUTIONS FOR THE INSANE.

Still other conditions relative to the care of the tuberculous in state institutions are presented in the hospitals for the insane; conditions that are somewhat peculiar. It appears that it is not at all uncommon for tuberculosis to be held in abeyance apparently in the insane, and yet these patients in whom the disease exists in non-progressive form are capable of infecting others. We, therefore, find in these hospitals two sets

of tuberculous patients: viz., 1, those who were tuberculous before their admission but in whom the disease is apparently non-progressive; 2, those who have become infected since entrance into the institution and in whom the disease is progressive, later ending fatally. The records of three institutions with which I am somewhat familiar is as follows:

Year.	1		2		3	
	Population.	Deaths from Tuberculosis.	Population.	Deaths from Tuberculosis.	Population.	Deaths from Tuberculosis.
1890	....	8	967	8	82	..
1891	949	10	1054	15	122	..
1892	935	4	1058	11	245	..
1893	999	10	1071	19	352	1
1894	938	8	1115	27	532	5
1895	936	11	1120	18	725	5
1896	997	9	1138	21	783	8
1897	978	30	1126	19	984	16
1898	1007	20	1196	9	1061	13
1899	984	9	1186	22	1215	15
1900	936	15	1122	10	1306	31
Total	9669	134	12,153	179	7407	94

There is a tendency among the insane to swallow sputum, but this tendency is not so general as among the feeble-minded. On the other hand, it is no uncommon thing to find an insane person exceedingly filthy with reference to expectoration. It is no uncommon thing for attendants at asylums to become infected at such institutions and die. It would seem that of all state institutions in which an attempt should be made to control tuberculosis, the hospitals for the insane should take first place, for many of the patients recover in part or entirely from their insanity and are returned to their homes. If such restored patients have been infected with tuberculosis while in the institution, they will in all probability not only die of this disease, but will spread infection to other members of their families.

In a paper which I read before the Conference of State and Provincial Boards of Health at Nashville, in 1897, I presented the following statements and these hold equally good at the present time:

In a paper by Dr. George H. Rohé, upon sanitation in hospitals for the insane, he says: "The greatest scourge of these institutions is tuberculosis, and I fear the apathy with which this disease is regarded by physicians in charge of the insane is largely due to the prevalent belief that there is an etiologic relation between phthisis and insanity. I am convinced, however, that unprejudiced observation will show that the prevalence of tuberculosis in hospitals for the insane is due to the great facilities for infection and the lack of attention to the means of restricting the same. The American Public Health Association has, by the report of its committee on restriction of tuberculosis, pointed out the means of limiting the spread of this disease. By the adoption of these means, the percentage of tuberculous deaths to the general death-rate in one hospital, has been reduced in the course of three years from an average of 25 per cent. to a fraction under nine per cent.

I was interested in this hospital report from Dr. Rohé, at the Maryland Hospital, Catonsville, and wrote to Dr. Wade, his successor, to learn the present condition of the tubercular patients. He informed me that the death-rate from tuberculosis for 1896 was but 6.1 per cent. Dr. Wade described the manner of caring for the tuberculous insane in this hospital as follows: "The sputa of the suspected case is examined, and if the bacilli are found the patient is placed in a single room, the walls of which are painted and can be easily disinfected. The furniture consists of an iron bedstead which is readily cleaned. There are no curtains at the windows and no carpet on the floor. The patient is pursuaded, if possible, to expectorate into a vessel, which is disinfected at proper intervals. If the patient expectorates about the room, no harm can be done, however, as everything can be readily washed with a disinfectant. The bedding is properly cared for, and is used for no other bed. After the death of the patient, the room and all of its contents are thoroughly disinfected."

It may be well to place Dr. Wade's opinion, relating to tuberculosis among the insane, against the older views which I have already given. He states, as reasons for a high mortality from this disease in these hospitals: 1, the fact that the physical condition of the insane patient is very much depleted on admission; 2, the necessary confinement in the building; 3, the difficulty of isolation; 4, the lack of proper care and disinfection; 5, the fact that many of the patients do not complain of their ailments and that the tuberculous process is well established before discovered.

Dr. Tomlinson, Superintendent of the State Hospital for the Insane at St. Peter, Minnesota, believes in the transmutation of insanity and phthisis. At the same time he believes that most of the cases of tuberculosis in these hospitals originate by infection while in the hospital, and that patients having a direct heredity of phthisis are not likely to die from this disease. In proof of this he quotes from the hospital's statistics as follows: "During a period of two and one-half years, out of 695 patients admitted, 70 had a history of phthisis in the family; and 5 were suffering from phthisis when admitted. During this same period, 19 patients died of phthisis, and not one of these had a family history showing that disease."

He believes that the *materies morbi* for tubercular infection is always present in the old-style hospital and that the poor hygienic surroundings due to overcrowding have much to do with its development. This is illustrated by the fact that at times a patient who becomes infected with tuberculosis and is rapidly failing may improve and apparently recover when placed under better sanitary conditions. We should, therefore, have no hesitation whatever in saying that the isolation of the tuberculous insane should be insisted upon, even though such a procedure would require the establishment of a hospital especially for this purpose.

PRISONS.

It should be a simple matter to control tuberculosis in prisons, for the individuals are under absolute control. In all modern prisons each prisoner has his own cell. It is a simple matter, therefore, to set aside certain cells in which to confine tuberculous prisoners. These individuals should be given a special diet and should be kept at work in the open air, if possible. They certainly should not be placed at work in shops or factories with other prisoners. Such a system, I am happy to say, is carried out at the Minnesota state prison with most gratifying results, for at present there is not a single prisoner suffering from tuberculosis in confinement at that institution. Dr. B. J. Merrill, physician in charge, established the system of isolation, special diet, etc., in the summer of 1894. At this time

he set aside a group of cells now known as "tuberculous row;" with the appearance of any suggestive symptoms of tuberculosis a prisoner is carefully examined from time to time and as soon as the presence of tuberculosis is recognized he is placed in one of these cells. This does not mean that he is placed in an infected cell; far from it, for these cells and their contents receive special attention. All bedding and clothing is disinfected and laundered separately. The prisoner is required to expectorate into a spit cup containing a disinfectant, and especial care is given to the cleansing of the cell from day to day. Should a tubercular prisoner die, his clothing and bedding are disinfected or destroyed and his cell is thoroughly cleansed before being placed again in service.

These methods adopted at Stillwater may not be unusual in prisons but it is not universal. In strong contrast with the condition at the Stillwater prison is that which exists at the Indiana State Reformatory at Jeffersonville. This institution is poorly located on low ground, and in spite of protests it is overcrowded to such an extent that bunks made of rough boards fill up all the available space on the floors of the cell room and many cells are made to accommodate two instead of one man. Buildings that were planned to accommodate 536 prisoners have now an average population of 900. Of course, it is not possible at this place under existing conditions to isolate tuberculous prisoners.

The records of this institution from Nov. 1, 1896, to Oct. 26, 1900, divided into two periods of two years each, show the following concerning tuberculosis:

First period.—Tuberculous inmates under treatment, 52; deaths from tuberculosis, 15. Total deaths, all causes, 23; percentage of deaths from tuberculosis, 65.

Second period.—Tuberculous inmates under treatment, 396; deaths from tuberculosis, 23; total deaths, all causes, 32; percentage of deaths from tuberculosis, about 72.

These numbers represent only the cases that have been on the sick list. Undoubtedly there were others who, if they had been examined carefully, would have shown symptoms of the disease. It would seem that this institution, with the assistance of that reaper whom we call death, might be able in the course of a few years to eliminate from Indiana its tuberculous reformatory prisoners.

As race has much to do with the susceptibility to tuberculosis and as negroes and people of mixed negro blood are said to be especially liable to contract this disease, and, as there are many more negroes in the Indiana reformatory than in the Minnesota prison, it may be said that a comparison of these two institutions is unfair. As a matter of fact, the difference in the susceptibility to tuberculosis of the people in these two institutions is not so great as might appear to the casual observer. If, however, it is conceded that climate and individuals favor the Minnesota institution, there is then the more reason for the use of strict sanitary measures at the Indiana reformatory.

Etiology of Diabetes.—Erichsen suggests in the *St. Petersb. Woch.*, that diabetes may be due to selerosis of the vertebral and basilar arteries. Patients with diabetes frequently exhibit indications of arteriosclerosis. The vertebral and basilar arteries pass along the medulla oblongata and send ramifications to the floor of the fourth ventricle. He bases treatment of diabetes on this principle, and administers potassium iodid in combination with sodium salicylate, as in case of arthritis and arteriosclerosis in general. The favorable effect may reach the arteries of the medulla and thus ensure better nutrition of the "sugar center" and improve the symptoms of the diabetes.

PUBLIC SANITARIA.*

C. P. AMBLER, M.D.
ASHEVILLE, N. C.

The large number of alleged "cures" for tuberculosis which are constantly appearing as new remedies in the treatment of this disease, only go to prove that the medicinal treatment of tuberculosis, if depended upon empirically, is failing in the object to be attained. We have elsewhere (Columbus meeting of the American Medical Association) claimed that the hygienic treatment of this disease should occupy first place, in no matter what climate or under what conditions the patient was being treated; that climate should occupy second place, while medication in point of preference should be given third place. The consensus of opinion of all writers who deal largely with this disease now practically agree in this, the same proving that the hygienic care of the patient is of the greatest importance.

The question immediately arises as to how we can place our patients under the best hygienic conditions. I understand that under "hygienic conditions," one of the things of greatest importance is the education of the patient in what to do and what not to do. It becomes the duty of the physician to instruct his patients carefully and to see that these instructions are carried out. This is generally a very difficult matter where the patient is engaged in his daily work and is frequently one of the greatest drawbacks where our patient is in the ordinary boarding-house of a health resort. The sanitarium undoubtedly offers the best possible advantages for the proper instruction of a patient, both as regards exercise, diet and the many little things which go to make up the daily round of life.

Unfortunately, a large percentage of the phthisical of this country are so situated that they can not enter a private institution for such treatment on account of the expense involved; this brings us to the point of our paper, i. e., does the state owe a duty to the phthisical poor?

The communicability of this disease makes sanitation a necessity, always. It is foolish for us to create the impression among the laity that the disease is violently contagious; but nevertheless, each case is a menace to those with whom he comes in contact, and particularly among the poor is the death-rate in this disease high. Each state takes care of its insane and spends large sums yearly upon the maintenance of such hospitals. The inmates of these institutions are hopeless as far as future citizenship is concerned, and, while the state recognizes that it can not hope to bring them to a point of usefulness, it has already become the fashion in the different states to take good care of the insane as well as their blind, their deaf and dumb, their epileptic and their criminals (and who shall say that the latter are not simply persons of diseased minds?). If the state acknowledges the duty of caring for all these, it should certainly recognize the same duty toward this large class of patients who become diseased through no fault of their own, particularly as in the case of the phthisical, where each and every patient is a menace to those with whom he comes in contact, and in many cases becomes a charge upon the community in which he resides. He is a danger to his friends, he is a danger, to a certain extent, to the community at large, and, as the state now sees fit to enforce laws and regulations in most

---

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee.

other contagious diseases, the time is shortly coming when the same action will be taken in regard to tuberculosis; particularly is this shown to be true when we investigate statistics and find that about one-tenth of all the deaths in this country is due to this disease.

The poor man who develops tuberculosis, as a rule, dies of the same, dies in distress, dies suffering for the need of the simplest comforts and attentions, and dies only after he has infected the whole community in which he lives. If tuberculosis was as rare to-day as leprosy and if the ravages of this disease could be seen upon the skin as in that trouble, we would to-day be isolating our tuberculous patients in pest-houses and enforcing them away from their friends and their families. It is the insidiousness of the disease, together with the fact that it involves organs and tissues which are not discernible to the eye, that makes people at large so indifferent to the malady as they are. Because they can not see the disease, they accept the same as a visitation of Divine Providence and seem to have no fear of it, even when for ages back it has been known that the disease is more or less communicable.

The rich can and do take care of their own; but the poor, the needy poor, and those who are only poor on account of the disease, and those, who prior to their affliction, were engaged in daily labor, in many cases working for the state, what shall we do with these? Are they to receive no consideration at the hands of the community in which they have resided and been good citizens?

I believe that all will recognize before many years that the state has a duty toward these poor, both on account of their unfortunate condition and on account of the contagion which they spread. Many of our states are already taking the matter up, but this movement has been altogether too slow.

In 1889 when I first started into the sanitarium treatment of this disease there were only two institutions of the kind in this country, to-day there are over thirty; of these but two are state institutions and one is National (conducted by the Marine and Army corps); the remainder are private institutions, conducted by private individuals, corporations or charitable institutions. Our politicians will soon be compelled to adopt some measures to stop the spread of this disease and such institutions for the care of the phthisical poor will undoubtedly be one of the first measures. These institutions will probably be conducted on the cottage plan and not with large wards or open dormitories. They will be situated at an altitude of between two and three thousand feet; away from towns; with level grounds; groves of trees; good water and drainage, and should be easy of access. The grounds should be large and the inmates allowed and required to assist in the care and cultivation of the same, under the constant supervision of the physician in charge.

Under some such plan as this many of the phthisical poor could be cured and others greatly benefited. The one great curse to the poor man suffering from this disease is the fact that he continues in his labors until his condition is such that no improvement is possible. If the state would give him the care which he deserves he would then be more free and better able to take this care at an earlier period and with better prospects of recovery.

I firmly believe that each state should levy sufficient taxes for their consumptive poor and that each county should pay these taxes pro rata, according to the number of phthisical patients in the county requiring assistance. This would force the keep of these people upon the county in which they had developed their trouble and would necessarily sooner or later result in better hygienic laws in that county. It would also remove to a distance many virulent sources of infection and give the county better chances of recovering from the disease.

Some will say that the segregation of tuberculous patients will only result in more virulent local infections of certain districts; this is nonsense, as it can be clearly proved to-day that those institutions which have been conducted in this country have, in the rarest exceptions, had the disease develop on their grounds.

If the state is to take hold of the subject, it will only do so upon the solicitation of the profession, and if the profession who now recognize the necessity of some such legislation do not openly advocate the same and educate the people up to the point where they recognize the necessity of such legislation, then we are failing in our duty to the phthisical poor and to the community at large.

We, as physicians, should also attempt to educate those who so generously endow hospitals, to the necessity of establishing institutions for the treatment of this disease for the needy and deserving poor. When we look over the large number of hospitals in some of the large cities and see how many of these are sufficiently endowed to guarantee their permanent finances, and when we look further and see how few of these have either special wards or special means for caring for this large class of the unfortunate, we can only censure ourselves that such is the case. The public-spirited citizens who endow these hospitals do not realize the amount of suffering and distress, want and destitution that exists among our poor consumptives, and as before stated, we, as physicians, should undertake to see that these people have a better understanding of these necessities. If we do there can be no doubt whatever but almost every city in the country would have an institution either in the suburbs or in the country for the care of the tuberculous poor of the city in question.

Let us appeal not only to the state, but let us appeal to those who are rich also and who could certainly place their money to no better advantage than thus relieving the suffering and distress of their fellow man. Let us advocate cottages for the curable cases and let us advocate separate cottages for the incurables, and surely if those who have money to apply to a charity cause could once be made acquainted with the great amount of good which could be done, especially among these latter cases, our appeals would not be in vain.

In order to accomplish anything, however, we will have to work; work individually and work together and not each man depend upon the other, but organizing a crusade in this direction, if each physician would make himself a committee of one to see that the same is advocated in the proper place and time, a year or two would undoubtedly produce great and good results.

Let us remember that it is not always necessary to send the consumptive away from home. Good work can be done any place in the country if the proper hygienic measures are carried out. And especially let us advocate the placing of the deserving and needy incurables in institutions removed from the centers of population.

In order to be able to place before you what has already been accomplished by the different states in

this country, I have addressed circular letters to the secretaries of the different State Boards of Health asking them certain questions, which we give below, together with the replies received and the names of the secretaries of the State Boards of Health answering.

Summarizing the reports received from the 43 different states answering we find under Question 1.—That in 12 states pulmonary tuberculosis is classed by the state laws as a contagious disease, and in 28 the disease is not mentioned in any way under or in the state laws. In 13 states the state laws do not mention the disease, but the State Boards of Health recognize that the same is a communicable disease and are now endeavoring to get state laws passed.

Question 2.—By the reports received we find that in 21 states there has been direct legislation to prevent the spread of pulmonary tuberculosis and in 22 states there has been no direct legislation to prevent the spread of this disease. Under this head we find the interesting fact that in 11 of those 22 states which do not recognize this disease as a disease in the human being, stringent measures have been passed and are now in active force to prevent the spread of tuberculosis among cattle. The state apparently recognizes a greater duty to the cattle of the state than to the citizens, although the laws passed are supposed to be passed for the benefit of the population. In 10 states the only measures that have thus far been taken by the state have been to distribute literature in an attempt to educate the people as to the dangers and communicability of this disease. The report from Rhode Island shows that $15,000 is annually given the Board of Health by the state to pay for such cattle as the Board finds tubercular and is destroyed. Under this question our report shows but three states in which local ordinances concerning expectorating in public places have been passed and are enforced.

Question 3.—In but 5 states of the 43 reporting is there any provision made for the care of the poor tubercular patient by the state, namely, New York, Massachusetts, Maryland, Pennsylvania, Ohio (municipal); while Connecticut, Michigan, Maine, Minnesota and Pennsylvania now have pending bills before their legislatures for the establishment of state institutions.

Question 4.—Of the 43 states reporting, 8 states report private institutions for the care of tubercular patients, while the whole number of such institutions reported amounts to 26, the majority of which are situated in Boston and Philadelphia. (Of the whole number reported 8 are simply wards in general hospitals, which wards are set aside for tuberculous patients.) In 4 states the State Board of Health and State Medical Society are now jointly working together for the establishment of such institutions for the care of the incipient poor.

Question 5.—Of the whole number of 43 states reporting, in only 18 instances was the state able to furnish statistics as regards the prevalence of tuberculosis in the state. In 17 instances the State Board of Health records were sent, but from many of these it was impossible to obtain figures or data which would enable one to arrive at anything like definite conclusions. By averaging the total number of deaths from all causes from all the states reporting, it appears that about one death in every ten is from some form of tuberculosis, whereas, the same inquiry made six years ago showed that one death in each six of the total deaths was due to this same disease.

In 27 of the 43 states reporting, it was admitted by the reporter that the state records were in bad shape, thus further showing that the state pays little attention to this, one of the communicable and most fatal diseases. The most progressive states, judging from the reports sent and from the work already done in the states, are (in proportion to the amount of work done) Maine, Massachusetts, Pennsylvania, New York, Michigan, Rhode Island and Vermont.

Judging from the summary of the whole report received from these states a systematic effort is now being made to educate the people of the various states as to the danger and contagiousness of pulmonary tuberculosis, and in most of the states the state now recognizes the disease as a disease in cattle, but absolutely ignores the same in the human being. Many of these states seek to prohibit the spread of the disease in the human being (without so mentioning the fact) by slaughtering the cattle that are found to be tubercular. It further appears that many municipalities compel the inspection of cattle slaughtered to prevent the consumption of meat from tuberculous cattle, but these same municipal authorities fail to recognize or admit that such a disease already exists among the people of their municipality.

It would appear as though in most of the states we are attempting to clean and purify our homes by sweeping the front steps; in other words, we seem content to live with, eat with, sleep with, and come in constant contact with the filth of the disease of tuberculous patients when occurring in our homes and cities, and that our sense of duty only urges us to make strenuous efforts toward purifying the cattle herds of the country.

Of the whole number of states reporting, in but one instance is there no provision made for the care of the insane and in but two instances no provision for the blind, and I believe that almost every county of every state reporting has some provision for the care of the destitute poor. In most of these states we find pest-houses where are confined those persons having acutely contagious diseases, and throughout the breadth and length of the land we find that the endowment of hospitals for the epileptic, the blind, the insane, the crippled, the deaf and dumb, the aged, the poor and, in fact, the diseased in either mind or body, from no matter whatver cause (other than tuberculosis) are constantly being endowed by private individuals, established by the states, established by the counties and municipalities, but that this great plague which annually kills one out of every ten persons dying in our country, has received practically but little attention or recognition on the part of the state or the philanthropist.

REPORT.

Question No. 1—"Is pulmonary tuberculosis classed as a contagious disease under your state laws?"

Question No. 2—"Have any laws or steps been taken by your state to prevent the spread of pulmonary tuberculosis?"

Question No. 3—"Are there any institutions conducted by your state for the cure or treatment of pulmonary tuberculosis?"

Question No. 4—"Do you know of any private institutions in your state conducted for the cure or treatment of pulmonary tuberculosis? If so, where located?"

Question No. 5—"Can you furnish me anything in the way of statistics, showing the prevalence of pulmonary tuberculosis in your state?"

Massachusetts—Samuel W. Abbott, Sec. State B. O. H. Question 1—No. Question left to discretion of local board of health. Question 2—No direct legislation. State B. O. H. has applied for such and same now pending. Question 3—Rutland Hospital for Consumptives, 200 beds. Question 4—Cullis Home, Boston, 44 beds; Free Home for Consumptives, Boston; Chamming Home for Consumptive Women, 17 beds; Home Good Samaritan, 28 beds; Carney Hospital Wards; Sharon Sanitarium, 20 beds. Question 5—Complete state records.

Pennsylvania—Lawrence Flick, M.D., Sec. State B. O. H. Question 1—Yes. By power conferred upon state B. O. H., which body so classifies the disease. Question 2—No. Indirectly the State Veterinary Department exercises some control. Question 3—No. State appropriates $5000 annually to Rush Hospital for Consumptives, and will likely appropriate money to State Hospital this year. Question 4—Hosp. Dis. of Lungs, Women, Phila., 40 beds; Hosp. Dis. of Lungs, Men, Phila., 10 beds; Rush Hospital of Phila., 30 beds; Nott Home of Jewish Hosp., 20 beds; Free Hosp. Poor Consumptives, 35 beds; Consumptive Wards in the Episcopal, Samaritan, German, University and other hospitals. Question 5—There are probably 100,000 cases of pulmonary tuberculosis in Pennsylvania at present; 6000 consumptives die in Pennsylvania every year. Complete state records kept.

North Carolina—R. H. Lewis, M.D., Sec. State B. O. H. Question 1—No, not specifically. Question 2—Distribution of literature; local expectoration ordinance; local notification ordinances. Question 3—No. Question 4—Winyah Sanitarium; Pigboue Sanitarium for Colored Consumptives; St. Joseph's Retreat. Question 5—Complete B. O. H. reports.

Colorado—G. E. Tyler, Sec. State B. O. H. Question 1—No. Question 2—Educational only; 17,000 circulars mailed during past year. Question 3—No. Question 4—Oakes Home, Denver. Question 5—Complete B. O. H. reports.

Maryland—John S. Fulton, Sec. State B. O. H. Question 1—No, but mentioned in regulations for transporting dead bodies. Question 2—No, except as pertains to cattle and dairies. Question 3—Hospital for Consumptives at Towson. Question 4—No. Question 5—No.

Connecticut—C. A. Lindsey, Sec. State B. O. H. Question 1—No, except as applies to cattle. Question 2—No, only as regards cattle. Question 3—Bill now pending, asking for $150,000. Question 4—No. Question 5—Complete B. O. H. reports.

Mississippi—J. F. Hunter, M.D., Sec. State B. O. H. Question 1—No, but B. O. H. so considers it. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

Kentucky—J. N. McCormick, M.D., Sec. State B. O. H. Question 1—Yes. Question 2—Only advisory, and distribution of literature. Question 3—No. Question 4—No. Question 5—No.

Virginia—Paulus A. Irving, M.D., Sec. State B. O. H. Question 1—Yes. Question 2—Distribution of literature only. Question 3—No. Question 4—No. Question 5—No. No reliable data.

Louisiana—G. T. Patton, M. D., Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—Tolson San., at Covington. State B. O. H. now trying to establish a state institution. Question 5—No.

Arkansas—R. B. Christian, M.D., Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

Michigan—H. B. Baker, M.D., Sec. State B. O. H. Question 1—Yes. Question 2—Distribution of literature and notification by physician. Question 3—No, but two bills now pending. Outlook not good. Question 4—No. Question 5—Complete State B. O. H. reports.

Iowa—J. F. Kennedy, Sec. State B. O. H. Question 1—Yes. Question 2—Distribution of literature only. Question 3—No. Question 4—Dr. J. W. Kime's San. Question 5—No. Nothing reliable.

Wisconsin—V. O. B. Wingate, M.D., Sec. State B. O. H. Question 1—No. Distribution of literature; education of citizens. Question 3—No. Question 4—No. Bill now pending and prospects good. Question 5—Complete State B. O. H. records.

Kansas—W. B. Swan, Sec. State B. O. H. Question 1—No, but state gives local B. O. H. authority to so classify. Question 2—Distribution of literature only. Question 3—No. Question 4—No. Question 5—1898 total deaths, 5288, of which 480 were from tuberculosis. Complete State B. O. H. records.

Ohio—C. C. Probst, Sec. State B. O. H. Question 1—No. Question 2—Only in educational way. Question 3—No. But one municipal hospital at Cincinnati. Question 4—No. Question 5—Nothing very reliable.

Maine—A. G. Young, Sec. State B. O. H. Question 1—No, but power given local B. O. H. to so classify. Notification compelled. Question 2—Distribution of literature. Question 3—No, "not yet." Question 4—No. Question 5—Complete State B. O. H. records. First state to distribute literature.

Texas—W. F. Blunt, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—Dr. L. W. Cock's San., at Boerne. Question 5—No.

North Dakota—H. H. Healey, M.D., Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No. Records, bad shape; disease not prevalent.

Nebraska—B. F. Grummer, M.D., Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

South Carolina—James Evans, M.D., Sec. State B. O. H. Question 1—Yes. Question 2—Only as pertaining to transportation dead bodies. Question 3—No. Question 4—No. Question 5—No. Records not complete.

Rhode Island—Gardiner J. Swartz, M.D., Sec. State B. O. H. Question 1—No, except in cattle. Question 2—$15,000 given B. O. H. annually to pay for tubercular cattle. No other. Question 3—No. Last session took the matter up for investigation. Question 5—Yes. Complete State B. O. H. records; 1 death to every 450 population.

Wyoming—Geo. P. Johnston, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No. B. O. H. just organized; disease practically unknown.

Washington—D. P. Newman, Sec. State B. O. H. Question 1—Yes. Question 2—Yes. Question 3—No. Question 4—No. Question 5—No.

District of Columbia—W. C. Woodward, M.D., Sec. District B. O. H. Question 1—No. Question 2—No, except expectoration laws and control of milk. Question 3—No. Question 4—No. Question 5—B. O. H. reports.

Minnesota—H. M. Bracken, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No, but last legislature took matter up. Question 4—No. Question 5—Statistics incomplete.

Oregon—B. E. Miller, M.D., Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—There are none.

Vermont—H. D. Nolten, Sec. State B. O. H. Question 1—No, but State B. O. H. so considers it. Question 2—No, except as applies to cattle. Question 3—No. Question 4—No. Question 5—9.28 per cent. of all deaths are from tuberculosis.

New Jersey—H. Mitchell, M.D., Sec. State B. O. H. Question 1—Yes. Question 2—Expectoration and notification ordinances by local municipalities. Question 3—No. Question 4—No. Question 5—Complete State B. O. H. reports.

Utah—J. B. Beatty, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

South Dakota—Wm. Edwards, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No. Disease rarely seen.

Montana—A. F. Longeway, M.D., Sec. State B. O. H. Question 1—No, but B. O. H. so considers the disease. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

Illinois—Jas. A. Eagan, Sec. State B. O. H. Question 1—Communicable. Question 2—No, only as regards cattle. Question 3—Yes. Bill also failed last session; asked for $200,000 for state hospital for tuberculosis. Question 4—No. Question 5—Exceedingly difficult to do so.

Florida—Jas. Y. Porter, Sec. State B. O. H. Question 1—Yes. Question 2—No. Question 3—No. Question 4—Church and Hospital Orlando. Question 5—No.

Indiana—J. N. Hurty, Sec. State B. O. H. Question 1—Yes. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

New Hampshire—J. A. Watson, Sec. State B. O. H. Question 1—No. Question 2—No, except cattle. Question 3—No. Question 4—No. Question 5—Incomplete.

West Virginia—A. R. Barbee, Sec. State B. O. H. Question 1—No, but B. O. H. so considers it. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

Arizona—W. L. Woodruff, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

New York—B. L. Schultzer, Sec. State B. O. H. Question 1—Yes. Question 2—Yes. Question 3—Yes. Question 4—Saranac, N. Y.; Liberty, N. Y. N. Y. City hospitals. Question 5—Nearly 13,000 deaths yearly.

Delaware—Alex. Lawber, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—Higher than for any other disease.

Idaho—R. L. Naroe, Sec. State B. O. H. Question 1—No. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

Nevada—S. A. Gibson, Sec. State B. O. H. Question 1—No, except cattle. Question 2—No. Question 3—No. Question 4—No. Question 5—No.

California—W. P. Mathews, Sec. State B. O. H. Question 1—No, but B. O. H. so regards it. Question 2—No, except municipalities. Question 3—No. Question 4—No. Question 5—Incomplete.

Alabama—Geo. P. Waller, Sec. State B. O. H. No reply to either of two letters.

Missouri—L. C. McElivee, Sec. State B. O. H. No reply to either of two letters.

Georgia—J. B. S. Holmes, Sec. State B. O. H. No reply to either of two letters.

Tennessee—J. A. Albright, Sec. State B. O. H. No reply to either of two letters.

CONSIDERATION OF SOME IMPORTANT SUBJECTS CONNECTED WITH THE TREATMENT OF PNEUMONIA.*

EDWARD F. WELLS, M.D.

CHICAGO.

In assuming the duties pertaining to the presidency of this Society I should indeed be lacking in that kindly spirit of gratitude which is usually inherent within us were I to fail in embracing this opportunity to express my sincere thanks for the honor which you have conferred upon me. This office is assumed with diffidence and a keen sense of the important obligations which it entails, and I can only assure you that there shall be brought to bear upon it, unreservedly, all the energy and talent which is mine to give. This Society has been fortunate in having had at its head during the past three years such an indefatigable worker as my predecessor, and my efforts shall be directed toward maintaining, as far as lies within my power, the Society upon the high scientific and practical plane to which it has been raised. In this matter I shall hope to merit, and to receive, the hearty, coöperative, active support of every member of our Society.

Although the treatment of pneumonia has been for generations the chosen battlefield of therapeutics, and the subject is being constantly offered for discussion in our medical societies, nevertheless I am of the opinion that the last word upon it has not yet been spoken, and that interest in it is far from being exhausted. On the

* Being the Presidential Address of the Chicago Society of Internal Medicine.

contrary I believe that the time is now opportune for a careful and analytical consideration of certain important problems in this field which are as yet unsolved. It is but fair to state that time will permit the presentation, in a cursory manner, of only a few of these.

The fact that pneumonia is increasing in prevalence is *prima facie* evidence that prophylactic measures have either not been adopted or have proven unavailing. As a matter of fact they have not been employed by the few, except in rare instances, and have not been even considered by the many. Is this as it should be? Have we at hand sufficient evidence to lead to the conclusion that any individual or communal prophylactic measures offer reasonable prospects of usefulness, and, if so, in what do they consist? Let us rapidly review our fundamental knowledge bearing upon this point.

ETIOLOGY.

Pneumonia is caused by a specific pathogenic microorganism, the pneumococcus. The pneumococcus will not grow in acid media, and in its growth it produces an acid and an albumose, which in turn probably cause the death of the organism. Its different strains vary in virulency, and somewhat in biological characters. Pneumococci from individual strains vary in virulency as they are grown in differing media, as, *e. g.*, the diplococcus found in the nasal passages of a pneumonic patient is less virile than that found in the inflamed lung, but the germ of lesser virulency may be made intensely active by being passed through a susceptible animal. Its capsule is lost by cultivation outside animal bodies. It is not destroyed by most of the ordinary antiseptics and its capsule is only acted upon by alkalies and ethers. Contrary to popular belief it may lead a saprophytic existence. The pneumococcus is present in some part of the upper respiratory passages in a very considerable proportion of healthy persons, and it is probable that pneumonia is ordinarily due to the aspiration and slipping down into the alveoli of some of these ready at hand cocci.

PROPHYLAXIS.

In view of the foregoing and other relevant facts we may, tentatively, formulate the following prophylactic rules: All discharges from the respiratory passages should be treated in such manner that they can not gain access, in the form of spray or dust, to the respirable air. Pneumonic sputum should not be allowed to become dry, and should be burned. The tenacious, clinging expectoration should be carefully removed from the lips, teeth, etc. The mouth, throat and nostrils should be cleansed at proper intervals with an acid solution, followed, after a few minutes, with an agreeable mildly alkaline antiseptic solution. With reasonable care along these lines it is probable that the infected person may jeopardize only very slightly the safety of those who come in contact with him.

VIRULENCE OF THE TOXINS.

To the careful and experienced clinical observer it is quite clear that the course and termination of pneumonia varies within wide limits, due to a variety of causes, among which may be mentioned, as being of greatest importance, the special virulency or benignity of the strain of the pneumococcus, and that intangible and peculiar, but positive and widespread impressionability of the populace which our grandfathers in medicine very aptly called the "prevailing medical constitution" or "epidemic influence." This remarkable susceptibility upon the part of the inhabitants of a more or less extensive district to receive and afford a congenial soil for the pneumococcus, in which it may attain extraordinary virility, is a condition which must be constantly reckoned with in the prognosis and treatment of pneumonia.

In pneumonia the patient's life is threatened from many and diverse directions, all of which can neither be appreciated nor mentioned. A few of these, however, deserve our present consideration: The chief element of danger is from the introduction of the pneumococcal toxins into the nutritional fluids of the body. This is one of the most powerful of the bacterial toxins, as may be inferred from the profound chill and raging fever which follows the initial introduction into the system of an infinitesimal quantity of the poison, and this diluted almost beyond conception. That the system becomes less impressionable and more resistant to the toxin as the malady advances is evident from the fact that progressively increasing quantities of toxins absorbed do not produce correspondingly more pronounced effects. This may be due to a variety of causes, as, *e. g.*, simple accommodation to an irritant; physical protection by the retention, to a considerable extent, of the toxins within the blood-vessels; by dilution of their poisonous solutions; their absorption and modification by leucocytes or other cellular elements; the neutralizing and protecting influence of antitoxins or defensive secretions generated by the leucocytes or other cellular elements, or to antitoxins evolved by the pneumococcus itself, etc.

Can we assist Nature along these lines? I answer, unhesitatingly, that we may do so. But in making any attempts in this direction we should act with conservative discretion and only after careful consideration of as many of the facts in the case as may be made manifest. These problems are inherently complex, and are rendered especially difficult by the instability of the factors which enter into them. We also lack the results of the right kind of experimental and clinical investigation in these fields. It behooves us, therefore, to be very careful that, by misdirected effort, we do not increase the dangers of a serious malady.

CAPILLARY PARESIS.

One of the early and persistent symptoms of pneumonia is capillary paresis. The blood, with each ventricular systole, is forcibly impelled through the capillaries into the veins. It results from this that the arterial system is underfilled, while the venous system is overfilled with blood; and the fluids without the blood-vessels, not receiving fresh supplies by osmosis through the capillary walls, are more or less stagnant. This is probably an efficient device of Nature for protecting the dynamic tissues of the body from the irritating and paralyzing effects of the pneumococcal toxin; but it necessarily follows that those tissues will be insufficiently nourished and be exposed to the deleterious influences of being constantly bathed in a solution of their own cellular waste. In addition, when this waste-laden fluid later finds its way into the general circulation and is distributed throughout the body it may become itself an element of danger. Now, under these circumstances, shall we interfere, and if so in what manner? To this I would answer, that in the ordinary case I believe we should, and as follows: Early I would give a mercurial, followed by a saline cathartic; bleed to 500 or 750 c.c.; induce a rather free perspiration; give fluids freely; give digitalis and adrenalin hydrochlorate in efficient doses. By these procedures from 6 to 10 per cent. of the toxin in the blood vessels is removed, and that which remains is very considerably diluted; the capillaries are stimu-

lated to contraction, osmosis is increased, the bodily tissues are nourished and their waste products are speedily removed; the heart, instead of wildly beating against a partial vacuum is steadied by meeting a normal resistance. A second bleeding, later in the course of the disease, but anticipating obviously ominous symptoms, may distinctly turn the tide toward recovery.

LEUCOCYTOSIS.

In pneumonia there is a very marked leucocytosis, which has certain suggestive characteristics; *e. g.*, it appears simultaneously with, or follows within a few minutes after the initial chill; the polynuclears are absolutely increased, usually many fold; the eosinophiles are practically driven out of the peripheral circulation, to reappear with the earliest evidences of decline in pathogenic activity. That leucocytosis plays an important protective rôle must be acknowledged by anyone who gives the subject any observing and reflective study, although the exact nature of this defense remains, as yet, unknown. It is clear, however, that whatever is done is accomplished by those mobile secretory glands, the polynuclear leucocytes, discharging their neutral, or faintly alkaline secretion into the liquor sanguinis, and that this secretion combines with and neutralizes the pneumococcal toxins, or, possibly acts upon the tissues of the body in a manner to make them more resistant to the poison. Now it happens that in some cases there is but little or no leucocytosis, and experience abundantly shows that, although all cases accompanied by an increase of leucocytes do not recover, an exceedingly large proportion of those in which leucocytosis is absent die. Can we assist Nature in this field by stimulating the activity of the polynuclear leucocytes and by inviting them to invade, in force, the sanguineous current? It is my belief that this may be beneficially accomplished by the administration of nucleinic acid, and this I prescribe in every case in which a satisfactory leucocytosis fails to appear.

Nucleinic acid may be beneficial, also, in preventing cardiac and vascular thrombosis. This is offered, at the present time, only as a suggestion. Certain it is that in a short series of cases in which this agent was used the blood platelets were less numerous and the coagulability of the blood was less than in another series in which nucleinic acid was not employed. My observations, however, are far too few in number to serve as a basis for formulating a plan of treatment, having in view the object named, and the question can only be decided by further experience. Because of their known tendency to cause coagulation of the blood, lime and gelatin should not be given in pneumonia.

ANTIPNEUMOCOCCIC SERA.

The pneumococcus speedily dies in any culture medium, and its death is probably due to the toxins produced. We know that the human system appears to accommodate itself, somewhat, to the poison after the first onslaught of the disease. We also know that the symptoms rapidly subside at a time which corresponds to the greatly diminished virility or death of the cocci within the affected alveoli, and, consequently, at a time when presumably but little of the toxin is finding its way into the sanguineous current. Animal experimentation with dyalized toxins, the glycerinated extract of dead and dried bodies of the pneumococcus, the serum from pneumonic patients, and the serum from animals which have been subjected to long continued pneumococcal inoculations have, so far, been inconclusive, as to their prophylactic or curative powers; and clinical experience with the various sera which have been placed upon the market, in such an honorable manner, has been equally inconclusive. Certain it is that with an eagerly receptive medical mind they have failed to find that favor which is quickly and enthusiastically awarded every therapeutic novelty of real value. My own experience in the use of such sera has been too limited to be of any use in forming any conclusions, and the opinion expressed is that formed after a somewhat careful study of the literature upon this subject. I am free to say, however, that I have witnessed phenomena following the hypodermic injection of such sera which leads me to believe that they are agents of real and beneficent power. For example, in one case the injections were followed by the reappearance in the blood, while the disease was yet at its height, of those harbingers of subsiding toxemia, the eosinophile leucocytes. Analogy leads us to believe that a useful antipneumococcic serum may be produced, and I am hopeful that this will be accomplished.

USE OF CHLORID OF SODIUM.

One of the most remarkable of the pneumonic phenomena is the great diminution of, or disappearance from the urine, of the chlorids. It is probable, if not certain, that these are required in the blood, in the intra-vascular fluids of the body and in the alveolar exudate for purposes of defense against the pneumococcal toxins, or the parasite itself. If this is probably, or even possibly, true there is presented sufficient reason for the systematic use of chlorid of sodium as a therapeutic agent. In my own practice I direct that all foods, including, especially, milk, shall be well salted, and that saline enemata be given as freely and as frequently as they can be retained and absorbed. If patients are treated, systematically, in this manner, it will be found that, as a rule, the chlorids will not be entirely absent from the urine; and this may be taken as evidence that the system is being supplied with somewhat more chlorids than is necessary to meet its requirements.

UNCONTROLLABLE FETID DIARRHEA.

One of the late symptoms, in some, happily rare, cases of pneumonia which is certain to strike terror to the heart of those who are aware of its serious import, is the sudden onset of an uncontrollable fetid diarrhea, which may become involuntary and usually ends only with the patient's death. Often the appearance of such a diarrhea is entirely unexpected, although it is merely the culmination of a preceding intestinal sepsis which could have been detected, and probably corrected, if it had been looked for. In my opinion no case of pneumonia is properly managed in which careful and frequent investigation of the functional activity of the gastro-intestinal tract is not made. A paretic state of the intestines, with tympanitic distension and an inability to pass flatus should be recognized at once and proper relieving measures applied; indeed, this condition should be anticipated and prophylactic management should be the rule from the earliest period of the attack. In these cases the sulphates of the urine are always increased, sometimes to an enormous extent; *e. g.*, I have seen the 24 hours' urine contain the equivalent of more than 320 grains of sulphuric acid. In one case of this kind which I have had recently under observation there were present a large number of nucleated erythrocytes, and the blood was literally swarming with those small, deeply colored, lenticular bodies known as Eichhorst's corpuscles; but the significance of these hemic changes is not apparent. The management required to prevent these undesirable and dangerous conditions resolves itself into the regular and

thorough evacuation of the bowels; the proper regulation of the diet; and the administration of some efficient intestinal antiseptic, as, *e. g.*, salol.

OXYGEN.

It has been said that, in pneumonia, one of the most ominous of the physical signs is the presence in the sick-room of an oxygen outfit! In consultation practice this may be true, but I do not believe that the implied stricture is fairly applicable to ordinary family practice. Indeed, I believe that the employment of oxygen inhalations, begun early—certainly at the very beginning of that slight but steadily progressive increase in frequency and shallowness of breathing which the experienced physician so dislikes to see—and frequently and freely given, is a useful measure, and is one of the many things which may sometimes save a life which, otherwise, might be lost. I am not able to give any reasonable explanation as to how or why oxygen acts beneficially in these cases except the unsatisfactory one that it is a respiratory stimulant. Nevertheless, I use it, along with strychnia, caffein, camphor, morphia, etc., each of which agents, properly employed, are of the greatest value.

RAPIDITY OF CHANGE.

In typical cases of pneumonia there are three striking features which have always attracted the attention of clinical observers. I refer to the sudden and furious onset which transforms, in a few hours, the man of robust health to one prostrate with serious illness; the rapid subsidence of the acute symptoms at the time of crisis, by which he passes, again in a few hours, from a raging storm of morbidity to a state of comparative well-being; and the unexpected celerity with which the collapse which speedily ends in death appears upon the scene of apparently satisfactory progress. These rapid transformation scenes are, however, peculiarly characteristic of pneumonia, and the observant physician will have early noted that, from first to last, the clinical changes occur with remarkable suddenness. This leads me to advocate, with all the earnestness which I possess, that pneumonic patients be given careful, observant, intelligent and unremitting attention. They should be visited at frequent intervals or, in some cases, be given constant attention. I have had occasion, in more than one instance, to feel that the patient's recovery was due to the fact that the physician was present and prepared to act at the moment unfavorable and portentious conditions arose, and I am convinced that, in many cases, if such medical attention is not given, the patient is being deprived of some of the resources of our art, and that his chances of recovery are thereby directly lessened. It is scarcely necessary to remark, in the presence of this audience, that, in addition to the observations which were formerly made by every physician, the practitioner of to-day must bring to bear upon his case, in an intelligent manner, and in detail, and often, all the diagnostic resources of our time, including those of the clinical laboratory. In especial should his attention be directed to the state of the heart and capillaries; the urine; the blood; the nervous reflexes. The nursing and surroundings of the patient should be of the best which his means can procure, for I am sure that in but few positions of peril can the beneficent power of money be shown to better advantage than in a well-generaled combat with pneumonia.

Paraffin Prothesis.—Herczel states that he has prevented or cured prolapse of the rectum in a few cases by Gersuny's injections of paraffin. He has also thus cured a vesico-vaginal fistula, etc.

CASES OF SARCOMA AND OF HODGKIN'S DISEASE TREATED BY EXPOSURES TO X-RAYS—A PRELIMINARY REPORT.

WILLIAM ALLEN PUSEY, A.M., M.D.

Professor of Dermatology in the Medical Department of the University of Illinois.

CHICAGO.

SARCOMA.

CASE 1.—This case was referred to me by Dr. A. J. Ochsner, Professor of Surgery in the University of Illinois. The patient entered Augustana Hospital in Dr. Ochsner's service August 18, 1901, when the history, of which the following is an abstract, was obtained: J. L. B., aged 24, clerk, had the ordinary diseases of childhood, otherwise he has always been well. He has not had syphilis. The family and personal history is without significance. Six months ago—February, 1901—he noticed a small hard swelling the size of a filbert below the angle of the jaw on the left side of the neck. This gradually increased in size. Ten weeks ago—May, 1901—he noticed a similar hard swelling the size of a filbert on the right side of the neck about an inch below the mastoid process. This has increased in size rapidly. During the past week he has been troubled with morning headaches, usually relieved by taking food.

Present Condition: He is a fairly well-nourished, spare-built man. A loud harsh murmur accompanies and follows the first sound of the heart. The lungs are normal. There is a hard, freely movable swelling the size of a hen's egg just below the angle of the jaw on the left side, which is not tender or painful. There is another hard mass underneath the upper third of the sterno-cleido-mastoid muscle on the left side which is not freely movable, nor tender or painful. There is a very hard mass on the right side of the neck below the ear and mastoid process the size of a man's fist, which is not freely movable, nor tender or painful.

The clinical diagnosis of sarcoma was made by Dr. Ochsner and the tumors on the left side were removed August 19. The tissue was sent to Dr. Robert Zeit, Professor of Pathology in Northwestern University School of Medicine, for microscopic examination. Dr. Zeit's diagnosis was "small round-cell sarcoma." The patient made a prompt recovery from the operation and on September 2 was sent to me for a month's exposure to *x*-rays preliminary to a second operation. The left side showed a healthy scar. The condition of the right side of the neck at that time is shown in the accompanying photograph—Fig. 1—which, however, fails to show the full extent of the tumor. The swelling extended from in front of the angle of the jaw to within an inch of the posterior median line, and from the mastoid process almost to the clavicle. It was rapidly increasing in size. It was very hard, not freely movable and was not tender. The neck was almost rigid from the interference of the tumor with motion. The circumference around the neck over the tip of the chin, the apex of the tumor and the lower border of the hair was 21 inches.

The patient was put under *x*-ray exposures immediately, and these were continued from September 2 to September 27, during which time he got 21 exposures with a hard tube and a weak light. The distance of the tube from the surface was maintained at 5 cm. and the length of the exposures varied from ten to fifteen minutes. Slight erythema appeared on September 17, and by September 27 this had developed into pronounced dermatitis, when the exposures were stopped. Within the next six days the dermatitis increased considerably and the surface became dark red, tender and denuded of horny epidermis. After this the dermatitis rapidly subsided and by October 12 was practically well. The effect of the exposures upon the tumor was almost magical. Within ten days it had shrunken perceptibly and

the motions of the head were freer. On September 17 the circumference around the chin was reduced to 17½ inches, a decrease of 3½ inches. On September 25 this was 16¾ inches and the tumor was reduced to the size of an olive. On October 11 there was no trace of the disease left except a small, freely movable, painless gland not larger than an almond kernel. There was no swelling, and all stiffness and interference with motion had disappeared. The condition October 11 is shown in the accompanying photograph—Fig. 2. On October 27 he reported to me as follows: "The gland you described as as large as an almond pit seems to be going away. It is not as solid as it was and I can move it freely. I have started to work." On December 7 he writes that as far as he can tell this side of his neck is as well as it ever was. The gland, he thinks, is now about half the size of an almond pit, and he can find it only by careful search. This report is repeated in a letter of January 12. He also reports that since September he has gained 12 pounds in weight.

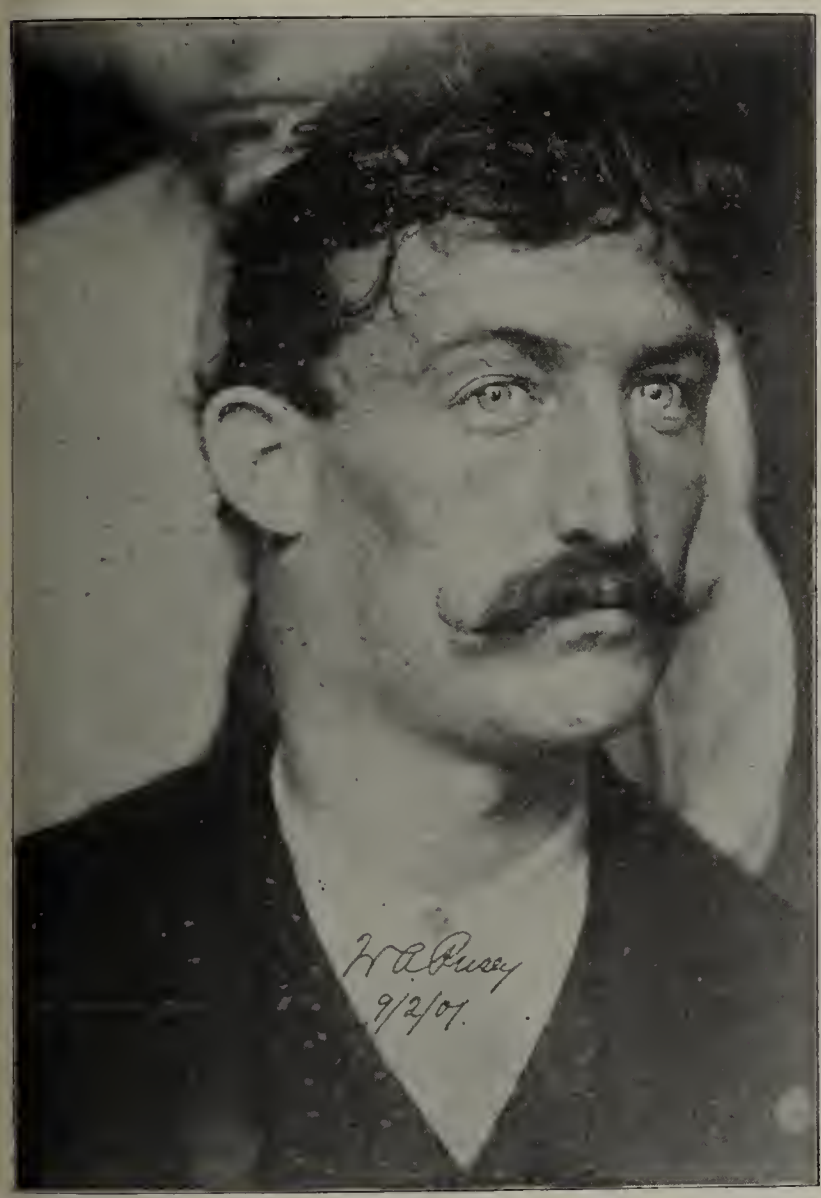


Figure 1.

Figure 2.

We have here then a clinical diagnosis of sarcoma by Dr. Ochsner and a microscopic diagnosis of small round-cell sarcoma by Dr. Zeit. There can not be the slightest doubt that the tumor on the right side of the neck was of identical character with that on the left, so that the diagnosis of this tumor must be small round-cell sarcoma, a highly malignant variety of the disease. Under *x*-ray exposures alone—for the patient was given absolutely no treatment except *x*-rays—this sarcoma was made to disappear, and after three months without treatment it has not shown any evidence of recurrence.

CASE 2.—Man, age 67, osteosarcoma of the right shoulder, with symptoms of sarcoma of the bladder. There was profound cachexia and evidences of general sarcomatosis. The patient was put under *x*-ray exposures, chiefly with the hope of relieving his pain. He was given 16 exposures without any effect upon the tumor, but according to his voluntary statement with considerable relief from pain. With my approval the treatment was discontinued.

CASE 3.—Woman, age 60, with extensive inoperable sarcoma involving the right pectoral muscles and the right shoulder. She has been under treatment for a month with perhaps small shrinkage in the tumor. She was suffering from severe pain when the treatment was begun and was running down in strength. According to her statement her strength has increased considerably and there is great relief from pain. Her physician, Dr. William Fuller, of the University of Illinois, who referred the case to me, tells me that there is no doubt about the great relief from pain.

The second and third cases are reported, of course, simply that my record may be complete. The third case shows as yet nothing except some evidence of relief from pain, which is usually the prompt result of the use of *x*-rays in malignant neoplasms. The second case must be set down as a failure against the method, and yet I believe it may be fairly claimed that this case had reached a stage of the disease which will probably prove beyond relief by any local method of treatment that will ever be devised.

In the first case I believe the definite effect of the *x*-rays on a sarcoma is demonstrated as conclusively as a demonstration can be made in medicine. There is no link lacking in the evidence in this case of the effect of *x*-rays on a sarcoma. It is impossible to believe that the disappearance of this sarcoma was simply a coincidence

with the exposures to the rays. At the time the treatment was begun the tumor was growing rapidly, and its subsidence was *pari passu* with the accumulation of the effects of the rays. The patient had no intercurrent disease, such as an erysipelas, to account for the disappearance of the tumor and he had absolutely no other treatment. This is, of course, only one case, but the result is so startling that it must command one's interest. The case is not unique, although I do not recall another case in which the result was so complete. There are several authentic reports in the literature showing the favorable influence of *x*-rays on sarcomas, and bearing this in mind, I believe it may be maintained that in cases of sarcoma, which can not for any reason be treated successfully by surgical means, the effect of *x*-rays should be tried; and, further, in cases of sarcoma which have been treated surgically subsequent use of *x*-ray exposures as a prophylactic is a procedure which should be considered.

Figure 3.

Figure 4.

HODGKIN'S DISEASE.

In this connection I wish to refer briefly to two cases of pseudo-leukemia which I have under treatment by *x*-rays.

CASE 1.—Boy, age 4, referred to me by Dr. Oehsner. December, 1900, the mother noticed a swelling in the cervical glands on the left side, and soon afterwards a similar swelling on the right side. These steadily increased in size up to August, 1901, when Dr. Oehsner made a diagnosis of Hodgkin's disease and removed the glands on the right side. On September 11 he referred the case to me for exposure of the glands on the left side of the neck. The condition at the time that the patient came to me is shown in the accompanying photograph—Fig. 3. There was a mass of glands on the left side as large as a fist. Under *x*-ray exposures the swelling rapidly subsided, and in two months the glands were reduced to the size of an almond. The child has had intermittent treatment from November, 1901, to the present. There are a couple of cervical glands on the right side as large as a filbert, but they have shown no tendency to enlarge and there is no swelling. The condition of the patient January 8 is shown in the accompanying photograph—Fig. 4.

CASE 2.—Man, age 50, was referred to me by Dr. L. L. McArthur, surgeon to St. Luke's Hospital. About a year and a half ago the patient noticed enlargement of the axillary and epitrochlear glands on the right side. Both glands rapidly increased in size. The diagnosis of Hodgkin's disease was made by Dr. McArthur, and for some time the patient was under treatment with parenchymatous injections of arsenic, in spite of which the tumors steadily grew. On November 19 I undertook the exposure of the epitrochlear gland, while Dr. McArthur continued the arsenic injections in the axillary gland. At the time that *x*-ray treatment was begun the epitrochlear gland was almost as large as a goose egg and very hard. Within a month it was reduced to about one-third its previous size, and at the present time it is about as large as an olive and is quite soft. In the meantime the axillary gland under the arsenic injections showed no change, and on December 18, at Dr. McArthur's suggestion, I began exposures over that gland. It was then as large as a child's head and very greatly interfered with the motion of the arm. The patient insists at present that the gland is smaller and softer, and that he can use his arm very much more

freely. As an illustration of this, he is able to play billiards again, a thing he has not recently been able to do.

103 State Street.

SURGICAL CORRECTION OF MALFORMATION AND SPEECH DEFECTS DUE TO OR ASSOCIATED WITH HARE-LIP AND CLEFT PALATE.*

GEORGE V. I. BROWN, A.B., D.D.S., M.D., C.M.
Professor of Oral Surgery, Milwaukee Medical College, and Oral Surgeon, Trinity Hospital.
MILWAUKEE, WIS.

The purpose of this discussion is to make clear advantageous possibilities in the treatment of hare-lip and cleft palate by a new method which, 1, reduces the width of the fissure and thus renders a subsequent operation for closure by operation upon the soft tissues more certainly successful and more beneficial by preserving the usefulness of the soft parts; 2, by readjustment of the unequally developed bone structures, gives a more perfect contour to the form of the face after operation; 3, makes it possible to operate successfully upon patients almost with regard to age limitations. The objects which make relief of some kind desirable if not imperative for patients so afflicted, whether the method of procedure be surgical or prosthetic, may be summed up in the two considerations, health and speech, for the purpose of all treatment must be directed toward improvement in one or both of these requisites. Malformations of this nature affect the general health of individuals chiefly in two ways, by malnutrition due to inability of infants to take sufficient nourishment properly, which interferes with normal development sometimes to so great an extent as to place the lives of such children more or less in jeopardy, and nasal catarrh caused by irritating secretions, bacteria and foreign matter which gain access to the nasal passages through the opening from the oral cavity, or constant exposure of the nasal mucous membrane to external irritants. This diseased condition usually extends to the pharynx and carries in its train many associated disorders that affect the adjacent frontal maxillary and ethmoidal sinuses, involving also the nervous and circulatory disorders.

In classifying cleft palate cases, the first division recognized between acquired and congenital cases is important but quite insufficient, and much depends upon a correct and distinct classification of subdivisions under these two heads, which will facilitate an intelligent understanding of the nature of each division, its relation to the particular kind of treatment required and the special difficulties each presents that must be overcome in effecting a cure. Strangely enough, there seems to be little or nothing especially clear or valuable in this direction to be found in literature upon the subject.

Acquired cases have one of two etiologic factors: disease or accident. When the tissues of either soft or hard palate are destroyed by pathologic condition, naturally the advisability or inadvisability of an operation would be determined by the nature of the cause. For instance, in syphilitic cases, operation would usually be contraindicated, because of the tendency to still further loss instead of restoration of tissue. If the opening be confined to the hard palate, as frequently occurs from necrosis, such an opening is much more easily and better covered by a nicely-fitted denture, but if the tissue of the soft palate has become involved, speech is impaired to such a degree that more or less risk is warranted in the hope of restoring the ability to speak distinctly.

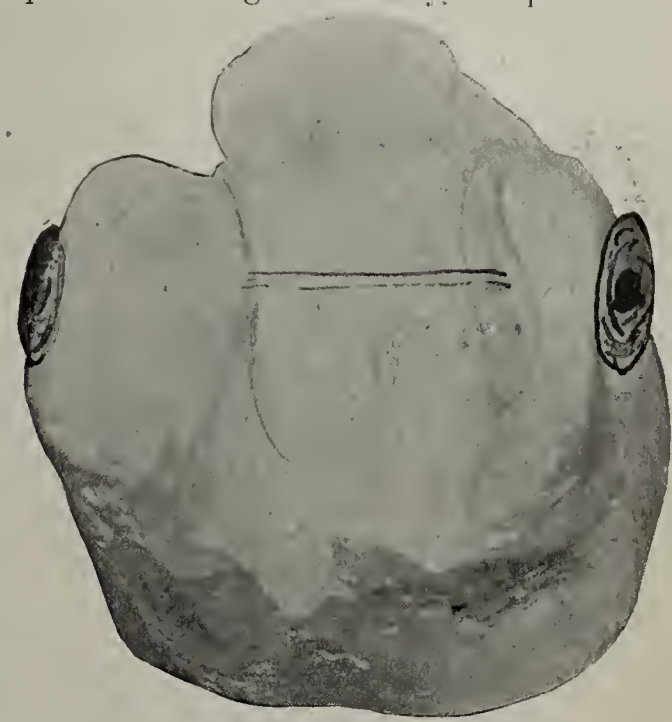


Figure 1.

Classification of congenital cases presents difficulties which can best be understood by considering them with regard to the nature of the deformity, since there are such notable differences between typical forms of

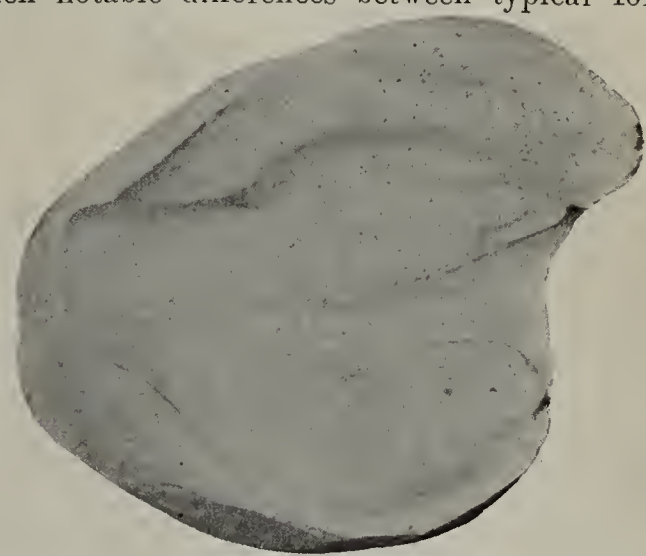


Figure 2.

congenital fissures of the palate and lip, each with its own characteristic difficulties to combat in treatment, and again, in order that the surgeon may intelligently undertake their correction, it is necessary that

Figure 3.

another distinction be made with due regard for the vital question of age in relation to operative procedures. Under 1, we distinguish clefts in the soft palate with hard palate normal; 2, a continuous separation through both hard and soft palates; 3, double cleft, which may

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee.

bifurcate from a single one at the intermaxillary bone, or may make two continuous fissures through hard and soft palates. Age requires recognition by the following divisions representing distinct operative differences: 1, infants for whom immediate operation may become necessary on account of inability to obtain proper nourishment; 2, eight to ten months old; 3, after the deciduous teeth have erupted but before habits of speech are fully established; 4, older children and adults after the eruption of permanent teeth.

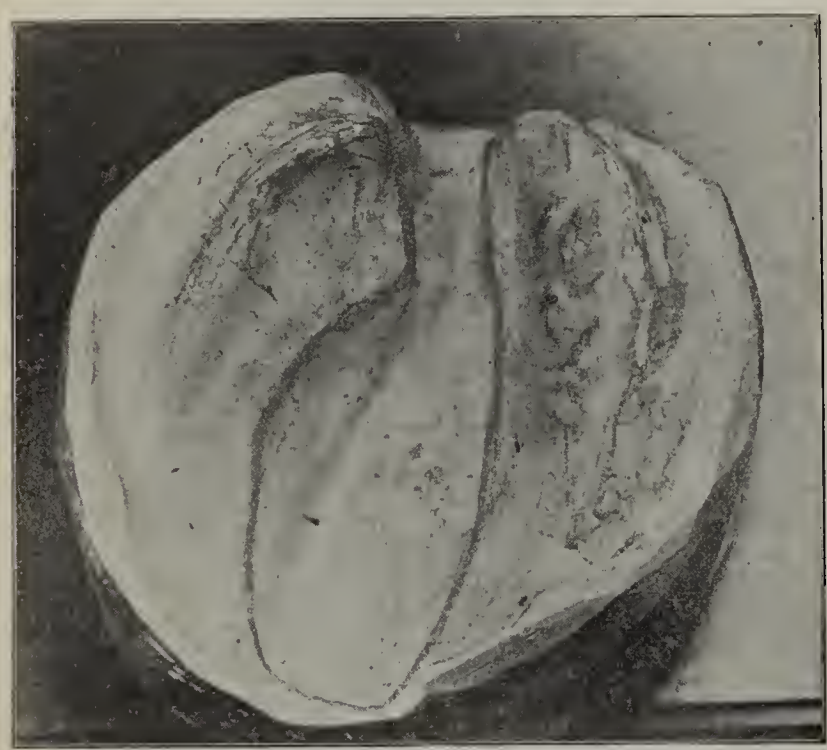


Figure 4.

HIGH MORTALITY IN INFANCY.

The danger and high rate of mortality recorded after infants have been operated upon are too well understood among surgeons to warrant an extended discussion, for whether the death rate be 50 per cent., as given by Ehrman, or something less, as stated by Sched, Wolff, Fowler and other writers, it nevertheless goes without saying that if good results can be obtained by operation performed when the child has gathered power of resistance, the method which can accomplish this result must be the better method. So long as it was claimed that in order to have perfect union of the parts and anything like a perfect development of speech afterward, it was absolutely essential the operation be performed in early infancy such operations might then be excusable, but while it must be admitted that infants take chloroform with comparatively little danger, and that they do not suffer shock through fear of danger the nature of which they are unable to comprehend, it is only too true that they bear the loss of blood badly. In such cases, with the mouth full of wires and sutures, the inducement to take nourishment through the mouth is not very great. In fact, rectal feeding must almost invariably be resorted to because the digestive tract suffers more or less disturbance from bacteria, from the wound surfaces and in various ways. If nourishment per rectum can be continued and vitality of the child sustained until the stomach and intestinal tract are sufficiently restored to perform their normal functions, success might reasonably be expected, but too often irritation of the rectum interferes before the activity of the digestive organs is restored; then and frequently does the prognosis become exceedingly grave.

Figure 5.

Figure 6.

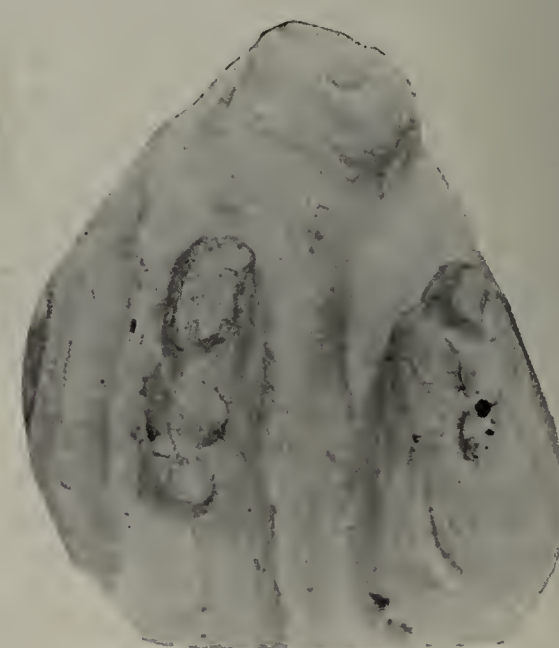


Figure 7.

CHILDREN AGED SEVEN TO EIGHT MONTHS.

When the child has passed through the first seven or eight months of infancy and is upon a fairly secure vital

basis, the treatment preparatory to a future operation for hare-lip can best be given by the method shown in illustration, Fig. 1, and the reasons why such preparatory treatment is necessary by Figs. 1, 2, 3, 4, 5, which portray the unequal development that is invariably found

Figure 8.

in these cases. If no such preparatory treatment be given there will be a less perfectly shaped mouth, because of the extreme tension due to an effort to make the tissue bridge such a wide space, and a flatness of the mouth, be-

Figure 9.

cause there is no bone structure behind it, also a flatness of the ala of the nose upon the affected side, with deflection of the nasal cartilage to the opposite side, giving a markedly irregular appearance to nose, lip and face. This is due to the fact, very clearly noticeable in the pictures referred to, that arrest of development of the jaw upon one side or the other causes a decidedly uneven appearance to the face. Since on one side the bones of palate protrude while upon the other there is a corresponding recession. To overcome this a heavy wire suture is passed from the buccal surface upon one side directly through both portions of the jaw to

Figure 10.

the buccal surface of the other, drawn closely and fastened at each side with little silver plates to prevent it pulling through—see Fig. 1. The direction of this wire is governed in such a way that when it is slightly twisted in the center of the mouth from day to day the

Figure 11.

tension will bring forward one side and draw back the other. This force, while gently and regularly exerted, is sufficient to alter the form of the bones in any direction desired, at the same time it brings the two sides of the cleft nearer together and reduces the difficulty of the future operation upon the palate quite materially. When the proper form of adjustment has been secured in this

manner operation for hare-lip can be performed very easily and perfectly, because the space to be covered has been reduced to the minimum. The nose and bones of the face are thus straightened, and in all respects the result is more perfect than could otherwise have been accomplished. This is shown in Figs. 4, 5, 6, which are pictures of the same baby and cast of his mouth before operation. The wires can then be removed, because the tension of the lip muscles will continue to exert a force, which will prevent widening of the cleft in the palate that would otherwise take place and continue to narrow it. Thus the operations of uranorrhaphy and staphylorrhaphy become much simplified and can be performed at any period that may seem most favorable to the circumstances and condition of the patient. Figs. 7, 8, 9 portray in some degree the appearance of a child for whom the unopposed muscles had pulled the detached intermaxillary bone until it stood out in such a way as to appear to be a continuation of the nose, from the end of which two teeth were being erupted. In this case a little more than an inch of the projecting bone

Figure 12.

was resected, the borders of the jawbone on each side freshened, the intermaxillary forced back to its natural position and wired to the lateral portion of the jaws; operation for double hare-lip was then performed, with the result shown in Fig. 10. By removing a section from the middle of the bone instead of cutting off at the end to restore the defective form of the face and lip, the erupting deciduous teeth, together with the germs of permanent ones, were preserved, and we know as the child becomes older the development of these teeth will give to face and jaws an almost perfect contour instead of the deformed appearance which would otherwise have resulted.

CHILDREN WITH DECIDUOUS TEETH.

The care of cases of the third class is illustrated by Fig. 11. In these the deciduous teeth form attachments, to which are cemented metal bands that hold the appliance, which consists of a nut and bar with a thread cut upon it, so that all the different parts are brought into place by turning the nut slightly several times a day, such a pressure being brought to bear that the parts upon each side are drawn towards each other. In children of this age the bones yield readily, and in a few days, without pain or serious inconvenience to the child, the two sides of the cleft can be approximated so closely that when a bur in a surgical engine is passed along between the two borders it will cut off the soft tissue and also freshen the borders of the bone. The parts can then be screwed tightly together and the hard palate given opportunity to unite without fear of sloughing, with the result that a complete bony union is secured, which in most cases can be depended upon to include all that portion of the cleft from the first deciduous molars forward. The benefit of this is apparent because of more complete circulation, which renders the later operation to be performed for closure of the posterior portion of the cleft and the soft palate much less likely to be unsuccessful than it would be under other circumstances. Beside this, the space is so much narrower than would otherwise be the case that the operation is in all respects so simple as to make a good result comparatively certain. Again, with the bones united, we know that after the permanent teeth are erupted an orthodontia appliance which will exert pressure in ex-

Figure 13.

actly the reverse direction from the one used in reducing the cleft will widen the arch again to normal and even perfect form. Fig. 12 shows No. 11 after operation; Fig. 13 shows the case of a little boy who had been operated upon five or six different times unsuccessfully by other methods, but whose palate fissure was easily reduced by this method in a very short time.

(To be continued.)

Prizes Awarded by the Paris Academie de Medecine.—Among the foreigners who received prizes at the annual ceremonies of the Académie, were Miss Lipinska, M.D. of Odessa, Russia, for her work on the "History of Medical Women from Antiquity to Our Day"; Dr. H. Christiani and Madame A. Cristiani, M.D., of Geneva, received the Louis prize of 3000 francs; Dr. Zinno of Naples, 600 francs; Dr. Dalla Vedova of Rome, for an article on the "Pathogenesis of Simple Ulcer of the Stomach," and Dr. E. Ehlers a prize without money for his historical work on the "Leper Hospitals of the Middle Ages." Dr. Remlinger of Constantinople also received part of a prize. Most of the prizes were divided and an "encouragement" of 1000 francs was given to Professor Carrière of Lille from the great Audiffred tuberculosis prize.

TRAUMATIC ARTERIO-VENOUS ANEURYSMS OF THE SUBCLAVIAN VESSELS,

WITH AN ANALYTICAL STUDY OF FIFTEEN REPORTED CASES, INCLUDING ONE OPERATED UPON.

RUDOLPH MATAS, M.D.
NEW ORLEANS.

(Continued from page 107.)

OPERATION.

On Sept. 13, 1900—the ninth day after injury—after all preparations had been completed, and with the valuable assistance of Drs. H. B. Gessner, S. M. D. Clark, John Smyth, U. Maes, and Dr. Power, who acted as recorder, the operation was undertaken. The operation was begun at 9:20 a. m., and it was 2:30 p. m.—nearly five hours—before the patient was taken back to his bed, though the actual operative work did not consume three hours. Much of the time was consumed in giving the patient periods of rest, especially during the local anesthesia stage of the operation. During these rest periods, as is often done in tedious operations under local anesthesia, the patient was given freely of ice water, panopepton, toddy, and even beef tea, all of which he enjoyed immensely, and helped him greatly to control himself. Even after chloroform had been administered he was never fully unconscious, except for a few moments, and would frequently rouse up to call for ice water or other drinks, which were given to him liberally without ever exciting nausea or vomiting. We will begin the narrative of the operation by stating that in anticipation of the long duration of this operation and of the advantages that would be gained by diminishing the risks of prolonged saturation with a general anesthetic, and with the view of diminishing the turgescence of the jugular and other cervical veins, which were already greatly distended, and would be likely to swell still more under general narcosis and vomiting, I decided to attempt the preliminary resection of the clavicle by means of local anesthesia. I was encouraged in this by the calm and fearless temperament of the patient, who showed no anxiety in the contemplation of the operation or of his surroundings. It was not my intention to perform the entire operation under local infiltration anesthesia, but simply to economize the general anesthetic by adopting infiltration anesthesia during the first stages of the operation, viz., 1, the resection of the clavicle, and, 2, the application of a provisional loop around the innominate. The advantages of local anesthesia during these two important stages of the operation were not exaggerated, as we found subsequently, because we were relieved of all anxiety and annoyance on the score of vomiting or other disturbances in breathing from cyanosis, etc., which might have caused a great turgescence of the jugular, subclavian, and innominate veins while exploring the pretracheal region for the innominate artery. As it was, the patient gave us great assistance by voluntarily changing the position of his head to suit our needs as we displaced the distended and pulsating venous trunks of the aneurysmal and cervical region. The stoicism of the patient under these circumstances, his perfect immobility and passiveness, which permitted as deliberate and free a dissection as on a cadaver, offered a truly remarkable spectacle worthy of the greatest respect and admiration.

It was not until after the provisional security loop had been placed upon the anomalous subclavian, and after a long and tedious search had been made for the missing innominate, and not until we had begun to encroach upon the deep branches of the cervical plexus, which for obvious reasons we could not infiltrate, that he complained of pain, and we at once proceeded to administer chloroform. This was at 11:55, a little over two hours after the beginning of the operation; the general anesthetic was given in drop doses and interruptedly from 11:56 to 1:30—one hour and thirty-four minutes—after which it was discontinued altogether. It should now be stated that twenty minutes before beginning the operation the patient was given ¼ gr. morph. sulph. hypodermically, which is usual in my practice as a routine procedure in all large local anesthesia operations.

In order to describe the operation systematically it will be divided into the following stages:

First Stage. Section of the clavicle at the junction of the middle and outer thirds.—For this purpose the skin overlying the clavicle and all the periosteal tissue were densely infiltrated with Schleich's No. 1 solution 1/5 of 1 per cent., eight syringefuls, each containing 22 minims, being used. The clavicle was denuded of its periosteum; two drill holes were made on each side of the proposed line of section to facilitate wiring at a later stage, and the bone was divided with a Gigli saw.

Second Stage. Formation of osteoplastic clavicular flap.—A curvilinear incision extending from the line of clavicular section two inches below the clavicle, including the points of penetration of the bullet, and carried across the right sternoclavicular articulation to the middle of the neck, where it terminated opposite the lower border of the thyroid cartilage.

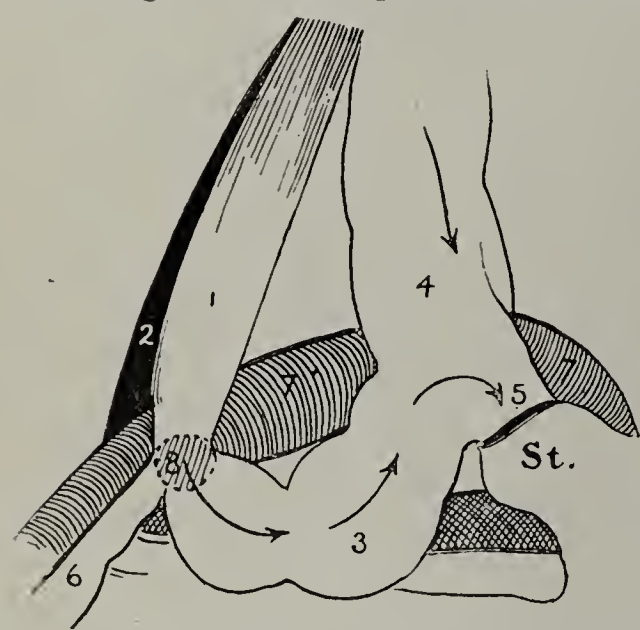
The incision was made painless by a massive infiltration of 3.5 ounces of an isotonic saline solution of eucain B.—0.1 of 1 per cent.—dissolved in 0.8 per cent. salt solution along the whole line of incision, causing complete edema of the infiltrated points. This was injected with my special infiltration apparatus. The whole surface was covered with an aseptic ice and salt poultice, which was kept in place eight minutes. The skin, subcutaneous tissues, and clavicle and sternomastoid tendon, previously mobilized by section, were now elevated and the sternoclavicular joints disarticulated, after previous peri- and intra-articular infiltration of the tissues of joint with Schleich's cocain sol. No. 1—0.2 of 1 per cent. cocain. Some pain was experienced in making traction upon the tissues of the neck while disarticulating.

Third Stage. Dissection and elevation of osteoplastic flap formed by clavicle, skin, sternomastoid, and subcutaneous tissues.—The flap turned up and rolled upon itself, exposing the deep cervical aponeurosis, the sternohyoid and sternothyroid muscles, anterior jugular and thyroid veins, all large and pulsating; termination of the cephalic into the subclavian was lost in a mass of densely infiltrated tissues and exudates. Time, 10:45 a. m. Pulse, 96, good; patient cheerful, but tired. Very little bleeding thus far; few ligations. In anticipation of more exhausting work a hypodermic of 1/100 gr. digitalin and 1/30 gr. strychnin were given, with a glass of ice water and 2 ounces of strong toddy. After an interval of ten minutes of rest, the operation was resumed.

Fourth Stage. Exposure and preparatory control of the venous side of the aneurysm.—In view of possible hemorrhage from traction and tearing, the veins while elevating the osteo-cutaneous flap high enough to clearly and freely expose the injured vessels in the region of the scalenes, it was thought the better plan to begin this stage by thoroughly exposing the venous side of the aneurysm. The subclavius muscle, which had remained in the wound, on account of the close enucleation of the clavicle, was now divided and excised. The cephalic

vein was exposed and followed to its terminus in the subclavian vein, and the turgid bunch of veins formed by the posterior scapular, suprascapular, transverse cervical, and external jugular veins was dissected out with much difficulty on account of dense adhesions, and traced to a common terminal in the subclavian. The subclavian vein was now identified, but not without some delay, because it seemed to be divided into two very distinct parts, one on the axillary side being very much smaller than the other. This small axillary part appeared to rise up in the neck, where it could be traced to an ill-defined mass of organized exudates and extravasated products, which completely masked the outlines of the scalenes. The brachial plexus, the subclavian artery, and anterior scalene were all inextricably blended in the mass, which, judging by the pulsation and intensity of the purr and thrill, must be the seat of the aneurysmal orifice. But the anatomic characteristics of the tissues were entirely lost; not even the tendon of the scalene could be made out, as it was completely incorporated in the dense and resisting mass of exudates.

The axillary portion of the subclavian vein appeared to have been dragged upward into this mass, forming an angle.—See diagram.—In the proximal or cardiac side



Diagrammatic representation of arterio-venous communication—after excision of clavicle. 1, Scalenus anticus; 2, scalenus medius; 3, subclavian vein; the arrows show direction of arterio-venous current; 4, internal jugular vein; 5, innominate vein; 6, axillary portion of the subclavian vein much reduced in size as a result of angular traction from adhesion of vein to scalenus, and great distension of proximal side of vein with arterial blood poured in by artery; 7, 7, anomalous subclavian artery; the innominate absent (no carotid); 8, anastomotic orifice indicated by dotted lines; St. sternum. Case of M. M.

the subclavian vein formed an enormously distended trunk, which crossed over the first rib and was lost behind the sternohyoid muscles, where it united with the internal jugular. The contrast in the size of the axillary and cervical portions of the subclavian was remarkable, and could only be accounted for by the formation of a valvular projection in the bend of the vein, where it inosculated with the artery. Catgut ligatures were now placed upon all the tributaries of the subclavian as they entered into the axillary side of the vessel, and a provisional silk ligature, not tightly drawn, was applied to the main trunk itself, on the axillary side, a short distance before its entrance into the mass covering the scalenes. The distended trunk of the subclavian vein on the proximal side was now dissected carefully at a distance from the supposed point of anastomosis, in readiness for provisional clamping or ligation when the arterial side of the aneurysm would be controlled. It was evident that any further obstacle placed on the circulation on the venous side without previous arrest of the arterial circulation would have led to such strain at the anastomotic opening that it would have caused its premature rupture.

Fifth Stage. Exploration in search of the innominate and provisional loop around anomalous subclavian applied.—The arterial trunks on the proximal side of the aneurysm were now explored with the finger.

The subclavian artery could not be identified in the mass covering the scalenes, and all efforts were centered upon securing control of the vessel in its first division. The sternomastoid tendon at its junction with the sternum, the sternohyoid and sternothyroid muscles were freely divided at the junction with the sternum, and were retracted with the overlying skin toward the left side of the neck by passing a loop of silk thread through the musculo-cutaneous flap thus formed.

The first obstacle encountered was in the presence of the enlarged internal jugular, subclavian and innominate veins, which, upon being freed from the confining restraint of the deep cervical aponeurosis and tense muscles, immediately formed huge swollen trunks which completely crowded the field of operation.

Fortunately, the disarticulation of the clavicle and free division of the muscles of the anterior cervical region afforded a free and easy access to the contents of the superior mediastinum. Taking the internal jugular trunk as a guide, it was followed to its junction with the subclavian and to the right innominate, which was clearly identified. By carefully displacing this to one side and the trachea on the other, I expected to find the innominate artery without difficulty, but much to my surprise I failed to find this vessel. Instead of this trunk I found a very large vessel which ascended upward into the right side of the neck in the direction of the subclavian artery; but the common carotid was absent, and for the time being I was perplexed at this unexpected state of affairs. In order to satisfy myself further, I followed this anomalous vessel down into the mediastinum, and was able to trace it with the tip of the finger to the arch of the aorta. I then made a search for the common carotid in the upper part of the wound, and was much surprised to discover that this trunk was absent from its usual place, and evidently came from behind the trachea, and only reached the surface at a high level near the thyroid gland. It was evident, therefore, that there was no innominate artery, and that we were dealing with one of those comparatively rare anomalies which are familiar enough in the dissecting-room, but are extremely rare in the history of surgical ligations. It took quite a while before I could satisfy myself that the innominate was missing altogether, as I had not anticipated this anomaly. Leaving anatomic explanations for future consideration, I proceeded to place a provisional silk loop for traction on the anomalous subclavian—Rivington's plan—on a level with the sternoclavicular joint. When traction was made upon this loop the pulsation and thrill in the subclavian area and in the veins were arrested.

It evidently controlled the circulation in the aneurysm at that time. When this was ascertained, the loop was entrusted to Dr. Gessner.

By this time—11:55 a. m.—the patient, who had been most patient and calm, began to show signs of restlessness and physical exhaustion, and I decided that the time had come to give him a general anesthetic. Chloroform was administered in drop doses, and the pulse, which had risen to 114, fell to 100 immediately after the first inhalations. The patient was so tired physi-

cally and psychically from prolonged mental tension that he inhaled the chloroform greedily. It acted most happily upon him, and soothed him without producing absolute unconsciousness, which he proved by replying intelligently to our questions, making inquiries as to the progress of the operation. He never complained of the least nausea, and drank repeatedly of cold water, toddy, and even hot beef tea, whenever we stopped to give it to him. It was only when the serious hemorrhage occurred in the sixth stage that he became momentarily unconscious, and it was then, in a large measure, due to shock and exhaustion.

Sixth Stage. Detachment of the subclavian vein from the artery at the point of injury after failure to identify the third portion of this vessel outside of the scalenes on account of mass of exudates which masked it completely. Profuse hemorrhage from the artery at the anastomotic orifice, in spite of complete control of this vessel at its origin. Final ligation of the artery on each side of the bleeding point. Closure of the venous orifice by suture without obstructing the lumen.—This proved to be the only critical and dangerous stage of the operation. While Dr. Gessner controlled the subclavian at its origin I made an effort to dissect the artery out of the mass of exudates in which it was embedded; this was so difficult on account of inextricable anatomic confusion, caused by extravasation and exudates, that I decided to reach the artery by following the vein to the anastomotic orifice. A long forceps was temporarily placed upon the overdistended vein on the proximal, or cardiac, side of the vein and a careful dissection was begun, following the axillary side of the vein into the mass which covered the scalenes. While doing this, the vein became suddenly detached, and instantly a flood of mixed arterial and venous blood deluged the field and compelled immediate concentration upon this point to check the flow, which for a moment appeared to defy all efforts at local compression with gauze pads and fingers. Vigorous traction upon the loop around the origin of the subclavian, held by Dr. Gessner, did not control the bleeding, which evidently came from the vertebral and other collaterals into the now severed anastomosis.

The bleeding point could not be easily localized; some blood was flowing out of the detached vein, but this was easily controlled by forceps; the chief hemorrhage came from the opening in the mass of exudates covering the scalene. By the application of one finger, and then another the bleeding was finally controlled, but the least relaxation of the pressure immediately allowed it to flow in a gush. With the finger on the bleeding point, reinforced by the additional finger of one of the assistants, Dr. Maes, I made a vertical incision into the mass by the side of the finger, and succeeded in bringing to view the aponeurotic edge of the scalenus anticus, which I detached almost completely from its insertion by cutting into it from the axillary side on a level with the tubercle; the muscle was not entirely detached at its insertion for fear of injuring the phrenic nerve, but the section was sufficient to allow me to insinuate the right index into the interscalenal space, where I recognized a firm, flat cord, which I took to be the third portion of the subclavian artery. The vessel was now seized with a long-bladed clamp. I then cautiously removed my left index from the bleeding point on the scalene, and had Dr. Maes substitute his fingers for mine over the orifice, which he did so quickly that no blood was lost in the exchange. I was then able to trace the subclavian artery from the point where it had been grasped by the forceps to the posterior surface of the scalene. The artery was found adherent to the posterior surface of the muscle, the bullet having perforated it in its central portion. The muscle was interposed like a diaphragm between the artery and the vein, leaving only a small opening, scarcely large enough to admit an ordinary lead pencil through it. By retracting and pulling on the outer border of the partially divided scalene, the posterior surface of the muscle could be brought to view, and the continuity of the injured artery could be established on the proximal, or cardiac, side of the vessel. Another long, narrow-bladed forceps was now placed upon the vessel just beyond the point of adhesion to the muscle, thus occluding the lumen of the vessel on the cardiac side of the perforation. When this was done, digital compression was discontinued, and we had the satisfaction of seeing that all bleeding had been arrested. A fine, kangaroo-tendon ligature—Van Horn—was now applied to the subclavian artery outside of the scalene, and another of the same material, to this vessel on the inner side of the perforation, which had apparently involved three-fourths of the circumference of the artery. The artery was then divided completely at the injured point. Fearing that the proximal side of the artery had not been sufficiently secured, and that the ligature might slip because it was too close to the divided edge, another ligature was placed almost half an inch beyond the first on the inner side of the scalenus muscle. In order to do this effectively the divided or free end of the artery was seized with long-bladed forceps, and was forced to the surface through the mass of exudates which still covered and filled the right prevertebral space. The ligated stump then appeared on the inner edge of the muscle, where it was pulled out and twisted upon itself, and then ligated, as previously stated, about three-fourths of an inch from the terminal ligature. This ligature must have been placed very close to the origin of the thyroid axis and internal mammary, and the axial rotation, to which the main trunk was subjected, must have had some effect in occluding the origin of these vessels. It is possible, also, that by adopting this radical procedure much interference was caused with the collateral supply furnished by these important branches, as I can account in no other way for the sloughing of the hand and arm which followed. I was, however, so profoundly impressed at the time with the enormous force of the collateral circulation through the vertebral and internal mammary that I would take no chances of secondary hemorrhage by leaving a single ligature at the terminal and injured part of the artery. In fact, I would have ligated the vertebral if the condition of the patient would have permitted of longer delay. After these ligatures had been applied and the vessel thoroughly secured, the traction loop on the mediastinal portion of the subclavian was removed.

The subclavian vein, which had now been detached from the mass of exudates which bound it to the anterior scalene and the arterial opening of communication, was carefully examined. It was found to be circular and to involve only a part of the lumen of the vessel. We therefore proceeded to suture this orifice, and closed it completely without occluding the lumen of the vein. After this had been done the clamp and provisional ligature placed on each side of the sutured point were removed, and it was noticed that the circulation in the vein was restored, though the caliber of the vessel was very much reduced in size, the return flow from the axillary side being very small on account of the great diminution in the arterial supply of the arm.

The subclavian and jugular veins, which previously had been enormously distended, now became very flat and much reduced in size, and presented a very marked contrast to the conditions existing prior to the ligation of the artery.

The patient's condition had, in the meantime, undergone serious and unfavorable changes during these long, tedious, and exhausting manipulations. The pulse at 11:16 was 100; at 12, it was 120; and at 12:20, when the first great gush of blood followed the detachment of the vein, it rose immediately to 140. The quality of the pulse, which had been remarkably good before, now showed the marked effects of shock, though it remained fairly good. Nevertheless, we decided to infuse with saline solution, and four and a half pints of hot salt solution—0.7 of 1 per cent.—were injected through the median basilic, which had been exposed and held in readiness for the purpose. This brought down the pulse to 108; but it again grew weak, and at 2 p. m. was 140 again. In the meantime the patient, who was very pale and covered with a profuse cold sweat, was made to drink freely of toddy and given hypodermics of strychnin and digitalin, with 0.01 gr. of atropia sulph.

Seventh Stage. Readjustment of flap; closure of wound; drainage.—While these restorative measures were being vigorously applied we attempted to replace the clavicle with the osteoplastic flap—skin, aponeurosis, sternomastoid—into position, but found that by so doing it would be difficult to obtain a complete apposition of the soft parts above the clavicle, and thus leave dead spaces. I therefore decided to sacrifice the bone for the sake of obliterating all dead spaces, and removed it entirely from the musculocutaneous flap, to which it was firmly attached by its periosteal covering. An iodoform gauze drain was left in the anterior mediastinum, and the flap was sutured into place by a series of interrupted silkworm sutures.

Eighth Stage. The bullet was extracted by an incision over the anterior edge of the trapezius, and found to be a 38-caliber and absolutely undeformed. It had not even grazed the clavicle, as I at first suspected, and had passed upward under the bone without touching it. This remarkable fact could only be accounted for by the elevation of the arm when the patient was shot, and while he was holding his antagonist to the ground.

A large, firm, dry gauze compress was now applied over the field of the operation, reinforced with an absorbent cotton pad, all being held by a long spica, which equally compressed the wounded surfaces. In addition, large broad strips of adhesive plaster were applied over the bandage and over the shoulder, from the scapular region to the chest, thus giving additional security to the bandage. The arm, which was quite cold on the affected side, was now wrapped up in cotton batting from the fingers to the axilla, the cotton being held in place by a loose, spiral roller bandage.

The patient was perfectly conscious, but completely exhausted and shocked. He was extremely pale, the pupils moderately dilated, and the pulse small, and for a few moments after he had been transferred to the rolling carriage it was very small and scarcely perceptible at the wrist. He complained of chilly sensations and shivered. After warming him with hot bags and blankets he was, at 2:45 p. m., taken to his bed, when he was given a toddy and copious draughts of ice water, which he craved incessantly, and which fortunately he never rejected. At 3:45 p. m. he was still extremely weak, almost collapsed; he felt cold on the surface, but the thermometer in the rectum showed a temperature of 103.6. At 4:50 p. m. the rectal temperature was 104, and half an hour later 104.2. At 10 p. m. his pulse, which at one time had risen to 150, had fallen to 100, beating regularly, full, and strong; his temperature had fallen to 101.6, and he was resting quietly, but perspiring profusely as defervescence progressed.

(To be continued.)

The Organization of the Medical Profession.

(Continued from p. 113.)

II.

OBJECTS OF ORGANIZATION.

Last week we quoted the objects of organization as given in the constitution of the American Medical Association. The paragraph analyzed gives the following: 1, to foster the growth and diffusion of medical knowledge—educational; 2, to promote friendly intercourse among physicians—social; 3, to safeguard the material interests of the profession; 4, to elevate the standard of medical education; 5, to secure and enforce medical laws; 6, to enlighten the public in regard to hygiene and preventive medicine; 7, to compel recognition by the laity of what our profession has done for humanity. Simply a statement of the above as the basis of organization ought to be sufficient to convince any physician of his duty, namely, to assist in every way possible in furthering these objects.

Scientific and Educational.—The noblest and most worthy object for which a medical society is organized is the education of its members in that which relates to their work. There is no other calling in which it is so necessary to constantly study as in that of medicine. Medicine is not an exact, but a progressive science, and until perfection is obtained and all of Nature's secrets are learned, it will continue a progressive one. Theory alone governed the medical men of old even as regards the gross structure of the human body. Until 1543, when Andreas Vesalius published his "Fabrica Humani Corporis" there were practically no facts for the foundation of medical practice, and it was almost centuries before the facts that Vesalius gave us were appreciated. The physiology of breathing was a foolish theory until Mayow, in 1668, discovered a partial fact in his *igneo-aereal* substance, but it took a hundred years for a Priestley to discover the whole of that fact and name it oxygen. Facts took the place of theory very slowly until the last fifty years, and even until the last thirty years. But now facts are rushing upon us so rapidly that theory in every branch of medicine is tottering. Not two decades ago, since possibly a majority of those now practicing graduated, the theory as to the cause of inflammation of the bowels, peritonitis and perityphlitis has been supplanted by the fact of an inflamed vermiform appendix; and the fact that an insect causes the spread of malarial fever, yellow fever, and possibly other diseases, is taking the place of various theories. Never in the history of medicine has there been such rapid supplantation of theory by facts as is now taking place. So that the man who starts out from a medical college with his degree is laboring

under a most serious mistake if he thinks that he is educated. For even if he has mastered the medical knowledge of the day, which is improbable, he has entered a profession that is moving forward, and if he would be among the first he must associate with those in the front and be spurred on by their enthusiasm and by their assistance. He who does not is bound to be left behind. The knowledge of what is going on in regard to medical progress can be learned from medical journals, but with difficulty. It may be stated that a very, very few do keep in touch with this progress by reading only; the progressive men belong to medical societies. Progress is not made by jumps and bounds. "What we know and what we think is not a new fountain gushing forth from the barren rock of the unknown at the stroke of the rod of our own intellect. It is a stream which flows by us and through us, fed by the far off rivulets of long ago." (Foster.) The ebb and flow of this stream is reflected first in our medical societies, and then, but with less interest, in our scientific journals. In the former every statement is examined, criticised, proven false or true by the reasoning together of those competent to judge. In the latter, the same statement appears cold and is to be analyzed by the individual reader by himself alone.

The meeting together in medical societies makes physicians broad-minded and liberal toward the views of others. It makes the average individual recognize his own shortcomings and the abilities of others. It stimulates study and investigation, for the greatest stimulus to study and investigation comes from association with students and investigators. The competition of trade urges the merchant to greater enterprises, and seeing his fellow-laborer at work nerves the toiler's arm. The stimulus of association with the workers nerves those with ambition to keep up with the leaders.

The physician, especially the general practitioner in the country, works under peculiar and in some respects unfortunate conditions—he works alone. Men in other callings either work or meet together with others to exchange views regarding their labors. Even the farmer, following the plow from morning until night, manages to meet his neighbors at the store or elsewhere and discusses with them the crop conditions and prospects, and exchange experiences. A lonely worker in any calling is liable to become self-reliant in what he does—too much so for his own good, as well as for the good of those who use his services. If the work is one of the handicrafts in which manual dexterity is the all-important, it does not matter so much. Practice in this makes perfect. But the work of the physician is peculiar in that practice does not make to perfection. His is a progressive work, and if he does not progress he is left behind.

The physician who works alone day after day without associating with his fellows in like work will, in spite of himself, become narrow, get into a rut, and his professional horizon will soon extend only to the narrowed confines of his own narrowed views and medical life. The tendency of his work is to make him morbid; he is convinced that he is doing his work better than others. He is not stimulated with the ambition to progress because he does not know, will not believe, that others are progressing. Nothing will prevent this deplorable condition so well as an occasional attendance at a society meeting where physicians gather to discuss scientific questions that vitally affect them and their work. He who does this will be kept out of the rut; his self-conceit will be modified at least, and a realization of the fact that others know as much as he, will compel him to render that respect which is their due.

The medical society is a postgraduate school at one's door, to which the members can, with the mutual help of each other, continue the education which was simply begun in the medical college; it is an institution that the physician will encourage and utilize if he is ambitious to be in touch with the progress that his profession is making.

We propose later to refer to the subject of the medical society as a scientific and educational body, for the purpose of considering the advisability of adopting methods of conducting the scientific work different from that which now prevails.

Social.—The second object of organization is the promotion of friendly intercourse among physicians. One of the greatest curses of our profession is the existence of petty jealousies that seem to be so prevalent. It will not be well at this time to consider in detail why these jealousies exist, suffice to say that as a general proposition it can be summed up in the word "misunderstanding." That the isolated character of our work is the primary cause there is little doubt. Too often enmity is created between two physicians living in the same neighborhood through the silly tattle of vaporing idlers. Prejudices founded on imaginary insults or wrongs are allowed to grow into deadly animosities. One of the best preventives, as well as the best remedy, is the coming together of the supposed enemies and face to face talk it over. Few of us are as black as our enemies think. A closer acquaintance will reveal lots of good that could not be detected at a distance. An active local medical society is a splendid preventive of local jealousies, especially if a little time be given for sociability and for fraternizing, and if to this be added an occasional luncheon or dinner, the results in this regard will be surprising. Crossing legs under the same table, eating salt from the same saltcellar, and breaking bread together will banish petty animosities as the noonday sun banishes the mist of the morning. If the medical society had no other value than that of a social club for medical men, it would be worth all it costs.

(To be continued.)

Simplified Technique for Staining the Gonococcus.—Antoni claims that the following technique differentiates the gonococcus in a few minutes with ease and precision: One of the prepared slides is stained with methylene blue for a minute to obtain a general idea of the field. The others are placed in anilin gentian violet for twenty seconds and rinsed at once. They are then dipped for a minute in the iodo-iodid solution, renewing the fluid several times, then drained without rinsing and alcohol is poured on them, a drop at a time, for two or three minutes. After this they are rinsed and stained with safranin for a minute, renewing the liquid once, and are finally copiously rinsed. All bacteria other than the gonococcus stain blue, while the latter has the color of the safranin. The technique was described more fully in *Hygiea* for February, 1901.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, JANUARY 18, 1902.

AMERICAN MEDICAL LITERATURE.

The progress that medicine is making in this country is illustrated strikingly by the increasing number of strictly scientific publications of a periodical character as well as by the noteworthy improvement in the reading matter furnished by the weekly and other journals devoted more particularly to the clinical or practical aspects of medicine.

A few years ago the *Journal of Experimental Medicine* began to appear as the first representative of the purely scientific and investigative activities of the laboratories and other institutions doing work of this kind. Upon the title page appeared the names of three associate editors for physiology, but before long the *American Journal of Physiology* was started as the special medium of publication for original investigations in that branch of science. Less than a year ago the *Journal of Medical Research* was founded in response to an urgent demand of the American Association of Pathologists and Bacteriologists for a medium of publication of the papers presented at its meetings. Still more recently the *American Journal of Anatomy* appeared for the purpose of collecting in one place and presenting in a worthy manner the researches of the American investigators in anatomy and allied branches. The material and the style of these publications compare favorably with those of other and older countries. These journals have high standards; there appears to be no lack of proper material to fill their pages; and although they are expensive publications the necessary funds seem to be at hand. Modern scientific medicine in America has certainly profited much and will continue to be greatly advanced by journals of such high character in subjects of fundamental importance. Only by such means is it possible for purely scientific investigation to receive the proper recognition and stimulation, at home as well as abroad.

As regards the periodicals that appeal more directly to the practitioner there undoubtedly has been much advance in the quality of recent years when the greatly increased quantity of material presented is considered. In other words there is a much larger amount of good medical literature of clinical character published in this country now than formerly, and it is not the intention to infer that the best American clinical literature for a long period of time has not been fully abreast with similar kind of literature elsewhere. The increased amount of creditable current literature means that the general medical profession has higher standards for such work. Still the large part of current medical literature of our country devoted to the solution of such questions as "what is good for biliousness, or low fever, or pneumonia," serves to indicate the general trend of medical thought of a fairly large share of our profession, and unfortunately it must serve also as an index of its scientific standard. This sort of literature is even yet far from being extinct, but the increasing quantity of good literature shows the direction in which development is going.

THE WHITENING OF THE HAIR.

Metchnikoff, the great champion of phagocytosis, has begun to study the development of senile atrophy from a biologic standpoint. Because senility so often manifests itself at a time in the life of the individual when the instinct of self-preservation is pronounced, and because the wearing out of the body and spirit is not always accompanied by the feeling of need of repose, Metchnikoff suggests that much of the senility of the present day is abnormal and that it might be possible to discover remedies for it.

In order to make a start in his biologic studies of senility he has recently investigated the mechanism of the whitening of the hair,[1] a phenomenon commonly regarded as the most frequent early sign of approaching senility. In certain of its aspects, at least, the change of color of the hair would seem to be within easy reach of investigation. It has been shown conclusively that old hair may turn gray and white; that white hairs are not necessarily white from the start. Metchnikoff at once asks whether the theory of phagocytosis may not throw some light upon the disappearance of the pigment. He finds that hairs of dogs which are turning white contain pigmented cells with well-marked protoplasmic prolongations. These cells are loaded with pigment which they appear to remove from the hairs, beginning first in the peripheral layer. Hence Metchnikoff terms them "pigmentophages." He believes that they come from the medullary layer of the hair, in other words that they are of epidermal origin. In dogs he has traced the pigmentophage cells into the root of the hair and the neighboring tissue. The same or exactly similar cells are present also in human hair that is losing its pigment. The cells may descend to the root of the hair and enter the adjacent tissue or it is also likely that some of them pass to the surface of the hairs and are lost. Metchnikoff does not believe that the entrance of air into the hairs has anything to do with the whitening, which depends on actual loss of pigment. The mechanism is the same in precocious as in senile canities. How are we to explain the undoubted examples of hair "turning gray or white in a night," that is, very rapidly? Metchnikoff suggests that it is due to exceptionally strong stimulation of pigmentophage cells by violent

1. Ann. de l'Institut Pasteur, 1901, xv, 865-879.

emotions, which we know in some way exercise undoubted influence upon vital functions.

While the mechanism of depigmentation described by Metchnikoff seems to be well worked out he has not yet been able to reach any good explanation of the causes that start it to operate. He suggests that when the hair turns gray during infectious diseases, *e. g.*, typhoid, toxic substances stimulate the pigmentophages into activity. In the case of senile whitening the determining factors seem more obscure and farther removed from our grasp at the present time. Are there any means of hindering the hair from turning gray? The only encouragement that can be given is that the hair and other adnexa of the skin are accessible to chemical and physical agents and that it is possible that such agents may be found which will destroy the pigmentophages and thus stop the destruction of the pigment of our hairs.

PHTHISIOPHOBIA.

THE JOURNAL has always opposed the exaggerated estimates of the dangerous communicability of tuberculosis and especially such panicky legislation or regulations as would needlessly increase the hardships of its victims. What has been foreseen and deprecated has come to pass; the agitation and persistent reiteration of its contagiousness have had their effect in the recent ruling of the Treasury Department excluding consumptives, and such regulations as those just enacted in certain New York towns where to entertain a consumptive guest is made a finable misdemeanor. This phthisiophobia, as it has been designated by Knopf, seems to be spreading, and he relates instances of gross inhumanity due to the abject cowardice that has been so largely induced among the laity by the inconsiderate exaggerations of medical writers, who too often in their zeal have let their words overstate the facts. Consumption is not a virulently contagious or infectious disease and we should correct the popular impression that it is. The most that we can say on respectable authority is that it is a communicable one, that if due precautions are not observed there is a danger of introduction into the organism of tubercle germs. This accident, however, is by no means a fatal one, or, as things have been in the past, few if any of us would have ever had a chance to die of anything else.

Too little is being made of the hereditary element: the possibility of this has largely been lost sight of in the general magnification of the transmission ideas. What the public should be taught is that there is comparatively little peril for one not specially predisposed, in occasional contact with a consumptive, and no grounds whatever for any panicky fear of such contact: that a very large proportion of us have harbored the tubercle bacilli and that they have done us no serious harm; that consumption is on the decrease in this and other countries where sanitation has improved and the standard of living is high, and that light and ventilation are the tubercle germ's deadliest foes and its universally bestowed disinfectant. It is only avoidable neglect that makes the presence of consumptives in any way dangerous to a community, and it is a reflection on our civilization and on our intelligence that such rules are enacted as those reported from Liberty, New York. Their efficiency is, at best, dubious. Nothing short of a universal tuberculin test, more reliable than any now known, could guard against the pervasive tubercle germ. The present tendency to silly panic over the dangers of consumption will, of course, have its brief day; it will die out as it did nearly a century ago in Southern Europe where its uselessness was demonstrated, but in the meantime it has added to the sum of needless human misery.

The medical profession is largely responsible for its existence and should now do all it can to end it, not

[redacted]

to this difficult question must needs await a much more satisfactory knowledge of the physics and chemistry of the physiology of nerve action than we now possess. In the next place it should be remembered that it has not been proved that stimulation of the vaso-dilator nerves

1. American Medicine, Dec. 21, 1901.

causes an increased permeability of the vessel walls, plausible as this assumed effect may appear. At all events increased permeability of the vascular wall can not be urged in explanation of the disappearance of the edema, which may be quite as rapid as its appearance.

It would seem as if the transitory accumulations of fluid would be more easily explained as the result of sudden changes in the osmotic equilibrium in the tissues. It is plain that the slightest effort to get at the real nature of phenomena of this kind on the basis of existing knowledge merely result in more or less vague theorizations. The very terms employed serve only to cover our ignorance. The therapy so far, hit upon in the blind gropings of pure empiricism, has proved utterly unavailing.

KOCH'S CHANGE OF VIEWS.

One of Pasteur's principles was never to state or publish as a definite scientific fact any proposition not absolutely proven. Such a principle is worthy of adoption by all, but especially by those who assume to be, or are recognized as, authorities on some particular subject. In his address before the London Congress on Tuberculosis, Prof. Koch took exactly opposite views as regards transmissibility of bovine tuberculosis to man from what he was supposed to have held previously. This supposition he claimed was not true and said: "Even in my first circumstantial publication on the etiology of tuberculosis I expressed myself regarding the identity of human tuberculosis and bovine tuberculosis with reserve. Proved facts, which would have enabled me to sharply distinguish these two forms of the disease, were not then at my disposal, but sure proofs of their absolute identity were equally undiscoverable, and I therefore had to leave this question undecided."[1] Dr. Alfred Hillier in the *British Medical Journal*[2] calls attention to the conflict of this statement with one made in Koch's original essay which, as Hillier says, will forever rank as a classic in the history of science. The following extract from that essay is quoted to show that at the time it was written Koch held decided views on this now vexed question:

> But the perfect identity and unity of the tubercular process in different kinds of animals *can not be doubted* when attention is diverted from the macroscopic condition of tuberculous organs and from the secondary changes in them, as caseation and calcification, to the primary structure of tubercle, which, as we have already seen, recurs with typical regularity in all the different processes in man, and such is the case also in the apparently widely different forms of tuberculosis *in the various species of animals.*

In another portion of his original essay Koch says: "It is certain that the milk of tuberculous animals may give rise to infection." Hillier, commenting on these quotations, says that the original views are "unreservedly" and "decidedly" in conflict with those expressed in London last July, and so it would seem to the casual observer.

1. London Lancet, December 7, 1901.

1. JOURNAL A. M. A., July 27, 1901, p. 261.
2. Dec. 21, 1901, p. 1843.

THE JARGON OF EDDYISM ET ID GENUS OMNE.

An imaginative English writer, in his latest publication, which is a sort of tentative prophecy of what society and the rest of the world are coming to in future years, suggests the possibility that a refined and scented Obeah worship will be in vogue in fashionable society and imagines a witch dance and doctor with feathers and all, as a feature of a future social function in Park Lane. With modern Eddyism in existence and thriving on both sides of the Atlantic the suggestion is not so wild as it seems and may be nearer fulfilment than many of his other vaticinations. We ought to be able to count on the counteracting influence of our profession to some extent, but human nature is a peculiar thing and facts sometimes play strange tricks. For example, it is a curious thing to see a physician—an emeritus professor of Columbia University—posing as a Svengali and claiming to have inspired an actress to achievements far beyond her unaided ability so that under his hypnotic guidance she became an actual Trilby in real life. If the newspapers correctly report him, he believes that he gives out a "spiritual energy" which "materializes" in the activities of the subject. Mind communicates with mind independently of the senses, and this is not confined to man, but occurs also in the lower animals.

As an instance of this is cited the recent appearance of cougars and lynxes in Austin Corbin's game preserves in New Hampshire. The deer and elk there somehow managed to communicate the fact of their presence (and desire to be eaten) to these carnivorous cats who had for a century been unknown in that region. The doctor also speaks of "intervening intelligences," "hostile influences," etc., and in short uses much of the jargon of the ghost-raisers that have thrived on the credulity of the public for all time past. We need not credit him with dishonesty in the matter, but as a presumably scientifically educated physician he is a sort of phenomenon. Eddyism is only a sort of "refined and scented" voodooism, and these claims of giving out "energy" and influencing subjects for good or bad are little better.

APPENDICITIS AND INFECTIOUS DISEASES.

The pre-eminently local character of appendicitis and its successful surgical treatment have undoubtedly served to distract the attention from its possible relations to infectious diseases in general. In the large majority of the cases local conditions appear to explain satisfactorily the development of appendicitis and its consequences, but there are also forms of appendicitis in which the etiology is not quite so simple, and it is to these forms that Finney and Hamburger[1] direct attention. "Propagated appendicitis" is the term applied by M. Reclus to appendicitis developing from extension of enterocolitis. The nature of the appendix favors stagnation and increased bacterial virulence, which result in greater intensity of the resulting lesions of this part of the intestine. Then there are cases in which appendicitis seems to be a "local expression of a general infection." Finney and Hamburger cite three cases associated with rheumatic polyarthritis, and they also refer to similar observations by previous writers not only in the case of rheumatic polyarthritis but also in other infectious diseases, such as measles, typhoid fever, scarlet fever, influenza, etc. Experiments by Adrian and others indicate that the lymphoid tissues of the appendix favor the arrest and growth of bacteria circulating in the blood, because the lesions become manifest here earlier than elsewhere in the intestines. Attention is also called to the apparent relation between influenza and appendicitis, and Adrian has demonstrated the presence of the bacillus of influenza in appendicitis developing in the course of influenza, indicating that the latter disease may stand in direct causal relation to appendicitis. The probable "rheumatic nature" of some cases of appendicitis associated with joint affections is strengthened when one considers the analogy between the tonsils and the appendix, especially in their richness of lymphoid tissue. Bland Sutton has called the appendix "the abdominal tonsil," and as there is a rheumatic tonsillitis why should there not also be a rheumatic appendicitis, using the word rheumatic in its ordinary broad sense. Finney and Hamburger are not willing that these suggestions as to the probable nature of some cases of appendicitis in any way should modify the present views as to its treatment. The peculiar local conditions of the appendix render all inflammations of this little blind tube liable to extension to the general peritoneum, a menace that by most surgeons and physicians is considered as adequately removed only by surgical treatment.

1. American Medicine, Dec. 14, 1901.

THE SURGICAL TREATMENT OF TUBERCULOSIS OF THE PERITONEUM.

In these days we are accustomed to hear much about the great achievements and the astounding progress made by surgery. Cavity after cavity and region after region have been invaded by the bold surgeon, secure by means of his admirable asepsis from doing direct and immediate harm, until it would seem as if the field of internal medicine was rapidly narrowing to the making of diagnosis and the treatment of general diseases. In this rapid expansion of surgery, to use this phrase, no one will deny that there is much actual and permanent progress. It seems to be true, however, that in some instances surgery in its extraordinarily rapid advancement has entered territories which it may be forced to abandon again after a relatively brief period of occupation. The pendulum has been carried too far and the backward movement may be noticeable at least in certain phases of surgical activity. The surgical treatment of tuberculous peritonitis might be cited as a good illustration of the point at issue. In his recent review of the treatment of peritoneal tuberculosis, Fenger,[1] after having carefully reviewed the subject in the light of recent experience that has accumulated from various sources, states: "After having ploughed through this chaos, out of which it is next to impossible to extricate a ray of light, because reasoning is at a standstill despite the enormous labor of a multitude of able and indefatigable workers in all countries, one can not but feel inclined to look for a new departure. It is refreshing at last to find an author (Borchgrevink) who, after the most careful and painstaking labor with all the weapons of modern scientific investigation at his disposal, has the courage to tear down this whole artificial house of cards and make *tabula vasa* of the whole question." Borchgrevink has made a most careful analysis of two almost equal series of cases of peritoneal tuberculosis, one treated by laparotomy (22 cases), and one (18 cases) treated without laparotomy. Without going into details, suffice it to say that the forms of peritoneal tuberculosis without fever or with only slight fever usually run a favorable course and laparotomy is unnecessary, while in progressive tuberculosis most of the patients die from the disease sooner or later, and therefore laparotomy has no influence upon them. As Fenger puts it, nature cures tuberculosis of the peritoneum better than the surgeon. Borchgrevink states that even the "serous tuberculous peritonitis is a territory which surgery must hand back to the internal medicine clinic with thanks for the splendid opportunity which a misunderstanding gave to the profession, by means of laparotomy, to study tuberculosis in one of the large cavities of the body." When able and careful surgeons reach conclusions such as these we may begin to look for a period of greater conservatism in the treatment of peritoneal tuberculosis.

1. Annals of Surgery, 1901, xxxiv, 771-785.

Medical News.

CALIFORNIA.

Smallpox.—The disease is epidemic at Randsburg, where there are about 45 cases.——Stockton has several cases.——At Los Angeles two new cases have occurred.

Los Angeles Mortality.—The death rate for Los Angeles in 1091 was 16.58 per 1000. The total number of deaths was 1927, 1168 being males and 759 females. Consumption caused 348 deaths, 298 of the deceased were not natives of California, and of these 255 had lived less than ten years in the state.

New Pasadena Hospital.—The new hospital, which has been given to Pasadena by a number of philanthropists, was formally opened January 5. The ceremonies partook of the nature of a donation party, and about $1400 in cash and quantities of supplies were presented by friends of the institution.

Personal.—Dr. Henry T. Woodward returned to San Diego, December 23, after a residence of three years in Europe.——Dr. Hugh S. Cummings, U. S. M.-H. Service, has succeeded Dr. Duncan A. Carmichael in command of the Angel Island Quarantine.——Col. Robert M. O'Reilly succeeded Col. Charles R. Greenleaf as chief surgeon of the Department of California, January 1.

Doctor Convicted.—It is announced in the *Detroit Free Press* in a special dispatch from La Porte, Ind., that Dr. Amos J. Landis, "who recently went from Adamsville, Mich., to Chico, Cal., has been convicted of forgery and a sentence of seven years in the penitentiary has been imposed. Dr. Landis treated a wealthy bachelor, who left him $20,000 by executing a note for that amount on his deathbed. The bequest was contested in the courts by the relatives of the dead man and experts for the prosecution claim the note was forged by the physician. The friends of Dr. Landis believe him innocent and a defense fund is being raised by Michigan and Indiana physicians to enable Dr. Landis to carry his case to the higher courts. The man Dr. Landis treated had been abandoned by his relatives despite the fact that he was possessed of a large fortune."

DISTRICT OF COLUMBIA.

Health of the District.—The report of the Health Officer for the week ended January 11 shows the total number of deaths to have been 108, of which number 62 were white and 46 colored. The total number of births was 108 at the close of the week. Forty-two cases of scarlet fever and 34 cases of diphtheria were under treatment.

Health of Working Girls.—The Senate adopted a resolution directing the Committee on the District of Columbia to determine whether the law adopted March, 1895, providing that all persons employing female help in stores, shops or manufactures in the District of Columbia shall provide seats for them when not actually engaged, is being carried out, and if it finds that it is not, to ascertain why its enforcement is neglected. The Committee will report to the Senate at an early date.

Medical Bills in Congress.—The following bills have been introduced in Congress and are being considered by the Committee of the American Medical Association on National Legislation, consisting of Drs. H. L. E. Johnson, Washington, D. C.; William H. Welch, Baltimore, and W. L. Rodman, Philadelphia:

H. R. Bill 1952, by Mr. Hay, to define the duties of the Medical Department of the Army of the United States:

Be it enacted, etc.,

That the duties of the Medical Department of the Army of the United States shall be as follows:

1. The direction of measures for the prevention of the ingress of disease among the troops of the Army and of sanitary faults in location and construction of posts and camps.
2. The medical and surgical care of diseased and injured officers and soldiers of the Army of the United States: the physical examination of all officers and soldiers entering or leaving the Army of the United States.
3. The care of and accountability for all transportation pertaining to the movement of men and supplies of the Medical Department and of the sick and injured of the Army.
4. The preparation and preservation of the records of transactions taking place under the three preceding paragraphs.
5. It shall be the duty of the senior medical officer of the army corps, division or brigade, territorial division or department, in which an unusual outbreak of disease shall have arisen to at once take steps to investigate and determine the reasons therefor.

Should this investigation show any carelessness or inattention to duty, either upon the part of the medical officer or of the officer in command at the infected point, he shall at once make a report to the general officer in command of the facts, whose duty it shall then become to bring the offending officer or officers before a court-martial for such punishment as, upon conviction, the court may deem proper and the reviewing authority concur in.

6. The Medical Department shall also perform such other duties as the President or the Secretary of War may deem for the best interest of the Army.
7. The Secretary of War is hereby authorized and directed to prepare suitable regulations for the enforcement of the provisions of this act.

All acts and parts of acts in conflict with the above are hereby repealed.

H. R. Bill 7198, by Mr. Hepburn: To increase the efficiency and change the name of United States Marine-Hospital Service. (This bill previously printed in THE JOURNAL.)

H. R. Bill 7650, by Mr. Kern: To reëstablish the Army Canteen.

H. R. Bill 7931, by Mr. Jenkins: For the promotion of Anatomical Science, and to prevent the desecration of graves in the District of Columbia.

H. R. Bill 8189, by Mr. Miller: In relation to Pharmacy in the Indian Territory.

H. R. Bill 8194, by Mr. Bull: To equalize the pay of officers of the line, Medical Corps, Pay and Chaplain Corps of the Navy with officers of corresponding rank in the Army and Marine Corps.

Senate Bill 189, Mr. Gallinger: For the further prevention of cruelty to animals in the District of Columbia. (The revived Anti-vivisection Bill.)

Senate Bill 2172, by Mr. Proctor: To provide for the payment of medical expenses of sick officers and enlisted men of the Army while absent from duty with leave or on furlough.

Senate Bill 2420, by Mr. Hansbrough: For the relief of assistant surgeons in the Volunteer Army of the United States.

Senate Bill 2519, Mr. Pettus: To add dental surgeons to the Medical Corps of the Navy.

GEORGIA.

Isolation Hospital Needed.—Dr. Benjamin W. Bizzell, Atlanta, a member of the Board of Health, is making a determined effort to secure an appropriation of $5000 for the construction of a contagious disease hospital, the need for which is urgent, as there is no place in the city where patients suffering from communicable diseases can be received and treated.

Personal.—Dr. Floyd W. McRae, Atlanta, who has been suffering from blood poisoning, is improving.——Dr. Henry H. Harmon, Dawson, and H. W. Harris, Shellman, have exchanged locations.——Dr. J. W. Lee Brannon, Valdosta, has located in Atlanta, and Dr. D. Q. Dallas, Taliokas, succeeds him.——Dr. Isham H. Goss, Athens, has been appointed a member of the State Board of Medical Examiners.

Decision Against Private Sanatoriums.—In the habeas corpus proceedings in the United States District Court at Macon it has been decided that the section of the Georgia law permitting private sanatoriums to receive patients and hold them at the will of the proprietor, without the consent of the patient, is in violation of the fourteenth amendment, United States constitution, and therefore null and void.

ILLINOIS.

Hospital Site Bought.—The Kewanee Hospital Association has purchased a tract of land 175 by 150 feet, for $2500, on which to erect a hospital.

Staff Elects Officers.—At the annual meeting of the staff of St. Mary's Hospital, Quincy, Dr. Grant Irwin was elected president; Dr. John D. Justice, vice-president; Dr. William H. Baker, secretary, and Dr. John A. Koch, treasurer.

St. Joseph's Hospital, Joliet, reports that in 1901, 901 patients were treated at the hospital, of whom 57 died. Of these, however, 21 were moribund when brought to the hospital. The Sisters also cared for 252 patients in private families during the year, making a total of 1153. Dr. A. J. Lennon has been added to the medical staff.

Personal.—Dr. Henry Richings, Rockford, has been appointed a member of the State Board of Health.——Dr. W. C. Phipps has located in St. Augustine.——Dr. William Friend, Lancaster, has located in Sumner.——Dr. Clarence A. Wells retired from the position of assistant surgeon at the Soldiers' Home Hospital, Quincy, December 31.——Dr. William A. Gray, Milledgeville, has located in Freeport.——Dr. Justin C. Simpkins, Danville, has moved to Granville, N. Dak.——Dr. George A. Zeller, Peoria, recently appointed superintendent of the State Hospital for the Incurable Insane, near Peoria, is on his way from the Philippines to his post of duty.

Chicago.

Visiting Nurses.—The Visiting Nurses' Association, at its annual meeting, reported a most successful year. Nurses were provided without charge in 5915 cases, and 37,756 visits were made.

The Chicago Policlinic and Hospital has purchased the southeast corner of LaSalle Avenue and Oak Street. The plat of land has a frontage of 150 feet on LaSalle Avenue and 120 feet on Oak Street.

Woman's Medical College Sold.—The Northwestern University Woman's Medical School building has been sold to the

Chicago Eclectic Medical College and the Valparaiso, Ind., Normal School, for $40,000.

The Chicago Lying-in Hospital Dispensary finished last week 2000 consecutive confinement cases without a maternal death. In 3763 consecutive labor cases, under the exclusive care of the dispensary, two died, both from spontaneous rupture of the uterus. In all these cases there were only 8 septic fever cases that were at all sick. In two the uterus was cleaned out, in none was any other local treatment instituted. The number of directors has been decreased from eleven to nine.

The Week's Mortality.—For the week ended January 11, the mortality per 1000 was at the annual rate of 14.78; for the corresponding week of 1901, the figures were 16.34. The Department of Health reports a reduction of 67 per cent. in the deaths of those more than 60 years of age as compared with the same week of last year. The deaths from pneumonia and influenza show a marked comparative decrease, the respective proportions being 89 to 161 and 4 to 18. The department denies the report now current that erysipelas is raging in the city. In the last two weeks there have been only four deaths from the disease.

INDIANA.

State Medical Board.—At its meeting December 10, the Board refused recognition to the Curtis Physio-Medical Institute, Marion, revoked the license of Harry S. Kiskadden, Huntington, and continued the case of J. P. Shepherd, Judson, charged with falsely obtaining a certificate of license from the Board and selling it to Albert E. Kirk, a veterinarian.

Indianapolis Coroner's Year.—During the year, Coroner Dr. Alembert W. Brayton reports that he investigated 309 deaths, 226 males and 83 females. Of these 35 were railroad cases. Suicide caused 29 deaths, of which 8 were from morphin; 3, carbolic acid; 1, cocain; 3, arsenic; 4, gunshot wounds; 4, hanging; 2, drowning; 1, chloroform, and 1, asphyxiation by gas.

Personal.—Dr. Davis W. Tucker, Boonville, has moved to Fort Wayne.——Dr. J. J. Graham, Daleville, has located three miles south of Paoli.——Dr. Frederick W. Denke-Walter, Spencer, has sold his sanatorium and moved to McCormick's Creek.——Dr. Frank Broughton, Waterloo, has been appointed local surgeon of the Lake Shore road.——Dr. Royal H. Hardman, Converse, has located in South Bend.——Dr. James Lewis, senior interne at the Indianapolis City Hospital, has resigned and will practice in the city.

IOWA.

To Increase Fees.—Sioux City physicians of both schools to the number of about 90 have agreed to advance professional fees. It is proposed to raise the fee for a visit from $1.50 to $2.

Smallpox.—Bagley fears an epidemic. Dr. M. C. Hess reports that the disease has appeared in two families and that many have been exposed. Dr. J. A. Pringle reported 3 cases last week, and several families are under quarantine.

Personal.—Dr. Wilton W. McCarthy, Des Moines, has been appointed surgeon-general of Iowa, in place of Dr. J. Taggert Priestley.——Dr. William B. Small, Waterloo, has moved to Castalia.——Dr. Norman S. Craig, Manchester, has gone to Jennings, Fla., for the winter.——Dr. Herbert W. Linder, Stratford, has moved to Nevada.——Dr. P. Sherlock, Martinsburg, has purchased property near La Plata, Mo., and will move there in March.——Dr. Henry E. Douglass, Independence, has located in Jesup.——Dr. Elmer E. Bamford, Allerton, has moved to Centerville.——Dr. Frank F. Winsell, Drakesville, has located in Bloomfield.——Dr. Gysbert P. Van Marel, Oto, has opened an office in Pella.——Dr. Oren T. Wertz, Dixon, has moved to Morley.——Dr. A. R. Rogers, Minburn, has purchased the property of Dr. John B. Conly, Woodward, and will practice there.——Dr. A. John Droz, West Chester, will locate in Keota, this month.

MARYLAND.

Baltimore's Mortality.—The mortality for the week ending January 11, was 205; white 167, colored 38. Pneumonia caused 26 deaths, consumption 17 and cancer 7.

Registration of Pharmacists.—A bill for the registration of all pharmacists in the state has been introduced in the Maryland Legislature. It is identical with the bill of 1900, with a few exceptions. One change is in allowing ordinary stores to sell drugs and medicines, but not to put up prescriptions. This is a concession to the wholesale trade, which it is said is now a unit for the bill.

Personal.—Dr. James M. Spear has been appointed physician to the Allegheny County almshouse and jail and secretary of the County Board of Health.——Dr. William F. Twigg has been appointed physician to the insane asylum.——Assistant Surgeon F. C. McDonnald, U. S. Navy, has relieved Assistant Surgeon A. M. Fauntleroy at the United States Naval Academy, Annapolis, the latter being ordered to the Naval Hospital at Norfolk, Va.

Insane Hospital Report.—At the close of the last fiscal year of the Springfield Hospital for the Insane there were 330 inmates; 234 males and 962 females. During the year 22 died, 14 were discharged recovered, 8 discharged improved, and 3 discharged unimproved. Dr. J. C. Clarke says no general feature of treatment is more important than properly selected work. The patients do a large amount of outdoor work, and among them are carpenters, painters, stonemasons, bricklayers, tailors, shoemakers, etc., who work at their trades daily and seem much happier in pursuing their accustomed avocations than in sitting idly in the wards.

Interesting Papers Before Societies.—Several interesting papers have been brought before the societies here in the past week. Dr. Simon Flexner described his new researches on snake venom, undertaken on the suggestion of Dr. S. Weir Mitchell. He used the venom of the rattlesnake, copperhead and cobra, and finds it to be a complex virus, the two main elements acting on the red blood corpuscles and nerve cells. Dr. William Osler spoke of the cerebral symptoms (coma) associated with latent carcinoma of the stomach. Dr. Charles P. Emerson spoke of digestive processes in carcinoma of the stomach and endeavored to prove that the absence of free hydrochloric acid is brought about by some element or elements in the growth "binding" it or using it up. Dr. John Ruhräh exhibited a meningocele removed from the occiput of an infant aged 17 months. Its size can be judged by the fact that it contained 1½ gallons of fluid. This is the largest meningocele ever reported. The child died in four days. Dr. C. W. Burr, Philadelphia, urged the importance of preparing patients for operations in order to avoid subsequent shock and neurasthenia. This applies to chronic surgical cases, and especially in gynecological practice. Dr. Harvey W. Cushing reported the recent researches of Professor Shearington, of Liverpool, in cerebral localization.

MICHIGAN.

Comparative Prevalence of Disease.—For the month of December, compared with the preceding month, pleuritis, pneumonia, scarlet fever, inflammation of kidney, smallpox, erysipelas, inflammation of bowels and cerebrospinal meningitis were more prevalent; and intermittent fever, remittent fever, whooping cough and diphtheria were less prevalent. For the same month compared with the average for December in the ten years, 1891-1900, scarlet fever, smallpox, measles and cerebrospinal meningitis were more than usually prevalent; and consumption, intermittent fever, erysipelas, remittent fever and diphtheria were less than usually prevalent.

The Most Dangerous Communicable Diseases.—Including reports by regular observers and others, cerebrospinal meningitis was reported during December, at 6 places; whooping cough, 32 places; measles, 39 places; diphtheria, 85 places; typhoid fever, 109 places; smallpox, 141 places; scarlet fever, 184 places, and consumption, 204 places. Reports from all sources show cerebrospinal meningitis reported at 5 places more; whooping cough, 1 place less; measles, 12 places more; diphtheria, 11 places less; typhoid fever, 57 places less; smallpox, 49 places more; scarlet fever, 2 places more, and consumption, 6 places more, in December than in the preceding month.

Mortality in Michigan During December.—The month of December was a record-breaker as regards prompt reports from local registrars to the secretary of state, over 99.74 per cent. of the population being promptly reported. This is the best record ever made in this country from a state area. There were 2770 deaths returned, corresponding to a death rate of 13.5 per 100,000 population. This number is an increase of 316 over the previous month, but is only 95 more than the number returned for December, 1900. Important causes of deaths were as follows: Pneumonia, 330; influenza, 43; pulmonary tuberculosis, 151; cancer, 126; other forms of tuberculosis, 18; typhoid fever, 53; diphtheria and croup, 54; scarlet fever, 39; measles, 14; whooping cough, 13; accidents and violence, 157.

There was considerable increase in the death-rate from typhoid fever, and slight amounts of increase from scarlet fever, measles and whooping cough. Pneumonia and influenza showed a marked increase, as is usual at this season. There were 3 deaths from smallpox during the month, one in Delta and two in Isabella County.

MISSOURI.

Lifts Sanatorium Debt.—Mr. A. D. Brown has fulfilled his promise made several months ago to give the Missouri Baptist Sanatorium, St. Louis, $50,000, provided $25,000 were raised outside. This has been done and the sanatorium in consequence is free from debt and has a handsome surplus.

The St. Louis Medical Society bids fair to outdo all previous records during the coming year. At the January election there were over 120 votes cast, and the new officers seem determined to make this year notable for scientific work. Dr. Carson, the new president, will have hearty support.

State Hospital Appointments.—At the State Lunatic Asylum No. 1, Fulton, the following appointments have been made: Dr. James W. Smith, Pleasant Hill, superintendent; Drs. William M. Bayliss, Clarence; J. Frank Harrison, Martinsburg, and Zachary T. Martin, Lathrop, assistants.

The Medical Director of the World's Fair has not yet been chosen, but the consensus of opinion is that Dr. Leonidas H. Laidley, professor of gynecology in the Marion-Sims college, will be the man—in fact there is no other candidate. Dr. Luther P. Walbridge will probably be the first assistant.

Alumni Societies of St. Louis.—The several alumni medical societies are showing good attendance and excellent work. At the University a symposium is given at each meeting on a selected topic, which plan is followed to some extent by the City Hospital Society. The Academy of Medicine has removed to Jefferson Hall on Grand Avenue.

Fire at St. Francis' Hospital.—On the night after Christmas, with the mercury at —13 degrees, a fire started in the basement of St. Francis' hospital, Maryville, which threatened to destroy the whole building. After the removal of 13 patients, and five hours' heroic work on the part of firemen and citizens, the fire was extinguished, the loss being about $2000.

Hospital Saturday and Sunday.—During the year the Hospital Saturday and Sunday Association, St. Louis, has received $24,796.82, an increase of $6112.86 over the amount received in 1900. The following allotments were made at the annual meeting: Evangelical Deaconess Hospital, $486.92; Good Samaritan Hospital, $1661; Martha Parsons Hospital, $2441.45; St. Louis Children's Hospital, $5736.19; St. Louis Mullanphy Hospital, $1904.46; St. Luke's Hospital, $1544.86; St. Mary's Infirmary, $4712.22, and St. Louis Protestant Hospital, $300.35.

St. Louis Personals.—Several St. Louis physicians have been unfortunate recently in having been sick or injured, but all are rapidly recovering.——Dr. Robert M. Ross was successfully operated upon for appendicitis.——Dr. W. H. Stauffer has made a good recovery from fractured patella.——Dr. Frank Glasgow, who has been dangerously ill from blood poisoning, is better.——Dr. Greenfield Sluder, who was injured by a transit car, is convalescent.——Dr. John B. Johnson, one of the grand old men of the profession, recently celebrated his golden wedding anniversary. A man of wide acquaintance and large experience, his name has long been a synonym for all that is good and noble among St. Louis physicians.

NEW YORK.

Regulation of Bath-Houses.—Mr. Pendry has introduced a bill in the legislature amending the public health law by forbidding the establishment of public bath-houses at a point within 1000 feet of any sewer connection and compelling the owners or lessees to provide separate toilet rooms, which must be kept clean and disinfected.

To Legalize Osteopathy.—On January 7, Senator Brackett, of Saratoga County, introduced a bill to legalize the practice of osteopathy. The bill not only legalizes the practice of osteopathy, but provides for the appointment of a State Board of Examiners to pass on the qualifications of all who desire to practice in the new school.

Tuberculous Cows Discovered.—It is reported that the Commissioner of Agriculture has discovered a herd of tuberculous cattle near Peekskill, belonging to a dairy which regularly shipped its products to New York City. The present owner of the dairy evidently is an amateur, for in the six months of his ownership he has lost nearly 50 out of a herd of 108 cows, and the carcasses of the animals have been strewn about the farm.

Buffalo.

Staff Re-elected.—The officers of the medical staff of the German Hospital were unanimously chosen for a second term at the annual meeting of the staff held January 9.

Sisters' Hospital Staff.—The medical and surgical staff of the Sisters' Hospital held its annual meeting and elected officers for the ensuing year as follows: Dr. Henry C. Buswell, president; Dr. Walter D. Greene, vice-president; Dr. Max Keiser, secretary, and Drs. Edward J. Myer, James J. Mooney and Charles S. Jewitt, executive committee.

Emergency Hospital Open.—The new Emergency Hospital has opened for the reception of patients, and the following hospital staff has been appointed: Medicine—Drs. John H. Pryor and L. Bradley Dorr; surgery—Drs. Clayton M. Daniels, Vertner Kenerson and Francis J. Carr; ophthalmology—Drs. Homer J. Grant and Benjamin H. Grove; laryngology, rhinology and otology—Drs. W. Scott Rinner and Edgar A. Forsyth; dermatology—Dr. Ernest Wende; genito-urinary diseases—Drs. James A. Gardner and N. W. Wilson; nervous diseases—Dr. William C. Krauss, and internes—Drs. C. W. Southworth, J. H. Dewees and G. McKay Holt.

Personal.—Dr. H. R. Gaylord, director of the New York State Cancer Laboratory at Buffalo, has been elected a foreign member of the German Cancer Investigation Committee, of which Prof. Von Leyden, of Berlin, is chairman.—Drs. Edward L. Frost and Jacob M. Krauss were elected postmortem examiners by the Board of Supervisors.—The Board also elected Dr. John S. Howland physician to the penitentiary, and Dr. Frank Bruso physician at the jail.—Dr. DeLancy Rochester has resigned from the attending staff of the Sisters' Hospital, and Dr. Emil S. Tobie has been appointed to the medical service.—Dr. George F. Cott has resigned his position as district city physician, after twelve years' service. The position is under the civil service, and Drs. Norman L. Burnham, Ernest L. Ruffner and Keyes, the latter a woman, are on the eligible list.

New York City.

Ward Quarantined.—The male medical ward of the Roosevelt Hospital, containing 30 patients, will be kept under quarantine for three weeks because one of the patients in the ward was discovered to be suffering from smallpox.

Ambulance Surgeons Commended.—So often does the hospital ambulance surgeon come in for abuse in the daily press that it is encouraging to note that, in the recent deplorable railroad wreck in this city in the tunnel, the ambulance surgeons of the various hospitals were highly commended for their very efficient, and almost heroic, efforts in the work of rescue.

New Hospital Opened.—The New York Infant Asylum formally opened its new hospital building January 11. The building adjoins the old hospital at 61st Street and Amsterdam Avenue, and the two together will now be able to care for 250 patients. The occasion brought together a number of people prominent in society and identified with charitable work, and addresses were delivered by several well-known gentlemen, including Dr. Stephen Smith, one of the original incorporators.

Superintendent and Chaplain Dies.—Rev. Thomas G. Wall, well known to those who have had much to do with the Presbyterian Hospital for the past quarter of a century, fell dead while walking through one of the hospital wards. He was 79 years of age and had been very feeble for some months. At one time he was superintendent of the hospital, but of late years he held the position of chaplain. It is thought that his sudden death was caused by the excitement incident to his being called upon to officiate at the wedding of a man who was very sick in the hospital.

Medical Defense Plan Praised.—The recent newspaper account of the plan by which the New York County Medical Association proposes to defend its members against "blackmailing schemes and the efforts of pettifogging lawyers to work up malpractice cases among ignorant and dishonest persons," has caught the eye of some companions in misery in the business world, and has drawn from them words of commendation and encouragement. This was well shown by a communication sent to that Association by the Guardian Savings and Loan Company of New York City. The letter states that those who are engaged in managing institutions, of the class coming within the sphere of action of this company, hail with pleasure this attempt of the medical profession of this city to rid itself of the legal persecutions which have too often been carried on in the name of justice. These institutions, it would seem, are picked out, even as physicians are, as good objects for the schemes of designing and unprincipled persons, and hence the

company already mentioned, speaking from sad experience in such matters, expresses the hope that this important movement will extend throughout the state and country, and wishes godspeed to the New York County Medical Association as the pioneers in this effort.

PENNSYLVANIA.

Philadelphia.

Alumni of the Jefferson Medical College will confer a favor on the editors of *The Jeffersonian* by sending the names and present addresses of the officers of their respective graduating classes to *The Jeffersonian*, care of the Jefferson Medical College, Philadelphia.

Private Contagious Disease Hospital.—Philadelphia is in great need of a hospital where private patients may be treated for contagious diseases. A number of public-spirited persons, including many women, have been working to the end that such a hospital may be built. It is proposed to name it the "McKinley Memorial Hospital."

Vita-Physician Indicted.—Victor B. Hall, who calls himself a "vita-physician," at a hearing before a magistrate was bound over to court in $800 bail. Hall has no license to practice medicine, but had recently attended a woman who died; he was unable to give a death certificate because of lack of legal qualification, and the case was investigated by the coroner at that time.

Mortality and Morbidity.—The mortality report for the week ended January 11 shows the number of deaths, from all causes, to be 471. Of these, 42 were from contagious diseases, 15 from smallpox; 131 new cases of smallpox were reported for the week. This is the greatest number occurring within any week since the outbreak of the disease. The epidemic does not, however, approach that of 1871 and 1872, when within the two years there were 16,000 cases and more than 3500 deaths. For nearly two weeks, no new cases have developed in the almshouse. The systematic canvass of the city by a corps of special vaccine physicians is almost completed.

Award of Gross Prize.—The Philadelphia Academy of Surgery, as Trustees of the Samuel D. Gross prize of $1000, for original research in Surgery, have awarded this prize, after six years' interval, to Dr. Robert H. M. Dawbarn, of New York City. The treatise which won the competition was entitled "The Treatment of Certain Malignant Growths by Excision of Both External Carotids." Upon this topic Dr. Dawbarn has worked, as opportunity served, for seven years. The essay when published will contain the histories with pathologist's report in each instance confirming the diagnosis of malignancy and specifying its variety, of forty carotid extirpations by the author himself; and as many additional by about a dozen other surgeons. At least two of these are members of the Philadelphia Academy of Surgery. By the terms of Dr. Gross' bequest, the prize-essay must be published in book form, and a copy thereof deposited in the Samuel D. Gross Library of the Philadelphia Academy of Surgery.

CANADA.

Obituary.—Dr. Fortier, physician of St. Vincent de Paul Penitentiary, province of Quebec, died on the 10th inst., at the age of 69 years.

Smallpox at Ottawa.—Since the commencement of the present outbreak of smallpox at Ottawa there have been reported to the Medical Officer of Health, 208 cases. There are at present 72 cases there.

Trouble in a Hospital.—The Medical Board of the General Hospital, Kingston, Ont., has requested the resignation of Dr. Grimshaw, one of the house surgeons. Dr. Grimshaw, who has refused to resign, will seek the aid of the courts if he is dismissed.

Victorian Order of Nurses.—At the Executive Council meeting of the above Order held at Ottawa on January 9, it was reported that the total receipts to date for the Cottage Hospital's Fund was $23,000 and the expenditure had been about $15,000. The general central fund now amounts to $11,000.

Ontario Board of Health.—The regular quarterly meeting of this Board of Health was held during the past week in Toronto. Dr. Bryce, the secretary, reported that since the outbreak of smallpox a year ago there have been 1900 cases of which 750 were in the unorganized districts of Ontario. There have been but twelve deaths, a mortality of only two-thirds of 1 per cent.

Appointment.—Dr. A. T. Hobbs, late assistant surgeon of the London Asylum for the Insane, has been appointed superintendent of the "Homewood Retreat," a private hospital at Guelph for victims of dipsomania and morphinism. Dr. Hobbs is well known for his gynecologic surgery on the female insane while interne at the London Asylum.

New Asylum Opened in Ontario.—On January 4, the new Asylum for Insane, for female patients alone, was opened at Coburg, Ont., the old buildings of Victoria University having been remodeled for the purpose. This Asylum will have accommodation for 150 patients. Dr. McNichol of Coburg will be the superintendent and he will have associated with him as assistant a female physician, Dr. Cockburn of Toronto.

Ontario Medical Defense Association.—A number of practitioners throughout the province of Ontario waited on the Premier last week to request that legislation be introduced at the present session of the Ontario House of Assembly which will make the medical profession in this province self-governing by eliminating from the Medical Council of the College of Physicians and Surgeons the appointed and homeopathic elements. The matter will be considered by the Government.

Consumption Sanitarium for Calgary, N. W. T.—The City Council of Calgary recently passed a resolution, copies of which have been sent to Ottawa, protesting against the increased number of consumptives who are sent to the western city on account of the fine climate of that district. Practically all of these come from Ontario and other provinces in the east; and the resolution calls upon the Dominion Government to erect a sanitarium for the care and treatment of consumptives or else grant aid for the purpose. The Calgary Council will gladly coöperate with the Dominion Government in the matter.

Personals.—Dr. Peter B. Wood, at one time a famous twirler in the old International Baseball League, and who has been residing and practicing in Butte and Anaconda, Montana, has returned to Canada to practice at Hamilton, Ont.——Dr. E. P. Benoit has been appointed physician to the Montreal jail.——Dr. G. C. Ferrier, who was graduated from Queen's Medical College two years ago, has been appointed a member of the Canadian Field Hospital Corps for service in South Africa. For the completion of this Field Hospital, each of the medical colleges of the Dominion has furnished its quota.

Toronto Home for Incurables.—A deputation from the Trustees of this institution recently waited on the Premier of the province with regard to securing an increased government grant. During the twenty-seven years the institution has been in existence it has been doing invaluable work; and during the past ten years the attendance has increased one-third. The Government's grant in 1893, when the attendance was 117, was $5651, whilst it was only $3100 in 1899, when the attendance was 132. Last year the grant was $3300. The accommodation is now taxed to its utmost, and applicants are forced to await their turn.

Sir William Hingston's Jubilee.—One evening last week a large number of the friends and confrères of Sir William Hingston, Montreal, waited on him and presented the distinguished surgeon with a portrait of himself in oil. The occasion was the celebration of his professional jubilee, Sir William having been graduated from McGill University in 1851. Sir William Hingston has always been prominently identified with the progress of medicine throughout the Dominion. He organized the first Board of Health in the Dominion, is a past-president of the Canadian Medical Association, is an honorary D.C.L. of Bishop's College University, an honorary LL.D. of Victoria University, Toronto, and is a vice-president of the Montreal Branch of the St. John's Ambulance Association.

FOREIGN.

Typhoid Fever in City of Mexico.—Special efforts are being made by the city government to restrict the spread of typhoid fever, which is quite prevalent at the present time.

International Congress of Hydrology, Climatology and Geology.—The sixth international congress will meet at Grenoble, France, in October, 1902. The address on the "Action of Mineral Waters on the Tissues" will be by Renaut of Lyons; "Microbiologic Analysis of Mineral Waters," by Bordas, and on "Climatology" by some of the Paris physicians who have been engaged in the medical balloon ascents. Hydro-mineral treatment of pulmonary phthisis, of cutaneous and gastric affections and also of constitutional taints in children, will be discussed by A. Robin, Carron de la Carrière and others.

Prizes for Essays on Tuberculosis Sanatorium.—From the large sum of money placed at the disposal of King Edward

£800 will be awarded as prizes for the best essays on tuberculosis sanatoria. The following are the conditions defined by the Advisory Committee, whose names were given in our last issue:

1. Medical men of all nationalities may compete. The papers may be either the work of a medical man or the joint production of a medical man and an architect.
2. The sanatorium is intended for 100 tuberculous patients—50 males and 50 females.
3. Of the total number of beds, 88 will be assigned to the more necessitous classes, whilst 12 will be reserved for the well-to-do.
4. The accommodation for all patients is to be comfortable, a separate room being provided for each. Superior arrangements to be made for the more wealthy patients.
5. It may be taken for granted that the sanatorium will be erected on an elevated and sloping site with a sunny exposure, and well sheltered from cold winds. It will have a farm at a convenient distance, and be surrounded by extensive grounds, well wooded, and affording ample space for exercises of various kinds. The soil will be dry and permeable, and the water-supply abundant.
6. The sanatorium must be fitted with the latest sanitary arrangements, and equipped with all requirements for scientific research. Provision should also be made for the recreation of the patients.
7. Economy in construction will be an important consideration, but it must not interfere with the reasonable comfort of the patients or the efficiency of the institution.
8. The essays must be in English and type-written.
9. The essays must not bear the name or names of their authors, but should have a motto, and each essay should be accompanied by a sealed envelope bearing the motto on the outside and containing the full name and address of the author or authors inside.
10. All essays and plans must be sent, postage paid, on or before the 15th of April, 1902, to one of the secretaries to the Advisory Committee.
11. Three money prizes of £500, £200, and £100 respectively will be awarded in order of merit on the recommendation of the Advisory Committee for the three best essays, provided they come up to the requisite standard of excellence. Brevity will be an important consideration and a summary of the main features of the scheme should be appended to the paper. Unsuccessful papers will be returned to the authors.

LONDON LETTER.

The Smallpox Epidemic—Great Increase.

The epidemic of smallpox in London continues to progress. The number of cases in hospital now amount to 739, and 24 have been admitted on the last day reported (January 2). Twenty-four fatal cases occurred in the week ending December 21. For the four weeks ending December 28 the number of cases in hospital were 474, 506, 538, and 665 respectively, and the number of cases admitted were 170, 134, 161 and 225 respectively. The highest number admitted on one day was 42. The errors of diagnosis committed by physicians have been referred to several times in THE JOURNAL. In one case as many as 20 persons were infected in consequence of the failure to diagnose the disease: A married woman was taken suddenly ill. The doctor called in diagnosed blood poisoning, which he thought might have been due to a meal of oysters. Two other physicians were called in and also failed to recognize the disease. The patient got no better and the medical officer of health saw her on the eighth day, pronounced the case to be smallpox and ordered her removal. But she died before the ambulance arrived. The remaining members of the family were stricken one after the other. There are now in hospital, her husband, daughter, brother, 2 sisters, brother-in-law, 3 sisters-in-law and 6 other relatives. A man was found sorting letters at the postoffice with the disease developed; a girl with smallpox was selling Christmas toys; a boy affected was working a lift at a big store, and must have touched hundreds of people in the day. An emergency hospital of 300 beds is being erected which will raise the number of available beds to 1600. Following what appears to be a German example, several of the public health boards have made chicken-pox a notifiable disease, so that the Medical Officer of Health may be able to visit them and detect cases of misdiagnosed smallpox. In the Borough of St. Pancras 115 cases of chicken-pox were notified in 9 weeks of which 2 were found to be cases of smallpox.

Prevention of Tuberculosis—The Ventilation of Workrooms.

The National Association for the Prevention of Tuberculosis, to whose influence the recent highly successful British Congress on Tuberculosis was due, has not lost any time in endeavoring to give effect to the resolutions of the Congress. It has just issued a circular to the various employers' associations pointing out the importance of ventilation in the workrooms. The council of the association state that they are confident that if sufficient fresh air is supplied to the workers there will be a great reduction in all kinds of lung diseases, especially consumption and that their power of work will be enhanced, which means a saving to the employer greater than any outlay involved. In the British Army and Navy enormous losses in former years were reduced to less than a third by better ventilation and drainage.

The Health of London.

The ninth annual report of the Medical Officer of Health for London recently issued contains much interesting information. The population now approaches five millions. The death-rate of the last 50 years shows a steady improvement. Thus the rates per 1000 in the decades 1841-50, 1851-60 and so on to 1881-90 were respectively 24.8, 23.7, 24.4, 22.5, 20.5; in the years 1891, 1892, etc., to 1900, 20.5, 21.0, 20.3, 21.0, 17.4, 19.5, 18.2, 17.3, 18.4, 19.6 and 18.6. The death rate of London, corrected for age and sex distribution in 1900, was only 20.4, while that of other great but much smaller towns was: Manchester (population, 548,700) 27 3; Birmingham (519,000), 23.8; Liverpool (634,000), 28.2; Leeds (431,000), 22.2; Sheffield (365,000), 25.1. During the decennium, 1891-00, as compared with 1881-90, there has been a mean annual saving of 3664 lives. In connection with the present epidemic of smallpox the number of cases in past years is of interest. From 1890 to 1900 the annual numbers are 40, 114, 425, 2815, 1193, 980, 225, 104, 33, 29, 86. Much of the smallpox of 1900 originated abroad.

Munificent Gift for the Erection of a Tuberculosis Sanatorium.

A donor, who wishes to be unknown, has placed at the disposal of the king the sum of $1,000,000, to be applied for charitable or utilitarian purposes. His majesty has directed that this splendid gift shall be used for the erection of a sanatorium for tuberculous patients, and has appointed an advisory committee. [See THE JOURNAL, January 11, p. 117.] It is intended to construct the sanatorium in the best manner that experience and original thought can suggest. In order to obtain the most valuable opinions the sum of $4000 will be awarded in prizes for the best essays and plans on the subject. Medical men of all nationalities may compete. The papers may either be the work of a medical man or the joint production of a medical man and an architect. The sanatorium is intended for tuberculous patients, 50 male and 50 female. Of the total number of beds 88 will be assigned to the more necessitous classes and 12 will be reserved for the well-to-do. The accommodation for all must be comfortable, a separate room being provided for each. The sanatorium will be erected on an elevated and sloping site, with a sunny exposure, and will be well sheltered from cold winds. It will have a farm at a convenient distance, and be surrounded by extensive grounds, well wooded and affording ample space for various kinds of exercises. The soil will be dry and permeable and the water supply abundant. The sanatorium will be fitted with the latest sanitary arrangements and equipped with all requirements for scientific research. All essays and plans must be sent, postpaid, on or before April 15, 1902, to one of the secretaries of the committee: Dr. P. Horton Smith, 15 Upper Brook Street, London, W., or Dr. J. Broadbent, 35 Seymour Street, London, W. Three prizes of $2500, $1000 and $500 respectively will be awarded in order of merit for the three best essays, provided they are of the requisite standard. Brevity will be an important consideration, and a summary of the main features of the scheme should be appended to the paper. Unsuccessful papers will be returned to the authors. [See Foreign News.]

Boycott of a Lady Doctor.

An extraordinary *imposse* has been brought about by the appointment of Miss Clarke, of Glasgow, as house surgeon to the Macclesfield Infirmary. Seven months ago the lady was appointed against the advice of the staff, who held that it was a great disadvantage to the institution and that the sphere of utility was much curtailed by placing a woman in the position of a house surgeon to attend to all sorts of ailments of male patients. Miss Clarke was then requested by the governors to resign and offered a quarter's salary. The hospital could not be carried on without the male staff of physicians, who were quite obdurate, declaring that they stood out on the grounds of principle. Miss Clarke was equally firm, and declared that she, too, was fighting on the grounds of principle—that of female employment—and refused all compromise. Matters were drifting into the position that by January 15 the Infirmary would have no male staff. However, Miss Clarke has been at last prevailed upon to resign, and the governors voted her a quarter's salary as a solatium out of the hospital funds. In addition a testimonial of $500 has been collected by subscription of the governors and will be presented to Miss Clarke when she leaves, in a month.

Rupture of Apparently Healthy Uterus During Labor.

At the Edinburgh Obstetrical Society, Dr. Milne Murray related a case of this extremely rare accident. A woman aged 27 was pregnant with her fifth child. Pains began about 11.30 p. m., and at 2:30 a. m. she sent for a medical man, to whom she complained of severe pain, especially at a spot midway between the umbilicus and the left anterior superior iliac spine. He could not hear the fetal heart, and he noticed the tenseness of the uterine tumor, and its marked deflection to the left. There seemed to be no contraction to account for the pain complained of. On vaginal examination there was no sign of any presenting part; the finger could not be passed through the os, and the cervix was not taken up. The fetal parts could be felt with unusual distinctness at the upper part of the tumor. It was thought that the case was probably one of extra-uterine gestation. The patient was profoundly collapsed when Dr. Murray saw her. On vaginal examination under chloroform the finger passed through the os and found the cervix only partially taken up; the lower uterine segment was empty, and in the left side a rent in the wall could be felt through which the finger passed into the abdominal cavity. Laparotomy was performed and the fetus and placenta extracted. The rent in the uterus involved the left upper region of the bladder. There was alarming hemorrhage, both from the tear in the uterus and the torn uterine artery. The uterus was removed and the rent in the bladder was closed by fine catgut stitches. Owing to the patient's condition the operation was rapidly completed without peritoneal toilet. The patient did well until the thirteenth day, when her temperature rose. It continued high until the sixteenth day, but fell soon after a copious discharge of pus from the vagina. Recovery followed. The formation of pus was attributed to imperfectly sterilized ligatures. No cause could be found for the rupture. To the naked eye the uterus presented nothing abnormal and microscopic examination of tissue from the rent showed a perfectly normal structure. With regard to the variety of fluids, including meconium, which escaped into the peritoneum, Dr. Murray thought that if the material was not septic the less the peritoneal cavity was disturbed by attempts at cleansing the better. Of course, if septic matter were present it should be removed at all costs. Few cases have been recorded of rupture at the beginning of labor of a uterus without any gross complication. Such cases have been reported by Ingersley Hofmeier and Prof. A. R. Simpson. In the two first nothing abnormal could be found in the uterus; examination revealed nothing. In Simpson's case there was marked fatty degeneration of the muscular fibers.

Inquest on a Peruvian Mummy.

Conservatism and almost mechanical attachment to routine is well illustrated by the following exploit of one of the London coroners. A case containing a Peruvian mummy, intended for a Belgian museum, arrived in London and was opened. The man who opened it became frightened and reported the matter to the coroner. The latter held an inquest on the mummy. Under his direction the following grotesque verdict was brought in, "that this woman was found dead at the Railway Goods Station, Sun Street, on April 15, and did die on some date unknown in some foreign country, probably South America, from cause unknown. No proofs of violent death found and the body has been dried and buried in some foreign land, probably sundried and cave buried. The jurors are satisfied that this body does not show any recent crime in this country, and that deceased was unknown and about 25 years of age."

Indian Sanitation.

A comprehensive blue-book, containing a report on sanitary measures in India during 1899 has just been issued. The European troops appear to have enjoyed better health than in the previous year. On an average strength of 67,697 the admissions to hospital were in the ratio of 1149 per 1000, against 1437 in 1898. The chief cause of mortality was typhoid fever, which was responsible for 40 per cent. of the total deaths. Of causes of sickness the list is headed by ague and venereal diseases, the latter being responsible for 27 per cent. of the total illness, and over 20 per cent. of the invaliding. The loss by invaliding to the army was 2142. The health of the native army was also better than in 1898. Ague was the principal cause of illness. For venereal disease, the admission rate was only 34.1 per 1000, as compared with 313.4 in European troops. For the general population the year was healthy. A higher birth-rate resulted from the recovery from famine. The death-rate was 29.95. The number of successful vaccinations was 7,437,916. There are 2472 hospitals and dispensaries in India. The number of in-patients was 355,769, out, 20,238,917. The reports on the progress of sanitary work, water supply, and drainage from different cities and provinces were most satisfactory.

Correspondence.

Human and Bovine Tuberculosis.

BROOKLYN, N. Y., Jan. 6, 1902.

To the Editor:—Your editorial entitled "Human and Bovine Tuberculosis," published in your issue of the 4th inst., contains so many errors that it is surprising that it should appear in the columns of a reputable journal.

May I inquire how you know that the "experiment was poorly conceived" and "lacked many of the essentials for a satisfactory scientific proof of what it was intended to show"? Your only authority must have been the daily press, to the representatives of which I declined to give the details for the reason that I did not desire the publicity it would entail before the test was finished. As usual, the story was made up from meager information largely obtained from hearsay, and it went out as coming from me. Had you wished to know the truth of the matter, I would gladly have furnished it at your request. A journal purporting to be scientific in character should be more careful of its facts.

Again, you say that the experiment "is at last discredited by the findings of the Brooklyn health authorities that his inoculated cow did not have tuberculosis." This is absolutely false. I have before me the sworn statement of Dr. Ackerman, veterinarian of the Board in question, which states that he condemned the cow because it was tuberculous. A copy of this document is at your disposal should you desire to see it. The veterinarian who assisted me in the experiment with the cow (Dr. Walter L. Bell, of this city), also says the same thing. And I myself found tubercle bacilli in a gland taken from the axilla of the animal and my findings were corroborated by a medical friend who is an expert in that line. In view of these facts it is fair to presume that your statement that my experiment with the cow was a failure, is erroneous.

Your strictures upon the inoculation of the human being are also entirely uncalled for, when it is considered how little you know about the case. When the whole truth concerning it shall have been made public, it will be found that my efforts to advance medical knowledge will be completely justified.

GEORGE D. BARNEY, M.D.

Our comments on the case were based on a published statement by Dr. Cyrus Edson, which he has informed us was printed as dictated by him. He says:

> Dr. Barney refused to permit me to see or examine the young woman upon whom he has experimented, and forced me to rely entirely upon his own statements regarding the experiment. Accepting all his statements as true, I am led to an inevitable conclusion—namely, that he has demonstrated nothing, and that his experiment is of no scientific or practical value. . . .
>
> We now come to the consideration of the alleged inoculation of a human being with the diseased products of this cow. Dr. Barney told me that on November 9 he inoculated a young woman with infective material taken from the cow and that he has succeeded in producing the symptoms of tuberculous disease in the person so inoculated; that on December 5 a prominent specialist in lung diseases examined the patient and declared that she was suffering from tuberculosis, and that two days later another specialist examined the patient and made the same diagnosis. Dr. Barney refused to give me the names of these specialists. He claims that he now has the patient under treatment and expects to effect a cure. . . .
>
> And now as to the ethics in this case. Assuming for the moment that the cow did have tuberculosis and that the disease germ was injected by Dr. Barney into the girl's neck and that she developed tuberculosis, all of which is alleged by Dr. Barney, there could be but one opinion concerning the ethics of an experiment of this character. This opinion the reader may form himself from questions I put to Dr. Barney and his answers. I asked: "Dr. Barney, do you claim to cure 100 per cent. of your cases?" He replied: "No. I can cure 92 per cent. in the first stage of the disease."
>
> "Then, how do you know," I asked, "that you have not killed this girl?"
>
> Dr. Barney hesitated, turned color and replied rather incoherently and certainly not to the point: "I did this simply to make assurance more certain."
>
> The numerable sources of error which interfere with medical investigation render imperative a great series of experiments in order to prove even the simplest medical fact. It is impossible from one or two experiences to attribute a given result to a definite course. In no line of science is it so difficult to demonstrate the difference between cause and effect.

From the above, and the allegations of Dr. Barney in the context not quoted, it seems to us that we were fully justified in saying that the experiment lacked many of the essentials of a scientific demonstration. In the first place, it is a long way from demonstrating that the dangers of ingestion of tuberculous meat or milk are not practically *nil* even if direct inoculation does

produce the disease. Moreover, any one experiment can prove little; there are too many possibilities to be considered. Only a long and painstaking investigation could be absolutely conclusive. Dr. Barney's alleged claim seems to us altogether premature, the more so since he withholds details. If he has tried to avoid publicity he has been most unfortunately unsuccessful, and we believe that a serious attempt at privacy ought to have succeeded. As regards the ethical question we shall not retract our strictures on the alleged experiment on the young woman. It is not necessary to know any more about the case than has become, as it were, common knowledge to justify the condemnation. There are in medicine conditions in which it might be justifiable to risk life for the good of others, but we do not see them in this case, and can only reiterate our opinion that if the experimenter had experimented upon himself the case would have had at least a better moral aspect and the opportunities for obtaining anything of value from the results could not have been any worse.—EDITOR.

A Visit to Finsen's Institute.

CHICAGO, Dec. 30, 1901.

To the Editor:—Copenhagen is proud of its famous citizen. The kingdom of Denmark has contributed a sum of money sufficient to erect quite an imposing structure to house the Institute.

The Institute is located in a fashionable quarter of the city. The site was chosen on account of its seclusion. The residents strongly objected, but without avail, as it was decided that the unfortunate lupus patients needed such an environment of retirement and refinement in order to while away the long weeks of treatment.

The attendants are polite and are more than anxious to explain the operation of the remedial agent. They claim to cure 90 per cent. of all cases. To prove this they show you a large album of photographs of patients on entering and leaving the Institute. The transfiguration truly borders upon the marvelous. The once repulsive features are changed into those of a normal being. It is an interesting sight to watch the patients from every part of Europe walking up and down the corridor arm in arm waiting their turn for treatment.

In the amphitheater, which consists of one large square room, you are at once enveloped in an intense red glare coming from the electric globes. There are six 22,000 candle power arc-lights, shaded with red paper. They remind you very much of piano lamps. About each lamp six patients recline, each upon an elevated couch, with a nurse standing by his or her side. The light is so glaring that both patients and nurses have to wear dark glasses. Each patient requires a separate nurse, for it is necessary to hold continually a disc firmly pressed against the face, through which the light is projected. The tubes that direct the light upon the affected surface look very much like telescopes. There is one tube for each patient. The purpose of the telescopic arrangement is that all the heat rays shall be eliminated, and only the chemical, consisting of the blue, violet and ultra-violet, allowed to pass on. For it appears that they alone possess the bactericidal power. The exclusion of the yellow and red rays is effected by an ingenious combination of lenses together with the assistance of water. The treatment consumes one hour. Though the Institute is in full blast from 7:30 a. m. to 8 p. m. there is always a long waiting list. The power to furnish the arc-lights is in the basement immediately beneath the operating room. It was necessary to have their own plant in order to generate the extreme amount of electricity required.

Professor Finsen first employed sunlight in his experiments, but soon discovered that the sunshine in that climate was too uncertain. Patients come here from all parts of the world. The Institute is very democratic, for there is no distinction in race, color or condition. They are all treated alike.

The average time for a case is about seven months, or it may require more than a year. Some mild cases recover in a few weeks.

The charge to a Dane is $18 per month, to an outsider $30. But since all Denmark is so enthusiastic over it, a Dane, though without the means, can have his expenses defrayed by the district from which he comes.

As these patients on account of their unsightliness experience great difficulty in obtaining lodgings, two shrewd former patients established a boarding-house and their enterprise has been richly rewarded. A. K. WARNER, M.D.

National Board of Medical Examiners.

DETROIT, January 12, 1902.

To the Editor:—Permit me to make a few remarks concerning the editorial, "National Board of Medical Examiners," in the last issue of THE JOURNAL. I should like to take exception to the statement: "Without taking space to give our reason, we believe the ultimate results of reciprocity, as now understood, would be to lower rather than to elevate the standard." This statement is erroneous. Aside from this remark, however, I should like to endorse, very emphatically, the ideas expressed in the editorial. The opinion has been expressed also by me, some time ago, that "the most desirable regulation of the license to practice medicine would come from a National Board controlling the whole of the United States." I also said that our Constitution prevents this solution at present. The solution advocated in the editorial comes nearest to this. You mention as cardinal points:

1. A Board of Examiners which shall have authority to grant licenses that shall be recognized throughout the country.

2. The examination should in part be conducted in hospitals and laboratories, i. e., they shall be practical.

3. A fair standard of preliminary education should be required.

4. The applicant shall be a graduate from a reputable medical college.

I should like you to add:

5. The National Board shall inspect the medical colleges and decide which colleges can be regarded to be of a high standard as to teachers and teaching facilities.

Practical considerations may, perhaps, show that more than nine members may be required on the Board, and that a subdivision may be necessary. Taken as a whole, I must admit that a more ideal solution of the complex problem may not be found, at the present time. I, therefore, take occasion to recommend, most heartily, the institution of a National Board of Examiners as suggested in your editorial and I hope that decided steps will be taken at the next meeting of the American Medical Association to advance the solution of a question which is of such great importance for the public as well as for the medical profession. Meanwhile the establishment of interstate reciprocity on the basis of uniform medical legislation should be furthered by all possible means.

Very truly yours, EMIL AMBERG, M.D.

Secretary of the Committee on Uniform Medical Legislation of the Conference of the Committee on National Legislation of the American Medical Association and Affiliated Societies.

PEKIN, ILL., Jan. 11, 1902.

To the Editor:—I have just read your editorial in to-day's number of THE JOURNAL, and it occurs to me that there is an easier and simpler way of deciding as to professional qualifications than any yet proposed. The primary object of all medical legislation is to protect the people from the ravages of the army of charlatans that infest the country. Does it succeed? No. Look at our own Illinois, the pioneer in medical legislation: Chicago is full of quacks. Peoria, Quincy, Springfield, and every other city in the state is infested with them. Even in Pekin we have a "magnetic healer" that can not spell *sugar*, and I am told he is making more money than any competent practitioner in town. Then we have Eddyites galore, and a few Dowieites just out of town. Notwithstanding all this infringement upon the intent of the law, the most learned professor in the country outside of Illinois could not practice here without passing the required examination. The Army, the Navy and the Marine-Hospital services will continue their examinations as usual. It is with the State Examining Boards

that I am concerned. They usually adopt their own special rules as to qualifications. Now, in transferring from one state to another, why not accept membership in the American Medical Association as evidence of necessary qualification? Each member is also a member of his state and local societies; he has the recommendations of all these, and this, it seems to me, should be sufficient evidence of fitness, and should be so recognized by all state boards. Very respectfully,

JNO. I. SKELLY, M.D.

Book Notices.

EXPERIMENTELLE UND KRITISCHE BEITRAEGE ZUR HAENDEDISINFECTIONSFRAGE. Von Dr. Richard Schaeffer, in Berlin. Mit 12 Tabellen und 4 Abbildungen auf 2 Tafeln. Paper. Pp. 110. Berlin: Verlag von S. Karger. 1902.

This monograph gives the details of investigations and experiments in regard to the important question of hand disinfection in surgery. The author finds as a result of his studies that even the most careful washing and brushing of the hands and the employment of very hot water and numerous changes, even for a long time, will still leave numbers of germs upon the skin. The employment of sand and sterile towels scarcely perceptibly diminishes their number. The employment of aseptics such as sublimate, lysol, etc., are not sufficient to effectively reduce the number; they may reduce the number of colonies in cultures but not destroy them entirely or leave the hand in a safe condition, nor can we expect any very germicidal action of alcohol. That in his experiments he produced 1000 colonies from filtered debris of alcohol employed is one of the most satisfactory confirmations, in his opinion, of these views. Alcohol, however, is excellent as a mechanical cleansing agent and can so reduce the number of germs, especially in addition with hot water, as to make the danger of infection small. It is also on theoretic grounds advisable that the hands should be bathed in a sterile fluid, the most satisfactory for which would be a 1 per cent. sublimate solution. As regards the question of gloves he believes that if they do not seriously affect the tact sense their employment is in the line of surgical asepsis. The impermeable gloves, other things being equal, are still better than those which are permeable. The importance of quick and accurate operation is dwelt upon, leaving of smooth wounds and the avoidance of tears, etc., in operations. We can not avoid air infection, which is even more uncontrollable than that of the hands, and, therefore, the quicker the danger is past the less the chance of infection. For slight operations, infection even without the use of gloves can be practically excluded if care is taken as to this detail. In severer operations, of course, it may be impossible. The subject is one that requires still more study and experiment to give thorough satisfaction in regard to the possibilities. The work seems to be a rather important memoir on this specially important subject.

STUDIES OF THE INTERNAL ANATOMY OF THE FACE. By M. H. Cryer, M.D., D.D.S., Professor of Oral Surgery, Department of Dentistry, University of Pennsylvania. Cloth. Pp. 176. With 151 illustrations. Philadelphia: S. S. White Dental Manufacturing Company. 1901.

The view that no illustrations are so true to nature as photographs is adopted by Dr. Cryer. His work (illustrated with half-tone illustrations from photographs of actual sections of the bones of the face and jaws) is the result of "an investigation during which hundreds of skulls have been dissected and studied." This is a marked departure from the methods of studying anatomy so long in vogue. The tissues as they exist in their relation to each other are beautifully shown.

The illustrations are reminders to the student of anatomy that, as the author remarks, "owing to the degeneracy of the face and jaws it is possible though doubtful that in a thousand bones two or three should be found which exactly correspond with the typical bones so pictured."

In the evolution of man, the face and jaws, as Talbot has shown, undergo arrests of development and more marked deformities may exist than any illustrated in this work, which is a gentle reminder to dentist and rhinologist alike to study the origin of these structures before undertaking special treatment. The author has not fully mastered the law of economy of growth, now nearly twenty centuries old. His views as to the predominance of the cerebellum as a cause of prognathism will appear antiquated to modern anatomists. The work, while of value, has little anthropologic and biologic data.

A TREATISE ON MEDICAL JURISPRUDENCE. Based on Lectures Delivered at University College, London. By George Vivian Poore, M.D. (Lond.), F.R.C.P., Professor of the Principles and Practice of Medicine, University College, London. With Illustrations. Cloth. Pp. 533. Price, $4.00. New York: Longmans, Green & Co. 1901.

These lectures, delivered at the University College, London, and taken in shorthand for the *Clinical Journal*, are reproduced in this work. Its ready colloquial style and illustrative remarks on the cases make it almost as interesting as a novel. It is especially adapted to English laws and usages and the references, of course, are made to the English statutes and practices rather than to the American, but that will not necessarily seriously affect its value to American readers. A few things here and there, as might be expected, are superficially treated, and it would not be entirely safe, for example, to follow the author's distinction as regards poisonous and non-poisonous mushrooms. There may be other slight inaccuracies, but we believe they are rather few, and on the whole the book will be a safe guide. Insanity is treated rather sketchily and much dependence seems to be placed upon the illustrations which we do not consider the best way of giving students an idea as to the different forms. In fact, the illustrations of insanity are very poor substitutes for actual experience with cases or really good descriptions, and the space taken up in this book might perhaps have been better filled. The book is one that can well be added to any specialist's library and would be convenient for consultation by both lawyer and physician.

MODERN OBSTETRICS, GENERAL AND OPERATIVE. By W. A. Newman Dorland, A.M., M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania; Assistant Obstetrician to the University Hospital; Associate in Gynecology in the Philadelphia Polyclinic; One of the Consulting Obstetricians to the Southeastern Dispensary for Women. With 201 Illustrations. Second Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders & Co. 1901.

This work deserves commendation, and that it has received what it deserves at the hands of the profession is attested by the fact that a second edition is called for within such a short time. Especially deserving of praise is the chapter on Puerperal Sepsis. The various forms of puerperal sepsis are classed under General and Local, and under these heads the different forms are discussed in a systematic, practical and altogether satisfactory manner. This chapter will unquestionably help to bring about more accurate and scientific diagnoses in these cases. The happy-go-lucky manner in which the terms "puerperal sepsis" and "puerperal infection" have been and still are used by many writers to indicate pathologic conditions which differ widely, is reprehensible, and all efforts toward a systematic and scientific classification of the various forms of puerperal infection are to be commended. Such an effort has been made by the author, and the degree of success attained is as great as could be expected in the present state of knowledge.

A TEXT-BOOK OF MEDICINE. Begun by the late Charles Hilton Fagge, M.D., F.R.C.P., Sometime Physician to Guy's Hospital. Completed after his death and since revised or re-written by Philip Henry Pye-Smith, M.D., F.R.S., Fellow of the Royal College of Physicians. Fourth Edition. In Two Volumes. Vol. I. Cloth. Pp. 1123. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

This is a well-known standard text-book in Great Britain, but it has never obtained anything but a fair recognition in this country. The general arrangement and method of presenting the subject is unique but excellent. The work was originally written by Dr. Charles Hilton Fagge, who died in 1883, leaving the manuscript practically completed, but the book did not appear until two years later. Since then it has reached the fourth edition and, as is stated in the preface, "there is scarcely a page of the late Dr. Fagge's work as he left it at the time of his premature death in 1883." Although, as a rule, the book is up to date, some parts of it do not bear strong evidence of this. None of the literature on yellow fever is referred to a later date than 1897, and the recent discoveries regarding the transmission of malaria are not mentioned. The section on "Tuberculosis" might have been written ten years ago, so far

as it refers to modern ideas. As a whole, however, the work is thoroughly reliable and with few equals as a text-book on general medicine.

NEUROLOGICAL TECHNIQUE. Some Special Histological Methods Employed for the Study of the Nervous System, Together with a Laboratory Outline for the Dissection of the Central Nervous System and the Neurological Nomenclature (BNA) Arranged in a Classified List. By Irving Hardesty, Ph.D., Instructor in Anatomy, the University of California. Cloth. Pp. 183. Price, $1.75 net. Chicago: The University of Chicago Press. 1902.

The University of Chicago Press has sent out this volume, which ought to be a very useful one for consultation by asylum, hospital and other physicians who have the opportunity to make anatomic preparations of the nervous system. The recognized methods are described both for the preparation of sections and of dry and wet specimens for museum purposes, with also directions for dissection and postmortem work. We do not know any other book of its size that seems quite as complete and useful as the present one, and none, of course, that ought to be more up to date. The anatomic nomenclature of the Basel commission is given in the concluding chapter as far as it covers the nervous system, and is a very useful feature.

THE DIAGNOSIS OF NERVOUS AND MENTAL DISEASES. By Howell T. Pershing, M.Sc., M.D., Professor of Nervous and Mental Diseases in the University of Denver. Illustrated. Cloth. Pp. 223. Price, $1.25 net. Philadelphia: P. Blakiston's Son & Co. 1901.

The object of this little work as stated by the author is to facilitate the recognition of disorders of the nervous system and mind by those who are not specialists in the departments of neurology or psychiatry. It is, therefore, simply a compilation of facts and in the main, especially as regards the neurological side, judiciously made. We do not think that its classification of mental disorders is exactly that which is coming to be most generally accepted, and some of the types and diagnostic symptoms will not be of such service as will be the case with those in regard to nervous diseases proper. The author largely follows the etiologic classification and recognizes a number of types of mental disease which really have no clinical existence, in our opinion. This, however, is of minor importance. As a guide in medical diagnosis of diseases of the brain and nervous system it will be found decidedly serviceable to the general practitioner.

ATLAS AND PRINCIPLES OF BACTERIOLOGY, and Text-Book of Special Bacteriologic Diagnosis. By Prof. Dr. K. B. Lehmann, Director of the Hygienic Institute in Würzburg, and R. O. Neumann, Dr. Phil. and Med., Assistant in the Hygienic Institute in Würzburg. Authorized Translation from the Second Enlarged and Revised German Edition. Edited by George H. Weaver, M.D., Assistant Professor of Pathology, Rush Medical College, Chicago. Part II. Text; Part I. Atlas. Philadelphia and London: W. B. Saunders & Co. 1901.

The present volumes of Saunders' well-known series of Medical Hand-Atlases are fully up to the standards of the previous books in this series. These two volumes on bacteriology contain a vast amount of essential information conveniently arranged. The illustrations are many of them striking and can not but be of service to all engaged in general work in bacteriology, more particularly students. The translation is good, and the work of the editor has improved the text very materially, especially in correcting numerous mistakes in the references of the original to the literature and in verifying and correcting references to the plates. References to articles in English have also been inserted.

TEXT-BOOK OF MEDICINE FOR STUDENTS AND PRACTITIONERS. By Dr. Adolf Strümpell, Professor and Director of the Medical Clinique at the University of Erlangen. Third American Edition. Translated by Permission from the 13th German Edition, by Herman F. Vickery, A.B., M.D., Instructor in Clinical Medicine, Harvard University; and Philip Coombs Knapp, A.M., M.D., Ex-President of the American Neurological Association; with Editorial Notes by Frederick C. Shattuck, A.M., M.D., Jackson Professor of Clinical Medicine, Harvard University. With 185 Illustrations in the Text, and One Plate. New York: D. Appleton & Co. 1901.

A book which has reached thirteen editions in the original language and three in its English translation does not require any extended notice at this time. Suffice it to say that since the second edition of this English translation appeared in 1893, seven new editions have appeared in Germany so that the book has been almost wholly rewritten and must be considered as fully in line with the most recent knowledge. The translators have added a chapter upon the bubonic plague, and notes that may be of assistance to the American physician. Dr. F. C. Shattuck has made a number of editorial notes, which also increase the value of the work.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE RECTUM. Being a Practical Treatise on Fistula, Piles, Fissure and Painful Ulcer, Procidentia, Polypus, Stricture, Cancer, etc. By William Allingham, F.R.C.S. Eng., Ex-Member of Council of the Royal College of Surgeons of England; and Herbert W. Allingham, F.R.C.S. Eng., Surgeon to the Household of His Majesty the King. Seventh Edition. Cloth. Pp. 471. Price, $3.25. New York: William Wood & Co. 1901.

This work is a leading English publication on its subject. The changes which have been made as given by the author are condensation where possible and such slight alterations as the advances of rectal surgery require, chiefly in the matter of excision of the rectum and inguinal colotomy. The work is rather full in its notice of American literature, though it makes no mention whatever of Martin's valves, the existence of which is one of the much discussed questions among American proctologists. The work is well issued by Wood and Company, and ought to be a useful addition to American literature on the subject.

DISEASES OF THE NOSE AND THROAT. By Cornelius G. Coakley, M.D. Second Edition, 12mo. Pp. 556. Philadelphia and New York: Lee Brothers. 1901.

This book is a summary of many well-known books on Diseases of the Nose and Throat, and of recent literature, but it contains nothing new, and the facts are not presented in a novel manner. It might be a handy book for physicians who wish now and then to brush up hastily on the diseases of which it treats, but it can not be especially recommended for those who desire precise information upon these subjects. The recommendation of a 10 per cent. solution of cocain for nasal anesthesia does not appear judicious. It is certain that many patients will be unpleasantly affected by this strength, and much weaker solutions are quite efficacious.

A HANDBOOK OF DISEASES OF THE NOSE AND PHARYNX. By James B. Ball, M.D. (Lond.), Physician to the Department for Diseases of the Throat, Nose, and Ear, West London Hospital. Fourth Edition. With 61 Illustrations. Cloth. Pp. 439. Price, $2.25. New York: William Wood & Co. 1901.

This book presents no great changes from the previous edition. It has been revised and a number of corrections and alterations have been made. The size remains nearly the same, there being no considerable addition to the number of pages as found in the third edition. The various subjects are treated quite comprehensively and more fully than in most handbooks. The writing is logical—the text self-explanatory. To the senior student and practitioner, for whom it is designed, the book will be found instructive and quite satisfactory.

A MANUAL OF MEDICINE. Edited by W. H. Allchin, M.D. Lond., F.R.C.P., F.R.S. Ed., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital. Volume III. Diseases of the Nervous System. Cloth. Pp. 417. Price, $2.00. New York: The Macmillan Co. 1901.

This third volume of Allchin's Manual of Medicine comprises a consideration of the diseases of the nervous system and is a very reliable though an abbreviated compendium on its subject. Among the contributors are Drs. Sherrington, Taylor, Turner and others, all well known. The subjects seem to be well handled. In conclusion it gives a chapter on medical ophthalmology and one on the medical application of electricity, both of which are serviceable additions.

FIRST AID TO THE INJURED AND AMBULANCE DRILL. By H. Drinkwater, M.D. Cloth. Pp. 104. Price, $0.40. Edinburgh and London: Ballantyne, Hanson & Co.

This is a very convenient little manual of first-aid, useful both as regards its descriptions and its illustrations, which are well selected and ought to be very serviceable. It would be well for many physicians who are not in daily contact with surgical emergencies to look into a little book like this once in a while to freshen their memories as regards what might have to be done. So far as we can judge it is one of the best of its kind and its size makes it very convenient.

MICROBES AND HEALTH. By Samuel J. Wilson, M.D., Detroit, Mich., Member Clinton County Medical Society. Cloth. Pp. 230. Price, $1.00. Lansing, Mich.: Robert Smith Printing Co. 1901.

The author of this little work seems to be a faddist in his opposition to the germ theory of disease. His conclusions and reasoning are not convincing and not likely to be very influential with the profession.

Married.

EDWARD HOWARD, M.D., to Miss Eliza E. Berryman, both of Denver, Co., January 1.

RAY K. BARRY, M.D., to Miss Harriett Wilson, both of East Aurora, N. Y., January 1.

VICTOR G. VECKI, M.D., to Mrs. Minnie A. Vecki, both of San Francisco, Cal., January 5.

BENJAMIN O. COATES, M.D., to Miss Mary Rose, both of Cleveland, Ohio, January 4.

WILLIAM A. REID, M.D., Checotah, I. T., to Miss Alice Leeper, of Virginia, Ill., January 1.

WILLIAM L. RAYL, M.D., to Miss Pearl A. Bates, both of Caledonia, Mich., January 1.

JAMES C. DURRUM, M.D., Clarksville, Texas, to Miss Parks, of Irvine, Ky., December 23.

ROBERT L. GALLAHER, M.D., Texas, to Miss Mae Rhea, of Knoxville, Tenn., January 7.

EDWARD H. KNITTLE, M.D., to Miss Elizabeth Neelan, both of Onslow, Iowa, December 25.

ALBERT CHARLES ZAISER, M.D., to Miss Grace Melcher, both of Burlington, Iowa, January 1.

C. E. WRIGHT, M.D., Oskaloosa, Iowa, to Dr. J. D. McIntosh, of Charles City, Iowa, January 1.

G. WOGAN HURSH, M.D., Columbia, S. C., to Miss K. G. Weidy, of Tamaqua, Pa., January 1.

WALTER ALDMOND HAGER, M.D., to Miss Harriet Campbell, both of South Bend, Ind., January 8.

WILLIAM BRIMBLE-COMBE, M.D., Carmi, Ill., to Miss Lucy Land, of Big Prairie, Ill., December 31.

EDWIN S. DAY, M.D., Earlham, Iowa, to Miss Sydna Compton, of Bear Creek, Iowa, December 24.

FREDERICK E. SQUIRES, M.D., Livonia, N. Y., to Miss Maude E. Riley, of Genesco, N. Y., December 31.

GEORGE E. SENKLER, M.D., St. Paul, Minn., to Miss Abigail Dickson, of Milwaukee, Wis., January 7.

RICHARD G. CALLIHAN, M.D., to Miss Nettie Roland, both of Luray, Mo., at Kahoka, Mo., Nov. 24, 1901.

EDWIN J. EVANS, M.D., Rockland, Mich., to Miss Katherine Leary, of Lake Linden, Mich., December 26.

CHARLES MILTON LEIGHTON, M.D., to Miss Nellie Gertrude Sherry, both of Portland, Maine, January 6.

ROBERT T. SPAIN, M.D., Des Moines, Iowa, to Miss Verena Theresa Kramer, of Keota, Iowa, January 1.

EDMUND C. SANDFORD, M.D., Worcester, Mass., to Miss Florence Bartling, of Berkley, Cal., December 28.

ALEXANDER J. MCCANNEL, M.D., Lakota, N. Dak., to Miss Lora Tompkins, of Grand Forks, N. Dak., December 18.

WILLIAM B. HUNN, M.D., McKinney, Texas, son of Dr. George Hunn, Shelby City, Ky., to Mrs. Mary Steele, of McKinney.

JAMES PERCY SNELLING LENFESTEY, M.D., De Pere, Wis., to Miss Caroline Agnes Hurlbut, of Green Bay, Wis., January 15.

EDWIN L. CARY, M.D., Whitewater, Wis., to Miss Elizabeth E., daughter of Dr. John M. Evans, Evansville, Wis., January 1.

H. S. VERNON, M.D., house-surgeon, Chicago Policlinic and Hospital, to Miss Bessie Atwood, of Chicago, January 4. They will reside in Lewistown, Minn.

Deaths and Obituaries.

James Rodman, M.D. University of Louisville, Ky., 1849, one of the ablest and best-known physicians in Kentucky, died suddenly of heart disease, January 10, at his home in Hopkinsville, aged 72. His death was wholly unexpected, as he seemed in his usual health and spirits on the day of his death. He practiced his profession in Hopkinsville for three years, when he went to Frankfort to erect the building for the Feeble-Minded Institute. Three years later he was made superintendent of the Western Kentucky Insane Asylum and remained in charge until 1889. Since that time he has retired from active practice and has acted only as consultant in exceptional cases.

William C. Dixon, M.D. University of Pennsylvania, Philadelphia, 1860, a neurologist, of Philadelphia, died after an operation for appendicitis, January 10. He served throughout the Civil war in a hospital in Philadelphia. At the time of his death he was a visiting physician to the Pennsylvania Hospital for the Insane, and one of the examiners for the insane department of the Philadelphia Hospital.

Joseph Diehl Thomas, M.D. Bellevue Hospital Medical College, New York, 1869, a prominent physician of Pittsburg, Pa., one of the founders of the South Side Hospital, a member of the local, county and state societies and the American Medical Association, and professor of genito-urinary diseases in the Western Pennsylvania Medical College, died at his home in Pittsburg, January 8, aged 58.

Charles Francis Carpenter, M.D. University of Pennsylvania, Philadelphia, 1849, who practiced in Chester County until 1857, then moved to Louisville, Ky., where he practiced until 1898, when he returned to West Chester, died at that place, January 5, after a two weeks' illness from la grippe, aged 76. During the Civil war he had charge of the Army Hospital in Louisville.

Royal B. Prescott, M.D. Long Island College Hospital, Brooklyn, N. Y., 1866, for many years a practitioner and ophthalmologist of Nashua, N. H., member of many medical societies, medical director of the National Guard of the state from 1889 to 1894, and president of the local board of pension examiners, died at his home in Nashua, January 2, from pneumonia, aged 63.

William Koonz, M.D. University of Pennsylvania, Philadelphia, 1899, died about two months ago as the result of sepsis following a gunshot wound received while attending a wounded soldier during a scouting expedition in the Philippine Islands, aged 26. His remains were brought back to the United States and were buried in Philadelphia with appropriate ceremonies, January 3.

Elwood Stanley, M.D. Western Reserve University, Cleveland, Ohio, 1849, one of the oldest residents of Sandusky, Ohio, a member of the Erie County Medical Society and of the American Medical Association, who had served the county as coroner and the city as a member of the city council, died at his residence in Sandusky, January 4, after an extended illness, aged 78.

James B. Shaw, M.D. University of Glasgow, Scotland, 1836, who had been a resident of Santa Barbara, Cal., since 1850, and who practiced medicine for a short time only when he gave it up for the pursuit of sheep raising, died at his home in Santa Barbara, from pneumonia, January 7, aged 88.

Ephraim M. Reynolds, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1880, a member of the American Medical Association, a practitioner of Centerville, Iowa, and formerly state senator, died January 8, at his home in Centerville. His death is said to have been brought on by excessive work in the practice of his profession.

Richard W. Hill, M.D. University of Iowa, Iowa City, 1883, for many years professor of anatomy and physiology at the Iowa State University, local surgeon for the Rock Island road and a member of the medical staffs of several hospitals, was found dead in his bed at Davenport, from heart disease, January 10.

Daniel Waldo Stearns, M.D. Harvard University Medical School, 1888, a native of Newton, Mass., died at his home in that city, January 9, after an illness of two days from kidney disease, aged 37. He was a member of the Massachusetts Medical Society and had served as a member of the common council.

William H. Williams, M.D. Yale Medical School, New Haven, Conn., 1847, a practitioner of Brooklyn for more than half a century, a member of the Kings County, New York State and American Medical Associations, died at his home in Brooklyn, January 3, aged 79.

C. Jane Vincent, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1882, for twenty years a practitioner of Allegheny, Pa., and a member of the local and state medical societies, died at her home in Allegheny, January 7, from acute indigestion, aged 48.

Norbourne N. Shipman, M.D. Medical College of Ohio, Cincinnati, 1874, who had practiced medicine in Seymour, Ind., for a quarter of a century, and was secretary of the Jackson County Medical Society, died at his home in Seymour, January 7, aged 72.

Phineas I. Mulvane, M.D. Rush Medical College, died at his home in Chicago, January 10, aged 64. His early practice

was in Bureau County, Ill., whence he moved to Topeka, Kan., where he practiced 17 years, returning to Chicago last year.

Burk Priddy, M.D. University of Nashville, Tenn., 1874, a highly-esteemed physician of Logan County, Ark., who had represented that county in the legislature during two sessions, died at his home in Magazine, January 31, from pneumonia.

Edward Steese, M.D. Cleveland (Ohio) Medical College, a retired practitioner of Brookline, Mass., and a member of the Brookline Medical Club, died at his home in that place, January 6, after a prolonged period of invalidism, aged 57.

Thomas A. Carrico, M.D. a prominent physician of Charles County, M.D., died at his home in Oakland, near Bryanstown, January 5, aged 74. He had practiced for more than half a century and served three terms in the legislature.

Gazaway B. Knight, M.D. Medical College of Georgia, Augusta, 1848, who was an active practitioner of Madison, Ga., until his retirement, ten years ago, died at his home in that place, January 3, after a short illness, aged 76.

J. J. Buchanan, M.D., assistant surgeon, U. S. Navy, and assigned to duty on the *Constellation*, committed suicide while delirious from typhoid fever at the naval hospital at Coastes Harber Island, January 12, aged 24.

Harry J. Griffith, M.D. Medical College of Ohio, Cincinnati, 1897, a promising practitioner of Morgantown, Ind., died at the Deaconess' Hospital, Indianapolis, January 2, after an operation for appendicitis, aged 27.

G. C. Gray, M.D. Missouri Medical College, St. Louis, Mo., 1882, one of the leading physicians of Harvel, Ill., died at his home in that place, December 23, after an illness of nine days, from pneumonia, aged 52.

Joseph S. Carreau, M.D. New York University, 1874, who had recently returned from a stay of two years in Europe, died suddenly from heart disease in his apartments in New York City, January 7, aged 53.

A. Howell, M.D. University of Buffalo, N. Y., 1865, a practitioner of Eagle Bend, Minn., and a veteran of the Civil war, died at his home in that place, December 28, after an operation for hernia, aged 61.

Smith T. Ferguson, M.D. Rush Medical College, Chicago, 1865, a prominent physician of Joliet, Ill., and at one time physician to the State Penitentiary, died at his home in Joliet, January 10, aged 56.

John R. McDonald, M.D. University of Nashville, Tenn., 1867, one of the best-known physicians in the Tennessee Valley, died at his home in Courtland, Ala., January 6, from pneumonia, aged 58.

Elizabeth A. Darby, M.D. Woman's Medical College, Baltimore, 1896, a practitioner of Providence, R. I., died there, January 1, from the effects of a self-inflicted gunshot wound, aged 32 years.

Justinian K. Piersol, M.D. University of Buffalo, N. Y., 1872, a prominent physician of Adrian, Mich., died at his home in that city, January 2, after a lingering illness, aged 67.

William Augustus Pierrepont, M.D. University of New York, 1882, a retired practitioner of Brooklyn, N. Y., died January 6, after a short illness, from heart disease, aged 46.

Samuel S. Shamhart, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1896, died at his home in Hyattville, Wyo., as the result of an overdose of chloral, January 2.

Joshua M. Doan, M.D. a prominent young physician of North Bend, Neb., died from the effects of an accidental gunshot wound, at the Fremont Hospital, January 6, aged 27.

George W. James, M.D. Rush Medical College, Chicago, 1865, who had practiced in Lawson, Mo., for thirty years, died at his home in that place, January 2, aged 64.

John D. Young, M.D. Kentucky School of Medicine, Louisville, 1865, a well-known physician of Central New York, died at his home in Starkville, January 7, aged 70.

Leroy E. Jones, M.D. Geneva (N. Y.) Medical College, 1845, one of the oldest practitioners in New York State, died at his home in Buffalo, January 6, aged 81.

Charles Schaper, M.D. Rush Medical College, Chicago, 1885, a practitioner of Franklin, Wis., died at his home in that place, December 29, from consumption, aged 42.

Frank M. Hayes, M.D. Western Pennsylvania Medical College, Pittsburg, 1893, died at his home in Allegheny, Pa., January 2, from pneumonia, aged 40.

James S. Whedon, M.D. Geneva (N. Y.) Medical College, 1866, who practiced in Syracuse from 1877 to 1899, died in Jordan, N. Y., December 26, aged 57.

William W. Young, M.D. University of Pennsylvania, Philadelphia, 1894, died at his home in Nanticoke, Pa., January 6, from sepsis resulting from a felon.

Lee A. Loggins, M.D. Washington University, St. Louis, 1898, a practitioner of Graham, Texas, died at the house of his father in Ennis, Texas, December 27.

A. L. Nichols, M.D. Rush Medical College, Chicago, died at his home in Ludington, Mich., December 28, after a two weeks' illness from typhoid fever, aged 36.

Charles C. Garrett, M.D. Rush Medical College, Chicago, 1849, was burned to death while sleeping in his office at Calvert, Texas, December 26, aged 83.

Luther Lagle, M.D. University of Louisville, Ky., 1886, a practitioner of Gainesville, Texas, died from paralysis after a short illness, December 27.

Andrew J. Christensen, M.D. Washington University, St. Louis, 1873, died January 7, at his home in Waukon, Iowa, from pneumonia, aged 75.

Scott C. Newcomb, M.D. Bellevue Hospital Medical College, New York, 1895, died at his home in Walpole, Mass., December 31, from heart disease.

W. W. Hibbard, M.D. Castleton (Vt.) Medical College, 1848, died at his home in Poultney, Vt., December 21, from pneumonia, aged 73.

Charles Forbes, M.D. University of Glasgow, Scotland, died from heart disease at the County Hospital, Georgetown, B.C., December 26.

Shannon McRill, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1897, at his home in Victoria, Ill.

Miscellany.

Food of American Soldiers in the Tropics.—The following is from the annual report of Major-General Lloyd Wheaton, U. S. Army, commanding the Department of Northern Luzon, P. I., for the year ending June 30, 1901: Contrary to theory, practical demonstration proves beyond a doubt that American soldiers serving in these islands need the full army ration, with the addition of more sugar. The same amount of first-class fresh beef is required as in Montana; health can not be maintained without an abundance of nutritious food carefully prepared. The foreign population in these islands, and the wealthy natives, are just as heavy eaters as are Americans; besides, they use a great deal of Scotch whiskey and red wine. The poor masses live on rice and fish, but not from choice. They are anemic and full of skin diseases, as the result of an impoverishing diet. Native scouts fed on the army ration soon get fat, change in appearance and gain in strength. In a number of instances many native prisoners of war, and other natives convicted of crimes, have been received at prisons suffering from beri-beri or skin diseases. The surgeons recommended the issue of the army ration, stating that such diseases were the result of an impoverishing diet of rice and fish. These diseases seem to have rapidly disappeared under the benign influences of the army ration. It has been suggested by some persons—not company commanders or their men—that a special ration should be issued to American troops serving in the tropics; but practical demonstration does not support any such opinions founded upon theory. Company, troop and battery commanders recommend no change in the ration except an increase in the amount of sugar, and the issue of oatmeal.

Have We a Fraternity?—The subject of medical ethics is one which is talked of a great deal by physicians, and probably practiced too little, or else we would have more harmony within our ranks. To do unto others as we would be done by, is a sufficient rule to follow, if we would but abide by its dictates, but how many can conscientiously claim to practice the same with professional brothers or neighbors? In the larger towns and cities it is expected that the profession should be more harmonious, but can that always be truthfully said? On the contrary, the larger the place the greater number of cliques or divisions, while in the country districts these divisions are limited, because there are fewer doctors. How many towns in the state are there in which the medical profession is a unit on the question of consultations? How many men are there who are members of the state or district

medical organizations who, for one reason or another, refuse to meet other practitioners who are also members of the same organizations? Let each member of our State Association examine himself and place a few of the interrogatives so as to ascertain whether or not his neighbor is altogether at fault. The lack of consideration for each other, and our petty prejudices formed for us by others, is the greatest producer of discord. When a doctor decides to change his location how many hands of good fellowship are extended to him by those in the field! Is it not probable that many a man would be more disposed to walk in the path of righteousness in his new sphere had he been given a welcome by those already located, and at least, better established than he? Now that we have the opportunity of raising the standard of medicine in our state through the instrumentality of the new law, it seems timely that we should ascertain whether or not we have a fraternity within our ranks.—*Texas Clinic*, October, 1901.

Prizes Offered by the Paris Academie de Medecine.—Works sent in to compete for these prizes must be received by the end of February of the year in question. Those not open to foreigners are omitted from the following list: The Académie prize of 1000 francs is, in 1902, for the best sealed article on toxins in pathology; in 1903, on means of determining the eliminating activity of the kidney; in 1904, on cirrhosis of the liver—clinical and experimental study. The Alvarenga prize is annual, 800 francs, for best article on any branch of medicine. Apostoli, 600, annual, on electrotherapy. Baillarger, 2000, 1902 and 1904, treatment of the insane. Barbier, 3000, annual, for a complete cure of affections hitherto considered incurable. Boullard, 1200, 1902 and 1904, for best work on or best results in treatment of mental affections. Bourceret, 1200, annual, circulation of the blood. Buisson, 10,500, 1904, for best discoveries with result of curing hitherto incurable disease. Dupierris, 2300, 1902 and 1904, for best work on anesthesia or affections of urinary passages. Capuron, 1000, sealed, 1902, relations between fibrous tumors of the uterus and pregnancy; 1903, action of saline waters on digestion; 1904, application of radiography to obstetrics. Chevillion, 1500, annual, cancerous affections. Civrieux, 800, annual, sealed, 1902, dementia; 1903, cerebral troubles in sclerosis in patches; 1904, rôle of syphilis in brain disease. Clarens, 400, annual, hygiene. Daudet, 1000, sealed, 1902, cancers; 1903, general medication in treatment of cancers; 1904, surgical treatment of neoplasms of large intestine, rectum excepted. Desportes, 1300, annual, practical medical therapeutics. Falret, 700, sealed, 1902, somnambulism; 1904, neurasthenia. E. Godard, 1000, annual, internal and external pathology. Guzman, income of 1328 francs, for actually effective treatment of organic heart disease. T. Herpin, 3000, annual, epilepsy and nervous affections. Herpin, 1200, sealed, 1902, abortive treatment of tetanus. Itard, 2400, 1903, for best treatise on practical medicine or applied therapeutics published at least two years. Jacquemier, 1700, 1904, for author of work on some obstetric subject which has realized an important progress. Laborie, 500, annual, medical statistics. Laborie, 5000, annual, for author who has materially advanced the science of surgery. Lefèvre, 1800, sealed, 1902, melancholia. Lefort, 300, 1903, study of mineral and drinking waters. H. Lorquet, 300, annual, mental affections. Louis, 3000, 1904, serotherapy of typhoid fever. Mège, 900, sealed, etiology and pathogenesis of arteriosclerosis. Meynot, 2600, annual, affections of eyes and ears. Nativelle, 300, annual, for extraction of hitherto unisolated active principle of some drug. Orfila, 4000, sealed, 1902, alkaloids of belladonna, hyoscyamus and datura. Portal, 600, sealed, 1902, experimental research on inoculation and contagion of cancer; 1903, pathologic anatomy of salpingitis in relation to the causes producing it; 1904, comparative hematologic study of variola and vaccine. Pourat, 700, annual, sealed, 1903, secretions of microbes and their physiologic action in genesis of disease; 1904, circulation of blood in lung. P. Ricord, 600, 1903, venereal diseases. Saint-Lager, 1500, for person who succeeds in experimentally producing tumor of the thyroid by substances extracted from water or soil of countries where goitre is endemic. Saintour, 4400, 1902 and 1904, for best MS. or printed work on any branch of medicine. Stanski, 1500, 1902 and 1904, study of miasmatic contagion in epidemics in general or in a particular epidemic. Tremblay, 7200, 1903, affections of urinary passages. Vernois, 700, annual, hygiene. The Andiffred prize has been mentioned several times in THE JOURNAL. It is an endowed income of 24,000 francs for the person, without distinction of nationality or profession, who, before 1921, discovers a sovereign remedy that will cure or prevent tuberculosis.

Societies.

WATONWAN COUNTY (MINN.) MEDICAL ASSOCIATION.—The annual meeting of this Society was held in St. James, December 11. Dr. Lanson L. McCurdy was elected president and Dr. W. J. McCarthy secretary, both of Madelia.

SAMOSET MEDICAL ASSOCIATION.—The medical fraternity of Plymouth, Mass., met December 19 and organized this Association, with Dr. Wilfred G. Brown as president and Dr. J. Holbrook Shaw, vice-president and secretary.

LANCASTER CITY AND COUNTY (PA.) MEDICAL SOCIETY.—The following officers were elected at the annual meeting: Dr. Martin L. Herr, president; Dr. Park P. Breneman, secretary, and Dr. George R. Rohrer, treasurer, all of Lancaster.

NEW BRITAIN (CONN.) MEDICAL SOCIETY.—The tenth annual meeting of this Society was held January 2, when President Dr. George J. Holmes and Secretary and Treasurer Dr. Joseph B. Brocksieper were unanimously re-elected.

ORANGE COUNTY (TEXAS) MEDICAL SOCIETY.—The first meeting of this Society since its organization was held at Orange. The following officers were elected: Dr. J. Saunders, president; Dr. J. E. Reeves, vice-president, and Dr. M. Rives, secretary.

PHILADELPHIA OBSTETRICAL SOCIETY.—At the annual meeting of this Society, January 2, officers were elected as follows: President, Dr. John M. Fisher; vice-presidents, Drs. Richard C. Norris and Wilmer Krusent; secretary, Dr. Frank W. Talley, and treasurer, Dr. John W. West.

SPRINGFIELD (OHIO) ACADEMY OF MEDICINE.—The annual meeting of the Academy was held January 6. The following officers were elected: Dr. Read L. Bell, president; D. Walter Spence, vice-president, and Dr. Joseph A. Link, secretary. The annual banquet was held January 15.

LOS ANGELES (CAL.) ACADEMY OF MEDICINE.—At the annual meeting of the Academy, held December 27, Dr. Benjamin O. Webb was elected president; Dr. Frances O. Yost, first vice-president; Dr. Frances E. Corbin, second vice-president, and Dr. F. M. Pottinger, secretary and treasurer.

MARION COUNTY (KAN.) MEDICAL ASSOCIATION.—The physicians of Marion County met last month to organize a county medical association. Dr. Richard F. Harris was elected president and Dr. J. Allen Palmer, Florence, secretary. The first regular meeting will be held some time this month.

BELMONT COUNTY (OHIO) MEDICAL SOCIETY.—At the annual meeting of this Society, held recently at Bellaire, Dr. William L. Judkins, Barnesville, was elected president; Dr. J. A. Clark, Glencoe, vice-president; Dr. Alfred C. Beetham, Bellaire, secretary, and Dr. James S. McClellan, Bellaire, treasurer.

LANCASTER CITY (PA.) PATHOLOGICAL SOCIETY.—At the annual meeting of this Society, held December 27, the following officers were elected: Dr. George L. Cassel, president; Drs. William H. Herr and Samuel W. Miller, vice-presidents; Dr. John W. Kinard, secretary, and Dr. Frank G. Hartman, treasurer.

LANE COUNTY (ORE.) MEDICAL SOCIETY.—The members of the regular profession of Lane County met at Eugene, December 21, and organized this Society with the following officers: Dr. William Kuykendall, president; Dr. Waldo L. Cheshire, vice-president, and Dr. John W. Harris, secretary, all of Eugene.

AUSTIN (TEXAS) DISTRICT MEDICAL SOCIETY.—At its annual meeting, held in Austin, December 20, the following officers were elected: Dr. William J. Mathews, Austin, president; Drs. E. Mat Thomas, Georgetown, and Cyrus O. Weller, Austin, vice-presidents; and Dr. W. A. Harper, Austin, secretary and treasurer.

VIGO COUNTY (IND.) MEDICAL SOCIETY.—The annual meeting and banquet of this Society were held at Terre Haute, January 2. Dr. W. E. Bell, Terre Haute, president; Dr. Richard Belt, West Terre Haute, vice-president; Dr. Cassius M. Smick, Terre Haute, treasurer, and Dr. Malachi R. Combs, Terre Haute, secretary.

BOND COUNTY (ILL.) MEDICAL SOCIETY.—The annual meeting of this Society was held at Greenville, January 2, when Dr. E. P. Poindexter, Greenville, was elected president; Dr. John A. Warren, Beaver Creek, vice-president; Dr. William T. Easley, Greenville, secretary, and Dr. W. C. Barnes, Mulberry Grove, treasurer.

MADISON COUNTY (ALA.) MEDICAL SOCIETY.—At the annual meet- of this Society, held in Huntsville, January 6, Dr. William D. Pettus, Rep, was elected president; Dr. Felix E. Baldridge, Huntsville, vice-president; Dr. Edgar Rand, Huntsville, secretary and treasurer, and Dr. William C. Wheeler, Huntsville, county health officer.

MANITOWOC COUNTY (WIS.) MEDICAL SOCIETY.—The annual meeting of this Society, held in Manitowoc, January 4, was the most successful session in its history. The following officers were chosen: Dr. William G. Kemper, Manitowoc, president; Dr. Louis Falge, Reedsville, vice-president, and Dr. Herbert Thurtell, Manitowoc, secretary and treasurer.

CANTON (OHIO) MEDICAL SOCIETY.—The annual meeting of this Society was held January 2. Dr. John P. DeWitt was elected president; Dr. Williams, vice-president; Dr. Wallace S. Foulks, recording secretary; Dr. J. Frank Kahler, corresponding secretary, and Dr. Frank Da Hinden, treasurer. Resolutions were adopted in memory of the late Dr. William McConkey.

KANSAS CITY (MO.) ACADEMY OF MEDICINE.—At the annual meeting of the Academy, January 4, Dr. James W. Gaines was elected president; Dr. Charles B. Hardin, vice-president; Dr. George W. Bellows, censor; Dr. John G. Lapp, secretary, and Dr. C. Lester Hall, treasurer. Dr. George W. Webster, Chicago, was the guest of honor at the annual banquet of the Academy, January 9.

ELKHORN VALLEY (NEB.) MEDICAL SOCIETY.—The seventh semi-annual meeting of this Society was held January 7, in Norfolk. The officers elected for 1902 were: Dr. John P. Gilligan, O'Neill, president; Dr. W. S. Summers, West Point, and John J. Williams, Wayne, vice-presidents; Dr. Joseph M. Aikin, Omaha, secretary, and Dr. William H. H. Hagey, Norfolk, treasurer. The Society meets early in January and July of each year.

COLUMBUS (OHIO) ACADEMY OF MEDICINE.—The annual meeting of the Academy was held December 17. The president, in his address, favored the reorganization plan of the State Medical Society which conforms to that of the American Medical Association. The

following officers were re-elected: Dr. James C. Lawrence, president; Dr. Ola S. Hendrixson, vice-president; Dr. John L. Gordon, secretary, and Dr. Francis W. Blake, treasurer.

PHILADELPHIA COLLEGE OF PHYSICIANS.—At a stated meeting of the College of Physicians January 1, officers and elective committees for 1902 were chosen as follows: Dr. Horatio C. Wood, president; Dr. Arthur V. Meigs, vice-president; Drs. Richard A. Cleeman, Arthur V. Meigs, S. Weir Mitchell, and Horace Y. Evans, censors; Dr. Thos. R. Neilson, secretary; Dr. Richard H. Harte, treasurer; Dr. Frederick P. Henry, honorary librarian.

UNION MEDICAL SOCIETY OF NORTHERN MICHIGAN.—This Society, whose membership is made up of the physicians of Ionia, Montcalm and Mecosta counties, held its second annual meeting at Belding, December 10. The following officers were elected: Dr. John Avery, Greenville, president; Drs. Charles S. Cope, Ionia, Leavitt S. Griswold, Big Rapids, William P. Gamber, Stanton, Francis R. Blanchard, Lakeview, and James E. Ferguson, Belding, vice-presidents, and Dr. Horace L. Bower, Greenville, secretary and treasurer.

AMERICAN CHEMICAL SOCIETY.—On December 31, the American Chemical Society adjourned its 25th annual meeting, to meet again in July in Pittsburg, Pa. Dr. Ira Remsen, President of Johns Hopkins, was made president of the Society. In an address describing formaldehyde generators, William Dreyfus, of New York, deprecated the spray disinfection followed in some cities, and argued in favor of the vapor method. At a banquet in the evening Dr. G. H. Meeker was one of the committee of reception. Dr. Wm. McMurtrie, of New York, was one of those responding to toasts.

STEUBEN COUNTY (N. Y.) MEDICAL ASSOCIATION.—The physicians of Steuben County held a meeting in Hornellsville, December 20, to organize an association to be known as the Steuben County Medical Association, which will be a branch of the New York State Medical Association. Dr. John G. Kelly, Hornellsville, acted as chairman. Committees were named as follows: Nomination, Drs. John S. Jamison and Frank H. Koyle, Hornellsville; by-laws, Dr. Victor C. Pederson, Corning. The committees are to report before the next regular meeting to be held at Hornellsville, February 3. The purpose of that meeting is to elect permanent officers and to perfect the organization.

ALPHA KAPPA KAPPA FRATERNITY.—On January 2 and 3 the Alpha Kappa Kappa Fraternity (medical) held its seventh annual convention in Philadelphia. There are local chapters in Jefferson Medical College and the University of Pennsylvania. A memorial service marked the opening session. The convention ended with a banquet at the Hotel Colonnade January 3, Dr. Edward P. Davis acting as toastmaster. The following officers were continued in office: Grand president, Dr. George Cook, Concord, N. H.; grand vice-president, Dr. John I. French; grand secretary, Dr. J. H. Collins; grand treasurer, Dr. Edward R. Pfarre. The next meeting will be held in Chicago, January 2 and 3, 1903.

ST. JOSEPH (MO.) MEDICAL SOCIETY.—The annual banquet of this Society was held December 31. Toasts were responded to by Drs. Jefferson D. Griffith and Blencowe E. Fryer, of Kansas City, and Drs. Jacob Geiger, Thompson N. Potter, Charles H. Wallace, and Wallace B. Deffenbaugh, of St. Joseph. Dr. John M. Bell, president of the Society, acted as toastmaster. The guests of honor on this occasion were Dr. Jefferson Davis Griffith, President of the Missouri State Medical Society, which meets in St. Joseph, next May, and Dr. Blencowe E. Fryer, Chairman of the Committee on Scientific Communications. Both of these gentlemen are sanguine regarding a large and most successful meeting of the State Society at St. Joseph.

MILWAUKEE COUNTY (WIS.) MEDICAL SOCIETY.—The above-named Society has been incorporated without capital stock for "mutual professional advancement and the general good of the medical profession," by Drs. Edwin W. Bartlett, William F. Malone and Selden B. Sperry. The meeting for organization was held in Milwaukee, December 18, at which the need for such an organization and its possibilities were discussed. Dr. Edwin W. Bartlett was chosen temporary chairman, and Dr. Warren B. Hill, temporary secretary. At the first regular meeting, January 2, the Code of Ethics of the American Medical Association was adopted, and the following requirements for admission determined: The holding of a diploma from some regular medical school, a certificate of the state medical society, or a certificate of registration from the state board of medical examiners. The following officers were elected: Dr. Edwin W. Bartlett, president; Dr. Rudolph C. Teschan, vice-president, and Dr. Warren B. Hill, secretary and treasurer, all of Milwaukee.

CHICAGO NEUROLOGICAL SOCIETY.

Stated Meeting, Nov. 21, 1901.

Functions of the Cerebellum.

DR. LEWELLYS F. BARKER, spoke of the functions of the cerebellum, referring to the development of knowledge on the subject and its present status. The views held by Haller, Rolando and Weir Mitchell (cerebellum as a center of muscular energy), by Flourens and Wagner (cerebellum as a center of coördinating voluntary movements), by Gall (cerebellum as a center of sexual passion), and by Lussana (cerebellum as a center for muscular sense) were successively mentioned. The careful studies and experiments of Luciani were taken up in some detail and the opinions of the Italian investigator upon the sthenic, tonic and static action of the cerebellum reviewed; the researches of Ferrier, Schiff, Risien, Russell and Thomas were referred to. The weight of evidence at present is in favor of the view that the cerebellum is above all an organ upon the integrity of which the maintenance of normal equilibrium, under ordinary circumstances, depends.

An analysis of the cases in human beings in which the symptoms seen during life could, as a result of postmortem examination, fairly be referred to atrophy of the cerebellum, shows that the cerebellar symptom—complex as met with in man, corresponds very closely to that producible experimentally in animals.

The structure of the cerebellum was described at some length, the description being couched in terms of the neuron conception. The central neurons of the cerebellum, as well as the cerebellopetal and cerebellofugal conduction paths were discussed. The speaker expressed the opinion that a large part of the confusion existing among clinicians with regard to the nomenclature of nervous diseases depends upon the effort which is so often made to classify diseases according as the lesions accompanying them are distributed chiefly in one or another of the coarser macroscopic subdivisions of the central cerebrospinal nervous system. The time was past, he thought, when we could satisfactorily use the terms, "Diseases of the Spinal Cord," "Diseases of the Cerebellum," etc., as headings under which to group the special diseases. A much more rational classification is that based upon the conduction paths and sets of neuron systems involved in the pathologic process. Thus, diseases in which the systema neuronicum spino-cerebellare dorsolaterale is degenerated affect the cerebellum as well as the spinal cord. The macroscopic subdivisions of the central system are so intimately connected with one another by means of neuron chains that a separation of the diseases of one from diseases of another is, as a rule, futile. When one considers the large number of neuron systems connecting the cerebellum with the spinal cord and rhombencephalon on the one hand, and with the cerebrum on the other, the number of possible permutations and combinations as regards lesions is seen to be very great. Why should not the clinical picture presented in different cases of diseases affecting the cerebellar neurons be extremely variable? The wonder is not that we have different types of disease which are somewhat closely allied to one another; it is much more that the clinical pictures presented in the various cases are so much alike as clinicians assert that they are. Possibly, when our methods of clinical differentiation have become more refined, we shall be able to speak more confidently than we can at present with regard to the exact neuron systems involved in a given case, or series of cases.

Hereditary Cerebellar Ataxia, with Report of a Case.

DR. HUGH T. PATRICK said the affection was introduced into the nosology of nervous diseases by Marie, in 1893. He based his assertions of a clinical and pathologic entity upon cases reported by Fraser, Nonne, Sanger Brown, and Klippel and Durante. Dr. Patrick showed that while there was some resemblance between all of these cases and each group remained reasonably constant to its own type, they did not sufficiently agree either in clinical manifestations or pathologic anatomy to constitute a well-defined type. A brief review was given of cases published since 1893, and the same lack of adherence to a fixed type clearly illustrated. Microscopic examination of cases subsequent to the paper of Marie have tended to disprove rather than prove his claims that the pathology of the disease is found in atrophy of the cerebellum, the most striking changes having been found in the cord, in the shape of combined sclerosis very similar to that of Friedreich's disease. The author's own case was the second in the same family and presented, in addition to the signs said to be those of hereditary cerebellar ataxia, marked mental deterioration. Dr. Patrick thought that the whole group of cases including Friedreich's disease, the group selected by Marie and similar cases reported by others, should be considered as related to each other and dependent upon degeneration of several tracts, both afferent and efferent, having to do with the function of the cerebellum.

DR. SANGER BROWN agreed with Dr. Patrick in asserting that Marie was not warranted in making the statements that he did; still, in taking a broader view of the subject, and in accordance with the theory advanced by Dr. Barker, it was not a bad designation to refer to this disease as hereditary cerebellar ataxia. Marie was perhaps warranted in saying that in this disease the functions of the cerebellum were conspicuously

involved. Whether the incoördination means an involvement of the cerebellum, he did not know definitely, but that was the popular idea entertained by the profession. He thought there was a marked difference clinically between the series of cases that he reported and the series first reported by Friedreich, particularly as to the onset and progress of the disease, and that it was well to make a clinical distinction. There might be a variety of types of the disease in certain families; that is to say, certain parts of the central nervous system would show at a certain age defects, and he did not think the time had come when it was safe to classify these lesions under very hard and fast lines.

Referring to the remarks of Dr. Barker, it was well established that the functions of the cerebellum, judging from experiments upon animals, could be vicariously performed fairly well. If certain neurons connected with the cerebellum undergo injury or degeneration, if the disease was limited to particular neurons, or if the cerebellum was mainly at fault, the patients would not become progressively more and more ataxic. In the series of cases reported by the speaker, the patients became progressively more and more ataxic. They became somewhat weak, but if they could use other parts of the nervous system, they certainly had years to get over that particular defect, but they became steadily worse.

Regarding the case of Dr. Patrick, he agreed with him in many respects, although he was impressed with what James Collier and someone else stated in *Brain* some three or four years ago, in an elaborate report on diplegia, in which was reported a case similar to the one detailed by Dr. Patrick; only the cerebellum did not seem to be atacked so markedly in their case. He thought it could be classified with other cases, if it was assumed that the functions of the cerebellum were more markedly disordered, or that the degeneration extended to the cortex of the cerebellum as well as the cerebrum.

DR. SYDNEY KUH pointed out some slight discrepancies which exist between the results of experimental work as to the functions of the cerebellum and clinical experience. The results of experiments would seem to show that the tendon reflexes are exaggerated after injuries to the cerebellum. It was known from clinical experience that there is no localization of a lesion within the cranial cavity which is so frequently associated with loss of the deep reflexes as a cerebellar lesion.

As to the influence of the vermis, when he studied medicine he was taught that any part of the cerebellum might be destroyed without the manifestation of any symptoms, with the exception of the vermis. He had had occasion to examine the cerebellum of a patient who had been under the observation of Professor Vierordt and his assistant for physical diagnosis. The patient was an old man, who came complaining of violent pain, and upon examination they found a tumor of the liver. The patient's age and appearance justified a diagnosis of carcinoma of the liver. Patient was under observation and treatment for a long time. He was perfectly safe in stating that no such symptom as cerebellar ataxia or any gross nervous symptom could have been overlooked by these two gentlemen. The patient was treated with hypodermics of morphin. The case seemed absolutely hopeless, and nothing but symptomatic treatment was possible, and after one or two doses of morphin the patient became comatose, and died. Postmortem examination revealed, instead of carcinoma of the liver, secondary to a supposed carcinoma of the stomach, a large angiosarcoma of the liver. On opening the cranial cavity an angiosarcoma of the cerebellum was found. The tumor had destroyed practically everything of the vermis superior, the layer covering it being hardly any thicker than an ordinary card. It did not seem to the speaker that very much of the function of that portion of the nervous system was preserved. It is true, the tumor, as it appeared at the postmortem, was undoubtedly larger than it had been a short time before the patient's death, because death was largely due to hemorrhage into the tumor.

He was particularly pleased to hear what Dr. Barker had to say regarding the present classification of nervous diseases. Even if we knew nothing about the neurons, or the anatomy of the nervous system, clinical experience alone should have taught members of the profession long ago that there is no such thing as peripheral, spinal or cerebral disease, and in spite of the anatomic researches extending back to the time when physicians hardly dreamed of a neuron that showed involvement of the nervous system in certain diseases, they are still classified in the same way.

DR. DANIEL R. BROWER said it was impossible to make fine distinctions between several forms of hereditary cerebellar ataxia. However, this was still being done by some neurologists. He reported at his clinic at the County Hospital a year ago a case that manifested certain symptoms suggestive of hereditary cerebellar ataxia, for the reason that the cerebellar connections were in some manner interfered with. It was not an ordinary case, inasmuch as the reflexes were so exaggerated, the eye symptoms pronounced, and the gait more like the gait attributed to cerebellar disease; therefore, he called the case one of cerebellar ataxia.

DR. ELBERT WING agreed with Dr. Barker in regard to the nomenclature of diseases. Physicians had been too exact in giving names to diseases, and in describing exactly the different pathologic locations. A classification such as Dr. Barker had alluded to was necessary in clinical work. The old classification would be gradually abandoned, as more definite knowledge was obtained.

DR. HUGH T. PATRICK said, in referring to the paper of Dr. Barker, that five or six years ago in writing an extended review of a monograph on hereditary cerebellar ataxia, he tried to express the same views that were presented by Dr. Barker, but did not do it so well, in that he tried to say, in all probability, the various diseases, including Friedreich's disease, were caused by progressive degenerative changes in nerve structures which were associated in function, and that the inception of the disease would vary in accordance with the particular set of neurons first involved. The clinical picture varied in accordance with the direction in which the disease progressed, and its extent. This was the conception which is taken now of a variety of cases including those in which the mental deterioration is considerable.

DR. BARKER stated, in connection with the progression of the symptoms in the cases suggested by Dr. Brown, beginning in youth, that the cerebellar disease ought to be compensated for largely by the vicarious activity of other parts. It must be assumed that disease is not stationary, and that, in all probability, group after group of neurons becomes involved, and those standing nearest in function and relation are most likely to assume vicarious function. He agreed with Dr. Wing in regard to attempting to localize or ascribe things exactly to one organ. On the other hand, he believes we will not be far wrong in attempting to localize diseases more exactly than we have heretofore by systems of neurons and conduction paths. An effort should be made in every case to correlate the clinical symptoms with changes in the neuron systems. If it is said that such and such neuron systems are involved, and such others are intact, then make careful autopsies and study the pathology from the same standpoint, and data would be accumulated which could not be obtained by present methods.

DETROIT MEDICAL SOCIETY.

Meeting held Wednesday, Dec. 4, 1902.

Ectopic Gestation.

DR. F. B. TIBBALS, in this paper, considered the etiology, classification and diagnosis of that condition, and reported four cases.

CASE 1.—Mrs. L., a young bride of but a few months, was first seen when suffering from a sudden attack of acute colicky pain in the right inguinal region. Bimanual examination negative. There was a history of menstrual irregularity with occasional passage of clots or decidua shreds. The attack subsided very quickly, but about ten days later recurred, and again a week later. At the third attack she was removed to Harper Hospital for an operation, which was made on the evening of August 5, 1899. She went on the table with a pulse under 90, showing that no dangerous hemorrhage was going on. Operation showed a pregnant right tube ruptured only enough to allow a slight hemorrhagic ooze. The patient made an ideal recovery.

CASE 2.—Mrs. C., married two years, thinks she miscarried a year and a half after marriage. The essayist was called on March 12, 1900, and found her in collapse from severe abdominal pain of very sudden onset. The shock was profound, although the pulse showed no hemorrhage. She had gone two weeks beyond her period, and considered herself pregnant. On March 22 Dr. Tibbals was again called in haste, to find a repetition of the former attack, plus a rapid pulse, showing internal hemorrhage. Within an hour she was operated on, the pulse being 140. The abdomen was filled with blood from a completely ruptured left tube, which was rapidly clamped and removed, the cavity cleaned out as thoroughly as was consistent with the condition of the patient, who had lost much blood. She was transfused, the colon filled with saline solution, and other means of stimulation freely used, and in a few hours she was out of danger. Recovery was uninterrupted. In the light of added experience the Doctor now feels that he should have diagnosed these cases positively at the first attack, by the typical symptoms alone, without waiting to confirm my suspicions by the actual feel of the enlarged tube.

CASE 3.—Mrs. D., aged 35, one child of 7 years; when first seen on the afternoon of Feb. 22, 1901, she gave a history of menstrual irregularity since about Christmas time, and of two recent attacks of sudden shock and pain indicative of tubal rupture. A localized peritonitis existed with large infiltration on the right side of uterus, and a condition generally septic. She entered Harper Hospital that evening, it being evident that she would die from sepsis unless something could be done. On February 25 Dr. Tibbals opened the cul-de-sac, washed out a large quantity of foul broken-down blood, removed the right ovary and tube—the latter ruptured but not bleeding—and packed and drained thoroughly. After twenty-four hours, however, a general peritonitis developed, from which she died on March 2. This patient would doubtless have been saved by an early diagnosis and operation.

CASE 4.—Mrs. N., aged 35, married seventeen years, three children, one miscarriage four years before; consulted the essayist on April 13, saying that although her March period was on time she had continued to flow at intervals since. Examination disclosed no cause in the uterus for the irregularity of flow. He prescribed ergot and viburnum, and sent her to bed; she was not seen again until May 4, and then several times during the two weeks following. The flow continued at intervals, and in varying amount, never being entirely absent for more than a few days. She had no nausea, breast changes, pain or passage of decidua shreds, and did not believe herself pregnant, since her last intercourse was late in January, her February flow was normal, and her March flow was on time, though abnormal. The only diagnostic point of value was the irregular flow without apparent cause, until, within the last two weeks, he was able to detect an enlargement in the left pelvis, which he considered to be a tubal pregnancy, and urged operation, which he performed on May 24, at the Detroit Sanitarium. The left tube was found pregnant, unruptured, free of adhesions, and was quickly removed, and a happy optimistic prognosis concurred in by all present.

The personal equation of the patient, however, must always be considered in surgical work, and in this case clouds of gloom quickly hid the sunshine of egotistical pride in a good diagnosis and successful operation. The patient was an extremely nervous neurasthenic, and during her thirty-six hours of preparation in the hospital suffered much in anticipation of the coming operation. After one nearly sleepless night a violent thunderstorm during the evening before operation induced a sharp attack of fermentation in stomach and upper intestines, and she passed the night in great distress, belching gas in large amounts. The fear of rupture impelled the writer to go on with the plans for operation, but the pre-existing gaseous distension caused her death. The first two cases illustrate admirably the typical symptoms; the third case the hazard of delayed diagnosis; the last case the fortunate opportunity for diagnosis before rupture, as well as the uncertainties of surgery.

Meningitis Following Suppurative Otitis Media.

DR. H. W. YATES reported the case of a girl aged 12, of good physique and family history. In May of the present year she had a suppurative otitis media from which she apparently recovered. From this until Monday, last week, she was in good health. She complained then of slight earache on right side. On Tuesday the pain in the right ear had ceased, but the left one gave her trouble. This pain alternated between the right and left ears until Friday, when it was entirely relieved, only to be followed by an intense frontal headache. At this time I was called to see her. She had a temperature of 102, pulse 120; skin was dry and tongue coated. No appreciable change occurred in the pulse other than its frequency. The impression given at the bedside was one of the ordinary type of intestinal toxemia with its resultant cephalgia. The essayist prescribed one of the coal-tar products for the relief of her headache and calomel as an eliminative. No more was heard from her until the following noon, Saturday, when he was called on account of severe headache. On arrival at 4 p. m. nothing more was discernible than on the previous day, with the exception that she laid with her eyes closed and apparently suffering intense pain, while her temperature had fallen to 101, and the pulse to 96. Owing to the severity of the pain, her unfavorable environment, coupled with suspicion of meningitis, he had her removed to the hospital. Her condition remained much the same until the following morning, when she developed slight paroxysms on one side, the central disturbance increasing until the left side became semi-paralyzed. The pulse now showed an appreciable change for the worse until she died, at 2 p. m.

On postmortem little was to be learned except that the pia mater was engorged apparently to its fullest extent, and there was considerable tension over the cerebral hemispheres. No abscess could be found, but with the highly injected condition of the pia mater it was concluded that an infective leptomeningitis was the cause of the fatality.

This case shows none of the classical symptoms of meningitis, such as chill, fever, hyperesthetic skin, muscular spasm, disturbances of the special centers, ptosis, strabismus, irregularly contracted pupils, or Cheyne-Stokes respirations; yet with the forerunning history of otitis media in the early spring, together with the initial pain in the ears during her fatal illness, it would seem that an abscess of the middle ear had been provocative of the fatal result.

NEW YORK ACADEMY OF MEDICINE.

Meeting held January 2, 1902.

Vice-President Dr. Charles L. Dana, in the Chair.

The Need of Sanatoria for Tuberculosis.

DR. G. L. PEABODY, in the opening paper on this subject, called attention to the greater advances along this line that had been made in Europe, and said that it had been estimated that 75 per cent. of the cases of tuberculosis that had been restored to health had been through the medium of sanatoria. All agreed that life in the open air was essential, and that a climate was required in which there were not sudden and great changes of temperature. Alcohol and changeable weather were powerful factors predisposing to tuberculosis.

DR. S. A. KNOPF said that the statistics of the last fifty years seemed to indicate that tuberculosis had decreased about one-third, and this, he declared, had been largely brought about by sanatorium treatment. Touching upon the recent effort to exclude from this country all tuberculous immigrants, the speaker said that if we were going to exclude all consumptives coming here from other countries, these nations might retaliate. Dr. Knopf then introduced the following resolutions, which, under the rules, could not be acted upon until the next meeting of the Academy:

WHEREAS, The Treasury Department of the United States, upon recommendation of the Surgeon-General of the Marine-Hospital Service, has recently decided to classify tuberculosis as a dangerous contagious disease, thereby placing a stigma wholly undeserved upon every American citizen who is suffering with consumption, be it

Resolved, That the Academy considers the exclusion of non-pauper tuberculous immigrants and tuberculous aliens visiting our shores, unwise, inhumane and contrary to the spirit of American justice; and, be it further

Resolved, That while the Academy upholds the fact of the communicability of tuberculosis, and urges all possible precautions

against the spread of the disease from sputum and other tuberculous secretions or from ingestion of tuberculous food substances, the Academy is opposed to all measures by which additional hardship is imposed upon the consumptive individual, his family or his physician.

DR. HENRY P. LOOMIS graphically described the pitiable wanderings of the poor consumptives from one hospital to the other, and declared that what the city needed at once was a large hospital where all the consumptives could go as soon as they needed hospital care, and where they might receive systematic and continual oversight. He believed that, even in such a hospital, the number of cured cases would be a surprise. On economic grounds the taxpayers should demand such an institution, and the profession should see to it that a public sentiment was created which would make the opening of such a hospital imperative. Fortunately, the city would not have to wait even for the erection of a building, for at present there stands empty, on Ward's Island, a city hospital capable of accommodating 400 patients. Dr. Loomis estimated that there were between 20,000 and 25,000 cases of tuberculosis in New York City. Out of the 427 medical cases admitted to Bellevue Hospital in December, 138 were cases of tuberculosis, or about one in three.

DR. J. EDWARD STUBBERT, Liberty, N. Y., spoke of the advantages of sanatorium treatment, not only in the way of diagnosis and treatment, but as a means of educating the patients so that they became teachers of hygiene on returning to their former homes. Speaking of the chances of recovery, he significantly divided cases of tuberculosis into two classes, the careful and the careless.

DR. W. FREUDENTHAL favored the purchase of tracts of farm land and the establishment of tent colonies. Under such conditions the disease was most apt to be arrested, and by giving the patients work on the farm they were kept occupied and contented, and did not find it necessary when half cured to go back to live and work in crowded cities.

DR. E. H. M. SELL insisted that tuberculous patients, after the arrest of the disease, should continue to live in the climate in which they had been restored to health.

DR. E. G. JANEWAY thought that those who had observed the wonderful beneficial influence of a suitable climate upon tuberculous patients would be loath to argue in favor of the treatment of consumption in the city. Sanatoria might be established in the country for incipient cases, and hospitals provided in the cities for more advanced cases of the disease.

Drs. Leonard Weber, Alfred Meyer and Louis Faugères Bishop spoke in favor of the establishment by the city or State of sanatoria for consumptives, and Dr. A. Jacobi pointed out the utter brutality of telling a poor consumptive, who was unable to procure needful food and comforts, that it was absolutely necessary for him to go to Colorado if he would be cured.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting held Dec. 18, 1901.

Dr. Geo. Erety Shoemaker, in the Chair.

The Shock of Intra-Abdominal Operations, Its Pathology, Prevention and Treatment.

DR. LOUIS S. MCMURTRY, Louisville, Ky., defined shock as a neurosis resulting in an inhibition of the vital functions, affecting especially the vasomotor system. As to causation of shock, prolonged and extensive exposure and rude manipulation of organs, and hemorrhage, were cited as predominant factors. The importance of special prophylactic treatment of a weak patient was emphasized—such treatment to include active feeding with bland nutritious liquid, administration of strychnia, and enteroclysis of saline solution. Careful anesthetization with ether, careful maintenance of bodily heat, prompt arrest of all hemorrhage, the shortest abdominal incision, and the least and gentlest manipulation practicable, quick and dextrous operation, were all urged.

DR. JOSEPH PRICE compared some of the results of the early operators with those of the later surgeons.

DR. JNO. G. CLARK referred to the conclusion reached by Hodges, in his investigations, that in serious shock the vasomotor nerves undergo pathological changes, but temporary, if reaction occurs. Clark believes the toxic effect of the anesthetic often to be a strong causative factor of shock.

DR. DEFOREST WILLARD made a plea for better guarding the patient from loss of heat upon the operating table. He believes the electric mattress useful for this purpose.

DR. JNO. B. DEAVER pointed out that patients frequently suffer shock because of delay of operative interference and sepsis depressing the vital powers before operation. He therefore strongly urges early interference in cases demanding operation. In treating shock, he depends much upon camphorated oil, atropia and intravenous injection of saline solution.

DR. EDWARD MARTIN referred to tests he had made to determine the quantity of blood-loss in operation. By weighing the sponges, he determined that the quantity of blood lost is often underestimated. He also believes that Crile's experiments suggest the probability of cocain being a preventive of shock, and that atropia and strychnia are distinctly serviceable. Deaths that he has seen have been from respiratory failure, hence the value of artificial respiration. He believes that the intravenous injection of saline solution sometimes causes congestion because of the sudden great increase of circulating fluid, while hypodermoclysis—the fluid being drunk up as the tissues need it—is invaluable.

DR. ERNEST LAPLACE defined shock as a "depression, because of an impression." The speaker pointed out that in operative or other traumatic shock there is accompanying anemia of the brain, with the notable exception that in direct injury of the brain itself there is cerebral congestion with full bounding pulse.

Following the meeting, an informal reception to Dr. McMurtry was given at the University Club.

At the same meeting a resolution was adopted strongly disapproving, as a Municipal Hospital site, of a plat of ground on the Delaware River front, which Councils have under consideration. The place is difficult of access, the ground marshy, in proximity to fertilizing factories, and most unsanitary. The resolution provided also for a committee of five to inspect sites proposed for the Municipal Hospital and to report to the Society regarding their fitness.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

PRESCRIPTION WRITING, IX.

(Continued from page 126.)

Pharmaceutical Incompatibility (Continued).

As a rule water is the best solvent for gelatinous, gummy and saccharin bodies and for a great number of inorganic salts; but all drugs containing the volatile oils and resins, gum resins, resinoids and balsams as their active principles, are best dissolved in alcohol. It might be well to add that the solvent power of either alcohol or water decreases in direct proportion to the amount of the other added.

Glycerin makes a good solvent for bodies which are soluble in both alcohol and water, and may be in some cases more preferable than alcohol. It is regarded as a superb solvent for sodium borate, boric acid, tannic acid, gallic acid, creosote, bismuth subnitrate, amylum and iodin.

As stated by Scoville, there are methods which may be employed to remedy or prevent some of the physical incompatibilities that might otherwise arise, but as these come in the rôle of the pharmacist they need be only enumerated in summing up the foregoing statements:

1. By order of mixing.
2. By keeping the alcoholic strength within certain limits.
3. By using different solvents.
4. By suspending in emulsions.
5. Remembering that the three great solvents are water, alcohol and glycerin in the order mentioned.

The following prescriptions illustrate pharmaceutical incompatibilities resulting from certain combinations:

℞. Tinct. benzoini comp.
Tinct, cardamomi comp., āā.....ʒi 30

M. Sig.: One teaspoonful after each meal.

The tinctura benzoini composita is made from a strong alcoholic menstruum while the cardamon preparation is made from a dilute alcoholic solution; consequently the resin in the first preparation would be precipitated.

℞. Oleoresinæ cubebæ .....ʒii 7|50
Aquæ .....℥ii 60

M. Sig.: One teaspoonful after each meal, in water.

The oleoresin of course is insoluble in water, so that this prescription would be incompatible. In this case suspension of the oleoresin in an emulsion by adding one or two drams of acacia to the above would correct the incompatibility.

℞. Tinct. gentianæ comp. .....℥ii 60
Syrupi simplicis .....℥ii 60

M. Sig.: One teaspoonful three times a day.

As has been already stated the compound tincture of gentian, which is made from stronger alcohol, will cause the sugar to crystallize.

℞. Olei juniperi .....ʒi 3|75
Aq. menthæ pip. q. s. ad.....℥iii 90

M. Sig.: One teaspoonful four times a day.

In the foregoing prescription the oil in the juniper would be thrown out of solution and rise to the top of the mixture, because of the vehicle used.

℞. Extracti grindeliæ rob. flu. .....ʒi 30
Aq. destil. q. s. ad. .....℥ii 60

M. Sig.: One teaspoonful three times a day.

The resinous principle would be thrown out of solution on account of the water weakening the alcoholic fluid extract of grindelia.

℞. Potassii iodidi .....ʒi 30
Aquæ menthæ viridis .....ʒi 30

M. Sig.: Take ten drops after each meal and increase one drop every other day.

In this case the aqua menthæ is a saturated solution of the oil, so by saturating it with the potassium iodid salt, which is very soluble, the oil would be thrown out of solution and cause the mixture to become cloudy.

℞. Magnesii sulphatis .....ʒi 30
Ext. taraxaci flu. .....ʒi 30
Aquæ q. s. ad .....℥iv 120

M. Sig.: One or two teaspoonfuls upon rising in the morning.

The soluble magnesium sulphate would in this case be precipitated by the alcoholic fluid extract in the mixture and the resins in the fluid extract would be precipitated, demonstrating the law that the more soluble a body is in water the less so in alcohol, and vice versa.

℞. Chloralis hydratis .....ʒii 7|50
Camphoræ .....gr. xxiv 1|65

M. Sig.: One powder at bedtime.

By triturating these preparations together they would liquefy and consequently powders could not be made.

Attention has been called to a prescription upon a druggist's file which contained the following physical incompatibles:

℞. Ext. leptandræ flu. .....ʒv 18|75
Ext. cannabis indicæ flu. .....ʒss 1|88
Ext. ergotæ flu. .....ʒiv 14
Syr. lactucarii .....℥ss 15
Aq. destil q. s. ad .....℥iii 90

M. Sig.: One teaspoonful four times a day.

In the above the resinous principles of the first two fluid extracts would be precipitated by the water given as the vehicle.

(To be continued.)

Atropin in Acute Pulmonary Edema.

Acute pulmonary edema demands very prompt and vigorous measures for its relief. Dr. C. Donovan, in *Amer. Med.*, recommends strychnin gr. 1/50 with atropin gr. 1/100 to be injected beneath the skin just below the clavicle, in order that it may reach the heart sooner. The evidences of good results thus obtained are shown by the skin becoming moist and warm, the breathing deeper and less frequent, and the suffocation relieved. If the pulse shows indications of good strength, one injection will be enough; otherwise he recommends additional doses of strychnin to stimulate the heart.

Where high arterial tension is present and the heart's action strong the atropin may be given in combination with nitroglycerin and morphin. He states that the atropin should show its effects physiologically upon the pupil of the eye. He usually begins with gr. 1/100 and repeats the dose at intervals of one hour until the desired results are obtained.

Treatment of Carbuncles.

Wm. Wormley, in *New York Med. Times*, recommends the use of tonics such as iron, arsenic and quinin. The following prescriptions are employed by him very frequently:

℞. Potassii iodidi .....ʒss 1|88
Ferri pyrophosphatis .....ʒi 3|75
Syrupi
Aquæ, āā.....℥ii 60

M. Sig.: One teaspoonful diluted in water after meals.

Gross, according to his statement, recommends the following as a cover for the carbuncle, first painting it with tincture of iodin:

℞. Olei terebinthinæ
Olei olivæ
Tinct. opii, āā.....℥ss 15

M. Sig.: Apply locally.

The foregoing is regarded as an antiseptic, destroying the cocci if they are not too firmly established in their location. The following is sometimes used:

℞.Tinct. arnicæ flor.....ʒi 3|75
Acidi tannici
Pul. acaciæ, āā.....ʒss 1|88

M. Sig.: Paint over the carbuncle every fifteen minutes until a thick coat is formed.

Salicylates as Antiseptics in Pneumonia.

Sebring, as noted in *Prog. Med.*, states that he treated a series of seventy-five cases of pneumonia with but one death. He administered 120 grains of the salicylates daily as a routine treatment.

Pruritus and Fissures of the Anus.

Dr. W. C. Black, according to *Merck's Archives*, states that the following treatment is successful in severe cases of pruritus ani, especially those complicated with fissures. The sphincter ani is stretched until there is complete relaxation, and the mucous membrane within the sphincter is painted with the following:

℞. Ichthyol
Glycerini, āā.....ʒi 31|1

M. Sig.: Apply locally.

He states that this treatment has proved in his hands more successful than any other remedy or method that has ever been recommended. Recently he has had good success with ichthyol injected in full strength, just within the sphincter, twice or three times a day.

Medicolegal.

Unpatentable Devices for Treatment of Disease.—A patent can not be lawfully granted, the United States Circuit Court of Appeals holds, in the case of Mahler vs. the Ammarium Company, when it appears that the claim preferred by the patentee that he has made a discovery of a new fact or principle in medical science, and of a new mode of operation of a known force whereby the discovery is utilized, rests upon no substantial foundation, and is at best an imaginary hypothesis, and was most likely put forward merely to obtain a patent on a device which he proposes to make and sell to the public for the treatment of disease. The granting of a patent under such

circumstances, the court declares, would give to the theories enunciated in the specification an appearance of authority, and tend to mislead and deceive the public if the theories are false.

Exhumation and Autopsy Months After Death.—Complaint was made in Hayes vs. State of Wisconsin, a homicide case, of the admission of the testimony of a physician as to the result of a postmortem examination made by him of the remains of the deceased some months after death, without notice to the accused. But the Supreme Court of Wisconsin says that it knows of no law that requires notice to the accused in such cases. The disinterment and examination was under the direction of the proper authorities, and in furtherance of public justice. The statute against disinterments was not intended to apply to exhumations made by public officials with a view of ascertaining whether a crime has been committed. The objection that the evidence was inadmissible because of the length of time that had elapsed went rather to its weight than its competency. The doctor testified that the body was not so far decomposed but that he was able to discover knife wounds in the back, and the presence of blood in great quantity in the chest cavity. It was for the jury to determine whether the proof was of sufficient weight to satisfy legal requirements.

Injury Followed by Quick Consumption.—In the case of Hoey vs. the Metropolitan Street Railway Company, Mr. Justice Russell holds, at a trial term of the Supreme Court of New York, that a jury having found that tuberculosis caused a person's death, the bare possibility that his frame, weakened by an injury sustained nine or ten months previously, succumbed more readily to the new disease, was insufficient upon which to rest a finding to the effect that he would not have died at the time he did but for the injury, or that the latter was the cause of his death. True, aid was afforded to the jury and the court to link the accident to the death by the opinions of eminent physicians upon the assumed facts that a disease called "progressive muscular atrophy" caused the death by shattering the system, and thus exposing it to sudden disease. But all of the physicians substantially agreed that tuberculosis was produced in the lungs by the inhalation of the germs from the atmosphere, and, accepting this view, it is said that it must be regarded as a conclusive fact that the man died from consumption immediately produced from the inhalation of bacilli, and not produced by a blow over nine months before his death.

Privilege Under North Carolina Law.—The Supreme Court of North Carolina says, in Fuller vs. Knights of Pythias, that at common law there is no privilege extending to the relation between patient and physician. The privilege between patient and physician created by the North Carolina statute of 1885 is less stringent and more lax than that of the common law between attorney and client. As between the latter, the attorney's mouth is sealed for all time (except by consent of the client), and he can not be compelled by the court to testify; while under the statute referred to it is provided that the judge, in furtherance of the administration of justice, may compel the physician to disclose the information acquired by him from his patient. The language of the statute is, "No person duly authorized to practice physic or surgery shall be required to disclose any information which he may have acquired in attending a patient in a professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon: provided that the presiding judge of a superior court may compel such disclosure if in his opinion the same is necessary to a proper administration of justice." Under these circumstances, the Supreme Court holds that a waiver in an application for life insurance was good and binding upon the beneficiary, and that the judge of the Superior Court erred, in this case, in excluding the testimony of the physician as to knowledge and information acquired from the deceased, who had made the waiver, while attending him professionally.

Court Can Not Supplant Board of Medical Examiners.—In the case of State ex rel. State Board of Medical Examiners vs. First Judicial District Court of Montana, it appeared that an applicant for a certificate to practice medicine was detected in the use, during his examination, of certain notes and memoranda to aid him in answering the questions propounded, and was thereupon denied the privilege of continuing the examination. A charge was preferred to the board by its secretary, accusing him of "unprofessional, dishonorable, and immoral conduct," the specification being that he had been detected in the use of said notes and memoranda for the purpose stated. After written notice, and an examination by the board into the facts, he was found guilty, and refused a certificate. He immediately appealed to the District Court, and thereupon applied to it for an order permitting him to engage in the practice of his profession until a hearing could be had upon the merits, and the judge, after requiring him to submit to an examination in open court as to his qualifications, made such an order. Was this within the power of the court? The legislature of the state has deemed it proper, in a case where a certificate has been revoked, to authorize the courts, in their discretion, to grant the appellant permission to practice pending his appeal, but it is silent as to the power of the court in cases in which the board has refused a certificate. Under these circumstances, the Supreme Court of Montana holds that it was not within the power of the District Court to make the order mentioned. It says that the prohibition directed to the individual citizen against practicing medicine until he has been examined by the lawfully constituted authorities and declared sufficiently qualified is as much a limit to the power of the court as if it had been expressly provided that the court should not grant permission to pursue the practice pending appeal in this class of cases. It sees a difference, too, in granting the right to practice medicine pending an appeal between such a case as the legislature has provided for and that here under consideration. In the former, it says, the conditions precedent have all been fulfilled. The party's right has accrued. He has, perhaps, by his energy and application, built up a profitable practice. It is the means of support for himself and family. This should not be taken away without good cause. It is, therefore, but just that he be permitted to exercise his right until it is finally adjudged that he has forfeited it; especially so, if it is made to appear that the forfeiture has been declared upon doubtful evidence, or from bad motives on the part of the board. But in the case of an applicant for a certificate in the first instance no such reason exists. No right has been established. No practice depends upon his attention. He will suffer no immediate material injury if the certificate be withheld for a reasonable time until he can demonstrate that the action of the board in denying it was arbitrary or erroneous. The burden is upon him to establish his right. In the other case the burden rests upon the state represented by the medical board.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Medicine (Philadelphia), January 4.

1 *Note on the Fever of Hodgkin's Disease; Recurrent (Rückfall) Fever; Ebstein's Disease. J. H. Musser.
2 *Preliminary Notes on the Virulence of the Bovine Tuberculosis Bacillus for Monkeys, and the Effect of Tuberculins Made from Tuberculosis Bacilli Derived from Different Animals. E. A. de Schweinitz and E. C. Schroeder.
3 Triple Ectopic Gestation. Wilmer Krusen.
4 *The Therapeutic Value of Hypnotism. Charles W. Burr.
5 *The Personal Elements of Error in Therapeutics. George F. Butler.
6 Practice Office Methods of Diagnosis, with Special Reference to the Roentgen Ray. A. W. Crane.
7 A Case of So-called Malignant (Staphylococcus) Carbuncle of the Upper Lip, Followed by Pyemia. Wm. B. Wherry.
8 Address to Nurses. George Melville.

Medical Record (N.Y.), January 4.

9 *The Trial, Execution, Autopsy, and Mental Status of Leon F. Czolgosz, Alias Fred Nieman, the Assassin of President McKinley. Carlos F. MacDonald.
10 *The Postmortem Examination of Leon F. Czolgosz. Edward Anthony Spitzka.
11 A Case of Facial Hemiatrophy. Louis F. Frank.

Boston Medical and Surgical Journal, January 4.

12 *Cases of Rupture of the Spinal Ligaments. Charles F. Painter and Robert B. Osgood.
13 *The Treatment of Placenta Previa. Frank A. Higgins.
14 *Privileged Medical Communications. Arthur H. Nichols.
15 *Traumatic Apnea or Asphyxia. H. L. Burrell and L. R. G. Crandon.
16 *Rendering First Aid in Railroad Wrecks. Lucien Lofton.

New York Medical Journal, January 4.

17 The Etiology and Treatment of Bright's Disease. John Winters Brannan.
18 Clinical Notes on Gleet. (To be concluded.) A. Ravogli.
19 *Round Ligament Ventrosuspension of the Uterus; Improved Technic. D. Tod Gilliam.
20 Gelatinous Carcinoma of the Peritoneum, with Metastases in Sternum and Lung. Philip King Brown and George T. Brady.
21 *The Trial, Execution, Autopsy, and Mental Status of Leon F. Czolgosz, Alias Fred Nieman, the Assassin of President McKinley. Carlos F. MacDonald.
22 *The Postmortem Examination of Leon F. Czolgosz. Edward Anthony Spitzka.

Philadelphia Medical Journal, January 4.

23 *The Propagation of Yellow Fever by Mosquitoes. W. C. Gorgas.
24 *Rheumatic Fever and Its Counterfeits. Dyce Duckworth.
25 *The Trial, Execution, Autopsy and Mental Status of Leon F. Czolgosz, Alias Fred Nieman, the Assassin of President McKinley. Carlos F. MacDonald.
26 *The Postmortem Examination of Leon F. Czolgosz. Edward A. Spitzka.

Medical News (N. Y.), January 4.

27 *Sanitary Aspects of the Panama and Nicaragua Canals. George A. Soper.
28 *The Trial, Execution, Autopsy, and Mental Status of Leon F. Czolgosz, Alias Fred Nieman, the Assassin of President McKinley. Carlos F. MacDonald.
29 *The Postmortem Examination of Leon F. Czolgosz. Edward A. Spitzka.
30 *A Report of 45 Unpublished Cases of Hemorrhage Treated by the Internal Administration of the Suprarenal Capsule. Samuel Flocrsheim.
31 *Hysterical Hemiplegia Treated by Suggestion, with Report of a Case. Henry L. Winter.
32 *On the Absorption of Alexins by Tubercle Bacilli. P. A. Levene.

Cincinnati Lancet-Clinic, January 4.

33 *An Important Factor in Cerebral Neuralgia, Indigestion and General Neurasthenia. James H. Buckner.
34 Pseudo-Specialists. Edmund C. Brush.

St. Louis Medical Review, January 4.

35 Annual Report of the St. Louis City Hospital. H. L. Nietert.

Pediatrics (N. Y.), Dec. 15, 1901.

36 The Early Care of the Deaf and Dumb. W. B. Drummond.
37 Scarlatinal Nephritis and Its Treatment. F. Huber.
38 Special Clinical Demonstration at the New York Post-Graduate Medical School. A. Caille.
39 The Relative Importance of Diseases of the Heart Muscle and the Heart Valves. Louis F. Bishop.

Pediatrics (N. Y.), January 4.

40 On the Mental Hebetude or Stupor of Pulmonary Congestion and Pneumonia in Children. Arthur DeVoe.
41 Methods of Carrying Babies. A. D. Mewborn.
42 *Pseudo-Appendicitis in Children. Louis Fischer.
43 Report of Two Cases of Epilepsy. J. M. Krim.

Medical Age (Detroit, Mich.), Dec. 25, 1901.

44 Report of the Obstetrical Service of the John Sealy Hospital for the Ten Years Ending with 1900. J. F. Y. Paine.
45 *Occipitoposterior Positions: Their Diagnosis and Treatment. Chas. E. Paddock.
46 Surgery of Gastric Hemorrhage and Perforation—The Treatment of Congenital Dislocations of the Hip as Discussed and Practiced in London, England. Hal C. Wyman.
47 Some Practical Points. W. Thornton Parker.
48 Acute Milk Infection. Eugene C. Roemele.

Medical Fortnightly (St. Louis), Dec. 25, 1901.

49 Obstruction of the Bowels by an Enterolith—Recovery by Passing the Stone Per Rectum. J. H. Miller.
50 *The Etiology of Parctic Dementia. Frank P. Norbury.
51 Diseases of the Stomach. (Continued.) J. M. G. Carter.
52 Sydenham's Chorea—Chorea Minor. F. Savary Pearce.

Pennsylvania Medical Journal (Pittsburg), December, 1901.

53 Address in Medicine, Medical Society of the State of Pennsylvania. John B. Donaldson.
54 *A Few Notes on the Salts of Sulpho-Carbolic Acid. Edgar Moore Green.
55 *Primary Abdominal Tuberculosis. Lawrence F. Flick.
56 *Three Cases Presenting Accidents in Chest Aspiration. J. C. Lange.
57 Therapeutic Notes. Linnæus Fussell.
58 *Lay Medical Education. Ella N. Ritter.
59 Is Medicine Founded on Truth? W. J. George.

The Journal of Experimental Medicine (Baltimore), November, 1901.

60 The Production of Sarcosporidiosis in the Mouse by Feeding Infected Muscular Tissue. Theobald Smith.
61 *A Study of Chronic Hyperplastic Tuberculosis of the Intestine, with Report of a Case. August Jerome Lartigau.
62 *A Case of Multiple Mycloma. W. G. MacCallum.
63 Acute Epizootic Leucoencephalitis in Horses. W. G. MacCallum and S. S. Buckley.
64 *On the Occurrence of Strongyloides Intestinalis in the United States. William Sydney Thayer.

The Clinical Review (Chicago), January.

65 Left Hemiplegia: Right Hemiplegia with Complete Aphasia; Epilepsy (?), Cases of Epilepsy; Infantile Giantism. D. R. Brower.
66 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. (Continued.) A. H. Levings.

Albany Medical Annals, January.

67 Résumé of the Subject of Actinomycosis, with Report of a Case of Actinomycosis Abdominalis. A. Vander Veer and Arthur W. Elting.
68 *Tropical Diseases as Observed in the Philippines. (To be concluded.) R. W. Andrews.
69 Tendon Transplantation for the Relief of Paralytic Talipes. M. D. Dickinson.

Canada Lancet (Toronto), December, 1901.

70 The Bacteriology of Tuberculosis. J. J. MacKenzie.
71 Signs and Symptoms of Tuberculosis of the Lungs. Robert D. Rudolf.
72 Bovine Tuberculosis and Protection of Milk Supplies. H. L. Russell.
73 The Home Treatment of Pulmonary Tuberculosis. Alexander McPhedran.
74 The Medicinal Treatment of Tuberculosis. John L. Davison.
75 Government Action *re* Tuberculosis. P. H. Bryce.
76 The Selection of Cases of Pulmonary Tuberculosis Suitable for Sanatorium Treatment. N. A. Powell.
77 Intraperitoneal Tuberculosis. James F. W. Ross.
78 Tuberculin in the Diagnosis and Treatment of Tuberculosis. H. C. Parsons.

The Journal of Medical Research (Boston), December, 1901.

79 *Oidiomycosis (Blastomycosis) of the Skin and Its Fungi. Howard T. Ricketts.

Medical Times and Register (Philadelphia), December, 1901.

80 Tumors. W. H. Walling.

Buffalo Medical Journal, January.

81 *Exophthalmic Goiter; Its Etiology, Symptoms and Treatment. Casey A. Wood.
82 *Appendicitis, etc., Complicating Pregnancy, Labor and the Puerperium. Samuel F. Brothers.
83 Report of the Medical Department of the Pan-American Exposition, Buffalo, 1901. Roswell Park.
84 Removal of Two Large Pus Tubes. L. G. Hanley.

New York State Journal of Medicine (N. Y.), December, 1901.

85 *The Estimation of the Malignancy of Tumors with Reference to the Reported Cures of the Disease. James Ewing.
86 *Arterio-sclerosis; Importance, Definition, Etiology and Symptomatology. Charles E. Nammack.
87 *The Clinical Course of Cancers in Relation to the Resemblance to Inflammatory and Infectious Processes. Albert E. Woehuert.
88 Vesical Emergencies—Their Surgical Management. Eugene Fuller.
89 Acne Vulgaris. Edmund L. Cocks.
90 The Clinical Laboratory in Surgical Diagnosis. Simon Flexner.

Mississippi Medical Record (Vicksburg), December, 1901.

91 Calorimetry vs. Thermometry. A. T. Mitchell.
92 Acute Edema of the Epiglottis. S. G. Dabney.

Medical and Surgical Monitor (Indianapolis, Ind.), Dec. 15, 1901.

93 Some of the Faults of Medical Men. J. A. Baughman.
94 The Treatment of Typhoid Fever with the Water Bath. W. F. Holmes.
95 Foreign Body in Eyeball Fifteen Years—Operation. J. Coultas.

Proceedings of the Philadelphia County Medical Society, December, 1901.

96 Gastroptosis and Gastric Motor Insufficiency. J. Dutton Steele.
97 Quinin Rash, with Report of a Case. Horatio C. Wood, Jr.
98 The Characteristics of Genuine Vaccinia. Some Statistics of the Present Smallpox Epidemic. Wm. M. Welch and J. F. Schamberg.
99 Tetanus Appearing in the Course of Vaccinia; Report of a Case. Robert N. Willson.

100 Tropho-Neurosis Affecting the Hair, with Photographs of a Case. F. Savary Pearce.
101 The Effect of Nitroglycerin in Vascular Disturbances of Some Functions of the Brain, with Reports of Two Cases. Alfred Gordon.

Proceedings of the Philadelphia County Medical Society, January.

102 Somnolence Caused by an Ear Lesion. W. G. B. Harland.
103 *Ichthyol in Tuberculosis. Charles F. Spaugler.
104 Exhibition of an Epithelioma Amputated from the Penis: Exhibition of Patient; Report of Operation. William L. Rodman.
105 The Shock of Intra-Abdominal Operations, Its Etiology, Prophylaxis and Treatment. Lewis S. McMurtry.

Canadian Journal of Medicine and Surgery (Toronto), December, 1901.

106 Observations on the Nature and Treatment of Pernicious Anemia. Alexander McPhedran.
107 Hematology. L. H. Warner.
108 The Recent Christian Science Trial. James H. Richardson.
109 A New Wrench for Use in the Correction of Stubborn Deformities. George A. Peters.
110 New York Clinics. John Hunter.

Cleveland Journal of Medicine, November, 1901.

111 *The Pathology and Etiology of Cholelithiasis. A. S. Maschke.
112 *The Mechanical, or Combined Plastic and Mechanical Treatment of Retrodeviations of the Womb. Marcus Rosenwasser.
113 *Hydrophobia, with Report of Three Cases. Henry S. Upson.
114 Uterine Fibro-sarcoma; Case Report. A. F. House.

Dominion Medical Monthly (Toronto), December, 1901.

115 *Notes on the Treatment of Typhoid Fever. J. L. Bray.
116 Cough. Dr. Dunfield.
117 Clinical Notes on a Case of Mushroom Poisoning. A. J. Harrington.

New Orleans Medical and Surgical Journal, January.

118 *Bionomics, Experimental Investigations with Bacillus Sanarelli and Experimental Investigations with Malaria, in Connection with the Mosquitoes of New Orleans. George E. Beyer, O. L. Pothier, M. Couret, and I. I. Lemann.
119 Science and Pseudo-Science in Medicine. T. S. Dabney.

Southern California Practitioner (Los Angeles), December.

120 Appendicitis from the Standpoint of the Patient. W. W. Roblee.
121 Intestinal Anastomosis. C. W. Pierce.
122 The Galvano-cautery in Ophthalmology. George J. Lund.
123 Child-Bearing Among the Natives of Africa. Silas F. Johnson.
124 Injuries to the Head. E. A. Bryant.

Western Medical Review (Lincoln, Neb.), Dec. 16, 1901.

125 Nebraska's Medical Pioneers—Alexander S. von Mansfelde. H. Winnett Orr.
126 The Meaning of Recent Discoveries Concerning Malarial Organisms. Henry B. Ward.
127 *Traumatic Aneurysm, True and False. A. F. Jonas.
128 Practical Laboratory Diagnosis for the Busy Practitioner. H. H. Everett.
129 Massage in Diseases of the Female Pelvic Cavity. Torgny Anderson.
130 The Commission Evil. H. Gifford.
131 A Case of Suppurative Tubercular Peritonitis. A. B. Anderson.
132 Practical Suggestions in Therapeutics. W. D. Shields.

Oklahoma Medical Journal (Guthrie), November, 1901.

133 Presidential Address, Oklahoma Territorial Medical Association. R. D. Love.
134 Some Practical Applications of the X-Ray in Fractures and Dislocations. J. A. Reck.
135 Fussy Practice. Delos Walker.
136 Medical Instruction. John R. Hamill.
137 Oklahoma Medical Laws. Paul Sanger.

Detroit Medical Journal, December, 1901.

138 *Fractures. E. B. Smith.
139 *Ectopoid Gestation Complicating Fibroids. J. MacDonald.
140 Digitalis. G. Archie Stockwell.

Journal of Medicine and Science (Portland, Me.), December.

141 The Inspection of Meat and Cattle by the Bureau of Animal Industry of the United States. F. W. Huntington.
142 In the Progress of Modern Medicine, Important Development as Ways and Means. Franklin Staples.
143 Clinical Notes on Heroin. W. F. Pennebaker and S. Tripp.
144 Some Phases of Quackery. (To be continued.) P. J. Noyes.

The Therapeutic Gazette (Detroit, Mich.), Dec. 15, 1901.

145 *Metrorrhagia at the Extremes of Life—In Young Girls and Old Women. Barton Cooke Hirst.
146 Carbolic Acid: Its Use and Abuse. George W. Sargent.
147 *The Treatment of Acute Peritonitis, Especially That Arising from Perforative Appendicitis, Should Be Anatomical and Physiological Rest. Byron Robinson.
148 *Methyl (Wood) Alcohol as a Cause of Blindness—Should It Be Placed on the List of Poisons. Swan M. Burnett.
149 The Treatment of Locomotor Ataxia, with Special Reference to the Treatment of Educational Exercises. John W. Rhein.

St. Louis Courier of Medicine, December, 1901.

150 *Primary Abdominal Tuberculosis. Lawrence F. Flick.
151 Double Bell's Palsy. Frank R. Fry.
152 A Case of Muscular Atrophy: A Case of Lingual Hemiatrophy, with Presentation of Patients. Given Campbell, Jr.
153 The Blood in Syphilis and Other Infectious Diseases, and Changes Effected Through Medication, Diet, etc. L. H. Warner.
154 Report of Work in Ureteral Catheterization in the City Hospital the Past Year. H. L. Nietert.
155 Case of Recurrent Laryngeal Paralysis Due to Aortic Aneurysm. William E. Sauer.
156 Case of Recurrent Laryngeal Paralysis Due to Aortic Aneurysm. L. H. Hemplemann.
157 Corneal Ectasia with Preservation of Central Transparency Subsequent to Recurrent Marginal Keratitis. John Green, Jr.

Charlotte Medical Journal, December, 1901.

158 *Hay Fever; Its Etiology and Treatment. James Sawyer.
159 Brain Softening. Michael Campbell.
160 Cardiac Therapeutics. A. E. King.
161 *Gunshot Wound of the Right Lung, with Complications. A. M. Morrison.
162 Localization of Gallstones in the Gall-Bladder. Richard Douglass.
163 *The Surgical Treatment of Painful Menstruation. Henry D. Fry.
164 Spina Bifida. J. W. Henson.
165 *Gastrotomy and Retrograde Dilatation in Impermeable Benign Traumatic Stricture of the Esophagus and Internal Esophagotomy by the Abbe Sawstring Method. Hugh M. Taylor.
166 Cerebrospinal Fever, with Report of Some Cases. J. S. Greenlea.
167 Puerperal Eclampsia—Report of Case. G. A. Davis.

Vermont Medical Monthly (Burlington), Nov. 25, 1901.

168 The Relation of Animal Diseases to Public Health. (Continued.) Don D. Grout.
169 Pulmonary Tuberculosis—A Brief Consideration of Its Etiology, Symptomatology, Diagnosis and Treatment. (Continued.) H. Edwin Lewis.

Vermont Medical Monthly (Burlington), Dec. 25, 1901.

170 President's Annual Address, Vermont State Medical Society. W. D. Huntington.
171 Biography of Dr. J. H. Linsley. H. C. Tinkham.
172 The Best Alkaline Wash. W. Harpur Sloan.

AMERICAN.

1. **Hodgkin's Disease.**—The conclusions of Musser's article are that Hodgkin's disease is in all probability a lymphatic tuberculosis. Fever, recurrent in type, occurs commonly in this affection of the glandular structures. So-called recurrent fever is a symptom, not a disease. In a few rare instances the clinical diagnosis, when such fever prevailed, was malignant lymphoma (Pel), sarcoma (Völckers), myelosarcoma (Hammer), and lymphosarcoma (Remus and Witthower, Seebohn). It must be remembered that such distinguished authorities as Ehrlich and Lazarus believe that Hodgkin's disease is a lymphosarcoma, and that the tuberculous process is accidental. Sternberg, on the other hand, has pointed out the differences, and insists strongly upon the tuberculous as the process giving rise to the adenitis of Hodgkin's disease. He believes that the symptoms are different from those of other forms of tuberculosis, the anatomy of the gland having much to do with the process. He agrees with the conclusions of Sternberg.

2. **Bovine Tuberculosis.**—De Schweinitz and Schroeder have experimented on several baboons and monkeys as to their susceptibility to bovine tuberculosis and give the details. In all the cases there was a disseminated tuberculosis, the most marked in the higher monkeys. The animals succumbed usually within a few weeks at the outside and mostly within less than two months. The evidence shows a greater, rather than decreased, vulnerability to bovine tuberculosis for animals nearest related to the human species, and consequently by inference to man. They have also tested on various animals the effects of tuberculin made from bovine cultures, following the same rules as were made for human cultures as well as tuberculin made from swine and avian tuberculin. The tubercle

germ from the horse produced no reaction, which was accounted for possibly by the fact that the disease in the animal tested had been arrested.

4. **Hypnotism.**—From an analysis of the subject, so far as can be made, Burr comes to the conclusion that hypnotism is absolutely of no value in organic diseases. In functional ones its effect is little more than that of suggestion, which is an entirely different thing and has always been in use by medical men and others. Hypnotism is the mere garment in which for the time being suggestion has been clothed and is for the most part unnecessary in carrying out suggestive therapeutics as regards its usefulness. In education it has been tried and found wanting. Hypnotism injures the young, but suggestion is the tool of every wise schoolmaster.

5.—See abstract in THE JOURNAL, xxxvii, p. 934.

9. **Czolgosz Case.**—MacDonald's paper reviews the history of the assassin of President McKinley and gives the details of his personal examination of the assassin. He seems to suspect at least that Czolgosz had associates in the anarchical societies to which he belonged and was appointed to do the act. Reviewing the case in all its aspects he records his opinion expressly that Leon Czolgosz on Sept. 6, 1901, was in all respects sane both legally and mentally and fully responsible for his acts.

10. **The Czolgosz Postmortem.**—The details of the postmortem of Czolgosz, together with illustrations of the head casts taken after death and of the convolutions of the brain, etc., are detailed by Spitzka, who believes that from pathologic evidence the victim must have been socially diseased and perverted, but not mentally diseased.

12. **Rupture of the Spinal Ligaments.**—Painter and Osgood report four cases of injury to the spine in which there was kyphosis without tuberculosis or other disease of the vertebra and in which there were symptoms of pressure upon the cord that were relieved. The patients entirely recovered after a few months' treatment with plaster or other jackets. He has also collected 15 cases which seem to him to be uncomplicated rupture of the spinal ligaments and of which he gives a brief description. The following conclusions he thinks are justifiable: "1. Spinal ligaments, during life, may be ruptured without fracture or dislocation. 2. Nerve pressure symptoms may occur from a simple flexion of the vertebral column. 3. Recovery in these cases requires prolonged rest in a position which favors the repair of ligaments, and that the effects of treatment speaks more for the ligamentous rupture than for luxation of fracture. 4. The force that commonly produced the injuries (when stated) was one which, *a priori*, would be most likely to produce ligamentous rupture."

13. **Placenta Previa.**—The mortality from placenta previa, according to Higgins, is not now over 10 per cent.; generally under favorable circumstances and in skillful hands it is below 5 per cent. Abdominal section, he maintains, is hardly ever indicated and does not hold out even in favorable cases the promise of better than 10 per cent. mortality. Its risks are much greater and in unfavorable circumstances its mortality is prohibitive. The only cases of placenta previa in which Cesarean section is justified in his opinion are those at full term with complete previa, a rigid os, seen before the occurrence of any severe or dangerous hemorrhage, and with the mother and the fetus in good condition. He does not think that the prognosis of the child in Cesarean section is usually as good as estimated, and he thinks the reason why they seem less vigorous than those of the natural born is due to something more than etherization. In 25 Cesarean sections which he has seen, it was exceptional that the child did not cause more anxiety at the time of operation than the mother or that it did not have to be resuscitated with great care and by prolonged immersion in hot water.

14. **Privileged Communications.**—The views held by Nichols and derived from considerable experience in courts is that the exceptional admission of medical evidence that might be considered privileged has been favorable to the best administration of justice. He does not apparently favor the New York law, and thinks that any amendments to our present rules of evidence are needless. The whole matter of privileged testimony, he thinks, can be safely left to the discretion of the presiding judge, with the understanding that in the interest of public morality it would be a distinct advantage if evidence affecting the honor or social position of individuals or families could be given in private before a referee (?).

15. **Traumatic Asphyxia.**—Burrell and Crandon report a case and discuss the subject. They call particular attention to the skin symptoms and remark that the diagnosis ought not to be difficult if the person is still living. The victim of overcrowding, besides his contusions and possibly broken ribs and sternum, presents the localized bluish coloration as described, which is to be distinguished from cyanosis, is stupid up to insensibility, and has no delirium, no convulsion, no paralysis. The treatment should be immediate, as soon as the patient is seen, by artificial respiration, as in cases of drowning, if the patient is suffering from mechanical suppression of the phenomena of respiration.

16. **First Aid in Railroad Wrecks.**—Lofton advises the drilling of train hands in the art of rendering first aid. This should be done by the chief surgeon of the railroad and his assistants. Every train should have its first-aid surgical chest, containing material for stopping hemorrhages, stimulation, etc. The employes should be taught to know when and how to stimulate patients, judging from their pulse rate and appearance. They should be taught the great necessity for relieving pain and placing the wounded in the most favorable and comfortable position looking towards reaction. If this was done scientifically he believes the mortality in railroad wrecks would be lessened 85 per cent. Shock is the ordinary cause of death, but hemorrhage will account for it, he holds, in 90 per cent. of the cases; hence, the importance of education to meet this condition.

19. **Round Ligament Ventrosuspension.**—Gilliam has modified his operation as it was first performed so as to simplify the technique and improve its efficiency. The operation is as follows: "An abdominal incision three or four inches in length is made in the median line at the usual site between the umbilicus and pubes. The adhesions are broken up and the fundus brought forward. With a finger and thumb or a pair of bullet forceps the broad ligament of one side is seized and brought to the opening. By lifting up the anterior surface of the broad ligament on the tip of a finger applied to its posterior surface the round ligament is brought into view and is picked up, either between the thumb and finger or with a bullet forceps. Selecting a point an inch and a half from the uterus, a thread is passed under the round ligament and the ends of the thread are brought out of the opening and secured in the bite of a clamp forceps, which is laid upon the surface of the abdomen. The other ligament is sought for and secured in the same manner. At a point about one inch and a half above the pubes, the peritoneum, muscle, and fascia at one edge of the wound are caught up by a volsella and pinned together, being careful that the edges of these layers are in line. Traction is now made, and, with a small retractor, the skin and superficial fat are drawn in the opposite direction, uncovering the fascia. With a narrow-bladed knife, or better with the perforating forceps devised for the purpose, a stab wound is made from the surface of the fascia into the peritoneal cavity, the instrument entering one-half inch from the edge of the abdominal incision, and passing obliquely downward and outward, emerging on the peritoneum one inch from the edge of the abdominal incision. If the perforating forceps is used, the jaws are separated, and, by an outward movement of the handle, brought into plain view at the large opening. The thread which loops the round ligament is now placed in the jaws, the clamp forceps removed, and the perforating forceps withdrawn, bringing with it the thread and the ligament. If a knife has been used to make the perforation, it is withdrawn and a slender forceps introduced, with which the thread is caught up and the ligament drawn into place. Now, while the ligament is held taut, with its loop end a quarter or third of an inch above the

surface of the fascia, a catgut suture is passed through it, including the tissues on either side, and back again, where it is tied. This is cut close to the knot, the suspending thread cut on one side close to the ligament and withdrawn, and the volsella and retractor removed. The other side is dealt with in like manner and the abdominal incision closed." He claims that this leaves ample space for uterine pregnancy and also obviates any possibility of strangulation of the bowel. The uterus rests easily and naturally on the bladder from which it can be raised to a position little short of vertical. In his later operations he has had no trouble whatever from suppuration, which he attributes to the fact that he handles the ligament as little as possible and clips the suspending thread close to the ligament so as to avoid contamination by drawing it full length through the loop of the ligament after exposure of the abdominal wall. The slanting perforation of the abdominal wall through which the ligament is drawn is made in deference to a suggestion of Dr. W. E. B. Davis, who thinks it would be a safeguard against hernia.

21.—See also ¶9.

22.—Ibid., ¶10.

23. **Yellow Fever.**—This article is called out apparently by a letter from Dr. John H. Purnell, published in the *Philadelphia Medical Journal* of October 19, 1901. Gorgas gives the history of the yellow fever occurring in Havana, showing that by the methods adopted of screening the houses where yellow fever occurred and killing the mosquitoes, the foci were stamped out without any regard to the question of fomites whatever. He says that the death rate has fallen in Havana from 91.03 in 1898 to 24.40 in 1900, and probably to 21 for 1901. The methods employed involve a certain amount of expense, but he thinks the benefits obtained justify it. He considers that the facts as he gives them are strong enough proof of the theory of the mosquito-borne nature of yellow fever infection.

24. **Rheumatic Fever.**—Duckworth's article is a clinical lecture based on a case of blood poisoning in a boy with rheumatic symptoms. He discusses the diagnosis of rheumatic fever, holding that all the forms of arthritis or joint disease are the result of some infection, with one exception, gout. This seems to be the only exception in so far as the noxious matter does not come from without but from within. The gouty patient makes his own poison; the rheumatic patient receives toxins from other sources. What are these toxins? He mentions here influenza, gonorrhea, cerebro-spinal meningitis, osteomyelitis setting free staphylococcal and streptococcal infection. He says whenever we find salicylates ineffective we may reasonably conclude to revise our diagnosis and see if we are dealing with a case possibly not of rheumatic fever, but with arthritis due to some other infection.

25.—See also ¶9 above.

26.—Ibid., ¶10 above.

27. **Sanitary Aspects of the Panama and Nicaragua Canals.**—The climate, topography, etc., of the Panama and Nicaragua routes have been studied by Soper, who comes to the following conclusions: Both pass through a country which is extremely unfavorable to health. The difference between the Nicaragua and Panama is chiefly in regard to rainfall, that of Panama being most favorable to health. The soil condition, topography and engineering work are in favor of Panama; fewer men would be required and could be better protected. There is practically no difference in the nature of the diseases to be expected or in the nature of the precautions required. After construction the difficulty of controlling health conditions along the line would be greater on the Nicaragua route. The shorter Panama route would cause passing vessels to be less exposed to infection and the likelihood of the canal becoming a disease focus is much greater of Nicaragua than of Panama. Although there has been great loss of life by disease in the latter, this must not be considered as evidence of the greater immunity of the Nicaragua route. It is simply due to the greater number of persons exposed. Whichever route is selected extraordinary care will be required to maintain satisfactory health conditions during construction and after completion of the work. The plans and preparations in detail for an efficient sanitary and medical department should be made as early as possible.

28.—See also ¶9 above.

29.—Ibid., ¶10 above.

30. **Suprarenal Extract.**—Forty-five cases of the use of suprarenal extract, for hemorrhage, 21 of hemoptysis, 23 of uterine hemorrhage, and one of hematemesis, are reported, in all of which suprarenal powder was used internally. The application was generally by 5 gr. placed on the tongue, thoroughly rinsed with saliva and swallowed without water, which usually produced an effect within ten minutes. Nausea and vomiting were observed in only a few cases. The author knows of no other remedy internally administered which has given him such prompt results. It has proven a safe remedy even when the hemorrhage was complicated by disease of the heart, lungs, and kidneys.

31. **Hysterical Hemiplegia.**—A case is reported in detail by Winter, who discusses its pathology and gives his theory that paralysis was brought about, not by disease of the nerve processes, but by a retraction of the terminal end-brushes of the sensori-motor (psycho-motor) neurons, thus preventing the impulse from reaching the distinctly motor neurons. The etiologic factors were an inherited predisposition or mental instability, shock at the age of 9 years, increasing instability and keeping the fear of paralysis constantly before the patient, by suggestion from his family and himself, thus making suggestion the real exciting cause. Counter-suggestion, therefore, was adopted, and it proved successful. He thinks that one reason why so many frauds exist like Eddyism and Dowieism, etc., is the important and woefully neglected by the profession element of suggestibility.

32. **Absorption of Alexins.**—In this brief preliminary conclusion Levene alludes to the fact that different investigators have shown that the bacteriolytic or hemolytic sera when digested with dead bacteria of the different species lose their bacteriolytic power over other bacteria and also their hemolytic power. If, instead of dead germs, bacteria previously treated with a bactericidal serum heated at 55 C. be allowed to act on a bacteriolytic or hemolytic serum, the latter will lose its power to dissolve other bacteria or red cells. On the other hand, living bacteria fail to produce any effect on a normal serum which has no bactericidal power over the same bacteria. Thus it would appear that dead bacteria possess the power of absorbing alexins from normal sera, while living bacteria do the same only after having been previously saturated with the "immune body." He has experimented thus far only on the reaction of rabbits' serum to tubercle bacilli, to find out: 1, whether the normal sera lose their hemolytic power on digestion with dead tubercle bacilli; 2, what the power of a given serum should be if treated with living bacilli; 3, if an animal should be found whose serum normally does not lose its hemolytic power on treatment with living bacilli, would the serum of tuberculous animals act differently? As a result of his experiments he finds: 1. There exists a certain minimum quantity of dead tubercle bacilli, which it is necessary to add to a given serum in order to deprive it of its hemolytic power. Smaller quantities only diminish, not wholly abolish this. 2. Living virulent bacilli added in quantities approximately equal to the minimum of the dead bacilli have scarcely any effect on the hemolytic power of the serum. Added in larger quantities they diminish the hemolytic power of a serum, but in lesser degree than do dead bacilli. Further he finds that the "attenuated" cultures act in the same manner as the dead germs. When the serum of animals previously treated with the extract of crushed tubercle bacilli is tested with living virulent bacilli it loses its hemolytic power much more rapidly than does a normal serum. He is further investigating along this line.

33. **Refraction Errors.**—Buckner advocates the ideas advanced by Stevens, Ranney and others as regards the importance of refraction errors in the production of cerebral and other symptoms and reports three cases of neuralgia which were

relieved by the correction of such errors. In one case there was a mixed origin admitted. In the other cases he claims that his diagnosis was correct and the result of operation was relief.

42. **Pseudo-Appendicitis in Children.**—Fischer calls attention to a class of cases in children where the symptoms so strongly resemble appendicitis that operation will be proposed and yet the condition be different. Two cases are reported, one of catarrhal gastritis and the other of peritonitis from traumatism though the symptoms strongly suggested appendicitis. When the diagnosis is made by the process of exclusion great care should be exercised before resorting to extreme measures.

45. **Occipitoposterior Positions.**—The ideas intended to be conveyed by Paddock are that an early diagnosis of position and presentation should be made and that occipitoposterior positions are frequent, resulting in great fetal mortality and maternal morbidity, and should be corrected by postural measures before labor. Every case diagnosed O. D. P., should be directed to sleep on the right side and at all times when lying down to lie on that side, and to assume the knee-chest posture for ten minutes every morning. In very few cases will this method fail to bring about the desired change and labor will be correspondingly shortened.

50. **Paresis.**—Norbury reports briefly three cases of paresis which seemed to take their starting point from an attack of infectious fever and concludes that while syphilis is the etiologic factor in chief the infectious fevers are contributing elements, as is also heredity.

54.—See abstract in THE JOURNAL, xxxvii, p. 995.

55.—Ibid., p. 996.

56.—Ibid.

58.—Ibid., p. 997.

61. **Intestinal Tuberculosis.**—The form here described, chronic hyperplastic tuberculosis, has been noticed of recent years and is distinctly characterized by its affecting various segments of the intestinal tube and by usually a considerable degree of thickening of the intestinal wall. Lartigau reports a case in full detail and discusses the condition generally, pointing out the gross and microscopic lesions, its point of predilection, especially near the cecum, the influence of sex, occupation, various diseases, etc., and the question whether it is primary or secondary to pulmonary disease. The case he reports, he thinks, is undoubtedly a primary case; there was no evidence of the presence of a former pulmonary tuberculosis. The symptomatology is given in general terms at the close of the article, indefinite onset, dyspepsia, vomiting, abdominal pain, possibly tympanites, later alternate diarrhea and constipation and occasionally persistent diarrhea; loss of strength and weight, evening rise of temperature, etc., are the characteristics of the earlier stages. With time the abdominal crises become accentuated and the weakness very great. Some patients suffer from recurring colic, accompanied by vomiting and constipation. The area of greatest tenderness is usually within the right iliac fossa where the symptoms of obstruction usually appear. Later the clinical picture is more and more definitely that of chronic intestinal obstruction; thus in carcinoma there may be various local abdominal distentions, some tenderness and possibly tympanites, and dulness usually present directly over the tumor. In the rectal form the hemorrhages are characteristic from the start in a large proportion of cases and stenosis develops later. As regards treatment, he thinks most cases of reported resected cancer of the regions affected are probably hyperplastic tuberculosis. The condition is a surgical one. Extirpation of diseased tissue promises good results in a large proportion of cases.

62. **Multiple Myeloma.**—The symptoms in the case reported by MacCallum were discussed by Hamburger, in the *Bulletin* of the Johns Hopkins Hospital, 1901, xxii, p. 38. They consisted of spontaneous occurrence of fractures of the bones followed by the appearance of definite soft tumor masses over various bones. No marked anemia, albumosuria. The autopsy showed multiple new growths from the bone-marrow, not very sharply delimited from the marrow and showing very gradual transitions into it, the cells having the general form and characters of the bone-marrow cells, lacking the specific granules of the myelocytes and their formative antecedents. They differ in essential particulars from the plasma cells, and especially these facts and the fact that they largely replace the myelocytes in the neighborhood of the tumor lead the author to consider them directly related to these cells, probably derived from the large non-granular forerunners of the myelocytes. Degenerative changes, numerous cell inclusions, and the abundance of red blood cells scattered in the tumor mass have been noted. The etiology of the affection remains obscure.

64. **Strongyloides Intestinalis.**—From a discussion of the subject and a study of other cases Thayer considers himself justified in emphasizing the following points: "1. Diarrhea associated with the presence of strongyloides intestinalis occurs in the United States. 2. The observation, in the Johns Hopkins Hospital, of three cases within three years, cases originating probably in Maryland and Virginia, suggests that this parasite may be more frequent than has hitherto been supposed. 3. As in most cases originating elsewhere, in temperate climates, the development of the sexually differentiated, free living generation was in these instances apparently unusual, the direct transformation of the rhabditiform embryos into filariform larvæ predominating. 4. The discovery of the existence of strongyloides intestinalis should emphasize the possibility that Uncinaria duodenalis may also occur in this country. 5. More systematic examinations of the feces both in public clinics and in private practice are much to be desired."

68. **Tropical Diseases.**—The special forms of tropical diseases noted as prevalent in Manila by Andrews are malarial affections, enteric disorders and certain parasitic diseases. He specially mentions dengue which is generally temporary, diarrhea due to dietetic errors, malaria, dhobie itch, and ascaris lumbricoides as epidemic. The dhobie itch is simply tinea circinata, but in Manila it often causes ulcers and sometimes serious abscess and buboes. These, however, when opened and drained, give no further trouble.

79. **Oidiomycosis of the Skin.**—This article occupies the whole of the journal and is very elaborate and monographic. We can only give here a summary of the conclusions. A very extensive bibliography is appended and the paper is elaborately illustrated: "1. The so-called protozoic disease of Posadas, Wernicke, and others; Busse's and Curtis' saccharomycosis hominis; and Gilchrist's blastomycetic dermatitis are various manifestations of the same disease. 2. The condition in the skin possesses constant clinical and histological characteristics which separate it positively from all other skin diseases, particularly verrucous tuberculosis, carcinoma, and syphilis. 3. The organisms isolated from various cases, differ in minor respects among themselves, but are so closely related morphologically and biologically as to justify their inclusion in a common genus; oïdium; they are thus analogous in a pathogenetic sense to the fungi which cause actinomycosis, and to those causing trichophytosis. 4. The variations among the organisms allow the recognition of three morphologic types: *a*, blastomycetoid or yeast-like; *b*, oïdium-like; *c*, hyphomycetoid. 5. There are two histologic forms of the disease in the skin, the eosinophilous and the non-eosinophilous, the former being associated with the mold type of the organism. 6. In accordance with conclusion 3, oïdiomycosis is an appropiate term for the conditions caused by the organisms, and oïdiomycosis cutis for the disease as it occurs in the skin. 7. Aside from the infections considered in this communication, certain cases which have been described in the literature from time to time indicate that oïdium-like organisms may cause other severe pathologic conditions in man."

87. **Exophthalmic Goiter.**—The theories of exophthalmic goiter are noticed by Wood, who holds that it undoubtedly is due to deranged function, but just what this derangement is and its cause is not absolutely clear. The symptoms are rapidly

reviewed, and he notices particularly one which he has observed in one case, namely, fetid night sweats, which has been mentioned also by Basedow, but not noticed in many of the articles on the disease. Exophthalmus, Dalrymple's sign or retraction of the upper lid, infrequent winking, Graefe's sign, insufficiency of convergence or the sign of Möbius, Becker's sign or spontaneous pulsation of the retinal arteries, epiphora, which is still more common, dryness of the eyes, loss of sensation of the cornea and conjunctiva and various other symptoms are discussed. Of course, only a few of these may be present, and the disease may exist without at least two of its three cardinal signs and one side alone may be affected by the proptosis and other ocular symptoms. As regards treatment he is inclined to believe, from the number of medical remedies that have apparently succeeded, that a certain proportion of the cases are self-limited. He advises non-stimulating food and as much sleep as possible. As regards surgery sympathectomy has apparently done good in some cases. Thyroid excision is a serious operation which should be only performed in hopeless cases. In resorting to it one should never promise a cure and should always set forth the danger of the operation.

82. **Appendicitis in Pregnancy.**—Brothers reports a case and quotes others from the literature of this complication and discusses its management. He thinks many cases have never been recorded because the course of the disease is too mild to excite interest and others where fatal results follow operation. The logic of conservatism in the treatment of appendicitis during the reproductive process may be summed up, he says, as follows: 1. The cardinal argument is the admitted fact that cases do recover completely without operation; 2, it is necessary to respect the popular fear of all operations, in the absence of good reasons for ignoring it; 3, "self-preservation is the first law of nature," and none of you desire another practitioner, with perhaps less conscientious scruples—and perhaps as much in need of "the root of evil" as yourself—to displace you by humoring the patient's feelings with a recommendation of delay, after you have insisted on immediate operation; 4, the still open question as to which procedure is safest for the mother, a child's life being the secondary consideration. And, finally, the knowledge that certain cases are beyond human assistance from the onset.

85. **Malignant Tumors.**—Ewing believes there is very little difference in the results obtained from surgical treatment, and he aims to notice here the special points which account for the difference of opinion in regard to the curability of cancer of the breast. In carcinoma one of the most important factors in determining the outcome is the previous duration of the disease. It is very difficult to form an estimate of the age of a carcinoma. Another less generally recognized form is that of small carcinomatous focus often existing in non-malignant tumors and these are reported as operations for malignant disease and considered as cured. If we are going to estimate the matter, the question of rapidity of growth should be considered. He recognizes among the carcinomas of the breast one group which retains more or less the adenomatous type, adeno-carcinomata which are met with under three different conditions: 1. A carcinomatous multiplication of cells in the epithelial tufts projecting into larger cystic adenomata. These should be removed early and the operation ought to be in most cases followed by permanent cure. 2. Adeno-carcinoma arising in tumors with dilated spaces in which the extensive multiple cells are confined within the original alveolus. Such tumors seldom involve the lymph nodes and their prognosis is good. 3. A type where it arises in the long quiescent gland by the increase in number and tortuosity of the secreting alveoli producing large lobules containing an excessive number of alveoli in section, while the cell multiplication often bursts the basement membrane, throwing the tumor into the class of adeno-carcinoma. The histologic structure of these indicates a moderate grade of malignancy. All these should be separated from pure carcinomas in prognosis in estimating the results of operation. The remaining group of pure carcinomata commonly described as a small or large alveolar, or encephaloid or tubular carcinoma, and the distinct sub-group of scirrhus, are another matter and he describes their characteristics. He has seldom seen a permanent cure of the tubular type in which an extension to the lymphatics measured by inches very likely occurs in a period measured by months or even weeks, although the original tumor may not appear to be growing rapidly. The alveolar on the other hand shows a greater variety of structure and greater difference in the prognosis. A lessened grade of malignancy may be expected in tumors where the alveolar tendency is permanent and where the cells divide their energies between multiplication and secretion and especially where mucoid degeneration destroys many cells which would otherwise continue to multiply. This last factor has been known to bring to a standstill this growth of glandular carcinoma and if it could be artificially introduced the malignancy might be diminished. Extreme malignancy must be ascribed, however, to glandular carcinoma in which the cells show little tendency to maintain a distinct alveolar arrangement, or even grow diffusely and the secretory function is entirely lost, the multiplication of cells not interrupted by degenerative changes, and the inflammatory process is exudative rather than productive. In both tubular and alveolar carcinomata the age of the patient and the relation of the growth to pregnancy, lactation and the menopause are of prime importance in determining prognosis. The most malignant cancers of the breast are alveolar carcinomata, first noted during or after lactation, while there is an increasing tendency toward the scirrhus type as the subjects pass the menopause. In scirrhus the grade of malignancy is always less than with the tubular variety and most of the alveolar types. Yet the lack of a prominent localized tumor secures for many of them immunity from operation until there is extensive involvement of the lymph nodes. Hence, the duration of a fibro-carcinoma is the chief factor determining the result of operation. He calls for the co-operation of surgeons and pathologists in matter to determine more accurately the relation of progress to histologic structure in these two classes of carcinoma of the breast.

86.—See abstract in THE JOURNAL, xxxvii, p. 1337.

87.—Ibid., p. 1267.

103. **Ichthyol in Tuberculosis.**—Spangler advises the use of ichthyol in the home treatment of tuberculosis. In its method of administration he generally begins with a No. 1 empty capsule filled by the patient after each meal for the first week, adding another to the dose during the second week, and a third to each dose during the third week. This last dosage is maintained indefinitely and presents the advantage of attaining the maximum degree of tolerance in the shortest time. If eructations give special discomfort he divides the dose somewhat, giving the capsules after breakfast and at bedtime. The cough paroxysms lessen in intensity, expectoration becomes more profuse, the sputum less dense and the appetite improves. There is usually a marked weekly gain in weight. If there should be a pleuritic or pneumonic attack, ichthyol is suspended as long as the acute symptoms last and carbonate of guaiacol or other remedies substituted. Phenol hypodermically is excellent for cases associated with gastric or intestinal irritability. Strychnin in supporting doses during the early months is a valuable adjunct to treatment. He advises that all cases of obstinate cough or persistent irritation of the upper air passages, particularly that following la grippe, pneumonia or typhoid, should be placed upon ichthyol and proper habit discipline.

111. **Cholelithiasis.**—Maschke sums up our knowledge of the etiology of cholelithiasis as follows: "In cholelithiasis we have to do with a local disease, and not with any constitutional or nutritive disturbance. The presence in the bile, in insoluble form, of the two chief constituents of gallstones, cholesterin and bilirubin-calcium, is determined by local causes. The cholesterin found in gallstones has never been in solution in the bile, but is formed as a product of epithelial degeneration, and the combination of bilirubin and lime salts to form insoluble bilirubin-calcium is brought about also by the presence of albumin derived from degenerated mucus and epithe-

lial products. Thus a condition that would favor the degeneration of epithelium and the increased secretion of mucus, or in other words a catarrh, would produce these factors. As cause of the catarrh any factor that favors the stagnation of bile and thus renders infection by micro-organisms possible, is considered as the predominating influence. The bacteria involved are usually the bacillus coli, or bacillus typhosus. The general etiologic factors, age, sex, pregnancy, clothing, sedentary life, etc., only serve to bring out one important fact, that anything that favors stagnation of bile favors the occurrence of the lithogenic catarrh."

112.—See abstract in THE JOURNAL, xxxvii, p. 856.

113. **Rabies.**—Three cases are reported by Upson which have certain features of interest. In the first, which he considers a typical case, the patient was an unusually well-balanced man with no hysteric tendencies, and while he diagnosed his condition himself he bore it throughout with wonderful nerve. Inoculation experiments from the cat that caused the disease produced hydrophobia in a rabbit. The second case was that of a woman who had no idea of what was the matter with her until late in the disease, but the impression produced by the aspect of the patient was not that of fear or mental depression, but such as one of an infectious disorder acting on the nerve centers and the circulation. The third case is somewhat less clearly an instance of the disease. He believes that, with the use of adequate doses of morphin, patients need suffer no more than do patients suffering with other affections hopeless from the start.

115.—See abstract in THE JOURNAL, xxxvii, p. 713.

118. **The Mosquito Investigations at New Orleans.**—Nearly the whole of this issue is taken up with the elaborate article by Beyer and Pothier, who summarize their work as follows: "We have studied the topographic and seasonal distribution of the mosquitoes infesting this city and vicinity and have determined that anopheles inhabits the swamps surrounding the city, as well as the outskirts, while stegomyia and some of the common forms of culex prevail in the heart of the city, finding their breeding-places in cisterns and gutters." They here call attention to maps of the distribution of these genera and the location of yellow fever cases in 1897. "While there is more or less striking coincidence between the distribution of stegomyia and of yellow fever cases, and while we think this is in a degree significant, we ought not to lay undue emphasis upon this fact, for reasons which will readily present themselves. The maps are as accurate as the data we have at hand, but it must be remembered that these fever cases were not checked up by blood examinations and we can not be certain that all cases reported were yellow fever, nor that all yellow fever cases were reported. Moreover, stegomyia is absent from those sections sparsely inhabited, which show no yellow fever infection, possibly because there were no inhabitants to have the disease." Experimental work with bacillus icteroides (Sanarelli) and mosquitoes lead them to say: "1. We have established to our satisfaction that the bacillus described by Sanarelli as bacillus icteroides is a distinct pathogenic organism. 2. We have infected stegomyia fasciata by allowing them to bite animals infected with bacillus icteroides and suffering from a disease corresponding experimentally to yellow fever, as observed in animals (dogs and rabbits). 3. We have recovered in pure culture the bacillus icteroides Sanarelli from these mosquitoes so infected. 4. We have produced in healthy animals the same disease by allowing some to be stung by mosquitoes infected from five to eleven days previously, and by inoculating others with cultures made from infected mosquitoes. 5. We have recovered the bacilli again from these mosquito-infected animals. 6. We have not, however, been able thus far to stain and locate the bacilli in the tissues of the mosquito when sectioned. Mosquitoes that have bitten malarial patients have been sectioned and the parasites found." Epidemiologic considerations lead the authors to believe that while anopheles maculipennis is responsible for simple tertian and quartan infection, anopheles crucians is responsible for estivo-autumnal disease. They point out the methods of exterminating mosquitoes, abolishing surface drainage, substituting sewerage, etc., and claim credit for the following salient points established by them: "Correlation of distribution of stegomyia fasciata and of yellow fever within limits of the city. Mosquitoes may convey bacterial disease by inoculation, the organism experimented with being the one believed to be the cause of yellow fever. Confirmation of the work on malaria by English, German and Italian investigators." They believe that they "have determined that the mosquito stegomyia fasciata can inoculate the disease produced by bacillus icteroides Sanarelli, after having had some days previously ingested blood from an animal infected with this bacillus. We have not disproven that the mosquito might convey the materies morbi simply mechanically, either by means of its mechanically infected proboscis or by means of its body, wings and legs, soiled by contact with dejecta and then touching food or drink of another individual. While this is not urged as a probable mode of infection, it is a matter that should be settled one way or the other; hence, it is a subject for future experiments. Further attempts should be made to locate the bacillus icteroides Sanarelli within the tissues of the infected mosquito."

127. **Traumatic Aneurysm.**—Three cases are reported, with the following conclusions: "1. True traumatic aneurysms, which are unmistakably the result of traumatism inflicted on a blood vessel, modifying its integrity. 2. A limiting connective tissue wall may develop around a hematoma which is the result of an injured blood vessel and may or may not have a communication with the blood vessel. Such a condition in no sense is an aneurysm. The formation is entirely extrinsic and never was a part of the arterial wall, and therefore should not be termed an aneurysm. 3. A recent hematoma, resulting from an injury to an important blood vessel, whose limitations depend on anatomic boundaries, has even less claims than an encysted hematoma to the term aneurysm. A better term would be traumatic arterial or venous hematoma. It will be in the direction of scientific accuracy to exclude from our terminology, 'traumatic aneurysm,' all conditions which do not conform to the definition, viz., a sac formed by the dilatation of the walls of the artery, filled with blood."

138.—See abstract in THE JOURNAL, xxxvii, p. 849.

139. **Ectopoid Gestation.**—Macdonald reports a case with symptoms of bloody discharge, bearing-down pain, etc., with a large asymmetrical mass within the abdomen, which, when operated on surgically, revealed a two months' fetus under the peritoneum of the left side of the uterus which had been ruptured subperitoneally. The patient made a good recovery.

145. **Metrorrhagia.**—Hirst reports cases of metrorrhagia occurring in young girls and elderly females and offers the following as his conclusions: "There is a metrorrhagia in young girls due to glandular and interstitial endometritis, which, if neglected, may seriously impair their health; it is curable by curettement (perhaps repeated) and by the removal of any cause of pelvic congestion that may be present. There is a metrorrhagia in old women years after the menopause, not due to malignant disease (which ought always to be suspected), but to a corporeal or cervical polyp and an accompanying endometritis."

147. **Acute Peritonitis.**—The treatment suggested by Robinson is first giving no fluid or food by the mouth. Rather wash out the stomach if vomiting is active. 2. Keep the patient absolutely still on the bed, not allowing him to get up for any purpose whatever. 3. Give small doses of morphin sulphate, 1/16 gr. at intervals of two to four hours. 4. Apply continued cold to the abdomen by rubber tube-coil or rubber ice-bag; or apply continued heat by means of large cornmeal poultices. 5. To check the thirst employ rectal injections and wet gauze to the lips. 6. No ice should be allowed. Nourish with liquid foods per rectum. Give no cathartics and give the peritoneum time to produce an exudate which will imprison germs, sterilize and digest them.

148. **Methyl Alcohol Blindness.**—Burnett reviews the previous history of this form of affection and reports two

cases. He finds that so far nothing has been found that will check its results. If a poisonous amount of wood alcohol has been taken we should expect blindness more or less complete. Therefore, he suggests we should prevent the use of it and consider it one of the dangerous poisons. At present the country is flooded with a poison dangerous to vision and even life itself under various and entirely unsuspected forms in the economic use of wood alcohol.

150.—See abstract in THE JOURNAL, xxxvii, p. 996.

158. **Hay Fever.**—After describing the disease and its general treatment Sawyer says that his great reliance has been for some time on powdered desiccated suprarenal gland. It relieves for two or three hours and may need to be often repeated. He would carry it to the full physiologic effect of the remedy. He generally uses a from 3 to 10 per cent. solution locally by spray or on cotton, repeating when the symptoms demand it, and from 3 to 10 gr. of desiccated gland internally. He says very satisfactory results may be obtained from using it internally alone, giving it in full doses, 5 gr. every two hours until the physiologic effect is obtained and the symptoms are controlled, then diminishing in quantity until finally it is used only twice daily through the hay-fever season.

161.—This article has appeared elsewhere. See THE JOURNAL, xxxvii, ¶98, p. 1062.

163.—See abstract in THE JOURNAL, xxxvii, p. 1410.

165.—This article has appeared elsewhere. See THE JOURNAL of January 4, title 50, p. 61.

FOREIGN.

British Medical Journal, December 28.

Localization in the "Motor" Cerebral Cortex. C. S. SHERRINGTON and A. S. F. GRUENBAUM.—The authors experimented on all the known species of anthropoid apes, but mainly on the chimpanzee. They point out certain differences from current views as regards localization that have been observed in their experiments. The so-called motor area occupies unbrokenly the whole length of the precentral convolution, and in most places the greater part or the whole of its width. It also occupies the anterior wall, and in some places includes the base of the Rolandic fissure, occasionally extending even into the deeper part of the posterior wall. They have never, however, found the motor area extend to the free face of the postcentral convolution. The anterior limit of the motor area is not bounded by any fissure. The front part usually dips into and across the upper part of the superior precentral fissure, and lower down it not infrequently dips into the inferior precentral fissure. Occasionally the front edge of the region dips into almost the whole length of the superior precentral sulcus. It is not the area of the motor region that is variable, but the variation is in the sulcus itself and they point out that the sulci are not strictly of value in the topography of the functional centers. There is so much individual variation that the only way of ascertaining the location is by electrodes. Two landmarks of real value are the genua of the Rolandic fissure. They were surprised by the ease with which faradization elicited movements from this so-called motor region of the cortex of the anthropoid, as their predecessors had stated that stronger currents were required than in the lower monkeys. Another point in which their results differ is that in certain individual cases the epileptiform discharges were very easily excited. They give the details of the different motor areas and remark that they have found in some cases a severe crossed brachioplegia from the excision of the hand region of the right hemisphere without the slightest sign of paresis in the face or leg. Lesions in the leg area might cause similar temporary paresis in the opposite leg. From their observations they think it probable that as much of the motor area lies hidden in the sulci as actually lies in the free surface of the convolutions, but endorse the opinion of Beevor and Horsley that the so-called motor areas in anthropoid brains form only a smaller fraction of the total surfaces than is found in the lower types of the monkey.

Theories of Inheritance. G. ARCHDALL REID.—Reid's article is a statement of his Weismannic views as regards the non-inheritance of acquired characters. He starts with the assumption that the transmissibility of acquired characters is unbelievable, and argues therefrom. A large part of his article is an attack on Adami's views and his hypothesis of the transmission of acquired characters.

The Lancet, December 28.

Early Diagnosis of Pulmonary Consumption, with Especial Reference to the Value of Tuberculin. ARTHUR LATHAM.—The points insisted upon as important in the early diagnosis of pulmonary tuberculosis are as follows: Latham thinks we are justified in making a positive diagnosis in the vast majority of cases: 1. When we find diminished resonance and increased resistance to the finger associated with the presence of persistent crepitations or fine râles in those situations in which tuberculosis usually starts in the lungs, namely, the apices of the upper lobes, more especially towards their posterior aspect. 2. When the symptoms are suggestive of tuberculosis and tubercle bacilli are present in the sputum, though the physical signs of the lungs are absent. 3. When hemoptysis occurs in cases, to any extent whatever, where there is no evidence that bleeding comes from the upper air-passages or is dependent upon some morbid condition of the heart or other diseases within the chest. 4. When there are suspicious signs in the lungs with tuberculous disease elsewhere in the body. He illustrates these different points, calling attention particularly to careful research for trivial causes of hemoptysis. The other methods, such as agglutination of tubercle bacilli by the patient's serum, *x*-ray examination, etc., are not considered entirely reliable, but where the disease is so slight that the diagnosis can not be made on physical signs, or any tubercle bacilli found, he believes that one, two or three small injections of Koch's old tuberculin are absolutely free from danger. The value of this reaction is not absolute, but we may compare it with the Widal reaction in typhoid fever. He thinks that we have in it a very valuable means for making a positive diagnosis in a large number of cases which present suspicious symptoms and signs at a much earlier stage of the disease than we can by any other means.

Journal of Tropical Medicine, December 16.

The New Biological Test for Blood—Its Value in Legal Medicine and in Relation to Zoologic Classification. GEORGE H. F. NUTTALL.—The new test for blood which has been lately largely noticed, is discussed by Nuttall, who claims that we have in anti-serum a very delicate test which will have its use in legal medicine and will permit of our study of the relationship between animals. It is very remarkable that a common chemical property has persisted in the blood of anthropoids throughout the ages that have elapsed during their evolution from a common ancestor and this in spite of the food and different habits of life. Similarly the blood relationship existing between other groups of animals serves to carry us back into geological times. He believes that by means of these studies of the blood we shall have a most valuable aid in the study of the various problems of evolution. He remarks in conclusion that Uhlenhuth wrongly takes credit to himself of having discovered this test for the blood. In fact, he has discovered no new principle, but only followed the lines laid down by Tchistovitch, Bordet and Myers. While he was the first to obtain an anti-serum for the human blood and proved that reactions took place with solutions of dried blood, he is wholly unjustified in taking the credit of the method to himself, especially as he was evidently perfectly aware of the literature on the subject.

Hospitalstidende (Copenhagen), No. 47.

Congenital Stenosis of the Pylorus. HIRSCHSPRUNG.—This surgeon is inclined to favor gastrotomy with subsequent dilatation of the pylorus, which has been successfully done by Nicoll and Schmidt. It is less aggressive than gastro-enterostomy and restores natural conditions, but gastro-enterostomy has a number of successes to its credit, which he reviews in detail.

Annales de Dermatologie (Paris), October.

Iodo-Mercury Cacodylate in Treatment of Syphilis. CIVATTE and FRAISSE.—This communication from Brocq's service at the Broca hospital describes the results of the administration of a combination of arsenic and mercury in 60 cases of syphilis. After testing various preparations a special combination was made for the purpose by dissolving 1 gm. of mercury cacodylate and 2 gm. of cacodylic acid in 75 gm. of distilled water. In another vessel 1 gm. of sodium iodid is dissolved in 5 gm. of water, and the two fluids are mixed and neutralized with dilute solution of sodium. Distilled water is then added to make 100 c.c. The resulting fluid is limpid, stable, is not decomposed by light and can be sterilized at 120 C. for twenty minutes. The dose, 1 c.c., is injected perpendicularly into the upper, outer region of the buttocks with a needle 4 cm. long. After one or two injections the dose is increased to 2 cm. No inconveniences were observed in any case. The results were so superior to mercurial treatment alone, that the addition of sodium cacodylate is evidently indicated in syphilis whenever the patient is depressed, neurasthenic or emaciated. The mixture above described is soluble and easily absorbed by the cellular tissue. It is less painful than any other mercurial preparation and simplifies treatment by administering the two drugs at once. This combined method of treatment is unnecessary for vigorous or excitable subjects, and is perhaps contra-indicated in case of consumptives with a tendency to hemoptysis.

November.

Linear Dermatoses. F. BALZER.—Two cases are described, one of nevus and the other of psoriasis, distinguished by the fact that the dermatosis occurred in stripes, horizontal, oblique or longitudinal. The nevi developed after the patient had accomplished his military service. They affected only one side of the body, and were arranged in more than sixteen stripes, four running down the leg to the middle of the calf. The psoriasis was also unilateral and most pronounced on the leg. Analysis of the cases shows that the theory of a metameric and of an embryonal origin do not exclude each other. The general cause works along the lines of least resistance, and the diminished resistance may be from some disturbance in the embryonal existence or in the innervation, either peripheral or central.

Archives Gen. de Medecine (Paris), November.

Progressive Asystolia in Young Persons Due to Primary, Subacute Myocarditis. E. JOSSERAND.—Josserand describes three cases personally observed. The patients were young men previously healthy. They suddenly presented symptoms suggesting tuberculosis or nephritis, cough, hemoptysis, emaciation, tendency to asphyxia, edema, signs of cerebral and pulmonary embolism with a normal or nearly normal pulse and a simple bruit de galop at the heart. The affection was fatal in 4, 8 and 18 months, with no remissions.

Gazette Heb. de Med. (Paris), November 3, No. 88.

Surgical Intervention for Dystocia from a Fibroma. A. BOURSIER.—After comprehensive study of the subject Boursier concludes that total abdominal hysterectomy is the preferable operation for this condition, and should be done whether the fetus is alive or not. Symphysiotomy should be absolutely rejected, and conservative Cesarean section is indicated only in very exceptional cases. It is, however, a good operation when it can be effectually completed by myomectomy. The Porro should be reserved for certain special cases.

No. 92.

Clinical Interest of Blood Ferments. C. ACHARD.—This communication calls attention to the fact that a much lessened activity of the blood ferments—especially lipase—indicates diminished powers of resistance on the part of the economy in general, and is hence an unfavorable sign for the prognosis.

No. 95.

Herpes After Spinal Cocainization. C. ACHARD.—Violent headache and vomiting were noted in three cases, commencing soon after the injection, accompanied by higher temperature. The herpes developed on the face after nearly forty-eight hours. Eucain was used instead of cocain in one case.

No. 96.

Two Cases of Splenectomy.—BLANQUINQUE. The spleen was removed on account of splenomegalia in one patient, who rapidly recovered. The other case was a patient with severe leukemia. The spleen weighed nearly 3.5 kilograms and was very friable, with patches of amyloid degeneration. The symptoms of leukemia had commenced in the midst of perfect health ten months before. He survived the operation only eight hours.

Presse Medicale (Paris), December 4.

Lesions of the Myocardium in Uremia. P. MERKLEN.—Three cases of subacute interstitial myocarditis of uremic origin are described. It occurred in the course of chronic nephritis complicated by acute parenchymatous nephritis. Albuminuria was abundant and rebellious in all three. One exhibited symptoms of acute edema of the lungs, another headache and coma, the third uncontrollable vomiting, metrorrhagia and hematemesis. The autopsy disclosed lesions in the myocardium similar to those observed in toxemia of an infectious origin, resembling an inflammatory edema. This uremic myocarditis caused no symptoms during life, but it throws light on various functional disturbances and chronic alterations in different organs noted in renal toxemia.

December 7.

Pre-Pylorie Ulcero-Cancer. G. HAYEM.—Eight or nine cases of cancer consecutive to a chronic ulcer have been studied by Hayem. He describes the pathologic anatomy of 5 in all their details, which seem to be largely identical in each case. The age of the patients was 40 to 53; all were men. A tumor was palpable in only one case. In 2 patients the ulcer had caused no symptoms until the cancerous degeneration occurred, when there was constantly loss of appetite, pains and vomiting of fresh or digested blood. The terminal stage was marked by asthenia, anemia and signs of dehydration. Hayem's experience indicates that this ulcero-carcinoma is the most serious of all gastric affections.

December 14.

Generalized Malignant Lymphoma. A. JOSIAS.—The child whose case is described by Josias, was 9 years old. The affection ran an almost acute course in a few months. The tonsils were first affected and a large tumor developed in one. The autopsy disclosed that the entire lymphatic system was affected, apparently a return of the lymphatic organs to the embryonal condition under the influence of some toxin. This malignant lymphadenoma seems to be an infectious disease, Josias concludes, causing a special reaction on the part of the adult lymphatic tissue or of the relics of the embryonal. Judging from the alterations in the bone marrow and in the spleen, the agent of the infection does not belong to the group of micro-organisms which have been discovered in the blood and organs in cases of pseudo-leukemia. This is proved by the absence of local polynucleosis, which differentiates the affection from the changes induced by ordinary infections.

Typhoid Staphylococcus Infection. E. HIRTZ.—A robust young man, addicted to drink, died in seventeen days after the commencement of an acute disease characterized by headache, epistaxis, fever, vomiting and a fetid, yellow diarrhea. The pulse was rapid and soft, the face and extremities cyanosed and death occurred in increasing dyspnea. The autopsy disclosed on nearly all the organs, but most pronounced on the kidneys, the multiple visceral emboli of experimental general staphylococcus infection. There were no cutaneous nor osteomyelitic lesions. Besides the classic cardio-renal localizations, there were also ulceration of the intestines and bulbo-medullary abscesses. The entering-point of the infection was unknown.

Revue de Chirurgie (Paris), December.

Reflux in Gastro-Enterostomy. E. TAVEL.—Tavel describes a case in which gastro-enterostomy in its various modifications was performed five times in order to relieve the symptoms of hyperchlorhydria and rebellious motor insufficiency of the stomach and post-operative reflux. The patient

as a young physician. Kocher's anterior antecolic gastro-enterostomy was first done, but was soon followed by new symptoms indicating the reflux not only of large quantities of bile but also of pancreatic juice. Mikulicz then performed a gastro-enterostomoplasty with jejuno-jejunal entero-anastomosis. The symptoms were not improved, the weight was still 10 pounds less than before the first operation. Kocher then operated on the patient, taking a fold in the afferent branch according to Hacker's method, stretching the mesentery of this afferent branch. Improvement was manifest for fifteen days, but the reflux symptoms soon recurred, although the primary symptoms of motor insufficiency had been abolished. This last operation had a favorable influence on the preceding constipation, but owing to diastasis of the recti there was hernia of the entire epigastric region. The patient clamored for a new operation and the duodenum was severed below the pylorus, under ether. The two parallel cicatrices from the previous operations were resected and the abdominal wall closed, in an operation which lasted two hours and a half. As the result of this intervention the reflux of bile was arrested but the even more disagreeable pancreatic juice still found its way into the stomach in sufficient quantities to render life a torment. The afferent branch of the anastomosis was therefore resected a few months later. The conditions, therefore, after the five operations were similar to those of the Doyen gastro-enterostomy with subpyloric section of the duodenum. The experience in this case demonstrates that the Doyen and Roux methods of gastro-enterostomy are the only ones that guarantee against reflux and of these the Roux Y is absolutely the method of choice. If dyspeptic troubles follow a palliative operation in case of cancer, the operator has no cause to reproach himself, but the case is different when the intervention was undertaken for the relief of some benign affection such as Reichmann's disease, gastro-succorrhea, dilatation, ulcer, etc. The operation should never expose the patient to ills worse than his previous condition. The Y gastro-enterostomy requires possibly fifteen minutes longer, but this is nothing in comparison to the benefits attained, unless the patient is very feeble.

Repair of Bone Marrow. V. Cornil.—The experimental research on dogs reported shows a remarkable power of repair after extensive destruction of the bone marrow. No septicemic phenomena were observed in any instance. In the clinical experiences that have been published, the infection of the focus in the bone has hindered or prevented repair in certain cases, but when it has been possible to control the infection, either by the natural defenses or adequate intervention, repair has occurred quite rapidly and similarly to the experimental experiences reported. Among the cases of resection on record, Sédillot describes a patient, 31 years old, operated on for suppurative coxalgia. The femur was sectioned at the lesser trochanter and the marrow cavity evacuated for 10 cm. The patient died ten months afterward from pelvic suppuration and the femur showed external or periosteal, and internal or marrow, ossification with reconstitution of the marrow cavity which was filled with a gelatiniform marrow. In all these cases the marrow was soft and fatty, probably a trophic alteration. In case of tuberculosis of the diaphyses, suppurative or fungous lesions have been cured by merely exposing the focus and curetting, preventing further infection from the focus by thermocauterizing, impregnating with zinc chlorid or pure carbolic acid or with Felizet's singeing. Protracted drainage is useful and the modifying treatment can be kept up with iodoform aided by ethyl chlorid. In case of acute osteomyelitis it is possible to drain the marrow cavity by passing a drain throughout the entire cavity of the diaphysis of the tibia for instance, using a long, flexible probe to introduce it through a trephining opening. There is no hemorrhage from this procedure as the writer has established on dogs, and Verj and Tscherning in the clinic. In case of neuralgic osteitis, trephining has a tendency to abolish the pain, Gosselin has found, by destroying the nerve filaments or by inducing an acute attack of osteitis which terminates in resolution. Ollier operated on a case of this kind in a syphilitic. The wound was left open a long time and the pains were definitely abolished. Numerous cases of these various bone affections and their operative treatment are described in detail.

Tumors of the Tubes. E. Quenu.—Eighteen pages are devoted to the tabulated observations of tumors of the tubes by various writers, and Quénu describes three personal cases. This and the preceding article are concluded from the October number.

Tuberculous Rheumatism. M. Patel.—Articular manifestations in the course of tuberculosis have been, until recently, attributed to rheumatic complications. The pathologic anatomy of the joint and positive inoculations have confirmed the tuberculous, toxic character of these joint lesions which may range from simple arthralgia to the classic white swelling, acute or chronic articular rheumatism, even the nodular and deforming varieties, attenuated or not according to the virulence, their number, the general condition of the subject or the local condition of the point affected. Patel describes a number of typical cases of each variety.

Revue de Gynecologie (Paris), v. 4 and 5.

Relations Between Deciduomata and Moles. E. Bonnaire.—Metoz has recently reported that in 48 out of 98 cases of deciduoma which he had collected, a vesicular mole had previously been observed. An abortion or hydatiform degeneration of the chorionic villi usually precedes the development of a deciduoma. Every woman who has had a hydatid mole should be regarded, Bonnaire insists, as menaced with malignant deciduoma during the following two or three years, at least, unless a normal pregnancy intervenes. The vesicular mass should be removed with the fingers or a blunt curette. The fingers or instrument should not be allowed to press against the wall of the uterus, as it is liable to be thin and friable. The removal of the mole should be followed by a dilating antiseptic and hemostatic tamponing to induce the muscle to contract and recuperate consistency and thickness. The cavity left by the mole should be swabbed with creosote or zinc chlorid. The uterus should be curetted again the tenth to fifteenth day. If an atypical metrorrhagia persists or recurs after these procedures the inoculation of the uterus muscle with cancerous elements should be considered probable and the organ should be removed, even if it is impossible to detect any intra-uterine nodule or ulceration by digital palpation or by microscopic examination of the scrapings. Hydatid mole frequently follows an old endometritis. Menu found only 12 cases in 79 in which a hydatid mole had occurred without a preceding childbirth. The patients are usually 25 to 30 years old. Lochlein observed one case in which the neoplasm developed after the second year, but in a personal case described by Bonnaire the mole was removed three weeks after the first symptom, a profuse hemorrhage, had been noted. The hemorrhages soon recurred and vaginal hysterectomy was done a month later. The patient succumbed in forty-eight hours to the excessive anemia. The ovaries were in cystic degeneration; this coincidence has been frequently noted. The microscope showed the exclusive participation of the plasmodium in the evolution of the placentoma.

Vaginal Enucleation of Myomata. L. Dartigues.—This article describes and illustrates the technique of Segond's method of enucleating submucous sessile or interstitial myomata, with or without morcellement, by uni- or bi-lateral cervico-vaginal hysterotomy. The morcellement is done with a corkscrew inserted in the tumor. This portion is then excised by passing a curved knife around it. By this means cone-shaped pieces are removed until all is gone. The requisites are an approximately regular shape, a movable tumor and the probability that it is single and that the adnexa are sound. This operation may also be indicated under other conditions as a temporary measure. The harmlessness and the conservative character of the intervention commend it for young women and also during the period around the menopause, on account of the importance of the uterus from the point of view of the pelvic statics. About 1200 gm. is the

largest size that can be successfully ablated by this method. The results have been exceptionally brilliant in Segond's experience in many patients whose general condition prohibited a major operation. In all his numerous cases the undeniable advantages of the operation have demonstrated that it is entitled to a prominent place among conservative operations. The exact conditions in 25 cases are illustrated. Only one patient died.

Semaine Medicale (Paris), December 18.

Comparative Measurements of the Heart. Potain.—This is the last work from the pen of the late Prof. Potain and is published with an extended notice of his career and a reproduction of the plaque which was to have been presented to him on his anniversary. He compares radiography and percussion and states that the former has given us confidence in the findings of the latter, impossible to be attained in any other way. But at the same time he warns young practitioners not to be satisfied with radiography alone.

Centralblatt der Bakteriologie (Jena), xxx, 17.

Bacteria in School Dust. E. Cacace.—A bacteriologic study was made of dust from the various rooms of the normal school at Padua, taken at different times throughout an entire year. All the guinea-pigs and rabbits inoculated with the dust died with indications of septicemia, and the colon bacillus and the staphylococcus aureus and albus could be cultivated from the blood of heart and spleen. A remarkable fact noticed was the complete absence of tubercle bacilli. None were found at any time. Another fact was the great increase in numbers and virulence of the bacilli during the month of June. The pneumococcus was found once. The largest number of germs was found in the dust from the kindergarten room. None of the animals exhibited any symptoms of tetanus. The colon bacillus was numerous and always virulent.

No. 18.

New Facts Learned from Agglutination Tests with Vibriones. J. H. F. Kohlbrugge.—The relative virulence of a bacterium and the proportion of toxins in a sterilized bouillon can both be ascertained from the agglutination of the bacterium by the toxin, Kohlbrugge announces. The phenomenon is most conveniently observed in a hanging drop. Vibriones are rapidly agglutinated by the toxins from a more virulent vibrio. The toxins, he thinks, are secreted by the micro-organisms.

No. 19.

Visible Evidence of Action of Alexins. A. Pettersson.—Interesting tests of the bactericidal and hemolytic properties of blood serum, that is, of the alexins which it contains, can be made in a test tube. The tube is partly filled with nutrient gelatin and sown with the typhoid or other bacillus. A layer of serum is then poured on top of the gelatin. Albuminous substances diffuse through the upper portion of the gelatin and this occurs also in the case of serum. Its elements permeate the gelatin to a certain depth. The bacilli proliferate below but never grow upward into the layer of gelatin in contact with the serum. It remains clear and comparatively transparent. The hemolytic action of an "active" serum can be demonstrated in this way even more distinctly.

No. 20.

Intracellular Constituents of the Typhoid Bacillus. A. Macfadyen and S. Rowland.—This communication reports the results of a study of the question of immunity from a new standpoint, the intracellular factors of health and disease, both as regards the micro-organism and the soil on which it grows. This has been accomplished by obtaining the cell substance from the living cell free from all secreted or excreted substances. Cell plasma from the typhoid bacillus was chosen for the experiments and the result demonstrated the astonishing fact that a single injection of 1, .5 or even .2 c.c. of the cell plasma, either subcutaneous or into the peritoneal cavity, completely protected guinea-pigs and rabbits against a certain lethal dose of typhoid bacilli. The protection afforded was complete even when tested against six lethal doses. The animals are all alive and well six months later. The protection from a single injection did not last longer than about four weeks. The tolerance displayed by the guinea-pigs to large doses of the typhoid cell plasma was most remarkable. The plasma was rapidly absorbed with no local irritation, even in subcutaneous injections. The cell plasma after the addition of thymol was kept in a cold place for four months without losing its immunizing properties. In addition to the protection afforded by the injections the blood of the treated animals showed marked agglutinating power in the Widal test for three months afterward in guinea-pigs and for nine months in rabbits. The protection and the agglutinating property did not parallel each other. The bacilli were at first disintegrated with sand, but the technique as now improved dispenses with the sand. The trituration is at present accomplished by increasing the brittleness of the cells by freezing them at the temperature of liquid air. [The article is in English.]

Beitraege z. path. Anat. (Jena), xxx, 3.

Angiosclerosis in the Pulmonary Circulation. H. Bruening.—Out of 21 cases of angiosclerosis of the pulmonary circulation observed by Bruening, the lesions were macroscopic in 9. In 7 there was no concomitant sclerosis of the aorta. The sclerosis was most marked in the arteries and veins of the lungs, occasionally in the bronchial arteries, never in bronchial veins. In one instance the sclerosis was very pronounced in the lung vessels while the rest of the body was exempt. In 6 patients there was mitral insufficiency; in 4 degeneration of the heart muscle, especially of the left ventricle and in 11 pathologic conditions in the respiratory organs which rendered respiration difficult.

Osteogenesis Imperfecta. F. Harbitz.—A case of the so-called "fetal rachitis" is illustrated. The head and trunk were normally developed but the long bones were abnormally short and small, with numerous fractures. The bones showed the same microscopic characteristics as in cretinism, but the glands were apparently normal except for the fact that no iodin could be detected in the thyroid gland. The microscopic findings were diametrically the reverse of those noted in rachitic and syphilitic osteochondritis.

Centralblatt f. Gyn. (Leipsic), November 23.

Premature Detachment of Normally Located Placenta. W. Ruehl.—According to Goodell's statistics, only 6 children and 52 of the mothers were saved in 106 cases of this dangerous complication of pregnancy. Ruehl believes that the fetus succumbs to the interruption of the circulation, the mother to hemorrhage from the uterine wall. He describes a personal case, the patient a healthy ii-para. The previous day she had experienced a slight contusion of the abdomen. A few pains suggesting labor were followed by a sudden intense pain with a sensation as if something had torn loose inside, moderate vaginal hemorrhage, and loss of consciousness for a time, followed by violent labor pains, the hemorrhage increasing while they lasted. Attempts to dilate the cervix with the colpeurynter were abandoned as the patient collapsed, with indications of rapidly increasing distension of the uterus from internal hemorrhage. Vaginal Cesarean section was done and the fetus extracted, all in six minutes. The hemorrhage ceased as soon as the uterus was cleared. The patient recovered after hovering for twenty hours between life and death. She evidently owed her life to the rapidity with which the vaginal Cesarean section can be done.

Treatment of Eclampsia. W. Stroganoff.—This method of treating eclampsia has been fully described in The Journal. Stroganoff now has an experience of 113 cases of puerperal eclampsia, which he considers an acute infectious disease. Three patients died from a complicating pneumonia, one from a septic process twenty-seven days after cessation of the eclampsia and two were moribund when first seen—a total of 6 deaths in the 113 cases.

November 30.

Treatment of Dysmenorrhea. A. Theilhaber.—According to Theilhaber's theory, many cases of dysmenorrhea are

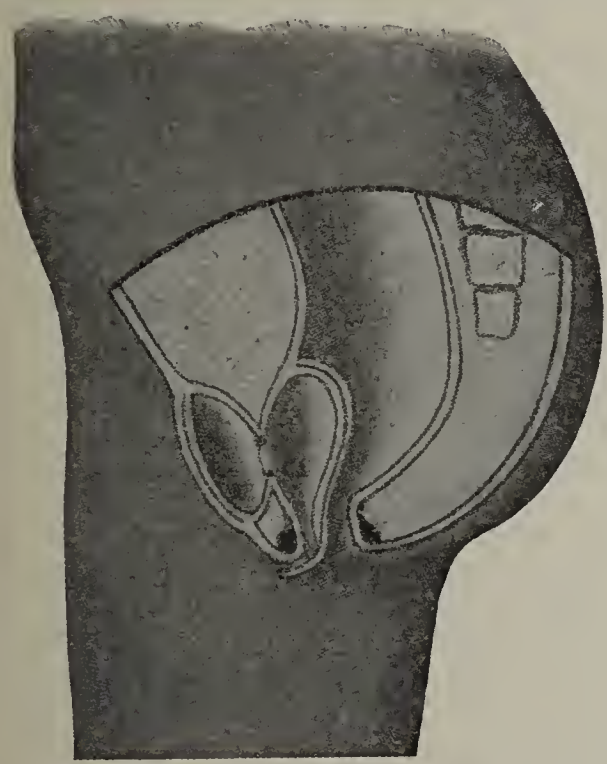
ue to a tetanic contraction of the sphincter of the internal os. Such contractions of unstriped muscle are always painful, as n cramps of the pylorus, anus, etc. They can be prevented by xcision of a small wedge-shaped piece out of the sphincter. He uses a small knife for the purpose of curing dysmenorrhea n this principle, made in such a way that it can not penetrate nore than 6 cm. into the tissues. His results have been exremely satisfactory in twenty-two cases in which he has pplied this measure after the failure of general and local reatment.

December 7.

Survival After Extirpation of Carcinoma. E. WALDSTEIN.—The experiences at Schauta's clinic demonstrate that out of every 100 women with cancer can be permanently ured. Only 14.7 of the entire number of cases of cancer hat came to the clinic were in an operable stage. The operaion was by the vaginal route in 112 followed to date, and 8 are permanently cured. Schauta's statistics show 26.4 er cent. of the cases of the collum, without recurrence to date, nd 83 per cent. of 6 cases of cancer of the corpus without ecurrence.

Centralblatt f. Chirurgie (Leipsic), December 21.

New Treatment of Exstrophy of the Bladder. W. SUBBOTIN.—This Russian surgeon has operated with brilliant sucess on two patients with exstrophy of the bladder, epispadias nd incontinence of urine, by constructing a new bladder and urethra, with a sphincter, out of the rectum. He incises and pens the rectum from the rear after resection of the coccyx.



He then incises the anterior wall of the rectum for 3 cm. and also incises the posterior wall of the bladder as it is pushed into the opening in the rectum by the finger of an assistant introduced from the front. This anastomosis between bladder and rectum is then carefully sutured. A flap is then cut in the anterior wall of the rectum, shaped like a long horseshoe, the very narrow base consisting of a portion of the anus. The flap includes about one-third of the circumference of the rectum. The edges are loosened, brought up and sutured together, thus forming a pear-shaped cavity inside the rectum, with a broad communication into the bladder and the natural sphincter of the portion of the anus below. This new cavity is entirely separate from the cavity of the rectum proper. It performs the functions of bladder and urethra with perfect success. The urine is spontaneously voided after due warning five or six times a day and there is no interference with the normal functions of the rectum. The patients have been permanently freed from their incontinence and the conditions have remained as satisfactory as at first after ten months in the first and six in the second case.

Deutsche Med. Wochenschrift (Leipsic), December 12.

Extermination of Rats. R. ABEL.—Cultures of the Danysz bacillus in Abel's tests were found effective in some cases and not in others. In one large stable infested with rats, after the death of one rat and one mouse, the rest vanished completely and permanently. The mouse typhoid bacillus has proved almost invariably successful in his experience, and the occasional success with the Danysz bacillus should encourage further trials. It might be possible to utilize also Issatschenko's bacillus for the purpose. It belongs to the coli group and has proved pathogenic for rats.

Pseudo-Fibrinous Formation in Urine. A. ROTHSCHILD.—Seven cases have been published in which a semi-solid, fibrin-like worm has been spontaneously voided in the urine. It was ascribed to a membranous ureteritis by some, by others to a pyelitis, etc. Rothschild describes a recent case in which a worm-shaped coagulum of this kind was passed in the urine. It did not take the Weigert fibrin stain, and the microscope showed that it was a structureless mass. Four months later the patient returned much emaciated with pains and a tumor in the left kidney. The nephrectomy disclosed a sarcoma with giant cells at the upper pole of the kidney. A brownish concrement was found in an ampulla in the ureter near the pelvis, and behind this concrement was a mass of substance identical with that of the fibrin-like worm voided. The discovery of such a structureless formation in the urine, especially when blood can be determined in the urine with or without the microscope, should suggest the possibility of a tumor. Fürbringer and Alexander have observed a somewhat similar phenomenon in three cases of typhoid fever. In Rothschild's case the patient was apparently healthy, with merely a history of hematuria for three weeks in 1897, for three days in 1900, and a few months later, the expulsion of the coagulum after three days of discomfort in the bladder region.

Muenchener Med. Wochenschrift, December 10.

Medicinal Treatment of Fever in Tuberculosis. F. KOEHLER.—It is a great mistake, Koehler thinks, to rely too exclusively on dietetic and physical measures in the treatment of tuberculosis, and omit to control the symptoms and especially the fever, with appropriate medication. All the other symptoms improve after the fever is brought under control.

Temperature in Consumptives After Exertion. A. OTT.—Twenty-five tuberculous subjects with normal temperature showed the usual slight rise in temperature after a walk, and examination of the urine demonstrated the presence of albumoses as positive in 9 and probable in 10 more. The finding of albumoses in the urine is generally accepted as an indication of fever, and consequently even this slight temperature after exertion must be regarded as fever induced by the exercise. The fact also that overexertion by a consumptive has frequently been the starting point of a protracted fever, confirms the connection between exercise and the higher temperature, and indicates the necessity of restricting the exercise to the amount below that followed by fever.

Gelatin in Hemoptysis. A. HAMMELBACHER.—Subcutaneous injections of gelatin were applied in four cases of rebellious and recurring tuberculous hemorrhages from the lungs. In each patient the hemorrhages became less frequent and less in amount until they ceased completely. The injections were made in the breast or thigh, from 20 to 120 c.c. at a time of a 2.5 per cent. neutralized solution of gelatin in physiologic salt solution. The injections were not painful at first but after two or three hours were painful for a time. The pain was usually controlled by warm compresses. A peculiar taste like sealing wax or mucilage was noticed in the mouth for a day or so after each injection.

Hemoglobinometer. GAERTNER.—This new apparatus for the determination of the proportion of hemoglobin in the blood is called the "hemophotograph," as it is used with sensitized or photograph printing papers. Light passes through a thin layer of pure water and acts on photograph printing paper

below as if nothing intervened. But blood is comparatively impermeable for the light. Diluted blood will also arrest the light according to the proportion of blood in the fluid. The apparatus is constructed on this principle. A strip of glass is made clear at one end, gradually becoming darker, that is, non-transparent, toward the other end. One side of the strip is marked with a graduated scale in millimeters. It fits into a frame like an ordinary photographic printing frame, extending through the center from end to end. On one side of it is a square frame with a large hole in the center, which is the "chamber" to hold the blood. Glass above and below protects it. After the sensitized paper is inserted in the frame, it is exposed to gas, lamp or incandescent electric light for a few minutes, until the paper under the solution of blood has turned the proper shade, determined by comparison with a strip of the color painted on the glass. The photograph thus obtained is then compared with the paper under the strip with the scale, and the figure of the scale corresponding to the exact shade is recorded. This apparatus is surprisingly exact and shows even very slight variations in the proportion of hemoglobin, impossible to detect by other means. The photographs thus obtained are valuable for reference later and the technique is so simple that it is mastered at the first attempt.

Guide for Stomach Tube. W. N. Clemm.—The principal advantage claimed by Clemm for this contrivance is that it clears the fenestræ in the sound. The flexible wire terminates below in a metal "basket" like an inverted cap with ear pads. The projecting portions serve as knives to cut any fragments of meat, etc., which may become lodged in the fenestræ.

December 17.

Cutaneous Symptom Accompanying Malignant Disease. Leser.—Leser has noticed that his patients with cancer exhibited numbers of small angiomata—bluish-red tumors in the skin. He has noticed this coincidence in all his 60 cases, and Mueller in 49 out of 50. Nothing of the kind was found in 300 patients with other surgical or internal affections. The average number was more than 15; 58 were noticed in one case of mammary cancer and 216 on another patient. The majority of the angiomata in the last case developed within two months. Such tumors are rare under 50 years of age, and their appearance in large numbers in a comparatively young person may be accepted as an aid in the diagnosis of a malignant neoplasm. Freund and Hollaender, he adds, have also recently called attention to the presence of such angiomata as suspicious of cancer.

Therapie der Gegenwart (Berlin), December.

Indications and Contra-Indications for Lavage of the Stomach. I. Boas.—Lavage of the stomach is not considered such an innocent measure by Boas as is generally accepted. It causes now and then a little bleeding, and this may be followed sooner or later by an erosion or even ulceration. The Journal has mentioned Bendersky's recommendation of lavage of the stomach as a means of treating nervous vomiting. Boas states that he has never found it necessary in any of his cases of this kind, as the patients have always recovered with repose, iced milk and occasionally small doses of some bromid. He is inclined to restrict the washing of the stomach to cases of marked dilatation or possibly certain cases of intestinal occlusion. He believes that it is absolutely contra-indicated in chronic gastritis without a specially excessive secretion of mucus; also in case of ulcer unless complicated by severe motor disturbances. Ewald and Minkowski have recommended rinsing the stomach with iced water as a last resort in profuse hemorrhage from the stomach. Lavage of the stomach has been frequently applied in functional affections, with considerable success, but Boas is convinced that the same results could have been attained with simpler measures, such as self-lavage as he calls the drinking of Carlsbad and other mineral waters. Lavage is useful with moderate retention in case of stenosis of the pylorus or carcinoma of the stomach, but not to the extent that some advise. A thorough washing once or twice a week is usually sufficient. The conditions are very different in case of carcinoma of the pylorus, especially if accompanied by much "coffee dregs" in the stomach. Such patients are liable to collapse after repeated lavage of the stomach. One of his patients grew worse so rapidly after the lavages that they were abandoned and he recuperated after their discontinuance. It is possible that the sound may cause renewed hemorrhage in these cases, or the sudden transition of the stomach from a distended to a contracted condition may entail a kind of shock. Severe ulcerating carcinoma is therefore a contra-indication to washing the stomach. The stagnation can be partially remedied by inserting the sound once or several times a day and removing part of the stagnating debris. This measure requires only a few minutes, and relieves to a certain extent the disturbances resulting from over-distension of the stomach. He asserts that there is no rational basis for lavage in case of atony with or without gastroptosis. Regulation of the diet will achieve the desired result, supplemented by alkalies and possibly, small doses of morphin, codein or belladonna to dispel the pain at the height of digestion.

Phosphorus in Rachitis. H. Leo.—No conclusive proof has yet been offered of a specific action of phosphorus in rachitis, Leo remarks. On the other hand, he says, cases have been published showing an actually deleterious influence. The Journal has mentioned Nebelthau's experience, the death of a well-developed child of two years after taking only 3 mg. of phosphorus in the course of sixty hours. Leo relies principally on dietetic and hygienic measures, especially the systematic administration of olive oil. If no improvement follows this treatment, he gives phosphorus in small doses, not over one teaspoonful of a .001 per cent. solution or ten drops of a .01 per cent.

Wiener Klinische Rundschau, December 8.

Experiences with Spinal Anesthesia. W. Kopfstein.—Alpha eucain was used in 4 operations and tropacocain in 40. Kopfstein injected 3 cg. of the eucain and reports that severe collapse, high temperature and intolerable headache were observed in 3 cases, and in all a remarkable painfulness at the site of the operation commencing a few hours afterward. The fourth patient was a man of 27 operated on for an anal fistula. The only symptom observed was a temperature of 40 C. for twenty-four hours, but when seen again four months later, the knee-jerk was found exaggerated. The patient also complained of formication and frequent sacral pains and stated that his legs had been weak since the operation. The experiences with tropacocain were more favorable. It never induced fever. The dose injected was from 4 to 5 cg., and in 27 cases the results were very fine. Several of the patients were elderly and arteriosclerotic, but the Bassini operation, herniotomy or extirpation of the rectum were performed smoothly and perfectly without leaving traces of the anesthesia, which certainly would not have occurred with chloroform. An injection of 5 cg. of tropacocain in 3 men, 77 to 78 years old, induced complete anesthesia during amputation of the leg or thigh on account of senile gangrene. The general condition was so miserable that they probably would not have survived a chloroform anesthesia. None of these 27 cases exhibited the slightest symptom attributable to the anesthesia. In 5 other cases the anesthesia was perfect, but a violent reaction occurred afterward, with severe collapse in one. The patients were between 17 and 46 years. The collapse occurred one hour after circular extirpation of hemorrhoids. The pulse was only 48. The heart action improved the next day, but the general depression with pallor and loss of appetite lasted for three weeks. In 8 other cases no anesthesia followed the injection, but the patients reacted with vomiting, headache and intense pain in the spine. The operation was postponed in all but 2. He observed that the reaction was less violent after a good breakfast and the heart stimulated with coffee or wine, and his experiences have been more favorable since he noticed this fact and acted upon it. The possibility that the anesthesia may fail, as occurred in 20 per cent. of his cases as above described, should impose caution in adopting this method of analgesia in urgent cases.

Gazzetta degli Ospedali (Milan), December 1.

Experimental Vaccination with Fraenkel's Bacillus. G. TIZZONI.—The animals that bore with little disturbance a small dose of a virulent culture of the bacillus, proved more resistant afterwards when a larger dose was injected of the same or even more virulent culture, in Tizzoni's experiments. These facts suggested the possibility of successful serotherapeutic vaccination and further experiences have confirmed its feasibility. Sixteen animals were vaccinated in a vein or under the skin or in the trachea or by all three routes. A single injection was sufficient in some instances and as many as fourteen were made in others. Animals thus injected with a single loop of the culture were able to tolerate a fatal dose, eleven days later, while the control animals all died. If 5 c.c. of the filtrate were injected into a vein, the fatal dose could be safely administered in two days, but certain symptoms indicated that the immunity was not quite complete. The tests showed that the different culture media and conditions of the culture have the same influence on its vaccinating power as they display in regard to its virulence and toxic properties. Intravenous injections evidently induced a more complete immunity than by any other route. The vaccination also proved more effective and more readily obtained, the less the disturbance caused by the injections. The best immunizing results were obtained ten to fifteen days after the vaccinating injections. The immunity is more complete against the fever and marasmus than against the disturbances in the nervous system.

Treatment of Chorea.—Jemma reports the successful application of lumbar puncture in two cases of distressing chorea in children.

Hygiea (Stockholm), September.

Larva in Eye. K. STALBERG.—A larva, 1 cm. in length, was removed from the anterior chamber of the eye of a 5-year-old girl. It had probably been in the eye for five months, as the inflammation had lasted this length of time.

Revista Med. del Uruguay (Montevideo), November 1.

Tea-Kettle Laryngitis. L. MORQUIO.—Five cases of severe edematous laryngitis in children 2 or 3 years of age, caused by sucking the spout of a tea-kettle full of boiling water, have recently come under Morquio's care. Twenty-four hours usually decide the child's fate as the condition rapidly alters for better or worse. Three required tracheotomy on account of the suffocation induced by the excessive edema and secretions. One died in two days. The second had apparently recovered from the burn and consecutive bronchopneumonia, when a fulminating hemorrhage occurred fourteen days after the scalding. No autopsy was allowed. The other children recovered. Treatment was local with a solution of boric acid, application of picric acid, and calomel internally. Cold compresses were applied to the neck.

Queries and Minor Notes.

IS ABORTION JUSTIFIABLE IN THE INSANE PREGNANT?

MARION, IND., Jan. 7, 1902.

To the Editor:—In THE JOURNAL of Jan. 4, 1902, I find the following query: "A young woman shortly after marriage was discovered to be mentally unsound, the character of her condition being akin to paranoia. Her husband is a neurasthenic with a bad heredity. Her mother is a paranoiac and has been in an asylum for thirty-five years. Her father was an inebriate. This woman is pregnant. Whether pregnancy will affect her mental condition favorably or unfavorably is uncertain; probably it will affect it very little either way. But there is little doubt that the child would be a degenerate. Now, would it be justifiable to produce an abortion to prevent the birth of such a child, or could such a procedure under the circumstances be a crime?" Your reply to the above is: "It would be criminal."

There are tens of thousands of intelligent people in and outside of the medical profession who join with me in asking you why it would be a crime. D. E. M.

ANS.—It is criminal, because the laws in regard to criminal abortion make no exceptions for such conditions. We do not care to discuss the propriety of modification of the law.

CARD ANNOUNCEMENTS IN COUNTRY PAPERS.

WHITE BIRD, IDAHO, Dec. 31, 1901.

To the Editor:—Is the matter of announcing the name and occupation in a local paper professional or is it considered advertising? (See example in enclosed clippings.) Most regular physicians in this county have their name and profession in the paper.

W. A. F.

ANS.—The clippings enclosed contain simply card announcements of physicians that appear in country papers, giving the name, office and residence address. These are perfectly ethical and proper, according to the spirit of the Code. One physician gives the practice as limited to diseases of the eye, ear, nose and throat, which is also correct, provided it is a statement of absolute fact. In small towns this practice of inserting a card is common.

PRAIRIE ITCH.

RANSOM, KAN., Jan. 11, 1902.

To the Editor:—Can you give a satisfactory treatment for the affection vulgarly known as "prairie itch," "Kansas itch," and "prairie digs?" I have been unable to find the affection satisfactorily described in the text-books, but it seems to me to be a subacute variety of urticaria. W. S. G.

ANS.—"Prairie itch," like many other common terms, has no very definite signification; it may mean one thing in one locality and something else in another. It is a name, as a prominent dermatologist once put it, based on a want of knowledge of skin diseases. Most cases are probably some form of eczema; some are true scabies, and it is sometimes applied to various pruritic and urticarial conditions. The subject was discussed by Dr. W. T. Corlett in THE JOURNAL for October 13, 1888.

New Patents.

Patents of interest to physicians, December 17 and 24:

688,935. Apparatus for examining cavities in the human body. Sylvanus B. Crane, Perry, Iowa.
688,936. Artificial limb. David Devol, Grandbay, Ala.
688,987. Optical instrument for measuring the distance between the eyes. Emil Donitz, Jena, Germany.
689,355. Atomizer. Anton C. Eggers, Brooklyn, N. Y.
688,859. Disinfecting cloth and making same. Alfred Just, Mannheim, Germany.
688,864. Inhaler. Solomon M. Kemp, Baltimore, Md.
689,107. Disinfecting apparatus. Welam L. Mitchell, Brooklyn, N. Y.
688,881. Syringe-nozzle. Russell Parker, Brooklyn, N. Y.
689,023. Precipitating casein. Maximilian Riegel, Berlin, Germany.
689,718. Suspensory. Wm. J. Hay, Oshkosh, Wis.
689,818. Syringe. Addison W. Hitt, San Francisco, Cal.
689,808. Surgeon's sponge substitute. Robert W. Johnson, New Brunswick, N. J.
689,406. Electric exercising apparatus. Alfred Olson, San Diego, Cal.
689,652. Exercising device. Edmund Perry, Cardiff, England.
689,831. Fracture apparatus. John W. Pettee, Denver, Colo.
689,752. Suspensory bandage. Lee Rogers and J. E. Cuthbert, Petersburg, Va.
689,418. Exercising apparatus. Michael B. Ryan, Cologne, Germany.
689,602. Sanitary garment. George Turner, Schuyler Lake, N. Y.
35,468. Design, druggists' label case. A. S. Baird, New York City.
35,469. Design, retinoscope member. T. H. Bickerton, Liverpool, England.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE 32D ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. Cloth. Pp. 891. Boston: Wright & Potter. 1901.

LE MALATTIE DEL SANGUE. Manuale di Ematologia. Dottor Emilio Rebuschini. Un vol. di pag. viii-432. Milano: Ulrico Hoepli. 1902.

THE 35TH ANNUAL REPORT OF THE CENTRAL FREE DISPENSARY of West Chicago, for the Year Ending Nov. 30, 1901. Paper. Pp. 24. Chicago: A. L. Swift & Co. 1901.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY, at the 110th Anniversary, held at Concord, May 16 and 17, 1901. Cloth. Pp. 347. Concord, N. H.: Ira C. Evans. 1901.

TRANSACTIONS OF THE COLORADO STATE MEDICAL SOCIETY. Thirty-first Annual Convention. By-laws and List of Members. Cloth. Pp. 548. Denver: Published by the Society. 1901.

ANNUAL REPORT OF THE CHIEF SURGEON, Division of the Philippines, for the Period Ending May 16, 1901. By Col. Charles R. Greenleaf, Assistant Surgeon-General, U. S. A. Paper. Pp. 24.

TRANSACTIONS OF THE 31ST ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA, Held in Charlottesville, Oct. 23-25, 1900. Cloth. Pp. 380, xcvii. Richmond, Va.: Williams Printing Co. 1901.

KIRKE'S HANDBOOK OF PHYSIOLOGY. By W. D. Halliburton, M.D., F.R.S., Professor of Physiology, King's College, London. Seventeenth Edition, with 681 Illustrations. 12mo, 888 pages. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

BRIEF MANUAL OF PRESCRIPTION-WRITING in Latin or English for the Use of Physicians, Pharmacists, and Medical and Pharmacal Students. By M. L. Neff, A.M., M.D., Cedar Rapids, Iowa. Pp. v-152. Size, 8x5¾ inches. Extra Cloth, 75 cents net. Philadelphia: F. A. Davis Co. 1901.

STUDIES IN THE PSYCHOLOGY OF SEX. SEXUAL INVERSION. By Havelock Ellis, L.S.A. (England); Fellow of the Medicolegal Society of New York and the Anthropological Society of Berlin. Pp. xl-272. Size, 8⅝x5¾ inches. Extra Cloth, $2.00 net. Philadelphia: F. A. Davis Co. 1901.

OUTLINES OF GYNECOLOGICAL PATHOLOGY AND MORBID ANATOMY. By C. Hubert Roberts, M.D. Lond., F.R.C.S. Eng., M.R.C.P., Physician to the Samaritan Free Hospital for Women. With 151 Illustrations, Mostly Original. Pp. 330. Price, $6.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

A LABORATORY GUIDE TO THE STUDY OF QUALITATIVE ANALYSIS. By E. H. S. Bailey, Ph.D., Professor of Chemistry; and Hamilton P. Cady, A.B., Assistant Professor of Chemistry, in the University of Kansas. Fourth Edition. 12mo. 235 pages. Price, $1.25 net. Philadelphia: P. Blakiston's Son & Co. 1901.

THE FOUR EPOCHS OF WOMAN'S LIFE. A Study in Hygiene. By Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women." With an Introductory Note by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania. 12mo volume of 200 pages. Cloth, $1.25 net. Philadelphia and London: W. B. Saunders & Co. 1901.

MANUAL OF PHYSICAL DIAGNOSIS. For the Use of Students and Physicians. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the University Hospital. Fourth Edition, Revised and Enlarged, with Colored and Other Illustrations. 12mo. Cloth, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1901.

VENEREAL DISEASES. A Manual for Students and Practitioners. By James R. Hayden, M.D., Chief of Clinic and Instructor in Venereal and Genito-Urinary Diseases at the College of Physicians and Surgeons, New York. Third and Revised Edition. Illustrated with 66 Engravings. Cloth. Pp. 301. Price, $1.75. Philadelphia and New York: Lea Brothers & Co. 1901.

PHOTOGRAPHIC ATLAS OF THE DISEASES OF THE SKIN. A Series of 80 Plates, Comprising More Than 100 Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y. Part VII. Philadelphia and London: J. B. Lippincott Co. 1901.

ESSENTIALS OF PHYSIOLOGY. Prepared Especially for Students of Medicine; and Arranged with Questions Following Each Chapter. By Sidney P. Budgett, M.D., Professor of Physiology, Medical Department of Washington University St. Louis. 16mo volume of 233 pages, finely illustrated with many full-page half-tones. Cloth, $1.00 net. Philadelphia and London: W. B. Saunders & Co. 1901.

A MANUAL OF MINOR SURGERY AND BANDAGING. For the Use of House Surgeons, Dressers and Junior Practitioners. By Christopher Heath, F.R.C.S., LL.D., Consulting Surgeon to University College Hospital and Emeritus Professor of Clinical Surgery in University College, London. Twelfth Edition. Revised by Bilton Pollard, F.R.C.S., Surgeon to University College Hospital. Cloth, $1.50 net. Philadelphia: P. Blakiston's Son & Co.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS, with Especial Reference to the Clinical Application of Drugs. By John V. Shoemaker, M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia. Fifth Edition, Thoroughly Revised. Pages viii-1143. Size, 9¼x6¼ inches. Extra Cloth, $5.00 net. Philadelphia: F. A. Davis Co. 1901.

REGIONAL ANATOMY OF THE HEAD AND NECK. A Text-Book for Students and Practitioners of Dentistry. By William T. Eckley, M.D., Professor of Anatomy in the Chicago College of Physicians and Surgeons, etc., and Corinne B. Eckley, M.D., Professor of Anatomy, Chicago School of Anatomy and Physiology, etc. In One Octavo Volume of 240 Pages, with 36 Engravings and 20 Full-page Colored Plates. Cloth. Price, $2.50 net. Philadelphia and New York: Lea Brothers & Co.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, for week ending Jan. 4, 1902:

Asst.-Surgeon R. C. Holcomb, detached from duty with the Marine Battalion, Cavite, P. I., and from the *Helena*, and ordered home to wait orders.

Asst.-Surgeon R. M. Young, detached from the *Constellation*, and ordered to the Asiatic Station, via the *Rainbow*, as the relief of Asst.-Surgeon R. C. Holcomb.

Asst.-Surgeon J. B. Buchanan, detached from the *Columbia* and ordered to the *Constellation*.

Asst.-Surgeon E. M. Blackwell, ordered to the *Columbia*.

Asst.-Surgeon A. M. Fauntleroy, detached from the Naval Academy and ordered to the Naval Hospital, Norfolk, Va.

Asst.-Surgeon P. E. McDonald ordered to the Naval Academy.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended January 2, 1902:

Surgeon J. M. Gassaway, granted leave of absence for five days from December 26. Granted two days' extension of leave of absence, Dec. 31, 1901.

Surgeon Fairfax Irwin, granted leave of absence for seven days from December 27.

Surgeon F. W. Mead, upon being relieved by Surgeon D. A. Carmichael, to proceed to Pittsburg, Pa., relieving A. A. Surgeon R. C. Craig.

Surgeon D. A. Carmichael, upon being relieved by P. A. Surgeon H. S. Cumming, to proceed to Vineyard Haven, Mass., relieving Surgeon F. W. Mead.

Surgeon P. C. Kalloch, upon being relieved by Asst.-Surgeon J. T. Burkhalter, to proceed to Washington, D. C., and report for orders, preliminary to going to Portland, Me.

P. A. Surgeon J. O. Cobb, granted leave of absence for twenty days from January 2.

P. A. Surgeon H. S. Cumming, directed to assume command of the San Francisco quarantine station, relieving Surgeon D. A. Carmichael.

Asst.-Surgeon Taliaferro Clark, granted leave of absence on account of sickness for seven days from Dec. 18, 1901. Granted twenty-one days' extension of leave of absence on account of sickness, from December 26.

Asst.-Surgeon C. H. Lavinder, granted leave of absence for two days.

Asst.-Surgeon J. T. Burkhalter, relieved from duty at Mobile, Ala., and directed to proceed to Gulf Quarantine Station, relieving Surgeon P. C. Kalloch.

A. A. Surgeon D. F. Dudley, department letters of Oct. 10, 1901, granting A. A. Surgeon Dudley leave of absence, on account of sickness, for thirty days from October 7; and leave of absence for thirty days from November 7, amended so that the sick leave shall be from October 9, and annual leave from November 28. Directed to proceed to Immigration Depot, New York, N. Y., and report to Surgeon G. W. Stoner for duty.

A. A. Surgeon R. E. Ebersole, granted leave of absence for three days from December 31, under paragraph 181 of the regulations.

A. A. Surgeon H. C. Sibree, granted leave of absence for seven days from December 30.

BOARD CONVENED.

Board convened to meet Jan. 6, 1902, at the marine hospital, Chelsea, Mass., for the physical examination of an applicant for appointment in the Revenue Cutter Service. Detail for the Board: Surgeon Fairfax Irwin, chairman; Asst.-Surgeon M. W. Glover, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended January 4, 1902.

SMALLPOX—UNITED STATES.

California: San Francisco, Dec. 15-22, 9 cases; San Pedro, Dec. 7, 1 case, origin Randsburg, Cal.

Indiana: Evansville, Dec. 21-28, 5 cases.

Kentucky: Lexington, Dec. 21-28, 4 cases, 2 deaths.

Louisiana: New Orleans, Dec. 21-28, 1 case.

Maine: Portland, Dec. 21-28, 1 case.

Massachusetts: Boston, Dec. 21-28, 27 cases, 8 deaths; Cambridge, Dec. 21-28, 1 case; Fall River, Dec. 21-28, 1 case; Medford, Dec. 21-28, 1 case; Quincy, Dec. 21-28, 4 cases; Woburn, Dec. 15-21, 1 case.

Minnesota: Minneapolis, Dec. 15-28, 22 cases; Winona, Dec. 15-21, 3 cases.

Missouri: St. Louis, Dec. 19, 1 case.

Nebraska: Omaha, Dec. 21-28, 20 cases.

New Hampshire: Nashua, Dec. 21-28, 1 case.

New Jersey: Camden, Dec. 21-28, 16 cases, 3 deaths; Newark, Dec. 21-28, 20 cases, 6 deaths; Passaic, Dec. 15-28, 4 cases, 1 death.

New York: Dec. 21-28, Binghamton, 1 case; New York, Dec. 21-28, 19 cases, 4 deaths.

Ohio: Ashtabula, Dec. 21-28, 1 case; Cincinnati, Dec. 20-27, 9 cases.

Pennsylvania: Hazleton, Dec. 24-31, 11 cases; Lebanon, Dec. 21-28, 35 cases; Norristown, Dec. 21-28, 5 cases; Philadelphia, Dec. 21-28, 79 cases, 19 deaths.

Rhode Island: Providence, Dec. 21-28, 1 case.

South Carolina: Greenville, Dec. 15-21, 2 cases.

Tennessee: McMinn County, Dec. 15, 24 cases; Memphis, Dec. 21-28, 2 cases; Polk County, Dec. 15, 4 cases.

Utah: Salt Lake City, Dec. 21-28, 2 cases.

Wisconsin: Green Bay, Dec. 22-29, 10 cases; Milwaukee, Dec. 21-28, 2 cases.

SMALLPOX—FOREIGN.

Belgium: Ghent, Dec. 7-14, 5 deaths.

Brazil: Pernambuco, Nov. 1-30, 130 deaths; Rio de Janeiro, Nov. 10-24, 119 deaths.

Canada: Halifax, Dec. 21-28, 11 cases, 1 death; Quebec, Dec. 15-28, 56 cases; Winnipeg, Dec. 15-21, 2 cases.

Colombia: Cartagena, Dec. 9-15, 2 deaths; Panama, Dec. 16-23, 15 cases.

France: Lyons, Nov. 30-Dec. 7, 1 death; Paris, Dec. 7-14, 8 deaths.

Great Britain: London, Dec. 7-14, 506 cases, 29 deaths.

Mexico: Merida, Nov. 23-30, 1 case.

Russia: St. Petersburg, Nov. 30-Dec. 7, 4 cases, 4 deaths; Warsaw, Nov. 23-30, 2 deaths.

Spain: Corunna, Dec. 7-14, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Nov. 10-24, 3 deaths.

Mexico: Merida, Nov. 23-30, 1 death; Vera Cruz, Dec. 14-21, 10 cases, 9 deaths.

West Indies: St. Lucia, Dec. 16, present.

CHOLERA.

Java: Batavia, Nov. 16-23, 21 cases, 15 deaths.

Straits Settlements: Singapore, Nov. 8-16, 10 deaths.

PLAGUE—UNITED STATES AND INSULAR.

California: San Francisco, Dec. 15-22, 1 case.

Hawaii: Honolulu, Dec. 11-14, 4 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Nov. 10-24, 23 deaths.

Mauritius: Mauritius, Nov. 28-Dec. 5, 52 cases, 37 deaths.

South Africa: Massell Bay, Nov. 23-30, 5 cases; Port Elizabeth, Nov. 23-30, 1 case.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, JANUARY 25, 1902. No. 4.

Original Articles.

THE DIAGNOSIS OF SMALLPOX.*

JAY F. SCHAMBERG, A.B., M.D.

Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine; Assistant Attending Physician to the Municipal Hospital for Infectious Diseases.

PHILADELPHIA.

During epidemics of smallpox the anticipatory attitude of the physician's mind will often lead him to suspect as variola diseases which bear only a superficial resemblance to it. Contrariwise, in the absence of epidemic prevalence of smallpox, mild cases are apt to be overlooked. The latter error is much the more serious in its consequences, although the former may itself lead to embarrassing complications.

The detection of smallpox in its pustular stage, particularly in well-marked eruptions, is a facile matter even for the merest tyro in medicine. The picture of a profuse pustular variola can scarcely be mistaken for anything else. The diagnosis of the disease, however, in the first or second day of the eruption in mild cases, and especially in the absence of an epidemic, may present perplexities. Before the appearance of the eruption the diagnosis is difficult and often impossible. It may be surmised, but it is seldom safe to affirm anything beyond a strong suspicion. The writer recently saw an unvaccinated young man who was suddenly taken ill with fever, headache, backache, chills, vertigo and vomiting—a syndrome perfectly characteristic of the initial stage of smallpox—yet the patient did not develop the latter disease.

There is some variability in the character of the initial symptoms of smallpox. The symptom which most frequently announces the onset of the disease is a chill. This may be severe, accompanied by chattering of teeth, or it may consist merely of a succession of creepy sensations. In many patients the initial symptom complained of is headache. This is often referred to the frontal region and may be of an excruciating character. At other times it is moderate and in mild cases may be entirely absent. In still other cases severe and persistent vomiting is the first manifestation. In such patients the diagnosis of acute gastritis has occasionally been made. The vomiting may be accompanied by diarrhea. Some patients describe the earliest symptoms as general muscular and joint pains with, especially, involvement of the knees.

Some cases begin with severe backache and weakness of the lower extremities. Backache, however, is an inconstant symptom and is perhaps absent in 30 or 40 per cent. of cases. It is said to be more frequently present in severe than in mild cases, and in hemorrhagic smallpox it is apt to be violent in intensity. Very many patients, even in mild attacks, complain of vertigo; this is particularly manifest upon the patient's assuming the vertical position. Some patients, during the last days of the period of incubation, develop a more or less sudden loathing for food, and this complete anorexia may continue for some days. The initial fever may reach 104 or 105 even in cases which prove to be mild. High temperature is apt to be accompanied by delirium and in children by convulsions.

The above prodromal symptoms vary greatly in intensity. In unvaccinated cases they are usually severe. On the other hand, in mild cases the symptoms may be so insignificant as barely to attract the patient's attention. In the vast majority of cases a fairly satisfactory history of the initial symptoms will be volunteered by the patient. In other cases close and specific interrogation of the patient will often recall to him forgotten symptoms.

In an analysis of the initial symptoms in 100 cases recently admitted to the Municipal Hospital the various manifestations were present in the following percentages: Headache was present in 86 per cent.; chills were present in 78 per cent.; backache was present in 70 per cent.; vertigo was present in 57 per cent.; vomiting was present in 55 per cent.; nausea without vomiting was present in 10 per cent. more of cases. In but two patients was there complete absence of an initial stage.

Information as to exposure to smallpox and the character of the patient's vaccine condition are important factors in an early diagnosis. Too often the importance of the knowledge imparted by the character of the vaccination scar and the date of the vaccination is underestimated. If a patient presenting suspicious symptoms of smallpox shows a typical scar from a vaccination performed within a few years, this constitutes strong presumptive evidence against smallpox.

During the initial stage smallpox may be confounded with typhoid fever, meningitis, influenza, typhus, scarlet fever, measles, etc. A number of patients during the present epidemic were suspected during the initial stage of having *typhoid fever*, and the closely scrutinized abdomen exhibited what was at first thought to be "rose spots," but which later proved to be variolous papules. The sudden onset of high fever, the tendency to vomiting and the well-marked backache will usually cause one to suspect something other than typhoid fever. However, in atypical cases the symptoms may be strongly suggestive of the above-mentioned disease.

Both variola and meningitis may be characterized by intense headache, vertigo, vomiting, delirium, coma and convulsions. Without localizing symptoms the latter

* Read in substance at the meeting of the Northern Branch of the Philadelphia Medical Society, Dec. 19, 1901. For discussion see Society Proceedings.

disease might for a few days be difficult to exclude. *Influenza* may closely simulate the early symptoms of smallpox and indeed time may be the only factor to differentiate the two diseases.

The true eruption of smallpox is occasionally preceded by a prodromal rash which may be morbilliform, scarlatiniform or purpuric in character. These usually make their appearance about the second day of the initial symptoms, but may occur either earlier or later than this period. The purpuric form consists, as a rule, of small pinhead-sized petechiæ, often closely crowded together upon an erythematous base, and occupying as favorite regions the lower part of the abdomen, the genitalia and the upper parts of the thighs. The morbilliform and scarlatiniform eruptions may also occupy these regions or may be diffusely scattered over the body surface. Welch states that these rashes have, in his experience, occurred more frequently in varioloid than in severe smallpox. Recent observation of a dozen or more such eruptions tends to confirm this view.

The morbilliform rash may be mistaken for measles, with which eruption it has much in common. I am inclined to think that, as a rule, there is less elevation of this eruption than in that of measles, the finger passed over it often failing to detect the maculæ. The rash ordinarily disappears in from twelve to twenty-four hours. Measles may also be confounded with the beginning true variolous eruption. These lesions are, however, smaller than those of measles, are never shotlike, and are disproportionately profuse on the face and hands. There is absence of the catarrhal symptoms affecting the bronchi, nose and conjunctiva; absence of the more or less characteristic lesions of the buccal mucous membrane, and furthermore a remission of the febrile symptoms on or shortly after the appearance of the eruption. The last-named phenomenon and the absence of early tonsillar and throat symptoms will help to distinguish smallpox from *scarlet fever*.

In the eruptive stage smallpox may be confounded with chicken-pox, syphilis, impetigo contagiosa, pustular acne and drug eruptions.

Differential Diagnosis.—Smallpox may be distinguished from chicken-pox by attention to the following data:

1. Prodromal symptoms: Fever, headache, backache, chills, vertigo, nausea, etc., occur two or three days before the outbreak of the variolous eruption. In exceptionally mild cases, however, these may be slight or even absent. In chicken-pox the fever and the eruption appear practically synchronously. The constitutional symptoms are more severe in smallpox.

2. Distribution of eruption: In smallpox eruption involves with predilection face, arms, hands and legs; upon the trunk the lesions are more sparse. In chicken-pox the eruption is most profuse, as a rule, upon the trunk, chiefly the back. Smallpox prefers the exposed surfaces, chicken-pox the covered.

3. Character of the lesions: In smallpox they begin as firm, "shotty" papules, which slowly increase in size and develop into vesicles and pustules. Vesicles are uniform in size and often show umbilication. They are multilocular and difficult to rupture with the finger-nail. Chicken-pox lesions begin as "dewdrop-like" vesicles which have a velvety feel. They are unilocular, thin-roofed, can be easily ruptured with the finger-nail, and vary greatly in size.

4. Manner of eruption: Chicken-pox eruption comes out in successive crops, and the lesions may be seen in varying stages of development. Smallpox eruption comes out in a single crop and the lesions remain uniform in character. Smallpox lesions undergo a gradual evolution from papules to crusts in the course of eight to ten days. Chicken-pox lesions last one or two days and then crust. In the mild smallpox epidemic of 1898 the lesions maturated more rapidly than in the old-time smallpox, but the course of the eruption was nevertheless much longer than in varicella. The extent of the eruption is no absolute guide in the differential diagnosis. Severe cases of varicella may look far more formidable than mild cases of variola. The writer has seen undoubted smallpox in unvaccinated individuals, with but two or three lesions present, and the general symptoms correspondingly mild.

The pustular syphiloderm, particularly that variety known as the variolaform syphilid, may at times present a striking resemblance to smallpox, and may require careful study to be differentiated therefrom. During epidemics of smallpox such cases are frequently regarded as variola. These pustular eruptions are not always the first cutaneous manifestations of the disease, but often follow upon the macular or papular syphilids. They may occur about the second month to the first and second year of the disease. They are more common in negroes than in whites, and in the debilitated and undernourished than in robust individuals. In syphilis one may obtain information concerning the initial lesion and perhaps an antecedent eruption; also the presence or former existence of mucous patches, alopecia, tonsillar ulceration, iritis, remains of chancre, etc. In smallpox there may be a history of exposure to the contagion of variola.

Prodromal symptoms: This complex of symptoms is well marked in smallpox two or three days before the appearance of the eruption. In the pustular syphiloderm there may be moderate fever and general aches and pains preceding by several weeks the outbreak of the eruption. On the one hand there is no such remission of the febrile symptoms on or shortly after the appearance of the cutaneous efflorescence as is seen in smallpox, and on the other hand the constitutional disturbance during the prodromal period and later during the eruptive stage is much less severe and prostrating. Patients with a pustular syphilid are not apt to seek their beds.

Eruption: The syphilitic eruption comes out in successive crops; it may or may not be more extensive upon the trunk than upon the face. The papules are often firm, but are apt to acquire vesicopustular summits rather than become vesicular or pustular in their entirety. They never progress to those large, full, deep-seated pustules which are so characteristic of variola. The vesicopustules dry into small, brownish crusts, which when cast off disclose to view infiltrated, elevated papules or at times exulcerated bases. Often a little epidermal collarette is seen, showing beginning desquamation of the base of the lesion. The lesions are not invariably uniform in size, and often papules and pustules are interspersed. Occasionally there is a tendency to grouping, which is best noted about the alæ of the nose, commissures of the mouth, border of the hair, etc. The palms of the hands and soles of the feet which are so constantly beset with lesions in smallpox are rarely attacked in the pustular variety of syphilis. In six cases of variolaform syphilid, the writer has seen palmar lesions in but one case, and in this patient a solitary vesicle was seen upon the thenar eminence.

This is quite in contrast with many other eruptions of syphilis, which are commonly seen upon the palms. The eruption of syphilis, as a rule, pursues a distinctly slower course than that of smallpox. The itching which is sometimes present in variola is usually absent in syphilis.

Despite these differentiating symptoms, there occur at times cases which defy even the experienced eye to make an immediate diagnosis. Observation of the patient for a few days will disclose the true nature of the disease.

A confounding of smallpox with *impetigo contagiosa* can come only from a misunderstanding of the nature of the latter disease, which is a purely local dermatosis resulting from inoculation of the skin with pyogenic micro-organisms. The eruption is usually limited to the face or the face and hands, and is particularly common in children. The lesions do not, as a rule, exceed a dozen in number, and general febrile symptoms are of great rarity. The lesions are from the outset thin-roofed vesicles or blebs, which rapidly become turbid and dry into yellowish flat crusts. These are cast off in the course of a week, leaving a faint reddish stain. The vesicopustules are extremely superficial and flat and not at all infiltrated. The affection is both contagious and auto-inoculable by contact, and is particularly common in children.

Extensive *papular and pustular drug eruptions* at times simulate smallpox, but may usually be differentiated by the absence of the characteristic constitutional and local symptoms of the latter disease.

Mild cases of varioloid exhibiting but a few papulo-pustules about the face may bear a close resemblance to *acne*. The history of exposure, the existence of an initial stage and the normal evolution of the lesions will usually enable one to arrive at a correct diagnosis.

The same data are of differential importance in excluding papulo-pustular eruptions occasionally produced by ingestion of the iodids and bromids.

In conclusion it may be stated that it is injudicious to base a diagnosis of smallpox upon any one symptom. A case must be viewed in all its aspects and a diagnosis made from the *ensemble* of symptoms.

VACCINE VIRUS—ITS PREPARATION AND THE COMPLICATIONS ATTENDING ITS USE.*

JOSEPH McFARLAND, M.D.

Professor of Pathology and Bacteriology in the Medico-Chirurgical College.

PHILADELPHIA.

The history of vaccination and its adoption as a prophylactic measure are too well known to need repeating here. The evolution of the vaccine virus is, however, another matter, on which a striking lack of information seems to exist among some of the most practical members of the profession, and I feel that in addressing you upon this subject I may arrange the matter in a new and suggestive form for your subsequent reflection if I contribute no new facts to your store of knowledge.

1. *The Relation of Vaccinia to Variola.*—This has been the subject of arguments from the very inception of Jenner's theory that cowpox protected against smallpox, and there is still some lack of uniformity in the opinions of different writers. Without entering into details, the relationship stands somewhat as follows:

A century ago, when everybody expected at some period of his life to have smallpox, and smallpox was more or less prevalent all the time, outbreaks of the disease among men were accompanied by occasional outbreaks among the domestic animals of peculiar affections, usually of a vesiculo-pustular form, not seen at the present time with any frequency. These diseases of the domestic animals—cowpox, sheep-pox, etc.—usually occurred at times when smallpox was active in the community, though they occasionally occurred spontaneously and may rarely do so at the present time. The vesiculo-pustular course of these affections, and the partial resemblance which the lesions bore to those of smallpox, gave them their names, sheep-pox, cowpox, etc., though I am not aware that before the time of Jenner very much consideration was given them.

You are all familiar with the current opinion of the day that having cowpox protected against smallpox and the experimental way in which Jenner went about proving the truth of the statement, so I will pass over this historic matter to take up the experimental aspect of the subject.

If cowpox is smallpox in the cow, we should be able to produce it at will by inoculating cows with the virus of smallpox. When the attempt to do this is made, however, failure to produce smallpox usually results. The variolated animal usually shows no reaction following such an inoculation, or there forms upon the udder a small nodular swelling without any of the typical characteristics of cowpox. If a drop of serum be squeezed out of this enlargement and transferred to a human being, he becomes variolated; if it be transferred to another cow, it produces an identical lesion. Occasionally, however, such a transfer of variolous matter is followed by the formation of a typical cowpox vesicle which readily infects other cattle, and also produces vaccinia in man. Jenner knew that cowpox seldom resulted from the variolation of heifers, and believed that the best way to originate the cowpox was to inoculate a heifer with the matter secured from horsepox or "grease," which would start it very well. When once the cowpox was secured, its propagation upon cows or human beings was unattended with difficulty of any kind.

We must now inquire why, if cowpox and smallpox are so closely related to one another, there should be such difficulty in originating the one affection from the other, and to explain it we must resort to the known facts of immunity in regard to other diseases. We find certain animals to be susceptible to diseases common to their own kind, partially susceptible to diseases of animals of related kinds, rarely susceptible to diseases of very different kinds. We find that the susceptibility of animals is not only subject to this generic or family variation, but that there is some variation among animals of the same kind.

We also know that micro-organisms vary in their virulence so that they most successfully infect those animals in which they are accustomed to grow, often failing to develop, or developing under such abnormal conditions in other animals that their manifestations are entirely changed.

When we come to apply these principles to vaccination we find that the germ of smallpox develops best in man and that smallpox is, par excellence, a disease of man. We find that some of the lower animals, if brought into intimate contact with human smallpox, acquire disease which may or may not closely resemble it. Thus, mon-

* Read at the meeting of the Northern Branch of the Philadelphia Medical Society, Dec. 19, 1901.

keys suffer from "monkey-pox," which they acquire by contact with smallpox, and which is somewhat like it; sheep acquire *ovinia* or sheep-pox, which is much less like it; horses' *"grease,"* or horsepox, which is still less like it, and cows *vaccinia,* or cowpox, which is a local disease of the teats and udders.

We find that whereas all of these diseases may appear spontaneously in the lower animals, sometimes associated with smallpox of men, sometimes independently of it, it is very difficult to produce them experimentally because we are endeavoring to make a micro-organism pathogenic chiefly for men, grow in animals which under normal conditions resist it. The occasional successes attending the experiments, and the occasional spontaneous occurrence of the affection being accounted for as the accidental infection of animals which happen to be below the average in their vital resistance.

We know that when once the disease is established, its propagation is easy, and that its character is so changed that when the germs are returned to the human being they cease to produce variola or smallpox, but continually produce vaccinia or cowpox. Why is this?

The only explanation for it is that the development of the germs in the new soil is attended by such difficulty that they become modified or subjected to permanent biological changes by which their original pathogenesis is lost. Such modifications, or rather, somewhat similar alterations of virulence are matters of everyday experience in the laboratory of bacteriology.

We find, therefore, that the facts of the case are thoroughly in accord with those of immunity, especially when we add that when the variolous material with which vaccinia is to be started in a cow, is first made to pass through a monkey, it becomes prepared or modified so that its growth in the cow usually succeeds the very first time instead of only after repeated attempts.

2. *Why should Vaccinia protect against Smallpox even though their Ancestry be the same?*—It is a fact common to all of those infectious diseases which leave immunity behind them, that mild attacks afford immunity which may be as complete and as permanent as serious ones. The original prophylactic measure against smallpox, the *"inoculation"* or "variolation," introduced into western Europe in 1718 by Lady Montague, wife of the British ambassador to Turkey, was based entirely upon the fact that a mild attack of smallpox was protective against the most serious possible infection. Variolation consisted in the actual inoculation of smallpox matter into the patient. In order that the attack might be as mild as possible, it was performed, if feasible, only when the individual was in the best possible health, and with matter taken from some exceedingly mild case of smallpox. The usual effect was a mild attack of the disease, but it was smallpox, and the patient sometimes died instead of becoming immune, and was always a source of infection to those about him; hence this could not be regarded as a very favorable mode of prophylaxis and was later quickly superseded by vaccination.

It is another fact of immunity that modified germs of disease, or even the toxic products of their metabolism can be followed by protection against their more active fellows.

It was this principle that Pasteur used in his protective inoculations against anthrax, and which Arloing, Cornevin and Thomas employed in protecting animals against black-leg. In the former case the anthrax bacilli were attenuated by heat until their dangerousness was so lessened that they could be introduced into animals without harm; in the latter case the bacilli were attenuated by drying. In both cases the results were the same, and the introduction of the modified germ into the healthy animal was succeeded by an immunity to the virulent organism.

Vaccination rests upon this foundation. The germs of smallpox, by being compelled to grow in the cow, have lost some capability of which they were formerly possessed and by which they were able to disseminate themselves throughout the body and produce variola, and are obliged because of this loss to grow locally and produce vaccinia, but the change induced in the body by the progress of the vaccine disease is sufficient to protect it in the future against the unmodified variola germ.

3. *Human Virus, its Advantages and Disadvantages.*—The original vaccinations were all made with virus secured from the pustule upon a human being, and propagated from human being to human being. This method is said to possess two advantages: 1. the vaccinations commonly "take;" 2. the immunity secured is more permanent than that secured by the employment of any other kind of vaccine.

Against these advantages, to which the older practitioners cling tenaciously, is the very serious disadvantage that satisfactory and safe material is very hard to secure, and in the event of a bad selection of material being made, the danger of inoculating some other and more serious disease than vaccinia is great. We read of terrible disasters in the past being caused by accidents of this kind, all the children of a certain village in France having on one occasion been inoculated with syphilis in this way.

It is well known that micro-organisms exist in immense numbers in the human scab, and that they are not all harmless. It is a principle of bacteriology that when micro-organisms are frequently transplanted from animal to animal of a kind for which they are pathogenic, their virulence rapidly increases and their manifestations intensify. Thus it comes about that when a few cocci, that under ordinary conditions are harmless or mildly pathogenic are contained in a scab used to vaccinate a child, they grow better in this child than in the former child and produce an exaggerated lesion. When transplanted once or twice more, they become still more virulent until they ultimately become able to occasion abscess, phlegmon, erysipelas, septicemia and even death. Thus, through purely natural means what is a comparatively insignificant operation may by the transmission of various micro-organisms pathogenic for human beings, become a source of the gravest danger. Such dangers certainly outweigh either the advantages of the certain "takes" or more permanent immunity, and it is truly gratifying that at the present time the old method has been abandoned for the newer bovine virus.

4. *Bovine Virus.*—The continuous propagation of vaccine virus from heifer to heifer is said to have originated with Negri of Naples about 1842, and to have required about forty years for its advantages to be so widely appreciated as to permit its introduction into most of the European countries and our own as well.

The advantages of the bovine virus are almost beyond dispute. The vaccinia is kept growing in animals for which it is natural, and in which it can be supposed to maintain its most natural degree of virulence. It is secured from animals whose healthy condition can be

determined beyond any doubt, and from animals in which the dreaded human diseases can not occur. The micro-organisms contained in the bovine virus are nearly all of forms which produce no disease of man. There is no possibility of the transmission of syphilis, and no probability of erysipelas, gangrene, septicemia or other of the affections referable to human virus.

PREPARATION: In every well-regulated vaccine establishment some modification of the following routine is carried out: Small calves or heifers are received in a special part of the establishment and subjected to a careful toilet. They are curried and brushed, the hoofs trimmed and the feet washed. The entire skin is then washed very thoroughly, a disinfectant usually being employed, then washed out with sterile water. After remaining until the time for operation in a warm stable, they are next taken to a modern operating room, strapped to a table, and shaved over both thorax and abdomen. The skin is washed with soap and water, then with a disinfectant solution, and finally with sterile water, after which the hairy parts are covered with sterile towels and the denuded skin dried. Scarifications more or less extensive, according to the taste of the operator, are next made through the superficial layers of the skin, no blood being drawn, and the virus is rubbed into the scarified area with a spatula.

After this the animal is transferred to the hospital of the institute to await the development of the vesicles. Scrupulous cleanliness must be observed in the hospital, and the temperature should be carefully taken and every precaution adopted to keep the calf well and its lesions free from secondary infection. After the lapse of about six days the vesicles are "ripe" and along the lines of scarification elevated grayish-yellow vesicles covered with mascerated epithelium appear. When ready for the removal of the pulp, the calf is again taken to the operation room, placed on the table, given a thorough toilet, and dried. The operator then removes the "pulp" covering the vesicles with a moderately sharp curet, again being careful to draw no blood. The material thus collected is the "vaccine pulp." Different producers employ different methods in utilizing this material. Some reject all the superficial material as unfit for use and collect the clear lymph which subsequently exudes, but the majority use the pulp itself, either spreading it upon points or mixing it with glycerin.

It is evident to anyone possessed of even a small amount of bacteriological knowledge, that in spite of the precautionary measures mentioned, it must be impossible to secure sterile pulp. Indeed, every vaccine contains three classes of micro-organisms: 1. Those specific for vaccinia. 2. Those normally living upon the skin of the animal. 3. Those accidentally entering from the dust of the stable. As a rule, all forms are harmless, but it is only those of the first class that are desirable, for whether they are usually harmless or not, it is doubtful whether any well-informed physician of the present time would prefer to introduce into his own tissues or those of his patients any unnecessary micro-organisms.

IVORY POINTS AND GLYCERINIZED VIRUS: The ivory point, spread with the pulp or with the exuding lymph below it is a device which was so far superior to the "scab" that it met with a world-wide reputation and approval, but it is subject to disadvantages that must be mentioned now that still better preparations are before us. The ivory point is spread with matter rich in bacteria. It is true that many bacteria are killed by drying, but it seems equally true that most of those clinging to the ivory remain alive, probable because of the film of albumin with which they are surrounded. At all events, the death of the bacteria takes place so slowly that the vaccine organism itself dies before the bacteria, and they are never gotten rid of.

Seeing this disadvantage, Dr. Moncton Copeman in 1891 devised the method of mixing the pulp with sterile glycerin of first quality, by which the contained bacteria were slowly destroyed, while the vaccine organism, whatever it is, remained alive. Copeman recommended the method in unqualified praise as being the method by which the bacteria can be destroyed and the vaccine organism preserved.

There are great advantages in this method, for it is eminently desirable that the bacteria be destroyed and it is very gratifying to note that the profession is sufficiently awake to these advantages to now demand them.

There are, however, certain disadvantages. The resisting power of the vaccine organism is insufficient to enable it to endure the action of the glycerin much longer than the bacteria, and by the time that the bacteria are destroyed its own vitality is threatened. For this reason, virus is usually placed on sale while it still contains a few bacteria, thus, to a limited extent defeating the very object in view. However, all must admit that it is better to have a few than a great many bacteria in the virus.

Antiseptic viruses are sold by some producers. They are made by the addition of a germicide to the virus, so that the bacteria are destroyed and the vaccine organism uninjured. This form of virus can still be regarded as in an experimental stage.

The Accidents and Complications of Vaccination.—These can only be touched upon in a general discussion of this kind. They have been very important and serious in the past, but are few in number and usually unimportant at the present time. During the "human vaccine" period, syphilis, erysipelas, hospital gangrene, abscess, phlegmon, septicemia, pyemia, and numerous other infectious processes were reported.

With the development of the new technic and the general use of "bovine virus," these were all fairly well eliminated, the only survival of such complications being in the practice of careless physicians who forgot that vaccination is a surgical operation and should be performed with all the precautions attending operations, or in patients who wilfully or ignorantly disregard instructions and take no care of the open wound caused by the operation.

The possibilities at the present time, given in what seems to be their order of frequency are: 1, infection from the skin of the patient; 2, secondary infection of the vaccine wound; 3, infection from the virus.

1. The skin of the patient may be infected with various organisms other than the ubiquitous skin cocci and their occasional presence should warn every vaccinator of the necessity of carefully and thoroughly cleansing and disinfecting the skin before operating—the disinfectant, of course, to be carefully removed.

2. The vaccine wound must be protected from contact with the underclothing, fingers, wash-water, dust, etc., lest secondary infection add its effects to the lesion already existing. The satisfactory method of doing this has not yet been devised. In all probability a simple dressing of sterilized gauze will do as well as anything. Shields are to be carefully avoided as being unclean, irritating, obstructing the lymphatic circulation and producing anaërobic conditions suitable for the growth

of pathogenic bacteria such as the tetanus bacillus.

3. The virus itself if not properly prepared, or perhaps occasionally through unavoidable accident may contain infectious organisms. The most important of these are the skin cocci which occasion severe local lesions, and the tetanus bacillus which has done considerable mischief of late.

REVERSIBILITY OF ENZYMES, AND ITS APPLICATION TO PHYSIOLOGIC AND PATHOLOGIC PROCESSES.*

H. GIDEON WELLS, M.D.
CHICAGO.

Ordinary chemical reactions with which we are most familiar are usually considered as occurring in a very definite manner, the addition of one substance to another leading to the formation of one or more new substances. But it is also a fact that if the proper conditions are produced such a reaction can be made to take place in a reverse manner, the resulting substance or substances being made to yield the substances from which they were originally produced. Recent work has developed the fact that enzyme action is also capable of reversibility, so that when proper conditions exist the products of the hydrolytic splitting, if such has been the change, are reunited by the same enzyme that separated them into the original, more complex molecule. This newly observed property is probably destined to explain many important problems in physiology and pathology, and as so far the literature dealing with the subject has been quite closely limited to technical chemical publications it has seemed desirable to review the work so far done, and to discuss the speculations into which it leads.

Schmiedeberg[1] had a demonstration of the reversibility of enzymes before him twenty years ago, but while observing the facts he did not interpret them as we now should. He observed not only that renal tissue was able to cause benzoic acid and glycocoll to unite when a mixture of these two substances was brought into contact with it, forming hippuric acid, but also that it was capable equally of splitting hippuric acid into benzoic acid and glycocoll. The splitting of hippuric acid he attributed to a ferment which he succeeded in extracting, and which he called *histozyme*. But he not only did not consider that the histozyme caused the formation of hippuric acid from the two components, but even stated that absence of histozyme was a requirement for this synthesis, which probably was due to some other agency.

The credit for actually appreciating the reversibility of enzyme action belongs to A. C. Hill.[2] He approached the subject with the express purpose of testing the possibility that enzyme action was reversible, as simpler chemical reactions were known to be. As a suitable object for investigation he selected maltose, because each molecule of this sugar is split up by the enzyme *maltase* into two molecules of glucose, and not into two dissimilar molecules as is the case in so many hydrolytic cleavages. It was known that when maltase acts upon maltose in solution a certain amount of the sugar is split up into glucose, but not all of it, so that the result is a mixture of maltose and glucose. Hill found that a similar final result was obtained if the maltase was added to a solution of glucose, for then some of the glucose molecules united to form maltose. Here again the reaction was never complete, and further investigations showed that if all conditions were made similar the final result in either case was the formation of a mixture of the two sugars with a certain definite proportion of each kind. In other words, the action of the enzyme terminates when the enzyme-containing solution holds a certain definite proportion of each sugar. If placed at first in a solution of this composition it would cause no changes whatever. Thus it is seen that the action of the enzyme is merely to establish an equilibrium, and it accomplishes this by causing either cleavage or union as the need may be.

Such a reaction may be expressed graphically as follows:

$$C_{12}H_{22}O_{11} + H_2O + \text{maltase} \rightleftharpoons 2C_6H_{12}O_6 + \text{maltase}.$$

The double arrow indicates that the reaction occurs in either direction. The reaction of histozyme might similarly be expressed:

$$\underset{\text{(benzoic acid)}}{C_6H_5\text{-}COOH} + \underset{\text{(glycocoll)}}{NH_2\text{-}CH_2\text{-}COOH} + \text{histozyme} \rightleftharpoons$$
$$\underset{\text{(hippuric acid)}}{C_6H_5\text{-}CO\text{-}NH\text{-}CH_2COOH} + H_2O + \text{histozyme}.$$

As the enzyme action tends always to bring the solution to an equilibrium, anything interfering with the attainment of an equilibrium will cause a continuance of the action, if needs be, until complete exhaustion of one of the substances. This is what takes place in digestion. The non-absorbable sugar is split up into absorbable sugars which are removed by the circulatory fluids as they pass through the intestinal walls, and as it therefore becomes impossible for an equilibrium to be established, the cleavage continues until all the sugar in the intestine has undergone cleavage and its diffusible products have been absorbed.

LIPASE.

More recently our knowledge of reversible enzyme action has been enlarged, and its application to biologic problems begun by the valuable work of J. H. Kastle and A. S. Loevenhart[3] of the State College of Kentucky. Their work was done with *lipase*, the fat-splitting ferment of the pancreatic juice. For reasons of technical convenience they utilized ethyl-butyrate, but lipase acts alike on all fats and the results obtained are applicable to the fats of common food and tissues. They demonstrated that lipase is able not only to split up fat into fatty acid and alcohol, but also to unite the two latter to form fat. Like the action of maltase, the direction of the reaction depends upon the establishment of an equilibrium, and the result is always a mixture of fat, fatty acid and alcohol. For all cases, then, lipase action may be represented by this equation:

$$\text{Fat} + \text{lipase} + \text{water} \rightleftharpoons \text{fatty acid} + \text{alcohol} + \text{lipase}.$$

Through its action on butyric acid and ethyl alcohol they were able to study the occurrence of lipase in places other than the pancreatic juice. It was found to exist widely distributed in the body, in the liver, gastric mucous membranes and kidneys. In fact, the pancreas contains far less active lipase than the liver, at least in the hog, for the results obtained with an extract from the liver were nearly three times as great as a corresponding amount of pancreatic extract gave. Of especial importance, as will be seen later, is their demonstration of the presence of lipase in the mucous membrane of the small intestine. None of the tissues they studied

* My attention was first attracted to this most interesting subject by the lectures of Prof. Jacques Loeb, of the University of Chicago.

1. Arch. f. Exp. Path. u. Pharm., 1881, xiv, 379.
2. Jour. of the Chem. Society, 1898, lxxiii, 634.
3. Chemical News, 1901, lxxxiii, Nos. 2150 to 2155; and also, American Chemical Journal, 1900, xxiv, 491.

failed to show a considerable lipase activity, but their researches in this direction were not numerous and it remains to be seen if there is any tissue that does not contain lipase. Even if it should be shown that certain tissues are free from this ferment, which is not probable, considering the almost universal distribution of fat, it is certain that no organ is without lipase during life, for Hanriot has shown that blood serum contains a considerable amount of active lipase. However, it is probably quite a different matter whether the ferment is in the cells of an organ or merely in the fluids circulating through it, in so far as its fat metabolism is concerned.

For other enzymes a reversible action is yet to be demonstrated, but there seems no good reason for disbelieving that it is as true for all the others as for histozyme, maltase and lipase. There is much work to be done in this direction, with good prospects for interesting results. Naturally the question suggests itself: If proteolytic enzymes are also reversible may not proteids be synthesized by acting on the products of proteolysis with the enzyme? Certainly if we assume that all enzyme action is reversible many features of metabolic processes become much simplified. And also as recent investigations tend to show the inseparability of all metabolic processes from enzymes, the importance of this added knowledge of the enzyme processes must be apparent. So far as the subject has yet been investigated, however, we are only justified in applying the results to fat metabolism.

FAT METABOLISM.

The history of fat in the body may now be considered to be as follows: The lipase in the stomach does not act, because of the presence of hydrochloric acid. In the intestines lipolysis occurs, with production of a mixture of fat, fatty acid and alcohol—usually glycerin. But as the fatty acid and glycerin are diffusible, while the fat is not, they are separated from the fat by absorption into the wall of the intestine. Hence an equilibrium is not reached in the intestine, so the splitting continues until practically all the fat has been decomposed and the products absorbed. When this mixture of fatty acid and glycerin first enters the epithelial cells lining the intestines there is no equilibrium, for there is no fat absorbed with them as such. Therefore the lipase, which Kastle and Loevenhart showed was present in these cells, sets about to establish equilibrium by combining them. As a result we have in the cell a mixture of fat, fatty acid and glycerin which will attain equilibrium only when new additions of the two last substances cease to enter the cell. Now another factor also enters, for on the other side of the cell is the tissue fluid, containing relatively little fatty acid and glycerin. Into this the diffusible contents of the cell will tend to pass to establish an osmotic equilibrium, which is quite independent of the chemical equilibrium. This abstraction of part of the cell contents tends to again overthrow chemical equilibrium, there now being an excess of fat in the cell. Of course the lipase will under this condition reverse its action and split the fat it has just built into fatty acid and glycerin. It is evident that these processes are all going on together, and that as the composition of the contents of the intestines and of the blood vessels varies the direction of the enzyme action will also vary. In the blood serum, and perhaps also in the lymphatic fluid, although this has not yet been investigated, there is more lipase which will unite part of the fatty acid and glycerin, and by removing them from the fluid about the cells favor osmotic diffusion from the intestinal epithelium, thus facilitating absorption.

Quite similar must be the process that takes place in the tissue cells throughout the body. In the blood serum bathing them is a mixture of fat and its constituents, probably nearly in equilibrium since lipase accompanies them. If the diffusible substances enter a cell containing lipase, *e. g.*, a liver cell, the processes of building and splitting will be quite the same as in the intestinal epithelium. The only difference is that here the fatty acid may be removed from the cell by being utilized by oxidation or some other chemical transformation.

To summarize, it may be stated that throughout the body there is constantly taking place both splitting and building of fat. *Fat enters the cells, leaves them, and is utilized only in the form of its acid and alcohol, never as the fat itself. Fat constitutes a resting stage in its own metabolism.* The description given above agrees with all known features of fat absorption and utilization. For example, the crowding of the epithelial cells of the intestinal mucosa with minute fat droplets during digestion is now explained as the result of lipogenesis. That fat can be absorbed in the emulsionized state, as the older physiologists considered these droplets indicated, seems physically improbable. Such a conception is now no longer necessary. The fat depots throughout the body serve to maintain the supply to the blood, and contain lipase which here, as elsewhere, maintains an equilibrium.

If proteolytic** enzymes are also reversible, then the phenomena of proteid metabolism are similarly explained. It has long been known that between the time peptones and albumoses escape from the intestines and enter the circulatory fluids they are changed back into proteid. This fact decidedly supports the conception that an enzyme exists in the intestinal epithelium, acting reversibly on proteids just as the lipase does on fats. There is sufficient evidence to assume that so-called proteolytic ferments also are generally distributed throughout the body. Pepsin has been positively demonstrated in muscles, and Salkowski and Jacoby have called attention to a form of self-digestion which occurs in the tissues during life and also after death, termed *autolysis*, in which the chemical nature of the products of the change indicates a relation to tryptic digestion.

All metabolism, then, may be considered as a continuous attempt at establishment of equilibrium by enzymes, perpetuated by prevention of attainment of actual equilibrium through destruction of some of the participating substances by oxidation or other chemical processes, or by removal from the body or entrance into it of materials which overbalance one side of the equation. The living body, whether unicellular or multicellular, is a vast, unceasing series of chemical reactions.

FATTY METAMORPHOSIS.***

Applying this fact of reversibility of enzymes to the subject of fatty metamorphosis, so-called, some interesting criticisms of recent literature may be made. Very recently C. Hester[4] made a study of "fatty degeneration" based upon the attempts of some investigators at the Rostock Institute to explain it as due to an increased saturation of the degenerated tissues with fluids from

** The term "proteolytic enzyme" will need to be replaced if it is shown that the enzymes usually referred to under that title have equally splitting and building functions. The general term "protease" might be satisfactory.

*** The subject of fat necrosis will not be considered at this time, pending the results of certain experiments now incomplete.

4. Virchow's Archiv, 1901, cxliv, 293.

the blood, the increase in these fluids in turn being due to circulatory disturbances. Hester injected olive oil into the muscles and intermuscular fascia of rabbits. It disappeared very quickly from the vicinity of normal active muscles, more slowly when the muscles were inactive. Such wandering cells as were found passing out from the site of the oil deposits contained but little fat. The muscle fibers near the injected fat showed a fatty deposit as a narrow sub-fascial zone, with some isolated fatty fibers throughout the muscle. Thus it is evident that free fat in the tissues may enter the muscle and fascia cells, and presumably other cells. An exactly similar relation was found between fat depots and fatty muscle fibers under diseased conditions in human beings by investigating fatty hearts, fatty eye muscles, and also muscles in a case of exophthalmic goiter. Here the fatty areolar tissue takes the place of the injected oil of the experiments. From his study of the manner of the transfer of fat from the interspaces into the muscle cells Hester was led to make this statement: "There can be no doubt that the fat enters the muscle fibers in a split condition, and within them is again built up into fat. The splitting of the fat is accomplished in the tissue fluids, the building within the cells." He was familiar with Hanriot's demonstration of lipase in blood serum and quite correctly attributed to it the splitting of the fat in the tissue fluids. He did not know how it was again built up in the cells, but states his confidence that it will ultimately be proven that all the cells of the body, except red corpuscles, are capable of fat synthesis. His explanation is quite complete except that he does not account for the step which lipase takes within the muscle cells.

Hester disregarded the other side of the question of fatty metamorphosis, namely, can proteid be changed into fat? This has been thoroughly threshed over by A. E. Taylor,[5] chiefly from the standpoint of investigations made upon animals by phosphorous poisoning, or by feeding various known fats. He concludes that: 1. Formation of fats out of proteid physiologically has not been demonstrated or made probable. 2. Nor has it been demonstrated under pathologic conditions; there is much evidence against this, and in favor of its being an infiltration or a formation of fats from carbohydrates. In a subsequent publication[6] he reviews his own experiments with frogs poisoned with phosphorous, in which he failed to find any evidence of conversion of proteid into fat.

Of the work in favor of the view that the so-called fatty degeneration is in reality an infiltration, the most striking is that of Rosenfeld,[7] which is quoted by Taylor. This investigator found that starved dogs, when fed on mutton fat, deposited a fat of the same composition as the fat of sheep. If such abnormally fattened dogs were again starved and then poisoned with a drug causing fatty degeneration, phloridzin or phosphorous, it was found that the fat in the degenerated liver was mutton fat. Evidently the fat had been transferred from other tissues to the liver, and was not formed there. Moreover, the liver had lost little of its nitrogen. Another investigation showed that a starved bitch, impregnated, and fed on mutton fat, yielded a milk containing mutton fat. Rosenfeld's results may be looked upon as agreeing with what we should expect to occur through the action of the lipase of the cells and the blood. If a fat rich in stearin is brought to a cell the lipase will reform it, after dissociation in the blood into a fat of the same composition, irrespective of what fat is most usual in the body of the animal. The reason that each variety of animal has its own type of fat may perchance be sought in a less ready oxidation of that fat, so that it tends to accumulate. After starvation, however, as in Rosenfeld's dogs, when a certain type of fat is provided any accumulation would necessarily at first be of that type.

Rosenfeld may fairly be said to have shown that in poisoning a certain type of fatty change, which is generally considered as "fatty degeneration," in contrast to "fatty infiltration," is really an infiltration. This renders it indeed probable that a similar explanation is to be found for so-called fatty degeneration in other pathologic conditions.

However, it has never yet been shown that proteid can not produce fat, any more than it has been shown that it does do so. If in its catabolism cell-proteid produces fatty acids and alcohol then fat will be produced, since in the cells is a ferment capable of uniting them. This much is new, and it offers a possibility to those who seek to show that fat can be formed from proteid. Still it must be observed that among the known decomposition products of proteids are no fatty acids at all comparable to those constituting the ordinary body fats. The nearest approach is in the amido-acids, such as leucin and glycocoll, but none of these contain nearly as many carbon atoms as do oleic, palmitic and stearic acids. We know as yet no enzyme capable of combining lower fatty acids into higher—certainly there is no reason yet shown for assuming that lipase does so; therefore, if proteid is really a source of fat, there must be other agencies at work than any with which we are yet familiar.

It is to be noted that the organ in which fatty metamorphosis is most often and most extensively seen as a pathologic process, the liver, contains the most lipase, so far as the observations of Kastle and Loevenhart have gone. This is quite comparable with the observation of Loevenhart[8] that the mammary gland during lactation contains much more lipase than when at rest. It seems, then, that the amount of lipase in the cells bears a direct relation to the amount of fat that will be formed in them. This may be explained by the fact that if an equal amount of fatty acid and glycerin is taken into each of two cells containing different quantities of lipase, fat will be formed more rapidly in the one with the greater amount of lipase. As the fluid bathing the cells is continuously moving from one part of the body to another it maintains nearly a constant composition, so that the amount of acid and glycerin that will diffuse into each cell will depend solely upon the amount already within the cell. Obviously the cell wherein the fatty acid and glycerin have been combined into fat will be in condition to receive more new material than will the other in which they are largely ununited, since the entrance of these substances is simply a matter of osmosis. Hence this fat-laden cell will continue to add more and more fat. This may indicate the normal mechanism of fat storage in the areolar tissue depots, which are known to contain considerable lipase.

Shall we consider from this that "fatty degeneration" is simply a matter of quantity of enzyme in the abnormal cells? It surely seems strange that a cell injured by toxic, mechanical, or nutritional agencies should possess any increase in lipogenetic power—on the contrary,

5. Amer. Journal of the Medical Sciences, 1899, cxvii, 569.
6. Journal of Exper. Medicine, 1899, iv, 399.
7. Verhandl. d. Cong. Inn. Med., 1897.
8. Proceedings of the Amer. Physiol. Soc., 1900, xii-xiii.

one would expect the lipase to suffer with the cell. This seems to be the case. A. Poulain[9] has investigated the lymph glands in health and disease with the following results: 1. In normal conditions the lipolytic power is the same in the mesenteric glands and in the subcutaneous glands at the same time in the same subject. 2. In intestinal infections the lipolytic activity of the mesenteric glands diminishes greatly compared to the peripheral. 3. The contrary relation is found when the infection is in the area draining into the subcutaneous glands. 4. In generalized infections the lipolytic power is lowered about the same in all the glands of the body. In other words, when the glands are injured by toxic substances their power is decreased. But Martin Jacoby[10] has found that autolysis, which is evidently a ferment action, is increased in phosphorous poisoning, and it may therefore be that lipase is injured by some poisons and stimulated by others. Study of lipase activity of livers that have been rendered fatty by phosphorous and similar poisons may yield interesting results.

Another factor must also be considered, namely, the process of removal of fat from the cell. This, so far as we know, is accomplished by oxidation. According to recent investigations this oxidation is also an enzyme action. May it not be, then, that poisons cause fatty degeneration only when they are of such a nature that they destroy the ferments that oxidize the fat, and do not destroy the lipase? Under such circumstances the fat equilibrium in the cell would be established when there was chemical equilibrium between the formed fat and the free components, and an osmotic equilibrium between these diffusible substances within the cells and those in the blood stream. Unlike normal conditions there would be no third factor of removal of fatty acid and glycerin by oxidation; this might lead to an accumulation. As agreeing with this idea are: 1. The fact that only certain poisons cause fatty change. 2. The association of nuclear changes with fatty degeneration, and the demonstrated fact of the importance of the nucleus for processes of oxidation within the cell (Spitzer,[11] Loeb[12]). 3. Besides, as a result of poisoning, fatty change is also a result of circulatory disturbances, as in infarction. Here impaired oxidation is recognized as a factor, and weight is given to this belief by the similarity of the processes in the chronic asphyxia of pernicious anemia and of lung disorders. There is no reason for considering that this fatty change is different from that in poisoning, i. e., they both probably indicate impaired oxidation, the one from absence of oxygen, the other perhaps from lack of enzyme to combine the oxygen. A study of both *lipase* and *oxydase* activity in normal livers and in fatty livers may determine this question finally.

9. Comptes Rend. Soc. Biol., 1901, liii, 786.
10. Zeitschr. f. Phys. Chem., 1900, xxx.
11. Pfluger's Archiv, 1897, lxvii, 615.
12. Arch. f. Entwicklungsmech., 1899, viii, 689.

Treatment of Wandering Spleen.—Ssaweljew describes in the *Med. Obosrenye* the successful treatment of a wandering spleen in a boy of 4 who had recently recovered from smallpox. The enlarged organ lay in the umbilical region and was painful on pressure, causing almost constant vomiting. There were also symptoms of intestinal catarrh. Treatment was directed first against the enteritis, after which euchinin was administered in order to reduce the size of the spleen. The spleen was restored to its place and maintained in position by a bandage, while the child was kept on his back in bed. A complete cure was thus attained.

PULMONARY FEARLESSNESS.*

W. T. ENGLISH, A.M., M.D.
PITTSBURG, PA.

From the earliest records of primitive man there are evidences of a wide range of his fears, and the noble advantages secured through the pedagogy of fear. Ere reason ascended its lofty throne, fear expressed itself through the somatic life, and with a celerity which outruns human thought still continues to protect us against threatening harm, even before we know in what the harmful thing consists. Whether originating in the soma or psyche, and however modified, fear invariably appeals to the sentiency of the breathing apparatus and exalts the pulmonary movements beyond the realms of automatism. Those fears which in primeval days prompted directly the exercise of the pulmonary sentiency or indirectly necessitated excessive activity of the lungs added to the efficiency of these organs by maintaining and cultivating their primary allotment of somatic and neural energy and became factors in the attainment of normal intercourse between the nerves distributed to the breathing apparatus and the higher centers. Hundreds of generations have regarded the respiratory organs with a reverential awe, which is the outgrowth of fear, and the ancients considered the terms "breath" and "breathing" as etymologic equivalents of "soul" and "spirit." From the very nature of his inheritance, man is at birth a pulmophobiac. The first new impulse is inaugurated through fears which are products of primal psychisms and impels the newly born to fill his lungs with air, and as he is but a reflex and automatic organism, these fears gain expression through somatic channels. The teleologic significance of this awakening of the breathing apparatus is emphasized by the oft-repeated and obvious prenatal efforts at self-protection during that portion of gestation within the range of fetal impressionability. This first betrayal of fear influence upon the pulmonary apparatus on the child's advent into independent existence, is repeated thereafter in consequence of each wavering or irregular action of the lungs. Sleeping or waking, fear guards, protects and dominates respiration, as it does no other function. Throughout the early life of those who have their proper legacy of fear, the threatened pulmonary apparatus startles like a guilty thing, as a result of limitations. Even in the semi-consciousness of dreams respiratory modifications cause the most acute alarms.

The normal child regards closed rooms and confinement within small areas as an alienation from safety. Caves, small apartments, narrow passes and dense forests produce fear effects through respiratory restraint. Fogs, gases, odors, mists, smoke, the barometric fall, each may exert an influence detrimental to perfect pulmonary activities with resulting apprehension. A personal acquaintance with fears which concern the pulmonary apparatus has been the early experience of most of us. The plays adopted usually imply the hidden foe springing upon his victim, or the imitative nature assumes the beasts of prey, and, in the simplest outbursts of juvenile enthusiasm there is an instinctive leaning toward the deep, powerful, dangerous primeval sensations, in which the breath comes in great waves or gulps. If the child were born immune to fear, he would be denied part of his pleasure-giving birthright. During childhood, and later in some cases, there is a continu-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee of the Section.

ance of reflex and automatic organism; and the innate tendencies are best observed while the experiences are yet limited to motory and sensory impressions, and before a wider experience and the influence of environment disguise their true character.

Delicately poised in the realm of sense and possessed of just sufficient sentiency to keep them operative without causing needless pain, the perfect lungs assume their office. Influences intrinsic and extrinsic tend to blunt and ultimately overcome this delicate sentiency, and thereby interfere with their perfect functioning. In all periods of life the personal factor determines the character, rapidity and extent of the deviations; but these may be modified by the conscious need for prevention, and may be exalted by cultivation. Ignorance of these possibilities results in neglect, and decline in pulmonary sentiency is the rule.

It will be noted that in one there is a rapid, and in another a deliberate appearance of pulmonary indifference. In addition to the diminished dynamic energy of the lungs there is a corresponding increase in the self-respect of the organs. They hold other organs in smaller esteem because they are constantly inquiring of them how they are, and the pulmonary apparatus is delegated to a systematic and careful neglect. In most cases the archaic fear promptings subside after eight years of age, with a celerity that is truly alarming to the careful observer. Just about this time in life the mental influences assert themselves and demand some of the attentions which hitherto belonged to the somatic and reflex organism.

The growth which is most important and should consist in augmentation of individual parts of the body, is prematurely intruded upon by a development which is easily objectified and demands a careful solution. It must be remembered, however, in this connection that natural echoes of arcadian fears through the lung activities are only reflections of what was in the past generations and an intimation of what might be—not what is.

STAGES OF FEAR DECADENCE.

The first stage of decadence then, which we denominate "indifference," succeeds closely upon the resurgence of the primitive fear waves as expressed in the sense repletion of childhood's daring acts and grotesque demeanor. Its sudden subsidence is the natural sequence thereto. These are all belongings of the individual through inheritance. Those influences which have to do with the pulmonary apparatus through environment, and are acquired, are of later origin. The retrocessive movement of the fear wave ceases not, but continues to a wider indifference. There is less spurtiness in the succeeding stages, and the influence toward that degree of somatic and neural delinquency, which we name "lethalization," is usually very insidious and slow, and includes the sentiency of nerve centers, as well as the innervation of the organs and the soma. This insidious invasion of the unconsciousness in organs or centers of respiration is aptly illustrated by the frog, which will allow itself to be boiled to death without moving if the heat is applied gradually enough. This unconsciousness is approached so slowly in some, and in all is so variable as to the time of its completion, that it may occur at any period of life. It is most common between pubertal age and maturity. Those of us who withstand detergent influences of these downward steps in the fear obsolescence, may at least be impressed with the fact that after puberty we can have only an acquired interest in pulmonary completeness, and that if perchance the stage of "lethalization" has passed on to that of "anesthetization," there is vouchsafed to us a fear unconsciousness from which there is no awaking, and which must lead downward to an ingravescent asthenia from whence there is no recall. This asthenia once established grows with the very life it feeds upon. It differs in degree rather than kind, from that of the fearlessness which possesses the mind, nerves and body of the victim of pulmonary consumption, who is deaf, blind and generally senseless to the clangorous harbingers of death, which are obvious to all but himself. Most of us have doubtless noticed that objective signs of pulmonary waste, failing health, and even approaching dissolution, are not only unappreciable to those upon whom tuberculosis has lain its awful hand, but through its delusions it establishes a hopefulness in realms from whence hope is normally banished. Even those subjective symptoms of consumption which would be likely to cause complaining under like conditions in other diseases, are in this disorder anesthetized out of the realm of sense. When special causes have reached so far as to affect the tissues of the blood through oxygen starvation, they guarantee a prolonged neurosal depletion, which may be observed from the slightest inaction of the nerves to radical depletion of the higher centers. One more step may yet be taken by these pitiless delusions, and bodily increase is supposed to exist where there is evident depletion, augmentation in strength where there is exhaustion, and various other imaginary gains in the presence of losses.

In this connection it must be borne in mind that fear manifestations are exceptional, and can only be expressed through other channels than those once associating the lungs with the ideational centers, and if so expressed will be tainted by entoptic chimeras and can not yield symptomatic intelligence. This false fear uprising is sometimes manifested in the presence of hemoptysis. When organs are deprived of wonted sentiency through inheritance, lethalized by indifference and palsied by disease, fears and hopes are alike deceptive—

> "Hopes thus belie our fears,
> Our fears our hopes belie."

It has been proven by every method of analysis that the stages of fear obsolescence are a part of the phenomena of lung degeneration.

To complete the symptomatology of pulmonary consumption the stage of pulmonary fearlessness is needful, and it has been regarded so common a factor in this malady that it is empirically associated with the tubercle bacillus. While we may not identify the fearless concept within the field of the microscope, it bears to the lungs as close relations as does the fear impression to the psyche or mind. Such indifference to the evidence of approaching dissolution as that exemplified by consumption, can not be a mere matter of cultivation, for no other malady so completely shuts out fear or so unwarrantably exalts hope as does pulmonary tuberculosis.

The degrees of nervous display and emotional exhibit in lung interest, show the individual relations to the danger line, i. e., in proportion to the shortening of the danger line, the hope tone is exalted; the more ample the danger line, the lower the confidence in pulmonary integrity and the deeper the fear psychoses. Each shortened oscillation is but the lessened expression of the fear element which once was the dominating factor in, and incentive to, human action; and has been a part of the complex of every life since primeval days.

To recapitulate: Fear gives its most natural and wholesome impulse at the termination of child life

through the bodily organism, and it continues, though dimmed and made fainter through the ages, its quiet and persistent influences without our aid until that stage of extinction is reached which presents the other extreme, viz., "fearlessness." Between these two extremes lie the steps qualified by the terms "indifference" and "lethalization." Grafted upon the latter through incidental or concomitant constitutional crases, may be an insane hopefulness more baseless than "the fabric of an empty dream," which deludes the victim to his doom and flatters him to the grave.

FEAR IN ITS RELATION TO DISEASE.

It is observed that while the fear diathesis is universal, and will show itself somewhere if circumstances are consistent with and favorable to its display, yet diseases have modifying influences which are more or less constant. This fact was observed as early as the seventeenth century by the noted physician, Phillip Pinel, of whom it is related that he always questioned his patients as to the fear symptomatology.

It may be regarded negative evidence as to the presence of bacilli when the fear manifestations are constant in suspected lung disease, or these emotions may be due to some complications to which the fear symptoms may lay claim. Enduring pulmonary palsies occasioned by interference with the nerve supply essentially concerned in the functional activity of the lungs, are almost certain harbingers of pulmonary degeneration.

Some interesting facts are disclosed by comparisons of fear manifestations, as shown in diseases of unlike character to pulmonary tuberculosis. In disorders of a fear-inspiring nature, there is a seeming antagonism toward and a want of affinity with pulmonary consumption, which appeals to the observer at once. For instance, that awe-awakening and most heavily fear-laden of all known maladies, cancer, is almost never found in association with tuberculosis. Goitre is another disease which is accompanied by excessive fear expressions, and this disorder is as rarely found in combination with consumption as cancer. Nevertheless, goitrous regions abound with tuberculosis, and indeed, there is no zone exempt from it.

Fear-awakening heart disorders and cardiac hypertrophy with increased activity of the respiratory muscles are unfavorable to pulmonary tuberculosis. Emphysema necessitates conscious respiration and does not associate itself with conditions favorable to tubercular deposit. The pregnant woman, becoming so during the process or at the incipiency of pulmonary tuberculosis, usually lives a charmed life during gestation, being protected from its ravages until the end of her term, after which the disease takes up its course and continues to a fatal termination. The presence of the child exalts the costal respiratory efforts, and the fears and fright incident to the child's activity and the mother's anxiety for its safety are assumed to have to do with this antagonism.

It is the experience of those who treat chest diseases that tears, or emotional evidences and anxieties do not disturb the real victim of consumption, when applying for an opinion as to his pulmonary condition, whereas the suspected but innocent one displays tremors and fears, which are of diagnostic value. On the other hand, we may note briefly that those maladies which temporarily hold the lungs quiescent, or place them in a kind of paresthetic thrall, are prone to be followed by consumption. This latter disease, however, is not to be found immediately associated with the active stages of fevers, but appears as one of the sequelæ.

Tuberculosis of the lungs is almost unknown as a concomitant of typhoid fever, but it is a very common secondary affection which appears speedily after the fever has subsided. Diabetes is a quiescent, insidious and unalarming malady, and in this respect resembles tuberculosis; these two diseases are so commonly associated that 50 per cent. of the victims of either malady will show signs of each. Urinalysis is essential in every case of tuberculosis and microscopic investigations of the sputum in cases of glycosuria are also needful. Numerous other illustrations are at hand, but these will suffice to prove that—

> "By some of life's sorest ills
> Our fears are first anesthetized."

While this fearlessness grows upon us the successive changes touch us everywhere. Even our sentiments are employed to obscure the plain teachings of cause and effect.

THE MORAL PLANE AND SENTIMENTAL ASPECT

of the individual case are made to appear everything which they truly are not. Though in every other direction there may be a moral tone which will prevent man from unwillingly or knowingly making that which is worst in him a distinguishing trait, this principle is not applied in the direction of the lung demeanor. It may be made obvious to each that the fearless lungs are carnal untruths among organs which are universally truthful, and that other organs than those of respiration, if ill, usually take cognizance of the most trifling annoyances and refer them to the centers. Yet there is a self-sufficiency in the pulmonary languor which yields complacency under all circumstances.

The pulmonary candor of our race becomes problematic, when, after pointing out the delinquencies and receiving a confession of shortcomings, they continue. This disposition to pulmonary prevarication dominates not only the mind, but also the action of the individual and gives grotesqueness to the pulmonary proprieties, and each becomes an ally of disease, while professing sincere admiration for those who are in a pulmonary sense recherché. There is an universal as well as individual inconsistency.

The lines of pulmonary proprieties rudely separate respiratory sincerity from pulmonary amenities. The instinct of the breathing apparatus is stifled by the tenets of polite pulmonary demeanor. As early as possible the respiratory will is broken and subjugated to the polite habits of the age, and these are usually impressed before many removes from the threshold of life. In the nursery, the child disposed to give evidence of his pulmonary or vocal presence is in danger of social ostracism, or at least is regarded as an unworthy associate of the quiescent prim dignitary with bacilli in his pulmonary apices. The pulmonary pigmy becomes an object of envy in the kindergarten because he is divested of the innate pulmonary and vocal impediments which prove hindrances to the social exaltation of his physical superiors. The feeling of resentment possesses each pulmonary nobleman who has grown out of short frocks into trousers, as he recalls his limitations which only permitted him to be "seen and not heard." Among the elite it is handed down through later years as an axiom that vocal continence and respiratory abstinence are deserving of emulation. Conventional asphyxia adopted early and continued long enough guarantee physical, mental and moral obliviousness to respiratory insincer-

ity throughout later life. Thus, some are unburdened of pulmonary fear and divested of the most rudimentary or primal evidence of lung sentiency. Polite lungs are made to fall short of perfect communication with the ideational centers, and the number of those in whom the reflex are is not repeated in the respiratory organs is thus augmented. Pulmonary fixidity is substituted for spontaneous diversity for which the lungs are obviously provided. The most vigorous child may thus be forever denied the pulmonary conquest of that which, untrammeled, he might have the innate strength to grasp and to hold. We may appreciate in this view one of the causes which contribute to make the centers of civilization foci of pulmonary indifference, and may better comprehend why countries where refinement is at its zenith yield up their pulmonary integrity. Moreover, it may aid in explaining why young men of pulmonary vigor from the country are usurping the places of the city-bred youths, and passing them in the race towards success and distinction. Those who promote these fallacies do much to counteract the accumulated advantages of hygiene and sanitation. Nature's rule will obtain despite conventionalities, and it provides that, "the relics of psychic states and acts, with their lapsed reflexes and somatic impressions can only be obliterated when the organs in which they are impressed have become vestigial, or races in which they existed have perished."

From the earliest stages of respiratory prodigality to the last it is the habit to encourage, coddle, coax the individual, and to sympathize with him and condone the wrong done the pulmonary apparatus, until lung inefficiency becomes more than simply endurable, but respectable, and we aid one another to gravitate toward the pulmonary zero mark.

Sentimental suppositions that prompted the lungs to conscious effort in primal times have disappeared gradually, but surely, from our traditional history, and in their stead we have the unified sentiment which gives moral support and sympathy to the pulmonary delinquent; the limit of sympathy is proportioned to the amount of the delinquency. The greater the deficiency the more profound and more universal the sympathy. While nature treats him as a culprit, we ignorantly or impiously regard him as a martyr. Tranquil pulmonary self-assurance prevails, and the fact that nature is pitiless and helps only those who help themselves is forgotten. This sentimentality is very evident in the home of the invalid, and it has long been demonstrated that home influences are too tender and unpractical for successfully combating consumption. It is a fact which needs immediate recognition and a vigorous utilization that insensate lungs should have imparted to them the touch of anarchism.

When the undoing is complete, disease is exalted to a virtue and fearlessness, or the less excusable display of hopefulness, is postulated as the worthy and noble outgrowth of the refining and sanctifying influence of prolonged physical frailty. The individual pulmonary insolvency is accredited to the victim as a species of righteousness. It is a lamentable fact, however, that the lungs die apathetically, just as their possessors elected to live. Exhausted from disuse, it is consistent that they make little ado over death. It would seem pathetic if it were not inexcusable that those of the immediate household often fail to appreciate the tragic significance of this cold-blooded expression of familiar disposition, acquisition and personal fear obsolescence.

In every possible way such misapplication of encouragement and misunderstanding of the conditions, defeat the possibilities to which science unaided can not attain. When fear is present, it is the physician's supreme opportunity to secure the delinquent's attention and enforce the measures for pulmonary regeneration. When the physician sounds the note of alarm and attempts to reawaken fear or direct its influence into the proper channels, he is regarded as lacking in the characteristics which are demanded by the present-day sentimentality. The shock, dread and fright of an intelligent appreciation of the presence of consumption is assumed to be harmful, or at least cruel, and the physician, if respectful of these feelings, is compelled to yield to the overwecning influence of friends and the subject continues his slumbrous optimism. However, there is nothing to be apprehended from well-directed fears in lung disease. Moreover, the subjects who are excessively alarmed under such circumstances, are displaying even in that alarm, less morbidity than those who display fearlessness.

THE EXPERIENCE OF SYRACUSE, N. Y., WITH THE COMPULSORY TUBERCULIN TEST OF ALL DAIRIES FURNISHING MILK TO THE CITY.*

B. S. MOORE, M.D.
SYRACUSE, N. Y.

The object of this paper is not a desire to advance something new in regard to tuberculosis or tuberculin, but rather to call your attention to the great merit of tuberculin as used to-day in veterinary practice, and recite the experience of Syracuse in its use for the past four years. This experience has impressed me with its great value as a means of diagnosing bovine tuberculosis, and the hope that prompted the presentation of this paper is that such testing may soon become general and that the tubercle bacilli may be driven from the milk supply of our entire country.

I am not of those who believe that the tubercle bacillus of infected milk is the principal cause of tuberculosis in man; though not the principal, I do believe it to be a very important cause, next perhaps to the most important—that of direct infection from the infected to the susceptible uninfected. Susceptibility is as necessary and as likely in those who contract tuberculosis from the cow through an infected milk supply as in those who obtain the malady directly from a diseased man or woman. Where can susceptibility find better conditions for its full satisfaction than in the delicate baby having all the inherited weakness of its parents, feeding upon tuberculous milk and added to this a digestion too poor to destroy germ life, with the mucous membrane lining the entire alimentary canal, the seat of catarrhal inflammation, the prepared ground, as it were, ready for the seed, the tubercle germs?

The history of tuberculosis in cattle, though meager, is exceedingly interesting. At the Fourth International Veterinary Congress, held at Brussels in September, 1883, the subject of bovine tuberculosis was discussed. It was most thoroughly handled by the reporter of the Commission, Professor Lydtin of Carlsruhe, Germany. Many of the following facts and statements are taken from this report.[1]

---

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee.

1. See First Annual Report of the Bureau of Animal Industry for the year 1884, pages 350 to 366, "International Veterinary Congress, reports of Dr. James Law."

According to the law of Moses the meat of an animal that was pining away could not be used as food. More distinctly is the condemnation given in the Mishna (the collection of traditions and laws by the ancient rabbis), according to which the body of a slaughtered animal was condemned as food if the lungs could not be distended with air or had growths attached. Lydtin states that this ordinance was observed by the early Christians until the third century and that diseased meat found by the overseers of markets in the city of Rome was thrown into the Tiber. The eating of diseased meat was prohibited by a law of the church in the tenth century. The sale of diseased meat was prohibited by the ancient laws of Italy, France, Spain and Germany. In 1716 a French butcher was condemned to nine years' exile, a fine of £5000 and debarred from following the same occupation, for supplying diseased meat to the army.

To France belongs the honor of having first introduced, in 1810, municipal abattoirs which are now found in most large European cities, thus rendering a thorough inspection of all slaughtered animals possible.

In the eighteenth century a strong conviction existed among the people as to the contagious character of both human and bovine tuberculosis, which is evident from the fact that consumptive persons were separated from others and after their death their clothes, etc., burned.

On Sept. 20, 1782, the King of Naples issued an edict requiring the isolation of consumptives and the disinfection of their rooms, books, etc. The punishment for violating this ordinance by an ordinary person was three years at the galleys, but a noble received three years' imprisonment and had to pay 300 ducats. If a physician neglected to report a case he was fined 300 ducats for his first offense and banished for ten years for a second.

From among professional men many can be quoted who were convinced of the contagion of bovine tuberculosis long before Robert Koch discovered the tubercle bacillus. Thus, Ruhling of Göttingen, Germany, wrote in 1774: "The malady is transmitted to sound animals by direct contact of infected animals standing side by side in the stall and licking each other, and breathing the expired air direct from the diseased lungs; the frequenting of the same pastures will also serve to propagate it." Cruzel in 1868 used these words: "This fetid expired air, inhaled immediately by another cow upon a sound lung, gives the latter tubercular infection. It is a matter of everyday experience to the veterinarian. Two oxen or cows are kept in the same stable, take their food from a common rack or manger, lie in the same stall and respire nose to nose. The one is perfectly sound, the other is to all appearances in as good a condition, is vigorous, but it coughs from time to time, and its breath is foul. Soon it is noticed that the animal that does not cough eats with less appetite, loses flesh and soon is unequivocally affected with the same malady as the other."

With the epoch-making discovery of Robert Koch a new impetus was given to the suppression of tuberculosis in cattle. Thousands upon thousands of tuberculin tests have been made in almost all civilized countries and hundreds of postmortems have proved the almost unfailing correctness of the test.

The Empire State was the first in the Union to pass a law which conferred the power on the State Board of Health to cause an examination of milch-cows for tuberculosis or other contagious or infectious diseases. This was during the session of 1892, Chapter 487. This was followed with Section 63, Article V, Chapter 661, of the laws of 1893, which was amended by Chapter 617 of the laws of 1894, which reads: "It is the duty of the State Board of Health to investigate concerning the existence and cause of tuberculosis in cattle and use all reasonable means for averting and suppressing such disease."

In the report of the commissioners on tuberculosis in cattle in the state of New York, which was transmitted to the legislature on Jan. 24, 1895, we find on page 8 a "summary of all cattle examined, condemned and slaughtered by the Tuberculosis Commission, with the distinctive breeds," according to which up to the year 1895, 2417 cattle had been submitted to the tuberculin test, of which number 405, 16.75 per cent., or one-sixth, were found to be diseased and were condemned and slaughtered. During the year 1895, there were tested in Onondaga county four herds of cattle. Again, in 1898 the Committee had tested 17 herds of cattle for the Syracuse Milk Supply, and the Committee says: "Where no disease was apparent by physical inspection 4 per cent. were found diseased."

The 15th Annual Report, for 1898, contains the report of Health Officer Dr. O. A. Thomas, in which he calls special attention to the resolution introduced by him to the Board, and passed at the December meeting, compelling all persons peddling, selling or delivering milk in Syracuse to have on or before April 1, 1899, a certificate from a competent veterinary surgeon, that their cows are free from diseases.

The 16th Annual Report, for 1899, contains the results of the first general compulsory testing of the cows supplying the city of Syracuse with milk, and it is as follows: No. cattle submitted to the tuberculin test, 3843; No. cattle responding to the test, 200, or about 5.25 per cent. This testing, with the condemnation of 200 cows from the herds supplying milk to the city met with some opposition and an outspoken determination that it must not be repeated.

At the beginning of the year 1900 all dairymen were notified that their herds must be tested and must be retested every second year; that new cows added to the herds would be tested the intervening year. The dairymen held meetings, expressing themselves freely pro and con in regard to the test. All licenses had expired on April 1, and on April 25 the milk producers in convention had decided not to allow their herds to be tested by tuberculin. They, at this time, appointed a committee to obtain the best legal advice upon the subject, and found that they must conform to the requirements of the Health Bureau or keep their milk out of the city; which they determined to do until such time as they could bring the Health Bureau to change its position. The Health Bureau then gave notice that any person selling milk without the proper license on or after May 1 would be arrested. From this time until May 1, every peddler presented to his several patrons a petition requesting them to sign against the test. This measure was a failure, few signatures were obtained and the petition never appeared.

May 1 dawned bright and warm, but the familiar rattle of the milk wagon was not heard on the streets. These conditions lasted three days, during this time public sentiment and expression of our local press remained entirely with the Health Bureau. No complaint ever reached us, though doubtless many suffered at the stopping of so necessary an article of food. At noon on

the third day the dairymen desired a compromise, but we had none to make. A clergyman waited upon us and thought that as the tubercle bacillus might exist in butter and cheese, it was foolish to endeavor to exclude it from the one article—milk. I said: "Though you are not able to stop all the vice in the city, you do endeavor to stop some by preaching to your congregation every Sunday." An hour after, the Onondaga Milk Association, the largest milk producers in the city, requested and obtained an extension of ten days' time in which to have their cows tested. Their example was quickly followed by all other dairymen and our milk war was over. Very material support was given the Health Bureau by our Commissioner of Public Safety, Mr. Duncan W. Peck, and by the Syracuse Academy of Medicine, especial gratitude being due Drs. H. D. Didama, John L. Heffron and Frederick W. Smith, formerly of the State Board of Health.

This year's testing has been carried on with the kindest feeling existing between dairymen and the Health Bureau. Many dairymen who have investigated the subject have the greatest faith to-day in the test and will oppose it no more.

It is but fair to say that the majority of farmers were honest in their opposition and have since shown a desire to investigate the worth of tuberculin. I will repeat the history of one such case: Mr. A., an intelligent gentleman, the owner of a fine milk farm, had a cow that reacted to the test with a typical temperature that remained at 104 or above. She was condemned, the attending veterinary telling Mr. A. that he would give him a $20 gold-piece if she proved non-tubercular The dairyman regarded the cow as one of his best animals; she was giving an extra large amount of milk, was sleek, fat, and appeared a cow in perfect health; but he desired to know the truth and only agreed to sell her when the butcher promised that Mr. A. should be present at the killing. I was notified at 2 p.m. that this event was to take place at 3 p. m., and after telephoning to several physicians, drove rapidly to the place of slaughter, where I found the cow nearly dressed and the butcher working hard in his endeavor to have the job all over and all evidence of tuberculosis removed before the time appointed for the killing and the coming of the veterinary. Mr. A. and his son, both at that time unknown to me, were careful spectators of the proceedings; the butcher repeatedly assuring them as he worked that "there wasn't a pimple on her." The lungs were still to be removed, and their removal I carefully watched. The butcher hung them up as quickly as possible after removal, so a decided enlargement by the apex of one lung was turned in and covered. I asked that they remain there for a short time, until the veterinary should arrive, and as I saw a carriage approaching I stepped toward the front of the building. The butcher was watching and when he saw me speaking to a physician who was just entering, he made a quick sweep of his knife and the enlargement dropped from the lung. He was not quick enough. I returned and picked up the piece, which was an enlarged bronchial gland, weighing one and one-half pounds, a beautiful specimen of solid tubercle in the cheesy degenerative state, the center of the mass soft and ready to break down. The specimen was preserved in the Syracuse Medical College, after the city's bacteriologist had found bacilli in large numbers. Mr. A. from that time has remained a friend of the test. He was much surprised by the findings, remarking that this cow had never shown any visible signs of disease.

No. cattle then submitted to the tuberculin test, 4127; No. cattle responding to the test, 52, or about 1.26 per cent.

No. cattle submitted to the tuberculin test this year, 731; No. cattle responding to the test, 2, or about 0.27 per cent.

You will notice the gratifying decrease in the percentage of reacting cows: Five and one-quarter in 1899; one and one-quarter in 1900, and one-quarter in 1901.

The following facts give us some idea in regard to the prevalence of bovine tuberculosis: During the year 1889 there were killed in eleven abattoirs of the Kingdom of Saxony, in Germany, 56,723 cattle; of these 8 per cent. were affected with tuberculosis, namely, 12 per cent. of cows and 5 per cent. of heifers. Dr. Reick gave a careful report of the Leipsic abattoirs for the three consecutive years beginning with 1888. During this time 68,000 beeves were slaughtered, and of this number, 14,000, or about 20 per cent., were tuberculous. We should expect these animals to be in health conditions above the ordinary dairy cow. The London *Lancet* of April 15, 1899, gives an account of the testing of the late Queen's herd of 40 cows on her farm at Windsor; 34 head were condemned. The Queen ordered the whole herd slaughtered, requiring postmortems in every case by the Royal College of Veterinary Surgeons. These examinations proved the reliability of the test. Many such instances can be cited, such as the case of the fine herds of the late Governor Morton of New York; but perhaps the one that was most convincing to Syracuse and vicinity, was that of the herd of De Wayne Brown of North Pharsalia, N. Y. These animals had been submitted to the tuberculin test on June 14, 1899, and condemned by the State Board of Health. With the desire to convince the doubting milk-producers of Syracuse of tuberculin's value, they were brought to Syracuse and slaughtered. The results of the autopsies made under the direction of Prof. James Law, of Cornell University, proved that every cow of the herd of 21 was more or less diseased.

Milk, an indispensable article of food, universally used, must be separated from any suspicion of infection from a bacillus the cause of the most common and at the same time the most fatal of diseases. That such infection exists to-day is admitted on all sides by scientific men who have investigated the subject. There is a difference of opinion as to the extent of the danger, slight perhaps in the milk of animals having small encysted tubercular deposits, greater as the disease becomes general or when the udder is affected; so to-day the consensus of opinion from medical men is that a cow no matter how slightly tuberculous, should not produce milk for human consumption. The danger of infection admitted, is it possible to crush out bovine tuberculosis from the herds of our country? With no hesitation, I answer, yes. What any careful farmer can do for his herd, and what very many such farmers have done for their herds the state can do for all herds within its confines and the same care can be exercised by the state in admitting cattle within its limits as is exercised by the careful farmer in admitting new cows to his herd.

This, the first year of a new century, should be marked by a determination in medical men and medical societies

to block every avenue of attack of the tubercle bacillus, to-day the recognized cause of "the great white plague." We are not compelled to work in the dark as were the physicians of past ages. We know exactly the cause; we know exactly the favoring conditions for the multiplying of that cause; the chief means for the growth and spread of the tubercle bacillus can be counted on the fingers of one hand; and it is to us that the laity look to check this dread malady, and for the knowledge that they may intelligently protect themselves against infection and even in the majority of cases save their lives after infection. If this year and this new 20th century could be recognized and adopted by physicians the world over for united effort against one and all means of travel and development of the tubercular germ, what a grand result this effort would show at the century's close, and at the birth of the next, the 21st century! Tuberculosis compared with now would be a rare disease, and medical men would well be repaid for 100 years of hard united work.

CLIMATOGRAPHY OF ARIZONA, WITH ESPECIAL REFERENCE TO THE CLIMATIC TREATMENT OF PULMONARY TUBERCULOSIS.*

ROBERT W. CRAIG, M.D.
PHOENIX, ARIZ.

Of all diseases which have wrought devastation to the human race, there has never been a disease more deadly or more widely distributed than tuberculosis. Other communicable diseases have caused more dismay, and occasionally, for a short period, even greater destruction; but tuberculosis has been, and to a lesser degree continues to be, the most constant and virulent of all. It has been recently estimated that there are one million cases of active tuberculosis in the United States, and the latest authentic statistics show that 14 per cent. of the deaths recorded for ten years are due to some form of it.

Climate, as affected by mere latitude, does not seem to have any influence on the disease. The death-rate from this cause is practically the same in New York, at a latitude of 44 degrees, and Manila, which is only 15 degrees from the equator. On the other hand, a low relative humidity seems to be a very potent factor, and in the Alps, the Rocky mountains and the great interior plateau of South Africa the disease is very rare.

In all localities where there is a relative immunity from the disease, the climatic conditions are such as to allow or compel their inhabitants to live largely an outdoor life. Knopf says: "Were I to be asked to express an opinion on the subject, I would say the best climate for the tubercular patient is the one which permits him to remain outdoors more and longer at a time than anywhere else." In other words, that place having the most sunshine, least moisture, and most even temperature is the ideal spot. Believing that Arizona very nearly fulfils these conditions, and is probably less known to the profession than most other sections of the country, its climatic conditions have been made the basis of this article. Variations in climate are wholly due to variations in the physical conditions extant. These are generally local in character and few in number. The atmosphere at a short distance above the earth's surface is practically the same everywhere, but at the surface it varies somewhat. The most important of these variations are, 1, temperature; 2, air-weight as determined by altitude; 3, humidity; 4, sunshine. As these physical conditions vary with the parts of the earth's surface, it may be said there are no two climates exactly alike, and it is practically impossible that there should be. The most potent factors in determining these variations of climate are latitude, altitude, and large bodies of water.

1. Studying the climatic conditions of Arizona on this basis, we find that they are certainly unlike anything else in the world. The Territory is located between the two greatest ranges of the Rocky mountains, between 30 and 35 degrees North latitude. It is largely comprised in an extensive plateau that has climatic features so distinctive as to merit a separate place in the classification of climates. Hundreds of miles from any large body of water, traversed by lofty mountain chains, and surrounded for several hundred miles on every side by sandy deserts, it has the natural physical conditions which combine to make it the ideal climate for the consumptive. We rarely contemplate the far South latitude of the region when thinking of Arizona, but nevertheless it is almost exactly of the same latitude as Cairo, in Egypt, and the greater portion of the Territory has a very similar climate.

The general slope of the country is toward the south and west, ranging from an average altitude of 7000 feet at the Grand Canyon and around Flagstaff, in the northern part, to sea level in the south and west, in the locality of Yuma, which is erroneously but popularly supposed to be the hottest town in the United States. The northern and eastern portions of the Territory are to a very large extent mountainous, and covered with pine and cedar forests, which, being almost entirely clear of underbrush, form magnificent natural parks. This region is the watershed from which source is derived the water used for irrigation of the famous Salt River valley, which bears to Arizona the same relation as does the valley of the Nile to Egypt, and which archeological authorities claim has been under cultivation for an even longer period than that valley.

The two principal towns in the northern part are Flagstaff and Prescott. Flagstaff is a beautiful little city of 2000 inhabitants, and was certainly intended by nature for a summer resort. It has an altitude of about 7000 feet, and is located about the center of the National Forest Reserve, which includes the San Francisco mountains and the Grand Canyon of the Colorado. During the warmest summer months the temperature here rarely exceeds 80 degrees, and at all times blankets are necessary to comfortable sleeping. This region is particularly rich in the natural objects of interest which are so necessary to occupy the time and attention of the semi-invalid. The Grand Canyon of the Colorado, certainly the greatest scenic wonder of the world, is now reached by railroad, connecting with the main line of the Santa Fé at Williams, as well as by an automobile line which makes the trip from Flagstaff to the rim of the Canyon in eight hours. In and around this region within driving distance of Flagstaff are Montezuma's castle, probably the most famous of the Aztec ruins, Montezuma's well, the crater of an extinct volcano, a petrified forest, Cataract Canyon, with its village of Supai Indians, and beautiful waterfalls, and Walnut Creek Canyon, with its cave and cliff dwellings. The mountains and canyons in this locality are the

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee.

sportsman's paradise. In the southern portion of the Territory is the Salt River valley, which is probably the objective point of more people seeking to escape the rigors of the northern winters than any point in the Southwest. This valley is about 60 miles long by 30 miles wide, and is as level as a floor, with a gradual slope to the southwest. It was at one time the seat of Aztec civilization, and it has been estimated from the immense ruins found in various parts of it that this region formerly had a population of about 300,000. Even now, ancient canals may be distinctly traced, demonstrating that a most elaborate and extensive system of irrigation was carried on. Near Phoenix, Casa Grande and Temple, are the ruins of prehistoric cities that were beyond question more populous than any now in existence between Denver and the Pacific coast. This valley is now largely under a high state of cultivation and is a veritable oasis in the desert. It is mostly given up to citrus fruit growing, and the orange groves within five or six miles of Phoenix are one of its most attractive features. A belt stretching for miles along the foothills produces the finest oranges grown in America, and a ride along some of the driveways skirting the canals which supply the water for irrigating these fruit orchards is one of the best tonics available. Killing frosts are practically unknown, and even during January and February, the coldest season here, the apricot and almond trees are in bloom and alfalfa fields are as green as an Illinois lawn in June.

Phoenix, the capital and commercial center of the Territory, is located in the Salt River valley and is a thoroughly modern town of about 15,000, with electric lights, street cars, the best of winter hotels and probably more churches and schoolhouses than are to be found in towns of equal population in the East.

As the manifold climatic advantages of this Territory, chief of which are an even temperature, medium altitude, minimum humidity and maximum amount of sunshine, are becoming more and more clearly recognized by the medical profession in the East and North, the tide of winter travel is tending in this direction, until Phoenix, in particular, of its many towns, is the objective point of a far greater number of pulmonary cases than any other city of equal population in the Southwest. The greatest number of invalids are of the tuberculous class.

They recover in encouraging numbers; in such proportions, indeed, that it is the strongest argument that suitable cases should invariably be sent from the colder regions of the North and East to a climate where the conditions are such as to make an outdoor life the natural existence. By passing the summer in Flagstaff, the fall in Prescott, the winter and spring in Phoenix, the invalid may enjoy the advantages of the Riviera and the resorts of Switzerland and Egypt with practically none of their disadvantages.

In a consideration of the individual factors controlling the climatic conditions here, temperature and a low relative humidity may well be considered the most important, as the even high annual temperature and dryness of the atmosphere are Arizona's chief claims to merit, as compared with many other good climates.

1. The temperature of Arizona is higher than in some regions of the Mississippi valley, by an average of fifteen to twenty degrees in summer, and by thirty to forty degrees in winter. Yet the relative humidity is so low in summer that the sensible temperature is five to ten degrees lower in Arizona; that is, the sensibility of the human body to heat is really less in Arizona than in Illinois. A temperature of 110 degrees in Arizona is much less unpleasant than a temperature of 90 degrees in Chicago. Thermic fever is unknown, even in the hottest summer months. I have known of a few persons somewhat overcome by the heat, but they never had elevation of temperature, or the symptoms common to sunstroke, and a careful inquiry generally elicited a history of alcoholism. The government reports show an average temperature for fourteen years at Phoenix for December of 65 degrees, for January of 58 degrees, and February of 63 degrees. The nights throughout the winter are apt to be cool enough for open wood fires, and for blankets. Generally overcoats are not needed during the day, even in the midst of winter.

2. The variations in altitude are very pronounced, and this is a striking advantage in some respects, as with the same general conditions as to temperature and dryness of air the physician is able to select nearly any altitude he may desire, ranging from sea level at Yuma to 6800 feet at Flagstaff. The improvement in nutrition, particularly the great increase of red blood corpuscles that sometimes occurs upon removal to a higher altitude is remarkable, but I believe the intense expansion of the lungs in these cases is detrimental rather than otherwise. That an enlargement of the thorax follows a residence at a high altitude there is no question, but the increased resonance of the percussion note is, I believe, generally due to an emphysema produced by the altitude rather than to increased lung power. The theory advanced by Murphy in support of the nitrogen gas treatment, that the diseased lung needs rest rather than unusual activity, is entirely logical, and I believe that, as a rule, the good results secured by sending patients to high altitudes are due primarily to other causes, notably dry air and improved hygienic surroundings, rather than to the effect of the high altitude.

3. A low percentage of humidity is, I believe, the most important essential in the elements that go to make up the ideal climate for the treatment of pulmonary tuberculosis. Other conditions being equal, tuberculous cases improve much more rapidly, and a greater percentage of recoveries is found where the relative humidity is lowest.

The lack of moisture in the atmosphere, as reported by the United States Weather Bureau, at Phoenix, is truly surprising. On several occasions during the month of June, 1900, the relative humidity fell as low as 1 per cent., as compared with 50 and 60 per cent. in Chicago, and eastern cities.

The average annual rainfall recorded at Phoenix is 6 inches, as compared with 35 inches as Asheville, N. C., 18 inches at Los Angeles, and 15 inches at Denver, Colo. The official weather reports demonstrate that Phoenix has the lowest percentage of humidity and the maximum amount of sunshine of any city in the arid belt, which effectually controverts the statement that has been made that the irrigation in the Salt River valley had interfered sadly with its climate for pulmonary cases.

One especially noticeable effect of the dry air is the great diminution in the amount of sputum in those cases where there is excessive bronchial catarrh accompanying the tubercular lesion.

4. The value of a maximum of sunshine can hardly be overestimated, as the relative humidity and the

temperature depend to such a large extent upon it. Its mission can not be fulfilled by the model comfortable house, and, as the love of sunshine is proverbial, its influence in inducing patients to live outdoors is perhaps greater than any one other climatic feature.

Knopf, in his excellent work, speaks of the great amount of sunshine enjoyed by invalids at Davosplatz, Switzerland, mentioning that the average daily sunshine for the month of November is 4 hours, 16 minutes, which is truly a relatively large percentage; but when compared with the 9 hours, 12 minutes reported by the United States Weather Bureau at Phoenix, for the same month is small indeed.

Phoenix has the greatest percentage of sunshine recorded by any United States Weather Bureau office, and during the year 1900 there were but five days on which the sun did not shine there. This is a matter of the utmost importance, as the entire trend of modern ideas upon the subject is toward the outdoor treatment, and my experience has been that it is extremely difficult to induce patients to remain in the open air when the weather is cloudy or bad.

The mental condition of the average tuberculous subject corresponds very closely to the barometer. When the day is cloudy and the humidity is great, he is depressed and melancholy. When the sun is bright, his spirits rise, and he wishes to be outdoors as long as possible, and does not suffer so severely from nostalgia, which has such disastrous results in many cases.

In discussing the various forms of tubercular lesions, particularly those involving the pulmonary tract, it must be borne in mind that in many cases there is a spontaneous healing which has been demonstrated by postmortem and pathologic investigations. The very fact that these spontaneous cures do occur, and the evidence is abundant, frequently in cases where a tuberculosis has never been even suspected, is sufficient evidence that conditions may arise or be induced within the patient suffering from tuberculosis which will check the course of, and in many cases entirely eliminate, the disease.

In all tubercles two processes go on—the one, caseation, destructive and dangerous; the other sclerosis, conservative and healing; the ultimate result depends, in the given case, upon the capabilities of the body to restrict and limit the growth of the bacilli. To produce and strengthen these capabilities must be the aim of all curative treatment, whether it be by specific medication or by the open-air treatment. (Osler.)

Regarding specific treatment, the various new cures so frequently presented to the profession, and through it to the public, are the best evidence of our lamentable weakness in that direction. As yet there have been no indisputable evidences of benefit derived from the treatment of pulmonary tuberculosis by the serums or tuberculin, and my personal observation leads me to believe that there have been many more tuberculous patients hurried to an early grave by the use of creosote, guaiacol, ichthyol, etc., than have ever been benefited by them. Many of our best writers condemn tuberculin in no uncertain terms, and I feel sure that not many of us, if suffering from tuberculosis, would use it individually, except, perhaps, for diagnostic purposes. Karl von Ruck clearly demonstrated the worthlessness of the serums.

To my mind, the most important of all is the open-air treatment. The principle which this plan of treatment recognizes as of vital importance, without which all else is naught, is comprised in the three essentials to perfect animal life, namely, pure air in unlimited quantities both day and night, good food and plenty of it, and, as near as possible, complete repose. The benefits to be derived from this mode of treatment are coming to be widely recognized, and statistics of such open-air institutions as Nordrach, in the Black Forest; Kimberly, in South Africa, and Falkenstein, near Frankfort, all testify to its efficacy. The method pursued by the more modern sanitariums, particularly those above mentioned, is to give the tuberculous patient, as nearly as possible, an absolutely outdoor existence. Undoubtedly the best results attained here have been by a tent life on the desert at the foothills, which extend within six miles of Phoenix. Indeed, many people sleep practically in the open air all winter, although it is not so commonly practiced as it should be when carried out under intelligent direction. In brief, we may summarize as follows: Pure and abundant air both day and night, indoors and out; such good and plentiful food as a simple, open-air life may enable a patient to digest; rest, frequent and complete; a long night of sleep; an hour's rest after walking, additional rest when the individual may require it; and in all cases absolute avoidance of fatigue.

DISCUSSION IN SYMPOSIUM ON TUBERCULOSIS.[1]

A MEMBER—I ask Dr. Salmon how much danger he apprehends from the beef of animals that were tuberculous?

DR. D. E. SALMON, Washington, D. C.—I purposely avoided that question in my paper because it is so much contested at this time. I spoke somewhat of the danger of tubercular material existing in the muscular tissues of animals, a condition which is illustrated by some of the specimens which I have put in the pathologic exhibit. It is generally admitted, I believe, that there is not very much danger from meat. Whether that is a correct conclusion or not, I am not prepared to say. The English investigations made by the Royal Commission showed that when tubercular matter was included inside of the roasts of beef, with ordinary cooking, it was not destroyed. They also showed that the butchers in dressing the carcass would cut through tuberculous glands and other structures, and carry the infectious tubercles on their knives to the muscular tissues; and they appeared to think that there was considerable danger. On the other hand, the postmortems on adults showed that the lesions of tuberculosis starting in the abdominal region do not appear to justify the conclusion that there is a very large number of cases occurring from meat; that is to say, there appears to be a very comparatively small proportion of tuberculosis in adults that start in the abdominal region.

There is a good deal to learn about that yet, and for that reason I rather laid stress on the danger from milk, which none of the authorities who have looked into the matter carefully have contested. It is generally admitted that there is a good deal of danger from milk. Certainly there is more than there is in meat. We want to establish the point first that there is danger from milk, and for that reason we are putting our work upon that. After that is done, perhaps attention will be turned more particularly to meat; but for the time being it is admitted by all that the danger is principally from milk.

A MEMBER—In Germany, do they not allow all meat of tuberculous animals to be sold?

DR. SALMON—The carcasses which show generalized tuberculosis—that is to say, which show that the bacilli have been distributed to the carcass by the blood—are condemned. But there is a chance for a difference of opinion as to what is a generalized case and what is not. We would call sometimes a case one of generalized tuberculosis that others would not, and so that makes some difference. That class of cases amount

1. For the papers of Drs. Salmon and Robison, see THE JOURNAL of December 28, and for the papers of Drs. Bracken and Ambler, THE JOURNAL of January 18.

from 2 to 3 per cent. that are condemned and destroyed. Then they have another class of cases, where there is extensive tuberculosis; that they sterilize, and then they allow it to be put on the market. This is sold as inferior meat. That constitutes probably 5 or 6 per cent. of the tuberculous carcasses, making, with the generalized carcasses and the sterilized carcasses, from 7 to 8 per cent. that are either destroyed or sterilized. The balance of the cases of tuberculosis are put on the market without restriction.

DR. M. H. REYNOLDS, St. Anthony Park, Minn.—The prevalence of bovine tuberculosis in our country without regard to breed is admitted, and all breeds are affected. A large percentage of all these cases are mild and latent. The cattle are sleek and fat and look the pictures of health, and it is difficult to convince people that they have tuberculosis, or anything except perfect health. Another difficulty that veterinary sanitarians meet is the indifference of the general public, of stock owners, and particularly of breeders of pure-bred cattle. There lies the most difficult problem of all: tuberculosis in pure-bred herds. For breeders to stand any chance in the show ring, their cattle must be excessively fat. That means that the animal has been idle for a long period of time and has been kept under artificial conditions. It is true that many herds of pure-bred cattle are kept under very artificial conditions, and it is also true that there is a great deal of tuberculosis among such cattle. Then again comes in the complication that they are so very valuable. We can kill and pay for cattle worth $40 apiece, but we can not condemn or kill or quarantine for any long period of time cattle worth from $300 to $1200. We can never get our legislature to appropriate enough money to pay for very many pure-bred cattle.

Dr. Salmon mentioned the point that there was a present tendency among medical men to belittle the danger to human life in the use of tubercular meat and milk. That danger may have been overestimated, but we are now at the danger point of going to the other extreme and belittling a serious problem. We should not do that. Sweeping, general measures are hopelessly impracticable. Measures that would attempt to test all cattle in this state and destroy all carcasses of reacting cattle, or even permit the sale of a portion of the carcasses, are impracticable. It being granted that we can not go through the state and test all the cattle within her borders, the question arises: What then can we do? First of all, we can get the people of the state, particularly the heads of families interested in knowing what sort of herds the milk comes from that their children are using, and here is a good work that medical men can help along a great deal. I am afraid that there are a great many medical men in our cities that never think of suggesting to their families the desirability of knowing what sort of dairies the milk comes from. Physicians in private practice can do a grand work by getting their people interested in this subject. So far as I know, Minneapolis was the first city that really undertook serious work along this line. In 1896 work began in Minneapolis on the plan of not ordering that all cattle should be tested, but merely saying by ordinance that unless herds were tested owners could not sell milk within the city limits. Dr. Moore told us of their experience in Syracuse. We went through a similar experience in Minneapolis. The measure was fought bitterly by the dairymen's association, and the first year it was slow, up-hill work. The second year was a little better, but gradually the measure gained support among the dairymen themselves, and within the last year expressions have been very free among dairymen of the Twin Cities, and particularly Minneapolis, that they believed it was a good thing. That they believed there was such a thing as tuberculosis among their cattle, and it was a good thing to have their herds tested; that the people should have milk free from non-tuberculous cows, etc.; but at the same time they would say they didn't think it was just that dairymen should stand all the loss of the condemned carcass. Last winter the legislature made provision for paying a part of this loss, so that now the cattle owner gets two-thirds of an appraised live-stock value.

I do not see any way at present where we can accomplish much except by affecting the owner along the line of his pocketbook. If we can show him that it means dollars and cents to him now, or at some time in the future, we can accomplish a great deal. Owners are very loath to have their herds tested with the possibility staring them in the face that large portions of their herds may be tuberculous, and I am afraid that many of us would look at the thing as they do if we were in their place. If we can get a few breeders to advertise that their herds are free from tuberculosis, and that every animal has been subjected to the test, or if any arrangements can be made to advertise their herds and make their stock more valuable, I think we can accomplish a great deal along that line.

The difficulty has always been, and always will be, with cattle of that class, the artificial conditions under which many of them are kept. It is one of nature's laws that an organ or a tissue that is not used, or used less than nature intended that it should be, must necessarily lose in nutrition and vitality and become subject to disease, and so, when cattle have been kept fatted and standing for months, although they may be fat and nice looking, they may also at the same time be tuberculous, and will be very apt to be so. One thing that we can accomplish along that line is to induce the breeders to give their cattle better hygienic conditions, more sunshine, more air, and fewer dark stables.

DR. NORMAN BRIDGE, Los Angeles.—It seems that, admitting all the difficulties of accomplishing good we all hope and wish for, there are a few directions in which our efforts should be exerted because they are practical. We should encourage dairymen to have their cows free from tuberculosis by limiting their sale of milk; that always brings them to the point. It can be done in any city as well as it has been done in Syracuse. It only requires courage. The people are willing to pay enough more for the milk to reimburse the dairymen for losses. From an economical standpoint that point must be conceded. If the dairyman is obliged to lose some of his cows he must be reimbursed in some way, and it means paying more for milk by the citizens who consume it. That I believe the citizens would always be willing to bear, and all that is necessary is for the boards of health and the governing bodies of cities to insist on these measures. They not only do a great deal of good in the ways that have been mentioned, but they are educative to the public. I should have been glad if Dr. Moore had told us somewhat more of the inspection of the dairies of Syracuse; whether the inspection extends to other conditions than tuberculosis. It seems to me that we ought to encourage the health departments of cities not only to inspect herds for tuberculosis, but as to their general cleanliness, and the hygienic conditions of the stables, and the utensils used, as well as that the milk shall be free from contamination and shall not be adulterated or lower in standard. I sanction everything that has been said in favor of the inspection of dairies as to tuberculosis. That is one practical thing that we can do to prevent the spread of this disease. Another practical thing is the erection of sanatoria. The people are becoming educated to the seriousness of tuberculosis and its communicability, and in no new or novel direction can they be helped so much as in the direction of an increase of sanatoria. The great majority of the people can not go to sanatoria that require them to pay for their board. There ought to be free sanatoria for indigent patients, at the public expense, and we ought to agitate for such to be erected and conducted by the state. All reforms are brought about in this way. We must insist on great things, and then we will accomplish some small things. All people with tuberculosis ought to be in sanatoria, unless they can take perfect care of themselves at home.

DR. H. M. BRACKEN, Minneapolis—I notice on the program the word "sanitaria." I would be sorry to see this word come into general use. Many quack institutions about the country have been known as sanitariums. The places where we send tuberculous patients are not sanitaria; they are sanatoria, and I do hope that this Association will be particular in its choice of these words. There are two or three good institutions in the United States where tuberculous patients are treated, that are known under the name of sanitarium, but it is not the general term, and not the correct term, and I think it will be well for us to be careful to observe the correct term.

I am strongly in favor of the tuberculin test, and I think it is well to have the dairymen working with us in its use. They are taking an interest in the matter in St. Paul and Minneapolis, and I hope it will become a matter of general interest in this state. But we are not going to secure a non-tuberculous milk supply simply by testing cows for tuberculosis. Take, for instance, St. Paul and Minneapolis. The testing is done by the sanitary authorities of the city. A herd is tested to-day, we will say, and a number of cows are condemned. and go to the slaughter house in a few days. The owner has his regular customers and he must keep up his milk supply, he therefore buys other cows to replace those that have been killed. He has no evidence whatever that the cows he has just bought are any better, or as good even as those which have just been killed. But the cows that he has bought to take the place of those just killed will not be tested for tuberculosis for possibly ten months, possibly two years. It is impossible for the authorities of the city to get around to these various herds at very frequent intervals.

The dairy barn should be looked after closely, and should always be disinfected after infected animals have been taken from it. I heard a dairyman, recently, speaking of a neighbor who had a number of cows that had been condemned and killed, say: "That man will be just as bad off in a short time as he is now. His barns are not fit to keep animals in. There is only one way for him to save his place, and that is to set fire to his sheds. They can not be disinfected in any other way without great expense."

DR. A. S. MOORE, in reply—When a veterinarian at Syracuse makes an affidavit that he has tested the cows for tuberculosis we also require an affidavit from him that those stables are all in a sanitary condition. We have inspectors who visit these stables frequently, and anything that they regard as unsanitary is reported to the Health Bureau. We believe that we have a good man in the person of Dr. Engelhardt, of our city, who has been connected with the department for many years, and who is a first-class chemist and understands all the phases of bacteriology and the means of destroying disease-producing germs and their spores. He gives instructions as to what must be done in order to make the stables clean and sanitary and the course to follow to keep them so, in the way of acquiring better light, sunshine, etc. When necessary, he condemns a stable; then a notice is sent into the health department of his action. A certain time is given to the owner of the premises to make it right, and if he refuses to do so we simply ask him to keep his milk out of the city until such time as he makes up his mind to remedy the evil.

THE CHAIRMAN—May I ask you, Doctor, what jurisdiction you have beyond the city confines?

DR. MOORE—We have no jurisdiction. All we can do is this: If he refuses to do what we ask him, then we tell him to keep his milk out until he does do it. We have inspectors working all the time. They have nearly three hundred herds to examine; they probably get around every three or four months to each herd. We find in our vicinity that the dairymen in buying cows often make it a provision in their contracts that the cows shall be submitted to and stand the tuberculin test, or they refuse to make the purchase.

DR. REYNOLDS—I would like to ask Dr. Moore if in the beginning of his work in Syracuse he met with opposition on the ground that the tuberculin was injurious to the non-tuberculous cattle, because of a great number of abortions, etc.

DR. MOORE—We met with a great deal of opposition, and a great many farmers seemed to have data that warranted this opposition, but after investigating the subject I believe to-day that there is no such opposition on that ground. I remember that one man claimed that a part of his cows had aborted, and we asked one of our local veterinarians to go and find what was the cause of so many abortions among the cows of this dairy; he came back and reported to us that he believed it was due to the fact that the farmer fed his cows a large amount of salt, mixing it in their feed in too great a quantity. This man had been feeding his cows that way, and that this trouble was not in any way connected with the tuberculin test.

DR. D. E. SALMON, Washington, D. C.—The first thing I did was to test animals coming into the United States from other countries, and we found from 20 to 40 per cent. of pure-bred cattle coming in that were tuberculous, and we made a regulation that they should be tested in our quarantine stations, but we found there were so many that had tuberculosis that it was entirely too large a problem for us to attempt to slaughter those valuable cattle, so we put a man in Great Britain to test them before they left there.

Now, I have met in some quarters with the most intense opposition in doing anything, even excluding tuberculous cattle, and one reason of my coming here and presenting this paper was to get the interest and support of the medical profession. I believe that those engaged in this work need that support. They need the influence of the members of the medical profession, for it has such great weight in the country; not only because they are intelligent men, but because they are supposed by the people in the country to know about such questions, and it will go further than anything else to strengthen our hands in regard to the measures which should be adopted and enforced.

I have been thinking that when the time gets ripe for it, and it may be before long, there should be provisions made for preventing tuberculous animals going from one state to another, but we will be obliged to do a great deal of educational work before we can undertake that, and it is with the hope of doing that educational work largely through the medical profession that I came to this Section with the paper I have presented. It has been reported to us over and over again that you can go and slaughter dairy cattle every year if you please and yet the next time that you inspect the dairy herds you will find as much tuberculosis as you did in the first place. Dr. Moore has shown that the first year he had about 5 per cent., and the next year it was reduced to 1.25 per cent., and in three years it was reduced from 5.25 per cent. to one quarter of one per cent., which it seems to me is a most remarkable showing, and if half as good work as that can be done generally throughout the country by boards of health, it certainly would have an immense influence for good.

BLOOD EXAMINATION, FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.

F. W. HIGGINS, M.D.
CORTLAND, N. Y.

The relation of the laboratory to the practice of medicine is a topic which has been abundantly discussed in the recent journals. In our modern hospitals the clinical laboratory is considered indispensable; here, urine analysis, blood counts, serum reactions and bacteriological diagnosis are daily occurrences. Our journals are filled with reports of microscopic investigation; many of these articles are "preliminary" and our memory may leave us doubtful whether further examination has confirmed or denied these bids for precedence.

One of the most enticing of these laboratory studies is the examination of the blood. The beautiful proven results furnished the profession from time to time, and, still more, the brilliant promises of what may be expected in the future make the subject of absorbing interest to the scientific physician of to-day. This holds true, whatever his specialty may be. Many lesions of the eye are found to be explainable only by an examination of the blood—the retinal hemorrhages of leukemia, for example. The surgeon finds the number of leucocytes and the percentage of hemoglobin very important factors in diagnosis and prognosis. The specialist in skin diseases counts the eosinophiles. In internal medicine it may be said that the diagnosis of no case is complete until an examination of the blood has been made.

If now we expect that in a modern hospital the examination of the blood should become a routine like urin-

alysis, and that important aid in diagnosis, prognosis and treatment will thus be obtained, is it possible for us as general practitioners to gain some benefit from undertaking such examinations? This is the problem which the writer of this paper has stated for himself. His object is to determine how much of all the mass of published observations on the physical, chemical and microscopic examination of the blood may be utilized by us in general practice.

First, in considering this question we must recognize our limitations and rule out all hope of making original investigations. It is true that Koch discovered the bacillus tuberculosis while a general practitioner. Nor do I forget that this is a new and promising field for exploration. Few, however, have the ability requisite for solving the many existing problems in the study of the blood. Our humbler mission is that of sifting the proven results from those not yet substantiated and adapting them to our every-day requirements.

Another limitation that must be recognized is the time element. The hackneyed "busy practitioner" has several spare half-hours, if he will husband them, that might be utilized in the clinical examination of the blood of his patients. But it is manifestly impossible for him to give to the task more than fragments of time. Therefore, he must choose the less complicated methods. It is necessary that he have a table especially devoted to such work; that he have a north light, and that his microscope always stand ready before the window; that his stains and instruments are all ready labeled and at his elbow; that he have some one to clean up the apparatus after him and put all back in the proper place; that he have the steps of each examination tabulated and in front of him; that he keep everything scrupulously clean; and, lastly, that he does not undertake too much. Another precaution which Janeway tells us is not unnecessary even in larger laboratories, is to label each specimen and step, immediately, that the final conclusion may be applied to the right patient.

The financial side of the question is one which will occur to most of us, even when smitten by the scientific possibilities of such study. Something may be done with such an outfit as every physician should possess. A microscope with 1/5 objective will show the corpuscles, but satisfactory work can be done only with an immersion lens. The percentage of hemoglobin can be determined within 10 per cent. by letting a drop of blood fall on white paper and comparing it with Tallquist's color scale, but it can not be obtained more exactly without a hemoglobinometer costing about $40. The Thoma-Zeiss blood count apparatus may be termed indispensable and costs about $15. Hardly necessaries, the spectroscope and hematokrit, are the luxuries to be obtained as the fad grows on one. It may be said that $25 will start one at work and $100 more will be spent if his interest increases.

The third question that will occur to the general practitioner who determines to know something about the condition of the blood in his own cases is that of obtaining the technique. The very recent graduate is supposed to have acquired it. But we who took our degree before Ehrlich's writings had aroused general interest, must work out our own salvation with the myelocyte and megaloblast.

Fortunately, some good text-books have been recently published. Cabot is the best known. There is certainly no better book in English than the recent fourth edition. Stengel has a fine article in the "Twentieth Century Practice of Medicine" and will soon issue a text-book; Ewing's "Clinical Pathology of the Blood" is recent and very helpful. For those who read German there is a large literature.

Personal instruction is most valuable and time-saving. But even for those who have neglected the subject altogether, patient labor will enable them to master the necessary details. The essential features are soon demonstrated; considerable practice is required to bring out all that careful staining may show.

As already stated, the necessary apparatus is a twelfth objective, a blood-count apparatus, a hemoglobinometer, an ordinary urinometer, and a few stains. With these we are prepared to obtain the specific gravity of the blood, to count the red and the white corpuscles, to arrive at an approximation of the hemoglobin percentage and to study smears.

The specific gravity is an important matter. Stern's paper before the association last year gave a hint of its meaning. The significance of variations in the specific gravity is not great in the diagnosis of disease which may be labeled. It may, however, reveal something as to defective oxidation, ability for physical labor, and resistance to infective processes. We may yet see life insurance companies requiring the specific gravity of the blood.

The method of Hammerschlag is accurate to one or two points and much cheaper than any other. All that is required is a good urinometer. In it chloroform and benzine are mixed in such proportions that a drop of blood neither rises nor sinks, when the specific gravity of the mixture determines that of the single drop of blood. Care must be taken that no air mixes with the blood drop, and the determination must be made before it becomes altered by the media. The instrument must also be perfectly dry that no water floats on top of the chloroform and is taken up by the blood. I have found the specific gravity varying from 1032 to 1062, so that a wide latitude exists. Excepting in dropsy, leukemia and pernicious anemia its variations correspond quite closely to the hemoglobin percentage.

The estimation of the bulk of red corpuscles is made by the centrifuge. It is quick and fairly accurate, and also corresponds closely to the blood count in many conditions, but not in all. It is well worth doing if one has the apparatus. The tubes are easily filled by capillary attraction if the outer end is held lower than the other, and they are kept clean by a horsehair.

That for hemoglobin is least accurate of all the tests. Observations are published in which variations of 1 per cent. are noted, but a margin of error of 5 per cent. at least must be allowed. It all depends on a color scale in the fine gradations of which the male sex is notably deficient. No standard yet manufactured is of the same shade as the blood when diluted; Miescher's is said to be the best instrument for its determination. Two plain indications are obtained by its determination: 1. A surgical operation should not be undertaken if the hemoglobin is as low as 30 per cent. Deaver, in a recent paper, cited two cases operated on successfully in spite of this rule, but still the rule holds as good as any in our art. 2. In diagnosis pernicious anemia is differentiated from cancerous cachexia by knowing that the hemoglobin ratio is higher than normal in the former and lower in the case of cancer. The grade of chlorosis and hence its chances of cure is determined by the hemoglobin test compared with the blood count.

The blood count is of importance in many ways. Extremely accurate work to be published requires the

counting of a large number of fields, but practical results are obtained in fifteen minutes.

A great increase in the number of lymphocytes means leukemia, which can be diagnosed in no other way than by the assistance of a blood count. A leucocytosis of from 12,000 to 50,000 means an infection, most often with formation of an abscess. Its importance in differential diagnosis is often second to no other symptom, but is never pathognomonic. Marked examples of its usefulness are in distinguishing appendicitis from typhoid fever, intestinal perforation in the course of typhoid, and the onset of pneumonia when the physical signs are masked. The opposite condition, leucopenia, is found most markedly in fatal septicemia. The diminished leucocytes may be as valuable as the Widal reaction in differential diagnosis of typhoid.

In considering moderate grades of leucocytosis the many physiological factors causing increase in the white corpuscles must be remembered. Cabot enumerates these agencies as the leucocytosis of the newborn, of digestion, of pregnancy, of the postpartum, of the moribund, and after violent exercise, massage and cold baths. These influences may raise the count normal to that individual 33 per cent. and must be kept in mind. The leucocytosis caused by anesthesia is so transient that it is not liable to confuse us.

In general it may be said that suppurative, serous and gangrenous inflammations produce marked leucocytosis. We must not forget that the leucocyte count falls when the abscess is walled off.

We are promised that the study of the leucocytes may be helpful in the prognosis of pneumonia. Absence of the usual leucocytosis looks to a fatal termination, while the return of the eosinophiles, absent at the height of the disease, foretells a favorable crisis.

A diminution of the number of red corpuscles is of great importance. It may be said that iron has frequently been given to a patient with white skin who had no anemia and derived no benefit from its use. The contrary is also true. A blood count furnishes the only rational data for the use of iron and arsenic. Pernicious anemia would be found in many cases supposed to be cancer of the stomach if the blood examination were more common.

The study of the stained specimen is the most interesting of all the steps in the examination of the blood. It is here that the novice will feel most intensely his deficiencies. Now his text-book directions fail him, and confusion, not wisdom, results from a multitude of counsellors.

His troubles begin with making the smear. But after one learns just how, it is easy to prick the ear quickly and deeply, to wipe away the first drop, to resist somewhat the temptation to squeeze out the blood that is so loath to flow when you want it, to touch to a very small drop a cover glass that has been carefully washed in soapsuds and alcohol and polished by rubbing. Upon this another is to be laid and the two quickly drawn apart by sliding. After drying in the air, which requires but a few moments, we must employ one of the many staining methods recommended. For the amateur it is better to use no more than one or two, and thoroughly familiarize himself with these. Cabot says that he now uses no other than Ehrlich's triacid stain. He tells us the trick of success with it, which enabled me to use it after I had given up the stain in disgust. The specimen must be thoroughly heated before it is used—heated until the blurred-brown color of the reds which you get in underheating specimens, is replaced by a golden yellow. Then the details within the leucocytes will be found delicately differentiated.

The stain easiest to use is Gollasch's. The smear is fixed by immersion for a quarter of an hour in absolute alcohol, to which ether may or may not be added. The stain, which is composed of hematoxylin and eosin, is applied for fifteen minutes. If you are interrupted the specimen is not spoiled by overstaining, as occurs with the methyl blue and eosin methods. The white corpuscles are so plain that they are easily studied with a 1/5 objective. Goldhorn's polychrome stain, originally perfected for studying the malarial germ, has proved to be one of the best for general work; clear directions accompany it.

The study of stained specimens is eye-destroying and time-destroying work. Here it suffices to simply enumerate the details which a general practitioner may hope to see and what they may indicate to him. The red corpuscles may be deformed, not the result of faulty technique. This poikilocytosis means very grave anemia. The centers may not take the eosin stain, indicating a deficiency of hemoglobin, which is chlorosis or grave secondary anemia. The malarial germ may be seen. Nucleated red cells may be present—the blasts. Normoblasts mean a too active proliferation of red corpuscles, the marrow throwing them out unfinished. Megaloblasts are of grave import, indicating a fatal type of anemia.

Turning now to the white corpuscles, we notice the relative proportion of polymorphonuclear, lymphocytes and eosinophiles. Leucocytosis being already established by the blood count, an increase in the relative ratio of mononuclears would point to leukemia; in the polynuclears, to the leucocytosis of infection. Two types of leukemia itself are determined by studying the greatly multiplied white cells. The presence of myelocytes indicates the spleno-myelogenous variety, while the lymphatic is shown by the great number of lymphocytes. Iodophilia may reveal the presence of pus somewhere in the system. Eosinophilia may enable us to detect a case of trichinosis which has been called rheumatism.

My endeavor has been to show that the routine examination of the blood may be profitably made by the general practitioner.

BRAIN TUMOR

DEVELOPING IN A CASE OF PERIPHERAL NEURITIS, THE LATTER OBSCURING DIAGNOSIS—OPERATIVE REMOVAL OF TUMOR—RECOVERY.

G. W. McCASKEY, A.M., M.D.,
AND
MILES F. PORTER, A.M., M.D.
FORT WAYNE, IND.

MEDICAL HISTORY AND DIAGNOSIS BY DR. M'CASKEY.

H. C. B., aged 34, farmer, married, was referred by Dr. R. S. Wilson, of Berne, Ind., Sept. 8, 1900. The principal complaint was that of weakness and pain in the left leg, "heart trouble," and general nervousness, with severe pains in the head. Family history appeared clear. The patient's health had always been good previous to an attack of typhoid fever ten years ago. This in itself was uneventful excepting that it left some permanent damage to the digestive organs, and he has had some "stomach trouble since." About two years after the attack of typhoid fever he began to have pain in the calf of the left leg. This pain had continued since, growing better and worse, the patient insists, as his stomach grew better and worse. During these years he had been a constant sufferer from pain and extreme "bloating" after meals.

About six months prior to my examination the pain in the

left leg became much worse and the weakness increased to such an extent that the limb was handled very awkwardly, and it frequently gave way, causing him to fall. The pain had also extended upward involving the thigh and hip, and had in addition appeared in the calf of the right leg. He had been a very heavy smoker, using about an ounce of tobacco daily. This may account for the heart disturbance.

There was decided paretic weakness of the left leg and arm. This was first noticed in the fall of 1899, and when husking corn, he had difficulty in breaking off the ear, owing to weakness of the left hand. At about the same time motor weakness of the left leg was manifested by a difficulty in handling the leg when wearing a heavy rubber boot. With a light shoe no difficulty was experienced. From this time on there had been a gradual increase in motor weakness, which became practically a complete paralysis in the left arm a few weeks later, and about the same time the left side of the face became very slightly paretic. The tongue and extrinsic eye muscles were unimpaired. There was no impairment of the sensorial function of the skin, excepting over the left leg from the knee downward. Over this area there was complete thermo-anesthesia, with marked impairment of tactile and pain sense. There had been neither tinnitus nor vertigo, and hearing was normal on both sides.

Vision was 18/20 for each eye—practically normal. The visual fields were carefully tested by the perimeter and found normal, in respect to the form, size, and relation of color fields. Ophthalmoscopic examinations showed the beginning of optic neuritis in the right eye, without protrusion of disc; later this became more marked, and appeared in the left eye.

The bladder sphincter was very weak. When he felt the desire to urinate he would frequently be unable to get off the porch into the yard. There was no impairment of rectal sphincter.

Owing to the history of the case a complete examination of the digestive organs, and general study of metabolism was considered necessary.

Uranalysis: Total quantity for 24 hours, 2400 c.c.; sp. gr., 1010; total solids, 55.92 grams; reaction, acid; no albumin or sugar; urea, 1.3 per cent., or 31.2 grams; uric acid, 1.73 grams; ratio of urea to uric acid, 30.1; total chlorids, 12 grams; there was no phenol nor skatol in pathologic amounts, but a very large amount of indican.

The blood examination showed 5,200,000 red cells, 105 per cent. of hemoglobin, with 6900 leucocytes, during digestion.

Stomach: In the fasting state, fourteen hours after the last meal, the stomach contained 20 c.c. of an amber-colored fluid, containing .09 per cent. of lactic acid, with epithelium, leucocytes, and a variety of micro-organisms.

Quantity of gastric juice (Ewald test breakfast) obtained was 100 c.c.; no free HCl; faint biuret reaction; starch digestion complete.

Examination of colon contents showed a moderately severe chronic mucous colitis.

The case presented a "complication of diseases." The first coloring in the diversified clinical picture was the chronic gastro-enteritis which he received as a legacy from the typhoid fever. Following close on it were the phenomena of a chronic toxemia. Gastric motor insufficiency, with atrophy of gastric glands, easily gave the first link in the chain. At the time of my examination the main question of the diagnosis rested, of course, in the nervous system. There were indubitable indications of both peripheral and central disease, the precise nature of which was determined upon the following briefly outlined data.

Electrical examinations gave the following result: In right peroneus brevis and left gastrocnemius the galvanic formula was reversed. With 15 ma., and electrode of four square cm. area, a.c.c.> c.c.c. In all other muscles, c.c.c.> a.c.c., or in some, e. g., left gastrocnemius, were very nearly equal. In most of the muscles 10 ma. gave quite as strong a reaction as 15 ma. in the two muscles above mentioned. The faradic response was notably lowered in all the muscles of the legs, most marked on the left side, while in the left gastrocnemius the tetanic contraction continued for some seconds after cessation of the current, and required a current almost beyond the endurance of the patient to produce a contraction at all.

The combination of partial anesthesia, motor weakness, and the electrical reactions of degeneration in the left leg could leave no possible doubt as to the existence of a peripheral neuritis, which had to a less extent involved the right leg; and the origin of which could be most plausibly sought in the chronic toxemia resulting from gastro-intestinal disease.

The coexistence of motor weakness of the left upper extremity, however, without sensory or electric disturbances, showed that something more than a peripheral lesion existed, and presented a very difficult problem of diagnosis with reference to the paralysis of the left lower extremity, viz., was it exclusively peripheral, or was it also in part, and perhaps principally, a part of a hemiplegia of central origin? The supervention of paretic weakness of the left side of the face, which occurred later while the patient was under observation, proved the existence of a progressive lesion of the right motor area of the brain. After a careful study of all the data, the diagnosis of a brain tumor was added to that of multiple neuritis of toxic origin.

As the symptoms were growing progressively worse, I advised an operation, and the patient, still able to walk a quarter of a mile, entered the hospital for that purpose.

The operation was performed Feb. 6, 1901, by Dr. M. F. Porter, who removed, at my suggestion, a large quadrangular section of the calvarium, with the superior posterior angle just back of the upper end of the Rolandic fissure, and about one cm. from the sagittal suture, and the anterior inferior angle just behind and slightly below the stephanion. As it was nearly vertical, the location of these two angles will accurately indicate the field uncovered for the operative procedure.

I will discuss only a few points of neurological interest, passing for the sake of brevity many others that deserve attention. To aid in identifying motor centers when the bulging cortex was exposed, with no neoplasm in sight, I applied a pair of pointed wire electrodes, connected with a faradic battery, to the surface, and soon found the arm center. From this as a starting point the area of the leg center was thoroughly faradized without the slightest response. The subsequent steps of the operation showed that the tumor was for the most part directly beneath the leg center. It will be recalled that the paralysis of the arm, as usual in central lesions involving the motor area or tracts, was greater than that in the leg. The failure of the leg center to respond, under the circumstances, appears to me to be of considerable interest, and suggests the possibility of this test being available in exploratory operations to indicate the site of a suspected subcortical lesion.

There was absolute paralysis of the right arm and leg following the operation, but in about eight weeks the patient was able to walk out of the hospital, and motor power of the leg has slowly improved since, so that it is now much better than before the operation. The arm remains so weak as to be entirely useless.

Another phenomenon of considerable interest, although not at all new, was the extensive movements of the paralyzed arm, when the other arm was moved in the act of yawning or some similar general movement.

This occurred under my own observation several times while the arm was absolutely paralyzed so far as voluntary movements were concerned, the patient not being able to move a finger in the slightest degree. Such movements suggest some very interesting physiological questions, the discussion of which would be outside the intended scope of this essay.

The histological diagnosis was glioma, with apparent beginning sarcomatous degeneration, and, of course, a recurrence is anticipated. Sections of the tumor were examined under the microscope and show the structure of the neoplasm.

I will only refer to one other point, namely, the large size of the neoplasm, and the extreme pressure to which the right hemisphere and the ganglia were subjected, without permanent loss of function, although this was very nearly complete in the arm center. The median portion of the tumor had forced its way beneath the concave margin of the falx cerebri, and a considerable mass of it was removed from the left side of the cranial cavity. The finger was easily passed from the large space vacated by the tumor in the central region of the right hemisphere beneath the sharp concave margin of the falx, revealing a considerable space to the left of the falx.

OPERATION AND SURGICAL HISTORY BY DR. PORTER.

The operation was done at the St. Joseph Hospital. After the usual preparation the patient was etherized by Dr. B. V. Sweringen. A large horseshoe-shaped flap was turned down and a quadrangular section of bone removed, partly by the DeVilbiss instrument and partly by use of a Gigli saw. Nothing unusual was noticed through the dura, and it was therefore opened by turning a flap downward. The cortex presented nothing unusual to sight or touch. It was remarked, however, that the bulging of the brain showed an unusual intracranial pressure. On exploration with a needle a sense of increased resistance was imparted to the finger at a depth of about a half-inch below the surface. This could be felt at several points, and thus it was proven not to be due to accidental contact with a blood vessel. The finger was now introduced and passed around the tumor, which proved to be ovoid in shape, of a trifle greater consistency than the brain with a capsule of slight resistance, which could easily be separated from the surrounding brain, but not without producing free hemorrhage. From the falx cerebri the tumor was separated by a very thin stratum of brain tissue above, but was in contact with and passed under its lower border, extending fully a quarter of an inch to the left of the middle line. The tumor was about the size of a pullet's egg. Owing to the friability of the capsule and also because of a desire to minimize the amount of injury done to the brain, the tumor was removed piece-meal. The hemorrhage, which was free, was controlled by gauze packing. The bone was not replaced. The dura and scalp were sutured save at point of exit of gauze and a dry dressing applied. At the end of 48 hours the packing was removed and a wick of gauze placed for drainage. This was removed a few days later. The wound healed without suppuration, and from a surgical standpoint the recovery was uneventful. The man was cured at once of head pain, regained full use of his leg, and is able to raise the paralyzed arm to the head. I am informed by his family physician, Dr. Wilson, that at the present writing, Nov. 9, 1901, there is some return of head pain and that there are present some mental symptoms. These symptoms indicate a recurrence of the growth, which was predicted at the time of the operation. On December 27 I was informed by Dr. Wilson that the head pain and mental symptoms had entirely disappeared and that in his opinion the patient would make a permanent recovery. More time must elapse, of course, before this question can be settled.

I wish to refer to but one point in the technique, and that is the use of the Gigli saw. For removing large sections of the skull I regard it as superior to any other instrument. For removing quadrangular flaps four small openings are made with a trephine, the end of the saw is passed between the dura and the bone from one opening to the other, caught by a pair of forceps or hook, pulled out and the intervening bone sawed through. This is repeated until the section is completed. If one wants to do an osteoplastic operation the bone may be sawed through, except at the base where the internal table alone may be divided, thus facilitating fracture and insuring against the possibility of immediate or late untoward effects from spicules of bone. The saw lends itself admirably to the removal of sections of any shape save those having curved borders. Aside from the ease and rapidity gained by the use of the saw, there is no hemorrhage from the diploe divided by it.

SURGICAL CORRECTION OF MALFORMATION AND SPEECH DEFECTS DUE TO OR ASSOCIATED WITH HARE-LIP AND CLEFT PALATE.*

GEORGE V. I. BROWN, A.B., D.D.S., M.D., C.M.
Professor of Oral Surgery, Milwaukee Medical College, and Oral Surgeon, Trinity Hospital.
MILWAUKEE, WIS.

(*Concluded from page 172.*)

ADULTS AND CHILDREN WITH PERMANENT TEETH.

The treatment of cases of the fourth class—shown in Figs. 14, 15, 16 and 17, all of the same case—is in all respects practically the same, except that the appliance needs to be made of strong material, because permanent teeth form points of attachment and older jaws give more resistance. When it is desired to hasten the contracting process, the patient is anesthetized and the surgical engine bur passed along the posterior portion of the buccal side of the jaw just under the teeth and the external plates of the maxillæ cut through, this being the point at which the greatest resistance is offered, and when weakened in this manner pressure is made by the use of suitably adjusted forceps, which bring the two sides as nearly together as possible without complete fracture. The appliance and screw hold the parts in place, and continuous turning of the nut quickly brings them in close approximation from the bicuspids forward, altering the occlusion of the jaws so that upper molars, instead of occluding with buccal cusps outside the buccal cusps of inferior molars will meet upon the inside. The width of a molar tooth can be taken from the width of the space between the bones at the fissure without interfering with the proper performance of the function of mastication, and all who are familiar by practical experience with cases of this character will readily understand what a considerable difference the width of a molar tooth less space to cover must be in relation to successful results, so far as securing a covering is concerned, and also for having less tension of soft palate tissue in the effort of speech. The principles of this method have long been followed

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee.

by orthopedic surgeons in the treatment of malformation of other bones and by dentists in correction of irregularities of the dental arch. What is claimed for the method outlined is that for the first time systematic application of all these principles has been combined

Figure 14.

with methods of surgical procedure which make it possible to operate with comparatively complete success upon all cases without regard to age or the nature of

Figure 15.

the cleft, provided there be no serious physical bar to operation. If then this can be done at practically any age, it becomes important for us to consider all these matters in relation to results from the standpoint of acquiring perfect speech. It naturally follows that having thus supplied a covering for the roof of the mouth of living, healthful tissue and the same for the soft palate, that a marked improvement in speech would be expected, yet this is not so, and the question as to "why it is not so" embodies in itself many considerations. While

Figure 16.

flexibility of the velum after operation and absence therefrom of scars with cicatricial tissue to stiffen and to interfere with the muscular movements are desirable, even indispensable for its perfect vocal assistance, the

Figure 17.

real reason why the speech of adults improves so little is the same as that which causes an American to find it difficult to speak French, German or other foreign language, and when he does so to think the sounds that he makes the same as those made by natives in pronounc-

ing the same words, for he is conscious of no distinguishing difference, whereas differences do exist in a marked degree and are quite noticeable to other people. There are several elements in the explanation of this fact that are worthy of consideration and lead us directly to a

Figure 18.

study of the mechanism of speech. To get perfect speech as a result of palate operation we must, 1, supply tissue, which will serve to prevent the nasal sound by shutting off the nasal passages at the proper time; 2, the

Figure 19.

ear must become so trained as to distinguish readily incorrect sounds in the pronunciation of words; 3, the brain centers which receive the impressions that excite sound vibrations must carry to the motor centers messages that will set the right muscles in action in the right way. Invariably with older patients is it found that efforts to speak in spite of the cleft palate deformity have caused greater development of muscles, the application of which are usually a hindrance instead of a benefit.

SPEECH CENTERS.

The so-called area of speech as commonly conceded involves something more than a distinctly outlined portion of the brain structure, but in a general way it may be understood that in and about the Sylvian fissure, the third frontal convolution, the Rolandic area, and that particular portion known as Broca's convolution, the various psychomotor centers necessary to vocalization are located, and a consideration of the association of these parts to each other will convince the careful reasoner that in the correction of these oral deformities there are many difficulties to be considered beside merely the task of securing an adjustable veil which will serve to close or open certain air passages during the act of speech as in the normal individual. A study of the brain

Figure 20.

structure and of the principles upon which modern brain surgery is based, proven over and over again through experiments upon lower animals and by clinical experience in the study of aphasia and other affections of speech due to diseased conditions, makes clear the fact that the perfect formation of words and their construction into intelligent sentences requires the coöperation of many distinctly different nerve centers.

The first cry of the child is merely a sound caused by reflex action of the muscles without any guiding influence exerted by the faculty of reason. This is followed by the first efforts of sound to represent intelligent words as objects begin to be recognized, and gradually this is continued and extended until expression of ideas in speech has become possible. It will be readily understood that if these efforts have been upon normal or correct lines, the muscular activity necessary to sound producing must have been guided by the proper nerve centers, which will have caused an increase in the brain development of those centers, and the messages sent

from the motor tract to the muscles which are concerned in the utterance of words will be in all respects correct, therefore, the habit of proper speech will have become an established fact; but, on the other hand, if a deformity has existed from birth by reason of which the normal use of certain muscles will have been greatly restricted and the use of certain other muscles not commonly used in the process of word enunciation, it will have received more stimulation than would have been the case had there been a perfectly formed mouth and throat. The result must invariably be an increased development of the nerve centers which are injurious to speech, with a faulty development of those that are necessary to perfect speech. This would be termed a habit, but the word habit conveys too restricted an idea of the condition. For example, when the eye through its retinal image registers upon the brain structures the particular nerve stimulations which in time shall become associated with the name of an object, its form record is established by

Figure 21.

what may be known as the visual memory centers. In the same manner the sound of the name of the subject through vibrations of the auditory nerves, and organs of hearing becomes fixed in the auditory memory centers. Precisely also are the somesthetic areas affected by the tactile sense, and memory of the sense of touch, as well as taste, smell or other stimulus that may have been excited by or associated with any particular object, and when the sensorium takes consciousness of this object, the name of which has become known to it, there is required the coördination between these different memory centers in order that the proper messages may be sent to the motor centers through which certain muscles may be set in motion in the proper manner to produce the sound which may be clearly recognized as the spoken name of the object.

It is known that in speech the muscles of the chest which are responsible for expiration, the muscles that raise and lower the larynx, those that tighten the vocal cords and tip the hyoid bone, as well as resounding properties due to the nearness of the spinal column, and the coöperation of the forces that are applied in raising and lowering the soft palate, the adjustment of the tongue, proper action of the muscles of the cheeks and

Figure 22.

lips are all necessary for the utterance of even a single word. If, therefore, during the life of the individual, through faulty operation or adverse action of these agencies, wrong messages have been constantly sent to

Figure 23.

any portion of the brain concerned in making a certain sound, and if the auditory memory centers have registered by the constant hearing imperfect sounds for specific words, which will accordingly have caused the devel-

opment of brain structure which is all active against correct speech, and if there be an insufficient development of those centers which are needed for perfect speech, how great becomes the difficulty of giving a speech power to individuals in the face of all these acquired disadvantages.

It is too narrow a view of his own special portion of the sound-making apparatus that has so limited the oral surgeon in his consideration of this subject in the treatment of cleft palate. There has been laid down the absolute necessity of having a soft palate which will be capable of entirely excluding the passage of the air to the posterior nares, thus to overcome nasal tones, but a well-known writer has recently stated that this is a false idea, since there are many times in speaking and singing, during which the passage of the air through the nares is not excluded, and yet no nasal tone is noticeable. As a matter of fact both the quality and tone are largely decided before the sound wave has reached the soft palate.

Practical examples of the truth of these theoretical principles are shown by the following illustrations. Figs. 18, 19, 20 and 21 show photographs and casts of the mouth of a patient before and after operation. The cleft was confined to the soft palate alone.

Figs. 22 and 23 show a very large cleft extending through both hard and soft palates. These patients are girls and about the same age, yet the speech of No. 22, with a much greater deformity, was somewhat clearer than No. 18 before operation, with a smaller opening in the palate. This is particularly interesting because an unusual development of the muscles that raise the tongue and constrictors of the pharynx had enabled No. 22 to force the back of the tongue up into the cleft and narrow the pharyngeal opening so as to overcome in a measure at least the deficiency, but the unusual muscular action will undoubtedly militate against success after operation when case is completed. No. 18, having been given almost a perfect velum—see Figs. 19 and 21—one quite flexible and free from the thickening of scar tissue, while much improved in ordinary conversation retains a good deal of the characteristic disagreeable vocal sounds, and when excited becomes almost unintelligible, yet when reciting a little piece that I have recently taught her to say properly, the involuntary office of wrong auditory and other memories being by effort excluded, she has nearly perfect vocalization, marred only by a slight nasal tone not more than many persons with normal palates acquire through catarrh or habit, and thus we have clearly established the fact that only a few weeks after operation it is possible with a little care to get nearly perfect speech. A summary of conclusions from the foregoing would be as follows:

1. The risk of operation in early infancy is unnecessary except where vitality of the child is threatened by malformation.

2. The most favorable time for operation is after the deciduous teeth have been erupted, but before the habit of speech has been acquired.

3. Difficulty of acquiring correct methods of pronouncing words after operation in adult cases can only be overcome by careful mental training.

4. There can be no cases which can not be improved by treatment and operation, both with regard to health and speech, no matter what the age may be, providing the coöperation and assistance of the patient may be assured.

OPERATIVE TECHNIQUE.

The post-operative treatment of these cases presents certain difficulties a due regard for which is essential to success. Wounds of the mouth, however great may be the antiseptic precautions at time of operation, are always in greater or less degree subject to infection by mouth bacteria, the tissues of the approximating surfaces in uranorrhaphy and staphylorrhaphy have, in addition to bacteria-laden buccal fluids below, nasal secretions above in direct communication without the possibility of protection by any form of dressing; moreover, the tension upon sutures in such cases and the tendency to tear or slough out renders every possible precaution, tending to the preservation of the integrity of the parts imperative to the last degree. Powerful germicides are excluded, owing to their toxic properties and the impossibility of preventing them from being swallowed if freely used for irrigation; many of less germicidal strength, but otherwise harmless, are useless because of unavoidable dilution in the mouth.

Escharotics are obviously to be discarded as destructive rather than favoring the process of granulation. My own practice is as follows:

Preparation is by irrigation of both oral and nasal cavities with boracic acid solution, thorough wiping of mucous membrane surfaces with sponge and 3 per cent. carbolic solution. After-treatment consists of cleansing the mouth every half-hour alternately with dioxogen and sterilized water, in infant cases, while for adults dioxogen and 3 per cent. carbolic are alternated every half-hour. These are applied with a small glass syringe, and by the use of little swabs made of absorbent cotton rolled upon toothpicks for convenience. Dioxogen is immediately effective, is non-toxic, and has the valuable property of freeing by its action the dead mucous cells and animal fats that cover the mucous membrane of the mouth and resist complete destruction of germs thus protected unless some agent be applied which will mechanically cleanse and effectually remove them.

Infants suck at or attempt to swallow everything that is put into their mouths, therefore it is impossible to use any solution constantly without more or less being taken into the stomach. Dioxogen and sterilized water are beneficial rather than harmful, but if poisonous drugs were used the danger would unquestionably be a serious one.

NOTE.—I have found it necessary to use the term dioxogen, as indicating a preparation of H_2O_2 of unquestioned purity, because a quotation from a former paper was printed and scattered broadcast without my knowledge or consent by the manufacturer of a preparation of H_2O_2 that I would under no circumstances feel it safe to use in cases when acid impurities might be seriously injurious, as would be the case in any but more particularly with infant patients.

Prevention of Precipitation of Oxalates in the Urine.—Klemperer states in the *Berl. Klin. Woch.* of December 30, that it is not necessary to banish the oxalates from the urine to prevent the formation of oxalate calculi. This can be accomplished by merely rendering the urine able to keep them dissolved. He announces that when the urine contains a certain proportion of magnesia, there is no precipitation of oxalates, as they are dissolved by the magnesia. The food should contain little lime and considerable magnesia. Milk, eggs, tea, cocoa, spinach and cabbage should be avoided in cases where there is a tendency to oxalate calculi. The diet should consist of meat, fats, bread, farinaceous foods, rice, peas, beans, apples and pears, with considerable fluids. The oxalate tendency does not contra-indicate alcoholic drinks nor coffee. This diet can be supplemented by more magnesia, as for example, 2 gm. of the sulphate a day.

TRAUMATIC ARTERIO-VENOUS ANEURYSMS OF THE SUBCLAVIAN VESSELS,

WITH AN ANALYTICAL STUDY OF FIFTEEN REPORTED CASES, INCLUDING ONE OPERATED UPON.

RUDOLPH MATAS, M.D.
NEW ORLEANS.

(Continued from page 176.)

HISTORY SUBSEQUENT TO OPERATION.

The subsequent career of this patient after the operation was marked by many incidents which delayed his convalescence and caused us much anxiety as to the ultimate fate of his arm, but never gave us serious apprehensions as to his ultimate recovery.

Some idea may be obtained of the tediousness of his convalescence by noting that he was admitted to the hospital on September 8 (fifth day after the injury), was operated on September 13 (ninth day), and was discharged Nov. 12, 1900 (sixty-first day), and even then his arm had not healed, and he was not entirely discharged by Dr. Power at his home until April 19, 1901 (158 days after leaving the sanitarium), when he discarded his last dressings. He was, therefore, under treatment a little over seven months from the date of the operation. It is just to state that this delay in his complete recovery was caused almost entirely by the sloughing which took place in the hand and forearm, which followed immediately after the ligature of the artery. The wound in the neck healed *per primam,* and never gave us the least anxiety. With the exception of a stitch abscess it healed without interruption and was entirely well on the twenty-second day, when all dressings were discontinued in the neck. The necrotic changes that took place in the hand and forearm are of such rare occurrence after ligations of the subclavian vessels that they deserve special reference in this history. My notes in reference to this point read as follows:

September 14, 9 a. m. (the day after the operation), patient's general condition much improved. Pulse, 110; temperature, 99.5. Patient complains of little pain in region of wound, which, in addition to copious aseptic dressings and spica bandage, has been covered with a square flat bag filled with bird shot, weighing half a pound, to further compress the part and favor the obliteration of dead spaces.

The cotton batting and loose bandage are removed from the arm, and I am painfully surprised to find evidences of complete mortification of several digits and parts of the palm of the hand and forearm; the skin in some places on the ulnar side appears to be necrotic up to the elbow. Complete insensibility of the entire extremity up to the bend of the elbow exists. After washing the extremity in hot water and alcohol, the capillary circulation is found to exist in considerable areas over the dorsum of the hand, wrist, and forearm; but the palm and fingers, especially the little finger and the thumb, appear to be hopelessly lost. No radial, brachial, or axillary pulse can be felt. The arm down to the elbow is sound, warm, and sensitive. The hand is shriveled, pale, waxy, cadaveric; here and there a few patches of capillary extravasation or stains; no swelling, edema or violaceous discoloration; no signs of venous asphyxia; the superficial veins, which before the operation were prominent and turgid, had now become invisible. The mortification is evidently due to arterial ischemia. Arm wrapped up loosely in cotton batting and surrounded with hot bags.

At 3 p. m. the temperature had risen to 101; pulse, 136. Evidently the reactionary changes due to the sloughing were causing the disturbance, because there was nothing in the wound to account for the change. At 4:30 p. m., pulse 130; at 7:30, pulse 128, temperature 101, skin moist, general condition excellent. The hand, at wrist and forearm, is now beginning to show edema, and there are dry patches of dark extravasation over the mortified areas. The arm above the wrist and elbow and in proximity to the dead parts is hot and presents a dusky red erythematous color.

On September 20 the following observations are recorded:

The affected arm is still much swollen and edematous, though the swelling is now subsiding. The thumb-nail and skin in palmar and dorsal aspects of the thumb *mummified,* shriveled, dry, purplish-black in color; tip of index finger and nail, black and dry; ring finger to first knuckle black; two large black, dry patches in palm of hand and base of thumb; another large, black, leathery patch over the entire hypothenar region. A large blister has formed extending over the ulnar and dorsal aspects of the forearm.

The arm was treated by daily washing with hot lysol solution—1 per cent.—followed by complete alcohol bath, after which it was thickly covered with an ointment consisting of ichthyol and zinc oxid and vaselin; over the forearm and arm; where the skin appeared to be red and inflamed, compresses of dilute lead and opium lotion were kept constantly applied. On September 28 I left the city for a month's vacation and transferred the patient to Dr. Gessner, who continued to attend and dress him carefully until my return, October 31, when the following observations were noted:

General condition excellent; temperature and pulse normal; good appetite; patient sits up. Wound in the neck completely healed since September 20, requiring no dressing. The most important changes have taken place in the hand and forearm. The little finger had dropped off, leaving a large granulating surface in the hypothenar region; a large granulating surface over the thenar eminence, where the skin had also sloughed off. The thumb had sloughed and had to be excised. The first metacarpal is exposed on the palmar side. A deep palmar tunnel connects the granulating surfaces on the two sides of the hand. This tunnel in the palm is caused by the sloughing of the long flexor tendons and some of the interossei. The ulna from its upper third down to the wrist-joint is exposed, even the periosteum being lost. Only the styloid process and articular end are sound and covered with soft parts. All the pronato-flexor mass of muscles and other soft parts covering the ulna have sloughed off, leaving a granulating tissue on the periosteum, apparently trying to cover it. A long sinus, caused by the sloughing of the supinator and extensor muscles and brachialis anticus, can be traced upward into the lower third of the arm. Four and a half inches of necrotic ulna were excised with the Gigli saw; the first metacarpal was enucleated out of its periosteal shell. The nail and terminal phalanx of the index were removed; the gaps in the palmar side were covered over with dorsal cutaneous flaps. A free incision was made from the forearm to the arm into the external intermuscular septum to remove the sloughs formed by the supinator and the brachialis anticus; the musculospiral and ulnar nerves have been lost in the deep sloughing of the forearm; there is complete anesthesia of all parts below the elbow.

After this the condition of the arm steadily improved, and the patient was discharged November 12, in very good general condition, but still suppurating through several granulating sinuses. After this, his arm was attended to at his home by Dr. Power, who had to open another sinus resulting from extension of suppuration in the arm. He also wrote that the wound in the neck had reopened at one point for a few days, but had healed without discharging any ligatures.

Finally, when the patient came to see me, April 19, his arm was entirely healed and presented the appearance shown in the photograph. He had lost his thumb and little finger, and the remaining digits were living, but stiff, rigid, and completely anesthetic. He has a stiff

wrist and a much reduced forearm, the ulna being wanting. Nevertheless, he has slight supination and pronation, caused by preservation of the biceps tendon, and has fairly good motion at the elbow. The skin is devoid of sensation up to the elbow.

SUMMARY.

In closing the description of the case we would call attention to the following points:

1. The lesion caused by the bullet was a true aneurysmal varix of the middle third of the subclavian artery and vein just where the vessels are separated by the musculo-aponeurotic partition formed by the scalenus anticus.

Case of Morse M.—Arterio-venous aneurysm of the right subclavian vessels; from photograph taken after complete healing of the wound and sloughed surfaces had taken place. The deformity resulting from sloughing of the forearm and hand is shown on the arm (right) paralyzed by the injury.

2. A continuous direct channel had formed between the artery and vein through the small perforation in the muscle.

3. The early establishment of a communication between the artery and the vein was favored in this case by the primary hemorrhage, which immediately filled up the rigid and unyielding space between the scalenes and forced the artery against the posterior surface of the muscle, thus compelling the stream of blood to escape through the small perforation made by the bullet, and directing it in the line of least resistance—*i. e.*, toward the opening in the vein, which was held against the anterior surface of the muscle by the clot which accumulated in the space bounded by the scalene, clavicle, and deep cervical fascia.

4. The stream of arterial blood in the subclavian artery had been almost completely short-circuited and was poured into the proximal or cardiac side of the subclavian vein, which was enormously distended thereby, the circulation of the upper extremity being kept up chiefly by the collateral circulation.

5. A simultaneous contusion and injury of the brachial plexus existed, which led to a paralysis of sensation and motion, which was intensified by arterial ischemia of the arm.

6. The dissection and elevation of an osteoplastic flap, including the inner two-thirds of the clavicle, was most advantageous in securing a free access to the injured parts.

7. The innominate artery was missing, and in its place an anomalous subclavian, originating from the arch of the aorta, existed; the corresponding common carotid, originating in the arch on the left side of the trachea, did not reach the surface until it had ascended to the lower level of the thyroid gland.

8. The provisional loop of silk applied around the origin of the subclavian to secure prophylactic hemostasis in the field of operation, failed to control the bleeding from the proximal side of the arterio-venous orifice when the vein was detached.

9. Bleeding from the subclavian at the aneurysmal orifice was only controlled after the artery had been secured by a double ligature applied on each side of the bleeding-point—*i. e.*, on the inner and outer side of the anterior scalene.

10. In future operations in similar conditions the only means of securing absolute prophylactic hemostasis, that is, on the arterial side, would be to resort to digital compression over the subclavian artery at the origin of the vertebral—just below the tubercle of the fifth cervical vertebra—in addition to the traction loop of silk applied around the innominate. The application of a traction loop on the first portion of the subclavian on the outer, or axillary, side of the origin of the vertebral is a procedure beset with many difficulties, because of the numerous enlarged and adherent veins which are matted together in a mass of exudates and which would flood the field at the least provocation. Digital compression of the vertebral could be readily and effectively applied, while the innominate, which as a rule is quite accessible, would be compressed by the traction loop.

11. It is possible, as shown by this case, to restore the continuity of the subclavian vein by lateral suture after detaching it from the aneurysmal orifice.

12. The possibility of mortification of the peripheral part of the extremity must not be overlooked in considering the prognosis and post-operative results.

13. This ischemic necrosis of the extremities is more liable to occur when the subclavian is subjected to torsion in its second division, thus probably obliterating or injurying the orifices of the thyroid axis, vertebral and other branches.

14. The partial mortification of the hand and forearm in this case, while traceable directly to the arterial ischemia, was probably favored by the defective innervation of the parts from injury to the brachial plexus.

15. A notable feature of the sphacelation was that it especially involved large muscular groups rather than the overlying skin, thus confirming the observations of

Lesser, Volkmann, Ludwig, Bernays and others on the degenerating and necrobiotic effect of arterial ischemia upon muscular tissue.

16. The advantages of massive infiltration with very dilute eucain and cocain solutions were well shown in this case, as they economized the use of the general anesthetic and permitted not only the painless resection of the clavicle, but also facilitated the exploration of the deep cervical blood vessels, while applying a traction loop of silk around the anomalous subclavian at its origin.

17. When a general anesthetic becomes necessary, chloroform, preceded by morphin, is, in these cases, better than ether, because it is not accompanied by as much respiratory disturbance and overdistension of the veins.

18. The experience of the author in this case confirms his previous observations and those of others—Cushing, Lilienthal, Jaboulay, etc.—to the effect that the preliminary administration of morphin, followed by local infiltration, apparently predisposes to the favorable and economical administration of chloroform, which, in this case, was never pushed to absolute unconsciousness.

HISTORICAL DATA.

The history of arterio-venous aneurysm clinically begins with the first accurately recorded case, described by William Hunter in 1757, and anatomically by the description of Delacombe in 1761, which was based on the postmortem study of a lesion implicating the femoral vessels—Broca. The first accurate account of arterio-venous aneurysm of the subclavian vessels dates back to the classic case of the Sargent Pierre Cadrieux, whose injury was treated by the distinguished Dominique J. Larrey in 1829, and made memorable by his admirable description of this condition.[3]

From 1829 to the present time we have been able to gather the records of 15 cases of arterio-venous aneurysm, including our present observation. The recorded traumatisms of the subclavian vessels are rare, not only because these vessels are well protected by the clavicle, and are not so much exposed to injury as those of the extremities, but chiefly because accidental injury to these vessels is so liable to a promptly fatal termination from associated complications, and the profuse primary hemorrhage and shock, that the patients do not survive long enough to be subjected to any form of surgical treatment. Nevertheless, in 1877, Von Bergmann was able to collect 90 recorded instances of gunshot and stab injuries of the subclavian vessels. Rötter, of Berlin, as near to us as 1893, was able to collect only 14 cases of stab wounds of the subclavian vessels; and Souchon, in his remarkable essay on the surgery of the subclavian artery, published in 1895, was able to collect only 14 cases of arterial traumatic aneurysms, all involving the third division of the right subclavian.

Our collection of 15 cases of arterio-venous aneurysms, gathered from all sources in the literature, are all traumatic, and include injuries to the vessels on either side, irrespective of the topographical division of the artery involved, though, in a large majority of these, the precise point of injury could not be accurately ascertained.

The cases are reported in chronologic order by the following observers: 1, D. J. Larrey, Paris, 1829; 2, Sanson, quoted by Robert, Paris, 1832; 3, Bérard, quoted by Richet, Paris, 1842; 4, Wattmann, Vienna, 1843; 5, Wederstrandt, New Orleans, 1854; 6, R. W. Smith, Dublin, 1860; 7, Fischer, Göttingen, 1861; 8, Letenneur, Nantes, 1861; 9, Will (J. C. Ogilvie), Glasgow, 1875; 10, B. Kirsch, Breslau, 1875; 11, A. P. Arango, Medellin, Spain, 1880; 12, J. V. Rötter, Berlin, 1893; 13, G. Wedekind, Berlin, 1893; 14, Veiel, Cannstadt; 15, Matas, New Orleans, 1900.[4]

The reports of these cases, together with the comments of the authors and the important discussions which followed the presentation of several of these to various medical societies, furnish the available data upon which the special history of this rare, interesting, and serious lesion is based.

ANALYSIS OF CASES.

An analysis of these 15 cases furnishes the following points of interest: 1. Nine were caused by stab or penetrating cut wounds; 6 by bullets. 2. All the patients were men. 3. The injuries were almost all inflicted upon comparatively young subjects. Of the 9, whose ages are distinctly specified, the oldest was 32 years of age at time of injury; the youngest 15 years In 6 cases the ages are not specifically stated, but the evidence would point to the fact that none had exceeded the middle period of life. 4. In 6 cases the vessels on the left side were injured; in 7, those on the right; in 2, the side injured is not stated. 5. The seat of injury was absolutely demonstrated to be in the subclavian vessels in 7—Wattmann's, Wederstrandt's, Will's, Rötter's, Wedekind's, Veiel's, Matas'—either by autopsy or operation. 6. In all the cases but 2, in which the seat of the lesion is either positively or approximately stated, the third division outside the scalenus was implicated. In Letenneur's case injury of the first division was suspected. In the author's, the second division was positively involved.

In the 8 other cases the diagnosis of injury of the subclavian vessels was confirmed by the seat of the external lesion, course of weapon, and range of the missile, the tumor, the immediate effect upon the circulation of the arm, and the other physical signs, showing that the subclavian trunks, and not their branches, had been injured.

In 5 of the 15 cases the brachial plexus was coincidently and partially injured; positively in 3—Larrey's, Wederstrandt's, Matas'; probably in Letenneur's and Kirsch's cases. In several cases, in which reference to the condition of the arm is made, the disability of the arm was pronounced, but was either due to primary or secondary vascular disturbances—Wattmann (secondary), Smith, Arango, Wedekind, Veiel.

Primary circulatory or neural disturbances may have existed in other cases, but this can not be stated from the published reports.

The *time* after the injury, when the first sign of arterio-venous aneurysm was first recognized, is stated in 8 out of the 11 unoperated cases; in 3 it is only approximated; in 1 the characteristic thrill and murmur were apparently altogether missing—Will's case; in 3 no information on this point can be obtained. In 1—Matas'—the signs of arterio-venous communication were established within four hours after the injury; in 3 cases they were present on the second day—Larrey, Wederstrandt (?), Rötter; in 3 the diagnosis was made on the third day—Letenneur, Kirsch (?), Wedekind; in 1 on the sixth day—Fischer (?); in one on the eighth day—Arango; in one on the ninth day—Veiel; in 1 "a few days later," after the injury—Bérard's case.

3. Cliniques Chirurgicales, Paris, 1829, vol. iii, p. 115.

4. To these fifteen cases two more should be added, viz., Reboul's, Montpellier, 1894, fatal, not operated; Vallas', Lyons, 1900, fatal, operated; both caused by indirect fracture of the clavicle; in all, seventeen cases.

Apart from injury to the brachial plexus and purely vascular disturbances in the arms, complications are noted in Wattmann's case—secondary phlegmonous inflammations of arm; in Will's—septic hemopyothorax; in Wedekind's—septic phlebitis and pneumonia. In only 3 of the 15 cases did secondary hemorrhage follow after the primary injury, and these were all stab wounds—Will, Rötter, Veiel.

Of the 15 cases 11 were treated expectantly, and of these 1 died from secondary hemorrhage and septic complications three weeks after the injury, and after the external wound had healed—Will's case. The remaining 10 all survived the immediate effects of the injury, their wounds healing after the cessation of the primary hemorrhage.

Only 4 out of the 15 cases were operated upon; in 3 of these—Rötter, Veiel, Matas—within twelve days after the injury, and all recovered; in 1—Wattmann's case—thirty-two years after the primary injury, when the ligation of the subclavian was necessitated by urgent aneurysmal complications, and this was the only fatal case. The total mortality of the entire group is, therefore, 13 1/3 per cent.[5]

An investigation of the individual records as far as they are available shows the following results as regards the final outcome of this injury on the vessels and upon the affected arm:

1. In Larrey's case—saber cut—four years after the injury there was marked diminution in the aneurysmal signs, but the arm was disabled completely by paralysis, contracture of fingers and hand, the pulse in the brachial and radial vessels suppressed, and the circulation in the superficial veins obliterated.

2. Sanson's patient—gunshot—quoted by Robert, was living ten or more years after the injury, but still annoyed by a loud, purring murmur (ronflement) and other active signs of aneurysm, which could be heard at a distance, and for which he consulted Sanson.

3. Bérard's case, quoted by Richet—stab—left the hospital "several weeks" after the wound had healed, but complaining of the annoyance caused by the disturbing noises in the aneurysm. These seemed to exasperate him, and he clamored for an operation, which neither Bérard nor Dieffenbach would perform.

4. Letenneur's patient—small pistol shot—healed, with persistence of all the aneurysmal signs, but felt well and was able to take his first promenade twenty-one days after the injury, after which no further observations are recorded.

5. Wederstrandt's patient—shot—recovered from his injury, and died at the Charity Hospital seven years after, from diarrhea. He had marked aneurysmal symptoms, with paralysis and atrophic changes in the arm, up to the time of his death, and at the autopsy a well-marked varicose aneurysm between the subclavian artery and vein was found.

6. Fischer's case—stab—recovered from the injury, with persistent signs of aneurysm, but was living one year after the injury, after which he passed out of observation.

7. Kirsch's patient—shot—recovered from the immediate effects of the injury, remained under observation two and one-half months, but was not improved, and was discharged with active aneurysmal signs. He suffered also from persistent disturbances in the circulation, and innervation of arm and hand; he had difficulty in moving his fingers.

8. Smith's patient—stab—recovered from the immediate effects of the injury, the wound healing in three weeks. Signs of varicose aneurysm existed seven months after the injury, with disturbances in the circulation of the arm under certain conditions. Eight months (?) after the injury he was compelled to return to the infirmary, with signs of obstruction in the circulation of the arm. The arm on the affected side had suddenly become cold and edematous, and in a few days gangrene of the ring and little finger, with part of the forearm and hand, had set in. He gradually recovered from the sloughing without serious constitutional disturbance. The radial pulse, which had ceased to beat from the time of the injury, now, strange to say, returned, when gangrene was established. The aneurysmal signs still persisted actively when discharged.

9. Arango's patient recovered from the immediate effects of the injury, which was accompanied by marked circulatory disturbances in the arm, but no sloughing. He was so much disturbed by the noises in the aneurysm that he had to be carried to the vicinity of a torrent in order to drown the sounds and thus secure sleep. This intense disturbance subsided in forty days. Two months afterward the aneurysmal signs continued, though much diminished. Ten years later, the patient's friends reported him "feeling perfectly well."

10. Will's patient—stab wound of subclavian vessels complicated by perforation of pleura—was stabbed on May 7, 1875; left hospital May 19, had first secondary bleeding while traveling; May 25, last and fatal hemorrhage. Patient expired as the operator had begun an incision to expose the bleeding vessel.

11. Wedekind's patient—stab—recovered from the immediate effects of the injury and was in excellent general condition seven months after, but the aneurysmal signs remained unabated, and he suffered, under special conditions, from transitory disturbances in the sensibility of the arm and hand, caused apparently by interference with circulation.

Under the category of unoperated cases we could also properly include Wattmann's case. This case is most interesting as showing that even after a latent period of thirty-one years, in which the patient was apparently well, the lesion finally became active and gave rise to fatal complications.

Thus we find that in 11 out of 12 cases which were treated primarily by the expectant plan, 11 recovered from the immediate effects of the injury, and their wounds healed without secondary hemorrhage, except one—Will's case—by simple measures of compression with bandages, rest, etc. But it is to be noticed, also, that only in one or possibly two—Larrey and Arango—was there reason to believe that the lesion had been cured. In all, the signs of arterio-venous aneurysm remained active, and in several the murmurs and sounds, after many years, were so annoying that the patients applied for relief on this account. In one case it was more than ten years after the injury—Sanson's case. In six cases—Larrey, Kirsch, Wederstrandt, Smith, Fischer, Wedekind—permanent circulatory and trophic disturbances persisted in the arm, not only from associate injury to brachial plexus, but from interference with circulation; in one—Smith' case— gangrene set in, with loss of part of the extremity (fingers, hand and forearm), more than seven months after the patient had recovered from the injury. In the other unoper-

5. If we add the two fatal cases of Reboul and Vallas, reported since the above was written, the mortality is increased to 4:17, or 23 $^{9}/_{17}$ per cent.

ated cases, with the exception of three (Wattmann's succumbed thirty-two years afterwards, after thirty years of latency; Will's died from secondary hemorrhage three weeks after the injury, and Smith's from gangrene of extremity seven months after), it is only fair to state that the abnormal conditions of the circulation created by this lesion were, with the exception of the annoyances and disturbances previously referred to, fairly well tolerated, and were not incompatible with a long survival and active life. It is well to note, however, that in at least six of these cases the patients were last seen or passed out of the observation of the surgeons who reported them, within a few weeks or months after the injury, while the lesion was still active, and too soon to permit any definite conclusions as to the final outcome of the injury—Bérard, a few weeks; Smith, seven or eight months; Fischer, one year; Letenneur, twenty-one days; Kirsch, two and one-half months; Wedekind, seven months.

THE CASES OPERATED ON AND RESULTS.

In 4 only of the 15 cases was an operation resorted to; in 3 cases ligation of the vessel was made imperative by the occurrence of violent secondary hemorrhage following shortly after the injury, and in only 1—my own—was the operation deliberately performed in anticipation of future complications. Three out of these 4 cases permanently recovered except Wattmann's patient, operated in 1840, who died of secondary hemorrhage twenty-three days and thirteen hours after the ligation of the third portion of the subclavian. This case, which is often referred to as a case of traumatic aneurysm of the subclavian artery at its junction with the axillary, is especially interesting to us in this connection, because it illustrates the possible transformation of a passive and benign arterial varix into a rapidly growing and malignant aneurysm of the artery after a long lapse of time. In this case, a gunshot injury was inflicted in 1809 from which the patient recovered without any great disturbance except cramps in the arm. From 1809 to 1840, thirty-one years, during which the patient was engaged in active military service, he suffered no serious inconvenience. In 1840 an aneurysmal tumor was developed for the first time under the clavicle. This, however, did not enlarge for two years. In 1842 erysipelas and phlebitis set in, and the tumor rapidly grew to threatening proportions. Under these conditions, Wattmann found it necessary to operate. Two ligatures were applied between the scaleni and the tumor, none to the vein; secondary hemorrhage occurred at the point of ligature, which caused the death of the patient. A large varicose sac was found at the postmortem, which communicated with both the artery and vein.

In Rötter's case, in 1892, the signs of arterio-venous aneurysm developed almost immediately after a stab injury; profuse primary bleeding followed. Rötter advised immediate operation, but the patient would not consent until after a nearly fatal secondary hemorrhage occurred on the ninth day at midnight, when Rötter cut down upon the vessels and ligated them outside of the scalenus after resecting the clavicle. The knife had penetrated one inch below the middle of the left clavicle, causing a sharp-edged oblique wound, two-thirds of an inch long. After resecting the clavicle and displacing it upward, he was able, by following the track of the wound, to insinuate his fingers behind both vessels as they emerged on the outer side of the scalenus, and by hooking his fingers behind them and dragging them forward was able to control the bleeding until the artery and vein had been ligated above and below the point of injury. The patient, though much shocked, made a good recovery. The clavicle was sutured back into position. The arm became cadaverically pale and cold, but the circulation was finally re-established.

Veiel's case is also very interesting:

The patient, aged 23, was stabbed in the right shoulder on May 14, 1894. Wound one-third of an inch below the middle of the clavicle. Profuse hemorrhage and syncope, when bleeding stopped spontaneously. Temperature, about 103, gradually subsiding to normal on the ninth day. Profuse secondary hemorrhage took place at midnight on the ninth or tenth day, while the patient was asleep. He had signs of arterio-venous aneurysm, which were observed for the first time on the tenth day, when septic pneumonia set in. Fearing the repetition of the hemorrhage, which would have been fatal, an operation was performed. Following the track of the wound an incision was made into a pocket situated below the clavicle, but a flood of blood followed which could only be controlled by packing the cavity. While this was being done the third division of the subclavian was exposed and ligated outside of the scalenes, but upon diminishing the pressure and removing the pack in the wound below the clavicle, bleeding followed, which was not controlled until the vein had been exposed and ligated in the sac above and below the injury. A third tributary vein, which continued to bleed freely after the main trunk had been secured, had also to be ligated. Hemoptysis and pyemic pneumonia, with temperature of 104, threatened the life of the patient for several days. Fever ceased only on the twenty-fifth day after the injury, and only after a large phlebitic phlegmon of the arm on the affected side had been opened and a septic venous clot removed. The wound had healed and the patient was discharged two and a half months after the operation in a very satisfactory general condition. The circulation in the arm and its nutrition were affected permanently and very seriously. Eight and a half months after the operation, anesthesia and trophic changes, with a loss of thermic sense, existed, leaving the arm in a state of functional disability.

These four operated cases (including my own fully reported in the first section of this paper) resulted in three recoveries, the only death—Wattmann's—being due to secondary hemorrhage following a ligature applied under very disadvantageous conditions and with the old septic technique. In 2 out of the 3 cured cases serious functional disability followed after the intervention, though in my case, in which partial gangrene of the hand and forearm occurred after operation, there was a coincident paralysis of the arm from injury to the brachial plexus.

EFFECTS OF THE ARTERIO-VENOUS LESION OF THE SUBCLAVIAN VESSELS UPON THE CIRCULATION OF THE UPPER LIMB.

The effect of accidental and surgical occlusion of the subclavian vessels upon the circulation of the arm is the cause of much concern in these cases. In analyzing the individual reports of these fifteen arterio-venous injuries or aneurysms we are impressed by the fact that in a large majority the effects of the arterial ischemia and coincident venous obstruction were immediately perceived. Suppression of the brachial and radial pulse are noted in the majority of the cases of which full observations have been recorded; in many, great pallor, lividity of the skin, ecchymoses, coldness of the surface, functional disability, numbness, paresthesia, edema, etc., are recorded as the immediate effects of the injury. In two, extensive interference; in one of these spontaneously—Smith's case; in the other, after the ligation of the artery and lateral suture of the vein—Matas. That the danger of sloughing is not to be lightly considered is well shown in my case, in which, after the ligature of the second division of the artery, followed by torsion of

the proximal end—following Wyeth's suggestion—and after simple lateral suture of the vein purposely done, so as not to interrupt the venous current, complete arterial ischemia followed, causing an extensive dry sphacelation of the several fingers, part of the hand, and forearm. That this was due to complete interference with the arterial and not the venous supply of the limb is proven by the character of the gangrene—dry—and pallor of the skin. This result is important because the ligation was performed with the most aseptic technique and with absorbable kangaroo ligatures, and the wound healed *per primam*. The complete ischemia of the arm can only be accounted for by the torsion which was applied to the proximal end before ligation, which no doubt interfered with the collateral supply from the branches of the thyroid axis, superior intercostal, and possibly the internal mammary. This extra precaution, which was calculated to diminish the risk of secondary hemorrhage, should be avoided, if possible, in future operations.

We have already referred to the tropho-paralytic phenomena which in some cases permanently impaired the usefulness of the arm as a result of circulatory disturbances independently of injury to the brachial plexus —Veiel's case is probably the most notable in this respect. That the danger of sloughing is greater in double—arterio-venous—injuries than after interference with arterial circulation alone is well shown by the comparative statistics of the two classes of injuries. Le Fort, in his learned and careful study of 223 ligations of the subclavian artery for all causes (published in 1867), was able to find only 4 cases in which gangrene occurred, and this was limited chiefly to the fingers—1.7 per cent. These are the cases reported by O'Reilly, White, Blizzard, Terrier, the last complicated by injury to the brachial plexus. Von Bergmann, in 1877, in studying the effects of injury to the subclavian from the same point of view, states that in 90 cases of ligation of the subclavian, gangrene of the fingers occurred in 3 cases—3 1-3 per cent.—and in these this result was attributable largely to the extensive contusion of the skeleton and soft parts about the shoulder girdle. In this respect the risk of gangrene can not compare with the greater frequency of this result in similar ligations of the vessels at the groin.

It is also well established that gangrene is much less frequent after ligations of the third division of the subclavian above the clavicle than after the ligation of the axillary when this is done in the wound.

For instance, Le Fort (*loc. cit.*), in a study of 42 cases of axillary aneurysms, notes 5 cases in which gangrene occurred as a direct result of the traumatism without ligation, and in 6 in which the gangrene followed the ligature applied in the wound at the time of injury.

The gravity of the double—arterio-venous—injuries of the subclavian vessels from this point of view will now be appreciated, when we recall the facts gathered from our statistics that 1 in 11 unoperated cases sloughed —9 + per cent.—and that in 1 of the 4 operated cases this unfortunate result followed—25 per cent.

The extent of the traumatism in the operated cases was, it must be remembered, greater than in the non-operated, since the operation in 3 of the 4 was necessitated by secondary hemorrhage or other grave complicating lesion, whereas secondary hemorrhage occurred in only 1 of the 11 unoperated cases.

To summarize the liability to gangrene of the limb, grossly stated and without reference to special modifying conditions, it would be as follows for the various lesions: Arterio-venous injuries of both the subclavian artery and vein, including ligations, 13.5 per cent.; after ligature of subclavian artery—third division—1.7 per cent. (Le Fort); or 3 1/3 per cent. (von Bergmann); after obliterative injuries of the axillary, 26.8 per cent. This last percentage relates, however, to cases reported before 1867, and would no doubt be much improved by later statistics; the contrast between the axillary and subclavian injuries is, nevertheless, significant.

(To be continued.)

REPORT OF A DEATH FROM CHLOROFORM ANESTHESIA,

BEING THE FIRST IN A PRACTICE OF SIXTEEN YEARS, AND INCLUDING NOT LESS THAN TWO THOUSAND CHLOROFORM ANESTHESIAS.

BAYARD HOLMES, B.S., M.D.

Professor of Surgery and Clinical Surgery in the College of Physicians and Surgeons, the Medical Department of the University of Illinois, Etc.

CHICAGO.

It is my unpleasant duty to report the first death from chloroform in my practice, not a very large one to be sure, which began in the Cook County Hospital in 1885. I have not kept a record of the number of anesthetics given for me, but they have certainly not been less than two hundred a year. Chloroform has been uniformly used. Only when a patient insisted on ether has anything but chloroform been given.

It has been my practice to have a skilful person administer the chloroform, even if it necessitated an untried and even inexperienced physician as my first assistant. My anesthetizers have been trained by me to give chloroform on two thicknesses of cheesecloth held over the left index finger or spread on a wire mask. It is administered drop by drop from an ounce bottle with a little notch cut out of the side of the cork. The anesthetizing room is still. The patient is directed to count after the anesthetizer at each full inspiration. Thus confidence and regular breathing and possibly a sort of hypnotic state is secured. This method has been once fully described by Dr. D. H. Galloway.[1] There is rarely any difficulty and almost never any kicking or rolling about on the table. Very rarely has artificial respiration been necessary.

In the case which I am about to report, the anesthetic was given by a physician with whom I had no previous experience and in a hospital where I have not been accustomed to operate. There was no oxygen at hand. My attention was given entirely to the operation. I had no reason to anticipate trouble.

Mrs. McC. was brought to my office for examination on September 28 by Dr. W. M. Watermann. She had all the appearances, on walking into the consultation room, of being 38 years of age and about four and a half months pregnant. I made an examination of her without getting her history. She was medium-sized, well built. The temperature was normal and the pulse 88. She showed evidence of previous pregnancies. The breasts were flabby; there was no marked pigmentation, no blue veins over the breasts. The vagina showed no enlarged veins. The cervix uteri was small, in the median line, hard and high up. It pointed slightly toward the right. The cervix did not seem to move with the abdominal tumor. The tumor had the size, shape and consisteney of a pregnant uterus of four and a half

1. JOURNAL A. M. A., May 14, 1898.

or five months. There was one point which seemed to sugesst a fetal extremity. This was very absorbing and riveted our attention. No heart sounds could be heard; no distinct placental souffle; no fetal movements felt. The tumor was fixed in the pelvis, did not rotate, and when standing, sitting or reclining had all the appearances of pregnancy.

The patient gave a history of repeated attacks of appendicitis. She insisted that she was not pregnant. She had borne two children, the youngest 2 years old. Five months ago, after a light attack of appendicitis, she noticed a slow, progressive growth of the abdomen. She had menstruated regularly since the last child was born in spite of nursing her. She had none of the subjective symptoms of pregnancy during the time the abdomen was enlarging, which symptoms were very pronounced in her previous pregnancies. Two weeks before she saw me she had an attack of abdominal pain. It was not like her previous attacks of appendicitis, but was deep, long, lasting and accompanied by faintness.

The diagnosis did not seem to us very clear. In spite of the absence of mammary and vaginal signs of pregnancy and the small, hard cervix uteri, and in spite of the absence of all subjective symptoms and the history of continuous menstruation, great importance was given the regular and timely growth of a tumor which was shaped like a uterus and had a feeling like that of an included fetus. It seemed that so regular and timely a tumor must be pregnancy. With the abnormal findings at the cervix we thought of extra-uterine pregnancy. The patient was warned of the possibility of some other form of tumor and urged to have constant medical supervision and a subsequent examination.

On the afternoon of Wednesday, October 2, Dr. Meany, who had the care of the case in the absence of Dr. Watermann, called me up on the telephone and told me our patient had been having more pain, the attacks being very severe. They were still unlike the attacks of appendicitis. She required morphin on Saturday and Monday nights. Her pulse had gone up suddenly to 108, and her temperature was 100.4. She was very sick. I decided to see her at once with Dr. Meany.

At 4 p. m. I was at her home. She was lying on her left side and appeared very sick and pale. She had been vomiting bilious matter for some hours. Her pulse was 120. The abdominal tumor was as large as that of a pregnancy at full term. It was, however, soft and cyst-like. The cervix was still small and hard and the fundus could not be reached. The breasts did not look like those of a pregnant woman. The vagina had no blue veins or other evidence of pregnancy. No fetal heart-beat could be heard.

With presumptive diagnosis of, 1, extra-uterine pregnancy and hemorrhage; 2, tumor arising from the pelvis with twisted pedicle, or 3, pregnancy with some complicating intra-uterine hemorrhage, an operation was proposed and undertaken at the Garfield Park Sanitarium, Dr. J. J. Meany, Dr. Rudolf F. Teschan and Dr. H. J. Stewart assisting. Several other physicians and students were present.

The patient was anesthetized with chloroform in her room and brought to the operating room. She was well scrubbed. She was not profoundly under chloroform during these preparations. The chloroform was pushed and the operation begun. Through a rather large (3-inch) median incision the abdomen was opened. The smooth, black surface of a multiocular cyst of the left ovary presented itself. There were no adhesions to be felt. The trocar quickly emptied the cysts and the tumor was removed. The pedicle was found twisted three times around. It was ligated in two places. The appendix was found very much enlarged, 4 inches long and quite angry looking. It was removed. At no time during the operation was there any anxiety about the patient. No stimulants were used and there was no delay from imperfect anesthesia. The operation had taken less than twenty minutes. On account of the small amount of fluid in the peritoneal cavity, and on account of the slight contamination of the wound edges with the cyst contents, the abdomen was now washed out with warm normal salt solution. This much revived the patient and she resisted and threw her body and legs about. This led the anesthetizer to administer more chloroform and she became quiet again. Suddenly it was noticed that she had stopped breathing. I left the care of the abdomen to an assistant and immediately opened the mouth, drew out the tongue and compressed the root of the tongue forward. The assistants elevated the foot of the table and Dr. Stewart very skilfully performed artificial respiration. This resuscitation was very tardily begun; the heart was beating and the blood became aerated. After washing up and putting on the gloves I closed the abdomen. Artificial respiration was continued. There seemed to be occasional efforts at automatic respirations, but it was necessary to keep up the mechanical breathing. Dressings were applied and the patient removed to her room, placed crosswise of the bed on a stretcher and artificial respiration kept up. Although in better position for this procedure it became less and less effective. She became cyanotic, the heart stopped and she died more than an hour after the first recognition of danger. There was no postmortem.

In considering this case there is only one thing which gives me any comfort. The anesthetizer was a stranger to me and untried. We had never worked together before. The patient had taken the anesthetic well and the operation had been without the slightest incident. The use of the hot normal salt aroused the patient; the anesthetizer gave more chloroform and the patient stopped breathing. For an unknown period no efforts were made to open the pharynx and produce artificial respiration. Some valuable time was lost. The heart continued to beat for three-quarters of an hour after all automatic respiration was suspended. The aeration of the blood was for a long time quite perfect, as shown by the red lips and disappearance of all signs of cyanosis. There is no evidence that the patient died of thrombosis, enzyme poisoning or any other effect of the simple and rapid operation.

When a patient dies of chloroform it is always recognized and properly credited. It seems in every case I have known to have been due to unskilful administration or improper surroundings. When a patient dies of ether narcosis it may be on the table, but it is usually after several days, and it therefore lacks the tragic element so confounding and even terrifying in deaths from chloroform. Too little care and attention is given the anesthetic. A person who gives ether is unfitted to give chloroform. I have extravagantly suggested that when a physician has once given ether he should be tattooed on the hand and never allowed to give chloroform afterward.

Il Lavoro.—Professor Devoto, of Pavia, Italy, has undertaken the publication of a periodical with this title. It is to be devoted to all questions of a medical and hygienic nature related to the professions and trades, manufactures, etc.

Clinical Report.

CASE OF NECROSIS OF BONES OF THE SKULL.*

W. U. COLE, M.D.
COLUMBUS, OHIO.

The patient is a housewife, aged 34, is a native of Ohio, and is married, but has no children. Seven years ago she came to my office for the first time, suffering from headache and pain in the left hip. She presented a sallow, anemic appearance, and was somewhat emaciated. I also noticed that the anterior and upper frontal regions were unduly prominent, but the skin showed no discoloration. Six months later she called again. Apparently an abscess had formed at the apex of the prominence to the left of the median line, where she complained of severe throbbing pain. The skin over the site of the abscess was a dark-red color, and at one point some signs of ulceration were already visible. I evacuated the abscess under anesthesia. A cheesy tuberculous deposit filled the cavity. At its base I noticed a roughened condition of the bone, and found that some small portions of bone could be easily detached with a gouge, which revealed a cavity in the bone extending through the outer table to the diploë.

There was a continuous discharge of greenish pus from the wound for some weeks, and a persistent small sinus. Finally, the wound almost healed, and I lost sight of the patient for some time.

A few months later she called me to her residence, and I found, on examination, that the necrosis had so extended that it now occupied the entire anterior portion of the frontal bone and the diameters of the lesion were about two inches from above downward, and two and one-half inches from side to side. I advised the removal of the necrosed bone, and requested the patient to go to a hospital. Under strict antisepsis, I removed the entire outer table over the necrotic portion. The inner table, though showing no appreciable signs of necrosis, was apparently unnatural in its consistency, somewhat thickened at points, spongy in appearance, and showed other signs of disease. The wound was thoroughly washed with formalin solution and packed with iodoform gauze. The patient remained in the hospital for two weeks, and the edges of the wound by this time showed signs of the formation of healthy granulations. The wound seemed to make fair progress toward healing for some months. The patient, having learned to dress the wound herself, passed for a time from my notice.

After several months had elapsed, I was called to her residence, and this time found her confined to bed. She complained of severe pain and stiffness of the left hip. The hip was swollen and very tender to the touch. Prior to this time, at each visit, she had complained of pain in the left hip, and occasionally was forced to limp when walking. By this time the patient's weight had decreased very perceptibly. Her temperature was 103.7 F., and her circulation feeble. She was so weak that it was difficult for her to answer questions. On examination of the wound of the forehead, I found that an area of the inner table of the skull was necrosed, and that the visible necrosed portion measured two and one-half inches in both diameters. This area was entirely denuded of flesh, was of dark color, and covered with a purulent discharge. There were numerous openings through the bone into the cranial cavity, from which at each pulsation offensive fluid would exude. She presented the signs of pyemia.

After watching her case for several days, attempting to improve her general condition, and finding little, if any, improvement, I advised the removal of the diseased portion of the inner table. She readily consented to the operation, and on Sept. 11, 1897, with the help of competent assistants, I removed the inner table of the skull to the extent that is perceptible at this time. The operation was performed by the assistance of the Hopkins bonecutting forceps, and after the membrane was wholly relieved of its bony covering I smoothed the edges of the bony circle with a chisel and mallet. After thoroughly cleansing the area of the exposed membrane and the margins of the wound, I covered the exposed surface with iodoform gauze, applied sterilized absorbent cotton, and a bandage for retention of the dressings. The after-treatment consisted in washing the wound twice daily and keeping the denuded membrane thoroughly clean by pouring over the entire surface an antiseptic solution. It was not long before granulations were manifest at points on the margin of the wound. Soon these spots coalesced, showing a healthy granular sur-

* Presented to the Columbus Academy of Medicine.

face, and after a considerable length of time the wound became covered with a thin, but fairly firm, epithelial layer, with occasional ulcerative patches.

The flattened condition of the forehead indicates the interference with the bone above described, and there are but a few small fragments of the frontal bone remaining. At each pulsation of the heart the contents of the cranial cavity expanding keeps up a constant motion of the covering of the area that is deprived of bone. The patient has gained in bodily weight and at present, to all appearances, has medium fair health. She is able to look after her own domestic affairs. She is possessed of all her mental faculties, shows no impairment of any of them, seldom complains of pain, and, in fact, seems to enjoy life fairly well. She takes a great deal of outdoor exercise, which has proven beneficial to her. A few days ago the patient called my attention to a swelling over the upper portion of the right parietal bone, slightly to the right of the apex of the skull. Pus has been discharging at the upper and outer angle of the wound on the right side through a sinus from the above-described lesion. I have made no opening at this point as the natural drainage seems to be sufficient for the present.

Heineke quotes a case of necrosis of the contiguous parts of the frontal and parietal bones and great wing of the sphenoid, that occurred in a patient aged 19, after typhoid fever. At the autopsy, it was found that the middle meningeal artery was blocked by a thrombus. Saviard reports a case in which the entire vault became necrosed subsequent to an injury of the head. Norris gives a case in which considerable portions of the parietal and temporal bones were lost, together with a great part of the frontal and occipital bones. The disease followed upon a fall on the head. A somewhat similar case is recorded by Drummond, where an equally extensive necrosis followed upon a scalp wound. South described the case of a woman, who, in nine years, lost the greater part of both parietals, and some parts of the temporal and occipital bones, from necrosis that was supposed to be of specific origin.

It is important to note that necrosis is not limited by sutures, and it seldom follows their course, but frequently involves the contiguous parts of two or more bones at the same time.

I have a case, a lady, aged 23 years, from whom I have removed about one-third of the outer table of the cranium. It was also necessary to remove the lower half of the right tibia on account of osteomyelitis with necrosis, apparently tubercular in origin.

In specimen 1263, in the Museum of the Royal College of Physicians and Surgeons, in London, England, necrosis of the frontal bone began in the inner table, following an abscess of the brain; the primitive cause was said to have been a blow on the head. In specimen 1290, the frontal, parietal and occipital bones were perforated; the cause was said to have been specific. In specimen 1293, the frontal and occipital bones were perforated and three-fourths of the right parietal bone was entirely obliterated. In specimen 1310, all the bones were affected with small perforations and exfoliations, except the occipital. In specimen 1334, large portions of the temporal and frontal bones of the left side were obliterated, and the entire orbit was necrosed from malignant disease. In specimen 1377, the entire cranium was affected. There were perforations of both tables with rough, serrated edges; some of the perforations overreached the diploë, and caused death due to exposure of the membrane. In specimen 1411, a large portion of the frontal and parietal bones of the right side were necrosed and exfoliated; the cause was believed to be specific. In specimen 1424, necrosis from injury, more than half of the frontal bone on the right side was necrosed; the child was 4 years old. The bone was removed six months after with apparent recovery; the patient was thrown from a horse to the pavement. In specimen 1425, the left temporal separated after necrosis; facial paralysis was subsequent and convulsions preceded death. In specimen 1430, male, age 31 years, nearly all of the left parietal bone exfoliated, following a burn; patient lived 15 years; there was a very slight formation of new bone. In specimen 1712, the skull of a child 5 years old, the frontal bone of the right side was perforated; necrosis was probably due to pressure from malignant growths; all of the right orbit was obliterated except the roof; portions of the right malar and superior maxillary were also necrosed; the necrosis was said to have begun in the antrum.

I would conclude that, from observations of the above-named cases and specimens, any of the bones of the skull are liable to necrose, following traumatism or disease.

I would note further that the process of necrosis may originate in either table of the skull, but the outer table is usually attacked first; in this class of cases, as well as those that begin in the inner table, the disease may or may not extend beyond the diploë. It is also worthy of note that, in all of the above-mentioned cases or specimens, the orbits and petrous portions of the temporal bones were unaffected, except the orbits were affected in the two specimens in which the cause was malignant disease.

As to the liability of the functions of the brain becoming impaired after perforation of both tables from necrosis, I am able to find from the statistics that the inferences to be drawn are very indefinite, but I am led to believe that mental disturbances are most common after necrosis of the mastoid process, and are not uncommon after necrosis from specific disease. I would also remark that it would be with great difficulty, if at all possible, for one to make a reasonable approximation of the time that a patient may live after necrosis has begun or even after either large or small perforations of the skull are known to exist, and large or small areas of the meninges are exposed; as in some of the apparently insignificant cases, death may result promptly from exposure of the membrane, meningitis, or pyemia. Again, it is also true that occasional cases, as the first described, may live for an indefinite period, and perhaps die from other causes, with nearly all of one bone removed, and with no natural protection to the membrane from thermal changes, infection, or traumatism, except a very thin epithelial layer which forms over the denuded meninges that is easily wounded and frequently ulcerates.

The Organization of the Medical Profession.

III.

OBJECTS OF ORGANIZATION.

(Continued from page 177.)

Collective Investigation.—There is a great need of some method by which statistics concerning diseases may be collected. For instance, what are the statistics of the whole country as to deaths following operation and deaths without operation in appendicitis? The experience of 100,000 physicians would be of immense value in helping to solve this vexed question. The statistics gathered by a few individuals scattered here and there are practically valueless because they do not cover a sufficient part of the whole. What are the resuts of glycerinated lymph as compared with the results from the use of dry points? What harmful results have followed the use of the one, and what of the other? What are the facts as regards the curative qualities of diphtheritic antitoxin? What are the facts as regards the prevalence of this or of that disease, or of this or of that complication in certain ailments? There ought to be a way to get these questions answered in such a manner that there could be no possible excuse for guessing, or for depending upon any one's opinion. The scientific facts derived from a collective investigation covering the experience of a very large number of physicians would be invaluable. This has been recognized for years, and such collective work has been attempted in Europe, but with only partial success, owing to lack of proper machinery. If we had a central organization with branches extend-

ing to every village and hamlet in the country, reaching each individual physician, as we must have, we would have machinery that could be utilized for gathering such needed information. With only this hint as to the possibilities in this regard we leave the subject, but ask those interested to think over it further.

Political Influence.—Not the least of the objects to be gained by organization is political power. Thus far physicians have had but little political influence, for the simple reason that they have not been united. There is probably no trade, calling or profession in which the individual member wields as much influence as does the physician. No one comes closer to the people than he, and his opinions and influence carry greater weight than do those of any other individual. What is needed is a combination of this influence so that it may be effective when needed. That physicians, when united for political work, are a power, has been proved a dozen times in a dozen different states during the last three or four years. Such a combination to be effective must reach every village, or wherever there is a physician. Politicians will respect us if they know we are united. Otherwise, we shall have as little influence in the future as we have had in the past. The word "political" as used here must be taken in its better meaning.

Enforcement of Medical Laws.—Another need for organization is for effective work in enforcing the laws. To get results in the regulation of the practice of medicine it is necessary not only to get the requisite laws, but also to enforce them. To simply put laws on the statute books and do nothing else is only half accomplishing the good that is sought to be obtained. Axiomatic as this may be, the idea has never seemed to be appreciated by those who have been working for legislative enactments and for the regulation of the practice of medicine. Time, energy and money have been spent to get the necessary laws by committees of our state societies and by others, but with this accomplished, nothing more has been done. Laws will not enforce themselves. Of this we may rest assured. We may theorize as long as we please about its being the duty of the prosecuting attorney to attend to this matter, but the fact remains that these politically appointed or elected officers will not do their duty, except in a few instances, because a united profession does not demand it. The individual member of the profession who takes upon himself this duty will generally live to regret it. It is the duty of our state and county societies to take up this work, and until they do we need not expect the laws to be enforced. To effectively accomplish this object it will require coöperative work among the state societies as well as among county societies. It might be suggested here that, in many states at least, the fines collected from infraction of law go to the society which prosecutes and hence the expense of such work would be met by the fines.

The Business Side.—While the members of our profession are not supposed to be dominated by commercialism, there must be recognized the necessity for the utilitarian. High ideals, noble motives and self-sacrificing work are the characteristics of the average physician, and his everyday work is proof of this. But while there is a business side to the practice of medicine the average physician seems to be sadly lacking in business methods, although it is hard to tell why. It is quite probable, however, that it comes from mistaken ideas as to the result of application of business principles to the practice of medicine. It is not our intention here to discuss this all-important question, but only to suggest that a mutual exchange of views in regard to the business aspects of the physician's work would result in much good. A mutual understanding as to fees, collections, etc., among physicians living in a neighborhood could not but result, in many instances, in a better provided home for the doctor's family. But here let it be said that there must be no forcing in this matter, as has been attempted in a few instances by societies. If a voluntary mutual agreement can not be carried out, there must be no penalty attached for its infraction. If one man persists in placing a low price on his services, in opposition to the wish and practice of the other physicians in his neighborhood, it will not do to turn him out of the society or fine him for this. Such a one will, in time, learn that no man ever made a reputation by placing his services lower than those of his fellows, and that he who places a low estimate on his abilities will find that his patients will generally judge him by his own standard. If a physician makes it a point to court the patronage of deadbeats against the protests of his fellow-practitioners, it will not be good policy to fine or totally ostracize him. Moral suasion, backed by an intelligently organized profession, will do much good in these cases.

Club Practice.—This is growing in this country slowly but surely. It has become a curse to the medical profession in many parts of the old world. When it is almost too late, the profession is organizing over there to fight club practice, but it is a hard fight, because the system has become established. This same fight will have to be undertaken in this country, for club practice in its worst form is growing rapidly. Here it is not only the true club practice, but it is worse. The original idea was a banding together of the poor who could pay but little, and by this banding together were able to employ a physician and pay him a fair amount for his services. There is no objection to this. But this principle is extending now to organizations gotten up by individuals for personal profit, the object being to buy physicians' services at wholesale and sell them at retail, not to the poor and needy, but to the well-to-do and to those who are able to pay. There is only one way to meet this organized effort to degrade our profession, and that is by organized resistance. We wish we could impress on every physician the fact that this thing is surely spreading, for if it could be realized in time, it could be met. We predict that in less than five years the "battle of the clubs" will be on in this country and that it will be much more serious than that which our friends across the water are waging to-day if it is not recognized in time.

(To be continued.)

Diagnosis of Perforation of Ear Drum.—One end of a rubber tube is placed in the ear, the other end in a glass of water. Air is then insufflated through the Eustachian tube. Bubbles appear at once in the water if the tympanum is perforated.—*Ugesk. f. Laeg.*, June, 1901.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, JANUARY 25, 1902.

THE RESPONSIBILITY OF CZOLGOSZ.

The literature of the medico-psychologic aspects of the Czolgosz case appears likely to be somewhat voluminous. Besides the quasi-official statements of Drs. Macdonald and Spitzka, there have lately appeared other articles discussing the assassin's mental condition, taking somewhat different views, at least by implication. Talbot's article,[1] noticed in THE JOURNAL of January 4, infers that the proof of his sanity was hardly of a satisfactory and logical character, and still more recently Hughes[2] takes practically the same view. The latter regrets the precipitancy of the trial and execution, and the imperatively hasty autopsy. "Czolgosz's egotism," he says, "was unbounded and morbid. His mind was evidently weak, and he appeared as a mental tool of wrong teaching, environment and influence. Unbounded egoism, projecting self into unnatural spheres and phases of action out of normal harmony with environment, is a characteristic of insanity, and it was sufficiently prominent in the case of this murderer, to have justified more extensive inquiry into the mental makeup of this strange assassin." To the average man it makes very little difference whether this malefactor was abnormal or not; that he was sane enough for execution, will be his verdict. It is a matter, however, of some interest to psychologically minded criminologists and anthropologists, and we need not pass by the fact that some of them are not satisfied with the data obtained. It might have been better had his brain been given for fuller study, but is there a valid reason for questioning the conclusions drawn from such facts as we have? Have we good grounds for considering the act is necessarily due to the morbid egotism of a degenerate, incapable of taking normal views of the nature of his act? This seems to us the implication in Hughes' paper and the basis of his regrets that further opportunities were not given for antemortem study and postmortem pathologic examination.

The facts are these: Czolgosz was an imperfectly educated young man of non-American antecedents. His associations and training had been those of a laboring man; but he had apparently been only irregularly employed, and his physical condition was not, according to the postmortem report of Spitzka, such as would indicate recent hard labor. He had discarded all religious beliefs and had thoroughly imbibed the principles of the gospel of discontent preached by certain labor agitators and politicians of the present day. His use of an alias is also worthy of note. He attended anarchistic meetings, and claimed to be a disciple of Emma Goldman. All this is consistent with a certain sort of sanity and full responsibility, unless we believe in an organized and intelligent criminal lunacy with its ramifications throughout the civilized world. Physically he was normally developed, and appears to have had no more than usual of the ordinary stigmata of degeneracy; his brain, aside from a possibly exceptional symmetry, was macroscopically that of an average individual. The abnormal egotism claimed is not apparent to us in his history or conduct after his crime; these seem rather to be perfectly consistent with the presumption that he acted solely as an anarchist of the extreme modern type, whether as an appointed agent or independently. Indeed, from all the circumstances, from his lack of ostensible means of support and his mysterious journeys to Cleveland and Chicago, it seems to us that he was entirely alone in the planning of his crime is the less probable supposition. His disclaimer of accomplices and the manner in which he met his fate are perfectly consistent with this theory. Nor would the fact that he had no formal support make any essential difference; his act and conduct were consistent with his professed principles, and while it might be pleasanter to believe that such a crime as his could be committed only by a lunatic, reason and history prove the contrary. In this case there were none of the definite marks of degeneracy, nor is there in the crime anything that is psychologically inconsistent with the possibilities of a mediocre but not abnormal mental organization under certain vicious conditions of environment.

We need not admit any genuine altruistic element in Czolgosz's motive; the altruism of the murderous anarchist is that of the French Reign of Terror or the Paris Commune—a bloodthirsty working-out of the evil passions of hate and envy. It is the stirring up and sowing of these that is the trade of the modern agitators, and they find in such as Czolgosz a fruitful soil for the seed. Traditions of tyranny and disappointed expectations of wealth and license make many of the ignorant foreigners of certain races in this country ready disciples of anarchy. Collectively they are a social problem, but their individual psychologic interest must depend not so much on their anarchistic tendencies and acts as on the special evidences of abnormality that they individually present. These seem to have been absent in Czolgosz; he was not an original paranoiac of the higher grade, like Guiteau, or one closely bordering on imbecility, like Prendergast; he was, rather, from all the evidences, of average normal mentality but misled by the more vicious social tendencies of the present time. The possibility of his being a degenerate, or mentally abnormal, appears to us to be a purely *a priori* assumption not sufficiently justified by the facts.

1. Medicine, January.
2. Alienist and Neurologist, January.

ARTIFICIAL SUSCEPTIBILITY TOWARD THE BACILLUS OF SOFT CHANCRE.

In 1889 Ducrey reported that in successive chancroidal ulcerations produced by inoculations of human beings with the chancroidal pus there occurs constantly the same bacillus. Since then the etiologic relationship of this bacillus has been confirmed by Krefting, Colombini and others. The bacillus has been cultivated upon various media, especially serum-agar, and typical ulcerations have been produced in human beings by inoculations of pure cultures of the bacillus. Recently Himmel[1] has shown that coagulated blood of guinea-pigs, allowed to stand for a time or heated to 55 C. for half an hour, constitutes an excellent nutrient medium for the bacillus of soft chancre. He recommends cultures upon this medium as an auxiliary method of differential diagnosis in doubtful clinical cases. As was the case with previous investigators, Himmel also failed to obtain positive results by injections into animals of pure cultures of the bacillus. In guinea-pigs the bacilli, injected subcutaneously under the dura, or intraperitoneally, are rapidly destroyed by phagocytosis. Krefting and others have described in human ulcerations and other lesions the presence of bacilli in large numbers within pus cells, and Himmel suggests that in this circumstance lies the probable explanation why general infection of the bacillus of Ducrey does not occur.

Himmel tried various methods for securing on the one hand a diminished resistance of the guinea-pigs and on the other hand an increased virulence of the bacillus, but without any satisfactory results until he used injections into the abdominal cavity of four drops of lactic acid diluted with one cubic centimeter of physiologic salt solution followed by injection of the bacillus. Phagocytosis now did not occur and the animals so treated died, pure cultures of the bacilli being obtained from the peritoneal fluid. Lactic acid by its so-called negative chemotaxis prevented phagocytosis of the bacilli. By repeating these experiments, diminishing each time the quantity of lactic acid, he finally obtained bacillary cultures of sufficient virulence to kill guinea-pigs without the use of lactic acid.

He obtained similar results by another method which though more complicated and obscure in its mechanism is equally if not more interesting, namely, by first injecting anti-alexin. Anti-alexin is produced by injecting one animal with the serum of an animal of another species. The serum of the injected animal materially now reduces the bacterial action of the blood of the animal furnishing the serum injected either by directly neutralizing its alexin (complement) as urged by Wassermann, or by preventing leucocytosis and phagocytosis (Besredka). Preliminary injection of anti-alexic serum, according to Himmel, so reduces the resistance of guinea-pigs to the bacillus of soft chancre that they fall victims to otherwise harmless doses, and the bacillus acquires an increasing virulence when passed through several animals so treated. By these clever methods an originally harmless organism was rendered virulent for otherwise insusceptible animals. The experiments also throw light upon the mechanism of immunity. Whether the importance assigned by Himmel to the phagocytic leucocytes should be accepted unreservedly is perhaps questionable; it may well be that the facts observed are equally explainable from other points of view.

1. Ann. de l'Institut Pasteur, 1901, xv, 928-940.

AMEBIC DYSENTERY IN CHILDREN.

While cases of amebic dysentery have been observed in considerable numbers in various parts of the United States, the infrequency of the disease in children accounts for the very limited data possessed regarding the disease in early life. In 1897 Holt wrote that it was then impossible to say what part the ameba coli played in the colitis of infancy and early life, and in 1898 Rotch spoke briefly of the disease as rare in children and of a very unfavorable prognosis. In a series of 35 cases reported by Harris in 1898, only 4 were under 10 years of age.

In a recent contribution to the subject of amebic dysentery in children, Samuel Amberg[1] has added very much to the clinical knowledge of the disease. Besides the four cases of Harris, he refers to two others which have been observed in the United States in which the ameba was demonstrated in the feces, and he adds five cases observed by himself, occurring in the service of Osler. His cases were from two and three-quarters to five years of age. Following the classification of Harris, four of the cases belong in the group of the very mild form; there was little effect upon the appetite and general health and the stools varied from two to six in twenty-four hours, with no fever or acceleration of pulse worth mentioning. Harris had referred to this form as the usual one in children, and the small amount of discomfort experienced by the children is a striking feature. Amberg's fifth case belongs among those of moderate severity. In two cases prolapsus recti was observed. No hepatic complications were present in any case, and amebic abscess of the liver seems to be very rare in children as compared with adults. Amberg was able to find but twelve cases in the literature where abscess of the liver followed dysentery in children, and in only two of these were amebæ demonstrated. The symptoms correspond quite closely to those in adults. The feces may be formed with bloody, mucoid masses on the surface, or there may be loose passages containing more or less blood and fragments of mucus. The diagnosis was always based upon the finding of motile amebæ containing red blood corpuscles in the feces.

Charcot-Leyden crystals in feces have often been referred to by writers upon amebic dysentery, and their presence in the feces of persons suffering from helminthiasis is well known. They were present in four of Amberg's cases, and with them were always associated

1. Bulletin of the Johns Hopkins Hospital, 1901, xii, 355-363.

eosinophile cells and free eosinophile granules in varying abundance. Because of the inconstancy of the picture of the feces, Amberg is unable to draw a conclusion regarding the relation between the numbers of amebæ, crystals and eosinophile cells. In any case, Charcot-Leyden crystals in the passages of a child should always excite a suspicion of amebic dysentery, and this is of especial importance as the amebæ may be found only after repeated examinations. The significance of the eosinophile cells must be determined by further study. Now that attention has been called to the subject by a series of carefully studied cases, we may expect further observations upon similar cases in the near future. The accurate diagnosis is of much importance from the side of treatment, as injections of quinin solutions appear to be most efficient in combating this variety of dysentery.

AUTO-NEPHROTOXINS IN OPERATIONS UPON THE KIDNEYS.

In view of the frequency with which the kidney and connected structures are subjected to surgical operations of various kinds it may not be without interest to recall certain results obtained from experimental operations in this field. Castaigne and Rathery[1] find that in unilateral nephrectomy of rabbits the mortality is very small—in 12 cases only one death, and that was from post-operative peritonitis. On the other hand, unilateral ligature of the renal artery, of the ureter, or of the entire mass of the pedicle of the kidney is followed by a much greater mortality, namely, 34.8 per 100. In these cases death could not be ascribed to any other causes than such as were directly connected with or dependent upon the ligatures, and it would appear as if the kidney, compromised by the tying of its vessels or of its ureter, or both, constitutes a source of danger for the organism. The observation that in rabbits certain conservative operations are more dangerous than unilateral nephrectomy (the remaining kidney being healthy) may or may not be applicable to man; the facts observed are certainly worthy of consideration.

In looking further for the causes of the increased death rate after ligature as compared with unilateral nephrectomy, Castaigne and Rathery studied the microscopic appearances of remaining or opposite kidneys in these two sets of cases. In unilateral nephrectomy the remaining kidney showed no changes whatsoever of a degenerative type. After ligature of artery, ureter, or entire pedicle, marked degenerative changes are present in the epithelium of the convoluted tubules of the opposite kidney; the glomeruli also show well-marked changes. Such alterations, more commonly present in spots than in a diffuse manner, seem most pronounced after ligature of the entire pedicle.

Now, what is the mechanism of this lesion? Because it is absent in unilateral nephrectomy it can not be attributed to defective elimination of ordinary urinary constituents. It lies very near at hand to trace the lesions in the opposite kidney to the toxic action of the products of disintegration of the kidney whose vessels or ureter have been tied. In other words, may it not concern an auto-nephrotoxin similar in its general actions to cytotoxins of other kinds. The blood of animals whose ureters have been tied has been reported toxic for the renal cells of other animals. The substances that develop under these conditions may be autotoxic as well as heterotoxic. Perchance certain renal disturbances now described as the result of reno-renal reflex nervous influences or as sympathetic nephritis are the outcome rather of auto-nephrotoxins.

1. Compt. rend. de Soc. Biol., 1901, liii, 1150-1154.

HAHNEMANNISM EXTRAORDINARY.

A journal,[1] representing what we take to be a very small fraction of extreme Hahnemannians, makes the following astounding assertion in its editorial columns: "The use of antitoxin and the crude vaccine virus belongs to the domain of material things and they should have no place as therapeutic agents in the armamentarium of the homeopath." This is certainly a very short step from Eddyism pure and simple, lacking only the sanctimonious pretensons of that pseudo-Christian cult.

A NUCLEUS OF STATE RECIPROCITY IN LICENSING.

Representatives of the State Medical Examining and Registration Boards of the States of Indiana, Michigan, Illinois and Wisconsin met in Chicago last week and organized under the title of the Confederation of Members of Reciprocating State Medical Examining and Licensing Boards. The objects of the organization were embodied in the report of the committee to draft a policy, which was adopted and which is given elsewhere in this issue. The states formally endorsing this report will be guided by it, but will arrange an itemized standard of preliminary qualifications and medical course that will be required. This seems like a seriously conceived step toward reciprocity of licensure and we hope it will prove to be in the right direction. It appears from the report that there is left a large discretion with the several Boards, which is, we believe, as it should be. Limitations by ironclad rules, making it necessary to admit all cases alike without exception, would be a mistake and not justified by any needs. It is assumed, of course, that each Board will keep close watch of each other's methods, and the plan of recognizing each other's certificates of not less than one year's standing will help to prevent error being committed. (See pages 260 and 261.)

THE BARRING OF CONSUMPTIVE HEALTH-SEEKERS.

In view of the recent proposed action in California, Colorado and elsewhere against the admission of consumptive health-seekers, a lay paper suggests that before New Mexico and Arizona are ever admitted to statehood, there should be a pledge required that at no time shall the consumptive be excluded from them. This

1. The Hahnemann Advocate, January.

is a matter of some interest to the medical profession as well as to the victims of tuberculosis. There is a serious moral question involved in the question whether a state has a right to shut off its climatic advantages from those who most need them, and the impropriety of such a course in states that have largely been built up by health-seekers would be obvious. In the present prevailing panic in regard to tuberculosis there is a possibility of such measures being enacted. In California it has been gravely proposed to exile consumptives to the exclusively desert regions, and boards of health are talking about isolating them like cases of smallpox or leprosy. If regulations like these should be enacted they would probably pass sooner or later into innocuous desuetude, but while they stand on the statute books they will afford opportunities for annoyance and oppression that could be ignorantly or maliciously utilized. It might perhaps be a good thing to have the legislators undergo a tuberculin test, when such laws come before them, so as to determine how many of themselves they wish to legislate into compulsory retirement.

FOREIGN CURRENT MEDICAL LITERATURE.

In this issue of THE JOURNAL we commence the listing of titles of original articles in foreign literature, beginning with the year 1902, on a plan practically identical with that we are using for American publications. Purely casuistic articles and clinical reports on common disorders, and mere abstracts or reproductions of articles published elsewhere, will be omitted from the lists. Of course, not every foreign publication will be listed, but it is the intention to include so far as possible the leading or representative ones in all languages. The advantages of this to our readers will be obvious—it will afford them to a great extent a corresponding outlook on foreign medical literature to that heretofore only given of that of our own country. The abstracts of leading articles from foreign publications will appear as heretofore, but will be presented in the same manner as those from American periodicals. In this issue the British journals alone have been utilized, the continental literature for January not having arrived in time. This course has been adopted at the suggestion and request of a number of prominent physicians, close students of medical literature who find our weekly exhibit of the current publications of decided advantage in their work, and, therefore, wish to have it extended to contributions from foreign sources also. It is believed that the addition will be generally welcome to the readers of THE JOURNAL. The republication of titles and index will follow the same rule, so that at the end of each volume there will be a cosmopolitan résumé of the medical literature of the current half-year, thus making it practically an index medicus for the period.

MEMBRANOUS INFLAMMATIONS OF MUCOUS SURFACES CAUSED BY THE PNEUMOCOCCUS.

Cary and Lyon[1] describe a remarkable case of acute lobar pneumonia in a boy of eleven years during which a profuse membranous exudation appeared upon nearly all the mucous surfaces open to inspection. There was also clinical and other evidence that the fibrinous inflammation involved also the pleura and the gastro-intestinal tract. A protracted and severe course terminated by lysis, and the case ended in recovery. The exudation was observed upon the mucous membranes of the mouth, tongue, throat, nose, eyes, glans penis and anus. Pure cultures of the pneumococcus were obtained from the eyes and nose, mixed cultures of pneumococcus and the golden pus coccus from the mouth and sputum. There seems to be little doubt that the pneumococcus was the essential factor in this remarkably widespread process. While pneumococcic inflammation of serous membranes are only too frequent, fibrinous exudations upon mucous membranes due to the pneumococcus seem rare. Cary and Lyon, in reviewing the cases, divide them into those occurring in connection with pneumonia and those occurring as a purely local process. All the reliable cases date back but a few years, and it is only recently that the pneumococcus has come to be recognized as capable of inducing fibrinous exudations upon various mucous membranes. Membranous inflammations of mucous surfaces caused by the diphtheria bacillus and by streptococci are not distinguishable from the pneumococcic except by bacteriologic methods. Most of the pneumococcic cases arise in childhood and early adult life. As a rule they have been mild, ending in recovery, but refractory instances occur. Almost any mucous membrane may be involved and undoubtedly the infection may be transplanted in various ways: by direct contact as, for instance, with the fingers, which in Lyon and Cary's cases were blood-stained from picking at nose and lips; by the circulating blood which may contain pneumococci in lobar pneumonia; and by swallowing of sputum and exudate. Local germicidal agents usually give good results, but failed entirely in the case that forms the text for Lyon and Cary's paper.

1. Trans. Assoc. Americ. Physicians, 1901, xvi, 379-392.

INCREASE OF PHYSICIANS IN GERMANY.

The number of physicians in Germany is steadily on the increase, nearly 3 per cent. having been added during the past year, though this is somewhat under the figures of the years 1894 to 1899. In Prussia the increase was over 3 per cent. The increase can be better shown by the comparison of the relative additions to the profession and to the general population since 1895. From this it appears that while population has increased in the German empire 7.8 per cent. the number of physicians has increased 18.6 per cent., or over double, and in some sections three or four times as much. The proportion of physicians to the general population is given as 1 to 2000 for the German Empire as a whole, but in the cities it is much higher, ranging from 1 to 489 in Kiel to 1 to 1918 in Barmen. The university towns have naturally the largest proportion, and those where industrial operations are chiefly or alone carried on the least. Our German confrères, it will be seen, have to some extent the same problem of excess of physicians to deal with as we have here; in fact, it seems to be a world problem, and how it is to be worked out is one of the interesting questions of the social economics of the day. Just at present the conditions do not seem to meet our professional ideals of supply and demand in Germany

much more than here. It must be remembered that these figures do not include the quacks who are said to be reaping harvests in the German cities. Considering all these facts and the lesser remuneration for services of the German practitioner, one would think that the medical profession would become less attractive. It is not remarkable that there should be a decrease in the number of medical students in the universities, which was 7933 in the summer semester of 1901, as against 8633 in the corresponding term of 1898. It is feared, however, that with the late rulings in favor of the Realschule there may be an increased pressure into the ranks of medical aspirants, but as yet the number of these institutions is comparatively small and the effect may be less marked. It is not very remarkable, judging from these statistics, that German physicians migrate to other lands; they have not in their favor the domestic expansion that has thus far been our safety-valve in this country.

Medical News.

CALIFORNIA.

Hospital for Deaf and Dumb Institute.—Plans have been completed and contracts let for the erection of a hospital, 60 by 100 feet, fully equipped, for the Deaf, Dumb and Blind Institute at Berkeley.

Children's Hospital Opened.—The Children's Hospital, Los Angeles, for the existence of which the philanthropic women of the city are responsible, was formally opened, January 21. The hospital at present has ten beds.

Bard Memorial Hospital Opened.—On January 1, the $30,000 Bard Memorial Hospital at Ventura, erected by Senator Thomas R. Bard and Dr. Cephas L. Bard, in memory of their mother, Elizabeth Bard, was opened.

Club Practice Extending.—A society whose object is stated to be "to provide families and individuals with medical attendance and medicines, said medical attendance to consist of the attention of regular medical practitioners, and to deal in drugs and medicines filled by prescriptions and otherwise," has been incorporated with a capital stock of $100,000. Drs. Ralph Hagan and Clarence E. Stoner, Los Angeles, are the medical men on the board of directors.

To End Hospital Undertaker Scandals.—The San Francisco Board of Health has made an attempt to put a stop to the abuses whereby certain undertakers obtained early information of the deaths of patients, thereby extorting money from the friends or family of the deceased, by passing the following resolutions:

Resolved, That immediately before, or just after the death of any patient in the City and County Hospital, that the relatives or friends of said person be notified without delay by telephone, messenger, telegram or special delivery letter, and said relatives or friends be requested to give promptly a written order to an undertaker for the removal of the remains from the hospital, and, be it further

Resolved, That no clerk or other employe in the hospital shall have any communication or dealing whatsoever with undertakers except by written order of the resident physician, to whom the patient may have previously designated the undertaker desired. Infractions of this rule shall be followed by immediate suspension pending investigation and final action by the Board of Health.

COLORADO.

St. Anthony's Hospital, Denver, will receive $4300 as the profits of a fair recently given under the auspices of the Sisters of St. Francis.

Industrial Sanatorium a Success.—Dr. A. N. Holmes, superintendent of the Rocky Mountain Industrial Sanatoria, near Denver, has reported to the State Board of Health the results of the treatment of tuberculosis by the industrial settlement plan. The institution has 27 patients, of which 11 are wholly self-supporting. The work of the sanatorium is performed by the inmates, with the exception of the cooking.

Personal.—Dr, John M. Henderson, who has been on the staff of the Rio Grande Hospital, Salida, has been appointed surgeon at Florence for the Rio Grande Railroad Company.——Dr. James A. Hart, Colorado Springs, after twenty-five years of practice in that city, has retired. A banquet was tendered him by the medical fraternity of the city, December 19.——Dr. Raymond St. Clair, Altman, has moved to Victor.——Dr. Bonaventura De Rosa has located in Pueblo.

New Sanatorium.—General W. J. Palmer, formerly president of the Rio Grande Western Railroad, has donated $50,000 cash and 100 acres of land east of the limits of Colorado Springs for a sanatorium to cost $250,000. Two buildings have been planned. The larger, which will cost $200,000, will accommodate 100 patients able to pay $20 a week for treatment. The other building will accommodate 50 or more patients who can pay little, if anything; it will be supported by revenue derived from the larger one.

Denver Emergency Hospital Association.—The organization of this Association has been formally accomplished. Dr. William W. Grant was unanimously elected president. The medical trustees are Drs. William W. Grant, James N. Thomas, Frank Dulin, and William K. Robinson. The object of the hospital will be to provide a place where emergency cases may be taken for immediate attention. At present there is no place where persons who receive severe injuries may be instantly attended to. If a man is poor, the police ambulance takes him to the County Hospital, and otherwise to one of the semi-charitable hospitals, but in any case it is often an hour or more before he falls into the hands of surgeons who give more than temporary relief.

The following resolutions have been adopted by the Medical Board of St. Luke's Hospital, Denver, on the death of Dr. Clayton Parkhill:

The Medical and Surgical Staff of St. Luke's Hospital is called upon to mourn the death of one of its most prominent members.

Dr. Clayton Parkhill was appointed attending surgeon to the hospital in 1889, and served continuously in that capacity until his death. As a surgeon he was painstaking, intelligent and careful, successful in his work, kind and gentle in the treatment of his patients. As a man, he was courteous and amiable; as a colleague he was companionable and helpful. Dr. Parkhill was one of the most brilliant of operators and the profession is indebted to him for many useful and practical surgical inventions. His counsel was eagerly sought by students and practitioners. As a writer he was clear and forcible; as a lecturer he was eloquent and thorough. He was in truth, among the distinguished of American surgeons, and did much to shed luster on his chosen profession. At the breaking out of the Spanish-American war he was among the first to respond to the call of duty, and as a military surgeon he deservedly held high rank.

The staff of this hospital desires to record its appreciation of his long and valuable services to the institution, and of his many endearing personal qualities; and it extends to his bereaved family and friends its profound sympathy.

DISTRICT OF COLUMBIA.

The Oleomargarin Bills.—The House Committee on Agriculture, who are investigating the proposed oleomargarin legislation, gave a hearing to Dr. George M. Kober, of the Georgetown Medical School, at its recent meeting. Dr. Kober favors oleomargarin and argued in favor of its general healthfulness.

Projected International Health Service.—Passed Assistant-Surgeon Milton J. Rosenau, director of the Marine-Hospital Service hygienic laboratory, recently appointed special commissioner to the Pan-American Congress at the City of Mexico by the Secretary of the Treasury, has gone to Mexico, where he will appear before the committee on sanitation to give expert testimony relative to the projected establishment of an international health service among the American republics.

The Typhoid Fever Bill.—The House Committee has favorably reported the typhoid fever bill known as H. R. 8759, which it has amended so as to read as follows:

That every physician attending or called in to visit or examine any case of typhoid fever in the District of Columbia shall at once send to the health officer of the District a certificate, in ink, signed by him, stating the name of the disease, and the name, age, sex and color of the person suffering therefrom, and setting forth by street and number or otherwise sufficiently designating the house, room or other place in which the person can be found, together with such other reasonable information relating thereto as may be required by the health officer; and upon the recovery or death of such patient the physician in attendance shall, within twenty-four hours after he becomes aware of such recovery or death, forward to the health officer a similar certificate, certifying thereto.

Any person violating any of the provisions of this act shall, upon conviction thereof, be deemed guilty of misdemeanor, and shall be punished by a fine not exceeding $100. All prosecutions under this act shall be in the Police Court of the District upon information brought in the name of the District of Columbia and on its behalf. All acts and parts of acts contrary to the provisions of this act, or inconsistent therewith, are repealed.

ILLINOIS.

Dr. A. T. Steele, of Charleston, has been confined to his bed since August 4. While attending a case of labor he received a stroke of paralysis.

Railway Emergency Case.—The consulting surgeon of the Chicago and Alton Railroad has designed an emergency medical and surgical case which is to be placed on every passenger train on the road.

Journals Refuse Irregular Advertisements.—Two of the daily papers of Charleston have refused to take the "ads" of traveling quacks who make towns for a one-day stand.

Macomb Hospital.—The deed to the land on which is to be built the new hospital of the Sisters of St. Francis, at Macomb, has been recorded, and it is expected that the hospital will be in operation before the close of the year.

Zion Bars Doctor.—Dr. E. F. Gavin, Waukegan, local surgeon of the Chicago and Northwestern Railway, was directed to go to Zion City to attend a youth injured by a fall from a train, but was not allowed to enter the city, and in fact, was ordered out of Zion!

Smallpox.—The school in the South Walnut Grove district, Independence township, has been closed on account of the prevalence of the disease.——At Kansas, 2 additional cases have developed.——Springfield had 32 cases and suspects under care, January 14.——At Decatur a new nidus was discovered, January 14, and 12 patients were removed to the isolation hospital. ——Elkhorn has 6 cases.——Cases are reported from Carlinville, Breckenridge, Cotton Hill, Freeport and Peoria.——Smallpox is present in Coles and Clark counties. Several cases have occurred in Charleston and Rardin and a few in the country districts. One death has been reported at Westfield.

Chicago.

Scarlet Fever Increases.—Scarlet fever shows an increasing prevalence. The disease increased 35 per cent. during the first 18 days of January over the last 18 days of December, while diphtheria has increased less than 10 per cent. in the same period. The figures of mortality from the two diseases are even more striking—34 per cent. decrease in the deaths from diphtheria and 25 per cent. increase in the number of scarlet fever deaths.

Mortality.—Exactly the same number of deaths—516—were recorded last week as for the week before. This number is seven more than for the corresponding week of January, 1901, but on the basis of population the annual rate last week is about 2 per cent. less than that of a year ago, the respective rates being 14.78 and 15.09 per 1000. The continued low mortality is a source of surprise to the officials of the Health Department in view of what are usually accounted as extremely unfavorable and unseasonable weather conditions.

Local Tuberculosis Pavilion Needed.—At the meeting of the Chicago Medical Society, January 8, the following resolution was unanimously adopted:

Resolved, That the Chicago Medical Society petitions the Honorable Board of Commissioners of Cook County to erect a pavilion for tuberculous patients who are gravely ill in the city of Chicago, within practical distance of the center, so as to command the attendance of an efficient medical and surgical staff; and it further petitions that the modern plan of treatment of tuberculous patients who offer hope of recovery be instituted in small cottages located at some suitable place in Cook County.

Smallpox.—There have been but 18 cases this month and only 30 since Aug. 12, 1901. Some apprehension had been felt lest the hundreds of thousands of visitors during the shopping season should spread the contagion broadcast, but Chief Medical Inspector Spalding's careful search reveals only 5 out of the 18 cases the origin of which could not be traced directly to imported cases. As has been the uniform rule during the thirty-four months of this epidemic, not one of these had ever been vaccinated. Although the contagion has been frequently introduced and thousands have been exposed, the disease picks out with unerring accuracy only those "never vaccinated."

INDIANA.

Epidemic Diseases.—Richmond is said to have 176 cases of measles.——Scarlet fever is reported to be epidemic in Putnam County.——Diphtheria is still prevalent at North Judson.

Hospital for Consumptives.—The State Board of Health states in its annual report that 4000 deaths occur annually in the state and that there are at least 25,000 sufferers from the disease, probably 1200 of whom must be cared for at public expense. The board therefore recommends the erection of a state hospital.

Mortality.—Reports to the State Board of Health show there were 2842 deaths in the state in December, 1901, an annual rate of 13.3 in 1000. In the preceding month there were 2402 deaths, and in December, 1900, there were 2880. By important ages the deaths were as follows: Under 1 year, 380, or 14.8 per cent. of the total number; 1 to 4 years of age 151, or 5.6 per cent.; 65 or over, 765, or 28.7 per cent. From important causes the deaths were: pneumonia, 380; tuberculosis, 359; typhoid fever, 86; diphtheria, 53; scarlet fever, 18; measles, 3; whooping cough, 11; cerebrospinal meningitis, 22; influenza, 25; puerperal fever, 14; cancer, 81; violence, 148. The urban death rate was 15.4 per 1000, and the rural 12.2 per 1000.

Morbidity.—The cases of smallpox reported numbered 465, in the following counties: Vanderburg, 40; Kosciusko, 26; Tippecanoe, 41; White, 1; Union, 13; Lawrence, 1; Spencer, 31; Vigo, 1; Owen, 3; Scott, 12; Pike, 1; Marshall, 3; Switzerland, 1; Randolph, 3; Dearborn, 9; Warren, 1; Knox, 4; Wabash, 19; Warrick, 41; Shelby, 12; Jefferson, 80; Marion, 12; Wayne, 40; Davis, 41; Decatur, 3; Madison, 2; Perry, 20, and Delaware, 4. One death occurred in Warrick County and one in Tippecanoe. Reports from county health officers show that the following diseases prevailed in the order given: Tonsillitis, bronchitis, influenza, rheumatism, pneumonia, typhoid fever, intermittent fever, pleuritis, scarlet fever, diphtheria, diarrheal troubles, erysipelas, inflammation of the bowels, measles, dysentery, puerperal fever, whooping cough, cerebrospinal meningitis, cholera morbus and cholera infantum.

KANSAS.

Damages Against Doctor.—In the case of G. W. Coffee against Dr. William C. Bower, Lebanon, for $5000 damages resulting from malpractice, the jury assessed the damages at $1200. Dr. Bowers has moved for a new trial.

Penalty of Non-Registration.—The County Board of Wyandotte County has declined to pay bills of eight physicians for services rendered at autopsies because they had not registered. Unregistered practitioners have no legal recourse.

Centenarian Practitioner.—Dr. John P. Wood, Coffeyville, passed the century mark, January 4. He has been in practice for 78 years and is undoubtedly the oldest practicing physician in America, if not in the world. He still makes his circle of calls on patients, but for the last few years has declined to take night calls.

Smallpox.—An Ellinwood anti-vaccinationist practitioner has smallpox.——Cloud County has an epidemic, with 20 cases at present.——Several cases are reported near Hutchinson and one school has been closed.——A number of cases are reported east of Belleville, and several district schools have been closed ——In Linn County a camp of woodchoppers is isolated on account of smallpox.——Topeka has 6 cases.——Fort Scott has 4 cases in its isolation hospital.

MARYLAND.

Tetanus Deaths.—In 1901 there were 32 deaths in Baltimore from tetanus, 26 being in infants under 21 days old; 12 occurred in one ward. In no case did it follow vaccination.

Baltimore Deaths.—The number of deaths for the week ended January 18, was 207; males 111, females 96; white 156, colored 51. The chief causes were pneumonia 26, consumption 22, diphtheria 6, typhoid fever 4, and scarlet fever 2.

Feeble-Minded School Report.—The seventh biennial report of the Maryland Asylum and School for the Feeble-Minded shows that there are 95 inmates. A new cottage has been erected with a capacity for 75 additional children and a new school building completed at a cost of $42,888.

Dr. Wiener's Anniversary.—Dr. Morris Wiener celebrated his ninety-first birthday at Baltimore, January 15. He was born in Vienna and educated at the medical school there. He first settled in New Orleans, coming to Baltimore in 1848. He is the author of several dramas and was an editor of the *German Correspondent* here for a number of years.

Report of State Hospital.—The one-hundred and fourth annual report of the Maryland Hospital for the Insane shows that there are now 530 patients there: 286 males and 244 females. Of these, 22 are private and 508 public patients. During the year 16 were discharged as recovered, 10 as improved, 13 as unimproved, and 32 died. Attention is called to the large number of chronic cases which present no hopes of recovery and but little improvement.

Quarter-Centennial of Johns Hopkins University.—Elaborate preparations are being made for the celebration of the quarter-centennial of Johns Hopkins University on February 21 and 22. Dr. D. C. Gilman, president emeritus, will deliver the commemorative address February 21, followed by an official reception to the delegates. In the evening there

will be a general reception in McCoy Hall. President Remsen will deliver his inaugural address on the next afternoon at three, and will outline the future policy of the University. The annual meeting and banquet of the alumni will be held the same evening, and Hopkins graduates are expected from all parts of the United States.

Re-election of Senator Gorman.—The legislature of Maryland has elected Arthur P. Gorman as Senator from Maryland, to take effect March 4, 1903. The members of the medical profession may congratulate themselves on Mr. Gorman's re-election, for no member of that body has been a better friend to them. The members of the regular profession who have had to deal with medical matters pending in the Senate will remember Senator Gorman's universal courteousness and attention to their interests. The first Pan-American Medical Congress owed its tangible existence and success to the efforts of Mr. Gorman, who succeeded in re-introducing and finally securing the appropriation of $10,000 for this Congress after its defeat by Mr. Holman in the House of Representatives. His subsequent interest and efforts in behalf of the medical profession in defeating the obnoxious anti-vivisection bill is one of the last but not least services to the profession. All proper medical legislation before Congress will find a friend and champion in Senator Gorman.

MASSACHUSETTS.

Decoration for Dr. Hogner.—King Oscar of Sweden has shown his appreciation of the attainments of Dr. Richard Hogner, Boston, by making him a Knight of the Order of Vasa.

Refuse Contract Work.—The physicians of Cape Ann have banded together and have voted to take no more contract work from fraternal societies. Let us hope that the members will hold to their high standard and that past history of rate-cutting will not be repeated.

Emergency Station.—The new city hospital relief station on Haymarket Square, Boston, is almost ready, and will be opened about February 1. It is on the site of the old Boston and Maine terminus. The hospital has a capacity of 25 beds. It will have 3 ambulances in constant service. The building is three stories in height, has a frontage of 71 feet, and is 120 feet in depth.

Massachusetts State Sanatorium for Consumptives.—The trustees of this institution have sent out a circular to physicians, calling attention to the fact that in no sense is the sanatorium to be considered a "consumptives' home," but rather an institution where the patients with slight disease can be sent with a hope of cure, or of such amelioration of symptoms that they may become wage-earners again. It is an educational institution where the patients are taught the simple but important laws of hygienic living, and as such is a factor in the foundation of preventive medicine. Cases suitable for treatment are those in which there may be signs of incipient disease only. Less favorable cases, but still suitable for treatment, are those showing only slight changes of temperature; some impairment of general strength, with one or both apices showing dulness, with râles, sometimes even with cavity formation, if a dry condition seems to prevail; absence of all symptoms showing laryngeal and marked digestive disturbance. The attending physicians of the Sanatorium urge the members of the profession to visit the institution, that they may observe the methods employed there. A single visit will be far more convincing than any other method of information. The superintendent, Dr. Walter J. Marcley, will always be glad to welcome members of the profession and explain the methods employed at the Sanatorium.

MISSOURI.

New Hospital Completed.—The new hospital of the Confederate home at Higginsville has been completed at a cost of $15,000. At present the home has 150 inmates, the largest number in the history of the institution.

Dr. Vilray P. Blair, late surgeon in the African Royal Mail S. S. Co., has returned to St. Louis much improved in health. He has had interesting experiences on the West Coast of Africa, which were the subject of a paper he recently presented to the City Hospital Society.

Dr. Carson, president of the St. Louis Medical Society, has appointed his rival in the presidential race, Dr. King, chairman of one of the important committees, and the ex-president, Dr. Newman, to the chairmanship of another. The society is harmonious and largely attended.

Medical Director Appointed.—Dr. Leonidas H. Laidley, St. Louis, has been appointed Medical Director of the Louisiana Purchase Exposition. His duties begin at once in the oversight of the workmen and the construction of the temporary hospital. There are many applications for assistant positions.

Tetanus-Antitoxin Inquiry.—The Board of Health of St. Louis is scheduled for a thorough investigation, which follows closely upon the antitoxin inquiry recently closed. The mayor seems determined that each city department shall prove its efficiency, and when the verdict in the antitoxin case is rendered, there will be further search into the efficiency of each branch of the health service. Suits have been entered against the city by the parents of some of the children who died from tetanus, and other suits will undoubtedly follow.

NEW YORK.

Gift to Academy.—Mr. Charles T. Ham has presented $5000 to the Rochester Academy of Medicine, to be used to further medical research.

Change of Name.—The Women and Children's Hospital Association of Syracuse has changed its name and will hereafter be known as the Syracuse Hospital for Women and Children.

New York City.

Norwegian Hospital, Brooklyn, has received for several years an anonymous annual donation of $3000. It is now learned that the benefactor was Mr. Clark, of spool cotton fame, who has bequeathed the sum of $64,000 in trust to the hospital, with the provision that the interest be applied for the relief of the sick and the needy through the agency of the Norwegian Lutheran Deaconesses' Home and Hospital in Brooklyn.

Scarlet Fever in Hebrew Asylum.—As a result of an outbreak of scarlet fever in the Hebrew Orphan Asylum at 138th Street, several hundred children are quarantined in that institution, and many children in Grammar School No. 48 have been exposed to the disease. Many of the asylum children attend this school, but so far no cases of scarlet fever occurring among the other children in that school have been traced to the asylum.

Manhattan Maternity.—It is announced that very shortly the poor of the east side are to be provided with a new hospital, to be known as the Manhattan Maternity and Dispensary. It is to be built in East 60th Street, near First Avenue. Moses Taylor, Henry L. Taylor, Cornelius Vanderbilt, William Sloane and other prominent citizens are especially interested in the work. It is rumored, though not definitely stated, that the hospital is largely the gift of Henry L. Taylor.

The New Movement in the Health Department.—Dr. Lederle has commenced his administration of the health affairs of New York by innovations which the profession will heartily approve. He has appointed a medical advisory board consisting of Drs. Edward G. Janeway, Joseph D. Bryant, T. Mitchell Prudden, William M. Polk, Abraham Jacobi, John W. Brannan, Richard H. Derby, L. Emmett Holt, Alexander A. Smith, Francis P. Kinnicutt and Henry P. Loomis. These positions are honorary and the members receive no salary. The board selected Prof. Charles F. Chandler, of Columbia University, as consulting sanitarian; Dr. Herman M. Biggs, as medical adviser; Caspar Golderman, secretary to the board; Dr. J. H. Raymond, assistant sanitary superintendent, in charge of the Department of Health in the Borough of Brooklyn, vice Dr. Robert Black, resigned; H. E. Bramley, chief sanitary inspector, in charge of the first division, vice Dr. M. B. Feeney, resigned; R. C. W. Wadsworth, private secretary to Dr. Lederle, and Dr. Edward F. Hurd, assistant sanitary superintendent for the Borough of the Bronx, taking the place of Dr. Eugene Monaghan, resigned. The Commissioner has announced the reduction of his force by 157. This has been necessitated by the reduction of the appropriation in 1902 to $667,012. For 1901 the appropriation was $1,053,990 and $169,700 additional was expended. The positions of those dropped were not important, and the efficiency of the force will be in no way impaired.

Buffalo.

Marine-Hospital in Buffalo.—Surgeon-General Wyman, of the United States Marine-Hospital service, has written to the Secretary of the Treasury setting forth the necessity of a marine hospital in Buffalo.

Mortality.—The health report for December shows a death rate of 15.18 per 1000 per annum. Smallpox caused 1 death; pulmonary consumption, 39, and typhoid fever, 10. The total deaths were 446, as compared with 409 in December, 1900. There were 5999 children vaccinated in the public schools.

Resignation Explained.—Dr. De Lancey Rochester, who recently resigned from the medical staff of the Sisters' Hospital, has issued a signed statement giving the cause of his resignation. He says:

On Monday, January 6, while making my rounds in the contagious ward, I found a case of diphtheria and told the interne to give him 4000 units of antitoxin, and to repeat the dose in twelve hours if there was no improvement. He told me that the hospital would not supply antitoxin to patients unless the patient or someone else paid for it. I told him that I thought he must be mistaken, and asked to see the Sister Superior. I asked her whether the statement of the interne was true, and she replied that the hospital could not supply antitoxin for patients unless the patient or friends or someone outside paid for it. I replied that I could not allow myself to remain connected with an institution which refused what was recognized by all scientific physicians as the only treatment of diphtheria, simply because the patient was too poor to pay for it, and proffered my resignation on the spot, and it was promptly accepted. The point that I make is that no hospital, and especially no charity hospital, has a right to receive patients and not give them the best treatment known to science, regardless of the financial position of the patient."

PENNSYLVANIA.

Philadelphia.

Smallpox.—Only 82 new cases of smallpox and 16 deaths were reported to the Bureau of Health for the week ended January 18, as against 131 new cases and 15 deaths for the preceding week.

The Fifteenth German-American Charity Ball will be given February 3, by the Maennerchor for the benefit of the Southeastern Dispensary and Hospital for Women and Children, and "The Pines," a Country Home for Poor Women and Children. Dr. Fred. A. Packard is president of the honorary board of managers.

Appointments at Philadelphia Hospital.—At a meeting of the Department of Charities and Correction, January 13, new appointments of attending physicians at the Philadelphia Hospital were made as follows: Drs. Henry M. Newbold and William Pickett, examiners of the insane, and Dr. Daniel J. McCarthy, neurological registrar.

Bureau of Charities Report.—The report of the Bureau of Charities showed that on December 31 there were 4525 inmates of the Philadelphia Hospital and Almshouse, an increase of 381 over the number at the same time the previous year. As a guard against smallpox, Superintendent Geary has ordered a daily medical examination of every inmate and attendant, over 5000 in all.

Dr. Da Costa's Estate.—An adjudication was recently filed in the estate of Dr. Jacob M. Da Costa, deceased, making distribution of a balance of $119,679. Deceased bequeathed $5000 to the Pennsylvania Hospital and $2500 to the Children's Hospital for the endowment of free beds. He left to the College of Physicians his medical library and $5000 for the endowment of the Publication fund; and to the Jefferson Medical College his medical museum.

GENERAL.

Leper Settlement of the Philippines.—The Island of Cagayan belongs to the Jolo group, and is quite isolated, being 60 miles from the nearest land. It is at present inhabited by about 200 Moros, and the work of building a town will be commenced as soon as satisfactory arrangements can be made with the natives. The plans have been perfected for some time. It is estimated that there are about 20,000 lepers in the Philippines, the rounding up of which will be no easy task for the Health Commissioners.

Dr. Rixey Promoted.—Captain Pressley M. Rixey, medical director U. S. Navy, formerly attendant physician of President McKinley, has been nominated as Surgeon-General of the Navy, by President Roosevelt, in ratification of the promise of his lamented predecessor. This promotion will give Dr. Rixey the rank of rear admiral. He succeeds Rear-Admiral William K. Van Reypen, who is placed on the retired list to-day, with the rank and retired pay of a senior rear admiral. Dr. Van Reypen has been in the service over forty years.

Health of Havana.—Major Gorgas, chief sanitary officer of Havana, has sent to the War Department at Washington a report on the health of Havana, in which he says:

The entire health of the city for the year just ended over the preceding years is something wonderful. There has been a very big decrease in the number of deaths in almost all of the different diseases. This is especially true of yellow fever. There have been few cases in comparison with the record last year, and the last three months of the present year were absolutely free from the disease, which is wonderful, and has not happened in the history of Havana in years of which we have any sanitary statistics. The cause of the decrease in yellow fever is undoubtedly due to the work on the theory that the mosquito is the transmitter of the disease. During the month of December there has been no yellow fever and no smallpox.

Two Assistant Surgeon-Generals Retire.—Col. Dallas Bache, recently stationed at Los Angeles, Cal., has retired from the Army after a service of over 40 years. Col. Bache was born in the District of Columbia, entered the service in 1861, and became colonel and assistant surgeon-general in 1895. Col. Charles R. Greenleaf, who has also retired, is a native of Pennsylvania, but entered the service as assistant-surgeon of the 5th Ohio Infantry at the beginning of the war of the rebellion. He reached his present army status in 1896, and has since rendered valuable service in the Philippines. Dr. Greenleaf has been recently stationed at San Francisco.

CANADA.

Handsome Donation to Science.—A prominent and wealthy citizen of Ottawa, Ont., has donated a large sum of money to the Medical Faculty of McGill University for researches in the possible methods of a cure for consumption. The work will be conducted under the supervision of Professor Adami, and Dr. A. G. Nichol has been appointed to prosecute the researches under him.

Hygiene in Schools.—Dr. Ruttan, of McGill, recently delivered a lecture to the high school pupils of Montreal on the important question of "School Hygiene," in the course of which he advocated the appointment of physicians to inspect the schools. He instanced the case of Boston, New York, Philadelphia, Washington and Chicago, and strongly advocated a similar system for Montreal.

Vaccination.—Dr. Laberge, the Medical Health Officer of Montreal, has reported to the Hygienic Committee that the number of people vaccinated in Montreal since last October reaches to 19,000. A curious sect named "The Saints," near St. Catherine's, are likely to get themselves into trouble with the provincial health authorities. Smallpox has broken out among them and they refuse to be vaccinated. They have all been quarantined, and unless they submit to vaccination they will have the option of going to jail.

College and Hospital Amalgamation.—It has been definitely decided by the Governors of the Western Hospital and the Medical Faculty of Bishop's College University, Montreal, that it will be in the interests of both for the amalgamation to take place. For some time the Western Hospital, owing to a largely increased prosperity in the past few years, has been looking about for larger premises, and a new site having been obtained, the construction of a new and more modern hospital will be at once begun. The Medical Faculty of Bishop's will take over the old Western Hospital at the beginning of the session of 1903.

Indian Vital Statistics.—According to the recent census the Indian population within treaty limits in Canada numbers 99,527, which is an increase of 517 over 1900. During 1901 there were 2,479 births and 2,240 deaths. In 1900 the births were 2,333, the deaths 2,557. The Indian Commissioner at Winnipeg has recently reported to the Indian Department at Ottawa upon the question of child marriage among certain Indians, chiefly among the Blackfeet, Piegans and Bloods, and advises that unless the influence of agents and missionaries does not bring about a reform that the Department prohibit child marriage entirely.

Suit for Alleged Malpractice.—Burns versus Atherton is a case of considerable interest to the profession in the Maritime Provinces at the present time. Dr. A. B. Atherton, of Frederickton, N. B., is being sued for $5,000 for the loss of an arm. It appears that the appellant came to the doctor with a dislocation of the shoulder of some five months' duration. Dr. Atherton sought to effect reduction and in the act it is stated ruptured the axillary artery. Amputation of the arm was subsequently performed, and hence the resultant suit. Dr. Atherton was at one time a professor in the Medical Department of Toronto University.

Appointments.—Dr. Phillips Weatherbe, of the Canadian Army Medical Service, Wolfville, N. S., has been appointed supernumerary to the Field Hospital Company for South Africa. —Dr. Telesphore Parizeau, lately returned from Continental hospitals, has been appointed professor of pathologic anatomy at Laval University.—Principal Petersen, Dean Roddick, of the Medical Faculty, and Dr. Ruttan have been appointed to represent McGill University at the annual dinner of the New England Society of McGill Graduates to be held at Boston on January 23.—Dr. J. Orlando Orr, Toronto, has been appointed Lecturer on Bacteriology at the Toronto Technical School.—Dr. W. H. Groves (Toronto, '89), has been appointed surgeon to the R. M. S. *Sekondi*, of the African Steamship Company, plying between Liverpool and the West Coast of Africa.—Dr. A. J. G. Macdougall, house surgeon to Toronto General Hospital,

has been appointed medical attache to the regiment in charge of Boer prisoners at Hamilton, Bermuda.

Personals.—Drs. Leslie and Jennie Dow, Toronto, return to the China Mission Field on January 27.—Dr. E. P. Lachapelle is a candidate for mayor at the Montreal municipal elections.—Sir James Grant, Ottawa, who has been physician to all of Canada's governors since the time of Lord Monck, lectured in Toronto last week on "How to Live to Prolong Life."—Dr. N. A. Powell, president of the Ontario Medical Association, entertained Dr. W. H. Drummond, of Montreal, during his recent visit to Toronto. A large number of medical men were invited to meet Dr. Drummond, and the profession spent a very pleasant social evening.—Dr. O. Bjornson, Winnipeg, and Dr. B. J. Bjornson, North Dakota, have gone to Europe for a year's hospital work.

FOREIGN.

Fear for Prof. Virchow.—A cablegram of January 22 states that the professor is becoming weaker as a result of his fall and fracture.

Von Ziemssen Dead.—Privy Councilor Dr. Hugo Wilhelm von Ziemssen, the well-known medical author, died, January 21, at Munich, at the age of 71 years.

Plague.—Deaths from the bubonic plague in India amount to about 1000 per day; in Bombay between 140 and 200 die of the disease daily, and in Calcutta only about 25.

Deaths Abroad.—The death of the prominent physician and former professor of pathologic anatomy, Dr. Axel Key, is reported from Stockholm. He was the founder of the *Nordiskt Med. Arkiv* and its editor for thirty-two years.——Dr. Destrée, professor of therapeutics at Brussels, has died recently, in his 43d year.——The medical faculty of Alger, in Algeria, lost almost simultaneously last month three of its professors; Professor Blaise died suddenly while delivering a lecture, and Professors Gemy and Bourlier succumbed to chronic affections.

PARIS LETTER.

The New Law on Hygienic Beverages.

The new law suppressing taxes on so-called hygienic beverages, such as wine, cider, beer, is not bringing about the wished-for result. It was thought that the increased taxes on liquors would compensate for the deficiency resulting from this law, and that moreover a smaller amount of the later would be drunk. So far, however, from this being the case, there is a considerable deficit in the budget caused by the application of this law, and the hygienists can not consider that the public health will be much benefited. More wine is drunk, there being an increase of 6,000,000 of hectoliters, but on the other hand it is doubtful whether less alcohol is absorbed. Liquor-sellers had laid in large stocks of spirits so as to escape the new tax, and the fact that less alcohol has been taxed is no proof that a smaller quantity has been drunk. For the last five or six years the vintage of France has increased noticeably, phylloxera having been stamped out to a great extent by the planting of American shoots. There is at present over-production, 65,000,000 of hectoliters being produced in 1900, and 55,000,000 in 1901. The yearly consumption is only 42,000,000, which would seem to be the amount that can be drunk from a hygienic point of view, so that a good deal is left on the market. There are parts of France where wine is sold at a cent a bottle. A remedy for this would be the distillation of the inferior qualities of wine, the alcohol produced being used in the preparation of liquors, instead of the manufactured alcohol so largely employed nowadays.

Chantemesse's New Antitoxin for Typhoid Fever.

At the Congress of Madrid held in 1898, Dr. Chantemesse had read a report on a special antitoxin he had prepared against typhoid fever. He has been doing some more work on the same subject recently and chose this as the title of his first lesson at the School of Medecine in his course of experimental and compared pathology. He has been trying this serum on a hundred patients suffering from typhoid fever, and his statistics seem to be quite favorable to this mode of treatment. Dr Chantemesse treated 29 patients at the Bastion, and they all recovered. At the Tenon Hospital out of 44 cases treated by the usual methods, there were 14 deaths, whereas 30 other cases chosen among the most serious ones furnished 4 deaths only. Dr. Chantemesse considers that the mortality in typhoid fever is much greater than is generally supposed, it being as high as 29 per cent. With this new treatment there were only six deaths out of a hundred cases, 3 from intestinal perforation, one from pneumonia, another was injected only on the 25th day, and another had a large sacral eschar. The amount injected is about 10 to 12 cubic centimeters, and the injection is made in the arm. The result is to produce in two or three days a rapid decline of the temperature, and an increase in the quantity of urine excreted. If the injection is made before the tenth day, the result is much more rapid. The temperature goes up in some cases towards the 20th day and a new injection is found necessary, 4 to 5 cubic centimeters being sufficient. Dr. Chantemesse considers that this method of treatment should be used even when the presence of typhoid fever is not a certainty. [See THE JOURNAL, Dec. 14, p. 1640.]

The Typhoid Fever Scare at Cannes.

Last April quite a number of cases of fever were treated at Cannes, and there was a report that they were due to an epidemic of typhoid fever. Dr. Roustan, a physician of the town of Cannes, has written an article to the *Presse Médicale*, in which he endeavors to show that most of the cases seen were abdominal forms of grippe, presenting as characteristics the sudden attack, and the relatively short duration of the disease. Dr. Roustan's attempt to whitewash the medical statistics of Cannes is certainly very praiseworthy. It should be remembered that gastro-intestinal forms of grippe are surely followed by death, as proved to be the case a certain number of times at Cannes.

Celebration of the Internes and Externes.

Every year when the examinations for the nomination of internes take place, a ball is given by the internes to the externes. This year several of the hospitals composed processions indicative of modern topics. One was the Triumph of Cocain, a procession made up by the internes of the Hôtel Dieu. The manner in which cocain is gathered, and its use either locally or by lumbar puncture is figured by different groups. It seems rather strange that it should be the hospital which lost two patients from spinal cocainization that chose this subject.

State Boards of Registration.

Missouri State Board of Health.—The State Board of Health met at Jefferson City, January 7, and re-elected Dr. A. W. McAlester (R.), Columbia, president; Dr. Benjamin G. Dysart (R.), Paris, vice-president, and Dr. Winn F. Morrow (R.), Kansas City, secretary.

State Board of Health of Illinois.—At the annual meeting of the State Board of Health, held at Springfield, January 14, Dr. George W. Webster (R.), Chicago, was elected president; Dr. James C. Sullivan (R.), Cairo, treasurer, and Dr. J. A. Egan (R.), Chicago, secretary.

Wisconsin Medical Board Election.—At the annual meeting of the State Board of Medical Examiners, held in Milwaukee, January 14, Dr. John R. Currens (R.), Two Rivers, was elected president, and Dr. Filip A. Forsbeck (H.), Milwaukee, secretary. The two new members, Dr. J. V. Stevens (eclectic), Jefferson, and Albert N. Jouris (osteopath), La Crosse, met for the first time with the Board.

Officers of Indiana Board.—The State Board of Medical Registration and Examination held its first regular session of 1902, January 14, at the State House and elected the following officers for the year: President, Dr. W. A. Spurgeon (P.-M.), Muncie; vice-president, J. C. Webster (R.), Lafayette; secretary, W. F. Curryer (E.), Indianapolis; treasurer, Dr. J. M. Dinnen (R.), Ft. Wayne.

Registration in Kansas.—The secretary of the Kansas State Board reports that up to January 8, 2587 physicians had registered. Only 6 had refused to comply with the law. The penalty for violation is a fine of from $50 to $200. Of illegal practitioners 127 have been barred from practice, about 12 of whom have made application for re-instatement. Forged or worthless diplomas caused the exclusion of 25.

Ohio State Board Elects Officers.—The Ohio State Board of Medical Registration and Examination met in Columbus, January 7, and re-elected the following officers: President, Dr. N. R. Coleman (R.), Columbus; vice-president, Dr. H. E. Beebe (H.), Sidney; treasurer, Dr. David Williams (E.), Columbus; secretary, Dr. Frank Winders (R.), Columbus. The Board disposed of the case of G. A. Purpura, an Italian of Cleveland, charged with practicing medicine under another man's certificate, by revoking the certificate.

State Board of Health of Rhode Island.—The following is the result of the examination for state license, held at Providence, January 2; percentage required to pass, 75; number of questions, 70; number of candidates, 9; passed 4, rejected 5:

Candidates.	Sch. of Pract.	College.	Year Grad.	Per-cent.
		PASSED.		
145	R.	Tufts College Medical School	1901	82.6
146	R.	Harvard	1900	86.8
151[1]	R.	Georgetown Univ. Medical College	1901	81.6
152[1]	R.	Baltimore Medical College	1901	84.5
		FAILED.		
147	R.	Tufts College Medical School	1894	70.4
148[1]	R.	Baltimore University	1901	71.0
149	R.	Saginaw Valley Medical College	1900	73.9
150	R.	Dartmouth Medical College	1900	72.7
153	R.	University of Genoa	....	59.4

1. Supplementary Examination in 4 subjects, 30 questions.

Ohio State Board of Medical Registration and Examination.—The following is the result of the examination for state licenses held at Columbus, December 10, 11, 12; percentage required to pass, 75; subjects, 9; number of questions, 90; number of candidates, 30; passed, 23; rejected, 7:

Candidates.	Sch. of Pract.	College.	Year Grad.	Per-cent.
		PASSED.		
60	H.	Dunham Medical College, Chicago	1901	76
61	R.	Rush Medical College, Chicago	1901	87.5
62	R.	Western University, London, Ont.	1901	92.5
63	R.	Columbian Univ., Washington, D. C.	1901	85
64	R.	University of Pennsylvania	1899	91
74	R.	University of Pennsylvania	1883	84
79	R.	University of Pennsylvania	1901	87
65	R.	University of Maryland, Baltimore	1885	85
67	H.	Chicago Homeopathic Medical College	1899	75.5
86	H.	Chicago Homeopathic Medical College	1901	83
68	R.	Western Reserve, Cleveland	1899	83
72	R.	Western Reserve, Cleveland	1901	87
69	R.	University of Michigan	1901	88
70	R.	University of Michigan	1901	92
71	R.	University of Michigan	1901	88
73	R.	University of Michigan	1900	88
77	R.	University of Michigan	1901	92
75	R.	Jefferson Medical College, Phila	1901	90
80	R.	Jefferson Medical College, Phila	1901	87
76	H.	Cleveland Hom. Coll. Hospital	1877	83
81	R.	Western Penn. Med. Coll., Pittsburg	1901	85
82	P.-M.	Physio-Med. College of Indiana	1901	93
84	R.	Medical Coll. of Ohio, Cincinnati	1898	79
		FAILED.		
57	R.	Detroit College of Medicine	1894	72.5
58	R.	University of Michigan	1878	58
59	H.	Hahnemann Medical College, Chicago	1901	58
78	R.	University of Buffalo	1900	72
83	R.	Western Reserve, Cleveland	1886	38
85	H.	Hom. Hospital Coll., Cleveland	1885	68
87	R.	Cincinnati Coll. Med. and Surgery	1892	47

Reciprocal Federation of State Examining Boards.—A meeting of members of reciprocating boards was held in Chicago, Jan. 17, 1902. There were present: Drs. Curryer (sec.), Spurgeon (pres.) and Dinnen of Indiana; Drs. Currens (pres.) and Ludwig (sec.) of Wisconsin; Dr. Egan (sec.) of Illinois, and Dr. Harison (sec.) of Michigan. Dr. J. R. Currens was elected president; Dr. Dinnen, vice-president; Dr. Spurgeon, treasurer, and Dr. Harison, secretary. The following name was adopted: "The Confederation of Members of Reciprocating State Medical Examining and Licensing Boards." A committee appointed to draft a policy in matter of uniformity and reciprocity of state licenses reported as follows: 1. That a license or certificate of qualifications of at least one year's standing, based upon presentation of a satisfactory diploma and an examination before a board in specified branches of medicine and surgery, may be accepted at the discretion of a board in lieu of an examination as a basis upon which the state license may be issued. 2. That a license or certificate of qualification issued by a state board of medical examiners, of at least one year's date, based upon presentation of a satisfactory diploma and upon the recommendation of the board of medical examiners as to the reputability of the applicant, may be accepted at the discretion of the board in lieu of an examination as a basis upon which the state license may be issued. The report was adopted. States entering into reciprocity will be guided by the above, but will itemize a standard of preliminary qualification and medical course covering 48 months in a reputable college. The meeting adjourned to May next, when constitution and by-laws will be passed.

Rhode Island.—Since our publication on Nov. 16, the medical practice act in Rhode Island has been amended, making examination necessary before receiving a certificate.

Section 1 of the new law requires the town or city clerk to keep a register of physicians and to periodically make report from same to the State Board of Health.

Section 2 makes the practice of medicine unlawful without the registration of a certificate or authority to practice. Persons registering must subscribe and verify by oath to the said clerk his authority for practicing medicine as prescribed, together with age, address, place of birth, and school or system of medicine to which he or she proposes to belong.

Section 3 prescribes that the authority to practice medicine shall be a certificate from the State Board of Health, which board shall, upon application, after examination, issue a certificate to any reputable physician who intends to practice medicine or surgery in the State, and he shall present himself before the State Board of Health and pass satisfactorily such examination as the State Board may require. The fee for examination is $10, and not over $2 for certificate.

Section 4. "Nothing in this chapter shall be so construed as to authorize any itinerant doctor to register or to practice medicine in any part of this State."

Section 5 provides for the refusal by the board to grant certificates to persons not of good moral character, or who have violated the laws of the State, or been guilty of gross unprofessional conduct or conduct of a character likely to defraud the public; also to revoke any certificate granted by it after due notice or hearing for like cause or any fraud or deception committed in obtaining such certificate or any other cause which shall in the opinion of the board render the holder of such certificate an unfit person to practice medicine in the State. It also provides for legal proceedings, for administering oaths and the summoning of witnesses, and that any person swearing falsely shall be guilty of the crime of perjury. It provides also for appeals to the Appellate Division of the Supreme Court.

Section 6. "Nothing in this law shall be so construed as to discriminate against any particular school or system of medicine or prohibit gratuitous services in cases of emergency, nor does this chapter apply to commissioned surgeons of the U. S. Army, Navy, or Marine-Hospital Service, or to legally authorized physicians of another State, called to see a particular case, in consultation with a registered physician of this State, who do not open an office or appoint any place in this State where they may meet patients or receive calls.

Section 7. "Complaints for violation of the provisions of this chapter shall be made by the Secretary of the State Board, and such secretary shall be exempt from giving surety for costs on any complaint made as aforesaid.

Section 8. "Any person who, not being lawfully authorized to practice medicine within this State, and so registered according to law, shall practice medicine or surgery or attempt to practice medicine or surgery, or any of the branches of medicine or surgery, after having received therefor or with the intent of receiving therefor, either directly or indirectly, any bonus, gift, or compensation, or who shall open an office with intent to practice medicine or shall hold himself out to the public as a practitioner of medicine, whether by appending to his name the title of doctor or any abbreviation thereof, or M.D., or any other title or designation implying a practitioner of medicine, or in any other way, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined $50, and upon each and every subsequent conviction shall be fined $100 and imprisoned thirty days, either or both, in the discretion of the court; and in no case when any provision of this chapter has been violated shall the person so violating such provision be entitled to receive compensation for services rendered."

The law does not provide for the times of meeting of the Board, but they are held quarterly, in January, April, July and October, as in the previously published law.

The Secretary of the State Board of Health is Dr. Gardner T. Swarts, Providence.

Correspondence.

Unjust Rejection of Applicants to Medical Societies.

PARIS, ILL., Jan. 14, 1902.

To the Editor:—When a young man has been turned down by some clique or someone who is jealous of him, he naturally feels that he has been unfairly treated, and is an enemy of medical societies as long as he lives. I believe in giving the young man a chance to show that he is a gentleman; then if he shows himself unworthy it is easier to deal with him as a member of a medical society than as an outsider. I believe that many a young physician who would have proved himself a faithful and honorable member of the profession, has become a quack because he has been deprived of the good influences of a medical society. My experience as a member of a board of censors has shown how quite a number of bright young men are kept out of our medical societies.

It is a significant fact that where there is a specialist on the board, an applicant who practices his specialty is quite likely to have been guilty of some irregularity and is therefore ineligible.

If the case is brought before the society, a few whose reputations are a little shady—like the pickpocket who cries stop thief—make frantic appeals for the honor and good name of the society, and vote against the applicant, while a large majority of the members present do not vote. Respectfully,

W. H. TEN BROECK, M.D.

Book Notices.

CLINICAL HEMATOLOGY. A Practical Guide to the Examination of the Blood, with Reference to Diagnosis. By John C. DaCosta, Jr., M.D., Assistant Demonstrator of Clinical Medicine, Jefferson Medical College; Hematologist to the German Hospital, etc. Containing 8 Full-page Colored Plates, 3 Charts, and 48 Other Illustrations. Philadelphia: P. Blakiston's Son & Co. 1901.

Hematology has grown with remarkable rapidity during recent years. The present work is in every respect a worthy companion of its predecessors in the same field in this country, namely, the books by Cabot and by Ewing. The purpose is to furnish a practical guide to blood examination by methods adapted to routine clinical work and to furnish the data necessary to interpret the findings according to their true values as clinical signs. The style is clear and pleasing. The colored illustrations made by Mr. E. F. Faber show artistic skill and faithful reproductions of structural details. The information furnished seems to be all that any one may expect in a book of nearly 500 pages and it is arranged in a very practical and satisfactory manner. The references to the literature are given at the bottom of the pages, and they are arranged in uniform manner, the year, volume, and page being given in the order mentioned. In addition to the usual index there is an index of authors filling nearly six pages.

The author has succeeded in including facts of the most recent acquirement, and literature from 1901 is freely quoted. The specific precipitation test for human blood is described (pages 88 and 89). In this section and again in the index the name Uhlenhuth is misspelled Uhlenmuth. The agglutination test of blood serum is referred to as Widal's test (page 86). On account of the cloud which rests upon Widal's right to be thus distinguished (see statement of circumstances by Durham, *Jour. of Exp. Med.*, 1901, v., 354) many would no doubt prefer to have Widal's name given less prominence in connection with some of these reactions.

The original data given in the book represent something like 4000 examinations of the blood in various pathologic conditions. The author has improved his opportunities well, and he is entitled to the hearty congratulations of his colleagues for the thoroughly satisfactory and comprehensive manner in which he has fulfilled the task before him.

ANATOMY IN ITS RELATION TO ART. An Exposition of the Bones and Muscles of the Human Body with Especial Reference to Their Influence Upon Its Actions and External Form. By George McClellan, M.D., Professor of Anatomy of the Pennsylvania Academy of Fine Arts. Illustrated by 338 Original Drawings and Photographs Made by the Author and Expressly Prepared for This Work. Cloth. Pp. 133. Price, $10.00. Philadelphia and London: W. B. Saunders & Co. 1901.

This work has been prepared for art students. The artist's aim is to know the human form so that he may reproduce that form on canvas or in marble. The physician and those who are interested in physical training, or in anthropology, will also find in this book a wealth of suggestions for physical development. The illustrations consist of photographs of the nude male and female forms in various poses, side by side with photographs of some of the masterpieces of sculpture in like poses. Photographs of the skeletons by the side of the living nude form in the same positions make startling parallels. The book certainly will be a welcome one to the artist whose ideals are those which come nearest to nature. The descriptive text is in simple language, accurate, and in detail sufficient to describe the illustrations. The book is a magnificent production and a credit alike to Prof. McClellan and to the publisher, and a fair sample of American enterprise in a new field.

REGIONAL ANATOMY OF THE HEAD AND NECK. A Text-Book for Students and Practitioners of Dentistry. By William T. Eckley, M.D., Professor of Anatomy in the Chicago College of Physicians and Surgeons, etc., and Corinne B. Eckley, M.D., Professor of Anatomy, Chicago School of Anatomy and Physiology, etc. In One Octavo Volume of 240 Pages, with 36 Engravings and 20 Full-page Colored Plates. Cloth. Price, $2.50 net. Philadelphia and New York: Lea Brothers & Co.

The authors of this work have successfully endeavored to make plain the intricate anatomy of the head and neck. The puzzling phenomena of reflex pain in sound teeth due to remote lesions, is fully considered from the standpoint of the dentist; a chapter is devoted to the boundaries and triangles of the neck. Though written primarily for the dental student and practitioner it will be found a convenient book of reference for the physician. The plate illustrations are excellent and numerous. The mechanical workmanship of the volume is in every respect a credit to the publishers.

WATER AND WATER SUPPLIES. By John C. Thresh, D.Sc. (London), M.D. (Victoria), D.P.H. (Cambridge). Third Edition, Revised and Enlarged. Cloth. Pp. 527. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

This is the third edition of a standard work which, though small in size, covers its subject to such an extent that it is perhaps as often quoted as any. The author's remarks are throughout judicious and his ideas as to the importance of the study of the source of water supply as well as the using of chemical and bacteriologic examinations are such as ought to be pretty thoroughly impressed upon those who have to do with this subject. The legal portion of the work has been revised and may be presumed to be thoroughly up to the most recent English laws. He has also added a chapter on the protection of water supplies. The book is one that will maintain its position as one of the leading works on its subject.

PHOTOTHERAPY. By Professor Niels R. Finsen, Copenhagen. Translated from the German Edition, with an Appendix on the Light Treatment of Lupus by James H. Sequeira, M.D. Lond., M.R.C.P., Dermatological Assistant, etc. London: Edward Arnold. 1901.

This is a small book of 79 pages containing Finsen's papers on, 1, the chemical rays of light and smallpox; 2, light as a stimulant; 3, the treatment of lupus vulgaris by concentrated chemical rays. An editorial abstract of the French issue appeared in THE JOURNAL, Sept. 15, 1900. The profession in general are probably well acquainted with the favorable opinion of those best qualified to judge of Finsen's light treatment of lupus. The appendix by the translator gives the results obtained up to the present time. The book is interesting reading and may be said to be the cornerstone of phototherapy.

Married.

FRANK H. RUSSELL, M.D., to Miss Clara Flatt, both of Eldred, Ill., January 1.

JOHN H. SIEGEL, M.D., to Miss Estella C. Peers, both of Collinsville, Ill., January 8.

AMOS F. MOORE, M.D., Dixon, Ill., to Miss Frances C. Smith, of Cheboygan, Mich., January 21.

ROBERT A. MCLEAN, M.D., San Francisco, Cal., to Mrs. Viola Girven, of Los Angeles, Cal., January 6.

EUGENE MARTIN, M.D., Chicago, to Mrs. Hertha von Cotzhausen, of Milwaukee, Wis., January 11.

WILLIAM G. RICE, M.D., Muncie, Ind., to Miss Minnie R. Sutherland, of Cheboygan, Mich., January 1.

FRED JOHNSON, M.D., Lake Nibanagon, Wis., to Mrs. Mary E. Walters, Oregon, Wis., at Beloit, Wis., January 1.

CHARLES CLARENCE BILLINGSLEA, M.D., U. S. Army, to Miss Lucy Mabel Graham, of Westminster, Md., January 9.

LAWRENCE ALEXANDER CLEVERDON, M.D., Stillwater, Okla., to Sara Honora Hogarty, M.D., at Quindaro, Kan., January 15.

Deaths and Obituaries.

Dr. James Rodman.

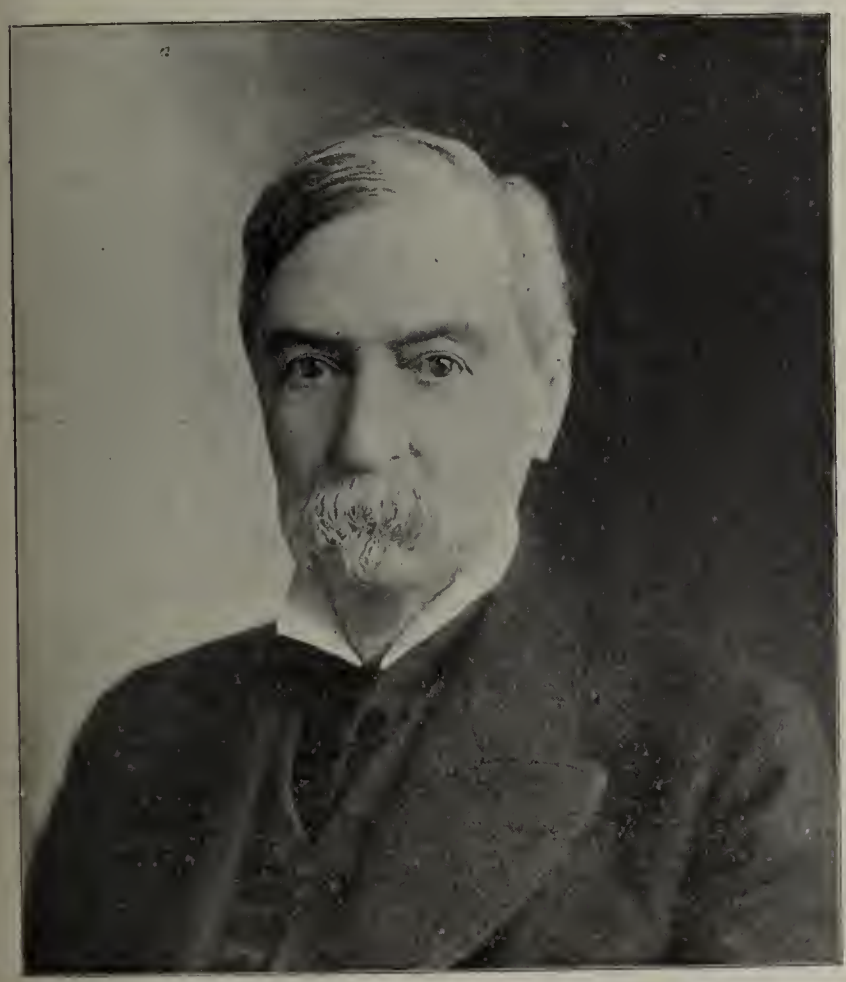
"Dr. James Rodman died at his home in Hopkinsville, Ky., a few days ago." This announcement brought grief into many a household. Wherever known he was admired and loved. The poor whom he had so often befriended, the rich who so often had assisted him to make the burden of life smoother for the poor, the children who were always his special pets, and the insane (would that they could speak!) heap blessings upon his head and place a laurel wreath of love on his cold brow. A great man has fallen, and the medical profession of Kentucky bemoans his death. As a citizen he was of the highest type; as a man, "a prince among men"; as a companion, he was the most charming, and no man ever knew a truer or more devoted friend.

In appearance Dr. Rodman was of that type that, by his very presence, commanded respect and admiration. He was tall, erect, slim of stature, always neatly attired, with a face

pleasant to look upon. His eyes laughed his thoughts, and conveyed always a truthful sincerity; his mouth showed firmness in expression, yet lighted often with a smile and betokened an unflinching integrity mellowed with much kindness. A voice always pleasing, and a rapid articulation indicated the quick thought of a well-trained mind. At repartee he was *facile princeps*. Quick, alert, with a quiet sarcasm he could always silence his adversary, yet command his respect. As a writer of pure English he scarcely had a superior—clear, convincing, and always logical. As an alienist he had but few equals; his writings in this line of thought made him an international reputation. His family was one of physicians. His brother Hugh was a leading practitioner in our capitol city, and a nephew, Dr. Wm. B., was a physician and surgeon of promise until stricken down by disease. Another nephew, who was very dear to him, is Dr. William L. Rodman, the distinguished professor of surgery in the Medico-Chirurgical College in Philadelphia and the Woman's Medical College of Pennsylvania.

Dr. Rodman was born in New Castle, Ky., in 1829, and graduated from the Medical Department of the University of Louisville, in 1849. In 1863 he was appointed superintendent of the Hopkinsville Asylum for the Insane, and in 1889 resigned the position, after holding the office for 26 consecutive years. He could have remained during his lifetime, and was besought to do so, but being a man of wealth he preferred the comforts and solace of his home after this long service. The asylum during his administration was a model institution. It was often visited by the leading alienists of the country and of Europe. He was regarded by many as the best asylum superintendent in America, and his work certainly evidences the fact. He was also the first superintendent of the Feeble-Minded Institute at Frankfort. and to his clear head and able management this unfortunate class received much benefit. "Take him all in all we shall not see his like again." The state has lost a valued citizen, the medical profession an honored member, and the writer a most dearly beloved friend. Peace to his ashes!

JOSEPH M. MATHEWS.



DR. JAMES RODMAN.

DR. CLAYTON PARKHILL.

Drs. Clayton Parkhill and John T. Eskridge.

Two eminent physicians of Denver died on January 16, and the cause of death in each case is said to have been Bright's disease. Dr. Clayton Parkhill and Dr. J. T. Eskridge were not only closely associated, but were leading men in their respective specialties of surgery and neurology. Curiously enough Dr. Parkhill's death was directly due to appendiceal abscess, a surgical affection in which he was especially interested, while Dr. Eskridge's was from cerebral hemorrhage, a condition which came within the limits of his own specialty.

Clayton Parkhill was born at Vanderbilt, Pa., in 1860. He was graduated from the Jefferson Medical College in 1883, and from the Pennsylvania School of Anatomy and Surgery in the same year. After a year's service on the resident staff of the Philadelphia Hospital he became demonstrator in the Pennsylvania School of Anatomy and Surgery. He then engaged in active practice for a short time, but was obliged to abandon his practice in the East on account of his failing health and moved to Denver in 1885. He speedily built up a valuable practice, and two years later was one of the founders of the Gross Medical School, in which he held the chair of clinical surgery at the time of his death. He was appointed surgeon-general of the state. At the outbreak of the Spanish-American war Dr. Parkhill was appointed major and surgeon. He was first ordered to the Philippines, and while in California awaiting transportation was transferred to Porto Rico, where he remained for a year as chief surgeon of the 7th Army Corps. While in service he contracted malaria, and this was followed by disease of the kidneys. A week before his death he was attending to practice although in a weakened condition. At the autopsy the fact was revealed that the primary cause of death was abscess around the appendix. Dr. Parkhill had an enviable reputation as surgeon and as a contributor to medical literature. He was a member of the American Medical Association, the Association of Military Surgeons of the United States, American Surgical Association, Rocky Mountain Interstate Medical Association, Association of American Anatomists, member and ex-president of the Colorado State Board of Medical Examiners, a member of the Colorado State Medical Society and the Denver Clinical and Pathological Society. He was also surgeon at St. Luke's and the Arapahoe County hospitals.

Dr. John T. Eskridge, one of the foremost neurologists of the country, died at St. Luke's Hospital, Denver, January 16. The direct cause of death was cerebral hemorrhage, but he had been afflicted for a long time with disease of the kidneys. Dr. Eskridge was recognized as one of the leading neurologists of the country, and his contributions to the literature of this subject have been many and valuable. He was born in Delaware in 1847 and was graduated from the Jefferson Medical College in 1875. He was immediately made post-graduate instructor of nervous disease in his alma mater and then practiced in Philadelphia until 1884 when, on account of his health, he moved to Colorado Springs where he speedily secured an extensive practice. After a stay of two years at Colorado Springs,

during which time the intermediate hemorrhage of the lungs from which he suffered had completely ceased, he went to Denver where he practiced until his death. He was a voluminous writer and was the author of about 170 pamphlets and treatises on neurology and kindred subjects. He was a member of the American Medical Association, of the American and the Philadelphia Neurological associations, of the American Medico-Psychologic Association, of the New York Medicolegal Association, of the Arapahoe County and Denver Medical societies and president of the Colorado State Medical Society. He served as president of the Board of Trustees of the State Insane Hospital for one term, was alienist and neurologist at the Arapahoe County Hospital, neurologist at St. Luke's Hospital, and had been at the head of the department of nervous and mental diseases at the University of Denver and the University of Colorado.

DR. JOHN T. ESKRIDGE.

William C. David, M.D. Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1889, an esteemed practitioner of West Superior, Wis., died at his residence in that city from tuberculosis, January 9, after a lingering illness, aged 40. His funeral was under the charge of the Douglas County Medical Association, of which he was a member.

John H. Spurrier, M.D. Medical College of Indiana, Indianapolis, 1879, one of the oldest physicians of Rush County, Ind., died at his home in Rushville, after a protracted illness, January 9, aged 73. He served in the Civil war as assistant surgeon in the 16th Indiana Volunteers and later as surgeon of the 123d Indiana Volunteers. He was also local health officer for several years.

James M. Sweeney, M.D. Niagara University, Buffalo, N. Y., 1892, a popular physician of Utica, N. Y., died at his home in that city, January 10, from apoplexy, aged 35. He served during the Spanish-American war with the 3d U. S. Infantry and was present at the battle of San Juan Hill and was afterward on duty at the yellow fever hospital at Santiago.

Robert Leeper Sweney, M.D. Western Reserve University, Cleveland, Ohio, 1849, one of the oldest practitioners of Ohio, died at his home in Marion, January 12, aged 80. He was one of the founders, and for many years the president of the Marion County Medical Society, and served as surgeon of the 43d Ohio Volunteers during the Civil war.

Alfred Neale Mahon, M.D. Jefferson Medical College, Philadelphia, 1897, son of Dr. John B. Mahon, Pittston, Pa., died at his home in that city, January 12, from nervous prostration following typhoid fever contracted while in the United States service as surgeon on the transport *McClellan*, aged 25.

Robert A. Brunson, M.D. Louisville Medical College, 1841, a pioneer practitioner of Los Angeles County, Cal., and a son of Dr. Robert Brunson (Surgeon General under General Jackson in the War of 1812), died January 7 at his home in Norwalk, Cal., aged 80.

Joseph W. B. Kamerer, M.D. Jefferson Medical College, Philadelphia, 1871, one of the best-known physicians of Westmoreland County, Pa., died at his home in Greensburg, after three years of invalidism from paralysis, January 13, aged 56.

William Hausman, M.D. Northwestern University Medical School, Chicago, 1874, died at his residence in Kewaskum, Wis., January 14, aged 48. He was a member of the Brainerd Medical Society and its secretary since 1879.

Nicholas Timary, M.D. University of Vienna, Austria, 1875, while despondent over the death of his wife, his own impaired health and financial worry, shot himself through the heart, in his office in Cincinnati, January 14, aged 52.

Ambroso M. Kinnamon, M.D. Starling Medical College, Columbus, Ohio, 1873, who had practiced in Fairbury, Neb., for quarter of a century, died at his home in that city, January 9, after a lingering illness, aged 58.

Louis D. Masson, M.D. Albany (N. Y.) Medical College, 1900, house physician at the Cohoes (N. Y.) hospital, died at that institution, January 10, after an illness of five days, from appendicitis, aged 28.

John N. Weston, M.D. College of Physicians and Surgeons, New York City, 1888, is reported to have died in De Lamar, Idaho, December 30. He was formerly a practitioner of Santa Cruz, Cal.

George H. Thuman, M.D. Cincinnati College of Medicine and Surgery, 1881, died suddenly while making a professional call in Cincinnati, from heart disease, January 14, aged 45.

Alexander J. Sanderson, M.D. University of Pennsylvania, Philadelphia, 1853, an old and prominent physician of Vaiden, Miss., died at his home in that place, January 6, aged 78.

William P. Wilcox, M.D. College of Physicians and Surgeons, New York, 1883, formerly of Omaha, died at the Grand Pacific Hotel, Nebraska City, Neb., January 14, aged 39.

Terrence Sparham, M.D. McGill University, Montreal, 1841, one of the oldest practitioners of Brockville, Ont., died at his home in that place, January 11, aged 89.

Anson S. Thompson, M.D. Cincinnati, 1856, who had practiced medicine in Ellisburg, N. Y., for more than forty years, died suddenly at his home in that place, January 8.

A. John Law, M.D. Queen's College, London, Eng., 1872, a well-known physician of Long Pine, Neb., died in a hospital in Omaha, January 7.

Stephen H. McManigle, M.D. Western Reserve University, Cleveland, Ohio, 1873, died suddenly at his home in Harper, Kan., January 12.

Thomas H. Bernard, M.D. University of Nashville, Tenn., 1857, died at his home in Spring Garden, Ill., January 6.

Miscellany.

A Remedy for the Commission Evil.—The division of fees between the consultant and family physician and the auctioneering of his case by the general physician among rival surgeons and specialists, is an evil that flourishes to such a degree that it can no longer be ignored. If not stopped it will surely undermine all professional ethics and *esprit de corps* and bring us as a whole to irremediable disgrace. The remedy plainly lies in the hands of the medical societies. Let them expel a member who is convicted. When the shameless transaction exists it can not be long hidden and evidence of guilt can easily be secured. The House of Delegates of the American Medical Association at its next meeting should come to some determination upon this subject and should set the example for all smaller and less powerful organizations. A decisive command upon the part of our National Society would constitute the beginning of the end of this professional scandal.—*American Med.*

Berthelot's Jubilee.—A souvenir plaque struck off at the mint was presented to the French chemist, Berthelot, on the occasion of the 50th anniversary of his professional career, November 24. The address on behalf of the Académie de Médecine at the ceremonies, stated that he had "enlarged the limits of biology," and in his studies of the mechanism of animal heat had thrown new light on many chemical and vital problems.

Medical Reports from China.—The Imperial Maritime Customs department in China publishes a semi-annual series of medical reports from English physicians at the various ports. Dr. Hall writes from Chunking that tuberculosis in its varied form affects more than half of all the people. The glandular form is most severe and so rapid in its progress that operation yields discouraging results. Pulmonary tuberculosis, on the other hand, yields readily to treatment. Dr. Park observes in his letter from Soochow: "In this land of opium smoking, we are often called upon to treat impacted feces. Injection of hydrogen dioxid accomplishes the desired result."

Gonorrheal Strictures in Female Urethra.—Imbert contributes an article on this subject to the December *Annales des. Mal. des Org. Gen.-Urin.* It is based on 25 cases of stricture which he has collected and from which he deduces that it is impossible for gonorrheal strictures, like those in men, to develop in the female urethra. There is not a single observation on record in which the gonorrheal nature of the stricture is conclusively proven, he states. Before assuming the gonorrheal character of a stricture of the female urethra the possibility of other affections that may induce stenosis must be borne in mind, also of a congenital stricture, spasm, polypus, cicatrices, results of difficult child-birth or senile stricture.

Etiology and Treatment of Chorea.—Heubner states that in 27 cases of rheumatism that came under his observation, 2 of the patients had had chorea previously, and 32 per cent. of 77 cases of chorea had acquired the chorea with or after rheumatism. He attributes genuine chorea to a rheumatic, i. e., an infectious origin. Among the arguments in favor of this view are the prevalence of chorea in rheumatic families, the rheumatic exanthemata observed in some cases of chorea, the tendency of both diseases to a protracted course and to recurrence. Both are frequently complicated by endocarditis, irrespective of the severity of the primary affection. Chorea may also follow gonorrhea, suppurative angina, scarlet fever or measles, which in these cases are the equivalents of rheumatism. The motions in genuine chorea resemble those induced by emotions, and consequently, genuine chorea is never observed in children too young to have learned to express their sentiments by appropriate muscular movements. This assumption of the infectious-toxic etiology of chorea indicates the importance of rest in bed and of diaphoresis in the treatment, supplemented by arsenic.

Investigation of Blood, Urine, etc., by Refraction.—A. Strubell has improved his method of analyzing the organic fluids, etc., by their refracting properties, and announces that the results of the test are so constant that it affords new criteria for physiologic and pathologic problems. The technique is extremely simple and easy. It is effective even with a single drop of the fluid, and he considers it the most reliable as well as the most convenient of all current means of physico chemical research. The simple instrument used for the purpose is a small hand telescope, magnifying ten diameters, with a prism in the lower end, which is immersed slanting in the fluid into which the light is reflected from a mirror. When a single drop is to be examined, it is placed on the refracting surface of a second small prism on the principle of Abbé's refractometer. He publishes in the *Deutsches Archiv f. Klin. Med.* (Leipsic), lxix, p. 521, comparative tables showing the freezing-point, density and refraction index of the urine in nearly fifty subjects and of a large number of other fluids. He finds that the refracting property is a specific quality that does not vary so widely as the freezing-point and the density. The latter can be computed when the proportions and refractive index are known or vice versa.

The Problem of Fecundation.—Boveri delivered an address on this subject at the German Naturforscher Congress in October. He explains fecundation as the supplying to the ovum of the centrosome which starts the segmentation of the cells. Two cells from different individuals coalesce to form a new being. The ovum has everything required for the new being except the impulse to start its growth. It is like a watch perfect except for the missing mainspring. The spermatozoon supplies this impulse. It is the centrosome without which segmentation is impossible. The sexual difference between the ovum and the sperm cell is not fundamental. It merely represents a division of tasks. The ovum can not develop without the missing centrosome—the sperm cell—and the centrosome can not develop without the protoplasm and food material which are contained in the ovum. It is impossible for two organisms composed of numerous cells to coalesce in this way. The process can occur only with two single cells. The pairing of two cells is not the indispensable prerequisite for development. The prerequisite is the possibility of this pairing by a single cell. The ovum probably possessed the property of independent development in primitive forms of animal life, but in the course of evolution it has divided up the task, and now development is only possible when the sperm cell entrusted with a certain part of the task can coöperate with it.

Novel Treatment for Angina.—Under the caption of "a natural protective influence against diphtheric and scarlatinal angina," Dr. Leopold Kürt (*Wiener Med. Woch.*, Nov. 2, 1901, p. 2054) makes a rather novel suggestion, based upon personal observation, with reference to the treatment of acute affections of the fauces and the pharynx. He believes that he succeeded in the case of himself in aborting a threatened attack of simple angina by frequent swallowing of saliva, and that he obtained great relief in an attack of faucial and pharyngeal diphtheria from the employment of the same expedient. From this experience he concludes that the secretions of the mouth may contain some substance naturally protective against diphtheria and other infections of the throat. During a period of five years that has elapsed since the observation, a considerable number of patients have been subjected to the treatment, and with most gratifying results. In order to stimulate the secretion of saliva, the use of sugar in some form convenient for gradual solution in the mouth is sanctioned. The useful influence of the saliva is attributed to the chemotactic action that it has been shown to exert, together with its mechanical effects. As an adjunct to this measure, the general use of water, in small amounts frequently, is encouraged. Further, it is, as a rule, desirable to favor cutaneous transpiration, by means of warm milk, with or without tea, particularly at a time when this takes place spontaneously. Pain attending the act of swallowing may be mitigated by pressing the hands against the ears. The method of treatment outlined in the foregoing is worthy of note on account of its novelty rather than for any particular merit it appears to possess, unless it be its innocuousness. There could be little objection to its institution in cases of simple angina, but in the presence of diphtheria, the employment of the antitoxin would render other measures of subordinate importance, and in cases of sore throat of other nature, the swallowing of the infectious material contained in the fauces and the pharynx might not be entirely free from danger.

Encouragement from the Lay Press.—Judging from its second annual report, the State Board of Registration in medicine is making it safer to live in Michigan and increasing the average life of her citizens. She has ceased to offer an open field to the quack and the board is doing all within its power to establish such a standard of medical qualification as will insure the highest attainable degree of safety. It has accomplished much by heading off those within the state who had been practicing without more than a bowing acquaintance with their noble profession, and has erected protective barriers against the graduates of "fake" medical schools. The man who has credentials from these swindling institutions alone must find a market for his false pretenses outside of Michigan or seek some more reputable employment in which his opportunities for mistakes do not include those of killing his fellows.

This is much to have accomplished in so brief a time and applauds the adoption of such a branch of the service. But there is more to be done. The work will not be perfected so long as there remains a single sanction of law under which any man or woman can be a practitioner in this state unless he or she can meet the highest requirements that equitable legislation can fix. It is not enough to provide against an influx of outside charlatans. We have enough medical institutions in Michigan to more than meet the demand for doctors and the inevitable tendency is to encourage the turning loose of incompetents. It is because of this that the *Free Press* has favored an authorization of the Board to examine students as to their preliminary education before they begin a prescribed medical course. This does not preclude acceptance of the fact that there may be an occasional doctor born, just as there is a poet, artist or inventor, but he is such a rara avis that it is not permissible to consider him as a vital factor in dealing with a profession that aims to stand off death where it is within the range of human possibility to do so. Ninety-nine persons out of a hundred who have not laid an educational foundation are disqualified and public safety demands that they all be barred, for attempted discrimination would only be less dangerous than an open door. The law will do what is wanted by those behind it, when it licenses only those who are best fitted to practice.—*Detroit Free Press*, Jan. 10, 1902.

The Bactericidal Power of Certain Urinary Disinfectants.—Bacteria may gain entrance into the urinary passages either directly through continuity of structure, or indirectly through the blood-stream; and by some it is held that infection may take place, also through contiguity of structure, by way of the lymphatics. In any event, it was extremely desirable to be in possession of means for preventing such a contingency, or for combating it should it arise. It is true a number of medicaments have been recommended for this purpose, but of most of them it must be admitted that although they may exhibit marked bactericidal activity in the test-tube they can not safely be administered in doses sufficiently large to bring about the desired results, or that they become so changed in the body when administered internally as equally to fail of their purpose. Appreciating these facts Dr. Arnold Wannier (*Centralblatt f. d. Krankheiten der Harn- und Sexual-Organe, B.*, xii, No. 11, p. 593) undertook an experimental investigation for the purpose of determining the bactericidal powers of a number of drugs that have been recommended as urinary antiseptics. He administered the drugs in question to healthy individuals, and the urine passed on the succeeding night was collected in sterile vessels. This urine was then inoculated with bouillon cultures of the respective micro-organisms and put aside in the thermostat for observation and comparison with control uninoculated specimens. As a result of this study it was found that boric acid, guaiacol and creosote, when administered internally, even in large doses, exert no influence upon the development of bacteria in the urine. Benzoic acid in small doses (9 grains daily) likewise exhibits no such action, but when given in larger doses (from 45 to 90 grains in the day) the growth of streptococcus pyogenes is inhibited, while other bacteria are on the other hand not affected. The growth of streptococcus is not inhibited by salol, while that of staphylococcus albus and proteus is retarded distinctly, and that of bacterium coli and bacillus typhi and staphylococcus aureus is not materially affected. After the internal administration of urotropin this substance can always be found in the urine within a short time. Likewise formaldehyd can always be found in acid urine and the reaction is the more distinct the more pronounced the acidity of the urine. The growth of bacteria is almost entirely prevented, although bacterium coli exhibits sluggish growth even in urine containing formaldehyd. At first this failure of growth depends only upon inhibition, while the bacteria retain their viability. After prolonged action of the formaldehyd, however, actual destruction of the bacteria takes place. Here again the bacterium coli is the most resistant of the organisms. Tannopin and tannoform exhibit no influence upon the development of bacteria in the urine.

Societies.

FRESNO COUNTY (CAL.) MEDICAL SOCIETY.—This Society met at the County Hospital, Fresno, January 7, elected Dr. Warren T. Barr, President, and re-elected Dr. Cowan, secretary, both of Fresno.

CHARLESTON (W. VA.) MEDICAL ASSOCIATION.—At the annual meeting of the Society January 7, Dr. William W. Tompkins was elected president; Dr. James Putney, vice-president; Dr. Charles O'Grady, secretary, and Dr. John L. Stump, treasurer.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.—This Society will hold its next annual meeting in Albany January 28, 29 and 30. The program contains a list of 51 titles. The president is Dr. Henry S. Elsner, Syracuse, and the secretary, Dr. F. C. Curtis.

LA CROSSE COUNTY (WIS.) MEDICAL SOCIETY.—At the annual meeting of this Society at La Crosse, January 7, Dr. Charles H. Marquardt was elected president; Dr. John A. L. Bradfield, vice-president, and Dr. Edward Evans, secretary and treasurer, all of La Crosse.

CLINTON COUNTY (IOWA) MEDICAL SOCIETY.—At the annual meeting of this Society, held in Clinton, January 7, Dr. Edward L. Martindale was elected president: Dr. Harry R. Reynolds, vice-president, and Dr. F. A. Hohenschuh, secretary and treasurer, all of Clinton.

HOUSTON (TEX.) DISTRICT MEDICAL ASSOCIATION.—At its regular meeting in Houston, January 13, this Association elected Dr. Zachariah F. Lillard, Houston, president; Dr. Edward M. Armstrong, Houston, vice-president, and Dr. E. J. Hamilton, secretary and treasurer.

HUNTINGTON (W. VA.) MEDICAL SOCIETY.—The annual meeting and election of this Society were held January 9. Dr. Henry A. Brandelburg was elected president: Dr. Morgan Baker, vice-president; Dr. Thomas W. Moore, secretary, and Dr. George M. Waldeck, treasurer.

JACKSON COUNTY (MICH.) MEDICAL SOCIETY.—This Society held its annual election, meeting and banquet, January 14. Dr. Albert E. Bulson was elected president; Dr. Martha C. Strong, vice-president; Dr. R. Grace Hendrick, secretary, and Dr. Frederick W. Rogers, treasurer.

JOHNSON COUNTY (IOWA) MEDICAL SOCIETY.—The annual meeting of this organization was held in Iowa City, January 7. Dr. John G. Mueller was elected president; Dr. William R. Whitels, vice-president, and Dr. L. Clark Mighell, secretary and treasurer, all of Iowa City.

LUCAS COUNTY (OHIO) MEDICAL SOCIETY.—At the last meeting of this Society in Toledo, Dr. William D. Stewart was elected president; Dr. Parks L. Meyers, vice-president; Dr. Francis W. Alter, secretary; Dr. Herbert E. Smead, financial secretary, and Dr. John A. Wright, treasurer, all of Toledo.

BAYONNE (N. J.) MEDICAL SOCIETY.—This Society, which held its meeting for organization in October last, is flourishing and reports a membership of 19 with the following officers: Dr. Fred M. Corwin, president: Dr. Archibald C. Forman, vice-president, and Dr. P. F. Stevens, secretary and treasurer.

HARTFORD (CONN.) MEDICAL SOCIETY.—At the annual meeting of the Society January 6, Dr. Nathan Mayer was elected president; Dr. William T. Bacon, vice-president; Dr. Joseph E. Root, secretary; Dr. George N. Bell, assistant secretary; Dr. George K. Welch, treasurer, and Dr. Frederick T. Simpson, librarian.

JACKSON COUNTY (ALA.) MEDICAL SOCIETY.—This Society held its annual meeting at Scottsboro, January 7, and elected Dr. Walter C. Sanders, Stevenson, president; Dr. Thomas E. Callan, Fackler, vice-president; Dr. James P. Rorex, Scottsboro, secretary and treasurer, and Dr. John Boggess, Woodville, county health officer.

DUVAL COUNTY (FLA.) MEDICAL SOCIETY.—This Society held its annual meeting at Jacksonville, January 7. Dr. James D. Love was elected president; Dr. Charles B. Spratt, vice-president; Dr. Jay H. Durkee, secretary and treasurer; Dr. Percy J. Stollenwerck, corresponding secretary, and Richard P. Daniel, permanent honorary president, all of Jacksonville.

TOLEDO (OHIO) MEDICAL ASSOCIATION.—At the annual meeting held January 10, the following officers were elected: President, Dr. John North; vice-president, Dr. Albert F. McVety; recording secretary, Dr. Charles P. Wagar; corresponding secretary, Dr. August C. Schnetzler, and treasurer, Dr. Frank E. Klauser. The Society then banqueted at the St. Charles Hotel.

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.—At the annual meeting of this Society, held January 4, the following officers were elected: President, Dr. Samuel S. Adams; vice-presidents, Drs. John W. Chappel and Aurelius R. Shands; recording secretary, Dr. F. P. Morgan; corresponding secretary, Dr. Thomas C. Smith; treasurer, Dr. Charles W. Franzoni, and librarian, Dr. E. L. Morgan.

ASHTABULA, LAKE AND GEAUGA COUNTIES (OHIO) MEDICAL SOCIETY.—At the meeting of this tri-county Society at Ashtabula, January 7, the following officers were elected: Dr. Bryant M. Tower, Conneaut, president; Drs. William L. Gilchrist and Addison W. Hopkins, both of Ashtabula, vice-presidents; Dr. William S. King, Ashtabula, treasurer, and Dr. Ernest Crockett, Dorset, secretary.

BRIDGEPORT (CONN.) MEDICAL ASSOCIATION.—The thirtieth annual meeting and banquet of this Association were held January 4. Dr. George B. Cowell, retiring president, was the toastmaster. The following officers were elected: Dr. Frank M. Tukey, president; Dr. Fessenden L. Day, vice-president; Dr. George S. Ford, secretary; Dr. James G. Gold, treasurer, and Dr. Herbert E. Smyth, curator and librarian.

CAMDEN (N. J.) CITY MEDICAL SOCIETY.—At the annual meeting of this Society January 7, a resolution was adopted urging immediate opening of public schools to successfully-vaccinated children. The following officers were elected: Dr. Robert Casperson, presi-

dent; Dr. John F. Leavitt, vice-president; Dr. Vernon E. De Groff, secretary; Dr. William H. Pratt, treasurer; Dr. Daniel Strock, historian, and Dr. Joseph H. Willis, librarian.

BUNCOMBE COUNTY (N. C.) MEDICAL SOCIETY.—The annual meeting of this Society was held January 6, at Asheville, when Dr. S. Westray Battle was elected president; Dr. Charles S. Jordan, vice-president; Dr. Gaillard S. Tennent, secretary; Dr. Carl V. Reynolds, treasurer; Dr. John H. Woodcock, corresponding secretary, and Dr. Frank T. Meriwether, member of Board of Control, all of Asheville. The meeting was followed by a banquet at the Swannanoa.

ANDROSCOGGIN COUNTY (MAINE) MEDICAL ASSOCIATION.—The annual meeting and banquet of this Society were held in Lewiston, January 7. The banquet was given by Dr. Oliver F. Sprague, Turner, the retiring president. The following officers were elected: Dr. Wallace Oakes, Auburn, president; Dr. Milton C. Wedgewood, Lewiston, vice-president; Dr. Edgar F. Conant, Lewiston, secretary; Dr. Benjamin G. W. Cushman, Auburn, corresponding secretary, and Dr. Benjamin F. Sturgis, Auburn, treasurer.

ST. JOSEPH (MO.) MEDICAL SOCIETY.—This Society held its first meeting of the new year January 14, with an attendance of forty. Dr. J. M. Bell read an interesting paper on "Glycosuria." A committee on re-organization and incorporation was appointed, with a view to affiliation with the State and the American Medical Associations. The election of officers resulted as follows: President, Dr. Thompson E. Potter; vice-president, Dr. Charles H. Wallace; secretary, Dr. John M. Bell, and treasurer, Dr. Charles Wood Fassett.

THE WYOMING COUNTY (N. Y.) MEDICAL ASSOCIATION.—The semi-annual meeting of this Association was held at the Castile Sanitarium, Castile, N. Y., January 14. The meeting was called to order at 10:30 a. m., when the following program was presented: "Remarks on Leprosy," J. E. Walker; "The Function of the Periosteum in the Regeneration of Bone," Dr. A. G. Ellenwood; "Alopecia," with cases, Dr. Mary Slade; "Glimpses of Medical Work in Leone Korea," Dr. Rosetta Hall, and "Apoplexy," with cases, Dr. C. C. Mann.

FREDERICK COUNTY (MD.) MEDICAL SOCIETY.—The following officers were elected at the annual meeting of this Society, held in Frederick, January 10: Dr. Samuel T. Haffner, Frederick, president; Drs. Franklin B. Smith, Frederick, and Richard W. Trapnell, Point of Rocks, vice-presidents; Dr. Ira J. McCurdy, Frederick, recording secretary; Dr. William C. Johnson, Frederick, treasurer, and Dr. Joseph E. Beatty, Middletown, librarian. A resolution was adopted forbidding any member from having any official relations with any hospital with which an irregular is connected.

ATCHISON COUNTY (MO.) MEDICAL ASSOCIATION.—This Association organized January 7, at Rockport, with 14 members. John A. Postlewait, Tarkio, was elected president; Dr. Austin McMichael, Rockport, secretary, and Dr. James A. Hunter, Fairfax, treasurer. Dr. E. E. Richards, Tarkio, presented a paper on "Pneumonia," and Dr. George W. Lott, Westboro, one on "Diphtheria." The latter paper was followed by a lively discussion on the identity or non-identity of diphtheria and membranous croup. The next meeting is to be held April 9, in Fairfax.

COLES COUNTY (ILL.) MEDICAL SOCIETY.—This Society held its first annual session January 13, at Charleston, and elected the following officers: Dr. Lemuel L. Silverthorn, president; Dr. William H. Lycan, vice-president, and Dr. John H. Bush, secretary and treasurer, all of Charleston. The Society includes in its membership all the physicians of Charleston and a few located in the smaller towns in Coles County. Its aim is to eventually include all physicians in the county, to have a uniform fee-bill, to locate the dead-beats, to get better pay and to enforce the city ordinance against street vendors.

PRINCE GEORGE'S COUNTY (MD.) MEDICAL ASSOCIATION.—This Association met at Hyattsville, January 8, and appointed a committee to urge upon the State Legislature the passage of a bill to permit physicians residing in the District of Columbia to practice in Maryland, provided they are registered in the District, by presenting proof thereof to the Medical Examining Board of Maryland, accompanied by a certificate of the Examining Board of the District of Columbia, that they are in good standing. Drs. Wells, Griffith, Fox, Fowler, Gibbins and Ryan were appointed a committee to urge the bill.

BALTIMORE MEDICAL AND SURGICAL ASSOCIATION.—At the annual meeting of this Association, January 13, the following officers were elected: Dr. J. Lowrey Ingle, president; Drs. John W. C. Chambers and Randolph Winslow, vice-presidents; Dr. Eugene L. Crutchfield, secretary; Dr. Martin B. Billingslea, treasurer; Drs. Charles G. Hill, William S. Love and W. B. Wolf, executive committee, and Drs. Hampson H. Biedler, G. Lane Taneyhill and James M. H. Rowland, committee of honor. At the conclusion of the meeting the members sat down to the annual banquet, at which Dr. John Parkinson, Logan, committee on admissions.

WEBER COUNTY (UTAH) ACADEMY OF MEDICINE.—The Academy, at its annual meeting held in Ogden, January 9, elected Dr. James X. Allen, Ogden, president; Dr. John S. Gordon, Ogden, vice-president; Dr. John Driver, Ogden, secretary; Dr. Samuel L. Brick, Ogden, treasurer; Dr. George W. Perkins, Ogden, librarian; Drs. John Driver, Samuel L. Brick, Ogden, and Ephraim Gowans, executive committee; Drs. George W. Perkins, James X. Allen, Ogden, and Charles F. Osgood, Morgan, committee on medical ethics, and Drs. George W. Baker, John S. Gordon, Ogden, and William B. Parkinson, Logan, committee on admission.

CLEVELAND (OHIO) MEDICAL SOCIETY.—This Society held its tenth annual meeting January 10. Dr. Frank Winders, Columbus, secretary of the State Board of Registration and Examination, read a paper on "Medical Legislation," in which he stated that the number of illegal practitioners in the state was due to the refusal of prosecuting attorneys to carry out existing laws. The following officers were elected: Dr. P. Maxwell Foshay, president; Drs. John H. Belt and George D. Upson, vice-presidents; Dr. Walter H. Merriam, recording secretary; Dr. John M. Ingersoll, treasurer, and Dr. Robert G. Schnee, pathologist.

MARION COUNTY (OHIO) MEDICAL SOCIETY.—At the annual meeting of this Society, held at Marion, January 7, Dr. Oliver W. Weeks was elected president; Dr. Robert Ramroth, vice-president; Dr. Herman S. Rhu, secretary; Dr. Ambrose Ogan, treasurer; Drs. Lewis D. Hamilton, Horatio Chisholm and A. Melville Crane, standing committee, all of Marion. An amendment to the Constitution of the Society was submitted making all legal practitioners of medicine and surgery eligible to membership, who have conformed or hereafter may conform to the laws regulating the practice of medicine and surgery in Ohio. The article of the Constitution sought to be amended provides only for the admission of regulars.

CINCINNATI SOCIETY FOR MEDICAL RESEARCH.—A meeting of this Society was held in the laboratory of the Cincinnati Hospital, January 9. Dr. Albert H. Freiberg read a paper on the structure of bone from the viewpoint of comparative anatomy. Illustrated by radiograph lantern slides from sections of the femurs of man, baboon, leopard, sheep, ox, and llama to show the relation of function to structure in these bones. The demonstration was in the nature of a preliminary communication. He also exhibited the right os-innominatum and both femora from a case of old unreduced traumatic luxation of the right hip, the specimen being taken from the museum of the Cincinnati Hospital. The luxation had existed for a sufficiently long time, and the limb had been so much used that a new rudimentary acetabulum had been formed. Radiographs of sections from the femora were shown to illustrate the changes in internal architecture and external configuration which had taken place solely as the results of changed static conditions. It was held that these changes were in conformity with the requirements of Wolff's "Gesetz der Transformation." Dr. Meyer L. Heidingsfeld demonstrated the nature of plasma cells and briefly stated the views maintained by different authorities on this interesting subject. He endeavored to show that Unna was probably correct in the views that he holds for his plasma cells, which stain without nuclei with his polychrome-methylene blue, and are similar morphologically, and in color reaction to connective tissue cells, from which they take their origin. The Marschalko cells, on the other hand, stain with Unna's polychrome-methylene blue with nuclei, and are morphologically and in staining properties similar to lymphocytes, from which they take their origin. Dr. Friedländer dissented from this view, and was of the opinion that inasmuch as Unna's polychrome-methylene blue was a nuclear stain, a nucleus must be demonstrable in the plasma cells of Unna.

NORTH BRANCH OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting, held December 20, 1901.

The meeting was called to order by the Temporary Chairman, Dr. H. Booker Mills, who introduced Dr. Jay. F. Schamberg; the latter read a paper on "The Differential Diagnosis of Variola, Varioloid and Varicella." The paper is published in full in this issue, page 215.

"Vaccine Virus, Its Preparation and the Accidents Following Its Use" was the title of a paper read by Dr. Joseph McFarland, which is also published in full on page 217.

Recent Vaccinations—Old Scars—Complications of Vaccinations.

DR. WILLIAM M. WELCH, read a paper entitled: 1, Deductions from Studies of Recent Vaccinations; 2, Interpretation of Old Scars; 3, Complications of Vaccination. The Doctor commented on the fact that not a single person has been admitted to the Municipal Hospital suffering with smallpox, during the present epidemic in this city, who had recently been successfully vaccinated. He estimates that since the outbreak of this disease at last 500,000 people have been vaccinated in this city, and although 800 cases of smallpox have been admitted to the hospital not one of this 500,000 has been among the number. As a positive proof of the efficacy of recent vaccinations the Doctor mentioned several instances in which recently vaccinated individuals have been exposed to this disease continuously for several weeks and remained immune therefrom. Notably among these is the case of a child one year old who was sent to the hospital supposed to be suffering from variola, but who was actually affected with roseola vaccinosa, having been successfully vaccinated about ten days previously. This child remained in the smallpox wards for about three weeks and continued perfectly well. Several other similar cases have occurred in this institution, in all of which the outcome has been the same.

In every epidemic of smallpox which has occurred in this city within the past thirty years—all of which the Doctor has observed personally—whole families have been removed to the hospital because of an outbreak of this disease in the household and not in a single instance has the disease been contracted by a recently vaccinated child, even although they were constantly exposed to the disease for several weeks, living, eating and sleeping in the infected atmosphere, and in all this period there has not been brought to his notice the case of a single unvaccinated child who escaped contagion under similar circumstances.

As a further evidence of the value of vaccination mention was made of the frequent observation of cases in which vaccinated infants have been nourished at the breast of a mother suffering from varioloid, which children remained as free from smallpox as if the disease was a hundred miles away, and the food derived from the most wholesome source.

Another striking illustration of the prophylactic value of vaccination is the case of a family composed of a father, mother and six children who were recently admitted to the hospital. Two of the children had arrived at the school age and had been successfully vaccinated and both of them remained entirely free from the disease, notwithstanding the fact that they were continually in contact with the sources of contagion; the four younger children who had never been vaccinated, all had unmodified smallpox; and the father and mother, who had not been vaccinated since infancy, both suffered from mild attacks of varioloid. Numerous cases have occurred in which the older children who had arrived at the school age and were therefore compelled to be vaccinated before they could be admitted, have remained at home entirely free from the disease, while the younger children, being unprotected, were sent to the hospital suffering from the most virulent forms of the disease.

In the alterations at the Municipal Hospital made necessary by the unusually large number of patients sent there during the recent epidemic of smallpox, from 50 to 60 men were employed. As they were compelled to come in close proximity to the disease in their work, all were recommended to get vaccinated, which suggestion was acted upon by all but two, both of whom contracted smallpox.

Of the 50 persons who have been continuously exposed to smallpox in the hospital during the present epidemic, in the capacity of physicians, nurses, ward maids, cooks, laundresses and the like, not one has contracted the disease and all of these persons, with the exception of two or three, owe their immunity to vaccination. Previous to assigning them to duty each person is carefully vaccinated, even although the vaccination of infancy and a subsequent vaccination show evidence of having been successful, and attention was called to the fact that, with this precaution, the author had never seen a resident physician or nurse take smallpox.

The Technique, Value and Object of Vaccination.

DR. JUDSON DALAND emphasized the importance of proper cleansing of the skin prior to vaccination. He considers it best, if the patient be a female, to vaccinate upon the antero-external aspect of the lower fifth of the thigh; if a right-handed male, the operation should be performed upon the antero-internal portion of the middle third of the left arm. He recommends thorough cleansing of the skin with hot water and white castile soap, after which that portion of the skin to be vaccinated should be rubbed with a sterile towel dipped in the soap and water until the upper layers of the skin have been rubbed away, and a diffused redness showing that the capillaries have been almost ruptured can be seen. This portion of the skin should then be rendered surgically clean by the free use of alcohol followed by ether. A sterilized steel, five-pointed scarificator should be drawn parallel with the long axis of the limb and the scratching continued until there appears over a surface about one-fourth inch in diameter a moisture composed of serum slightly blood-tinged, after which the scarificator should be moved at right angles until the wound presents a uniform pink appearance due to the slight exudate of blood-stained serum. The virus should then be applied and brought into thorough and intimate contact with the abraided surface by means of the scarificator, after which one of the ordinary shields should be applied, which the patient should be instructed to remove in about 12 hours, within which time, under ordinary circumstances, a sufficient scab will form to prevent re-infection of the wound from the skin or outside. The wound should be further protected by a simple surgical dressing, which should be removed, the wound cleansed and a fresh dressing applied nightly. So soon as the first evidence of inflammation shows itself, the physician should carefully cleanse the point of vaccination and surrounding skin with abundance of sterile hot water and white castile soap, and after thorough drying, the surrounding parts should be thoroughly cleansed with alcohol, care being taken not to disturb the scab. The surrounding skin should be rubbed with simple oxid of zinc ointment, or better still, with an ointment composed of five grains of boric acid to the dram of lanolin and almond oil.

A surgical dressing composed of a thin piece of lint covered with this ointment should be applied to the pustule, over which should be placed a thin layer of borated absorbent cotton, these being held in place by a roller bandage. This local treatment should be repeated once, twice or thrice daily depending upon the amount of suppuration. The repeated cleansing and dressing of the wound prevents infection of the surrounding skin and the consequent danger of its transmission to the wound, and it also avoids pus accumulating and causing sepsis.

Attention was directed to the observations made during the past two centuries, practically all of which tend to show that vaccination when properly performed and under proper circumstances renders most individuals immune to variola, and when such an individual acquires smallpox poison varioloid is produced which is usually a mild affection, in which pitting of the face seldom occurs and the mortality rate following is very low. Attention was directed to the fact that it must not be overlooked, however, that an unvaccinated person who is brought into contact with varioloid may develop smallpox.

In the opinion of the author those vaccinated not only escape smallpox, but many do not even take varioloid even when exposed to smallpox poisons, unless the quantity of the poison received be considerable, and this opinion is also held by many other eminent observers and corroborated by statistics gathered from all parts of the world, notably among which are the observations made by Dr. Koch during an epidemic of this disease in Germany, which showed the mortality rate among the unvaccinated to be 32 per cent., while that of the vaccinated was only 9.5 per cent., and in this single epidemic alone more than 2000 lives would have been saved had these people enjoyed the protective influences of vaccination.

Tetanus Following Vaccination.

DR. WILLIAM I. KELCHNER of Camden, N. J., dealt freely with the symptomatology and treatment of a case of this character which has recently been under his care. There was but a very short period of incubation and the Doctor was inclined to look upon this complication as being caused by some micro-organism present in the virus used in vaccinating the patient. All the typical symptoms of this disease were present, there was convulsive twitching of the muscles, and the temperature at one time rose as high as 105 F. Tetanus antitoxin was injected in the early stage of the disease, and it is to the prompt use of this remedy that the Doctor attributes the recovery of the patient, who is now convalescing: strychnia was also administered hypodermically in large doses. The author felt that with care in the preparation of vaccine, virus could be produced which would be free from these micro-organisms, and he expressed the belief that in order to be of any use in cases of tetanus, the antitoxin must be given very soon after the onset of the condition.

DR. WILLIAM F. ELGIN, a physician who has had large experience in the manufacture of vaccine virus, opened the discussion. He referred to the fact that many physicians think that because a person is successfully vaccinated and then one or two years later is again vaccinated and it takes, that that person would contract smallpox, if exposed to the disease. This he believes to be an error and cites in support of his opinion the fact that he has had under his observation for the last two years about 200 or 300 young people employed in the manufacture of this virus, and has observed that when a party comes to work in the laboratory that has not been successfully vaccinated since childhood, they immediately vaccinate themselves in any abrasion that may occur on the fingers, on the hands or even on the face, sometimes having one, two or three or even more vesicles to the finger, which is often followed

by a re-vaccination in the same manner in two or three weeks afterward, and he has observed instances where the same party would again vaccinate themselves for the third time within twelve months. In his opinion in order to secure protection against subsequent vaccination, it would be necessary to vaccinate to the point of saturation, and while he does not doubt that this point can be reached, yet he feels that it is very rarely attained by the methods practiced in this country. He referred to the recommendations contained in the circulars sent out to the vaccine physicians in that country by the English government, which insist that there should be four insertions, which must equal in the aggregate one-half square inch of surface, claiming that better protection is secured by this method.

Referring to the statement previously made regarding the longer duration of immunity from human virus, he remarked the fact that Mexico was one of the most poorly vaccinated countries in the world, and in England, where they are using human virus for vaccination at the present time, they are having the same trouble with smallpox following vaccination as was experienced in this country some years ago.

He states that the animals used in the preparation of this virus are especially selected and especially tested in order to make sure that no infectious disease and especially tuberculosis is present. After this the animal is carefully washed in strong alkaline soap solution, then the hair is shaved from the abdominal region, and the animal is again thoroughly washed with soap and water, followed by bichlorid solution, and then rubbed hard with towels sterilized under 15 pounds pressure in the steam chest. The animal is then inoculated with the serum, the ordinary scalpel being used and a single scarification made. Great care is taken never to draw a drop of blood, which the speaker believes to be inadvisable in vaccinating, claiming that as soon as you have gotten through the superficial epidermis you have gotten far enough, whereas, on the other hand, he thinks that many of the complications of vaccination are due to this cause, his theory being that when the micro-organisms on the surface of the skin are carried into the subcutaneous layers of the skin, these pathogenic conditions are likely to occur. The glycerinized virus is considered by this speaker to be far preferable to the dry points, as he has observed several cases in calves vaccinated with the dry points (which was the method formerly used in the laboratory under his observation) where the odor from the wound became very offensive and the amount of discharge very great in three or four days, whereas these conditions have never been observed in an animal vaccinated with the glycerinized virus.

DR. ROBERT N. WILLSON referred to two cases of tetanus following vaccination which had recently come under his observation, both of which terminated fatally, one in 30 hours and the other in six days after the development of this condition. Both of these cases had passed through a long incubation period; in the former tetanus developed in 28 days and in the latter 21 days after vaccination; both were children of stablemen and both families lived in close proximity to the stables, one of them sleeping with its father, who was a coachman. Both of the children were vaccinated in the most aseptic manner, the arm being carefully sterilized prior to the operation, but no after precaution was taken, excepting that the wound was dressed with a shield. Both ran a course of typical vaccinia before the development of tetanus. The speaker stated that the case referred to by Dr. Kelchner in his remarks was the only case of tetanus following vaccination he had ever heard of that was not preceded by a long incubation period. Both of these cases were treated with tetanus antitoxin, the remedy being administered before any convulsive symptoms appeared, and the fact that both cases proved fatal, as well as other observations he has made, leads the Doctor to believe that antitoxin has very little value as a curative agent in tetanus, its use being rather to make the patient immune from the disease, in which capacity he believes it is invaluable. In regard to the source of the infection, the Doctor believes that we should be sure that the wound has been cared for aseptically before we can attribute it to the virus. During the past three weeks Dr. Willson and another physician have been attending to the vaccination of the students at the University of Pennsylvania and out of the 3000 men in that institution there was but one man who had not been successfully vaccinated some time in his life, and there was only one case of smallpox, which occurred in a man who had not been vaccinated since early childhood. In all about 560 of the students were vaccinated, the same virus being used as was used to vaccinate the children previously referred to who died of tetanus, the wounds were aseptically treated and there was not a single occurrence of this complication.

DR. C. P. FRANKLIN considers that many of the complications following vaccination are due to shields and is at present following out an original idea of always putting on the vaccination, as soon as the virus is placed thereon, a little piece, say three-eighths of an inch square, of silk surgical plaster, aseptieized and prepared as would regularly be done for other surgical uses. He then puts on a dome-shaped aluminum shield, which is also an original idea, the dome being formed by two ribs of the metal. This serves to protect the arm from the heavy winter underclothing and from inadvertent scratching, particularly by children. He has been using this method for some time and has since had no cases of tetanus and very few cases of inflammatory conditions of the arm.

DR. HUGH HANNA referred to a case of tetanus that followed vaccination which had recently come under his observation. This case occurred in a child and the symptoms of this complication developed about 16 to 18 days after the vaccination. The sanitary conditions were far from ideal, as the house was directly connected with a stable, the door from the dining-room opening into the stable, and the Doctor is of the opinion that this, together with the fact that people were not very careful in their habits, is quite likely to be responsible for the infection. The child was vaccinated on the left thigh. All the typical symptoms of tetanus were present, the lockjaw lasted about a week, opisthotonos was pronounced and the convulsions of the muscles would come on at any time, day or night. No antitoxins or other injections were used, but potassium bromid was administered in 20 to 30 grain doses every hour for four or five hours, when it began to produce its effect, after which it was given on a two-hour basis. There was a small quantity of tincture of opium used in the early stages, but this discontinued after the first day or two. After the severity of the spasm was relieved, it was observed that the stomach did not seem inclined to tolerate the bromid much longer and other narcotics were then resorted to. This was just prior to the beginning of convalescence. In about three weeks after the onset of the attack the child was able to sit up in bed and be helped up and sit in a chair, and now, several weeks later, she is able to go about the house. Her convalescence has been rapid.

THE CHICAGO MEDICAL SOCIETY AND THE CHICAGO SOCIETY OF INTERNAL MEDICINE.

Joint Meeting, held Nov. 27, 1901.

Dr. Edward F. Wells, in the Chair.

DR. EDWARD F. WELLS delivered the Presidential Address of the Chicago Society of Internal Medicine. He selected for his subject "The Consideration of Some Important Subjects Connected with the Treatment of Pneumonia." This address was given in full on page 163 of last week's issue.

Four Cases of Pleurisy with More or Less Permanent Pneumonic Induration.

DR. ROBERT H. BABCOCK followed with this paper and propounded the query: Are they tuberculous? Within the last three years he has observed four cases of pulmonary disease which were to him unusual and whose pathology it was difficult for him to explain on any other hypothesis than that they were tuberculous.

CASE I.—In April, 1898, a young man, about 20 years of age, was brought to his office by the attending physician because of pleuritis. About three weeks before he had complained of

pain in the right side, chilliness, cough, and malaise. He was found to have a temperature of about 101 F., and to present signs of right-sided pleurisy. Examination showed slight increase in the diameter of the right thorax, the apex beat displaced to the left nipple and the liver palpable. Pectoral fremitus was increased over the right upper lobe, but diminished below and practically absent at the posterior base. Over the right apex there were marked dulness and bronchial breathing, but no râles, as far as the third rib in front and behind to just below the ridge of the scapula. Below this level the percussion note was flat; bronchial respiration was feeble, but not absent, and there were no râles. The case was pronounced one of pleurisy with effusion, probably tuberculous, with pneumonia of the upper lobe. As three weeks had elapsed without absorption, and his temperature was still elevated, about 101 F., the author advised rest in bed and aspiration. Aspiration was done a few days later, and 20 ounces of clear straw-colored serum were obtained. Meanwhile his scanty mucous sputum had been examined for tubercle bacilli, but none discovered. After the tapping, the physical signs did not change in the least, dulness and bronchial breathing remaining just as pronounced as before. Even the position of the apex beat did not alter appreciably. In short, the patient's pulmonary and general condition persisted in *statu quo*. He was kept in bed in spite of his declarations that he felt so well he wanted to get up and did not see why he was confined to his bed. At the end of another week or ten days the attending physician, not satisfied with aspiration, called in a surgeon to aspirate again, which he did, with the result of withdrawing only about 6 ounces of serum. The lung findings remained as before, and the constitutional symptoms persisted. He did not see the patient again that year, but learned that he gradually improved, and after some weeks was able, or rather was permitted, to resume his former active habits, although his lung did not clear up. The following summer, more than a year subsequent to the author's first examination, patient consulted him again at his request. He found the right half of the thorax in nearly or quite the condition of a year earlier. There were marked dulness and bronchial breathing over the upper lobe, while below the third rib the note was nearly flat, resistance was extreme, pectoral fremitus was diminished, and breath sounds were feebly bronchial. The side was manifestly smaller than was the other. In addition to these findings, however, there were impaired resonance at the left apex with broncho-vesicular respiration and fine moist râles, the signs which are universally thought to indicate an early stage of pulmonary tuberculosis. The essayist has recently learned that the patient subsequently went to Asheville, N. C., and there died of consumption this last spring. The termination of the case seems to bear out his original diagnosis of its tubercular nature. That at the time of his first examination the lung was in a state of pneumonic consolidation, and not collapse, seemed to him certain from the physical findings. There was pleuritic exudate, but the insignificant degree of pressure, as shown by physical signs, and the results of two aspirations and the persistence of the physical signs afterwards, the evident cirrhosis of the lung a year later, all indicated, he believes, that the pleuritis had been followed by pneumonia of the interstitial type, or if of a broncho-pneumonic form, then, at all events, with subsequent fibrosis and not softening, as is usual, in tuberculous pneumonias.

Dr Babcock detailed three additional cases resembling in many respects the first one narrated. In these four cases he was impressed by several quite peculiar circumstances: The patients did not seem very ill and judged by the mildness of the pyrexia and other symptoms their illness seemed to be of a low grade of activity. All but one appeared to have recovered and are now in good health. To judge from the extent and degree of dulness, one would have expected considerable effusion. Yet the insignificant degree of pressure effects and the result of tapping demonstrated that the exudate was poor in serum and rich in fibrin, and that the degree of dulness and the quality of the respiratory sounds at the apex could not be due to pressure or fluid in the lung, since the amount of fluid was in reality small. 3. One has since died of pulmonary tuberculosis and in two of the others the personal and family history was that of tuberculosis. 4. Examination of the sputum, when any could be obtained, failed to reveal tubercle bacilli. He believes that in three instances, at least, there had existed a small tubercular focus at the apex, and that from this focus bacilli were carried by the lymph-stream, in a reverse direction, to the pleural cavity. They there set up a pleuritis which was chiefly fibrinous. From this pleuritic exudate, germs were carried to other parts of the lung and there excited a pneumonic inflammation which was interstitial and tended to fibrosis. In this way, the upper lobe as well as the pleura was involved in the process, and this combination accounted for the physical signs and subsequent findings after a lapse of many months.

DR. N. S. DAVIS, JR., emphasized what Dr. Wells had already said in regard to the prophylaxis of croupous pneumonia. The members of the profession have been very remiss in attempting to practice any measures that would be prophylactic in this disease, and particularly remiss in teaching the public that prophylaxis is possible. It is frequently said in the recent literature of the subject that the disease is becoming more and more prevalent and fatal. Certainly, statistics would seem to show that, and yet if we stop to think a moment these statistics are drawn almost exclusively from large cities in which the population is unusually dense, and has been increasing during the last ten or fifteen years and growing more and more dense during that time, so that we have conditions present in those centers from which we draw statistics which would naturally propagate the disease most rapidly and cause its spread most generally. It would be interesting if the statistics from large cities could be contrasted with equally correct statistics gathered from smaller cities and smaller places to ascertain whether the increase in prevalence and fatality of the disease is the same in the smaller communities as it is in the larger ones. He has an impression, but no facts sufficient to substantiate it, that it is the concentration of the people rather than the modes of life which renders them less resistant to disease which has caused an unusual spread of the malady and an unusual fatality. Destruction of the sputa of pneumonic patients should be done with as much thoroughness as it would be done in cases of tuberculosis, and it is infinitely easier to carry out because of the comparatively short duration of the malady.

DR. ARNOLD C. KLEBS stated that discussions with reference to pleuritic affections being tubercular have been going on for a long time. Osler, in 1893, examined the postmortem records of the Johns Hopkins Hospital, and found in 101 cases of acute pleurisy 32 cases that were tuberculous. The conclusion drawn by Osler at that time was that the proportion of tuberculous cases was not great. Not long ago Osler seems to have changed his opinion on that point, and believes that the proportion of tuberculous cases now is much larger. Dr. Klebs thought the modern view seems to be distinctly in favor of considering the majority of cases of acute pleurisy, with great thickening of the pleura, unattended with pneumonia induration, as being of tubercular origin.

DR. WILLIAM E. CASSELBERRY stated that it did not follow that a pleuritis occurring in a tuberculous patient is necessarily tubercular. At the same time, the two conditions are so closely conjoined, so far as prognosis and treatment are concerned, that we must recognize a tubercular pleuritis. He finds in looking over his records for the last ten or fifteen years that the majority of his cases of pleuritis, some of which were acute in character, are well and in good health to-day. One or two of them he recognized at the time as probably being tuberculous. He believes they have recovered from tubercular pleurisy. One of his cases was distinctly syphilitic; it is well recognized by authorities as being the result in some cases of secondary and tertiary syphilis, and such cases, under treatment, recovered.

DR. ARTHUR DEAN BEVAN said that post-operative pneumonia interested surgeons, and that some light had been thrown upon its etiology recently, since the introduction and more

extensive use of local anesthesia in operations. Surgeons only comparatively recently have recorded most of their post-operative pneumonia as being due to the irritation of the anesthetic, to the inspiration of food particles, or noxious material during anesthesia. Post-operative pneumonia frequently follows laparotomy, or more frequently operations upon the stomach, the bile tracts, and the structures in close contact with the diaphragm than upon other abdominal viscera. Since so much work is being done on the stomach, it has been found statistically and by individual experience that pneumonia is one of the most common causes of death after these operations. Many surgeons, in order to avoid this common cause of death, in these operations, have independently come to the same conclusion, that it would be well to do all the operations that can be done of this character under local instead of general anesthesia, with the idea that this would do away with the deaths from pneumonia following operations. After a considerable number of operations have been done under local anesthesia, however, it has been found in analyzing the statistics that even a greater proportion of cases die from operations of this character done under local than under general anesthesia.

DR. ALEXANDER HUGH FERGUSON favored lancing or puncturing the lung between the ribs when resolution should take place and failed to do so. If resolution of the affected lung could be hastened, it was worthy of trial. In the surgery of other organs this was being initiated during the last five or six years.

DR. E. H. OCHSNER said he had had the same experience as Dr. Bevan, although he confined his work entirely to general anesthetics at first, and found that lobar pneumonia was of common occurrence in cases which had undergone severe operations on the stomach, like resections of the pyloric end, gastro-enterostomies, etc. To overcome this difficulty he had found it advisable to have patients sit up soon after an operation, and it has been remarkable how much less frequent complications have been since. When he now performs a gastro-enterostomy the patient is allowed to sit up the next day in a semi-recumbent position, which is changed just as one would change the position of a patient with a fracture of the hip. In order to avoid this complication, and since he has adopted this method, the number of cases of pneumonia following major operations upon the stomach has been reduced very materially.

DR. BABCOCK, in closing, stated that with reference to the frequency and mortality of pneumonia within the last ten years, he felt sure that the statistics are not incorrect which show that this disease has been more than usually fatal in that period of time. Liebermeister, in Epstein's "Practice," says something on this point. He makes the statement that prior to two decades ago pronounced and typical cases of croupous pneumonia were much more prevalent than they are to-day; that the cases were more typical of genuine lobar pneumonia, and that within the last year or so, since the advent of the influenza bacillus, the pneumonias have changed a good deal in type, in that they have become atypical, and the increasing mortality of pneumonia within the last decade can perhaps be attributed to other things, as, for instance, mixed infection.

Arthritis Deformans in a Child, with General Lymph-Gland Enlargement and Splenic Tumor.

DR. A. F. LEMKE read a paper on this subject. In May, 1900, a boy, 11 years of age, entered Cook County Hospital with a history of an illness dating back to his 3d year, and a condition principally of the joints and lymph glands; that for a time, at least, forced the essayist to suspend judgment as to the diagnosis. The joint involvement alone seemed easily accounted for, but the very marked enlargement of the glands, and particularly those glands associated with the joints most advanced in the disease process, or most acutely involved, was not easily explained. The axillary glands were so enlarged as to be visible from a distance, and the epitrochlear glands were as large as a hazelnut. This picture of universally enlarged glands made one consider seriously the possibility of a tubercular infection, and with a view of definitely determining this a large gland was removed from the axilla, used to inoculate a guinea-pig, and examined bacteriologically and histologically, as will be described later. The result of this inoculation was negative, and therefore the case was considered one of arthritis deformans, as it is occasionally seen in children, associated with lymph-gland enlargement and splenic tumor.

The general condition of the patient, after the ordinary tonic treatment, gradually improved, so that he was able to leave his bed and wheel himself about in a chair; but the condition of the joints, glands and spleen remained about the same, with the one exception that motion of the head was less painful. The blood state had also considerably improved. He was discharged Sept. 22, 1900, and not seen again until Nov. 1, 1901, when an examination revealed almost identically the same condition described above, except that the axillary lymph glands on the left side were slightly smaller. The course that the disease in this case has taken and the negative results of an attempt to prove the gland involvement tubercular warrant the essayist in grouping the case with nineteen or twenty others seen and described by George F. Still.

DR. FRANK X. WALLS said he had seen one typical case of arthritis deformans that occurred in a child 2 years of age, following closely an attack of measles. The smaller joints, as those of the hands and feet, were involved symmetrically. The case was under his observation for over a year, and during that time there did not seem to be any change in the course of the disease except that there were sometimes slight remissions and again a little improvement. The disease persisted from that time without any marked change. It did not respond to the antirheumatic, nor to tonic, treatment. There was general enlargement of the glands, but not to the extent mentioned in the case of Dr. Lempke. He saw another case in which there were not so many of the joints involved. This case followed an attack of scarlet fever. The larger joints were involved, two elbows, and one shoulder joint. In another case the spine was involved following closely an attack of gonorrhea. The cases he had seen seemed to point to a group of complications following the different infectious diseases in children.

DR. ROBERT B. PREBLE stated that an interesting phase of this disease was its etiology. Without making any effort at classification, he believes that it will become necessary to subdivide the cases that are now designated by the name arthritis deformans. However, for the present he thought the term arthritis deformans was a useful one to maintain. It committed the physician to nothing. So far as the etiology of the disease is concerned, there are three conspicuous theories. One of the theories is that of infection, and while he is perfectly aware that numerous observers have found in the joint fluids bacteria of various sorts, he is not inclined to believe that the cases are due to infection. His objection to that theory is mainly this, that the joint involvements are symmetrical. This is perhaps truer of the adult cases than in those which are observed in children; nevertheless, it is one of the conspicuous clinical features. It was difficult, in his opinion, to see how infection could bring about a symmetrical distribution.

DR. E. H. OCHSNER reported a case that had been under his observation for at least four and a half years, the etiology of which he thought was plain. A young lady developed arthritis deformans slowly, beginning to be ill in 1893. In 1897 she came under his care, with almost every joint in the body involved. She was so crippled that she could not walk, nor feed herself. She was absolutely helpless. Her weight when she came under his care was 87 pounds. After she had been under his care for some time, although it was difficult to elicit any information from members of the family or from the patient regarding the various functions of the body, he found that she was suffering badly from hemorrhoids, and that sometimes her bowels would not move for a week or ten days. He operated for the relief of the hemorrhoids, and was surprised at the condition in which he found the lower bowel. He had never seen such an accumulation of foul fecal matter. Although strong cathartics were given, the fecal matter resembled putty, and the state of decomposition was bad. The sphincters were thoroughly stretched, the hemorrhoids were

removed, and the woman, so far as the acute symptoms are concerned, has recovered. He has found it necessary to break up several of the joints, and to put the legs in a straight position. Patient is now able to walk and has gained 53 pounds in weight. In this case he thought the cause of the arthritis deformans was a constant auto-intoxication, and if the nature of the disease had been determined two or three years earlier than it was the woman might have been saved from the calamity in which she has fallen now.

DR. J. RAWSON PENNINGTON said that arthritis deformans is sometimes associated with rectal ulceration; Wallis, Cave, and others have reported such cases. He detailed two cases occurring in women.

DR. EDWARD F. WELLS pointed out that the essayist had presented the report of a case of a specific disease *sui generis;* that Dr. Still had likewise reported similar cases, but he did not think the paper should be loaded down by discussions regarding ordinary cases of arthritis deformans.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

PRESCRIPTION WRITING, X.

(Continued from page 198.)

Chemical Incompatibilities.

Chemical incompatibility may be apparent in three ways:

1. By precipitation or the formation of insoluble compounds.
2. By the evolution of gas.
3. In some instance by changes in the color of the mixture.

The largest class is included in the formation of insoluble compounds by precipitation. This precipitation takes place when two salts, combined, form an insoluble salt by the interchange of radicals. The most important incompatibilities are included in the following table as arranged alphabetically by M. L. Neff, for the convenience of the practitioner:

1. Acids or acid salts are incompatible with: alkalies and alkaline salts; alcohols (tinctures) and glycerin; hydrates and carbonates; glucosids; bases; relatively weak or volatile salts.

2. Alkalies are incompatible with: alkaloids and their salts; chloral; acids and their salts; relatively weak salts (halogens); metallic salts; calcium and magnesium salts.

3. Alkaloids and their salts with: alkalies; alkaline salts; halogen salts; tannic acid; phosphoric acid; boric acid and sodium borate; hydriodic acid; carbonic acid and the carbonates.

4 Arsenic is incompatible with: tannic acid; salts of metals, especially lead and silver; lime; magnesia.

5. Aqueous solutions are incompatible with: chloroform; metallic salts; essential and fixed oils; alcoholic tinctures; fluid extracts; resinous tinctures.

6. Hydrargyri chloridum mite (calomel) with: antipyrin; alkalies (lime water, etc.); potassium iodid; salts of iron and lead.

7. Carbonic acid and carbonates are incompatible with: iron salts; metallic salts (especially iron); salts of magnesium and calcium; acetic acid (syrupus scillæ).

8. Aqua calcis is incompatible with: salts of mercury (sometimes intentional); carbonates of alkalies; morphin and quinin salts.

9. Mucilages are incompatible with: alcohol and nitrous ether; iron; aqua plumbi; mineral acids.

10. Nitrous ether (sweet spirits of niter) is incompatible with: tincture guaiac; mucilages; antipyrin; Ferri sulphas; most of the carbonates.

11. Oxidizing substances, including the permanganates, chlorates, nitrates, etc., are incompatible with: charcoal; ammonium chlorid; tannic acid; sulphur; glycerin.

12. Phosphoric acid and the phosphates are incompatible with: alkaloids; metallic salts; salts of magnesium and calcium.

13. Tannic acid is incompatible with: alkaloids; metallic salts (especially iron and lead); arsenic; digitalis; albumins and gelatin.

14. Gentian preparations will produce a change of color in the mixture when combined with: iron salts; infusion of prunus virginianæ; infusio cinchonæ comp.; silver nitrate; lead salts.

The following prescriptions will illustrate some of the chemical incompatibles of the foregoing list, as given by Scoville and Thornton:

℞. Hydrargyri chloridi corros.....gr. i |065
Potassii iodidi .....ʒiv 15|
Aquæ, q. s. ad. .....℥iii 90|
M. Sig.: One teaspoonful after each meal in water.

In this prescription potassium iodid precipitates red mercuric iodid, which is redissolved in the excess of potassium iodid. This prescription is sometimes intentionally ordered.

℞. Hydrargyri chloridi corros.....gr. i |065
Potassii iodidi .....ʒii 7|50
Tinct. cinchonæ comp. .....℥iii 90|
M. Sig.: One teaspoonful three times a day.

In the above the potassio-mercuric iodid precipitates the alkaloids in the cinchona, demonstrating that alkaloids should never be combined with soluble iodids or corrosive sublimate, which are powerful precipitants of the alkaloids.

℞. Hydrarg. chlorid. .....gr. iii |20
Tinct. cinchonæ co. .....℥vii 210|
Spts. ammon. arom. .....ʒi 30|
M. Sig.: One teaspoonful as directed.

This is both ambiguous and incompatible. If the first ingredient means corrosive sublimate, ammoniated mercury will be formed; if calomel, black oxid of mercury will be formed.

℞. Pot. bromidi .....ʒiii 11|25
Chloralis hydratis .....ʒii 7|50
Spts. ammon. arom. .....℥ss 15|
Syr. zingiberis .....ʒi 30|
Aquæ .....℥iss 45|
M. Sig.: Take one teaspoonful and repeat in two hours.

The chloral is decomposed by the alkaline spirits of ammonia, chloroform being formed.

℞. Acidi nitro-muriatici dil.
Spts. ammoniæ arom. āā .....ʒi 3|75
M. Sig.: Two drops in water every four hours.

One of the above ingredients neutralizes the other.

℞. Argenti nitratis .....gr. x |65
Cocainæ hydrochlor .....gr. xii |75
Aquæ .....ʒi 30|

Silver chlorid is precipitated if dispensed as written. This may be prevented by using cocain nitrate in place of the hydrochlorate.

℞. Syr. scillæ .....ʒi 30|
Syr. senegæ .....℥ss 15|
Pot. bicarb. .....gr. xx 1|30
Tinct. opii .....ʒii 7|50
Syrupi q. s. ad. .....℥iv 120|
M. Sig.: One teaspoonful four times a day in water.

The syrupus scillæ contains acetic acid, which neutralizes the ammonia in the syrupus senegæ and causes effervescence.

℞. Ammon. carb. .....gr. xx 1|30
Spts. etheris nitrosi .....ʒi 30|
Tinct. ferri chloridi .....ʒii 7|50
Liq. ammon. acetatis, q. s. ad. .....℥iv 120|
M. Sig.: One teaspoonful every three or four hours.

The ammonium carbonate is incompatible with the ferric chlorid and spirits of nitrous ether, unless care is observed in the compounding.

℞. Quininæ bisulph. .....ʒss 1|88
Liq. ferri et ammon. acet. .....ʒii 60|
M. Sig.: One or two teaspoonfuls three times a day.

In this combination the insoluble quinin acetate is precipitated.

(To be continued.)

Lactic Acid in Alopecia.

Balzer, in *British Medical Journal*, recommends the following lotion in the treatment of alopecia: After cutting the hair close to the scalp and cleansing with soap and water the following should be applied:

℞.	Hydrargyri chloridi corros	gr. iii	20
	Acidi acetici	gr. xv	1
	Alcoholis	℥iv	120
	Etheris		
	Sol. lavendulæ (alcoholic) āā	℥ii	60

M. Sig.: Apply locally once a day.

After drying, the head is rubbed with lactic acid, about 30 per cent.

Improved Method of Introducing the Stomach Tube.

It is exceedingly difficult to introduce the stomach tube for the first time; and the effort is not infrequently abandoned. Crenshaw, in *Med. Rec.*, suggests a new method of overcoming the nausea and gagging, by freezing two or three inches of the end of the tube in ethyl chlorid. When it is introduced it causes anesthesia of the mucous membrane with which it comes in contact. It can, he claims, in this way, be introduced very easily for the first time. When it reaches the stomach the temperature has been sufficiently raised to cause no harm.

Treatment of Passive Congestion of the Liver Due to an Incompetent Heart.

Dr. Bommier, as stated in *N. Y. Med. Jour.*, recommends, in these passive congestions, cardiac tonics such as digitalis, caffein, spartein and strophanthus. The following combination is also employed by him in such conditions:

℞.	Ext. ergotæ (aqueous)	ʒi	3 | 75
	Pulv. scillæ	gr. xlv	3
	Hydrarg. chloridi mitis	ʒss	1 | 88
	Pulv. digitalis	gr. xv	1

M. Ft. pilulæ No. xl. Sig.: One pill three times a day.

Treatment of Scarlatinal Nephritis with Hot Water Irrigations.

Kerly, as noted in *Ther. Gazette*, recommends irrigation of the colon with hot water as the best means of restoring the functions of the kidney in scarlatinal nephritis. It should be employed whenever the quantity of urine is diminished or when convulsions occur. In a child aged 3 years, 500 to 750 c.c. of water at a temperature of 43 C. should be introduced by means of a rectal tube passed into the rectum for a distance of 2.5 centimeters. If the water is returned at once it must be repeated and irrigation continued every six or eight hours. After three or four administrations the kidneys commence to act as a rule and abundant diuresis takes place.

Medicolegal.

Promise of Third Party to Pay Doctor's Bill.—The recent Nebraska case of Swigart vs. Gentert was brought to recover from the party sued for services rendered as physician and surgeon to his daughter, who was a married woman, and was at the time living with her husband. The testimony of the party sued was: "That plaintiff [the doctor] called me out. He set in buggy, and I walked up to him. Then he told me, 'Your daughter is pretty sick.' I was a little scared, you know, so he says, 'I guess I get her through all right.' After that he asked me, 'Who is going to pay that?' I told him, 'I help you see you get it,' but I never promised anybody." The jury apparently accepted this version of the transaction, and the Supreme Court of Nebraska holds that the promise stated was one clearly within the statute of frauds, that is to say, one to answer for the debt of another, and one required to be in writing to bind the party sued. His promise was twofold—First, that he would help the doctor to collect the bill; and, second, that he would see that the doctor received his pay. The first part of the promise could not be enforced because of its indefiniteness; and the second part was, by its very terms, a promise to answer for the default of the parties who would be primarily liable for the services to be rendered. The fact that the doctor would not render the services upon the responsibility of the daughter and her husband, without the additional promise of the party sued to see that the doctor received his pay, the court holds, was not of itself sufficient to take the promise out of the statute of frauds, in other words, to relieve it of the necessity, under the statute, of being in writing to be binding. Furthermore, the court holds that testimony that the doctor never presented a bill for the services to the party sued was competent, and properly admitted, it being proper to be taken into consideration, with the other evidence in the case, in determining to whom credit was extended. Nor does it consider erroneous an instruction in which the jury was told that if the party sued advanced to the doctor $20 for and on behalf of his son-in-law, after the services were rendered, such act would not be a confession nor an admission of liability on the part of the party sued for the remainder of the bill.

Examining Physician's Statement—Employing Physician.—The Supreme Court of Michigan says, in the case of Rhode vs. the Metropolitan Life Insurance Company, that it does not appear that the question was ever before presented to it, in just the form that it was here, as to the admissibility in evidence, as against the insurance company, of the statement of the examining physician, made at the time of the examination of the applicant for insurance. But it has no doubt, on principle, that such testimony is competent evidence against the assured. The physician, it then proceeds to say, is a representative of the insurance company. He is employed for the very purpose of determining the physical condition of the applicant. His examination is supposed to be made with the utmost care, and with due regard to the interests of his employer. And the court declares that it can conceive of no reason why his statements, made at the time, should not be received as competent evidence, that is, as against the company. It does not mean to intimate, however, that such testimony is conclusive, but that it is receivable, as bearing upon the question of the condition of health of the applicant at the time the examination was made, it thinks is clear. Another point in this case was with reference to the effect against him of the statement of the assured, contained in his application, that he had not been under the care of a physician within two years. In certain previous cases the court has held that merely calling upon a physician for some temporary indisposition, which does not tend to weaken or undermine the condition of the assured, would be no breach of the warranty. But, in each of those cases, it now points out, the party suing offered affirmative testimony to show that the treatment of the physician was for some temporary indisposition. Neither of the cases held that it is not sufficient, prima facie, to show a breach of a warranty such as that involved in this case, to prove that the assured had, in fact, been attended by a physician. Indeed, to so hold, the court insists, would be doing violence to the very terms of the stipulation. So, when, in this case, the company was prepared to show that the assured had, within two years prior to the making of his application, been attended by one or more physicians, this, the court holds, was prima facie a breach of his contract, and the burden would be upon the party suing to recover the insurance to show that the attendance was not for any ailment which tended to weaken or undermine his health seriously.

Furnishing Physician—Power of Director—Not Expert.—The Supreme Court of Vermont says, in the personal injury case of Sias vs. the Consolidated Lighting Company, that it thinks the mere fact that an employer furnishes a physician or nurse for one who meets with a disabling accident in his services ought not to be received as evidence tending to establish his liability. It must be the impulse of every humane employer to provide this assistance for a disabled workman without means, and the rule of evidence ought to be such as to permit his doing it without danger to himself. Such an act should be treated as a humane recognition of an existing necessity, and not as an admission of the justice of a claim not then asserted. Then, a physician called as a witness was permitted to testify that when he was with the party suing about a week after his injury, another physician, who was a director in the corporation sued, called, and, on leaving, told him to go on

with the case, in consequence of which he sent this bill to the company, the director having also stated at the time that he called to see the young man in the interest of the company in place of the manager. But the Supreme Court holds that the admission of this testimony was erroneous for the reason above stated, and also because it did not appear that the action of the director was authorized by the company. The mere fact that he was a director, the court holds, did not authorize him to act for the company in this manner. A director of a corporation can bind the company by his separate action only so far as he may be authorized to do so. In undertaking to act singly for the company he must be looked upon as an ordinary agent, and the rules of evidence applicable in cases of agency must be applied. If there be matters which it is prima facie the duty of a director to attend to, this cannot be held to be one of them, for it was not within the scope of ordinary corporate duty. If it was a matter in which the manager could bind the corporation, the declaration of the director could not be taken as evidence that he was authorized to act in place of the manager. Again, the court holds that it was error to admit, the evidence of the witness who took the x-ray photographs of the injured joint, explaining that the reason why there were no light lines running across at the foot of the perpendicular bones of the leg was because there was a fracture close to the ankle joint, which afterwards filled up with cartilage. The witness subsequently testified that in the experience he had had in photographing ankle joints in their natural condition the light lines appeared between the bones, and upon further inquiry that he had taken some 1600 pictures of joints in different parts of the body, and that he considered himself qualified to say whether the white line would appear in a joint in normal condition. This, however, the court holds, did not make him an expert as to the character of the injury and the subsequent process to which this difference in the photograph was due.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

AMERICAN.

American Medicine (Philadelphia), January 11.

1 *The Operative Cure of Procidentia Uteri. Charles P. Noble.
2 *Gonorrheal Vulvovaginitis in Young Children. Reuben Peterson.
3 Removal from Bladder, Through the Cystoscope, of a Needle Which Had Been Swallowed Nine Years Before. Hugh H. Young.
4 *The Impropriety of Cesarean Section in Placenta Previa, with Remarks on a Rational Method of Treatment. Hugo Ehrenfest.
5 *The Effects of Ventrofixation and of Ventral Suspension on Subsequent Pregnancy and Labor, with Report of a Case. Arthur C. Jacobson.
6 The True Value of Local Treatment in Gynecic Practice. Frank C. Hammond.
7 Congenital Malformation of the Vagina, with Report of Cases. Wm. Edgar Darnall.
8 Dystocia Following Ventrofixation. Fred H. Bloomhardt.

Medical News (N. Y.), January 11.

9 *Chronic Myocarditis; Morbid Anatomy and Physical Signs. J. H. Musser.
10 *Prolonged Medication, with Special Reference to Digitalis. Abraham Jacobi.
11 *Heart Strain: Its Result and Treatment. J. M. G. Carter.
12 On the Action of Digitalis. Arthur R. Cushny.
13 *Bacteriologic Diagnosis of Typhoid Fever. Henry A. Higley.

New York Medical Journal, January 11.

14 *The Operative Treatment of Traumatic Intracranial Lesions. Charles Phelps.
15 *On the Feasibility and Management of a Hygienic Cure of Pulmonary Tuberculosis Outside of Closed Sanatoria. (Concluded.) Charles L. Minor.
16 *The Plastic Use of the Uterus in Cystocele Operations. Joseph Brettauer.
17 Inflammation and Sclerosis. Clarence L. Kilbourn.
18 What Is Your Method of Preventing Laceration of the Perineum in Labor? The Importance of Preparatory Treatment. William F. Barclay.
19 The Advantages of Episiotomy. Stewart Lewis.
20 Guide the Mechanism. Harold D. Cochrane.
21 Avoid Manual Dilatation. Victor E. Neesen.
22 Morphin and Chloroform as Adjuvants. Robert E. Coughlin.
23 Retard the Delivery. Thomas C. Duncan.

Philadelphia Medical Journal, January 11.

24 *The Treatment of Inoperable Tumors. Conrad George, Jr.
25 *Duration of Immunity by Diphtheria Antitoxin. Henry D. Jump.
26 *Note on the Treatment of Follicular Tonsillitis. Charles W. Dulles.
27 *Some Aural Complications of Influenza. S. MacCuen Smith.
28 Acquired Pulmonary Lues. Otto Lerch.
29 Some Experiments on the Formation of Bile Pigment and Bile Acids; a Contribution to Our Knowledge of Icterus. (To be continued.) Alfred C. Crofton.

Medical Record (N. Y.), January 11.

30 On the Progress of Public Health Organizations in the United States. Stephen Smith.
31 *Official and Private Phthisiophobia. S. A. Knopf.
32 *A Contribution to the Pathogenesis of Narcolepsy and Other Forms of Morbid Sleepiness. Heinrich Stern.
33 *Are the Tonsils to Be Regarded as Normal Physiologic Organs of the Body. Francke H. Bosworth.

Boston Medical and Surgical Journal, January 9.

34 *Remarks on the Diagnosis Between Acute Appendicitis and Some Atypical Cases of Typhoid Fever. Maurice H. Richardson.
35 *Unnoticed Fractures in Children. F. J. Cotton and R. H. Vose.
36 *Notes on X-Light. William Rollins.
37 Case of Attempted Criminal Abortion in Extrauterine Fetation. W. D. Swan.
38 Report of Cases from the Second Surgical Service of the Children's Hospital, Boston. H. L. Burrell, R. W. Lovett, and J. E. Goldthwait.

Cincinnati Lancet-Clinic, January 11.

39 Acute Ascending Spinal Paralysis. John S. Harris.
40 *Consumption. George J. Monroe.

St. Louis Medical Review, January 11.

41 *Surgical Interference in Hepatic Cirrhosis. T. C. Witherspoon.
42 Valedictory Address Before the St. Louis Medical Society. L. E. Newman.

American Practitioner and News (Louisville, Ky.), November 15.

43 Plastic Surgery of the Face. M. F. Coomes.
44 Stricture of the Esophagus. Edwin Walker.
45 A Plan of Campaign. W. J. J. Paris.
46 Puerperal Convulsions. T. J. Townsend.
47 The Use of Normal Saline Solution. C. H. Todd.
48 Acute Orchitis. W. H. Hardesty.

Northwestern Lancet (Minneapolis), January 1.

49 The Stereoscopic Photograph, the Beneficial Effect on the Eyes from the Use of the Stereoscope. A. Edward Davis.
50 Post-Diphtheric Paralysis. G. D. Haggard.
51 *The Surgical Significance of Jaundice. William J. Mayo.
52 Dermatitis Exfoliativa Following an Abdominal Operation. A. R. Brackett.
53 Atypical Ectopic Gestation. A. W. Abbott.

Virginia Medical Semi-Monthly (Richmond), December 13, 1901.

54 Gastro-intestinal Therapy. J. N. Upshur.
55 Treatment of Insomnia by Hedonal. G. C. H. Meier.
56 Invagination of Ileum following Appendicitis in a Child Aged 4 Months and 27 Days. Joseph S. Rardin.
57 Catalepsy Due to Ingestion of Muscadines. Lucien Lofton.

Richmond Journal of Practice, December, 1901.

58 Typhoid Perforation: Its Frequency, Prognosis, Diagnosis and Treatment. Hugh M. Taylor.
59 Loss of Base of Bladder, Plastic Operation. Ovarian Cyst, with Fibroid of Uterus. Southgate Leigh.
60 Three Cases of Gunshot Wounds Illustrating Emergency Surgery. L. G. Richards.
61 Angina Pectoris. Marvin E. Nuckols.

Annals of Surgery (Philadelphia), January.

62 *The Cause of "Stitch Abscesses" and Their Prevention. A. Ernest Maylard.
63 Report of Six Cases of Penetrating Wounds of the Abdomen Submitted to Abdominal Section, with Statistical Tables of 162 Cases Thus Operated on at the Charity Hospital in New Orleans, La. E. D. Fenner.
64 The Technique of Gall-Bladder and Duct Operations. Samuel J. Mixter.
65 Intussusception of Meckel's Diverticulum. Jonathan M. Wainwright.
66 *Mechanical Versus Suture Methods for Intestinal Approximation. Jacob Frank.
67 *The Symptomatology, Diagnosis and Treatment of Carcinoma of the Cecum, with a Report of Two Cases. Charles Greene Cumston and Albert Vanderveer.
68 Elbow Fractures in Children. Frederic J. Cotton.

Canadian Journal of Medicine and Surgery (Toronto), January.

69 National Physical Development. J. N. Hutchison.
70 Address to Graduating Class of the Training School for Nurses, Toronto General Hospital. A. Primrose.

American Journal of the Medical Sciences (Philadelphia), January.

71 Cases Illustrating Ureteral Surgery. Henry C. Coe.
72 Clinical History of a Case of Blindness from Congenital Deformity of the Occiput. Charles A. Oliver.
73 Double Hydrocele in an Infant—Prolapsus of the Rectum—A Case of Osteomyelitis of the Tibia—Necrosis of the Lower Jaw Following Measles—A Case of Knock-knee—Cellulitis of the Penis and Scrotum. Henry R. Wharton.
74 Impacted Calculus in the Urethra in Children; A Report of Two Cases. John H. Jopson.
75 A Case of Chronic Lymphatic Leukemia in an Infant. J. Alison Scott.
76 *Uncinariosis (Ankylostomiasis); A Further Report of a Case, with Notes upon the Autopsy. Thomas A. Claytor.
77 Laparotomy for Perforation in Typhoid Fever. C. E. Briggs.
78 Two Cases of Typhoid Fever Complicated by Noma. Joseph Sailer.
79 Thyroiditis Complicating Typhoid Fever. William Egbert Robertson.
80 *Cause of Death in Aneurysms of the Thoracic Aorta Which Do Not Rupture; Report of Five Cases. H. D. Arnold.
81 *The Association of Pulmonary Tuberculosis, with Both Primary and Secondary Endocarditis, and the Effect of Valvular Disease upon Lung Tuberculosis. James M. Anders.
82 Report of a Case of Dementia Precox. William R. Dunton, Jr.
83 On Sarcoma of the Radix Linguæ, with Report of a Case. George E. Shambaugh.
84 *A Review of Echinococcus Disease in North America. Irving P. Lyon.
85 *Recent Views of the Origin and Nature of Herpes Zoster. Arthur Van Harlingen.
86 Some Experiments on the Intermediary Circulation of the Bile Acids: A Contribution to Our Knowledge of Icterus. Alfred C. Croftan.

Denver Medical Times, November, 1901.

87 Home Treatment of Insanity. Hubert Work.
88 A Comparative Climatic Study of the Arid and Semi-tropic Southwest, and Its Relations to Tuberculosis. Wm. Winthrop Betts.
89 History of the Colorado Fuel and Iron Company's Hospital. R. W. Corwin.

American Journal of Insanity (Baltimore), October, 1901.

90 Dementia Precox. J. Christian.
91 *Is Legal Recognition of Graduated Responsibility Practicable? A. B. Richardson.
92 Abnormal Brain Development. H. C. Eyman.
93 *Examination of the Stomach Contents in the Insane. Florence E. Allen.
94 *Notes on the Wills of Lunatics, with Special Reference to the Law of Maryland. William H. Buckler.
95 *Psychic Treatment. Edward C. Runge.
96 *The Insane Criminal. Butler Metzger.

Medical Herald (St. Joseph, Mo.), December, 1901.

97 Fibromata Mollusca. John D. McDonald.
98 Vesico-vaginal Fistula. J. Cameron Anderson.
99 Lobar or Croupous Pneumonia. R. W. Stouffer.
100 General Practice and Minor Surgery. W. V. Loftus.

Archives of Neurology and Psychopathology, iii, 3.

101 *On the Evidence of the Golgi Methods for the Theory of Neuron Retraction. Richard Weil and Robert Frank.
102 *The Retraction Theory from a Psychical Standpoint. William A. White.
103 *Identification of the Insane. Henry Lyle Winter and William Steinach.
104 Recent Researches on the Chemistry of the Proteid Molecule. P. A. Levene.
105 A Case of Weil's Disease with Delirium Grave, with a Brief Experimental Study of Infective Icterus. Harlow Brooks.
106 *The Cephalic Index. Henry L. Winter.
107 *On the Arrangement and Function of the Cell Groups of the Sacral Region of the Spinal Cord in Man. B. Onuf.

Canadian Practitioner and Review (Toronto), December, 1901.

108 President's Address: "The Passing of the Surgeon" in Toronto. F. N. G. Starr.
109 Value of Examinations of Throat-Swabs as a Test of Freedom from Diphtheria. John A. Amyot.
110 The Treatment of Abscesses in Tubercular Bone Lesions. Clarence L. Starr.

Journal of Nervous and Mental Diseases (Nyack, N. Y.), December, 1901.

111 *On Tumors Involving the Corpus Callosum. James J. Putnam and Edward R. Williams.

Columbus Medical Journal, December, 1901.

112 Association for the Prevention of Tuberculosis. C. O. Probst.
113 Some Recent Views on the Causation of Cancer. J. H. J. Upham.
114 External Urethrotomy Without a Guide and Suprapubic Cystotomy for Vesical Calculus. Earl M. Gilliam.
115 "Enuresis." J. M. Dunham.

The Ophthalmic Record (Chicago), December, 1901.

116 Report of Case of Penetrating Wound of the Orbital Cavity with Partial Detachment of Retina. G. A. Whitledge.
117 Circular Rupture of the Iris. O. A. Griffin.
118 Another Case of Hyperopia and Conical Cornea. James W. Dunn.
119 *The Diagnosis of Ocular Paralyses. Alexander Duane.
120 Conical Cornea with Hyperopic Refraction. William E. Bruner.
121 Noma of the Eyelids in an Infant. F. W. Marlow.

Medical Council (Philadelphia), January.

122 Purpura. Frank W. Garber.
123 Dietary Changes in Infants and Children. W. L. Johnson.
124 Lobar Pneumonia. M. V. Leof.
125 Conjunctivitis Neonatorum. T. W. Moore.
126 Pointers on the Male Urethra. Lester Keller.
127 Disorders of the Sexual Function in Man—Syphilis. A. H. P. Leuf.
128 One Phase of Cystitis in the Female. A. G. Servoss.
129 Fibroid Tumors of the Helix After Piercing for Earrings. A. Schirman.
130 Eye Troubles Due to Affections of the Teeth. Alice Jarvis.
131 Fecal Accumulation in the Lower Rectum. Ernest Hall.

The Medicus (Frederick, Md.), November, 1901.

132 The Treatment of Pneumonia in Children. Georgina Grothan.
133 *The Advantages of Civil Service Principles in the Conduct of State Hospitals for the Insane. Gershom H. Hill.

Toledo Medical and Surgical Reporter, January.

134 Intestinal Anastomosis with Murphy Button. Charles N. Smith.
135 Mistakes (in Practice). J. D. Ely.
136 A Study of the Anti-Rheumatic and Anti-Neuralgic Action of Aspirin. E. Rybiczka.

Medical Standard (Chicago), January.

137 The Commoner Diseases of the Eye: How to Detect and How to Treat Them. Casey A. Wood and Thomas A. Woodruff.
138 Splashing Sound. A. Rose.
139 A Surgical Clinic (Aneurysm of the Innominate Artery, etc.). Christian Fenger.
140 The Treatment of Typhoid Fever. J. T. Moore.

Texas Medical News (Austin), December, 1901.

141 *The Diagnostic and Therapeutic Uses of Tuberculin, with Report of a Case of Early Meningeal Tuberculosis. Boyd Cornick.
142 *The Record of Yellow Fever in the United States for the Past Does Not Sustain the Mosquito Theory. J. P. Oliver.
143 Typhoid or Enteric Fever. C. C. Foster.
144 Forceps Operation in Obstetrics. A. J. Krueger.

Carolina Medical Journal (Charlotte, N. C.), December, 1901.

145 The Etiology and Treatment of Summer Diarrhea. F. Julian Carroll.
146 Angina Pectoris. Marion E. Nuckols.

Georgia Journal of Medicine and Surgery (Savannah), December, 1901.

147 *Typhoid Perforation, Its Frequency, Prognosis, Diagnosis and Treatment. Hugh M. Taylor.
148 A Report of Two Cases of "Eosinophilia," with Remarks upon the Eosinophile Cells of the Blood. Jno. R. Hicks.
149 The Advantages of the X-Ray in the Treatment as Well as the Diagnosis of Certain Surgical Cases. M. F. Carson.
150 *The Antiseptic and Eliminative Treatment of Typhoid Fever. T. Virgil Hubbard.

Medical Times (N. Y.), January.

151 Angina Pectoris. Egbert G. Rankin.
152 Treatment of Typhoid Fever by the Brand Plan,, with an Example. Louis F. Bishop.
153 Treating a Carbuncle. William Wormley.
154 Acute Delirium Following the Grippe. F. C. Simpson.

Southern Practitioner (Nashville, Tenn.), January.

155 Complications of Fractures and Their Management. Duncan Eve.
156 Myomectomy upon the Pregnant Uterus, with Report of a Case. R. E. Fort.
157 The Employment of Solution Adrenalin Chlorid as a Hemostatic in Surgical Procedures. Charles F. Sauter.

FOREIGN.

British Medical Journal (London), January 4.

1 *Epilepsy. William H. Broadbent.
2 *A Brief History of the Operations Practiced for Cancer of the Breast. William M. Banks.
3 *Clinical Lecture on Oophorectomy in the Treatment of Cancer of the Breast. H. T. Butlin.
4 Accidental Removal of Auricle by Midwifery Forceps, and Successful Application of Artificial Auricle. James Erskine.
5 *Theories of Inheritance. Charles Mercier.

The Lancet (London), January 4.

6 *The Causes and Significance of Phantom Tumors. William H. Bennett.
7 The General Principles of Treatment of Diseases of the Skin. Willmott Evans.
8 *Seventeen Cases Operated on for So-called "Internal Derangement of the Knee-joint." Arthur E. J. Barker.
9 *On the Etiology and Pathology of Survy. George Lamb.
10 Abdominal Pan-Hysterectomy for Cancer of the Uterus, with Notes of Two Cases. Arthur H. N. Lewers.
11 On Two Contrasted Cases of Hysterectomy; One During Pregnancy, the Other in Puerpery. J. Bland-Sutton.
12 The Disappearance of the Addiment from Anti-microbic Sera. E. W. Ainley Walker.
13 Beef-Worm in the Orbital Cavity. Thomas W. F. Gann.

Medical Press and Circular (London), January 4.

14 *Glycosuria and Insanity. W. R. Dawson.
15 Hemichorea and Parotitis Complicating a Case of Diabetes. George Peacocke.

AMERICAN.

1. **Proeidentia Uteri.**—Noble's method in the average case is to curette, which is only of special value in hypertrophy of the uterus with hyperplasia of the endometrium; he follows this by amputation of the cervix, which lessens the weight of the uterus and promotes involution. He makes a resection of the anterior vaginal wall, which serves to remove the redundant or overstretched walls; he next performs perincorraphy, and finally suspensio uteri. In the less severe cases a smaller series of operations may be performed. He gives the details of each of the operations and tabulates his experiences.

2. **Gonorrheal Vulvovaginitis in Children.**—The conclusions of Peterson's article are: 1. Vulvovaginitis in the young girl may be divided into simple and gonorrheal. 2. Simple catarrhal vaginitis is due, in a large majority of cases, to lack of cleanliness, and subsides when the proper treatment is instituted. 3. Gonorrheal vulvovaginitis in young children is more common than is generally supposed. While more frequently met with amid unhygienic surroundings in large cities, it is by no means a rarity in the less thickly settled districts. 4. Gonorrheal disease is more frequent below the age of 6; it is more common in girls than in boys. 5. Specific vulvovaginitis in the large majority of cases arises from actual contact of the patient with some infected person. A study of the reported epidemics, however, shows that the disease may be spread by other means, such as a common bath, towels, bed-linen, etc. 6. The ordinary staining methods will prove satisfactory in making a differential diagnosis between specific and other forms of vulvovaginitis. 7. The parts affected in their order of frequency are the labia, urethra, vagina and cervix; the vagina is more frequently affected in the child than in the adult, owing to the character of its epithelium. 8. The tubes, ovaries, and peritoneum may be involved in the pathologic process. It is not improbable that certain diseases of adult life may be ascribed to gonorrheal infection in infancy. 9. Purulent ophthalmia and rheumatism are quite frequent complications. The strictest prophylaxis should be observed in order to avoid the former. 10. The treatment of specific vulvovaginitis must be energetic to be of any avail. Under certain conditions the vaginal orifice should be widely dilated and the vaginal pus cavity properly drained.

4. **Cesarean Section in Placenta Previa.**—Ehrenfest argues against the propriety of Cesarean section in placenta previa, reviewing the arguments and reporting cases. His conclusions are as follows: 1. The results of Cesarean section at large are worse than is usually stated. 2. In contradistinction, the results obtained by the usual treatment of placenta previa are by far better than is generally believed. 3. There is every reason to expect that the results of Cesarean section performed in cases of placenta previa will be much worse than those of the classic operation. 4. If Cesarean section as a means of treating placenta previa is contemplated, Porro's radical operation, with extirpation of the uterus, according to the indications for this operation, may have to be performed in the majority of cases. 5. The treatment of placenta previa by means of Cesarean section does not seem to hold out promise of considerably augmenting the number of children saved. 6. A careful study of the published statistics shows that the most promising treatment of placenta previa is the following: From a careful study of the statistics the author finds that the best treatment of placenta previa is in cases of deep-seated previa, where late appearing hemorrhages can often be stopped by accelerating the progress of the labor, by artificial rupture of the membrane. If the bleeding continues, however, while the head is low down, a tight tamponade of the vagina is indicated, fixing the bleeding edge of the placenta between the fetus and the tampon. In this the tampon does not push out the placenta from the uterus, as occurs when the presenting parts are not fixed in the pelvis. After awhile the tamponade should be removed in order not to retard the progress of the child, and if the head is deep enough and the canal fully dilated the forceps can be applied. In cases of abnormal position or perforation of the cord, bipolar version, according to Braxton Hicks, should be performed as soon as two fingers can be passed into the cervical canal. This is possible usually in the case of placenta marginalis, and the turned fetus can be pulled down until the knee can be seen. In this case the thigh and breech act as a tamponade from above. Further expulsion should be left to the natural powers of the uterus and forced extraction after the version has been performed should not be undertaken. A very deliberate and careful extraction may be attempted in some cases, but only if there is a chance to save the life of the fetus. In case of central previa, the first hemorrhage often sets in during pregnancy or in the early stages. Sometimes the break can be checked by keeping the patient confined to bed and applying douches of cold water, but if these fail, abortion should be induced immediately, opening the canal with the Hegar's dilator until a colpeurynter can be introduced, following with a 2 per cent. solution of lysol, and expulsion by uterine contraction awaited. Light, careful traction at the free end of the colpeurynter is permissible, which is best done by means of a 2-lb. weight. Immediately after the bag is passed through the cervix, bipolar version is performed. In order to rupture the membranes an attempt should be made to reach the end of the placenta, but a thorough search for it is dangerous. If the membranes can be reached they are ruptured and the foot pulled through the opening. If they can not be reached easily the fingers penetrate the placental tissue and the foot is brought down through this hole. If at the time when the hemorrhage begins the cervix allows of the introduction of two fingers a dilatation is not necessary, and bipolar version is immediately performed. Further treatment is the same as described for marginal previa. In central cases even a careful manual extraction should not be attempted, as in these cases the lower segment of the uterus here is very friable and the danger of rupture imminent. If version has been made and the cervix not been injured, the hemorrhage is always checked immediately. None of these procedures are difficult or require special measures.

5. **Ventrofixation and Its Influence on Labor.**—The points made by Jacobson are that serious difficulties in labor have occurred only when the methods of operating have produced widespread and dense attachment of the fundus to the abdominal wall. He thinks shortening of the round ligaments as in the Alexander operation, and especially the Goldspohn modification, are better for subsequent pregnancies than are other methods. Apparently from the statistics the operations of suspension and ventrofixation reduce fertility. This can not be positively stated. They have no special tendency to induce abortion. As regards practical obstetric conclusions, plastics failing, it would seem that suspensio uteri, possibly after the Kelly method or one of the other methods such as Alexander's, is infinitely preferable to permanent ventrofixation, except, of course, in elderly women or those whose ovaries have been removed. From an obstetric standpoint, ventrofixation may be considered as occupying an intermediate plane between vaginal fixation and ventral suspension. As a rule pregnancy and labor are uncomplicated, between 85 and 90 per cent. have been absolutely normal; in 2 per cent. delivery has been impossible by the natural method. In the remaining cases the difficulties have been overcome by ordinary obstetric resources. We have,

notwithstanding, some good obstetric reasons for distrusting the operation of ventrosuspension in child-bearing women.

9. **Chronic Myocarditis.**—From a review of the subject, including its various types and a report of several cases, Musser concludes as follows: "We may say, then, that myocarditis may exist, 1, without definite physical signs—a rare occurrence I believe; 2, with signs of moderate cardiac hypertrophy, marked reduplication being the only physical sign and of significance only when coupled with signs of endarteritis; 3, with physical signs of dilatation; 4, with physical signs of fatty degeneration; 5, with the physical signs mentioned, which in the aggregate are of great significance."

10. **Digitalis.**—Jacobi calls attention to the fact that he has long urged the use of digitalis in small doses for various cardiac conditions and tuberculous disease, giving from 4 to 6 grains daily or its equivalent, given for weeks or months or even years without any hesitation. He finds no cumulative action in the use of the drug in this form. The patients do not become accustomed to its effect so as to reduce its efficiency. The indications for the use of digitalis, according to this method, are insufficiency of the heart muscle and incompetency of the mitral valve. Chronic myocarditis is no contra-indication and aortic insufficiency when incipient or moderate and not causing inconvenience is also perfectly compatible with this medication. In advanced cases where compensation is much disturbed and considerable peripheral venous obstruction exists even digitalis will not suffice to restore the equilibrium between the action of the heart and the distended capillary circulation. He also mentions as of value small doses of digitalis in cirrhosis.

11. **Heart Strain.**—Carter's article reviews the subject of heart strain, giving the symptoms, treatment, etc. It can not be abstracted in detail.

13. **Bacteriologic Diagnosis of Typhoid Fever.**—Higley notices the different tests of typhoid fever, the Widal reaction and His' isolation method. The question is: Which is the best aid in the diagnosis of typhoid? In clinical practice patients with typhoid present themselves at various periods of the disease. They may be classed, however, in two divisions: 1. Patients in the second, third and later weeks of the disease, in whom the characteristic symptoms have been developed and where something else than clinical symptoms must be called in for the diagnosis. 2. Patients in the first week of the disease where characteristic symptoms are not yet developed and where we have to make an early and sure diagnosis. In the first class of cases, except from the beginning of the fourth week on he prefers the isolation method. From the fourth week on he prefers the Widal reaction. The His method is preferred in the earlier period because it is the best, surest and easier method. In late cases isolation tests are useless, and the most favorable method is the Widal reaction and the leucocyte count. If we get positive results the better the diagnosis; if not, we have to wait. The bacteriologic examination of the urine he considers of little value from the diagnostic standpoint, excepting in rare cases which are not seen until the convalescence is nearly established. The isolation of bacteria from the blood has difficulties, requiring at least 5 c.c. and the discomfort of the patient in obtaining this is a serious obstacle in private practice. He thinks it should be restricted to cases where other methods of bacteriologic diagnosis have been tried without avail.

14. **Traumatic Intracranial Lesions.**—Phelps advocates antiseptic exploratory craniotomy where there is any reason to suspect depressed fracture. For intracranial hemorrhages he considers the justifiable use of operation is limited, and invasion of the cranial cavity without definite indications unjustified. The justifiable conditions of head injuries he says may be summarized as properly general in depressed cranial fractures, frequent in comparatively uncomplicated epidural hemorrhages, and exceptional in subdural lesions, whether of the brain or of the pio-arachnoid membrane. The question of operation will often be raised and definite decision entail great responsibility, but the accidents of too early or unwarranted invasion may outnumber those where ultra-conservatism has led to fatal neglect.

15. **Tuberculosis.**—Minor concludes his article, giving explicit directions as to sputum disposition and the keeping of the case record by the patient himself; he believes that this is beneficial. In all but severe cases a trained nurse can be dispensed with. All the paraphernalia he recommends are a reclining chair capable of being put into a horizontal position, good rugs, woolen underwear, and sputum cup. A tin bathtub and bath thermometer are all that is necessary for the hydrotherapeutic treatment. The more intelligent the patient the less frequently will the physician need to be consulted; generally from one to two visits a week will be sufficient. The amount of rest is a matter for judgment as is also that of exercise; the latter should begin moderately. The patient should not be left to his own judgment in the matter until he is able to walk for an hour or more. Minor believes in pulmonary gymnastics as being of value. Other matters mentioned are amusements, worry, which should be avoided, of course, hardening of the body by hydrotherapy, etc., and symptomatic medical treatment. He concludes with a day's routine for a consumptive case and a bibliography.

16. **Cystocele.**—Brettauer advocates Freud's method of treating defects in the posterior wall of the bladder by plastic use of the uterus, and proceeds in the following way: After the usual preparatory measures, an incision is made through the anterior vaginal wall, from the urethra near its orifice to the cervix; two flaps are bluntly dissected, the bladder loosened and pushed upward as far as possible; the vesico-uterine fold of the peritoneum is then opened and the fundus of the uterus dislocated through it. In two cases in which the uterus was retroflexed, this was done by means of a sound. The posterior surface of the uterus is now fastened with three sutures of chromic gut to the flaps of the anterior wall of the vagina, about one-half inch from their edges. In the first case the flaps were not resected, but sewn together with a running suture, and a colpo-perineorrhaphy added in the usual way; in the second and third cases, the flaps were united after resecting a strip about one-quarter of an inch in width. The vagina was then packed with gauze and the patient put to bed. He has operated thus in three cases, which he reports, the results being good in all. The operation demands less time and is accompanied by less bleeding than in any other method so far employed by him. Of course, its usefulness is limited and only patients near or past the menopause can be subjected to it, but in old women where prolonged operation is contra-indicated, the method deserves a thorough trial.

24. **Inoperable Tumors.**—George reports cases of treatment of sarcoma and granuloma treated with pyoktanin and Coley's serum. The former seemed to reduce the size of the tumor, but there was excessive stimulation of growth of tumor cells in the neighborhood and while there was temporary relief the patients ultimately became worse and died. In one of the serum cases, a granuloma, the results were not especially beneficial. The tumors continued to increase in size in the sarcoma case; in the granuloma there was gradual disappearance of the tumor by local necrosis and sloughing, but the tumor began to grow again and was extirpated surgically. The sarcoma case terminated fatally. Two other cases have been treated in the Michigan University Hospital with Coley's mixture, without benefit, one of carcinoma and the other of lymphosarcoma. Therefore, the author concludes that his experience has been unfavorable to its use.

25. **Diphtheria Antitoxin.**—The duration of immunity produced by immunizing doses with diphtheria antitoxin according to various authorities is discussed by Jump, who reports five cases, from which, with the experience of others, he feels warranted in deducing the following conclusions: 1. That as diphtheria antitoxin is practically harmless, all exposed persons should receive an immunizing dose in proportion to age. 2. That 250 units should be given to children under two years and 500 to all others. 3. That the immunity will last for at least three weeks, provided a reliable antitoxin is used. 4. That

all exposed persons should be removed from infected surroundings, either by thorough disinfection of their own quarters or by removal to other places. If this be impossible, the immunizing doses should be repeated every third week.

26. **Follicular Tonsillitis.**—Dulles' treatment is to avoid strong antiseptics and treat his cases with small doses of calomel and soda and saturated solutions of boric acid as a gargle or rather as a wash. In very little children he orders instead the administration of lime water every hour throughout the day. If this is administered a little while before the calomel is given he holds that it does not form black-wash in the stomach, and he has seen no interference with the action of calomel by this treatment. In older persons where there is a good deal of pain he has found it of advantage to give salophen or salol and phenacetin in sufficient doses. He finds that it relieves the pain and he believes it also has a systemic action. He believes in giving rest to the digestive tract in these cases and finds it advantageous to have no food given until the patient, if old enough to speak, asks for it. In some cases that he saw, with much pain and congestion, he found the application of dilute solutions of adrenalin chlorid of seemingly great advantage.

27. **Ear in Influenza.**—The importance of aural complications in influenza is dwelt upon by Smith, who thinks the first manifestations should receive prompt and energetic care. Hot antiseptic solutions are most useful in many acute cases of otitis and hot medicated solutions are not specially the better for the drugs contained. The ear should be frequently examined and prompt incision of the tympanum, before waiting until it is too much distended, should be performed. Many cases will then make a good recovery with antiseptic irrigations followed by introducing a strip of iodoform gauze well into the deep canal, to provide for good drainage, removing it every day or two. We must, however, endeavor to rid the ear of bacteria by keeping down the inflammatory heat and keeping the surface dry. After the secretions have been removed by inflation, irrigation or a cotton carrier, the surface can be gently dried with cotton and hot air, and dusted with some impalpable powder, such as aristol or nosophen, care being taken to only dust the surface, leaving no excess there to be impacted or interfere with drainage.

31. **Phthisiophobia.**—Knopf deprecates the irrational fear of tuberculous contagion and criticizes the head of the Marine-Hospital Service for giving out the opinion that it is dangerously contagious with the result of stopping incoming immigrants who may be suffering from it. He also notices the growth of this idea among the laity and the recent action of the village health board of Liberty, N. Y., and other places. He calls attention to the fact that it is conclusively proven that since the establishment of sanatoria for consumptives, the disease among the villagers of Goerbersdorf and Falkenstein has been actually decreased by one-third of what it was before the establishment of the institutions. The article is a plea for sanatoria for the care of the needy consumptives.

32. **Narcolepsy.**—After reporting a case of diurnal morbid somnolence preceded by free perspiration, lack of refreshment from the physiologic sleep, weak, slightly hypertrophied heart, dilated stomach and hypochlorhydria, with high urinary density and acidity, excess of chlorids, sulphates, urates, etc., in the urine, diminished blood alkalinity and small reduction of hemoglobin and a low degree of relative urinary toxicity, Stern discusses the subject and seems to hold that the primary cause is a toxicosis of some form. He suggests that the excess of chlorid excretion exhausting the supply and causing temporary diminution of chlorid in the blood, which plays an important part in osmotic tension of the body fluids, may be probably the cause of the condition.

33. **The Tonsils.**—Bosworth argues that the tonsils are not a normal physiologic growth, but a distinct menace to health. He reports his method of operation under chloroform with a cold wire snare in preference to the tonsillotome. This diminishes the danger of hemorrhage, which is an important consideration, especially in adults.

34. **Appendicitis and Typhoid.**—The difficulties of diagnosis between appendicitis and typhoid perforation are pointed out by Richardson, who reports a case illustrating them. The main points, he says, to be emphasized in determining between typhoid and appendicitis are that when any of the local signs, pain, tenderness, rigidity and fever are absent, especially tenderness and rigidity, it strongly suggests typhoid. The case must be studied with special care lest typhoid be overlooked; so too, when the constitutional symptoms outweigh the local. Without pain at some time in the course of the disease, there can be no acute surgical lesion of the abdomen; temperature with pain, but without rigidity or tenderness, means typhoid fever or simple continued fever; very high temperature should excite suspicion if pain and tenderness are present but not marked, for acute appendicitis has usually a moderate temperature; a soft abdomen with a high temperature is a suspicious combination, even if there is pain and tenderness; when typhoid is suspected, the pain and tenderness must be distinctly localized in the appendix, and confirmed by rigidity, resistance or tumor, before operation for appendicitis is justifiable. When there is doubt as to typhoid, the operation should be postponed if constitutional signs are severe, and local ones hard of detection. When the abdominal symptoms—pain, tenderness, rigidity, with or without distension—call loudly for operation, the abdomen must be opened, in spite of the possibilities of typhoid; but cases suggesting typhoid as strongly as appendicitis, should until the diagnosis is perfectly clear, be carefully observed.

35. **Fractures in Children.**—The chances of fractures occurring in children and being overlooked are pointed out by Cotton and Vose. There may be only slight symptoms of pain and there is a kind of subperiosteal fracture which is practically common in children, most of the cases reported being of this type. The patients were subjected to skiagraphic examination, the treatment being simple fixation for two or four weeks with perfect results. We are inclined to underestimate the tolerance of children to fractures. In adults there are not infrequent exceptions to the rule that fractures ential immediate and notable pain and disability; but in children the exceptions are so numerous as to require a modification of the rule. In small children if there is a history of a fall or other trauma, especially where the arm or shoulder girdle may be involved, the only safe way is to assume fracture until every inch of the bone has been gone over carefully.

36. **X-Ray Burns.**—Rollins claims to have proven that x-ray burns can be produced by x-light in electricity and by electricity when no x-light is present. He gives an account of his experiments on guinea-pigs and points out that not only burns can be produced on such animals, through a single thickness of aluminum, but they can be killed by light after it has passed through two aluminum screens. X-light, he claims, after excluding the participation of all other agents in the results, is a force of great power, and thinks there is a chance for useful original work in this field.

40. **Consumption.**—Monroe gives a number of facts bearing on the hereditary transmission of tuberculosis, showing where the descendants of one parent in a family had all died from the disease while the other parent and his and her children by another partner have been perfectly free from it. He does not find any case of infection in his experience, but refers to a great many other cases where there has been a family inheritance.

41. **Hepatic Cirrhosis.**—Witherspoon's article is largely a general discussion of the subject, and he calls attention to the importance, in operative treatment, of early union of the liver with the abdominal wall so as to insure a general circulation at least in the peripheral hepatic cells and protect the patient from the ill effects of intestinal intoxication. It is also well to perform an omentopexy at the same time, and relieve the portal circulation before the ascites is well established.

51. **Jaundice.**—Mayo concludes from his study of the subject that jaundice is not to be expected in uncomplicated gallstone disease. When due to stone obstructing the common duct there is a history of previous attacks of colic. The symptoms vary

considerably. There can usually be obtained an early history of some little fever, sometimes chilly sensations or sweats. The gall-bladder often can not be palpated. In malignant disease the loss of flesh before the jaundice, the age of the patient, the non-improvement of the jaundice, with a distended and perhaps nodular gall-bladder or adjacent tumor, completes the clinical picture. When due to chronic pancreatitis it will probably be confused with malignant disease; hence, the possibly existing cause would suggest examination as to history, age of the patient, and duration of the symptoms. The various forms of cirrhosis accompanied by jaundice are to be distinguished by examination of the liver and occasionally the size of the spleen. Every practitioner is familiar with the catarrhal jaundice that is most common in young adults and is due to an extension of a mild infection from the gastro-intestinal tract; the age of the patient, slow pulse, lack of general symptoms and the short duration make the diagnosis easy.

62. **Stitch Abscesses.**—Maylard has experimented with patients in which he had previously rubbed in oleate of mercury to determine whether this bactericidal agent could hinder or prevent the production of "stitch abscess," and the actual presence of mercury in tissues under the skin was tested chemically and the fragments of the skin were subject to bacteriologic examination. Chemical examination failed to afford any positive information. Either the mercury was in too small quantity to be detected, or its absorption and transit through the lymphatics too rapid to be caught for analysis. The bacteriologic examination proved a material diminution in the number of micro-organisms present. The ointment could not reach every possible location; therefore, some escaped. The clinical records seemed to afford incontestable proof of the value of the method. He advises the preparation of the skin for operation with lanoline oleate of mercury ointment, by first cleansing the skin by turpentine water, alcohol and ether, if necessary; then rubbing in lanoline oleate of mercury and leaving on a piece of lint besmeared with same until the second inunction is performed twelve hours later. Every case should be treated for at least twenty-four hours before operation, preferably forty-eight hours, with at least two separate periods of "rubbing in" for about ten minutes on each occasion. The lint is removed on the operating table and the superfluous ointment rubbed off with a piece of sterilized gauze.

66. **Intestinal Approximation.**—Frank believes in the Murphy button and he finds that von Bergmann, Gussenbauer and Wölfler, who condemned it four years ago, have within the last year come out strongly in its favor for end-to-end union. Czerny has been using it since 1896. He thinks that for simplicity, time-saving, uniform coaptation of peritoneal surfaces, arrest of hemorrhage, prevention of contracted cicatrix, juxtaposition of histological structures, avoidance of infection, less disturbance of the peristaltic wave, avoidance of pocketing and shelving, reduction of mortality, and in the minimum mortality it surpasses all other methods.

67. **Carcinoma of the Cecum.**—Before describing their cases Cumston and Vanderveer discuss the subject, diagnosis and technique of the operation according to various authors.

76. **Uncinariosis.**—A description of the parasite, symptoms, etc., and a history of the disease in the United States are given by Claytor, who reports a case. He thinks there is an increasing danger of the greater prevalence of the disease from its importation by immigrants from localities where it is prevalent and by those returning from our newly acquired territories.

80. **Thoracic Aneurysm.**—Three cases are reported by Arnold. In the first the aneurysm was not the immediate cause of death, but the author thinks it undoubtedly had an important contributing influence through the attacks of prolonged extreme dyspnea which diminished the resistance of the patient to pneumonic infection which carried him off. In the second case the aneurysm caused the death by inducing aortic regurgitation, dilatation of the left ventricle, mitral regurgitation, general passive congestion and death from asystole, accompanied by edema of the lungs; the responsibility of the aneurysm was indirect. In the third case the pressure of the distended sac interfered with the circulation, causing death, while in the fourth it prevented entirely the exit of air from the lungs, and the patient died of suffocation. With the descent of the diaphragm on inspiration the heart and anterior part of the arch were drawn downward, allowing the air to enter the lungs, but not allowing it to escape. Still another case is reported in which death was caused by starvation from pressure of the aneurysm on the esophagus.

81. **Tuberculosis in Heart Disease.**—The conditions noticed by Anders are: 1. Endocarditis due to tubercle bacilli, which is illustrated by a single case in his experience, and is so rare as to be almost non-existent. 2. Cases of recent endocarditis and chronic endocarditis that are secondary to tuberculosis or merely intercurrent, and are caused by various non-tuberculous infections and other agencies. Such cases do occur and include many of the cases ascribed to tuberculous infection. 3. Forms of chronic valvulitis that are primary and precede the tuberculous infection of the lung, and are ascribable to rheumatism and other recognized causes. This is the most important group and is naturally non-tuberculous in its etiology. It is believed that the effect is different according as it is on the right or left side of the heart. Valvular lesions of the left heart apparently protect against tuberculosis while stenosis of the pulmonary artery predisposes. As appears from a careful review of the literature aortic valve disease seems to be rarely associated with phthisis. When the disease, however, attacks the individual the lung disorder aggravates the cardiac affection.

84. **Echinococcus Disease.**—Lyon summarizes the reported cases of echinococcus disease in North America and discusses the relation of age, sex, occupation, the geographical distribution, diagnosis, etc. He finds that a great majority occur in foreigners, a very large percentage being Germans, and most of the cases are reported from New York and Manitoba. The most frequent anatomic location of the parasite is naturally in the liver. It can not be authoritatively said whether the disease is increasing or not, but it seems to be in domestic animals. He calls attention to the importance of looking out for future possibilities, especially regarding infection of man from dogs, and we should protect our dogs from the infection of diseased cattle, sheep and swine. We can exterminate the disease by enforcing proper sanitary regulations at the slaughter houses. Without such precautions we may expect the condition of Germany and Australia in respect to the number of lives sacrificed to this disorder which has as yet no serious foothold among us.

85. **Herpes Zoster.**—From a discussion of the conditions and theories Van Harlingen comes to the following conclusions: "1. Under the designation zoster or herpes zoster, is to be understood a specific infectious and possibly contagious exanthem, characterized in its invasion by lassitude, general malaise, chills, increased temperature, and more or less digestive disturbance. Following this, in most cases, neuralgic pains develop along certain nerve-paths or metameric areas, together with the development of enlarged lymphatic glands. After a period of several days, more or less, during which the symptoms mentioned, or some of them, have manifested themselves, the characteristic exanthem shows itself, and runs through a fixed cycle of development, acme and decrudescence. The general symptoms, particularly the neuralgic pains, may continue during this period, or, in many cases, may diminish, usually disappearing with the eruption. In other instances, and particularly in older persons, the neuralgia may form a prolonged succedaneum to the regular course of the disease. In a certain number of cases, probably however rare, various visceral complications may accompany the affection. Such are paralysis of sensory or motor nerves, inflammations of the pleura, peritoneum, articulations, or viscera. 2. The infection attacks chiefly the posterior (sensory) ganglia of the cord and the Gasserian ganglion. From hence inflammation and degeneration may extend along the nerve trunks and fibers. No other lesions have as yet been discovered post-mortem, although it is probable that further observation will result in tracing the disease in the various membranes and

viscera when its presence has been clinically noted. The numerous examinations of the skin lesions and such blood examinations as have been made have not as yet thrown any light upon the nature of the disease. 3. Zosteroid eruptions are not infrequently observed in cases of poisoning from coal gas, after the ingestion of arsenic, following injuries of the nerves, as a result of moral shock, as grief, or in hysteria, and probably under other conditions. These, however, are to be distinguished from the true herpes zoster as defined above."

91. **Graduated Responsibility.**—Richardson's article is a plea for the partial responsibility of the insane and he shows how many cases of insanity are yet more or less responsible and holds a plea of irresponsibility should not be held as an extenuating circumstance as regards the duration of the confinement. The man who escapes on this plea should not be allowed at large; more care should be exercised in preventing a person of limited mental capacity from returning to the environment that produced the original act, and the release in all cases should not be unconditional. A single offense of such individuals should be taken more frequently to indicate a propensity from which society should be protected. He asks why can not the legislature authorize the judge to instruct the jury to consider the degree of moral and mental incapacity of the individual as well as the character of the act with which he is charged, and if the jury finds the acts and probable motive to indicate such moral deficiency or propensity or weakness as would render it unsafe for the persons again to gain their liberty, let it be empowered to recommend an indefinite confinement, and why should not the judge be given some discretion as to the kind of institution to which such persons should be sent?

93. **Examination of the Stomach Contents in the Insane.**—The importance of gastric disturbances of insanity is insisted upon by Allen, who gives the results of examinations for gastric lesions in the Michigan Asylum. A number of cases are reported of stomach examinations and treatment based upon these produced good results.

94. **The Wills of Lunatics.**—Buckler's article is a medico-legal review of the law as regards the testamentary capacity of the insane. He summarizes the legal standing in this regard as follows: A person of unsound mind may make a will as valid as that of any other person, unless in the opinion of a jury his power of rational action is destroyed by general mental disease, or by some partial mental disorder affecting the performance of that particular act. The question of undue influence is also a matter for the jury or judge to pass upon. Each case here depends upon its special circumstances.

95. **Psychic Treatment.**—Runge gives an interesting report of the results of moral treatment, and the methods employed in the St. Louis Insane Asylum. He goes over the questions of the influence of patients upon each other of religious exercises, occupation, amusements, etc. In only one instance does he mention absolute defeat of all measures of psychic treatment for the benefit of the case.

96. **The Insane Criminal.**—An analysis of 400 cases admitted to the Massachusetts Asylum for Insane Criminals is given by Metzger with comparison with some of the New York statistics. He finds a bad family history in a very large percentage, 59.4 per cent. have a bad heredity as regards insanity, epilepsy and alcohol. In those cases admitted within the last two years where the history has been looked into somewhat more carefully the percentage of bad heredity rises to over 70 per cent., and still higher figures are afforded by the Matteawan State Hospital of New York. Crimes committed by the insane vary as widely as those of the ordinary criminal; in a very large percentage the criminal career was entered upon at an early age, in nearly all before the age of 25. The majority of insane criminals are multiple offenders. Every type of insanity is represented; the percentage of cases of dementia precox is especially large, and many of them have also a strong alcoholic factor or element of inebriety. Many of the cases classed as alcoholic are very unstable mentally and might have become insane even if they had not been intemperate. Metzger thinks that too much stress can not be laid upon the number of insane men who have been condemned to prison with mental defects unnoticed or disregarded, and gives an enumeration of such patients that have later come into his hands. The offense committed by the individual is by no means the criterion by which to judge of his danger to society. Of 400 men, 216 were apparently irresponsible at the time they were tried, but only 40 of these were recognized as such. He thinks that a plan of medical supervision of all arrested individuals would be a good thing, and it could be more easily carried out in the larger cities where the necessity of such foresight is most required.

101, 102. **Neuron Retraction.**—The paper by Weil and Frank gives the history of theories of neuron contractility, description of the methods employed by them, and of the results. They limited their attention to changes in the dendritic processes of the pyramidal cells of the cerebral cortex and corroborate the statement of Cajal that normal and toxic matter can not be differentiated by the number of varicosities or gemmules. Moreover, different pieces of the same material, whether toxic or normal, vary greatly in the proportion of varicosities and of gemmules. Admitting these objections, they think the theory of retraction is deprived of all anatomical evidence. They also believe that the proportion of varicosities is largely dependent upon the method employed, and they must be regarded as artefacts. There is, therefore, no morphologic basis for the theory of retraction. There are many physiologists who hold to the belief that this theory offers the only possible explanation of certain groups of nervous and psychical phenomena. They do not deny that there may be retraction, or an allied process, but assert that the Golgi method in the present state of its development is incapable of demonstrating this fact.

The same subject is viewed from a psychic standpoint by White, who claims that while histology has failed to establish the fact it is strongly corroborated by the facts of psychopathology. He has been able in a number of cases to apply this theory after making the diagnosis and formulate a system of treatment which gave good results. He holds that it may be in some respects analogous to the atomic theory, only demonstrable by phenomena and not by the microscope.

103. **Identification of the Insane.**—The application of the Bertillon system of identification to the insane, or a modification of it suited to conditions, is advocated by Winter and Steinbach, who mention instances where serious mistakes have been made in identification of the insane who come to asylums and are unable to give an account of themselves and with very imperfect histories. They give tables and figures illustrating the cards and instruments employed.

106. **The Cephalic Index.**—The general deductions from statistics that have been made seem to indicate that a comparative dolichocephaly means inferiority, while comparative brachycephaly is the hallmark of mental superiority. Winter's observations, however, do not quite bear this out in his study of British crania, and seem to support the theory that an unusual increase in the relative width of the head, among the British at least, is indicative of psychophysiologic variability, often accompanied by mental and moral instability.

107. **The Sacral Cord.**—Onuf's studies of the sacral region of the spinal cord are elaborate, and want of space forbids their detailed reproduction here.

111. **Tumors of the Corpus Callosum.**—Putnam and Williams report three cases of callosal tumors and analyze the symptoms. They give also an appendix additional with thirty-eight tabulated cases from the literature, which are also analyzed. One striking fact is the predominance of mental symptoms in cases of tumor localized in this region and the frequency of excitability over depression. In many cases, however, the condition may be latent over a considerable period. The anatomic and physiologic considerations are discussed and the authors come to the conclusion that the brain can be considered simply as an instrument, a series of sensori-motor mechanisms, a multitude of threads stretching from periphery to periphery, devoid of the power of storage of memories and without any exclusive intellectual center, to more readily explain the symptoms of tumor of the corpus callosum. The sole function of the brain consists in bringing about actual motion or nascent motion. It exists for nothing else; and mental life consists in clothing these actions, which seem to

be concerned only with the needs of the present and the future, with the colors and forms drawn from the life of the past. Into each act of the present the whole of the actor's past enters in some measure.

119. **Diagnosis of Ocular Paralysis.**—Duane gives a table of diplopia in paralysis and sums up his conclusions in regard to this subject in the following: 1. In the case of paralysis of an elevator or depressor it is immaterial for the diagnosis whether a lateral diplopia is present or not and whether, if present, it is homonymous or crossed. The diagnosis in these cases is to be made from the character of the vertical diplopia (or vertical deviation behind the screen) and from the way in which this diplopia increases in looking up or down, and especially in looking toward the four corners of the field of fixation. The character of the diplopia in looking straight up or straight down affords no certain criterion for the diagnosis, but we must ascertain how the diplopia changes when the eyes are directed respectively up and to the right, up and to the left, down and to the right, and down and to the left. The diagnosis then is readily made from the table given. 2. From the same table the diagnosis can readily be made in cases of combined paralysis. 3. When diplopia is absent, the diagnosis can still be made, in marked cases at least, by the screen test, performed with the eyes directed respectively up and to the right, up and to the left, down and to the right, and down and to the left. The deviation behind the screen in each instance will correspond in character and amount to the diplopia that would be ordinarily produced by the paralysis, and the diagnosis here, too, can be made from the table just as if diplopia was present.

133. **Hospitals for the Insane.**—Hill gives the history of the Board of Control Management of the Iowa State Hospitals. It appears that the civil service rules are not very elaborate, but a non-partisan board assures against political influence in the management and great benefit has been derived from this fact. The superintendent has absolute control of the appointment and discharge of subordinates and nothing is stated as regards the examinations for minor offices.

141. **Tuberculin.**—Cornick has had good satisfaction in the use of tuberculin for diagnostic purposes. After first securing a temperature record of the patient, taken every two hours from 8 a. m. to 8 p. m., for two or three successive days, he gives from 1 to 5 milligrams of tuberculin subcutaneously at 8 p. m., doubling the dose again in forty-eight hours, and again doubling at the end of every forty-eight-hour period until the temperature rises two degrees, as shown in excess of the same hour the previous day, in which case the diagnosis is positive, or until the limit of 20 or 30 milligrams has been reached for the final dose without such reaction which excludes tuberculosis. He uses the standardized tuberculin prepared by the Bacterio-Therapeutic Laboratory, of Asheville, N. C., and a 1 per cent. dilution for the beginning dose with a 10 per cent. dilution, if necessary, at the last. Sterilized water containing .5 to 1 per cent. carbolic acid is the best diluent, and the locality used is the loose cellular tissue over the back in the interscapular space. He has employed tuberculin also therapeutically with advantage, as he claims, but considers that this use must be limited to very early stages of the disease where it has a great curative value.

142. **Yellow Fever.**—Oliver argues from records of past epidemics that the mosquito theory of transmission of yellow fever is false.

147. **Typhoid Perforation.**—The occurrence of typhoid and its frequency is discussed by Taylor, who holds that possibly one-third of the deaths from typhoid are due to this complication. The surgical treatment, of course, is the only method that offers hope. The difficulties of diagnosis are noted and he says that his experience prompts him to attach most importance to the following: 1. Pain. 2. Muscular rigidity. 3. Inhibited peristalsis. We need more proficiency in the diagnosis than in the operative technique. We should bear in mind that perforation is usually located in the last eighteen inches of the small intestine, and should not be too much perturbed in regard to shock. When this is absent or is not dangerously profound, immediate intervention is indicated.

150. **Typhoid Fever.**—When called to a case of typhoid Hubbard usually commences by giving the patient a capsule of calomel ½ gr., guaiacol carbonate 2 grs., podophyllin 1/40 gr., every two hours for twenty-four to forty-eight hours, depending upon the condition of the bowels. He continues this until he has secured four or five intestinal evacuations for two successive days, and then discontinues calomel and uses ½ gr. of menthol added to the guaiacol and podophyllin. If after discontinuing the calomel there is a tendency to inaction of the bowels, he gives a small dose of salts or Hunyadi water in the morning, and always tries to get two or more evacuations daily. If after three or four days of treatment the temperature remains high or rises, he again uses calomel every twenty-four hours or less, which invariably reduces the temperature and results in general improvement. He continues the guaiacol and menthol throughout the disease. He thinks the efficiency of this method is demonstrated by clinical results.

FOREIGN.

1. **Epilepsy.**—Broadbent commences by saying that epilepsy is a disease of which we know extremely little definitely, and with certainty nothing at all. We are fairly agreed as to the cases to be called epilepsy and have a considerable knowledge of the etiology, but its pathology is largely conjectural and its treatment empirical. After first reviewing the well-known symptoms he refers to some points of particular importance. One is, fits rarely come on during work or excitement. We need not forbid epileptics to take exercise, to ride or even to cycle in moderation. In the causation of the disease the most important element is undoubtedly heredity or the inherited tendency to predisposition, though it may exist without any such, other than can be excited by peripheral irritation. Sufficient importance has not been given to the sensory nerves in this disease. We can inhibit the attack sometimes through these, and it seems reasonable that they may excite it. As regards the pathology he holds to the Jacksonian theory of nerve discharge and nerve instability, using the usual terms in this explanation. As regards the prognosis, he thinks if epilepsy does not occur in a low type of nervous organization, and the attacks do not begin in infancy or puberty, but only after some serious exciting cause and late in adolescence or adult life, there is a possibility that it may be held in abeyance. The state of the circulation is a matter of importance. Prolonged observation has convinced him that the tension of the pulse is unduly low in epilepsy. This he considers is characteristic, while a high tension pulse for the age of the patient is ground for hopefulness. He mentions a case which seemed to bear out this view. As regards treatment, open-air life, exercise of almost every kind, care as to diet, but without any special prohibitions, avoidance of overfeeding and having the evening meal always light are advised. Stimulants, however, must be forbidden. He would not prevent an epileptic boy or girl going to school unless the fits are very frequent, excepting for the fear of disturbance the fit might make with other children. We should study the hereditary tendency, avoid exciting causes, look after dietetic derangements and especially the menstrual period if irregular or accompanied with pain. He believes that bromids are given too much in a routine way and the question is whether relief of the symptoms may not be too dearly purchased by these depressing drugs. He think that if Julius Cæsar and Napoleon, who are said to have been epileptics, had been treated with bromids they would not have amounted to so much in the world. The rules he lays down for himself are to give the bromids simply to diminish the frequency of the fits, while other means should be employed to reduce the instability of the system. In cases where the fits are not frequent he does not give the bromids regularly, but with premonitory symptoms these should be taken up. When they are frequent they should be given in such amounts as may be necessary and at such hours as may be suggested by the time in which the fits are liable to occur. If the fits are nocturnal we may possibly be able to do something by regulating the cardiovascular instability. Thorough examination of all the bodily organs and functions should be made and he believes in

keeping down the pulse tension in exceptional cases where high pressure exists. For lowered vitality give phosphorus, hypophosphites, arsenic with strychnia and sometimes iron, and he thinks arsenic itself has a beneficial effect on the disease. The condition will bear a great deal more study than it has as yet received.

2. **Cancer of the Breast.**—Banks' article is largely a historical résumé and argument claiming the credit for himself and others which has been of late years given to Halsted for his thorough operation.

3. **Oophorectomy in Cancer.**—Butlin in his article does not support the idea of any special positive relation of the existence of the ovaries to cancer of the breast and the benefit of oöphorectomy. He believes in local operation. In many cases it may be successful, and if the disease still continues and kills the patient it may do so in some distant organ with much less pain and suffering. Moreover, if it recurs *in situ* in the patient in the form of nodules she generally suffers far less than if no operation had been performed. We are asked to replace the operation by the removal of the ovaries and the administration of thyroid and he says we can only reply that so far as known there is no single case of cure by means of oöphorectomy. Even if after operation and oöphorectomy the disease returns it is in no way improved by the latter operation. He says that if we are to come to a definite opinion as to whether oöphorectomy can cure any woman of cancer it must be by applying the practice in say twenty or twenty-five cases where it exists to a very mild extent without any obvious extension to the lymph glands. If a surgeon can find that number of patients willing to take the risk he does not blame him for performing oöphorectomy, but he would not have the courage or faith himself to do so.

5. **Inheritance.**—Mercier's article is a scathing criticism of the recent views of Archdall Reid and his criticism of the medical theories of the transmissibility of acquired characters.

6. **Phantom Tumors.**—The paper by Bennett is a clinical lecture on phantom tumors in which he describes cases of these due to local irritation, either superficial or internal, to occupation and to imitation. Phantom tumor is not a disease in itself, but simply a sign of some concurrent disease or eccentricity. When caused by local irritation the source of the latter may be immediately in relation with the phantom, or it may be more or less distinct or remote from it. As a rule the nature of the cause can not be determined until the tumor itself has been allowed to subside under anesthesia. He suggests in doubtful tumors keeping the possibility of phantom tumors in mind. Sometimes examination in sleep will settle the matter, but some persist during sleep. The important detail in anesthesia for diagnosis of these cases is to place the hand gently upon the tumor from the time of commencement of giving the anesthesia. It will be found that during the early stage of the anesthesia it increases a little in size and hardness, but with the on-coming of complete anesthesia little vibrations or quivering motion will be felt, and then it will perceptibly melt away gradually under the hand. Such tumors never disappear suddenly, and this is a matter of importance. If the tumor suddenly slips away the evidence of positive tumor is sure. It has slipped back into the abdomen, say for example, instead of being possibly a mere muscular contraction of the rectus. Another point he calls attention to, is putting the warm hand flat over the part. The pain, muscular rigidity, and other difficulties caused by the indiscriminate manipulation by cold hands and finger tips account for many errors in diagnosis. As regards treatment there is not much to be said. In irritation cases the cause should be removed if it has been discovered. In occupation phantoms, rest from the occupation may give relief; but change of occupation is necessary for a cure. The imitation phantom is generally of small consequence; the patient should be kept from association with the person imitated. Galvanism vigorously applied may afford relief.

8. **Internal Derangement of the Knee-Joint.**—The article by Barker discusses the conditions following splitting and dislocation of the semilunar cartilage in its various forms. In operating on these cases the incision he uses is one commencing over the inner border of the ligamentum patellæ about one-half inch above the articular border of the tibia and carried with a curve downward and outward to the anterior edge of the internal lateral ligament. The lowermost edge of the flap so formed should lie about one-half an inch below the anterior border of the tibia. The cut should be firmly made and divide the periosteum. The flap should now be raised with the periosteum until the edge of the cartilage appears under the attachment of the meniscus, which, if still attached, will raise with the flap until its under surface is seen. If partially torn anteriorly it can be stitched to the periosteum with a few silk threads. The periosteum is now laid back in its place and secured there by silk stitches, the meniscus becoming firmly attached to it. The rest of the wound is closed without drainage. If complete peripheral separation has taken place recently and the curled-up meniscus can be easily reduced in flexion to its old position it can also be stitched as above, but when this separation is old and the cartilage is shrunken up around the crucials it is better, by snipping its attached ends with scissors, to remove it completely. The same is true in cases of "central splitting" where the partial rent is behind the internal lateral ligament. Here it is better to complete the rent and take away the whole meniscus. Great care should be taken to avoid touching the parts with the fingers. Nothing but carefully sterilized medical instruments and sterilized gauze should be used. Antiseptics should be avoided; they cause irritation and the wound should not be kept open a moment longer than necessary. Ice-bags over the dressings for the first week or so are agreeable and probably keep down the effusion.

9. **Scurvy.**—The three recent theories of scurvy—that of Wright that it is due to acid intoxicaton, that of Liston that it may be caused by ankylostoma, and that of Jackson and Harley that it is a condition of ptomain poisoning—were tested clinically by Lamb. He finds that in his cases there was nothing to support the view that any of these was correct. He comes to the conclusion, therefore, that scorbutic symptoms, though associated in some cases, like those of Wright's, with a condition of acid intoxication, may develop entirely independent of this condition. There appears to be no one etiologic factor and pathologic condition underlying the symptoms clinically known as scurvy.

14. **Glycosuria and Insanity.**—Dawson reports seven cases of glycosuria associated with insanity in which the symptoms were local discomfort in varying degree and the blood pressure was high. Glycosuria is not necessarily a bad symptom, as five of his seven cases made good recoveries and another seems to be on the road to recovery, while the remaining one is for other reasons a hopeless case.

Bulletin de l'Academie de Medecine (Paris), December 24.

Sero-Vaccination of Hog Cholera.—One of the prizes of the Académie was awarded to Professor Leclainche of Toulouse for his successful sero-vaccination of hog cholera. He reports that 30,272 animals have been treated on these principles, and the results have been as successful as during the first trials. Even in an advanced stage of the disease—which runs a very brief course—the animals can be saved by the prepared serum. Its efficacy is comparable to that of antidiphtheritic serum, but even surpasses it. Phagocytosis is always active in this disease, even when it terminates fatally, but when aided by the prepared serum it is stimulated to such an extent that the animal recovers. Leclainche supplements this effective but transient serum protection by inoculation of the virus, which confers durable immunity.

Resolution on the Prophylaxis of Malaria.—The Académie unanimously voted in favor of a resolution urging the government to special legislation to enable the inhabitants of Corsica, Algeria and other colonies of France to obtain quinin everywhere, of a good quality and at a low price, as has been accomplished in Italy by the law passed Dec. 23, 1900. This established a maximum rate of 40 centimes for two grams of quinin hydrochlorate and of 32 centimes for the sulphate. Merchants distant more than 500 meters from a pharmacy are

allowed to sell the quinin, which is prepared in the government factories.

Transmissibility of Human Tuberculosis to Animals. S. ARLOING.—Every one of the 23 animals in Arloing's tests showed tubercular lesions and more or less severe symptoms of tuberculosis, after they had been inoculated with human bacilli from three different sources. They included 4 calves, 6 sheep, 4 goats and 3 asses, all species which Koch declared to be non-tuberculizable by human bacilli. Arloing compares his tests with those of Koch and states that he administered larger doses, using 2 to 4 c.c. of a 1 to 25 emulsion, while Koch used a 1 to 500 to 5000. Arloing concludes that as the virulence of the tubercle bacillus is variable, and as it adapts itself to certain organisms, it is not surprising that the bacillus derived from man may display less activity on certain animals than the bacillus of bovine tuberculosis. It is possible, he asserts, to find and cultivate human bacilli capable of transmitting tuberculosis to cattle, sheep and goats. He, therefore, persists in assuming the unity of human and bovine tuberculosis from the Koch bacillus. He also insists that impartial study of Koch's report shows that the experiences on which he bases his assertions did not justify him in such absolute distinctions. Three of the tests which he states were negative, should really be classed as positive, as also his four "dubious" cases.

Bulletin de la Soc. d'Electrotherapie (Paris), November.

Electric Treatment of Sprains. PLANET and CHARRIER.—The pain is the obstacle to the mobilization of the joint in case of sprain. Faradization for five to ten minutes a day completely banished the pain in a number of cases of both recent and chronic sprains described by Planet. As soon as the pain was arrested the patients could mobilize the joint without trouble, and thus prevent or cure the functional impotence of the injured limb. The electricity was applied once or twice a day until the cure was complete.

Bulletin de la Soc. des Hop. de Paris, December 26.

Mitral Endocarditis with Vegetations, Ulcerative Aortitis and Incipient Embolic Aneurysm of the Abdominal Aorta. HUCHARD.—A young man, healthy except for an apparently brief attack of syphilis five years previously, exhibited symptoms of pseudo-intermittent febrile, infectious endocarditis, which terminated fatally in fifteen months with the complications mentioned above. Huchard concludes from the study of this and similar cases that infectious diseases are liable to produce circumscribed arteritis sooner or later, frequently due to an embolic process, and terminating in an aneurysm of rapid development. In other cases the aneurysm may develop rapidly on a chronic aortitis. The infectious disease may produce an aneurysmal tumor even after several years. The circumscribed ulcerative arteritis preceding the aneurysm may be produced by the embolic process or by the colonization of various micro-organisms in the previously altered coats of the artery. Le Gendre has observed a case of infectious endocarditis in which embolic accidents occurred several times, some of them affecting the nerve centers and causing right hemiplegia with aphasia, left hemiplegia and brachial monoplegia, all of which passed away in turn. During the intervals, the patient, a child with mitral and aortic valvular defect, apparently recuperated his health until he finally succumbed to infarct of the kidneys. In another case an embolic aneurysm of the humeral artery developed acutely during an infectious endocarditis and colonies of streptococci were found in the walls of the artery as well as in the infarcts in the spleen and kidneys, evidently derived from the vegetations on the mitral valve.

Bulletin Medical de Quebec, December.

Latent Endometritis in Pregnancy. W. Albert has recently announced that germs from the vagina may infect the uterus at any age, but especially after menstruation has commenced. Every vagina contains germs, but Doederlein's bacillus is the only one to be found in normal conditions. The infection of the vagina, like that of the cervix and body of the uterus, after an acute, frequently slight and brief stage, may become latent, and conception is possible in this latent stage of the affection. Many premature deliveries, septic abortions and cases of so-called post-abortion endometritis, many of the discomforts of pregnancy and the majority of puerperal accidents, may be attributed to a latent microbian endometritis, anterior to the pregnancy. His statements are based on more than 10,000 maternity or gynecologic cases. The *Bulletin* editorially confirms his statements and adds that the same cause is probably responsible for many pathologic alterations in the placenta, abnormal adhesions, etc., uncontrollable vomiting, eclampsia, nephritis and other pathologic processes. Prophylaxis should therefore aim to render the vagina aseptic, which would materially reduce the number of puerperal and post-puerperal affections. "At present our prophylactic measures against puerperal fever are instituted too late."

Presse Medicale (Paris), December 25.

Splenic-Hepatic Asytolia. P. OULMONT.—Hepatic asystolia is the term applied to cases of cardiac insufficiency characterized by hypertrophy of the liver. Oulmont has recently observed two cases of well compensated cardiac insufficiency characterized by hypertrophy of both liver and spleen. There were no venous anomalies and no history of preceding infections which might have injured the spleen, but both patients exhibited evidences of severe anemia, to which they finally succumbed. This anemia was accompanied by an increase in the numbers of hematoblasts, while the proportion of leucocytes was nearly normal. One patient was a man of 24 and the other a woman of 28. The cachexia was rapidly progressive after the congestive hypertrophy of the liver and spleen had developed.

Clasp for Suture of the Bones. A. JACOEL.—The clasp is shaped like a double-pointed tack, only the space between the points is longer in proportion. The points are grooved in eight concentric circles. The edge of the spaces between the grooves flares slightly away from the point. This enables the clasp to take very firm hold of the bone and not slip out of place. The grooves are made on the principle of carpenters' nails so that the clasp will not crack the bone, when hammered into the holes made for them. One or two of these clasps will hold even a fractured clavicle solidly in normal position.

December 28.

Intermittency of Argyll-Robertson's Sign in Tabes. C. MANTOUX.—In a case personally observed and in three others Mantoux has collected, the pupil signs were intermittent during the course of tabes. The intermissions may be brief—a single day—or may persist for months. The appearance and disappearance of the signs seemed to coincide with gastric crises in the cases studied.

Progres Medical (Paris), December 21.

Uremides. P. RAYMOND.—Uremides are an eruption coinciding with other uremic manifestations, gastric, intestinal, pulmonary or cerebral. They are usually generalized and without any special arrangement, but they may become localized on the limbs, near the hips or shoulders, or in the back or over the sternum. Exacerbations are noticed with the variations in the renal lesions and fluctuations in the auto-intoxication. This eruption is essentially erythematous, but it may be vesicular, bullous or even purpuric, according to the layer of the derma involved. The lesions are essentially those of edema, with intense dilatation of the vessels and minute hemorrhages. They are not limited to the skin alone but are found also in the muscles beneath. Probably all the vessels participate in the dilatation. The uremide occurs when the kidneys are becoming less permeable, sometimes even in apparently mild cases of Bright's disease. As it indicates a more intense toxemia, it renders the prognosis grave, suggesting the approach of death. Only one of the six cases which Raymond has had occasion to observe, terminated in recovery. The others were all rapidly fatal. The uremide is probably due to the action on the nerves of the products of auto-intoxication, inducing vasodilatation and the consecutive cutaneous affection. It is probably more common than generally recognized, although

it by no means follows that every cutaneous manifestation in a uremic subject is necessarily an uremide.

Centralblatt f. Chirurgie (Leipsic), December 28.

Per-Oral Intubation. F. KUHN.—The tube extends from the throat through the mouth to the outer air, instead of being made for the throat alone. It is of metal, flexible, with a curved guide inside. A cross-piece on the outer end holds it in place in the corner of the mouth. A solid nut is fastened on the tube at the point where it passes between the teeth, so that it is impossible to close the jaws or bite the tube. The advantages of thus being able to ensure uninterrupted breathing during narcosis, a strumectomy, etc., render this peroral intubation a very valuable measure under many circumstances. It obviates the necessity of a gag and of pulling out the tongue. A very wide tube should be selected for a narcosis. The assistant can keep it clear of secretions with a small spiral brush. The most important indication for this peroral intubation are symptoms of compression, hitherto compelling tracheotomy. The danger of infection from a tracheal wound is avoided and the tube can be left in place for hours at a time. The second indication is to prevent aspiration of secretions and blood in operations on the upper air passages. The pendent position for the head becomes unnecessary with this intubation as it prevents aspiration and acts like a tampon for the lower portion of the throat. Even if nose, throat and tongue are packed so that breathing is impossible, except through the tube, it continues undisturbed. In case of asphyxia, air can be blown into the lungs through the tube by a rubber bulb. Kuhn has long advocated these flexible metal tubes—Metallschlauchsonden—for clinical diagnosis, especially for the alimentary canal.

Centralblatt f. Gyn. (Leipsic), December 6.

Early Sign of Commencing Pregnancy and of Death of Fetus. O. SCHAEFFER.—An important sign of the changes in the circulation which accompany a commencing pregnancy, is a reddish stripe on a dull livid background, which runs across or slanting in the region of the urethra or the exterior of the tuberculum vaginæ. This stripe is evidently due to vasomotor influences directly dependent on the vitality of the fetus, as Schaeffer found that its disappearance coincided with the death of the fetus. Another sign of pregnancy to which he calls attention is the progressively increasing resisting power of the blood corpuscles in blood drawn directly from the portio of the vagina. A drop, representing about 1 c.mm., is mixed with 11 c.mm. of some fluid isotonic for healthy erythrocytes. In a fluid of this nature the vigorous corpuscles stain and shrivel while the weaker swell and grow pale and granulated. In a mixture of iodin, potassium iodid and water, for example, in the proportion of 1, 2 and 300, the strong corpuscles turn brown, the less resistant pale yellow, and the very weak remain glassy. Under ordinary conditions in healthy individuals with healthy genitalia, the dark-stained, vigorous corpuscles are in the proportion of 2.5 to 5 to one of the pale corpuscles. These proportions become progressively higher during a pregnancy. In a number of cases he found the proportions between 4.1 and 4.8 to one in the second month; between 6.2 and 7.5 to one in the third month; between 4.8 and 12 to one in the fourth to sixth month and between 4 and 24.2 to one in the seventh month. A sudden drop from a high to a low proportion was always followed by labor in two or three days. The drop indicates a decline in the arterial blood supply and extensive admixture of venous blood. The menstrual periods are marked during the pregnancy by a similar phenomenon on a small scale.

Dysmenorrhea. MENGE.—The menstrual blood in the uterus probably acts like a foreign body, Menge thinks, and it induces contractions of the organ and consequently labor pains. These contractions and pains in normal conditions are so slight as to pass practically unnoticed. They amount to dysmenorrhea only when some mechanical hindrance interferes with the flow or when it causes irritation of local pathologic conditions, or in case the nervous system is abnormally sensitive. Each of the three varieties, the mechanical, the inflammatory and the nervous, requires different treatment.

Dermatologisches Centralblatt (Berlin), November and December.

Balsam and Salicylate Treatment of Gonorrhea. S. BEHRMANN.—When balsam treatment is commenced early in acute gonorrhea the discharge soon loses its purulent character and the conditions generally improve. During this stage carbonated waters should be avoided. After the gonorrhea has lasted about four weeks and has been modified by the santal oil or other balsam administered, Behrmann believes that a point is reached when only a slight impulse is required to start nature on the road to complete recovery and prevent the transition into the chronic stage. This impulse he thinks can be found in the use of sodium salicylate. The salicylate is eliminated by the urine and mucous membranes, and its action is much more powerful in the presence of carbonic acid, consequently, wherever there is inflammation and swelling. It stimulates the tissues from within, and the complete restitution of Morgagni's crypts and Littré's glands is possible under its influence. The dose should be a tablespoonful every two or three hours of a 2.5 per cent. solution of sodium salicylate, until 15 gm. of the salicylate have been taken. It is well to keep up as much as 3 a day for some time after this. It should be supplemented by a carbonated water. The mild alkali in the water prevents the precipitation of the salicylic acid by the hydrochloric acid in the stomach and hence prevents gastric troubles and allows the salicylate to be long continued. It also increases the diuresis and thus brings the medicating substance into more frequent contact with the mucosa of the urethra. Binz has established that the action of salicylic acid is enhanced by the presence of carbonic acid. The latter has also a tendency to prevent shriveling. It promotes the retrogression of the lesions and thus favors restitution.

Dermatologisches Zeitschrift (Berlin), December.

Retarded Healing After Radical Operation of the Middle Ear, by Chronic Urticaria. WARNECKE.—A man of 40 was operated on for the relief of otitis of the middle ear which had recurred a number of times since childhood. The wound was healing normally when urticaria developed on the granulating surface and persisted for three months, thus postponing the healing of the large defect left after the operation. No medicines had any effect on the process.

Deutsche Med. Wochenschrift (Berlin and Leipsic), December 26.

Plasma-Destroying Toxins in the Organism. E. GRAWITZ.—The vicinity of factories where lead is manipulated has afforded Grawitz opportunity to study lead poisoning on an unusually extensive scale. He states that he never found any indications of hemocytolysis in these patients, no hemoglobinemia, icterus nor hemoglobinuria, and yet, they were distinguished by a grayish-yellow complexion and progressive anemia. The anemia resembles that which follows the gradual absorption from the intestines of toxins destructive for the blood. He also noted that a similar anemia is observed in patients with intestinal hemorrhages, or with hemorrhagic ulcer or carcinoma of the stomach, or intestinal hemorrhage accompanying cirrhosis of the liver. The red corpuscles in all these cases show granular degeneration at the time of the hemorrhages, disappearing soon afterward. He cites other data to support his assumption that this degeneration is the result of the formation of toxins in the intestines by the action of the bacteria of putrefaction on the masses of blood. He also succeeded in inducing this granular degeneration of the red corpuscles in healthy persons by administering to them various preparations of hemoglobin sold as tonics. The degeneration was apparent after a dozen pills of either "sanguinol" or "hæmol" had been taken, and it disappeared soon after the pills were suspended. There was no increase in the excretion of indican. These facts throw light on the degeneration of the blood in case of intestinal auto-intoxication in general, and on the anemia of anchylostomiasis. The anemia in the latter is due partially to the loss of blood sucked by the parasites in the intestines, and partially to the toxins generated by the putrefaction of the blood constantly trickling into the intestines.

Removal Through the Mouth of Fishbone in Left Bronchus of Young Child. J. A. KILLIAN.—A gill plate, 22 mm. long, was impacted in the left bronchus of a child three and one-half years old, as Killian determined by direct bronchoscopy. After chloroform and cocainization of the throat—the little patient with head pendent—the bone was removed with a small hook, all under control of the eye through the bronchoscope, without injury to the air passages. In case this method of bronchoscopy does not succeed, or there is threatening stenosis, the bronchoscope could be introduced through a tracheotomy wound.

Wiener Klin. Wochenschrift, December 5.

Sterility. R. CHROBAK.—With the application of laminaria and tupelo Chrobak has cured a number of cases of sterility, characterized by slight hypoplasia of the uterus, scanty or irregular menstruation, sexual anesthesia and sterility. In other cases he has found it necessary to cut a wedge-shaped piece out of the internal os. This has no influence on the sexual anesthesia. Sterility is due in other cases to the immediate loss of the sperma from the vagina, either from relaxation of the parts or from forcible expulsion from an excessive contraction. Slackness of the part should be treated by general tonic measures and gymnastics of the levator ani and of all the muscles of the perineum, with, possibly, the shortening of the elastic muscles, pessary treatment, an insignificant plastic operation or paraffin prothesis. In case of a short vagina and retroversion, with sensitive adnexa, he slits the rear wall of the portio down to the posterior vaginal cul-de-sac and resects a wedge, as pessary treatment is inapplicable here. He considers loss of the sperma in such cases an indication for radical intervention.

December 26.

Pigment Patches in Connection with Pernicious Anemia. A. V. DECASTELLO.—The development of pernicious anemia may be preceded by several years by the development of patches of pigment, with hypertrophy or atrophy of the skin. The patches, in a case described, coincided with certain zones of sensory spinal innervation, demonstrating their dependence on some alteration of the central nervous apparatus. In some cases the patches appeared with the development of the anemia, or occurred during its course, and in one case that has been reported, appeared during a remission and retrogressed later. In the personal case described, the absence of all other sensory or vasomotor disturbances indicated that the cause of the pigmentation originated in the trophic centers and tracts.

Peripheral Gangrene in Phosphorus Intoxication. F. VOLLBRACHT.—Subacute intoxication with phosphorus disturbs the circulation to such an extent that the peripheral parts of the body have a tendency to gangrene. In three of the few rare cases that have been reported—including a personal case described at length—the aorta system was found abnormally narrow. This was evidently a favoring factor in the production of the gangrene, as was also compression of a part of the body in another case.

Zeitschrift f. Orthop. Chirurgie (Stuttgart), ix, 4.

Joint Neurosis and Joint Neuralgia. C. MOEHRING.—These two affections can be differentiated, Moehring states, by the character of the pains and by the tenderness of the nerve trunks of the region in the neuralgia. There is frequently in both a history of a preceding acute infectious disease. A joint neurosis is a combination of phenomena which indicate functional, traumatic or vasomotor disturbances or all associated. The joint is frequently intact to all appearances, or the trifling alterations are out of all proportion to the intense pain. It almost always grows less at night and allows the patients to sleep. The limb involved is remarkably weak, without the slightest atrophy of the muscles; in some cases the muscles and tendons are rigid, the limb usually in extension. Puncture and local treatment are ineffectual, but arsenic and potassium iodid or even quinin have produced good effects. The joint neurosis affects principally, 1, hysterics; 2, persons with congenital or acquired weakness of the nervous system; 3, persons of a feeble constitution, and in a few instances, otherwise healthy persons. Both peripheral and central causes combine to induce a neurosis of this kind in most cases. When a trauma sets up a violent joint neurosis in an otherwise healthy person, some central disturbance of reflex origin probably exists in the lateral columns. It is possible that the local treatment instituted in these cases entails increased irritability of the nerves, on one hand, and prolongs the central disturbance on the other. Exercise of the joint would counteract this tendency, as an adjuvant to general tonic measures. In all cases of joint neurosis, an energetic psychic treatment is indispensable. The efforts of the physician are frequently supplemented by chance. A fright, an intercurrent affection, or an entertainment may be followed by the disappearance of the pains as suddenly as they commenced. Many of the "miracle cures" probably belong to this category. The physician should aim to prevent the development of such a condition in the predisposed under his charge. Moehring relates the details of ten cases personally observed, the patients being from 12 to 38 and more years old.

Queries and Minor Notes.

VITAOPATHY AT ROCHESTER, N. Y.

SAN FRANCISCO, Dec. 6, 1901.

To the Editor:—Possibly the following may not be of interest to you, but I enclose it as one of the things the reorganized profession should fight. Mrs. L., of San Francisco, has a cancer of the pyloric end of the stomach. She is an emaciated woman with a decided cachexia, and with an abdominal wall so thin that the merest tyro could not do otherwise than made a diagnosis, for the outline of the tumor is perfectly evident to both palpation and inspection. I had occasion some months ago to diagnose her case, when I advised pylorectomy. The distinguished gentleman who is responsible for the enclosed letter evidently does not agree with me! G. H. E.

"ROCHESTER, N. Y., U. S. A., Nov. 26, 1901.

"*Dear. Mrs. L.:*—Your request for free diagnosis came duly to hand. I have given your case my careful consideration, also consulted with my specialists relative to it, and it is our combined opinion that you are suffering from myasthenia gastrica.

"These troubles, while not yielding to the ordinary forms of treatment, either magnetic, mental or medicinal, respond promptly to Vitaopathy. I have treated many cases exactly like yours. This method is original with me, being the result of years of study and experience. It is certain in its effects and never fails to bring about immediate and satisfactory results. My staff of specialists have spent years in treating such cases as yours in the ordinary practice of medicine. They are now devoting their entire time to the application of Vitaopathy to such cases, and the results are truly marvelous.

"If you allow me to take up the treatment of your case, I will do so with every confidence of effecting a final cure. I have hundreds of similar cases under treatment, all testifying to the marvelous benefits received. As a reasonable person, you know that with the experience gained in treating so many similar cases, it is natural for me to understand such better than the ordinary physician who, perhaps, has only a few cases each year. 'Practice makes perfect,' and it applies to the treatment of diseases as well as any other line. The more we practice the more we learn, and the larger percentage of cures we make. I have the advantage of treating tens of thousands annually, while the ordinary physician treats but a few hundred. Remember, that my treatment is especially prepared for each individual case. If you went to specialists, such as I have in my employ, they would charge you from $10 to $20 for an examination. I give you the attention of these specialists free. They have made a life study of certain diseases which their specialty covers, and if you place your case in my hands, it will have the very vest attention that recognized specialists can give it. They will study your case continually and offer suggestions which will aid the treatment in curing you in the shortest possible space of time. . . .

"For financial responsibility, honesty and integrity, I refer you to the Flour City National Bank, of this city. For an immediate reference relative to the treatment, I invite you to write to Rev. Joseph Mills, Mankato, Kan., also to D. L. d'Elysee, Notary Public of Samoath, Ill. I shall be pleased to furnish other references if you desire them. At the low rate I charge you can not afford to be without this treatment—without all the expert attention I give you. If the druggists in your city were able to fill the prescriptions which I have filled for you at my laboratory, their price for the remedies, alone, would be more than I ask for the entire treatment. The cost of treatment is $5 per month. Is there a physician in your city who could afford to treat you at this rate, giving you treatments twice a day as I do? Certainly there is not, and I am

enabled to do this only because I treat so many cases that I can keep my specialists profitably employed all the time. . . .

"You can not afford to miss this opportunity. Remember that I have cured hundreds of cases that have been regarded as hopeless—cured them after all other methods had failed. Whether you take my treatment or not, I should like to hear from you . I will be glad to correspond with you relative to your case. I have the interest of humanity at heart aside from any financial consideration.

"If you will order a month's treatment within fifteen days from the date of this letter, I will give you my new course of instruction in Magnetic Healing absolutely free. The price of this course is $3. In order to introduce it in your community I have decided to give it to you free of charge. All I ask in return is, for you to recommend it to your friends whom you think might be interested. It is the best course in magnetic healing on the market. I guarantee this. I am sure you will be greatly pleased with it. I should like to hear from you by return mail, so that I may know you have received this communication.

"Institute of Physicians and Surgeons.

"THOS. F. ADKIN, President."

The letter quoted above is ornamented with a fine pictured letterhead, with the following artistically printed: "Prof. Thomas F. Adkin, Pres., Originator of the Adkin Vitaepathic Treatment; L. B. Hawley, M.D., Chief Consulting Surgeon and Expert Diagnostician; Prof. S. A. Newman, Chief Chemist; Prof. Chas. B. Westover, Secretary and Clinical Director. New York Institute of Physicians and Surgeons and the Thomas F. Adkin Sanatorium. Chartered by the State of New York. Address all communications relative to treatment to Thomas F. Adkin, Pres. Paid up Capital $50,000.00. All Human Diseases Successfully Treated by the Adkin Method."—EDITOR.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 26, 1901, to Jan. 8, 1902:

James T. Arwine, contract surgeon, from Fort Liscum, Alaska, to San Francisco, Cal., for assignment in the Department of California.

Dallas Bache, colonel, assistant surgeon-general, retired Jan. 1, 1902, at his own request, he having served more than forty years.

David Baker, lieutenant, asst.-surgeon, U. S. A., previous orders so amended as to direct him to report for duty to the commanding officer, Fort Leavenworth, Kan.

Cosam J. Bartlett, lieutenant, asst.-surgeon, U. S. A., from the general Hospital, Presidio of San Francisco, Cal., to Fort Liscum, Alaska.

Robert C. Eve, contract surgeon, from Fort Sam Houston, Tex., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Charles B. Ewing, major, surgeon, U. S. A., from New York City to Fort Preble, Me.

Peter C. Field, lieutenant, asst.-surgeon, U. S. A., from Fort Slocum, N. Y., to Fort Robinson, Neb., for duty at that post.

Ernest W. Fowler, contract surgeon, from Fort Preble, Me., to Fort Terry, N. Y.

Joseph C. Garlington, contract surgeon, from Fort Terry, N. Y., to San Francisco, Cal., en route to the Division of the Philippines.

Charles R. Greenleaf, colonel, assistant surgeon-general, retired Jan. 1, 1902, under the operation of law, he having attained the age of 64 years.

John T. Halsell, contract surgeon, relieved from further duty in the Division of the Philippines and from temporary duty in the General Hospital, Presidio of San Francisco, Cal., for assignment at Fort Sam Houston, Tex.

Thomas Howlett, contract surgeon, from Gilroy, Cal., to San Francisco, Cal., en route to duty in the Division of the Philippines.

Edward H. Jordan, contract surgeon, from Denver, Colo., to San Francisco, Cal., en route to duty in the Division of the Philippines.

Charles F. Kleffer, captain, asst.-surgeon, U. S. A., from duty in the Division of the Philippines to San Francisco, Cal., whence he will report by telegraph to the Adjutant-General of the Army for further orders.

John F. Leeper, contract surgeon, previous orders so amended as to assign him to temporary duty in the Department of California.

Marion F. Marvin, contract surgeon, from Jacksonville, Fla., to San Francisco, Cal., en route to the Division of the Philippines.

Charles F. de May, captain, asst.-surgeon, Vols., leave of absence for one month granted.

Frank D. Pease, captain, asst.-surgeon, Vols., leave of absence granted to Jan. 31, 1902, on account of sickness.

William H. Pomeroy, contract surgeon, now at Springfield, Mass., to duty at Springfield Armory, Mass.

David S. Roberts, contract surgeon, member of an examining board at San Antonio, Tex., during the illness of Colonel P. J. A. Cleary, assistant surgeon-general.

Albert H. Simonton, contract surgeon, from Fort Robinson, Neb., to Birmingham, Ala., for annulment of contract.

Albert E. Truby, lieutenant, asst.-surgeon, U. S. A., leave of absence extended.

Harry H. Van Kirk, contract surgeon, from Washington, D. C., to his home at Sunbury, Ohio, for annulment of contract.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended January 11:

P. A. Surgeon W. B. Grove, ordered to the *San Francisco*.

P. A. Surgeon W. C. Braisted, detached from the *Topeka*, and ordered to the Naval Hospital, New York.

Asst.-Surgeon P. M. Furlong, ordered to Vicksburg, Miss., for duty with recruiting rendezvous; and upon completion of that duty, proceed to the *Topeka*.

Asst.-Surgeon E. O. Huntington, detached from the *Columbia* and ordered to the Naval Hospital, New York.

Asst.-Surgeon F. L. Benton, detached from the Naval Hospital, New York and ordered to the *Columbia*.

Surgeon C. F. Stokes, detached from the *Solace*, and ordered to duty at Guam, L. I.

Surgeon F. A. Hesler, ordered to remain on duty on the Asiatic Station.

Medical Inspector W. A. McClurg, detached from the U. S. T. S. *Constellation*, and ordered home to hold himself in readiness for sea duty.

Medical Inspector J. R. Waggener, ordered to the U. S. T. S. *Constellation*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ended Jan. 9, 1902:

Surgeon Fairfax Irwin, bureau telegram of Dec. 27, 1901, granting leave of absence for seven days, amended so that said leave shall be for five days.

Surgeon H. R. Carter, leave of absence for ten days granted, by Bureau letter of Dec. 26, 1901, revoked.

Surgeon P. C. Kalloch, to proceed to Portland, Me., and assume charge of the quarantine service at that port.

Surgeon J. J. Kinyoun, six days' leave of absence from Jan. 6, 1902, under paragraph 179 of the regulations.

A. A. Surgeon E. F. McConnell, granted leave of absence for thirty days from December 24.

A. A. Surgeon J. N. Maceo, granted leave of absence for thirty days from December 17.

A. A. Surgeon C. F. Rideout, granted leave of absence for ten days from January 2.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended January 11, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, Dec. 22-29, 2 cases.
Indiana: Evansville, Dec. 22-Jan. 4, 3 cases.
Iowa: Clinton, Dec. 27-Jan. 4, 1 case.
Louisiana: New Orleans, Dec. 27-Jan 4, 1 case.
Massachusetts: Blackstone, Jan. 1-8, 2 cases; Boston, Dec. 27-Jan. 4, 24 cases, 6 deaths; Brockton, Dec. 27-Jan 4, 1 case; Cambridge, Dec. 27-Jan. 4, 2 cases; Chelsea, Dec. 27-Jan. 4, 1 case; Lowell, Dec. 27-Jan. 4, 4 cases; Medford, Dec. 27-Jan. 4, 2 cases; Newton, Dec. 27-Jan. 4, 1 case; Quincy, Dec. 27-Jan. 4, 1 case; Somerville, Dec. 27- Jan. 4, 1 case.
Nebraska: Omaha, Dec. 27-Jan 4, 29 cases.
New Hampshire: Nashua, Dec. 27-Jan. 4, 2 cases.
New Jersey: Camden, Dec. 27-Jan. 4, 19 cases; Jersey City, Dec. 22-29, 1 death; Newark, Dec. 27-Jan. 4, 31 cases, 1 death.
New York: New York, Dec. 27-Jan. 4, 8 cases, 2 deaths.
Ohio: Cincinnati, Dec. 28-Jan. 3, 9 cases; Cleveland, Dec. 27-Jan. 4, 1 case; Youngstown, Dec. 21-28, 1 case.
Pennsylvania: Dec. 27-Jan. 4, Allegheny, 2 cases; Norristown, 1 case, 1 death; Philadelphia, 90 cases, 16 deaths.
South Carolina: Greenville, Dec. 27-Jan. 4, 1 case.
Tennessee: Memphis, Dec. 27-Jan. 4, 2 cases.
Vermont: Burlington, Dec. 21-28, 30 cases.
Virginia: Roanoke, Dec. 24-31, 41 cases.
Washington: Tacoma, Dec. 22-29, 2 cases.
Wisconsin: Green Bay, Dec. 29-Jan. 5, 5 cases, 1 death; Milwaukee, Dec. 29-Jan. 4, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Oct. 1-31, 61 deaths.
Austria: Prague, Dec. 7-14, 16 cases.
Belgium: Antwerp, Dec. 7-21, 4 cases, 1 death; Ghent, Dec. 14-21, 4 cases.
Brazil: Rio de Janeiro, Nov. 28-Dec. 8, 83 deaths.
Canada: Halifax, Nov. 22-Jan. 4, 15 cases; Quebec, Dec. 28-Jan. 4, 21 cases.
Colombia: Cartagena, Dec. 16-22, 3 deaths.
France: Paris, Dec. 14-21, 6 deaths.
Great Britain: Liverpool, Dec. 7-21, 3 cases; London, Dec. 14-21, 538 cases, 32 deaths.
India: Calcutta, Nov. 23-Dec. 7, 2 deaths; Madras, Nov. 23-Dec. 6, 3 deaths.
Italy: Naples, Dec. 7-14, 16 cases, 1 death.
Russia: Odessa, Dec. 7-14, 3 cases, 1 death; St. Petersburg, Dec. 7-14, 5 cases, 1 death.
Spain: Corunna, Dec. 14-21, 2 deaths.
Uruguay: Montevideo, Oct. 25-Dec. 9, 108 cases, 5 deaths.

YELLOW FEVER.

Brazil: Bahia, Nov. 30, Dec. 7, 1 case, 1 death; Rio de Janeiro, Nov. 25-Dec. 8, 4 deaths.
Mexico: Vera Cruz, Dec. 21-28, 6 cases, 2 deaths.
West Indies: Saint Lucia, Dec. 9, prevalent.

CHOLERA.

India: Bombay, Nov. 26-Dec. 3, 5 deaths; Calcutta, Nov. 23-Dec. 7, 79 deaths.
Java: Batavia, Nov. 8-30, 40 cases, 28 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Nov. 23-Dec. 5, 11 deaths.
India: Bombay, Nov. 23-Dec. 10, 238 deaths; Calcutta, Nov. 23-Dec. 7, 50 deaths; Karachi, Nov. 23-Dec. 8, 169 cases, 155 deaths.
Mauritius: Dec. 5-12, 42 cases, 25 deaths.
Russia: Batoum, Dec. 12, 1 case, suspect.
South Africa: Port Elizabeth, Nov. 30-Dec. 7, 1 case; Massell Bay, Nov. 30-Dec. 7, 2 cases.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, FEBRUARY 1, 1902. No. 5.

Original Articles.

INDICATIONS FOR AND UTILITY OF ALTITUDE TREATMENT IN PULMONARY TUBERCULOSIS.*

S. E. SOLLY, M.D.
COLORADO SPRINGS.

It is especially useful at the present time to be reminded of what is known of the effects of high climates, because the excitement produced in many physicians by their reception of the idea that the open air, forced feeding and sanatorium treatment are of immense value in arresting phthisis, has caused them, in their eagerness to use these, to them new weapons, to inconsiderately fling away many a proven weapon of the past.

INFLUENCE OF ALTITUDE.

In the consideration of the influence of altitude there are two important matters to be recognized—the physical conditions of the climate and its physiologic effects. The essential distinction of the climate at a high altitude from that at a low level is the diminished barometric pressure. The most notable and important of the permanent effects of this reduced pressure is the influence it exercises on the blood, in producing an increase of red cells and hemoglobin.

While the question is still *sub judice,* I believe the evidence up to date indicates that the increase is an actual total increase of the bulk of the red cells and hemoglobin, and not merely a calling forth of stored-up supplies from the abdominal organs or elsewhere, nor a mere inspissation of blood due to the excessive dryness of the mountain air. I can not further pursue this topic on the present occasion, but would refer you to a study of the experimental work that has been done, especially that of Drs. Schaumann and Rosenquist of Helsingfors.

By what exact process these conditions are produced is still undetermined; nevertheless, the clinical fact remains, that suitable cases of anemia, transported to an altitude, are quickly cured, apparently in a similar way that they may be by the administration of iron, which result in the latter case would seem to be brought about not so much by directly adding the required quantity of iron to the blood, as by the stimulus given to the action of the blood which enables it to absorb its necessary amount of iron from the food once more, as in health.

The effects of altitude on the circulation and respiration are both temporary and permanent. The immediate effect is to increase the rapidity of the heart's action. This rapidity is quickly modified, at least while the visitor is in repose, and during the first four weeks the heart's action gradually becomes once more normal. The blood pressure, which at first is raised, later is permanently lowered. That diminished air pressure will alone produce lowered blood pressure has been abundantly proved by laboratory experiments. In dealing with the cardiac complications that arise in tuberculous subjects, this effect of altitude must be reckoned with.

The immediate influence of altitude on the respiration is to increase the rapidity of the respiratory wave, but this also quickly returns to the normal rate, at least in healthy persons. By exertion the respiration and the rate of the pulse are both increased, not so much in the natives or in persons long resident in high altitudes, as in the case of visitors, in whom they are temporarily more rapid than at the sea level.

The permanent effect of the diminished barometric pressure on the lungs is to increase the depth of the respiration and to expand the air cells so that in children a normal condition resembling emphysema is brought about.

Moreover, the total capacity of the thorax is increased. These effects have been proved by many observations, notably by those of two physicians in the city of Mexico, Drs. Herrera and Lope, who found that the chest measurements of visitors were increased at high elevations, and that those of natives and permanent residents were greater than the average measurements of persons living at sea level. In their valuable book entitled, "La Vie sur les hauts Plateaux," the details are given of numerous measurements of various parts of the bodies of natives, particularly of their chests, and they are compared with similar measurements of natives of countries situated at sea level. Besides these there are detailed many interesting studies of animal and plant life on the high plateaus.

Of course, the extent of this increase in chest capacity in visitors from the lower countries is largely dependent on their youth and the elasticity of their thoraces.

Some interesting experiments by Robin and Binet are recently reported which appear to prove that, contrary to the previous belief, more oxygen is taken in by the consumptive than by the normal man. Up to the present time this statement, however, has not been tested and accepted by other observers; thus we do not know positively whether the diminished oxygen pressure to which a man is subjected on his transportation to a high plateau or mountain is of advantage to him, either directly or indirectly. It is possible that the diminished amount of oxygen may be of benefit by lessening the

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon and N. S Davis, Jr.

burning up of tissue apart from the effect it is believed to have in causing increased respiratory action.

As a consequence of the dryness of the air in high climates there is more evaporation from the lungs and skin, and a lessened loss of water through the kidneys and bowels. The amount of water excreted and evaporated from the body, however, after a time becomes normal. But on the first arrival of patients at high altitudes it is customary to find that there is a greater amount of solids in the urine than under ordinary circumstances at lower levels, which is doubtless due to this increased evaporation from the lungs which occurs during all seasons and from the skin also when the air is warm.

The beneficial effects of sunlight are very marked on various diseases; and at high altitudes sunlight is very abundant, prolonged and intense. Generally speaking, it is healthful, though too exciting and irritating for some patients.

The question of air temperature is always of great importance; it varies, of course, at different altitudes, but at all altitudes there are found in varying degrees cool nights and warm days, with cool air and warm sunshine. The old idea was that for a climate to be beneficial, especially for the phthisical, it must be equable. Now, however, it is recognized that the great change of temperature, from day to night, is of the greatest value to many invalids, its action on the body being very much the same as a cold douche following a hot bath. It has undoubtedly much the same effect that cold bathing has in typhoid fever; it braces the nervous system and stimulates the nutritive processes.

The aseptic condition of the air is also of importance. At most altitude resorts there are few dwellings, few crops and the population is sparse; so for these reasons the air is pure, which is obviously an advantage.

These are the main points in regard to the influence which altitude exercises therapeutically. There are, however, different degrees and kinds of altitudes. These may be divided into three classes: Cold, warm and hot. The difference in this respect, while dependent in a measure upon latitude, is still more largely a matter of altitude. As a rule the higher the elevation the cooler is the atmosphere. But this rule is modified in accordance with the position of the altitude in relation to the equator. For instance, the Swiss Alps are colder than the same altitude in Colorado. When it is thought desirable to modify the temperature it is generally necessary, in order to do this, to change the altitude. The two things usually go together. The configuration of the ground is also of importance, that is, its topography has to be taken into account, namely, whether a place is situated in a valley, on a plateau or on the side of a mountain, and whether the natural as well as the artificial drainage is good.

AMERICAN AND SWISS CLIMATES.

Speaking broadly of the matter of temperature and altitude, it may be said that on this continent we find the more extremely cold elevations in Canada, although they have so far been but little used, but in these regions are places that compare favorably in climate though not in resources with some of the most frequented resorts of the Swiss Alps. On the other hand, there are ready and much used the lower elevations and warmer climates of Arizona and New Mexico; and between them are the varying altitudes and medium temperatures of Colorado.

As the cold regions this side of the Atlantic have not been much frequented by invalids, we must go to Europe for the purposes of comparison. The Alps have the disadvantage of limited hours of sunshine, while they have the advantage of less wind and dust. At the other end of the pole take Arizona. It has the advantage, for some patients at least, of increased warmth and moderate elevation, coupled with great dryness and no great variations of weather. At the same time it has the disadvantage of having more dust and the more enervating conditions which come with heat. Colorado, as has been said, lies between the two.

In the Swiss Alps the summers are very pleasant, although the winters are usually preferable for the treatment of tuberculous patients. For persons in ordinary health the summers at the altitudes are admirable, but they are more rainy than the winters, and tuberculous patients do not seem to do so well as in the latter season. In Arizona the heat is too great in the summer to make it wise to leave most patients there at that season; although some undoubtedly thrive under the parching heat. In the resorts of Colorado is found something intermediate between the two. In the latter there is a winter climate which is more suitable for outdoor life than the sheltered parts of colder regions; but at the same time there is more wind and greater range of temperature. It is not suited to advanced cases or to enfeebled persons who can not take exercise. For young, vigorous persons, and in fact for all who can spend a large portion of their time out of doors, and who can take moderate exercise, an immense advantage will be found to arise from these very changes in the temperature.

CLASSIFICATION OF PATIENTS.

As to the classes of patients who should be sent to high altitudes, many things have to be carefully considered. The first matter to be inquired into is: Why did the patient become tuberculous? Although the bacillus is the central fact in the process of tuberculosis, the germ behaves differently in different persons, and the disease may arise from different predisposing causes. Apart from the introduction of the bacillus the general condition of the patient's health is of importance.

Tuberculous patients may be divided for the sake of convenience into three classes: The purely tuberculous, the catarrhal and the pneumonic. Of course these terms are subject to misunderstanding and abuse, because all these patients are ultimately tuberculous and there is present in each more or less catarrh or inflammation; nevertheless, I have found the division on the whole the most convenient for use. The important thing is to distinguish between cases that can be traced to definite causes and those cases in which the tuberculosis has arisen without any apparent cause, coming like lightning out of a clear sky. Such may be regarded as original cases of tuberculosis; these as a rule do well in a climate like that of Colorado. They need a stimulus, and when handled with discretion are generally benefited more markedly by the altitude treatment than by any other therapeutic measure, climatic or otherwise, provided the general hygienic care is equally good. Catarrhal cases—those subject to catarrhal conditions of the respiratory tract on slight cause—have generally behind them some fault in the metabolism; there are usually also existing in such patients deficiencies of construction which make them more liable to these attacks. They are particularly susceptible to weather, more especially changeable weather. Therefore, you have to be very careful with them in climates like Colo-

rado, and the majority do better in the equally dry but warmer and less elevated climates of New Mexico and Arizona. Then there are the pneumonic cases—those in whom there is considerable febrile reaction to the disease and in whom an inflammatory process has been set up. Cases of this kind are not so well suited to the higher ground. The air is apt to be too stimulating for them. They usually improve more satisfactorily lower down and in a moister air. Of course, all of these cases come to us more or less mixed, but my experience is, that if you can trace the history of your patient you will generally find something to guide you in caring for the case. Therefore, I consider that the taking of the history of the patient is of great value in shaping his treatment.

The mental condition of the patient must also be taken into account in sending him away from home. The possibility of his being affected by homesickness must be considered. It is important, therefore, to know something about the habits of your patient. For example, a person who never enjoys traveling, and is always longing for his own fireside, is far better left at home, unless you can arouse his attention towards his new surroundings and contrive to make them interesting to him. I remember one man who could not get well in Colorado because he pined for his unhealthy life in Philadelphia and sadly missed, he quaintly said, "even the stink of the all-pervading gas." On the other hand, there are those who enjoy the change. In all therapeutic measures change of mental attitude is an important factor, but you can not hope to do anything to influence it unless you understand your patient.

The question of social condition is likewise important. It may be said that there are three classes of patients: The rich, the comparatively well-to-do, and the poor and laboring class. The rich are benefited as a rule by being sent to higher altitudes, other conditions being appropriate, because this is generally the greatest change that can be given them. They have presumably been living under good hygienic conditions, and the greater the change climatically they can be given, the greater is likely to be the effect on mind and body. With the well-to-do, who are accustomed to be continually occupied, it is sometimes a serious question whether it is desirable to put them in a place where they can have no occupation. It is important that the physician should direct their minds into new channels of thought and give them new ways of occupying their time. I do not mean necessarily remunerative ones, but something that will occupy their time while it excites their interest and makes them happy and comfortable. Among the poorer class of patients, those who have been used to labor out of doors, will generally be found to do better than those who have followed indoor occupations. The former can generally be set to some work that will keep them interested. The indoor laborers are more difficult to deal with and the outlook for their recovery is not as encouraging. Still, they are not, for these reasons, necessarily barred from altitude treatment.

Other matters which must be considered before the decision is made to send a patient away from home for climatic change, are the special symptoms of the disease and the stage to which it has advanced. Physicians at altitudes, like their confrères in all other resorts, always demand that patients should be sent to them at the earliest possible stage. While this condition is always to be preferred, removal to an altitude need not necessarily be made at an early stage.

There is no reason why cavity cases of moderate extent and even of long standing should not go to altitudes, other conditions being suitable; but all cases which are deteriorating rapidly ought to be first treated like hospital patients suffering from any other acute disease. Afterwards certain of such cases can be sent to an altitude with much advantage.

Hemoptysis is not necessarily a bar. At the recent meeting of the American Climatological Association at Niagara Falls, Dr. Bonney, of Denver, read an important paper in which he confirmed the conclusions that several of us had arrived at from our own observations, viz., that hemorrhage cases do no worse at an altitude than elsewhere and probably better, and that the fact of their bleeding is not of itself an argument against sending them to a high climate. Another important thing is for physicians at home to study their cases thoroughly before sending them away for climatic change. In this connection I think the state institutions and other home sanatoria that are now springing up everywhere will be of immense value. From these institutions we may expect to have more and more well-selected cases sent to high altitudes with the greater certainty of good results.

Finally, let us remember the oft-quoted dictum that it is not only the individual sickness we have to consider, but also the sick individual.

ADAPTABILITY OF SOUTHERN CALIFORNIA AND SIMILAR CLIMATES TO THE NEEDS OF CONSUMPTIVES.*

NORMAN BRIDGE, A.M., M.D.

LOS ANGELES, CAL.

When we speak of Southern California as a climate, or a place to live, we usually mean that part of the country lying between the ocean and a range of mountains forming an irregular semicircle and extending from a point near to and north of Santa Barbara to a point some miles back of San Diego. We do not mean the Colorado desert lying east of this mountain range, nor the Mojave desert north of it, although they are both geographically in Southern California.

The climate, then, of Southern California is, to some degree, adaptable for consumptives because it has: 1, relative dryness; 2, small rainfall; 3, large degree of sunshine; 4, low and high altitudes; 5, mildness of climate throughout the year, permitting outdoor life; 6, low barometer range, and finally, 7, a good record in tuberculous cases. These conditions are generally regarded as important for consumptives. They all probably have advantages, although some of these are wrongly explained and some overestimated.

For example, dryness is supposed to be beneficial by reducing expectoration. For this reason it is probably actually harmful, by increasing the retention and tenacity of the expectoration. It can not be harmful to have enough moisture in phlegm to cause it to be easily moved through tubes, and excessive dryness prevents this. Dryness is valuable, because it lessens the cough and so increases the quiescence of the lung tissue, which is a consideration of the greatest possible importance. A moist climate is thought by many to be very injurious to consumptives, yet many cases recover at San Diego and

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon, and N. S. Davis, Jr.

Santa Barbara, both on the Pacific coast, and also in the Sandwich Islands, surrounded by the ocean, as well as on shipboard at sea.

High altitudes doubtless help some consumptives, but not by expanding the air vesicles of the diseased tissue. This is harmful and ought to be discouraged. The value must be in the effect on the red corpuscles, and some of the other and cognate changes in the physiologic conditions and forces. Low altitudes give more oxygen in the air breathed and less perturbation from low barometric pressure than high ones do.

The air in Southern California is relatively dry as compared with the middle and eastern parts of the country. The dryest region is, of course, farthest from the coast. The mean relative humidity is, by comparison with other representative places, as follows, expressed in percentages of saturation: Chicago, 72; Denver, 53; San Diego, 69; Los Angeles, 66; Southern California foothills (Pasadena to Redlands and Riverside), 64.4 to 65; Yuma, 46, and Prescott, 74.

The record of the actual amount of water dissolved in the air of these places, by comparison with the relative dryness, presents what at first seems to be a puzzle. What is relatively dry may be actually moist. It is rational enough, however, when we consider the laws of meteorology; and it shows how our calculations in the management of the sick are based wholly on the relative and not the actual dryness of the air.

We find that the mean amounts of water in the air of the places named—expressed in grains of water to the cubic foot of air—are as follows: Chicago, 2.80; Denver, 2.14; San Diego, 4.19; Los Angeles, 4.00; foothills, unrecorded; Yuma, 4.12, and Prescott, 2.20.

Thus Prescott, which has the highest relative moisture of all the places given—74 per cent. of saturation—has a very small degree of real humidity; and Yuma, which has the lowest relative humidity, carries more water per cubic foot of air than Los Angeles or Chicago, and almost as much as San Diego.

The rainfall record shows Southern California to have a small amount of precipitation. The rains come mostly from December to April inclusive. The number of days of falling weather are, even through these months, fewer than in the East. The annual rainfall in Los Angeles and the average of the eastern foothills—Redlands, Riverside and San Bernardino—is 15 inches. This is the same as at Denver, while the western foothills—Sierra Madre, Pasadena—have 16 inches, and San Diego has but 10 inches.

The relative degree of cloudiness and sunshine is usually reckoned as an element in the general question of humidity. It is more an element in the mildness of a climate. The mean percentages of cloudiness by day of the places named are as follows: Chicago, 51; Denver, 38; San Diego, 42; Los Angeles, 34; western foothills, 30; eastern foothills, 28.9; Prescott, 24, and Yuma, 17.

The altitudes of Southern California are mostly low, from sea level to 1500 feet at the foothills near the mountains. If low altitudes are unadapted to consumptives, then these regions are objectionable. Los Angeles has an elevation of 300 feet; Pasadena, 800; Sierra Madre, Altadena, Redlands, Riverside and the Ojai valley from 1000 to 1500 feet. But there are regions of high altitude where patients are often sent for variable periods, with more or less benefit. One of these is the mountain resorts back of Pasadena, including Wilson's Peak, Echo Mountain and Alpine Tavern, whose altitudes vary from 3500 to 6000 feet. Another place that has been a resort for a few patients for many years is Strawberry Valley, in the San Jacinto mountains, lying southeast from Riverside and being on the divide between the coast plateau to the west and the Colorado desert to the east; it looks down upon Indio and is the dry desert resort for consumptives. The elevation of Strawberry Valley is 5000 feet. This is an ideal place for the sick, but has the disadvantage that it is reached only by a stage ride of twenty miles from San Jacinto station on the Santa Fe railway. A powerful and speedy automobile service has been introduced, and it is hoped will make this journey much less objectionable.

The weather in Strawberry Valley is much like that of the mountains of Colorado, with occasional showers during the summer and some snow in the winter; the temperature ranges from 20 degrees on the coldest nights of winter to 85 or 90 in midday of the hottest days of summer. The scenery reminds one of the White Mountains of New Hampshire. The California Health Resort Company, Los Angeles, has acquired a large tract of land in this valley and has just finished the construction of a sanatorium which will accommodate a large number of patients, whom, it is expected, will be mostly of the tubercular class. The plans and regulations of the company indicate a sanatorium on the plan of those of Sharon and Rutland in Massachusetts, and of the better class of those of Europe. So much money has been invested in the enterprise that the company can not afford to drop in its standard of management, and it is promised to the profession that in the care of the patients the directions and wishes of the attending physicians who send patients shall be carried out in their management as far as possible, consistent with certain definite rules of the institution as to fresh air, outdoor life, supervision of exercise, rest and amusements, as well as the dietary and feeding. The water supply of the place is perfect and in the construction of the sanatorium every provision known to good hygiene seems to have been carried out.

The one quality in which the climate of Southern California is pre-eminent is its mildness and the ease with which one can live out of doors most of the time, both day and night, and during all seasons of the year. A dozen days of rain and as many of high wind are about all that need keep any patient wholly indoors, and, even in these days, he may have perfect ventilation of his room. There is nearly every day a breeze from the ocean during the day and one down from the mountains at night.

Occasionally, on a winter's night, the temperature drops for an hour or two slightly below freezing point, and during most of the days of winter and many of those of spring warm wraps and overcoats are acceptable at all times of the day. The warmer days of summer are, from 10 to 5 o'clock, sometimes very warm as shown by the thermometer, the temperature ranging from 85 at the coast to 102 at the eastern foothills—those farthest from the ocean; but to the human body properly clothed these temperatures are never experienced. With thin and light-colored clothes and hat, you would guess any day that a temperature of 100 was 85 or 90. Within twenty or thirty miles of the coast invalids are rarely uncomfortable from heat in summer even for an hour. The diathermancy of the atmosphere, due to dryness, especially some miles inland from the coast, is so great—particularly in summer-time—that the sensible as well as the real temperature of the air drops quickly as soon as the sun goes out of sight, whether under a cloud or at night. This fact makes it necessary to change one's clothing or

wraps much more often than is necessary in the East.

Mean temperatures are somewhat unenlightening as to the question of physical comfort at times of extreme fluctuations, but they are worth considerable by comparison. Mean temperatures of summer and winter are shown by the following table:

	Summer.	Winter.
Chicago	68	22
Denver	69	29
Prescott	70	37
Yuma	90	55
Los Angeles	69	54
San Diego	68	54
Eastern foothills	75.3	54.7
Western foothills	71	52.6

I can not doubt that the slight fluctuation of the barometer in Southern California is an advantage to the sick. The fluctuations in the barometer in Southern California are not more than half what they are in the eastern part of the country. A daily journey up and down a mountain gives one fluctuations in the barometric pressure, and such an exercise is not thought to be harmful. But a sudden drop in the pressure will often give one a neuralgic or so-called rheumatic pain and disagreeable and depressed feelings. Some evidence has been accumulated in the past to show that at times of low barometer patients recover less rapidly and bear surgical operations less well. Fluctuations in air pressure are of doubtful value in any sickness unless prescribed for the particular case.

Finally, the experience of the past is valuable and beyond controversy. A large number of patients have recovered from tuberculosis in Southern California and have remained for many years with all the appearances of health. How large a proportion of those who have gone there with the disease have recovered nobody can tell. That this climate is better for consumption than some others in the United States, I would not pretend to say. But I know that experience has proved its great value, and the experience has justified the theory that most of the climatic benefit that ever comes to this pathetic class of patients is due to their ability to live practically out of doors a large part of the time, night and day. This is a doctrine, too, that to my mind has the support of common sense.

NINETEEN YEARS' EXPERIENCE WITH CREOSOTE IN TUBERCULOSIS.*

JAMES A. BURROUGHS, M.D.
ASHEVILLE, N. C.

The general who has a difficult battle in contemplation not only surveys the ground and counts his men, but selects his best gun and places it at advantageous points, where it will not only offer the greatest protection to his men, but do its most effectual carnage to the enemy. Other things being equal, success or failure in the treatment of pulmonary tuberculosis depends largely upon a judicious selection and proper administration of creosote.

Being located as I am, at a point where a very large number of tubercular patients are directed by the best physicians of the country, I have a good opportunity to obtain a fairly correct opinion of the profession's confidence in creosote. My records for the past nineteen years, of 2183 cases of tuberculosis, scattered from all points of the United States and the provinces of Canada, show that thirteen out of every fifteen patients were either taking creosote or had had it prescribed. These statistics are of value in arriving at a consensus of opinion of the profession to-day, when we observe that for the last seven years of this record, embracing more than one-half of the cases, seventeen out of eighteen were either taking creosote or had had it prescribed.

Much of the prejudice of the laity and disappointment to the physician in the use of creosote is due to the administration of an impure article. While it is noted that the bulk and file of these unfortunates are taking creosote, it is observed that so little attention is paid to its purity that many are getting nothing short of carbolic acid or a true wood product. No plain beechwood or any other wood creosote should ever be administered by stomach or applied locally. Creosote made by a double distillation from beechwood tar is practically free from carbolic acid and all other impurities; it possesses the greatest antiseptic and germicidal properties, and at the same time there is an absence of all nauseating, irritating and escharotic effect.

Mr. Thomas Morson's test is simple and satisfactory. It consists in the solvent power of glycerin over carbolic acid, which is dissolved by it in all proportions, while pure creosote is insoluble in glycerin, or nearly so, while carbolic acid is dissolved by it in all proportions. Consequently, if any liquid assumed to be creosote dissolves largely in glycerin it probably consists in whole or in large part of carbolic acid.

Creosote made by the double distillation of tar from beechwood, complying with the Morson test, can be administered in enormously large doses in the most delicate stomach, with decided clinical success. Rarely do patients come under my care who are taking more than 5 to 10 minims, which is certainly too small a quantity to be of decided value in the management of the tubercular; these small doses do a little good where there exists a feeble digestive apparatus, by partially preventing fermentation and thereby assisting digestion, but beyond this, in these small doses any beneficial effect upon the course of the disease is highly improbable. It is only in the large doses of creosote, from 60 to 100 minims three times daily by the mouth, and a local application to the lungs of 15 to 20 minims daily, that we recognize in this drug a well-nigh specific influence in pulmonary tuberculosis.

Creosote is best administered in either cod-liver oil, whisky or cream. Manufacturing druggists in recent years have a fad of combining creosote with many of their wares; it goes without comment that these preparations are of but little benefit, as the quantity of creosote is insufficient and quality questionable. Creosote should never be administered in capsules unless combined with an oil, and then the bulk or number of capsules would be objectionable. I have systematically used creosote subcutaneously in tubercular subjects, without observing any advantage over administering by stomach. One part of creosote to two of oil of sweet almond was the strength used, and in no instance have these injections given trouble. This mode of administering is sometimes admissible when a concentrated local effect of the drug is desirable or where there exists an idiosyncrasy or aversion by mouth.

In all cases of laryngeal and pulmonary tuberculosis, 20 to 25 minims of creosote in some hydrocarbon oil can and should be forced down into the lungs daily.

The drug must always be administered on a full

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon and N. S. Davis, Jr.

stomach three times daily, commencing with 20 minims and increasing 1 minim daily until 60 is reached. Hold the dose at this point for one month, then drop back to 40 minims and start up again until 80 minims are reached, holding at this dose for a time. The process is repeated again when 100 minims or even more is reached and the patient held at this point for months or years, in the discretion of the physician. Rarely do I consider it safe for a patient to stop creosote until at least two years after all symptoms of the disease have subsided. As a matter of course, emergencies may arise in any case, contra-indicating its use for a short period, but in the main I wish to impress the importance of a long-continued use of the drug after the patient is seemingly well. A strict uniform observance of this point will prevent many relapses and strengthen the doctor's faith in the ultimate curability of consumption.

Creosote prevents fermentation in the alimentary tract, at the same time it stimulates a better flow of digestive fluids, and allows a disabled organ the time, which it lacked in vigor, to accomplish a physiologic process. Large doses of creosote stimulates respiration, increases oxidation, makes more red blood, gives better nutrition to the tissues of the body and renders a soil less desirable for germ life.

Creosote is largely eliminated by the lungs and kidneys, and, from this very fact, we recognize in this drug a valuable remedy in tuberculosis of these organs. Large doses of creosote, with rest and diet, in tubercular nephritis offers a rational plan of treatment, which is unexcelled. In these large doses I have yet to observe a single instance of renal disturbance, notwithstanding the warning uniformly thrown out by authors.

Creosote has the power of controlling tubercular fever in the incipient or congested stage, as well as in the suppurative stage. By the large doses in the incipient stage the inflammatory area is limited and circumscribed. In the suppurative stage it is not only limited by the large doses, preventing further tissue complications, but creosote thrown down into bronchial tubes and cavities destroys the pus germs, which causes the septic fever.

A married female, 28 years of age, having been located in a good climate eighteen months, with a shot of an attenuated tuberculin every two or three days, presented herself at my office with a temperature chart of the last six months of her illness; the temperature at 5 p. m. had rarely been below 101 and most frequently ranged to 104. She had lost much flesh from tissue metamorphosis and tubercular sepsis. The tuberculin was stopped and the patient was placed upon a strict diet of scraped beef, cream and eggs, with 90 minims of creosote three times daily and with 25 to 30 minims of hydrocarbon oil forced down the bronchial tubes into the lungs daily. A drop in the temperature was noticed the first afternoon following the treatment; at the expiration of twelve days' treatment the afternoon temperature had dropped to 99. She has now been under treatment for ten weeks, with somewhat increased amount of creosote, and at no time since the twelfth day has her temperature been above 99. The cough and expectoration, with all constitutional symptoms, are greatly improved and she has gained sixteen pounds in flesh. It has not been my pleasure to observe in very many cases such prompt and decided lowering of temperature, yet all cases amenable to treatment will show a perceptible reduction of temperature almost from the start with a cessation of loss of weight.

Creosote is not the only drug that is of value, but it plays a part and exerts an influence in tuberculosis that no other drug does; its influence over this dreaded disease is well-nigh that of a specific, if administered in the incipient stage, other things being equal, viz., climate, diet, and rest of mind and body.

With large doses of creosote by the stomach, and locally in a hydrocarbon oil, it is beautiful to watch the appetite and digestion improve, the heart's action coming down, night sweats ceasing, cough and expectoration decreasing, with a return of vigor, strength and general good spirits born of hope, and a consciousness of decided substantial improvement; happiness, obedience and gratitude come hand in hand with the improvement.

DEDUCTIONS.

1. Selection of a creosote made by the double distillation of tar from beechwood is essential. 2. Large doses continued indefinitely do not irritate the stomach, but improve digestion. 3. Large doses are appropriated by the system as shown by clinical observations. 4. The drug in large doses is indicated in all stages of the disease. 5. For permanent results the drug in large doses should be continued for months after the absence of all physical signs or constitutional disturbance. 6. Creosote in large, continued doses is not only the most rational treatment, but gives the best clinical results of any one agent familiar to clinicians.

DISCUSSION IN SYMPOSIUM ON TUBERCULOSIS.

DR. DE LANCEY ROCHESTER, Buffalo—The speaker had sent several cases to Colorado last winter and recalled one case of a man, who weighed only 168 pounds, suffering with tuberculosis, and who, after remaining in Colorado six months, now weighs 208 pounds. Every case that he had sent had improved in the climate of Colorado. He felt that he could add nothing to what Dr. Solly had said, except to emphasize his remarks upon the value of altitude in the treatment of pulmonary tuberculosis.

He approved of creosote. In the city of Buffalo the climate is not a very good one for consumptives, but he recalled five cases, two men and three women, living in tenements, under bad hygienic conditions, which he had cured with creosote in very large doses. He commenced with small doses and ran it up to 4 c.c. at a dose, three or four times a day. The value of this treatment can not be denied. He had found that he gets much better results from plain beechwood creosote than from guaiacol or any of the other drugs which have been used as substitutes for creosote. The best vehicle for administration is weak mucilage water. He had never had any difficulty with his patients about taking the drug. He instructed his patients to buy their gum acacia and make their fresh mucilage solution at the time of taking the dose. He had never observed any ill effects from these large doses of creosote upon any of the organs of the body. He would also emphasize the remarks of Dr. Bridge about keeping the lung at rest. Much harm has been done by pulmonary gymnastics during the active stage of the disease. The theory is wrong and he had obtained better results by keeping the lung at rest. After the patient has recovered, and has been without fever and other symptoms for a month, and all signs of the active process have disappeared and the physical signs are simply those of sclerosis, then we can begin with the hope of benefit the gymnastics to prevent contraction of the lung. He did not think that they should be entirely given up, but that they should not be resorted to until the active stage of the disease has passed away.

DR. SHERMAN G. BONNEY, Denver, said that with reference to the matter of hemorrhage in relation to the altitude treatment, it had been his observation that only one case out of every four with a history of hemorrhage before arrival in Denver at an altitude of 5000 feet might be expected to have a recurrence. This observation was based upon a very large number of cases. He had read recently a paper on this subject, before the Climatological Association, which contained his statistics and he would not repeat them, but he might state that the

majority of cases which had bleeding at an altitude, were cases which had a hemorrhage shortly before leaving their homes, or just before arrival. He would also say that one case out of every four who had a hemorrhage shortly before arrival might expect to have one after arrival, and in a large proportion they will have it within a week or two after coming. The deduction from these observations should not be that such cases are not to have the benefit of removal to an altitude, or that they ascend by easy stages, but that they should wait for one or two weeks after having a hemorrhage, at the lower level, before undertaking the fatigue involved in going to an altitude. He did not think that they should stay away altogether unless there were other reasons than the hemorrhage, to deprive them of the benefits of climate. In many of the cases in which the hemorrhages were severe at an altitude, he had found that they were those in whom unfavorable manifestations might be expected in any locality, and which should never have started. While he was a believer in high altitude treatment of consumption, which is a broad subject, too extensive for discussion now, he realized that no one climate is the best adapted to suit every case. Some will do better at a little lower altitude. For several years in Colorado he had had experience with a number of cases which had been sent away from home without any discrimination whatever; cases of emphysema, of kidney disease, of extensive fibrosis; cases of chronic bronchitis of a dry type associated frequently with asthma, and aggravated forms of heart trouble. The cases just referred to frequently do better at a low level, in parts of California, for instance, than at a high one. He did not attempt to differentiate these patients according to all their clinical appearances, but always with reference to the individual, and the power which his heart possesses. While an extreme altitude is not adapted to all classes of cases, he thought that a great majority of consumptives do better at moderate altitude like 5000 feet than in any other locality.

He thinks creosote valuable, though not adapted to all cases. If given indiscriminately, it is capable of doing much harm. He deprecated the sentiment expressed by many patients who come to Colorado, that they will not take creosote. It is a popular fad at the present day that patients should say what they should take and what they should not take. He believed that creosote should be given in small doses, preferably in capsules. He is usually guided in its administration by the character of the expectoration and by its quantity. In the cases with very purulent expectoration, it is capable of doing very much good. In cases of dry bronchitis, with scanty expectoration, it is harmful. In some cases it may do good by its influence on the digestion, by diminishing fermentation and increasing the appetite. He had been much interested in the several communications by Dr. Bridge with reference to keeping the tuberculous lung at rest. He felt constrained to emphasize the fact, however, that it was far less important to keep the tuberculous lung at rest than to keep the tuberculous individual at rest. A great many patients who come to Colorado, with advanced trouble in the lung—in 71 per cent. the disease has been progressing for eighteen months before arrival—arrived at the stage of the disease of the lung where strapping is inapplicable. In some cases there is often a pleural effusion, and the patients do very well with it. He questioned if it was beneficial to aspirate in these cases; he had seen cases do poorly after aspiration and he had come to the conclusion that a moderate effusion should not be interfered with. Where the disease is active and confined to one lung, the speaker approved of the method of putting the lung at rest, but if there is trouble in both lungs it would do harm. With reference to the use of nitrogen injections into the pleural cavity, where the disease is strictly limited to one side, they may be useful, but the observations which have been made are to a large extent fallacious. It has been the experience of observers that while there is apparent improvement in the symptoms—the cough and the expectoration—upon examination of the lung six months later, it will show very little change in its physical condition. He was not certain that we do not lay ourselves open to the charge of doing harm by indiscriminate strapping, in a certain class of cases. Damage may result after the straps have been worn for five or six weeks, if we allow the patient to take them off suddenly. In one case, that of a lady who had gone through an attack of influenza with the straps on her chest, the latter were removed one evening with the intention of renewing them the next morning. During the night, she had a severe attack of coughing and developed a pneumothorax. He now observes the precautions of removing the straps gradually with an interval of a day or two between each, so as to gradually withdraw the support from the chest, instead of taking away the straps all at one time.

Dr. C. L. Minor, Asheville, N. C., criticized the remarks of Dr. Bridge on the ground that in rejecting pulmonary gymnastics Dr. Bridge did not differentiate between incipient and advanced cases. From his paper Dr. Bridge was evidently thinking of advanced cases, which all realize are not suited to gymnastics. If pulmonary gymnastics were to be of value they must be restricted to incipient or not very active cases; to use them in advanced ones might favor the more rapid dissemination of the trouble. Dr. Minor would take issue with Dr. Bridge on his general statement that the tubercular lung should not be exercised. This term, tubercular lung, covers too many conditions to be used without closer specifications, since it applies equally well to the lung with the least possible tubercular infiltration and to that which is totally disorganized. The opponents of gymnastics have always claimed that if we rest the tubercular joint it is equally necessary to rest the tubercular lung, but that a parallel can be drawn from joint to lung is not evident. It is rational to assume that deep breathing in an actively involved lung may do harm, and in such cases as show moist râles or more than a very few dry ones gymnastics are contra-indicated. It is, however, equally rational to assume that since the thorax in the recovering consumptive increases in size and contracted parts of the chest wall re-expanded we can not be far wrong in assisting Nature in her efforts in this direction in suitable cases. The speaker had now for a number of years used pulmonary gymnastics with undeniable benefit both in his own case and in those of many patients, had kept careful lead tape cyrtometer tracings of the chest shape before and after treatment, and could say that, with few exceptions, the thorax of a recovering tuberculous case always increased in size and that when that increase was assisted by gymnastics the patients did not suffer by it but did better and felt better, and that the falling temperature and improving signs showed that the harm Dr. Bridge feared was chimerical. Yearly he saw cases, but not many, where he had to discontinue these exercises for cause, but had yet to see any case which had suffered more than very temporarily from them. He believed that its chief effect was to combat and remove the peripheral atelectasis which in these cases offered such a good ground for the process to spread in.

Turning to Dr. Bridge's treatment by strapping and immobilizing, he did not believe it wise save during a dry pleurisy or after a hemorrhage. That the straps could effectually immobilize the lung he could not believe; certainly he could contradict the Doctor's statement that the arm muscles did not expand the chest; the pectorales, the shoulders being fixed, are well known to have such an effect and a short observation on one's self or a patient would convince one of it. The beneficent effect on an acute case of a rapid pleural effusion was often seen, but the cases helped were always acute, never chronic.

The statement that climate was a non-essential should be contradicted. It was not as essential as strict hygiene and good diet, but added to these it could cure cases that they alone would fail utterly to rescue. Our climatic resorts could show many people who had experienced this; no one who had lived in such a place could doubt that after hygiene and diet, climate took the next place.

Dr. R. C. Moore, Omaha, said that the advantages of various climates had been well described, but, in his mind, the chief desideratum was a climate where the patient can stay out of doors the most of his time. In any altitude, if the patient remains in his room, he will die. It is the fresh air that cures the patient whether he is in Colorado, California, or elsewhere.

An objection to sending a patient away from home is that by so doing he is often sent to a place where he has less freedom than in his own house, and is in fact in prison. He is also likely to meet with other unfortunates who are exiled from home and the effect is to depress him. Instead of sending his patients to such places, he tells them to go out on a ranch in his own State of Nebraska. He tells them not to be afraid of the fresh air, and not to sleep indoors. It is the constant breathing of vitiated air loaded with disease germs that causes pulmonary tuberculosis and the remedy is to breathe fresh air.

As regards the medical treatment, he had heard many remedies highly praised in this disease, but his experience was that any disease for which there were so many sovereign remedies, was incurable. The less stuff from the drug stores that you put into the stomachs of these patients, the better they are off. He is accustomed to give his patients some strychnia tablets (gr. 1/60), and gradually increase the dose to gr. 1/12, three times a day. This is about the extent of the drug treatment that is used in these cases, and he finds that his patients get on better and live longer than when he used to dose them with all the different drugs that were recommended.

DR. S. E. SOLLY, Colorado Springs—In regard to the statement by Dr. Burroughs that altitude is injurious because expansion of the chest is injurious to the lungs, he would say that while the diseased part of the lung should be kept quiet, the other part of the lung should be expanded and thus allow the diseased part to be at rest. This very thing is brought about by altitude; the healthy portions of the lung were so expanded by the rarefied air that they compressed the diseased portions, keeping them quiescent as in a splint. As regards exercise, he advised at first a period of absolute rest, then massage, Swedish movements, light gymnastics, waltzing, horse-back riding and golf playing. From repose to active exercise must be a path on an inclined plane. He had not had occasion to use injections of nitrogen gas into the chest. He had, however, often seen relief follow a pleural effusion, in which case he would avoid aspirating as long as the patient was doing well. He was opposed to the use of straps to keep the chest at rest. Strapping the chest interfered with the activity of the surrounding healthy lung, which required to be in its highest efficiency for the direct benefit to the tubercular area, as has been spoken of, and also for the indirect benefit to the aëration of the blood. As to what Dr. Burroughs had said about the innocuousness of the pus in the bronchial tubes, it is probably true, as long as it remains in them, but the danger is in its being carried to other parts of the lung. While in the bronchial tubes it perhaps is only harmful in interfering with the air entering the air cells. The speaker was glad to notice that Dr. Bridge was evoluting from the seashore, and beginning to remove his consumptive patients from the low damp air to the high and dry atmospheres of the mountains.

DR. NORMAN BRIDGE said that he had observed that not only Dr. Solly but other advocates of high altitudes are apt to apply the name of "stimulating," or "too stimulating" to the climate when explaining why certain cases get worse. For there are certain cases which do get worse, and it is then said that the climate was too stimulating for them. He wished that they would try to find out what this character of the climate really is, or else not use the word. With regard to the value of creosote, he had used it to a great extent and had come to the conclusion that some writers were about right in declaring that no condition of tuberculosis of the lungs is influenced in any way by any amount of creosote taken into the body. The advocates of this treatment have referred to cases which have recovered who had taken large doses of creosote. The speaker could point to a large number of cases that had recovered under precisely similar conditions without taking any creosote whatever; that in a very large number of cases, examined under similar conditions, recovery has followed the use of other agents. Hence, from these cases we can draw no conclusions of scientific value. As to the statement of his friend that he had seen good results from pulmonary gymnastics—

DR. MINOR—Not in active processes.

DR. BRIDGE—He draws the wrong conclusions as to the progress of the tubercular condition in the lung, which may have lesions in all stages.

DR. MINOR explained that he was guided by the temperature.

DR. BRIDGE—There are cases of dry fibroid phthisis which go on to destruction of the lung and death without any particular rise of temperature whatever. The thermometer is not an infallible guide. Dr. Bonney spoke about removing the straps gradually, but the speaker had never seen any bad effect from doing it, and thought the risk was exaggerated. In his remarks about the local treatment of the tubercular lung, he had no intention of minimizing the importance of putting the patient at rest. As regards the effects of the stimulating treatment, Dr. Solly had relieved the speaker's conscience and he had no need to discuss it. The gentleman from Nebraska had emphasized the most important point in the treatment, and without agreeing with everything he had said, the speaker thought that the remarks had embodied a great deal of good sense.

DR. C. S. N. HALLBERG, Chicago—Dr. Burroughs had laid much stress upon the necessity of purity of creosote, and upon the value of the tests which he relied upon. The speaker was compelled to say that creosote is not made by any such simple method as the reader of the paper had described, nor are the tests that he had given to be relied upon. The speaker thought that in prescribing creosote, physicians should pay more attention to the character of the preparation, or *form* of creosote they use. Creosote is one of the most insoluble remedies. It dissolves with difficulty in water, requiring not less than 150 parts. It is fortunate that it is so, otherwise we should hear of some bad results, as the large doses would seriously impair the digestion. Creosote is broken up by the alkaline liquids of the intestine, into guaiacol and creosol, thus forming more soluble antiseptic compounds. The speaker thought that the best method of administration of creosote is in the form of a pill (5 cg.) made with a soapy excipient, which passes unchanged through the stomach, and upon arriving in the intestine, slowly disintegrates. Dr. Hare, a few years ago, advised the administration of creosote water, a saturated solution (1 in 150), as being the best form in which to administer it. The method of administering creosote undiluted in capsules containing larger doses, 1 c.c. or more, is similar to that employed by railroad men for preserving the wooden ties from decomposition, in which the wood is creosotized.

The Doctor from Nebraska had spoken of the administration of strychnin in the form of tablets. The speaker called attention to the sparing solubility of the tablets in the alkaline intestinal tract. If a number accumulate in the intestine they may through changes in reaction dissolve at once and have serious results.

DR. A. C. KLEBS, Chicago, agreed with Dr. Solly's remarks upon the distinction to be made in the selection of cases for altitude treatment based upon the patient's social and financial condition. It often happens that patients are sent to an altitude as to an Eldorado; they are sent *en masse* to some celebrated health resort, and are in many instances just able to gather together a few dollars to take them there and with absolutely nothing to live on when they get there. Certainly, such warning as Dr. Solly had given was most valuable, and physicians should most carefully consider the social condition of the patients when advising the altitude treatment. Dr. Burroughs had made some unsupported statements; the statistics given were not satisfactory; they lacked in exactness and did not afford any explanation, and besides were based upon too few cases to be of any value. The administration of remedies by inhalation of sprays does not affect the tubercular lesions, and it has been abandoned by good authorities. Dr. Burroughs made the statement that the treatment of tuberculosis by creosote is a rational treatment; but the facts he produced do no seem to substantiate such a statement. Dr. Bridge's paper on the treatment of a tubercular lung was of the utmost interest, and the speaker was very glad to hear him emphasize two points: the prevention of useless cough, and the importance of rest to the lung itself. The former has

not had sufficient attention given to it. Patients should be instructed that a certain amount of cough and expectoration are necessary, particularly in the morning after a night's rest; but they can be taught to control excessive coughing by attention to certain points; they can learn to control the cough by will. They have to cough in the morning; but if they can refrain from responding to the slightest irritation and wait until after breakfast, the expectoration can be accomplished with much less exertion. Everyone should read the classical essay by Dr. Detweiler on the restraining of unnecessary cough. The gentleman from Nebraska has struck the key-note, which had been already mentioned in the speaker's paper, that true science is only systematized common sense. If he would systematize his common sense he would be very near the truth. His reference to the fresh air wherever found and its influence in effecting cure was very good. Without detracting from the effects of climate and altitude, it is the open air as such that is one of the chief factors. The climates that permit the greatest opportunities for living in the open air are the best climates for the treatment of pulmonary tuberculosis, but this in no way alone constitutes everything; every feature in the patient's life demands attention and careful regulation under the supervision of a competent physician.

TREATMENT OF ACROMEGALY WITH PITUITARY BODIES.*

SYDNEY KUH, M.D.

Professor of Diseases of the Nervous System, Chicago Post-Graduate Medical School; Assistant Clinical Professor of Nervous Diseases, Rush Medical College; Attending Neurologist, Michael Reese Hospital; Fellow, Chicago Academy of Medicine, Etc.

CHICAGO.

Changes of some kind have been found in the pituitary body in all cases of acromegaly, in which there could be no doubt about the diagnosis, and in which a careful macroscopic and microscopic examination of the hypophysis was made. This is conceded by almost all writers who have contributed to our knowledge of the subject. Some, however, claim that the enlargement of the hypophysis is but one of the effects of the malady, something similar to the enlargement of the spleen, for instance, which has been found so often in acromegaly. They forget that in many cases we find not a simple hypertrophy or hyperplasia of the gland, but a malignant growth which does not in any way resemble the simply hypertrophic tissues found in other parts of the body. They also forget the fact—impossible of explanation if their view were correct—that in very nearly all acute cases of acromegaly a sarcoma has been found. I have said that in all cases of acromegaly the hypophysis was diseased. Both Hinsdale and Sternberg, who have collected the reports of 57 and 47 autopsies respectively, claim such changes for all of these cases. The literature, however, contains a few instances of apparent exception to this rule, such as the ones reported by Arnold and Sarbo. In the first of these I witnessed the autopsy myself, and I know that at that time Arnold did not make a positive diagnosis, and I do not believe that he has done so since then. Sarbo's case is also one of very uncertain diagnosis. Then, there is one instance quoted in literature in which the hypophysis is not even mentioned; that a thorough examination of the gland was made seems extremely doubtful. Labadie-Lagrave and Deguy report another case of acromegaly, without changes in the pituitary body, but they made no microscopic examination of any part of the body. It seems, then, that Sternberg and Hinsdale, Grasset and Rauzier and others were justified in pronouncing lesions of the hypophysis a constant finding in acromegaly. There is, as far as I am aware, but one case of this disease known to have occurred in an animal, the one reported by Cunningham, and he found the hypophysis of his dog enlarged.

Several theories have been propounded which are to explain just how the disease of the gland causes this peculiar form of giantism, but the material at hand forms an insufficient basis for a positive answer to this question. Joffroy thinks that when the pituitary body is diseased and over-active, acromegaly results, excepting when the patient is very young, when giantism is supposed to be the consequence; that if the gland be destroyed, atrophy and cachexia result, a condition similar to cachexia strumipriva. Hansemann, too, believes that an increased activity of the gland is the pathogenetic factor. Since we know of one case of acromegaly in which the pituitary body was entirely wanting, this explanation can not be correct. I should not, however, feel justified in considering a single case a sufficient basis for a theory; otherwise the only possible conclusion would be, that a decreased secretion is the causative factor.

A number of facts seems to indicate that the hypophysis in some way exerts an influence upon the growth of the body. These I wish to refer to briefly. In a paper on cerebral localization, read by me at a joint meeting of the Chicago Medical and Chicago Neurological societies last year, I spoke of one of my cases in which a psammoma of the pituitary body was found postmortem, and which intra-vitam had shown not the symptoms of acromegaly or giantism, but those of stunted growth. The patient, at the time of his death, his 18th year, was about as tall as the average boy of 14, and his parents stated that his physical development had ceased at that age. His genitals were still infantile. The only cause for the dwarfism that could be found was the tumor of the hypophysis. The thyroid gland was not examined at the autopsy, but seemed of normal size during life. A search in literature for similar cases yielded the following results: Levy, in his thesis, reports the case of a woman, 33 years of age, who died of lymphosarcoma of the hypophysis. The record of the postmortem findings contains the words: "Infantiler Zustand der Genitalien." Another similar case is that of Pechkranz, a tumor of the hypophysis in a boy of 15. The patient is of average size, but his sexual organs are undeveloped, "like those of a boy of 5." The case of Uhthoff is somewhat more complicated. He examined a girl, 14 years old, who had developed normally up to the age of 9. At that time she is supposed to have had pneumonia, and since then physical development had ceased entirely, while intellectually the patient appeared normal. The case is complicated by the fact that the thyroid seemed abnormally small, but there were no signs of myxedema; the skin was thin, rather atrophic. Uhthoff found temporal hemianopsia with atrophy of the optic nerves, and hemianoptic reaction of the pupils. He is of the opinion that the hypophysis must have been diseased. His theory is that at the age of 9 degeneration and atrophy of the thyroid began, which caused stunted growth and secondarily enlargement, and degeneration of the hypophysis. Benda, in his paper on the normal and pathological histology of the hypophysis, mentions that both he and Hutchinson found changes in the hypophysis of dwarfs. And this leads me to another group of facts which seem to support the view that the pituitary body in some way influences the development of the body, that is, the re a-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon, and N. S. Davis, Jr.

tionship which evidently exists between the function of this gland and the thyroid. That the latter has some such function seems established beyond all reasonable doubt by our experience in cases of cretinism. It is well known that extirpation of the thyroid gland in animals is followed by hypertrophy of the hypophysis, more particularly of its anterior portion; both glands are known to contain iodin; both have a similar histological structure; both secrete colloidal material; in myxedema the pituitary body is almost always diseased; the same is true of the thyroid gland in acromegaly. Revilliod furthermore has noted changes in the extremities in exophthalmic goiter, which, in his opinion, represented the exact reverse of what is generally seen in acromegaly. Finally, it may be well to call attention to the fact that exophthalmic goiter and myxedema—both of them rare diseases—have been found associated with acromegaly in so large a number of cases that the appearance of these diseases in the same individual seems rather beyond the probability of a mere coincidence.

Those who do not believe that lesions of the pituitary body are the cause of acromegaly make much of it that occasionally the hypophysis has been found diseased in those who were not acromegalic. Would they have us believe that because they are goiters without myxedema or Graves' disease, the thyroid has no influence upon the development of these maladies?

The considerations just given seem to offer a sufficient justification for experiments with the feeding of powdered pituitary bodies in cases of acromegaly. The results of a series of such experiments in three cases were the following:

CASE 1.—D. P., 29 years old, tailor, Jewish. His parents are alive and healthy; of his nine brothers and sisters, only two are living, but the rest seem to have died from diphtheria. There is no history of any nervous disease or trouble similar to that of the patient in the family. His three children are also healthy. He himself has had typhoid fever some fifteen to eighteen years ago, and a fall ten to eleven years ago; since then he complains of pain in left side. He has used alcohol in moderation, never smoked. It was not possible to ascertain definitely how long he has been ill; he thinks that it is about five or six years since he first noticed an enlargement of peripheral parts. For four or five years he has been depressed mentally at times. His head has troubled him a good deal for three to four years. The pains are described as sticking, are not confined to any one part of the skull; with them he has had considerable dizziness, said to be particularly intense when he looks to the left. At times there has been pain similar in character to the headache in the left eye; occasionally, some tinnitus. During the last two years he has gradually become weaker. His voice has been changed for four to five years. Frequent micturition, but as far as patient knows no change in appearance of urine. Constipation. Of late, gradual decrease of sexual power.

Patient measures 5 feet, 9 inches in height; is well built; somewhat anemic. General state of nutrition seems fair. Memory and intellect corresponding to his social condition. Slight mental depression. His skull is very large, square, measures 25 inches in circumference. The temporal ridges of the frontal bone and the zygomatic bones are very prominent. The skin of the face seems thickened; the pores are distinctly enlarged. Lips also very thick. Hair appears rather coarse. Eyes: motility normal; no exophthalmos; pupils normal in every way. At the time of the first examination the fundus and vision were normal; since then, however, the patient has developed both optic atrophy and a bilateral diabetic cataract (Dr. Hale), and his vision has become very poor.

The nose is abnormally broad and generally thickened; sense of smell impaired on both sides. Ears are somewhat deformed (congenital), large; hearing good.

The lower jaw is very large, square; the palate presents an unusually high arch, and a very pronounced torus palatinus. The tongue measures 2¾ inches in width, is rather thin, shows a coarse muscular tremor. The reflex from the soft palate is present, also that from the lower maxilla. Speech thick, evidently on account of the large tongue. The voice is deep and hoarse. Teeth not altered. Patient claims that there is an increased secretion of saliva (difficulty in swallowing on account of large tongue?). Thyroid gland not to be found. Some dulness to percussion over upper part of sternum. Abdominal organs normal. Genitals of average size, excepting testes, which are rather small. Spinal column straight. No enlarged glands. Neck is broad and thick; in lower occipital region a heavy fold of thickened skin. The patient's entire thorax is very large, the sternum broad and thick; the clavicles and ribs seem affected in the same way. It is hardly necessary to describe in detail the changes in the upper and lower extremities; they are those characteristic of acromegaly. The muscles of the forearm seem rather hypertrophic. The patient's gait is that of a man who is very tired. A few measurements will serve to give an idea of the size of the parts affected. The greatest width of the hand is 8¾ inches; the circumference of the index finger 3½ inches; that of the middle finger about 3¾; that of the thumb 3⅝. Length of hand from wrist to tip of middle finger 7⅞ inches. The thorax measures 46½ inches in circumference in its upper end, and 43⅜ in its lower parts. The foot is 4¾ inches broad, 11⅝ inches long. The clavicles measure 7¾ inches in length.

Sensibility appears to be normal all over the body. The cutaneous reflexes were of the usual intensity; the deep reflexes diminished or absent. The patient's feet were cold and damp. General hyperidrosis. No trophic disturbances in nails.

The course of the disease in this case seemed to be slowly progressive. I have already mentioned the fact that atrophy of the optic nerve was found later on, and a cataract due to the appearance of sugar in rather large quantities in the urine. The patient seemed to lose in strength, and became more and more emaciated. For a short time thyroid feeding seemed to give some relief. The appetite became better; the bowels more regular; headache and dizziness decreased, and the patient felt some stronger. But it soon lost its effect. For the last ten weeks the patient has been taking powdered pituitary bodies, as he stated, without any change for the better. When, however, this medication was stopped for a week, he came and begged that he be given the same powders, for since he had stopped them his headache had became much more intense. It seems to me as though, during the last few weeks, the mental depression had been much less marked.

Since this was written we have repeatedly withdrawn the pituitary bodies for a short time, without any decided change in the patient's condition, excepting, perhaps, an increase in the mental depression.

CASE 2.—Patient, C. P., 30 years of age, Swedish, unmarried, cook. Examined April 24, 1899.

Family history: The patient's father died of old age; her mother succumbed to an attack of pneumonia; four sisters and one brother are well. No similar case has ever occurred in the family.

The patient's past history reveals nothing that could in any way be considered an etiologic factor; no indications of syphilis; no alcoholism; no mental or somatic trauma; no infectious diseases; no nervous symptoms of any kind.

The present trouble seems to have begun very gradually within the last year or two, but it is not more than one year since the symptoms became more marked. Within that time the patient has noticed a gradual enlargement of hands and feet, which compelled her to change the size of shoes and gloves, so that now she wears both of them two sizes larger than a year ago. She found greater difficulty in doing finer work, her hands had become "clumsy." Her voice has become

more and more hoarse, so that the girl could no longer sing, formerly a favorite pastime with her. Then she also began to have trouble with her finger-nails; they became brittle and would break frequently while she was at work; the skin surrounding them would become thickened and inflamed, and the nails would drop off, but would very soon be replaced by new ones. She has suffered from headache almost continually since ill; at times this pain becomes terrific, and is then associated with vomiting. There has been an increasing weakness since last winter, and off and on an itching sensation all over the body. The appetite has always been fair, the bowels constipated. In spite of being ill, the patient claims to have gained some in weight. Just how much she does not know. Menstruation has always been normal. When I saw the patient for the first time, she was suffering from one of her attacks of very violent headache, and with it she had typical, projectile vomiting. Only after repeated large doses of morphin did she obtain some relief from the pain. She felt unable to continue her work on account of general weakness, and was sent to the Michael Reese Hospital for treatment.

Examination on April 26, 1899: The patient is not unusually tall, has a good panniculus adiposus. Slight degree of anemia. On the skull the changes are but slight. The frontal region appears somewhat more prominent than is normal; the lower jaw is large and projects some. Tongue and lips are not thickened, nor are the ears enlarged. The thorax is large, though perhaps not pathological. Thyroid gland of average size. No enlarged lymphatic glands. The changes on the hands and feet are quite characteristic. There is a general enlargement of these parts, no deformity of the same. Both tibiæ are also of uncommon size and thickness. The hair appears to be normal. No hyperidrosis. The finger-nails are all more or less diseased. They are thickened, abnormally brittle, marked by distinct transverse furrows; in some instances the ragged ends are discolored, black. Where the old nail is about to be shed, a new one may be seen under the remnants of the old one.

The heart and lungs show no evidence of disease. There is no polyuria, but examination of the urine shows the presence of a trace of albumin, and a few hyaline and granular casts. No sugar.

There was some horizontal nystagmus, and Dr. A. B. Hale, who kindly examined the eyes for me, found beginning atrophy of the optic nerves, with normal retina. The pupils reacted both to light and to accommodation, and there was no paralysis of extrinsic ocular muscles. I am indebted to Dr. Pierce for an examination of the larynx, which showed the following changes: "Interarytenoid folds thickened; on true vocal cords nodular swelling; false cords also thickened; motility normal; slight swelling below the commissure."

Both knee-jerks were very brisk; ankle clonus could be obtained on both sides. Mentally, the patient appeared perfectly normal. There was no loss of memory, no somnolence, no mental depression.

The patient remained in the hospital from April 26 to June 3, 1899. During that time the temperature was always normal, excepting one rise to 99. The pulse rate ranged from 60 to 100; twice it was 60 and twice 64.

We first gave 15 drops of saturated solution of potassium iodid, t.i.d., and codein, gr. 1/3, for pain, when needed. On May 7, we began to administer powdered pituitary bodies. The dose was 5 grains, three times daily. Up to May 8 it had been necessary to give codein five times. After that date the patient had no further attack of headache that called for an anodyne.

She improved steadily, as far as the subjective signs were concerned, and during the one and one-half years that she was under observation had but one attack of headache, and that after she had been without the pituitary bodies for several days. She was then ordered to continue the gland, and has been free from headache since then. She had regained her strength sufficiently to take up her work again shortly after she left the hospital, and until August of last year felt well, with exception of the attack just mentioned. At that time, however, she began to suffer from violent cramps in the calves of the legs, which came on very frequently during the night, causing insomnia. At the same time her mental condition changed, she became depressed and very emotional, was convinced that she would become a cripple, etc. In September she returned to her old home. As far as the objective signs of the disease are concerned, I could not discover any change either for better or for worse during the last one and a half years.

Case 3.—M. H., 58 years of age, retired merchant, Jewish. Patient was first examined Jan. 16, 1900.

His mother was a nervous woman, died at age of 65 "from asthma." The father is now 80 years old, suffers from stomach trouble. Of the brothers, one is said to have died of tuberculosis, one of heart trouble, four are living, all of them asthmatic. I had occasion to examine a photograph of all the members of the family; none of them showed any signs either of acromegaly or of giantism. Of the patient's children, one died of inflammatory rheumatism. The rest are living and, excepting for nervousness, well.

Patient has suffered from rheumatism off and on. He has always worked very hard, and has been exposed to the inclemencies of the weather a good deal. He has had a good deal of trouble and worry during the last few years. He has never used alcohol to excess, but has smoked a great deal. He has not been nervous. For years he has had frequent attacks of asthma. During the last six to seven years he has had more or less headache. His present illness, he thinks, dates back about three or four years, and began with attacks of vertigo, during which objects seemed to revolve around the patient. For two to three years his bowels have been constipated, and he has had a good deal of headache, always in left frontal region, dull. His hands feel stiff and weak. Frequent pain in lumbar region. He has not noticed the enlargement of the extremities, but during the last few months others have frequently called his attention to these changes; his head, he claims, was always very large. At times during the last two years he has had trouble in closing the left eye. His vision is good. For the last year he has noticed attacks of palpitation. The urine was examined one year ago, and found normal. He is troubled considerably by polydipsia. Sleeps good. At times some tinnitus aurium. Of late he has not been able to eat solids any more, because the lower set of teeth projected so far beyond the upper ones that he was unable to masticate. During the last two years he has perspired very freely. He was examined on a rather cool day, but his underclothing was fairly soaked with perspiration. The patient is about 5 feet, 8 inches tall, weighs 193 pounds; is well nourished. The skin of the face seems thickened, the pores enlarged. His skull measures 24¼ inches in circumference. To describe it would mean merely to repeat what I have said about the cranium of Case 1. His ears are large, somewhat thick; his nose broad, large and thick. The color of his eyes is brown, with numerous black spots on iris; the motility is normal, excepting for an occasional trace of horizontal nystagmus. Pupils react normally. No changes in fundus. Senses of taste, smell and hearing not affected. The hard palate is very high, arched, the tongue broad and thick. His voice is deep, hoarse. The respiration is rapid and labored. Thyroid gland of about normal size. Heart: Mitral insufficiency; arteriosclerosis; pulse, 76. Emphysema of lungs. Spleen not enlarged. Marked gibbus and curvature of the spinal column to the right. Glands not enlarged. Both the cutaneous and deep reflexes are normal. His hands, as well as his feet, show the changes characteristic for acromegaly. The long bones in the extremities seem somewhat thickened, too. The clavicles and ribs are distinctly enlarged, particularly broader than normal.

Examination of urine: Specific gravity, 1025; urea, 2.5 per cent.; no albumin; some hyaline and granular casts.

The patient was put on 5 grains of the powdered pituitary bodies, t.i.d. On Feb. 2, 1900, he reported that he had had very little headache since he took the powders; felt "less weak-

ness in the bones," had but little vertigo and is troubled less by hyperidrosis.

April 27, 1900: Patient has been in California for last two months. Very much less headache, no vertigo at all. Feels stronger. No pain in back; no more hyperidrosis. Appetite good.

In this condition the patient remained up to December, 1900. He "felt better than he had been for years." At the time just mentioned he had an attack of asthma, which was followed by edema of the ankles, and the appearance of albumin in the urine; his pulse became very rapid, irregular and weak. Under digitalis and strophanthus he first improved, but became worse again very suddenly on the morning of December 31, and died on the same day. It does not seem probable to me that his acromegaly had anything to do with his death; the exitus seemed due to the cardiac and renal disease.

The result of the treatment with pituitary bodies, then, in these three cases, was that the first patient derived little, if any, benefit from it, while in the other two cases, for one and a half and one year respectively, the condition of the patients seemed decidedly improved. Headache, dizziness, general weakness, hyperidrosis and vomiting disappeared, while the trophic changes in the nails of our second patient became very much less marked. With her new symptoms appeared, almost as troublesome perhaps as those from which she had been relieved. Still, if we will stop to consider how little other methods of treatment can do in this disease, even the slight improvement obtained seems gratifying. The most important question for us is: Did the feeding with pituitary bodies exert any beneficial influence whatever? This question, for the last two cases, at least, is to be answered in the affirmative. We have not forgotten the possible effect of suggestion, and have tried, as far as possible, to exclude its influence. The fact, too, that in two cases tablets of pituitary bodies seemed to yield less satisfactory results than the powder, although it had been impressed upon them that both contained exactly the same ingredient, seems to me to point rather to a difference in solubility than to a mere imaginary effect. It is hardly reasonable to expect the treatment to cause those symptoms to disappear which are due to organic changes in the tissues, such as the optic atrophy or the enlargement of peripheral parts, but the subjective symptoms were relieved both in two of my own cases and in quite a number of those recorded in literature.

REFERENCES.

1. André, G.: Les nouvelles maladies nerveuses. Paris, 1892.
2. Antomivi: Sopra un caso di acromegalia parziale. Arch. di Psichiatria, xviii, 2-3.
3. Bailey, Pearce: Patholog. report of a case of acromegaly. Phila. Medical Journal, 1898.
4. Bassi, G.: D'un caso di acromegalia prevalentemente cefalica. Clin. Med., xxxviii, li, 1899.
5. Beadles, C. F.: Transactions of the Pathol. Society of London, xlviii, p. 1, 1897.
6. Becker: Akromegalie, Arch. f. Psychiatrie, xxvi, Heft. 2.
7. Benda, C.: Beiträge z. Normalen and Pathol. Histologie d. Menschl. Hypophysis Cerebri. Berlin. Klin. Wochenschrift, 1900, No. 52.
8. Boettiger, A.: Ein Fall von Akromegalie, Compliciert, etc. Muenchen. Med. Wochenschrift, xlvi, 51, 1899.
9. Bonardi, E.: Contributi clinici ed anatomo-pathologici alla conoscenza dell'acromegalia. Neurolog. Centralblatt, 1901, No. 6, p. 278.
10. Bramwell, B.: Anemia and some of the diseases of the blood-forming organs, etc. 1899.
11. Bregmann, L. E.: Zur Klinik der Akromegalie. Deutsche Zeitschr. f. Nervenheilk., xvii, 5 and 6, p. 483.
12. Brissaud, E., et Meige, H.: Deux cas de gigantisme suivi d'acromégalie Nouv. Iconogr. de la Salpêtrière, x, 6, p. 374, 1897.
13. Brooks: A case of acromegalia with autopsy. New York Med. Journ., lxv, No. 13, 1897.
14. Brooks, Harlow: Acromegaly. Arch. of Neurology and Psychology, 1, 4, p. 485, 1898.
15. Bruns: Neurolog. Centralblatt, xvi, p. 512, 1897.
16. Buday, K., und Jancso, N.: Ein Fall v. Patholog. Riesenwuchs. Deutsches Archiv f. Klin. Med., lx, 4 and 5, p. 385, 1898.
17. Burr, Ch. W., and Riesman, D.: Report of a case of tumor of the hypophysis without acromegaly. Journ. of Nerv. and Ment. Diseases, xxvi, 1, p. 20, 1899.
18. Church and Hessert: Acromegaly. Medical Record, May 6, 1893.
19. Chvostek: Zur Symptomatologie der Acromegaly. Wiener Klin. Wochensch. xii, 44, 1899.
20. Cunningham, R. H.: A case of acromegaly in a dog. Journ. of Comparat. Medic. and Veterin. Archives, July, 1897.
21. Cyon, M. de: Traitement de l'acromégalie par l'hypophysine. Presse Medicale, p. 150, 1898.
22. Ibid., Bull. de l'Acad. 3, xi, 47, p. 444, 1898.
23. Dalton, Norman: A case of acromegaly with diabetes, etc. Transaction of the Patholog. Society of London, xlviii, p. 166, 1897.
24. Dalton, Norman: Further notes on a case of acromegaly. Id., xii, p. 242, 1898.
25. Edel, M.: Roentgen-Bilder bei Akromegalie. Berlin Klin. Wochenschr., xxxiv, 32, 1897.
26. Esteroc, J. N. J.: Notes on a case of acromegaly. British Med. Journ. Dec. 4, 1897.
27. Friedmann, F. F.: Ueber Extirpation der Hypophysis Cerebri. Berlin, Klin. Wochenschr., 1900, ,No. 52.
28. Furnivall, P.: On a case of acromegaly with an analysis, etc. Transactions of the Patholog. Society of London, xii, p. 204, 1898.
29. Gajkiewicz: Ein Fall von Akromegalie. Neurolog. Centralbl., xvi, p. 597, 1897.
30. Garnier and Santenoise: Une observation de manie algue chez une acromégalique. Archiv de Neurolog., 2, S. IW, p. 486, 1897.
31. Gibson, G. A.: Acromegaly. Edinb. Med. Journ. N. S. vi, 6, p. 505, 1899.
32. Grasset and Rauzier: Traité pratique des maladies du système nerv. Tome ii, 1894.
33. Gubler, R.: Ueber Einen Fall Acuter, Maligner Akromegalie. Neurol. Centralbl., 1901, No. 6, p. 278.
34. Hagelstam, J.: Ett fall af akromegali. Finska laekaresaelesk. handl., xxxviii, 1896, p. 623.
35. Hansemann, D.: Einige Zellprobleme und ihre Bedeutung, etc. Berlin. Klin. Wochenschr., 1900, No. 41-42.
36. Hansemann, D.: Ueber Akromegalie. Berlin. Klin. Wochenschr., xxxiv, 20, 1897.
37. Hertz: Ein Fall von Akromegalie. Wuerttemb. Correspondenz-Blatt, lxvii, 28, 1897.
38. Hinsdale, G.: Acromegaly. Medicine, iv, 1898, pp. 441, 529, 627, 724.
39. Hippel, E. v.: Ein Beitrag zur Casuistik der Hypophysis-Tumoren. Virchow's Archiv, vol. cxxvi, 1891.
40. Hirsch, W.: Multiple neuritis and acromegaly. Journ. of Nerv. and Ment. Diseases, xxvii, 1, p. 30, 1900.
41. Hitschmann, R.: Akromegalie mit Eigenthuemi. Augenbefunde. Wien. Med. Presse, xxxviii, 27, 1897.
42. Hunter, W.: A case of acromegaly. Hypertrophy of pituitary body and thyroid. Changes in bone marrow. Transactions of the Patholog. Society of London, xii, p. 246, 1898.
43. Hunter, W.: Gumma of the pituitary body. Trans. of Pathol. Society of London, xii, p. 249, 1898.
44. Hymanson, A.: A case of acromegaly. New York Med. Record, lvi, 1, 1899.
45. Joffroy, A.: Sur un cas d'acromégalie avec démence. Progress Med., 3, S. vii, 9, 1898.
46. Johnston, J. McC., and Monro, T. K.: Case of acromegaly, autopsy, round-celled sarcoma of pituitary body. Glasgow Med. Journ., l, 2, p. 112, 1898.
47. Labadie-Lagrave, et Deguy: Associations morbides de l'acromégalie. Arch. Génér. de Méd., N. S., i, 2, p. 129, 1899.
48. Loeb, M.: Beiträge z. Lehre v. Diabetes Mellitus. Centralblatt f. innere Medicin, xix, 35, 1898.
49. Mendel, E.: Obductionsbefund eines Falles v. Akromegalie Neurolog. Centralblatt, 1901, No. 6, p. 279.
50. Mendelssohn, M.: Ein Fall von Akromegalie. Deutsche Med. Wochenschr., 1898, No. 36.
51. Moxter: Beitrag z. Patholog. Anatomie der Akromegalie. Charité-Annal., xxiv, p. 689, 1899.
52. Murray, G. R.: Diseases of the thyroid gland, Part 1, 1900, p. 61.
53. Neal, J. B.: Specimen of tumor of pituitary body from a case of acromegaly. Transactions of the Pathol. Society of London, xii, p. 224, 1898.
54. Pausini, S.: Sul l'acromegalia. Giorn. Int. Delle Scienz. Med., xix.
55. Pechkranz: Zur Casuistik der Hypophysentumoren. Neurol. Central-blatt, xviii, 5, 6, 1899.
56. Philippe, V.: Un cas d'acromégalie. Traitement thyroidien. Observat. Méd. de l'Hôp. St. Jean. Bruxelles, 1898, p. 56.
57. Pineles, F.: Ueber d. Beziehungen d. Akromegalie z. Diabetes Mellit. Jahrb. d. Wiener k. k. Krankenanstalten, iv, 2, Thiel, 1897.
58. Pineles, F.: Die Beziehungen d. Akromegalie z. Myxoedem, etc. Samml. Klin. Vorträge, N. F. 242, 1899.
59. Pope, J. M., and Clarke, A. V.: Case of acromegaly and infantile myxedema, etc. Neurolog. Centralblatt, 1901, No. 6, p. 279.
60. Praun, E., and Froescher, F.: Ein Weiterer Fall von Akromegalie und Untersuchungen, etc. Arch. f. Ophthalm., xlix, 2, p. 375, 1899.
61. Rollesten, H. D.: Remarks on the treatment of acromegaly, etc. Lancet, Dec. 4, 1897.
62. Rolleston, H. D.: A case of acute acromegaly due to sarcoma of the pituitary body. Trans. Path. Society of London, xii, p. 237, 1898.
63. Roxburg, R. and Collis, A. J.: Notes on a case of acromegaly. Brit. Med. Journal, July 11, 1896, p. 63.
64. Schlesinger, H.: Zur Kentniss d. Akromegalie und d. akromegalie-aehnlichen Zustaende. Wiener Klin. Wochenschr., x, 19, 1897.
65. Schlesinger, W.: Ueber die Beziehungen d. Akromegalie zum Diabetes Mellitus. Wiener Klin. Rundschau, xiv, 15, 1900.
66. Schmidt, O. L.: Sciagraphs of acromegaly. Medicine, iii, 7, p. 547, 1897.
67. Schultze, Fr.: Beitrag z. Symptomatologie und Anatomie d. Akromegalie. Deutsche Zeitschr. f. Nervenheilk., xi, 1 und 2, p. 31, 1897.
68. Shallcross, W. G.: Acromegaly, with report of two cases. Phila. Med. Journal, April 20, 1901, p. 771.
69. Shattuck, S. G.: Pathol. report upon a case of acromegaly. Trans. Pathol. Society of London, xii, p. 228, 1898.

70. Smith, H.: Acromegaly with diabetes. Tumor of the pituitary gland. Alienist and Neurologist, 1901, No. 1, p. 178.
71. Spiller: The brain and spinal cord from a case of acromegaly. Journ. of Nervous and Ment. Diseases, xxv, 1, p. 42, 1898.
72. State, J.: La forme douloureuse de l'acromégalie. Thèse de Paris, 1900.
73. Sternberg, M.: Die Acromegalie. Nothnagel's Spec. Pathologie und Therapie, vol. vii, 2, 1897.
74. Struempell, A.: Neurol. Centralblatt, xvii, p. 612, 1898.
75. Struempell, A.: Ein Beitrag z. Pathologie und Pathol. Anatomie d. Akromegalie. Deutsche Zeitschrift f. Nervenheilk., xi, 1 und 2, p. 51, 1897.
76. Thayer: Acromegaly and hypertrophic pulmonary osteoarthropathy. Journ. of Nervous and Mental Diseases, xxv, 5, p. 341, 1898.
77. The Pathology of Akromegaly. Editorial in The Journal A. M. A., Feb. 16, 1901, p. 447.
78. Witmer, A. F.: A case of acromegaly. Journal of Nervous and Mental Diseases, xxv, 1, p. 40, 1898.
79. Wittern: Ein Fall von Akromegalie. Deutsche Zeitschr. f. Nervenheilk., xiv, 3 und 4, p. 191, 1899.
80. Walton, G. L., and Cheney, F. E.: Tumor of the pituitary body. Boston Med. and Surgic. Journal, cxli, 23, 1899.

THE TEACHING OF PRACTICAL DIETETICS IN MEDICAL SCHOOLS.*

R. O. BEARD, M.D.
PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF MINNESOTA.
MINNEAPOLIS.

In state legislatures within the past two years the medical profession has had to defend itself against the ancient presumption that its practice is essentially based upon the administration of drugs, while other so-called systems of healing have claimed exemption from the operation of medical practice laws upon the plea that their followers do not employ medicinal agents. The contention is an odd one in days when therapeutic nihilism has widely invaded the ranks of the profession of medicine, but it has, together with that nihilistic tendency, a common cause.

Drug dosage is not the dominant rule of practice that it once was, howsoever the reputation of that rule clings persistently to the skirts of the profession. But, while medicinal measures have been finding their proper place in the treatment of disease, other and non-medicinal measures have been rising into recognition and awaiting their assignment to a fit place in the armamentarium of the physician. That these measures have not always been the subjects of medical discovery has unfortunately hindered their ready adoption. The profession has not been invariably hospitable to new truth, while it has clung to ancient and uncouth dogma, at times, with the tenacity of the theologian. It has often had to be shaken out of its indifference to actual progress by popular agitation over some modern fad, which had a reason of partial truth underlying its unreasonable being. The "blue-glass craze" had its meaning in our neglect of the influence of light and color upon animal as well as vegetable nutrition. That "christian science" has been a medical as well as a religious cult, is incident to the failure of our own following to appreciate sufficiently the psychologic element both in the causation and cure of disease. The rise of osteopathy signifies our undervaluation of manipulative measures of treatment. The success of the sanatoria reflects upon our ignorance of practical dietetics.

Medical educators, who have been particularly conscious of the stress which scientific progress has put upon the study of modern medicine, have been especially slow in the adoption of new measures of treatment into the curriculum of the schools. Admirable as this conservatism is, in a day when truth is rapidly leavening a great mass of heterogeneous material and when it is often difficult to distinguish by-products from ultimate results, yet this is a habit which has sometimes left the schools in the rear rather than in the van of movement. The too-long-delayed teaching of the therapeutics of suggestion and of mechano-therapy in medical courses, are illustrations of this disposition of the teacher to follow rather than to lead.

In no subject, however, has medical need been more insufficiently met by educational supply than in that of practical dietetics. With the clearer definition of a large class of nutritive disorders, dependent upon the non-correlation of digestive, metabolic and eliminative functions, and with the growing recognition of the liability of the alimentary canal to bacterial and parasitic invasion, the study of foods and methods of feeding, in relation alike to the maintenance of health and the treatment of disease, has become one of very great importance. Yet the writer ventures the very strong assertion that there is no subject related to the practice of medicine of which the average physician knows less. This prevailing ignorance is not a matter of neglect upon his part, but of necessity. The medical institutions of learning of the past have taught him nothing. To-day they offer little—in most instances nothing—in the way of practical instruction. Two colleges—the department of medicine of Harvard University and that of the University of Minnesota—provide laboratory courses in this subject. In the latter, and presumably in the former school, these courses are elective. Their election by a great majority of the senior students and the enthusiasm with which the courses are pursued, attest their answer to a recognized need.

Text-books upon dietetics are lamentably few and, still more unfortunately, inferior. They do little more than to meet the serious want of the would-be student with series of dogmatic statements, which justify much of the skepticism of their actual authority felt by practical men. It is not strange that in practice dietetics has been pursued, if pursued at all, in a purely empirical manner.

How can the deficiency be met? What place and what scope should a course of study in practical dietetics in the curricula of the medical schools take? How can it be made most available to undergraduate and post-graduate student alike?

The experience of the department of physiology of the University of Minnesota, in its effort to fulfill this need, may be cited as a practical attempt to find answers to these queries: 1. The course in practical dietetics has been placed in the senior year. It stands thus, where it belongs, among the clinical branches, with which it is in practical association. So placed, it can most readily offer its opportunities to the post-graduate student. 2. It is an elective and one of an increasing number of electives which are provided in the senior year. The congestion of compulsory work, which has not been relieved by the addition of a fourth year of medical study, has developed a growing tendency to a division of the courses into required and optional branches. This tendency is in accord with the similar movement along all educational lines. Not the least merit of cultivating the principle of choice of study is the added interest of the student in a chosen work. The classes which have elected the course in practical dietetics have shown a very gratifying interest in its pursuit. Men have demonstrated a success equal to that of women in the diet laboratory. 3. The course in dietetics is essentially practical. It is conducted under the chair of physiology and it conforms in method of study to the subject of which it forms a part.

* Read at the Fifty-second Annual Meeting of the American Medical Association in the Section on Physiology and Dietetics, and approved for publication by the Executive Committee.

Its first concern is to acquaint the student with the content of common foods. In his physiologic studies he has become familiar with foods in metabolic classes, as proteids, carbohydrates, fats and salts. Of the proportions, relations and character of these foodstuffs in meats, breads, vegetables, etc., the student and the practitioner of medicine usually know nothing. It is the business, therefore, of this course to teach him the composition of the common articles of dietary, the dominant or most valuable food qualities of each and the means by which these qualities may be best conserved or elaborated.

With this content learned, he is taught to compare and select the several forms of food, with some reference to their economic value, in order that he may suit his selection to the circumstances of those with whom he has to deal. He learns, too, to estimate foods by their several standards of valuation, with reference to their digestive, nutritive, metabolic and esthetic qualities, inquiring how these qualities compare, conflict or may be made to harmonize with each other. He is taught that harmony between these several values is essential to the highest selection of foods.

At the same time, he undertakes the study of the principles and practice of food preparation. He does not learn merely the art of cooking, or even of hygienic cooking, in the ordinary sense of the word. The laboratory of dietetics is not simply a cooking school. He learns not to build menus, but to assist in building tissues. He is constantly reminded of the uses to which food materials are to be put, of the processes to which they are to be subjected within, as well as without, the body. Food preparation, or the actual cooking of foods, is in fact minimized, in sympathy with the best physiologic teaching. No method of cooking is taught which does not or should not improve the digestive, conserve the nutritive and enhance the metabolic qualities of the food.

In relation to food preparation, he studies the office and limitations of heat as a means of cooking, the best methods of obtaining and utilizing heat for cooking purposes, the most desirable forms of cooking apparatus and utensils, and the several processes by which food may be profitably prepared. Incidentally, he learns the adaptations of different foods to conditions of disease, the modifications of food which the sickroom may demand, and the forms of food suited to successive periods of life.

COURSE OF STUDY.

Two lessons are devoted to milk. They require a study of the content and percentage composition of human and different animal milks; they discuss methods for the modification of milk for infant uses; they teach the process of its predigestion, and the use of measures for the improvement of its digestibility and for the variation, in many ways, of its flavor. Similarly, eggs, cereals, bread, modifications of bread, meats, fish, soups, vegetables, fruits, plain puddings, cold desserts, beverages and infant foods, are severally studied.

Brief talks are given in connection with the practical lessons, in which the various methods of cooking, the different means of employing them, the selection of foods in market, the serving of foods especially for the sick, the choice of food in diseased conditions, etc., are discussed. The students work in pairs, and each pair is provided with a complete outfit of the most improved cooking utensils and has access to gas stoves and Aladdin ovens for the preparation of foods. Each tests and submits the product of the work to the approval of the staff.

A lady instructor in dietetics, who has been practically trained in the best schools of domestic economy, as well as in the University itself, and also the demonstrator of physiologic chemistry, assist the chair of physiology in the conduct of this course. At the close of the sixteen weeks of study the members of the class are competent to select, prepare and serve, physiologically and, at the same time, artistically any desirable form of food. They can intelligently criticise or direct the cooking of a meal or of any special diet.

It is with the hope that this practical addition to the medical curriculum will commend itself to the intelligence of the profession and, particularly, to the educator in medicine, that this brief notice is called to this initial and still novel attempt in the teaching of practical dietetics.

THREE CASES OF PARALYSIS OF THE SERRATUS MAGNUS AND THE TRAPEZIUS—ALAR SCAPULA.*

AUGUSTUS A. ESHNER, M.D.

Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital; Assistant Physician to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases; Physician to Hospital for Diseases of the Lungs at Chestnut Hill.

PHILADELPHIA.

The scapula affords attachment for many large and powerful muscles that play an important part in the varied movements, not alone of the shoulder but also of the entire upper extremity. Thus, the trapezius aids in elevating the scapula and approximating it to the spine; also in rotating the scapula, causing the acromion to ascend and the lower angle to move outward. The action of the trapezius is supplemented by that of the elevator muscle of the angle of the scapula and of the rhomboids, the latter of which rotate the scapula on its outer angle and cause the lower angle to move inward. The serratus magnus moves the scapula outward, forward and slightly upward. It tends to rotate the scapula on its inner angle and thus to elevate the acromion, but in this it is opposed by the elevator muscle of the angle of the scapula and the rhomboids. It also helps to keep the scapula applied to the chest. The deltoid abducts the humerus to the horizontal and also moves the arm both forward and backward. The supraspinatus aids the deltoid in abducting the arm, moving it forward and rotating it inward. The infraspinatus and teres minor rotate the humerus outward, while the subscapular rotates the humerus inward. The latissimus dorsi lowers the arm when it is raised, displaces it backward, adducts the scapula, depresses the shoulder, inclines the trunk and, acting with its fellow, extends the trunk. The pectoralis major brings the shoulder forward and upward or downward in accordance with the position of the arm. The teres major approximates the humerus and the outer border of the scapula, adducting the former and rotating the latter.

The actions of the several muscles named are, as will be seen, not simple, but complex and associated, so that any deficiency that might result from impairment or loss of the function of any one or more might be in large measure made good by the compensatory action of others. In addition, the muscles under consideration are innervated principally from the brachial plexus or the nerves constituting or originating from it, although

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Hugh T. Patrick and H. A. Tomlinson.

some of the muscles receive fibers from the cervical plexus, and the trapezius is supplied by the spinal accessory; so that, while it is not impossible for disorders affecting individual muscles to occur, it is more likely that several will suffer as the result of a single lesion.

Isolated paralysis of the serratus magnus is rare. It is often complicated by paralysis of the deltoid, the supraspinatus, the infraspinatus and especially one or another portion of the trapezius. It is said to suffer often on account of the superficial and long course of its supplying nerve—the long thoracic on the side of the neck and chest. The most common cause is injury to the nerve in its peripheral course, as by a blow, a fall; or pressure, as by a heavy weight upon, or a crush, a puncture or a gunshot wound of, the shoulder, involving especially the supraspinous region; or compression by contraction of the scalenus medius muscle, through which the nerve passes. The nerve, further, may be injured in various ways in the axillary cavity. Cold and wet and the influences thought to be contributory to rheumatism may cause serratus-palsy, and inflammation of the long thoracic nerve may develop in the course of infectious diseases, typhoid fever, influenza, diphtheria, rheumatism, erysipelas and the puerperal state. The serratus magnus may suffer, together with other shoulder-muscles, in the presence of progressive muscular atrophy, progressive muscular dystrophy, acute anterior poliomyelitis, less commonly in the presence of cerebral paralysis and least of all in consequence of direct injury to the muscle itself. Instances of hysterical paralysis of the serratus have also been recorded.

Fig. 1.—Displacement of the right scapula when the patient first came under observation.

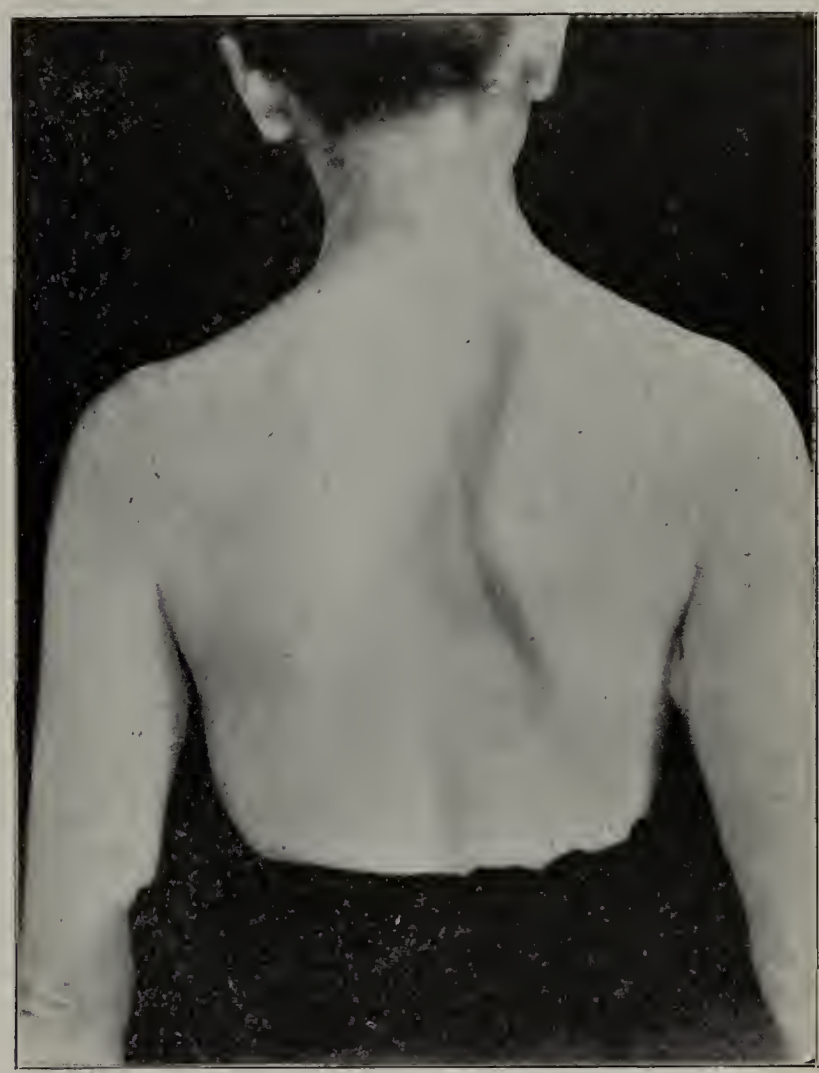


Fig. 2.—Displacement of the right scapula after the patient had been under treatment for two months.

Paralysis of the serratus magnus is, by reason of the etiologic factors, more common in men than in women, and, apart from infection and refrigeratory causes, as well as progressive muscular atrophy and dystrophy, occurs principally in adults and is more common on the right side than the left. Occasionally the muscles on both sides are affected in succession. The onset of the paralysis, particularly if of peripheral origin, is often preceded by pain in the supraclavicular fossa, radiating to the ear, the occiput, the scapular region and the arm, and this may persist for a variable period of time.

There has been some difference of opinion as to the position of the scapula when the arm is at rest in the presence of paralysis of the serratus. By some it is thought that the shoulder undergoes no change in position under these circumstances; others, however, have contended that the scapula becomes elevated and its inner border approximated to the vertebral column and directed obliquely upward and outward from below, while the inferior angle exhibits a wing-like projection backward and the outer border assumes a more nearly horizontal position. More recently it has been maintained that the median border retains its direction parallel with the vertebral column.

Generally the patients are unable to elevate the arm above the horizontal, and when this is attempted the median border of the scapula approaches the vertebral column. If the arm is held horizontally in front the median border and the inferior angle of the scapula are removed from the thorax and the scapula stands off like a wing, an excavation resulting, in which the hand can be introduced. The arm can sometimes be raised above the horizontal by means of a sudden jerk, especially if

the upper part of the body be inclined backward. This movement can be effected also if the inferior angle of the scapula be rotated downward and outward and be pressed against the chest by another person. The patient also has difficulty in performing pushing movements and in crossing the arms in front. Sensory changes are generally wanting, and the electric alterations vary with the nature and the intensity of the underlying cause.

Paralysis of the trapezius may result from exposure to cold and wet, gunshot and punctured wounds, blows, operations, disease of the vertebral column and the posterior portion of the base of the skull, of the spinal cord and medulla, or inflammation of the accessory nerve, from any other cause. It may be a manifestation of syringomyelia or of tabes, or of progressive muscular dystrophy or spinal progressive muscular atrophy. The symptoms vary in accordance with the portion of the muscle affected and the degree of involvement. The trapezius is constituted of three parts: an upper or

Fig. 3.—Displacement of the right scapula when the upper extremity was extended horizontally at the side.

clavicular, a middle and an inferior. The first or respiratory portion passes from the occiput to the outer third of the clavicle and draws the head downward and rotates it to the opposite side when the shoulder is fixed. The middle portion passes from the ligamentum nuchæ and the upper three dorsal vertebræ to the acromion and outer half of the spine of the scapula and is the proper elevator of the scapula. The inferior portion passes from the fourth dorsal vertebra and goes below to the inner half of the spine of the scapula and brings the median border of the scapula toward the vertebral column.

If the entire muscle is paralyzed the shoulder droops, the scapula being displaced downward and forward and separated from the spine and its inner border is oblique from below and within upward and outward. In raising the arm the scapula remains applied to the chest and moves outward as a whole. If the shoulder is elevated it does not rise so high as its fellow. The elevator muscle of the shoulder becomes prominent. The arm can be raised above the horizontal, especially if the clavicular portion is but little if at all affected, though not so well as its fellow, nor can the shoulder be drawn backward as well as normally.

The upper portion of the trapezius often escapes and when involved is so after the others. The middle and lower portions are usually involved together, though the latter may suffer before the former. When the upper third is involved moderate elevation of the shoulder is still possible. The affected shoulder is raised in deep inspiration. Paralysis of the middle third gives rise to a rocking movement of the scapula. The acromial extremity is lower than usual, while the inferior angle is higher

Fig. 4.—Diagrammatic representation of displacement of the right scapula when the upper extremity was extended horizontally at the side.

than usual and it approaches the middle line, the inner border of the scapula passing obliquely from above and without downward and inward as if the bone were suspended at its upper inner angle by the elevator muscle of the scapula. When the inferior third of the trapezius is paralyzed the symptoms are much the same as those attending paralysis of the middle third, but in intensified degree. The scapula recedes from the spine, the acromion is depressed, the clavicle is prominent and the supraclavicular fossa is marked.

In the presence of disease of the posterior external branch of the spinal accessory nerve the sterno-mastoid also would be involved, while disease of the anterior internal branch would be attended with disturbance in the functions of the soft palate, the pharynx, the larynx and in the rhythm of the heart.

I wish to report three cases seen at the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases

in which the serratus and the trapezius were paralyzed, two in the service of Dr. S. Weir Mitchell, and one in that of Dr. Wharton Sinkler, to both of whom I am indebted for the privilege of making this use of them.

Case 1.—M. J., a widow, 53 years old, was admitted to the hospital Jan. 29, 1901, when the following history was elicited: In May, 1900, hysterectomy had been performed for the removal of a fibroid tumor of the uterus, and the patient was kept in bed for four weeks. On the third day after the operation she complained of pain above the right clavicle, which persisted for three weeks and was worse at night. In the fourth week after the operation, on the third day that the patient was up, the nurse noticed a peculiarity of the right scapula, whose inferior angle was displaced. For several months the deformity became progressively more marked and thereafter it remained stationary. From the time of the operation the patient was more or less well able to comb her hair than previously, and her disability had grown gradually worse. For three months there had been some numbness in the fingers of both hands.

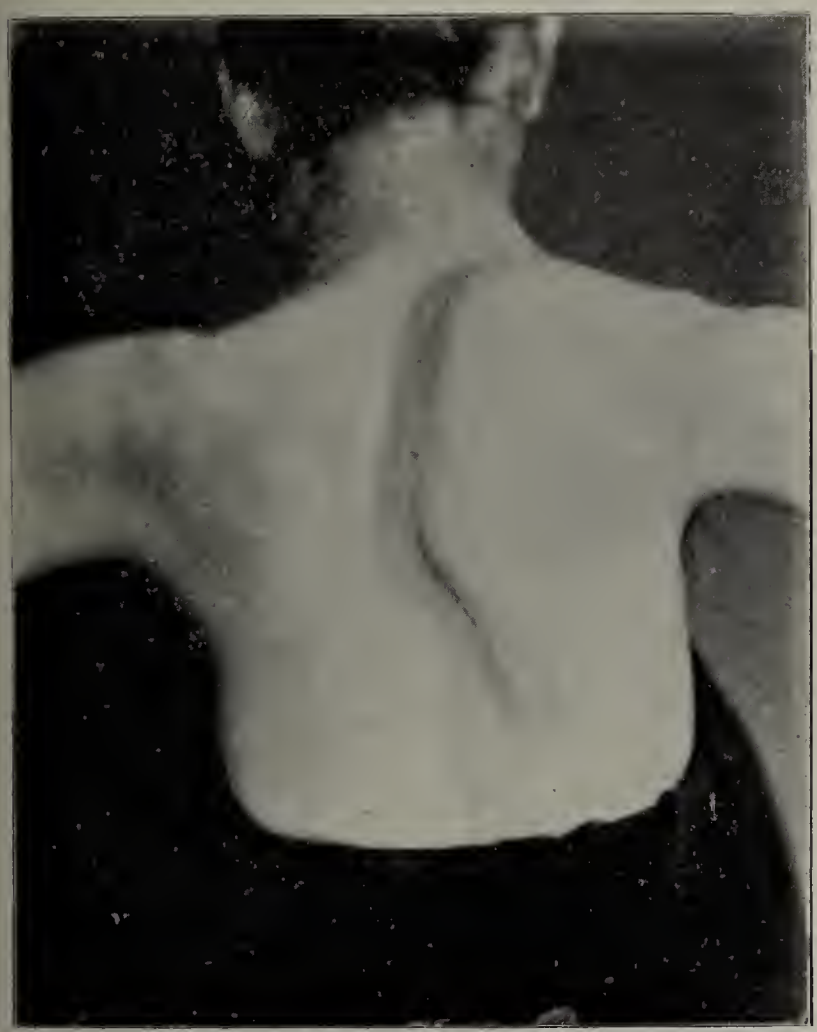


Fig. 5.—Displacement of the right scapula when the upper extremity was extended horizontally at the side, after two months of treatment.

Muscular power was quite well preserved in the right upper extremity, but the member was readily fatigued and suffered somewhat from want of fixation of the scapula. After sewing and writing particularly, burning pain appeared in the right shoulder. There was some pain also in the back The patient was pallid and complained of a sense of weakness in the abdomen as if its contents were falling. The appetite was impaired, the bowels constipated. The tongue was coated and the patient was annoyed by a bitter, coppery taste. There was no nausea or vomiting, but a sense of swimming in the head, followed by a feeling of pressure. The patient thought herself nervous, being readily agitated and easily worried. She suffered at times from slight headache and also from slight tremor.

When the patient stood erect the spine was quite straight. The right shoulder was higher than the left, and the inferior angle of the right scapula at about the level of the spine of the sixth dorsal vertebra was slightly displaced from the chest and directed inward and backward. The median border of the scapula passed obliquely upward and outward and a band apparently of muscular tissue (rhomboids) could be seen passing from this border in its lower third obliquely upward and inward, to be inserted into spines of the dorsal vertebræ. Above this was a slight depression, which was contributed to by the displacement backward, inward and upward of the inferior angle of the scapula. These features are exhibited in the photographs shown in Figs. 1 and 2, the first of which was obtained when the patient first presented herself, and the second about two months later. At first when the right upper extremity was elevated to the horizontal at the side the median border of the right scapula rode across the median line (Fig. 3), the rotation of the inferior angle becoming less from the action of the muscles attached to the upper portion of the median border, and making a depression measuring 42 mm. at its greatest depth at the inferior angle of the scapula. The deformity is exhibited diagrammatically in Fig. 4.

After two months of treatment with electricity and massage the median border of the right scapula, especi-

Fig. 6.—Displacement of the right scapula when the upper extremity was elevated at the side to an angle of about 75°.

ally the superior internal angle still approached the spine when the right arm was raised to the horizontal, but to a less degree than before becoming parallel with the spine when the arm was in the horizontal position (Fig. 5).

At first the patient was able to elevate the entire right upper extremity scarcely beyond the horizontal at the side, while there was no difficulty in elevating the left arm to a vertical position. Later, when the right arm at the side was continued upward from the horizontal, the superior internal angle of the scapula remained fixed and the inferior angle was rotated outward, but the right arm could not be raised entirely to the vertical position, but only to an angle of about 65 or 70 degrees with the horizontal. This is imperfectly shown in Fig. 6. When the arm was placed in the vertical position with artificial aid it could be held there for a brief period.

When the arms, after having been held out horizontally at the side, were rotated horizontally forward, the median border of the scapula receded from the chest-wall (Fig. 7), giving rise to a depression 52 millimeters deep (Fig. 8). When the upper extremities were held horizontally in front, as in the act of pushing, the displacement became more marked posteriorly, although the scapula was removed from the spine. The greatest measurement of the resulting concavity in this position was 50 mm. (Fig. 9). When this last movement was made a bundle of muscular fibers was raised from the chest, passing downward and outward from the inferior angle of the scapula, and leaving a shallow depression above and without, apparently in the muscular mass attached to the lower third of the lateral border of the scapula. When these efforts were made with the arms some twitching could be observed in the triceps.

The muscular reflexes were scarcely as pronounced on

Fig. 7.—Displacement of the right scapula when the upper extremity was held horizontally in front.

the right as on the left in the scapular region, as well as in the arm, particularly in the region of atrophy below the oblique muscular band passing from the scapula to the spine. A tap over the upper part of the infraspinatus caused the arm to be abducted, while a tap over the middle of the same bunch caused the arm to be rotated inward. A tap on the supraspinatus caused the shoulder to be raised and a tap below the outer extremity of the spine of the scapula caused the arm to be adducted. There was tenderness on percussion and on pressure over the superior angle of the scapula, more marked on the right.

The right arm and forearm appeared distinctly smaller than the left, although by measurement the circumference of the right arm was found to be between 7¾ and 8 inches, and that of the left arm between 7 7-8 and 8¼ inches and that of the right forearm below the elbow 7½ inches and of the left forearm 7¾ inches. Electric examination kindly made by Dr. H. P. Boyer elicited normal responses in the supraspinatus, infraspinatus, deltoid, rhomboids and the latissimus dorsi, with degenerative reaction and slight faradic response in the upper portion of the trapezius and no response whatever to galvanism or faradaism in the lower portion of the trapezius. Despite persistent effort the serratus magnus could not be isolated.

The patient was right-handed and conscious of the weakness in the right upper extremity since the operation. The grasp measured by the dynanometer proved less vigorous on the right than on the left. The greatest difficulty consisted in bringing the shoulder, and therefore, the arm toward the head or

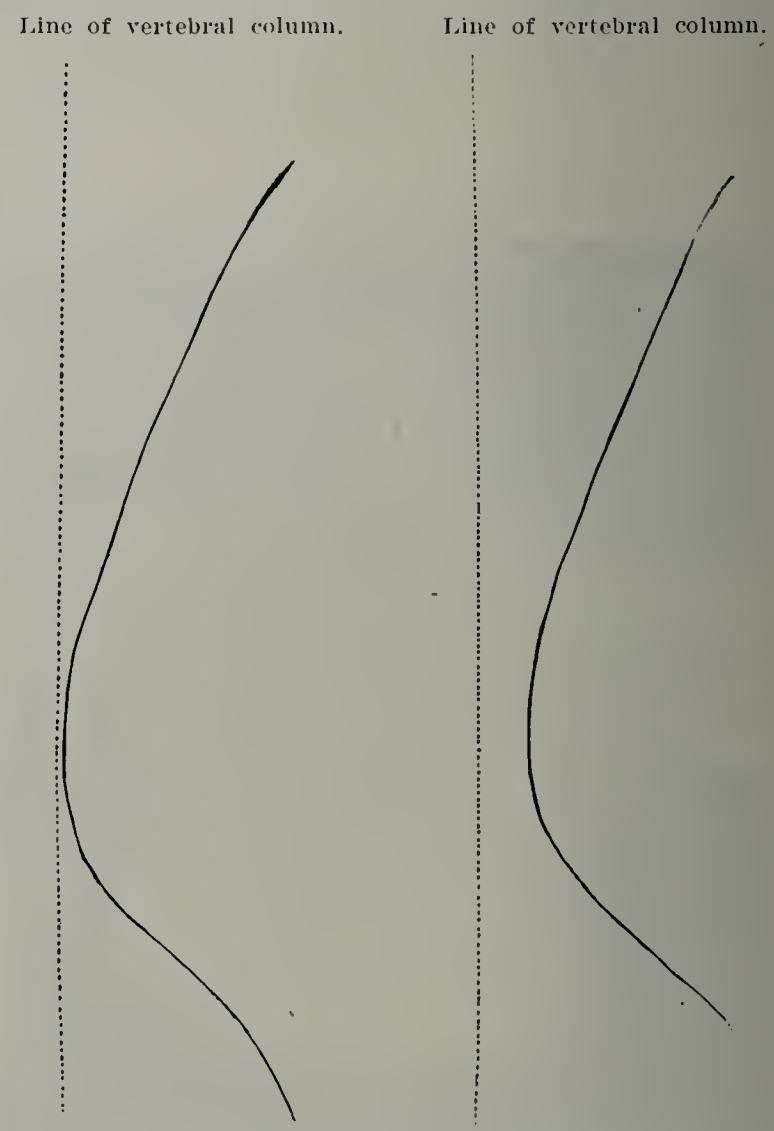


Fig. 8.—Depression caused by recession of the median border of the right scapula from the chest wall when the upper extremity was held horizontally in front.

Fig. 9.—Depression caused by recession of the median border of the right scapula from the chest-wall when the upper extremity was held horizontally in front as in the act of pushing.

the middle line or the opposite side. Sensibility was entirely preserved all about the right scapula and the adjacent spine. The knee-jerks were extremely sensitive, active, and marked. Ankle clonus could not be elicited. The action of the heart was rhythmic, its sounds clear, the second being relatively accentuated at the right base. The radial artery was small and the tension moderate. The urine was of amber color, of neutral reaction, 1024 in specific gravity, free from albumin and sugar and it contained only a few epithelial and blood cells.

The accompanying photographs exhibit fairly well the position of the scapula under varying circumstances and the accompanying diagrams exhibit the relation of the inferior angle of the scapula with the vertebral column in different positions of the arm.

On account of the obvious local wasting the condition was at first believed to be one of paralysis of the trapezius and this view was subsequently confirmed by the results of the electric examination. The deformity, how-

ever, is so typical of paralysis of the serratus magnus that although we were unable to demonstrate the presence of degenerative electric reaction in this muscle, there seems to be little doubt that it also is involved in the morbid process. The patient gave a previous history of rheumatic pains at different times in the course of the preceding five or six years, but inasmuch as the symptoms had developed only in the sequence of an operation in which I believe the Trendelenburg position was used, and in which the parts affected might readily have been subjected to pressure, I am inclined to think that her condition arose from inflammation of branches of the spinal accessory or of the cervical plexus and the long thoracic resulting therefrom.

Case 2.—T. H., an iron painter, unmarried, white, 28 years old, was admitted to the Orthopedic Hospital and Infirmary for Nervous Diseases Jan. 4, 1900, complaining of pain at the nape of the neck and in the occipital region on the left side, which was constantly present, though worse paroxysmally. There was also jerking to and from the right, which was relieved by the application of an ice-bag. The head, under ordinary circumstances, was held constantly deflected toward the right. Sometimes pain was present over the entire head.

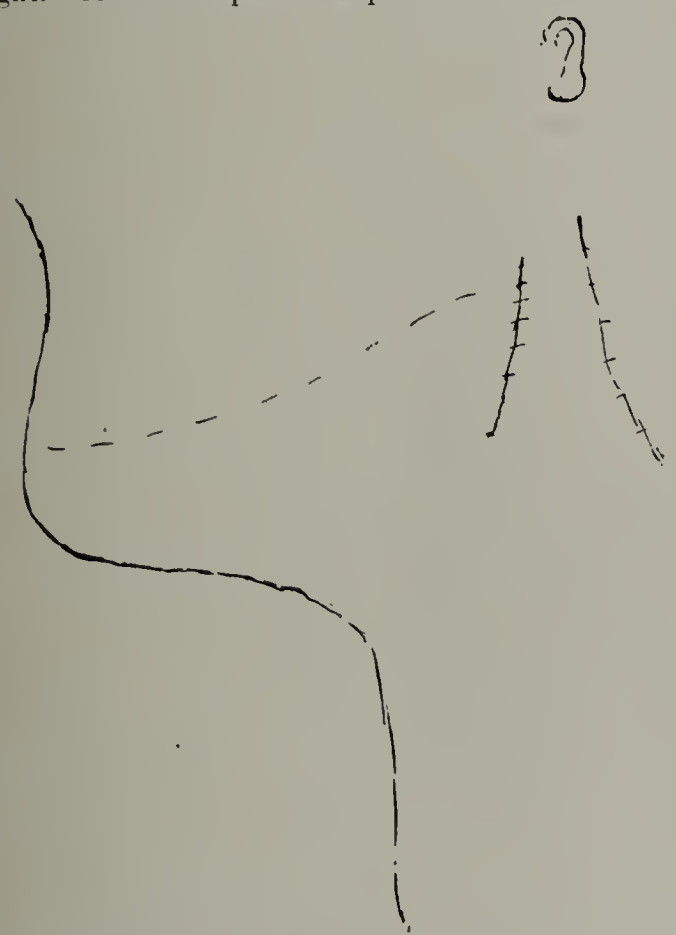


Fig. 10.—Situation of cicatrices on the left side of the neck.

Sleep was disturbed at times in consequence of the pain.

On inquiry it was learned that in April, 1897, the man had been seized with sharp, shooting pain below and behind the left half of the inferior maxilla, extending to the nape of the neck, to the occiput, to the left side of the head and to the left brow. In a short while the head began to be jerked toward the right and at times to be fixed, facing toward the right. An operation was performed in January, 1898, a piece of the nerve supplying the left sterno-mastoid (three-quarters of an inch) being excised. The nerve was also stretched, and, according to the patient's statement the ends were united, but as to the accuracy of this there may be reasonable doubt. No relief followed. About April, 1898, the left trapezius muscle or the supplying nerve was operated upon and paralysis of the left arm followed, with impaired sensibility, which persisted until the succeeding August. Some weakness was still present in this member when the patient came under observation. Improvement in the pain, the jerking and the stiffness began slowly to take place in the sequence of the second operation, and the patient was measurably comfortable from August, 1898, to about June, 1899. Since this last date, however, he had grown gradually worse, and since October he had been incapacitated for his work.

The patient presented two cicatrices on the left side of the neck, one 7 cm. long, below the ear, along the anterior margin of the sterno-mastoid muscle, the other 9 cm. long along the anterior border of the trapezius. (Fig. 10.) The interval between the muscles near the clavicle and the shoulder was painful on pressure. The lines of the cicatrices exhibited marked diminution in sensibility, both tactile and painful, growing less as one receded from them. Localization also was poor, impressions being referred sometimes to the ear, at other times toward the clavicle. Sensibility on the left half of the chest to below the level of the nipple was less acute than on the right, also on the left arm than on the right

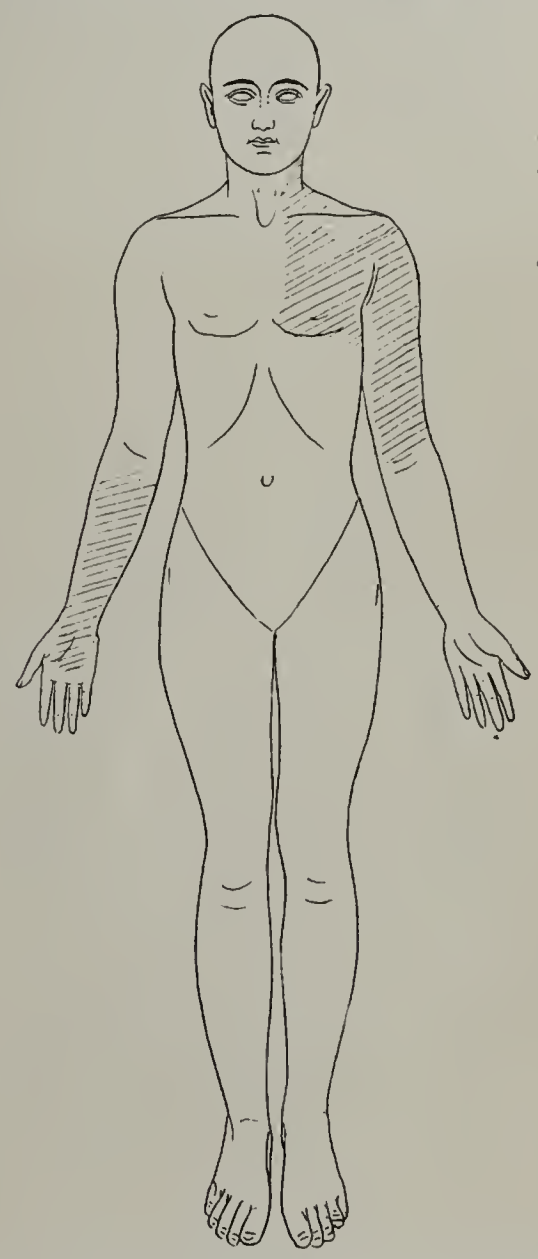


Fig. 11.—Areas of hypesthesia, ventral aspect.

arm, although at times it was less acute on the right forearm than on the left forearm. (Figs. 11 and 12.) Sometimes a single impression was felt as two, but in different situations—sometimes simultaneously, sometimes successively. There was increased rapidity of breathing, the respiration being 38 per minute at one time, and 48 per minute at another observation, and there was want of synchronousness and range in the movements of the two sides of the chest, the left rising earlier and expanding more fully than the right. Breathing, further, was somewhat labored, particularly on the left, where the auxiliary muscles were drawn upon. There was some fibrillary tremor in the muscles of the left side of the neck. The scapula occupied a winged attitude and there was apparent absence of the rhomboids on the left, giving rise to a distinct depression between the median border of the scapula and the spine.

Electric examination disclosed degenerative reaction in the left trapezius, while all of the other muscles responded promptly to faradism. A greater faradic current, however, was required to induce contraction of the left trapezius. The circumference of the right arm was 24 cm., that of the left 23. The circumference of the right forearm below the elbow was

24 cm., that of the left 23 cm. The grasp of the right hand was more vigorous than that of the left. Examination of the fields of vision by Dr. A. G. Thomson disclosed contraction, but no reversal. There was no lesion of the fundus. The knee-jerks were preserved. The action of the heart was rhythmic, the sound clear.

In the family history the only noteworthy point was the death of the father possibly from paralysis agitans. Of interest in the personal history was the fact that the patient had influenza prior to the onset of this trouble. This attack left him weak and prostrated, both nervously and physically. In his work he used mineral and graphite paints mostly, but so far as he knew he had never suffered from metallic poisoning. There was also no blue line at the margin of the gums. The man had had an attack of gonorrhea, but so far as he knew he had escaped syphilis. He partook of alcoholics, tea and coffee, with considerable freedom. He had suffered a fracture

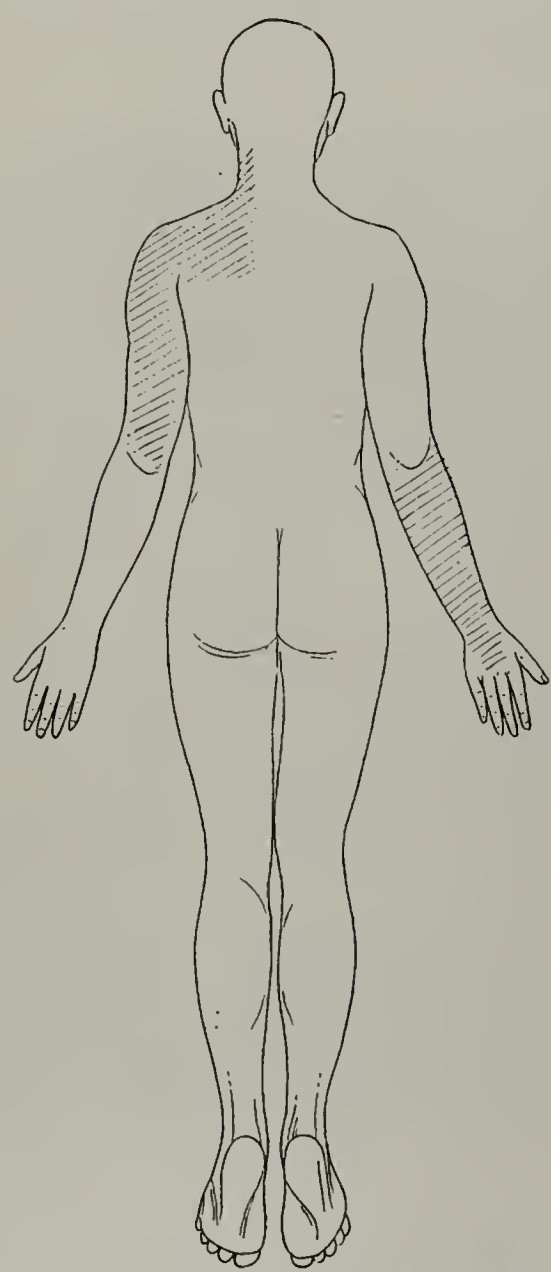


Fig. 12.—Areas of hypesthesia, dorsal aspect.

of the right leg at the age of 23 by a fall from a bridge 20 feet high. There had been no other mental or physical shock.

The accompanying diagrams illustrate the distribution of the impaired sensibility and also the situation and relative size of the cicatrices on the side of the neck.

In this case also the condition was originally looked upon as one of paralysis of the trapezius, but less attention was paid to this as the patient was more urgently desirous of relief from the distressing spasmodic condition of the head. On subsequent reflection, however, it seems probable that in addition to the trapezius and the rhomboid, the serratus magnus also was paralyzed. We had hoped to secure a photograph of the patient, but he evidently became alarmed by the suggestion of a repetition of the electric examination, which had not proved a source of enjoyment, and on going out for a walk he failed to return. Whether or not the torticollis was in any way due to the preceding attack of grip can not, of course, be determined, but the possibility is not to be ignored. That the trapezius and the serratus were then paralyzed seems unlikely, and it is far more probable that this condition followed injury or division of their respective nerves in the course of the operations on the neck. The hyperesthesia of irregular distribution is strongly suggestive of hysteria, as was in some respects also the general demeanor of the patient.

Case 3.—G. H., a girl, 14 years old, presented herself at the hospital on Jan. 17, 1901, with the statement that following an attack of diphtheria four months previously the mother had noticed a peculiar attitude of the right scapula, which stood off from the chest when the shoulder was elevated. Several weeks later pain appeared on the posterior aspect of the scapula, where there was also tenderness. The shoulder could be retracted, and the deformity resulting on voluntary effort was thought to be due to weakness of the trapezius at least. The patient was unable to carry heavy weights or to lift heavy articles or to hold them with her right hand. At times there was pain on movement of the right arm referred to the shoulder. There was some tenderness also in front of the head of the radius. There was no apparent wasting, no fascicular twitching and the reflexes were all preserved. Station was steady, the knee-jerks were preserved, and the grasp of the right hand was more vigorous than that of the left. The action of the heart was rhythmic and its sounds were clear. The appetite was moderate, the bowels were regular and sleep was fairly good. Menstruation was regular, painful and moderate. The parents were well, as were also one brother and two sisters. Two brothers had died in convulsions, and one sister from inflammation of the brain. The patient had had measles at 7 months, whooping cough at 2 years, mumps, and also acute rheumatism at 12 years. She had suffered no traumatism, and drank three cups of coffee daily and no tea.

The patient was seen but once and a detailed study of her case was not made. As indicated, the condition was thought to be due to paralysis of the trapezius, resulting from inflammation of the supplying nerves as a complication or sequel of diphtheria. The striking and characteristic displacement of the scapula, however, makes it probable that the serratus also was paretic.

There is some difference of opinion as to whether the trapezius is innervated solely by the spinal accessory nerve, or additionally by the branches of the cervical plexus. The first and the third of the cases here recorded would seem to lend support to the latter view, inasmuch as one would expect a lesion of the spinal accessory nerve to be attended with paralysis also of the sterno-mastoid, but of which there was in neither of these cases any evidence. On the other hand, one can, of course, conceive of a lesion of branches for the trapezius rather than of the trunk of the spinal accessory at a point beyond the giving off of the branches for the sterno-mastoid muscle. In the second case, in which there was no reason to doubt the existence of a lesion of the spinal accessory nerve, both the trapezius and the sterno-mastoid were affected.

Cortical Center for the Functions of the Stomach.—Sollier locates the stomach center in the parietal lobe of the brain, and describes in the *Revue Neurologique* of November 30 a case which he thinks confirms this localization. A boy of 11 was hit on the head with a pickax and was unconscious for a week, with no medical care. He was then trephined, and the coma continued for six days longer, although he took a little liquid food. Then he roused and his prodigious appetite and perfect digestion of the enormous quantities he ate, are accepted by Sollier as evidence that the stomach center had been stimulated to hyperactivity by the trauma and resulting abscess just in front of it. The boulimia gradually subsided in the course of the third month.

DEMENTIA PRECEDING AND FOLLOWING INEBRIETY.*

T. D. CROTHERS, M.D.
HARTFORD, CONN.

A study of the early history of inebriates, particularly of the period preceding the use of spirits, indicates the presence of psychosis, and frequently, degrees of dementia which are unrecognized at that time, but later develop into the drink symptoms.

In persons with a traceable heredity and history of degenerative parents, neuro-psychopathics are easily recognized, but in others who have no hereditary history and seem well up to the beginning of the drink period, previous psychoses have not been studied or recognized.

The theory prevails in most circles of medical literature that the onset of inebriety is a mere chance condition, or an accident which might have been prevented, and is largely under the control of the person. There has been no recognition of an earlier preliminary stage leading up to the alcoholic psychoses. This failure has resulted in confusion and conflict of theory and treatment, with consequent quack remedies and charlatan means for cure and prevention. When this early preliminary stage is examined in persons without any hereditary history, many distinct neuro-psychoses appear associated with changes of character, conduct and physical vigor.

A grouping of some of these conditions will be of interest and throw light on the mysteries which surround the history of the cases. In a general study it would appear that traumatic and chemical injuries are often followed by the use of spirits. Of traumatic causes, early injuries, such as blows and falls on the head, broken legs or contused wounds, with periods of invalidism, more or less severe, are most common. Many persons have a history of such injuries, attended with unconsciousness, great feebleness, slow recovery, and much debility and pain, with nervousness; they suffer from distinct changes in health and vigor. When these causes occur before puberty, this period is often followed by a disappearance or interruption of all the symptoms enumerated. If they occur after puberty, in early manhood, often complex neuroses follow, which lead up to inebriety. Cases of this class may be outlined in the following examples:

A boy, 10 years old, in previous good health, received a concussion from a fall, and after a long convalescence suffered from morbid fears when on high places, and was extremely sensitive to every possible danger from falls and other injuries. At puberty these fears developed into hysteric states of alarm at falling from wagons or from windows of houses which he was in. From this he slowly recovered, and later began to use spirits to give him courage to walk over a bridge on the street he lived in.

In a second example, a young boy of 18 suffered from contused wounds in a runaway accident. He was unconscious, and afterwards suffered from great nervousness, never regaining his customary strength, and showing extraordinary timidity for a long time. Then he began to use spirits, and this nervousness passed away.

A class of injuries in which great mental excitement precedes and is associated with some accident, frequently induce the use of spirits. Thus, a healthy man was in great peril from drowning, and escaped with but slight injury and shock. The effect of the psychical shock was diminished vigor and strength, which continued for a few months, and then he became a drug-taker and later used spirits.

In another case, two men, both temperate and well, were severely shaken by a railroad accident. The alarm and sudden peril of impending death so impressed them that for a time they were partially paralyzed. A long period of invalidism followed, ending in both using spirits and drugs.

Many very marked cases have been reported of persons who from sudden profound grief at the loss of friends or members of their family, have become invalids, and afterwards developed inebriety. Sudden overwhelming joy has likewise produced profound disturbances of the co-ordinating centers, and afterwards culminated in inebriety. These traumatic causes include almost every possible injury in which there is associated with the physical injury great mental disturbances and depressions. Common injuries associated with drains upon the system, such as protracted hemorrhage or mental strains following pain and suffering, leave an impress on the nerve centers which can be traced in changes that develop spirit and drug-taking.

Many cases which have histories of sudden, unexpected development of the drink psychosis can be referred back to fevers, inflammations and acute diseases which have left a profound impression on the nervous system. Thus, a typhoid or pneumonia, with a long period of convalescence, marked by distinct mental symptoms and extreme prostration, impairs the vigor and leaves entailments which develop the drink psychosis. Sunstroke and heatstroke are also causes which seem to alter and change the normal rhythm and vigor of life, leading to the same results.

It is claimed that a large majority of nervous cases treated with alcohol have developed spirit or drug psychoses in later life, particularly persons who had suffered injuries or diseases which were followed by great exhaustion and long convalescence. In such cases dementia is marked, but it is difficult to say whether the dementia following from alcohol was due entirely to the alcohol given as a remedy for the neurosis or to the injury produced by the disease, but at all events their frequency and intimate association point to cause and effect.

A second class of causes which are becoming more and more apparent from careful researches may be termed chemical or autogenetic. The chemical poisons are intoxications from alcohol or drugs. The profound stupor and delirium which follow from an excessive dose of alcohol taken for the first time may so profoundly impress the system as to leave it permanently injured. Many instances are recorded of persons whose invalidism and debility dated from the first intoxication. They may never use spirits again until middle life or later, but the mental and physical impression dating from the first intoxication has been so pronounced that there can be no doubt of its persistence. Cases like the following are not uncommon:

A young man at the time of his graduation from college became profoundly intoxicated. The depression, both physical and mental, following this event continued for years. Then he was given spirits as a medicine in typhoid fever. From this time he became an inebriate.

A second case was that of a temperate man who, after a snake bite, consented to drink large quantities of spirits until he became intoxicated. He recovered, but was

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Hugh T. Patrick and H. A. Tomlinson.

never well after this, always complaining of debility and mental dread of disease and death. Some years after he suddenly began to use spirits to excess, and became an inebriate.

Cases are not infrequent of persons who have taken large quantities of spirits without a visible exciting cause, and become suddenly intoxicated, recovering with great mental depression, and ever after showing changes of character and conduct that finally developed into inebriety. A few cases have been mentioned where profound narcosis from opium has resulted in some obscure changes and final inebriety. A dose of arsenic taken by mistake, producing gastritis, was followed by a long period of indigestion and invalidism, and finally ended in spirit excess. No doubt there are many cases of this kind in which the early causes are overlooked, but from the few cases reported it is evident that a severe poisoning of the system from either vegetable or mineral drugs not infrequently precipitates states of degeneration and dementias which lead up to drug and spirit taking.

Another field of early poisonous influences has been traced to the formation of toxins in the body. Persons who have neglected many of the common rules of living, and who suffer continuously from what is termed dyspepsia and imperfect nourishment, frequently develop states of mental debility which go on in a progressive march to inebriety or some complex form of insanity.

Cases like the following are often noted: A temperate man, from neglect and defective eating, became a hypochondriac with delusions about food; he suffered from an attack of fever and began to use spirits to great excess, and died from delirium tremens.

Persons who overwork, and are in constant mental strain without proper rest, and who neglect the nutrition of the body, frequently have periods of invalidism and defects which lead up to inebriety. The underfed and the overfed who neglect the ordinary rules of living are subject to auto-intoxications and auto-infections which profoundly impress the organism and develop some disease later. In the study of a large number of cases, many of these common conditions of poisoning have been prominent in early life and have caused debility and invalidism, which has finally culminated in the drink craze. Some of these cases develop a drug-taking mania with the hope of curing real or imaginary diseases, accompanied with fears of death and intense desire to avoid pain and discomfort. They are often tea and coffee drinkers, and have fads in regard to foods, with intense introspection and constant watchfulness to discover signs of oncoming disease. They frequently develop inebriety. In such cases there are many symptoms of dementia, with mental change and debility. In some instances this is apparent in certain organic changes of the body; in others it is seen in the general decline and failure of the functional activities. The mental vigor and power of restoration grows less, and exhaustion increases and becomes more and more prominent.

In the second class of causes, namely, dementia coming from spirits taken regularly in small quantities, or at intervals to excess, the symptoms are more pronounced and more readily treated. The man who uses spirits continuously to excess will always exhibit changes of both the mental and physical organism, which at first may be slight, but which increase steadily. The delusion that it is possible for any one to drink regularly any length of time and not suffer from it is dispelled by the study of such persons.

Dr. Clouston writes: "I am confident that no man who uses spirits continuously, even though he is never intoxicated or never appears to have any mental impairment in his social and business relations, is physiologically changed for the worse. If the practice goes on for ten years serious organic changes will follow, and in most cases, in much less time."

Many persons use spirits daily and boast of their strength to drink in moderation and not be injured. This is a delusion. They may possess inherent strength which will resist degeneration for a time and mask the symptoms, but in the end the dementia which is inevitable from this source will appear. Many such persons carry on business along accustomed lines without much change, but their real condition is apparent when called to take up some original work or engage in some activities requiring originality, spontaneity and vigor. Usually some intercurrent disease appears, with fatal termination, or some form of invalidism which is ascribed to other than the real causes.

The evidence of dementia is more apparent in so-called moderate drinkers who use spirits continuously than in those who take spirits to excess at times and follow indulgence with a free interval of sobriety.

There is in persons who use spirits continuously, or occasionally to excess, a tendency to assume one of three forms of degeneration: 1. The periodical drinker belongs to the epileptoid class where distinct exacerbations and explosions of nerve energy are apparent. 2. The continuous or so-called moderate drinker is of the paretic class. 3. The irregular, uncertain user of spirits is of the insane or maniacal class with a constitutional tendency to mania and melancholy. In all these cases there is a progressive dementia, sometimes masked; at others there are apparent degrees in which both character and conduct undergo a progressive change.

Many of these persons while following accustomed lines of thought and conduct seem very little impaired, yet a careful examination will show more and more automatic activity, less spontaneity and less original work. If thrown out of their accustomed line of life the feebleness is at once apparent. Their inability to take up new subjects, or to act wisely upon a new class of facts is often startling. Thus, a so-called moderate drinker who apparently conducts his business with skill and judgment, will show idiocy in his estimate of new questions and new requirements. Some of the most extraordinary and unexplained acts of men previously sound and wise in their accustomed line of work are explained in this way. Thus, a business man and continuous drinker whose business was conducted with skill and acumen accepted the position of counsel and adviser to a large estate, the investments of which were new in his experience. His imbecility and childishness wrecked the property, and his responsibility was settled in the courts to his great disadvantage. The chagrin and sorrow of this event caused his mental breakdown and death. In reality he was demented before he took up this new business, and yet his friends did not recognize the fact.

Almost innumerable instances occur of the failure of moderate or occasionally excessive users of spirits to adapt themselves to new conditions with the same judgment exercised in their accustomed line of work.

The epileptoidal cases have distinct periods of egoism and over-confidence in their ability to grasp new situations and to control new events. This is a most suspicious symptom, particularly when associated with the constant use of spirits or drugs.

In the epileptoid cases there are distinct paroxysms during which the demented states are readily recognized. Sometimes these paroxysms last many days or weeks before recovery. The mistake is made by friends who suppose that recovery leaves the brain intact, and capable of acting normally and as wisely as before. If the man continues his old business and family relations, taking them up after the attack in about the same way, there is no opportunity to show the damage done, because the work is largely automatic. The mental failure and demented condition would be apparent if these persons were required to take up some new work or enter upon new conditions of life and living. Then the excessive nervousness, feebleness of judgment and instability of connected thought or act would appear.

In the maniacal and melancholic cases, there is the same uncertainty of thought and act, with extreme sensitiveness to conditions and surroundings and exaggerated conceptions of events and their influence. In many of these cases there are symptoms of malaria, rheumatism, neurasthenia and heart failure, with general muscular and mental fatigue. These conditions suggest spirits as a remedy, which only intensifies the very conditions they seek to prevent. They are in reality stages of dementia which should be recognized and treated by change of surroundings, habits of living, and conduct generally.

Associated with the continuous or occasional use of spirits there are always found changes of nutrition. The metabolism of the body is always broken up and the presence of toxins and toxemias are common in all cases. How far these poisons contribute to the dementias present it is difficult to determine, but that they exist and have an influence can not be doubted.

It is now recognized that notwithstanding the apparent immunity which is provoked in the system by the regular use of spirits, there is a continuous shock or concussion to the higher brain centers as an effect of alcohol.

These concussions are literally anesthesias and paralyzants, which depress and alter nerve activities, at the same time breaking up the nutrition, so that in addition to palsy and depression, there is starvation and weakness. The effect of the continuous use will be really an intensification and persistency of effect from which recovery becomes more and more doubtful. A certain number of these cases go on to develop well-marked symptoms of dementia, which is described often as "alcoholic epilepsy" or "general paresis" from alcoholism, or "alcoholic insanity," with mania and melancholia. These are names for the extreme stages of the disease.

Most of the cases die from intercurrent disease before these stages become prominent. Pneumonia and acute inflammations of the liver and kidneys, with heart failure, are the more common forms of terminations, but are indirectly caused by the use of spirits.

In many cases cerebral hemorrhages occur, either causing death or partial paralysis, which continues during the rest of life. Accidents are responsible for a large number of deaths. The paralysis extends to the senses, impairing their power and thus increasing the liability to injury, and when such injury occurs the resisting power of the system is so impaired that full recovery seldom follows.

The craze for drugs and medicines in these drink cases is another phase of dementia. Persons of previously good, sound judgment in other matters will show infantile credulity and confidence in strange methods and unreasonable means that promise help and freedom from pain. This is seen in the unusual demand for certain proprietary drugs which contain spirits, opium, or other narcotics. After a period of the use of certain drugs they are abandoned and others take their place. Such persons, if wealthy, make long tours to different watering-places, health resorts and sanitariums in search of health, and are always dissatisfied. In the meantime they continue the use of spirits at intervals or constantly. There is always a failure in the system, a state of unrest and discomfort, which they seek to overcome by chemical means. Dementia is also apparent in the gambling spirit and craze for making money rapidly, dealing in stocks, and new ventures or short cuts to fortune. This in a drinking man is often pronounced, the same as the erotic impulse manifest in sexual intrigues and infidelities. These and various other symptoms are seldom recognized as having a pathological basis, but are always explained by moral theories.

The moderate drinker, who is a gambler, or sensualist, or delusional politician, is a dement, and should be recognized as such. The moderate drinker who is delirious at times, or intensely melancholy with suicidal symptoms, is also a dement, and should be treated as such.

In the treatment of these cases, the removal of alcohol is of the first importance, but this will not always cure. Serious damage has been done, and the use of alcohol is not a cause, but often a symptom, and as a symptom it indicates greater intensity and increase of the causes.

The presence of poisons and starvation should at once suggest the remedies which are not found in drugs or specifics, but in eliminatives and nutrients, with continuous hygienic care. The nutrition of the body must be corrected, and all sources of poison removed, and long continued nerve and brain rest be secured.

The exhaustion and general debility occurring in persons who have previously been very actively engaged in mental or muscular work, may be the first stage of dementia, and alcohol given as a tonic may have special degenerative action on the brain and nerves, and become a powerful exciting cause.

If there is a tendency to any special form of psychosis, alcohol will increase it by bringing new poisons and destroying the vigor of the body, as well as the functional power or repair and elimination.

States of cerebrasthenia and general exhaustion treated with compounds of spirits, as wines and beers, frequently develop into inebriety and other marked psychoses. Hence alcohol in any form is a dangerous remedy, and its so-called tonic effects in debility are doubtful and perilously uncertain. Any long continued use of alcohol should suggest dementia as a most natural sequence, and the treatment must be based on this prognosis.

The general facts I wish to make prominent are:

1. States of dementia precede inebriety and become both predisposing and exciting causes.

2. The continuous or occasional use of spirits is often followed by dementia in many forms.

3. All use of spirits reveals certain degenerative tendencies along the marked lines. viz., the paretic, the maniacal, and the demented or idiotic types.

4. Alcohol as a tonic is dangerous by increasing the toxins and conditions of poisons with starvation, and should never be used in brain and nerve psychoses or any other condition of neurosis.

5. Alcoholic psychosis in every form should be care-

fully studied before treatment can be given with any degree of accuracy.

DISCUSSION.

DR. C. A. DREW, State Farm, Mass.—I am in hearty sympathy with Dr. Crother's paper. I believe that by habitual drinking a man's inhibitory power becomes impaired, particularly that associated with the higher functions of the brain, which we term the moral sense. I believe the habitual moderate drinker will think differently and act differently, where ethical considerations are involved, than he would think and act were he not a moderate drinker of alcoholics. This is a manifestation of the lesser subtle effect of regularly repeated small quantities of alcohol circulating through a fairly good brain. When weaker brain cells are daily subject to the stimulating or anesthetizing influence of alcohol, according to the dose, there is no question about the resulting condition deserving the name of dementia. More than a thousand cases were committed for drunkenness to the prison department of the State Farm in Massachusetts last year. While many of these men are intelligent, in the common sense, they all seem lacking in moral sense; hardly one ever intended to be anything more than a moderate drinker. These men seldom blame themselves. They have unlimited faith that they can drink or let it alone. They do not appreciate their own weakness nor their obligations to others. I think it is fair and scientific to call these men demented. There were 77 men patients admitted to the Massachusetts State Asylum for Insane Criminals during the last fiscal year; 64 of the 77 cases admitted were free drinkers. No reliable history could be obtained from 7, while 6 were abstainers or only moderate drinkers. There was a clear history of intemperate fathers in 38 of these cases, and 10 of the cases testified that their mothers had been hard drinkers. One of the 6 temperate cases was a moral imbecile whose father and mother were both hard drinkers, the former having suicided while insane. We occasionally meet an imbecile child of an intemperate father and mother who has no taste for alcohol, tobacco or other drugs. This deviation from the rule may perhaps be due to the revolt of a developing organism against super-saturation while in the embryo.

DR. CROTHERS, closing the discussion—The subject of inebriety will probably receive a fuller discussion at future sessions of the Association. Every year brings us nearer to this great dark wall of alcoholism, and neurosis which can not much longer be neglected by physicians.

DYSPEPTIC ASTHMA.*

MAX EINHORN, M.D.

Professor of Medicine at the New York Post-Graduate Medical School.

NEW YORK CITY.

Asthma due to digestive disturbances was first described by Henoch[1] under the name of asthma dyspepticum. The original communication of this clinician referred to the occurrence of the condition during acute digestive disturbances in children. His cases all ran under alarming symptoms—the dyspnea being of a high degree and attended with cyanosis and cold extremities—and failed to improve under the ordinary stimulants, but entirely recovered after a treatment directed against the disturbances of the digestive tract. In his paper Henoch accepts Traube's explanation for the dyspeptic origin of asthma, which is as follows: "The gastric irritation causes reflexly a vasomotor contraction of the small arteries, which explains the cold extremities, the imperceptible pulse, the congestion in the venous system and in the right heart, cyanosis, accumulation of carbon dioxid in the blood and as a consequence thereof the frequent dyspneic respiration."

A short while afterwards Silbermann[2] described four cases of dyspeptic asthma which were identical with those of Henoch. Silbermann assumes the presence of a paralysis of the inhibitory fibers of the vagus as well as of the heart itself. On this account the ventricles, especially the left, can not empty themselves completely, and as a result of this there is a stagnation in the pulmonary circulation and the right side of the heart. Owing to the disturbance of circulation the blood becomes overcharged with carbon dioxid, which in turn causes the dyspnea, cyanosis and cold extremities. Edema of the lungs need not be present, as the paralysis of the left ventricle is only of a moderate degree.

While the two writers just mentioned discussed the subject of acute asthma in children, Barrié[3] was the first to describe cases of dyspeptic asthma of a more or less chronic nature in adults. He first showed the intimate relations existing between stomach, heart and lungs, and entered in detail upon our subject of dyspeptic asthma. He says: "Cardiac complications, the result of certain affections of the stomach or bile ducts, present a very great variety in their symptomatology and prognosis. Sometimes there are only slight disturbances in the frequency, intensity or regularity of the heart-beat; sometimes the symptoms approximate those of angina pectoris; at other times the symptoms refer both to the heart and to the lungs; dyspnea then sets in, which may amount even to suffocation, and at the same time dilatation of the right ventricle of the heart may be diagnosed. The disorders are characterized by a respiratory embarrassment varying from the merest feeling of oppression to true dyspnea; at times even we have orthopnea, which may lead to suffocation. Whatever the clinical form may be, the respiratory difficulty appears immediately after meals, the quantity of food having no influence upon its appearance. With predisposed individuals the smallest morsel suffices to evoke an attack. Chomel, who observed the dyspnea of certain dyspeptics, says: 'The patients, after having taken merely a few spoonfuls of soup, experience a respiratory embarrassment of a more or less severe nature lasting throughout the whole time of digestion.' We have here then a very special kind of dyspnea, independent of any distension of the stomach by gas during digestion, differing also from the transient and purely mechanical kind of oppression, observed in large eaters after a copious meal. It is not in the respiratory tract that the obstacle is to be looked for, but in the pulmonary circulation. However that may be, the air hunger, not being appeased, soon produces inexpressible anguish with imminent asphyxia. The face, at first pale, is covered with cold perspiration and becomes purple, especially around the eyes, lips and cheeks. The extremities are cold and livid; the pulse is accelerated, soft and compressible. The pupils are dilated; speech is impossible; the body immobile, excepting the thorax, which works incessantly, and the patient appears in great danger, as if he were about to succumb to an attack of suffocation. Digestive troubles being the cause of these cardio-pulmonary symptoms, therapeutic intervention must be directed to the stomach. We have two indications to meet: 1, to put the organ at rest; 2, to supply it with food of an easily digestible nature. A milk diet answers most admirably both these purposes."

Lauterbach[4] next described a case of dyspeptic asthma. The patient had been suffering for three years from severe dyspnea, occurring as a rule from three to four hours after meals, preceded usually by malaise, vertigo and occasionally even by fainting spells. These attacks lasted one-half to one hour and ceased after patient vomited. In dyspeptic asthma, according to Lauterbach, we

* Read before the Buffalo Academy of Medicine, Oct. 8, 1901.

have to deal with a reflex disturbance of the cardiac action and especially a temporary inability of the left ventricle to perform its work, a condition that is present also in cardiac asthma, but only as the result of a grave organic lesion. The dyspnea accompanying the attacks of dyspeptic asthma is the result of a stasis of the pulmonary circulation due to the insufficiency of the left ventricle.

Oppler[5] likewise reports a case of dyspeptic asthma. Patient suffered from hyperchlohydria and hypersecretion. In the fasting condition there was found in the stomach a small quantity of bile. A rational treatment of the stomach—lavage—was accompanied by the disappearance of the asthmatic attacks.

Boas[6] published an important communication on this subject. He described eleven cases, four of a light and seven of a severe nature. In the latter group were included: 1, individuals with disturbances of the circulatory and respiratory apparatus, and 2, such in whom the thoracic organs were normal. In both classes, however, a connection between the attack and the ingestion of food could be demonstrated.

Ehrlich[7] reported a case of dyspeptic asthma in a patient who had previously suffered from regular asthma caused by nasal polypi. After removal of the polyps the asthma disappeared. Following a grave indiscretion in diet the new type of asthma developed, characterized by the occurrence of an attack immediately after eating. It began with a painful feeling of oppression in the region of the stomach and did not subside until the patient had vomited everything, either voluntarily or against his will. The heart in this case was not normal and treatment had to be directed toward that organ as well as the stomach. Lavage of the stomach and strophanthus effected a cure.

Murdoch[8] describes a form of chronic dyspeptic asthma characterized by great shortness of breath on slight exertion, the condition being not paroxysmal but continuous. It occurs in patients suffering from gastrointestinal diseases without any abnormal condition of the heart, lungs or kidneys, sufficient to account for it, and yields readily to treatment directed against the existing dyspepsia. Murdoch reports five cases, in three of which achylia existed.

Among the cases described by Barrié one was also characterized by the occurrence of asthma on slight exertion after a meal. He says: "Since four months this young girl complains of a feeling of oppression occurring immediately after meals and lasting several hours, which obliges her to stop all work; at times the attacks are brought on by walking; she must then sit down or rest for nearly a quarter of an hour."

Dyspeptic asthma being a condition that is not so very rare and of great importance for the practitioner, is well worthy of consideration. A report of my own observations on this topic will possibly be of interest. Although Boas and others have described among their cases of dyspeptic asthma patients who were also troubled with cardiac or pulmonary affections, I am of the opinion that we should reserve the term "dyspeptic asthma" for cases free from any involvement of the chest organs and in which the affection is in distinct connection with the digestive apparatus. Wherever there are cardiac or pulmonary troubles it is best not to group these cases in our category. Even if the symptoms be more predominant shortly after meals, the principal lesion causing the dyspnea in these instances lies in the affected thoracic organ and not in the stomach. It is quite natural, and it may be observed in a great number of cases of cardiac or pulmonary asthma that during gastric digestion, especially after a good-sized meal, there is more dyspnea present.

In the last few years I have observed 31 cases of dyspeptic asthma in which the chest organs were apparently in normal condition. These cases can conveniently be classed into two main groups: 1, cases in which dyspeptic asthma appears in an acute form, periodically; 2, cases in which dyspeptic asthma assumes a more chronic type.

The first group is characterized by the occurrence of attacks of asthma at more or less prolonged intervals, either without an apparently preceding cause or after distinct excesses in eating, drinking, smoking or after undue excitement. The attack is usually of a very severe type, often assuming alarming symptoms—extreme dyspnea, cyanosis, almost collapse. A good instance of this group is represented by the following case:

Cyrus P., 33 years old, has been troubled for the past two years with frequent attacks of dyspnea. They usually occur at night before retiring. The patient becomes aware of a feeling of constriction, starting in the epigastric region and extending along the chest. Very soon after this there is great difficulty in breathing—dyspnea. The heart action is accelerated; the extremities become cold and the forehead is covered with perspiration. The patient gasps for air and feels as if he is going to die. He constantly makes efforts to expel gas by mouth or anus, and succeeds only from time to time. This affords him very slight momentary relief. After the struggle has lasted about half an hour, intense retching sets in which, after a while, terminates in spontaneous or involuntary vomiting. The latter marks the end of the attack. The patient then breathes much easier, and after a few minutes falls into a sound sleep. Such attacks appear about once in a fortnight. Often it occurs after some festivity at which patient took a luxurious dinner. Patient smokes a great deal, but has otherwise good habits.

The examination of the chest organs did not reveal anything abnormal. The stomach was slightly dilated, extending down to the navel, and showed a condition of moderate hyperchlorhydria. The urine was normal and the knee-reflex present. The treatment consisted in the application of bromids, alkalies and a rational diet. The attacks decreased in number and severity, but did not entirely disappear.

The second group, that of chronic dyspeptic asthma, embraces the larger number of cases, and may again be divided into two separate categories: (a) cases in which the attacks of asthma appear quite soon after meals, either without any particular provocation or after some slight exertion; (b) cases in which the attacks usually occur two or three hours after meals, either spontaneously or again after some exertion—walking, etc. In a certain number of the latter category the attacks can be checked by partaking of a small amount of food.

Cases belonging to category (a), of group 2, resemble very much true angina pectoris, which is so often encountered in arteriosclerosis of the coronary arteries. Their differentiation from the latter is often very difficult. For even in true angina pectoris, at the beginning there will be attacks without any discoverable lesions of the heart or blood vessels. Such cases may for a long time appear as dyspeptic asthma until all of a sudden there are distinct signs indicating the heart involvement, as, for instance, a sudden appearance of albumin in the urine or irregularity of the pulse, etc. I may be permitted to report a case of this kind:

Mrs. Jeannette A., about 67 years old, had been troubled for the last two to three years with frequently-occurring attacks of dyspnea on exertion soon after meals. Thus the patient would

have an attack of dyspnea if she walked a certain number of blocks a half hour or so after a meal; climbing of stairs would also be liable to produce the same result. As a rule the attack would not be very severe nor last long. The patient, after resting about fifteen or twenty-five minutes, would feel relieved. It appeared that the amount of nourishment taken was also of paramount importance with regard to the occurrence of the attacks. Large meals with exertion soon afterward were more liable to produce an attack than walking after a small meal. In the fasting condition or several hours after a meal the patient never had an attack even after walking greater distances. At first the chest organs, particularly the heart, were found perfectly normal.

A year or so later, however, the attacks appeared more frequently and with greater intensity, and now occasionally there was irregularity of the pulse, and albumin was sometimes found in the urine in very small quantities. The heart now was found to be somewhat enlarged to the right. One of the attacks later on was so intense that patient fell into a condition of collapse. A few weeks later there was another attack followed by edema of the lungs, from which, however, patient rallied after energetic stimulation—dry cups, camphor injections, ether, etc. Ultimately (about a month later), however, she succumbed to another attack of edema of the lungs.

True cases of dyspeptic asthma belonging to group 2, category (a), are the following:

CASE 1.—April, 1896, James H., 56 years old, has been complaining for the last year of poor appetite, bloated feeling, constipation and attacks of dyspnea shortly after meals, especially after some slight exertion. These attacks vary in intensity, sometimes being quite severe, at other times again of a slight nature; when severe, there is also a feeling of fear present as if the patient were going to die. A thorough examination revealed no abnormalities whatever in the chest organs. The stomach was not dilated, but the chemical examination showed total absence of gastric juice and all other signs characteristic of achylia gastrica. Patient was told to live on a principally vegetarian diet and was also given fluid extract of condurango, and fluid extract of cascara sagrada. Very soon after instituting this regimen patient began to improve, gradually gained in weight and was free not only from the dyspeptic symptoms but also from the attacks of dyspnea. Patient since then has felt perfectly well up to date, which means a period of five years; the achylia, however, has persisted.

CASE 2.—David M., 35 years old, began to complain two and a half years ago of disturbances of digestion. He had a feeling of tension in his stomach, and suffered from headaches and constipation. For about a year he has complained of attacks of dyspnea either a half-hour after large meals or when his stomach is empty—i. e., a short time before meals. He claims that it is difficult for him to get air during the attack; after bringing up gas he feels somewhat relieved. Before going to bed and during the night patient frequently has similar attacks. He himself uses the expression "forced breathing" to denote the mode of respiration. The attack usually lasts about an hour. Patient also says that besides the dyspnea he experiences pain on the right side a little above the ensiform process. His appetite has always been good, but there is much eructation of gas. He has lost 22 pounds and weighs now 170 pounds. Heart and lungs are normal, stomach is not enlarged, its lower margin lying three finger widths above the navel. The urine contains neither sugar nor albumin. An examination of the stomach contents reveals normal conditions.

The differentiation between dyspeptic asthma belonging to this category and true angina pectoris is not always easy. As a rule, however, cases of dyspeptic asthma are amenable to treatment; that means that a rational régime with regard to the digestive apparatus is followed by good results. These cases also are often capable of a permanent cure. Cases of angina pectoris, however, caused by cardiac lesions—if the latter are not manifest—are much less amenable to treatment, and if improved, the amelioration is only transient.

The following case is mentioned as a good illustration of attacks, like those in category (b), occurring two or three hours after meals, either spontaneous or again after some exertion:

William H. A., 46 years old, has been complaining for the last six months of some distress in the upper part of the abdomen, appearing usually about two or three hours after meals and lasting for an hour or two. Frequently the distress would be accompanied by attacks of dyspnea so that patient would not be able to move and would have to keep perfectly quiet, struggling for breath. The attack of dyspnea would last from one-half to three-quarters of an hour, when retching would ensue and be followed by vomiting. This would bring relief of the distress as well as of the dyspnea. Similar attacks occasionally occurred about 12 or 1 a. m. at night, awaking patient in the midst of a profound sleep.

A thorough examination did not reveal any apparent abnormal conditions existing in the chest. The urine was free from sugar and albumin. The gastric secretion, however, indicated a condition of intense hyperchlorhydria.

Treatment instituted against this disturbance of the stomach very soon relieved the patient of all his troubles. He has remained well for the last two years, having no more attacks.

A good instance of the dyspeptic asthma being checked by the partaking of food is the following:

Leopold K., about 54 years old, has been complaining for the last ten years of an intense burning in the stomach appearing an hour or two after meals. At this time any slight exertion would bring on an attack of quite intense dyspnea. The partaking of food or drink would very soon check the attack and patient would be able to continue his work. Here also aside from hyperchlorhydria nothing abnormal was found and a rational treatment of the latter condition greatly diminished the paroxysms of dyspnea.

The remaining cases of dyspeptic asthma observed by me I beg to submit in a concise form in the accompanying table.

TABLE OF THE REMAINING CASES OF DYSPEPTIC ASTHMA.

Group.	No.	Name.	Age.	Condition of stomach secretion.	Position of abdominal organs.
1. . .	1	Daniel M. . .	36	Hyperchlorhydria and hypersecretion.	Entroptosis, ren mob. dext.
" . .	2	Miss F. P. . .	32	. . . . .	Entroptosis, ren mob. dext.
" . .	3	Wm. H. A. . .	52	Hyperchlorhydria . .	Normal.
" . .	4	Adolf E. . . .	48	Euchlorhydria	Normal.
2 (*a*).	5	Dr. W. F. R.	40	. . . . .	Normal.
" .	6	Louis G. . . .	36	Achylia gastrica . . .	Normal.
" .	7	Wm. F	33	Achylia gastrica . . .	Hepatoptosis.
" .	8	Mrs. A. K. . .	36	Hyperchlorhydria . .	Normal.
" .	9	Mrs. F. H . .	50	Euchlorhydria . .	Normal.
" .	10	Alex. G. . . .	27	. . . . .	Hepatoptosis.
" .	11	Joe H	40	Euchlorhydria	Normal.
" .	12	Louis R . . .	37	. . . . .	Normal.
" .	13	Herm. L . . .	40	. . . . .	Hepatoptosis.
" .	14	H. H	50	Achylia gastrica . . .	Normal.
" .	15	Abraham M .	46	. . . . .	Hepatoptosis.
" .	16	Ferd. B. . . .	43	. . . . .	Normal.
" .	17	Frank F . . .	42	Hyperchlorhydria . .	Normal.
" .	18	Carl H. . . .	37	Hyperchlorhydria . .	Atonia ventricula gastroptosis.
" .	19	Mrs. W. R. R .	35	. . . . .	Normal.
" .	20	J. I. S	55	Hyperchlorhydria . .	Normal.
" .	21	M. W. M . . .	63	. . . . .	Atonia ventriculi.
2 (*b*).	22	Mrs. A. R . . .	42	. . . . .	Normal.
" .	23	Herm. M . . .	53	Hyperchlorhydria . .	Normal.
" .	24	John K. . . .	55	Hyperchlorhydria . .	Normal.
" .	25	H. W	58	Hyperchlorhydria . .	Normal.
" .	26	Abr. P	36	Hyperchlorhydria . .	Hepatoptosis,

A great many of my cases of dyspeptic asthma have been examined with regard to the secretory condition of the stomach. Although no constant anomalies were found, it is noteworthy that a considerable number of the patients suffered from achylia gastrica; hyperchlorhydria likewise was often encountered. In both these conditions a rational treatment of the gastric affection was frequently crowned with favorable results as far as the disappearance of asthma was concerned. The explanation why two such contrary conditions may pro-

duce the same phenomenon may be found in the fact that in both probably an undue irritation of the gastric mucosa takes place. In hyperchlorhydria it is the hyperacid gastric juice, in achylia the mechanically unchanged coarse particles of food, which irritate the mucous membrane of the stomach and thus reflexly the vagus fibers.

In those cases in which the gastric secretion is more or less normal it will be necessary to assume a condition of hyperesthesia of the stomach in order to explain the cause of the asthma. This was already done by Boas.

In my paper on "Floating Liver,"[9] I have drawn attention to the frequent occurrence of asthma in these cases. In fact, a considerable number of patients with floating liver manifest no other symptoms aside from the existing asthma. The cases of dyspeptic asthma referred to in this paper have all been examined with regard to the existence of any abnormal position of the abdominal organs. Floating liver was noted in a considerable number (5) of these cases. There is hardly any doubt in my mind but that the abnormal position of the liver, dragging the diaphragm downward, is the cause of the existing dyspeptic asthma in these cases.

The treatment must be directed first toward relieving any existing disorders of the digestive tract; second, toward correcting any abnormal position of the abdominal organs, principally the liver. A regular mode of life, avoidance of too much tobacco and alcoholic drinks, also of too much mental worry and strain is always of importance. By paying attention to these points the majority of cases of dyspeptic asthma will not only be temporarily relieved, but often radically cured.

BIBLIOGRAPHY.

1. Henoch: Ueber Asthma dyspepticum. Berl. Klin. Wochenschr., 1876, No. 18, p. 241.
2. Oscar Silbermann: Zur Lehre vom Asthma dyspepticum der Kinder. Berl. Klin. Wochenschr., 1882, No. 23, p. 348.
3. E. Barrié: Recherches cliniques sur les accidents cardiopulmonaires consécutifs aux troubles gastro-hépatiques. Revue de Médecine, iii, 1883.
4. M. Lauterbach: Asthma dyspepticum in Folge atonischer Verdauungsschwäche. Wiener Med. Presse. 1894. No. 48, p. 1841.
5. B. Oppler: Ueber Asthma dyspepticum. Allgem. Med. Central-Zeit., 1896, No. 71, p. 849.
6. J. Boas: Ueber Asthma dyspepticum. Arch. f. Verdauungskrankh., Bd. ii, 1896, p. 444.
7. F. Ehrlich: Casuistischer Beitrag zum Asthma dyspepticum. Arch. f. Verdauungskrankh., Bd. v, 1899, p. 126.
8. F. H. Murdoch: Dyspeptic Asthma. N. Y. Med. Journal, Jan. 12, 1901, p. 58.
9. Max Einhorn: Floating Liver and Its Clinical Significance. Med. Record, Sept. 16, 1899.

THE IMMEDIATE DIAGNOSIS OF BLASTOMYCETIC DERMATITIS.

A. W. BRAYTON, M.D.

Professor of Clinical Dermatology, Syphilology and Clinical Medicine, in the Medical College of Indiana; Vice-President of the College; President of the Indiana State Medical Society; Editor of the Indiana Medical Journal, etc.

INDIANAPOLIS, IND.

As regards location, Chicago has developed the greatest number of the cases of blastomycetic dermatitis so far reported. Dr. Hyde's list published in the Proceedings of the American Dermatological Association held in Washington, May, 1900, includes 17 cases, as follows: Gilchrist-Duhring, 1; Busse-Buschke, 2; Gilchrist-Stakes, 3; Wells-Senn, 4; Hessler, 5; Hyde-Hektoen, 7; Anthony-Herzog, 8; Coates, 9; Owens-Eisendrath-Reody, 10; Brayton, 11; Hyde-Ricketts, 12; Hyde-Ricketts, 13; Montgomery-Ricketts, 14; Montgomery-Ricketts, 15; Montgomery, 16; Dyer, 17.

To these I now add a second case, under my observation from April 17 to May 31, at which time the patient was discharged cured. Other cases were no doubt reported at the May meeting of the American Dermatological Association, Chicago, May 31 and June 1, as the program states that Dr. F. H. Montgomery, Chicago, had two additional cases to report, and in company with Dr. J. W. Walker, a report of a previously recorded case with systemic infection, death and autopsy.

The disease occupied much attention at the Washington meeting, and opinions varied as to the etiology of the disease, those not having studied cases either clinically, or by sections and cultures, being skeptical as to the relations of the yeast, which is so uniformly found in the cases so far studied. As to the literature, a summary may be found in the last edition of Dr. Hyde's treatise on Diseases of the Skin. Dr. Senn devotes a chapter of some fourteen pages, with illustrations of the histo-pathologic sections and of the yeast plant, in the recent edition of his Principles of Surgery. The report of Dr. Gilchrist, Johns Hopkins University, to whom we are indebted for the name blastomycetic dermatitis, is of the highest interest, as it constitutes the primary monograph on the disease in this country.

Aside from the Chicago cases, 3 are now reported from Indianapolis: the case of Dr. Robert Hessler;[1] my first case,[2] exhibited at the Atlantic City meeting by photographs, microscopic sections and cultures of the yeast plant, and I now am able to present the details of another case, with some notes on the immediate diagnosis. Dr. Dyer[3] reports a case from New Orleans, and Dr. F .J. Shepherd, before the recent meeting of the American Dermatological Association in Chicago, reported a case which was cured by iodin.

The papers read at the Washington meeting, taken in connection with the discussions which followed, represent fairly the opinions of our dermatologists as to the natural history, the clinical appearance, the micropathology and the parasitic etiology of this disease. We have first to consider whether the score or more of cases cited, over half of which have occurred in Chicago, really warrant the presentation of a new dermatosis to the profession. And second, are the cases so far described tuberculosis of the skin? Finally the inquiry as to whether the cases, or some of them at least, are not complicated with syphilis, has been considered.

In the discussion of the subject at Washington, Drs. J. C. White and J. T. Bowen, both of Boston, and Drs. W. A. Pusey and Joseph Zeisler, both of Chicago, were inclined to regard the case as tuberculosis of the skin, the blastomycetic element being only a secondary complication. Dr. Bowen and Dr. Zeisler contended that the clinical evidence of the pure cultures of the organism being capable of producing by inoculation a similar disease in animals, is not yet sufficiently established.

Dr. J. C. Johnson was inclined to agree with Drs. Bowen and Zeisler, because of the unusual picture of exudative inflammation with pus, existing side by side with productive tubercles, presented by blastomycetic dermatitis. He further believed that the failure of inoculation to produce a condition which we could recognize as blastomycetic dermatitis, according to Koch's laws, does not prove anything. "We cannot," said Dr. Johnson, " by any known means, no matter what form of bacillus we use, produce at will any type of cutaneous tuberculosis with which we are familiar." He also said

1. Ind. Med. Jour., August, 1898.
2. Ibid., April, 1900.
3. Jour. Cutan. and Venereal Dis., January, 1901.

that Dr. Wm. H. Welch had recently stated to him that he had no doubt as to the pathogenicity of the blastomyces, and in deference to Dr. Welch's authority, he desired to withdraw any objection he may have made to the causal relationship of the fungus to blastomycetic dermatitis.

That the disease is a pathologic entity was earnestly contended by Dr. Gilchrist. He asserted that the organism is present in every case, that pure cultures have been obtained from the majority of cases, and that similar pathologic processes have been reproduced in animals. The clinical features of all the cases described are fairly constant, and it seems decidedly proven that the disease, whether considered from a clinical, pathologic or bacteriologic standpoint, stands apart from other diseases of the skin. In no one of the Chicago cases is the disease to be regarded as syphilis with blastomycosis implanted on it, as there was absence of syphilitic history, and the histologic picture was not that of syphilis, but of blastomycetic dermatitis. Dr. Gilchrist also quotes the observation of Dr. Hyde and others, that potassium iodid exerts a curative action in the disease.

In view of all the recorded studies of the known cases, made by Drs. Gilchrist, Hyde, Hektoen, Montgomery and others, we are perfectly justified in regarding this disease as an entity, and, while it is possible that it may occur on the skin of patients suffering from either syphilis or tuberculosis, there is no reason for regarding it as any one of the protean manifestations of either of these diseases. Recognizing the disease, then, as an entity and using the name given by Dr. Gilchrist of blastomycetic dermatitis, some observations on its immediate diagnosis will be presented.

In any given case of ulcerative lesions of the skin we have in mind the possibility of its being syphilitic, tubercular, epithelioma tous or blastomycetic. Tertiary syphilitic ulcerations, subsequent to the breaking down of gummata, may resemble blastomycetic disease of the skin. But here we may rely upon the clinical history, the presence of other lesions in the body and the general hyperplasia of the lymphatic glands. We may also resort to the therapeutic differentiation by the use of the iodids; however, these are thought by Hyde, Shepherd and others to inhibit the growth of the blastomyces.

The affections most likely to be mistaken for blastomycosis are tuberculosis and epithelioma. In tuberculosis of the skin, represented by the lupus of the early writers before the etiology of tuberculosis was known, we have a more penetrating disease, invading tissues irrespective of their anatomic structure, and rarely starting from multiple foci. Lupus, moreover, is a disease of childhood almost exclusively, though persisting into mature life. It is to be remembered, however, that the case primarily referred to Dr. Gilchrist and studied so extensively by him, was regarded by Dr. Duhring as a "typical chronic scrofuloderma verrucosa," and that the first case described by Dr. Montgomery had been seen by Dr. Pusey, Chicago, several years before, and photographed with the label "tuberculosis verrucosa cutis."

Finally as to epithelioma, the sections of my first case of blastomycetic dermatitis—No. 10 of Dr. Hyde's list—were mistaken by casual observers for ordinary epithelioma of the skin. Cancer of the skin is a lesion rarely seen before the age of 40, and indeed the greater number of cases occur more nearly at 50. Of the 17 cases of blastomycosis tabulated by Dr. Hyde, 8 are under 40 years of age; my 1st case was 50, and my 2d, 27. The age limit of cancer is an important point in diagnosis, lupus being a disease of childhood. Cancer of the skin usually occurs after 40, while syphilis and probably blastomycosis may be found at any age, as in other diseases due to direct contact with the virus producing them.

Again, epithelioma has its points of anatomic predilection to an extent not at all characteristic of blastomycetic disease, as is shown by a mere glance down Dr. Hyde's column of the regions invaded. Cancer of the skin begins at some common center and in its course invades the tissues met, regardless of their structure and function, and mercilessly following the lymphatic channels wherever they lead. Cancer usually is represented by a single primary ulcer with a regular indurated base and margins not at all characteristic of blastomycosis. The glandular involvement as a rule is absent in the yeast-caused growth, while in cancer sooner or later the glands are involved in the process. Blastomycetic disease is primarily a disease of the skin—a dermatitis slowly creeping and destroying, healing and scarring over, as the process extends. Dr. Hyde's column showing the duration of the disease, includes cases of 4, 5, 7, 11 and 20 years' progress, limited, perhaps, as was the Wells-Senn case, for ten years or more to the back of a single hand.

Thus far, no two cases of blastomycosis have occurred in the same family; there is no history of hereditary tendency as is frequent with epithelioma. As far as we know neither epithelioma nor blastomycosis has been transferred from one member of a family to another, although blastomycosis is evidently distinctly auto-inoculable, as is shown in the history of my second case.

These general considerations of syphilis, tuberculosis, epithelioma and blastomycosis are certainly of value in the clinical and immediate diagnosis. But there is yet another feature of blastomycosis upon which we may be justified in laying stress, and that is the persistent pain of progressive blastomycosis, unlike any of the discomfort attending the other ulcerous lesions which resemble it in general appearance. The edges of these ragged and irregular ulcers are in a constant state of inflammation, extending perhaps from one-fourth to one-half an inch into the skin not yet breaking down. The symptoms are heat, redness, swelling and pain—a gnawing, burning and persistent pain, intensified at night, preventing sleep, leading to the use of opiates, and only relieved by the destruction of the invaded margins with caustic, or the actual cautery, or by the knife. The knife, the hot iron, the application of carbolic acid followed by the concentrated acid nitrate of mercury, gives immediate relief, or at least as soon as the pain of the burning has been subdued by appropriate dressings. Let the process be incomplete, however, as occurred several times in case number 11 of Dr. Hyde's list while under the care of various physicians during the eighteen months' progress of the disease, and, with the further growth of the organism on one side or the other of the primary lesion, the intolerable pain again begins and the patient is willing to submit to a repetition of the destructive process, even begging to have the affected member amputated.

I know of no observer who has been so fortunate as to see the lesions of blastomycetic dermatitis early in their growth. From the history given by the patients and from the study of cases presenting a series of lesions in various stages of growth, the following conclusions

are tenable and are illustrated in my second case. If, on any part of the body, notably the exposed parts, as the hands, face and feet, a portion of the skin presents pustules followed by small crater-like ulcers which coalesce causing progressive destruction of the skin, blastomycosis may be suspected. At first the patient thinks the lesions are small boils, and resorts to poultices. Upon consulting the physician, the lesions are mistaken for boils, possibly for lupus, or syphilis, or epithelioma, and appropriate treatment given according to the diagnosis. If regarded as lupus or cancer, the physician may cauterize the lesions with the actual or the chemical cautery, and no doubt in the past many cases have been cured in this way, for the disease can in no sense be regarded as new to the human species, and indeed, is probably as old as cancer, lupus or syphilis.

Whether or not the patient has lived in a region where the conditions for yeast growth are favorable, that is, in low moist countries or localities where the ordinary yeasts of commerce are abundant, would seem to have no weight in diagnosis, but the failure to find cases in our coast cities, notably in Boston and New York, and the abnormal number of cases observed in Chicago, would seem to favor the suggestion of Drs. Hyde and Fordyce that the fungus has a local distribution. Those affected, as shown by Dr. Hyde's list, are people in contact with the soil and its products; they are laborers, carpenters, etc. But again, these people constitute the larger part of the population, and so the occupation has little or no significance. Whether the infection takes place through the unbroken skin is not settled, but certainly, as in common pustular acne, the primary infection may be by way of the sebaceous ducts. The organism by its toxins, incites a folliculitis with obstruction of the outlet of the gland and penetration of the gland sac. Therefore the occurrence of multiple acneoid pustules in close proximity to each other occurring in unusual localities, unsymmetrically distributed and followed by necrosis and punctiform excavated ulcers, should call attention to the probability of blastomycosis.

Dr. Wm. T. S. Dodds, Indianapolis, who has kindly taken charge of the microscopic work and bacterio-pathologic studies upon the cases falling under my observation, has made the following notes in regard to the microscopic diagnosis, which are here appended.

In the immediate diagnosis of blastomycetic dermatitis, the microscope is one of our greatest aids. The recognition of the yeast cells in the tissues is as easy as the demonstration of the tinea in the epithelial scales and hair, and can be performed in about the same length of time.

A bit of tissue taken from the advancing margins, is macerated in a 20 to 30 per cent. potassium hydrate solution for five to ten minutes, or until the blood cells and extraneous bacteria are destroyed. The pus taken from a small abscess and treated in a like manner will answer the same purpose. It is well, in order to avoid confusing oil droplets with the yeast plant, to first wash the tissue in ether for a short time; this, however, is unnecessary in experienced hands, because the yeast cell is very easily differentiated. The potash solution has no action upon the yeast cells and they stand out in the macerated material as doubly contoured highly refractory bodies from 5 to 20 microns in diameter. They are almost always in the budding stage and it is not uncommon to find several organisms in the same field. The concise method used in our laboratory for the demonstration of the yeast plant in the tissue is as follows:

1. Secure a small bit of tissue from the advancing margins.
2. Place this tissue upon a glass slide and wash in ether, 2 to 5 minutes.
3. Macerate in the potash solution, using a cover slip to assist in dissolving the tissue, 5 to 10 minutes.
4. Examine the specimen under the microscope, using a 1/6 to 1/12 objective.

This method will be found convenient, sufficient and conclusive. It can be used at the time of operation and will determine the amount of tissue which should be removed.

The cultivation in pure culture of the yeast from the diseased tissue is easily performed, if care is exercised in obtaining the planting. Pure cultures are often obtained in the first tube inoculated. Beer-wort gelatin makes the best medium for work of this kind. The colonies are easily recognized because of their large size, white fluffy appearance and clean-cut margins. Cultures can be obtained directly from the tissue upon Loeffler's blood serum tubes, such as are used in the bacteriologic work for diphtheria.

Note.—Since the above was written the author has observed another case referred for diagnosis, August 1, by Dr. H. R. Lowder, of Bloomfield, Ind. The growth was the size of the palm, on the skin of a man of 60. It had begun as a folliculitis two years before. The lesion was proliferative, consisting of papillary masses the size of match sticks ⅛ to ¼ inch long, matted together and flattened by continuous bandaging. The appearance was that of Dr. P. A. Morrow's case of tuberculosis papillomatosa cutis reported in the *Jour. Cut. and Venereal Diseases*, of October and December, 1888. The case was seen by Drs. F. B. Wynn and N. E. Jobes. The yeast plant was at once isolated by Dr. Dodds, not only from several parts of the lesion but from follicles resembling acne one-half inch from the growth—a finding of very considerable interest. We have sections of the growth and the pure cultures of the yeast. At the margin was an elevated, inflamed and very painful border. No central scar tissue was present. Syphilis and epithelioma were excluded.

SUDDEN AND TEMPORARY MENTAL ABERRATION—UNCONSCIOUS AUTOMATISM—TEMPORARY IRRESPONSIBLE STATES.

SAMUEL AYRES, M.D.
PITTSBURG, PA.

The problems in psychology are numerous and fascinating, and many are yet unsolved. A man may be able to carry on a considerable conversation to-day, during which he betrays only slight peculiarities, perhaps only some exaggeration in speech; or, unless he is watched closely, he may not appear out of the ordinary; to-morrow he declares he has no recollection of the conversation. But what a loophole this hiatus may offer to one dissatisfied with his contract, or to one on the wrong side of the market who wishes to repudiate the order to his broker of the previous day, or to the one who wants to curse or annihilate his enemy!

It is a fact, though, that there are certain individuals who at times perform certain automatic acts, or say certain things, or are seized with sudden delusions or hallucinations, who, after a period of a few minutes, or a few hours, or a few days, suddenly recover their usual cerebration, seem quite natural in all respects, and have no recollection whatever of these acts, though they may recall the delusions or hallucinations as one remembers a dream in the waking state.

The numerous instances recorded in the newspapers of the sudden and unaccountable disappearance of individuals, and their subsequent discovery at distant parts of the country, wholly unable to explain such transition, are by no means all fictitious. Many of these are too well authenticated to be doubted. Some are perhaps in

that state known as double consciousness. Others may be in the epileptic psychical equivalent, while others may perhaps become suddenly insane from injuries to the head or from other causes. The cases I shall relate do not include those of prolonged suspension of normal consciousness, which have so mystified the laity, but are those as the title describes, of sudden and temporary mental aberration especially characterized by the performance of unconscious automatic acts.

The great interest attaching to these cases, and the importance of their recognition, are especially twofold: First, such individuals are liable to commit serious crimes, such as murder, arson or other felonies, while in this morbid condition, and to be totally unconscious of and wholly irresponsible for such crimes. Secondly, these morbid states should be so thoroughly studied that the deliberate criminal could not succeed in urging them as a cloak for his crime, and thus escape just punishment by law.

One of the cases I have to describe is an epileptic, who, in the psychical equivalent for a period of three days, suddenly left his work, traveled several miles, procured a revolver, shot himself in the left chest, was immediately taken to a hospital, and did not recover his usual mental state for two days later, being absolutely unaware during this time of what he had done, or what he had suffered.

The other is that of a man about 35 years of age, under treatment for a neurasthenic condition, resulting from alcoholism and syphilis. This man during the course of treatment disobeyed orders, and began drinking liquor one afternoon at 1 o'clock, and after 4 o'clock did not recall a thing he had done until the following morning. From the statements of his wife, though, it appeared that he went home that evening about 5 o'clock, left two evening papers upon the bed, walked out of the house and presumably down town. He probably continued drinking in the evening, lost his watch and money, and returned home about 12 o'clock the same night and threatened his wife, but did not seriously abuse her. He went to bed soon after, and awoke, as previously stated, rational in the morning. To a casual observer he would not have been recognized as being intoxicated.

The third case was that of a man who, after severe muscular exertion and physical strain resulting from a footrace, developed a delusion that at the close of the race there was a runner still ahead of him, though he had outdistanced all competitors and won the race. At this time and immediately after the race he had severe pain on the top of his head, with a high pulse. This man would at times subsequently have perfectly lucid intervals of variable duration, and would as suddenly, especially toward the evening, become irrational and threaten to kill his wife. The passing from the lucid to the irrational period was instantaneous and vice versa, and during my examination I watched him closely lest he would have one of his lapses, for he was not to be trusted in such condition. I might add there was no litigation involved in any of these cases.

Case 1.—March 18, 1899. Mr. T. B., age 30, was married ten years, three children. Brass worker, and previous to that, worked at steam and electricity. No history of head injury. Father's health good. Mother living at 59 and in good health. Has two half-brothers in good health. Habits have always been temperate in regard to liquor; used tobacco rather freely.

General health was good up to 22½ years of age, about eight years ago. At that time he began to have attacks of the following character. While sitting talking in the room he would get up and walk across the room, and move or turn a chair upside down, or do some such ridiculous thing, and would return and sit down again. Says he was conscious of what he was doing at the time, but not able to prevent it. These peculiar acts would occur about once or twice daily. At this time he was a general utility man in the machine shop. Automatic acts of this character continued for about one year, then became more frequent. At one time he picked the baby up to take it downstairs to its mother, when a spell came on and he dropped the baby on the stairs. He was entirely unconscious of this act until two months after when his wife told him of it. At another time, a week later, during an attack, he dropped the baby on the floor. For two years past he has occasionally gotten up at night in an attack, dressed himself, and then returned to bed with his clothes on. At another time he suddenly struck a friend with whom he went to a picnic. One night he went over to the bed of his children and jumped on the bed and also assaulted violently his wife. The neighbors came in and took him for safety to the lock-up.

In June, 1898, he was working near Pittsburg in a machine shop. On Friday, at 3 p. m., while working at his machine, he reached up and stopped it, took his hat and coat and went to the depot. There he took a train for Allegheny, a distance of 15 miles, wandered around, possibly in the park, though he does not remember about this; shot himself through the left chest, just above the heart, the bullet passing entirely through the body.

He was removed to the Allegheny General Hospital. He he was not conscious of what had occurred until the following Sunday. The lapse of consciousness began at 3 p. m. on Friday, and continued up to some time on Sunday. After recovering from the effects of the gunshot wound, he began to have more pronounced attacks in which he would fall down and lose consciousness. These attacks seemed not to be convulsive. The attacks after this were nearly all nocturnal and regularly epileptic in character. He returned to work and continued up to Sept. 15, 1898. His condition became so dangerous they thought it wise to remove him from home to protect his family. He went voluntarily to the Allegheny County Home on September 15. Here he remained for some months and was then transferred to the Dixmont Insane Asylum, where he had numerous ordinary epileptic attacks, but rarely a psychical equivalent, as I have subsequently learned from Dr. Walker, the resident physician.

Case 2.—December 9, 1898. Mr. V., 31 years of age, married one year, was in lumber business; confined to office. Former weight was 190 lbs.; present weight, 165 lbs. He was in good health up to three or four years ago, when he drank to excess. Mother's side of family was neurotic. There was a specific history.

Present trouble began three or four years ago. He is very nervous; stomach disordered; sleeps quite well. When he stops drinking for a while head feels thick and dull. Bowels are not very regular. He uses tobacco freely; drinks one cup of tea at meals. Knee-jerk is about normal. Pupils react to light and in accommodation. He has vertigo at times.

Feb. 27, 1899. Called to-day to resume treatment. He has not been so well lately on account of drinking. Three days ago he began drinking whisky freely toward the middle of the day, and by 3 p. m. was thoroughly under the influence, though not staggering drunk. He could walk about quite easily, and thinks from his gait no one could have told that he was under the influence of liquor. At 4 or 5 p. m. he was totally unconscious of what he was doing. He went home, left two newspapers in the upstairs room, and went out of the house and down town again, and never knew that he had been at home. He had no clear recollection after that of what he did for some hours, though he indistinctly recalls the fact that he inquired of a stranger what car to take home at night. He says he went spreeing around town, but does not remember where he lost his money and watch. He went home about 12:30 or 1 at night and was inclined to threaten and abuse his wife. He went to bed, and after sleeping until next morning awoke perfectly conscious. Then he learned from his wife of his abusive treatment of her, but he had no recollections of what had

transpired in the interval except as mentioned above, the street-car incident.

Case 3.—July 27, 1898. Mr. M. J. W., age 27, was married nine months. He was a policeman formerly; surveyor at present. Previous health was good. He used liquor to excess up to two years ago, and never used tobacco up to present trouble, and not to excess the last few months; not much tea nor coffee. He had no head injury. In August, 1897, he ran three foot races, the first a mile, the second two and a half miles, and the third three and a fourth miles, and won all of them. At end of last race he was exhausted, and after passing all contestants, still imagined one racer was ahead of him. After race he had slight headache, and pulse 140. Next day he had severe ache over the top of head, and headache irregularly for some time. During fall of last year, about October, he imagined colored people were behind him and would look back suspiciously, no one was really around. He always slept well. About four months ago he fancied some one was too attentive to his wife and he threatened to do them injury. Is quite suspicious. These delusions come suddenly and leave suddenly; in evening more pronounced. He has had some weakness in knees. Knee-jerks are a little exaggerated. Attacks recur about every twenty-four hours, usually in the evenings, and may last an hour or more.

These cases are of some interest from the point of view above stated, and call attention again to the possibility of homicides by persons in irresponsible mental condition. The unique features of the first case lie in the fact that the attempted murder was that of self instead of another, and is without parallel as far as I have been able to learn. It calls up the question as to whether some suicides may not be committed in the psychic equivalent—a very strong inference were the suicide an epileptic.

It should be the duty of all physicians called to testify in murder cases where the mental condition is in question, to inquire most carefully as to the presence of any epileptic tendencies or the occurrence of epileptic attacks; and it should be remembered that the psychic equivalent, as in this case, may precede the ordinary convulsive attack; so that some criminal attacks may be the first evidence of any abnormality in the individual, to be followed later by more convincing proof of the epileptic state. Then again, as pointed out, the malingerer who might attempt to feign this condition should be detected from the history of his case and from a careful examination, if possible, during the simulated seizure. It would certainly be very difficult to uncover the impostor in a feigned psychic equivalent, as the part to be acted requires no particular skill or cunning.

The occurrence of sudden mental aberration in cases like No. 3 is also, I believe, quite uncommon. This result was probably ascribable to the extreme nerve exhaustion or to an altered cerebral circulation, probably congestive, as evidenced by the severe pain on the top of the head. Had this man, on the night after the races, killed his wife, as he was liable to do from some delusion, it would have been a very difficult task at the trial to demonstrate his irresponsibility, owing to the suddenness of the attack. This case should be remembered as an example, rare though it may prove, that great physical strain may be sufficient to temporarily derange the mind.

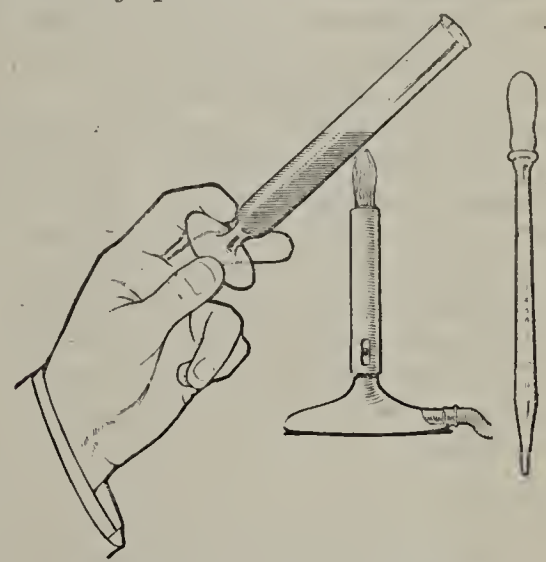
The alcoholic case, No. 2, though by no means exceptional, reminds us that while a state of alcoholic or drug intoxication does not serve as an excuse for crime, it may be held to extenuate the act. Had this man murdered his wife when he returned home in the evening or at 12 o'clock at night, it would have been done not only without premeditation, but without consciousness perhaps of the act, as he did not know that he had been at home either during the afternoon or late at night. Normal consciousness seems to have been entirely suspended for a time, during which he was in a state of alcoholic delirium or automatism, without the characteristic alcoholic ataxia. But this is not very uncommon. Some men drink lightly or heavily and at once pass into a state of frenzy or fury, during which they have no recollection of the acts performed at such time.

RAPID SUGAR TESTING WITH HAINES' AND PURDY'S SOLUTIONS.

WILLIAM H. GERMAN, M.D.
CHICAGO.

A search for sugar and its quantitative estimation are necessary in all routine work of urine examination. The well-known Haines' solution for qualitative testing is so simple and trustworthy as to leave nothing to be desired. One dram of the solution is boiled in a test tube, six to eight drops of urine is added, and the boiling continued. If a bright yellow or red precipitate is obtained, sugar is present. With slight practice, one to two minutes is sufficient to in this way gain decided qualitative data.

The methods in use for quantitative estimation of sugar are generally too slow and cumbersome to be of value to the busy practitioner of medicine. He has



either to be contented with the information obtained from a qualitative test, or send to some laboratory where a specialty is made of urine examinations. A method devised by my assistant, Mr. Carl Irenæus, eliminates the tediousness of the standard methods, and gives rapid and accurate results. The only apparatus required is that shown in the accompanying illustration, viz., a graduated test tube and pipette, and a Bunsen burner or spirit lamp.

When the presence of sugar in the urine has been determined, as by the Haines' test, fill the test tube to the 12 c.c. mark with Purdy's solution, and the pipette to the zero mark with the urine to be tested. Heat the test solution to boiling, and add the urine drop by drop in the test tube, boiling for a few seconds after the addition of each drop, until the blue color has entirely disappeared, trying to decolorize with the smallest possible quantity of urine. If less than 0.2 c.c. of the urine is required to decolorize the test, the urine contains above 4 per cent. of sugar, and should be diluted with an equal volume of water, and the results obtained multiplied by two. The subjoined table gives all ratios of reduction from one-half of 1 per cent. up to 4 per cent., calculated to each quarter per cent., with corresponding grains per ounce.

After slight experience with this method, the time required to make a complete qualitative and quantitative test need not exceed five minutes. This method has been carefully compared with the standard methods of sugar testing, and results have been found fully equal to those obtained by the standard methods. It was used for years by Mr. Irenæus in the laboratory of the late Dr. Charles W. Purdy in all cases where rapid results were required.

Cubic cm. Urine.		Per cent. Sugar.		Gr. per oz.	
.2	.4	4	2	19.2	9.6
.225	.5	3.75	1.75	18	8.4
.25	.6	3.5	1.5	16.8	7.2
.275	.7	3.25	1.25	15.6	5
.3	.8	3	1	14.4	4.8
.325	1.2	2.75	.75	13.2	3.6
.35	1.6	2.5	.5	12	2.4
.375		2.25		10.8	

103 State Street.

TRAUMATIC ARTERIO-VENOUS ANEURYSMS OF THE SUBCLAVIAN VESSELS.

WITH AN ANALYTICAL STUDY OF FIFTEEN REPORTED CASES, INCLUDING ONE OPERATED UPON.

RUDOLPH MATAS, M.D.
NEW ORLEANS.

(Concluded from page 247.)

PRACTICAL CONCLUSIONS.

As a result of the study of the arterio-venous aneurysms of the subclavian vessels which we have summarized in this contribution, we find that this class of injuries can be separated clinically and surgically into three distinct and well-defined groups:

1. The immediately fatal cases in which death follows so quickly after the injury from the effect of the primary hemorrhage and shock that no effective surgical assistance can be rendered. These probably constitute the largest proportion of cases, especially in military practice, though an exact estimate can not be obtained. It is also probable that the vast majority of injuries involving the first and second divisions are fatal primarily, and are to be included in this group, except when the injuries are caused by small projectiles or sharp-pointed weapons.

2. In this second group, primary hemorrhage may be very great, but spontaneous or temporary hemostasis occurs in the syncopal state, which favors the formation of a provisional thrombus. In this class of cases two events may occur which will profoundly modify the prognosis. In the one case (*a*) secondary bleeding will set in within a few hours or, more often, days—usually within the first week—with disastrous consequences, unless the patient is rescued by prompt operation or other form of intervention. The other alternative (*b*) justifies the formation of the following group.

3. In this group the primary hemorrhage may also be excessive, but, as a rule, is moderate and is readily controlled by pressure, or may be spontaneously arrested as in the second group. More often there is no syncope, because the external hemorrhage is slight. There may be a large hematoma. No secondary hemorrhage occurs, the wound heals up, leaving a well-defined and permanent arterio-venous aneurysm.

The arterio-venous circuit is usually promptly established by direct inosculation between the artery and vein (aneurysmal varix), or by means of an intermediary sac (varicose aneurysm), the fistulous communication between the vessels acting in both cases as a safety-valve by which the dangers of further extravasation are to a large extent permanently avoided.

Rötter, in his paper published in 1893, analyzes 13 cases of stab wound of the subclavian vessels, 5 of which were arterio-venous, including the one which he reports, in which he operated for secondary hemorrhage following an injury to both vessels.

He found that in 6 cases the hemorrhage was spontaneously arrested, and no secondary hemorrhage occurred; but in all of these, secondary traumatic aneurysm developed, which impaired the usefulness of the arm, either partially or completely, and led to grave secondary complications which subsequently imperiled life.

In seven cases, the larger number, repeated secondary hemorrhage occurred, and the result was far more serious, for all these patients except Rötter's—an arterio-venous injury—died, and this one was saved only by prompt and desperate operation undertaken at midnight. As a result of this inquiry, Rötter advocates immediate operation—*i. e.*, ligation of the injured vessels at the bleeding point as quickly as possible after the patient has recovered from primary shock and hemorrhage, without waiting for the appearance of the secondary hemorrhage which might prove fatal. The only objection to Rötter's recommendation is that it is based upon the study of mixed cases of simple arterial and arterio-venous injuries, and not sufficient stress is laid upon the more favorable tendency displayed by the arterio-venous injury when these show an early disposition to form aneurysmal varices.

The relative benignity of arterio-venous aneurysms when fully developed—*i. e.*, when the communication between the artery and the vein has become distinctly and permanently established—has led, as Poinsot correctly remarked in 1882, to the general acceptance of a fallacious doctrine that in wounds of a single vessel, such as the subclavian artery, the simultaneous lesion of the satellite vein was a safeguard to the life of a patient.

For instance, Moore,[6] in commenting upon Larrey's case, said the patient's "life appears to have been saved by the singular circumstance that the vein was also pierced by the lance (saber), which wounded the artery. The blood from the latter vessel, when restrained from passing through the external wound, escaped into the vein, and was thus saved to the system until the wound healed." The explanation, says Poinsot, is as fantastic as the pretended benignity of the injury is contestable.

If the simultaneous lesion of the artery and vein is apparently less dangerous statistically than injury of the artery alone, this is due to the fact that in many immediately fatal cases the existence of the double injury is not recognized until after death or only in the cases in which the patient survives and the anastomosis has had time to form or an operation has been performed for repeated hemorrhage. Whatever the doubts entertained on the subject, the cases of Will, Rötter, and Veiel alone suffice to prove that the old teaching as to the relative benignity of double injuries is not to be trusted. One fact, however, must be admitted, as we have conclusively shown in our table, and that is that once the arterio-venous connections have been firmly established, these injuries, as a class, are less dangerous to life than the traumatic aneurysms involving the artery alone.

TREATMENT.

In dealing with these cases practically there are three questions that now present themselves for discussion or consideration: 1. What is the best treatment that can be applied to arrest the primary bleeding at the time of

6. Holmes' System of Surgery. Edit. 1894.

injury? 2. After the arrest of the primary hemorrhage, and the patient has rallied from the shock, and it is evident that one or both vessels have been injured, shall we proceed immediately to secure the bleeding point, or wait for future developments, hoping that the wound will heal, that no secondary bleeding will occur, and that if it is a double injury a permanent arterio-venous communication will be established? 3. After the existence of an arterio-venous aneurysm is fully established and the wound has apparently healed, shall we consider the patient out of danger and discharge him with this lesion in an active state, trusting to Nature's tolerance of this condition and to the remote possibility that it may be spontaneously cured?

We may now briefly summarize our conclusions on these three points seriatim: The treatment of arterio-venous injuries of the first division of the subclavian need scarcely be considered. The cases of survival after the immediate effects of such an injury must be rare indeed. Nevertheless, wounds inflicted by very small caliber bullets—Letenneur's case—or with narrow-pointed weapons may give rise to comparatively small hemorrhages which, being spontaneously arrested and circumscribed, will end in aneurysmal varices. It is quite possible that in future cases of this kind in this locality may be more frequently recorded than in the past, especially since the introduction of hard, small-caliber projectiles in modern warfare. It is evident that in this division of the artery no operative treatment is permissible, the danger and magnitude of the intervention overshadow the possible danger of the lesion, which when reduced to the condition of a simple varix, is undoubtedly compatible with a long tolerance and survival.

In dealing with arterio-venous traumatisms of the second and third divisions of the subclavian the conditions are different. Here the vessels are comparatively accessible, and notwithstanding the grave and formidable character of the undertaking it is quite possible after the resection of the clavicle, as first suggested by Langenbeck, and practiced by Bergmann, Rötter, Halsted, the author, and others, to bring the vessels into view and to ligate them.

In dealing with the first condition—*i. e.*, a bleeding patient—it is evident that all attempts at radical operation on the spot can not be considered in ordinary circumstances. The first indication, then, is to arrest the bleeding, and this is best done by 1, digital compression over a compress or in the wound; 2, by packing the wound, if it is a penetrating cut, and holding the pack firmly wedged in the wound by suturing the edges of this over the pack; or, 3, by hermetically sealing the wound with a continuous stitch, as Rötter suggests. This procedure, followed by a firm compression bandage, will usually suffice to arrest the external bleeding until the patient is taken to a hospital or other convenient place, where a flat bag, filled with lead shot, and held over the injured area with an elastic bandage, will usually prevent any further primary — external — bleeding.

After the patient has rallied from hemorrhage and shock, then the question arises: Shall we operate and when? Shall we wait for a dangerous, if not fatal, secondary hemorrhage to occur, or prevent this by operation? On this point there are differences of opinion. No one will question the propriety of early intervention in cases of arterial injury with the formation of a large, increasing and *pulsating* hematoma. Here the general principles which have guided the surgeons in the past are applicable with still greater reason. The wounded vessels must be sought for at the bleeding point if possible. Bergmann's rule in reference to subclavian injuries, confirmed by Le Fort and Poinsot, and more recently emphasized by Rötter, in reference to arterio-venous injuries, has become an acknowledged law in this class of cases.

"The ligature of the artery should be performed as soon as the patient has recovered from shock; if possible on the day of the injury; and the vessel should be secured in the wound and tied above and below the injured point."—Rötter. While we recognize the great force of a surgical canon which is based upon sound reason and experience, it must be recognized, with Wedekind and other recent writers, that there are conditions which justify delay, more especially in those cases in which the subclavian wound implicates both vessels.

It must be recognized that even a reasonable suspicion or positive evidence of an injury to both vessels—artery and vein—is not sufficient to justify a suspension of the above stated rule of practice, but that the development of positive signs of an *established* arterio-venous anastomosis does justify delay when the patient can be kept under constant observation and intelligent supervision. But as the signs of arterio-venous anastomosis are often delayed, other criteria must be depended upon to decide the question of intervention or abstention. Of these modifying conditions, the following are probably the most important:

1. The quantity of blood lost in the primary hemorrhage whether profuse, moderate or small. 2. The extent of the subcutaneous hematoma. 3. The fact that the hemorrhage was arrested with difficulty, or ceased spontaneously and completely, after syncope. 4. The tendency to recurrence of early intermediate hemorrhage, "warning hemorrhages," which are the invariable precursors of the more formidable and fatal secondary hemorrhages. 5. The development of positive signs of an established arterio-venous communication .

If the primary hemorrhage is profuse and obstinate; if it tends to recur with the restoration of the circulation after shock; if the hematoma is extensive and progressive, then there can be no hesitation as to the urgency of surgical action, whether the evidence points to a single or a double injury of the associated vessels.

If, on the other hand, the primary bleeding is moderate and is readily controlled by pressure, or ceases spontaneously and completely, and there is no extensive or progressive hematoma; if there is no tendency to bleeding upon the removal of the dressings, then delay—*i. e.*, armed expectation, is permissible. If, in addition to the favorable signs, there is an early development of the signs of an arterio-venous anastomosis, then a conservative attitude is more than ever justifiable, *provided*, always, that the patient can be kept under competent and skilled surgical supervision.—Wedekind.

As to the last point, it is evident that even under the most favorable conditions, and with the most skilful assistance, the ligation of a wounded subclavian is a formidable undertaking, always fraught with great danger, and demanding for its successful accomplishment all the resources of the technique and the cool judgment which come only with long training; and if these are wanting at the time, it is plain that expectancy and palliation, with pressure, rest and ice, is the only conservative course to pursue until the patient has rallied sufficiently to be transported to a place where the necessary conditions for a radical operation can be obtained.

Finally, if the patient survives the first hemorrhage and shock, and there is no recurrence of hemorrhage,

TABULATED STATEMENT OF SEVENTEEN RECORDED CASES OF ARTERIO-VENOUS ANEURYSMS

No.	Operator or reporter.	Sex and age.	Nature of injury.	Seat of injury.	Result.	Primary hemorrhage (syncope).	Secondary hemorrhage.	Associate or complicating injury.	Date of appearance of aneurysmal signs.
1	Larrey, D. J.[1] Paris.	M. 32	Saber.	Left supraclavicular, presumably 3d portion.	Recovery.	"Frightful hemorrhage" (syncope).	None.	Brachial plexus.	24 hours "Next day."
2	Sanson.[2] Paris.	M. 50	Gunshot.	Left supraclavicular.	Recovery.	?	None recorded	?	. . . . .
3	Bérard,[3] Paris.	M. adult.	Stab.	Right supraclavicular.	Recovery.	"Not very copious."	. . . . .	. . . . .	Few days.
4	Wattmann,[4] Vienna.	M. 22 (?) at injury.	Gunshot.	Upper arm and shoulder (subclavio-axillary.)	Died.	. . . . .	Post-operative 22 days after ligation.	. . . . .	31 years.
5	Wederstrandt, J. P. C.,[5] New Orleans.	M. adult.	Gunshot.	Right subclavian, 2d or 3d div.	Recovery.	"Violent."	None.	Internal jugular vein in addition to subclavian; brachial plexus.	. . . . .
6	Smith, R. W.[6] Dublin.	M. middle age.	Stab.	Left supraclavicular region (2d division).	Recovery.	"Profuse."	None.	. . . . .	3 weeks.
7	Fisher, G.[7] Göttingen.	M. 32	Stab.	Clavicular region.	Recovery.	. . . . .	None.	. . . . .	6th day.
8	Letenneur,[8] Nantes.	M. 15	Gunshot.	Right side of neck, probably involving 1st division subclavian.	Recovery.	Little.	None.	Suspected brachial plexus, jugular vein close to subclav. junction.	Noticed next day.
9	Will, J. C. O.[9] Glasgow.	M. adult.	Stab.	Left subclavian vessels, 3d division.	Died.	Profuse.	12th day. 13th " 19th " 20th "	Pleura opened and septic hemothorax.	12th day tumor found.
10	Kirsch, B.[10] Breslau.	M. 27	Gunshot.	Right supraclav. tumor in delto-pectoral groove near clavicle (3d div.).	Recovery.	. . . . .	None.	Possibly brach. plexus injured.	4th day.
11	Arango, A. P.[11] Medellin, Spain.	M. 27	Stab.	Posterior region of the shoulder (3d division).	Recovery.	"Abundant, controlled by patient's hand."	None.	. . . . .	8th day.
12	Von Rötter, G.[12] Berlin.	M. 28	Stab.	Left infra-clavicular (3d division).	Recovery.	Pouring in a stream (syncope).	9 days after injury (midnight).	Nerve (not definitely stated).	Discovered next day.
13	Wedekind, George,[13] Berlin.	M. 32	Stab.	Left subclavian below middle of clavicle (3d division).	Recovery.	Profuse, no syncope, easily controlled.	None.	None.	5 days.
14	Veiel,[14] Cannstadt.	M. 23	Stab.	Right infra-clavicular (3d division).	Recovery.	Profuse.	3 days after injury (midnight).	None.	Noticed on 9th day.
15	Matas, R.[15] New Orleans.	M. 24	Revolver, 38-caliber.	2d division of subclavian through the anterior scalene.	Recovery.	Large hematoma, external hemorrhage moderate, no syncope.	None.	Brachial plexus; paralysis of arm.	4 hours after injury.
16	Vallas,[16] Lyons, 1900.	M. 25	Fracture of clavicle (indirect).	Supra-clavicular 2d and 1st division (right side).	Death.	Hematoma formed immediately.	None.	Internal jugular vein with subclavian vessels.	10th day recognized.
17	Reboul,[17] Montpellier, France, 1894.	M. 30	Fracture of left clavicle (indirect).	Aneurysmal hematoma enormous, filling supraclavicular region and whole left side of back and chest.	Death.	Aneurysmal tumor probably began 9 days after injury.	None.	Tuberculosis of lungs and of peritoneum; marked cachexia and marasmus,	8th day after injury; aneurysm positively developed 35 days after injury.

1. Cliniques Chir., Paris, 1829, T. iii, p. 115.
2. Reported by Robert in Thèse de Concours, Paris, 1842 (Des Anevrismes de la region Susclaviculaire).
3. Bull. de Soc. de Chir. de Paris, 1865, 2 v. 1866, p. 367 et seq. Quoted by Richet in discussion of Letenneur's case.
4. Abstracted from Bericht über die Deutsch Natur und aerzt. 21 meeting, 1843, Gratz, 1845. Also reported by Rokitansky, Ueber die einige der wichtigsten krankheiten der arterien, Wien, 1852.
5. New Orleans Medical News and Hospital Gazette, 1854-55, vol. i, pp. 393-395.
6. Proceedings Pathological Society, Dublin, 1860-61, vol. i, part 3, p. 158.
7. In mitthellungen aus der chir. Klinik. Göttingen, 1861 (quoted in Bramann's table—Das arteriell-venöse aneurysma). Archiv f. klin. Chirurg., Langenbeck, Berlin, 1886, vol. xxxiii, p. 12.
8. Bull. Soc. de Chir. de Paris, 1865, second series, 1866, p. 367.
9. Glasgow Medical Journal, Glasgow, 1875, vol. vii, p. 173.
10. Ueber traumat. aneurysm. Bresiau, 1875. Thesis quoted by Bramann in "Das arteriell-venöse aneurysma." Archiv f. klin. Chirurg., von Langenbeck, Berlin, 1886, vol. xxxiii, p. 12.

and the wound heals, with the formation of a simple aneurysmal varix, what is the proper course to pursue? On this phase of the subject it may be safely asserted that the consensus of surgical opinion first formulated thirty-six years ago, when Letenneur's case was discussed at the Société de Chirurgie in 1867, has crystallized in definite form in favor of non-intervention.

The statistics which we furnish in this paper—the most complete list of the reported instances of this rare lesion which has thus far appeared—tend to confirm the arguments of the "let-well-enough-alone" policy, in so far as they demonstrate that in at least 11 of the 15 cases

OF THE SUBCLAVIAN VESSELS. GATHERED FROM THE LITERATURE (1827-1901).

Immediate effect of injury on arm.	Non-operative treatment.	Operation, if any; date and indication for operation.	Distant or remote effects of aneurysm on arm.	Remarks.
Arm icy, pulseless, colorless.	Pressure, ice, repeated venesection,	No operation.	Atrophy, paralysis of hand; permanent obliteration of pulse in all arm.	
. . . . .	. . . . .	No operation.	. . . . .	Persistence of aneurysmal signs for more than 10 years, for which patient consulted Sanson in 1832.
. . . . .	. . . . .	No operation.	. . . . .	Discharged "several" weeks later with persistence of aneurysmal signs, clamoring for operation, which Bérard and Dieffenbach refused.
None.	None for primary injury.	Double ligature third portion on 17th day for aggravation of pain and vascular disturbances.	After ligature arrested pulsation in arm; returned second day; infection ten days after, and secondary hemorrhage.	Immediate effects of primary injury not recorded; apparently insignificant; aneurysmal signs and tumor requiring ligature 31 years after primary injury; arterio-venous aneurysm confirmed by autopsy.
. . . . .	. . . . .	None.	Withered, paralyzed, cold; no sensation; pulse weaker and not synchronous with other side.	Died of diarrhea, 1854, 7 years after injury, and with persistent aneurysmal symptoms; arterio-venous aneurysm confirmed by autopsy.
Enlarged veins, diminished pulsation; arrest of circulation on elevation of arm.	None recorded.	None.	Arm cold, edematous, and pulseless; sloughing of little and ring fingers and inner side of dorsum and palm to ulnocarpal articulation.	About 7 months after injury sloughing of hand occurred spontaneously, slough detaching without constitutional symptoms tumor at site of wound size of walnut; stationary,
. . . . .	Boyer's compressor without effect.	None.	. . . . .	Came under observation 1 year after accident, with active aneurysmal signs, and was discharged unimproved.
Notable swelling of arm, difficult deglutition.	Rest, diet, wet compresses (arnica), ice-bags.	None.	. . . . .	Wound healed and patient took his first promenade on 21st day; after this no history can be obtained.
. . . . .	Compresses perchlorid of iron and glycerin, pressure, opium, ice, rest.	Three weeks after injury operation attempted, but patient succumbed at first incision.	Pain in shoulder and elbow.	External wound had healed already when first secondary hemorrhage occurred. Autopsy revealed arterio-venous nature of injury.
Arm paralyzed, anesthesia of fingers, skin cyanosed.	Instrumental compression; not improved.	None.	Partial paralysis fourth and fifth fingers.	Came under observation 2½ months after injury and was discharged unimproved in any respect.
Swollen, cold, purple, pulseless, medius, ring, and little fingers paralyzed.	Compression; bandages to arm.	None.	Edema of arm; varicose veins of arm.	Ten years after operation patient was reported by friends in almost perfect health
Pulse weak and retarded, cyanosis, enlarged veins, etc.	Wound packed with iodoform gauze.	On 9th day (midnight) clavicle resected; artery ligated on outer side of scalenus, subclavian and other veins ligated; wound allowed to heal by granulation.	Arm cold and pulseless during operation; pulse did not return.	Discharged a few weeks after operation healed; resumed occupation as a stonecutter; no gangrene or disability of extremity reported.
Pulse weaker.	Antiseptic dressings to wounds.	No operation.	Arm feels numb; tingles when allowed to hang.	7 mos. after injury all signs of aneurysm persist, but suffers no inconvenience, and follows regular occupation (locksmith).
After injury radial pulse retained.	Antiseptic dressings.	On 9th day artery ligated outside of scalenus; axillary artery ligated beyond wound; both axillary veins tied and venous branch from scapula ligated; clot turned out of sac and wound packed.	Immediately after operation arm white and cold; veins thrombosed, arm blue and hand swollen; sensibility impaired; thermic sense lost; arm diminished in size.	Last report 8½ months after injury; marked disability of arm and hand; trophic and vascular changes marked.
Pulse lost immediately, returned 5th day.	Gauze compress and adhesive plaster, ice-bags.	On 9th day, Sept. 13, 1900, subclavian ligated on both sides of scalene; lateral suture of vein; osteoplastic resection of clavicle, provisional traction loop around anomalous subclavian first portion; wound healed per primam.	Sloughing of thumb and little finger, part of hand and forearm.	Last report July 1, 1901: patient in robust health; right hand and forearm permanently disabled.
Arm motionless from fracture.	Gelatin injection, immobilization bandage.	Operation for suppuration in sac, Sept. 22, 1900; resection of clavicle; prophylactic ligature of subclavian artery impossible; free incision into sac; frightful hemorrhage controlled by 7 forceps left *in situ;* wound packed.	. . . . .	Death four hours after operation from surgical anemia and shock. Autopsy: non-union of fracture; internal jugular and subclavian veins torn by distal fragment, subclavian artery perforated also; scalenus anticus torn from attachments.
. . . . .	Bandage for fracture.	No operation attempted, patient too weak.	. . . . .	Death five days after admission to hospital while en route to his home; aneurysmal hematoma enormous, filled entire supraclavicular space front of chest and back, displacing scapula.

11. Bull. et Mém. Soc. de Chir., Paris, 1880, vol. vi, pp. 60 and 70, and An. de l'Acad. de Med. de Medellin. Medellin, Spain, 1892, xv, pp. 55-57. Abstracted from Spanish text, 1892.
12. Ueber die Stichverletzungen der Schlusselbeingefass, Berlin, klin. Wochenschrift, 1893, vol. xxx, pp. 278-284.
13. Deutsch Med. Wochen., Leipzig, 1895, vol. vii, p. 53.
14. Medicinische Correspondenz-blatt des Wurtemburg aerzte landsverein, Stuttgart, 1895, vol. xlv, p. 123.
15. Transactions of the American Surgical Association, 1901.
16. Reported by Gallois and Piollet, Rev. de Chirurg., Paris, July 10, 1901, No. 7, pp. 23-30.
17. Reported by T. Fabre. Thesis, Montpellier, 1894; and Gallois and Piollet, Rev. de Chirurg., July 10, 1901.

the patient survived the immediate effects of the injury and of the arterio-venous aneurysm that followed it for variable and often long periods of time. The study of these cases shows, however, that while the active persistence of the lesion is compatible with a long survival (ten years in two and as long as thirty-two years in one), they also show that in the vast majority—all but two—the lesion persisted in an active state in spite of sustained efforts to cure it; in many, the final outcome could not be ascertained, but in others disastrous consequences followed in consequence of disturbances of the circulation in the extremity. All this shows that arterio-venous aneurysms of the subclavians, like those of other large trunks, persist as pathologic conditions, which are only tolerated by the organism, and remain a vulnerable point in the vascular system, which may lead—even after years

of toleration—to disaster and death. These facts alone would justify a more aggressive attitude toward this form of vascular lesion on the part of surgeons were it not that the dangers of the operation required to eradicate it are not to be underrated, even with all the advantages of the modern technique.

In conclusion, while recognizing that a decision in this matter must rest largely with the personal equation and experience of the operator, we believe that in all fully-established arterio-venous aneurysms which are well tolerated and give rise to little disturbance—and are presented by patients who can be kept under periodical observation—the old rule of non-intervention is still in order and should be followed. On the other hand, we believe, with Delbet, that with the improved conditions of the present day the indications for interference have broadened, and that whenever the lesion is not well tolerated, and gives rise to serious circulatory or other disturbance, it is justifiable to operate with the view of extirpating the lesion, especially when situated in the more accessible third and second divisions of the artery.

ADDITIONAL REFERENCES.

Broca, P.: Des Anévrysmes. Paris, 1856.
Le Fort, L.: Article "Anévrysme," Dict. Dechambre, V. iv, 1866.
Le Fort, L.: Article "Sous-claviere," Dict. Dechambre, Troisieme serie, V. x, 1881.
Poinsot, George: Article "Sous-claviere," Dict. Jaccoud, V. xxxiii, 1882.
Bergmann: Die Schussverletzungen und unterbindung der subclavia, St. Petersb. Med. Woch., 1877, ii, 99-200.
Bramann, F.: "Das Arteriell-venose Aneurysma," Archiv f. Klin. Chir., Berl., 1886, xxxiii, 1-107.
Souchon, E.: Operative Treatment of Aneurysms of the Third Portion of the Subclavian Artery, Annals of Surgery, vol. xxx, 1895.
Delbet, P.: Traite de Chirurgie Clinique et operatoire. Le Dentu-Delbet, V. iv, 1897. (Maladies chirurgicales des arteres.)
Bergmann-Bruns-Mickulicz (Chirur. des Halses, etc.), Handbuch der Prakt. Chirurg. Bd. ii, 1900.

APPENDIX.

TWO ADDITIONAL CASES OF TRAUMATIC ARTERIO-VENOUS ANEURYSMS OF THE SUBCLAVIAN VESSELS, AND ONE OF INJURY OF BOTH VESSELS, NOT INCLUDED IN THE TEXT.

CASE I. *Arterio-venous aneurysm of the right subclavian artery and of the subclavian and internal jugular veins, caused by indirect fracture of the clavicle; operation; death.*—Operator, Dr. Vallas, Hôtel Dieu, Lyons. Reported by MM. Gallois and Piollet.[1]

A. F., aged 25; farmer; good antecedent history, but weak constitution; small stature and spare build; habitually pale. On July 2, 1900, while riding a mule the patient was suddenly thrown to the ground. He first fell on his feet, and then on his right shoulder. He felt an acute pain in the shoulder, but picked himself up and led the mule back to his stable. In doing this he had to walk up an inclined road by a hillside for twenty minutes. While on his way home he became conscious of the formation of a large swelling at the root of the neck on the right side. This swelling increased rapidly, and by the time he reached his house it had reached the ear and projected beyond it. As he walked he became short-winded, and when he arrived at the house he was completely exhausted. He could not stand on his feet, and had to go to bed at once. A physician who was summoned detected a fracture of the clavicle, with considerable subcutaneous emphysema. In the days that followed the swelling rapidly diminished, while a very considerable ecchymosis spread from the neck to the corresponding side of the chest.

When on the tenth day the bandages were removed a persistent but almost painless tumor had formed immediately above the clavicle and outside of the sternomastoid muscle. As this tumor remained the patient consulted other physicians at Grasse, who diagnosed an aneurysm of the subclavian artery, caused by fracture of the clavicle. On September 9—about sixty-two days after the accident—a gelatin serum injection, prepared by Lancereaux's method—was administered.

The patient was then advised to enter Professor Ollier's clinic at the Hôtel Dieu, Lyons, where he was admitted September 19. Condition on admission: The supraclavicular fossa is filled with a mass as large as a fist, which extends from the outer edge of the clavicular attachment of the sternomastoid to the outer third of the clavicle. The tumor is globular in shape, but irregular in contour. The upper outline of the tumor can be felt four fingers' breadth above the clavicle. It is most prominent about the level of the fracture, which is situated at the junction of the outer with the middle third of this bone. There is a complete failure of osseous union; the fragments are movable. The inner fragment projects under the skin anteriorly. The outer or acromial fragment is driven inward and backward, but appears to be outside the anterior scalene. The patient can scarcely move his arm, which hangs motionless by his chest. All the signs of aneurysm are recognizable in the tumor, except that there is no thrill. There is a distinct systolic murmur and expansile pulsation. Pulse, 100, can be distinctly felt at both wrists, though weaker on the right side. The right carotid can be outlined along the inner side of the sternomastoid. No pleural or pulmonary lesions. No apparent lesion of brachial plexus. A swelling still remains at the seat of the gelatin injection. On September 20 the patient complains of pain in the aneurysm. He has fever. Temperature, 38.8 C.; pulse, 108. The swelling, indicating seat of injection.

On September 21 the tumor increases rapidly in size; the overlying skin is red, edematous and inflamed. The seat of gelatin injection is also evidently inflamed and infected.

In the absence of Professor Ollier, Mr. Vallas takes charge of the case and diagnosticates "an inflamed aneurysmal hematoma, with threatened suppuration of the sac and general septic infection." It is decided that an operation is urgently indicated, and Mr. Vallas operates Sept. 22, 1900. Ether anesthesia. A horizontal incision is made parallel with and one finger's breadth above the clavicle; this is joined by a vertical incision following the inner edge of the sternomastoid down to the sternum. The insertion of the sternomastoid is divided and reflected upward together with the cutaneous flap. The omohyoid is divided in the middle, and each end is retracted. The sac is now exposed. In order to expose the subclavian, which is hidden by the tumor, the whole inner fragment from the line of fracture to the sterno-clavicular joint is disarticulated and excised.

Notwithstanding the great exposure of the field obtained by this procedure, it is still difficult to recognize and isolate the subclavian artery. The trunk of this vessel is hidden by the sac and the large trunk of the right innominate vein. At this juncture, while exploring for the artery with a grooved director, a discharge of about a tablespoonful of thick, reddish pus takes place, and the director penetrates into the cavity of the sac. At the same time a large clot appears and obliterates the opening made in the sac. In view of the difficulty of applying a prophylactic ligature upon the subclavian artery at its origin, M. Vallas decided to make a large free opening into the sac, with the view of securing the injured and bleeding vessels *in situ*. The instant this is

1. Revue de Chirurgie, Paris, July 10, 1901: 21me Année, pp. 23-30.

done a flood of mixed blood and clots deluges the field, the hemorrhage coming simultaneously from many points. In spite of a vigorous tamponade of the sac, the blood continues to flow. It appears to come most vigorously from the upper and inner angle of the wound. The cutaneous incision is quickly enlarged, and while the assistants are making vigorous compression at the bottom of the sac, the operator succeeds with much difficulty in placing two forceps on the internal jugular, one within and the other outside the sac. This stops the bleeding at this point. On removing the gauze packs the hemorrhage instantly recurs, pouring from several orifices. After great difficulties and much loss of blood, the bleeding is finally controlled by a series of forceps applied to the chief bleeding points.

In the meantime the patient grows very weak, and 500 grams of saline solution are injected and other restoratives are applied. The wound is packed with iodoform gauze, leaving seven clamps *in situ*. The patient is then put to bed, but in spite of the additional injection of 500 grams of saline solution death takes place four hours after the operation.

Autopsy.—A very oblique fracture of the clavicle is recognized, the sharp edge of the outer fragment projecting four centimeters beyond the line of fracture. The scalenus anticus is almost completely torn from its attachment to the first rib. The internal jugular vein is opened longitudinally by a tear two centimeters in length. The subclavian vein had been almost completely torn across, and its walls were incorporated in the sac.

The subclavian artery showed a small perforation which communicated with the sac. The tear in the artery had taken place a short distance from the thyroid axis. The internal jugular was also opened and freely communicated with the sac. The distal fragment had, therefore, been driven into the neck, tearing the scalenus anticus and penetrating the subclavian and internal jugular veins and the middle third of the subclavian artery.

Case II. *Arterio-venous aneurysm—probably of the subclavian artery and vein—caused by indirect fracture of the clavicle; no operation; death.*—Service of D. Reboul, Montpellier, France. Originally reported by Th. Fabre,[2] and abstracted[3] from Gallois and Piollet's article, in the place quoted.

J. A., aged 30 years, locksmith, fell from a carriage March 4, 1894, and struck left shoulder. The clavicle was fractured at the junction of the outer and middle third. The fracture was set with immobilizing bandages. Eight days after the accident the patient removed the bandages and tried to use his arm. While moving the arm he felt a sharp pain at the seat of the fracture, which radiated to the dorsal surface of the forearm and hand. On March 31—nineteen days after this occurrence—another sharp pain was felt by the patient, and a tumor was noticed in the supraclavicular space on a level with the fracture. On April 8 the patient was seized with a violent cough, the swelling greatly increased in size, and became most painful. A traumatic aneurysm was then recognized by the attending physician. On April 10 he was seen by Dr. Reboul, who confirmed the diagnosis. All the signs of aneurysm existed, including a marked thrill and signs of venous disturbance. The tumor extends over the left thoracic region and covers an immense area. It extends five centimeters below the nipple, fills the axilla, and descends to the ninth rib; it projects posteriorly in the dorsal region, where it lifts the scapula and displaces it outward, and can be felt transversely, touching the vertebral column downward to the tenth rib. The entire supraclavicular space is filled by the pulsating hematoma, up to the posterior border of the scalenus. The veins are turgid and obstructed. The left arm is powerless. Marked trophic disturbances exist in the arm, showing lesion of the brachial plexus. The pulse in the left brachial and radial arteries is scarcely perceptible. In addition to this great vascular disturbance, the patient gives evidence of advanced pulmonary tuberculosis and of chronic peritonitis. In view of all these complicating and hopeless conditions, and the very bad state of the patient, which would not even justify the administration of an anesthetic, Dr. Reboul decides not to interfere. Five days after his admission to the hospital the relatives of the patient decided to take him to his village. He died *en route*, and no postmortem was held.

Gallois and Piollet, after a careful consideration of this case, believe that it should be classified as an arterio-venous aneurysm, as all the signs pointed to a lesion of both artery and vein. In Gallois and Piollet's very interesting contribution, ten observations are summarized from the literature, which illustrate the dangers of closed—simple—fractures of the clavicle from the standpoint of complicating lesions of the subclavian vessels. In only two of these ten cases were both vessels—artery and vein—implicated, and these are so rare and instructive that they are worthy of the special and full mention given them in connection with the subject of this paper.

Case III. *Subclavian artery and vein tied under the clavicle for hemorrhage in abscess cavity.*—Operated on in the surgical clinic of Prof. J. A. Yefremowski. Reported by M. A. Vasilyeff.[4]

M. L., female, aged 20, entered clinic Nov. 21, 1884. Patient first felt pain caused by an abscess (?) two weeks previously. Tumor was found in right axilla, which increased until the 29th, when it occupied the subclavian and axillary regions. December 1, under chloroform; incision made by Vasilyeff in axillary line, much pus issued; finger inserted in abscess cavity ascended to middle of clavicle; wound enlarged and drainage inserted; great hemorrhage occurred, stopped by grasping bleeding-points *en masse* with hemostatic forceps and left in place. December 3, dressing changed. Much bleeding at night. December 4, pulse, 104; temperature, 38.6 C. Professor Yefremowski, under chloroform, enlarged wound, sought cause of hemorrhage; on removal of forceps, hemorrhage great and subclavian artery was then tied; hemorrhage stopped a while, then began again, and was venous; subclavian vein was then tied. Wound was disinfected, packed and bandaged; patient put to bed; hot bottles around arm. Profuse sweating at night. Pulse in left hand, 100; temperature, 39.3 C. December 6th to 20th, daily change of dressing. Temperature varied, 38 C. morning to 39 C. night and more. Pulse in radial artery of operated arm not found; edema of arm in spite of flannel bandage with pressure. December 14, ligature slipped from artery. Small abscesses in little finger and palm: opened and dressings changed on alternate days; wound healed by granulation; edema; tumor in region of external middle third of humerus; acute osteomyelitis of humerus; two counter openings made and drains inserted intero-externally. March 1, erysipelas in the arm and chest; wound healed the middle of the month. Wound healed; function of arm limited; right arm thinner than the left. Movement in shoulder and elbow-joints impossible. Massage, active and passive movements. Electricity.

June 16. Left hospital. Movement in shoulder-joint; almost re-established in elbow; in phalangeal, metacarpal joints flexor movements imperfect; no pulse in right radial artery.

2. Thèse Montpellier, 1894.
3. Revue de Chirurg., No. 7, July 10, 1901.
4. Chir. Vestnik, 1886, ii, pp. 431-436.

Patient was seen in the fall of 1885; improvement; does hard work; no radial pulse; right arm thinner than left.

This case is properly not one of arterio-venous aneurysm of the subclavian vessels, but simply illustrates the dangers of hemorrhage and infection following a secondary ulceration of these vessels when exposed in a suppurating cavity. As this observation, originally published in a Russian journal, is difficult of access, it is here reproduced for the benefit of other students of the literature of the subject who may be interested in the nature of the case in consulting the bibliography.

The Organization of the Medical Profession.

(Continued from page 251.)

IV.

Transferable Record of Professional Standing Necessary.

A system by which information may be had of those legally entitled to practice medicine is sadly needed. The ignorance regarding the number of physicians in a county or state is a reflection on the business sagacity of our profession, to say the least. There is hardly a state in which it is possible to make more than a fair guess as to the number of physicians it contains, and he would be bold, indeed, who would assert that he knew within 10,000 how many physicians, legally entitled to practice, there are in the United States. This uncertainty as to numbers is an evidence of ignorance as to other important facts relative to the profession taken individually and collectively. The other day an advertising quack in one of the western states, a graduate of an "easy" medical school of Chicago, acknowledged paying $1000 for the questions of the Board of Examiners before which he had to pass an examination, or leave the city in which he had in a short time secured a paying practice by the aid of a large amount of printer's ink. This crime would be a bar to this individual ever securing a license in another state if the facts followed him. At another place during the same week a physician was convicted of swindling one of his patients and sentenced to three months' imprisonment. When he has served his time, he will seek another field and succeed in getting a license elsewhere, because, except in a very few states, his antecedent professional and personal character will not be inquired into. These are not isolated instances. Our profession should purge itself of the dishonorable and criminal in its ranks as the legal profession disbars its criminal members. It is a duty it owes to itself as well as to the people. But to be able to do this it will be necessary that it have some method of keeping a record of its members no matter where they may be or how often they may move. This means a system of the registering of and keeping in touch with all who are legally entitled to practice, whether they are members of the regular organization or not. This may appear to many to be something that is impracticable, impossible and not necessary. But it is both practicable and possible, as shown by similar achievements in other spheres of action, and it is absolutely necessary if professional organization is to mean anything. A system of registration, as recommended by the Committee on Reorganization, which will be referred to later, gives the organization information about each individual legally entitled to practice, and his qualifications. It puts a label on each one. When all the states are organized, it will be a simple matter to follow each individual, no matter how often he may change his location. By a system of cards, members will be transferred from one county society to another without expense or trouble. Members of the organization who are anxious to be classed as reputable will not object or hesitate to transfer their membership when relocating. Others, for obvious reasons, will not co-operate, but rather resist such registering or transfering of information regarding themselves. In such cases the information desired may be difficult to obtain, but it can and must be had no matter at what cost. Thus the record of each will be known no matter where he may be. As the Committee on Reorganization said in its report: "When a little thought is given to this proposition, it will not be found so difficult as at first might be supposed. The local registration of physicians, as provided by law in most of the states, will be a great assistance in keeping up such a system. A 'card index' method of identification of the legal practitioners of the United States is practical, of easy accomplishment, and will do more to put down quackery and expose pretenders than anything else that can be done. It gives an answer to the questions, 'Who is he?' 'Where is he from?' 'What are his qualifications?' 'What is his reputation?'"

Physicians' Directory.

Bearing on this interesting question another paragraph of the Committee's report must be quoted: "Another thing greatly needed is a reliable physician's directory or register. Business houses are publishing what are called medical directories, but without exception all are unreliable. The best of them contain the names of pretenders, patent-medicine vendors, horse doctors, *et id genus omne.** The qualifications may be given correctly, if the necessary information can be gotten easily, otherwise not. The profession in this, as in many other ways, is used by commercial houses as a means for money-making, and if there is money in publishing a directory, and there most certainly is, the profession should have it and at the same time control it. . . . With such a system of registration as recommended, information necessary for issuing a directory will always be ready without extra expense; it will insure a reliable book and one that will mean something. It will not be necessary to go outside of the profession for anything. The printing establishment now owned by The American Medical Association, with a little addition, can get out the book. State directories can be printed, and the same material, without any change, can be used in making the national directory. There will be no duplication of work. The national directories can be issued bi- or tri-ennially, and a supplement annually, and also the state, when called for, separately and annually. The matter when once set up can be left standing, and corrections made as necessary. The Committee believes that the publication of official, reliable directories, state and national, is worthy of earnest consideration on the part of every physician."

*An exception might here be made of the excellent "Directory of New York, New Jersey and Connecticut," published by the New York State Medical Association. Even this, however, on account of the lack of the proper machinery of organization hitherto existing, has its imperfections, while nearly approaching the desideratum than anything else of its kind existing.

It would be superfluous to take space to further consider reasons for organization. What we have already said has been simply repeating what every physician who has given thought to the subject has long since known. It must be emphasized, however, that the idea of a medical society being a scientific organization for educational purposes only must be abandoned. The times and the existing social and political conditions demand not only a different system of organization than has prevailed, but also recognition of broader views regarding the functions of medical societies, if the integrity and honor of the profession are to be upheld. The haphazard, loose, unsystematic and antagonizing methods that have been prevailing must give way to business-like organization and a systematic co-ordination and centralization of all the bodies into one.

Importance of County Societies.

Keeping in mind the objects of organization, it will readily be appreciated that the county society is the most important of all the medical bodies. While the state and national societies are necessary, their greatest value depends on the fact that in them can be centered the power and influence of the county society, and that through them the county society can be created, supported, encouraged, and made most useful to its members, both for educational and general purposes. Without the sacrifice of time or money in reaching its place of meeting, the county society[1] furnishes to every physician the opportunity of membership with the professional, social and material stimulus belonging thereto; it produces harmony, promotes good fellowship, removes petty jealousies, has an elevating influence on its members, and aids them in educational and scientific advancement. It is through the county society that the individual must be reached and given the opportunity to register his views regarding the measures and questions which affect him and consequently the profession as a whole. Through it must be reached those who are apathetic, indifferent and ignorant of the value of medical associations. Political influence depends on the machinery of which the county society is the all-important part, for only with its aid can we reach and influence the legislator at his home and among his supporters, and consequently where influence will have the best effect. The enforcement of medical laws, the eradication of quackery, which prevails both in and out of the profession, can not be thoroughly accomplished except by the aid of a live county society; collective investigation depends on it to reach out to the individual practitioner for his part of the great work of centralizing medical knowledge. Only through it can be had a record of those legally entitled to practice, including their qualifications, standing, etc.

Why Organization has Failed in the Past.

Bearing this in mind, those who have given thought to the subject and have studied it in all its bearings, have long realized that a system of organization, to be successful and permanent, must have as its basis and unit the county society; that the county societies united together must make the state society, and that the state societies united together must make the National Society, or the American Medical Association. But there must be a unity in this trinity and a trinity in the unity, each dependent on the other, but all making one complete organization.

(To be continued.)

1. The necessity for district, in place of county, societies in certain thinly settled territory is recognized, and will be considered later. That district societies, made up of a definite number of county societies, will be valuable is also appreciated.

The Medical Society—A Humble Suggestion.

Detroit, Mich., Jan. 27, 1902.

To the Editor:—In the beginning, combinations of loyal and sympathetic brother physicians were formed for the single purpose of furnishing to suffering humanity the highest and best results of their united efforts. A miserable and contemptible minority recognizing the fact that all honest scientific avenues to fame and fortune were effectually barred against them, sad to say, hesitated not to avail themselves of this means of infamous and unethical public advertising for their own selfish purposes, prostituting the medical society in the identical interest which the medical society *ab initio* was intended to oppose and condemn.

The medical society, local, state, national or international, stands for much that is lovely and of good report. It would surely be unkind and ungrateful on my part to utter any word of reflection against the time-honored and beneficent institution the "Medical Society." Nevertheless, impelled by a sense of duty to all concerned, I offer the following suggestion as to a mild but in my opinion really important method of reformation in the manner of conducting medical meetings:

Instead of laboriously working up a program on the venerable stereotyped pattern, eliciting stilted and wearisome declamations from inexperienced and injudicious plagiarists, let us in preference have straight, genuine original work plus equally genuine professional intimacy and friendship. For example, when the annual meeting of our State Medical Society occurs let it be understood and duly appreciated that the chief aim and object of the meeting is Goodfellowship, and sweet communion and reunion among men who are in the best and truest sense of the term Brothers. Never for one moment overlooking or ignoring the central and essential proviso that any brother who is fortunate enough to be able to bring with him a real "message," a wise "word of counsel," a "new observation"; a "something," "anything" true and vital to contribute to the pre-existing sum of our knowledge and experience, will have a generous and appreciative audience and an inspiring opportunity to do himself and his *idea* full and ample justice. According to this plan the energetic and loyal secretary would be relieved of the painful duty of drumming up papers from all sorts of sources likely and unlikely, and the members of the agony of listening to papers plagiarized from all sorts of sources likely and unlikely.

Good warm fellowship and rational unlabored intercourse between "brethren in arms and rivals in renown," is surely the great desideratum in this rapid and mercenary age, and that secured, every other good and gracious result must inevitably follow.

The present régime might be fairly and justly illustrated by supposing a literary or social club through its secretary appealing to its members to be present on a certain day and at a certain hour; and imploring each individual member, male or female, to bring along and recite an original poem. Good medical papers are about as rare as good original poems, while wretched medical so-called "papers" are quite as painful to listen to as plagiarized idiotic poetry.

The system of the prearranged symposium on definite subjects carefully selected by the medical society and its friends seems to be a very attractive method and for one I most heartily approve of it. In conclusion, permit me to say that in all loyalty and good faith I humbly submit my suggestion to the readers of The Journal and the profession at large.

Donald Maclean, M.D.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, FEBRUARY 1, 1902.

GRANULAR DEGENERATION OF RED BLOOD CELLS.

The so-called granular degeneration of the red blood corpuscles of Grawitz has been a subject for much discussion. It is characterized by the presence in the red blood corpuscles of basophilic granules. Some investigators consider the bodies to be fragments of broken-down nuclei (karyorhexis), others believe them to be artefacts or postmortem phenomena, while most authors agree with Grawitz in recognizing the basophilic granules, sometimes seen in red blood corpuscles, as due to degenerative changes in the cells, and having no connection with a process of karyolysis. This form of degeneration has been observed in a variety of diseased conditions, such as pernicious anemia, malaria, carcinoma of the stomach, various suppurative diseases, leukemia, lead poisoning, etc. It is especially prominent in cases of poisoning by lead, and may be found in the blood of persons working with lead when all other signs of poisoning by the metal are wanting. Moritz succeeded in producing the basophilic granules in rabbits by feeding them pills of acetate of lead and, like Hamel, he found typical basophilic granules in the erythrocytes in six employes of a lead factory, in only one of whom were any of the usual symptoms of lead poisoning to be elicited. The granular degeneration of the red blood corpuscles was not found by Grawitz in healthy persons, nor in those with tuberculosis, chlorosis, diabetes, measles and pseudo-leukemic anemia.

The latest contribution of Grawitz[1] bearing upon this subject appears to contain some facts with important practical significance. In the comparative examination of the blood of patients with various diseases, he found that the blood of those who suffered from hemorrhage into the intestinal tract, especially those with gastric ulcer, carcinoma of the stomach, and also with intestinal hemorrhage following cirrhosis of the liver, exhibited granular degeneration of the red blood corpuscles in a striking manner, which was not present previous to the hemorrhage and disappeared soon after its cessation. On one occasion he observed this phenomenon in a patient with pulmonary hemorrhage where considerable blood was swallowed. After external hemorrhage the granular degeneration was absent. Such observations led Grawitz to suspect that the blood in the digestive tract gave origin to poisonous substances which were absorbed and affected the nutrition of the red blood cells. To prove this he selected persons who had no changes of the blood and no severe organic diseases and exhibited to them some of the various preparations of hemoglobin which have recently been so much advocated as substitutes for the various preparations of iron. He found in persons, especially females who were already moderately anemic, that granular cells appeared in the promptest manner and with the smallest doses, while in robust men larger doses were required, and in many no effect was obtained.

These observations appear to prove the truth of the conjecture that during the passage of blood or blood preparations through the digestive canal of man, substances are formed which exert an influence upon the nutrition of the plasma of the red blood cells in the circulating blood. It may be that the elaboration of these poisonous substances is accomplished by the action upon the blood of the putrefactive bacteria of the intestine. These observations throw an interesting light upon the occurrence of blood degenerations from autointoxication from the intestines, and especially upon the question of the origin of anchylostomum anemia. In the latter case it is probable that the anemia following anchylostomum infection may be in part due to absorption of toxic substances, which have no connection with the worms as such, but are elaborated from the blood constantly poured into the intestinal lumen. If further investigations substantiate the correctness of Grawitz's observations and his deductions from the same, the numerous blood-making agents which have been so highly praised must be looked upon with suspicion. If they indirectly induce degenerative changes in the blood cells, their lauded advantages over the older preparations of iron becomes very doubtful at least.

1. Deutsche Medicinische Wochenschrift, 1901, xxvii, 908.

DIPHTHERIA BACILLI AND NOMA.

It has been known for a long time that noma occurs in persons, especially children, when the general resistance of the body tissues has been lowered by various diseases, more especially by measles, but also by pertussis, scarlatina, typhoid and typhus fevers, and in one case, reported by Le Count, by amebic dysentery. Writers have generally suspected that some "specific agent" acts upon such susceptible tissues to produce the gangrene, and various investigators have described bacteria which they believed to be the essential cause of the necrosis, but subsequent research has failed to demonstrate the constant presence of any one of these microorganisms.

In October, 1895, Bishop and Ryan[1] reported before the Chicago Pathological Society a case of noma and two cases of ulcerative stomatitis, all occurring in brothers who had recently recovered from measles. From the case of noma and from one of the cases of ulcerative stomatitis, cultures of bacilli were obtained which cor-

1. Transactions of Chicago Pathological Society, 1894-95, i. 252-264; THE JOURNAL A. M. A., 1895, xxv, 1043-1046.

responded culturally and morphologically to the diphtheria bacillus, but which possessed only a low degree of virulence for guinea-pigs. In stained sections of the tissues from the case of noma, the same bacteria were found in abundance at the line of advancing necrosis. In the other case of ulcerative stomatitis the cultures are of little interest, as they were made after prolonged application of antiseptics. In view of the reduced virulence of bacteria isolated, Bishop and Ryan hesitated to state positively that they were true diphtheria bacilli. In 1896 Nicolaysen examined two cases of noma bacteriologically and found in each a bacillus resembling the diphtheria bacillus, but not pathogenic for experimental animals. In 1898 Freymuth and Petruschky reported two cases of noma in which diphtheria bacilli were found and in both of which diphtheria antitoxin was used with favorable results. They call attention to the reduced virulence of the bacilli. In view of the subsequent studies, it is quite probable that the organisms of Bishop and Ryan and of Nicholaysen were true diphtheria bacilli. Recently Walsh[2] reported the finding of diphtheria bacilli in eight cases of noma. Sailer[3] has just published two cases of noma, complicating typhoid fever. In the necrotic and gangrenous areas of both cases the diphtheria bacillus was found by cultural examinations. Sailer says that the first article in which attention was called to the possibility that noma, in some cases at least, is due to the diphtheria bacillus was that of Freymuth and Petruschky. This is certainly an error, as Bishop and Ryan clearly discussed such a possibility and were evidently strongly of the opinion that the organism described by them was the diphtheria bacillus with reduced virulence. The credit, therefore, of first calling attention to such a possibility is clearly due to the American observers.

Sufficient evidence is now at hand to show the close relationship between some cases of noma and the diphtheria bacillus, and to demonstrate the value of the diphtheria antitoxin as a therapeutic measure in such cases. In all cases of noma, as in other forms of probable infection by diphtheria bacilli, the administration of diphtheria antitoxin, until a bacteriologic examination can be made, is strongly indicated. Prophylactic measures should also be carried out.

2. Proceedings of the Philadelphia Pathological Society, June, 1901, 179.

3. American Journal of the Medical Sciences, 1902, cxxiii, 59-67.

PHYSICIANS AND DENTISTS.

The intimate relation of the condition of the teeth to the general health is becoming more and more recognized. After middle life many digestive disturbances are intimately associated with poor teeth. He who treats a patient for digestive derangement without first ascertaining the condition of the teeth neglects not only an important aid to the recognition of the cause of the condition in many cases, but also fails to find one of the most significant indications for treatment. Hunter's articles[1] and his book on "Pernicious Anemia" have called special attention to this subject. There seems no reason to doubt that carious teeth may not infrequently be the source of serious gastric disturbance and even eventually of the anadenia of the stomach that is associated so often with pernicious anemia. Caries of the teeth in these cases may not be of the kind that produces serious discomfort. It is the latent painless foci of decay that especially prove niduses for bacterial growth and so flood the gastro-intestinal tract with septic micro-organisms that can not but prove harmful.

Of late we have come to realize that the mouth may prove a source of many infections. In present-day medical thought, acute rheumatism is believed to be of infectious origin. The portal of entry in many cases is undoubtedly the tonsils. The presence of other micro-organisms in the mouth, fostered as they are by carious teeth, is believed by many to be the cause for the change in the mouth secretions that encourage the multiplication of the bacilli whose entrance into the circulation sets up the joint symptoms. Mild forms of endocarditis and pericarditis, spoken of as rheumatic, for want of a better name, though they are associated with no joint symptoms, not infrequently owe their production to infection from the mouth. These conditions are often spoken of as idiopathic because no definite lesion of origin can be traced. In many of them, however, oral septic conditions are the direct cause. Obscure cases of so-called malignant endocarditis may have their origin in the mouth.

Unclean dental instruments may very readily be the occasion for the introduction of many forms of virulent bacilli into the tissues. Dr. Willy Meyer recently called attention to the fact that osteomyelitis may be traced to infection after careless dental manipulations. It is manifest then that we must not only be careful of the condition of patients' teeth, but must be assured that dental treatment is carried on with due attention to modern surgical methods. Dentists are surgeons in the fullest sense of the word, with all a surgeon's responsibilities. It is perfectly easy for them to point to many patients operated upon without the niceties of asepsis who yet suffered no inconvenience from the neglect. Susceptible individuals will surely be affected. Delicate persons, rapidly-growing children, anemic adolescents and convalescents from prolonged illness, are especially liable to suffer from such neglect. It is these that the physician has oftenest to direct to a dentist's care. He must in every case assure himself that his patient is to be subjected to no additional risks because of dental professional neglect. The physician and dentist should have closer relationship than prevails at present.

1. The Lancet, Jan. 27, 1900, et seq.

PROF. EMIL SCHEFFER.

In the obituary column will be found the announcement of the death of Prof. Emil Scheffer of Louisville.

He was a chemist, well known for his researches to obtain a purified pepsin. Previous to his investigations nearly all the pepsin used in America was obtained in a crude form from Europe. Scheffer noticed that such salts as sodium and magnesium sulphates and sodium chlorid precipitated pepsin. Following this observation, he devised the following process: The mucous membrane of the pig's stomach, dissected off and minced, was macerated in acidulated water during several days. The liquid was strained, clarified and mixed with sodium chlorid. The floating pepsin was skimmed and dried and sugar of milk added to make a saccharated pepsin capable of dissolving twelve times its amount of coagulated pepsin. His purified pepsin was made by redissolving the pepsin in water acidulated by HCl and precipitating, etc.; "a half-grain of this dissolved 1500 grains[1] of albumen." As the result of Professor Scheffer's investigations, pepsin is now manufactured in the United States in large quantities.

SCHOOLS OF MEDICINE.

Common talk about "schools of medicine" is too often allowed to go unchallenged because we do not emphasize the fundamental standpoint of scientific medical work. "Regular" physicians belong to no "school of medicine;" they are thus differentiated from those who hold certain tenets. That they are not "allopaths," that, in fact, there is no allopathic school, needs perennially to be insisted on. Allopathy or heteropathy, vide Webster, are synonyms invented by Samuel Hahnemann to designate a scheme of treatment which produces symptoms opposite to those from which the patient suffers. If such a rule of practice ever flourished, it has long since fallen into disuse. The teachings in the "regular" medical schools include no *à priori* generalizations about the causes of disease or actions of remedies. Teaching and practice are based, not on preconceived or inherited ideas, but on the logical principle of induction—first the gathering of facts enough to probably eliminate error, and then the drawing of conclusions from these facts. The method has been the same for all great investigators of nature, Bacon being its first exponent. Scientists whose work is firmly established on careful thinking and adequate results are often indifferent to lack of appreciation and misunderstanding outside of their immediate circle. They make little attempt to educate the public to any conception of the value of the best scientific efforts. The result of such neglect by medical men is apparent to the practitioner. He finds that the opinion and patronage of even the intelligent public are far more influenced proportionately by what this or that well-organized and skilfully advertised "school of medicine" has to say, than by all the painstaking research which has built up modern scientific medicine.

MEDICAL CLUB PRACTICE.

The evil of club practice that is beginning to be felt in some places in this country is a matter that the laity as well as the profession would do well to consider. No class of service can be obtained forever for less than its real value; as the old darkey preacher said, apologizing for his small remuneration, if it was poor pay it was also "mighty poor preach." With the general disapprobation of the medical profession towards the practice it is not likely that many really able and competent physicians will take up with it for any length of time, and it is a sure rule that overwork and poor pay will not breed conscientious and skilful practitioners. There is, moreover, no inspection of or control over the product of a "sweated" doctor; the one who avails himself of his dubious services will have to take his chances, and these may, more often than he thinks, be rather slim as regards any real benefit in a serious case. It is not the improvident poor but the moderately thrifty individual who wishes to get something for his money that patronizes club doctors, and is "sold" through his ignorance or neglect of the very obvious moral and economic law that everything of real worth commands its price. Under the ordinary conditions of competition it is in the interest of the physician to do his best. Under the club practice the reverse is the case, and we do not claim that medical men who would knowingly engage in it are such self-denying saints as to neglect their obvious interest for the good of their swindling proprietors. These facts are well brought out in the report of a special commissioner of the London *Lancet* in its issue of January 4. It will be a good thing to impress upon the laity these aspects of the case; they evidently need some instruction in this special line of social economics. The evils to the profession, its degradation, etc., by club practice are self-evident to its members, but we have not been always altruistic enough to be sufficiently impressed by the evils to its supposed beneficiaries.

HEALTH OF HAVANA.

The December report of the sanitary authorities of Havana shows that that city had for the month a mortality ratio of only 20.47, which places it among the fairly healthy cities of its population and in an exceptionally favorable grade for a city in the tropics. What is still more significant, however, is the fact that yellow fever has for three months contributed nothing whatever to its mortality. Only three non-fatal cases were reported in October, and none at all since. The average mortality from this cause for the years preceding for which reliable records exist, 1871-1900, gives an average of about 30 annual deaths from this cause in December; in 1899 and 1900, with every attention to sanitation according to the then prevalent ideas of care as to infection, isolation, disinfection or destruction of fomites, etc., yellow fever was fully as prevalent in December as in the average of preceding years, excluding only the exceptional December of 1896. Only during the past year has any attention been given to mosquitoes as a cause, while at the same time the precautions as regards fomites were entirely laid aside, and the result is that the city has been free from the fever for the first time in a century. Taking the yellow fever year as beginning April 1, and comparing the last eleven years, the minimum number of deaths for the nine months, April to December, was 101 in 1899, the maximum 1262 in 1896, the mean 440. In 1901 under the new methods of prevention the deaths for this period

1. U. S. Dispensatory, 18th Edition, p. 1013.

numbered only five. If there is any experimental proof that, so far as it goes, could be more convincing, we have not been able to imagine it. Considering the practical difficulties in exterminating the mosquito, the success is most remarkable and encouraging for future work in this direction. The report shows what can be done by efficient sanitation under most unfavorable conditions.

OSTEOPATHY IN NEW YORK.

The "osteopathy" bill before the New York Legislature is a fine sample of special legislation. It proposes to give to these masseurs all the rights and functions of medical practitioners to treat all kinds of diseases, sign death certificates, etc., without any state examination whatever. All that it requires is that they shall be members of the Osteopathic Society and payment of a fee of ten dollars. It is some comfort to know that the medical profession in the state is alive to the situation and is not slumbering over it. It is also satisfactory and encouraging to know that the lay press duly appreciates the conditions. The great New York dailies, the *Tribune,* the *Sun,* and the *Times,* speak in no doubtful tones and show that the intelligent among the laity are with us. The New York *Times* suggests the *reductio ad absurdum* by the proposition that some sensible assemblyman introduce a bill making it legal for any adult male citizen to sit in the chamber and legislate for the people. The little formality of an election is as unreasonable as demanding any examination into the qualifications of a would-be doctor, and it thinks the opportunity to demonstrate this at Albany is too good to be lost. The fact that the osteopaths have received a partial recognition or an exemption from the provisions of state practice laws in some states is an unfortunate one, but it will not be any excuse for the proposed New York legislation which proposes to put them at once on the same plane as all other practitioners without the wholesome safeguards that are demanded of the latter. Its presentation is an insult and its passage would be a wrong to every one who has duly qualified himself by study and expense and proven his competency under the existing laws. If osteopaths are to be permitted to practically nullify the New York medical practice acts what are we to look for elsewhere? If this bill should go through and receive the signature of the Governor, then farewell to any pre-eminence New York can claim for its medical standards.

DIVISION OF THE FEE.

The giving and taking of commissions has been repeatedly decried and the consensus of opinion among honorable men is that, unlike charity which "blesses him who gives and him who takes," it debauches both. That the practice is growing there can be no doubt. The peddling of cases from surgeon to surgeon by "drummer-physicians" who make a trade of their profession, caring less for the ability of the operator than for the percentage he gives, is ordinarily dwelt upon at length. It is clear, however, that the consultant surgeon or specialist who gives such a commission is equally culpable. He defrauds the patient, places himself in the power of the case-vendor, and does himself a great injustice. He defrauds the patient by charging him for something he does not give. The surgeon is called to the case in question because of his supposed superior knowledge and operative ability. For the exercise of this knowledge and ability he has a right to command a fair price, but anything added to this, for the "drummer," is nothing more nor less than obtaining money under false pretenses. He puts himself in the power of the case-vendor the moment he bribes this individual to send him a case. Bribe-givers and bribe-takers are equally guilty in criminal courts, and they are equally despicable according to the code of ethics which governs the actions of all honest practitioners. The bribe-taker may at any time, either by intention or indiscretion, bring justly merited disgrace upon the unprincipled operator. No self-respecting surgeon can afford to hazard his reputation in the hands of such a bartering auctioneer. The percentage demanded by the case-vendor can be gradually increased, and the operator, having taken the first wrong step, must compete with other men as dishonest as himself. The injustice done the operator is a justly merited punishment, since he allows a third party to receive pay for the exercise of his own ability. The essential wrong, however, is that the patient is defrauded. As we stated some time ago,[1] the question simply resolves itself into this: Does the patient know of the transaction? If so, then it is legitimate and ethical; if not, it is collusion.

INDICATIONS FOR OPERATIVE TREATMENT OF DIPHTHERIC STENOSIS OF THE LARYNX.

Although the employment of antitoxin in the treatment of diphtheria has reduced not only the mortality from the disease but also the frequency of stenosis of the larynx and of the necessity of its relief by operative measures, cases do occasionally occur in which the obstruction to breathing is so pronounced as to render such measures imperative. In these cases also the good effects of serum therapy have been manifest. As between intubation and tracheotomy in cases in which operative intervention is required, it may be said that the former has steadily grown in favor, and its advantages, when it is indicated, are so obvious as to require no recapitulation here. On the other hand, conditions are sometimes present that render intubation impracticable or inadmissible, or at least render tracheotomy preferable, and it is therefore desirable to have and to keep clearly in mind the factors that determine the choice in favor of one or the other of these operations. This subject has received consideration in a study by Drs. George Alsberg and Sigmund Heimann[2] of the cases of diphtheria, to the number of 4033, observed at the Kaiser- und Kaiserin-Friedrich Kinderkrankenhaus in Berlin for the ten years from 1891 to 1900. As a result of this analysis it is concluded that operative intervention in cases of stenosis of the larynx of slight and moderate degree should be obviated so far as possible by means of antitoxin and the employment of sprays. Primary intubation is indicated in all cases of stenosis of the larynx of severe degree, in which, so

1. Journal A. M. A., Feb. 2, 1901, p. 326.
2. Archiv für Kinderheilkunde, 33 B., H. 1, 2, p. 98.

far as the clinical picture makes it appear possible, a cutting operation can be avoided. Primary tracheotomy is indicated in the presence of asphyxia and collapse, of pneumonia, of severe heart disease, of paralysis of the palate and diaphragm, of profound anatomic changes in the pharynx, as well as marked tumefaction of the entire pharyngeal structures when necrotic. Secondary tracheotomy is indicated when the symptoms of stenosis persist in marked degree with the tube in place, providing its lumen is not occluded, when pneumonia supervenes, and when paralysis of the palate and diaphragm supervenes. Intubation is not to be recommended in the case of nursing infants, on account of the diminutiveness of the parts and of the narrow lumen of the pharynx, but especially on account of the increased difficulty in feeding from the presence of the tube and which at this time of life is of vital importance.

Medical News.

ALABAMA.

Birmingham Hospital.—The Hillman Hospital Association is about to erect a hospital in Birmingham, to take the place of the temporary hospital now in use.

Health Board Election.—At a meeting of the Birmingham Committee of Health, January 15, Dr. Edward H. Sholl, was re-elected president and Dr. Dyer F. Talley, secretary.

New Hospital for Montgomery.—The Sisters of Charity have purchased a site for their new hospital in Montgomery at a cost of $23.000. On this site they will erect a building to cost not less than $50,000.

Osteopathy in Alabama.—Judge Samuel E. Greene, of the Criminal Court, has decided that osteopathy is the practice of medicine, and any person engaged in the same in Alabama can be forced to procure a license for practicing medicine. His decision was based on the definition of the word "medicine," which is, "science, which relates to the cure, prevention or alleviation of disease." The defendant claimed that osteopathy was not the practice of medicine, as no drugs were used.

CALIFORNIA.

Scarlet fever is prevalent in East Oakland, Orville, and Oakland. The schools in Oakland are closed. In December 56 cases were reported and 30 cases during the first week in January.

Los Angeles Emergency Hospital.—The contract for this hospital has been let and by its terms the building must be completed in every particular within one hundred days. The building will accommodate 150 patients.

Stockton Board of Health.—At the meeting of this body for organization, January 13, Dr. Charles R. Harry was elected president; Dr. Samuel E. Latta, vice-president, and Dr. Sylvester B. Davis, city health officer, and secretary.

Sacred Heart Hospital, Oakland.—The Sisters of the Sacred Heart, Oakland, have determined to erect a hospital on property owned by them and adjoining the proposed Oakland Medical College. The first building is to cost about $50,000.

Telephones and Disease.—The Board of Health of San Francisco passed resolutions at its meeting, January 15, declaring that a very potent agent in the dissemination of disease is to be found in telephones, particularly those in public use, and requesting all inventors and manufacturers of appliances with germicide properties for attachment to telephones to forward working models of the same for examination to the board within the next sixty days.

COLORADO.

County Physician's Report.—The physician of Arapahoe County reports that during 1901 he made 2221 calls and saw 6634 office patients, gave 345 prescriptions and furnished medicine in 7492 instances. There were 865 individuals admitted to the county hospital and 60 to the poor farm.

Consumptive Home.—Charles L. Adams has given $50,000 to build an annex to the consumptive home in Denver, in memory of his deceased wife and to be known as the Mrs. Charles L. Adams annex. Accommodations will be furnished to consumptives of moderate means for $6 a week.

Directors versus Men.—The directors of the Grant Smelter, Denver, insist that Drs. Lewis E. Lemen and Hugh L. Taylor shall treat the employes. The men, who pay a dollar a month each for medical and surgical care, demand that Dr. Benjamin F. Wooding be exclusively employed. The labor commissioner has now asked the attorney-general to decide who has the right to select the surgeons of a company, the men who contribute monthly from their pay, or the company itself.

The Honored Dead.—The deaths on the same day of Drs. Clayton Parkhill and J. T. Eskridge caused profound grief in Denver. The medical staff of St. Luke's Hospital passed resolutions of sorrow. The Arapahoe County Medical Society, at a special meeting, decided to set apart its next meeting as a memorial. The County Court adjourned in respect to the memory of the deceased, and the Chamber of Commerce adopted resolutions regarding the death of Dr. Eskridge. On account of his military services, Dr. Parkhill was buried with military honors.

CONNECTICUT.

Waterbury Hospital Bequest.—By the will of the late Frederick A. Spencer of Waterbury $10,000 is left to the Waterbury Hospital, subject to the life interest of a sister.

Sand View Hospital Fire.—A fire at Sand View Hospital, Stamford, January 8, caused much damage but fortunately was not attended by loss of life, as the patients were all removed in safety by the attendants.

Doctor Wins Suit.—Dr. Frank N. Loomis, Derby, who was sued for $5000 by Martha A. Pope of Orange for damages alleged to have been received by reason of the defendant's carelessness in setting arm of plaintiff, has won the suit and will recover costs.

Yale Appointments.—In the current catalogue of Yale Medical School, New Haven, Dr. Frederick N. Sperry is noted as full demonstrator of anatomy; Dr. William S. Banes, as second assistant to the therapeutic clinic; Dr. W. H. Crowe, as clinical assistant in ophthalmology; Drs. F. H. Reilly and Thomas G. Sloan as assistants in the surgical clinic and Dr. Thomas C. Haines, as assistant in obstetrics.

December Diseases and Deaths.—The report of the State Board of Health shows that measles has slightly increased over the previous month. There were 36 cases reported from 16 towns. Scarlet fever prevailed in 48 towns, from which 260 cases were reported, with 18 deaths. Diphtheria and croup were unusually prevalent; 196 cases were reported with 43 deaths. A marked epidemic occurred in Stafford Springs and is still progressing. Typhoid fever is less prevalent than usual, but in New Haven the consequences of the epidemic of last April are still apparent, not due, however, to the infected water supply, but to neglect of perfect disinfection of the discharges from previous patients. One case of typhus fever was reported in Stonington. It is the only case of typhus in the state and the first one reported in several years. The total deaths for 1901 numbered 14,795, that being 1,545 less than in the preceding year. In March occurred the largest mortality, 1441; in June occurred the smallest number, 1022. The most fatal disease during the year was consumption, 1443. The next highest mortality was from pneumonia, 1382. Measles was fatal in the year to the number of 71. Scarlet fever caused 78 deaths. Diphtheria and croup killed 308. Typhoid fever mortality was 262. Whooping cough mortality was 92. There were only 3 deaths from smallpox.

ILLINOIS.

Scarlet fever has caused the town of Arthur to be quarantined, its schools to be closed and public meetings prohibited. ——Many cases exist in Florence Township, Stephenson County.——The disease still persists in Joliet owing to laxness of quarantine.——An epidemic is said to exist in Decatur.

Hospital Dedicated at Lincoln.—The new Deaconess Hospital at Lincoln was dedicated with fitting exercise January 19. The building is a three-story and basement structure, 108x85 feet. It contains 48 private rooms and four wards, in addition to the administration and operating rooms, and has cost about $35,000.

Chicago.

Diphtheria and scarlet fever are especially prevalent around the Harrison school at Wentworth avenue and Twenty-third place, and near Ogden and Turner avenues in Lawndale.

Hospital Gets Interest.—Mrs. Sarah A. Hawley has agreed, in consideration of an annuity of $3000, to relinquish her right

to certain property valued at $178,500 to the Chicago Orphan Asylum, Presbyterian Hospital and Newsboy and Bootblack's Association.

The City's Insane.—During 1901, the Detention Hospital received 1503 patients, who were distributed as follows: Cook County Asylum, Dunning, 667; Illinois Northern Hospital, Elgin, 203, and Illinois Eastern Hospital, 166. The remainder, about one-third, were discharged.

Public Gynecological Clinics Stopped.—Warden Healy, of the Cook County Hospital, on January 23, refused to permit an operation on a woman in the clinical amphitheater. He stated that he would not permit women who were patients of the hospital to be indecently exposed before medical classes.

Chicago's Health.—The Department of Health reports much disease, but of mild type. The 480 deaths from all causes recorded last week give an annual rate of only 13.73 per 1000 of population—a reduction of about 7 per cent. from the rate of the previous week, and of 3.8 per cent. from that of the corresponding week last year.

Smallpox.—Only eight new cases of smallpox were discovered during the week—two imported from Wisconsin and both sent to the health office in advanced eruptive stage; three were contracted from previous city cases and the origin of the remaining two is as yet unknown. Five had never been vaccinated at all, and the remaining three, aged 29, 30 and 50 years, respectively, had only imperfect traces of vaccination in childhood, never repeated.

INDIANA.

St. Mary's Infirmary.—A new infirmary building to cost $30,000 is being built for St. Mary's Academy, South Bend.

Mishap to Physician.—Dr. Oscar K. Guyer, Lewisville, while making a professional call, January 19, had a slight stroke of paralysis, fell from his buggy and broke his leg.

Smallpox has broken out in La Grange County, where three cases are reported.——On account of a case in the Indianapolis Foundry, the 400 employes of that establishment have been vaccinated. Indianapolis had 20 cases this year up to January 20.——Ten cases are reported in the western part of Howard County, where churches and schools have been closed.

IOWA.

Certificate Revoked.—The State Medical Board has revoked the certificate of Dr. J. W. Crofford, Lamoni, who was recently convicted of the murder of Miss Maude Stone, and sentenced to the state penitentiary.

Physician Fined for Breaking Quarantine.—Dr. Samuel C. Kirby, Grand Junction, charged with breaking a smallpox quarantine last summer, was found guilty, January 16, and sentenced to pay costs of about $400. He states that he will ask for a new trial.

New Hospital for Cedar Rapids.—Plans have been completed for a new hospital to be erected at Cedar Rapids by the Sisters of Mercy of the Church of the Immaculate Conception, to cost $50,000. Abraham Slimmer has agreed to give an amount equal to that raised by the Sisters. They have already secured $16,500.

Hospital for Marshalltown.—The Marshalltown hospital fund has received $2000 from the estate of the late Bishop Lenihan; Father Lenihan, of Marshalltown, has added $1000, and Archbishop Keanè of Dubuque has pledged $2000 additional. George F. Kirby, Marshalltown, has donated $1000 to the fund. This makes a substantial start toward the $20,000 required.

Staff of Children's Home.—The medical staff of the Iowa Children's Home, Des Moines, held its annual meeting, January 22, and elected Dr. James W. Cokenower, president and attending surgeon, and Dr. Lenna L. Meanes was re-elected secretary. The staff for the year is as follows: Drs. James W. Cokenower, William W. Pearson, Granville N. Ryan, P. J. Callahan, Charles F. Smith, Lenna L. Meanes, J. F. McKittrick and Clifton Scott.

MARYLAND.

Hospital Endowed.—It is announced that a wealthy citizen of Hagerstown, who wishes to do good by stealth, has promised to contribute $50,000 toward the endowment of a hospital in that city as soon as the plans have been formulated by the Washington County Medical and Chirurgical Association.

New Officers Elected.—The Maryland Hospital for Consumptives, Towson, at its annual meeting, elected Drs. Robert T. Wilson, George B. Reynolds and Henry B. Jacobs directors. The visiting staff consists of Drs. Henry B. Jacobs, G. Milton Linthicum, Walter P. Smith, and Warren Buckler. Dr. Frank R. Rich is resident physician.

Health Board for Baltimore County.—A bill has been introduced in the legislature to provide for the appointment of a board of health for Baltimore County, to be composed of three reputable physicians, the state's attorney and the president of the Board of County Commissioners. The board's expenses are limited to $2500 annually, and the board is empowered to select a secretary at $900 a year.

MICHIGAN.

Hospital Opened.—The Michigan Children's Home Hospital erected at St. Joseph, at a cost of $7000, by Mrs. Chapin, of Niles, was formally opened, January 2.

The oldest physician in Grand Rapids, Dr. George K. Johnson, was given a luncheon, January 17, by his immediate professional associates, on the occasion of his 80th birthday. Dr. Johnson has practiced in the state since 1846, and in Grand Rapids since 1856.

Detroit Clinical Laboratory.—A laboratory has been incorporated in Detroit for chemical and bacteriological analysis and pathologic examinations for the treatment of disease, giving such instructions therein, and in hygiene, as may from time to time be necessary. The directors of the institution are Dr. Charles G. Jennings, president; Dr. William F. Metcalf, vice-president; Dr. Wadsworth Warren, secretary-treasurer, and Drs. Oscar Le Seure, Arthur D. Holmes, Frederick W. Mann and Ernest T. Tappey. The laboratory staff consists of Dr. Thaddeus Walker, superintendent of the laboratory and chief of the department of hematology and clinical analysis; Dr. Henneage Gibbes, chief of the department of bacteriology; Dr. Frank T. Stephenson, chief of the department of chemistry, and Dr. Preston M. Hickey, chief of the *x*-ray department.

Recommendations for Medical Instruction.—In the last report of the superintendent of public instruction he makes the following recommendations for medical colleges:

1. A standard of preliminary education should be required, and a board created to examine all students before entering upon the study of medicine.
2. Some safe, uniform standard for graduation ought to be fixed and insisted upon as a condition precedent to a license to practice medicine.
3. The financial solvency and stability of each institution should be more carefully guarded and insisted upon.
4. Medical colleges should not be chartered in small towns where clinical and hospital facilities, so necessary to the proper education of a physician, are not ordinarily found.
5. A constant and thorough visitation and inspection of such institutions should be regularly made by a board of visitors competent to fairly judge of their merits.
6. The capital of every medical college should be large enough to warrant the employment of men learned in their profession and the provision of equipment in all branches adequate to promise a proper medical course.

NEBRASKA.

Smallpox.—In the first eleven days of the new year 49 cases of smallpox were discovered in Omaha.

Scarlet fever is epidemic in Clearwater, where the public schools have been closed and public gatherings suppressed.——Kearney reports five cases from as many foci of infection.

Norfolk Hospital Deserted.—Since the fire at the Norfolk hospital all the patients have been transferred to the state hospitals at Lincoln and Hastings, and the employes have been relieved from duty.

Personal.—Dr. Fred Rustin, Omaha, has been appointed surgeon-in-chief of the Presbyterian Hospital, vice Dr. Charles C. Allison, who has gone west in search of health.——Dr. A. H. Simonton, acting assistant surgeon, U. S. A., stationed at Fort Robinson, has asked for an annulment of his contract and will return to Alabama.——Dr. Walter H. Wood, Maywood, has gone to Europe for post-graduate study.

NEW JERSEY.

Diphtheria at Whitehouse has caused the temporary closure of the public schools at that place.

Hackettstown Epidemic.—The old story of "Cuban itch," "Philippine measles," etc., seems to be responsible for the smallpox epidemic which cut off Hackettstown from the rest of the world. There have been 40 cases, but no deaths. At Allamutchy and Vienna four cases exist.

Cooper Hospital, Camden.—At the annual meeting of this institution the following were elected as members of the staff: Medicine, Drs. H. Genet Taylor, William A. Davis, E. L. B. Godfrey and William R. Powell; in surgery, Drs. Daniel Strock, Joseph L. Nicholson, Paul M. Meeray and Edward A. Y. Schellenger; in ophthalmology, Dr. William R. Powell; in gyne-

cology, Drs. Dowling Benjamin and Joseph S. Baer; in laryngology, Dr. Ernest S. Ramsdell, and in pathology, Dr. Walter S. Bray.

NEW MEXICO.

Bazar for Hospital.—The bazar recently held for the benefit of St. Joseph's Hospital, Albuquerque, which is being constructed by the Sisters of Charity of Cincinnati, Ohio, added more than $2600 to the fund for the equipment of the institution.

Dr. Judd Medical Director of the Montezuma.—Dr. Norman W. Judd, for a long time on the editorial staff of THE JOURNAL, but who was obliged to go to New Mexico for his health, has been made medical director of the Montezuma at Las Vegas Hot Springs.

To Enlarge Railway Hospital.—The chief surgeon of the Santa Fe lines west, Dr. Norman H. Morrison, has let the contract for important additions to the company's hospital at Albuquerque, which, when completed, will make the hospital one of the largest on the entire system.

For Consumptive Sailors.—The Marine-Hospital for Consumptives at Fort Stanton has now more than 100 patients. Six surgeons and about 100 attendants are on duty there. Hyperalimentation, fresh air, regular habits and cleanliness are considered the cardinal points on which the possibility of cure depends.

NEW YORK.

Careless distribution of medicines, drugs and chemicals by leaving such exposed upon the ground, sidewalk, porch or doorway or in any other manner so that children may become possessed of same, is made a misdemeanor punishable by a fine of $25, by a bill introduced by Assemblyman Richter.

Postmortem Examiners.—The State Civil Service Commission has decided that the physicians recently appointed postmortem examiners, physician to jail and penitentiary are not entitled to be compensated because the positions are civil service positions and the physicians previously in office can not be removed except on charges.

Vital Statistics.—A bill has been introduced in the assembly to compel all local boards of health, except in counties wholly within a city of the first class, to file with the county clerk on or before the fifth of each month, a statement of each marriage, birth or death, with the date and place thereof, which occurred during the preceding calendar year in the city, town or village constituting its jurisdiction.

New Lunacy Bill.—Governor Odell's scheme to abolish the boards of managers of state hospitals for the insane, and substitute a visiting board for each district, to be appointed by the governor annually, has met with a storm of opposition. At the hearing in the senate chamber more than fifty charitable institutions in New York City alone were ably represented, and not one of these favored the bill.

Bethel Prohibits Tuberculosis Sanatoria.—The Board of Health of Bethel, Sullivan County, has adopted an ordinance prohibiting the maintenance, within the town limits, of public or private boarding houses or sanatoriums for persons affected with tuberculosis, under a penalty of $50 a week; also imposing a penalty of $10 for the first offense and $50 each week for entertaining a stranger or guest affected by tuberculosis other than immediate relatives or dependent on the family.

Stony Wold Sanatorium.—At the annual meeting of the incorporators of this sanatorium it was announced that the Lake Kushaqua property in the Adirondacks had been obtained for the sanatorium, and that ground would be broken for the buildings in the spring. This site is among the pines of Franklin County, at an elevation of 1730 feet. During the year $48,000 have been raised, but the sum of $60,000 will be required in addition in order to complete the building. The object of this sanatorium is to care for working women and children only who have incipient tuberculosis.

State Hospital for Tuberculosis.—The board of trustees of the State Consumption Hospital met at Albany. Howard Townsend was elected president and Dr. John H. Pryor, of Buffalo, secretary of the board. The officers of the board were authorized to purchase a site for the consumption hospital at Raybrook. Plans for the hospital buildings were axamined, but final action was not taken. It is reported that the plans for building the hospital have met with a sudden set-back by the discovery that, according to the constitution of the state, trees on land bought by the state in the Adirondack Park can not be cut down. This prevents clearing the site recently selected for the hospital at Raybrook.

New York City.

Another Decision in Favor of the Loomis Laboratory.—Judge Patterson, in the appellate division of the supreme court, has handed down a decision, sustaining the action of the lower court in dismissing the claim of the New York University to the Loomis Laboratory. The litigation dates back to April, 1898.

German Charity Ball.—The twelfth annual German Charity Ball was held, January 23, under the auspices of the German-Americans, and it is thought that the net proceeds will reach $10,000. This is to be divided among various charities, such as the German Hospital, St. Mark's Hospital, the German Poliklinik and St. Francis' Hospital.

Street Refuse to be Used as Fertilizer.—The new Street Cleaning Commissioner, Dr. Woodbury, has just made arrangements to have the Long Island Railroad take the street sweepings away in sacks and dispose of them to the farmers on Long Island. It is thought that a considerable saving will be thereby effected, and that in time this material may become a source of revenue.

The Osteopathy Bill.—Several medical organizations of this city have sent petitions, resolutions or personal representatives to Albany to actively oppose the osteopathy bill. The fight is to be on the ground that all classes of physicians, no matter what peculiar name they may adopt, should be equal in the eyes of the law, and that to grant special privileges to the osteopaths or to any other particular class will open the doors to quacks and make a farce of our medical laws. Senator Platt, in an interview, has undertaken the advocacy of the osteopathy bill. He quotes Senators Foraker and Cockerill as ardent osteopathists.

A Costly Lying-In Hospital.—The new lying-in hospital, built and equipped by Mr. J. Pierpont Morgan at a cost of $1,350,000, is now ready to receive patients. It is eight stories in height, and possesses many new features both in construction and equipment. To facilitate cleanliness, angles are avoided, not only between the walls and floors, but even in the furniture. The wards are furnished in iron and glass, the floors are of fireproof sawdust, the curtains are hung outside of the windows, and excellent ventilation is said to be secured by a system of fans, which force filtered and warmed outside air into the wards and out again through pipes opening on the roof. Visitors are not allowed in the wards, but are accommodated in a reception room on each floor, and into this room may be wheeled the bed of any patient.

The Smallpox Situation.—The Board of Health has met with an unexpected obstacle in its efforts to fight the smallpox more effectively. It was supposed that as a large increase in the number of vaccinators was needed, it was only necessary to call upon the medical inspectors of the schools. It is true that the vaccinators receive a much larger salary, but they are required to be on duty from 10 a. m. to 4 p. m., and may be called on up to 10 o'clock at night. This alone would make many of the inspectors hesitate to accept the new position, but the fact that this increase in the vaccinating force is only temporary, and that the inspectors could not afterward return to their old positions in the schools, has led to a general refusal to join the vaccinating corps. This is a serious matter, for the disease is reported to be on the increase, and with the delay necessarily incident to the civil service restrictions it will be at least six weeks before new men can be obtained for the work.

The City Milk Supply.—The Rockefeller Institute has awakened a feverish interest in the milk supply of the city by a recently published report of its investigation. It declares that the great bulk of the milk coming to the city is far from pure, and backs up this statement with statistics gathered in connection with its research extending over a period of seven months. The report asserts that 330 outbreaks of epidemic diseases have been traced to milk. Of these, 195 were epidemics of typhoid fever, in 147 of which the disease prevailed at the dairy or farm. In 67 it was due to contamination of well water, and in 24 cases employes at the farms were acting as nurses, while in 10, although still sick, they were at work. There were 99 epidemics of scarlet fever, in 68 of which the source of infection was traced to the illness of persons at the dairy. In 17 instances, the employes were themselves suffering from scarlet fever, and in 10 they were acting as nurses to scarlet-fever patients. There were 36 epidemics of diphtheria, in 13 of which the disease existed at the farm or dairy. Continuing, the report says that more than one million and a half quarts of milk are delivered to New York a day, coming from five different states and forty-four counties, much of it being transported a distance

of 200 to 300 miles. It is asserted that in 1900 no less than 6055 infants in New York city died from the effects of impure milk.

Exploitation of Tuberculosis Experiments.—So much has been said in the lay press regarding the wonderful experiments made by a Dr. George D. Barney, and his alleged inoculation of Miss King with the disease from a tuberculous cow, that there is no occasion for medical journals to waste much space on the subject. It may perhaps be well to call attention to the final act in this desperate effort to gain notoriety, i e., the obtaining from reputable physicians under false pretenses of certificates concerning the results of a physical examination of this Miss King, together with the heralding of the astounding news that she had not only been inoculated successfully with bovine tuberculosis, but that she had been actually cured of her tuberculosis in the course of a few weeks. Under an assumed name this woman called upon Dr. S. A. Knopf, and gave him a history, which would make it appear that the disease had only very recently developed. The disease was certainly in an early stage, but Dr. Knopf was inclined to think that it had existed longer than a few weeks. She secured a certificate from him on the plea that if she sent such a statement to her uncle in Colorado he might take her to his home. This was on December 5, and on December 9 she secured a certificate from Dr. Andrew H. Smith, also stating that the disease was in its incipiency. On January 14, she was examined by Dr. Austin Flint, who declared that she was free from the disease. It should be noted that no evidence has been submitted to prove that this person was inoculated from the cow, while there is reason to believe that this woman was already suffering from pulmonary tuberculosis at the time of the alleged inoculation.

Buffalo.

The smallpox situation has improved perceptibly. Few cases are reported and they are only of a mild type.

Personal.—Dr. Walter D. Green, Health Commissioner, gave a dinner at the Genesee House for the members of his staff.——Drs. Beebie, Wright, McCarthy and Wheeler are acting temporarily as sanitary officers of the Health Department in the campaign against smallpox in the polish districts.——Dr. Peter W. Van Peyma, who for the past four years has been chairman of the Board of School Examiners, has been reappointed a school examiner by Mayor Knight.

OHIO.

Entire Board Expelled.—To put an end to threatened scandal at the Dayton State Hospital for the Insane, Governor Nash wrote each member of the board of trustees, January 18, requesting his resignation at once.

Hospital Needs Overhauling.—The trustees of the Cincinnati City Hospital are framing a bill appropriating $250,000 for the complete renovation, alteration and remodeling of the institution, which was erected in 1864.

In Memoriam.—The physicians of Caldwell met and passed resolutions eulogistic of the late Dr. John W. Brock.——At a special meeting of the Erie County Medical Society, resolutions were adopted regarding the death of Dr. Elwood Stanley, of Sandusky.

The Cincinnati Hospital Training School held its ninth annual commencement, January 15, graduating a class of seventeen. Addresses were made by Drs. C. A. Fackler and J. M. Withrow. The diplomas were presented by Mayor Fleischmann as president of the Board of Trustees, and the gold badges by Dr. C. R. Holmes.

Hospital Donations.—Samuel Mather, who has previously given large amounts to Lakeside Hospital, Cleveland, has arranged to give $40,000 to the institution under easy conditions.——The mortgage on Huron Street Hospital, amounting to $15,000, has been paid. John D. Rockefeller contributed $5000 and Senator Mark A. Hanna $4000 of this amount.——Youngstown City Hospital is to be endowed with $50,000, the aggregate of one day's wages of several thousand workmen in the Mahoning Valley.

To Revise Health Laws.—The State Board of Health, at a recent meeting, approved the draft of a bill providing for a thorough revision of the state health laws. The proposed law makes many changes in the existing statutes. Among them is a provision requiring local boards and health officers to take all precautions against the spread of contagious diseases. It makes obligatory the posting of placards and the quarantining of patients. Another important change is the provision authorizing the councils of municipalities of less than 2000 inhabitants to appoint a health officer to perform the duties now performed by local boards of health. Much difficulty is experienced in persuading citizens of small towns to serve on boards of health and the state board feels that much will be gained by laying the responsibility upon one man, who is paid for his services. The bill will soon be introduced in the legislature.

PENNSYLVANIA.

Physicians to be Paid.—At a recent meeting of the directors of the Cottage State Hospital, Connellsville, it was decided that the eight local physicians who for ten years have donated their services, be paid during their three-months' term of service, $50 per month.

Gifts to Hospitals.—The United States Steel Corporation has donated $1000 in cash and 2⅛ acres of coal land valued at $2500 to the Uniontown Hospital Association.——The Philadelphia Hospital for Women is to receive $3000 from the estate of the late Mrs. Rebecca S. Elkinson.

Lancaster Hospital Staff.—At the meeting of the directors of the Lancaster General Hospital the following staff was elected: Medical director, Dr. Martin L. Herr; medicine, Drs. Daniel R. McCormick, Frank G. Hartman and Harry G. Hassenplug; surgery, Drs. Theodore B. Appel, William H. Herr and Frank Alleman; ophthalmology, Drs. George R. Rohrer and Walter B. Weidler; laryngology, Dr. Walter S. Brenholtz; dispensary staff, Drs. Samuel H. Heller, Charles P. Starr and Guy Alexander, and neurology, Dr. Milton U. Gerhard.

Philadelphia.

Alumni Association of the Medico-Chirurgical College.—This Association has elected Dr. Mitchell P. Warmuth, president; Dr. Stillwell C. Burns, secretary, and Dr. Emanuel S. Gans, treasurer.

Bequests.—By the will of the late Wm. McClary, among charitable bequests are $5,000 each to German, St. Joseph's, Samaritan, Episcopal and Presbyterian hospitals, for the endowment of free beds.

Typhoid fever increased to 117 new cases, against 81 for the previous week. The increase is chiefly in West Philadelphia, and is believed to be due to the water supply. The reservoir supplying this section is so small that little if any time can be allowed for sedimentation.

Homeopaths Extol Vaccination.—In a resolution recently adopted by the Germantown Homeopathic Medical Society, unqualified approval is expressed of the "value of vaccination as a preventive of smallpox;" the Society declares itself "heartily in accord with the Board of Health to secure universal vaccination."

Tablet to Dr. Wilson.—A handsome tile and marble tablet in memory of Dr. Charles Meigs Wilson has been unveiled at the Philadelphia Lying-in Charity and Nurse Training School, Eleventh and Cherry streets. The memorial was erected by the fourteen nurses who studied under Dr. Wilson when he was head physician of the school, and bears the inscription: "Erected by his nurses, in loving memory of Dr. Charles Meigs Wilson, who departed this life Dec. 29, 1891."

Smallpox.—There were 90 new cases and 19 deaths for the week ended January 27. The number of deaths equaled the highest number for any previous week. The Department of Public Safety has systematically undertaken to vaccinate the inmates of the hundreds of cheap lodging houses. Two or three of the physicians from the special vaccine corps will be sent at night to a certain house, in company with and under the protection of a detail of police. The latter are directed to see that none of the inmates leave the house until all are vaccinated or have been pronounced by the physicians to have a satisfactory vaccination mark.

Library of College of Physicians.—The Library Committee of the College of Physicians recently submitted its annual report. The number of volumes in the library is 64,916, an increase of 3557 during 1901. There were 211 donors during the year. By the bequests of Dr. John Ashhurst, Jr., and Dr. Alfred Stillé, 1500 volumes and 207 volumes respectively were received. Each of the following presented more than 50 volumes: Drs. T. G. Ashton, George F. Baker, H. A. Hare, J. K. Mitchell, S. Weir Mitchell, L. S. Clark, Francis R. Packard, E. P. Davis and W. B. Atkinson. Thirty-six of the new publications added to the library have been written or edited by Fellows of the College. By the liberality of a few Fellows of the College the collection of rare books made by the late Dr. J. Stockton Hough was secured. As indicating the rarity and value of this collection the librarian states: "Five hundred and

fifteen of the volumes were printed before 1700; 76 were printed in the 15th century, 175 in the 16th, and 264 in the 17th." The committee closes the report by saying: "Our library is believed to rank third among the medical libraries of the world, and is a valuable possession of which the Fellows of the College may well be proud."

TEXAS.

Hospital at Reformatory.—The superintendent of the Gatesville Reformatory has been authorized to construct a hospital for the institution at a cost of $25,000.

State Medical Association.—The next meeting of the Texas State Medical Association will be held at Dallas, May 6 to 9. This is a change of date as well as place of holding the meeting, as it was originally intended to meet at El Paso.

Deficit in Health Department.—A heavy deficit has come to light in the State Health Department, and Dr. I. J. Jones, formerly secretary and assistant to State Health Officer W. F. Blunt, who, it is alleged, went to South America shortly after Dr. Tabor was appointed to succeed Dr. Blunt, is wanted here, Dr. Tabor says, to explain matters. It is alleged that, should he return, he would have to answer to charges of embezzlement and forgery.

Headquarters Southern Pacific Hospital Department Changed.—By a recent order of the manager of the Southern Pacific Atlantic system, the headquarters of the hospital department have been transferred from San Antonio to Houston; the position of medical director has been abolished; Dr. Robert W. Knox has been appointed chief surgeon; and district, local and emergency surgeons, and others are ordered to report to him on all matters concerning hospital department.

Must Report Contagious Diseases.—The state health officer has sent to the county health officers throughout the state and to the city health officers in cities of over 10,000 inhabitants a blank form on which to report the number of cases and deaths from contagious diseases and the exact location of the cases. The following is a list of the diseases: Smallpox, varioloid, varicella, typhus fever, yellow fever, asiatic cholera, typhoid fever, scarlet fever, diphtheria, measles, whooping cough, phthisis pulmonalis.

CANADA.

Smallpox Epidemic.—Dr. J. M. Eaton, medical health inspector for the province of Manitoba, reports, on January 23, that there is an extensive outbreak of smallpox in the Winnipegosis district, which he has investigated, and states that there are upward of 200 cases. He considers the state of affairs to be alarming, as the whole district is virtually honeycombed with the disease. The outbreak is mostly among the half-breeds and fishermen and it is mild in character.

Ontario's Death Rate.—The Registrar-General for the province has handed out a statement with regard to the deaths occurring in the province of Ontario during the year 1901. Ninety per cent. of the population is represented in these returns. During the year there were reported 25,736 deaths, or 13.1 per thousand. The figures for the previous year were 25,382. Scarlatina claimed 209; diphtheria, 512; typhoid, 345; tuberculosis, 2286, 74 less than in 1900; measles, 120; whooping cough, 112.

Quarantine on the Coast.—With the permission of Dr. Montizambert, the Director-General of Public Health, an important change in quarantine arrangements has been made affecting the Empress line of steamers plying between Vancouver and the Far East. Hitherto the liners have been obliged to go to the Williams Head station, and there remain from four to five hours, according to the number of passengers on board. Hereafter, the steamers will only be obliged to touch at the quarantine station when any contagious disease has developed on the voyage. Better connections will thus be made with the overland trains from Vancouver.

A Woman's Hospital.—Much progress is being made in connection with the proposal inaugurated two years ago to have a woman's hospital in connection with the Woman's Medical College, Toronto. Although the campaign thus far carried on has consisted chiefly in organization work for the purpose of making systematic collection of funds, and educational, there is said to be already a nice little sum in hand for the foundation of the enterprise. Nearly four years ago a dispensary was started in connection with the College, which up to the present time has had 9000 patients on its rolls; and it is the increasing demands on the dispensary that necessitates the having of a separate hospital in association with the college work.

A Physician Jailed.—About two months ago Dr. Harbottle, a practitioner of thirty years' standing of the town of Burford, Ont., while walking on the main street and being subjected to indignities at the hands of tormentors, deliberately shot one of his assailants, inflicting a small scalp wound. For many years the Doctor, who is spoken of as being eccentric, has been repeatedly subjected to insults and indignities on account of his outspoken sympathy for the Boers at the hands of residents of the town; the trouble has finally culminated in the Doctor taking the law in his own hands, with the result that he has been sentenced to one year's imprisonment in the Central Prison at Toronto, where he arrived last week. Dr. Harbottle has been assigned to the duty of assistant surgeon at the hospital. Efforts will be made to secure his liberation.

Amending the Ontario Medical Act.—Dr. Jessop, one of the members of the Ontario Legislature, has become the sponsor of a bill and at the same time the champion in the legislature of the Ontario Medical Defense Association. It is proposed to change the constitution of the Ontario Medical Council, which at the present time consists of 30 members. Of this number the homeopathic body of the province, which only numbers about 40 practitioners, has 5 of a representation; the medical colleges, connected with Toronto University, Trinity University, Queen's University and the Western University at London have 8 between them, while the profession throughout the province has the balance, viz., 17, each of these representatives representing at least 250 physicians belonging to the regular profession. This is considered to be very unfair, and it is therefore proposed to abolish the homeopathic and appointed representatives and have the entire 30 members of the Council elected by the whole medical profession of the province.

Royal Victoria Hospital, Montreal.—The governors of this institution held their annual meeting during the past week, when the announcement was made that an extension was to be made to the buildings in the near future, and among other things to be provided was a new operating theater for the gynecologic department. The following additional appointments were made to the staff: Dr. F. B. Jones was appointed assistant in the clinical laboratory. Dr. A. G. Nichols, assistant pathologist; Dr. G. P. Girdwood, director of the medical electrical department; Drs. H. B. Cushing and F. M. Fry, clinical assistants in medicine; Drs. A. Shirres and A. A. Robertson, assistants in neurology; Dr. E. A. Archibald, assistant in clinical surgery; Dr. F. W. Harvey, clinical assistant in ophthalmology; Dr. W. H. Jamieson, clinical assistant in laryngology; Dr. H. B. Yates, assistant in bacteriology; Dr. A. A. Bruere, director of the clinical laboratory, and Dr. H. B. Cushing, medical registrar. During the past year there were admitted to the wards of the hospital 2579 patients, of which number 1254 were free patients.

LONDON LETTER.

The Smallpox Epidemic.

The number of cases of smallpox admitted to hospital continues to increase. The number of patients in hospital, which for the preceding 3 weeks were 506, 538 and 666 respectively, has risen in the last week to 872, during which 305 new cases were admitted against 161, 226, and 261 in the three preceding weeks. The greatest number admitted on any one day was 56. The numbers of deaths from the disease in the past 4 weeks have been 24, 24, 28 and 45. According to the latest returns there are 901 cases in hospital. At a meeting of the Metropolitan Hospitals Board an important report was presented. A number of new hospitals are being constructed as rapidly as possible so as to bring the total accommodation up to 2540 beds, and it is not at all certain that greater accommodation may not be required. The most important part of the report is the vaccination statistics. They tell only the oft-told tale, but in the face of the pernicious anti-vaccination propaganda, which has led to widespread neglect of vaccination, and is partly responsible for the epidemic, they are particularly opportune. The epidemic has now lasted five months, during which 1963 patients have been admitted to hospital. Of these 892 have been discharged recovered and 283 died. The cases have been divided into three classes: 1, vaccinated, i. e., cases showing visible cicatrices; 2, doubtful, which include cases stated to have been vaccinated but showing no visible evidence thereof and cases in which no statement was made but in which the eruption prevented observation as to the cicatrices; 3, unvaccinated, i. e., cases admittedly unvaccinated or bearing no traces of the operation and as to which no statement was made. The gross mortality is 24 per cent., but it must be borne in mind that many recent cases have been included be-

cause they were completed by death, whereas the contemporary cases which would nearly all recover, could not be included until completed. Thus the above figure is too high. The total mortality of the vaccinated cases is 14 per cent.; of doubtful cases, 65; and of unvaccinated cases 50.5. Considering the statistics according to age, under 10 there were only 12 vaccinated cases and no death; 6 doubtful cases, all of which were fatal, and 95 unvaccinated cases of which 52 (54.7 per cent.) were fatal. Under 20 there were 161 vaccinated cases, of which 3 (1.87 per cent.) were fatal; 12 doubtful cases, of which 7 (58 per cent.) were fatal; and 161 unvaccinated cases, of which 79 (49 per cent.) were fatal. There appears to be a distinct diminution in the protective power of primary vaccination after the age of 20, the death-rate rising from 9.85 in vaccinated cases between the ages of 20 and 25 to 28.95 in cases between 35 and 40. The neglect of vaccination is strikingly disclosed by one fact: 21 patients who had been employed in disinfecting work by the various local health authorities were admitted. Not one of them had been vaccinated since infancy. There were also admitted 2 sanitary inspectors, 2 dustmen, 1 undertaker, 1 medical officer of an infirmary who had not been revaccinated. Contrast this with the experience of the management of the smallpox hospitals and of the ambulances. All the persons employed are revaccinated on engagement. Of 2198 persons employed between 1884 and 1900, during which period 17,900 cases were received, only 17 contracted smallpox. Of these 13 were not revaccinated until after they had joined and 4 were workmen who had escaped medical observation. Not one of the hospital staff has ever died of smallpox, and not one has ever suffered from the disease for the past eight years.

The Journal of Obstetrics and Gynecology of the British Empire.

This new journal begins with the present year and will be published monthly. It is not published under the auspices of any society, but the members of the Obstetrical Society, which has a chronic feud with the British Gynecological Society, are its principal backers. It may be remembered that two years ago the latter attempted to organize an International Gynecological Congress in London, but was unable to do so in consequence of a boycott by the members of the former society who alleged that the organizers of the Congress were not sufficiently "representative." Thus the promoters of the new journal include a large proportion of the most important names in British gynecology and obstetrics, and the need of a journal devoted to these subjects which is not the mere record of the proceedings of a single society is obvious. The chief editor is Mr. Alban Doran, Surgeon to the Samaritan Free Hospital, who combines distinct literary ability with his special gynecological knowledge. With him are associated a number of distinguished collaborators in all parts of the empire. He is to be congratulated on a very excellent first number. The object is to make the publication a complete and impartial record of British obstetrical and gynecological practice and a summary of contemporary thought and achievement in obstetrics and gynecology throughout the world. The annual subscription is 25 shillings, and the publishers are Balliere Tindall & Co., 8 Henrietta St., Covent Garden, London. The first number shows great premise. The place of honor is occupied by "An Analysis of 100 Cases of Uterine Fibro-Myoma," by Dr. Cullingworth, Obstetric Physician to St. Thomas' Hospital, London.

Gastro-Enterostomy for Severe Hematemesis.

At the Edinburgh Medico-Chirurgical Society Mr. Alexander Miles showed a patient after gastro-enterostomy for severe hematemesis. A woman, aged 42, was suddenly seized with severe hematemesis. Four years previously she had been treated for dyspepsia, and the stomach, which was dilated, had been frequently washed out. She had never vomited blood nor exhibited any of the ordinary signs of gastric ulcer. She regained normal health and remained well until September 8, when the hematemesis occurred. The usual methods of treatment were unsuccessful in arresting the bleeding which continued for three days. As life was endangered, operation was advised. On opening the abdomen by a mesial incision a densely indurated ulcer of about the size of a 5-shilling piece was found close to the pylorus. It extended to the lesser curvature and fully two-thirds of the way to the greater curvature. It was therefore impossible to invaginate it without great risk of occluding the pyloric orifice, and the condition of the patient did not justify an attempt to excise the ulcer. It was therefore decided to perform a posterior gastro-enterostomy. After opening the stomach its interior was explored with the finger. No definite bleeding-point was recognized in the ulcer. The communication between the stomach and the intestine was then completed with silk stitches. Before closing the abdomen about two pints of saline fluid were introduced into the peritoneum. During the first 24 hours after operation rectal injections of saline fluid were given every 4 hours and frequent nutrient enemata, which were all retained. The foot of the bed was raised. Although she continued to vomit bile-stained mucus at intervals there was no further loss of blood. Flatus was expelled in the evening. On the 12th she was better, though there was still sickness occasionally, but this became less frequent when the foot of the bed was lowered. On raising the head of the bed vomiting entirely ceased. On the 13th beef tea and peptonized milk were given per os. Recovery was uninterrupted.

Medical Treatment of Chronic Tuberculosis of the Intestine.

At the Clinical Society Mr. A. W. Mayo Robson read an important paper on this subject. He observed that whatever might be the views regarding the treatment of acute intestinal ulceration, surgical treatment is generally advisable in chronic intestinal tuberculosis. He related 7 cases (one male and six females) in which he had operated with only one death. In 2 cases the adhesions to adjoining parts were very intimate, in the others the affected parts of the bowel were quite free, thus rendering operative measures easy and simple. In 4 cases he employed his decalcified bone bobbin as a temporary splint over which to apply sutures. The physiological rest to the diseased parts secured by short-circuiting (as in one case) and by colotomy (as in another) seemed to answer so well that when the radical operation of excision involved serious difficulties or the patient was not in a condition to bear it he will not hesitate in future to be content with similar procédures and then to trust to general treatment and hygienic surroundings to assist in the cure. If in the future operative treatment be thought advisable in acute cases he anticipates that short-circuiting the diseased area will be found to be the more useful procedure, as it is the easier and safer, but experience alone will show whether the suggestions will prove of as much service in acute as they are in chronic cases. It is interesting that in 2 cases, in which tuberculous peritonitis coexisted with tuberculous ulceration of the intestine, the mere exploratory operation had not cured or even arrested the tuberculous process, but the radical operation of removing the principal focus of disease or the short-circuiting put a stop to the tuberculous peritonitis and, so far as could be seen, cured the more diffuse disease. All surgeons must have the experience of curing tuberculous peritonitis by simple abdominal section with or without drainage, and probably many of disappointment in cases in which the effusion had returned after a longer or shorter interval. He supposed that the explanation of these recurrent cases lay in the fact that the original focus of disease in the ovaries, Fallopian tubes, or bowel, had not been removed and again was the starting-point for a further effusion of the tubercle through the peritoneal cavity.

Correspondence.

Death from Chloroform Anesthesia.

MANITOWOC, WIS., Jan. 26, 1902.

To the Editor:—In reading over Dr. Bayard Holmes' paper on "A Report of a Death from Chloroform Anesthesia," I am surprised at the ungenerous stand the Doctor takes in regard to the anesthetizer. After stating, "It has been my practice to have a skilful person administer chloroform, even if it necessitated an untried and even inexperienced physician as my first assistant," he, a little further on, takes comfort in the fact that the anesthetizer in this case was a stranger to him and untried. Why should that fact soothe, rather than trouble, his conscience, since he neglected to follow his own rule? The anesthetizer being a stranger and untried does not prove him unskilful. Death from anesthesia may be due to improper administration, to an unfavorable condition of the patient, or to an unfortunate choice of the anesthetic. It has been proven again and again that ether narcosis is the safer, and chloroform is usually substituted because it is administered more quickly and pleasantly.

Physicians practicing in the smaller cities can not always call an expert anesthetizer to their aid, and they are obliged

to call on a brother physician, a student, a trained or untrained nurse or a layman to take his place. In emergency cases the anesthetic is often administered by the surgeon in charge, who at the same time is his own first and second assistant and trained nurse; and deaths from ether or chloroform are as rare in their practice as under the care of the trained anesthetizer and score of assistants in the large hospitals.

The best of men have lost cases from the anesthetic, yet they have not been censured unless it was proven that they were criminally careless. Why, then, in this case, where no carelessness has been shown, should the anesthetizer be given the blame, while the surgeon coolly excuses himself with the statement that that assistant was unknown and untried?

The Doctor evidently had not recovered from his agitation when he wrote that a physician who had once given ether should never be allowed to give chloroform afterwards.

Yours respectfully,
WM. G. KEMPER, M.D.

Appendectomy—Surgical History.

CINCINNATI, O., Jan. 24, 1902.

To the Editor:—Will you kindly publish the enclosed letter bearing on the subject of early operation in appendicitis, and oblige, Yours respectfully,
B. MERRILL RICKETTS, M.D.

"FT. WAYNE, IND., Jan. 21, 1902.

"Dr. B. Merrill Ricketts, Cincinnati, O.

"*Dear Doctor:*—The enclosed clipping from THE JOURNAL of the American Medical Association was sent me this morning by my son, Dr. George C. Stemen, of Denver. ["Appendectomy—Surgical History," Page 46, this Volume.] I had overlooked this in reading THE JOURNAL.

"In regard to my case, I will say that on April 22, 1887, I was called in consultation to see a man said to be suffering from general peritonitis and called "perityphlitis." There was every indication that the man would die, and I said that if he would consent, I would operate on him. He not only consented but requested that it be done. I made the operation and found a large quantity of pus and a necrosed appendix almost detached. I removed it and drained, and the patient is living today. You misunderstood me when I met you at Lima, as to it being 1884; it was 1887. The gentleman I operated on is A. B. Nickey, who lives at Princeton, Ind., and is in good health.

"I thank you for mentioning my case. I am not much concerned as to whether I made the first operation, but I certainly made one quite early in the history of this operation.

"Respectfully yours,
"C. B. STEMEN, M.D."

The A. M. A. as Basis of Reciprocity.

CHATTANOOGA, TENN., Jan. 21, 1902.

To the Editor:—I can not just at present go into a detailed consideration of defense of the proposition, but I wish to heartily endorse the suggestion made by Dr. Skelly in the last issue of THE JOURNAL, that membership in the American Medical Association be made the basis of reciprocity for license to practice between the various state examining boards.

With this as a foundation idea it seems to me that it is possible of elaboration so as to practically apply to this vexed question how to bar quacks and impostors, while at the same time recognizing intelligence, experience and probity towards license for practice throughout our common country, with as little of examination as may prove reasonable in compliance with laws as now existent or contemplated.

At some future date I may find opportunity for further argument on this point. At present I merely want to bring out further opinions upon the proposition, so that we may hear both sides of the question and ascertain how extensive may be the impulse to make this membership a basis for reciprocity, how practicable it is, what obstacles interpose, and how the examiners themselves receive the proposition. In a word let us "reason together" about the matter. Yours,
E. A. COBLEIGH, M.D.

Tetanus Following Vaccination.

PHILADELPHIA, PA., Jan. 21, 1902.

To the Editor:—I will be greatly obliged to any of your readers who may have had or know of cases of tetanus following vaccination, if they will communicate with me concerning them. I am engaged in a critical analysis of such cases in the hope of determining their etiology, and desire to secure all the data possible. Respectfully yours,
JOSEPH MCFARLAND, M.D.

Married.

GEORGE WESLEY BEATTY, M.D., of Brooklyn, N. Y., to Miss Caroline M. Steingester.

HARRY E. BURDETT, M.D., to Miss Nellie O'Gara, both of St. Paul, Minn., January 8.

HERBERT BACON, M.D., to Miss Mollie Prouse, both of Bloomville, Ohio, January 19.

DWIGHT CALKINS, M.D., Battle Creek, Mich., to Miss Marjory E. Ryder, of Pittsburg, Pa.

CHARLES E. CONGDON, M.D., to Miss Anna Ramsdell, both of Nashua, N. H., January 16.

JAMES H. DAVIS, M.D., Seyppel, Ark., to Miss Inus Bishop, of Belton, Texas, Dec. 23, 1901.

WILLIAM S. BEATY, M.D., to Miss Estelle Bonner, both of Vineyard, Ark., January 29.

WILMER ADAMS, M.D., Wye Mills, M.D., at Baltimore, to Miss Mamie R. Gould, January 15.

HENRY T. NORMENT, M.D., Anthoston, Ky., to Mrs. Virginia Norment, Henderson, Ky., January 16.

HERMAN S. SPEAR, M.D., New Portland, Me., to Miss Evelyn Conant, of South Strong, Maine, January 1.

FREDERICK PHINEAS DRAKE, M.D., London, Ont., to Miss Ada Kibbee Wright, of Port Huron, Mich., January 15.

WILLIAM N. MCARTNEY, M.D., Fort Covington, N. Y., to Miss Caroline Claghorn, assistant superintendent of the Lackawanna Hospital, Scranton, Pa., January 15.

Deaths and Obituaries.

Sylvester D. Bell, M.D. Western Reserve University, Cleveland, Ohio, 1874, formerly a practitioner of Butler, Pa., but for the past few years a resident of Arizona, a member of the Medical Society of the State of Pennsylvania and of the American Medical Association, died at his home in Tucson, January 14. He was a presidential elector in 1892, and had held several responsible territorial appointments.

Frederick Gundrum, M.D. Miami Medical College, Cincinnati, 1868, who had practiced for several years in Indiana, going thence to California on account of his health, died at his home in Riverside, January 13, from asthma complicating la grippe, after an illness of three days, aged 57. He was a member of the American Medical Association.

Kingston Goddard, M.D. University of Pennsylvania, Philadelphia, 1860, a contract surgeon in the Civil war, and thereafter for many years a practitioner of Philadelphia, coroner, and member of the Board of Education, who retired from active practice several years ago, died at the residence of his son in Philadelphia, January 18, aged 62.

James Farrington, M.D. New York University, 1847, one of the oldest physicians of Rochester, N. H., died at his home in that place, January 18, aged 80. He was a member of the Strafford District and New Hampshire State Medical societies and had served as a member of the legislature, of the constitutional convention and of the governor's council.

John Brownrigg, M.D. Jefferson Medical College, Philadelphia, 1851, formerly a surgeon in the Confederate service, one of the most prominent physicians of Mississippi, and a resident of Columbus, died January 21, at Mullanphy Hospital, St. Louis, where he had been under treatment for a long time, aged 72.

Warren Montgomery Sweetland, M.D. Rush Medical College, Chicago, 1848, for twenty-five years a resident and practitioner of Highland Park, Ill., who retired from active prac-

tice twelve years ago, died at his home, January 23, aged 82. He was a member of the American Medical Association.

Joseph Abell Baden, M.D. University of Maryland, Baltimore, 1856, a Confederate veteran and since the war a well-known physician of Calvert County and Baltimore, Md., died at his residence in that city, January 20, after an illness of one week, from heart disease, aged 68.

Harvey Parkhurst, M.D. University of Buffalo, N. Y., 1851, one of the oldest practitioners of McLean County, Ill., and a charter member of the County Medical Society, died at his home in Danvers, January 16, from heart failure, after an illness of only a few hours, aged 79.

William Merwin Smith, M.D. formerly health officer of the Port of New York, twice a member of the legislature, surgeon-general on the staff of General Dix and brigade surgeon during the Civil war, died at his home in Redlands, Cal., January 17, aged 75.

W. C. Brown, M.D. Rush Medical College, Chicago, for many years a practitioner of Geneseo, Ill., but more recently a resident of Sierra Madre, Cal., died at the Pasadena Hospital, January 12, from brain disease, after an illness of two weeks.

Peter R. Furbeck, M.D. Long Island College Hospital, Brooklyn, 1865, for many years a leading practitioner of Gloversville, N. Y., died at a sanatorium in Saratoga Springs, January 17, from Bright's disease, after a long illness.

Louis J. Archambeault, M.D. Laval University, Quebec, 1870, formerly a practitioner of Cohoes, N. Y., but for the last three years a resident of Brooklyn, died at his home in that city, January 12, after a brief illness, aged 54.

Harry Peters, M.D. University of Iowa, Iowa City, 1896, who commenced practice in Minden, Iowa, but moved to Davenport in 1900, died at his home in that city, January 16, from diabetes after a protracted illness, aged 30.

Charles Winston Spencer, M.D. Jefferson Medical College, Philadelphia, 1857, who practiced for more than 30 years at Plattsburg, Mo., died at Elvens, St. Francois County, Mo., January 6, after a brief illness, aged 67.

Prof. Emil Scheffer, a well-known chemist of Louisville, Ky., who discovered the formula for making liquid pepsin and also that for the preparation of dry or powdered pepsin, died, January 22, aged 80.

George M. Wellman, M.D. University of Georgetown, D. C., 1868, and since that time an esteemed practitioner of Dover Plains, N. Y., died at his home in that place, January 13, aged 65.

Harry D. Kline, M.D. Northwestern Ohio Medical College, Toledo, 1890, president of the King County (Wash.) Medical Society, died at his home in Seattle, January 19, from pneumonia.

Samuel O. Prall, M.D. University of Pennsylvania, Philadelphia, 1897, a practitioner of Easton, Pa., died at his home in that city, January 16, after a short illness, aged 30.

Augustus Hibler, M.D. University of Freiberg, Baden, 1852, one of the oldest physicians in Center County, Pa., died at his home in Bellefonte, January 16, aged 72.

William Wixom, M.D. Geneva (N. Y.) Medical College, 1846, a life-long resident of Italy Hill, N. Y., died at his home in that place, January 15, aged 83.

Henry E. Watkins, M.D., of Prince Edward County, Virginia, died at his home near Farmville, Va., January 16, after a long illness.

Eleazor Price, M.D. University of Buffalo, N. Y., 1855, an old resident of Jackson, Mich., died at his home in that place, January 18.

State Boards of Registration.

The North Carolina Board of Medical Examiners will hold its regular meeting in Wilmington, Thursday, May 29, at 12 m.

Minnesota Board of Medical Examiners.—This Board has issued the following notice: After January 1, 1902, applicants for license to practice medicine and surgery in the State of Minnesota must present evidence of having attended four full courses at a medical college recognized by the Minnesota State Board of Medical Examiners, of at least twenty-six weeks each, no two courses being in the same year. Graduates of medical colleges granting advanced standing for work done at other than medical colleges shall not be eligible to the examinations given by this Board. Provided, that above shall not apply to such students as have been granted advanced standing prior to September, 1901. By order of the Minnesota State Board of Medical Examiners, C. J. Ringnell, M.D., secretary.

North Dakota Examination.—The North Dakota Medical Examiners held their regular quarterly examination, January 7, at Grand Forks. The number of subjects examined in were 13; number of questions (?). Percentage required, 75. The number of applicants were 12, of whom 7 passed.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
		PASSED.		
315	R.	Coll. of Phys. and Surg., Chicago	1892	82
316	R.	Hamline University, Minneapolis	1901	81
323	R.	Hamline University, Minneapolis	1900	81
317	R.	Indiana Medical College	1888	82
320	R.	Trinity Medical College, Toronto	1900	75
324	R.	University of New York	1887	78
325	R.	Victoria Medical College, Ontario	1876	75
		FAILED.		
318	R.	University of Kentucky	1894	72
319	R.	Kentucky School of Medicine	1901	50
321	R.	Louisville Medical College	1894	65
322	R.	Hamline University, Minneapolils	1901	65
326	R.	University of Iowa	1901	65

Minnesota Examination.—The Minnesota State Board of Medical Examiners held its regular quarterly examination at St. Paul, January 7, 8 and 9. The number of subjects examined in were 12; total number of questions (written), 90; required percentage, 75. There were 24 candidates, of whom the following 22 were successful:

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
		PASSED.		
1400	R.	Rush Medical College, Chicago	1900	85.4
1404	R.	Rush Medical College, Chicago	1901	90.1
1405	R.	Rush Medical College, Chicago	1901	80.2
1419	R.	Rush Medical College, Chicago	1902	89.5
1420	R.	Rush Medical College, Chicago	1897	75.2
1421	R.	Rush Medical College, Chicago	1901	83.3
1401	R.	Iowa State University	1901	79.6
1402	H.	Chicago Homeo. Medical College	1901	83.2
1403	R.	Baltimore Hosp. Med. Coll	1901	82.9
1406	R.	Northwestern Med. College, Chicago	1900	75.4
1407	R.	Tufts Medical College	1900	83.3
1408	H.	University of Minnesota	1901	78.7
1409	H.	Boston Univ. School of Medicine	1901	86.7
1410	R.	Hamline University, Minneapolis	1900	75.2
1412	R.	Hamline University, Minneapolis	1901	75
1414	R.	Hamline University, Minneapolis	1901	75.7
1411	R.	Trinity Medical College, Toronto	1896	79
1416	R.	Trinity Medical College, Toronto	1899	78.2
1413	R.	Coll. of Phys. and Surg., Chicago	1888	75.8
1415	R.	Denver University	1901	75.4
1417	R.	Laval University, Montreal	1899	88
1418	R.	Harvard University	1895	95.1
		FAILED.		
1830	R.	Medical Dept. Univ. of Kentucky	1901	66.2
1850	R.	Non-Graduate, Hamline, University.	....	71.5

Book Notices.

THE LIFE OF PASTEUR. By René Vallery-Radot. Translated from the French by Mrs. R. L. Devonshire. Vols. I and II. Cloth. Pp. 292 and 336 Respectively. Price, $7.50. New York: McClure, Phillips & Co. 1902.

This is more than a life of Pasteur—it is a history and a description of his work. But little space in the two volumes is devoted to his private life, yet enough to give us a good insight into the man as a husband, father and friend. It is written by his son-in-law and thus has the added value of being authentic and reliable. Pasteur's origin was a most humble one, his father being a tanner and not blessed with much of this world's goods. But he inherited a strong constitution, immense will-power, indomitable courage, and a determination that enabled him to overcome all obstacles when he set out to accomplish a purpose. Yet when he went to Paris at 15 years of age, with the *Ecole Normale* in view, and entered on his studies in Barbet's preparatory school, he became so homesick that it was necessary to send for his father to take him home. So for the time he resumed his studies, at a school nearer home, and his drawings —for at that time he made more promise of being a portrait painter than anything else. Considering his achievements in chemistry later on, it is interesting to read that in his examination before the Dijon Faculty in 1842 he was put down as *medioere* in that branch. In the autumn of that year, when

he was 20, he again went to Paris and began a work, the result of which is known the world over. Step by step of that work is shown; details of his methods, so far as they could be understood by the lay reader, are given, and how that restless, determined genius saved to agriculturalists of his country millions of money. It tells how he reclaimed the silk, the wine and the stock industries of his native land; how for a time he was handicapped for want of material to work with and a place to work in, but how finally he was appreciated by his countrymen, who erected to him that noble memorial, the Pasteur Institute.

While written for the laity, this life will appeal especially to physicians, from the fact that it is a biography of the greatest scientific light of our age, a light that has illumined and opened the way to immense possibilities in medicine, in surgery and in biology. We wish the price were so low that the poorest member of our profession might obtain and read it, and especially that it could be put into the hands of every young man as he enters his medical career. If nothing more, it would be a stimulus to effort. This work and the "Life of Paget," which we noticed a few weeks ago, would make a magnificent foundation for a "working" library for any young man entering medicine.

GYNECOLOGICAL PATHOLOGY. A Manual of Microscopic Technique and Diagnosis in Gynecological Practice for Students and Physicians. By Dr. Carl Abel, Privat-Docent in Berlin. Translated and Edited by Samuel Wyllis Bandler, M.D., Adjunct Gynecologist to the Beth Israel Hospital, New York. With a chapter on the Embryology of the Female Genitalia and the Pathological Growths developing from Embryonal Structures. Illustrated by 100 engravings. New York: William Wood & Co. 1901.

OUTLINES OF GYNECOLOGICAL PATHOLOGY AND MORBID ANATOMY. By C. Hubert Roberts, M.D. Lond., F.R.C.S. Eng., M.R.C.P., Physician to the Samaritan Free Hospital for Women, Physician to Out-Patients, Queen Charlotte's Lying-in Hospital, Late Demonstrator of Midwifery and Diseases of Women, St. Bartholomew's Hospital. With 151 Illustrations, Mostly Original. Philadelphia: P. Blakiston's Son & Co. 1901.

Of these two books on practically the same subject the first contains 237 pages, the second 332, but the smaller type and larger page of the first make the two works of about the same extent. The general tendency of Abel-Bandler's book is to be a guide in microscopic technique and diagnosis in gynecologic practice. The fundamental value of the microscopic examination in the early diagnosis of many gynecologic conditions, but especially in carcinoma of uterus, is emphasized in the translator's introduction. In few diseases is an early diagnosis so important to the patient as in suspected carcinoma of the uterus and as the general practitioner commonly is the first called upon by the patient the responsibility rests upon him and he must make the test excision or test curettage. This illustrates well enough the general tendency of the book and the point of view from which the matter in it is presented. The portion on technique is sufficiently extensive and detailed to answer the purpose. The second part on diagnosis takes up the various organs concerned and, beginning with the normal anatomy of each organ, carefully describes the pathologic anatomy under the usual headings. Part III, added by Bandler, reviews the embryology of the female genitalia and gives a discussion of the pathologic growths that develop from them. This part is a valuable addition to the original work, as it brings together in one place a number of interesting facts that help one to understand the complex conditions encountered in this part of the body. The illustrations represent the actual microscopic appearances very well. The book has a distinct field in which it will be found of definite value to the student as well as the practitioner.

The chief object of Dr. Robert's work is to present "as simply as possible the morbid processes to which the female organs are subject." The author has endeavored to give the more modern views of British pathologists. References to both British and foreign authors are plentiful, and occur at the bottom of the pages. Numerous original illustrations have been introduced, and in each case the place where the original specimen may be found is stated, a feature of much value to students of medicine frequenting the hospitals in the museums of which the specimens are preserved. The greater number of the illustrations, which are placed upon separate leaves throughout the body of the work, represent the gross appearances of pathological specimens and the method of reproduction is quite successful. The book is not strictly confined to the pathological anatomy of the female genitalia; a certain amount of clinical material is introduced, e. g., vaginismus, menstruation and its disorders, sterility. The diseases of the bladder, urethra, and uterus are also presented. The last chapter deals with micro-organisms in relation to diseases of women. In this chapter is discussed also the question: "Is there a parasite of cancer?" It seems to us that a better arrangement might have been desired, and that etiology and pathological anatomy are best discussed together. The general arrangement of the material in Gebhard's book, for instance, seems to us to present certain natural advantages, at least in some respects. The information conveyed in the last chapter in regard to ordinary pathogenic organisms is decidedly elementary, but at the same time there is not enough of it to be of any real service to the student who naturally is supposed to be well grounded in the principles of general pathology and bacteriology before he takes up the special study of gynecologic pathology. The discussion of tumors is not altogether satisfactory because "adenoma malignum" is separated from carcinoma, to which it belongs, and because "deciduoma malignum" is classed definitely with sarcoma. The differences of opinion concerning the nature of "deciduoma" is well shown by the list of names proposed for it: Abel gives no less than fourteen. The statement concerning this interesting tumor, or group of tumors, in either of these works is not quite as exhaustive and critical as one would be likely to look for in works of this kind. The treatment of ovarian teratomas or embryomas by Roberts is also disappointing as they are not clearly described and no detailed reference is made to the recent interesting studies of this class of tumors by Wilms and others. The statements in regard to the theories of the origin of the dermoid cysts and teratomas are very meager. In the index there is no reference to actinomycosis of the female genitals nor to certain rare but interesting metaplastic changes in the uterine epithelium, at least not under the ordinary headings.

The attention given to illustrations of gross pathological specimens is probably the chief distinguishing feature of Robert's book; but it is lacking in real grasp and critical discussion of questions of fundamental importance in gynecological pathology, and it does not aim to be a guide to technical work.

Miscellany.

Asbestos Dishes for Consumptives.—F. Kornfeld, of Vienna, exhibited at the local medical society, December 6, a number of articles made for the use of consumptives out of asbestos: cuspidors, dishes, etc. They can be sterilized without injury by putting them in the fire, and can be made at a trifling expense.

Spontaneous Expulsion of a Fibroma in Esophagus.—Sarkisoff relates in a recent issue of *Vratch* that a woman 27 years of age had experienced pain when swallowing, with some difficulty in breathing, and became fatigued easily. These symptoms continued for two years when she suddenly coughed up a fibroma 4 cm. long by 2 wide and .5 thick.

New Complete Edition of Galen's Works.—The Berlin and the Copenhagen Academy of Sciences have commenced the task of collecting all the manuscript left by Galen and compiling a new and complete edition of his works. The committee in charge, the "corpus veterum medicorum," expects to reap a rich harvest for philology and the history of medicine.

Reposition of Prolapsed Umbilical Cord.—H. Henne writes to the *Corr. f. Schweiz. Aerzte*, of December 1, describing a case of prolapse of the cord in which the placenta was attached unusually low, while the cord was exceptionally long—fully 130 cm. All attempts to reduce it proved unavailing until he applied a gauze compress and pushed the cord and fetal head back into the uterus, leaving the compress in the uterine cavity to protect against further prolapse. Labor and delivery proceeded normally and the compress was expelled with the afterbirth.

Souvenir Medallion for Fournier.—Professor Fournier retires from the clinical chair in the Hopital Saint-Louis, Paris, at the close of the current scholastic year. His friends are soliciting subscriptions for the purpose of presenting him with a medallion to be designed and executed by Chaplain. A subscription of twenty-five francs forwarded to the treasurer of the fund, M. Rueff, 106 Boulevard Saint-Germain, Paris, entitles the subscriber to a copy of the medallion.

Absorption of Food by the Intestines.—Experiments with cooked, chopped and salted thymus gland administered by rectal injection, showed much greater absorbing power on the part of the intestines than they are usually credited with. A much larger proportion of uric acid and phosphates and also nitrogen, was excreted in the urine during the period of the tests. This was accepted by Mochizucki—who describes his research in the *Archiv f. Verdauungskr.* vii, 3—as evidence that the albuminoids and proteids in the enema must have been absorbed to a considerable extent.

Pneumaturia.—Wildbolz describes a case of pneumaturia, the last portion of the urine accompanied by air rushing out of the urethra. There was no pain, merely a slight tickling in the urethra. The patient was a man of 52. For the last few months he had felt weak, with headache and slight vertigo at times. There was no sugar in the urine, but 1.5 per 1000 of albumin. Wildbolz succeeded in isolating from the urine the bacterium lactis aerogenes, and established that this bacterium generates an odorless gas in the presence of albumin. All the symptoms disappeared when the patient was put on a nephritis diet and the albuminuria had vanished.

Prophylaxis of Syphilis in France.—The minister of the War Department of France has ordered that one of the lectures on hygiene delivered regularly by the medical officers to the officers and non-commissioned officers of the troops, shall be on the subject of the dangers of syphilis and the means of combating them. Young soldiers who conceal their infection are to be punished. The department of the interior has also taken up the matter and Waldeck-Rousseau has appointed a committee to study the various questions in regard to the prophylaxis of syphilis and venereal diseases. It includes fourteen physicians, Brouardel, Roux of the Institut Pasteur, several who are members of the legislature, officials on boards of health and hospital management, and the prefect of police, with Professor Fournier as the chairman of the committee.

Physicians Who Oppose Vaccination.—The recent occurrence of smallpox in the families of a number of physicians who oppose vaccination is a most serious matter. It is said that "vaccination by the mouth," or "by the stomach," is the method advised by them. Such phrases, according to science, betray an obstinacy that is worthy of punishment. We can find some excuse for layfolk, wholly ignorant of physiology, history and statistics, who oppose vaccination, but in physicians there is no excuse whatever. The testimony as to the value of vaccination is so overwhelming that those who do not admit it have no right to pass from the sick-room of patients with highly infectious diseases and scatter the germs among the people. Such physicians should be quarantined with their patients. Argument will have no effect upon such minds, and the swift punishment of their delusions by the occurrence of smallpox in themselves or in their families will have no influence upon their views or in their advice to their patients. In the name of medicine, to oppose the best established medical truth, and, in the name of therapeutics, to scatter disease is an outrage upon the community.—*American Medicine.*

Permanently Cured Case of Ichthyosis.—Bockhart has made many attempts to cure ichthyosis but has never found the patient persevering enough to accomplish a permanent cure except in the one case described. This was the 8-year-old daughter of well-to-do parents, who patiently for nine years rubbed her with sulphur salve three times a day. She was educated at home on account of the odor of the sulphur, and is now a young woman, who for nearly six years has been entirely free from the ichthyosis, which at first extended over the entire body, except the head, face, joints, soles and palms. After a warm bath with soap in the morning a 5 per cent. sulphur salve was rubbed and massaged into the skin, and again at noon and night. Cod-liver oil was given internally, and twice a year for six weeks Kreuznach salts were added to her bath water. After three years the cure seemed to be complete and treatment was suspended for three months when recurrence was evident. After three years more, the child remained healthy for six months before the recurrence appeared. Treatment was resumed for another three years, since which time she has been permanently cured. In his communication to the *Monatssch. f. Prakt. Derm.* of December 15, Bockhart states that ichthyosis in adults is more rebellious than in the young.

Teach Students the Importance of Organization.—Dr. J. C. M. Floyd, of Steubenville, in a letter makes the suggestion that medical students should from time to time during their course of study be instructed as to the value to themselves of joining a medical society as soon as they enter upon practice. This is a matter worth some attention from medical teachers. It would not be difficult for every teacher to find at least one opportunity in a few words to point out to his classes the advantages to physicians of medical society membership. The utilitarian side of the matter, in that a live medical society constitutes a means for the ambitious young physician further to pursue his search for medical knowledge, needs few words to bring conviction to the student's mind. The value of friendly association in reducing the friction that often arises between men in active practice also is readily demonstrable. Then a few words might very profitably be devoted to stating the duty that medicine owes to the public to initiate measures directed to reducing the amount of preventable disease. There are some medical teachers who have followed this plan, but they are the exceptions. It is hoped that many others will by this suggestion be led to find an opportunity for directing the attention of their students to the benefits of medical organization.—*Cleveland Journal of Medicine*, Dec., 1901.

Frequency of Embolism in Heart Disease.—Ginsburg reports in the *Deutsche Arch. f. Klin. Med.*, lxix, 5 and 6, that he found in looking over the records of 250 autopsies of heart disease, that embolism had been noted in 85 cases, usually in the kidneys. Both kidneys were affected in 41 out of 62 cases. The clinical symptoms had not been severe: only hematuria in 4; albuminuria in 26 and tube casts in 5. Embolism of the spleen was noticed in 23, and it occurred without symptoms in 14, with tumefaction in 9. Two of the latter had complained of sudden, violent pains in the region of the spleen. In 15 cases the embolism was in the brain. It occurred suddenly in 9 without premonitory symptoms of disturbed compensation. One patient survived three years, 5 from ten to forty-five days, and 9 died at once. In 9 of these cases the heart affection was a mitral endocarditis, in 2 an affection of the semilunar valves, in 2 myocarditis with thrombosis of the left ventricle and in 2 a lesion of both mitral and semilunar valves. In one of 3 cases of embolism of the celiac trunk, hematemesis and bloody stools had been noted but no pain; in another there were violent pains in the abdomen and meteorism but no vomiting nor diarrhea. In the third, no symptoms suggested the celiac lesion.

Revocation of Licenses to Practice Medicine.—We should endeavor to shunt the rage of the antis upon the lawyers. At present the medical profession is the object of the most violent hatred of the hordes of quacks and medical anarchists, on the ground that medical men are forming a trades union. It is the wildest bit of silliness imaginable, and yet it dictates pernicious legislation and prevents medical progress in a thousand ways. Why do we lie under the imputation and find ourselves made to prove that the antis lie all about it? Simply because of our lack of professional *esprit de corps* and organization. Are the lawyers so foolish? By no means! Who ever heard of a doctor having his license revoked, no matter what egregious professional crimes he had committed? We allow every wretch who has ever stolen the degree of M.D. to retain it, although every word he writes or utters is loaded with venom against us, and destructive of every principle of medical decency and progress. What provision or machinery does there exist in the state laws for expelling a physician playing scamp? Do

medical societies turn him out? In every state lawyers who have disgraced their profession are disbarred, and yet the antis do not rail at the legal profession as a trades union. Last year in Colorado 13 lawyers were disbarred; have 13 doctors ever had their licenses revoked in the whole United States in our entire history?—*American Medicine.*

Physiologic Effects of Spinal Cocainization and Lumbar Puncture.—Pitres and Abadie describe the physiology of spinal cocainization as studied in detail on fifty patients and reported in the *Archives de Neurologie*, xii, 70. They attribute the analgesia to the action of the cocain in modifying the conductibility of the sensory roots, not to any action on the cord itself. They found that reflexes previously normal were exaggerated, while exaggerated or weak reflexes were abolished. Two-thirds of the patients had trembling of the feet or knees, and in a few hysterics the tremor was general. The patients were always able to stand erect, free from ataxia, but walking was occasionally difficult, as their legs felt heavy, they said. The skin did not alter its color over the area of analgesia; pricking did not bring blood and even a sinapism caused no sensation of heat nor redness, while the same sinapism applied outside of the area of analgesia always induced the usual reaction. The skin remained dry and could thus be sharply defined from the sweating skin beyond the area of analgesia. Study of the physiologic effects of lumbar puncture on fifteen other patients showed that the headache occasionally observed after spinal cocainization is probably due merely to the puncture, and not to any toxic action of the drug, as it was a constant accompaniment of lumbar puncture, identical in appearance, localization, duration, intensity, etc., with that which follows spinal cocainization. None of the other symptoms were noted after lumbar puncture; nausea and vomiting were the rare exception.

The Osteopathy Bill.—There is a bill before the [New York] Legislature intended to license so-called osteopathists to practice medicine, treat contagious diseases, sign death certificates, etc. Such a bill naturally breaks down all the barriers in process of erection for scores of years to safeguard the people against malpractice, to protect the sick from the sort of vampires bred in new countries where the laws regulating the practice of medicine are apt to be liberal, not to say loose. New York, after decades of hard work on the part of philanthropists, medical, legal and other, has secured a code of laws regulating the practice of medicine in the rigid and impartial manner which has been found to be the best by a slow process of evolution in older countries. The law simply requires in the applicant for a license to practice a certain standard of education in the different branches of science with which medicine and surgery are concerned, in order that the public may be protected from the kinds of malefactors who in the absence of such wise legal provision would prey upon the sick. This standard of education is within the reach of any one. No one is debarred from acquiring sufficient knowledge to pass the examinations. The "regular" physicians must pass them. The homeopathists pass them. The "eclectics" pass them. If the so-called osteopathists pass them, they also would be equally privileged to practice. But what they desire is the right to practice medicine without passing any examination, without demonstrating, as all others of whatever school are required to do, their fitness to undertake the healing art. It would be just as fitting and proper that the practitioner of massage should have a law of this kind framed for him, for the masseur is usually extremely well versed in some of the principles underlying medicine. He is well acquainted with anatomy and physiology. The fact is that osteopathy is only a rudimentary form of massage. The word means bone-cure and the osteopathist tells his patient that a small bone in the head or spine is out of place and he will pummel it into place at $100 per month. It is a passing fad. In twenty years it will be laughed at along with the imbecilities of the Perkins tractors. Let the osteopath practice along with the masseur and the midwife and the nurse, but do not throw open the doors to the practice of the entire healing art.—*N. Y. Sun*, Jan. 21, 1902.

Massage and Osteopathy.—The founding of a special school of medical practice called osteopathy directs attention anew to the value of manipulation in the treatment of certain diseased conditions. Some have described osteopathy as a highly scientific massage; but the ordinary rubbing, kneading, and tapping prescribed in the works on massage and practiced by masseurs are very different things from the manipulations of the osteopaths. The latter are based upon the anatomical structures to be treated; sufficient force is employed to affect the deeper tissues. In improving the circulation, relieving pain, and absorbing inflammatory exudates by manipulation, the average osteopath is capable of teaching the profession valuable lessons. Of course, the foundation of a school of medicine upon such a narrow therapeutic resource will ultimately bring the whole movement into discredit, and perhaps a valuable method of treatment in a certain class of cases may fall into disuse. Had osteopathy confined itself to a legitimate application of its methods, and not attempted such absurdities as the "reduction" of typhoid fever by pressing upon the seventh cervical vertebra, it would probably have left a valuable impression upon the practice of medicine. Its fallacies will sink whatever is of good in the method. In Japan the blind are trained in massage. In Leipsic a number of blind people have been trained to the occupation. The massage that is taught is the ordinary rubbing and kneading and stroking with which most bath attendants are familiar. It is useful in general neurasthenic states and where a general improvement in the nutrition of the tissues is sought, or as a form of passive exercise in patients who are inactive. Such massage differs from manipulations based upon a careful appreciation of the anatomic elements involved in the structures which are treated, and knowledge of the vascular and lymph channels. It is unfortunate as well for the laity as for the profession that such manipulative methods have ever been allowed to pass into the hands of empirics. In Austria massage by the laity has been discouraged; it is in the hands of medical students and young medical men. In some way physicians have thought that such manipulations were beneath the dignity of the profession. This must be a relic of the time when the operation for stone was considered one that a surgeon should never perform. No one is so competent to deal with the adhesions in a joint and inflammatory exudates in the pelvis as physicians themselves. Indeed, there are many reasons for thinking that the physician alone is competent, as he is able to appreciate such dangerous infections as tuberculosis, which might be aggravated by manipulation. Massage and manipulative measures generally should be restricted to the profession. The older members whose time is too fully occupied to give the personal attention required in these cases should enlist the younger members of the profession in the work. When the profession fully awakens to its responsibility in this respect, much of the quackery which now flourishes will find itself relegated to the rear.—*Medicine.*

Societies.

Society of Physicians and Surgeons of Louisville.—At the annual banquet, held January 16, Dr. Charles W. Hibbitt was elected president, and Dr. S. J. Myers, secretary.

Platte County (Neb.) Medical Society.—This Society was organized at Columbus, January 20, with Dr. Harry J. Arnold president, and Dr. Berthold Tiesing, secretary. The first annual meeting will be held February 12.

Springfield (Mo.) Medical Society.—At the annual meeting of this Society, Dr. Leander Cox was elected president; Dr. William M. Smith, vice-president; Dr. John R. Boyd, secretary, and Dr. Dexter B. Farnsworth, treasurer.

Passaic (N. J.) Medical Society.—At the annual meeting of this Society, January 9, Dr. Robert R. Armstrong was elected president; Dr. John J. Sullivan, vice-president; Dr. Frank M. Stagg, secretary, and Dr. Hiram Williams, treasurer.

Medical Association of Troy (N. Y.).—This Association met, January 7, and elected Dr. John W. Morris, Troy, president; Dr. Thomas C. Church, Valley Falls, vice-president, and Dr. Edward W. Becker, Troy, secretary and treasurer.

Talladega County (Ala.) Medical Society.—At the annual meeting of this Society held in Talladega, January 7, Dr. Jason S. McCants, Talladega, was elected president; Dr. Albert C. Sims, Renfroe, vice-president, and Dr. William G. Harrison, secretary.

Riverside County (Cal.) Medical Society.—At the quarterly meeting of this Society held at Riverside, January 14, Dr. Louise Harvey Clarke was elected president; Dr. Samuel Outwater, vice president, and Dr. Charles W. Girdlestone, secretary, all of Riverside.

Rensselaer County (N. Y.) Medical Association.—At its annual meeting held in Troy, January 7, Dr. Charles S. Allen, Rensselaer, was re-elected president; Dr. Thomas C. Church, Valley Falls, vice-president, and Dr. Frederick A. Smith, Troy, secretary and treasurer.

Pettis County (Mo.) Medical Society.—At the meeting of this Society, January 6, at Sedalia, Dr. William G. Cowan was elected president; Dr. Everett A. Wood, vice-president; Dr. Emory F. Gresham, secretary, and Dr. William H. Evans, treasurer, all of Sedalia.

Summit County (Ohio) Medical Society.—On January 15 this Society elected and installed the following officers: Dr. Charles E. Held, president; Dr. L. B. Humphrey, vice-president; Dr. Edward A. Montenyohl, secretary, and Dr. Charles E. Norris, treasurer, all of Akron.

Nevada State Medical Society.—This Society met in Reno, January 6. Dr. Anthony Huffaker, Carson, was elected president; Dr. Pinninger, Floriston, vice-president, and Dr. A. E. Hershiser, Reno, secretary and treasurer. The next meeting will be held in Virginia City, July 7.

Pawtucket (R. I.) Medical Society.—This Society held its first annual meeting and banquet, January 7, at which Dr. William H. Heimer, Pawtucket, was elected president; Dr. Thomas H. McNally, Central Falls, vice-president; Dr. Joseph Duxbury, secretary, and Dr. Forrest Badger, treasurer.

Olmsted County (Minn.) Medical Association.—At the annual meeting of this body held in Rochester, January 13, the following officers were elected: Dr. John G. Cross, Rochester, president; Drs. Oscar C. Heyerdale, Rochester, and R. H. Russell, vice-presidents, and Dr. H. Speier, treasurer.

Philadelphia Academy of Surgeons.—At a recent meeting of the Academy the following officers were elected: Dr. Richard H. Harte, president; Drs. Henry R. Wharton and John B. Deaver, vice-presidents; Dr. William J. Taylor, secretary; Dr. William G. Porter, treasurer, and Dr. John H. Gibbon, recorder.

Clark County (Ohio) Medical Society and the Academy of Medicine held a joint meeting, at Springfield, January 15, over 50 being present, the object being to combine for more effective work and in accord with the plan recommended by the American Medical Association. A banquet followed the scientific work.

Mahoning County (Ohio) Medical Society.—At the annual meeting of this Society, held in Youngstown, January 7, Dr. Carlos C. Booth was elected president; Dr. John S. Zimmermann, vice-president; Dr. Charles D. Hauser, secretary; Dr. Jared E. Cone, treasurer, and Dr. George S. Peck, librarian, all of Youngstown.

Savannah (Ga.) Medical Society.—At the annual meeting of this Society, held January 15, Dr. Ralston Lattimore was elected president; Dr. Marion X. Corbin, vice-president; Dr. Ralph M. Thomson, recording secretary; Dr. George R. White, treasurer; Dr. J. Lawton Hiers, corresponding secretary, and Dr. Elton S. Osborne, librarian.

Milwaukee (Wis.) Medical Society.—This Society held its annual meeting, January 14, at which the following officers were elected: Dr. G. Frederick Shimonek, president; Drs. Carl Zimmermann and John W. Coon, vice-presidents; Dr. Arthur T. Holbrook, secretary; Dr. Wianus O. B. Wingate, treasurer; Dr. Louis F. Frank, librarian, and Dr. John M. Beffel, curator.

Omaha (Neb.) Medical Society.—This Society, at its annual meeting January 14, elected the following officers for 1902: President, Dr. Frank E. Coulter; vice-presidents, Drs. Joseph C. Moore and H. P. Hamilton; secretary, Dr. Joseph M. Aiken; treasurer, Dr. Millard Langfeld, and censors, Drs. Harry M. McClanahan, Benjamin F. Crummer and Andrew B. Somers. The Society has a membership of 79.

Medical Club of Philadelphia.—This Club held its tenth annual meeting January 17, at the Hotel Bellevue. Dr. E. L. Duer was reëlected president and other officers elected were: Vice-presidents, Drs. Thomas H. Fenlon and A. McAllister; secretary, Dr. Guy Hinsdale; and treasurer, Dr. F. Savary Pearce. The club is purely for social purposes, has 365 members and a sinking fund of more than $5000. It is the purpose to build a club house.

Washington (D. C.) Medical Society.—At the meeting of the Society held January 15, Dr. A. F. A. King read the essay of the evening, entitled "A New Factor in the Etiology and Treatment of Malarial Fever: Destruction of the Parasite by the Ultra-Violet Rays of Fluorescent Light." Dr. King demonstrated his theory and gave the results of his personal experiments. The discussion of the paper will be taken up at the next weekly meeting of the Society.

Nashua (N. H.) Medical Association.—On January 8, this Association held its annual meeting at which a valuable Morris chair was presented to Dr. Alonzo S. Wallace, who had granted the use of his office as a meeting-place for several years; resolutions regarding the late Dr. Royal B. Prescott were adopted and the following officers were elected: Dr. George F. Wilber, president; Drs. Sam S. Dearborn and August Guertin, vice-presidents; Dr. Ella Blaylock-Atherton, secretary, and Dr. Charles E. Congdon, treasurer.

Orange County (N. Y.) Medical Association.—This Association held its annual meeting at Middletown January 15, at which the following officers were elected: Dr. Milton C. Conner, Middletown, president; Dr. Frank W. Dennis, Unionville, vice-president; Dr. Charles I. Redfield, Middletown, secretary and treasurer; Dr. Edward D. Woodhull, Monroe, delegate to the American Medical Association; Dr. Charles E. Townsend, Newburgh, alternate, and Dr. William E. Donglas, Middletown, member of the council of the New York State Medical Association.

Washington (D. C.) Obstetrical and Gynecological Society.—At the semi-monthly meeting of the Society, held January 17, Dr. Joseph Tabor Johnson read the essay of the evening, entitled "Choice of Operation for Retro-displacements of the Uterus." Dr. Johnson presented the subject in its entirety and up to date, and the paper was fully discussed by the members. Dr. Stone reported a case of calculus lodged in the right ureter of a woman which was removed by abdominal section. Previous to the operation the diagnosis of appendicitis was made. The patient made an uneventful recovery. He exhibited the calculus, and an interesting discussion followed.

State Sanitary Association (Minn.)—The state sanitary conference which met, January 15, at St. Paul, effected a permanent organization with Dr. Henry M. Bracken, St. Paul, president; Drs. John M. Robinson, Duluth; Alfred E. Spaulding, Luverne, and J. J. Flatten, State University, vice-presidents, and Dr. Emery H. Bayley, Lake City, secretary. The conference discussed diphtheria, smallpox and rabies and passed resolutions recommending the establishment of a national department of health with a cabinet officer at its head.

Philadelphia County Medical Society.—On January 15, this Society held its annual business meeting. The Society has now 790 members, 7 having died within the year. The balloting resulted in the election of 36 new members; in the naming of 150 delegates to the Medical Society of the State of Pennsylvania; and in the election of the following officers: President, Dr. Thomas H. Fenton; vice-presidents, Drs. Francis M. Perkins, and J. Chalmers Da Costa; secretary, Dr. Ellwood R. Kirby; assistant secretary, Dr. William S. Ray; treasurer, Dr. Collier L. Bower, and censor, Dr. W. Joseph Hearn. The Society unanimously adopted the following resolutions:

"WHEREAS, Smallpox is continuing to spread among the people of the city; and

"WHEREAS, Sensational newspaper articles minimizing the importance of vaccination have caused a number of people to refuse the vaccination offered by the city physicians; and

"WHEREAS, Of the 977 cases of smallpox admitted to the Municipal Hospital during 1901 there was not a single patient who had been successfully vaccinated within a period of four years, those afflicted being almost exclusively unvaccinated persons or adults not vaccinated since infancy; therefore, be it

"*Resolved*, By the Philadelphia County Medical Society, representing the physicians of the city and county, That this Society deems it necessary to impress upon the community that universal vaccination is the most effective means of stamping out smallpox, and that, although fumigation and disinfection are valuable adjuncts, they can by no possibility do away with the necessity for vaccination since smallpox patients are the most important carriers of infection, and such infection can not be influenced by the disinfection of smallpox. Be it further

"*Resolved*, That publications which slur the importance of vaccination despite the incontrovertible testimony of 100 years are to be deprecated as contrary to the best interests of the community. Such articles are known to have dissuaded people from vaccination who have subsequently died of smallpox."

CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL SOCIETY.

Regular Meeting, held Nov. 19, 1901.

President, Dr. William E. Casselberry, in the Chair.

Secondary Hemorrhage Following Tonsillotomy.

DR. HOMER M. THOMAS read a paper on the above subject. He said: I never perform a tonsillotomy with the tonsillotome without grave forebodings of secondary hemorrhage. When I began professional work nineteen years ago, this fear was not in my mind, and for several years I had no cases in which there was more than slight hemorrhage following the excision of the tonsils with the tonsillotome. Later on, however, and at very unexpected intervals, I have had hemorrhage occur in cases where there appeared to be no indications of the possibility of hemorrhage. The case I wish to present to-night occurred in my practice recently, and was quite a surprise. The young lady, Miss S., aged 18, had been referred to me for the excision of two hypertrophied tonsils, moderately large, by her family physician. One of the young lady's friends had her tonsils removed with a tonsillotome about six months before, and had suffered from considerable hemorrhage. This so alarmed my patient that she asked me to use every possible precaution to avoid such an occurrence in her case. In view of the circumstances, I was particularly anxious that the operation be a success, and adopted what I considered very great precautions, but they were futile. The right tonsil was removed at about 10 a. m. on Monday with a Matthieu tonsillotome. The line of excision came at about the pillar of the fauces. There was no hemorrhage of any moment, but the young lady was kept under observation for several hours, no hemorrhage occurring. She went home, and on the following Wednesday she returned and the left tonsil was removed. The interval was allowed in order that a firm clot might form in the right tonsil, and prevent hemorrhage. No difficulties were encountered, the excision was easily made, and the patient remained in the office for several hours before returning home. On the following morning, at about five o'clock, I was telephoned that the throat was bleeding severely. I suggested ice and astringents, and supposed that would be the end of the matter. The bleeding increased, however, and about 10 that morning I went to the patient's residence, expecting to find a secondary hemorrhage from the tonsil operated on the day before. On my arrival I was surprised to find a severe hemorrhage from the right tonsil, about 65 or 70 hours after the excision of the tonsil. The clot, which had become detached, was saved, and I found it ragged and undergoing some disintegration. A local application of tannic and gallic acids temporarily checked the bleeding, but the clot was expelled by coughing, and the bleeding recurred. I then applied a saturated solution of ferropyrin, which temporarily controlled the bleeding. The spurting was synchronous with the heart action. I was unable, however, to control the hemorrhage with any styptic, and I finally resorted to the use of the Lentz mouth-gag, leaving it in position for two hours, when the hemorrhage ceased.

DR. HENRY GRADLE, in discussion said: I can report an instance of secondary hemorrhage following a tonsillotomy made with the snare. A gentleman about 30, perfectly healthy, had hypertrophic conditions in the pharynx and nose, attended with considerable deafness and moderately large tonsils. Both tonsils were cut off smoothly with a hot snare. On the third night following, he came to me bleeding very freely, not an arterial hemorrhage, but a venous oozing. It continued for a number of hours, and was finally controlled by antipyrin and tannin. Hemorrhage again set in the next day, but was very trifling. The bleeding was due to an ulcerated condition.

DR. OTTO T. FREER—It seems to me that primary or secondary hemorrhage is apt to follow any method of operation for removal of the tonsils. I recall a serious case of secondary tonsillar hemorrhage succeeding excision of a buried tonsil by cautery dissection. When I saw the case the bleeding had lasted from 2 a. m. to 10 a. m. and attempts had been made to check it with iron perchlorid. Packing of the recess created by the tonsillotomy between the pillars with cotton and tannic acid powder stopped the bleeding. The exsanguinated state of the patient had much to do with the cessation of hemorrhage, and I think that this stops often of its own accord when syncope is imminent and the last remedy applied is supposed to have done the work performed by the lowered blood pressure. Where tonsillotomy is done through the substance of the tonsil, hemorrhage is more apt to occur than if the tonsil be removed from its base, as the tonsillar substance, especially if hard and fibrous, prevents retraction of the arteries, while this takes place normally in the cellular tissue behind the tonsil if that structure be completely removed. It is for this reason that I advocate Ingals' operation for écrasement of the tonsil as the Ingals' tonsil forceps lifts it from its bed after separation of the anterior pillar with a blunt hook and the steel wire snare passes under the tonsil, enucleating it completely. In all the many tonsillectomies done through many years in the clinics at Rush Medical College there has never occurred a serious hemorrhage after the use of the cold wire snare employed after the method of Ingals. I admit that this does not prove that the method is faultless as regards danger of hemorrhage, as bleeding of a severe nature very rarely occurs where the tonsils are removed in childhood and the snare operation is practically limited to children in our clinics; still I think the method deserves some credit for the entire absence of serious hemorrhage in so many years. For controlling tonsillar hemorrhage I have found among the simpler means powdered tannic acid the best, packed well into the tonsillar recess with a cotton plug if this can be done.

DR. WILLIAM L. BALLENGER—Dr. Freer has just referred to the use of the cold steel wire snare as a good method for removing tonsils. I have used this method a number of times within the last year, but the results were so bad in a few instances that I do not believe that it is the best method of procedure in all cases. I have had three violent inflammatory reactions following the use of the cold steel wire snare. I had one patient who was laid up for nearly two weeks on acount of the violent reaction and infection. That may have been my fault and not the fault of the snare, although the usual precautions were taken before and after operating.

I have also had severe hemorrhages with this method, although none of them were secondary. I was led to use it in the belief that a bloodless operation would result. I have used Peter's snare, a powerful instrument, and have had considerable hemorrhage follow its use. Another difficulty is the breaking of the wire. Only last week I had to put in four wires to remove one tonsil; rather an embarrassing procedure. This, however, is the fault of the instrument and can be remedied. As Dr. Casselberry has so well said, there is no operation on the tonsils which is not at times attended or followed by hemorrhage. This is especially true of adult cases in whom the tonsils have become hyperplastic.

DR. J. HOLINGER—I have for several years used the method of Killian, as described in the *Archiv f. Laryngologie* a few years ago. The tonsils which always make trouble are those having very large and deep crypts. Killian places a broad hook in the angle of the mouth opposite the tonsils to be examined. He then examines the tonsil with a strabismus hook. He enters from the hilus of the tonsil down into the crypts, looking for the deepest crypts as they are most liable to cause trouble. He then enters the crypts with a bent knife, and slits them open. The crypts are then painted with hydrochloric acid, and they remain open, the tonsil shrinking. The advantages are manifold. I never have seen a secondary hemorrhage. All the cases I have treated in that way got well quick without any trouble. In cutting the tonsil with a tonsillotome, it is possible that you do not cut the whole depth of the crypt, and leave a pocket. When the wound heals the contracting scar tissue closes that little pocket, and there is a worse condition than before. The hilus of the tonsil is that part where all the crypts open. It is between the upper and middle third of the tonsil, quite high up.

DR. NORVAL H. PIERCE—I have used Killian's method, and had very severe hemorrhage follow. A very healthy gentleman came to me with an embedded tonsil. I explored the supratonsillar fossa, and found a very deep crypt running apparently posterior to the tonsil. I slit it up and painted it

with nitrate of silver. About six hours afterward I was called to my patient's house. I found him nearly exsanguinated. He was bleeding profusely from the cut I had made. I dressed the wound with cotton and ferropyrin—the powder not a solution. A pledget of cotton was rubbed into the powder and then packed in the bleeding cavity.

Dr. J. Holinger—The superior fossa does not belong to the tonsil. Its walls are not tonsillar tissue. It is a pouch that stays open from embryonal life in about 20 to 30 per cent. of the people. If it makes trouble it must be cauterized. If it is attacked with the knife you can not avoid cutting the palate artery.

Dr. William E. Casselberry—I have observed no less than half a dozen cases of serious hemorrhage following tonsillotomy in adults, and have also had it happen once in childhood. It has happened after all the methods, but most frequently after the use of the tonsillotome. I have had it occur after the galvanocautery and the cold wire snare. Of late years I have adopted largely with adults the fragmental method as a guard against hemorrhage, not that bleeding does not occur after the removal of small pieces of tonsillar tissue at a time, but one is better able to cope with it by prompt cauterization when the cut surface is small. I have, however, had two copious bleedings after the removal of comparatively small fragments, not larger than one-quarter of a moderately hypertrophied tonsil. In one of these cases, it occurred with the last of eight fragments of the two tonsils removed at intervals of a few days, the cut which bled being low down in the pharynx. It was stopped by cauterizaton of a small spurting vessel. In the other case it was also the last fragment, but the cut was located high up in the velar tonsil and the bleeding was stopped by digital compression. I believe these hemorrhages are liable to occur, no matter what method we adopt, and therefore I am chiefly interested in the measures to be taken to control hemorrhage promptly when it does occur. I believe that a hemorrhage which will be checked by tannic acid, ice ferripyrin, and other preparations of iron, would stop itself spontaneously. I do not favor loss of time in the use of these materials in really serious cases, because my experience indicates that an arterial hemorrhage or a copious venous hemorrhage, capable of exsanguinating the patient, will not be controlled by any chemical astringent. In the case mentioned by Dr. Pierce, where he packed a small cavity with cotton, saturated with ferropyrin, a good result was obtained, but it was undoubtedly the pressure secured rather than the astringent which so promptly checked the bleeding. I have found that the best way is to sponge the throat clear of clotted blood, even at the expense of momentarily increasing the hemorrhage, and to look for the bleeding point, just as one would in hemorrhage from an ordinary surface wound. If one does not find a spurting artery one at least ascertains that it is not an artery that is bleeding, but a general venous ooze, which information is of value in the selection of subsequent means of treatment. In the majority of cases of serious hemorrhage, however, you will find a vessel which has a slight spurt. In most but not all of my own cases I have been able by careful swabbing to cauterize that bleeding point with the galvano-cautery. This apparatus, unfortunately, is not always at hand; also the bleeding may be so copious that without skilled assistance it would be impossible to carry out this method. If there is a cavity or deep sulcus between the faucial pillars that will retain gauze, one would of course pack it, but this favorable condition is usually absent. The next expedient is pressure, and I believe this method is almost universally available, and if resorted to promptly would gain the desired end quickly. To exert pressure one always has at hand his forefinger and thumb, if not one of the various tonsillar pressure hemostats. In one of my cases, after two efforts at cauterization while still in the office, and a third effort at the hospital late in the evening had failed, I applied a Störk's tonsil pressure hemostat, which worked perfectly. In the absence of the hemostat one must use the thumb and forefinger, but it is not always necessary to maintain pressure for a great length of time. In the majority of cases one-half hour at the most would be likely to suffice. Gauze wrapped around the finger is an aid, and upon this may be placed any desired astringent. I adopted this method in the case above mentioned, in which hemorrhage occurred after the abscission of the velar fragment of a tonsil, and the bleeding which had resisted other methods for two hours ceased after ten minutes' digital pressure. I have had no experience with catching up the bleeding vessel by forceps or ligating the stump or suturing together the faucial pillars. The patient is usually so panic-stricken that complicated methods could not be accomplished without a general anesthetic. One can conceive that a general anesthetic might be necessary to control the patient in order to carry out any method, and this might be especially true of children. I recall only one case of my own in a child, a dispensary patient aged 10 years, in whom secondary hemorrhage occurred eight hours after the operation, and continued till syncope ensued, when the bleeding ceased.

A Case of Latent Frontal Sinusitis.

Dr. George E. Shambaugh—This woman's nasal trouble dates back 12 years, when following an attack of typhoid fever she began to have a purulent discharge from the right side of the nose, which has continued ever since. Seven years ago she had polyps removed from the right nares. I saw her for the first time two years ago, when she complained of difficulty in breathing through her nose and of a bitter tasting discharge into her throat. Her throat felt dry and sore and she suffered almost continuously from severe frontal headaches, limited chiefly to the right side. She said she suffered frequently from chills and fever and was quite unfitted for any physical or mental exertion. On examination the left side of the nose was found to be normal. The right naris was completely filled with polyps. The pharynx was the seat of a dry pharyngitis. Percussion over the frontal sinuses elicited marked tenderness on the right side. The polyps were removed and with them the anterior end of the middle turbinated body. With the middle meatus thus freely opened, I succeeded in irrigating the maxillary frontal and sphenoidal sinuses by introducing soft silver canulæ through their normal openings. From each of the three sinuses a considerable quantity of fetid pus was washed out. I saw the patient for several months, and during that time irrigated all three of the sinuses a number of times with a marked relief in the subjective symptoms and some decrease in the amount of the discharge.

I did not see the patient again until this fall, when a marked change in her condition was noted. She has completely recovered from her severe headaches; the sensation of dryness and soreness in her throat has disappeared; the discharge from her nose has almost ceased and is noticeable only for a short time in the morning after rising. I found the right side of the nose open and no recurrence of polyps. The sphenoidal sinus, the opening into which could plainly be seen, was clean and dry. Irrigation of the antrum brought out a clump of thick, fetid pus. Irrigation of the frontal sinus washed out a similar but smaller quantity of thick pus. Since then I have washed out the frontal sinus six or eight times.

Dr. Otto T. Freer—I would like to ask whether the opening in the frontal sinus was in the hiatus semilunaris, or in front of it. Killian says that the opening may be behind the processus uneiformis or in front of this, beneath the end of the middle turbinated bone. In the latter case the opening is very short, points directly under the middle turbinated body, and is easy of access.

Dr. William E. Casselberry—I would ask Dr. Shambaugh what the condition was and is, under transillumination; also, whether in washing out the sinus at times when he says he gets no pus, how much pressure he uses; inasmuch as oftentimes when there is but little pus it adheres to the wall of the cavity, and it takes considerable pressure to wash it off. This is of diagnostic importance, as it indicates the degree to which the case has become latent, or whether it is actually a full recovery.

Dr. Shambaugh, in reply—The opening into the frontal sinus was through the ordinary passages, the infundibulum.

The usual opening for the atypical passage is in front and a little to the median side of the hiatus semilunaris. In regard to transillumination, when I first saw the case I thought I observed a deeper shadow over the right frontal sinus. During the last two months I have repeatedly tried the transillumination test without being able to detect any difference in the two sides. As to the amount of pressure used in irrigation, I made use of a fountain syringe, which I elevated about five feet above the patient's head. The canula used had a large opening and the water always flowed freely into the sinus.

DR. T. MELVILLE HARDIE presented a case with "Fracture of the Septum, with an Unusual Complication."

Aneurysm of the Arch of the Aorta.

DR. JAMES T. CAMPBELL presented a case. The patient is aged 75 years, prior to his present complaint, always has enjoyed good health. For 30 years he was in the employ of the I. C. R. R., superintending the construction of water-towers. This kept him out of doors in all kinds of weather, and he had at times heavy lifting and straining to do. Occasional attacks of lumbago is the only disease from which he has suffered. Of late, however, he has had dyspeptic symptoms with constipation. Eighteen months ago, while engaged in work about his barn, he contracted "a cold," had acute coryza and hoarseness. The hoarseness persisting brought him to me. He has a slight inspiratory stridor. The left pupil is dilated, but responds to light. The arteries are cord-like, the radial pulse on the right has a greater volume than that of the left side. The left common carotid has a much greater diameter than it had six months ago. Tracheal tugging was well marked when he first came under observation, but it is now less pronounced. The left vocal cord is in the cadaveric position; the left arytenoid cartilage is on a plane anterior to that of its fellow. In eating and drinking (cold water more particularly) he has some difficulty in swallowing. The particles seem to stop at a point back of the upper portion of the sternum and occasion cough. The cough is dry, with no expectoration. On physical examination no unusual impulse is transmitted to the chest wall. On percussion, the heart dulness extends beyond the normal, upward and to the left. On auscultation no bruit can be heard. By the fluoroscope the uniform dilatation of the artery can be very clearly seen, involving the transverse and beginning of the descending aorta. The absence of bruit is, I think, accounted for by the fact that the arterial coats have expanded uniformly, and that there is no special resistance to the blood current.

Dr. Campbell read also a paper on "Ulceration of the Tongue Associated with Pulmonary and Laryngeal Tuberculosis."

DR. OTTO J. STEIN read a paper on "A Case of Laryngeal Disease."

NEW YORK OBSTETRICAL SOCIETY.

Stated Meeting, held Jan. 14, 1902.

The President, Dr. Malcolm McLean, in the Chair.

Gonorrheal Pyosalpinx Resembling Tubal Pregnancy.

DR. HERMAN J. BOLDT—At the last meeting of the Society Dr. Coe narrated the history of a patient with gonorrheal pyosalpinx, whom he supposed to have extra-uterine pregnancy. I remarked, at the time, that I, too, had seen women giving histories resembling those we are likely to elicit in instances of ectopic gestation, but they were found to be afflicted with suppurative pelvic disease. The patient from whom this specimen was removed gave the following history:

J. C., aged 34 years, was married 14 years. She had two children; the last two years ago. Menstruation began at 16 and has always been regular when not pregnant. The flow has always been from two to three days' duration, the blood being normal in color. The last menstrual period occurred on December 14, but was only of one day's duration, very scanty, and the blood exceedingly pale. Following the cessation of the flow the patient began to have pains in the left inguinal region, which were described as "labor-like" pains, with exacerbations. The pain at times was so severe that she was compelled to go to bed and send for her physician. Medicine and hot water bags gave temporary relief; she had no appetite; nausea after eating; constipation. The uterus was somewhat softer and larger than normal. On the left side, a little above the vaginal vault, a thick sausage-shaped mass was felt, soft in consistency and very painful to touch. A small part of the tubal enlargement extended behind the uterus, as though from gravity the distended tube sagged toward the cul-de-sac. The examination being quite painful and nothing indicating trouble being found on the floor of the pelvis to the right of the uterus, a more careful palpation was not attempted at this time. The breasts showed no changes indicating pregnancy. The diagnosis of probable unruptured tubal gestation on the left side was made and the patient was placed in the hospital for observation, so that should the probable diagnosis be decided a positive diagnosis from the result of observation, operation could be undertaken without delay. Four days later, on examination, the previously described tubal tumor was found to be somewhat larger than at the former examination, and both breasts upon pressure gave exit to secretion. This change in the breasts was so marked that an error in diagnosis was not considered likely. A tubal tumor was also found on the right side, but much higher in the pelvis; the exact outlines were not mapped out, because of the danger of causing rupture by brusque examination. The presence of the second tubal distension caused some doubt as to the correctness of the previous diagnosis. The question was between bilateral pyosalpinx and a pyosalpinx on the right side and tubal gestation on the left. Bilateral tubal gestation was not thought of, because of the absence of symptoms pointing to such trouble on the right side. My hesitation to make a positive diagnosis under the circumstances was due to previous experience with patients giving histories such as we are likely to get in tubal gestation, and having a swelling in the pelvis, who upon operation were found to have pus instead of embryo in the swelling felt. Abdominal section in our patient revealed bilateral pyosalpinx. The adhesions of the adnexæ to the surrounding structures were extensive and firm. The left tube was enucleated without rupture. The right tube was more distended than the left; the cause of its non-descension into the pelvis was found to be due to intimate adhesions with the small intestines, so firm that the bowel was injured during the separation of the tube. While attempting to separate the ovary from the right oviduct with a view of saving a part of the gland to preserve the function of menstruation rupture took place. On examination the pus showed the presence of gonococci. The husband upon interrogation denied that he had had gonorrhea except one time, between fifteen and twenty years previously. At times, he admitted, the urethral orifice was agglutinated on arising mornings. Considering the history which was given by the patient, in connection with the condition found, the truthfulness of but one attack of gonorrhea fifteen or twenty years ago is, in my opinion, doubtful. Were it true the case would, in my experience, be unique. I would be grateful to hear other opinions, because I consider this a very important question, and it might cause a change of opinion as to gonorrhea in connection with conception. Another interesting feature is the absence of symptoms from the larger right pyosalpinx, with the presence of such intense symptoms from the left pyosalpinx.

Inflammatory Growth of Cecum and Ascending Colon Necessitating Resection of Bowel—Recovery.

DR. HIRAM N. VINEBERG—Mrs. J. S., aged 27 years, had a large ventral hernia following an abdominal hysterectomy performed by me in April, 1898, for acute puerperal sepsis, in which the uterus was studded with abscesses varying in size from a pea to an almond. The abdominal wound was left in great part open so as to admit extensive packing with iodoform gauze; hence the subsequent hernia. The woman was desirous of having her hernia operated on, which I accordingly did on April 15, 1901, at St. Mark's Hospital. There was an extensive adhesion of the omentum to the scar, making the operation rather tedious and of considerable duration. The long abdominal wound healed by primary intention excepting an area about an inch at the upper angle where a sero-

sanguinous discharge took place, opening the wound down to the peritoneum for the aforesaid distance (about an inch). To shorten her stay in the hospital and to prevent a possible occurrence of a small hernial protrusion at this point, I freshened the edges of the wound and sutured it with chromicized catgut, leaving the skin unsutured. The union proceeded normally and the patient was allowed to get up a week later. A few days before getting up, during the absence of the nurse, she had a desire to urinate and reached over the side of her bed for the urinal which was standing on the floor underneath the bed. While doing so she felt something give way, she said, in the right side of the abdomen and she was seized with a sharp pain in that region. The next day, when I saw her, I could palpate an elongated mass about the size of the index finger at the outer border of the right rectus muscle and just below the line of the umbilicus. This mass seemed rather superficial and was quite tender. There was slight temperature, 100 F. She left the hospital May 15 and made very little complaint of the pain in the right side of her abdomen. She was up and about until May 27, when the pain in her side became severe. She felt feverish and vomited a couple of times. She took to her bed and I saw her on May 30, three days later. She then had a temperature of 102 and a pulse of 106. There was no abdominal distension. She had had daily movements of the bowels. On palpation a mass about the size of a closed fist was felt at the outer border of the right rectus muscle. It was rather ill-defined, seemed fixed, and appeared to be immediately beneath the abdominal wall. One of two conditions occurred to me: 1, an appendicitis with a purulent exudate in a somewhat abnormal position; or 2, a gauze compress which inadvertently had been left within the abdomen during the operation for the hernia. On May 30 I cut down upon the mass and found the muscles infiltrated and edematous. Just before opening the peritoneal cavity some dark grumous material appeared in the wound. This was mopped out and the peritoneum carefully opened. I now found a mass about the size of the closed fist, giving the impression of a sarcomatous growth involving the cecum and ascending colon. I resected about eight inches of the gut, going about an inch above and about an inch below the growth. The two ends of the bowel were united by a Murphy button. The patient had a rather stormy convalescence, but ultimately made a good recovery, passing the button on the 19th day after the operation. She has remained perfectly well since. The excised growth seemed to spring from the peritoneal covering of the intestine, was quite friable and could be easily broken off with the fingers. Dr. F. S. Mandelbaum, pathologist to Mt. Sinai Hospital, made a thorough microscopic examination of it and pronounced it to be of an inflammatory nature.

The explanation of the development of this inflammatory growth is not easy. Two probabilities occur to me: 1. A traumatism was inflicted to the rectus muscle in the act of reaching over the side of the bed to the floor. This excited an inflammatory process which extended by contiguity to the peritoneum and underlying intestines. 2. The secondary suture excited a low grade of inflammation which extended in the same way. The following facts are in favor of the first assumption: The sudden onset of the pain following the aforesaid act; the appearance of the mass shortly afterwards, decidedly appreciable when I saw her twenty-four hours later; the site of the original swelling, fully two inches external from the line of sutures and at the outer border of the right rectus muscle.

Early Recurrence of Carcinoma in Vaginal Scar Following Abdominal Hysterectomy for Adeno-Carcinoma of Fundus Uteri.

Dr. Hiram N. Vineberg—The following case is of interest in showing how unfavorable the prognosis may prove to be in the most favorable form of carcinoma of the uterus even when operated upon at a very early date. Mrs. S., about 61 years, widow for 7 years, mother of 2 children. The menopause was established 12 years ago. While in Germany last summer and in apparently good health she was suddenly seized with uterine hemorrhage. She immediately went to Strasburg to consult Prof. Freund. On Sept. 27, 1900, two weeks after the first appearance of the hemorrhage, an abdominal hysterectomy was performed by Prof. Freund. The extirpated uterus showed a fibroid growth the size of an English walnut in the uterine wall on the left side near the os internum. At the entrance of the right tube into the uterus the mucosa showed a small area of carcinomatous degeneration. The patient made a rapid and good recovery from the operation, the abdominal wound healing throughout by primary union, although a fairly-sized hernia developed at the lower end of the wound shortly afterwards. Three months after the hysterectomy, on Dec. 29, 1900, she consulted me on account of a vaginal bloody discharge which had made its appearance two weeks before. The amount of blood lost was small at first, but latterly had grown quite profuse and she passed several large clots. Her general appearance was quite good though she complained of some weakness.

On vaginal examination a friable mass, the size of the end of one's thumb, was found occupying the scar in the vagina. It bled very freely on being touched. To the left of this the tissues were found pretty extensively infiltrated. The inguinal glands were not found to be enlarged and no infiltration existed in the abdominal scar. On Jan. 2, 1901, I excised with scissors, curette and Pacquelin cautery the mass in the vaginal scar and as much of the infiltrated tissues as was feasible. The removed tissues were kindly examined by Dr. F. S. Mandelbaum, pathologist of Mt. Sinai Hospital, who pronounced them to consist of epithelial carcinoma. The patient, after this, had no further hemorrhage and seemed to improve in her general health. But in the early part of May she showed marked signs of cachexia and died on May 30, eight months after the original operation.

Long Mucous Polyp Attached in the Upper Portion of the Uterus in the Horn Protruding at the Introitus Vaginae.

Dr. Malcolm McLean—Mrs. C., aged 52, married, a multipara, has had "dragging pains in the back" with frequent sensations of "bearing down" for the past three or four years. There has been a feeling of obstruction in evacuation of the bowels accompanied by a sensation of dragging in the vagina "as though all the organs were coming out." During all this time there has been an exhibition of irregular metrorrhagia, with irritating watery discharges in the intervals. The patient has been very anemic although she is of excellent build and has healthy organs apparently throughout the rest of the body. Examination showed a uterus slightly enlarged by an interstitial fibroid. Protruding into the vagina to the introitus was found a long polypoid growth, soft and traversed by cell-like cavities. It was attached by a rather narrow base (one-half inch) to the left horn of the fundus uteri. Under ether anesthesia it was drawn down and easily detached by dissecting it off with the finger. It measured five and a half inches in length and two and one-quarter inches in diameter. The patient is recovering promptly.

Dudley's Operation for the Relief of Severe Cases of Recto-Vaginal Fistula.

Dr. A. Palmer Dudley—I devised this operation while delivering my course of lectures at Dartmouth Medical College last year. I have presumed to designate it as "Dudley's Operation for the Relief of Severe Cases of Recto-Vaginal Fistula," because, so far as I am able to learn, in looking over the record of such cases, it is original with myself and rather a unique procedure; nevertheless, it was successful and, in my judgment, will in the future receive recognition from the profession, and take its place as a surgical relief for such a condition.

A short description of the case and the method of procedure for relief would be the most concise manner in which I can present my claim for originality for the operation. The patient operated on by this method was 47 years of age, married and the mother of three children. She was admitted to the Mary Hitchcock Hospital July 23, 1901, suffering from a combination of pelvic diseases, of which may be mentioned, hemorrhoids, laceration of the perineum, recto-vaginal fistula, laceration of the cervix, and retro-displacement. The major condition was

recto-vaginal fistula, through which fecal matter and gas constantly escaped, which had been operated upon twice before, without successful result. She was a woman without means, occupying a free bed in the hospital, so I determined to do all necessary work for her, provided she stood the anesthetic well. Each and every member of this Society is, or should be, perfectly familiar with the operative methods of procedure for all forms of fistula as practiced by Sims, Emmet, Bozeman and their followers down to the present time, and it would be out of place for me to call attention to the different methods and peculiarities of each operator. Instantly upon examination of this case, I recognized the possibility of a third failure unless I could by some means treat the rectal mucous membrane, and in some manner whereby it would be impossible for a leakage of gas and fecal matter to take place, in case the vaginal site of the wound did not heal by primary union, and as the patient was suffering from hemorrhoids which required removal, I determined upon the following plan:

The patient was placed in the Sim's position, the quadrivalve speculum was introduced into the bowel, and the sphincter ani thoroughly but carefully divulsed. I then made Whitehead's operation for hemorrhoids, going right around the entire anus, just through the mucous membrane. I then dissected the mucous membrane of the rectum from the attachment to the sphincters, and continued the dissection, separating the mucous membrane of the rectum from its attachments to a level with the upper edge of the opening in the bowel, carefully separating the mucous membrane of the rectum from around the edge of the fistula. I then continued the dissection on sufficiently far to allow me to draw the rectal mucous membrane, including the fistulous opening, down to the anus. The mucous membrane of the anus was so dissected out, was then cut away including the hemorrhoidal vessels. The mucous membrane of the rectum was then sewn to the skin of the anus around the entire circumference of the latter, as in Whitehead's operation for hemorrhoids. This procedure, of course, did away with the fistulous opening in the rectum. The patient was then turned upon the back, the uterus curetted for fungous growth, the fistulous opening through the vaginal coats denuded, and sewed up, simply as a superficial wound in the vagina with catgut. The perineum was then restored by my own method of procedure, using only catgut as a suture. A small abdominal incision was then made, adhesions about the uterine appendages broken up, and the uterus brought forward and fastened by ventro-suspension. The patient went to bed in good condition. Each one of the wounds healed by primary union, and the patient left the hospital just four weeks after the operation, with good control of the sphincter ani, the fistula perfectly healed, and the uterus in good suspension. I want to draw attention to one point in this operation, and the future application of it in cases of accidental fistulæ high up in the vaginal vault, as a result of hysterectomy. In my judgment in cases of high fistulæ, it would not be necessary to resect the bowel to a level of the fistula, but only such portion of the bowel as would be sufficient to change the position of the rectal opening, with that of the vaginal, so as to flap each fistulous membrane against unbroken structures and then sewing the parts carefully together with whatever sutures you deem best suited to the occasion.

DENVER AND ARAPAHOE MEDICAL SOCIETY.

Regular Meeting, held Jan. 14, 1902.

The President, Dr. H. G. Wetherill, in the Chair.

Consumption Contracted in Colorado and Methods to Restrict Its Spread.

DR. S. G. BONNEY holds the opinion that the infection of tuberculosis is extremely slow and incremental in character, the contagion constituting a source of danger to such alone as are especially predisposed, and only after prolonged exposure or repeated infection. Tuberculosis developing in Colorado should not be ascribed, therefore, as resulting from intimate association with pulmonary invalids after the manner of certain contagious diseases. As a direct causal factor in the development of the disease in Colorado should be considered the unfavorable occupation of a considerable class of her people, namely, the miners. Absence of sunshine, inhalation of an atmosphere vitiated by dampness, dust and smoke, climbing of mountains and ladders in high altitudes, and carrying of heavy burdens can not fail to exert a deleterious influence. Another factor is the strong inherited susceptibility of her youthful population born of tuberculous parents. The question whether consumption developed in Colorado is increasing from year to year, is of momentous importance. The State must secure adequate protection for her communities without unnecessary infringement upon the rights and privileges of her consumptives. The medical profession must also assume an enormous responsibility in its advisory capacity. It is natural that much interest would attach to the report of the committee upon tuberculosis appointed a year and a half ago by the State Society, which was made public at the last annual meeting. The report states that the total tubercular death-rate for the 16 months during which the statistics were collected, is 13.32 per cent. This happens to be the same proportion as was published by the Denver Health Department in 1894. Besides, the increase in population has not been taken into account. Nearly one-fourth of all cases developed in Colorado were children under 5 years of age. These deaths should not be included as instances of indigenous tuberculosis. Out of a total of 224 cases, one-fifth occurred in miners. The location of the indigenous cases by counties is interesting. El Paso County, containing relatively more consumptives than any other county in the state, had only six cases. Gilpin County, in which consumptives are but few, offers a percentage nearly three times as large. The explanation is that the inhabitants of El Paso enjoy the privileges of sanitation, but the inhabitants of Gilpin County are mostly composed of miners who devote less attention to hygienic laws. Furthermore, there is an entire absence of proof that these cases were actually contracted in Colorado. Such an attitude of the committee implies the non-acceptance of the theory of latent tubercular process. The committee reports that numerous experiments with animals have shown that animals may be as readily inoculated with the tubercle bacilli at this altitude as at a lower one, yet one fails to appreciate the practical significance of the inquiry. He does not understand how any reasonable interpretation of the official data justifies the implied, not directly expressed, conclusion of the committee of a rapid and an alarming increase of tuberculosis in Colorado. He has seen 16 cases during a period of ten years out of a series of 1200 reported cases of consumption who were kept under rather continuous observation. Two were old miners, one a stone-cutter with chronic Bright's disease, one a layer of carpets and one employed in a steam laundry. The etiological factor in these 5 cases is evident. Two have developed the disease six months after arrival; it is uncertain, therefore, whether the disease originated in Colorado. In 3 there are distinct histories of exposure. The remaining examples of tuberculosis developed in Colorado, for which no explanation could be found. He protests against such incendiary public utterances from medical men in Colorado, as have given the impression that the future of our communities are being seriously endangered from imported cases. The promulgation of such views are not warranted by facts. He advocates the following measures for the restriction of tuberculosis: 1. Compulsory notification and registration. 2. The education of the consumptive himself, in the rigid observance of sanitary precautions. 3. State sanatorium for the poor. 4. Segregation hospitals for the hopeless and impoverished. 5. Periodic disinfection of apartments occupied by the sick. 6. Prohibition of expectoration wherever people walk. 7. Public attention should be drawn to proper mode of living, occupation, etc. 8. For creation of societies for the study and prevention of tuberculosis. 9. Government and municipal supervision of the construction of public buildings, tenement houses, factories, etc.

DR. HENRY SEWALL said that the outside world is bound to misunderstand us. The question is: Is tuberculosis developed in Colorado or not? The facts warrant a positive assertion. What is the probable progress of the disease during the next

century? Since no one denies the existence of indigenous tuberculosis in Colorado, and since such cases developed only during the last two decades, and now two persons out of every 10,000 die of it, it is more than probable that the disease is on the increase.

Dr. E. F. Waxham agrees with Dr. Sewall. While we should teach that tuberculosis is a communicable disease, we should also teach that it can be restricted.

Dr. Carroll Edson contends that half of the cases reported by the committee has not been verified by bacteriologic examination.

Dr. O. J. Pfeiffer has not seen a single case of indigenous tuberculosis in Colorado during all the years of his practice.

Dr. S. A. Fisk said that his experience is not in accord with the conclusion of the committee of the State Society.

Dr. G. E. Tyler said that those who speak disparagingly of the work of the committee have probably not read the report in the original. All the committee claimed was summarized as follows: That tuberculosis is indigenous to the State; that it was not formerly indigenous, but has become so through infection from imported cases; and that plans to prevent the further spread of this disease be devised and put in execution at the earliest possible moment.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

PRESCRIPTION WRITING, XI.

(Continued from page 272.)

Methods of Administration.

Medicines for general effect may be administered in one of the following ways:

1. Hypodermically.
2. Endermically.
3. As a liniment.
4. As an ointment.
5. In the form of a suppository per vaginam or rectum.
6. By the respiratory tract.
7. Per os.

Hypodermic Medication.

The advantages of hypodermic medication are that certain results may be expected from the dose given, because it enters directly into the circulation and consequently does not undergo any change or decomposition which might take place if given by the stomach. Physiological results are obtained much quicker than by any other method of medication. It is the best means of administration when the stomach is not capable of promoting proper absorption. In emergency cases where rapid stimulation is imperative this method should be employed. In cases of acute pleurisy, for illustration, or an attack of gallstones, or perhaps an acute attack of appendicitis, when medicines can not be borne by the stomach, the pain may be relieved by hypodermic injections of morphine or codein. The possible consequences of this method, however, can not too constantly be borne in mind, namely: The dangers of the patient contracting the drug habit. A large percentage of these habitués places the blame of their downfall upon the physician. That the use of the hypodermic needle in the hands of the physician has been abused, in a great many instances, there can be no doubt. The relief of pain, the promotion of sleep, and the quieting of nervous symptoms can be obtained by other methods in the vast majority of cases if the physician would devote a little more time to the study of his patient and the accompanying symptoms.

However, when the conditions demand hypodermic medication, a proper site should be selected for the injection, the most suitable localities being the outer aspects of the arms and thighs, the abdominal wall, between the scapulæ and in the calves of the legs. On the thigh, just anterior to the greater trochanter, it is said that there is an area two inches square over which a hypodermic needle can not be felt on account of the comparative absence of nerve filaments.

The experience of recent years has introduced methods of treatment which sometimes demand large quantities of fluid to be introduced beneath the skin, such as the introduction of normal salt solutions, to take the place of large quantities of blood lost in an operation; the injection of antitoxins in treatment of the infectious diseases and the introduction of gelatin solutions to check dangerous hemorrhages. When such large quantities are to be given, locations upon the body should be chosen where the skin is loose and the large needle can be easily introduced. The fluid should be allowed to flow as slowly as possible, no difference how great or small the quantity. It is not unusual for sloughing to follow at the site of the injection when it is pushed in too hurriedly, due probably to destruction of the capillaries supplying the parts. It is not necessary to mention the need of absolute cleanliness in preparing the skin for the injection and in rendering the needle thoroughly aseptic, also of certainty that all the air has been excluded from the syringe. Sometimes it is preferable to inject remedies immediately into the deeper tissues in order to reach a certain set of muscles or to produce some local influence upon a large nerve trunk. In cases of progressive muscular atrophy, in its earlier stages, hypodermic, or better parenchymatous, injections of medicines are often recommended. The introduction of a sedative directly into the nerve sheath in severe attacks of sciatica is frequently resorted to.

(To be continued.)

Ergotin per Rectum in Metrorrhagia.

According to *Jour. de Med. de Paris*, in cases where ergotin is not well borne by the mouth, it can, after preliminary lavage, be injected per rectum in the following combination:

℞.	Ergotini	3iiss	9|50
	Acidi salicylici	gr. iii	|20
	Glycerini	3v	18|75
	Aq. destil.	℥iiss	75|

M. Sig.: Inject one teaspoonful per rectum, first diluting it with three tablespoonfuls of water.

Quinin as a Styptic and Antiseptic.

Occasionally the general practitioner is called upon to check hemorrhages which are stubborn to treatment. Marx, as noted in *Med. News*, states that iodoform and its derivatives have so many objections that he has been induced to search for other substitutes. Among these he has tried quinin with great satisfaction. He employs the following combination:

℞.	Quininæ hydrochloratis	gr. x-xx	|66-1.30
	Alcoholis	3ss	1|88
	Aq. destil. q. s. ad	℥ii	60|

M. Sig.: Saturate the gauze and apply to bleeding surface.

Treatment of Hiccough Due to Gastric Indigestion.

The following combination, as a stomachic and gastric sedative, is recommended in cases of hiccough due to disturbances of the stomach:

℞.	Sodii bicarb.	3iv	15|00
	Tinct. nucis vom.	3i	3|75
	Spts. chloroformi	3ii	7|50
	Tinct. capsici	3i	3|75
	Tinct. gent. comp. q. s. ad	℥iv	120|

M. Sig.: One teaspoonful in water after each meal.

Treatment of Laryngismus Stridulus.

The following is recommended by *Merck's Archives* in treatment of laryngismus stridulus occurring in children two years of age or older:

℞.	Tinct. belladonnæ	m. xii	|75
	Chloralis hydratis	gr. xx	1|30
	Potassii bromidi	3i	3|75
	Syrupi aurantii	3iv	15|00
	Aquæ destil.	℥ii	60|

M. Sig.: One teaspoonful every hour until difficult inspiration is relieved.

Treatment of the Itching of Chilblains.

Dr. J. Cooperider, of Madison, Ind., states that the experience of thirty years has taught him that the best method of treatment of the itching in frost bite is to immerse the foot in water as hot as can be borne and then increase the heat of the water as fast as the patient can bear it, allowing the foot to remain in the water for twenty or thirty minutes. He states that by repeating the foregoing treatment three times twelve hours apart, a cure will be completed.

Agreeable Methods of Administering Quinin.

Shoemaker recommends the use of the gelatin-coated pill, cachets de pain or coquilles. The following is regarded by him as an agreeable method in the liquid form:

℞.	Quininæ sulphatis	gr. ii	13
	Acidi citrici	gr. vi	38
	Syr. aurantii flor.	ʒi	3 75

M. Sig.: To be taken at one dose, placed in a wine glass containing three or four grains of sodium bicarbonate in a saturated solution and drunk while effervescing.

Mercury in Treatment of Diphtheria and Tonsillitis.

Shoemaker also recommends the following prescriptions to relieve the throat symptoms in diphtheria or tonsillitis:

℞.	Hydrarg. chloridi mitis	gr. ii	13
	Antimonii et potassii tartratis	gr. i	065
	Sacchari albi	ʒss	1 90

M. fiant chartulæ No. x. Sig.: One powder every hour or two; or:

℞.	Hydrargyri chloridi corros.	gr. i	065
	Tinct. guaiaci	℥i	30
	Glycerini	℥ii	60

M. Sig.: One-half to one teaspoonful every two or three hours.

Treatment of Adenitis in Children.

If there is no visible cause the diathesis should be sought and treatment applied according to such conditions. In the early stage of acute adenitis before suppurative signs are present, cold should be applied to the swollen glands or a compress wet with a solution of formaldehyd, carbolic acid or corrosive sublimate, which quite often arrests the induration and prevents the formation of pus. If suppuration already exists the involved glands should be freely opened and evacuated. In chronic adenitis general tonics according to the causal ailments should be administered. Inunctions of green soap every other or third day should be tried when tuberculosis is suspected and iodipin given internally. The most reliable treatment is the radical extirpation of the glands.—*Merck's Archives.*

[Iodipin is an iodin addition-product of sesame oil. It is a yellowish fluid of oleaginous taste. It can be given to adults in doses ranging from one to two drams of the 10 per cent. strength, three times a day, or in combination with peppermint water, or flavored with oil of peppermint.]

Medicolegal.

Not Liable for Medical Services for Non-Resident.—The Supreme Court of Nebraska holds, in the case of Gilligan vs. The Town of Grattan, that a township is not liable for medical services rendered a non-resident pauper, as for example where a person injured on a railroad in one township is brought into the city in another township, where a justice of the peace orders a physician to render professional services to him at the expense of the township. Whether the county would be liable, under the Nebraska statute, the court does not say. But it declares that no county, nor any subdivision thereof, is liable for the support of the poor or medical attendance bestowed thereon unless the legislature has so authorized. And, "poor within the town," it holds, means paupers whose domiciles are in the town.

Describing Pneumonia as "a Cold."—In an application for a policy of life insurance the applicant warranted that he had never been seriously ill, and that within two years before making application he had not been under the care of a physician except "for cold." These statements were by the policy made part of the contract as warranties. Their falsity, the Supreme Court of New Jersey holds, Finn vs. Metropolitan Life Insurance Company, annulled the contract. It was shown that within the two years the party had been ill with pneumonia, by which he was confined to his bed, under the care of a physician, for about two weeks. The suggestion that the illness could be truthfully described as "a cold," the court holds, could not be reasonably entertained, and the insurer had a right to expect information more consonant with the fact. The warranty made the validity of the policy dependent on such information being given.

Imprudently Treated Wound.—A man was slightly wounded in the leg by the bite of a dog. His daughter obtained from the owner of the dog a small bunch of the latter's hair, and conceived the idea that it would soothe the wound, and cause it to heal. She put this hair on the scratches inflicted by the animal, carrying out the old saw that the hair of the dog is an antidote for the bite. After having put on the hair, she applied a piece of salt meat over the hair. The hair and the salt meat remained on the wound for about a week, at the end of which week erysipelas developed. The application was removed, and a physician sent for. But the man died. The Supreme Court of Louisiana holds, Martinez vs. Bernhard, that, in such a case, the owner of the dog could not be held liable for damages, the two physicians who examined the wound testifying that septicemia probably resulting from the imprudent treatment, and not the bite of the dog, was the cause of death.

Presumptions Where a Person Asks for a Certain Drug.—The Supreme Court of Iowa says, in the case of Gibson vs. Torbert, that it believes the true rule deducible from reason and from authorities is that when a person who has reached the age of discretion, and who is apparently in the possession of his mental faculties, applies to a druggist for a certain drug, he represents to the dealer, by implication, at least, that he knows its properties and uses, and that he is a fit person to whom sale thereof may be made, and that unless there is something connected with the transaction, or something previously known to the seller, indicating that the would-be purchaser can not safely be intrusted with the substance, a sale of the substance called for may be made without explaining its properties or the manner in which it may be safely used or handled, and that, under such circumstances, the seller is not liable in damages for injuries to the purchaser resulting from the improper use or handling of the article, no matter how little knowledge the purchaser may in fact have had of its properties, or of the manner in which it could not be safely used or handled. It appears clear to it that the vendor's legal duty to such a purchaser can go no further than to give him the identical substance he calls for. Nor does it think that it will do to say that a man who may not be able to correctly compose or to correctly spell, or whose writing is poor, is unfit to be intrusted with dangerous substances; for some, at least, of the great inventive geniuses of the world have been deficient in all of these respects.

Opinion of Patient as to Intent of Physician.—The principal and vital question in the case of State vs. Pierce, the Supreme Court of Minnesota says, was whether the physician charged with the crime of abortion used instruments upon the person of the complaining witness, and gave her medicines, with an intent to bring about a premature delivery, or for the purpose of treating her for a venereal disease; the use of instruments and the giving of medicines being admitted. Against the objections of the physician's counsel, the trial court permitted this witness to express her opinions or conclusions as to the purpose for and intent with which the instruments were used and the medicines furnished. The Supreme Court holds that this was a prejudicial error, for which the verdict of conviction must be set aside. It says that it was the physician's right to have his intent determined from the facts proven, independently of the opinion or conclusion of the woman as to what he might have intended. His intent was to be determined from what was done, and not by what the

woman thought as to his purpose or object when he treated her. The answers given to the questions were not statements of evidentiary facts, but simply opinions and conclusions as to the existence of a vital fact, and they were not relevant thereto. If the complaining witness could be allowed, in aid of conviction, to express an opinion to the effect that the physician intended to produce a miscarriage, she could have been allowed for the same reasons, and on the same grounds, and to facilitate an acquittal, to express an opinion that he simply treated her for gonorrhea. The impropriety of such testimony is very evident. That it strongly tended to prejudice the physician's case in the minds of the jurors is manifest.

Limitation of Privilege After Death of Patient.—In the case of the State of Iowa vs. Grimmell, a prosecution for murder in the second degree which it was alleged was the result of an abortion, where a verdict of not guilty was returned, certain testimony of a physician who had been called into the case was excluded as privileged. But the Supreme Court of Iowa disapproves of this ruling. Section 4608 of the Iowa Code provides: "No physician or surgeon * * * who obtains information by reason of his employment * * * shall be allowed, in giving testimony, to disclose any confidential communication properly intrusted to him in his professional capacity, and necessary and proper to enable him to perform the functions of his office according to the usual course of practice. * * * Such prohibition shall not apply to cases where the party in whose favor the same is made waives the rights conferred." The Supreme Court says that even in civil cases it has extended the language of the statute, and expressly held that the prohibition may be waived, either by the testator, or after his death by those who stand for him. And it says that it surely will not do to hold that a statute intended to protect a patient should operate as a shield for one who is charged with murder. Such a construction, while perhaps technically correct, is evidently so foreign to the purpose and object of the Act, and so subversive of public justice, that it ought not to be adopted, except for the most imperative reasons. The safety of the public is the supreme law of the commonwealth, and the Supreme Court says that it does not think the legislature, in passing the act in question, intended it to operate as a barrier to the enforcement of the criminal laws of the state. If the patient were alive, perhaps no one but she could waive the prohibition. But in this case she was dead and unable to speak. If in a civil case her representatives might waive the prohibition, the court sees no good reason for saying that in a criminal one the prohibition is absolute. The purpose of the statute, as has been stated, is to protect the patient, and not to shield one who feloniously takes his life. The authorities, the court adds, uniformly support this position.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, January 18.

1 *Implantation of a Gold Ball for the Better Support of an Artificial Eye. L. Webster Fox.
2 The Influence of Electric Ozonation upon Disease. G. Lenox Curtis.
3 Clinical Notes on Gleet. (Concluded.) A. Ravogli.
4 The Conservative Treatment of Appendicitis and the Fallacy of the Starvation Cure. J. H. Carstens.
5 *Concerning Hepatic Syphilis. Simon Flexner.
6 *Electricity in Renal Disease. A. D. Rockwell.

Medical News (N. Y.), January 18.

7 *Congenital Atresia and Stenosis of the Rectum and Anus. W. Reynolds Wilson.
8 *General Medical Treatment of Syphilis. G. Frank Lydston.
9 *A Conservative Element in Acute Mastoid Surgery. Edwin W. Pyle.
10 The Class of Cases of Simple Chronic Glaucoma in Which Operation Is Not Advisable. Charles S. Bull.

American Medicine (Philadelphia), January 18.

11 *Artificial Respiration by Direct Intralaryngeal Intubation with a Modified O'Dwyer Tube and a New Graduated Air-Pump in Its Applications to Medical and Surgical Practice. Rudolph Matas.
12 *Proper Foot-Wear and the Treatment of Weakened and Flat Feet by Mechanical Devices for Maintaining the Adducted Position. John A. Sampson.
13 *Concerning a Sugar-Forming Ferment in Suprarenal Extract. A Preliminary Report on Suprarenal Glycosuria. Alfred C. Croftan.
14 *Obstetric Forceps in Relation to Tuberculous Lungs, Cardiac Lesions, Anemia, etc. George E. Abbott.
15 Hysterectomy and Removal of a Nine Months' Fetus Dead in Utero for Fifteen Months: Transposition of the Heart to the Right Side. Frank J. Thornbury.
16 Perforation in Typhoid Fever; Operation; Recovery. Richard T. Davis.
17 Astasia—Abasia. George S. Gerhard.

Boston Medical and Surgical Journal, January 16.

18 *Difficulties in the Diagnosis of Syphilis. James C. White.
19 *Needless Laparotomies, with a Report of Eight Cases. John C. Munro.
20 *The Vagus Reflex. Thomas J. Mays.
21 *Auscultation of the Knee-Joint. William E. Blodgett.

Medical Record (N. Y.), January 18.

22 Prognosis: Its Therapeutic Value. Henry F. Walker.
23 *The Pathologic and Therapeutic Aspects of the Effects of the Roentgen Rays. Carl Beck.
24 *Suprapubic Cystotomy in Operations on the Prostate. Howard Lilienthal.
25 *Alcoholic Amaurosis. Frank Van Fleet.
26 Report of a Case of Addison's Disease. Edgar M. Green.

Philadelphia Medical Journal, January 18.

27 Results of Operative Treatment for the Different Forms of Puerperal Sepsis. Barton C. Hirst.
28 Decreasing Fecundity Concomitant with the Progress of Obstetric and Gynecic Science. George J. Engelmann.
29 *The Obstetrical Forceps. A. Lapthorn-Smith.
30 Primary Carcinoma of the Uterine Fundus. J. M. Baldy.
31 A New Method of Tamponing the Uterus Postpartum: The Wood-Holmes Introducer. Rudolph W. Holmes.
32 The Immediate Repair of Injuries of Parturition. A. L. Beahan.
33 *Remarks on Early Ectopic Gestation. E. K. Browd.
34 Puerperal Myelitis; Report of a Case Following Abortion. Harry Morell.
35 On the Desirability of Further Data Concerning the Prevention of Ophthalmia Neonatorum. Lucien Howe.
36 Outline of the Surgical Treatment of Acute Pancreatic Injuries. B. E. Hadra.
37 *Some Experiments on the Formation of Bile Pigment and Bile Acids: A Contribution to Our Knowledge of Icterus. (Continued.) Alfred C. Croftan.

The Cincinnati Lancet-Clinic, January 18.

38 *The Medical Profession and the Public Unrest—Who Is Responsible? D. R. Silver.
39 *Gelanthum in Lupus Erythematosus and Allied Affection. M. L. Heidingsfeld.
40 A Specific for Chronic Rheumatism. P. C. Layne.

St. Louis Medical Review, January 18.

41 The Non-Heredity of Acquired Characters. Lawrence Irwell.

New York State Journal of Medicine (N. Y.), January.

42 Tuberculin and Products of the Tubercle Bacillus. E. A. de Schweinitz.
43 *The Treatment of Pulmonary Tuberculosis. Charles E. Quimby.
44 *Surgical Procedures for Pulmonary Tuberculosis. William D. Le Boutillier.
45 *Comments on Some New Surgical Methods. John A. Wyeth.
46 Gunshot Wounds of the Hip-Joint by Reduced Caliber Projectiles. Louis A. Lagarde.
47 Malignant Disease of the Nose and Accessory Sinuses. Joseph S. Gibb.

Colorado Medical Journal, November, 1901.

48 *Dry Heat in the Treatment of Disease. R. W. Corwin.
49 Causes and Treatment of Earache. N. C. Williams.
50 History of St. Anthony's Hospital. Russell B. Freeman.
51 History of St. Joseph's Hospital. W. W. Grant.
52 History of the Colorado Fuel and Iron Company's Hospital. R. W. Corwin.

Peoria Medical Journal, December, 1901.

53 Organic Disease of the Cerebellum. Frank P. Norbury.
54 Clinical Microscopy. H. H. Fletcher.

International Medical Magazine (N. Y.), December, 1901.

55 *The Treatment of Chronic Gastric Catarrh. C. A. Ewald.
56 Unrecognized Syphilis in General Practice. L. Duncan Bulkley.
57 *The Early and Radical Treatment of Ischio-Rectal Abscess. Collier F. Martin.
58 The Treatment of Hip-Joint Disease. James K. Young.
59 The Prognosis and Treatment of Constipation. Boardman Reed.

Denver Medical Times, January.

60 *An Operation for Spina Bifida, with Report of a Successful Case. Leonard Freeman.
61 A Case Resembling Locomotor Ataxia, Death, Postmortem, with Exhibition of Specimens. R. Harvey Reed.
62 Gleet: What Is It, and How Can the General Practitioner Successfully Treat It? Donald Kennedy.

American Gynecological and Obstetrical Journal (N.Y.), December, 1901.

63 The Utero-Ovarian Artery. Byron Robinson.
64 *The Surgical Treatment of Painful Menstruation. Henry D. Fry.
65 *Tetanus Following Aseptic Celiotomy. Henry C. Coe.
66 *The Angiotribe: Its Use and Abuse. James N. Ellis.
67 *Transverse Suprapubic Division of the Skin in Performing Abdominal Section. Henry J. Kreutzmann.

68 *An Unique Case of Extra-uterine Pregnancy. H. Tuholske.
69 *Curettage. Clarence R. Hyde.
70 Pulmonary Tuberculosis. Samuel S. Adams.
71 Is Cancer Due to a Parasite? J. Garland Sherrill.
72 *Treatment of Pelvic and Abdominal Tumors Complicating Pregnancy with Report of Cases. Rufus B. Hall.
73 An Unique Case of Cervico-vesico-vaginal Fistula. R. Stanbury Sutton.

Louisville Monthly Journal of Medicine and Surgery, January.

74 Heredity. Bernard Asman.
75 Public Hygiene. W. J. Leach.
76 Address, Russell Springs Medical Society. John A. Snowden.
77 Medical Jurisprudence. G. Paul Smythe.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), January.

78 *Two Cases of Rare Papular Disease Affecting the Axillary Region. George Henry Fox. With a Report on the Histopathology. John A. Fordyce.
79 Report of a Case of Idiopathic Multiple Sarcoma of the Skin. Henry H. Koehler. With a Report on the Histopathology. James C. Johnston.
80 An Extraordinary Case of Quinin Susceptibility. Henry W. Stelwagon.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), November, 1901.

81 Address, Department of Gynecology and Obstetrics in a University Medical School. Reuben Peterson.
82 *Club-foot. Bart E. McKenzie.
83 The Relation of the Medical Profession to the Department of Public Health. Guy L. Kiefer.
84 Tinnitus Aurium. Simon M. Yutzy.
85 *The Eradication of Scarlet Fever. James W. Ames.

Medical Dial (Minneapolis), January 1.

86 Eddyism or "Science and Health" vs. The Scriptures. W. B. Riley.

St. Paul Medical Journal, January.

87 *A Case of Myasthenia Gravis. Haldor Sneve.
88 *The Administration of Anesthetics. Alice Magaw.
89 The Microscope in Medicine. F. F. Wesbrook.
90 A Case of Acquired Hydronephrosis of 26 Years' Duration; Operation; Recovery; With Some Remarks on the Diagnosis of Cystic Tumors in the Left Hypochondrium. C. O. Thieuhaus.
91 Gallstones. Edward Evans.
92 Case of Symptomatic Epilepsy, Circumcision and Complete Recovery. Knox Bacon.

Maryland Medical Journal (Baltimore), January.

93 A Case of Sympus, or Mermaid. Wm. Royal Stokes and Richard L. McNeer.
94 Infective Otitis Media, Without Its Usual Subjective Symptoms. Hiram Woods, Jr.
95 A Case of Hemiplegia Associated with Complete Hemianesthesia and Unilateral Muscular Atrophy of the Paralyzed Side. Robert Reuling.

Nashville Journal of Medicine and Surgery, December, 1901.

96 Sanitary Obligations Existing Between the Social Unit and the Community. J. D. Plunket.

Virginia Medical Semi-Monthly (Richmond), December 27.

97 Gunshot Wound of the Abdomen. Wallace Neff.
98 Angina Pectoris. Marvin E. Nuckols.
99 The Uric Acid Diathesis and Its Treatment. Wm. S. Gordon.
100 Clinical Odds and Ends of Uric Acid. Lewis G. Pedigo.

Medical Review of Reviews (N. Y.), December 25, 1901,

101 Topography of the Ureters. Byron Robinson.

American Medical Compend (Toledo, Ohio), January.

102 *What Is the Function of the Cerebral Cortex? Hiram A. Wright.
103 Medical Journals. G. A. Collamore.
104 Harelip. J. T. Woods.
105 What Is Our Plain Duty in Desperate Injuries? Report of Cases. Frank D. Bain.
106 Some New Drugs. C. W. Moots.
107 Headache. N. L. McLachlan.
108 Professional Life. J. A. Kimmell.
109 La Grippe. S. A. Hitchcock.
110 Lumbago. J. H. Heileman.
111 An Efficient Hypnotic. D. E. Bowman.
112 Achylia Gastrica with Report of a Case. E. J. Greenfield.

Indiana Medical Journal (Indianapolis), November, 1901.

113 On the Uses of Hydrogen Dioxid. E. J. Kempf.
114 A Case of Spontaneous Rupture of the Abdominal Wall. E. D. Clark.
115 The Immediate Diagnosis of Blastomycetic Dermatitis. A. W. Brayton.
116 Stab Wound of the Diaphragm with Thoracic Hernia of the Colon; Clinical History and Autopsy. A. L. Wilson and E. S. Knox.
117 Recurrent Branchial Cyst. Robert T. Morris.

Texas Medical Journal (Austin), January.

118 *The Record of Yellow Fever in the United States for the Past Does Not Sustain the Mosquito Theory. J. P. Oliver.

Atlanta Journal-Record of Medicine, January.

119 Suppression of Consumption. R. C. Bankston.
120 Report of Cases—Thirty-five Operations for Mastoiditis. James M. Crawford.
121 Corporal Punishment in Schools and the Home. Willis B. Parke.
122 Angina Pectoris. Marvin E. Nuckols.
123 Puerperal Infection. W. Monroe Smith.
124 Case of Nasal Sarcoma, with Remarks. Dunbar Roy.
125 The Early Diagnosis of Pulmonary Phthisis by the Study of the Mean Temperature. J. Tetau.

New England Medical Monthly (Danbury, Conn.), January.

126 Asepsis vs. Antisepsis in Normal Labor. N. Selleck.
127 Observations on Seven Years' Use of Creosote in Pneumonia. J. L. Van Zandt.
128 The Treatment of Syphilis, with Special Reference to the Best Methods of Administering Mercury. Winfield Ayres.
129 The Treatment of Diseases of the Organs of Respiration with the Active Principle of the Suprarenal Gland. F. Elbert Davis.
130 Fifty Infants Treated with Carold. Russell Pemberton.
131 Anti-Uric Acid Treatment in Dyspepsia. P. K. Bethea.
132 Indigenous Skin Disease; Remarkable Similarity in All Cases. H. Macy MacPherson.

---

1. **Gold Ball Implantation.**—Some five years since Fox devised a method of implanting a glass ball into the orbital cavity where the eyeball has been removed. He finds this somewhat defective; that in about 33 per cent. the method failed and the glass ball was expelled. Even when closing the wound and retaining the ball *in situ* there was still 15 per cent. of expulsion. Eighteen months since he devised the present method, which he recommends. The eyelids are kept apart by the speculum, the conjunctiva is then grasped up and in above the inner canthus, and the tissues pulled out. He then passes a Beer's knife or curved keratome somewhat obliquely and well down through the tissues into the orbit, making the opening large enough to push in a gold ball. He enlarges this with curved scissors, separating the tissues from the cellular tissues around the orbit, affording a large pouch. He uses gold balls of 11, 12, 13 and 14 millimeters in diameter and inserts one through this opening, and holds it in place by what he calls the conformer—a metal shell with a circular opening in which the gold ball fits, corresponding to the cornea of the eye. The eyelids are closed over the conformer, which is left in place twenty-four hours. The results obtained by the method are perfect; no secondary trouble follows; all heal by first intention. The two stitches employed for closing the incision are taken out on the third day.

5. **Hepatic Syphilis.**—Syphilitic affections of the liver occur in a variety of ways; the occurrence of icterus in the course of lues indicates liver involvement, no definite explanation of which has been produced. That the condition is of specific nature is not probable, but upon what transitory changes, or effects of the action of the syphilitic virus, it depends, is wholly conjectural. The passive hyperemia of the liver is not a specific affection, but doubtless it arises in consequence of disease of the heart and arteries, where the poison ordinarily produces alterations leading to circulatory disturbance. There is no uniformity of opinion in regard to ascites, but the predominance is in favor of its being present in syphilitic diseases of the liver, but under certain conditions only. It may be expected in general cirrhosis, and if the portal vessels are pressed upon by gummata, constricted by scars, or obliterated by endophlebitis. In gummatous hepatitis ascites does not appear unless there is concomitant disease of the kidneys or heart, or chronic indurative peritonitis. The syphilitic inflammations are referable directly, perhaps, to the action of the specific virus or poison. Possibly the toxins are derived from the growth of some specific organism. Flexner analyzes the statistics of the Philadelphia Hospital from 1867 to 1901, and finds 88 cases of hepatic syphilis in over 5000 autopsy records. The types of the disease are the interstitial hepatic, gummatous, perihepatic and amyloid. The first made up about one-half of the cases, next to which in frequency came the gummatous form (23); perihepatitis was observed 16 times; amyloid disease 7 times. The so-called syphilitic scars were met with 38 times. It is a question whether they are to be regarded as healed gummata or not. It seems probable that these heal up, and the author reports a case indicating this. The outlook for syphilitic interstitial hepatitis is less favorable than gummatous disease, although if the condition is not advanced it is more favorable than non-syphilitic cirrhosis.

Amyloid disease is also to be considered of serious import and yet it has yielded to treatment. The stage of infection to which hepatic lesions belong has been much discussed, and Flexner says that the profound lesions of hepatic disease will be found in association with symptoms of the tertiary stage; and while it is highly probable that the general cirrhosis appears at that time, the gummatous nodules and amyloid must belong to that period.

6. **Electricity in Renal Disease.**—Rockwell employs a high tension Faradic current, using flexible electrodes over the kidneys and currents almost as strong as can be borne without discomfort; also the static wave current in connection and alternation with the high tension Faradic current. He finds a very decided benefit from these methods, in increasing diuresis by increasing blood pressure in the organs, and in this way it is to some extent at least that its benefits are produced. He combines with the local treatment the older method of general Faradization, which is likewise efficacious but more tedious to the physician and patient.

7. **Congenital Atresia of the Anus.**—The methods of treatment in these cases are described in detail by Wilson, who concludes that the best procedure to be followed in cases of imperforation is: 1. The strictest observation of the anatomic condition present. 2. A study of the condition of the infant, relative both to the urgency which may be necessary to relieve the obstruction and its ability to withstand a second operation.

8. **Syphilis.**—Lydston points out the importance of the general hygienic management, care as to elimination by free ingestion of fluid, by baths, attention to the bowels, etc. In giving iodids he thinks the best course is often to give the daily dose in a large quantity of water and instruct the patient to drink the entire amount, a glassful at a time, at intervals during the twenty-four hours. In this way iodism may often be avoided. Digestive disturbances require attention, and sometimes experiments with the various forms of mercurial salts may be necessary to see which may be best employed. In some cases where the lesions, especially of the mucous membrane, are very resistant and the patient does not tolerate mercury and the iodids, chlorate of potassium, given in 10-gr. doses four times a day largely diluted in water, will be found very beneficial. Tonics, of course, should be employed, arsenic with the mixed treatment is useful not only in preventing iodism but in its general effect on the system. The cardinal principle in the therapy of syphilis is that the physician should remember that he has to deal with three factors: 1. A specific disease to be controlled by specific medication; 2, a distinct individual personality in each patient; 3, the results of anti-specific medication.

9. **Mastoid Surgery.**—Pyle points out that in a number of cases operative methods are not advisable. If everybody was equally skilled in technique and were congestion and granulation essentially operative, we could more cheerfully recommend it. But he says under existing conditions there is not an otologist who would not trust to antiphlogistic remedies until indications were pronounced, rather than submit himself to inexperienced hands. It is wiser to counsel delay and the use of antiphlogistic measures than to encourage hasty operative procedures. The experienced surgeon with clear conception and faultless technique may save life and function, but in the hands of the many the protective and reparative processes of Nature will be abetted more and embarrassed less by rational antiphlogosis.

11. **Artificial Respiration.**—Matas' article is a very elaborate description of the apparatus modified by him for producing artificial respiration, somewhat after the Fell-O'Dwyer method, and which consists in a graduated tube which may be adjusted to any quantity of air required. It is provided with a mercurial manometer which indicates the intrapulmonary pressure and is an index to the peripheral resistance that is overcome by the insufflation, and an automatic cut-off which prevents any backward leakage of air, putting the inspiratory inflation of the lungs under the control of the operator. It is also provided with an air-filter which purifies the air and is arranged with a funnel and tube, which can be used for the administration of chloroform or oxygen, and various cannulas and tubes for intubation.

12. **Foot-Wear.**—Sampson gives a statement of the scientific principles which should govern the fitting of foot-wear both for normal and various pathologic conditions. The article is well illustrated.

13. **Sugar-Forming Ferment in Suprarenal Extract.**—In view of the fact that diabetic symptoms develop in cases of suprarenal diseases, and that certain pigmentation anomalies are common to both diabetes and to the former, with the fact that an intimate relation exists between the formation of so-called bile pigments and their pulmonary pathologic pigmentation and the destruction of physiologic sugars, Croftan has been led to investigate the effect of suprarenal extract on the conversion of glycogen. This study seems to show the presence of a diastatic ferment of great power in the suprarenal glands in quantities of nearly as large a percentage as those found in the pancreas, thus justifying the deduction that the suprarenal glands are in some way concerned in the diastatic processes of the animal organism and the conversion of glycogen to sugar. It is impossible at present to decide whether the suprarenals manufacture a diastatic ferment or retain the diastatic ferment formed elsewhere in the body and carried to them in the blood and lymph stream. The effect, however, would be ultimately the same, provided the play of the inhibitory and excitatory symptomatology is correspondingly regulated. He also reports experiments on the production of glycogen following the injection of suprarenal extract in animals which show that it can cause an excretion of dextrose provided the quantity injected is sufficiently large. The effects were transitory in all cases and all the animals recovered. There was some evidence of kidney irritation shown by the presence of albumin, and the appearance of small quantities of bile pigments in the urine and local discoloration near the site of the injections are suggestive. It is desirable, he says, that the suprarenals be examined as closely as possible in all cases of diabetes that come to autopsy, and that this promises a favorable field for investigation.

14. **Obstetric Forceps.**—Abbott speaks in regard to the carelessness of some obstetric physicians in urging patients in labor who have cardiac disease or severe anemia or neurasthenia, to exert themselves unduly and suggests the use of forceps in these cases immediately after the second stage so as to prevent all straining and thus starting up cardiac or tubercular trouble.

18. **Syphilis.**—The various conditions that may give rise to trouble in the diagnosis of syphilis are noticed by White. Syphilis simulates a great many other conditions. He emphasizes the importance of not attributing too much to the presence or absence of primary lesion or the history of same. He thinks that we should have the courage to make the diagnosis of syphilis without regard to social position or moral character for it occurs everywhere. Another fault is insufficient treatment. He tells every patient that he sees for the first time with syphilis that it is a matter of three years' care at the shortest in every case; that the first year is a year of perpetual, continuous, uninterrupted treatment; that the second year may be the same or an interrupted course, according as the first year goes on under observation, and that the third year is a year of observation, but without that year and entire freedom during it from every manifestation of the disease one can not assure the patient that he is well or likely to remain so.

19. **Needless Laparotomies.**—Munro reports eight cases in which he regrets that he was led to operate, though he fears that under the same circumstances he might act in the same way again. The cases were those where apparently laparotomy was justified, but the condition turned out to be of another nature. They were 1 of acute phosphorus poisoning, 1 of hepatic cirrhosis, 2 of acute nephritis, 2 of alcoholism, 1 of obesity, and 1 of supposed pancreatic cyst.

20. **The Vagus Reflex.**—This consists in a peculiar benumbing sensation in the head due to pressure on the vagus. It has been given this name by Mays, though it has been noted by Waller as early as 1870. He reports a number of cases where it existed and was accompanied in some cases with sweating and tingling in the arms and helplessness in the lower extremities, which are hardly accounted for by the known effects on the nerves. In none of the cases except the first and second was there any marked lesion of the pulmonary organs, though from the relations that exist between vagus pain and pulmonary disease it is quite clear that the former is very frequently a premonitory symptom of the latter and therefore an important diagnostic sign and therapeutic indication.

21. **Knee-Joint Auscultation.**—The method of studying the knee-joint by auscultation is described by Blodgett, who uses the full-sized Bowles' stethoscope, with a soft rubber cap sprung over the diaphragm. He has examined 100 cases and gives illustrations of his method of examination showing the sounds elicited by dots and dashes. Most of these were normal joints and gave the normal variations of the sound. He also gives an example of the various pathologic conditions showing their variations in the sound produced. He thinks that with a trained ear and careful examination of the cases with special reference to the structural state of the knee, etc., this method may have a certain amount of value and deserves further investigation.

23. **Roentgen Rays.**—Beck describes the different kinds of injuries from the Roentgen rays, illustrating them, and reports experiments on the lower animals as to their effects in producing burns, etc. It is difficult to explain their origin, but he thinks it can best be done on the basis of clinical observation. He calls attention to the fact that burns should be treated as such and the main difference between the ordinary burn and tissue changes caused by the Roentgen rays exists in the later development of the latter. A peculiar chemical influence of Roentgen light is so exercised that the nutrition of the cells is impaired and it is only when the impairment has reached a certain degree that the burns occur and they are influenced mainly by the power and amount of the rays and the susceptibility of the patient. He thinks that from a pathologic consideration rules may be deduced for the therapeutic utilization of the rays. The most obvious therapeutic treatment is that for hypertrichosis, but he gives quite a list of disorders which he thinks may be amenable to this agent, suggesting individualizing, using tubes of low vacuum and care in each case as to individual susceptibility. He thinks there is a positive future for the method. The patient, however, should be informed of the risks of burns in any case. The treatment of the Roentgen-ray burn is the same as that of any other. For the simple dermatosis (or burns of the first degree) application of Burow's solution are most comfortable to the patient. For the bullous form (second degree) a xeroform gauze-dressing, after the blisters are opened and removed, is indicated for the first few days. Later he recommends a dressing of a 10 per cent. xeroform-lanolin ointment, which is changed daily, provided there is but scant secretion. The necrotic form (third degree) requires speedy removal of the mortified tissues, the after-treatment being conducted as wound treatment.

24. **Cystotomy, Suprapubic.**—Seven cases are reported by Lilienthal, 5 cured, 1 death, and 1 failure. He believes in suprapubic cystotomy, though he admits that it can not be applied to all cases alike, but he thinks as a general rule it should be the first step in the operative care of any form of persistent obstruction. The steps of the operation as followed by him are: 1. Washing out the bladder, leaving the catheter in; incision of the tissues through the linea alba; retraction of the recti; inflation of the bladder with air, using an ordinary atomizer bulb fixed to the catheter. Palpation of the parts through the wound; pushing up the peritoneal reflection; opening the bladder between two retracting sutures. Exploration of the viscus with the finger, then by the eye, raising the pelvis if necessary. Snipping the mucous membrane covering the most prominent portion of the prostate and enucleation of the gland with two fingers of the left hand while an assistant with a finger in the rectum supports the parts. A peritoneal opening may or may not be made, according to the necessities. He believes that with a competent nurse the bladder and the laceration in its floor can be perfectly drained with a continuous siphon apparatus without the opening from below. If perineal drainage is decided upon, however, it is easy to cut down upon the beak of a sound placed within the space left by the removal of the prostate. He prepares his patient with free purgation and diuresis, the latter being specially important.

25. **Alcoholic Amaurosis.**—A case of amaurosis due to ethyl alcohol is reported by Van Fleet, who notices the danger of wood alcohol especially. He thinks that it should be pointed out to the people that methyl alcohol is a positively dangerous substance producing even permanent blindness with sufficient exposure, and also the possibility of other forms of alcohol doing this if sufficiently concentrated.

29. **Obstetric Forceps.**—Two rules laid down by Smith are, never to use forceps until the woman has been twenty-four hours in labor if the first confinement, and twelve hours in the second or subsequent ones, unless there is some urgent indication to do so. Never use forceps to save one's own time. He thinks that in many cases injury to the mother is produced by too early employment, and he calls particular attention to the danger of using forceps when there are no uterine contractions and the possibility of injury to the child.

33. **Ectopic Pregnancy.**—From a general review of the subject Browd recapitulates as follows: 1. Early ectopic pregnancy runs a treacherous and uncertain course. 2. Symptoms of pain, tumor or oozing of blood are not the absolute signs of an early ectopic gestation, but their existence must be considered *cum grano salis*, and each case must be observed per se. 3. Clear history can not always be obtained from the patient, and the period of lactation will still more darken the clinical history. 4. Microscopic examination of the uterine scrapings, presence of decidual cells of chorionic villi find advocates in many observers, find also as many opponents. As regards treatment the use of the electric current has been advised, but the tendency is towards abdominal section in every suspicious case. Curetting does more harm than good in many cases of suspicious oozing. Probe puncture may be the cause of future infection. So-called suspicious cases with the suspicious tumor in the Fallopian tubes, he thinks, should not be kept under long observation until it is "to late to mend" but be operated upon at once. He draws an analogy between cases of early extra-uterine pregnancies and cases of suspected appendicitis. In both early operation is advisable. Exploratory laparotomy under present conditions gives perfect results and will be justified.

37. **Bile Pigments and Bile Acids.**—Croftan concludes his paper in this number, giving the results of experiments showing that trypsin is in part normally absorbed from the intestine, but that the greater portion reaches the liver via the pancreatic veins in the portal blood or via the lymphatics in the hepatic artery. In other words, that the internal secretion of the pancreas plays a greater rôle in the process of intracellular digestion than the external secretion. He concludes that if trypsin acts in the presence of dextrose on hemoglobin the formation of bile products may be carried on in any part of the body wherever hemoglobin is present with these substances. The burden of proof is imposed on us not to show why bile pigment and bile acids are formed in the liver, but to show why they should not be formed elsewhere. He reviews the arguments in favor of the formation of bile acids and bile pigments in the liver alone, showing what he considers to be their fallacies.

38. **The Public Unrest.**—The public tendency to have recourse to quackery, etc., is noticed by Silver, who maintains that we should seek to bring under one banner all the legally qualified members of the medical profession to combat the evil. He thinks that two lines of action are open: 1. To let things drift. He thinks the world is growing better in medi-

cine as well as in other respects and that in time these deplorable conditions will cease to exist. 2. That the State Society at its meeting propose a conference by committees with the sectarian societies, looking towards a solution of the difficulties which exist in the way of more perfect union of all the medical forces. If we should assure them that we only ask that they practice medicine in their own way and not trade upon a name, not relinquishing a conviction or demanding change of practice, he thinks, union could be quickly consummated. The main difficulty in the way is the vested interests of the medical colleges and the medical journals.

39. **Gelanthum.**—This is a thick, gelatinous, transparent, amber-colored fluid, recommended by Unna of Hamburg as a water-soluble vehicle for dermatological applications. It holds in solution 50 per cent. ichthyol, 40 per cent. salicylic acid, pyrogallic acid and resorcin, 5 per cent. carbolic acid and 1 per cent. bichlorid of mercury, thus making it of special value for the local application of those remedies which precipitate and coagulate such menstrua as traumaticin zinc-gelatin, collodion, etc. He speaks particularly of the use of gelanthum with 50 per cent. resorcin in the treatment of lupus erythematosus and reports two cases where it seemed to materially aid recovery. While two cases are not sufficient to form a correct opinion, anything that may appear to be of material benefit in this disease should be looked upon as a matter of importance.

43. **Treatment of Tuberculosis.**—Quimby divides the treatment of tuberculosis into systematic defense, calling special attention to the importance of nutrition. Diet stands first; it is only when the nutritive processes can be forced that feeding is curative. Stimulation of digestion is important. While the patient is eating, stimulation of digestion and the assimilative function is of utmost importance. He uses functional stimulants such as aromatic bitters, most frequently Warburg's tincture, also hepatic stimulants with which he combines some kind of oil. When there is necessity for strong hepatic stimulation, as shown by constipation, castor oil is chosen. When these symptoms are relieved olive oil is substituted. To attain satisfactory results he gives oil with mercury and arsenic which have a powerful and valuable influence on the processes of retrograde and constructive metabolism. The next thing is to treat the circulation. He passes by hydrotherapy as being fully appreciated, but mentions specially dry friction on the back as being remarkably efficacious in relieving pulmonary congestion and quieting respiration. He also notices the pneumatic cabinet as a valuable means of influencing both systemic and thoracic circulation, and while some have spoken of the danger of hemorrhage being thus excited we have no measure at our command for the moment to be compared with it for the arrest of existing and the prevention of recurring hemorrhages. Turning to the antagonistic forces, he refers to the mechanical ones, and says the utmost disregard for mechanical conditions in the lung, as potent destructive conditions in phthisis, is one of the most remarkable aberrant manifestations of modern medical thought. It is perfectly possible to remove retained secretions, open up collapsed and obstructed tubes and alveoli, absorb inflammatory exudates, and loosen or absorb pleuritic thickenings and adhesions by mechanical means. No treatment of pulmonary tuberculosis is rational or complete which ignores these mechanical conditions. Two possible lines of attack are available against the toxic forces, that is through the bronchi, and by the circulation. He doubts how far antiseptic drugs excreted in part by the lung affect local toxic conditions, but the testimony in their favor seems to prove they have a certain value. Direct action upon the pulmonary toxins implies the use of antiseptic inhalations, and while they do not arrest them they do diminish pulmonary infection. The great danger in their use is attempting too much. The agent chosen should be as little irritant as possible. For this he uses nothing but alcohol, formalin and ozone with various balsams for flavoring. Whatever the antiseptic, it should be given by cold vaporization and he finds this result most satisfactorily accomplished by wetting cloths with formalin and hanging them in the chamber. Anyone persisting in the use of such a measures, he believes, will find that the case does better with than without it. The secondary or toxic conditions in toxemias are not to be overlooked and justify regular flushing of the colon with small antiseptic solutions in every case of tuberculosis. Frequently fever and febrile exacerbations, etc., will be found to depend solely on infection from the colon.

44. **Surgery and Tuberculosis.**—Le Boutillier reviews the surgical treatment, finding but little in favor of the injections into tubercular pulmonary foci; they have been practically abandoned. The testimony appears to be that good results have followed the Murphy method of introducing nitrogen gas. Fit cases for extirpation are only those in which there is a single small lesion, and as good hygienic treatment is often sufficient for these, operative measures do not arouse much enthusiasm. However, surgery may come in play in complications such as pulmonary hemorrhage, pneumothorax, and incision into the cavities may be of advantage in some cases, such as where there is a single moderate-sized cavity and little other pulmonary involvement, and the general health is good. Here it is simply a case of draining a septic focus and while there is opposition to the course there is still some reason for its practice. In these cases of cavities the nitrogen method should be given a trial unless pleuritic adhesions are such as to prevent its efficient action. Tuberculous empyema, of course, calls for early surgical intervention.

45.—See abstract in The Journal, xxxvii, p. 1337.

48.—See abstract in The Journal, xxxvii, p. 137.

55. **Chronic Gastric Catarrh.**—The two lesions which require therapeutic treatment are, according to Ewald: 1, diminution in the secretion of HCl and pepsin; 2, weakening of the motor function of the gastric musculature. The disturbance of the secretory function of the gastric mucosa can be met in no better way than by the administration of HCl, given in sufficient doses so that the deficiency will be fully compensated for. He administers three times after each meal at intervals of ten minutes as many drops of HCl in a glass of water as the patient can bear, that is, without having too sour a taste in the mouth, but this does not bring the stomach contents up to the normal. He thinks it may be better to introduce with a stomach tube a 0.2 per cent. solution of HCl. He has given as much as 300 c.c. of such a solution twice daily after the two larger meals and has seen excellent results follow. In recent years he has not prescribed pepsin because its secretion does not suffer in the same measure as that of the acid. With this treatment he also employs remedies which directly excite the activity of the gland cells, such as bitters, particularly condurango, which he specially prefers in infusion: 20 or 30 grams infused in 300 c.c. for 12 hours and evaporated to one-half that quantity by gentle heat. He advises this at the same time with some other remedy which increases the gastric motility and none here is as efficient as strychnia in the form of tincture of nux vomica. He puts 5 grams of tincture with 5 grams of HCl into the above infusion. Massage when skillfully performed, but only then, is valuable; he uses electricity by the intragastric method. Turck's pneumatic gymnastics of the stomach has not been tried by him, but he has the gyromele and though it appears dangerous he has never seen any bad effects from it. It should be used, however, with caution, for fear there may be some latent ulcer. The needle spray described by Einhorn has also been used by him. For removing fermenting masses he advises gastric lavage and internal antisepsis to limit the production of new fermentation. For this he employs resublimated resorcin, giving it in combination with bismuth salicylate, that is, 5 grams of resorcin, 10 of bismuth salicylate, with 15 each of bicarbonate of soda and sugar. The dose is a small teaspoonful every two hours. This does not interfere with the other remedies mentioned. Regulation of the bowels and diet is also mentioned. Meals should be moderate; the patients should not eat to a full satiety. Drinks should be always lukewarm; strong alcoholic and carbonated drinks should be excluded. Proper care of the teeth and mastication should be attended to and food selected that will be pen-

etrated by the gastric juices, excluding therefrom hard-boiled eggs, fat meats, and fat cheeses. The so-called red meat is sometimes bad on account of the high percentage of salts. The manufactured foods and those prepared from milk can be used to advantage. Fresh bakery products should be avoided and carbohydrates used with care. Milk is theoretically the best food, but it does not agree with everyone, but he speaks well of the use of evaporated and pulverized milk of which 100 grams correspond to about 1 liter of milk as being of value.

57. **Ischio-Rectal Abscess.**—Martin first discusses the anatomic data and the causes of the infection and calls attention to the fact that every abscess of the ischio-rectal form, if left untreated and in some cases with the best of treatment, will result in some variety of fistula. Conversely, every fistula is the result of an abscess, hence the importance of early diagnosis and treatment. He calls attention to the fact that many physicians who are punctilious in other points neglect examination of these parts. The symptoms alone should suggest that the case is of an inflammatory nature and not one of hemorrhoids. A throbbing pain felt at one side of the anus, difficulty in sitting, sleeplessness, impairment of sexual function, etc., with reddening of the skin and swelling, and if the disease is seen late fluctuations, are characteristic. He condemns positively the use of hot poultices, and in most cases much trouble will be avoided by thorough divulsion of the sphincter muscle. He administers hyponitrous oxid in these divulsions, as the patient reacts quickly and does not have to be confined to bed afterwards. In operating on these abscesses local anesthesia is always used and he operates by making a long incision through the long axis of the abscess extending into the healthy tissue at each end and connects this with one from its middle in T-shape and takes out a large piece of triangular tissue, curetting out the necrotic tissue, having the cavity swabbed with carbolic acid or tincture of iodin, and packed with pledgets of absorbent cotton saturated with acetanilid ointment, 1 gram to the ounce. After applying a generous pad of cotton held in place by a T-bandage the patient is left to his resources until subsequent dressing. The wound is left to heal by granulation; the mistake is in allowing the skin to heal before granulation is complete in the deep parts of the cavity. Every portion of the wound should be probed at each dressing to break up adhesions and discover any new sinuses. He sums up by giving the following six short rules: "1. Examine your patients carefully. 2. Do not use poultices. 3. Operate immediately. 4. Give plenty of room for drainage. 5. Employ a local anesthetic wherever possible. 6. Do not neglect your patient after operation."

60.—See abstract in The Journal, xxxvii, p. 853.

64.—See abstract in The Journal, xxxvii, p. 1410.

65. **Tetanus Following Aseptic Celiotomy.**—Coe reports a case of tetanus occurring in a patient after apparently aseptic celiotomy. He goes over the literature to some extent and summarizes that it is a rare and peculiarly fatal complication of abdominal section and since the site and mode of inoculation are practically unknown, intelligent prophylaxis is impossible. When a sporadic case occurs in a hospital, not only should extra precautions be used to secure rigid asepsis, but the air of the operating room should be examined and purified by fumigation, with cleansing of the floors, walls and ceilings. Preventive inoculation should be employed for several days after the outbreak. It is hopeless to try to locate the site of infection and to destroy the bacillus at this point in abdominal section. The efforts of the surgeon should be directed to diluting and neutralizing the poison by injecting into the blood large quantities of normal salt solution containing the serum. While subdural injections are safer and are probably as efficacious as intracerebral, these cases are so desperate that we should not shrink from any measures which promise immediate relief.

66. **The Angiotribe.**—The instrument and his method of operation are described by Ellis, who finds that it has many important functions. It is inapplicable to control hemorrhage in sections or wounds of the substance of such friable organs as the liver, spleen, or kidney, but its utility in retro- and transperitoneal nephrectomy and in splenectomy is evident. Its hemostatic action is serviceable in gastrectomy and in fact it can be utilized to advantage in any operation of any magnitude in the abdominal and pelvic cavities and is especially useful in vaginal hysterectomies and also supra-vaginal hysterectomies. For the removal of adnexa or excision of the small ovarian ligamentous cyst it can be absolutely depended upon for hemostasis. He thinks it is not useful in complications of the appendix when the stumps can be satisfactorily dealt with after other methods, but it is frequently serviceable in the management of redundant meso-appendix. Its value is not confined to abdominal operations. He has found no better method than this for the operation of thyroidectomy and it has done him good service in many other operations, such as castration, operation for elephantiasis and for hemorrhoids. Its use, of course, in the treatment of vascular pedicles is noted and recommended with certain limitations, but small supplementary ligatures are of value, against the possibility of secondary hemorrhage.

67.—See abstract in The Journal, xxxvii, p. 1695.

68.—Ibid., p. 1410.

69. **Curettage.**—Hyde summarizes the limitations for dilatation and curettage as follows: As a possible factor to overcome sterility: The operation is only warranted when based on tenable premises, the competency of the husband, the absence of any serious adnexal lesions, incomplete development of the genital organs, vaginismus, or malformations. Excluding or correcting these, the operator should certainly dilate or curette. It also offers relief in many cases of menorrhagia or metrorrhagia and is of great benefit for increasing the patency of the canal in some small anteflexed uteri. For securing scrapings for diagnostic purposes it is of decided value. In removing retained secundines the question is whether to employ a sharp or dull curette. He prefers a large, sharp one, and has seen as profuse a hemorrhage follow the use of the blunt curette as the other. As a preliminary to certain operations on the uterus before a trachelorrhaphy, before hysterectomizing cancerous uteri, or section to relieve posterior adherent uterine displacements, etc., it has its value, but he condemns especially the rough curette before trachelorrhaphy. He does not believe in packing the uterus after a simple curettage. The only time he packs is in the presence of persistent or alarming hemorrhage after removal of retained secundines; ordinarily there is no need for it. For removing septic foci, its utility has been much debated. If general sepsis is present he doubts the advisability of the curette. If there is septic material, pus foci, or retained placenta, it would seem that they ought to be removed by gentle curettage, not attempting to reach "hard pan." A few of the contra-indications are inexperience, and the presence of inflammatory conditions. He wants to say that it is not a simple operation, but one that may be attended with the gravest dangers; that not enough attention is directed to pelvic conditions before curettage; that the indications for it are positive and the contra-indications should always be considered. Finally, that the operation demands experience, thorough asepsis and knowledge that severe accidents may occur at any moment even to the best operator.

72.—See abstract in The Journal, xxxvii, p. 1410.

78. **Rare Papular Disease.**—Fox reports a case where there was hard papular eruption with severe itching in the axillary region and to a less extent over the pubic region. The suffering of the patient was extreme and insomnia marked. Very little relief was obtained by treatment. The histologic changes consisted of hyperkeratosis involving chiefly the sweat-duct orifices, their intra-epidermic portions and the orifices of the hair follicles, with consecutive hypertrophy of the stratum spinosum (acanthosis) surrounding the altered sweat ducts and hair follicles. With this there was mechanical dilatation of the coiled glands which result in changes in their epithelial lining and inflammatory changes of a more or less chronic character in the derma. The histological picture was similar to that seen in porokeratosis as is shown by the illustrations.

82. **Club Foot.**—McKenzie reviews the anatomical conditions and claims that the proper time for operating is about the time the child begins to walk. Then the steps to be taken will depend much upon the resistance offered. In some cases the correction may be fully rectified by the hand and fixed dressing. Assuming always that the deformity of the foot *per se* has been over-corrected, attention should be given to the equinus, and here section of the tendo achillis is almost invariably required. He describes his method of cutting through the tendon subcutaneously and the plantar fascia, the internal lateral ligament and sometimes the long plantar ligaments. When the skin offers definite obstruction to further replacement he refrains from further correction and applies fixation dressing and after several weeks it is ready to yield, and another correction may be made. Dr. Phelp's open section is not, he thinks, advisable. In any case the most frequent operation required than correction that can not be made readily with the hand is severance of the plantar fascia. This should be done close to the os calcis attachment and the long plantar ligament may be reached and cut in the same operation where one enters behind the arteries and hemorrhage is not troublesome. If the obstruction appears to be much more toward the inner border of the foot the tendon of the tibialis posticus may be cut simultaneously, which must be done just below and anterior to the internal malleolus. The next obstruction most likely to need the attention is from the internal lateral ligaments of the calcaneo-scaphoid. The tenotome may be so introduced as to pass parallel to the artery, and extensive section be made without causing much hemorrhage. This is all the knife is required for in the vast majority of cases. Manipulations with the hand or wrench usually suffice; the latter may be required in adults. Great importance is attributed to the dressing. Absorbent cotton should be applied so that the plaster dressing can be put on without causing abrasion, and the foot held in the position as nearly approaching correct position as possible. The pressure should be even to avoid sloughs and the dressing allowed on from two to six weeks, when it should be removed, and after a couple of days a second one applied, the two days being utilized in removing the old epithelium by bathing. Nearly always in this way, he says, the deformity can be corrected in two to four dressings, and after the removal of the last one boots should be worn in daytime, and night braces every night.

85. **Scarlet Fever.**—The rigid adherence to the following suggestions will, according to Ames, eradicate scarlet fever: "1. Every suspected case should be promptly isolated until the diagnosis can be positively confirmed. 2. After confirmation, make isolation absolute, and report the case to the health department. 3. Instruct the family to keep the patient isolated until all signs of peeling are invisible. 4. All members of the family who desire to leave the house must do so the first day after their clothing has been disinfected. This will take six hours, as all their apparel must be placed in a sealed room and exposed to formaldehyd gas for at least that length of time to insure public safety, and they must remain away until quarantine is removed. 5. No person should leave the infected area after fourteen days' continuous exposure, unless the sick patient is free from desquamation. 6. The attending physician should have as little contact as possible with the patient; cleanse his hands thoroughly, and disinfect his clothing before entering another house. 7. The character and duration of the isolation must be left to the public health department. Thorough disinfection with formaldehyd, 10 ounces to 1000 cubic feet, the germs having now been corralled, will destroy them and thus end the existence of the disease."

87. **Myasthenia Gravis.**—Sneve reports a case of this condition and reviews the literature. He suggests that its location must be in the cortex of the brain and thinks it possible *that* thorough examination and more knowledge of the normal, chromoplasmic structure and the function of the neuroglia will reveal the changes, which will not only clear up the pathology of this affection, but will also help us to understand better the phenomena of sleep, hysteria, hypnotism and allied states. Critical blood examination by an authority threw no light on the subject in his case, though the abundance of large lymphocytes was of interest. He holds that electricity is indicated as well as exercise and cold bathing under the watchful eye of the physician, though the exhaustion of the muscular system by electricity might be very dangerous; hence arises the necessity of mild applications and great caution in the use of these methods. In conclusion he calls attention to the quite similar physiologic action of curare to the disease in question.

88. **Anesthetics.**—From an extensive experience in nine years' practice as an anesthetist, Magaw has come to believe more in the ether-drop method in the majority of cases as the safest, though perhaps a little more troublesome to the operator. The use of chloroform which has been tried in all sorts of cases is considered rather more dangerous. Nitrous oxid gas as a preliminary to ether has been tried, but the benefit seemed to be slight. The main thing to recommend it is that the patient seems to lose consciousness more quickly. For short minor operations nitrous oxid gas is far superior to either chloroform or ether. All patient are anesthetized in the operating rooms, merely giving the operator time to prepare. The inhaler used is the Esmarch, with two thicknesses of stockinette, changed after each patient. In giving ether she commences with the drop method slowly and carefully with as much air as though it were chloroform, until the patient's face is flushed, when she uses a large piece of surgeon's gauze of several thicknesses and keeps adding a few more pieces of gauze until the patient is asleep. The gauze is then removed and the anesthetic continued with the same covering as at the first. If any degree of rigidity persists the patient is not etherized. She considers touching the conjunctiva a dangerous practice, as it might infect the eye. In the condition of complete anesthesia respiration should be regular, inspiration deeper and often accompanied by snoring, expression peaceful, eyes closed, and all the muscles relaxed. For quick breathing or profuse secretion of mucus, lift the mask and allow several breaths of fresh air. Then continue with the ether. In gall-bladder work especially, the patients are sometimes noisy, as coming in contact with the diaphragm causes an increased and irregular respiratory rhythm which is mistaken for an indication for more anesthesia. If the patients have already reached surgical anesthesia this irregular respiration and grunting does not interfere. There is no need of increasing the dose. The same symptoms may follow operation on the sphincter muscles. Patients who have had peritonitis require almost a dangerous amount of anesthesia to produce relaxation of the abdominal rigidity. In cases of the tongue falling back raise the lower jaw up and forward, not using the tongue forceps, but catch the tongue with a piece of gauze and draw it out and up toward the nose and a little to one side, and withhold the anesthetic. In alcoholic cases and operations on the stomach 1/8 of a grain of morphin before operation may carry the patients through better and with less ether. Chloroform should be given with more air and less quantity and with the regular drop instead of the stream. It should be slowly and carefully given, the pulse being taken at the facial and temporal arteries. The anesthetist should never allow himself to be hurried. The mask should always be held so that the patient can get a liberal supply of air while administering chloroform to avoid choking and struggling, and any irregular and shallow respiration should lead to the prompt withdrawal of the mask. A rapidly dilated and fixed pupil always indicates danger, while a pupil contracted to normal size or a little less indicates surgical anesthesia. Blanching of the lips, ears and nose show the need of more air. All these symptoms should be watched and no one of them relied upon. Statistics are of very little consequence as to the amount of ether and chloroform required. Just as much is needed as will do good work and not a drop more. In giving nitrous oxid a dental apparatus is used. The change to ether is made quickly, ether is crowded, air excluded, the gas abandoned altogether. The Esmarch mask is used for this purpose with several thicknesses of gauze for a closed cone, and after the patient is fully under the drop method on the orig-

inal cone. To prevent after-vomiting various things are recommended, but since only about 40 per cent. have this symptom it is hardly worth while to submit all to such remedies as vinegar and saline solution.,

102. **The Cortical Function.**—Wright's article is an argument for antimaterialistic views in regard to the functions of the brain, and criticises text-books for using such expressions as idea cells, centers for emotion, attention, etc. The point he specially emphasizes is that the function of the brain is to transmit impulses and impressions only and that intellectual processes are carried on independent of the brain cells entirely. This view, he holds, aids us in the solutions of many of the problems that confront us. Psychology as well as physiology must be drawn upon to understand the functions of the brain cortex.

118. **Yellow Fever.**—Oliver's article is a plea against the theory of the exclusive transmission of yellow fever by the mosquito and in favor of the fomites theory and the necessity of quarantine.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

The Lancet (London), January 11.

1 Some Diseases Incidental to School Life in New Zealand, with Suggestive Methods for Combating Them. G. R. Saunders.
2 Acute Suffocative Pulmonary Edema. John Lindsay Steven.
3 Mental School Hygiene. Francis Warner.
4 *Volkmann's Contracture. Leonard S. Dudgeon.
5 *Some Figures as Regards Susceptibility to Revaccination. F. W. Andrewes.
6 A History of the After-Progress of Five Cases of Partial Gastrectomy for Cancer of the Pylorus. J. Rutherford Morison.
7 Nevus Verrucosus Associated with Certain Anomalies of Pigment. H. Taylor.
8 A New Method of Breaking Down Recent Adhesions. George W. Ord.
9 Successful Removal from an Infant of an Occipital Meningocele Larger Than the Child's Head. J. Lynn Thomas.
10 An Unusual Complication of Influenza. J. G. Carruthers.

British Medical Journal (London), January 11.

11 Maternities and Pre-maternities. J. W. Ballantyne.
12 Early Extra-uterine Pregnancy. Thomas Carwardine.
13 Tubal Gestation with Rupture and Hemorrhage into the Peritoneal Cavity. J. N. Marshall.
14 Hysterectomy for a Soft Fibromyoma Weighing 53 Lbs. Frank C. Madden.
15 The Treatment of Puerperal Eclampsia. Louis A. Francis.
16 *A Suggestion for the Treatment of Enuresis in Females. G. C. Parnell.
17 Hydroa Gestations Due to Staphylococcus Albus. Nathaniel W. Holmes and W. Bulloch.
18 *Note on a Method of Quantitatively Estimating the Phagocytic Power of the Leucocytes of the Blood. W. B. Leishman.
19 Epidemic Catarrhal Jaundice. Eliot Curwen.
20 Enteric Fever in the Inoculated. C. Birt.
21 Tortuosity of Both Internal Carotid Arteries. R. P. Rowlands and R. H. J. Swan.

Journal of Tropical Medicine (London), January 1.

22 Snake Poisoning in Central Africa. Neil Macvicar.
23 Can We Do Without Slides? Edward Horder.
24 Amputation for Perforating Ulcer of Foot in Lepers. Edward Horder.

Presse Medicale (Paris), January 1, No. 1.

25 *Lavage of the Intestines with Hydrogen Dioxid. H. Roger.—"Les Lavages intestinaux à l'eau oxygenée."

Progres Medical (Paris), January 1.

26 *Medical Treatment of Menstrual Troubles of Utero-ovarian Origin. E. Vidal.—"Traitement médical des troubles menstruels d'origine utéro-ovarienne."

Revue Hebd. de Laryngologie, etc. (Bordeaux), January 4.

27 *Extraction of Metallic Foreign Bodies from the Air-Passages with a Magnet. De Roaldés.—"Note sur l'emploi de l'electro-aimant pour l'extraction des corps étrangers metalliques des voies aériennes."

Semaine Medicale (Paris), January 1.

28 *Latent Tuberculosis of the Tonsils and Adenoid Vegetations. S. Jankelevitch.—"La tuberculose latente des amygdales et des végétations adenoides. Revue générale."

Archiv f. Klin. Chirurgie (Berlin), lxv, 2, 1902.

29 Participation of the Periosteum in Ossification of the Muscles After a Single Trauma. F. Berndt.—"Zur Frage der Betheiligung des Periosts bei der Muskelverknöcherung nach einmaligem Trauma."
30 The Entire Large Intestine on Right Side and Partial Situs Inversus. F. de Quervain.—"Rechtslagerung des ganzen Dickdarmes und partielle Situs inversus."
31 Hyperplasia of Connective Tissue in Fibroma and Fibroadenoma of the Mamma. E. Fabian.—"Bindegewebshyperplasie im Fibrom und ein Fibroadenom der Mamma."
32 Malignant Disease of the Lips. L. Janowsky.—"Zur Frage des Lippenkrebses. Klin. und Stat. Material a. d. Krankenhause Kaiser Nicolai II."
33 *Tuberculosis of the Lymph Glands. B. K. Finkelstein.—"Beitraege zur Frage der Tuberkulose der Lymphdrüsen."
34 Two Cases of Fracture of the Spine. J. S. Spiridonow.—"Zwei Fälle von Fractur der Wirbelsäule in path.-anat. und klin. Hinsicht."
35 *Diagnosis of Tubercular Peritonitis in Children. A. A. Kissel.—"Ueber die Diagnose der tuberkulösen Peritonitis bei Kindern, auf Grund von 54 Fällen eigener Beobachtung."
36 *General Contraction of the Stomach and Jejunostomy. M. v. Cackovic.—"Ueber totale Verkleinerung (Schrumpfung), des Magens und uber Jejunostomy."
37 *Partial Resection of Spleen with Hemostasis by Steam. W. F. Sneguireff.—"Ein Fall von partieller Resection der Milz unter Anwendung des Wasserdampfes als Blutstillungsmittel."

Centralblatt f. Chirurgie (Leipsic), January 4.

38 Quinin Lygosinate as a Styptic and Antiseptic. J. Hevesi.—"Chiniuum lygosinatum, ein neues Wundbehandlungsmittel."
39 *Method of Orchidopexy. E. Hahn.—"Eine Methode der Orchidopexie."

Deutsches Archiv f. Klin. Med. (Munich), lxxii, 1.

40 Chloroma and Leukemia. W. Rosenblath.—"Ueber Chlorom und Leukämie."
41 Study of the Chloroma. W. Riesel.—"Zur Kenntniss des Chloroms."
42 Critical Days and Action of Cosmic Influences on Pathologic Occurrences. H. Brunner.—"Ueber kritische Tage und kosmische Wirkungen auf path. Ereignisse."

Deutsche Med. Wochenschrift (Berlin and Leipsic), January 2.

43 The Plague. W. Kolle and E. Martini.—"Ueber Pest." (Continued.)
44 *Critical Study of Glycolysis. E. Bendix and A. Bickel.—"Kritischer Beitrag zur Lehre von der Glykolyse."
45 Can Pernicious Anemia Be Diagnosed from the Blood? E. Körmöczi.—"Kann die Diagnose der Anemia perniciosa aus dem hämatologischen Bilde festgestellt werden?"
46 *Theory of Traumatic Genesis of Tumors and Cured Case of Sarcoma of the Tibia. V. Schmieden.—"Ueber den Werth der Theorie von der traumatischen Geschwulstgenese und über einen geheilten Fall von centralem Riesenzellensarkom der Tibia."
47 *Temporary Colostomy in Case of Chronic Dysentery. A. Nehrkorn.—"Temporäre Colostomie bei Chronischer Dysenterie."
48 Case of Lateral Hermaphroditism. B. O. Kellner.—"Ein Fall von Hermaphroditismus lateralis."

Deutsche Zeitschrift f. Chirurgie (Berlin), lxii, 1 and 2.

49 *Remote Results of Exclusion of Intestine. Wiesinger.—"Ueber Dauerresultate bei Darmauschaltung."
50 Four Cases of Sporadic Elephantiasis. L. W. Orlow.—"Ueber die sporadische Elephantiasis."
51 *Nerve Grafting. F. Dumstrey.—"Ueber Nervenpfropfung."
52 Subcutaneous, Intraperitoneal Injuries of the Kidneys. F. de Quervain.—"Ueber subcutane, intraperitoneale Nierenverletzungen."
53 Study of Unna's Plasma-cells. Euderlen and Justi.—"Beitraege zur Kenntniss der Unnaschen Plasmazellen."
54 Catheterization of Ureters and Radiographie. Géza v. Illyes.—"Ureterkatheterismus und Radiographie."
55 Surgical Treatment of Ascites. H. Ito and K. Omi.—"Klinische und experimentelle Beitraege zur chirurgischen Behandlung des Ascites."
56 Radiography as Aid to Diagnosis of Renal Calculi. K. Dohrn.—"Das Roentgenbild als diagnostisches Hilfsmittel zum Nachweis von Blasensteinen."

Deutsche Ztft. f. Nervenheilkunde (Erlangen), xxi, 1 and 2.

57 Multiple Sclerosis of Central Nervous System. J. Hoffmann.—"Die multiple Sklerose des Centralnervensystems."
58 Pathologic Anatomy of Hemiathetosis. H. Haenel.—"Zur path. Anat. der Hemiathetose. Zugleich Beitrag zur Kenntniss der a. d. Vierhügelgegend absteigenden Bahnen beim Menschen."
59 Five Cases of Tumors in the Cerebellum. G. v. Voss.—"Fünf Fälle von Kleinhirntumor."
60 Symptom-Complex in Affections of Posterior and Lateral Columns. G. Bikeles.—"Zur Kenntniss des Symptomencomplexes bei disseminirter Hinter-Seitenstrangerkrankungen (auf Grund von Befunden in Fall von Meningo-myelitis)."
61 Study of Innervation of Bladder, Rectum and Genital Apparatus. L. R. Mueller.—"Klinische und experimentelle Studien ueber die Innervation der Blase, des Mastdarmes und des Genitalapparatus."

Muenchener Med. Wochenschrift, January 7.

62 *Study of the Heart by Means of the Orthodiagraph. Moritz.—"Ueber orthodiagraphische Untersuchungen am Herzen."
63 Experimental Study of Hemolysis. Max Matthes.—"Experimenteller Beitrag zur Frage der Haemolyse."
64 *Further Experience with Silk Tendons. F. Lange.—"Weitere Erfahrungen ueber seidene Sehnen."
65 *Subcutaneous Gelatin Injections in Melæna Neonatorum. Holtschmidt.—"Die Subkutane Gelatineinjektion bei Melæna neonatorum."
66 *Treatment of Rupture of the Uterus. G. Wiener.—"Beitrag zur Therapie der Uterusrupturen."
67 Biology of Fat. G. Rosenfeld.—"Die Biologie des Fettes."
68 *Esophagoscopy, Gastroscopy and Celioscopy. G. Kelling.
69 Go-Carts for Paralysis of the Legs. C. Bruns.—"Ueber Anwendung von Laufwägen bei Lähmungen der unteren Extremitäten."
70 Teaching of Materia Medica. M. Chetta.—"Ueber den Unterricht in der Arzneimittellehre."

Wiener Klin. Rundschau, January 5.

71 *Sciatica, Meralgia and Flat-Foot. J. Pal.—"Ischialgia, Meralgia und Plattfuss."
72 Pathogenesis of Choked Disc in Cases of Brain Tumors. Elschnig.—"Die Pathogenese der Stauungspapille bei Hirntumor." (Continued.)
73 Pathologic Anatomy of Family, Infantile Spastic Spinal Paralysis. E. Bischoff.—"Die path. Anatomie der infantilen familären spastischen Spinalparalyse."

Wiener Klinische Wochenschrift, January 2 and 9.

74 *Intestinal Myiasis from Maggots. H. Schlesinger and A. Weichselbaum.—"Ueber Myiasis intestinalis (Die Fliegenlarvenkrankheit des Verdauungscanales)."
75 Intestinal Bacteria that Form Granulose. F. Passini.—"Ueber granulosebildende Darmbacterien."
76 Importance of the Iodin Reaction for Bacteriologic Diagnosis. R. Grassberger and F. Passini.—"Ueber die Bedeutung der Jodreaction für die bacteriologische Diagnose."
77 Etiology of Pneumothorax in Childhood. Zuppinger.—"Zur Aetiologie des Pneumothorax im Kindesalter."
78 *Treatment of Fissure of the Anus. Gussenbauer.—"Ueber die Behandlung der Fissura Ani."
79 Ulcus molle and Syphilis. E. Finger.
80 Hemagglutinins of Normal Sera. K. Landsteiner and A. Sturli.

Roussky Vratch (St. Petersburg), i, 1.

81 Appendicitis. I. I. Metchnikoff.—"Nyeskolko zamechanie o vospalenie cherveobraznago otrostka."
82 Cardiac Cirrhosis of the Liver and Its Importance in Differentiation and Treatment. S. V. Levashoff.—"O Serdetchnix cirrhozax pecheni e o znatchenie ix dlya raspoznavanie e lyetchenia serdetchnix porokov."
83 *Indications for Operative Intervention in Perityphlitis. H. F. Zeidler.—"O pokazaniax k operationomu vmyeshatelstvu pre perityphlitye."
84 Simultaneous Invasion of Rectum by Cancer and Tuberculosis. A. F. Mankoffsky.—"K voprosu ob odnovremmenom porazhenie pryamoy kishky rakom e bugorchatkoy."
85 *Serodiagnosis of Tuberculosis. G. N. Kazarinoff.—"K voprosu o serodiagnostikye bugorchatky."
86 Prevention and Treatment of Plague. V. P. Kashkadamoff.—"Preduprezlidenie e lyechenie chumi."

---

4. **Volkmann's Contracture.**—This phenomenon consists in contraction of the fingers and sometimes of the wrist, coming on rapidly with loss of power, though not absolutely, in the forearm muscle after a severe injury, usually in the region of the elbow joint, and generally in young children. The deformity is due to changes in the flexor muscle without injury to the peripheral nerves, caused in many cases by tight bandaging and pressure of splints. In some cases, however, splint pressure may have no effect, and Dudgeon thinks it is far more probable that it is the result of a combination of large effusion in the soft parts with splint pressure in most cases. The great feature in the history of a case of this deformity is the onset of paralysis of the limb, with contracture. The fingers sometimes become blackish and frequently swell. There is rarely any pain until after the removal of the splint when the forearm sometimes is tender. There is often sloughing of the skin, usually in the middle or upper part of the flexor surface of the forearm. The fingers are at first simply flexed, but soon pass into the characteristic position. "With the wrist extended the metacarpo-phalangeal joints are extended also; the interphalangeal joints of the fingers and the terminal joint of the thumb are, however, strongly flexed, so that the tips of the fingers touch the lower part of the palm, and no reasonable amount of force seems capable of straightening them; but as soon as the wrist-joint is flexed to a right angle then the interphalangeal joints can be easily extended. In very bad cases the wrist becomes strongly flexed, and is incapable of extension. The hand is pronated, and the forearm is generally semi-flexed. The flexor muscles of the forearm seem hard, firm, and much wasted. A thickening is sometimes felt in the soft tissues, usually in relation to the pressure sore which is so frequently present. A swelling, bony in character, is sometimes to be found at the lower end of the humerus, generally at the inner side. Sensation may be normal, or there may be partial or complete anesthesia; this is dependent on the condition of the peripheral nerves. There are thus to be seen usually three grades of this deformity: 1, partial contraction of the fingers; 2, the hand in the typical position; and 3, strong flexion of the wrist and fingers, without any power of extension. There are no true trophic lesions in pure ischemic myositis, but the hands are frequently cold and blue and the skin smooth. The fingers frequently swell when the arm hangs down by the side for some time. It is said that the joints become ankylosed, similar to the ankylosis in traumatic arthritis, but I could find no such case in the literature or any mention of such a condition having been recorded; in those cases in which any reference was made to the joints they were always said to be normal. In well-marked cases there is as much shortening of the bones as is met with in acute anterior poliomyelitis, etc." Normal electrical reactions are characteristic. The pathology of the condition according to the different authors is reviewed. It is shown that it may occur after severe cold, and possibly there may be an escape of synovial fluid with blood, producing deformity in some cases. The condition of the muscles when examined by the surgeons in operations shows them wasted, pale, firm and dry, and that they have undergone a sort of fibrosis. The differential diagnosis as distinguished from ulnar, median or muscular spiral paralysis, poliomyelitic contraction, Little's disease and the so-called functional disease, is noticed. Dudgeon does not believe in the bad prognosis claimed by Volkmann for this condition. Some of his cases have recovered, and he agrees rather with Anderson, whose opinion is directly contrary to that of Volkmann, that the affection may be generally retarded by the systematic active and passive movement with massage, with, if necessary, the galvanic current. He advises the delay of any surgical operation for such condition for some time, at least three or four months.

5. **Revaccination.**—Andrewes analyzes the statistics of the revaccination of the female staff of St. Bartholomew's Hospital. He finds that a very large percentage of those previously vaccinated had good vaccination results. Among the ward maids and domestic servants, who for the most part had not been vaccinated since infancy, there was true vaccinia in 76.36 per cent.; imperfect vaccinia, 20 per cent.; and negative results in 3.64 per cent. Among the 88 nurses who had been vaccinated on beginning of their employment, there were 27.27 per cent. of perfect vaccinia; 54.54 per cent. of imperfect vaccinia and 18.18 per cent. of negative results. Among the senior nurses and ward sisters who had been long in the service and not recently vaccinated there were 40 per cent. perfect vaccinia; 40 per cent. imperfect and 20 per cent. of failures. Of 61 cases who had not been successfully vaccinated since infancy there were 81.96 per cent. of perfect vaccinia; 13.11 per cent. of fair vaccinia; 1.66 per cent. feeble vesicles, and negative results in only 3.32 per cent. The results indicate the necessity of revaccination, and that during the third decade of life some 80 per cent. of those vaccinated in infancy are most imperfectly protected against smallpox. As regards those who have been revaccinated, individual susceptibility plays an important part, and some are so susceptible as to require revaccination after six or seven years. He thinks investigation along this particular line is desirable, for there seems to be a dearth of accurate information in regard to the matter.

16. **Enuresis.**—The suggestion of Parnell is to employ a strong solution of silver nitrate to the neck of the bladder and urethra, a plan he has found mentioned only in Holmes' "Surgery." He reports two cases. In order to bring the solution more thoroughly in contact with the urethral canal he has devised a small dilator with straight blades, which is very effective. No oil or ointment should be used, but the blades should be moistened with distilled or sterilized water and, after the urine has ceased, a little ointment smeared over the outer parts, and a probe well armed with cotton wool saturated with the solution passed between the blades and withdrawn two or three times. The instrument is then removed and again inserted at right angles with the former position, the urethra again dilated and the swab applied so as to ensure that the whole of the canal comes in contact with the solution. He attributes considerable importance to the moral effect of the treatment. He has not complicated its results by the administration of drugs, but thinks it might be still better with proper medication. He suggests the effect of the mechanical action caused by the slightly swollen urethra after treatment, but the real value is the breaking down of the bad habit for a week or more.

18. **Phagocytic Action.**—The method recommended by Leishman aims at enumerating the number of bacilli or cocci phagocyted within a definite time by the polynuclear cells of the blood under examination, obtaining the average of these variations and comparing the results with that of the control blood, preferably that of the observer, put up under identical conditions. He makes agar emulsions of the germs he desires to investigate, insuring the normal distribution through the emulsion. He adds a measured volume of blood to equal the volume of the emulsion on a slide or watch glass. This is transferred to the prepared slide and covered by a cover glass and precisely the same procedure is gone over with the control blood. The slides are then placed in moist chambers and left in an incubator at 37 C. for one-half hour. The blood under the cover glass remains liquid for hours and the phagocytes have a chance to exercise their power on the surrounding germs. At the end of half an hour the slide is removed and prepared for staining, loosening the dried edges with a little normal salt solution, and removing the cover glass, when the films are dried in the incubator for a minute and stained for the microscopic examination. He uses a staining method devised by himself and published in the *British Medical Journal* of September 21, 1901, and finds little difficulty in enumerating the number of germs contained in each phagocyte. The method is, he says, obviously far from the ideal one. The dilution of the blood with salt solution, variations in the number and possibly the virulence of the germs introduced, and, perhaps, the variation in the phagocytic power of the observer's blood from day to day are some of the objections, but the results so far obtained have proven surprisingly regular and the identical conditions of the blood under examination and the control blood at least partially annul the effects of variations due to differences in the number and virulence of the germs. He reports some of his observations, which indicate that the method has some particular value.

25. **Irrigation of the Intestines with Hydrogen Dioxid.**—Roger has witnessed remarkably prompt cures of dysenteriform colitis treated by one to three injections a day of a pint or a quart of diluted hydrogen dioxid, after the failure of other measures. The violent pains disappeared after two injections; the diarrhea was arrested and the fever declined. He considers this lavage of the intestines an extremely valuable measure in all cases of excessive putrefaction in the large intestine. On account of its hemostatic properties it might be found useful in hemorrhagic affections of this portion of the intestines. Rocaz has recently advocated it and described its successful application in cases of acute dysentery in children. Roger states that the result of this treatment is also encouraging in muco-membranous colitis, although less striking than in the other variety. He prepares the fluid fresh for injection by adding 100 c.c. of a 12 volume hydrogen dioxid to 900 c.c. of water containing in solution 5 gm. of sodium chlorid, 3 gm. of sodium phosphate and .5 gm. of sodium bicarbonate. It is injected into the colon through a flexible sound under weak pressure.

26. **Medical Treatment of Menstrual Troubles of Utero-Ovarian Origin.**—Vidal remarks that many utero-ovarian affections are due solely to disturbances in the innervation or circulation of the parts, and medicinal and surgical treatment is powerless in these cases. They require physical measures to act on the vasomotor centers, air, sunshine, electricity, mechanotherapy, hydrotherapy and especially mineral waters. The last mentioned have a physical, chemical and dynamic power in these cases, which very few persons appreciate at their true value. They stimulate the nutrition, as can be seen by the increase of urea, phosphates and chlorids in the urine, while the uric acid diminishes. This local and general action is particularly successful in combating menstrual disturbances, whether amenorrhea or metrorrhagia predominates.

27. **Extraction of Metallic Foreign Bodies in Air Passages with the Magnet.**—De Roaldés has been making a special study of the technique of removing metallic foreign bodies from the upper air passages, since he first suggested the use of the magnet for this purpose at a meeting of the Louisiana State Medical Society in 1899. Garel of Lyons recently removed a small nail in this way from the right bronchus, at the sixth interspace, through a tracheotomy wound. The distance between the magnet and the nail was at least 5 or 6 cm. De Roaldés has had no opportunity to practice his technique, but he has established by numerous experiments on the cadaver, that a metallic foreign body in the nose or nasopharynx promptly emerges when a Haab magnet is brought close to the nostrils. A preliminary application of suprarenal extract or of cocain would facilitate the extraction on the living subject. Objects placed in the deeper passages were easily drawn out by means of the magnet through a tracheotomy wound. The most interesting part of his experiments was his successful removal of such objects with a very strong magnet applied to the outside of the chest and slowly moved upward toward the tracheal wound. It was impossible to bring them into the mouth by this means. The conditions were not favorable, owing to the shape of the Haab magnet for this part of the procedure, but he is convinced that improvement of the technique will render it possible to extract a metallic body in a bronchus or in the trachea, through the mouth, with the aid of general narcosis, appropriate position of the patient and fluoroscopy or bronchoscopy. The object can be mobilized perhaps by turning the current on and off in rapid succession, and a flexible metal sound in contact with the large magnet may be inserted in the throat as an extension of the magnet, or the combination of a magnet inside and outside of the throat may be found useful.

28. **Latent Tuberculosis of Tonsils and Adenoid Vegetations.**—Jankelevitch concludes from a review of the literature on the subject that latent secondary tuberculosis of the tonsils is not infrequent, but that the primary latent infection is extremely rare. The cases that have been published as primary were more probably consecutive to some other latent foci. The lesion in the tonsil is usually benign and never leads to ulceration. No instances could be found in the literature of secondary infection of the lungs originating in a focus in the tonsil. Treatment can be only surgical.

33. **Tuberculosis of the Lymph Glands.**—Published originally in Russian. See abstract in The Journal of August 31, 1901, p. 608.

35. **Diagnosis of Tubercular Peritonitis in Children.**—Ibid.

36. **General Contraction of the Stomach and Jejunostomy.**—Cackovic describes the symptoms of this total shrinking of the stomach as a noticeable inability to eat much food and satiety after a few mouthfuls. The small cavity of the contracted stomach is soon filled and the rigid walls do not stretch nor expel the food into the duodenum. The motor function is performed by the peristalsis of the esophagus alone. When the walls are quite rigid there is no pain, as there are no contractions, but until this stage is reached the pains may be quite severe. Vomiting occurs simply from the overflow. The stools are hard or diarrheic, and bowels very sluggish. Left epigastric region is usually depressed. The impossibility to distend the stomach by insufflation of air or injection of water is the most significant diagnostic sign. After 50 to 150 gm. of water have been poured into the stomach tube the fluid stands in the funnel. In two cases personally observed, the patients were 36 and 60 years old. Both were evidently cases of diffuse malignant degeneration of the stomach walls, although it could not be detected by the naked eye in one, and the microscope showed only a few scattered epithelial cells in the mucous and submucous coats while the muscle exhibited evidences of chronic inflammation. In the other case there was an extensive ulcerative carcinoma, not actually circumscribed. A radical operation or even gastroenterostomy was impossible in either case and jejunostomy was done. The technical and functional results were perfect, but both patients died the seventh day after the operation, the first in progressive collapse, the other from hypostatic

pneumonia of the right lower lobe. He tabulates the details of 77 jejunostomies which he has collected, to sustain his assertion that this is by no means so severe an operation as it is usually considered. It is practicable in every case of general contraction of the stomach; the technique is comparatively simple; it does not expose the patient to more danger than any other palliative operation, and it relieves him from the torments to which he would otherwise succumb much sooner and with much more pain. Cackovic advocates jejunostomy also in case of severe stenosis of the esophagus, if gastrostomy is impossible; also for carcinoma of the stomach if a major radical or palliative operation is not indicated or not practicable; also for cases of benign stenosis of the pylorus or cicatrices of the stomach in very feeble patients; for gastric ulcer with frequent hemorrhages rebellious to treatment, and threatening inanition; for intoxication from a caustic when death is imminent from inanition or rupture, or when no other operation is practicable; in case of insufficiency of the suture after an operation on the stomach, and also when a radical or palliative operation has failed or been only transiently effective. The chief point in treatment of general contraction of the stomach is to determine the amount of food that is tolerated by the patient and not surpass this. His second patient said: "I can eat two spoonfuls all right, but I throw up the third every time." Alimentary injections will be useful adjuvants and also subcutaneous injections of saline solution and possibly of olive oil. The bowels must be systematically regulated with injections and laxatives. Morphin has to be used freely.

37. **Resection of Spleen Under Hemostasis by Steam.**—Sneguireff found steam a most useful aid in the resection on account of a cavernous angioma, of a portion of the spleen, 3 by 6.5 cm. in size. The patient was a previously healthy ii-para of 29. The spleen measured 14 by 11.5 cm., and a hydrosalpinx was also evident. Ligatures tore through the spleen tissue "as if it were butter," but the copious bleeding was completely controlled in twelve minutes by an apparatus which sprayed steam evenly over the entire cut surface at once, combined with the application of a slanting jet of steam to the severed arteries. He was careful to cut the surface in areas corresponding to the scope of his apparatus. When the tissue had turned a brownish green the hemostasis was perfect. The escaping steam, blood, etc., were caught on gauze compresses kept cool by pouring cold salt solution on them. The patient was dismissed cured in two months.

39. **Method of Orchidopexy.**—Hahn has treated a large number of cases of retention of the testis, since 1888, by the method described and the results have been satisfactory and permanent in every instance. The testis is released and brought down to its proper place through a canal made for it, which extends from the cutaneous incision to the lowest portion of the side of the scrotum. It is excavated with the fingers and forceps, and the testis is worked down through this new-formed canal until it protrudes through the incision in the skin of the scrotum below. This incision is sutured around the testis, leaving it projecting like a mushroom from the lower portion of the scrotum. A loose bandage is applied for six or seven days. After this interval the last few stitches are taken out and the testis is worked under the skin, which is then sutured over it, and it remains permanently in its new place. The nutrition of the testis did not seem to suffer by the procedure in any instance, except possibly in the case of one very small atrophic testis which continued to shrivel.

44. **Glycolysis.**—Bendix and Bickel state that Lépine's conception of glycolysis as due to the action of a glycolytic ferment secreted by the pancreas, is not sustained by their research. They have found that the alkaline blood is able alone to induce glycolysis, evidently by a purely chemical process, without the coöperation of any ferment. Grape sugar was destroyed in still larger proportion in a .2 or .5 per cent. pure aqueous solution of soda—that is, a fluid as alkaline as the blood. For example, 70 mg. of dextrose mixed with a .28 per cent. solution of soda and kept in the incubating oven for thirty-six hours, diminished to 64 mg. There was a loss of 20 mg. in other tests with a .18 per cent. solution of soda after 240 hours, and of 23 to 33 mg. in a 1.67 per cent. solution after 96 hours. In studying glycolysis the methods of estimating the amount of sugar must be exact, and the possibility that the grape sugar may be decomposed by the action of bacteria in some fermentative process, must be excluded.

46. **Trauma in the Genesis of Tumors.**—Schmieden describes a case of central giant-celled sarcoma of the tibia, the first symptoms of which were observed not long after a contusion of the spot. The trauma caused much pain and temporary inability to walk. In spite of this circumstantial evidence of the traumatic origin of the tumor, he discredits it, and affirms that the tumor could not have come into existence without the presence of the causal germ, no matter how predisposed the soil. Authors have published statistics of 13.4 per cent. tumors of traumatic origin, as in Löwenthal's report; Wolff, 14.3 per cent.; Rapok, 20 per cent.; Mass, 1 per cent., etc., but closer analysis of the cases cited shows that the attempt to trace the tumor to the trauma is very far-fetched, as for instance, Löwenthal's case of a fall from a horse, with no appreciable disturbances, and a gliosarcoma developed in the cerebellum twenty-two years later. Even in the cases of so-called chronic trauma, such as carcinoma of the lip in a smoker, the factors may be more of a chemical than of a physical nature. No evidence has yet been presented, he concludes, which establishes the fact that a trauma is able to call a tumor into being in sound tissue, and for his part, he refuses to admit the possibility.

47. **Colostomy for Chronic Dysentery.**—Nehrkorn describes a case to demonstrate the benefits that can be derived from temporary colostomy in cases of dysentery in which the hemorrhages persist in spite of all internal treatment and the patient is rapidly losing strength, or when the pains and profuse diarrheas are constant, and also when the debility is so extreme that further internal or local treatment becomes impossible. The localization of the intestinal affection determines the character of the intervention. Colostomy on the right side, cecostomy, is the operation when the entire large intestine is involved in the morbid process. It allows the diseased intestine to rest and recuperate. When the affection is limited to the middle portion of the colon, as determined by inspection and palpation during the laparotomy, the diseased portion can be resected and an artificial anus thus be avoided. Colostomy on the left side is indicated in those cases in which the sigmoid flexure is the locus morbi. The aim in this latter intervention is not so much the exclusion of part of the intestine as it is to apply local medication directly to the affected points. This was the intervention in the case described. The patient was a young cigarmaker in Baden, healthy until debilitated by several months of sporadic chronic dysentery with almost incessant small hemorrhages from the intestines. After the failure of internal medication Czerny exposed the flexure, finding it edematous and rigid from infiltration. It was fastened to the wound and two days later was opened. Circumscribed, hyperemic lumps were found in its interior, with two erosions the size of a pfennig, bleeding at the lightest touch. The colon was rinsed out once or twice a day for several weeks with a dilute solution of salicylic acid. A liter and a half could be poured in without trouble. The hemorrhages ceased from the moment of the intervention. Three days afterward castor oil was given. The patient rapidly regained strength and the artificial anus was closed three and one-half months after the operation, and now, three months later, the stools are of normal color and consistency, free from blood or mucus and the patient feels completely well.

49. **Remote Results of Exclusion of Intestine.**—Wiesinger reports the condition of two patients who were operated on more than six years ago by the exclusion of a large portion of the intestines, on account of chronic inflammation of the colon or cecum. The first patient was a woman of 31, and the excluded portion of the intestine included the transverse and descending colon and part of the sigmoid flexure. An artificial anus was made on the right side to allow local

treatment. Later the ascending colon was united to the flexure, and the artificial anus was closed. The patient has carried this long piece of excluded intestine for six years without disturbance of any kind or tenderness at any point. She feels perfectly well, has a good appetite, her bowels act regularly, she has gained in weight and attends to her business as usual. This is the first and only successful case of the kind on record. The second of Wiesinger's patients was a girl of 17 who recovered complete health after the exclusion of the terminal portion of the ileum, the cecum and ascending colon, on account of a tuberculous tumor in the cecum with a fecal fistula. Resection was impossible on account of adhesions. The patient is in good health, has held her position permanently and has recently married. The tumor has retrogressed, but the fistula still persists and has a slight transparent mucous secretion.

51. **Nerve Grafting.**—Dumstrey describes a case of ulnar paralysis in a boy of 10 years, which had persisted for twenty-six months after a fracture of the elbow. As a degenerative process in the nerve was more than probable, he treated the paralysis by grafting the ulnar nerve in an oblique incision in the median nerve after first cutting the ulnar across obliquely. He fastened it in place with a single catgut stitch, and sutured the central stump of the nerve as close to the graft as possible, hoping that it might grow in time to span the gap of 4 cm. Pain was severe at first, and the lips of the wound farthest from the graft became slightly gangrenous. After freshening the lips and suturing afresh the ninth day, the wound healed smoothly. There was tingling, formication and itching in the ulnar side of the hand, and gradually, in the course of several months, the functions of the hand were regained under electricity, exercises, massage and warm baths. The patient was lost sight of before the prospects of the cure had been completely realized. Dumstrey performed a similar operation afterwards on six dogs. The wound became infected in each and the anatomic results were perfect in only two of the animals. In these the nerve fibers had actually grown in and through the graft with no accumulation of tissue. The graft looked like a normal, branching nerve, with scarcely any traces of an operation. He concludes from his experiences that restoration of function should not be anticipated until after several months have elapsed, and also that smooth, primary union of the nerves is indispensable. He does not believe that it is necessary to approximate the nerves so carefully as Gluck advocates, axis cylinder to axis cylinder, etc.

62. **Study of the Heart with the Orthodiagraph.**—Moritz gives sixteen cuts to illustrate the value of the orthodiagraph in determining the outlines of the heart. The Roentgen tube is arranged so that it can readily be moved in any direction in a level plane over the fluorescent screen. The exact points where the rays fall perpendicular to the screen are marked as the tube is moved along. It is thus possible to obtain an exact silhouette of the object, showing its size, shape and position at any time. This orthodiagraphic representation of the heart verifies and controls the results of percussion on the living subject.

64. **Silk Tendons to Correct Deformities.**—Lange improved the technique of tendon transplantation by weaving a thread of silk in the portion of the tendon split off to transplant in the paralyzed tendon, thus strengthening it and allowing more tension. He found he could suture the tendon directly to the periosteum instead of to the paralyzed tendon, thus operating entirely in sound tissue. Later, he discovered that the silk answered completely the purpose of a tendon and that it was unnecessary to slit the sound tendon. He now leaves it intact, weaves some silk threads through it and carries them down to the periosteum below where they are fastened as if forming a branch of the sound tendon. He is thus able to operate in cases in which the defect is too extensive to be bridged by the natural tendon, as well as those in which the tendon is too thin to be divided. The intervention is comparatively insignificant when the silk tendon is used. The strength of the sound tendon is not impaired, and by this means it is possible to make an exaggerated correction without undue stretching of the natural tendon and fear of consecutive necrosis. In a case of paralysis of the peronei and extensor digitorum, for instance, in which the tibialis anticus is too weak to be divided, he weaves two strong silk threads through the tendon of the latter, parallel to the fibers, above the annular ligament. The four ends of the silk thread are passed then through the periosteum of the cuboid bone, weaving them in and out before tying them. Four months afterward the patient is able to move his foot up and down in approximately normal range, without recurrence of the previous deformity. Lange has applied these tendons in 56 cases and primary healing was secured in every instance. The threads tore through twice afterward, from imperfect technique as the angle had not been correctly calculated. There was no suppuration, but the traction from the silk threads woven in the gastrocnemius and fastened in the periosteum of the cuboid bone, was too strong for the soft parts covering them. If a cotton pad had been worn in the shoe, this mishap might have been averted. Some of the silk tendons he has thus made in various patients were 20 cm. long. The functional results have been remarkably perfect, even in case of paralysis of the quadriceps, the most difficult of all operations of the kind. For this, he transplants the biceps and the semitendinosus forward and lengthens them by a silk tendon from each, both joining together and woven into the periosteum of the tibia where they are tied. When the immobilizing cast is first removed the silk can be palpated as when first inserted, but as the limb is exercised, the silk tendon becomes larger and larger, until it feels like a lead pencil instead of a knitting needle under the skin. As it is used constantly in the movements of the parts it does not act like a foreign body, and the healing process proceeds like that of a living tissue. He is able to prove this assertion by a silk tendon removed from the knee after two and a half years of practically normal function, the patient a child who required a second operation for another cause. The silk tendon was 12 cm. long and had become encased in a sheath of normal tendon tissue whose walls were 2 or 3 mm. thick and whose lower end blended like a normal tendon with the periosteum of the tibia. A microscopic section of the new-formed tendon showed normal parallel arrangement of the fibers and normal structure throughout. Among his most gratifying successes is the case of a boy of 15 with all the muscles of both legs paralyzed except the quadriceps in one and the biceps, semitendinosus and extensor digitorum in the other. He was unable to walk or even stand. One year after the operations he was able to walk without an apparatus. Another patient was a young woman of 22 with paralysis of all the muscles of the legs except the quadriceps in the left and the biceps and tensor fasciæ in the right. Walking and standing were impossible, but now, a few months after the intervention, and for the first time in seventeen years, she can stand without mechanical support and is able to walk with merely the aid of two canes.

65. **Gelatin Injections as a Cure for Melaena Neonatorum.**—Holtschmidt states that 50 per cent. terminated fatally of the 14 cases of melæna neonatorum occurring at the Woman's Clinic at Dresden during the years from 1894 to 1900, in the course of 14,203 childbirths. In 1901 every case—5 in number—was treated by subcutaneous injection of about 15 c.c. of a 2 per cent. solution of gelatin, in the chest or thigh, in two places. The hemorrhages were at once arrested in 3 of the infants; 1 required a second and 1 a third injection before the cure was complete. All recovered. No other styptic was applied, not even the precaution of cooling the milk. The gelatin was always absorbed without reaction. He concludes from his experience that in case of excessive loss of blood the injection should be repeated again the same day until the hemorrhages are definitely arrested. In order to avoid all danger of injecting germs with the gelatin he prepares the solution by adding 20 gm. of ordinary gelatin to a liter of physiologic saline solution, plugging the bottle with cotton and boiling it in the water bath for five or six hours.

The bottle is then set aside and the mixture hardens. Liquefaction of the hardened gelatin would suggest the presence of germs, and the permanently unaltered appearance of the contents of the bottle is the best guarantee of its purity.

66. **Treatment of Rupture of the Uterus.**—Wiener advocates laparotomy and suture of the ruptured uterus as soon as possible. In places where a hospital is accessible the patient should be carried there for the operation. He describes two cases, both terminating in recovery. Tampons were applied at once, internally and externally, and by this means the hemorrhage was checked and the patients were able to stand a ride of one or two hours to the hospital. In one of the cases the rupture was evidently spontaneous, due to the contraction of the uterus in severe labor. The organ contracted after the rupture and the head of the fetus acted like a tampon, so that there was no hemorrhage until after the extraction of the hydrocephalous child. Wiener believes that the cavities should be wiped and cleaned with dry compresses. The application of fluids spreads the germs over a larger surface, whereas under dry cleaning, if any inflammation follows it is restricted to a small area.

68. **Esophagoscopy, Gastroscopy and Celioscopy.**—The instrument which Kelling uses for endoscopy of the alimentary canal is constructed on the principle of his little finger, he remarks, only instead of three joints the instrument has twenty. Like the finger, it is covered with a soft sheath of rubber. The introduction into the esophagus or stomach of this flexible tube is no more aggressive than the introduction of the stomach tube or sound. After it is in place, a stiff guide is worked into it, as the success of endoscopy of this kind depends on bringing the mouth and esophagus into a straight line, which is easily accomplished. The incandescent lamp and lenses are then introduced with a spiral motion imparted by a wheel above. The gastroscope differs from the esophagoscope only in that the lower end is bent at an angle to keep it away from the posterior wall of the stomach. The chief value of endoscopy is the early differentiation of carcinoma and the removal of foreign bodies. He relates a number of instances in which this differentiation was of inestimable benefit. In four cases in which the symptoms suggested incipient malignant disease, endoscopy revealed the integrity of the organs and indicated the nervous origin of the troubles or located them in an adjacent organ. In other cases it revealed a diverticulum, a syphilitic ulceration or mere spasm. In one case in which it established spasmodic contraction as the cause of the troubles, several physicians had previously diagnosed the case as carcinoma. For endoscopy of the abdominal cavity he first anesthetizes with Schleich's solution; then inflates the cavity through a Fiedler trocar and then inserts the smallest sized Nitze cystoscope through a second trocar. The viscera can thus be seen and palpated under the control of the eye. This method of celiotomy is aseptic, free from pain or danger and can be applied "ambulant."

71. **Connection Between Sciatica, Meralgia and Flat Foot.**—Pal describes a number of cases out of his large experience in which the patients exhibited symptoms of sciatica or meralgia or both, rebellious to all local treatment, and finally traced to an acquired talipes valgus. Appropriate treatment of the latter banished the pseudo-sciatica. No symptoms attracted attention to the foot in many of these cases. A young army officer, for example, applied for relief from intense pain in the right hip. The sciatic nerve was not sensitive to pressure but the pains involved the entire gluteal region, with slight paresthetic meralgia. Investigation showed that the patient had a flat foot which had been duly corrected for years, but he had laid aside the special footgear and had been wearing ordinary boots for the last four weeks. Return to his corrected shoes permanently banished the pains. Another case was a man of 45, subject to renal calculi. Violent pains suddenly appeared in the lumbar and gluteal region, attributed by the physician to new calculi. The patient was sent to Carlsbad where energetic local treatment of the supposed sciatica was undertaken. He returned in time, the pains still unmodified, and Pal then examined the feet and found pronounced flat-foot. Appropriate shoes corrected the condition and banished the pains. Two patients were cooks. The sciatic nerve is very little if at all sensitive in these cases. Treatment should aim to cure the contraction in the foot before the mechanical correction can be applied. Rest in bed, massage, moist compresses and gymnastic exercises are all important preliminaries to successful treatment. The position of the foot can be corrected with adhesive plaster strips in most cases, preparatory for the special shoe. The pad or special sole must be adapted to the individual case and hold the foot in perfect supination.

74. **Maggots in the Alimentary Canal.**—Schlesinger applies the term myiasis gastro-intestinalis to cases in which living maggots or flies are found in the contents of the stomach or intestines. They may occur once or repeatedly, and thus the resulting affection may be acute, subacute or chronic. Acute myiasis usually passes over without any characteristic symptoms unless, perhaps, the exceptional intensity of the pains. In some chronic cases no symptoms were noted. In one case pains and diarrhea recurred at intervals for years, but subsided each time after expulsion of a large batch of maggots. The expulsion was favored by kneading massage of the abdomen. The symptoms resembled those of a mucous colitis or membranous enteritis or merely an atypical dysentery. All the cases on record—about 100 in number—exhibited a comparatively long period of incubation before the first larvæ were expelled from the stomach or rectum, during which time various symptoms had called attention to the existence of some gastro-intestinal affection. This period of incubation ranged from a few weeks to several years in different cases. A remarkable feature of the cases was the peculiar expulsion *en masse* of the maggots. They were never found singly. Schlesinger explains this phenomenon by the colonization of the maggots in some comparatively limited space in the intestines. Some injurious influence may affect the entire colony and drive it out, while other colonies may persist undisturbed elsewhere. Another feature is the appearance of blood in the stools or vomit. This blood is probably derived from lesions of the intestinal walls caused by the direct action of the larvæ, similar to the hemorrhages in anchylostomyiasis. Migraine and neuralgic pains in side and back, or even in legs and knees, are frequent symptoms.

78. **Treatment of Fissure of the Anus.**—Gussenbaur relates the particulars of 23 male and 24 female patients whom he cured of painful fissure of the anus by merely stretching the anus until the cramp was abolished. The patient in profound narcosis, he inserts one forefinger very carefully into the anus, and then the other forefinger, then exerts gentle traction until the cramp is overcome and the sphincter becomes relaxed. The fissure may be slightly enlarged by the procedure. The anus is then wiped dry with sterile cloths and the fissure is merely dusted with iodoform or tamponed with iodoform gauze. As the patient recovers from the narcosis he experiences pain for one or two hours. After this time all pain ceases and he is permanently freed from all his previous discomfort at one stroke. The fissure heals completely in a few days to one or two weeks, unless possibly delayed by complications. Continence is restored after a few days. If general narcosis is contra-indicated, the dilatation can be accomplished without it. Local anesthesia is ineffective. This method of treatment, first introduced by Recamier, far surpasses all others in the certainty of the cure and the rapid healing of the fissure. Gussenbaur's experience has been much more extensive than the 47 cases described. He has never known any inconvenience to result.

83. **Operative Intervention for Perityphlitis.**—Zeidler believes in operating in the first stage of the process, during the catarrhal period, whether merely simple catarrhal appendicitis, or the ulcerative, parenchymatous or obliterating variety, or empyema of the appendix, chronic or latent. During the acute stage of perityphlitis he operates only when there seems to be no tendency to absorption of the inflam-

matory infiltrate and suppuration, and the suppuration is not becoming circumscribed. He would also operate at a later stage if there is a tendency to recurrence.

85. **Serodiagnosis of Tuberculosis.**—Kazarinoff has been investigating the agglutinating reaction in 73 patients with tuberculosis and in 11 healthy subjects. The tests were negative in the latter in all but 2, and one of these has exhibited evidences of a tubercular affection since. The specific agglutinating reaction occurred in the tuberculous 73, the intensity dependent upon the stage of the development of the tuberculosis, its course and on the strength of the organism affected. He unconditionally confirms the assertions of Arloing and Courmont in regard to the value of this means of differentiating tuberculosis.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

AMERICAN EDITION OF NOTHNAGEL'S ENCYCLOPEDIA.—Variola (Including Vaccination), by Dr. H. Immermann, of Basle. Varicella, by Dr. Th. von Jürgensen, of Tübingen. Cholera Asiatica and Cholera Nostras, by Dr. C. Liebermeister, of Tübingen. Erysipelas and Erysipeloid, by Dr. H. Lenhartz, of Hamburg. Whooping Cough and Hay Fever, by Dr. G. Sticker, of Giessen. Edited, with additions, by Sir J. W. Moore, B.A., M.D., F.R.C.P.I., Professor of the practice of Medicine, Royal College of Surgeons, Ireland. Handsome octavo volume of 682 pages, illustrated. Cloth. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

THE MEDICAL NEWS POCKET FORMULARY, New 4th Edition. Containing 1700 prescriptions representing the latest and most approved methods of administering remedial agents. By E. Quin Thornton, M.D., Demonstrator of Therapeutics, Pharmacy and Materia Medica in the Jefferson Medical College, Philadelphia. New 4th edition, carefully revised to date of issue. Pp. 287. In one wallet-shaped volume, strongly bound in leather, with pocket and pencil. Price, $1.50 net. Philadelphia and New York: Lea Brothers & Co. 1902.

ON THE CURE OF THE MORPHIA HABIT WITHOUT SUFFERING. With a Note on the Physiologic Method of Relieving the Craving for Drink. By Oscar Jennings, M.D. (Paris), M.R.C.S. (Eng.), Fellow of the Royal Medico-Chirurgical Society. Second Edition, Revised and Enlarged. Cloth. Pp. 211. Price, $1.50. New York: Wm. Wood & Co. 1901.

OUTLINES OF PHYSIOLOGY. By Edward Groves Jones, M.D., Lecturer on Physical Diagnosis in the Atlantic College of Physicians and Surgeons, and Professor of Physiology in the Dental Department of the same. With 107 illustrations. 12mo. Pp. 400. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1901.

THE POCKET GRAY, or Anatomist's Vade-Mecum. By the Late Edward Cotterell, F.R.C.S., Fifth Edition, Revised and Edited by C. H. Fagge, M.B., M.S. Lond., F.R.C.S., Senior Demonstrator of Anatomy, Guy's Hospital. Twentieth Thousand. Cloth. Pp. 269. Price, $1.25. New York: Wm. Wood & Co.

ELEMENTARY OPHTHALMIC OPTICS. Including Ophthalmoscopy and Retinoscopy. By Herbert Parsons, B.S., B.Sc., F.R.C.S., Curator, Royal London (Moorfields) Ophthalmic Hospital. Large, 12mo. Pp. 162. Price, $2.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

ALCOHOLISM, A Study in Heredity. By G. Archdall Reid, M.B., C.M., F.R.S.E., Author of "The Present Evolution of Man." Cloth. Pp. 293. Price, $2.50. New York: Wm. Wood & Co. 1901.

New Patents.

Patents of interest to physicians, December 31 and January 7:

690,094. Hernial truss. Karl Beyer, Cologne, Germany.
689,956. Car for disinfecting apparatus. Wm. H. Francis, Philadelphia.
689,957. Portable disinfecting apparatus. Wm. H. Francis, Philadelphia.
689,972. Syringe. Alcinous B. Jamison, New York City.
690,154. Device for testing eyes. Christian F. Kantlehner, Chelsea, Mich.
690,299. Fumigator. Joseph Konig, Gaggenan, Germany.
689,987. Nursing nipple. David Pick, Salzburg, Austria-Hungary.
690,080. Producing quinate or urea. Otto Schutz and G. Dallmann, Gummersbach, Germany.
690,337. Disinfecting apparatus. Isaiah W. Willits, Bloomsburg, Pa.
35,516. Design, nipple. Adnah McMurtrie, New York City.
35,497. Design, invalid cushion. Christian W. Meinecke, Jersey City, N. J.
35,498. Design, blank for ear speculum blades. Hercules Pedretti, Philadelphia.
690,844. Combined spring-bed and invalid chair. James H. T. Edwards, Sanford, S. C.
690,724. Making acetone. Josef L. Hawliczek, Liverpool, Eng.
11,960. Re-issue, salicylic ether of quinin. Fritz Hofmann, Elberfeld, Germany.
690,866. Apparatus for disinfecting sewer vaults. Wm. Martin, Chicago.
690,867. Compound for disinfecting purposes. Wm. Martin, Chicago.
690,527. Nasal distender. Wm. Moores, New York City.
690,759. Sterilizer for surgeons' use. Chas. E. Norton, Lewiston, Maine.
690,624. Hernial truss. Lucius A. Smith, Topeka, Kan.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 9 to 15, 1902, inclusive:

John M. Banister, major and surgeon, U. S. A., in addition to the duty with the troops on the transport *Buford*, required of him by former orders, is assigned to duty as transport surgeon on that transport during the voyage from New York City to the Philippine Islands.

Charles C. Billingslea, contract surgeon, from Westminster, Md., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Edward C. Carter, major and surgeon, U. S. A., member of a retiring board at Washington, D. C.

Louis W. Crumpton, major and surgeon, U. S. A., from San Francisco, Cal., to Washington, D. C., to report to the Surgeon-General of the Army for instructions.

Peter R. Egan, major and surgeon, U. S. A., from Fort Douglas, Utah, to San Francisco, Cal., en route for duty in the Division of the Philippines.

Robert C. Eve, contract surgeon, leave of absence for one month granted.

Henry M. Hall, contract surgeon, from the transport *Buford*, to duty on the transport *McClellan*, January 11.

Paul S. Halloran, lieutenant and asst.-surgeon, U. S. A., leave of absence extended.

James B. Hallwood, contract surgeon, now at San Francisco, Cal., is relieved from further duty in the Division of the Philippines and assigned to temporary duty in the General Hospital, Presidio of San Francisco, Cal.

Richard W. Johnson, major and surgeon, U. S. A., from duty in the Division of the Philippines to Fort Douglas, Utah.

George B. Jones, contract surgeon, from Rushville, Ind., to San Francisco, Cal., en route for duty in the Division of the Philippines.

John S. Kulp, captain and asst.-surgeon, U. S. A., attending surgeon and examiner of recruits at New York City, to report in person to the Surgeon-General of the Army on official business, and thereafter to return to his proper station.

William A. McVean, contract surgeon, from the General Hospital, Presidio of San Francisco, to Manila, P. I., for assignment in the Division of the Philippines.

James C. Merrill, major and surgeon, U. S. A., member of a retiring board at Washington, D. C.

Guy Stone, contract surgeon, now at San Francisco, Cal., is relieved from further duty in the Division of the Philippines and assigned to temporary duty in the General Hospital, Presidio of San Francisco, Cal.

William J. Wakeman, major and surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., where on arrival he will report by telegraph to the Adjutant-General of the Army for orders.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending January 18:

Asst.-Surgeon J. H. Payne, detached from the *Isla de Cuba*, and ordered home.

Surgeon I. W. Kite, ordered to the Norfolk Navy Yard.

Surgeon H. T. Percy, detached from the Norfolk Navy Yard, and ordered to the Navy Yard, League Island, for duty with the Naval Recruiting Rendezvous, Philadelphia.

Surgeon W. F. Arnold, detached from the *New Orleans*, and ordered to Guam.

Asst.-Surgeon J. T. Kennedy, detached from the *Brooklyn* and ordered to the *Helena*.

Asst.-Surgeon J. W. Backus, detached from the *Brooklyn* and ordered to the *Princeton*.

Asst.-Surgeon R. C. Holcomb, detached from the *Helena* and ordered to the *Manila*.

Asst.-Surgeon R. W. Plummer, detached from the *Princeton* and ordered to the *New Orleans*.

P. A. Surgeon B. R. Ward, detached from the Boston Navy Yard and ordered to the *Constellation*.

P. A. Surgeon W. C. Braisted, detached from recruiting duty and ordered to the Naval Hospital, New York.

P. A. Surgeon J. C. Pryor, detached from the Naval Hospital, New York, and ordered to the Naval Hospital, Newport, R. I.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 16, 1902:

Surgeon A. H. Glennan, detailed to represent the service at the meeting of International Sanitary Conference at Havana, Cuba, February 15.

P. A. Surgeon G. M. Guiteras, detailed to represent the service at meeting of International Sanitary Conference at Havana, Cuba, February 15.

Asst.-Surgeon C. E. Decker, granted leave of absence, on account of sickness, for thirty days from January 15.

Asst.-Surgeon C. H. Lavinder, bureau letter of January 2, 1902, granting leave of absence for two days, amended so that said leave shall be for one day only.

A. A. Surgeon R. C. Craig, to report to Surgeon F. W. Mead for duty.

A. A. Surgeon C. B. Sweeting, granted leave of absence for five days from January 23.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, FEBRUARY 8, 1902. No. 6.

Original Articles.

AUTO-TOXEMIA AS A FACTOR IN THE NEUROSES.

GEORGE F. BUTLER, M.D.

Medical Superintendent, Alma Sanitarium, Alma, Mich.; Professor of Materia Medica and Therapeutics, College of Physicians and Surgeons.

CHICAGO.

The doctrine of auto-intoxication is a very old one; the central idea of the primitive conception survives in the term rheumatism, applied to a condition due to the auto-intoxication resultant on suboxidization. Many of the morbid states now regarded as auto-toxemic were of old charged to rheums, as the products of rheumatism. Obesity and allied states were placed in the sixteenth century in the nosologic position they occupy to-day. In Sydenham's time the effects of these conditions were even better recognized than during the middle decades of the nineteenth century. Sydenham pointed out that suppressed gout (that is, gout without joint expression) exercised marked influence on the constitution. The body, he remarks, "is not the only sufferer and the dependent condition of the patient is not his worst misfortune. The mind suffers with the body, and which suffers most is hard to say. So much do mind and reason lose energy as energy is lost by the body, so susceptible and vacillating is the temper, such a trouble is the patient to others as well as himself, that a fit of gout is a fit of bad temper. To fear, anxiety and other passions, the gouty patient is a continual victim; whilst as the disease departs, the mind regains tranquillity." He also pointed out that gout affected the throat, heart and lungs as in asthma.

Upon the auto-intoxication doctrine was based the therapeutic principle underlying blood-letting. This aimed to remove the materias morbi and so replace blood by water as to carry on the circulation. The principle laid down by Sangrado (Le Sage's caricature of the phlebotimizer) was to drink water in great abundance as a universal menstruum which dissolves all kinds of salts. Plentiful bleedings and frequent draughts of water were to Sangrado the secret of health.

Auto-intoxication states existed to an enormous degree before the days of fresh winter vegetables, and formed the basis of most of what were called scorbutic disorders. For these reasons "spring cleaning," as it is called, still survives in popular medicine. In rural Italy the practice still obtains of bleeding in the spring and using water infusions of purgatives.

The practical adoption of the germ theory (which has hovered over the profession for two centuries) in the early eighties of the nineteenth century, turned attention, through discovery of the toxin, to the allied products formed in the system without bacterial action. Nearly simultaneous with this came the demarcation of neurasthenia by Beard, with the consequent study of fatigue and its results. Fatigue was found to produce auto-toxemia in two ways: First, by the direct products of nerve waste, and second, by the fatigue of the organs of sanguifaction and elimination from overwork after the loss of inhibitions, from central nerve tire. What were considered pathologic results, dependent on a specific lesion in a special location, were shown to be due to weakness of inhibito-motor centers, with resultant overwork of excito-motor neurons and the ultimate fatigue.

In this way occurred the fatigue fever pointed out by Vaughan and others. Fever, as Ott affirms, is primarily set up by an increase of heat production beyond that of heat dissipation, an agent from within or without deranging the harmony of the thermotaxic, thermogenetic and thermolytic apparatus by which in the initial stage the metabolism of the tissues is usually temporarily increased, this increment being greater than that generated upon a restricted amount of nutriment.

Once established, the fever continues, not from excessive production, but from an altered relation between heat production and heat dissipation. Fever is not a fire kept up by an excessive oxidation of the constituents of the economy. Heat production may be subnormal, yet the bodily temperature be at high fever heat. The thermotaxic centers of the brain so maintain balance between heat production and heat dissipation as to keep the temperature at 98.4 F. In fevers these thermotaxic centers are disordered so that the relation between heat production and heat dissipation being disturbed a higher temperature results. The peripheral endings of the sensory nerves influencing a thermolytic center are, therefore, important factors in heat regulation.

From disturbance of the thermic balance consequent to nerve shock or allied conditions, results the auto-intoxication state underlying saburral fever. This begins with loss of appetite, which may be gradual. The tongue is large, white and dirty; the mouth is clammy; the breath is fetid; constipation is habitual. The patient is languid, feeble, indisposed for work. The discomfort augments after each attempt to take food. Febrile paroxysms preceded by chills and followed by sweating often supervene. Sometimes jaundice and hepatic enlargement are present. Under the influence of overwork, emotion, exposure to cold, etc., arrest of digestion, nausea, vomiting, headache, chills and fever occur. In children and neurotics vertigo and convulsions often usher in and accompany the disease as an expression of the general toxemic condition. There may be a week's fever nearly resembling a mild typhoid. Sometimes after one or more attacks a chill occurs, followed by

fever; profuse evacuations set in and convulsions rapidly ensue. There is generally constipation from the first. Even when there is diarrhea the natural evacuation may be insufficient for elimination.

The foregoing condition, which occurs generally without the fever, marks the onset of auto-toxemia and is an expression of the constitutional disturbance resultant on non-elimination. The hepatic involvement has a double expression. The liver has a poison-destroying, eliminatory function, and acts as a sanguifacient. Disturbance of either of these tends to produce auto-toxemia.

The various products produced through normal work are eliminated by various channels. Some are transformed in the alimentary canal into innocuous substances. Gases are eliminated by the lungs. Other compounds are intercepted and decomposed in the liver. Certain effete products are eliminated by the kidneys and skin. When any one of these emunctories is interfered with in discharge of its functions the phenomena of auto-intoxication make their appearance. This is observed in certain affections of the alimentary system attended by headache, pallor, nosophobia, etc. These manifestations, the result of a chronic auto-intoxication, were not improperly attributed by the older writers to disturbance of hepatic functions.

The symptoms of auto-intoxication are often those of profound systemic depression, but they likewise, as already stated, present convulsive and exciting types. Nearly four decades ago Meynert suggested that epileptic attacks were due to an unstable nervous system acted on by the accumulation of a proteid toxic substance. This view was subsequently corroborated by the researches of Brieger, Bouchard, Féré and others on the toxic state of the urine antecedent to the epileptic state.

What is usually a congenital condition in the epileptic may be an acquired state from prolonged auto-toxemia, in which a sudden increase of auto-intoxication may excite centers whose inhibitions have already been weakened. This acquired predisposition is a temporary diathesis established in the manner described by Bouchard. Nerve reactions by corrupting for the moment nutrition not only produce the morbid opportunity, but may also modify nutrition in a lasting manner and develop diathesis. The acquired diathesis once established may become hereditarily transmissible in its etiology: be it in the individual or his ancestors, it has had for its origin the abnormal play of nerve reaction. Let a bad alimentary hygiene, cold and moisture, privation of air and light cause an infant to become lymphatic, and let the permanence of the same cause keep up the nutritive disorder which is designated as the scrofulous diathesis; or let a young man, by hygienic errors, by the abuse of the table, by protracted studies at night, by venereal excesses, by nervous shock, which may be the consequence of complete derangement of the mind as also of a jaded brain, develop this other nutritive disorder designated arthritism—in both cases each cell will have a tainted nutrition and will produce cells that maintain the same nutritive type. Among these cells are the generative elements; in their turn they give birth to the cells of a new being with nutritive activity similar to the individual which has begotten it. The acquired diathesis has become hereditary. It does not have for its cause in the descendants the vice of their own nerve reaction; in them, the diathetic state really arises from nerve perturbation experienced by their ancestors. There are, therefore, two factors to be reckoned with in auto-toxemia: the acquired diathesis and the effects on this of increased toxemia.

Relief from the ordinary effects of imperfect elimination is often very great so far as its expression in consciousness is concerned. In early life, as Havelock Ellis remarks, the emotions due to forced repression of excretions are frequently acute in the highest degree, and the joy of relief is correspondingly great. In adult life, on most occasions, these are pushed into the background of consciousness, partly by training, partly by the fact that involuntary muscular activity is less imperative in adult life, so that the psychic element in connection with ordinary excretions is almost negligible. In many cases, however, the balance of adult consciousness is so disturbed by irritations from auto-toxemia that relief from these produces a buoyancy out of proportion to the amount of elimination secured. In the adult the majority of functions cease to find expression other than in subconscious states.

Making up what is called consciousness are a number of clear conscious states, accompanied by others less clear and by physiologic states which, though not entering into consciousnesss, are even more potent than the conscious states. These last would be the first affected by auto-intoxication. The morbid irritations resulting therefrom obtrude on consciousness, producing anxiety and uncertainty. These morbid irritations of physiologic states produce the two great conditions ordinarily found as a result of auto-toxemia. The first is what the older clinicians called nervous adynamia and ascribed not only to the essential fevers, etc., but also to auto-toxemia.

From these two states, the conscious and the psychologic, the first an irritable weakness, the other a deep-seated constitutional neurosis, result the various conditions of temporary or protracted disorder charged to auto-toxemia. The two conditions are predisposing factors of almost distinct value. One type disturbs the balance of health so that it is easily upset and easily recovers. In the deeper type a secondary condition to auto-toxemia has been engendered, which, like all conditions influenced in their action by causes secondary to a great primary origin will not yield to treatment of this primary cause alone. This latter condition, like chronic nutritional disturbances, set up by syphilis, by the exanthemata, and by other diseases in which the nervous state or the nutritional disturbance remains long after the primary cause has disappeared, acts as a predisposing neurosis.

All these morbid states and prolonged auto-intoxication produce a protracted neuropathy with suspicional and anxious tendencies. This condition mimics all the chronic neuroses and is often taken for them, whence the frequent cures of conditions like tabes by quack systems and medical pretenders. To a certain extent the period of attack gives a complexion to the clinical picture. A very common type between 25 and 45 is a disorder mimicking locomotor ataxia and often accompanied by convulsive attacks. In such cases even physicians not unnaturally give an erroneous prognosis. Lightning-like pains of locomotor ataxia are simulated by temporary darting pains, partly of psychic origin. As the existing auto-toxic state aggravates any effect of eye strain and even produces these, in certain cases examination of the eyes often reveals conditions mistaken even by ophthalmologists for the preliminary stages of optic atrophy. As the reflexes are often as exaggerated in this condition as they are in the earlier stages of loco-

motor ataxia, an error in diagnosis is always possible.

The variations in the mental state of this class of cases requires but little to pass over into the confusional types of insanity, which, indeed, were the earliest directly charged to auto-intoxication. The most frequent type presented is that of acute confusional insanity. This was the case with those which Schroeder van der Kolk, decades ago, demonstrated to be due to fecal accumulation in the colon. In some cases melancholia is produced. The urine of these has been found to produce stupor and depression in animals. The urine from confusional cases produces stupid excitement and violence. Exceptionally emotional exaltation may occur, producing extravagant actions, thereby creating a suspicion of paretic dementia. A very frequent type produced by railroad travel aggravating auto-intoxication is a stupid hallucinatory violence, which disappears in a very few days after rest, the use of stimulant enemata and hypnotics. This type often occurs in persons of either sex traveling on their honeymoon.

In many cases charged to mental shock auto-intoxication is the dominant cause, which is often due to the inhibitory effect that mental shock has produced on the liver and kidneys, causing the latter to secrete only the clear, pale urine of nervous agitation. The cases of transitory frenzy, with their wild, brief, unremembered violence, charged to mental shocks, are really due to auto-toxemia. The gynecologic conditions ascribed by Goodell to nerve-tire are produced through intervention of auto-toxemia in the manner already described.

The most common symptoms of this form of nerve-tire are the very ones which lay tradition and dogmatic empiricism attribute to womb ailment. They are in the usual order of their frequency: Great weariness and more or less of nervousness and of wakefulness; inability to walk any distance, and a bearing-down feeling; then headache, napeache and backache. Next comes scant, painful, delayed or suppressed menstruation, cold feet, and an irritable bladder, general spinal and pelvic soreness, and pain in one or both ovaries. The woman, always tired, spends the day tired, goes to bed tired and wakes up tired, often, indeed, more so than when she fell asleep. She sighs a great deal, has low spirits, and often fancies that she will lose her mind. Her arms and legs become numb so frequently that she fears paralysis. The skin becomes dry, harsh and scurfy. Pigmentary deposits appear under the eyes, around the nipples, and on the chin and forehead. Blondes get mottled in complexion. Brunettes are disfigured by brown patches or by general bronzing. Sometimes the whole complexion changes to a darker hue, while a disfiguring growth of hair appears on the face. A physician, especially if the patient has backache, bearing-down feeling, an irritable bladder, and pain in the ovaries, is apt to hunt diligently for a uterine lesion. If one be found, no matter how trifling, he will attach to it undue importance and treat it heroically as the erring organ. If no visible or tangible disease of the sexual organs be discoverable, he will lay the blame on the invisible endometrium or on the unseeable ovary and continue the local treatment. In this connection it should be remembered that menstruation to a certain extent is eliminative, and that interference with it causes retention of toxic elements.

Even where the bowels seemingly move freely in constipated individuals elimination is very imperfect. The acid urine of these patients causes, as Spallaci long ago discovered, stupor, asthenia, tremor, tetanoid symptoms and hypothermia, followed by hyperthermia when inoculated in animals. Improvement in elimination removes from the urine the factors producing these conditions. The urine of amenorrheic or dysmenorrheic women, not obviously suffering from constipation and having seemingly free movements of the bowels, present similar qualities. Mental states in women or nervous men are peculiarly apt to disturb primarily the genito-urinary apparatus and secondarily the hepatic and renal. Thus jealousy often evinces itself first in bladder disturbance, later in slight jaundice and symptoms resembling gallstone colic.

These symptoms, according to Lepine, are very frequent in women and in nervous men after emotional disturbances. They are extreme expressions of auto-toxemia due to emotional disturbance. The fact is generally ignored but none the less clinically evident that nerve-tire and auto-intoxication work in a vicious circle. Here the influence of secondary casual factors, as often ignored in etiologic pathology, is evident. This is peculiarly obvious in nervous conditions due to errors of refraction and curable by proper glasses in an early stage. Here the influence of auto-intoxication in producing the headaches is shown in disappearance of the symptoms under treatment directed against the auto-intoxication alone. In a class of cases the supra-orbital headache of eye strain is combined with vertical and suboccipital headache. Here, although considerable astigmatism be present, all the headaches disappear under treatment for auto-toxemia. The underlying condition has not been removed, and, unless the astigmatism be treated, will soon cause auto-intoxication at the proper etiologic moment, attended with recurrence of the headaches.

The same is true of aural, rhinologic, laryngologic and pharyngeal states. Adenoids in children, for example, bring about constitutional disturbances, producing auto-toxemia through continued strain on the nervous organism. The nose, through its erectile tissue, having nerve relations to the erectile sexual systems, and, through the large extent of the olfactory nerve, may be irritated by the attempts at elimination through mucous membranes. This irritation, by exciting the nerves concerned, unduly increases the nerve-tire of the central nervous system and thereby the auto-intoxication. Pathologic sneezing is often an expression of this, and similar influences play a part in the auto-toxemic laryngeal and pharyngeal vertiginous states so frequent in auto-toxemics. The irritations of these regions often occasion the undue cardiac stress which expresses itself in pseudo-anginas. Pelvic irritations of the female produce in a similar manner severe constitutional states. This is why women with severe pelvic disorder who have become insane recover without other treatment than removal from home surroundings and treatment of the auto-toxemia.

The predisposing cause, however, in these aural, laryngologic, rhinologic, pharyngeal and gynecologic conditions remain to set up recurrences of auto-toxemia and its consequences if untreated. Preparation for special procedures often imply treatment of auto-toxemia, which treatment predisposes remarkably to the benefits seemingly effected by operation. Very much of what is charged to reflex causes is really due to strain producing auto-toxemia little by little.

The pure type of auto-toxemia which underlies many of the so-called reflex states was recognized by the older clinicians as fecal anemia and treated on eliminative and roborant principles. The milder states resultant on auto-toxemia are generally of local expression like irri-

table bladder, various neuroses, unilateral headache, and neuralgic irritations about the gums and teeth, together with dermatoses like angioneurotic edema and hives, disordered rhino-laryngologic conditions, local fleeting pains, etc. The severe types may vary from fecal anemia to conditions simulating chlorosis, neurasthenia of the ordinary type and of types mimicking tabes, transitory frenzy, melancholia, acute confusional insanity, stupor, amnesia, emotionally exalted states, and sometimes epileptiform attacks resembling grave hysteria, but accompanied with partial or complete loss of consciousness.

One unpleasant and frequent mental state in otherwise logical auto-toxemics is nosophobia, or worry over the possibility of disease. This differs from hypochondria in the fact that the subject does not think he has a particular disease, but fears he may have. The irregular action of his organs resulting from auto-toxemia intrudes on his consciousness and causes a fear or uncertainty as to his actual state. That paretic dementia and tabes are often due to the toxin of syphilis is now generally admitted. The clinical history of some cases would indicate that auto-toxemia has here played its part more especially, as it has been demonstrated beyond cavil that temporary auto-toxemic neuroses mimic these two great constitutional disorders. The fact is but too often forgotten that the law of periodicity of the nervous system fixes a tendency of certain symptoms to recur from a slighter exciting cause. Hence, frequently recurring auto-intoxication causes that breakdown of the vasomotor balance which constitutes the underlying basis of tabes and paretic dementia.

Diagnosis in conditions of auto-intoxication is, therefore, not so simple as it first seems. Owing to the tendency of the neuroses with an underlying vasomotor factor to remit or assume temporary appearances of health, the distinction between the deep forms of auto-intoxication and these neuroses becomes at times difficult. This difficulty is intensified by the fact that auto-intoxication, in a hereditarily defective or acquired neuropathic constitution, may cause marked and decided symptoms of less augury than when found in a healthy constitution. Auto-intoxication occurring in puberty often temporarily initiates seemingly serious puberty neuroses and psychoses. The same is true of the climacteric end of the senile period. In all these cases the condition produced by auto-intoxication has the clinical tinge of the period in which it appears. This is why treatment directed to a change of environment and the habits of the individual so often produces favorable effects on seeming senile and climacteric breakdown.

The grave auto-intoxication resembling tabes and allied conditions are differentiated as a rule by the state of the reflexes as to absence of stupor, melancholia and acute confusional insanity, as well as amnesia, and differ little from the ordinary types except in their comparative quickness of response to treatment. This, however, is only a relative test, since in no case of these affections is auto-intoxication absent as an etiologic factor. The convulsive types of auto-intoxication differ from epilepsy in their infrequency and absence of recurrence. Practically the status of the auto-intoxicated is as brief as that of the epileptic is prolonged.

The therapeutics of auto-intoxication will depend on the type. In irritable weakness, while removal from surroundings is desirable for permanent recovery, much may be attained by regulation of diet, use of the mineral waters, regular, moderate exercise and massage, as well as hydrotherapy. Here, as in all cases of auto-intoxication, the great need of the system is water, and it should be amply supplied, whether in the form of mineral waters or ordinary water, or large quantities of milk. Purgatives require very careful adjustment; both aloetic and the cascara purgatives tend to produce congestion of the hemorrhoidal veins with resultant irritation. In old people salines must be used cautiously. In no small number of cases of irritable weakness a small dose of a mercurial followed by a morning saline acts rapidly and very beneficially in securing elimination, which is what is needed, not simple purgation. In the deeper type removal from home surroundings and conditions is imperatively indicated. In addition to dietetics, hydrotherapy, elimination and exercise, faradism and franklinization along the spine are often found necessary and valuable. The indication in this type for the use of water is no less imperative than in the first type. The patient, however, has an intense repugnance to water, as a rule, and to secure its use the physician will need much ingenuity.

One phase of auto-intoxication which has received less attention that it deserves is the pseudo-angina which so frequently occurs. Sometimes, albeit very rarely, death has occurred from this. This condition is due to the primarily increased inhibition of the heart, succeeded by increased power of the excitomotory ganglia of the heart with resultant irregular action. From this often results the emotional exaltation, depression and suspicional states found in auto-intoxication of brain and heart. It is readily comprehensible how these irregularities tend to increase each other. Independently of the condition just described, cardiac irregularities occur in auto-intoxication from arterial tension due to the character of the blood. Inevitable renal and hepatic disturbances occur, whence the temporary albuminuria and glycosuria.

The phenomena of arthritis deformans bear a marked resemblance to the trophic changes of tabes, and it is by no means improbable that they are sometimes due to the two states produced by auto-intoxication. The chronic type has so deranged the trophic mechanism that irritation changes result from the products of auto-intoxication. The influence of these factors can be shown experimentally by section of the sciatic nerve in rabbits and the injection of irritating material above the center of the body. As a result the side of the sciatic nerve section is attacked by arthritic changes like those of arthritis deformans.

THE USES OF TUBERCULIN.*

CHARLES DENISON, A.M., M.D.
DENVER, COLO.

When Koch had announced the discovery of tuberculin and the world was agog with expectations for the new cure of tuberculosis, this sign was said to have been posted upon the shop of an ambitious barber in Switzerland: "Corns treated and tuberculin given here." What was the conception of that barber as to the intricate nature of the remedy and the delicate shades of disease which were suited or unsuited to its use, it would be difficult to state. The case of some physicians who, under the assumed authority of professional proficiency, deal in borrowed criticisms of everything that pertains to the subject of this paper, is a little less inexplicable. A criticism to be of weight should be based upon a reasonably complete personal knowledge.

* Read before the Congress on Tuberculosis, Medical Section, held in London, July, 1901.

If I can succeed in clearing away any of the clouds which befog this subject my object in presenting the following remarks upon my own experience will have been accomplished.

We will divide the uses of tuberculin into two parts: 1, diagnostic, and 2, immunizing.

The diagnostic powers of tuberculin are now generally recognized and much better understood than the immunizing. However, we shall learn that they are not so very different from each other as the separate purposes of their employment would seem to signify. The diagnostic effect seems to depend upon what comes out of the bacilli, i. e., the quality that resides in the culture fluid in which they have grown, while the immunizing property seems to center in the bodies of the germs, as Koch determined with his new tuberculin (R).

This diagnostic effect has thus far constituted the chief use of tuberculin, i. e., the glycerin extract originally termed "lymph." The method of manufacture is to concentrate the glycerin culture fluid at ordinary boiling temperature down to one-tenth its original bulk, after which it is filtered through porcelain. It thus contains various substances, namely, a combination of toxins and proteids capable of producing intense reaction in living tubercular tissue. It includes 50 per cent. glycerin—beef extract—beef peptones and salts, and small quantities of the specific tubercle bacilli proteids which are liberated during the growth of the culture and during the process of the boiling and concentration of the fluid.

As to the chemical constituents of this reactionary material, we will let very good authorities explain. Drs. Vaughan and Cooley[1] say: "In fact, it may be safely said that in no case has the chemical nature of the essential toxin of any of the pathogenic bacteria been shown."

They instance Buchner's investigations on pus-producing substances in bacterial cells, stating his conclusions that there is nothing in the whole category of decomposition products, caused by bacteria, to account for the phenomena of general infectious diseases, but that the cause of these must be looked for in the albuminates of the bacterial cell itself, and that in some cases, at least, these poisons are only set free on the death and dissolution of the bacterial cell. By this theory he explains the fact that suppuration may be caused by dead cultures of germs which, when living, have not the pyogenic property.

As to the modus operandi of this reactionary effect we are not quite so much in the dark. It seems that there is a specific stimulation of the defensive cells of the body with reference especially to infected areas, and in proportion to the sensitiveness of the nervous system, the blood supply and advanced degree of said infection. The circulation of the blood in the lungs, being proportionately more active for a given area (than for any as large portion of the periphery of the body), the most sensitive and active effects may be looked for in pulmonary tissue. The increase of the number and flocking to the affected area of leucocytes and phagocytes constitute the specific effect which has not yet been similarly shown to occur with the use of any other substances, such as cinnamic acid, oil of cloves or peppermint, nuclein, etc., which are capable of increasing general leucocytosis.

This effect may be so great, with too far advanced infection, as to produce a choking off of nearly destroyed tissue; a necrotic process is thus carried to an extreme, and grave problems of elimination are forced upon the animal economy as a result. It is not, however, these extreme effects with which we intend to deal. They are always and especially to be avoided.

Hueppe[2] says: "When a local disturbance occurs as a consequence of paracytic invasion, then a reactive inflammation with the formation of a limiting wall of leucocytes takes place, an event that must be considered as a natural healing process and that often ends in recovery." "Ribbert asserts that this surrounding mantle of white blood corpuscles prevents nutrient material and oxygen from reaching the bacteria, but perhaps also the white blood corpuscles disintegrate and so become chemically active in the way pointed out by Hankin."

All of this serves to explain how intimately associated are the diagnostic and the immunity effects of tuberculin. In fact, the latter process, the therapeutic effect, is diagnostic all the way through, so relative is it to the degree and to the results of infection, and so dependent is it upon the resistance and environment of the human body. Diagnostic proficiency, then, of a discriminating and far-reaching kind, is the key to success in handling this remedy. Observance of technique is also essential.

The size of the dose hypodermically given for diagnostic purposes varies with different experimenters who give different reasons for the course they pursue. Some prefer to give very small initial doses with intervals of two or three days between. The liability is that they will create a tolerance and so miss the mark, the temperature rise or reaction they are after. Others prefer to give a single large dose similar to the plan pursued by veterinarians with cattle. The danger here is the possibility of getting too severe a reaction for the case in hand. The suspicions or expectations of physicians, as regards the possible existence of infection, varies so greatly that some would use this test when as little or less than one milligram would cause a reaction in an adult. In such cases I think we ought to be able to determine the diagnosis without the test. So the diagnostic dose has varied, I should say, from one to thirty milligrams (or of a 1 per cent. solution, approximately 2 to 45 minims) of the crude tuberculin—Koch. I prefer myself to follow a middle course between the above extremes and start with what I expect may be an effective dose and daily increase it. Let it be cumulative if it must be. We thus approach the reactionary point and learn much of the degree of infection. Each morning give a dose approximately double that given the previous day till you reach 20 or 30 milligrams, if you do not get conclusive evidence of infection before that time. The size of the initial dose must depend upon the physician's suspicions of infection, the age, sex and susceptibility of the subject. The individual sensitiveness of certain patients to this reaction is an important phase of this matter. I have obtained reaction to one milligram in a male adult and had to reach 20 mgs. before getting the same evidence in a female, with both of whom the after-course and treatment apparently proved the correctness of the diagnosis.

Therefore, the initial dose for a child or susceptible young woman, I would place at from 1 mg. glycerin extract of tuberculin,[3] up to 5 or 6 mgs. (or 9 or 10 minims) for an adult male, and each day nearly double the previous day's dose, as before described. If the patient has kept a temperature record (taken at say 9 a. m., 1, 4 and 8 p. m.), for two or three days previously,

1. The Bacterial Toxins. Drs. Victor C. Vaughan and Thomas B. Cooley, Journal A. M. A., Feb. 23, 1901.

2. "Principles of Bacteriology," page 363.

3. Standardized, as obtained in America, through Victor Koechl Co., N. Y., or the Bacterio-Therapeutic Laboratory at Asheville, N. C.

any habitual rise can be accounted for. I prefer a morning hour for the test injections, because if an evening hour is chosen a sudden rise of temperature may be missed during sleep. This rise may come in four hours, if the tubercular lesion is centrally located in the lungs, or at a much later time if located in other organs or in the joints. If it happens to be incapsulated in far off glandular structure, the response may be slower still, very likely manifesting itself the following day. Any suspicious but not definitely conclusive reaction may indicate the wisdom of waiting over a day or two, and then a larger dose will determine the genuineness of the effect.

We are by no means limited to the temperature curve in determining that a reaction has taken place. A temperature rise does not uniformly occur, and it may be subordinate to the systemic effect. The latter is much like the sensation of the oncoming of an attack of la grippe. In fact, it is sometimes difficult to eliminate la grippe if that disease happens at the time to be prevalent. Besides the systemic reaction there is the local effect in even slightly affected lung tissue, perhaps previously undetected, and one which occurs earlier there than in an advanced stage of localized disease in the same lung. This is the most helpful diagnostic indication to be obtained from the test. But one must have the discriminating ear and stethoscope to appreciate it. This, I think, is a result of the specific action of the tuberculin, stimulating as it does leucocytosis at the point of injury. The effort at repair being accompanied by a certain amount of infiltration and congestion of the slightly affected tissues, produces a higher pitched-breath sound than normal, more puerile and bronchovesicular, which is quite characteristic. The local reaction is also a possible guide to the direct method of immunization, which will be considered later on.

We have not time here to discuss at length the claim that other diseases, as syphilis and leprosy, likewise respond to this tuberculin test. The uncertainty of the relation of these diseases to tuberculosis, and the very general existence of the tubercular dyscrasia (or latent tuberculosis) in the human family, shrouds the whole question in doubt, warranting a verdict for the test; that is, where the test works affirmatively it is nearly always safe to assume at least latent tuberculosis exists.

These uncertainties (the difference in dose and technique employed by different observers) may account for much of the discrepancy in positive results obtained, which amount to from 60 to 100 per cent.,[4] positive or affirmative diagnoses. My own cases, including quite suspicious cases, but only such as it was deemed could not otherwise be proved to be tubercular, have given about 90 per cent. positive results. I think only 5 out of 46 were shown to be negative.

The test is of interest and very helpful to us in forestalling active tuberculosis at the very time when a cure is possible. It, as Petrusky asserts, has "the power of disclosing the presence of unsuspected foci of tuberculosis," which makes it a peculiarly valuable diagnostic resource. It is safe and no harm need come from its cautious employment.[5]

4. J. M. Anders: Journal A. M. A., Jan. 12, 1901. "The Diagnosis and Treatment of the Prebacillary Stage of Pulmonary Tuberculosis;" 3683 cases in which this tuberculin test has been made by different physicians with an average of 78 per cent. positive reactions.

5. Petrusky: Vortraege zur Tuberculosis-bekampfung, Leipzig, 1900. Writer cites the discovery by Schreiber "that newborn children during the first week of life did not once react to this diagnostic test, to which a great number were subjected." This should not only strengthen our confidence in the reliability of this diagnostic method, but also weaken the claims of those who believe in the possible congenital transmission of the disease.

IMMUNITY-PRODUCING QUALITY.

The subject of the immunity-producing quality in tuberculin is next in order. The need of discovering this protective principle and separating it from the crude tuberculin has been appreciated, but the problem has not been an easy one. It remains to be learned whether all has been done that is possible. Koch thought he had reached the goal in his new tuberculin—R. But the crudeness of this necessarily doubtfully perfect emulsion—though we admit it to be a simple substance made from the bodies of the bacilli—did not favorably impress cautious experimenters. However, some of the healing or immunizing property seemed to have been determined, as above expressed by Buchner, "in the albuminates of the bacterial cell itself." We will return to the consideration of this remedial agent after describing the various preparations.

Lack of time and the desire not to confound the indirect with the direct tuberculin method, must be my excuse for not here fully considering the former—the antitubercular sera.

I am aware that the possibility of transmitted tuberculin being proved to be the therapeutic principle in these animal serums may give color to the claim that they and the direct tuberculins should all be considered under one head. Yet the uncertainty of these sera from their lack of standardization and from the variety of elements which have to be included in their manufacture is objectionable. The amount and virility of the toxin administered to an animal, and the time and resistance required to change it to a possible antitoxin—as it is supposed to be done in diphtheria—are questionable elements, which require too much abject faith in the commercial side of this matter to gain full confidence. In view of the questionable composition of an antitubercle serum it might be well to heed Ferdinand Hueppe's warning when he says of the antidiphtheric serum: "There is serious disappointment in store for us if we do not succeed in ridding ourselves at once of the fallacy regarding the absolute harmlessness of the antitoxins." Until we know exactly what we have in these sera, let us not confound the serum with the tuberculin treatment. We can at least assume the two to be different and not interchangeable.

After the crude tuberculin, or glycerin extract, we have Koch's tuberculin (R), previously mentioned.

Then we have Kleb's tuberculocidin, one of the first efforts to improve on the crude tuberculin,[6] but it is of questionable utility because probably too much of the toxin is eliminated.

Antiphthisin (Kleb's) is very similar, except instead of being produced from tuberculin it is obtained from the culture fluid upon which the tubercle bacilli have been grown, without the application of boiling heat for concentration. This was thought to preserve in the material an immunizing property in the proteid which power would have been destroyed by boiling, otherwise this preparation is treated and standardized the same as tuberculocidin.

6. It is made from tuberculin by precipitating with an alkaloidal reagent (usually the sodic iodid of bismuth) throwing down many of the albuminoids which are contained in the culture fluids; the precipitate is filtered out and then the filtrate is further treated with an alkali, for the purpose of precipitating the reagent used in the first place, and is again filtered. The clear fluid is then treated with absolute alcohol—obtaining another precipitate which is collected upon a filter dried and redissolved in distilled water. Standardization to 1 per cent., this liquid contains proteids from the beef extract and peptones; it is, however, free from glycerin and from salts, contains also some of the specific products from the germ the same as does tuberculin, and as much, if none has been lost in the process of purification.

Tuberculinum purificatum (von Ruck), unlike the two previous preparations, is made from the whole culture fluid with the tubercle bacilli grown therein included. The object being to extract more of the tubercle bacilli proteids, it is boiled at a temperature of 120 to 130 F. in vacuo for a long time, say for six weeks or two months. The tubercle bacilli are then filtered out and the filtrate is treated and standardized, the same as in the preparation of tuberculocidin and antiphthisin. This preparation then differs from the other two in that it contains more of the specific tubercle bacilli toxins. It is not so much of a departure from the crude extract as they are, and it undoubtedly contains considerable of the principle Koch found to be immunizing in his tuberculin (R). This purified tuberculin, besides being an improvement on the crude article, has this advantage over the next greater improvement made by von Ruck in his *watery extract,* namely, that it costs about one-tenth as much, and therefore should be suitable for use in practice among the poor. Koch's tuberculin (R) undoubtedly contained the choice toxin immunizing property. Six years ago a substitute in the form of a clear liquid extract was suggested by me to Dr. von Ruck as an equivalent, which should be thoroughly filtered and standardized. The object was to get rid of the unpurified emulsion quality in the tuberculin R. Dr. von Ruck has well accomplished this in his watery extract, and gives his technique of manufacture as follows: "No culture fluid at all is used—only the tubercle bacilli obtained from full virulent cultures. These are filtered out of the culture fluid, and while on the filter are washed with distilled water to thoroughly remove the same. Then all moisture is removed by drying in vacuo, when they are powdered as finely as possible in an agate mortar. After this they are treated with sulphuric ether for the extraction of fats, and this treatment is continued till fats are no longer obtained. Thereafter the tubercle bacilli are again dried and powdered as before, when they are placed in a large glass container and pure sterilized distilled water is added. This glass container is then placed in a continued water bath with a temperature between 120 and 130 F. for a period of two or three months and occasionally agitated, when the fluid is syphoned off and filtered through porcelain. This fluid is then examined for proteids (and, if necessary, is concentrated) and standardized to 1 per cent., which represents the 'No. 100' solution. The result is that this fluid contains only the pure tubercle proteids (soluble in water) and nothing else. The whole process, including the germ culture and the after-testing on guinea-pigs, takes about a year for its completion. Experimental work has shown that the final product is the undoubted toxin of the tubercle bacillus, and that it contains immunizing and curative properties."

Thus it is apparent that the study of the tuberculins during the ten or more years since Koch put out his first product has been fruitful in the evolution of a remedy which approaches perfection.

My own experience favors this conclusion, and as there has been no time that I have not been at work with some one or two of these preparations, I can conscientiously say that the last is preferable to all the others.

The accompanying table, completed Feb. 20, 1901, gives the general results in 213 undonbted tuberculous cases, being probably one-fourth those seen by me, and all of those I have treated with any form of tuberculin in the ten years named, excluding those not under that treatment longer than a month, also excluding those treated for diagnostic purposes only. It may, however, be said that the gravity of the disease in these cases was sufficient to seem to demand that some additional help for them should be found beyond the usual methods of treatment; I mean even beyond the combination treatment which I always deem essential, embracing climate, hygiene, physical exercise, outdoor life, attention to alimentation, appropriate inhaling methods, etc. The complications and conditions indicated gravity, which was shown by the stage of disease at commencement of treatment. Of the 213 cases reported in the table 50 were in the first, 45 in the second, and 118 in the third stage. Note, too, that the results are carried forward to as late a date as possible, so that the favorable outcome bears evidence of the staying qualities of the immunity produced, even admitting that it was partial or incomplete. To summarize: Of 57 patients treated with crude tuberculin, eight to ten years ago, 17 or 30 per cent. are now known to be living; of 94 patients, treated with the purified forms of tuberculin (tuberculocidin, antiphthisin and tuberculinum purificatum) from four to seven years ago, 30 or 32 per cent. are living in good condition; while of 45 watery extract cases, 28 or 62 per cent. are living in apparent immunity.

TABLE OF RESULTS OF SPECIFIC TREATMENT.

Roman numerals=Stage of disease. Av. yrs.=Years known to be alive after commencement of treatment.

Specific remedy used.	Now or recently known to have been in good health.	Now supposed to be living.	Whereabouts unknown; possibly dead.	Dead; cause in part known.	General Results.		
					Disease thoroughly arrested or seemingly cured	Much benefited, immunity increased, life prolonged.	Retrograded or died; possibly of intercurrent causes.
Tuberculin (Koch) 57 cases reported.	I. 7 II. 3 III. 7 Av. yr., 8½	I. 5 II. 4 III. 9 Av. yr., 2½	I. 0 II. 1 III. 7 Av. yr., 2	I. 0 II. 4 III. 10 Av. yr., 2½	18	23	16
Tuberculocidin (Klebs) 21 cases reported.	I. 3 II. 2 III. 1 Av. yr., 7	I. 1 II. 2 III. 3 Av. yr., 2¾	I. 0 II. 0 III. 5 Av. yr., 1⅔	I. 0 II. 0 III. 4 Av. yr., 1	6	10	5
Antiphthisin (Klebs) 47 cases reported	I. 6 II. 4 III. 6 Av. yr., 5	I. 3 II. 3 III. 11 Av. yr., 1¾	I. 0 II. 1 III. 7 Av. yr., 1½	I. 0 II. 1 III. 5 Av. yr., 2½	17	19	11
Asses' serum (H K. Mumford) 3 cases reported.	I. 0 II. 0 III. 1 Av. yr., 3	I. 0 II 0 III. 1 Av. yr., 1	I. 0 II. 0 III. 0	I. 0 II. 0 III. 1 Av. yr., 2	0	2	1
Antiphthisic serum, T. R. (Fisch) 11 cases reported.	I. 1 II. 2 III. 1 Av. yr., 3½	I. 0 II. 1 III. 1 Av. yr., 2	I. 0 II. 2 III. 1 Av. yr., 7⅓	I. 0 II. 1 III. 1 Av. yr., 1	3	5	3
Oxy-tuberculin (Hirschfelder) 3 cases reported.	I. 0 II. 0 III. 0	I. 0 II. 1 III. 0 Av. yr., 2	I. 0 II. 0 III. 1 Av. yr., 1	I. 0 II. 0 III. 1 Av. yr., ½	0	1	2
Tuberculin, purif. (von Ruck) 26 cases reported.	I. 5 II 1 III. 2 Av. yr., 3¾	I. 3 II. 2 III. 4 Av. yr., 1½	I. 0 II. 0 III. 1 Av. yr., 1	I. 0 II. 0 III. 8 Av. yr., 1	9	9	8
Watery extract (von Ruck) 45 cases reported.	I. 13 II. 6 III. 9 Av. yr., 1⅔	I. 2 II. 2 III. 5 Av. yr., 1¼	I. 0 II. 1 III. 2* Av. yr., 1	I. 1 II. 0 III. 4* Av. yr., ¾	18	22	5†

Reduced to percentages, and lumping similar methods for comparison, we have the following table: The first

* None of these were completed cases; 3 died of pneumonia, 1 of grippe, 1 from results of dissipation, and all some months after treatment.

† Previous column should rightly have benefit of 3 of these.

column of figures denotes "Disease arrested or apparent cures;" the second, "Much improved—immunity relatively increased;" the third, "Retrograded or died from various causes."

TABLE OF COMPARISONS BY PERCENTAGES.

Tuberculin	32	40	28	Approximately 7 yrs. since treatment.
Tuberculocidin, antiphthisin, tuberculinum purificatum.	33	40	27	Approximately 4 yrs. since treatment.
Asses' serum, antiphthisic serum.	30	40	30	Approximately 3 yrs. since treatment.
Watery extract	40	49	11	Approximately 1 yr. since treatment

For comparison, I also introduce herein Dr. von Ruck's lately tabulated "Comparative table of results."[7]

	Cases reported.	Percent. Recov.	Improv.
Treated without specific remedies	816	12.1	31.0
Treated with Koch's tuberculin	379	35.5	37.5
Treated with antiphthisin and tuberculocidin	182	32.5	56.8
Treated with purified tuberculin (von Ruck)	166	43.4	39.2
Treated with watery extract of tubercle bacilli (von Ruck)	303	56.1	33.7

I leave these tabulations to speak for themselves, for I wish to devote any remaining time allotted me for the discussion of the *modus operandi* of this immunizing process.

Ferdinand Hueppe[8] says: "By undergoing a disease the predisposition to that disease is removed and converted into its opposite immunity. In no case can anything appear in the form of disease which was not previously present in the body as a predisposition; external forces are able merely to make this predisposition apparent."

Applying this fundamental statement to tuberculosis we may be able to successfully answer the prevalent objection to this immunizing use of tuberculin. We can thus show that it is pre-eminently a natural process, and safe when intelligently used.

The objection referred to is based upon fear which, in turn, is grounded upon a false conception of the nature of this dyscrasic disease. The fear is that by the hypodermic injections we are introducing a toxin into a system already burdened by an excess of the same poison. This is a misconception of the facts. The truth is the toxin which is in the system is not appreciated by it in the way of being absorbed into the circulation. The whole nature of the process is to oppose such a result. Absorption is impossible because the toxin is stowed away in the germs in non-vascular tissue. Tuberculosis is not the destructive disease we picture it, at least not until it has reached and passed the breaking-down stage. Till then it is a building up, defensive process, i. e., during the pre-tubercular and infiltration stages. When this dyscrasia, which is an acquired fault of our civilization (more fully considered in my paper on "Devitalized-Air Toxemia, a Prime Cause of Tuberculosis") becomes a germ disease, whether by a possible auto-genesis or by transplantation from without the affected body, then the toxins are formed and centered in the bodies of the germs. If, in the beginning of their formation, these toxins could be appreciated by the system the disease would be auto-curative, if I may coin the term, and the tolerance or purification of the system, which we know occurs slowly under the present régime, would happen quickly; or if rapidly an unsurmountable amount of toxin were generated the end would also come quickly, as it does in diphtheria. But it is not that way in tuberculosis; the leucocytes and phagocytes begin their defensive warfare and stop absorption in the beginning of the trouble. They build their walls of non-vascular tissue around the germs—which encapsulation constitutes what we know as "tubercles"—and absorption thereafter is almost impossible. Not only this much hinderance to absorption is the rule, but the bacilli themselves are enshrouded in a coating of fat which still further prevents their disintegration even should they be set loose in the blood current. It is only by intricate chemical procedure that these enveloping fats, or fats and cellulose, can be dissolved away from the germs.

Not only is there this much of natural defense against the appreciation of the toxins by absorption in the commencement of tuberculosis, but all the way through the same relief from absorption is characteristic of Nature's provision. When it comes to the breaking up, and when necrotic processes and ulceration show that the non-vascular tissue has reached its limit and its death has commenced, then the vomicæ in the lungs and profuse expectoration of bacilli and mixed infection can still be looked upon as a part of Nature's effort at self-defense. Degeneration and breaking down occur, but there is not enough absorption of the toxin to stimulate Nature's antitoxic power, and finally there is not enough antitoxic power *remaining* in the exhausted system, not enough leucocytes and phagocytes left, to *be* stimulated.

What is needed is to aid Nature's defense when the cells are there to fight and when there is not too much for those that are there to do. There are many ways of stimulating this defense, viz., climate, exercise and good feeding each can do wonders, all of which tend to nullify the injury of rebreathed or devitalized air. But for specific stimulation, when Nature has no proper direction given her defensive cells, choose the toxin from the nucleus of the germ isolated from extraneous fats and not heated so much in the making as to lessen or destroy its immunizing power. Petrusky is satisfied with Koch's new tuberculin R, but he appears not to have known of von Ruck's Watery Extract, a more refined and better standardized product. Choose only such cases for the treatment as will favorably stand the specific stimulation. Be constantly hedging, by under rather than by full dosage, against overaction. The direction laid down by Petrusky is not bad. He says: "We should aim to produce a strong local, but weak general reaction." But do not expect any immediate healing effect upon necrotic tubercular tissue, concealed tubercular abscesses, ulcerating cavities, or any other manifestation of tuberculosis where the circulation of the blood does not reach. Such conditions are obstacles to any treatment whatever and will be favorably influenced very slowly if at all. This may mean a large concession to our average inability to accurately state what is taking place in concealed areas. Especially does extra caution need to be taken when tuberculosis is complicated with active pleurisy, with la grippe or other toxemia, as measles, etc. Better wait for the subsidence of any such conditions before proceeding with the specific treatment.

Dividing, as does Hueppe, the kinds of immunity into: 1, natural; 2, artificial, and 3, toleration, it is the third we are seeking to strengthen by our specific medication. By the other two, parasites are prevented from entering the body, but by this third kind the body has

7. From "Clinical Report," Winyah Sanitarium, Asheville, N. C.
8. Op. cit., p. 249.

acquired the power of "paralyzing" the toxins of the germs. One of the best proofs possible that very little of the toxins are absorbed during the course of tuberculosis, is that this toleration immunity acts as it does. There is no time in this disease, from the earliest period of tubercle formation till years of the process have passed, when patients are not most sensitive to tubercle bacilli toxins. Yet experience shows that that sensitiveness can be gradually overcome and tremendous doses of toxins finally given without any reaction whatever. This would not be so if the germs were giving up these same peculiar toxins through absorption. The acquirement of this protective immunity takes time, for it must come about through slow and laborious intervention of the body cells. As Hueppe says: "The body cells, because of their relatively great independence of varying conditions of nutrition, are able to cling to their inherited or acquired characteristics." The resistance to their action is, of course, relative to the extent and results of the existing toxemia. In incipient cases of tuberculosis tolerative immunity to the extent of a cure may be obtained by this specific method in two or three months, while in others past the beginning of the ulcerating stage, the fight may have to be prolonged at times for two or three years with all the possible outside helps we can muster to our aid. Hueppe's reasoning seems to show that it is the active (protective) immunity as by the direct method which we need rather than the transient passive kind, as by the indirect method. "It is the organism of the host—the cellular tissues of the human being—that reacts toward the stimulus of those bacteria or bacterial proteids or toxins with which we endeavor to heighten the resistance toward parasites and parasitic poisons." The cells eliminate this strange proteid as soon as possible.

It is for this reason that passive immunity is not lasting. The chronic nature of tuberculosis, with its incapsulation of toxic products, and its protective walls of hypertrophied and infiltrated tissues, indicates the lesser application of the transient passive (indirect serums) as compared with the staying active (direct) method of immunization. Hueppe says: "In general, however, the defensive reaction which is provoked by isopathic or specific stimuli is the stronger and more persistent, and hence often appears peculiar in kind." It *is* peculiar in kind and is found (as Koch, Buchner, Vaughan, von Ruck and others have surmised or shown) in the proteids from the bodies of the germs themselves. "Gamelia, Hueppe, and afterwards H. Buchner, were led to the discovery that the 'specific' poisonous substances found outside the parasites in the culture fluids were not identical with the protective substance occurring in the disease germs or their metabolic products."[9] Petrusky, then, was wrong in his statement "that nothing will be gained by the search for new forms of tuberculin." So have men high in authority said that there was no use looking for any specific whatever in tuberculosis, for they said there were none to be found. Yet I, for one, like to think that there is more in store for us to be discovered in reference to tuberculosis than all we now know.

9. Hueppe: Op. cit., p. 308.

Dermatomyiasis.—L. Freund reports the case of a child with impetiginous eczema, extremely malodorous. The putrid odor was finally traced to two patches on the skull, and on removing the scabs, a nest of maggots was found beneath, 32 in all. They had eaten the periosteum down to the bone.—*Wiener Med. Woch.*, December 21.

THE IMPORTANCE OF HEREDITY AS A CAUSE OF INSANITY.*

ARTHUR McGUGAN, B.Sc., M.D.

Late Assistant Physician, Michigan Asylum for the Insane, Kalamazoo, Mich.; Professor of Psychiatry in the State University of Colorado.

DENVER, COLO.

Freed from the trammeling influence of all metaphysical association and disencumbered of such ideas or expressions as "soul," "sublime intelligence," "spirit," "cosmic consciousness," etc., the study of that particular form of energy to which we refer as mind or mental action grows considerably less perplexing, and permits of speculation and observation from the same point of view as does the investigation of other functions of the same class of cell structure and as we proceed in our contemplation of mind as simply a function of matter, we are struck by the resemblance of the manner and degree in which its variations depend upon variations in form and arrangement of its particular protoplasm, to the manner in which other functions are modified by similar changes in the structures upon which they are dependent.

Now, of all variations in cell structure how clear it should be to us that this one of a retrograde character depending upon faulty development of, or degenerative potentiality in, the parent cell, and which we call an hereditary defect is no exception to the rule. It is a fact that has long been disguised, however, by misleading statistical information and hidden in a maze of metaphysical and quasi-scientific theories.

If it be established then, as our major premise, that this defective function we call insanity is a variation from the normal due to heredity, then it is obvious that the anatomic defect in the corresponding structure, upon which the defective function depends, must also be due to heredity. If this is so, then insanity is not primarily a disease, as we are commonly taught, but is an inherited defect and therefore in the individual incurable, although its manifestations may be controlled and modified. This much being granted, there are many other conclusions which follow logically and which will be presented later.

We must, first of all, come to an agreement as to just what we mean by heredity. A few brief references to the opinions of some of the leading authorities will serve to show the necessity for an understanding of some sort.

The view most widely held by medical men in general, and also by authorities on this subject, among whom I might mention Régis,[1] Charles Mercier[2] and Darwin,[3] is that the long-established law, "like begets like," holds good for morbid states as well as normal ones. Some observers refute the statement entirely, claiming that nature seeks to avoid a transmission of morbid states and will, wherever possible, return to the normal or physiologic plane. They hold that heredity is nothing more than disease tendency. There are shades of difference in the various views included in this class; for instance, some go so far as to say that certain organs, the nervous system among them, are susceptible to the same disease that affected the same organs in progenitors. Others again maintain that disease tendency in the offspring simply means a generally defective organism that may express itself in a susceptibility to disease of any kind and in any organ.

A third view still to be considered is one, which with the first, rejects the idea of tendency to a transmission

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Hugh T. Patrick and H. A. Tomlinson.

of morbid states, and yet does not admit with the second, that although morbid states are not usually transmitted, disease tendency may be, but holds that by heredity as applied to insanity we mean that the reproductive element of either the male or female carries with it merely an impaired potentiality. Its protoplasm is deficient in reproductive strength, and being thus defective will produce a defective organism. Kraepelin is the only prominent exponent of this theory.

In recent works upon insanity the subject of heredity is lightly touched upon, and in some, particularly the latest edition of Clouston[4] and also the second edition of Bevan Lewis,[5] no statement of the nature of heredity is presented. Weismann's work on the germ plasm, published in 1893, deals more particularly with transmission of acquired characteristics of a normal type, and does not aid us materially in the solution of this question. T. H. Kellogg,[6] formerly superintendent of the Willard State Hospital, gives a very good summing up of heredity. The relation of heredity to insanity is given and its modifications extensively discussed, but the author does not take any definite stand, presenting the conclusions that have been drawn from statistics of the past, and contenting himself with the statement that "it is the tendency and not the disease which is inherited, and that it is instability of the nervous system and susceptibility to mental disorders which descend from insane parents to the offspring."

Régis presents a very clear statement of his position on this question, from which I have abstracted the following: "Heredity is without contradiction the most powerful and important of all the causes of insanity. It is an original predisposition to mental alienation transmitted to children from their parents." He calls attention further to the fact that this predisposition may be not merely mental alienation in the ancestors, but there are related diseases such as eccentricity, neurosis, alcoholism, certain diathesis, consanguinity, etc. He admits along with Marcé that we may find some antecedents in nine-tenths of all cases.

The excellent article by Charles Mercier in Tuke's "Dictionary of Psychological Medicine" contains the following sentence: "The law of the direct transmission of qualities is simply that the offspring tends to inherit every attribute of both parents; inheritance is the rule, non-inheritance the anomaly." The inference from this statement and other expressions in the article is that morbid tendencies, at least, if not morbid states as well as healthy ones can be transmitted. He also devotes considerable discussion to the question of the law of consanguinity, which he calls the second law of heredity and which he states as follows: "The quality of the organization of the offspring depends on the suitability of the parents to each other," and proceeding from this premise, he advances various conclusions showing that insanity and allied defects are due, in many cases, to non-observance of this law. I think that we may take his article in its entirety as representing quite fairly the attitude on this subject of the British school of alienists.

An article refreshing in its clearness and brevity is that by Dr. Peterson[7] of New York appearing in the text-book published by Drs. Church and Peterson last year. He calls attention, as do very few authorities, to the necessity for investigating the presence in the family not only of insanity, but of the hereditary equivalents, and states that "it is an unstable nervous organism that is inherited in both neurosis and psychosis." He calls attention also to the faulty manner in which the statistics of heredity are gathered, and presents for example the statement prepared by the Lunacy Commissioners of England and Wales, showing that in 136,478 admissions to the asylums their hereditary influence ascertained was but 20.5 per cent. He is inclined to agree with Mercier on the principles of heredity, and also, I take it, upon the nature of hereditary transmission, particularly in regard to the law of consanguinity.

Of journal literature bearing upon this subject I find very little of value in the form of clear statements on the nature of insane heredity or of its degree of prevalence.

In the files of the *Journal of Mental Science* I find reference to the paper of J. F. Bristoe,[8] read at the annual meeting of the Medico-Psychological Association held in London in 1896, in which he gives as his opinion that 90 per cent. of the insane have insane heredity. This statement is striking from the simple fact that thus far he has stood almost alone in his assumption. No mention is made of any observations, however, that would substantiate his position. There are also one or two fairly good reviews of Weismann's doctrine, but nothing that is of much benefit to us. Volume No. 41 contains a review of an article by Charles Féré[9] of Paris, published in 1894, in which attention is called to the fact "that in heredity that which is really transmitted are errors of nutrition, producing different effects during the embryological period, according to the stage in which they occur. Errors of development cause a morbid predisposition. Thus, hereditary troubles or circumstances of evolution bring progressive destruction of the characteristics of the race, that is, they induce degeneration." He makes two divisions of hereditary tendency in nervous diseases, one which he calls insane heredity and one neurotic heredity.

One of the best of the earlier contributions to the study of heredity in insanity is that of the late Dr. Gray[10] of Utica. He takes exception to such views as those of Mercier and Régis, and quite successfully attacks the theory that morbid states as well as normal attributes are transmitted. I select a paragraph which states his position very clearly. He says: "What I wish to combat is the notion of the direct transmissibility of disease as such; the monstrous figment of scientific pessimism that the abnormalities and lesions of the human organism can acquire in such persistent and stable character as its own *vivida vis* itself, that nature puts a destructive force on an even race with the constructive in any of her operations—an idea which ought to be contrary to any philosophic system of evolution itself. If all that is claimed for morbid heredity be true it would be a cumulative process which must eventually swamp the vital energies of the world. It seems philosophically absurd to assume that a force so opposed to organic life can so seat itself in the constitution of an organism as to perpetuate itself by that organism's generating power. Nature rejects or eliminates the taint of death. No sooner do the decaying elements enter the earth than they are transformed into life-giving agents and that which is 'corruptible puts on incorruption.' The earth itself is not more surely the purifier of all corruption than is the stream of human vitality which shows its recuperative tendency, casting out and eliminating the elements that are hostile to its own existence and welfare."

Much more might be added to illustrate the diversity of views upon this question, but it is not necessary

and probably this much is uncalled for, as you all must be aware of these differences in opinion and feel, as I do, the need of a clear statement to which the most of us can subscribe. I shall return to this later and take up here, the other point of difference—degree of prevalence.

On this subject also we find a wide variety of expression. The proportion of insanity considered to be due to hereditary causes varies from 13 per cent., as reported by some of the English asylums, up to about 70 per cent., as held by some of our latest German authorities, particularly Kraepelin.[11] The average given by the annual reports of various institutions of this country varies between 25 and 40 per cent. I need not take the time here to discuss the reasons for this, they are so apparent. Simply, first of all, the failure to agree on the question, "What is heredity?" and second, differences in methods of history-taking.

In the first year or two of my connection with asylum practice, two things in particular made a very profound impression on me. The first was the fact that nearly every insane person presented stigmata of degeneration, or at least, deviations from the normal both as to face and figure, and also that in many of their relatives who came to visit them these peculiarities could be noticed. The other was the disinclination of patient's relatives to admit freely the existence of insanity, inebriety, eccentricity, nervousness, consumption or allied conditions in the family, and also that in many of the cases already on record in the asylum having "no heredity" written under the head of "family history" subsequent inquiry made of disinterested persons elicited information showing the presence of perhaps several cases in that particular instance. These observations naturally led to extensive reference to available authorities, and the astonishing differences of opinion alluded to above were found. It seemed to me at once, and is now quite plain, that these figures are grossly misleading, and pernicious in their ultimate effect.

After several years of observation in which a careful record of hundreds of cases has been made, I have come to the conclusion that there is a family history of defective nervous health in perhaps 95 per cent. or more of all cases admitted, at least from such a district as that in which I have gathered my facts, and I shall present here for your consideration the results shown by the analysis of the family history in 200 individuals, 100 of them being consecutive cases in which the writer has conducted the history-taking, and the other as a control observation, the analysis of the family health of 100 sane individuals of supposed normal organization.

In the 100 consecutive cases of the insane there were 31 showing direct insane heredity, 35 showing collateral insane heredity, a total of 66 per cent. Of the remainder, 14 showed direct or collateral neurotic heredity, this including epilepsy, inebriety, the so-called nervous types, etc., and 8 gave a history of direct or collateral consumption, the total being 89 out of 100. Then, there are many instances where there are combinations of these conditions, for example, there were 11 cases in which neurotic and insane heredity were combined, 12 in which consumptive heredity and insanity were combined, 7 in which consumptive and neurotic heredity were combined, and 4 in which there was insane, consumptive and neurotic heredity, so that in the 100 cases presented for analysis there was insane heredity in 66, neurotic in 38, and consumption in 31. In 3 cases out of the 100 there was a history of parents being first cousins.

Of the 11 cases not included in the analysis, there being in the family history none of the conditions tabulated, one came of a family in which 6 died before the age of 12 months was reached and two more were stillborn—the father, it is said, died of apoplexy. Two more presented very decided stigmata, both physical and mental, and the father of one died under 40, apoplexy being given as cause of death. Three more presented family history in which cancer or apoplexy had existed. There remain then just 5 cases out of the 100 with family history perfectly clear of all these conditions, and of these 5 none have prominent stigmata, 4 are well and one is still under treatment. In the tabulation of all these cases note was made of the patient's age, sex, social state, form of psychosis, and result of treatment, but as these items do not affect my conclusions I need not refer to them here.

Turning now to the analysis of the 100 presumably normal individuals we find no direct insane heredity, but 3 cases of collateral insane heredity, 14 of direct and collateral neurotic heredity and 22 of direct or collateral consumptive heredity. Consumptive heredity was combined with neurotic heredity in 7 cases, so that the total number with consumptive heredity was 30. The parents were not related in any case. This observation of the family history of the normal individual was made upon asylum nurses and attendants to the number of 150, 100 consecutive cases being taken for analysis.

On finding, in our investigation of insane heredity, the great discrepancy between our results and that of other observers, it was thought that possibly if inquiry regarding the family health of the normal individual were made to the searching extent that was made in the ones of the insane individual it might be found that even in the family of the sane, conditions resulting in insanity or degeneracy might be found to a surprising extent. The asylum attendant was regarded as a proper subject on which to make this observation, as he has been reared under the same geographical conditions and social influences as are the patients. The possible difficulty of getting accurate and unreserved returns was at once realized, and in order to meet this we sent printed forms to each attendant arranged in such a way that he could indicate the health of each individual in his family, both ancestral and collateral members, simply by making check-marks opposite points indicated. The instructions read that names need not be signed, nor any indication of the reporter's identity be given. We have every reason to believe that the reports made are truthful and that as far as possible they are complete, certainly as complete as the histories of the insane individuals presented in this analysis. It is fair to assume, perhaps, that the asylum nurse or attendant is superior in nervous organization to the average man or woman of our district, as a high standard of health in our probationers is insisted upon. I do not know though that this should weaken the force of deductions made from the comparison of their family health with that of the insane, for they represent the very class in which insanity does not develop. It is so extremely seldom that a relation of an attendant or an ex-attendant is admitted as a patient that it is a matter for especial comment.

Let us return now to the question of the nature of hereditary influence. This is something that does not as yet admit of conclusive ocular demonstration, but can be narrowed to a small compass by inductive and deductive processes. I shall content myself for the present by offering for discussion what is scarcely more than a tentative statement of the view I hold and which in

some respects is an expansion of the idea embraced in the last of the three theories alluded to above.

1. All defectives must necessarily have derived a defective something from their ancestry.

2. This is probably a protoplasmic defect in one or both of the reproductive elements and is not necessarily a disease or even a disease tendency, but may consist merely in a lack of inherent power to grow to a normal or full development. Both disease and disease tendency may be transmitted in utero from the mother, but such is not hereditary.

3. The defect in the reproductive cell depends upon deficient or deranged innervation in the parental organism, which in its turn is due to hereditary defect or acquired derangement of various sorts, but all acting on the cell through the nervous system of the parent.

This conception of heredity would, of course, extend the list of conditions that may result in insanity, or other defective states of the nervous system. In its greatest breadth it means that any condition operating upon the development of the parental cell, and which has the effect of impairing, even in the normal individual, its nutrition and so its potentiality, will result in a defective ovum or spermatozoön and so in defective progeny. It would include all such conditions as overwork, dyspepsia and other serious defects in assimilation, wasting disease, neurasthenia, abuse of the sexual function, and in fact, a list so long that we can not discuss it all here. It rejects the idea that morbid states are transmitted through the cell itself, questions the possibility of morbid tendencies being so transmitted, and maintains in short that the various manifestations resulting from what we call heredity are due simply to a *weakened* reproductive element. This view is based principally on the following thoughts:

1. The overwhelming evidence that Nature everywhere seeks to eliminate the abnormal, and that as stated by Dr. Gray, the assumption that morbid states could be transmitted per ovum would be at variance with the fundamental principle of evolution itself. On the other hand, the theory that the defect in the fertilized cell is simply a lack of developmental force is quite compatible with established biological facts and is antagonistic to none.

2. If we assumed that by hereditary defect was meant that certain organs of the descendant were impaired by reason of corresponding defects in the same organs of ascendants, we should have to prove that certain portions of the blastodermic protoplasm developed into certain organs, or, in other words, that differentiation anticipated segmentation. Now we know that this is not true, because differentiation is largely a matter of position of the cell, for experiments with ova of both vertebrate and invertebrate show, for instance, that the nervous system can be made to develop from either the upper or the lower surface of the egg, depending on which side is up; then how could any particular section of its protoplasm serve as the object of hereditary disease selection? Embryology furnishes further proof along this line that can be adduced if necessary.

3. A careful analytical study of stigmata of degeneration shows that in the various deviations from the normal there is very seldom any marked resemblance to corresponding features in the parent, but on the contrary a marked deviation from the ancestral type is seen. We do find, however, on every hand evidence to support the theory I have offered, for what are stigmata of degeneration but deficiencies and inequalities in development combined with occasional reversions to lower type, all of which are the logical results of impaired potency of the germal cell.

4. If the defect is one of impaired force, then the result of this impairment will be seen at the point most remote embryologically from the generating force. This point is the neuron; here we find the highest type of cell development. There is no further cell division, no further differentiation.[1]

Before proceeding to my conclusions, let me say that they, of course, depend not on the analysis of the 200 cases presented, but upon many times that number, the time at my disposal not permitting more extensive tabulation. I must admit that facts I have gathered from the study of degeneracy have also influenced me not a little.

If you grant me that heredity, as I have defined it, is the fundamental cause of 90 or 95 per cent. of insanity, then:

1. Insanity is not a disease, but a congenital defect, the manifestations of which appear from time to time as irritation is applied. There are some very apparent exceptions to this, consisting of a small percentage of cases in which physical or mental stress is so great as to be in itself sufficient.

2. If insanity is such a condition, then it is, in the individual, practically incurable and must be met, if met at all, before it has existence. In other words, we must not wait for the appearance of the individual before we set in operation our therapeutic measures. Let me explain here that I do not call a remission of a year or so, or indeed several years, a cure. It might be remarked that on this theory there are derangements of many organs of which the same might be said regarding recovery, so that it is simply a juggling of terms. It must be remembered, though, that a disorder affecting, for instance, the cortex of the kidney may be compensated for by other tissue and its results are scarcely seen for years, while a disorder of much less extent in the cortex of the brain will in a short time wreck a life completely.

3. If this deduction as to curability in the individual be true then the question of the treatment of the acute stages of insanity sinks into insignificance beside the great problem of controlling heredity.

The State of New York is much engaged at present with the question of psychopathic wards. We have just had an appropriation in Michigan for such a ward at the University Hospital. These are much needed additions to the teaching armamentarium and will be welcomed as such by all, but the trend of editorial expression regarding this is in emphasis of another phase of the question, viz., the possibility of some world-startling discovery as to the cause and hence the cure of insanity. Now, this is, to put it mildly, ill-advised. As a student, I was taught just such nonsense, and I entered the field of psychiatry filled with vague ideas of "reflex eye strain," "reflex pelvic irritation," possible microbic origin in the cerebrospinal fluid, and a host of other things equally unimportant—but of heredity very little. Those of us who are living with the insane recognize these and other exciting causes of insanity—recognize them at their true value and treat them. The care of the acute case is comparatively a simple problem. At the Michigan Asylum at Kalamazoo we are enthusiastic in our efforts for the restoration of the restorable, and it happens to be my privilege to care for this class. I can not lose sight of the fact, however, that many of the cases we proudly dismiss as cured return to us, in a few years at the outside, after having bestowed upon the community several more to take, in a decade or two

hence, the places in the asylum once occupied by their progenitors.

4. If my major premise be correct it defines the limits in certain directions of the function of the pathological laboratory as an adjunct to the study of the etiology of insanity. For several years pathologists, neurologists and others have been telling us that every asylum should have a laboratory for the purpose of working out the cause or causes of insanity, and many asylums have, in consequence, established laboratories where both time and money is spent in a frantic effort to be doing "pathological work," and which in many instances has no bearing upon the great problem. Now, it does not seem to me that the microscope can reveal to us the cause of insanity if we already know it. The pathological anatomist can in time give us as good a description of a neuron congenitally defective, as he does now of a diseased one, and that, of course, will be interesting. There is, in fact, considerable work being done in this line at present. But the usefulness of the asylum laboratory, I am inclined to think, will be found to lie in the direction of investigation of deranged metabolism and of errors in the process of elimination, this including the nature and extent of its effects upon nerve tissue, rather than in the consideration of deterioration changes dependent upon dementia.

5. Finally, if the facts so far presented have not inflated values, our work upon this question is very plainly cut out for us. It is already evident that of the two questions—prevention of insanity and the care of the insane—the writer attaches chief importance to the former. The consideration of prophylaxis, although not coming within the scope of my paper as indicated by the title, still must follow naturally and the matter seems so urgent in its demands upon our attention that I can not refrain from outlining one or two suggestions.

The increase of insanity can be regulated both by legislation and education, and the feebleness of effort being made at present along either line does not do justice to the severity of the case. The question of legislative control is a problem far too knotty for me, and I shall dismiss it briefly.

No doubt there is a large class of defectives that is fit only for legislative control; it can not be reached by reason, but I think it is safe to assume in general that when legislative efforts of the prohibitionists have made such little headway against the craving for alcohol, all similar efforts directed against the control of a much stronger passion will be found correspondingly more futile. The question of legalized mutilation comes in properly here, and I mention it simply for the purpose of inviting discussion, having upon the subject no clearly defined idea myself.

When we come, however, to the question of education, there is much to say and more to do. Little is being accomplished, not very much attempted, with this remedy, and it is the one of all that will in the end be found efficient. There are several lines of action that might be suggested.

1. The asylum or hospital for the insane should be for its district the source of constant effort towards the promulgation of truth regarding the influence upon progeny of heredity and of errors in living. This effort should be in the form of popular articles in the papers of the district, not at infrequent intervals, but appearing regularly, and in such form as to command attention and thought. The medical officers of the asylum should be as actively employed as possible in what I might call medical missionary work throughout the district. Not a month should go by without a popular lecture delivered in some portion of the district by an asylum man.

2. A more important place should be accorded the study of insanity in our medical colleges. The teacher should be, in every case, a man who has had previous asylum experience of, at least, four or five years, and should have at his disposal for clinical instruction a department for the insane such as is now proposed in many localities, under the name of psychopathic wards.

3. The general practitioner could be reached frequently and effectively by papers presented in the meetings of local medical societies. It is very seldom, indeed, that we ever notice any paper upon this subject at such gatherings, and those that are presented deal with treatment rather than with etiology.

The subject of prophylaxis is, of course, too broad a one to be adequately presented at this time, and in conclusion I have only to say, that not until we recognize more generally the fact that insanity is but one of many symptoms, that the disorder itself is defective organization and that prophylactic control is the only control, will any *real* progress in psychiatry be made.

REFERENCES.

1. Régis: Practical Manual of Mental Medicine, 1894.
2. Mercier: Tuke's Dictionary of Psychological Medicine.
3. Darwin: Origin of Species.
4. Clouston: Mental Diseases, 1897.
5. Bevan Lewis: Text-Book of Insanity.
6. Kellogg: Text-Book of Mental Diseases, 1897.
7. Church and Peterson: Nervous and Mental Diseases, 1900.
8. Bristoe: Heredity in Mental Disease, Journal of Mental Science, October, 1896.
9. Féré: La Famille Néuropathique, Journal of Mental Science, January, 1895.
10. Gray: Heredity, American Journal of Insanity, 1884.
11. Kraepelin: Psychiatrie, Sechste Auflage.
12. Adami: On Theories of Inheritance, with Special Reference to the Inheritance of Acquired Conditions in Man, New York Medical Journal, June 1, 1901.

DISCUSSION.

Dr. Edward E. Mayer, Pittsburg—I wish to enter a decided protest against some of the essayist's views. It seems to me that if we viewed the subject from his standpoint, we would relegate the treatment of insanity and the treatment of the insane to where it stood fifty years ago. I am entirely opposed to such nihilism and pessimism, especially in this aspect of medicine. I believe, of course, that heredity is the most potent cause of insanity, but as far as I know it is not the only factor. It seems to me that environmental causes deserve a little consideration. Hereditary causes are often sought for too persistently; physicians attempt to trace cause to effect through generations widely separated and ignore the other factors which are in play. If we agree with Dr. McGugan's views, then the superintendents of our insane asylums should simply be regarded as boardinghouse-keepers, and we must say to 95 per cent. of the insane: "You were unfortunate in your birth and we can do nothing for you." I believe that at least some of the acquired psychoses are curable and do not harm the descendants. Furthermore, I think the statement that heredity is the cause of insanity in 95 per cent. of cases is not in accordance with the consensus of opinion on this subject; that proportion is too high. Authors vary in their statistics between 4 and 90 per cent. in giving heredity as the cause of insanity. Statistics of course are deceiving and the results depend upon the views of the statistician. It seems to me also that to neglect such factors as environment, civilization, syphilis, alcoholism, and toxic conditions requires some explanation.

Dr. Richard Dewey, Wauwatosa, Wis.—Recently, in this state, an attempt was made by the legislature to prevent the marriage of any one who was afflicted with insanity, epilepsy and certain other diseases. Such laws at least call the attention of the people to the importance of these matters, even if but little is accomplished by them in a practical way, and that it is to be feared is their chief utility. People palpably affected are not likely to try marriage, and others can not be prevented.

Dr. T. D. Crothers, Hartford—From my experience with persons who are addicted to the use of alcohol and drugs, I

have become firmly convinced that heredity is not only a potent factor in these conditions, but also in insanity. I believe that in a large proportion of these cases there is a strong predilection toward insanity, or alcoholism and the abuse of drugs which is acquired from their forefathers. I believe this is present in from 60 to 70 per cent. In the cases of alcoholism which I have collected, the habit is distinctly traceable to one or both parents in this proportion.

DR. C. A. DREW, Massachusetts—If I understand the essayist correctly, he advocates educational methods for the correction of the hereditary elements of insanity, and general hospital methods—the rational treatment of all abnormal states of the blood and derangement of the different organs—for the correction of contributing factors. In this I heartily agree with him. I do not agree with one of the speakers that the paper contained any statement advocating a return to old methods—or hopeless methods. It is well to look the facts squarely in the face, and the facts concerning heredity which Dr. McGugan has collected and presented in his paper harmonize, I believe, with the observation and experience of those who have most carefully studied the causative relation of degenerating neurons and insanity.

DR. H. S. DRAYTON, New York City—To a certain extent I agree entirely with the reader of the paper, but I am not with him in all his conclusions. I think the discussion of this subject will prove somewhat analogous to that on criminality as carried on in the conventions held in Europe during the past eight or ten years. Some years ago the school of Benedict and Lombroso was in the ascendant regarding the status of the criminal, the proposition that a man was a criminal by reason of his brain organism being enunciated by that school. In the more recent discussions, however, I have noticed a decided change in the attitude of anthropologists, and the point has been accentuated by Manouvrier and others that after all it was not so much the heredity of the individual as the environment in which he was brought up from childhood that had to do with the criminal evolution in conduct and life. I am willing to accept heredity as a prime factor in many conditions of our mortal career, but I think that environment should be regarded as an equally potent factor, and even more potent in determining action on any given occasion. I believe in giving the individual, however low born, a chance for improving so that the beneficial effects of education and a proper milieu may offset the drawbacks of his birth and childhood's surroundings, and so favor his evolution toward good. That this evolution is possible has been demonstrated by the results obtained in many institutions in Europe and in this country. The authorities of the Burnham Farm at Albany, which was established for the purpose of reclaiming reckless and vagabond boys, have been encouraged by the happy effect of the training given there. Many that were deemed incorrigible were found amenable to discipline and instructions that are judiciously administered.

DR. JOSEPH F. ROBINSON, Nevada, Mo.—We are often asked what is the cause of insanity, and as the result of eight years' study of this question I have come to regard heredity as a very important factor. "Like produces like," not only in the animal kingdom, but also among human beings. This is something we must all admit. In getting the history of an insane patient, I have frequently noticed a disposition on the part of friends or other members of the family to hide or distort the real facts regarding the occurrence of other cases of mental trouble in the family. This should be borne in mind in connection with the statistics on this point. I regard insanity as a mental manifestation of a physical disorder in persons who have an inherited predisposition toward mental diseases. In such individuals the soil is ready for the seed.

DR. F. SAVARY PEARCE, Philadelphia—Last year this Section was besought to uphold certain members of the profession in New York in their petition that the New York State Pathological Institute should not be discontinued. We upheld them in their request, and no one can underestimate the value of the work done in New York and in other laboratories throughout the country. While their services are most valuable in connection with asylum work, I think that physiologic chemistry is really paramount, and it is in that field that the greatest discoveries in connection with insanity will be found.

THE CHAIRMAN, DR. TOMLINSON—The most of the work in the pathology of insanity has been done by neurologists, and they have paid too much attention to the morbid histology of the brain and too little to the natural history of mental disturbance. In 1895, in Boston, I read a paper before the American Neurological Association on "The Transmutation, Coexistence and Concurrence of Insanity and Phthisis," and gave the statistics derived from a study of the patients in the hospital at St. Peter. The statistics went to show that our patients who died from phthisis were the children of insane or neurotic parents; while those among our patients who were the children of the tuberculous did not die from phthisis. In some families there was a concurrence of insanity and phthisis, and in some patients coexistence of both forms of degeneration. I think that the problem of heredity has been befogged in discussion by the widely different conceptions of what is meant by the term, and this confusion exists especially in the relation of heredity to insanity. If development teaches us anything, it is that heredity really means some condition existing in the parents which results in bringing into the world an individual of limited potentiality, and this unequal limitation may involve a particular structure or those which are similar in function. The frequent involvement of the nervous system, even where the weakness in the parents involved some other part of the organism, is probably due to the well-known law of degeneration, that those structures which are the most highly developed and complicated are the first to be involved. There must be something besides the syphilis, alcoholism, other disease or traumatism to produce insanity, and that something is the limited cerebral potentiality of the individual. It does not necessarily follow that he must be the child of insane parents. He may have been born of syphilitic, epileptic, gouty or tuberculous parents, who, on account of the impaired vitality which results from the presence of these diathetic conditions, have given birth to a child of limited cerebral potentiality. The children of the insane are, as a rule, unstable, while the children of those who are the victims of diathetic conditions are defective. These latter may become actively insane, but usually progressively degenerate. The former may never be insane, but tuberculous instead.

DR. ARTHUR MCGUGAN, Kalamazoo, Mich.—Replying to Dr. Mayer, I admit that I may seem pessimistic, but we must face facts as we find them. I firmly believe that heredity is the fundamental cause of insanity in 90 per cent. of our cases, or even more, and I wish to emphasize this point for the proportion reported is not "estimated," guessed at, or borrowed from the observation of others, but is based upon the results of my own long-continued and carefully recorded observations. It is not to be assumed with Dr. Mayer that, were my conclusions accepted we must retrograde, but rather that we shall look forward to new and broader fields, for progress must always rest upon truth, not sentiment. Neither is it to be assumed that insanity not being a condition presenting hope of permanent cure we should relax our efforts in the care of the individual. I wish to state in this connection that we have at the asylum with which I am connected and on my service, a special hospital building for recent cases where all the so-called "sanitarium methods" of treatment are provided for and used; indeed, we are most enthusiastic in our efforts for the restoration of these unfortunates, but upon the reappearance of normal mental action we do not felicitate ourselves that we have produced a cure; it is simply a remission. Realizing then so clearly that cures are few and far between, the same management of the patient is directed to be carried on at his home after discharge or parole is ordered with special reference to the prolonging of the remission. I quite agree with Dr. Drayton in regard to the importance of environmental influence upon the children of degenerates. The restoration of the family line to a normal plane would require probably as many generations as it took to reduce it to its present abnormal condition. This is a practical application of the study of heredity and is an expression of the frankest optimism.

INCIPIENT AMYOTROPHIC LATERAL SCLEROSIS, WITH RECOVERY.

BRACHIAL NEURITIS, ANGINA PECTORIS AND EPILEPSY FROM ELECTRICAL INJURY.—TRAUMATIC NEURITIS AND PERSISTENT BRACHIAL NEURALGIA FROM HYPODERMIC INJECTION.*

LEO M. CRAFTS, B.L., M.D.

Dean and Professor of Nervous Diseases in Hamline University; Visiting Neurologist to the Minneapolis City Hospital, Asbury Methodist Hospital, Etc.

MINNEAPOLIS.

The following cases have been selected because of unusual conditions obtaining in each which make them instructive and of sufficient value to warrant their presentation.

INCIPIENT AMYOTROPHIC LATERAL SCLEROSIS WITH RECOVERY.

The family history shows a pronounced neuropathic taint both important and interesting as an hereditary element in causation. On the mother's side a great grand aunt was confined in an asylum. The grandmother had much rheumatism with heart complications and was very "nervous." A great grand uncle was similarly afflicted, and the grandfather died of apoplexy. An uncle when young had some sort of attacks of unconsciousness, apparently epileptiform in type, and is now nervously unstable. An aunt is subject to frequent fainting attacks. One cousin has had chorea and two others are nervously excitable. His mother has suffered much from vertex headaches, and following his birth, for a long time, had distressing feelings that different parts of her body were very large. She has much trouble swallowing hard foods. The patient's oldest sister had hydrocephalus, was very precocious but peculiar, and died of diphtheric paralysis of the throat.

The subject of this report first came under observation in January, 1899, and was under control for eighteen months. He was the weaker of twins, developed slowly and did not walk till he was two and a half. He was bright, learned to talk quickly, but was peculiar and hard to manage. When first seen he was 16 years old, tall and slight, having grown very rapidly. About two months previously wasting had been noticed in the muscles of the left hand between the thumb and forefinger, and soon after this on the back of the hand.

When first seen there was pronounced loss of substance in the adductors of the left thumb with deep excavation, and also marked depressions between the first and second metacarpal bones. The thenar and hypothenar eminences were distinctly flattened, as was also the entire palm, and the thumb was approximated to the first finger. The hand was weak and tired easily. There was no history of injury, and no complaint of numbness, but there had been very slight pain in the palm of the hand. There was no tenderness along the nerve trunks of the arm and no sensory disturbances of any sort. The grip was weak, the hand slightly tremulous. All the tendon and periosteal reflexes of the left arm were much increased, those of the right arm were somewhat more active than usual, but there was no muscular involvement. The muscles of the left forearm showed some loss and measured one-half inch less than the right. The hand had a pale and trophic look. Fibrillation was not observed, and the reaction of degeneration was not present, although there was apparently quantitative diminution in electrical response over the affected muscles. Musculation was still normal in the right arm and both legs. The patellar reflex was somewhat increased, more on the left; there was no clonus.

The patient's head was strikingly peculiar in shape, very high above the ears, the forehead flat and the antero-posterior diameter short, the measurements being as follows: Vertical height, meatus to crown, 6 inches; antero-posterior diameter, 7¼ inches; transverse diameter, 5⅞ inches; circumference, 21½ inches. These peculiarities are probably of only relative value, indicative of general congenital defects.

As this was an absolutely typical syndrome of amyotrophic sclerosis, an entirely unfavorable prognosis was given, but treatment was begun at once with the galvanic current, long sittings, thirty to forty minutes, three times a week, with a current of moderate strength, 8 to 15 milliamperes. The nitrate of strychnia, 1/30 grain, three times a day, was given with short interruptions for over a year, and hot salt baths with massage three times a week. Free feeding was instituted and rest and exercise regulated, avoiding all fatigue.

For a time the condition progressed, then, after becoming apparently stationary, distinct improvement was manifest. The volume of the interossei returned first, the adductors of the thumb began to fill out, and the thenar and antithenar eminences and palm following gradually. Improvement continued to complete restoration of muscular volume and strength, which it reached in about fifteen months from the beginning of treatment. He has also become robust and developed a solid physique. All treatment was discontinued more than a year ago; the hand has remained entirely well, and recovery may fairly be considered complete.

All authorities agree on a uniformly unfavorable prognosis in amyotrophic lateral sclerosis. Strümpell, alone, quoting Seligmann, says that in very rare cases in young subjects the process may be arrested. Accurate knowledge of the pathology and clinical grouping of the degenerative processes of the nervous system is still too recent for dogmatic conclusions as to possible results, and up to the present we have little exact data on the causes which lead to their development. Such cases as the above help to point leading factors in the direction of heredity and faulty and lowered nutrition. This boy inherited a weak nervous system, which proved unequal to the strain of rapid physical development, and began to give way. The clear indication is for measures calculated to stimulate and improve nutrition generally, and especially of the nerve structures, cell and fiber that have begun to break down, at the same time removing all sources of fatigue. Recent results by various observers in this direction point toward a distinctly improved prognosis in degenerative processes of the nervous system and may well claim our closest investigation.

BRACHIAL NEURITIS, EPILEPSY AND ANGINA PECTORIS FROM INJURY BY ELECTRICITY.

A young man of fine physique and an athlete, a motorman on a street railway, was taking a disabled car to the repair shops. The rheostat would not work, and the current had to be controlled by the cut-out. His hand came in contact with exposed metal while the other hand was on the brake wheel, his body closing the circuit. He hung suspended from the handle of the cut-out, unconscious, while the car moved about a thousand feet, part of the distance being on an upgrade. The jar of the car running over a switch and the bending of the handle broke the circuit, allowing him to fall to the floor, when he came to consciousness. Getting to his feet he found

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Hugh T. Patrick and H. A. Tomlinson.

the left arm powerless and without feeling, two large burns on the left thumb and several smaller ones on the right hand; his head ached severely. About eight hours after the accident intense pain began in the left arm and side, which was continuous for several weeks, almost entirely preventing sleep, with entire loss of muscular power in the arm, slight flexor power then showing in fingers and elbow. The pain in the side at times, on exertion, developed spasmodic attacks, shooting through the chest to the back, radiating down the arm, and excruciating in intensity. Seizures with loss of consciousness also developed on the second day following the accident, with brief tonic and clonic spasm, voiding of urine, biting of the cheek, and sequent stupor for an hour or two. He was losing flesh and dull mentally; had deficient memory, little sleep and poor appetite.

Physical examination showed a well-developed physique, dull and fixed facial expression, face flushing easily, left arm carried partially flexed and held stiffly, fingers partly flexed, hand cool, somewhat cyanosed and mottled in appearance. There was slight power or motion only in hand and arm, and all passive motion caused severe pain, accompanied by spasmodic contraction of the muscles. There was increased irritability of muscle bodies to reflex stimulation and tenderness along the nerve trunks of the arm.

Measurements showed the left forearm and upper arm ¾ inch smaller than the right, over the middle of the deltoid 1 inch smaller, crest of the deltoid 1¼ inches, and the left chest 1⅜ inches less than the right. There was also loss of sensation, both to touch and to temperature and pain throughout the left arm, the left side of the body to the median line including the side of the head and face, except the ear, and a small area about the wing of the nose and the upper lip. It extended down to the hip, and a paresthesia continued over the upper third of the thigh, on the outer side. The loss in muscular volume about the shoulder and arm was very apparent on observation. There was distinct fibrillation, more especially noticeable in the deltoid and triceps. The pupils were normal. The field of vision showed moderate limitation. There was no incoördination and no involvement of the lower extremities.

Slight improvement occurred in the power of motion in the left arm after three or four months. The anesthesia was a little less profound; the pain in the arm improved decidedly, but the attacks of spasmodic pain in the left chest and the seizures have persisted. He has slept poorly, with harassing dreams; the appetite is poor, with continued emaciation, having lost about thirty pounds of flesh; the general appearance is progressively worse. The measurements of arm, shoulder and chest, a year after the accident, remain as they were on the first examination. Limited motion is possible, but with very little strength on resistance tests, and practically no grip.

He had been lefthanded and a baseball pitcher. An examination for life insurance a few days before the accident had shown a perfect physique. No neuropathic tendencies can be found in the family. The attacks of spasmodic pain and the seizures have been repeatedly observed by Dr. H. N. McDonald, a very close observer, from whom the case was referred in consultation, establishing their identity as typical attacks of true angina and epilepsy.

The literature of results of injury from powerful electrical currents is very meager and our knowledge of possible effects is very limited. Opinion at present confines them mainly to gross destruction of tissue, general functional shock, or fatal outcome, but such conclusions, in view of our knowledge of the effects of galvanic currents on tissues and functions, are too narrow and our observations too limited. Much must depend on the voltage of the current, the duration of the shock, the possible presence of additional induced currents of very high voltage that may be present and that can not be definitely determined in the individual case.

This young man was in the circuit of a 500-volt current for probably about a minute. The current produced a general neuritis of the entire brachial plexus and the supply to the left chest, and the vagus is undoubtedly in the same condition, giving rise to the angina. In what way the shock or effect of the current has given rise to the epileptic element of the picture, whether by functional or organic injury to the nervous system, can not be determined. The distribution of the anesthesia, not being absolutely anatomical, may be assumed as hysteric in type, but the possibility that a powerful electric current diffusing from the point of contact over the surface may affect the cutaneous nerve endings over an extensive area without involving the entire anatomical distribution of the nerves involved, must be kept in mind.

This brief report is made only as a contribution to the literature of electrical injuries and their results, without reference to the control or outcome of the individual case.

TRAUMATIC NEURITIS AND PERSISTENT BRACHIAL NEURALGIA FROM HYPODERMIC INJECTION.

A large woman, of 52 years, of rheumatic and somewhat neurotic family history, had rheumatic fever several times between her 5th and 23d year. Two years ago she was under a physician's care for gastric ulcer and neuralgia, suffering very severe pain. The physician used morphia freely by hypodermic injection, selecting a very peculiar place to introduce the needle. All the injections were given in the wrists, making scores of punctures. On one occasion, instantly on the insertion of the needle, the patient felt a shooting, burning pain of great intensity run the entire length of the arm, which continued, and was quickly followed by swelling of the arm. This became extreme, with diffuse redness and heat, and great pain and tenderness. Dark red streaks extended up the arm from wrist to axilla. The swelling did not entirely subside for over two months. The pain was continuous, varying in intensity, but the suffering was intense.

She first came under observation about a month later. The arm at this time appeared normal in outline, except for moderate swelling over the tendons of the right wrist, and some loss of substance in the adductors of the thumb. Numbness was present in the little and third fingers. There was complaint of great pain extending up the arm from the wrist to the shoulder, along the course of the ulnar nerve more especially, but also along the median as well. There was decided tenderness along the flexor surface of the forearm. Movements of the arm or hand aggravated the pain, and they were kept as quiet as possible. The pain prevented sleep a great part of the time. Changes in the weather affected the condition profoundly.

She was put on large doses of salophen; lithia was also employed, and chloretone as an hypnotic. Hot salt baths were directed for the arm, and an external application of equal parts of pure guaiacol and olive oil. The constant current was also used three times a week or daily, with long sittings, from forty minutes to an hour, with large electrodes, stabile, from 10 to 15 milliamperes.

Short applications of the current produced little or no impression on the pain. The long sittings invariably diminished and finally relieved it entirely for increasingly longer periods following the sitting. The condition improved pretty steadily, but with occasional exacerbations, until after a little more than a year of treatment the pain had entirely disappeared. The adductors of the thumb were restored; she was sleeping well, and beginning to use the hand quite freely without exciting pain, and recovery was considered practically complete, when one day getting on a street car, it started just as she stepped on the lowest step, throwing her backward. She grasped the handrail to save herself, and, weighing 240 pounds, it gave her arm a severe strain. This caused a return of the intense pain, marked swelling of the entire arm, with a temperature of 100, pulse 90. The pain required heavy sedatives night and day, preventing sleep, accompanied by nausea, and causing marked exhaustion, which still obtain.

The use of the hypodermic needle as employed in this case is, of course, an extreme illustration, but it will serve to point to the fact that subcutaneous medication is used more freely and promiscuously than is at all necessary, and while when properly done the danger of any unpleasant result is remote, it is always a contingency and should be employed much less freely than it is.

This case and the preceding one suggest a thought in reference to the method of employment of the galvanic current. In the writer's experience, applied according to usual routine, for a few minutes, with small electrodes and weak currents, there is no perceptible result. Currents of fair strength, applied with large electrodes for a sufficient length of time to produce a sustained physiologic effect, must manifestly be necessary to produce any distinct therapeutic result.

The effect of changes of weather on many nervous states, and especially on painful conditions, as noted in this case, is very striking; it is not given sufficient attention, and often discomforts both patient and physician.

Another important point illustrated by the last case is the recommendation so often given by the general practitioner to patients suffering from painful conditions of the extremities, to use them all they can. Usually exactly the opposite thing should be done. In most such cases the extremity or part should be kept as quiet as possible and as free as may be from all effort and strain.

ALEXIA FROM CYST CAUSED BY BULLET WOUND—OPERATION—DEATH.*

G. W. McCASKEY, M.D.
FORT WAYNE, INDIANA.

The following case is reported simply to illustrate the value of that form of aphasia known as alexia as a localizing symptom, and which led in this case to a successful surgical procedure.

Mrs. T., aged 31, was referred to me by a surgeon for diagnosis, with a view to operation if deemed advisable. Seven years before my examination she was shot in the head, by some unknown person, while riding in a buggy after dark. The bullet entered the skull 4½ inches to the left of the sagittal suture, and ½ inch in front of the binauricular line, proceeding in an unknown direction. She was in bed two months, and for four weeks was semi-conscious and delirious. After getting out of bed she was unable to walk alone for four months. From this time on she was able to walk with a limp, the right leg being distinctly paretic. For several months after the injury she was unable to talk, and since then has had more or less speech disturbance constantly.

A few months before she came to the hospital she had an abscess in the right ear, which was preceded by severe occipital pain, relieved by the spontaneous discharge of pus. No other change had taken place in the patient's condition until within a few weeks, when the symptoms all began to grow worse, and continued to do so up to the time of my examination, at which time operative relief had been sought. There was severe headache, with marked increase of speech disturbance, and some increase of paretic weakness of right side. The history of the case, and the obviously downward tendency, pointed to an inevitably fatal termination in the near future, and appeared to justify the hazard of an attempt to relieve by surgical procedure if the localization could be made with sufficient accuracy. A careful study of the case elicited the following data: There was marked paretic weakness of the right hand and right arm. The patient could walk, but limped badly. The dynamometer registered eight in the right hand and twenty in the left. Right side of face was paretic. The right knee-jerk was grossly exaggerated, the left normal. The right elbow-jerk and jaw-jerk also exaggerated. There was no ankle clonus. Sensation was greatly impaired throughout the right side. On the right side of tongue she could not recognize two points of esthesiometer ¾ inch apart. Over the right extremities and side of trunk she could not recognize two points of contact anywhere, at any distance.

Vision was normal in both eyes, and the visual fields unimpaired. Ophthalmoscopic examination showed a perfectly normal eyeground. The sense of smell was normal, but that of taste was slightly impaired. There was severe headache localized in upper and back part of head on left side. The mental condition was not very good. There was a certain degree of dulness, and considerable emotional instability.

The highest interest, however, attached to the speech disturbances. She could recognize the different letters of the alphabet, and would correctly spell any word shown to her; but could not recognize and pronounce, after spelling it, the simplest monosyllable. Such words as *was, in, horse, pencil, cat,* were perfectly meaningless collections of letters, no matter how often she spelt them over and studied them. If, on the other hand, I would vocally spell the word to her she would pronounce it at once, and easily apprehend its meaning. There was a certain degree of partial agraphia. Many words she could write correctly, while others she could not write at all. The individual letters could be made without difficulty, although the writing had to be done with the left hand, on account of the paretic weakness of the right. Her ability to combine the written letters into words, however, seemed to depend largely upon the simplicity of the latter. Her first name, for instance, was *Anne.* This she could always write without an error. Her family name, however, had four syllables, and it was impossible for her to write this at any time. I can not quote her efforts, as I do not wish to make identification possible for several reasons, one of which will be apparent in the sequel. The first syllable of the name was always written correctly, but the next letter was nearly always the last letter of the second syllable, while succeeding letters were entirely haphazard. She spelt Ohio, the state in which she lived, without the *i.* When her atten-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Frederick Peterson, Hugh T. Patrick and H. A. Tomlinson.

tion was called to it she thought there was something wrong with the spelling, but could not tell what it was. She was unable to spell the simplest monosyllables which I would pronounce to her, although if I spelt the word she would correctly pronounce it.

The diagnosis of a destructive lesion of the angular gyrus was made. Pathologically it was thought to be either a cyst or an abscess, resulting from a chronic latent infection introduced with the bullet, with the probabilities in favor of the last named condition. The more diffuse lesion of the motor tract was believed to be the result of secondary inflammatory or degenerative processes, partial in character, though large in extent.

The diagnosis of a cortical lesion, and therefore one susceptible to exploratory procedure, and possibly open to operative relief, was made on the following grounds, both of exclusion and inclusion. The internal capsule was excluded as the seat of the lesion, because it was not believed possible that a traumatism could be produced here by a bullet, which would be so limited in final results as indicated by the symptoms in this case. It could scarcely be subcortical, for exactly the opposite reason; but aside from that there was another fact, which, taken independently, proved its cortical location, namely, the presence of alexia without hemianopsia. Had it been subcortical, and the alexia the result of injury to the fibers leading down from the cortex of the angular gyrus, the fibers passing forward from the cuneus, which lie immediately beneath it, would certainly have been destroyed, and homonymous hemianopsia would have resulted.

As the patient was going steadily downward, an operation was recommended with the hope of arresting the progress of the symptoms, and possibly palliating those already existing.

The surgeon, therefore, removed a small section of the cranial vault at the point which I indicated and immediately beneath it lay the bullet, with a small spiculum of bone attached to it, carried, of course, from the point of entrance. It lay embedded in the cortex, and adjoining it was a cyst of irregular shape and about 1¼ inches in diameter, and which was evidently the cause of the progressive character of the symptoms. The bullet and spiculum of bone were removed, the cyst evacuated, and the operation completed without any event worth noting from a neurological point of view. There was some laceration of the cortex, which bled rather freely, but was apparently completely arrested before the operation was closed.

I saw the patient frequently during the day and evening at the surgeon's request, and about 9 p. m., some ten hours after the operation, I found the pupil on the side of the operation greatly dilated—the condition known as Hutchinson's pupil—and at once notified the surgeon that there was pressure from concealed hemorrhage, and that an exit should be provided by opening the dressing at once. At that time there was no coma or other evidence of increased general intracranial pressure. The patient's condition was extremely satisfactory, considering the circumstances. To my great regret the advice was unheeded, and during the night the patient passed into coma and died before morning. No autopsy could be secured.

The occurrence of alexia, as an isolated type of aphasia, and especially occurring as a sequel of traumatism, appeared to me to be probably of sufficient rarity to make it worth while to put the case on record. While the occurrence of Hutchinson's pupil under such circumstances is sufficiently well understood, yet the tragic lesson which it taught in this case ought at least to be long remembered by the surgeon in charge. There is every reason to believe that if the warning had been heeded the patient would have had an excellent chance for recovery from the operation, and considerable symptomatic relief.

THE ECONOMIC LIMITATIONS OF THE VISUAL ACUITY IN VARIOUS TRADES AND PROFESSIONS.*

H. V. WÜRDEMANN, M.D.

MILWAUKEE, WIS.

The central acuity lies within well-known physiologic limits. When it falls below this, the function itself is damaged, but the conditions met with in practice are not such that the physiologic and earning limitations of the central visual acuity are interdependent; for instance, science calls an individual blind only when perception of light has entirely disappeared, but in actual practice he is blind if the faculty of sight has been weakened to such an extent that the organ of vision can not be used to earn a living. Thus the meaning of blindness as used in daily life is much narrower than that of science.

Now and then extremely great demands may be made upon certain organs which may reach to the highest ability. In actual practice we are satisfied with the amount of labor which does not strain the powers. There is hardly any vocation which demands the extreme limit of sight (according to scientific figures) as a condition of success, and in each trade a great many individuals may be found who have comparatively poor sight but the same earning ability as those with normal eyes. Neither the lowest nor the highest points of scientific visual acuity correspond with those used in business; the lowest point of the latter is not as low as the lowest laid down by science, while the highest point of the functional range that may be regarded as normal must be considered below the highest scientific standard.

Certain estimations of the working acuity have been made from experience, and thus we have determined that ordinary coarse work, such as that of a farmer or day laborer, does not require more than one-half the normal acuity as a condition of success; for instance, if a day laborer should suddenly have his vision reduced to not more than 0.50 (one-half), he would be able to go on with his work; but, if a skilled mechanic would suddenly lose this amount of vision, he would have to stop, as he is used to work with clear retinal impressions: but if he would only lose one-quarter of his visual acuity he would yet be able to do all his work, as 75 per cent. would be sufficient for all ordinary demands. If the common laborer's vision should drop to less than 0.05, he would be blind for all working purposes, and the same might be said of the skilled artisan if his vision drop below 0.15. Therefore, out of these four limit values we have constructed two ranges within which the professional or economic limits lie. One of these ranges would have its highest limit 0.75 (three-quarters) as the lowest 0.15 (one-seventh); while the other range would be between 0.50 (one-half) and 0.05 (one-twentieth) of the normal scientific standard for visual acuity. It is not necessary that the maximum

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee of the Section: Drs. J. A. Lippincott, Casey A. Wood and H. V. Würdemann.

and minimum limit values exist in both eyes. It is sufficient that they may be shown in one eye, the other having the lesser acuity than that which we have declared as absolutely necessary for professional visual demands. According to this standard tables are submitted which divide the followers of the different trades and professions into two groups.

Group 1—Trades requiring higher degrees of visual acuity; range 0.75 to 0.15.

TRADES AND PROFESSIONS.

The higher professions.
Medicine.
Theology.
Law.
Art.
Engineering.
Students of all professions.
Fine mechanics.
Iron and steel workers.
Rolling-mill workers.
Machinists and metal workers.
Precious-metal workers.
Musical instrument makers.
The linen industry.
The textile industry.
The silk industry.
Paper workers.
Leather workers.
Garment makers.
Printers.
Marine employes.
Mine workers.
Railway and steamship employes (including city roads).
Soldiers and sailors.
Telegraph operators.
Skilled labor generally, etc.

Group 2—Trades requiring lower degrees of visual acuity; range 0.50 to 0.05.

Glass blowers.
Mine workers.
Quarry men.
Builders.
Pottery makers.
Brick makers.
Workers in mechanical industries.
Employes in gas and water works.
Paper makers.
Wood workers.
Mill employes.
Manufacturers of food articles.
Sugar factory employes.
Brewers and maltsters.
Tobacco workers.
Chimney sweeps.
Street railway employes (horse cars).
Employes of elevators and wine cellars.
Teamsters.
Bargemen on inland waters (rivers, etc.)
Farmers.
Day laborers.
Unskilled labor, etc.

Individual members of certain trades do not have exactly the same visual demands made upon them. This fact must be remembered and all the members of the same trade not judged by the same standard. Thus the railway employes may be properly divided into two classes.

It is advisable to reach some definite agreement as soon as possible, as hitherto there has been a disposition among oculists to consider the scientific results of the examination of the visual acuity as the basis for the valuation of the conditions arising in practical life. If the estimation of the results of the amount of damage arising from ocular injuries is to be made in a just manner according to actual conditions, this custom must be abandoned.

Our views regarding the difference between the scientific and working standards of visual acuity can claim far more extensive practical consideration than that which relates alone to the subject in hand of ocular injuries. All professions or vocations which make admission dependent upon a degree of vision would do well to remember that practical visual acuity and that of the scientific standard are entirely different things and that an individual may have, for working purposes, a full amount of vision who by the scientific standard shows a deficit. In the German army "a small disability which does not destroy the general fitness," i. e., V. = 0.50 allows of the recruit being received; a visual acuity in both eyes between one-half and one-fourth is called "conditional," and if one-fourth or below is called "absolute unfitness."

Magnus' suggestions have been accepted since 1893 in the Breslau Railroad Company. Their requirements do not now include normal acuity of vision by the scientific standard, but only "sufficient" visual acuity. The same conditions have been met with in a similar manner in other portions of Germany. In America the tendency is to demand the highest visual qualifications from prospective railway employes; the full scientific standard, 1.0 (20/XX), being required by many railroads and being deemed as essential by the consulting oculists of the principal systems.

Allport recently inquired into the conditions existent in the United States relative to the vision required by railway employes and comes to the conclusion that it is well to divide these employes into two classes: Class A, in which the vision should be at least 20/XXX (0.66) in one eye and 20/XL (0.50) in the other; Class B, in which the vision should be at least 20/XL (0.50) in one eye and 20/L (0.40) in the other. In the first class are to be put: Engineers, firemen, brakemen, conductors, switchmen, signalmen, switch-tenders and engine-dispatchers. In Class B: Track foremen, bridge foremen, crossing flagmen, bridge tenders, gatemen, train baggagemen, telegraph operators, station agents and station baggagemen. Other examiners require much higher qualifications. We are, however, fast coming to the conclusion that a practical working or economic vision should be required for new men, i. e., 0.75, and that they should not have any grade of refractive error which would ultimately render their distant vision poor without glasses.

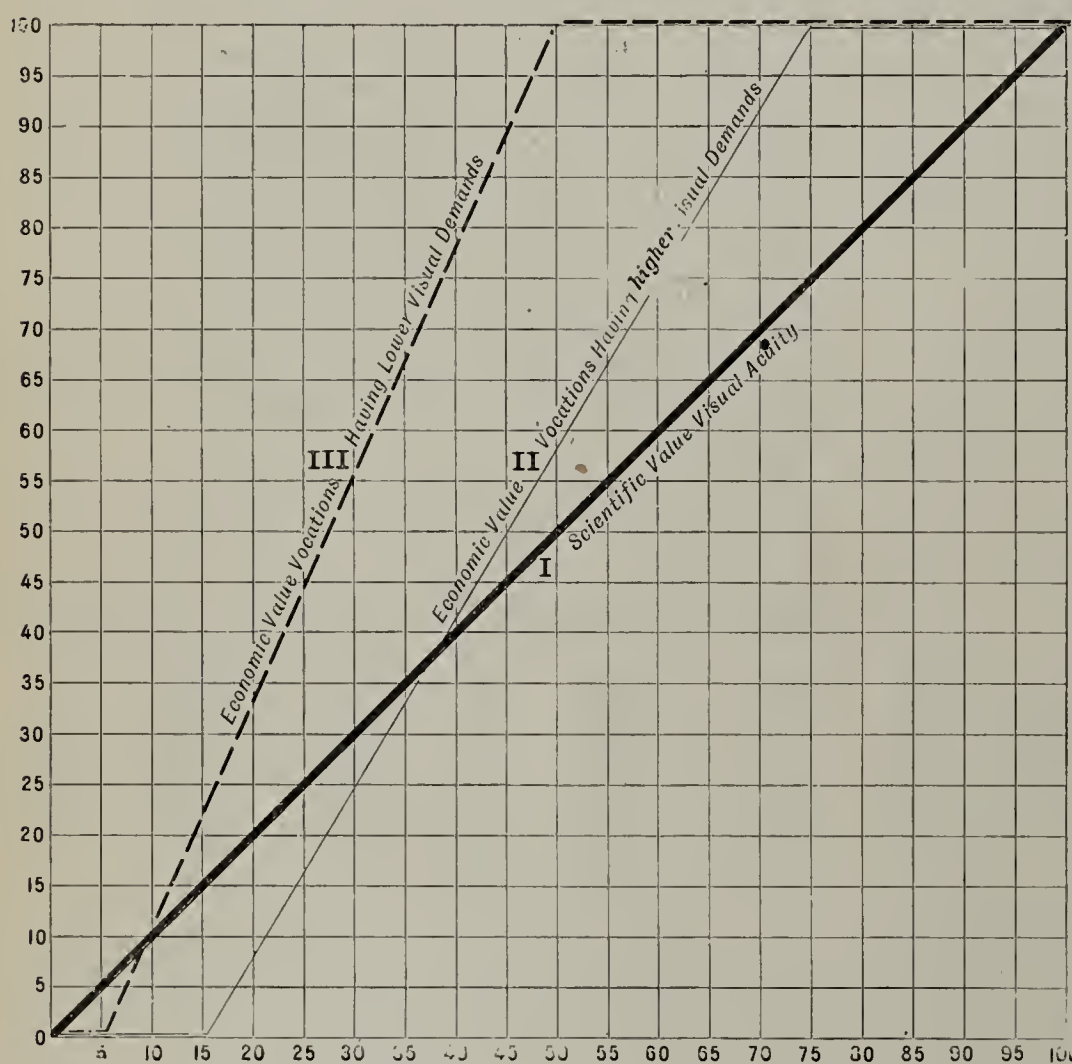
The following table shows the scientific standard for the visual acuity converted into economic terms:

I			II.		
Scientific standard.	Economic standard for vocations demanding higher degrees.		Scientific standard.	Economic standard for vocations demanding lesser degrees.	
0.75	1		0.50	1	
0.70	0.9166	11/12	0.45	0.8888	8/9
0.65	0.8333	10/12	0.40	0.7777	7/9
0.60	0.750	9/12	0.35	0.6666	6/9
0.55	0.6666	8/12	0 30	0 5555	5/9
0.50	0.5833	7/12	0.25	0.4444	4/9
0 45	0 500	6/12	0.20	0.3333	3/9
0.40	0 4166	5/12	0.15	0 2222	2/9
0.35	0.3333	4/12	0.10	0.1111	1/9
0.30	0 250	3/12	0 05	0.000	
0 25	0.1666	2/12			
0.20	0.0833	1/12			
0 15	0.000				

In calculating the amount of economic damage from ocular accidents the visual acuity should always be estimated from the economic standard. This may be readily done by the use of the above table, or by marking the economic values on our ordinary Snellen test cards. If we desire to estimate them ourselves, the economic valuation of certain visual acuities found by the scientific measurement, we may use the accompanying diagram, which offers an easy method for this transposition.

We show, figuratively, the relations between the scientific and the economic visual acuity in Plate I. In this drawing the degrees of vision in the absciss and the ordinate axis are marked at intervals of 0.01, so that five of these cards are always taken together, the absciss as well as the ordinate axis are divided by this into 20 equal parts. The curve of the scientific visual acuity is marked as a black line (1) and because this progresses gradually it has been equally divided. We are perhaps less exact in marking the deviations of the yellow and red lines or curves, which stand for the economic visual acuity, as we must admit that the working acuity is not diminished or enhanced in exactly the same manner as the scientific. Economic vision will not suffer very much if the acuity falls off 0.05, because the difference between 1 and 0.95 is so little that it will scarcely be noticed.

But, if the acuity falls off further, a point will soon be reached where every loss affects the working capacity, and if the vision falls below this point, for instance, to 0.05, then it has no economic value whatever, and when it reaches this lowest point and further depreciates, vision will be professionally of no importance. Corresponding with these facts, the two curves of the economic visual acuity should not be marked as grades; the beginning and end of the curves should deviate, as we have shown; but these deviations are so little that we have divided them similarly to that of the scientific standard. The thin line (II) shows the course of economic vision for higher, and the dotted (III) line for trades having lesser demands. As the drawing shows, both curves start together with the absciss-axis, and then when the climax of the demands is reached, they run parallel.



We also show on the ordinary Snellen test cards, both distant and near, the relations of business visual demands to the scientific standards.

The normal visual requirements of trades and professions should always be ascertained before examining applicants for admission, advancement or retention in service. If we adhere to the highest scientific requirements in certain trades many valuable men would be prevented from work and both the workman and the business injured thereby.

By requiring "normal" or "average" visual acuity we thus conserve both interests and yet sufficiently protect the public.

Bilateral Ovariotomy During Pregnancy.—Löwenberg relates in the *Cbl. f. Gyn.*, of December 21, the case of a patient in the third to fourth month of pregnancy who exhibited for several days symptoms indicating torsion of an ovarian tumor. The ovary had to be removed entirely on one side, and a large portion was resected from the other ovary, and yet the pregnancy continued undisturbed.

WHAT AMOUNT OF VISUAL DEFECT SHOULD DISQUALIFY IN RAILROAD SERVICE?*

FRANK ALLPORT, M.D.

Professor of Ophthalmology and Otology in Northwestern University Woman's Medical School; Professor Ophthalmology in Chicago Policlinic; Oculist and Aurist to St. Luke's, St. Joseph's and Wesley Hospitals, Etc.

CHICAGO.

(Continued from The Journal *A. M. A., Oct. 13, 1901.)*

At the last meeting of the Ophthalmological Section of the American Medical Association, I presented a report on the above subject, accompanied by tabulated statistics. In order to accumulate material for this report, I sent letters of inquiry and a question blank to every railroad in the United States, Canada and Mexico, operating over one hundred miles of road; 244 railroads were thus addressed, covering 205,638 miles of road. I received replies from 64 roads operating 90,950 miles of road. This left a large amount of mileage unaccounted for, and in order to endeavor to supply this deficiency, during the past year I communicated with all those roads failing to reply to my first communication. I received replies from 48 roads, making a total of 112 roads that have replied to my letters of inquiry. The roads thus heard from during the past year cover a mileage of 56,888 miles, making a total of 147,838 miles that are now accounted for. This leaves a deficiency of only 57,800 miles not covered in the combined report of the last two years; or, to put it differently, out of 244 roads to whom letters of inquiry have been sent, 132 have not seen fit to reply. These roads, I am glad to say, are mostly small roads, and the reports which I submit to you cover the requirements of most of the large railroad arteries of North America.

In itemizing the different points covered by my reports, I now beg leave to combine the replies received last year and those received this year.

I find, then, that out of 112 roads reported, 77 require some kind of a systematic eye and ear examination of those employes who are actively engaged in running trains, and in giving and receiving signals; 29 of these roads require such examinations to be made by regularly appointed railway surgeons; 31 allow various kinds of instructed railway employes to make the examinations; 9 roads send doubtful cases to an eye and ear surgeon; 16 roads require examinations to be made by regularly appointed eye and ear surgeons, and 4 allow such examinations to be made by the medical directors of Railway Relief Associations.

In answer to the question: "Do you require re-examinations from time to time, and if so, at what intervals or under what circumstances?" I find that 1 road requires re-examinations every six months, 7 roads require re-examinations every year, 21 roads every two years, 9 roads every three years, 2 roads every four years, 19 roads require re-examinations when it is deemed advisable, and especially upon promotion and after accidents and illnesses; 3 roads require re-examinations on promotion only.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee of the Section: Drs. J. A. Lippincott, Casey A. Wood and H. V. Würdemann.

Concerning the question: "Do you require perfect vision, color sense and hearing in new employes? And what concessions do you permit from a perfect standard in the case of old employes?" I find that 26 roads require perfection, and allow no concessions to old employes, 41 roads require perfection from new applicants and allow various concessions to old employes according to circumstances.

Concerning the question: "How long must a man work for your road before you call him an old employe?" I find that 2 roads call a man an old employe as soon as he is enrolled in the service, 7 roads require one year's service, 3 roads two years, 12 roads three years, 12 roads five years, 7 roads ten years, 3 roads fifteen years.

Concerning the question: "Do you permit old employes to wear glasses for distance when on duty?" I find that no road allows new applicants to wear glasses for distance in order to bring vision up to a normal standard, 74 roads allow old employes to wear glasses for distance, 12 roads do not allow glasses to be worn for distance at all.

My views upon this important subject were fully expressed in the paper which I had the honor to present before this Section last year. I, therefore, have nothing further to say on the subject.

REPORT OF COMMITTEE.

Mr. Chairman and Members of the Ophthalmological Section of the American Medical Association:

Your Committee, appointed three years ago, with the view of framing resolutions for the regulation of the eye and ear requirements of transportation employes, were unable two years ago to bring in a unanimous report. The committee was, therefore, requested to retain its membership and endeavor to report at the following meeting. Meanwhile the committee was led to believe that action upon this subject would be taken one year ago by the International Medical Congress meeting in Paris. It was, therefore, deemed wise to wait until the committee of the International Congress submitted its report, feeling that valuable ideas might be therein contained, which would enable us to improve the character of our own work. The committee, therefore, did not report at the city of Columbus, and since then, although the chairman of this commitee has endeavored with all possible assiduity to ascertain something concerning the nature of the work accomplished along these lines by the International Congress, he has been absolutely unable, up to the present time, although inquiry has been made along every possible avenue, to ascertain whether any work of this nature was accomplished or not. It, therefore, seemed useless to wait for the action of our European confrères, believing that it is not necessary for a country which leads all other countries in its transportation facilities to await the action of other nations. Your committee, therefore, begs leave to submit to the Section the following resolutions, which have been unanimously adopted and which is hoped will also be adopted by the American Medical Association, and then correctly placed before the proper railroad authorities of North America.

This work should be superintended by this Section.

Section 1. The essential principle to be advocated is that railroad corporations shall require a scientific and correct examination of the eyes and ears of those employes at all to be concerned with the active operating of trains, or in giving or receiving signals.

Sec. 2. Such *primary* examinations should, whenever possible, be made by regularly appointed eye and ear surgeons, and this point is emphatically urged, especially as the expense of a first examination may always be borne by the applicant; but if such a course is not deemed expedient, the company's surgeon, aided by his medical assistants, might conduct them, with the understanding that all doubtful cases shall be sent to a regularly appointed eye and ear surgeon.

Sec. 3. There shall be two general standards of visual and aural requirements, viz., those for new men hoping to enter the service, and to be actively engaged in the operation of trains, and in giving and receiving signals; and secondly, those men engaged in similar work, who have been uninterruptedly in a company's service for five years, and who have, therefore, a right to be called old employes.

Sec. 4. New men shall be required to possess perfect color sense. They shall also have a vision of 20/20 in each eye, without glasses, and have healthy eyes, and not over one diopter of hypermetropia. They shall also hear the whispered voice at 20 feet in a quiet room, and have healthy ears.

Sec. 5. For the purposes of graduated requirements old employes shall be divided into two classes as follows: Class A—Engineers, firemen, conductors, brakemen, switchmen, signal-men, switchtenders, and engine dispatchers. Class B—Track foremen, bridge foremen, crossing flagmen, bridge tenders, gatemen, train baggagemen, telegraph operators, station agents, and station baggagemen.

Employes enumerated in Class A shall not be retained in such positions if vision sinks below 20/30 in one eye and 20/40 in the other, or if the whispered voice can not be heard in a quiet room at 15 feet by one ear and 10 feet by the other. Employes enumerated in Class B shall not be retained in such positions if vision sinks below 20/40 in one eye and 20/50 in the other, or if the whispered voice can not be heard in a quiet room at 10 feet by both ears. Employes, and especially engineers and firemen enumerated in Class A, must reach the visual standard without glasses and will not be allowed to wear distance glasses when on duty. Employes enumerated in Class B may reach the visual standard with glasses, and will be allowed to wear glasses when on duty, and will be required to do so if the wearing of glasses is necessary to bring vision up to the proper standard, and shall always be required to carry an extra pair of glasses when on duty in case of accident to one pair. All employes shall have perfect color sense.

Sec. 6. Re-examinations shall be made of all men every three years, and after a severe illness, or accident, or any occurrence which seems to cast doubt on the visual and aural capacity of an individual. Re-examinations shall also be made more frequently on men known to be excessive users of tobacco, or to be suffering from syphilis, albuminuria, diabetes, or acute or chronic eye and ear diseases. Men shall always be re-examined before promotion.

Sec. 7. Men known to be excessive users of liquor shall not receive employment.

Respectfully submitted,

Frank Allport, M. D.,
Chairman of Committee.

92 State Street.

DISCUSSION ON PAPERS OF DRS. WUERDEMANN AND ALLPORT.

Dr. Lewis H. Taylor, Wilkesbarre, Pa.—This report has stated very clearly what we ought to have and should expect of railroad employes. It seems to me, however, that in many cases there is a lack of understanding and a lack of common sense in dealing with this matter on the part of railroad officials. I have in mind the case of a man who was dismissed from his place as engineer, a position he had filled for many years, who had excellent vision in one eye but was cross-eyed and had been for years. He wished me to operate and improve his vision if possible. I operated and got a good cosmetic effect, but, of course, could not improve his vision very much in the amblyopic eye, and he was not allowed to wear glasses. I have examined a number of others dismissed under somewhat similar circumstances, because the vision of the two eyes was not equal. It seems to me we should try to correct the false impressions that have given rise to the prejudices some railroad officials seem to have. I find that even men employed about the yards, in laboring work, are not allowed by some roads to wear glasses. I think it is a good work that the Committee is doing in educating the employes to a proper consideration of what is necessary, but we should also endeavor to educate their employers.

Dr. H. B. Young, Burlington, Iowa—There is an old saying to the effect that not everything that is true is expedient;

ADDITIONAL STATISTICS ON "WHAT AMOUNT OF VISUAL

CONTINUED FROM JOURNAL OF AMERICAN ME

No.	Railroad.	Miles.	Are eyes and ears systematically examined?	If so, what class of employes? And do you require same standard for all classes?	Are such examinations made by an eye and ear surgeon, a general surgeon, or some railr'd employe?	Do you require re-examin tions from time to tim and if so, at what inter- val or under what circumstances?
..	.....	Forward, 90,950	.....	.....	.....	.....
65	Kansas City, Fort Scott & Memphis	966	Yes	Train and enginemen	By an eye and ear surgeon.	New men and every thr years thereafter.
66	Burlington, Cedar Rapids & Northern.	1,123	Yes	Employes in train service must have perfect visiou. Station employes—vision can be corrected by the use of glasses when uecessary.	General surgeon and division surgeon.	No .....
67	Rio Grande Sou.	180	No.	We require examinations only when we suspect defects	Local surgeon .	No .....
68	Carolina & Northwestern.	109	.....	We examine train employes, but not very exacting as compared with larger lines.	By officer employing.	Not unless have some re son for it.
69	Boston & Albany .	389	Eyes, yes; general hearing tested.	All employes whose duties at any time may call upon them to observe signals.	Railroad employes	Examination on emplo ment; no re-examinatio
70	San Francisco, San Joaquin Valley.	304	Yes	All engine. train and yardmen, crossing watchmen and signal towermen must be examined. Same standard for all.	Eye and ear surgeon.	Re-examinations every tv years.
71	Southern California.	499	Yes	Same as above	Eye and ear surgeon.	Re-examinations every tv years.
72	Chicago, St. Paul, Minn. & Omaha.	1,522	Yes	Engineers, firemen, conductors and brakemen.....	General surgeon .	No .....
73	Texas Central. . .	187	Yes	Our examinations extend to engineers, firemen, conductors, brakemen, machinists, carpenters, round house men, etc. No.	Railway surgeon..	No, unless the necessi calls for it on account disease or injures.
74	Mexican Southern	278	No	.....	.....	.....
75	Missouri, Kansas & Texas.	2,197	Yes	All employes in train service, including switchmen . .	Eye and ear and general surgeons	Re-examinations made times of promotion.
76	St. Louis Southwestern.	1,238	Yes	All employes in any branch of service where the use of signals or the movement of trains is involved are required to pass an examination on hearing, visual power and color perception. The same standard required from all classes of employes.	By trainmaster, ass't supt , supt. and in a few remote cases by the local surgeon.	Re-examinations require from time to time; no s rule; limit of 3 years pro able, except when calle for on account of acc dent, illness or promotic
77	Duluth, South Shore & Atlantic	586	Yes	Engineers and conductors	Traveli'g engineer & chief despatch'r	Every 3 years. .....
78	Pacific Coast.	210	Yes	Engineers, firemen, conductors, brakemen, switchmen and flagmeu.	General surgeon .	No; unless reason to thir sight or hearing impaire
79	Seattle & Interna	166	Yes	Trainmen, engineers and firemen. Same standard. .	Eye and ear surg'n	Yearly .....
80	Evansville & Terre Haute.	167	No	.....	.....	.....
81	Duluth & Iron Range.	161	No record kept .	We do not examine any employes in this respect regularly, or require such examinations.	General surgeon, if at all.	If we know of person havir defect, exam. each year.
82	Gulf & Ship Island	143	No	.....	.....	.....
83	Elgin, Joliet & Eas.	195	No	.....	.....	.....
84	Chi., L. S. & Eas.	366	No	.....	.....	.....
85	Delaware & Hud.	747	Yes	Engineers and firemen only.....	An employe. . .	Not statedly; as indicate
86	Georgia	307	Yes	All trainmen	Eye and ear surg'n	Two years .....
87	Central Ontario .	114	No	.....	Not examined. . .	.....
88	Erie.	1,188	Yes; when employed.	All those engaged in train service and who have to give and interpret signals. Same standard.	Division officer; if defects are found, surgeon examines	Yes, if thought necessa in individual cases.
89	Union Pacific . .	2,985	They are	Employes are divided into two classes. Class A includes conductors, brakemen, engineers, firemen, signalmen, crossing flagmen, bridge tenders, switch tenders, switchmen, gatemen, train baggagemen, engine despatchers, bridge and track foremen. Class B, agents, operators, baggagemen and other station employes. Standards for the two classes are not the same. See Question 6.	General surgeon; if defects are found the cases are referred to eye and ear surgeon.	We do; all employes train and station servic were examined, beginnir February, 1900. We e peet to re-examine eve 2 years.
90	Central, of Georgia.	1,545	No	Those in operating department in fourth division at Columbus, Ga.; only applicants for position in operating department; first division at Savannah; those described in Class A, page 7.	Company's surgeon at place of examination.	Only when certain inc dents bring into questic the reliability of an en ployе.
91	Virginia & Southwestern.	118	Yes	Enginemen and trainmen; same standard, both classes of service.	Employes; report to superintend't	If we deem it necessary .
92	Chi., Mil. & St. P.	6,320	Yes	Train and enginemen; yes.	Employe .	No regular intervals.
93	Boston & Maine .	1,767	Yes	All men in train service having to do with signals . . .	Employe; doubtf'l cases by specialist	As often as once in 2 yea
94	Kansas City, Memphis & Birm.	282	Yes	All actual employes in train service are required to pass the same examination.	Eye and ear surgeon.	Yes, every 3 years. . . . .
95	.....	.....	.....	.....	Specialist, when made.	No .....
96	Pere Marquette. .	1,884	.....	This road is now in process of organization; I am preparing a system of examination for all.	Employes; not yet in operation	.....
97	Burlington	7,357	Yes	All employes handling signals in the moving of trains	Medical examiners of re ief department.	In all cases every 3 year defective cases every yea
98	Delaware, Lackawanna & Western.	900	Yes	Employes in any way connected with train, engine and yard service or with maintenance and operation of fixed signals. crossing flagmen, bridge and tunnel watchmen, etc; same standard.	Company's oculist.	Yes; 1 to 3 years, accordin to age.
99	Interoceanic, of Mexico.	555	Eyesight only . .	Engineers only.....	Railway employe	No rule .....
100	Chattanooga, Rome, & Southern.	156	No	We have no regular requirements. If we find that the sight or hearing of an employe in train service is defective we have examined.	We have some of our railroad surgeons examine	We only have examinatio made when there is rea sou to suspect defects.
101	Mexican National	1,218	No; men in train and yard service exam'd by trans. dept. officers.	.....	.....	.....
102	Central, of New Jersey.	685	Yes, new men; old men when they show weakness.	Enginemen, firemen, conductors, brakemen, operators, etc.; yes.	Regular examiner, assisted by trainmaster.	No; we accept as stated i No. 2. (Are eyes and ea systematically examin.
103	New York Central & Hudson River.	2,881	Yes, certain employes.	Enginemen, firemen and conductors	Superintendents ..	From time to time; depen ing on prev. exam and ag
104	Canada Atlantic .	178	They are not . . .	.....	Professional when necessary.	No regular re-examinatio

DEFECT SHOULD DISQUALIFY IN RAILROAD SERVICE."

CAL ASSOCIATION, VOL. XXXV., NO. 15, PAGE 920.

Do you require perfect vision, color sense and hearing in new employes? And what concessions do you permit from a perfect standard in the case of old employes?	How long must a man work for your road before you call him an old employe?	Do you permit old employes to wear glasses when on duty?
. . . . .	. . . . .	. . . . .
Perfect vision, color sense and hearing for new men; and perfect vision and color sense and one-quarter or better in each ear.	About one year	Yes.
Yes. No concessions.	No rule	Yes, in certain lines of work.
Yes. It has not been necessary up to this time to make any concessions	. . . . .	No.
No. Only to that extent necessary to distinguish by sight and hearing signals under practical conditions.	Three to 5 years	Old men.
Perfect vision and color sense required in new employes. Old employes judged according to the requirements of the position they occupy.	One year	Enginemen, no; trainmen, in some instances.
(1) Yes. (2) Certain concessions are made in case of old employes wherein no risk is involved.	No rule	Yes.
(1) Yes. (2) Certain concessions are made in the case of old employes, wherein no risk is involved.	No rule	Yes.
New employes—yes. Old employes—cases passed upon individually, consideration being given to previous record, ability, etc.	We consider men in employ previous to use of present rules old employes	In individual cases as above.
As nearly perfect as possible in new employes 20/20. In old employes 20/30 or 20/40.	About five years	Yes.
. . . . .	No rule.	No.
See circular hereto attached.	We have no rule covering this.	See circular.
Perfect vision, color sense and hearing is required in all new employes. In the case of employes who have been in the service a year or more, or were in our employ at the time the system of examination was made effective, we have accepted 20/30 in one eye and 20/40 in the other, without glasses, but in the case of any defect in color sense or serious defect in hearing, relieve the employe.	One year	Yes.
Perfect for new employes. 5/20 from perfect standard in old employes. .	Three years	Yes.
New employes must be perfect. Old employes may wear glasses.	Three years.	Yes.
Yes. Such as may be due to age, but distant vision must be normal . .	Not stated	Yes.
. . . . .	No rule	None of them do.
Have no special requirements in this regard	About 10 years	No rule, but few do wear glasses.
In all employes.	No rule.	
. . . . .	Two years.	Yes.
. . . . .	Two years	Yes.
Some concessions in case of old employes	No rule	Yes.
Yes. Must have perfect vision if it can be had with glasses	Adopted the plan 3 years ago	Yes.
Yes	Ten years	No.
Yes. Old employes permitted to wear glasses if vision can be made normal thereby.	No rule - probably 15 or 20 years. . . .	Yes.
Vision requirements for Class A.—Normal in one eye and one-half normal in the other. Class B.—Two-thirds normal in one eye and not less than 20/70 in the other, without glasses. Hearing for both classes, normal in one ear and three-quarters normal in the other. Normal color sense required in both classes. Applicants for promotion in Class A must be re-examined. Concessions permitted from a perfect standard in the case of old employes are determined by a Board consisting of General Manager, Supt. transportation, Supt. Machinery, Supt. Telegraph and Chief Surgeon, who pass upon each individual case and take such action as is deemed advisable. In cases where the defect is serious and can not be corrected by the aid of glasses or surgical appliances, the employe is either relieved from service or transferred to another occupation or to branch line service, where his defect will not jeopardize the interests of the company. This class of employes are required to undergo re-examination every three or six months, nature of the case determining frequency of the examination.	No stated length of time. All employes examined at our biennial examinations will be considered "old employes," and the defective men disposed of as above stated.	We do.
This is left to the discretion of the examining surgeon.	No ruling on this point.	I have been told that the officials do allow this.
Perfect new employes. Provided vision can be made satisfactory by glasses, permission is given for their use.	Five years.	Yes.
Yes. In case of old employe glasses must bring his sight to normal . . .	At least 15 years; have no fixed rule. .	Yes.
1. Yes. 2. Depends on nature of service	No rule	Yes, except engineers.
Vision new employes perfect. Old employes 20/20 (may use glasses). Hearing, new employes, 24/48; old employes, 12/48.	Six months	Yes.
No. Examined as to 1, 2 and 3 (vision, color sense, hearing), unless for special reasons.	Three or years	Yes.
. . . . .	. . . . .	
In engine service, normal color sense, hearing and normal vision in each eye. Train yard, etc., normal color sense, normal hearing, at least normal vision in one eye and not less than one-half normal in the other eye. For men in service each case handled as an individual case.	Can not say	Yes, for reading train orders only in engine and train service.
Yes. Old employes with defective vision only permitted to wear glasses fitted by Company's oculist.	. . . . .	Yes.
We require correct distinction of figures and colors at given distances. .	No rule	No rule.
See answer to No. 5. (Do you require re-examination from time to time and if so, at what intervals or under what circumstances?)	We have no fixed period.	Yes, we would do so, though I believe we have only a few office men using glasses.
No.	Three years or more.	Yes.
Yes. Normal	Ninety days	Yes.
See book of instructions.	Opinions differ as to when a man should be called an "old" employe.	Enginemen or firemen, not permitted to wear glasses; conductors, yes.
Have not arranged for examination. Expect to do so at an early date .	Have no age limit	No.

No.	Railroad.	Miles.	Are eyes and ears systematically examined?	If so, what class of employes? And do you require same standard for all classes?	Are such examinations made by an eye and ear surgeon, a general surgeon, or some railr'd employe?	Do you require re-examinations from time to time, and if so, at what interval and under what circumstances?
105	St. Louis and San Francisco.	1,660	No	Vision test is made of employes in train service if any doubt of their vision being defective.	Competent oculist	No. . . . .
106	Houston E. & W. Texas, Houston & Shreveport.	229	Yes	All trainmen, engineers, firemen, conductors brakemen.	Surgeon at hospital.	Expect to examine once every 12 to 18 months.
107	Rio Grande Western	599	Yes	Only trainmen and enginemen; same standard required	Surgeon or oculist	Started last May, and they have not been re-examined
108	Ohio River	266	Yes	Engineers, firemen, brakemen, conductors, yardmen, switchmen; same standard.	Chief surgeon; eye and ear surgeon	Annually; examine all employes on entering service
109	Washington County.	137	Yes	Conductors, baggagemasters (train), brakemen, firemen, enginemen, yardmen, flagmen and signalmen; same standard for all.	Regularly appointed eye and ear surgeon.	Every 3 years; after a severe illness or accident which may affect sight or hearing
110	Southern.	6,415	Yes	Engineers, firemen, conductors, flagmen, brakemen, yardmen and hostlers.	Designated officer of the company.	Every 2 years, or oftener if it becomes necessary
111	Pennsylvania. . .	4,130	Yes	All who must govern their actions by our signals; the same standard for all.	Division superint. thro' employes	No regular intervals; before promotion and after accidents or serious illness.
112	Texas Midland. . .	125	No	No examinations are made	None made.	We do not . . . . .
	Total mileage. .	147,838				

and on this ground I am opposed to the adoption of our Committee's report. I think that for the present we should consider less the purely scientific aspect of the question and look at it more from the practical standpoint. When we come to do this we will get more coöperation from the railroad officials. We have got to take into consideration two things, and the first is that the employe upon whom the brunt of this burden will fall is the engineer. Now, on most of the railroads the engineer is an old employe; has been in service at least ten or perhaps twenty years (before vision tests were thought of); may have a record for efficient service without accidents; and yet as compared with the standards set up in this report his vision may be faulty. In other words, the service records of the men with 20/40 or perhaps 20/50 may compare favorably with those having 20/20 vision. The second is that investigations of accidents have not shown that faulty vision was the essential factor save in a few instances. I believe that the railroad officials are interested in this question more than we have given them credit for; and in the support of this I will say that, with the approval of the Assistant Superintendent of Motive Power (now superintendent) of the C., B. & Q., I have made some practical observations on the visual requirements of trainmen. In the past six months I have ridden some hundreds of miles on the front end of the train; and I have tried to get all sorts and conditions of atmosphere for these tests. I have found that on a stormy day, on a train like the Burlington No. 1, averaging about fifty miles an hour and running against the rain, it is impossible to keep the head outside of the cab and you can not see through the window. The engineer just dodges his head out and quickly back. Acuteness of vision (for one can not see much) is thus not so essential as quickness of perception; and this faculty lies not wholly in the eyes, as we know, but is largely a mental quality. I have found that when I reduce my vision to 20/40 there are no ordinary signals which an engineer can not see within stopping distances of these trains. There is in this test, however, a peculiar difference between day and night signals. One sees the night signals relatively better than the day signals. This is due to the fact that when one has 20/20 vision or better, the emergent rays of the signal lamps produce some dazzling effects; and these may lead to confusion where the lights are numerous. With 20/40 vision these rays are not perceived. The lights are seen as bright discs.

I have found also that by wearing glasses I could keep my head out of the cab in stormy weather when the engineer, without them, could not. It does not therefore seem such a bad thing for an engineer to wear glasses. But if an engineer can wear glasses for one thing, why not for another? Neither the engineers nor the public will discriminate between causes for wearing them. To allow one trainman to do a thing which another in the same service may not, because the one has been on duty twenty years and the other only ten, does not make easy sailing with the trainmen. To have two different standards of vision for these two classes will not, in the event of an accident while the low standard man is in charge, make easy sailing with the public. If we want the coöperation of the railroad officials in our movement to farther safeguard the transportation of person and property, we must formulate rules more universally applicable.

DR. C. H. WILLIAMS, Boston—I wish to ask Dr. Allport if he wishes the Association to take final action on the report of the Committee as it stands.

DR. ALLPORT—If the Section sees fit to endorse the report as it stands we should like to have it brought before the Association as a whole for adoption, but the latter part can not be carried out at this year's meeting.

DR. WILLIAMS—I wanted to make that point clear before going on because it seems to me the report is not yet quite definite enough for us to recommend it to the Association. It seems to me that in order to get practical railroad men to listen to our recommendations we must do two things; we must separate, as has been recommended both by Dr. Wuerdemann and Dr. Allport, the requirement for men coming into the service from those required of old employes. We all agree upon the question of men coming into the service, but the difficulties come in dealing with the old employes and that difficulty is greater to-day than it will be a few years hence because by insisting upon a high standard for men coming into the service we will not have so many of these troublesome questions arising later on. Now, I am inclined to go a great deal further than the report of this Committee in what may be considered as the minimum limit of safety in old employes. Two and a half years ago I drew up for the New York, New Haven & Hartford Railroad some standards for the examination and re-examination of their men; these were put into operation for eighteen months on half of their system, then modified somewhat and extended to the whole system. These standards require that old employes be re-examined every three years and before promotion. The whispered voice is a most uncertain test for hearing and if you exclude the man who can not hear a voice at more than 15 feet I think it will not be entirely fair. I think you want both the voice test and one other, either the watch, or what I prefer, the ratchet acumeter. Another great difficulty with the report as presented is that it does not give in detail the method to be followed in making the examinations. For instance, in regard to color tests, I have had four men who passed the test with the Holmgren worsteds and the Thomson stick and yet when they looked at the lantern they mixed up the reds and greens in more than half the number of exposures! We must have something in addition to the worsted tests.

DR. H. V. WUERDEMANN, Milwaukee—I understand the Committee advises that all new men should have practically normal vision, that is, 20/20. Now, how many prospective railroad men have that amount? We threw down about 5 per cent. on account of color blindness, but is there not a much larger percentage who have more or less defective vision and who would yet be safe men to perform all the work required of a railroad employe? The question with the railroads is not

Do you require perfect vision, color sense and hearing in new employes? And what concessions do you permit from a perfect standard in the case of old employes?	How long must a man work for your road before you call him an old employe?	Do you permit old employes to wear glasses when on duty?
Not at this time. We are preparing a set of blanks for physical as well as eye and ear examination.	Do not classify them	Yes.
All employes rated same; accept judgment of surgeon as to latitude of requirements.	No fixed period here; when the road was a narrow guage.	No.
Require not less than 20/30 in either eye, and not less than 20/25 in both eyes.	Over 6 years	Engineers, no; conductors, for reading. Distant vision must be good.
New employes, 20/20 each eye; old employes, 20/20 one eye and 20/30 other eye.	When promoted from fireman to engineer or brakeman to conductor.	Not on main line.
Perfect vision, color sense and hearing in new employes. Old employes granted a few concessions consistent with safety.	. . . . .	No.
Do not require perfect visiou, color sense or hearing, but they must not be below the standard; old employes are allowed to wear glasses to correct defects in vision, eyes to be examined and glasses fitted by a designated oculist.	Five years	Yes, under conditions above mentioned.
New employes, yes; old employes as per pamphlet.	There is no class of "old employes."	Yes.
We do not	One year	Yes.

altogether what they should have but what they can get. I understand that in the West where there are many men seeking employment the railroads have considerable difficulty to get good men. I think the plan suggested by Dr. Williams is better, and would be adopted by the railroads quicker. As to whether we should demand good working vision in both eyes, I should say yes, by all means. A man with monocular vision is quite as good for most trades, but suppose an engineer with one bad eye gets a cinder in his good one. He is thrown out of place at once. Suppose such an accident should happen to both engineer and fireman at one time (and this is possible if not probable) it might bring about a serious predicament. As to the wearing of glasses on the train I think that only protective glasses should be used.

DR. WILLIAMS—Dr. Wuerdemann may not have understood me. In my experience there is no difficulty in securing new men for the railroad service in the East with 20/20 vision without glasses. I was speaking only of old employes.

DR. FRANK R. ALLPORT, Chicago—This discussion, with its variety of individual opinions, exemplifies some of the difficulties under which your Committee has labored. The various members of the Committee live in different portions of the country, and it has been impossible, of course, to get them together. Those of the Committee who are at this meeting, met yesterday. For about a year, by means of frequent and numerous correspondence between the different members of the Committee, and by concessions and alterations on the part of all, we have finally unanimously agreed on this report as presented to you and feel that it is as good a one as can be produced at the present time. We realize its imperfections, and that alterations in its views will necessarily be made from time to time. But as this matter has been now held in abeyance for about three years, we feel that action should now be taken and the matter be placed in a position where it can progress. The Committee desires free discussion upon the subject, and is perfectly willing that alterations should be made in accordance with the desires of the Section, or if the Section feels that another Committee can do better work, I am sure we would all be glad to be relieved from the task. I do not agree with Dr. Wuerdemann in regard to the lack of railroad employes possessing perfect physical qualifications. I am told by railroad officials that there is plenty of good material, and I therefore feel that when a man for the first time presents himself to the railroad for work of a responsible character, that the road has a perfect right to demand practically perfect physical development. We have made provision for modifying these requirements as men grow old in the service of the road, but we earnestly recommend practically perfect eyes and ears when men first enter service, when the railroad is under no obligations to them. Some one has suggested that employes be allowed to wear glasses, and speaks of protecting glasses particularly. I presume no railroad would object to the wearing of mica glasses for protection, but after a careful consideration of the problem, your Committee believes that men engaged on a locomotive engine, and carrying precious lives and valuable property behind them, should not be allowed to wear glasses for the improvement of distant vision. Dr. Williams, at the Atlantic City meeting, presented some regulations he had prepared for the New York, New Haven & Hartford Railroad and again makes reference to them at this meeting. He says that they test vision with both eyes open with no reference to the individual vision of each separate eye. This certainly seems a dangerous rule, for as I argued at Atlantic City, a man might be totally blind in one eye, under which circumstances it hardly seems that he should be allowed to retain as responsible a position as the running of a train. The Doctor also objects to the whispered voice as a test for hearing, and recommends an instrument which he has devised for this purpose. I believe the consensus of professional opinion is less and less in favor of the watch for the testing of hearing. In the German clinics such mechanisms have been almost entirely abandoned and the voice substituted, which appears to be the safest and most direct test we can adopt. Some member has objected to the question of finance being mentioned at all in these resolutions. The only reference to the matter is in one section where it is stated that the expense of a primary examination should be borne by the applicant. This certainly seems just, for at this stage of a man's career the road is under no obligations to him. If he desires to enter the service, there is no reason why he should not stand the expense of a clean bill of health, and it was felt that if the railroads were not burdened by a preliminary eye and ear examination by an eye and ear surgeon, that they would be more ready to comply with these suggestions.

Upon motion of Dr. Jackson, seconded by Dr. Risley, the report of the Committee was adopted, and the Committee discharged. The new Chairman of the Section was instructed to appoint a Committee to present the matter before the general session of the American Medical Association at its next meeting.

Public Prophylaxis of Venereal Diseases.—F. P. Guiard publishes an article in the December *Annales de Dermatologie et de Syph.*, which proclaims that a great advance would be made in the prevention of venereal diseases if prostitutes could be made to realize the possibility of protecting themselves against contagion by appropriate local antiseptic measures applied no later than five minutes. They should be thoroughly instructed in the dangers that threaten them from venereal diseases and also in the simple technique of prophylactic antisepsis. After extensive study of the best measures for the purpose, he recommends a 1 per 5000 solution of sublimate, from a fountain syringe, retained intermittently in the vagina by compression of the labia. All the recesses in the external genitalia should be rubbed with the same solution. This protects against syphilis and soft chancre as well as gonorrhea.

THE PROBLEM OF HEREDITY.

JAMES G. KIERNAN, M.D.
Fellow of the Chicago Academy of Medicine; Foreign Associate Member French Medico-Psychologic Association.
CHICAGO.

The individual who comes into the world is, as Luys[1] remarks, not an isolated being separated from his kindred. He is one link in a long chain which is unrolled by time, and of which the first links are lost in the past. He is bound to those who follow him and to the atavic influence which he possesses; he serves for their temporary resting place, and he transmits them to his descendants. If he come from a race well endowed and well formed, he possesses the characteristics of organization which his ancestors have given him. He is ready for the combat of life and to pursue his way by his own virtues and energies. But inversely, if he spring from a stock which is already marked with an hereditary blemish and in which the development of the nervous system is incomplete, he comes into existence with a badly balanced organization, and his natural defects existing as germs and in a measure latent are ready to be developed when some accidental cause arises to start them into activity.

As Moreau (de Tours)[2] nearly half a century ago pointed out, an incorrect conception of heredity looks for identical phenomena in each succeeding generation. This view arises from the biologically unjustifiable belief, entirely too prevalent, that the human being is simply a product of two individuals and this product is perfectly formed from the start. To this view is due alike the credulity of those who claim absolute direct heredity of acquirements and the skepticism of those who absolutely deny these. In addition to immediate heredity three forces have to be recognized: immediate atavism, remote atavism and finally fetal environment and postnatal environment during growth. The embryo as a whole advances through a regulated system of atrophies and hypertrophies. If the immediate ancestry be weak or the maternal environment during fetal life be poor, the atavistic tendency of the remote type will gain at the expense of physiologic advance unless parried by the favorable influence of immediate atavism.

In essence no distinction can be drawn between pathologic or physiologic results in heredity. The only distinction is as to whether the hereditary acquirement, whether pathologic or physiologic, be anomalous or usual, in the species, race or family.

Transformation, metaplasia, change from one species into another, whether in man, animals or plants, or tissues, can not, as Virchow[3] remarked seven years ago, take place without anomaly; for if no anomaly appear this new departure is impossible. The physiologic norm hitherto subsisting is changed, and this change can not well be called anything but an anomaly. In former days an anomaly was called pathos and in this sense every departure from the norm is a pathologic event. If such pathologic event be ascertained, this forces investigation as to what pathos was the special cause of it. This cause may be, for example, an external force or a chemical substance or a physical agent producing in the normal condition of the body a change, an anomaly (pathos). This can become hereditary under some circumstances and then may be a foundation for slight hereditary characteristics propagated in a family. In themselves these belong to pathology, even though they produce no injury. Pathologic does not mean harmful, nor does it indicate disease. Disease in Greek is *nosos* and it is nosology that is concerned with disease. The pathologic under some circumstances may be of advantage to its inheritor.

Whether certain defects shall prove malign or benign to the organism is determined by environment, whether intra-uterine, during the nursing period, or later. All vertebrate embryos at their origin are the same. They pass through many common types before being differentiated. Supernumerary organs exist in these common types at one phase of embryonic life. For these reasons repetition of teratologic types occurs in vertebrates. The higher vertebrate embryo contains in essence the organs and potentialities of all lower vertebrates. Under the influence of heredity or accidental defect, an organ, structure or function constant in a species may be lacking or excessive in an individual without remote atavism being involved. Varying conditions stimulate these embryonic potentialities at the expense of the later acquired and more typic human organs. Thus results a struggle for existence between organs and structures, early observed by Aristotle, Goethe and St. Hilaire, but fully demonstrated by Roux[4] two decades ago. He, while admitting determination by heredity, shows that surrounding forces are necessary, not simply the condition of activity by an essential element of the final product.

The introduction of variations depends on the fact of reproduction. It is usually assumed that sex differentiation is a *sine qua non* for reproduction. Sex differentiation does not exist in many of the higher invertebrates and parthenogenesis or virgin generation occurs in abortive form even among the vertebrates.[5] Even in mammals, not excepting man, the unimpregnated ovum is capable of imperfect development. The function of the male in heredity is, therefore, overestimated. The male among many invertebrates merely so adds nutriment to the developing ovum as to enable the embryo to pass through higher development than would otherwise be possible. As Jacques Loeb has shown, normal salt solutions may here be substituted for male fluids.[6] In certain invertebrates osmosis of similar fluids from the male occurs. The female function in reproduction is, hence, the most potent. The potency of the female in this particular increases with rise in the scale of life. Among viviparous mammals the product of conception remains under uterine control for a lengthy period and is nourished by the mother long after birth. Upon the mother, therefore, depends to a large extent the preservation of the race type and of any accidental variations introduced by the male.

In a general way there is an antagonism between the individual so far as personal existence is concerned and between the tendency to reproduction. It is from this antagonism that Weismann[7] has drawn the biologic difference between the body plasm which constitutes the individual and the germ plasm which reproduces the race. There are, hence, in every being two factors which vary in inverse ratio: The impulse of every individual to self-preservation and the impulse to the production of other individuals. The former diminishes when the latter augments. These two forces are necessarily antagonistic. In evolution of the compound organism, cells and structures have surrendered reproductive powers for the benefit of the whole organism. Local degenerations have, hence, occurred for general benefit.[8] Since certain parts in the evolution of organs disappear, and in the evolution of organisms certain organs through suppressive economy,[9] and since the disappearing and developing tendency of necessity centers around the time when certain functions are to be lost by the disappearing, and others

gained by the developing, periods of stress occur around which the law of economy of growth centers the struggle for existence between parts of organs and between organs themselves. It is because of this that physiologic atrophies and hypertrophies occur. Since the ovum when impregnated does not enter into a full course of development at once, and since the power of the embryo to pass through the different stages depends, as even Weismann admits, on its nutrition, the power of the embryo to pass through these different stages of stress will turn in part on its initial velocity from both parents. Heredity is shown in more or less complete development rather than in any specific quality.

Immediate atavism may be malign or benign as circumstances determine. In any event it tends to secure the race type as opposed to variation, whether in the direction of advance or degeneracy. Indeed, it may secure by certain degeneracies advance as opposed to remote atavism. If, at certain periods of intra-uterine stress through deficient nutrition, remote atavism gains the day, cerebral states result analogous to those of animals so far as the encephalic basis is concerned. The neuron passes successively through stages corresponding to those which are to be found in the adult fish, frog, bird and mammal. In this case development consists in an increasing complexity of the cell with no formation of unnecessary rudimentary parts. Its ontogeny in man usually repeats in modified form the main ancestral stages. This is peculiarly evident when the cerebral development of man is compared with that of the vertebrate series.

In fish and batrachia (ichthyopsidæ) the cerebral hemispheres do not cover the region of the third ventricle from which the eyes arise (thalamencephalon); in the human embryo of the seventh week, same. In reptiles and birds (sauropsidæ) the hemispheres cover the thalmencephalon, but leave uncovered the region of the optic lobes (mesencephalon); in the human embryo of the middle of the third month, same. In mammals the hemispheres cover the thalamencephalon (cerebellum and medulla) and the olfactory lobes; in the human embryo of the fifth month, same. In some mammals even of higher orders (*e. g.*, some hapalidæ) the hemispheres are smooth; in the human embryo of the middle of the fifth month, same.

Arrested development of the neurons would imply imperfect power of association and consequently imperfect potentialities for education. As the power of passing through the fetal period of stress depends on the condition in which the fetal organism is at the time of the period of stress, and as this condition of the fetal organism depends partly on factors inherited and partly on the maternal condition, defect in either at these periods of stress may so disarrange the struggle for existence between the fetal organs that reversionary conditions succeed.

Through degeneracy of certain inferior organs superior organs may draw to themselves under the law of economy of growth sufficient nutriment to obtain the ascendancy. The inferior organs may subsequently regain their power while the gain made by the superior organs is retained.[10]

Because of this struggle for existence between the different factors of heredity and because of a varying environment at the periods of stress, whether intra- or extra-uterine, hereditary acquirements are rarely able to overcome remote or immediate atavism so as to pass through the periods of stress. Weismann's criticism, therefore, while valid against absolutely direct heredity, does not hold against conditions affecting the organism as a whole. As Virchow has already pointed out demarcation between physiologic, abnormal and pathologic is a varying matter of degree, not kind. The opposite view vitiates the current conceptions of heredity of acquired characteristics. Stress has been laid on the distinction between the normal and abnormal as a reason for the non-inheritance of defect. Certain strongly opposed observations Weismann attempted to explain away by an exceedingly crude baseless theory. According to him, inherited epilepsy is due not to cerebral malformation, disorder or disease, but to infection by microbes. As the ovum can carry more microbes than the spermatozoön, epilepsy more frequently comes from the mother than the father. The grossly absurd baselessness of this theory needs no demonstration. It fails completely to explain the facts and to exclude every other explanation. Predisposition, according to Weismann, may occur in the children of the tuberculous; this is due not to inherited weakness but to some mysterious non-specific action.

Weismann claimed absolute distinction between the germ plasm and the body of plasm. This claim, which never explained reproduction by budding or reproduction of lost limbs in salamanders,[7] has been completely destroyed by late observations at the Naples Aquarium. These have emphatically demonstrated that no absolute distinction so far as reproduction is concerned exists between germ plasm and body plasm. The distinction between the germ plasm and body plasm theory of Weismann[11] and the pangenesis theory of Darwin is therefore of degree and not kind. Conditions occur in which cells regain the function of reproduction surrendered for the benefit of an organ or an organism. Weismann practically destroys the absoluteness of his claim by admitting that more or less considerable abnormalities may affect the course of development and either cause the death of the embryo or produce more or less marked deformities.[12]

From the interaction of remote atavism, immediate atavism, immediate heredity and maternal environment during pregnancy results transformation of heredity. An incorrect conception of heredity—as Moreau (de Tours) remarked nearly a half a century ago—"looks for identical phenomena in each succeeding generation. Some have refused to admit that mental faculties were subject to heredity because the mental characters of the descendants were not precisely those of the progenitors. Each generation must copy the preceding. Father and son must present the spectacle of one being, having two births, and each time leading the same life, under the same conditions. But it is not in heredity of functions or of organic or intellectual facts that the application of the law of heredity must be sought, but at the very fountain head of the organism, in its inmost constitution. A family whose head is insane or epileptic does not of necessity consist of lunatics or epileptics, but the children may be idiotic, paralytic, or scrofulous. What the father transmits to the children is not insanity, but a vicious constitution which will manifest itself under various forms in epilepsy, hysteria, scrofula, rickets, etc. This is what is to be understood by hereditary transmission." Physicians who deal with heredity often mar their results by limiting them to its direct effect.[13] Moreau indicated the line along which heredity should be studied when he divided the conditions due to hereditary defects into the following categories:[2] 1, absence of

conception; 2, retardation of conception; 3, imperfect conception; 4, monstrosities; 5, products, whose mental, moral, and physical constitution is imperfect; 6, products specially exposed to nervous disorders in order of frequency as follows: epilepsy, imbecility or idiocy, deaf-mutism, insanity, cerebral paralysis, and other cerebral disorders; 7, lymphatic products predisposed to tuberculosis and allied disorders; 8, products which die in infancy in a greater proportion than sound infants under the same condition; 9, products which, although they escape stress of infancy, are less adapted than others to resist disease and death.

For reasons already assigned the mother is the great factor in heredity. Genius seldom leaves posterity because it attracts hysterics and neuropaths as lighthouse lanterns do birds. Paternal heredity is a prophecy of what may be not a destiny. A healthy mother may offset the paternal defects of generation. Maternal environment involves the much mooted question of maternal impressions. The average reported photographic maternal impressions will not stand the scientific requirement that a given hypothesis to be accepted must not only explain all the facts but must exclude every other explanation. It has been claimed that maternal impressions do not occur among the lower animals. This, however, is offset by authenticated cases. Thus, there are still preserved in the British Museum specimens of "newly-hatched chicks with a curved beak like a parrot and the toe set back as in that bird. The hens in the yard where these monstrosities were hatched had been frightened by a parrot which, having escaped, fluttered among them before the eggs were laid, and greatly frightened the hens from whose eggs the malformed chicks are hatched." This case seems to support the photographic theory of maternal impressions. The fact is, however, these malformations are simple arrests of development. Birds are aberrant reptiles. During the egg period of development the chick passes through a reptilian phase. At the close of this period it begins to assume the more strictly avian characters. Arrest of development at the reptilian phase would produce the malformations described.[6] Just after impregnation a sow—in a case reported by T. C. Poole[15] of Mansfield, Texas—was scared by an elephant. One of the resultant pigs was elephantine in shape and proboscis. The pig's snout passed through an embryonic proboscis phase; this was, therefore, also an arrest of development.

These cases, however, demonstrate that mental shock may strongly assist remote atavism and produce arrest of development. The human fetus reacts very decidedly to sensory impressions on the mother. Women often in the midst of ordinary dreams producing but very moderate excitation, not generally interrupting sleep, are awakened by fetal movements. The dreams had nothing of the nightmare influence of a terrifying idea. They were merely the ordinary phenomena of sleep. Mental changes of the mother hence excite motor reaction in the fetus, and as with sensorial excitation these reactions are stronger in the fetus than in the mother. These motor reactions, as Féré points out, are obviously due to unconscious involuntary movement of the muscular walls of the womb.[16]

That maternal shock can exert an influence on the fetus there can be, therefore, no doubt. The question, however, as to the fact of this influence, its method of action, and its results, must be determined by an analysis of the period of pregnancy at which the shock is charged and the result. Profound shock, destitution, and want of food act on the mother and may influence the fetus deleteriously. Hence the significance of the fact that 92 children born in Paris during the siege of 1870-71, 64 had slight mental or physical anomalies; the remaining 28 were all weakly; 21 were weak-minded; and 8 were subjects of moral imbecility. In Berlin the financial crisis of 1875-80 was followed by an increase in the number of idiots born. Not only do poverty and want produce anemia and malnutrition of the fetus, but profound shock disturbs the whole bodily metabolism. The nutrition of the mother may thereby be so disturbed as to result in a partial toxemia, which tends to disturb development of the fetus *in utero*. Thus a nexus of cause and effect can be traced. This influence is further borne out by the results of Dareste and E. C. Spitzka[17] in producing teratologic malformation. By wounding the embryonic and vascular areas of the chick's germ with a cataract needle, malformations are induced varying in intensity and character with the earliness of the injury and its precise extent. More delicate injuries produce less monstrous development. Partial varnishing or irregular heating of the egg-shell results in anomalies comparable to microcephaly and cerebral asymmetry. This latter fact (showing the constancy of the injurious effect of so apparently slight an impression as the partial varnishing of a structure not connected with the embryo at all directly) suggests the line of research to be followed in determining the source of the maternal and other impressions acting on the germ. What delicate problems are to be solved in this connection may be inferred from the fact that eggs transported in railroad cars, and subjected to the vibration and repeated shocks of a railroad journey, are checked in development for several days. A more delicate molecular transmission during the maturation of the ovum, during its fertilization, or finally during embryonic stages of the more complex and therefore more readily disturbed and distorted human germ, accounts for the disastrous effect of insanity, emotion, or other mental or physical shock of the parent on the offspring. The cause of the majority of cerebral deformities exists in the germ prior to the appearance of the separate organs of the body. Artificial deformities produce analogous results because they imitate original germ defects, either by mechanical removal or by some other interference with a special part of the germ. Early involvement of the germ is shown in the fact that somatic malformations in the hereditary psychoses often effect the body elsewhere than the nervous axis. The stigmata of heredity—defective development of the uro-genital system, deformities in the face, skull, irregular growth of the teeth, misshapen ears and limbs—owe their grave significance to this fact. Like deformities of the brain, these anomalies are also more marked and constant with the lower forms of the hereditarily based systematized perversions of the mind than the higher. It is easy from these results to understand how far and how the nervous system has its part in the disorders of general development. The individuals who present most deformities are equally those who suffer from most decided disorders of the nervous system.

In dealing with alleged defect from paternal heredity the influence of the father upon maternal environment must be taken into account. Epileptic children may result from the effect paternal inebriety has upon maternal health and environment. In cases of Calmuck idiocy charged to paternal drunkenness, healthy children

have been born despite the drunkenness until the mother has been broken down.[18] Drunkenness of the father at the time of impregnation may produce defectives through the resultant shock to the mother.

While the direct inheritance of minor defects is rare, its rarity is much overestimated. Prepuce absence among Jews is so frequent that a special volume of Rabbinical lore[19] deals with the controversies over the ritual to be used in case a child is born without a prepuce. The infrequency of such cases among non-circumcising races needs no demonstration. Ritual circumcision occurs during the formative stage of sexual development. The allegation of the absence of inherited effects from ritual circumcision is sheer assumption, repeated for decades without attempts at demonstration. The religious literature on the subject alone demonstrates this since theologians do not meet a ritual difficulty until it arises.[20] Tests of the malignity or benignity of heredity are often very erroneous. A large family is assumed to be decided evidence against degeneracy. It is often a transformation of malign heredity. As Herbert Spencer has shown, with increase in growth and specialization, decrease in the explosive manifestations of life must occur. Among these explosive manifestations in early biologic history is the function of reproduction which is common to all cells. With advance in evolution the functions of cells become specialized and the extent of reproductive power is decreased. This specialization Spencer designates individuation. In degeneracy the organism returns to the lower type and consequently tends to a reversion of individuation. From this results the plural and frequently repeated births in the phthisical and the degenerate. Valenta had under observation two epileptics (mother and daughter) who illustrated very decidedly the biologic stigma to which reference has just been made. The mother had thirty-eight children—six times twins, four times triplets, and twice quadruplets. The daughter at the age of 40 had had thirty-two children; three times twins, six times triplets, and twice quadruplets. Ninety families of degenerates coming under my own observation averaged eleven children each. Triplets, quadruplets, and twins were more than ten times as frequent as among the population taken as a whole. The occurrence of large families is not an expression of advance but of degeneracy. The teachings which have been entirely too prevalent as to the status in evolution being determined by progeny have cultivated what must be regarded merely as one transformation of malign heredity. Another biologic stigma of degeneracy on which considerable stress is laid as an evidence of health is the occurrence of one instance of old age in a family of short-lived people. In biology of degenerates such instances are remarkably frequent. In this instance, while there is an expression of healthy atavism, there is also an expression of degeneracy which, predisposing the organism to yield to slight causes of disease, thereby prevents it from being deeply affected by them. On the other hand the absence of any deep emotional feeling enables such an organism to ride through worry like a cork through an ocean storm, and thereby to survive.

It is obvious that the problem of heredity has been approached from the standpoint of preconceived notions. The forces underlying it have been estimated entirely from the standpoints of times when embryology and biology were unknown. Furthermore, certain forces have been regarded as malign or benign *per se* when circumstances made them so. The tests of malignity or benignity have also been based on preconceived notions. Decrease or increase of births has been estimated entirely from a fallacious view-point.

BIBLIOGRAPHY.

1. Maladies Mentales.
2. La Psychologie Morbide.
3. The Journal A. M. A., xxxi, p. 1311.
4. Der Kampf der Theile im Organismus.
5. Geddes-Thomson: Evolution of Sex.
6. Medicine, 1900.
7. Essays on Heredity.
8. A. H. Thompson: Dental Cosmos, 1874.
9. Moore: Evolution by Atrophy.
10. Alexander, Harriet C. B.: Medicine, 1896.
11. Germ Plasm, p. 389.
12. Ibid., p. 387.
13. Medicine, 1897.
14. Proceedings Brit. Zoologic Soc., 1868.
15. Gaillard's Med. Journal, 1883.
16. Sensation et Mouvement.
17. Somatic Etiology of Insanity, 1877.
18. Neurologic Contributions, vol. i.
19. The Medrash.
20. E. S. Talbot: Medicine, 1898.

NOTE ON GAUGING VESICAL CAPACITY.

G. FRANK LYDSTON, M.D.

Professor of Genito-Urinary Surgery, State University of Illinois; Professor of Surgery, Chicago Clinical School.

CHICAGO.

The determination of the capacity of the bladder is often a very important point in the study and treatment of vesical disease. While the amount of urine that the bladder will retain without serious discomfort is by no means an infallible criterion of the extent of vesico-parietal pathologic alterations, it is nevertheless often of positive value from that standpoint. As indicative of the progress of certain cases under treatment it is often invaluable. As indicating the relative degree of impairment of elasticity of the bladder walls and the presence, degree and progress of pericystitis, the capacity of the bladder is one of the most important points for the consideration of the surgeon. The ordinary method of injecting the bladder hydrostatically—as with the fountain syringe or glass irrigating apparatus, with or without catheter or tube—is open to serious impeachment on the grounds of inaccuracy. The reasons for this inaccuracy I will venture to present.

1. In case the catheter or tube is used, the urinary *besoin* is excited by the presence of the tube in the deep urethra, vesical neck and cavity. Under these circumstances it is impossible to determine whether an imperative desire to urinate as the bladder is filled, is due to extreme physiologic distension, or to reflex excitation of vesical contraction through irritation of the seat of urinary desire by the catheter, which acts simply as might any foreign body.

2. When a large catheter is used, unless the hydrostatic pressure is too low to overcome the true sphincter and distend the bladder at all, the water rushes into the bladder so rapidly that the bladder is literally "surprised" into a reflex resentment of the inflowing fluid, and its capacity is transiently so diminished thereby that it is often less than half the normal capacity for urine. A bladder which will tolerate the presence of 8 or 10 ounces of urine under ordinary conditions often resents the pressure of 4 to 6 ounces of sterilized water by the irrigating method. When the urine trickles into the bladder *guttatim*, or enters *per saltum* from the ureters, the bladder is distended very gradually, and a relatively large amount of urine will be tolerated without discomfort. Half the same quantity of fluid thrown into the bladder rapidly will often necessitate immedi-

ate evacuation of the viscus. It would seem that bland and neutral urine should be better tolerated than the average acid normal urine, but I have made some very interesting observations on this point. In persons who are ingesting large quantities of pure spring water, which passes through the renal mechanism very rapidly, the bladder capacity is often immediately markedly decreased. This is due to the extreme rapidity with which the urine enters the bladder even though it be *per vias naturales.* I have noted this phenomenon so often that I feel sure of my ground. Irritable bladders can be, and often are, injuriously overworked in this way. When the hydrostatic method is employed without tube or catheter, the amount of force necessary to overcome sphincteric resistance foreordains a relatively powerful, bulky and swiftly-running current. This awakens bladder resentment both from stimulation of the urinary *besoin,* and surprising the bladder muscle, and speedy evacuation becomes necessary. This explains why so few accidents happen from hydrostatic expansion of the bladder. The bladder contracts and expels the fluid before hyperdistension occurs. This protective reflex is, however, not to be trusted too far. Its reliability presupposes a fairly sound and fairly elastic bladder wall. Caution is therefore necessary in aged subjects, whether the bladder is known to be extensively diseased or not.

There is no routine method for measuring bladder capacity which is applicable to all cases. Symptomatically, cases may be divided into those in which the abnormal calls to urinate are worse at night, and second, those in which the greatest frequency is during the waking hours. In the first class of cases the symptom-producing condition is almost entirely organic. In such cases the environment of daytime life is more or less distracting, and the calls to urinate are not so frequent as at night. In the second class there is a greater or less degree of neuropathic disturbance, existing either as a complication of actual organic disease and subordinate to it, or constituting—as it often does—the overshadowing element of the case. It is often difficult to draw the differential diagnostic lines, it is true; yet the cases in which it can be done are by no means infrequent. In cases with a decided neuropathic bias, the patient is unduly concerned about his bladder symptoms, and as a result of auto-suggestion the frequence of urinary desire is increased. Few realize how important the neuropathic side of urinary disturbances often is. A physician of my acquaintance who is the unfortunate possessor of an irritable bladder, tells me that his condition is almost unbearable when he happens to have in hand cases in which the disturbance of micturition is a strong factor.

Even in cases in which the condition is obviously organic there may be a neuropathic element, as a consequence of which micturition is most frequent in the daytime. In general, however, increased diurnal frequency means conditions in which movement and gravity enhance the local irritation. This is often found in *prostatiques,* vesical tumor and calculus. In general, frequent micturition due chiefly to inflammatory conditions is improved by rest, nocturnal or diurnal.

In cases of a purely nervous type, or in which the nervous element is a serious factor for consideration—cases distinguished clinically by lessened frequency of micturition at night—and in certain organic conditions in which rest is productive of similar improvement in symptoms, the capacity of the bladder can be gauged by a method at once simple and efficient, a method which does not err by proving only the capacity of the bladder while in hyperdistension. The patient should be instructed to drink moderately of pure water during the evening, and, when aroused at night by a desire to micturate, to pass water on each occasion in a separate vessel. The greatest quantity obtained at any given micturition represents the maximum capacity of the bladder from a clinical standpoint. Cases in which the frequency of urination is aggravated at night, can not be gauged in this way, and mechanical means must necessarily be employed. The chief source of error here is: 1, hyperesthesia of the prostatic urethra and consequent exaltation of the urinary *besoin;* 2, too rapid distension of the bladder, producing "surprise" and peremptory muscular reflex in the bladder wall.

These sources of error being understood, the practical deductions are at once obvious. In the first place, general reflex excitability, if marked, should be guarded against by sedatives and antispasmodics. A hypodermic of morphia, 20 to 30 minutes before gauging the bladder capacity, is very useful. The local reflex irritability may be done away with by applications of eucain or cocain to the prostatic urethra. A small catheter should be used, save in the exceptional instances in which sphincteric resistance is easily overcome and the hydrostatic method without catheter can be used under relatively low pressure. Sterile water or normal salt solution is best for distending the bladder. Antiseptic solutions, as a rule, are too irritating, and defeat the very purpose for which they are used.

Whenever, in gauging bladder capacity, the urine returns at first with some degree of force, but loses this force as the test proceeds, it may be safely assumed that temporary distension atony has been produced and the operation, so far as gauging vesical capacity at that particular *séance* is concerned, is a failure, and the test will require repetition.

100 State Street.

PRIMARY SARCOMA OF THE ESOPHAGUS AND STOMACH.*

WILLIAM TRAVIS HOWARD, JR., M.D.
Professor of Pathology, Western Reserve University; Pathologist to the Lakeside, City and Charity Hospitals.
CLEVELAND, OHIO.

PRIMARY SARCOMA OF THE ESOPHAGUS.

The fact that there are only eleven cases recorded in the literature shows that this affection is rare. Most of the cases have been regarded as pathological curiosities and were reported by the following authors: Chapman, 1877; Targett, 1889; Stephan, 1890; Shaw, 1891; Rolleston, 1893; Albrecht, 1895; Ogle, 1896; Livingood, 1898; Gastpar, 1900, and Stark, 2 cases, 1900. Besides these, Perry and Shaw, in an article on malignant tumors of the stomach, allude to two cases of sarcoma of the esophagus without, however, giving either clinical or pathologic data.

To the previously reported cases I am able to add another, that of a smooth muscle cell sarcoma of the lower end of the esophagus. The history is as follows: S. B., aged 51, was admitted to the Cleveland City Hospital service of Dr. Hoover, August, 1900, complaining of vomiting and difficulty in swallowing. He died a few weeks later of exhaustion.

---

* Read at the Fifty-second Annual Meeting of the American Medical Association in the Section on Pathology and Bacteriology, and approved for publication by the Executive Committee: Drs. A. Stengel, W. S. Hall and L. Hektoen.

Clinical Diagnosis: Carcinoma of the esophagus. Autopsy by Dr. Moore, resident pathologist.

Anatomical Diagnosis: Sarcoma of lower end of the esophagus, with metastasis in the cardiac end of the stomach, slight chronic interstitial nephritis, brown atrophy of the heart, emphysema and pigmentation of the lungs with broncho-pneumonia.

The body was 157 cm. long and markedly emaciated. The surface of the body was free from scars, abrasions and new growths. The superficial lymph glands were not enlarged. As the esophagus and stomach are the only organs showing lesions of present interest, the description of the other organs is omitted.

Esophagus: The organ is of normal size and appearance from its beginning to within 12 cm. of its cardiac end. At this point its wall is much thickened, and its mucous surface is the seat of irregular ulcers, covered with grayish necrotic material. The surface is irregular, but there are no polypoid masses projecting into the lumen. On section the wall is rather thicker than usual, firm and dense in consistency, and pale in color. The cardiac orifice of the stomach is narrowed, but admits the little finger with ease.

Stomach: The stomach is of ordinary size and appears normal throughout, except for the thickening of the cardiac orifice above described and for the presence near the latter of a nodular tumor, 7 cm. in its greatest diameter. On section this mass is seen to be beneath the mucosa. It is dense and firm and on section is glistening in appearance. Some of the lymph glands near the stomach are enlarged. There are no other metastases.

Microscopic Examination of Esophagus and Stomach: Sections made at various points through the wall of the esophagus, including the tumor, show in general the same appearances. The mucosa is fairly well preserved between the points of ulceration. In some places it is necrotic and contains numbers of bacilli, some of which are large and stout. In other places the mucosa is entirely replaced by a mass of fungoid tissue. It is composed of a fairly vascular fibrous tissue containing a number of larger and smaller areas of large spindle-shaped, large and small round, and many giant cells, which are supported by a variable amount of intercellular substance. There is no distinct alveolar structure, but a semblance of this occurs when masses of these cells occupy dilated vessels. The cells are often seen infiltrating the denser fibrous tissue. The nuclei of the tumor cells are large and vary much in shape, but are usually oval; they are often elongated, and even fusiform. They are usually vesicular and many of them contain fine chromatin granules. Some nuclei are dense and stain diffusely and deeply with hemotoxylin and methylene blue. Some swollen nuclei contain small nucleoli. Nuclear figures are very numerous. The sarcomatous tissue is not diffuse, but, especially at the borders of the growth, occurs in patches. When, as is often the case, they occupy dilated lymph or blood vessels, the cells are usually large and often round, but even here long fusiform cells with long swollen vesicular nuclei are seen. In a few places the cells are arranged in concentric layers, and the cells of the inner layers are flattened and often show hyaline degeneration. The growth is best marked in the muscularis, all the coats of which are involved. (At the seat of the tumor only smooth muscle tissue is to be found.) In this tissue the most characteristic appearances of the growth are found. It consists of larger and smaller areas composed largely of long spindle-shaped cells with long swollen oval or fusiform nuclei. The cells and nuclei are often very large. The cells lie in parallel rows, usually separated by a small amount of intercellular tissue, which is, however, often absent or invisible. There is a striking resemblance between these cells and their nuclei and the muscle cells and nuclei of the neighboring tissue. The tumor cells nearest the muscle tissue very closely resemble those of the latter. They are narrower and have long oval or fusiform rather deeply staining nuclei. In most places it is easy to trace all gradations between the large tumor cells and the narrow muscle cells with thin deeply staining nuclei. The stages in the development of the muscle cells into tumor cells is as follows: Along the advancing border of the growth the nuclei of some of the muscle cells swell and become more vesicular; later the nuclei become more swollen and develop fine chromatin growths. At the same time the cell body becomes thicker and its ends become somewhat rounded, and finally develops into a modified fusiform or even oval shape. Such cells can be found among unchanged muscle cells at quite a distance from the new growth. They are not infrequently found in isolated groups. In the sarcomatous tissue there are a number of large round cells with oval or round vesicular nuclei containing fine chromatin granules. Sections stained with Weigert's elastic tissue stain show little if any newly formed elastic tissue. As far as can be seen the fibrous tissue of the submucosa and of the muscularis plays no part in the tumor formation. Many of the larger sarcomatous areas show marked necrosis, with nuclear fragmentation. In the tumor tissue and at its border there are numerous polymorphonuclear eosinophiles. This tumor, then, is a mixed cell sarcoma apparently divided solely from the smooth muscle tissue of the esophagus.

Sections of the wall of the stomach made through the nodule show atrophy and superficial necrosis of the mucosa, which is entirely lost in places. In other places it is infiltrated with small round cells. The submucosa is in general free, but here and there shows the same round cell infiltration. The muscularis is the seat of an extensive invasion of a new growth in every way similar to that described in the esophagus. In most places the tumor cells are situated in dilated vessels. In some places the tumor tissue infiltrates the muscularis and a number of areas are to be seen in which the muscle cells take part in the tumor growth and show the same changes noted in the esophagus. In many of the muscle cells near the new growth there are large vacuoles.

Sections of the enlarged lymph glands show a new growth similar to that of the esophagus and stomach. There is, however, marked necrosis.

Revised Diagnosis: Primary myosarcoma of the esophagus, with metastases in the stomach and neighboring lymphatic glands.

Until Livingood's paper, in 1898, sarcoma of the esophagus was regarded as a pathologic curiosity and, on account of its rarity, of no special clinical importance. Livingood analyzed the cases reported to the date of his article and added a well-studied case with a full clinical history. He concludes that there is clinically no essential difference between sarcoma and carcinoma of the esophagus. He further notes that the advance of sarcomatous tumors of the esophagus is more rapid than carcinoma, being fatal within nine months from the first symptoms; that widespread metastases and the location of metastases are as uncommon and indefinite as in carcinoma, and finally, that the mode of termination is the same in both. Livingood found eleven cases of carcinoma and one case of sarcoma of the esophagus in one thousand consecutive autopsies. He suggests that the apparent rarity of sarcoma is due to a lack of careful histological study of esophageal tumors.

Stark, in the most recent and complete article on esophageal sarcoma, reports two cases and analyzes the clinical symptoms of the affection. In regard to the differential diagnosis between sarcoma and carcinoma of the esophagus, he states that age has little influence if the case of Stephan (a 4-year-old child) is excepted, but that in an individual under 25 years of age sarcoma is much more probable than carcinoma. He thinks that the most important symptom is pain, which in carcinoma may be lacking for months, and when it does occur is rarely of the intense stabbing character observed in sarcoma; the pain in carcinoma is usually most marked after eating, and in sarcoma while fasting, especially at night. He further states that the pain in sarcoma is

back between the shoulder blades, which is uncommon in carcinoma. He also points out that the duration of the disease is shorter in sarcoma; in one of his cases death occurred in ten weeks after the first symptoms of dyspepsia.

A critical study of the twelve recorded cases (including my case) of sarcoma of the esophagus brings out the following information:

Age.—Youngest, 4 years (lympho-sarcoma, Stephan); 25 years, one case; 38 years, one case; 41 years, one case, 45 years, one case; 50 to 55 years, five cases, and 60 to 70 years, two cases. (The cases of Perry and Shaw are mentioned without clinical or pathological data and are, therefore, useless for generalization.)

Situation of the Tumor.—Lower part of the esophagus, 9 cases; upper part, 2 cases; not mentioned in 1 case.

Morphology of the Tumors.—Pedunculated or polypoid in 3 cases (Ogle, Albrecht and Stephan); diffuse tumor formation with polypoid or nodular excrescences in 2 cases (Livingood and Gastpar); tumor mass completely surrounding the lumen in 5 cases (Rolleston, Gastpar, Stark—2 cases—and Howard); not mentioned in 3 cases. More or less obstruction occurred in nearly all cases; in some stenosis was complete. Ulceration of the mucosa and of the growths occurred in 7 cases. Perforation of the esophagus occurred in 4 cases; into the trachea twice. (Shaw and Livingood); and with pleurisy and lung inflammation twice (Rolleston and Stark).

Histologic Characters of the Tumors.—Lympho-sarcoma, 1 case (Stephan); round cell sarcoma, 4 cases (Shaw, Stark, Stark, Rolleston); pure spindle cell, 2 cases (Ogle and Livingood); oval and spindle cell, 2 cases (Chapman and Targett); alveolar, 1 case (Albrecht). Large mixed cell, 1 case (Gastpar); muscle cell, 1 case (Howard).

Metastases were noted in 5 cases; in the neighboring lymph glands, stomach, intestines, kidneys, adrenals, lungs, liver, brain, etc., in 1 case (Stark); in the peripancreatic lymph glands, the iliac bone and neighboring muscles, the temporal bone and muscle, 1 case (Rolleston); in the neighboring lymph glands and kidneys, 1 case (Shaw); in the stomach and gastro-hepatic lymph glands, 1 case (Howard); and in the liver, 1 case (Stark).

In one of Stark's cases the stomach contents were acid in reaction, without, however, the presence of free HCl.

In 4 cases, no clinical diagnosis was made; in 3 cases it was carcinoma, in 3 esophageal tumor; in one case periostitis of the spinal vertebræ with extension to the esophagus, with perigastritis; in 1 case there were no clinical symptoms referable to the esophagus. In this case—Albrecht's—the patient died of croupous pneumonia and at autopsy a pedunculated alveolar sarcoma was found in the esophagus.

Conclusions.—Analysis of the twelve recorded cases of sarcoma of the esophagus shows the following: 1. The disease is more common in males than in females, and at the period of life during which carcinoma most frequently occurs. It may, however, unlike carcinoma, occur in early life—between 4 and 25 years. 2. Nine of the twelve cases involved the lower half of the organ. 3. While the tumors usually nearly surround the lumen, in three cases they formed pedunculated or polypoid masses projecting into the lumen. 4. Symptoms of esophageal obstruction occurred in eleven of twelve cases. 5. There was perforation with involvement of the respiratory organs in four cases. 6. All the varieties of sarcoma except angio-sarcoma have been found, the round cell variety standing first in frequency—one-fourth of the cases. 7. Metastases occur rather frequently (five out of twelve cases), and in two cases were widespread. 8. The clinical diagnosis of esophageal sarcoma has not been made and there are no certain and constant diagnostic points between sarcoma and carcinoma of this organ, the clinical symptoms being necessarily very much the same and dependent upon the same conditions—obstruction and cachexia—in the two diseases. 9. As pointed out by both Livingood and Stark, sarcoma runs a more rapid course, and a fatal issue is to be looked for earlier than in carcinoma. The greater size of the sarcomatous growths is probably responsible for this. 10. The differences in the character, distribution, and period, of the pain in the two affections described by Stark, are not mentioned by other observers. It would prove a matter of considerable importance if his experience is confirmed.

PRIMARY SARCOMA OF THE STOMACH.

A case of sarcoma of the stomach was recognized and reported as early as 1847 by Bruch, and Virchow described three cases in 1865. Although a considerable number of cases were reported chiefly as pathologic curiosities, it was not until the classical article of Schlesinger, in 1897, that the subject assumed clinical importance. This author reported three personally observed cases and collected 33 others from the literature. In 1898 Brooks reported a case and analyzed 15 others which he collected from the literature. In the past six years several cases have been reported by surgeons—Hartley, Baldy, Capello, Cantwell and others—who have removed gastric sarcomata at operation. The best of the recent articles on gastric sarcoma is that of Dock, in 1900, who reported a carefully studied case, and collected 13 additional cases from the literature, which, added to the cases collected by Schlesinger, brought the total number of known cases up to 50.

In a careful search of the literature I have been able to add 7 cases to these, which, together with the 4 cases reported in this article, increase the total number of cases to 61. I have taken considerable pains to criticise the accuracy of the diagnosis in the cases collected from the literature and have excluded all those in which there was any apparent doubt in regard to the correctness of the diagnosis of sarcoma. As several of the reported cases have been found by accident in articles under other titles, I am led to believe that this list does not include all the recorded cases. All who write on the subject must acknowledge a debt to Krüger, Schlesinger and Dock. The disease is ignored in most of the textbooks on diagnosis, diseases of the stomach and pathology.

CASE 1.—Diffuse round cell sarcoma with atrophy and constriction of the stomach.

Female, aged 65 years, a patient of Dr. J. H. Lowman, to whom I am indebted for the clinical history, complained of nausea and vomiting for over a year before her death, which occurred Jan. 12, 1896. She was weak and emaciated, but was able to walk about the room three days before her death. No mass could be palpated in the abdomen.

Clinical Diagnosis: Carcinoma of the stomach.

Autopsy: The body was that of a woman of ordinary size, and was poorly nourished. The abdomen was distended. The skin showed no scars, abrasions or new growths. The pericardium, heart, aorta and large vessels showed no abnormalities. The esophagus was normal.

Stomach: The stomach occupied its usual position. It was very small, being about one-fourth its ordinary size. On external examination it was everywhere hard, firm and inelastic. Midway between the cardia and pelvis the organ was markedly constricted, roughly resembling an hour-glass in shape. On section its wall was everywhere greatly thickened, being from 1 to 3 or 4 cm. in thickness. At the point of constriction the lumen was 3 cm. in diameter. The mucosa, which was of a brownish-red color, was unbroken. The thickening of the stomach wall was due to the presence of a dense and firm grayish-white tissue, which had a rather homogeneous

appearance. This tissue apparently did not encroach upon the mucosa, but involved the submucosa and muscularis, both of which coats were extensively infiltrated. The gastro-hepatic, mesenteric and retro-peritoneal lymph glands were enlarged and had the same appearance as the growth in the wall of the stomach.

The other organs showed nothing of present interest.

Sections of the stomach made of various portions showed in some places disintegration of the mucosa. In some places it had entirely disappeared. In all the sections examined, the submucosa was transformed into a fibro-cellular tissue composed of newly-formed fibrous tissue containing variable numbers of small round and oval cells. The cells showed no special arrangement, but often occurred in groups and masses and were always supported by fibrous tissue or by a fibrillar intercellular substance. The individual cells varied from 8 to 15 mikron in diameter. They had a single round or oval nucleus which usually stained deeply and uniformly with hematoxylin. Some cells had paler nuclei. The cell bodies were usually round or slightly oval. A few spindle-shaped cells were seen. In all sections the muscularis was markedly invaded, in many places diffusely. All grades of invasion of this coat occurred from small islands of tumor cells to complete transformation into tumor tissue. The muscle tissue was pushed aside and infiltrated by the new growth. There was no evidence of proliferation of the muscle cells, which, so far as could be determined, played no part in the tumor formation. The origin of the tumor from the fibrous tissue of the submucosa was clear. A few blood vessels were found in the new growth. In no places was invasion of blood vessels made out. The amount of fibrous tissue present in some parts of the tumor warrants the term fibro-sarcoma. Sections of the lymph glands showed a growth in all respects similar to that of the stomach.

Anatomic Diagnosis: Small round and oval cell sarcoma of the stomach, primary in the submucosa, and infiltrating the muscularis. Constriction producing hour-glass shape of the stomach. Secondary sarcomatosis of the gastro-hepatic mesenteric and retro-peritoneal lymph glands. Anemia.

Case 2.—Mixed cell sarcoma of the stomach with abscess formation in the tumor, with metastases in the neighboring lymph glands.

R. F., female, aged 46 years, was admitted to the Lakeside Hospital, Sept. 7, 1898, service of Dr. Dudley P. Allen (Dr. Nevison acting), complaining of anorexia, headache, pain, swelling in the region of the spleen. There was no vomiting and no pain in the epigastric region. A large mass could be felt in the region of the spleen. Examination was otherwise negative. The urine contained a trace of albumin but no casts. The red blood cells were normal in number and appearance. A considerable leucocytosis was noted.

Clinical Diagnosis: Tumor of the spleen. The patient died 12 days after admission. Autopsy a few hours after death.

Anatomic Diagnosis: Primary mixed cell sarcoma of the stomach with abscess formation and peritonitis. No metastases. Edema and congestion of the lungs. Adenoma of the duodenum. Streptococcus pyogenes and staphylococcus pyogenes aureus, and a short liquefying bacillus in the peritoneal exudate and abscess of the tumor of the stomach.

The body was 172 cm. long. The general nutrition was good. There were no scars, wounds or growths upon the surface of the body. There was bilateral enlargement of the thyroid. The chest was well shaped, the pleuræ negative; the lungs showed congestion, edema and emphysema, but were free from tumors. The pericardium, heart and aorta are without present interest. The abdomen was distended and very tympanitic. The abdominal wall contained a thick layer of fat; the muscles were pale. The parietal peritoneum was covered with a thin fibrino-purulent exudation. The coils of the intestine were bound together by recent fibrous adhesions, containing larger and smaller collections of creamy pus. The liver projected 4 cm. below the costal border in the mammary line. The under surface was adherent to the stomach, and the colon. The stomach was intimately bound to the surrounding structures, and was displaced downwards towards the left, so that its posterior surface lay over the left kidney. Its anterior wall was of ordinary size and appearance. The posterior wall was thickened. On the right side there was a ragged opening, 8x4 cm., between the peritoneal cavity and with a large cystic area in the posterior wall of the stomach.

Stomach: On removal and section the stomach contained foul-smelling yellowish material. The cubic capacity of the organ was reduced, while its bulk was markedly increased. The anterior wall was normal in appearance. Near the lesser curvature, and affecting nearly the whole of the posterior wall, there was a tumor mass 20x16 cm. which varied from 0.5 to 8 cm. in thickness. Near the lesser curvature there was a fungus-like mass, 6x8 cm. in breadth and length, which protruded into the lumen of the stomach. This protuberance was irregular in outline and ulcerated, and covered with a foul-smelling yellowish pus. The tumor did not extend to or involve the pylorus, which was quite soft. The tumor lay beneath the mucosa everywhere except at the ulcerated area. At the cardiac end of the tumor there was a cyst 7x4 cm., and at the pyloric end a similar cyst 6x5 cm.; between these there was a larger cyst, communicating with the other two. These cysts contained fluid and necrotic material. The larger cyst communicated with the peritoneal cavity. The tumor varied very much in thickness, the cyst walls being from 1 to 3 cm. thick. The tumor involved the submucosa and invaded the muscularis and mucosa irregularly. On section it varied much in consistency, in some places it was soft, while in others it was dense and firm. On the right side of the stomach near the tail of the pancreas, there was a nodular mass, apparently an enlarged lymph gland, measuring 8x4 cm., which on section had the same appearance as the growth in the stomach, and contained a cyst 3x2 cm. in size. The neighboring lymph glands were swollen. The posterior wall of the stomach was bound to the pancreas, which was not, however, invaded by the tumor. The duodenum was markedly congested; 8 cm. below the pylorus there was a small nodule, 1.5 cm. in diameter, situated in the submucosa. The rest of the intestines showed nothing abnormal., The other organs showed nothing of present interest.

Sections of the stomach made at a distance from the tumor showed nothing abnormal. Sections from various portions of the tumor all showed much the same structure, the tissue being composed of rather large round, oval and spindle-shaped cells of the connective-tissue type, and with relatively large nuclei. The cells were not arranged in alveoli, but a supporting connective-tissue could be made out. In some places, especially at the borders, the tumor was fibro-cellular, while in others it was markedly cellular in structure. Larger and smaller areas of necrosis were found. Sections taken from the margins of the cysts showed marked necrosis, with nuclear fragmentation. In this material there were large and small clumps of large bacilli. In a few places there was an intimate relation between the tumor cells and the adventitia of arteries and veins, suggestive of the vascular origin of the former. These areas were always isolated. In other places, at a considerable distance from the main tumor, there were small irregular islands of typical sarcoma tissue and apparently springing from the connective tissue of the submucosa. The tumor was situated in the submucosa and invaded the muscularis and the mucosa in only a few places. Its origin was without doubt in the submucosa. Sections of the smaller tumor showed the same structure met with in the larger. No trace of lymphatic tissue, however, remained. There was markedly little inflammatory reaction about and in the tumors of the stomach; no groups of tumor cells were found in either blood or lymph vessels. Some of the veins, however, contained recent thrombi.

Sections of the small tumor situated in the submucosa of the duodenum showed a typical adenoma, composed of a large number of glands divided into lobules by connective tissue bands. The glands were lined with a single row of epithelial cells, which were columnar in some and cuboidal in other glands. The cytoplasm of these cells was finely granular and stained poorly; the nuclei were vesicular and placed at the base of the cells, where the latter were supported by a delicate membrana

propria. The epithelial cells formed a single row in the glands and never broke through the membrana propria. No ducts were to be found. The tumor lay almost entirely in the submucosa, but in some places had pushed through the muscularis mucosæ and encroached upon the mucosa, which was normal in appearance. Sections of the tumor of the thyroid showed a papillary adenoma. The other organs are without present interest.

CASE 3.—Sarcoma of the pylorus. G. H., white, a laborer, aged 48 years, was admitted to St. Alexis' Hospital, service of Dr. Cogan, Oct. 26, 1900, complaining of vomiting and weakness. His family history was negative. The patient stated that he had always enjoyed good health until December, 1899, when his appetite failed and he began to lose weight. In October, 1900, he had to give up work on account of weakness and discomfort in his stomach. At this time he began to vomit after each meal. After admission to the hospital he vomited almost continuously until his death, which occurred on November 3. No food could be retained by the stomach.

Examination of the chest was negative. No tumor could be felt in the abdomen. On testing the stomach contents the acidity was normal. Motility and absorption were both diminished. The red blood cells numbered 1,000,000 per cubic millimeter. The leucocytes were not increased.

Anatomic Diagnosis: Sarcoma of the pylorus and neighboring portion of the stomach. Broncho-pneumonia of both lungs. Chronic adhesive pleuritis. Anemia.

The body was poorly nourished. Rigor mortis was present. The other organs showed nothing of present interest; only the description of the stomach is taken from the autopsy protocol.

Stomach: This was somewhat dilated. On opening the organ the pylorus and the wall of the stomach on all sides for a distance of 10 cm. from the pylorus, were found to be thickened. The mucosa was unbroken. The gastric wall at the pylorus measured from 1 to 2 cm. in thickness. The tumor on section was at nearly every point beneath the mucosa, and its chief seat was the submucosa, but in many places it could be traced into the muscularis. The tumor was homogeneous in appearance and firm in consistency. The lymph glands in the neighborhood of the stomach were not enlarged. No metastases were found in any organ.

In sections made from various portions of the tumor the mucosa was atrophied, the tubules having been compressed and the interglandular stroma replaced by fibrous tissue containing, round, oval or fusiform cells. The muscularis mucosæ was absent in many places. The submucosa was everywhere thickened, due to a new growth of fibrous tissue, containing a varying number of fusiform, round and oval cells, supported by a variable amount of intercellular substance. At many places this tissue extended into the muscularis. In some places the sarcomatous tissue was markedly fibrous. Throughout the tumor the capillaries were numerous. In many places the lymph vessels were dilated and contained tumor cells. In some places the endothelial cells of the lymphatics showed marked proliferation and nearly filled the lumina of these vessels. In some lymphatics the lining cells had assumed a cuboidal shape and the structure had the appearance of a tubular gland. The new growth in some places invaded the nerves and even the serosa. There was no peritonitis.

CASE 4.—A saloonkeeper, aged 39 years, married and a moderate drinker, suffered with occasional attacks of indigestion and discomfort in the epigastrium for a year before consulting Dr. Robert H. Sunkle, to whose kindness I am indebted for the history and autopsy in this case. When first seen by Dr. Sunkle, the man complained of pain in the abdomen, loss of weight, strength and appetite. The liver was greatly and uniformly enlarged, but no nodules were palpated. No tumor could be made out in connection with the stomach. The heart and lungs were negative. There was occasional vomiting, but no special pain referable to the stomach.

A few days before death, which occurred one month after Dr. Sunkle first saw the case, dulness was made out in the flanks. Dr. Sunkle's diagnosis was hypertrophic cirrhosis of the liver, in which he was upheld by Dr. Sihler, who saw the case in consultation. Later the possibility of carcinoma of the liver was considered.

The autopsy was made by Dr. Sunkle, who brought the organs to my laboratory for examination.

Anatomic Diagnosis: Primary angio-sarcoma of the lesser curvature of the stomach, with metastases in the neighboring lymph glands and in the liver.

As the stomach and liver were the only organs showing changes of present interest, a description of the other organs is omitted.

Stomach: The organ was of ordinary size. The lesser curvature was thickened. On section, the cardiac and pyloric ends were normal, as were the greater curvature and the anterior and posterior walls. The mucosa was somewhat thickened. The whole length of the lesser curvature was thickened and from it a mass of tissue protruded into the cavity of the organ. The mass was from 1.5 to 2 cm. in thickness and 4x5 cm. in outline. The surface was irregularly ulcerated and it was difficult to make out the mucosa. On section the mucosa was soft, readily lacked the pearly translucency of carcinoma. The growth extended through the coats of the stomach, and included and surrounded several enlarged lymph glands, which were virtually involved in the growth. On section these glands were soft and had the same appearance as the gastric tumor. The peritoneal cavity contained a considerable amount of clear fluid. There was no peritonitis. The liver was markedly enlarged, its edges rounded, the capsule mottled red and yellow. Scattered over the surface, but lying well beneath the capsule, there were a number of soft yellowish areas. On section both the right and left lobes of the organ were the seat of numerous grayish-yellow areas of soft consistency, sharply marked off from the surrounding liver tissue, and varying from 0.5 to 3 or 4 cm. in diameter. Many of the large branches of the portal vein were occluded by grayish-yellow masses, which were here and there mixed with blood and coagula. Portal vessels could be traced into many of the larger masses, which often contained central hemorrhagic areas. The liver tissue between the masses was congested and in places compressed. The external surface of the gall bladder showed a small nodule similar to those found in the liver. The gall bladder and bile ducts on section were normal. The mesenteric glands and other organs were free from metastases.

Histologic Examination: Stomach. In sections of the gastric wall made at a distance from the tumor, there was disintegration of the superficial layer of the mucosa. In sections cut through the tumor at various places the mucosa showed disintegration to a varying depth. In some sections the deeper layers of the mucosa were invaded by tumor tissue which compressed and replaced the tubules and interglandular tissue. The submucosa was markedly thickened, due to the presence of large areas of tumor tissue which was diffuse in some places and in others sharply circumscribed. This latter appearance was usually due to the extension of tumor tissue into large and small veins. The tumor evidently had its origin in the submucosa and varied in structure considerably. In many places the structure was typical of a mixed cell sarcoma, being composed of large and small round and oval cells, large spindle-shaped and numerous giant cells, and a variable amount of intercellular tissue, which was conspicuous in some places and scanty in others. In general, the tumor was very cellular. In all parts of the growth, capillaries, most of which contained blood, were numerous. In most places the relation of the tumor cells to the capillaries was intimate, viz., masses of round, oval, flattened and often fusiform cells surrounded blood capillaries, and were placed directly in relation with their walls. In some places, especially in the metastases in the liver, tumor cells were arranged in a regular row about a small lumen, in such a manner as to resemble a cross-section of a tubule. Blood cells and granular material were present in some of these spaces. In still other places the tumor cells were arranged in large alveoli, supported by a variable amount of intercellular tissue and capillaries. The muscularis was only slightly invaded, and the mucosa was markedly invaded in places. The invasion of the large and small veins of the sub-

mucosa was marked. Most of these vessels in the tumor area were completely occluded by tumor tissue, similar to that above described. The tumor cells varied much in size and shape. Their nuclei were large, round or oval, some staining densely, while in others fine chromatin masses could be made out. In many nuclei there was a rather large oval or round hyaline body, which stained pink with eosin. Nuclear figures were common. The giant cells had very large single nuclei. Many of the tumor cells showed marked fatty degeneration. The growths in the lymph glands and the liver were identical with that of the stomach. The relation of the tumor cells to the capillaries was especially well marked in the liver metastases. Some of the branches of the portal vein contained both tumor cells and fibrinous thrombi. Many were completely occluded. In many places the new growth in the liver had passed through the veins and was infiltrating the liver tissue. In sections some distance from metastases, there was marked necrosis of the central portions of the liver lobules with hemorrhage. There could be no doubt in regard to the sarcomatous nature of the neoplasm, which evidently sprung from the blood vessels of the submucosa of the stomach.

Frequency.—The disease is certainly rare, but probably occurs more commonly than is generally supposed. There can be no doubt but that in the absence of routine microscopic examination of tumors found at operation and autopsy, many cases must have been mistaken for carcinoma, which, indeed, was the clinical diagnosis in a considerable number of the recorded cases. So far there are sixty-one known cases. Next to carcinoma it is certainly the most common tumor of the stomach.

Etiology.—Of the 61 cases 30 occurred in females, 25 in males and in 6 the sex was not mentioned. In regard to age the youngest reported case occurred in a girl 3½ years old (Findlayson's lympho-sarcoma). The age was reported in 52 cases and the ages were as follows: It was from 15 to 20 years in 6 cases; 20 to 30 in 9 cases; 30 to 40 in 7 cases; 40 to 50 in 10 cases; 50 to 60 in 10 cases; 60 to 70 in 5 cases; 78 in 2 cases, and given as "old age" in 2 cases. Nothing is known of the primary cause of the disease. In Brooks' case the tumor started in an old bullet wound of the stomach.

Seats of Tumors.—Heretofore on account of the meager data at hand little attempt has been made to establish the principal seats of sarcoma of the stomach. Schlesinger and Dock concluded that any portion of the gastric wall might be affected. The former states that the greater curvature is the most common seat, especially of the nodular form, while lympho-sarcomata are apt to be diffuse. Dock calls attention to their origin at the pylorus and in the posterior wall in some of the recently reported cases.

Analysis of the 61 cases shows that the growth was diffuse in 13, of which 4 were lympho, 5 round cell, 1 fibro and 1 spindle-cell sarcoma. In 8 cases the growth was limited to the pylorus, in 6 cases the pylorus and the lower half of the stomach were involved, in 1 the pylorus and the upper part of the duodenum, and in 1 the pylorus and the greater curvature; the pylorus was involved in a total of 16 cases. The tumors were primary in the greater curvature in 7 cases, and involved the greater curvature with the posterior wall in 1 case, with the lesser curvature and posterior wall in 2 cases, and with the anterior wall in 1 case, making the total involvement of the greater curvature 11 cases. The lesser curvature alone was involved in 5 cases, with the cardia in 3 cases, with the posterior wall in 1 case and with the posterior wall and greater curvature in 1 case. The posterior wall alone was affected in 6 cases, and with the anterior wall in 1 case. The cardia was involved in only 3 cases, and always with the lesser curvature. The anterior wall was never involved alone, but was affected with the posterior wall in 1 case, and the greater curvature in another.

It is seen from the above that the growth involved the pyloric end in a total of 16 cases, the cardiac end in 3 cases, the intermediate portions in 27, while it was said to be diffuse in 13 cases. The seat of the growth was not mentioned in 5 cases. The stomach and whole gastro-intestinal track were involved in 1 case of lympho-sarcoma.

Pyloric stenosis was noted in only 5 cases, but probably occurred more frequently, for the reports are meager in many instances.

Size of Tumors.—They were stated to have been the size of a pigeon's egg in 1 case, a man's fist in 2 cases, an orange in 1 case, a child's head in 5 cases, and a man's head in 6 cases. The tumors extended below the umbilicus in 8 cases.

General Appearances.—They were said to have been nodular in 27 instances, and in some of these, notably in 2 cases, the tumors formed polypoid masses projecting into the lumen of the stomach. Tumors projected into the peritoneal cavity in 8 cases. In some of the latter cases the base of the tumor was narrow. The new growths showed ulceration in 10 cases, with perforation of the gastric wall in 2 cases.

In many instances, the exact number of which could not be determined, the growth developed beneath the mucosa, which was intact. The growth usually started in the submucosa, and the muscularis was commonly involved. The tumors occasionally had their origin in the muscularis, and cases of myosarcoma was recorded.

The tumors varied much in consistency, from soft, spongy, fungoid masses to firm, fibrous growths, and had the general macroscopic characters of sarcoma of other organs. They differed from carcinoma in their situation, being usually beneath the mucosa and often not involving the latter, and also in their nodular character, comparative dryness and homogeneous appearance on section. In many cases the diagnosis was not made until microscopic examination. This was, no doubt, often due to lack of care in the macroscopic examination. Cystic degeneration of the tumors occurred in 6 cases, hyaline degeneration in 1, calcification in 3, myxomatous degeneration in 2, and suppuration in 1. The stomach is stated to have been decreased in size in 2 cases, and in 1 case, the second reported in this paper, it was constricted in the middle and resembled an hour glass in shape. In a few cases, dilatation of the stomach is mentioned, but this seems to be much less common and not so marked as in carcinoma. It will be noted that the pyloric end of the stomach was involved in only 16 out of 61 cases—26.23 per cent.—and that pyloric stenosis was noted in only 5 cases—8.19 per cent. The stomach was bound to the right lobe of the liver in one case and the spleen in another.

Involvement of Other Glands.—Metastases occurred in 24 cases—40 per cent.—a smaller proportion than in carcinoma. The gastro-hepatic lymph glands were involved alone in 2 and with other organs in 5 cases; the mesenteric glands in 6 cases, never alone; the retroperitoneal glands alone in 1 case and with other organs in another. The omentum was invaded in 2 cases, the liver in only 7 cases, the spleen in 4, the kidneys in 2, the ovaries in 3, the peritoneum in 2, and the intestines, pancreas, thyroid, right adrenal, and testis each in 1 case. In our Case 4 there was extensive sarcomatous

embolism of the branches of the portal vein, with multiple large metatases of the liver.

Histologic Classification.—The growths were classified as round cell in 16 cases, spindle cell in 8, mixed cell in 4, as lympho-sarcoma in 15, myosarcoma in 4, fibro-sarcoma in 3, angio-sarcoma in 3, and endothelial (lymph) sarcoma in 1. The histologic diagnosis was not given in 7 cases. In Case 4 of our series giant cells were numerous.

Clinical Symptoms.—Reigel states that there is no clinical difference between sarcoma and carcinoma of the stomach, and that hematemesis and cachexia are common to both. Schlesinger found that examination of the stomach contents (7 cases reported by Hammerslog, Maass, Dreger, Fleiner and Schlesinger) showed nothing essentially different from that of gastric carcinoma. Dock, who has presented the most carefully studied case, made a diagnosis of dilatation from a tumor at the pylorus, probably the scar of an old ulcer, but also thought of carcinoma and sarcoma, "but the features of the case were not considered to admit a differential diagnosis."

According to Reigel the clinical course runs from a few months to three years, on an average of from 1 to 1½ years. In several cases death occurred within from four to six months from the onset of nausea and vomiting and epigastric pain. Many cases run their course without symptoms until near the end. Case 4 illustrates this point. In some cases there were no clinical symptoms referable to the stomach. In Hartley's case there was coffee-ground vomit and dyspepsia five years before the case came under observation. There was no recurrence and except for symptoms of indigestion, fair health was enjoyed for four years, when coffee-like material was vomited on five successive mornings.

Analysis of the cases shows that the duration of the illness was mentioned in only 16 cases as follows: Six weeks, 1 case; 3 months, 1 case; 5 months, 1 case; 7 months, 1 case; 9 months, 1 case; 1 year, 4 cases; 2 years, 1 case; 3 years, 1 case; several years, 1 case; 5 years, 1 case. Vomiting was recorded in 18 cases, in 4 of which the vomitus was bloody. Loss of appetite was recorded in 5 cases, but was probably a common symptom. Diarrhea was a marked symptom in 2 cases, but constipation seems to have been of frequent occurrence. Pain in the gastric region was complained of in 6 cases; pain in the abdomen was noted in 9 cases, in 3 of which it dated for 2 years.

Tumors were palpated in the gastric region in 10 cases, in the splenic region in 6, and in the lower abdomen in 13 cases. In Case 4 the liver was enormously enlarged with no symptoms suggestive of disease of the stomach. Emaciation was noted in 13 cases.

The condition was mistaken for pseudo-leukemia in 1 case, and for pernicious anemia in 1 case; ascites occurred once and jaundice twice. Dock found that the blood in the cases of gastric sarcoma previously reported showed a decrease in the hemoglobin and in the number of red blood cells, and usually leucocytosis.

Diagnosis.—A diagnosis was either not made or not mentioned in 38 cases. In 5 cases a diagnosis of gastric carcinoma is recorded; in 8 cases the diagnosis was "malignant tumor" of the stomach, while a positive diagnosis of sarcoma of the stomach was made in 3 cases, one each by Schlesinger, Reigel and Westphalen. In the latter's case the diagnosis was made on the microscopic appearances of a bit of tissue obtained on washing the stomach. In Reigel's case a large sarcomatous nodule was vomited. A probable diagnosis of an old scar of the pylorus was made in one case by Dock. The diagnosis was tumor of the spleen, tumor of the omentum, tumor of the left hypochondrium, cystic tumor of the abdomen, ovarian cyst and pseudo-leukemia, each in one case. In Case 4 the diagnosis was hypertrophic cirrhosis of the liver. Little mention is made of differential diagnosis in the literature, and Dock undoubtedly states the case correctly when he says, that so far as the earlier stages are concerned we have no specific symptoms of sarcoma of the stomach and even when a tumor is present (palpable) it can not be differentiated from cancer (carcinoma). As previously pointed out, analysis of the gastric contents has hitherto been of no aid in differential diagnosis between gastric sarcoma and carcinoma.

Analysis of the 61 cases at our disposal brings out several points which may be of assistance in a differential diagnosis between sarcoma and carcinoma after the presence of a gastric tumor is established. In the first place age has an important bearing. It was shown to be as follows: One case of lympho-sarcoma of the stomach occurred in a girl 3½ years old; 7 were below 20 years; 23, or 37.7 per cent., were below 40, and only one-third of the cases occurred between 40 and 60 years, the most common period for the occurrence of carcinoma of the stomach.

In 16 cases, or 26.23 per cent., the tumors were situated at the pyloric end, causing pyloric stenosis in only 5 cases. In but 3 cases was the cardia involved. In the other 41 cases the tumors were seated between the pylorus and cardia, without involving either. These facts are not, however, of as much assistance as they seem at first glance, for it is chiefly in the cases in which the ends of the organ are involved, that symptoms of gastric tumor occur. The growth was diffused over the surface of the organ in 13 cases. Accurate figures could not be obtained, but it is clear from reading the reports of the recorded cases that dilatation of the stomach is much less common in sarcoma than in carcinoma of the stomach. In several cases the stomach was decreased in size. Gastric sarcoma was mistaken for tumor of the spleen or splenic region in 3 cases, and this is very natural in a case of large tumor mass of the greater curvature without gastric symptoms; see our Case 2.

The size of the tumor is a point of considerable diagnostic importance. In 6 cases the tumor was the size of a man's and in 5 of a child's head; in 3 cases they weighed from 10 to 12 pounds, projecting into the peritoneal cavity in 8 cases, and below the umbilicus in 9 cases. One case was operated on for tumor of the omentum, and another for ovarian cyst.

Although many cases run a short course, in a few instances gastric symptoms extended over a period of from two to five years. As previously pointed out, many cases run their course without symptoms until near the end, and frequently there are no symptoms referable to the stomach. The appetite and the gastric functions may continue to the end.

Treatment.—It is of interest to know that eleven cases have been operated on, with four deaths. In one case, that of Mintz', the patient recovered from a gastroenterostomy, but died later from the tumor. A portion of the tumor was excised in two cases—Baldy and Dreger. In one case pus was evacuated from a gastric sarcoma with a fatal termination. In six cases the tumors were removed. In Capello's case, a woman 54 years old, a large cystic sarcoma of the stomach, the size of a man's head, mistaken for an ovarian cyst, was successfully re-

moved. The patient was in good health two years later. In a woman 52 years of age, Cantwell found a spindle cell sarcoma weighing 12 pounds, growing from the posterior wall of the stomach over a surface of five inches square. The tumor was successfully removed, but a secondary growth was discovered six months later. A successful operation for the removal of sarcoma of the stomach is credited to Billroth. In Dock's case, a man of 55 years, Nancrede successfully removed about one-third the long axis of the stomach and 2 cm. of the duodenum for a lympho-sarcoma, measuring 6 by 4 cm. The patient was well and had gained thirty pounds two months later. Hartley's case was even more remarkable. A woman 54 years of age, five years before coming under observation, vomited coffee-ground-like material, but had no other symptoms. There was no recurrence, and for four years she was in fair health, except for symptoms of indigestion which did not interfere with work. A year before applying for treatment she vomited coffee-ground-like material for five successive mornings. Pain in the back was a marked symptom. On physical examination a large, hard, elastic tumor was felt in the left lumbar and umbilical regions. At operation a large pedunculated tumor was removed from the posterior wall of the stomach. Schapf resected the entire stomach, the seat of a large lympho-sarcoma, in a woman, who gained flesh and was apparently well one year after operation.

Conclusions.—1. Gastric sarcoma is more common than is generally supposed, at least 61 cases being recorded. Careful routine microscopic examination of all gastric tumors met with at autopsy and operation will probably show a marked increase in the occurrence of these tumors. 2. The two sexes are affected in about equal proportions, as against five males to four females for carcinoma; 37.7 per cent. of the cases occurred below the fortieth year, and 11.44 per cent. (7 cases) below the twentieth year. 3. The pyloric end was involved in only 26.23 per cent. of the cases, as against 60 per cent. for carcinoma (Welch), and caused stenosis in only 8.19 per cent. of the entire number of cases. Diffuse growths occurred in 21.31 per cent., while the cardia was involved in only 4.9 per cent. The posterior wall and greater curvature are commonly involved. 4. Gastric sarcoma may reach a large size, that of a child's or man's head, and may project as large masses into the lumen of the stomach or into the peritoneal cavity, extending below the umbilicus—13.1 per cent. Such tumors have been mistaken for tumors of the spleen, omentum and ovaries, and may be pedunculated and readily removed. 5. Gastric sarcomata commonly start in the submucosa or muscularis and are less apt to ulcerate and cause hemorrhage than carcinomata. 6. All the histologic varieties of sarcoma have been found in the stomach. 7. While most of the cases in which the duration of the illness was mentioned ran an acute course, the average duration of life is probably from nine to ten months, while in one case it was three and in another five years. 8. Metastasis is not as frequent as in carcinoma, but may be widespread. The liver was invaded in only seven cases—11.47 per cent.—in striking contrast to gastric carcinoma, which, according to Welch's statistics, invaded this organ in 30 per cent. of cases. 9. There are no distinctive clinical symptoms or physical signs of sarcoma of the stomach, but a positive diagnosis has been made in three cases from microscopic examination of material obtained from the stomach. 10. In cases of large tumors connected with the stomach, especially when they project to or below the umbilicus, a diagnosis of sarcoma of the stomach is warranted. A tumor of the stomach in an individual under 20 years of age is almost certainly sarcoma. In our series 37.7 per cent. of the cases were under 40, while in Osler's 150 cases of carcinoma of the stomach only 15.3 per cent. were under this age. 11. Operation should be as successful in sarcoma as in carcinoma of the stomach.

BIBLIOGRAPHY.

Chapman: Am. Jour. Med. Sc., 1877, vol. lxxiv, p. 433.
Targett: Trans. Path. Soc., London, 1889, vol. xl, p. 76.
Stephan: Jahrbuch f. Kinderheilk., 1890, Bd. 30, s. 354.
Shaw: Trans. Path. Soc., London, 1891, vol. xlii, p. 90.
Rolleston: Ibid., 1893, vol. xliv, p. 65.
Albrecht: Wiener Med. Presse, 1895, No. 17.
Ogle: Ibid., 1896, vol. xlvii, p. 40.
Livingood: Bull. Johns Hopkins Hosp., 1898, vol. ix.
Gastpar: Centralbl. f. Allgem. Path. und Path. Anat., 1900, Bd. xi, s. 81.
Stark: Virchow's Archiv, 1900, Bd. 162, s. 256.
Perry and Shaw: Guy's Hosp. Rep., 1892, p. 147.
Bruch: Diag. d. bösartigen Geschw., Mainz, 1847. Quoted by Schlesinger.
Virchow: Die Krankh. Geschülste. 1864-65.
Cayley: Trans. Path. Soc., London. 1869, vol. xx, p. 170.
Kosinski: Virchow-Hirsch's Jahresbericht, 1875, ii, s. 226.
Brodowski: Virchow's Archiv., 1876, Bd. 67, s. 227.
Wickham Legg: St. Bartholomew's Hosp. Rep., 1874, vol. x.
Coupland: Trans. Path. Soc., Lond., 1877, No. xx, p. 170.
Hardy: Gazette des Hôpitaux, 1878, No. 4, p. 25.
Jungman: Inaug. Dissert., Würzburg, 1882.
Weissblum: Inaug. Dissert., Griefswald, 1886.
Billroth: Wiener Med. Presse, 1888, Nos. 4 and 5.
Salzer: Wiener Med. Wochensch., 1888, No. 2, s. 38.
Malvoz: Annal. Soc. Medico-Chirur. de Liege, 1890, Nos. 8 et 9, p. 339. Quoted by Tilger.
Zahn: Quoted by Krüger, but reference not found.
Perry and Shaw: Guy's Hospital Reports, 1892, vol. xlviii, p. 147.
Von Hacker: Chirurg. Beit. a. d. Erzhorzogen Sophien-Spital in Wien, 1892. Quoted by Krüger.
Von Török: Lympho-sarcoma der Magen-wand. Centralbl. f. Chirur. Quoted by Schlesinger and others, but was not found in the above issue.
Tilger: Virchow's Archiv, 1893, Bd. 133, s. 181.
Westphalen: St. Petersb. Med. Wochensch., 1893, p. 403.
Kundrat: Wiener Klin. Woch., 1893. Quoted by Schlesinger. Ref. not found in this journal.
Krüger: Inaug. Diss., Berlin, 1894.
Rasch: Hospitaltidende, 1894, s. 849. Quoted by Schlesinger.
Redtenbacher: Jahrb. der Wien. Krankenst., 1894, s. 560.
Drost: Inaug. Diss., München, 1894.
Dreyer: Inaug. Diss., Göttingen, 1894.
Hammerschlag: Untersuch. ü. d. Magen Carcinoma. Beob. Archiv, f. Verd. Krankh., Bd. ii, Heft 1.
Ewald: Klinik der Verdauungskr., 2 Th., s. 354, 3d Aufl.
Fliener: Lehrb. d. Krankh. d. Verdauungs-Organe, i Th., s. 295, u. 311.
Moass: Deuts. Med. Wochensch. (Vereinsb.), 1895, s. 34.
Kosinski: Centralbl. f. Chirur., 1895, s. 796.
Hanseman: Naturforscherv, z. Lüberck, 1895. Quoted by Schlesinger.
Hartley: Ann. of Surg., 1896, vol. i, p. 609.
Weiss: Jahrb. d. Wiener Krankenanst., 1896, Bd. iii.
Stendel: Brun's Beiträge, Case 7, Bd. 23, s. 1.
Heyem et Lion: Traité de Médicine et de Therap., 1897, T. iv.
Schlesinger: Zeitsch. f. Klin. Med., Bd. 32, Supplement-heft, 1897.
Kehr: V. Langenbech's Archiv, Bd. 58.
Lindner und Kuttner: Die Chirurg. d. Magens und Ihre Indicat., 1898, s. 261.
Robert: Allegem. Med. Centralztg., 1898, No. 94, s. 1153.
Baldy: The Journal A. M. A., 1898, i, p. 523.
Brooks: Medical News, 1898, i, p. 617.
Cantwell: Annals of Surgery, No. 5, 1899.
Capello: Centralbl. f. Chirurgie, 1899, No. 20, s. 609.
Schopf: Ibid., No. 43, s. 1163.
Finlayson: Brit. Med. Journal, 1899, 2, p. 1535.
Reigel: Die Erkrank. des Magens, ii Theil., p. 847. Nothnagel's Spec. Path. und Therapie. Bd. xvi, Th. ii.
Dock: Trans. Assn. Am. Physicians, 1900.
Mintz: Berliner Klin. Wochensch., 1900.

The Fifth International Congress of Gynecology and Obstetrics.—This congress will convene at Rome, September 15 to 21, 1902. Professor Mangiagalli will preside over the section of gynecology and Professor Morisani over the obstetric section. The committee of organization is composed of Professors Pasquali, of Rome, Pestalozzi, of Florence, and La Torre, of Rome, treasurer. The fee is 25 francs.

The Organization of the Medical Profession.

V.

Why Organization Has Failed in the Past.

(Continued from page 325.)

There is no wonder, if we recognize this as the ideal, that attempts at organization have failed in the past. Except in a few states, the county societies, what few there are, exist, to all intents and purposes, as independent organizations, each standing alone, struggling along without encouragement in its efforts, without help when it becomes weak, dying out or lying dormant for months or years, to be revived and struggle along again and again without help!

The state societies, as a rule, are independent organizations devoted to scientific and social purposes, and neglecting and ignoring the broad functions pertaining to a body representing the profession of the whole state. A study of the conditions existing in various parts of our country shows that in those states in which there are but few county societies the state society is weak in the number of its members and in influence; that its growth has been retarded because those who were trying to build it up did not realize that its growth and permanency rested on the county, or district society. They have been putting up the superstructure without the base, and then wondered why it crumbled down as fast as it was put up, and why new members came in barely fast enough to fill the places of those who were dropped for non-payment of dues.

Mutual Dependence of State and County Societies.

That there is an interdependence between the state and county societies has not been recognized. While there can not be a strong influential and prosperous state society without the support of active county organizations, the corollary is still more evident: There can not be strong active county societies without the aid and stimulus of a state society to encourage the weak, aid the struggling, and help to settle the petty troubles and disputes that are bound to occur in some of them. Those who are so anxious to have county societies permanently established should realize that simply planting a seed does not insure a full-grown flower; that it is usually necessary to water it and protect it from weeds. Organizing societies and then leaving them to die or live is simply traveling in a circle, going on a fool's errand. This is a fact that can not be stated too emphatically or too often.

Mutual Dependence of National and State Societies.

While these comments refer to societies in the individual state, they apply also to the state societies as a whole. These have been acting independently of each other, without any attempt at mutual help or interstate coöperation, which is so necessary if many of the objects of organization are to be met—and all this because there has been no close relationship between these and the AMERICAN MEDICAL ASSOCIATION. While mutual help and coöperation among the local societies of a state depend on a state society, so mutual help and coöperation among the state societies depend on a central or national society, in which they may federate and through which they can work.

As a majority of the state societies are independent of, and not closely related to, the county societies in the state, so until now the AMERICAN MEDICAL ASSOCIATION has been independent of, and without direct relation to, most of the state societies. It has for years been made up of men coming together according to the will of each individual. Nominally, membership in it depends on membership in an affiliated society; but for a long time it has been impossible to guard this right, since there has been no direct connection between it and the so-called affiliated societies, no method of verifying membership; as a result there are possibly hundreds who are not eligible to the membership in the AMERICAN MEDICAL ASSOCIATION which they now enjoy. As organized, the national association was ideal in its plan, the intention of its founders being to encourage the building up of local and state societies. Its legislative body was a representative one, made up of delegates elected by the lower societies—the county, district and state. But the tremendous growth of population and consequent increase in number of physicians and medical societies, without any change in the organic law of the association, had resulted in the legislative branch becoming fortuitous, unrepresentative and unwieldly, as well as too much engrossed in scientific and social work to have time to transact the important business that is the function of a great national body.

So all the way through, from top to bottom, there has been no system. Each state has been acting independently of all the others and no co-ordinate work or mutual help among the states has been attempted. Local societies have been started here and there, some to exist for a few weeks, some for a few months, and a very few to continue on with an ebb and flow of activity depending on the personal element that dominated them. The transactions of the AMERICAN MEDICAL ASSOCIATION and of the state societies are loaded down with resolutions favoring organization of county societies, but resolutions accomplish nothing. Spasmodic efforts have been made, but like spasmodic efforts in other things, they have resulted in failure. There is little wonder then that we hear it said that it is impossible to organize our profession. Those who are continually giving vent to these pessimistic views tell us that it can not be done, because it never has been done; that it has been tried year after year, and that we are no nearer to-day than we were fifty-seven years ago when the AMERICAN MEDICAL ASSOCIATION was started; and this seems to be true. In fact, there are several states in which the profession was better organized fifteen or twenty years ago than it is to-day. This in spite of the fact that so very many appreciate the need of organization and have been working in various ways to effect it.

The failure in the past has not only been due to not having a plan or system, but also to not having applied business principles to what little was attempted. We shall never have an organized profession as a result of volunteer efforts. There has been an immense amount of self-sacrificing work done in various parts of our country by a few individuals, but there is a limit to such efforts, and that limit has always been reached before anything more than a good beginning has been made. We can not expect even physicians to sacrifice their time, money and energy for the good of others beyond a certain point. There will never be an organized profession unless money is spent in its accomplishment and business principles applied as is done in other organizations.

(To be continued.)

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, FEBRUARY 8, 1902.

PARATYPHOID.

From time to time cases are being reported in the literature which appear like typical typhoid from the clinical standpoint, but in which the blood serum does not develop the power of agglutination of typhoid bacilli. Observations of this kind heretofore have been reported as proving that too much reliance can not be placed upon the diagnostic value of the agglutinative reaction, especially when the result is negative. But as has been pointed out before in these columns, in patients with the clinical symptoms of typhoid fever bacteriological examination of the blood has resulted in a few instances in cultures of bacilli differing in essential respects from the bacillus of typhoid fever. Such cases have been described by Gwyn, Kurth, Schottmüller; and others have recorded more or less similar observations. In these cases the serum reaction was negative in the case of typical typhoid bacilli, but positive with the bacilli cultivated from the blood.

Meltzer[1] presents an interesting summary of this subject. It seems that the bacilli isolated belong to the colon-typhoid group, but do not coagulate milk, ferment lactose or form indol at the same time as they do produce gas, ferment glucose and produce alkali. They therefore resemble very much the group of organisms to which are classed the meat poisoning bacilli, the hog cholera bacillus, Shiga's bacillus of dysentery, etc.; perhaps the most typical and generally representative organism of this group is midway between the colon group and the typhoid group, Gärtner's bacillus enteriditis. From observations on the agglutinative powers of appropriate serums upon the anomalous bacilli from typhoid-like cases it has been shown that while they are no doubt distinct from B. enteriditis of Gärtner, yet they have close relationships between themselves.

So far all the patients who have been studied with the results above referred to have recovered. In addition to the general symptoms of typhoid intestinal hemorrhages, late osteomyelitic foci have been noted, but nothing is known of the pathological anatomy of the disease. It would indeed be very interesting to learn what the changes in the intestines may be in these cases, and also whether the same microscopic changes occur in the lymphadenoid tissue of the intestines, mesentery and spleen as in typical typhoid fever. Meltzer proposes the term paratyphoid as the most suitable name for the disease and paratyphoid bacilli as the most appropriate designation for the organisms. He argues with much plausibility, that the persistent absence of the serum reaction with typhoid bacilli in a supposed case of typhoid fever means that the disease is caused by a paratyphoid bacillus. In the Hamburg epidemic of typhoid fever investigated by Schottmüller (sixty-eight cases) six cases proved to be paratyphoid. In Bremen, Kurth found five paratyphoid cases in an epidemic of sixty-two cases of typhoid fever. Here are two typhoid epidemics yielding eight per cent. of paratyphoid. This would be rather a higher percentage than usual of negative serum reactions in typhoid fever when compared with statistics from hospitals and boards of health. Meltzer is inclined to believe, however, that in many cases of paratyphoid there may have been a mixed infection with typhoid bacilli sufficient to give rise, in the serum of the patient, to substances agglutinating typhoid bacilli, and such cases would be classed as typhoid fever. He supposes that the intestines may contain in the first place large numbers of virulent paratyphoid bacilli and a small number of typhoid bacilli of only moderate virulence; as the paratyphoid bacilli cause necrosis of the epithelium of the intestine and enter the circulation symptoms entirely like those of typhoid fever make their appearance. At the same time a small number of typhoid bacilli pass into the circulation and cause specific agglutinins so that the blood of the patient causes, let us say, a reaction in a dilution of one in twenty. Such a case would be diagnosed as typhoid fever. In reality, however, it would be an example of paratyphoid infection. If the blood, feces or urine of such patients were examined carefully bacteriologically, the paratyphoid organism might be isolated and the serum of the patient might be found to have much stronger agglutinating power upon this bacillus than upon the typhoid bacillus. Durham has done some interesting and suggestive work in this line. Meltzer suggests, therefore, that the blood of patients with supposed typhoid fever, but giving the serum reaction only in small dilutions or not at all, should be tested also with paratyphoid bacilli. In this way a clue to the nature of the disease might be obtained and this would also stimulate to careful bacteriological studies which should be made in all doubtful cases, and which finally would place the diagnosis upon an absolutely correct etiological basis.

These developments in the knowledge concerning the disease or group of diseases known as typhoid fever are attributable to the careful application to clinical medicine of the methods of the bacteriological laboratory. The results show that an etiological diagnosis, based upon strictly scientific methods, always comes nearer to the true nature of diseases than the ordinary diagnosis, which is based purely upon the clinical symptoms, ever can hope to do. But of what value is all this to the physician and to the patient? Perhaps of but little apparent, immediate practical value. To the general practitioner, Meltzer's summary indicates the direction

1. N. Y. Med. Monatschrift, January. N. Y. Med. Jour., 1902, January, 138-142. See also p. 425.

in which development is going; that the application of modern methods to the study of well-known diseases is about to separate distinct etiological forms hitherto classed as one disease. And as to the patient, it should be remembered that a diagnosis which rests upon the basis of the specific etiology is the essential step towards establishing the true indication for treatment, namely, the *Indicatio causalis.* In the case of typhoid and paratyphoid specific treatment is not yet available, but if it ever comes it would not be surprising to learn that the curative serums show the same intimate relationships to the different bacilli as do the agglutinins; that typhoid serum is not curative in paratyphoid, and vice versa. And should this prove true the best chances of proper treatment would rest upon correct diagnosis. In any event it may be found, as we learn more about paratyphoid, that the patients are better treated according to methods different from those now applied to the treatment of typhoid fever, and that paratyphoid is a law unto itself in some respects.

DIABETES AS A MANIFOLD DISEASE.

Vital statistics in recent years show a distinct increase in the death-rate from diabetes mellitus. Statistics showed that the average death-rate in this country was considerably below that of other countries, but it is now approaching the foreign mortality figures. As a rule, this increase in the mortality is not considered significant of an actual increase in the frequency of the disease, but as a result of better methods of diagnosis, fewer cases of diabetes escaping recognition. The terminal stage of diabetes in the past has not infrequently masqueraded under the cloak of tuberculosis, or, that common sequela of continued glycosuria, nephritis.

The most prominent clinical feature of diabetes is the manifold differences that exist between different cases of the disease, so that the conclusion is reached that these distinct types of the disease must have dissimilar pathological bases. This thought is confirmed by many clinicians. Lauder Brunton[1] says that all the forms of albuminuria used to be called "Bright's disease," and all glycosuria "diabetes." In reality there are many different forms of both affections, some of comparatively little importance, while others are malignant in character. The English clinician goes so far as to add that "for very stout people one begins to think what would become of them if they had not some sort of safety valve like glycosuria to get rid of the excess of carbohydrates they took."

It has always been debatable whether mild forms of diabetes ever progressed so as to become severe forms. In most fatal cases there has been no hesitation as to the severity of the affection from the earliest moment of its recognition as true diabetes. Naunyn, who is probably one of the best authorities in Europe on diabetes, says:[2] "Admittedly light forms of diabetes remain always benignant." He acknowledges that apparently mild types of diabetes may grow worse, but he is of the opinion that the transfer of any special case from the category of mild to that of severe diabetes has not been observed with sufficient definiteness to make an absolute opinion in the matter possible. It is certain that diabetes mellitus in persons of obese habit or of a gouty or arthritic diathesis may lead to glycosuria of large amount without seriously endangering the health of the patient or shortening life if certain dietary regulations are not too badly infringed. With regard to the pathological basis of diabetes there are good reasons to believe that change in the nervous system, in the liver, or in the pancreas may each represent the underlying causative lesion of the disease.

To this manifold pathogenesis a new and striking feature has recently been added. Dr. F. Blum,[3] while testing the effects of suprarenal extract injections upon animals, found that glycosuria occurred in 22 out of 25 animals experimented on. Croftan seems to have made the same discovery independently and simultaneously. He says:[4] "The injection of suprarenal extract can cause the excretion of dextrose (in the urine) provided the quantity injected is sufficiently large." He adds that the reason why more must be given to one animal than to another to produce approximately the same excretion remains to be determined.

This new feature of the pathology of diabetes, far from being a source of confusion or discouragement in an already involved subject, is a confirmation of the accepted views of clinical observers as to the manifold nature of the disease. In diabetes, as in so many other affections, pathology is gradually coming to supply, though dilatorily, the scientific basis for the truth of the conclusions of clinical experience. The present situation should be a source of renewed encouragement to labor in the recently almost neglected field of actual bedside observation of disease as the surest source of practical medical knowledge.

THE NEW YORK OSTEOPATHY BILL.

The interference with personal liberty is the usual argument against any proposed new sanitary or moral regulation. It is the pet plea of the quack as well as of the doggery keeper. The unthinking crowd are easily caught by its specious sound, and even those who claim culture and enlightenment are sometimes found using it in advocacy of measures that without this appeal to their prejudice they would repudiate. The word liberty has become a sort of national fetish and is used most by those who have the least idea of its true significance or those who from interested motives find it convenient for them to do so. There is no civil liberty without restrictions; otherwise we would have only anarchy.

1. "Disorders of Assimilation and Digestion," p. 51, Macmillan & Co., New York, 1901.

2. Nothnagel, Specielle Pathologie und Therapie, vol. vii. (1) Naunyn: "Der Diabetes Mellitus," p. 350.

3. Deutsche Archiv f. Klin. Medicin, Oct. 30, 1901.

4. American Medicine, Jan. 18, 1902.

These points are well brought out by Dr. Floyd M. Crandall in a recent article[1] in which he especially reviews the arguments adduced by the osteopaths and their advocates in their attempt to have their methods legalized in New York. He shows by reasoning that ought to be conclusive to anyone not blinded to all facts, that if anything requires special training it is the practice of medicine, and this not for the advantages of existing members of the profession, but for protection and welfare of the public. That the public does not recognize this as it should is one of the unfortunate facts of human weakness, and that the self-interested outcry of violated personal liberty by quacks and their advocates finds such ready acceptance is another.

Much of Dr. Crandall's paper is a reply to the allegations of this kind by a noted writer whose good sense seems to have deserted him when he came to discuss these matters. There are others like him, and were it not for these men of presumably more than ordinary mental ability being thus misled by taking delusive catchwords, it would seem needless to argue that the practice of medicine should be restricted to those qualified by special training. It ought to be a self-evident truth to every man of sense; unfortunately there are many who would resent any implication on their intelligence and yet who not only patronize quackery, but apparently want it undiluted with any possible admixture of genuine medical science. It is osteopathy pure and simple that these people want in New York and elsewhere; the requirement of the passage of the state examinations and demonstration of general medical qualifications by the osteopath would rob it of its virtue by abridging the personal liberty of the citizen to employ an ignoramus to care for his health. New York has, we believe, gone further in the recognition of the principle of the necessary restriction of personal liberty than most other communities, by making suicide a felony. Why should it repudiate its precedents by nullifying much more obviously rational restrictions on its statute books?[2]

THE HYGIENE OF THE RAILROAD CAR.

In a discussion of the hygiene of tuberculosis,[3] Frank W. Wright concludes with a consideration of the duty of common carriers. What he says as related to tuberculosis, might equally well be applied to infectious diseases in general, and especially to those which are commonly known as contagious.

The railroad car, which is inhabited for hours or days by numbers of individuals, and going from one place to another at longer or shorter distances, may readily be a means of spreading infectious diseases from one person to others and from one locality to more or less remote ones. In the ordinary sleeping car, which is supposed to furnish the traveler with every possible comfort, many conditions could not be better for collecting and harboring infectious germs if they had been planned expressly for the purpose. The upholstery, which might be of leather, is usually plush, and the woodwork is often made to furnish as many places for the collection of dust as possible.

From a hygienic point of view, the upholstery and hangings should be as limited as possible, and of such a nature as can be readily renovated; the woodwork should be smooth and without decorations or sharp angles for the collection of dust; provision should be made for ventilation without the necessity of a cloud of smoke and dust being blown through the car; and the dust which collects should either be allowed to remain undisturbed until the car is empty of passengers, or removed with a moist cloth, instead of being periodically distributed through the car by the ubiquitous duster of the porter. Cuspidors containing an antiseptic solution should be provided. At the end of each trip, the car should be carefully cleaned and disinfected by men who understand the practical use of disinfectants. Drinking utensils should be included in the general disinfection, as should also toilet articles for common use, such as hair combs, brushes, etc. Closets should be carefully cleansed and washed with reliable antiseptic solutions. Each railroad should have an official who is a practical hygienist, who would be responsible for the suggestion and execution of all such details as would naturally occur to such a person.

So long as railroad companies vie with each other in making their cars as luxurious and as gaudy as possible, without regard to after-effects on their patrons, just so long will railroad travel be accompanied with danger from infectious diseases.

MEDICAL LIBRARIES FOR MILITARY STATIONS.

An editorial in one of our contemporaries[1] in India calls attention to the fact that in many respects the regulations for the Medical Department of the United States Army do not differ materially from those in the Royal Army Medical Corps of India. A provision which is made for the Medical Department of the U. S. Army which is lacking in the Royal Army Corps, namely, a medical library and the leading medical journals for each military station, is especially noted. The writer is surprised that the Indian medical authorities have not thought of this. If the medical men in the army are to keep abreast of the advances in medicine, such a provision should certainly be made, and our authorities are to be congratulated that they have not overlooked this important matter.

CHARLATANISM AND CHECK.

A Colorado correspondent has favored us with a circular letter sent out by an "osteopathic college" in Denver which for brazen effrontery caps the climax. The physicians of Colorado and adjoining states, we are told, are

1. New York Medical Journal, Jan. 25, p. 148.
2. Since the preceding was written, we have learned that the bill has been killed in committee.
3. Yale Medical Journal, viii, 1902, 201-207.

1. Indian Med. Gazette, xxxvi, 1901, 461.

receiving these letters and are accepting (?) the gracious offer with alacrity. It is not often that physicians have the opportunity of learning the theory and art of massage for the small sum of $200. Possibly the "individual attainments," plus the financial side, will make it possible for most of them to shorten the time "left to our judgment," with the right kind of persuasion. For the benefit of those who may not have been favored with a copy of the original, we reproduce the letter, grammar and all:

To Physicians: Having several medical graduates to apply for a short course in osteopathy, we are considering the starting of a class February 1st, for their benefit, and will do so if a sufficient number will enter for it. We will accept medical diploma for the subjects usually taught in medical colleges, and give a short review of special osteopathic features in physiology, together with regular lessons in osteopathic theory, principles and practice, as well as practical clinical work. The price will be made $200, and while nominally requiring ten months, this time may be shortened if the individual attainments of the applicant justify it. This, however, must be left to our judgment, as determined by our examinations of the applicant. Our secretary will be pleased to call on you if you will signify your willingness to consider the matter with him.

PROTECTIVE INOCULATION AGAINST TYPHOID FEVER.

The testimony of British military surgeons in South Africa continues favorable to the usefulness of inoculation with sterile cultures of the typhoid bacillus in reducing the mortality from typhoid fever and in diminishing the severity of the disease. According to the most recent report, as made by Major C. Birt,[1] there occurred at Harrismith, between September, 1900, and September, 1901, 1210 cases of typhoid fever, of which 947 were among uninoculated and 263 among inoculated individuals. Of the uninoculated, 135 died, or 14.25 per cent.; of the inoculated, 18 or 6.8 per cent. The average duration of the pyrexia was 28 days in 317 cases in uninoculated persons, and 15 days in 151 cases in inoculated persons, the average maximum temperature in the former being 103.7, in the latter 102.9. The percentage of cases among the uninoculated in which relapse took place was 24, as against 6 among the inoculated. Constipation was present in 19 per cent. of uninoculated cases, and in 33 per cent. of inoculated cases. In the cases with diarrhea there was an average of 4.4 daily evacuations among the former, and of 2.6 among the latter. In all the fatal cases among inoculated persons, eight months or more had elapsed since the protective vaccination. That immunity to typhoid fever is not readily established in some persons is shown by citation of the case of an uninoculated man who, four months following a mild attack of the disease, died as a result of a virulent attack. The statistics that have thus far been presented go far to sustain belief in the efficacy of protective inoculation against typhoid fever as practiced by the English military surgeons, and they more than justify continuance of the practice.

POLITICAL INFLUENCE OF PHYSICIANS.

A newspaper editorially remarks that "those who have the making and executing of the laws, whether they be called politicians or statesmen, are prone, as a rule, to underestimate the value of the good opinion and the influence of physicians."[1] It is refreshing to see such a truth announced from such a quarter; the newspapers themselves have not, as a rule, sufficiently appreciated the possible influence of the medical profession. The paper goes on to say that the physician comes in closer touch with the people than the representative of any other profession, and that the "doctors could insure the success of any candidate for any elective office in the state if only any considerable percentage of them would undertake it. . . . A candidate for a state office could very well afford to say that in anything like a close contest, if he had all the physicians with him, he might not care what class supported his opponent. If the resolutions passed by county medical societies are not heeded by legislatures and executives they are antagonizing a very powerful element." The editorial further says that because physicians do not habitually dabble in politics or constantly seek for office, their influence is the more potent when once it is thoroughly exerted. This we believe is a truth and if we act with due wisdom, showing by our conduct that when we do act our motive is the public welfare as well as our own interests, we can be invincible. There are enough physicians in every state to control medical legislation if they will only act together. Thackeray says that any woman without an actual hump can marry any man she pleases; man's safety is that women are like the beasts of the field; they do not know their own strength. The same might be said of the physicians of the country; they have not appreciated their own power. If quackery thrives and gains recognition and privilege under the law it is the fault of an inactive and unorganized medical profession.

PRUDERY OR POLITICS.

The warden of the Cook County Hospital, a layman who has nearly absolute power in that institution, not long since prohibited bedside clinics, and has now put his veto upon all public gynecologic clinics whatever. The superintendent of the corresponding institution in Milwaukee, Wis., has, it is reported, followed his example and now prohibits clinics or the attendance of medical students at operations on women where any exposure is necessary. This cuts off a very important part of the clinical instruction, and ought certainly to have good reasons to justify it. So far as we have seen, the excuses are that it shocks the sensibilities of the warden, and especially that some medical students have been discourteous in their behavior. As regards the first point it does not probably occur to the official that in this he is setting himself up as a critic of all who have preceded him, and of all the physicians in charge who have not, as a class, been accused by others of not possessing gentlemanly instincts, as is implied by the course he adopts. There need not be anything degrading or necessarily offensive to a modest patient in a gynecologic clinic, and we believe that it is the practice, so far as possible, to respect her feelings and wishes. Foreign observers have remarked on the contrast in this regard between methods here and abroad and have criticised what seemed to them the superfluous delicacy of American surgeons. This answers also the second alleged excuse; if there was improper behavior on the part

1. British Medical Journal, Jan. 11, 1902, p. 75.

1. The Utica (N. Y.) Press, January 22.

of students it should have been checked and the guilty individuals excluded, not necessarily the whole class. It is not necessary to burn a house down to roast a pig. If any of the instructors or surgeons fail to cultivate a proper morale at their clinics they could be admonished, or even excluded, should that extreme measure be required. If they have not, the action taken is a slander by implication. It reflects also upon the discipline maintained and does not suggest the highest type of executive ability on the warden's part. If a man with absolute power in such an institution can not insure proper conduct except by destroying one of its useful functions, it might be well to have someone better qualified take his place. There are those who could permit gynecologic clinics without the suspicion of impropriety. On the whole, the transaction suggests an unacknowledged motive; it appears to be to a large extent a gallery play of a politician to catch the sentimental public. It will fulfill its purpose and then gradually the old order will be resumed. Politically managed hospitals can only reform spasmodically, and even such pseudo reforms will follow the same rule. A judicious restriction of free clinics, not only gynecologic, but generally in all departments of surgery and medicine, would be undoubtedly a good thing for the medical profession, and perhaps not altogether a bad one for the public. Any such wholesale cutting off, however, of the means of instruction in an important specialty is condemnable in every sense of the word.

Medical News.

CALIFORNIA.

Banquet Dr. Fenger.—A number of Los Angeles physicians gave an informal banquet at the Hotel Green, Pasadena, January 26, in honor of Dr. Christian Fenger, who has been visiting in Southern California. Dr. Norman Bridge was toastmaster, and among the speakers were Drs. J. H. McBride, Walter Lindley, George E. Abbott, F. F. Rowland, J. M. Radabaugh and F. B. Bullard.

Personal.—Dr. Hiram A. Hess has been elected surgeon-in-charge of the Pacific Hospital, San Francisco.——Dr. William W. Roblee and family, Riverside, have started on a trip to Europe.——Dr. William C. Hopper has been appointed resident physician of St. Mary's Hospital, San Francisco, vice Dr. Joseph W. Henry, resigned.——Dr. George H. Evans, San Francisco, secretary California State Medical Society, is in New York doing post-graduate work.

DISTRICT OF COLUMBIA.

Central Dispensary and Emergency Hospital.—At the meeting of the attending staff held February 1, the appointment of Dr. Francis J. Doyle to succeed Dr. Kuhn was approved. Dr. Kuhn has passed a competitive examination, and has been appointed resident physician of the Columbia Hospital.

Health of the District.—The report of the health officer for the week ended January 25 shows the total number of deaths to have been 122, of which 64 were white and 58 colored. At the close of the week there were 42 cases of diphtheria, 34 cases of scarlet fever and 2 cases of smallpox under treatment; 101 births were recorded.

Eastern Dispensary.—The quarterly report of the Eastern Dispensary shows the institution is growing rapidly and doing excellent work. The report shows that of 423 applicants for free treatment 101 were refused on the ground of being unworthy and impostors on medical charity. Twenty-eight operations were performed, 1504 prescriptions compounded and 255 emergency cases treated.

Columbian University Hospital.—The Commissioners of the District have refused to grant free water to the Columbian University Hospital. The extra expense of water will be a great hardship to the university as it is a self-supporting institution for the clinical instruction of medical students and receives no appropriation from Congress. Under the present law institutions receiving support through Congressional appropriations are granted free water.

To Care for the Sick Poor.—The Associated Charities of the District recently held a conference looking towards the betterment of the sick poor, the purpose being to assist the worthy poor who are needy of medical treatment and yet shrink from the painful notoriety now given in cases of application for charity medical treatment. The Secretary of the Charities discussed the methods and ways and means with Dr. Burnett, Health Officer Woodward, Drs. G. M. Kober and H. L. E. Johnson; Messrs. J. W. Boardman, president of the Emergency Hospital, Ex-District Commissioner White and Ex-Secretary of State Foster. Resolutions covering the subject were adopted to be presented to the Medical Association of the District for approval.

GEORGIA.

Smallpox is prevalent among the negroes in Elbert County.

School Inspection.—The schools and school-children of Atlanta are to be inspected systematically by a corps of 36 physicians which serves without compensation.

Counterfeiter a Physician.—In the United States Court at Rome, Dr. Russell D. Stallings, Clem, Carroll County, was recently sentenced to serve five years in the penitentiary and to pay a fine of $500 for counterfeiting and passing spurious coin.

Marine-Hospital for Savannah.—Senator Clay has introduced a bill providing for a marine-hospital for Savannah. The importance of Savannah as a shipping port and the fact that there is no marine-hospital nearer than Wilmington, N. C., are the chief arguments advanced.

Personal.—Dr. William C. Jarnagin has been re-elected president, and Dr. Everard H. Richardson, secretary of the Atlanta Board of Health.——Dr. Ralph Comer, Dyson, has located in Tignall.——Dr. Howard J. Williams has been chosen to succeed the late Dr. William F. Holt on the medical board of the Macon Hospital.

ILLINOIS.

Hospital Consecrated.—The new St. Francis Hospital, Peoria, was consecrated with imposing ceremony, January 29. The building was recently completed at a cost of $120,000.

The Irreverent Press.—In a recent issue of the Chicago *Record-Herald*, the new Hospital for the Incurable Insane, at Bartonville, is editorially dubbed a "Home for Incurable Politicians."

Personal.—Dr. J. Harvey Banks, Atlanta, has moved to Lincoln.——Dr. John W. Turner, Homer, has disposed of his practice to Dr. Bashaw, Berlin.——Dr. D. J. Evans, Chicago, has been appointed assistant to Dr. F. G. Hall, of the Burlington Voluntary Relief, Galesburg, vice Dr. Charles Hamilton, resigned.——Dr. John P. Riggs, Roseville, has moved to Plano.——Dr. William R. Kincaid, Elkhart, has moved to Denver, Colo., and is succeeded by Dr. Joseph T. Woodward.——Dr. Thomas J. Stafford, Stockton, has been appointed an auxiliary member of the State Board of Charities.——Dr. O. H. Irwin, Sheldon, has sold his practice to Dr. Ethan Allen.——Dr. L. St. C. Whitley, Springfield, has returned from a trip of several months through Europe and South Africa.——Dr. Charles W. Rook, Quincy, has returned to his old home near Bowen, Hancock County.——Dr. John C. Owens, Plainfield, recently fractured his hip in a runaway accident, near Aurora.——Dr. Emmett F. Enos, chief of staff at the Illinois Eastern Hospital for the Insane, Kankakee, has resigned.——Dr. Burdette E. Le Due, Plano, has retired from practice on account of ill-health.——Dr. Simeon M. Robertson, Gresham, has moved to Mount Vernon.——Dr. Roy S. Blackburn, Ray, has located in Lowpoint.——Dr. Benjamin D. Baird, Williamsfield, has opened an office in Galesburg.——Dr. Everett H. Butterneld, Ottawa, has gone to Baltimore for post-graduate study.——Dr. J. M. Mitchell has located in Pontiac.——Dr. Frederick C. Taylor, Florid, has moved to Granville.——Dr. Julian W. Zinn, Graymount, has located in Joliet.

Chicago.

Swedish Hospital.—Plans have been prepared for a hospital to be built for the Swedish Mission Association in Bowmanville or Lake View, to cost about $50,000.

Proposed College for Women.—It is incorrectly announced in the daily press that Dr. Eliza H. Root and three Evanston women are heading a movement to organize a medical school for women. The statement is not true.

Co-Education at Rush.—Despite the protests and opposition of certain members of the faculty, a resolution was passed by that body January 24, recommending the admission of women to all branches of the Medical Department of the University of Chicago.

No Quarantine.—Although smallpox is prevalent in Iowa, Indiana and Wisconsin, the Health Commissioner will not quarantine against these states, but will institute an inspection system to protect Chicago from the disease. There are at present 22 patients in the Isolation Hospital.

The City's Deaths.—The deaths for the week ended February 1 numbered 517, equivalent to an anual death-rate of 14.80 per 1000. This was an increase of 37 deaths over those of the week before—chiefly from acute intestinal, heart and nervous diseases and from consumption, pneumonia and scarlet fever. Influenza is still very prevalent and, although of a mild type in itself, is mischievously and often fatally complicated with many other maladies.

Combine Against Smallpox.—An effort in preventive medicine on a scale of considerable magnitude was inaugurated last week by the Health Department. Its field is an area of some 600,000 square miles of territory in the ten states of which Illinois is the southern center and the remotest boundaries of which are within a few hours' railway travel from Chicago. Between Dec. 28, 1900, and Jan. 24, 1901, there were only 1070 smallpox cases reported in this territory, while during the similar period ended Jan. 24, 1902, there were 10,820 cases reported—an increase of 911 per cent. At a conference between the representatives of the chief railroads centering in Chicago and the Health Department, ready assent was given to the plan proposed which contemplates wholesale vaccination and revaccination in every infected locality; the provision and maintenance of suitable isolation hospitals where necessary; thorough disinfection of smallpox premises and belongings; strict inspection of all persons offering to travel from infected localities and refusal to carry those who do not comply with the requirements. Special attention will be paid to the conditon of employes in manufacturing establishments—particularly those of textile fabrics—and the railways will set the example by still more rigorously making recent vaccination a condition of further employment. Competent vaccinators and supplies of pure, tested vaccine lymph will be furnished gratis in all proper cases. The work along each railway line will be under the direct charge of the medical director or chief surgeon of the company and a central office will be maintained in the city for the receipt of reports, requisitions, etc., from those engaged in the campaign. Dr. Reynolds has volunteered to take charge of the central office.

MARYLAND.

Hospital for Naval Academy.—The Secretary of the Navy has asked for an additional $200,000 from Congress for a hospital for naval cadets at Annapolis. Singular to say, this was overlooked in the plan for the new naval academy.

The ladies of the Children's Hospital of the Home of the Friendless will have a concert by the famous Paderewski on February 28 for the benefit of the hospital, which is one of the most completely appointed child's hospitals in the country.

Reception at Johns Hopkins.—A reception was given the students and faculty of Johns Hopkins University by the Medical Department January 25, in the assembly room at the Johns Hopkins Hospital. There was a large gathering, the object being to promote acquaintance.

The deaths for week ending February 1 were 215, pneumonia causing 34, consumption 21, heart disease 19, Bright's disease 13, cancer 8, diphtheria and influenza each 4, typhoid fever 2. A number of cases of diphtheria, scarlet fever, whooping cough and variola are reported over the city.

Personal.—Assistant Surgeons George E. Marchand, of Annapolis, and J. H. Ullrich, of Baltimore, have been promoted to be full surgeons in the United States Coast Survey Service. ——Dr. Claude L. Holland, resident physician of Franklin Square Hospital, Baltimore, has resigned and will go into practice in Morgantown, W. Va.——Dr. J. E. Dwinelle, Baltimore, was knocked down by a coaster, receiving a severe scalp wound.

Quarantine Physician's Report.—The report of the quarantine physician recommends the erection of a crematory for the burning of the bodies of those dying of smallpox and yellow fever. Thirty-nine patients were treated during 1901, 21 being smallpox cases, and 2 being scarlet fever. The expenditures were $17,961 and the fees and fines from 1007 vessels inspected were $17,805, the station being virtually self-supporting.

Neglect of Negro Insane.—In the report of the Lunacy Commission to the Governor, Dr. John Morris, president, calls attention to the neglect of the negro insane in Maryland. Insanity is rapidly increasing among the negro population as the result of the idleness, lawlessness, debauchery, drunkenness, poverty, etc., so prevalent among them. Maryland is far behind her sister states of the South in the care of such cases, notably Virginia, North Carolina, Georgia and Alabama.

Shepherd and Enoch Pratt Hospital for mental and nervous diseases, Baltimore, shows 109 men and 100 women treated during the year. Sixteen died and 101 were discharged. Of the discharged 27 were recovered; 19 much improved; 18 improved, 31 unimproved, and 6 were hysterics, inebriate or drug users. Only curable cases were admitted in 1901. A building has been erected for recreation. Mr. Seymour Ludlam an advanced student in the Johns Hopkins School, and Dr. Glanville G. Rusk, have been added to the hospital staff.

MASSACHUSETTS.

Memorial Hospital, Worcester.—At the annual meeting of the trustees of the hospital it was announced that Mrs. Georgie Crompton Wood had given $20,000 for an operating room.

East Boston Vaccinated.—A corps of 125 vaccine physicians descended on East Boston, January 26, and made a house-to-house visitation, inspecting or vaccinating every person in every house. More than 15,000 were vaccinated.

Dr. Adolf Meyer, instructor at Clark University, and head pathologist at the Massachusetts Insane Hospital, at Lake Quinsigamond, has accepted the position of head pathologist of the New York Pathological Institute, in New York City, to succeed Dr. Ira Van Giesen, resigned.

For Harvard Medical School.—The president of the University has announced the offer of John D. Rockefeller to give $1,000,000 toward the three buildings needed for the medical department, provided that $500,000 is subscribed for the purchase of land.——By the will of Miss Ellen O. Proctor, of Brookline, $50,000 is bequeathed to the school for the study of chronic diseases.

MINNESOTA.

St. Barnabas Hospital, Minneapolis, is to erect a three-story building for a nurses' home, to cost $25,000.

Addition to Anoka Hospital.—A $30,000 addition is to be built at the Anoka State Asylum, and also a cottage to cost $40,000.

Indian Hospital Burned.—The Agency Hospital connected with St. Columbs Hospital Mission at the White Earth Agency, was entirely destroyed by fire January 19. Fortunately no patients were in the hospital.

Enforcing Vaccination Law.—Three residents of St. Paul who had refused to allow vaccinators of the city health department to vaccinate them after they had been exposed to smallpox, each paid a fine of $10 for their recalcitrance.

Anatomical Laboratory on Fire.—A fire in the anatomical laboratory of the University of Minnesota, Minn., January 25, caused a loss of $10,000. By heroic work on the part of the students, the valuable libraries of Professors Erdman and Reed were saved, but about 20 cadavers and a valuable collection of skulls were burned.

MISSOURI.

Golden Wedding.—Dr. and Mrs. Edward J. Atkinson, Nevada, celebrated their golden wedding, February 3.

Physicians Feast.—The annual banquet of the City Hospital Alumni Association, St. Louis, was held at Faust's at the conclusion of the regular monthly meeting.

Marine Hospital a Ruin.—It is estimated that it will require $60,000 to put the Marine Hospital, St. Louis, into habitable shape. It was erected about fifty years ago and has had little in the way of repairs done since that time.

Dr. Gregory's Semi-centennial.—Dr. Elisha H. Gregory, St. Louis, professor of principles and practice of surgery and clinical surgery in Washington University, ended his fiftieth year of lectures at that instituton, January 17. At the close of his lecture he was given a large bouquet of roses and violets,

and eulogistic addresses were made by the chancellor and members of the faculty.

Medical Association of Missouri.—The Committee on Scientific Communication of this Society, consisting of Drs. Blencowe E. Fryer, 520 East 9th St., Kansas City; J. H. Dunean, Century Building, St. Louis, and M. B. Overholzer, Harrisonville, announces that it is ready to receive titles of papers to be read at the coming meeting to be held in St. Joseph, May 20, 21 and 22. The Committee will classify subjects or topics and requests that each author prepare a synopsis of his paper, not to exceed 100 words, and that the title and synopsis be in the Committee's hands not later than April 1.

NEW YORK.

For Medical Research.—Charles T. Ham has given $5000 to the Rochester Academy of Medicine to be used to further medical research.

Utica Isolation Hospital.—A bill has been introduced appropriating $5000 for the erection of a hospital for contagious diseases in Utica.

Gifts to Hospitals.—Maternity Hospital, Niagara Falls, has received $4000 from the relatives of Benjamin F. Thurston. ——Schenectady Hospital has benefited to the extent of nearly $2000 by Hospital Sunday.——William C. Whitney has presented $6000 to the Mineola Hospital.

The Lunacy Bill.—According to present appearances, Governor Odell's bill to abolish the lay boards of managers of the State hospitals will become a law. It passed the Senate by a vote of 97 to 45, and is expected to pass the House despite the strong opposition it has aroused.

New York City.

Dr. Joseph S. Carreau, who died in this city on January 7, is said to have left an estate worth nearly $100,000. There are many relatives who claim a share in the estate, and so far it has been impossible to find any will.

Loomis Hospital for Consumptives.—A woman's guild, comprising 200 members, has just been organized. Its special work will be in aid of the Loomis Hospital for Consumptives in New York City and for the charitable department of the Loomis Sanitarium at Liberty.

New Site for Woman's Hospital.—The present site of the Woman's Hospital has been sold to the New York Central Railroad for $450,000. It is probable that a new site will be purchased, consisting of 14 lots on the east side of Amsterdam Avenue between 109th and 110th streets.

Dr. Manley Vindicated.—In part IX of the N. Y. Supreme Court, before Judge McLean, an action was brought by Selina Schneider against Dr. Manley for alleged malpractice in the unnecessary removal of a joint of the thumb. After a two days' trial, the jury, after a five minutes' deliberation, brought in a unanimous verdict for the defendant.

Tuberculosis Pavilion Opened.—During the past week the city authorities have opened a tuberculosis pavilion in connection with the Metropolitan Hospital on Blackwell's Island. It contains 120 beds, and it is hoped that there will be a sufficient appropriation forthcoming to allow of building a long, open porch, where, protected from the wind, the patients may get the benefit of open-air treatment. Special diet will be provided, and it is intended to make use of forced alimentation.

Trustees for the City Hospitals.—On February 1, Bellevue Hospital and the other hospitals under the control of the city passed out of the jurisdiction of the Commissioner of Charities and under the charge of seven trustees, who serve without salary, and are not subject to the Mayor's general power of removal. They will have the full management of the hospitals, and will appoint and remove physicians, superintendents, nurses and attendants. It is hoped by this system to take these hospitals out of the domain of politics.

Smallpox.—According to Dr. Alonzo Blauvelt, Chief Inspector Division of Contagious Diseases, there have been between 60 and 70 cases of smallpox in the city during the past month. Mr. William C. Fosdick, of Flushing, Borough of Queens, has instituted habeas corpus proceedings to compel the return of his four-year-old daughter from the Isolation Hospital on North Brother Island. She was forcibly removed from her home, a diagnosis of smallpox having been made by one of the physicians of the Health Department. Four other physicians certified that the child was only suffering from chicken-pox, and she was removed, it is claimed, in direct opposition to orders from a Supreme Court. A girl who was ill with smallpox in a tent on the grounds of the Smith Infirmary was nearly chilled to death in a storm, which put out the fire in the stove, knocked down the smoke-pipe, and nearly blew down the tent. The two nurses finding it impossible to keep the child warm by bedclothing, jumped into the patient's bed and kept her warm until morning.

Dynamite Causes Havoc.—An accidental fire in a small powder house in which was stored a quantity of dynamite for use in the subway tunnel, caused a very severe explosion at Park avenue and Forty-first street. The Manhattan Eye and Ear Hospital, which was close by the spot where the explosion occurred, was badly shaken and damaged, so that several days will be required to put it in repair. There were 63 patients in the hospital, and most of them, together with the nurses and physicians, were more or less injured by flying glass. Dr. T. Passmore Berens was hurt, and among the patients was a boy who was convalescing from an operation for abscess of the brain. No one of the many in the building at the time was seriously hurt, but the entire front of the building was wrecked and nearly every room made untenantable. About sixty windows were broken in the Hospital for Ruptured and Crippled, situated two or three blocks distant from the explosion, and the children were thrown into a panic. While six surgeons, in an ambulance from the Roosevelt Hospital, were hurrying to the scene, the ambulance collided with a delivery wagon. One surgeon and the driver were thrown into the street, and an axle of the ambulance was broken. Finding the ambulance disabled, the surgeons seized the stretcher and ran on. The contractors engaged in constructing the section of the subway tunnel on Washington Heights have been hurrying along the work by using heavy blasts. One of these was so severe that it shook the building of the Hebrew Sheltering Guardian Society Orphan Asylum, causing plaster to fall from the ceiling in nearly every room, and pictures and ornaments to tumble from the shelves. The children ran through the corridors screaming with fright, and the superintendent was not able to get any satisfaction either from the contractors or from the police. The old question of abolishing the coroner's office received a new impetus by the spectacle which Coroner Goldenkranz made in connection with the dynamite disaster in the tunnel. Although he talked loudly about being "a constitutional officer," it should not be forgotten that this office was expressly stricken from the revised constitution in 1894 in order to make it easy for the legislature to abolish it. It is difficult to see why this has not yet been done, especially when the good example set by Massachusetts has been so long before us, but the time seems ripe for such action by the legislature.

Buffalo.

Academy of Medicine.—Dr. William R. Pryor, New York City, addressed the Section of Obstetrics and Gynecology of the Buffalo Academy of Medicine on "Pelvic Suppuration; When Shall We Operate by the Abdomen and When by the Vagina?"

Personal.—Health Commissioner Walter D. Green has appointed Dr. N. L. Burnham as city physician for the first district, to succeed Dr. George F. Cott, resigned.——Dr. Matthew D. Mann was elected president of the Society for Beautifying Buffalo. Dr. Mann is also one of the park commissioners.——Dr. Lucien Howe received a gold medal for the second time from the New York State Medical Society relative to a new staining process for the muscles of the eye.

NORTH CAROLINA.

Personal.—Dr. T. Evans McBrayer, Shelby, has been made surgeon to the S. C. and G. E. Railway.——Kennersville has a new physician, Dr. Andrew L. Wynn, who was formerly at Johnston Station, Ga.

Medical Department of State University.—The State University Department of Medicine is to be located at Raleigh. The faculty of the department, besides the dean, Dr. Hubert A. Royster, will include Drs. Richard H. Lewis, W. I. Royster, Dr. Augustus W. Knox, Kemp P. Battle, Jr., and others, who will be chosen by the executive committee.

Wilmington Physicians Meet.—At a recent meeting of the physicians of Wilmington over which Dr. Walter C. Galloway presided, Dr. Frank H. Russell, acting as secretary, Drs. William J. Love, Thomas S. Burbank, Frank H. Russell, and William D. McMillan were selected as visiting physicians to the James Walker Memorial Hospital. Drs. Lionel H. Love, Andrew H. Harris, G. K. Collier, N. M. Wetzel, R. Edgar Zachary, Thomas R. Little and Frank H. Russell were appointed to receive and entertain the State Medical Association.

Medical Society of the State of North Carolina.—This Society will hold its forty-ninth annual meeting at Wilmington, June 3 to 7. On the morning of the second day an entire new Board of Medical Examiners will be elected to serve for six years. The Pittman prize of $100 will be awarded for the best essay on any medical subject. The president is Dr. Robert S. Young, Concord, and the secretary, Dr. George W. Pressly, Charlotte.

VERMONT.

The Vermont Medical Monthly.—The January number of this journal—the organ of the Vermont State Medical Society and of the Thurber County Medical Association—appears in an entirely new form and dress and considerably enlarged in size. These improvements show that the monthly is in a flourishing condition, which is certainly gratifying. One of the most encouraging signs is the fact that journals published by or for medical societies are in a prosperous condition and increasing in number.

CANADA.

Notre Dame Hospital Quarantined.—Smallpox has developed in one of the attendants at the Notre Dame Hospital, Montreal, and the whole institution will be under quarantine until the 12th of the month; there are over 200 patients in the institution.

Big Increase in Smallpox.—In Ontario 629 cases of smallpox developed during the month of January. The patients are scattered over twenty-eight counties with eighty-seven centers. Lecturing before the students of the Toronto School of Medicine on January 31, Dr. Hodgetts, provincial inspector, stated that the spread of the disease could be attributed to the ignorance of the profession.

Blackmailing Doctors.—Two well-known physicians of Toronto have during the past week been subjected to threats for the purpose of extorting money from them. When one of the physicians was visited in his office by the husband of a woman whom he had been called to attend and financial demands made upon him, he quickly laid a trap for his would-be blackmailer by requesting another interview, when he had a concealed witness present. The second physician had been called to attend the child of the family, and later the husband visited him at his office and made the same demands, claiming that his wife had been insulted. In this case he was shown the door. The case is now in the hands of the crown attorney.

County Medical Inspectors.—It is understood that the Ontario Government will be strongly pressed to amend the Ontario Health Act at the present session of the legislature to provide for the appointment of County Medical Health Officers, and at the same time fixing an adequate salary to be paid by each municipality for the proper performance of their duties. As at present constituted the act provides for township officers of health, but as the remuneration for this is only about $50 to $100 per annum, it can not be expected that any health officer is going to take charge of an epidemic of smallpox or other contagious disease for that paltry salary; hence the need of county officials with more powers and a larger remuneration.

The Southwestern Medical Association of Manitoba.—A few months ago this new medical association was organized among the practitioners of medicine in the southwestern part of the province of Manitoba and out of 70 available practitioners for membership in that district, no less than 67 have already become members, and there is every reason to believe that the remaining 3 will soon come in. This speaks well for an attempt at organizing the profession in Manitoba, as it is intended to carry on the good work of organization until the whole province is brought within its scope. The three main objects for the founding of this association are as follows: "We have decided to establish a new tariff for insurance companies and lodge work, which is as follows: Examination for admittance to lodges without insurance, $2; examination for admittance to lodges with insurance, $3; examination for admission to level premium insurance companies, $5. All members of this Association have signed a pledge binding themselves to this tariff from January 1, 1902. The Association has also arranged a provisional tariff of fees to which all are to adhere as closely as possible. Then they have decided that members of the profession of medicine would be acting in their interests to send out quarterly statements of accounts, and that all contract work in relation to lodge practice should be discouraged.

FOREIGN.

Annual Ball of the Paris Internes.—The parade of the floats this year at the ball, December 16, represents the hospitals of Paris, headed by the Hotel Dieu, showing "The Triumph of Cocain." The harvesting of the coca was first represented, then, after a group of physicians of antiquity and of the dark and middle ages, came the "Apostle of Spinal Cocainization." He was followed by a huge column portraying a spine with the needle inserted at the proper place. After this came the "inconveniences of cocain"—figures representing the headache, diarrhea, hemiplegia, etc., and finally a chariot with the "apotheosis of cocain." The Tenon hospital portrayed "the Northern Barbarians Returning from Mytilene with Mytilene (methylene) Blue."

Overcrowding of the Profession in Belgium.—The *Gazette Méd. Belge* states that the year 1901 continued the overcrowding of the profession. Parents are not discouraged by the difficulty of making a living from the honest practice of medicine. They see the rapid success of unscrupulous persons who disregard the ethics and dignity of the profession, and they push their sons into the medical courses advising them to mix a little charlatanism with their medicine. The average regular physician in Belgium earns at most 3000 francs a year, scarcely $600. The *Gazette* adds that the number of patients is actually more than it was thirty years ago. If the number of physicians had not increased out of all proportion, the emoluments of the profession would be better than in the "good old days."

Advertisements of Quacks in the German Dailies.—The Munich local Aerztlicher Verein recently appealed to the lay press not to publish the advertisements of a certain notorious charlatan. Several of the dailies asserted in reply that the advertising department of a daily paper is not qualified to distinguish between fraudulent and bona fide medical advertisements. The *Augsb. Abendztg.*, however, added that all that a reputable paper can do and should do is to refrain from publishing the advertisements of notorious swindlers, and to lay before their readers all official or judicial revelations in regard to swindling operations conducted by advertisements, and besides this, should warn the public to keep its eyes opened. The press can never assume the office of official guardian of the public. The *Munich Med. Wochenschrift* considers this a valuable concession and, if realized, a great advance. It calls upon the local medical societies to have their press committees keep the papers posted in regard to "notorious swindlers."

Alcoholism in Russia.—It is difficult to say if it is well for the state to control the sale of spiritous liquors. There are two countries where this principle is carried out, Switzerland and Russia, and in the latter the results would not seem to be encouraging, from the temperance point of view. According to Dr. Fuster, who has seen the conditions obtaining in the different states of Europe, there is no country where so much intemperance exists as in Russia. On Sundays, for instance, drunkards are to be met in almost every street of the small towns. The police do not interfere in general. The shops where liquor is sold are only open at certain hours of the day, and crowds gather around their doors, each man holding in his hand an empty bottle which is to be exchanged for one containing alcohol at 40°. Two-thirds of a quart cost only twenty-two cents, but smaller bottles are sold for only four cents. Cases of death from alcoholic poisoning are not infrequent. Dr. Fuster expressed his opinion that the enactment of restrictive laws was not the best way of suppressing alcoholism, but rather the educating of the moral sense.

PARIS LETTER.

Methylene Blue in Buccal Infections.

Professor Chauffard has been trying methylene blue in certain forms of tonsillitis, especially in the ulcerative form. He considered that he had so good a result that for him it might serve as a means of differentiating ulcerative tonsillitis from chancre of the tonsil. Dr. Moizard, the celebrated child specialist, tried it in his service recently, and he told me that he had obtained no good result from its use, and he preferred to use tincture of iodin when in need of some energetic agent.

Eberth's Bacillus in the Blood in Typhoid Fever.

The presence of Eberth's bacilli in the blood in typhoid fever has been the subject of a good deal of discussion of late at the Medical Society of the Hospitals. Dr. Jules Courmont has

been carrying out investigations on this subject, and he declares that in ordinary forms of typhoid fever the bacillus is always found even before the fifth day. It remains in the blood until the end of the third week, and in certain prolonged forms with relapses it may remain even longer. There is no relation between the presence of bacilli in the blood and the agglutinating power of the serum, which is only seen very much later in some cases. A special method is needed, which consists in mixing two to four cubic centimeters of venous blood with five hundred cubic centimeters of bouillon. There are at times no results produced by using only a few drops of blood in a small quantity of bouillon. At a meeting of the Academy of Medecine this same subject was discussed, Dr. Chantemesse remarking that these investigations had already been carried out in Germany a year or two ago. According to Dr. Chantemesse, negative results had been obtained so far, because too much blood was added to the bouillon, and the serum prevented the growth of the bacilli.

Professor Jaccoud Retires.

Dr. Landouzy has been named professor of clinical medicine, succeeding to Jaccoud, who has been placed on the retired list. Dr. Gilbert, a professor agrégé of the School of Medicine, has taken Dr. Landouzy's place as professor of therapeutics. He is a relatively young man, being only forty-three years of age. Professor Landouzy, son of a distinguished physician, was chosen professor unanimously in 1893. He is well known for his aphorism on therapeutics, which he said should be "clinical, pathogenic, physiological and opportunist. Clinical as to its sources of information, pathogenic in its indications, physiological as to the means employed, and opportunist in the decisions that are reached."

New Treatment for Sprains.

A new treatment for sprains is being advocated. It consists in the use of electricity. Several English authors have, it seems, spoken vaguely about its use, and Remak, the German author, recommends the use of the continuous current, according to Tripier. Apostoli, however, believed in faradization, and such is the method which has given so far the best results. The electrodes consist of two large tampons of coal covered with chamois skin and the negative pole is placed and moved over the injured spot. The sitting only lasts five to ten minutes, and produces so rapid a result that the patient can sometimes walk immediately after. Two applications of electricity should be made every day in some cases, and rapid improvement will be noticed.

Census of 1901.

The census taken in France in 1901 shows that the population is increasing very slowly. The results showed an increase of 444,613 inhabitants during the last five years, which is much better than during the period from 1891 to 1896, when the increase was only 175,027. Other nations are increasing much more rapidly, the population of Germany has increased about 7,000,000 during the last ten years, that of Austria-Hungary 4,000,000, and that of Great Britain about 5,000,000.

Biliary Lithiases.

Dr. Pauchet, a former interne of the Paris hospitals, speaking of an operation for spontaneous rupture of the biliary vesicle with recovery, remarked recently that there was no medical treatment of biliary litniases, and drew a parallel between a stone in the bladder and one in the vesicle. Cholecystotomy was no more dangerous an operation than cystotomy.

Paris Seeking Better Milk Supply.

The milk supply of Paris is being extensively discussed at present in the political papers, especially in the *Matin*, which has instigated a crusade against milkmen who adulterate the product they sell. A league is to be formed called the League for the Defense of Human Life. The *Matin* has published most energetic articles, describing the methods used. Milk is sometimes sold directly to the buyer, and in such cases there is not much chance for adulteration. In other cases milk is first collected from producers outside Paris, then brought in and sold to the dealer by a third party, so that it passes through four intermediaries. Milk which is bought outside Paris at from 9 to 11 centimes the quart costs from 40 centimes to a franc inside Paris. Not only is milk more or less modified by the use of various concoctions, but it is also sensibly diluted by the use of water. The new league will prosecute directly for its members and police supervision of milkmen has become of late more efficient.

Association News.

New Members.

The following is a list of new members of the American Medical Association for the month of January, 1902.

ALABAMA.

Betts, W. F., Evergreen.
Peacock, L. E., Bloeton.

ARKANSAS.

Russmunn, W. C., Helena.
Montgomery, W. A., Atkins.
Warren, G. A., Imboden.
Tarrant, J. R., Monticello.

CALIFORNIA.

McMurdo, J. R., San Francisco.
Henderson, J. J., San Francisco.
Williamson, J. M., San Francisco.
Ebright, G. E., San Francisco.
Power, H. D. A., San Francisco.
Fitzgibbon, G. J., San Francisco.
Plymire, D. B., San Francisco.
Johansen, Erneste, San Francisco.
McIntosh, A. M., San Francisco.
Cross, W. W., Visalia.
Still, J. J., Los Angeles.
Dundas, R. C., Los Angeles.
Colburn, J. R., Los Angeles.
Cates, H. G., Los Angeles.
Phelp, W. S., Los Angeles.
Smith, E. R., Los Angeles.
Mathis, E. N., Los Angeles.
McCarthy, D. S., Los Angeles.
Hitt, M., Los Angeles.
McCoy, T. J., Los Angeles.
Morrison, N. H., Los Angeles.
Taggart, C. F., Los Angeles.
Pahl, P. C. H., Los Angeles.
Pottenger, F. M., Los Angeles.
Swearingen, S. P., Pasadena.
Gochenauer, D., San Diego.
Edwards, W. A., Corona.
Corbin, F. E., Los Angeles.
Dial, E. A., San Luis Obispo.

CONNECTICUT.

Benedict, F. A., Seymour.
Brown, C. H., Waterbury.
Sperry, F. N., New Haven.

COLORADO.

Mayne, O. J., Como.
Gorsuch, J. C., Denver.
Ostrander, F. W., Idaho Springs.

DISTRICT OF COLUMBIA.

Miller, W. L., Washington.

FLORIDA.

McMillan, D. W., Pensacola.

GEORGIA.

Youmans, L. P., Swainsboro.

INDIANA.

Evans, E. B., Greencastle.
Jackson, F. G., Muncie.
Hollis, S., Hartford City.
Carter, W. J., Converse.
Faith, A. H., Washington.
McSherley, J. L., Sulphur Springs.
Potter, J. E., Milford.
Mueller, F. M., Lawrenceburg.
Sherman, W. C., Loogootee.
Welburn, J. Y., Evansville.
Metts, Fred, Ossian.
Held, H. W., Vincennes.
Calvin, W. D., Ft. Wayne.
Doerr, J. E., Mt. Vernon.
Holton, W. M., New Harmony.
Hall, H. M., Millersburg.
Davenport, W. H., Vincennes.
McDowell, M. M., Vincennes.
Reeves, E. W., Plymouth.

ILLINOIS.

Frick, A., Chicago.
Black, A. D., Chicago.
Wells, W. H., Monmouth.
Schirding, W. P., Palatine.
Johnson, C. B., Batavia.
Warbrick, J. C., Chicago.
Swenson, C. G., Chicago.
Clark, E. J., Winnebago.
Neiswanger, C. S., Chicago.
Humiston, C. E., Chicago.
Barker, L. F., Chicago.
Schmidt, F. W., Chicago.
Macauley, T. E., Gilberts.
Shastid, W. E., Pittsfield.
Miller, A. E. Metropolis City.
Schlernitzauer, Wm., Freeburg.
Healy, W., Chicago.

IDAHO.

Castle, H. A., Pocatello.

IOWA.

Hess, W. C., Bagley.
Skelley, W. F., Lost Nation.
Kessler, J. B., Iowa City.
Watson, S. H., Blairstown.

KENTUCKY.

Chandler, W. S., Mt. Olivet.
Richards, W. A., Morganfield.
Sage, E. O., Louisville.
Reed, J. A., Maysville.

KANSAS.

Manning, H. W., Eureka.
Oldham, Jas. E., Wichita.
Graves, A. C., Pittsburg.
Whinery, S. C., Kansas City.

LOUISIANA.

Jones, R. P., Clinton.
Hays, G. A. B., Jackson.

MARYLAND.

Cloggett, Sam'l, Petersville.
Perry, J. P., Clearspring.
Simmons, H. M., Baltimore.
Shannon, Geo. C., Baltimore.
Maxwell, W. S., Still Pond.

MASSACHUSETTS.

Bonney, C. A., Jr., New Bedford.
Kelleher, P. F., Cambridge.
Kearney, J. H., Fitchburg.
Hutchinson, C. M., Cambridge.

MAINE.

Jonah, W. E., Portland.

MONTANA.

Turner, C., Butte.
Spottswood, E. W., Missoula.
McIntyre, John, Butte.
Roberts, H. C., Great Falls.
Lindsey, Cliff, Billings.
Gunn, J. W., Butte.

MICHIGAN.

Wallace, J. J., Sparta.
Wight, W. G., Yale.
Croman, J. M., Mt. Clemens.
Noyes, G. L., Ann Arbor.
Marvin, H. M., Coloma.
Jenks, H. D., Detroit.
Jacklin, J., Saginaw.

MISSOURI.

Triplett, J. S., Harrisonville.
Latt, G. W., Westboro.
Athony, F. R., Maryville.
Frankenburger, J. M., Kansas City.
Marfit, J. C., St. Louis.

NEBRASKA.

Bicknell, G. H., Omaha.
Davies, R. A., Arlington.
Hay, J. T., Lincoln.
Mullins, C. L., Broken Bow.
Hamilton, A. G., Springfield.
Poska, Abraham, Lincoln.
Brash, G. H., Beatrice.
Sward, E. J. C., Oakland.
Hickok, H. S., Carleton.
Finley, H. L., Pawnee City.
Deardorf, B. M., Clatonia.
McKibbin, J. W., Adams.

NEW HAMPSHIRE.

Hazelton, G. W., Haverhill.
Staples, J. W., Franklin Falls.
Walker, C. S., Concord.
Towle, F. S., Portsmouth.

NEW JERSEY.

Wickham, A., Newark.
McNamara, T. C., Hoboken.
Whitehead, R. B., Elizabeth.
Steadman, W., Hoboken.
Shailer, S., Newark.
O'Donnell, J., Paterson.
McLaughlin, G., Jersey City.
Dunlap, Mary J., Vineland.
Morris, C., Newark.
Weigand, O. A., Jersey City.

NEW MEXICO.

Lane, B. E., Las Cruces.

NEW YORK.

Beach, Judson, Etna.
Biggam, W. H., Brooklyn.
Ayme, E. L., New York.
Morton, H. H., Brooklyn.
Curry, G. P. M., Mt. Kisco.

Sharp, E. A., Central Valley.
Cronson, R., New York City.
Hartley, F., New York City.
Weir, R. F., New York City.
Ayers, E. A., New York City.
Webster, David, New York City.
Chappell, W. F., New York City.
Foote, E. M., New York City.
Dolz, Wm., New York City.
MacKeen, A. L., New York City.
Wood, L. C., Poughkeepsie.
Little, W. E. E., Bloomington.
Lyle, Alex., New York City.
Abbe, Robt., New York City.
Bernard Sachs, New York City.
Kinnicott, F. P., New York City.
Rupp, Adolph, New York City.
Sherman, A. L., New York City.
Pollitzer, Sigmund, New York City.
Ladinski, L. J., New York City.
Keller, F. C., New York City.

NORTH CAROLINA.

McKee, Jas., Raleigh.

NORTH DAKOTA.

Henning, J. D., Fargo.
Brimi, C. L., Cooperstown.

OHIO.

Jones, J. A., Cleveland.
Courtright, F. E., Shawtown.
Ballard, C. B., Marietta.
Tucker, W. H., Glen Karn.
Weaver, W. P., Miamisburg.

OKLAHOMA.

Dicken, W. E., Oklahoma.
Jordan, J. E., Stella.
Share, A. L., Kingfisher.
Chandler, H. S., Woodward.
Salmon, W. T., Oklahoma City.

OREGON.

Dickson, J. F., Portland.
McGavin, J. M., Portland.
Tucker, E. F., Portland.
Shane, L. A., Portland.
Jones, Wm., Portland.
Johnson, E. D., Portland.

PENNSYLVANIA.

McLean, J. D., Philadelphia.
Raincar, A. R., Philadelphia.
Grover, J. B., Peckville.
Smyser, H. David, York.
Free, G. B. M., Danville.
Hamilton, W. T., Philadelphia.
Evans, D. W., Scranton.
Wilkins, J. W., Philadelphia.
Willson, R. N., Philadelphia.
Wade, F. H., Allegheny.

SOUTH DAKOTA.

Merager, O. S., Sioux Falls.
Bliss, G. W., Valley Spring.
Thompson, J. R., Northville.
Arnold, D. E., Hecla.
Pickering, L. A., Warner.
Olney, S., Sioux Falls.

TENNESSEE.

Preston, J. H., Humboldt.
Smith, S. B., Nashville.

TEXAS.

Weems, M. L., Brazonia.
Burrows, H. A., New Boston.
Gibson, B. F., Midway.
McCobb, G. W., Gonzales.

VERMONT.

Lewis, H. E., Burlington.

VIRGINIA.

Saunders, C. A., Norfolk.
Baughman, Green, Richmond.
Hallar, J. P., Pocahontas.
Smith, H., Norfolk.
Royster, L. T., Norfolk.
Detwiler, E. L., Herndon.
Williams, E. G., Richmond.
Gwathoney, Norfolk.
Kennan, B. R., Norfolk.

WASHINGTON.

Miller, F. C., Tacoma.
Ingham, G. W., Olympia.
Carroll, F. M., Seattle.
Baker, N. M., Spokane.
Gray, G. A., Spokane.
Smith, Harvey, Spokane.
Loughlen, O. W., Tacoma.
Peterkin, G. S., Seattle.
Gunn, T. B., N. Yakima.
Overmeyer, G. W., Aberdeen.
Ludlow, W. L., Seattle.
McCready, N. S., Snowhomish.
Compton, H. A., Fairhaven.
Birney, H. J., Whatcom.
Powell, J. M., Spokane.
Ford, C. B., Seattle.
Chalmers, J. M. P., Vancouver.
Markley, L. R., Whatcom.

WISCONSIN.

Morse, A. J., Fond du Lac.
Gray, A. W., Milwaukee.
Stalker, H. J., Kenosha.
Bertrand, J. H., De Forest.
Manchester, B. E., Armstrong Creek.
Chanon, T. A., Rice Lake.

WYOMING.

Carton, Jas., Carbon.

Married.

U. TOPE, M.D., to Miss Annie Talcott, both of Scio, Ohio, January 22.

AMBRIS C. PICKETT, M.D., to Miss Lucy Sanders, both of Woodlawn, Mo., January 26.

LINUS WARD KLINE, M.D., to Miss Fannie Talbot Littleton, at Suffolk, Va., January 23.

MIDDLETON L. PERRY, M.D., to Miss Janie Wimberly, both of Milledgeville, Ga., January 19.

WALTER B. STEWART, M.D., to Miss Gertrude Louise Sawyer, both of Joliet, Ill., January 22.

ANDREW B. EATON, M.D., Eaton's Cross Roads, Tenn., to Miss Mae Bull, of Kingston, Tenn., January 8.

CHARLES D. MCGETTIGAN, M.D., Captain and Assistant Surgeon, N. G. C., San Francisco, to Miss Francesca C. Vallejo, daughter of Dr. Peaton Vallejo and grand-daughter of General Vallejo, at San Francisco, January 22.

Deaths and Obituaries.

Charles H. Burnett, M.D. University of Pennsylvania, 1867, died at his home in Bryn Mawr, near Philadelphia, January 31, aged 60. After his graduation he served one year as interne in the Episcopal Hospital and then studied abroad for two years, devoting his attention especially to otology. On his return he commenced practice in Philadelphia, making a specialty of diseases of the ear, and in this department soon took a leading position. His contributions to otologic literature have been numerous and valuable, chief among them are "A System of Diseases of the Ear, Nose and Throat," "Diseases and Injuries of the Ear," and "On the Ear." He was a member of the American Otological Association, the Philadelphia College of Physicians, Philadelphia County Medical Society and the Philadelphia Pathological Society. He was founder of the Philadelphia Infirmary for Diseases of the Ear, of which he was also chief of staff, and was also aurist to the Presbyterian Hospital.

Robert B. Grimes, M.D. Washington University, St. Louis, 1869, died from apoplexy, January 27, aged 58. "Fighting Bob, the Doctor," as he was known, served throughout the War of the Rebellion, and was discharged as lieutenant. After his graduation in medicine he entered the medical department of the Army, and was honorably mentioned for bravery in the dispatches. He was a member of the Thornburg expedition that went to the relief of the White River agency in September, 1881, and was one of the few that survived. When Thornburg and his party were attacked, Dr. Grimes, as chief surgeon of the expedition, not only attended the wounded, but found time to make coffins, to assist in the burial of the dead, to throw up breastworks, to bring water to the soldiers in the pits and occasionally take a shot at a redskin himself. Though dangerously wounded, he continued on duty for days till the survivors were rescued.

Dominick G. Bodkin, M.D. New York University, 1866, died at his home in Brooklyn, January 26, after a long illness, from gastric ulcer, aged 68. While a medical student he volunteered for service in the Civil war, and was placed in charge of the smallpox and fever hospitals at Dauphin Island and Fort Gaines. He lived and practiced in Brooklyn from 1866. He was a member of the American Medical Association, New York State Medical Association, Kings County Medical Society and Long Island Medical Association. For many years he was chief of staff of St. Mary's Hospital. He was a delegate to the International Medical Congress of Moscow in 1897.

S. Seabury Jones, M.D. New York University, 1869, who studied in Edinburgh and Berlin and practiced thereafter in New York City, died at his home, January 21, from pneumonia, after an illness of three days, aged 55. He was a member of the Academy of Medicine, the Manhattan Medical and Surgical Society, and the Lenox Society, and was consulting physician at the workhouse and the almshouse.

Francis Clemens, Jr., M.D. University of Pennsylvania, Philadelphia, 1899, a practitioner of Paoli, Pa., was drowned while attempting to cross a flooded stream in Willistown township, January 22. He was returning from a professional call. His brother-in-law, Mr. George Davis, a senior student in the Medico-Chirurgical College, Philadelphia, was also swept down the stream, but was rescued.

Harry G. Willson, M.D. University of Pennsylvania, Philadelphia, 1895, of Laporte, Pa., died, after a long illness, at the residence of his parents in Warrensville, January 21, aged 32. He was a member of the American Medical Association and of the Lycoming County Medical Society. The latter Society, at a special meeting held January 22, at Williamsport, adopted resolutions of sympathy.

Agnes M. Gardiner, M.D. Woman's Medical College, Philadelphia, 1899, a member of the staff of the Toledo State Hospital, and a daughter of Dr. William G. Gardiner, was found dead in bed, January 25. The cause of death is stated to be apoplexy. Dr. Gardiner was 23 years old, and was a member of the American Medical Association.

Charles G. Sproull, M.D. New York University, 1893, afterward an interne in Bellevue Hospital, a practitioner of New York City and one of the incorporators of the Skene Hospital for Self-Supporting Women, died at the private hospital of Dr. W. T. Bull, where he had been operated on for appendicitis, January 24, aged 34.

Ora S. Pease, M.D. Dartmouth Medical College, Hanover, N. H., 1880, a well-known practitioner of Penobscot County, Me., and a resident of Old Town, died at the City Hospital, Old Town, January 18, as the result of a fall three weeks previously, aged 55. He was one of the founders of the Old Town City Hospital.

William Hannibal McClure, M.D. Atlanta (Ga.) Medical College, 1875, who served as member of the legislature and as state senator in Georgia and moved to Westminster, S. C., in 1895, died at his home in that city, January 19, from Bright's disease, after a long illness, aged 52.

Andrew J. Hines, M.D. Jefferson Medical College, Philadelphia, 1853, the oldest practitioner in Doylestown, Pa., and a prominent member of the Bucks County Medical Society, died

at his residence, January 21, from kidney disease, after a prolonged illness, aged 76.

Benjamin D. Blackstone, M.D. Western Reserve University, Cleveland, 1848, a resident and practitioner of Martinsville, Ind., for more than half a century, died at his home in that city, January 23, after a long illness, aged 77.

H. U. Umstad, M.D. Jefferson Medical College, Philadelphia, 1851, the oldest practitioner in Chester County, Pa., died at his home in Phoenixville, January 26, from Bright's disease, after an illness of one year, aged 75.

John H. Harley, M.D. University of Maryland, Baltimore, 1857, who had practiced medicine at Dewart, Northumberland County, Pa., for more than forty years, died January 14, at his home, from pneumonia, aged 75.

Lachlan Tyler, M.D. Columbia University, New York, 1876, who had been connected with the New York Board of Health for several years, died shortly after an operation for appendicitis, January 27, aged 50.

F. J. Spilman, M.D. Medical College of Ohio, Cincinnati, 1858, who had practiced medicine for nearly half a century at Andersonville, Ind., died at his home in that place, January 23, from jaundice, aged 70.

Edmund R. Hebrank, M.D. University of Maryland, Baltimore, 1889, one of the best-known physicians of Westmoreland County, Pa., died at his home in Adamsburg, January 23, from consumption, aged 48.

George H. Stone, M.D. Albany (N. Y.) Medical College, 1898, a practitioner of Forestdale, Vt., died in Albany, N. Y., January 23, from tuberculosis, after an illness of four months, aged 28.

John A. Northrup, M.D. Geneva (N. Y.) Medical College, 1866, a practitioner and postmaster of Dover, Okla., died at his home in that place, January 17, after a prolonged illness.

Joseph Morris, M.D. University of Michigan, Ann Arbor, 1861, an esteemed practitioner of Columbus Grove, Ohio, died at his residence, January 24, from pneumonia, aged 63.

Benjamin Franklin Pope, M.D. University of Nashville, Tenn., a prominent citizen of DuQuoin, Ill., died January 24, at his home, after an illness of two years, aged 76.

George W. Bellus, M.D. Rush Medical College, Chicago, 1878, one of the pioneer physicians of Taylor County, Iowa, died at his home in Blockton, January 12, aged 65.

William R. Wells, M.D. Harvard University, 1834, the oldest practitioner in Sonoma County, Cal., died at his home in Petaluma, January 24, aged 88.

Nathan M. Babad, M.D. Columbia University, New York, died from consumption at the Good Samaritan Hospital, Los Angeles, January 21, aged 29.

John Wesley Martin, M.D., the oldest physician of Brookhaven, Miss., died January 25, after a month's illness, aged 81.

D. M. Anderson, M.D., an old resident of Texas, died at his home in Brownwood, January 23, aged 71.

State Boards of Registration.

District of Columbia Examination.—The regular quarterly examination for license was held January 9 to 13 at Washington. The number of subjects examined in were 15; number of written questions, 80, with additional oral examination. Total number of candidates was 12, of whom 8 passed.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
		PASSED.		
287	R.	Columbian University	1900	78.16
288	R.	Columbian University	1901	81.62
293	R.	Northwestern University	1891	82.41
281	R.	Starling Med. Coll., Columbus	1893	85.44
291	R.	University of Georgetown	1900	81.59
285	R.	University of Georgetown	1901	84.81
289	R.	University of Virginia	1900	80.84
290[1]	R.	National University, Washington	1901	75.25
		FAILED.		
286	H.	Cleveland Medical College	1892	40.35
282[2]	R.	National University, Washington	1901	66.97
283[3]	R.	University of the South	1899	64.12
284[1]	R.	University of the South	1901	72.16

1. Third examination.
2. Second examination.
3. Fourth examination.

Delaware Examiners Appointed.—The following physicians have been appointed by Governor Hunn to the State Board of Medical Examiners: Dr. Edwin S. Anderson (H.), Dover; Dr. Francis L. Springer, Newport (R.); Dr. A. E. Frantz (H.), Wilmington; Dr. E. W. Cooper, Camden (R.). The appointment is for two years.

Miscellany.

Potassium Permanganate in Dysentery.—Kuzmitzky reports very favorable results from the treatment of dysentery with rectal injections of a 1 to 4000 tepid solution of potassium permanganate, twice a day.—*Woenno-Med. Journal*, for November.

Equine Morality!—An Eastern weekly contemporary notices a recent febrile disease affecting horses in the Island of Luzon and "resulting in a great morality." If that is all it might not be an ill chance should it affect some of the human inhabitants there also. The government laboratories could possibly find a mitigated form valid against faith-breaking, etc., to inoculate the biped Tulisanes and insurgent prisoners with and thus insure their better behavior.

Consolidation of Cleveland Medical Journals.—An event significant of the tendencies of the time has just occurred in Cleveland. Plans for the amalgamation of the *Cleveland Journal of Medicine* and the *Cleveland Medical Gazette* have been brought to a successful issue. On January 20, 1902, was held the organization meeting of the *Cleveland Medical Journal* Company, which is composed of those physicians now interested in the two old journals, together with a good proportion of the representative physicians of Cleveland, numbering in all 45 stockholders. At a considerable sacrifice on the part of many, the two old journals have been transferred in their entirety to the new company that will publish the new journal, which is to be an independent and free professional institution conducted for the good of the medical community, with no idea upon the part of the stockholders that they shall ever look for dividends. At this meeting a temporary organization was formed, consisting of Dr. Marcus Rosenwasser, president; Dr. William E. Bruner, secretary; Dr. Joseph F. Hobson, treasurer. Dr. P. Maxwell Foshay was elected editor, and Dr. Edward S. Lauder, associate editor.

The American Medical Association.—The following circular letter has been issued by John A. Wyeth, M.D., president of the American Medical Association: Every practitioner who believes it necessary and wise to safeguard the material interests of the medical profession, to foster the growth and diffusion of medical knowledge, to promote friendly intercourse among American physicians, to elevate the standard of medical education, to secure the enactment and enforcement of medical laws, to enlighten and direct public opinion in regard to the problems of State medicine, and to represent to the world the practical accomplishments of scientific medicine, and who accepts the most important lesson of human experience that without organization controlled by judicious discipline there can be no coöperation between large groups of men, and no satisfactory or successful outcome to their labors, should either join, or lend his influence to, the American Medical Association, the one great aim of which to is federate into one compact organization the medical profession of the United States. He should join it in preference to any sectional medical association, because it is the *only representative national organization of the profession in the Union.* It has representative societies in every State and Territory of the United States. Its comprehensive scheme embraces the formation in every county of a medical society, with a uniform constitution and by-laws, each of which shall belong to the State association, organized and governed with equal uniformity, and all a part of the national body. In the reorganization at St. Paul in 1901, the question of eligibility to membership in this vast body was referred directly to the primary or county societies. "No person not a member of his local affiliated medical society, provided there be one, shall be eligible to membership, or be allowed to continue as a member in the Association." This ruling dropped temporarily a considerable number who had

long been on the roster as permanent members from State or local bodies which, by the by-laws then existing, made them eligible. While this action may, at first glance, seem unnecessarily severe or even unjust to those older members (among whom are many of the most loyal and faithful supporters of the national body), reflection must convince them that not only should they yield to the opinion of the majority, but approve the wisdom of this policy. In no other way could the exclusion of unworthy persons be secured than by having those who are intimately acquainted with the moral character and professional standing of the applicant pass upon his merits. No other organization can compare with the American Medical Association as a working machine, capable of carrying to successful completion the great work of uniting the medical profession. Its officers are men long trained in a work which requires not only experience but tact and business ability. It owns not only a surplus fund, which enables it to move with strength and confidence in the accomplishment of its purpose, but it has as its most active agent a weekly medical periodical, THE JOURNAL of the American Medical Association, which has a larger circulation than any similar periodical in the world. It maintains a National Committee on Medical Legislation, located in Washington City, and in this central committee every State and Territory in the United States has its membership. The State and county legislative sub-committees, reaching to all the Congressional districts and in touch with the affairs of the State, can not fail to wield a powerful influence in all affairs connected with medical legislation. To direct legislation in all matters pertaining to the public health, to inter-continental, insular and interstate quarantine, as well as to maintain and to further improve the laws relating to the practice of medicine, and to the requirements of medical education is the prerogative of the medical profession. It is the plain duty of all to help in bringing about this "consummation devoutly to be wished" by joining the American Medical Association.

Societies.

Yakima County (Wash.) Medical Association.—At the annual meeting of this Association in North Yakima, January 11, Dr. Thomas B. Gunn was elected president; Dr. B. A. Owens, Adair, vice-president, and Dr. David Rosser, secretary.

Wapello County (Iowa) Medical Society.—The annual meeting of this Society was held at Ottumwa, January 7. Dr. Benjamin W. Searle, Ottumwa, was elected president; Mark D. Pascoe, Ottumwa, vice-president, and Dr. Emma S. Powell, secretary-treasurer.

Will County (Ill.) Medical Association.—The annual business meeting of this organization was held at Joliet, January 14. Dr. Thomas H. Wagner, Joliet, was elected president; Dr. Watson H. Curtis, Wilmington, vice-president, and Dr. H. S. Worthley, Joliet, secretary-treasurer.

Lorain County (Ohio) Medical Society.—At a recent meeting of the Society the following officers were elected: President, Dr. Washington Foster, North Amherst; vice-president. Dr. Olney B. Monosmith, Lorain; secretary, Dr. C. F. Gilmore, Lorain, and treasurer, Dr. Frank Young, Lorain.

Clark County (Ky.) Medical Society.—At the annual meeting of this Society in Winchester, January 11, Dr. Nelson V. Prewitt, Winchester, was elected president; Dr. C. G. Stephenson, vice-president; Dr. Isaac A. Shirley, Winchester, secretary, and Dr. John A. Snowden, Wade's Mill, treasurer.

Litchfield County (Conn.) Medical Association.—At the quarterly meeting of this body held at Torrington, January 14, a banquet was given by the local members. Dr. John C. Kendall, Norfolk, was elected president; Dr. Jerome S. Bissell, Torrington, vice-president, and Dr. A. E. Cobb, Falls Village, clerk.

Central Texas Medical Association.—This Society met at Belton, January 14 and 15. Dr. Frank D. Thompson, Fort Worth, was elected president; Dr. M. P. McElhannon, Belton, vice-president, and Dr. William R. Thompson, Fort Worth, secretary and treasurer. The next meeting will be held at Waco.

Winona County (Minn.) Medical Society.—The annual meeting of this Society was held in Winona, January 7. The following officers were elected: Dr. Charles A. Boyd, Lewiston, president; Dr. Leland H. Munger, Winona, and Dr. Lynch, vice-presidents; Dr. James B. McGaughey, Winona, secretary; and George J. Tweedy, Winona, treasurer.

York County (Maine) Medical Society.—The eighth annual meeting of this Society was held in Biddeford, January 9. The election of officers resulted as follows: Dr. Henry I. Durgin, South Eliot, president; Drs. Charles W. Blagden, Sanford, and Jesse D. Haley, Saco, vice-presidents; Dr. Lawrence E. Willard, Saco, secretary, and Dr. J. Starr Barker, Kennebunk, treasurer.

Dutchess County (N. Y.) Medical Association.—The first annual meeting of this Association was held at Vassar Hospital, Poughkeepsie, January 8. Dr. Irving D. LeRoy, Pleasant Valley, was re-elected president; Dr. Henry E. Allison, Fishkill Landing, secretary, and Dr. Louis C. Wood, Poughkeepsie, treasurer. The dates of the semi-annual meetings were changed to the fourth Wednesday in April and October.

Columbia County (N. Y.) Medical Association.—At the first annual meeting of this Association, held in Hudson, January 14, Dr. Thomas Wilson, Hudson, was re-elected president; Dr. H. Lyle Smith, Hudson, vice-president; Dr. O. Howard Bradley, Hudson, secretary and treasurer; Dr. Crawford E. Fritts, Hudson, delegate to the New York State Medical Association, and Dr. T. Floyd Woodworth, Kinderhook, alternate.

Warren County (N. Y.) Medical Association.—The annual meeting of this Association was held in Glens Falls, January 8. Dr. David J. Fitzgerald, Glens Falls, was elected president; Dr. Daniel B. Howard, Warrensburg, vice-president; Dr. Fred G. Fielding, Glens Falls, secretary and treasurer, and member of nominating committee for State Association, and Dr. William J. Hunt, Glens Falls, fellow of the State Association.

Medical Society of the District of Columbia.—At a recent meeting of this Society the following officers were elected to serve during present year: President, Dr. Samuel S. Adams, Washington; vice-presidents, Drs. John W. Chappell, Tennallytown, and Aurelius R. Shands, Washington; treasurer, Dr. Charles W. Franzoni, Washington; corresponding secretary, Dr. Thomas C. Smith, Washington; recording secretary, Dr. Francis P. Morgan, Washington, and librarian, Dr. Edwin L. Morgan, Washington.

Atchison County (Mo.) Medical Association.—The physicians of Atchison County met on January 7 at Rock Port, organized the above association and adopted a constitution. Meetings are to be held quarterly—the next one on April 2 at Fairfax. Of the twenty odd physicians in the county, fourteen were present. The president is Dr. J. A. Postlewait, of Tarkio, the secretary, Dr. Austin McMichael, of Rock Port, and the treasurer, Dr. Hunter, of Fairfax. At this meeting Dr. E. E. Richards, of Tarkio, read a paper on "Pneumonia," emphasizing especially streptococcus pneumonia. Dr. G. W. Lott read a paper on "Diphtheria." In this connection Dr. Holliday, of Tarkio, maintained the non-identity of diphtheria and membranous croup, and Dr. Ladd, of Westboro, the non-specificity of antitoxin. Both these positions were contested by Dr. J. I. Small, of Fairfax.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-sixth Annual Meeting, Held in Albany, Jan. 28-30, 1902.

The President, Dr. Henry L. Elsner, of Syracuse, in the Chair.

FIRST DAY—TUESDAY, JANUARY 28.

Inaugural Address.

DR. HERNY L. ELSNER, of Syracuse, delivered this address, and, according to custom, made certain recommendations, which were then referred to a committee for consideration and report. He pointed out the danger of accepting unreservedly the views recently promulgated by Koch regarding the question of the communicability of bovine tuberculosis to human beings. He also recommended that the Society take an active interest in the furtherance of the project to establish a national bureau of health. The semi-annual meeting of the Society, held last October in New York City, as an experiment having proved so successful, Dr. Elsner suggested that the officers consider the advisability of holding such a meeting this year in some other city than Albany, preferably in Buffalo. A significant feature of the address was the speaker's declara-

tion that the delegate system of the State Society should be abolished.

Proposed Union of the Two State Organizations.

Dr. Elsner then considered the proposition to unite the medical profession of the Empire State in one harmonious organization. He introduced the subject with the assertion that the American Medical Association had been practically reorganized on a broad and liberal basis, and that the old code of ethics quarrel was a dead issue. He was confident that the desired unification of the profession in New York State could be effected with dignity and without the sacrifice of principles. Readers of The Journal are already familiar with the overtures made by the Medical Society of the County of New York to the New York County Medical Association, and the cordial way in which they were received by the latter body, although their charter made it necessary to refer such a question to the State Association. But these occurrences were but the heralds of the dawn, and many in the profession have been waiting impatiently for the full light of day—for action rather than mere expression of opinion. On this point Dr. Elsner said: "I recommend that the Medical Society of the State of New York appoint a committee of five to confer with an equal number representing the New York State Medical Association for the purpose of formulating a plan which shall have for its object the reorganization of the regular profession, which body shall be in affiliation with the American Medical Association, and that the committee report the result of its labors at the next meeting of the Medical Society of the State of New York. In the event of the failure of the New York State Medical Association to appoint such a committee, or if the committees should fail to agree upon a plan of reorganization, the committee appointed by the Medical Society of the State of New York shall have full power, if it deems it expedient, to represent the Society before the American Medical Association, and the Secretary of this Society shall, if the majority of the committee desires, provide the individual members with credentials of delegates to the American Medical Association. The method of election or appointment of the committee representing this Society shall be decided by the committee to which the president's inaugural address shall be referred, and shall be ratified, as are all recommendations, by a vote of the Society." It should be added that this committee gave this recommendation its unqualified approval, and the Society accepted the suggestion that Dr. Henry L. Elsner be made the chairman of the committee of conference with power to select as his associates four representative members of the Society. These appointments will be made in a few days, and the New York State Medical Association will then be officially notified of the action taken.

Goiter—Its Medical and Surgical Treatment.

Dr. Thomas P. Scully, Rome, presented a paper with this title, based on a personal experience with 47 cases. He advocated treatment of parenchymatous goiters by injecting into them a mixture of equal parts of tincture of iodin and a 5 per cent. solution of carbolic acid, using from 10 to 30 minims at a time, and making the injection once a week in a different spot. Galvano-puncture was also useful. Cystic goiters should be treated surgically, the mortality being quite low, only 1 per cent. in 2000 cases treated by Professor Kocher.

What Shall Be Done with the Professional Midwife?

Dr. M. J. Lewi, of New York, presented a paper on this subject, in which he pointed out the large number of midwives regularly practicing in a large city like New York, and the many evils resulting from allowing ignorant women to act in such a capacity. It was suggested that the Committee on Legislation should draft a bill with the hope that the legislature could be prevailed upon to enact a law which would serve to restrict, though not abolish, the midwife. The committee was then directed by special resolution to endeavor to carry out the views expressed in the paper and by those who discussed it.

Human Asymmetry.

Dr. W. S. Ely, Rochester, pointed out many points of asymmetry, such as inequalities in the length and circumference of the lower extremities, unequal power in the two eyes and the two ears, the lack of symmetry in the lungs, the kidneys and even the heart itself. The recognition of these facts were shown to have a practical value, as for example, in making deductions from the results of physical examination.

Sarcoma of the Tonsil.

Dr. Arthur G. Root, Albany, reported this case, occurring in a man of 23, and necessitating lateral pharyngotomy.

Treatment of Pelvic Suppuration.

Dr. Charles P. Noble, Philadelphia, presented a paper on this subject, based upon 200 cases. He showed that the mortality had fallen from 16.3 per cent. in the earlier cases to 4.8 per cent. in the later ones. Most of the latter had been treated by incision through the vault of the vagina.

The Sideroscope.

Dr. Thomas R. Pooley, New York City, exhibited the improved instrument of Hirschberg, and said that he was the first to employ the magnetic needle for detecting the presence of particles of iron and steel in the eye. His first paper on this subject had been presented in 1880 to the Section on Ophthalmology of the American Medical Association. It is similar in construction to the reflecting galvanometer, a magnet, with a mirror attached, being suspended by a fiber of silk. The reflected light falls on a scale, and the deviation of this spot of light from the zero mark points to the presence of a piece of iron or steel in proximity to the magnet.

Gonorrhea of the Prostate.

Dr. John Vander Poel, New York City, was the author of this paper. He said that in 190 dispensary and private cases this affection of the prostate was present in 39.7 per cent. An exploration of the rectum and an examination of the fluid removed by massage should be made in order to establish the diagnosis of gonorrhea of the prostate. By the proper use of the modern gonococcidal remedies, such as protargol, the number of cases of prostatitis could be diminished. The treatment should be begun, if possible, within the first day or two. The anterior urethra is first washed out with a 0.25 to 0.5 per cent. solution of protargol, and then the protargol solution is injected directly into the bladder, using from 200 to 400 grams. This irrigation was best given with the patient recumbent.

Fractures of the Nose.

Dr. John O. Roe, Rochester, presented this paper. He said that the bones should be placed in good position by the introduction of a smooth sound aided by the finger externally. The nose should then be covered with a strip of adhesive plaster, and over this should be fitted a mold of aluminum or copper, and held in place by a broad strip of adhesive plaster, The internal support should consist of a spring covered with rubber, or a packing of cotton or gauze. This dressing should not be applied so as to cause pain.

Dr. Leonard Weber, New York City, spoke of two bad cases in which he had succeeded well by the insertion of two large rubber tubes.

Dr. Wendell C. Phillips, New York City, emphasized the need for all having the care of children to be informed as to the importance of carefully attending to even apparently slight injuries of the nose in these little ones. He could not agree with Dr. Roe that the external support was so much more important than the internal splint.

(*To be continued.*)

CHICAGO MEDICAL SOCIETY.

Regular Meeting, held Dec. 11, 1901.

The President, Dr. C. Fenger, in the Chair.

The Conservative Treatment of Appendicitis and Fallacy of the Starvation Cure.

Dr. J. H. Carstens, Detroit, read the above paper by invitation. He cited a case which was brought to the Harper Hospital about fifty or sixty hours after the so-called starvation method had been thoroughly tried. Patient was in collapse, almost

pulseless, and in fifteen minutes she was dead. Postmortem examination revealed a gangrenous appendix, with gangrene of the cecum around the seat of the appendix for about half an inch, with perforation. It had been walled in, but had ruptured with resulting acute sepsis. He reported two similar cases to illustrate the fallacy of the so-called starvation plan, and then called attention to the death record of the city of Detroit last year. He found 37 cases recorded as having died from appendicitis; 54 were put down as peritonitis. The death records of these 37 patients were signed by nineteen different physicians. He thought by inquiring of them he might be able to arrive at some conclusions. He received answers from twelve, who reported on 25 deaths. Fourteen of these had been subjected to operation, and 11 others died without operation. He asked these same practitioners to give the number of cases they had had during the year, and how many had died with or without operation. He received reports of 213 cases of appendicitis, of which 160 were operated during the acute attack or during the interval, in short, at any time when the surgeon thought it was proper. Of this number, 14 died. The list of surgical cases included naturally the reports of the principal surgeons, and gave a death rate of about 8 per cent., counting everything—easy interval cases, purulent peritonitis, and those actually moribund. The number of cases treated medically were 57, with 11 deaths, giving a mortality of over 20 per cent. From the reports of the physicians, in nearly every case operation had been urged, but refused by the parents of the patients, or by the patients themselves. The essayist said that he was continually hearing about the "starvation treatment" and what wonderful results are claimed for it. He thinks that it is good treatment in all kinds of bowel trouble, typhoid fever, and even appendicitis where an operation can not be done; but he emphatically protests against the starvation plan of treatment as advocated with the idea of the patient getting over the attack and then being operated on during the interval of quietude.

To sum up, the author stated that the conservative treatment of appendicitis consists in prompt operation; and that the starvation method of procrastination is vicious, and has cost many lives, because it is used as an excuse to dally with patients that should be promptly subjected to removal of the organ.

DR. WILLIAM J. MAYO, Rochester, Minn., wished he could have convictions on the subject of appendicitis that were as clear as those of the essayist. He regretted that this is not so. Unfortunately, patients do not consult the surgeon sufficiently early to be operated within the first twenty-four or forty-eight hours. He could not agree with the essayist that every case was an early one from the time the patient was seen. If a patient has been sick for five or six days, is bloated, has not been able to get a movement of the bowels, is vomiting, he knows there is considerable mortality in operating upon that class of cases at that time, and that many of them can be gotten into a more favorable condition. It could be safely said that patients who are operated upon early will nearly all get well; patients operated on at the end of the first week will nearly all get well. It is the intermediate class of cases that gives the mortality.

DR. CHRISTIAN FENGER briefly reviewed the early history of appendicitis. He believes the majority of surgeons will agree with him in saying that the severe cases should be operated on at sight. There is undoubtedly a general peritonitis existing in these, and the earlier operation is done, the better. As to the medium-severe cases, the surgeon should think, think, think, and select. It was difficult many times to do this. There must be a selection of cases, because the majority of the medium-severe cases get well without operation. He mentioned a class of cases that were half pathological and half clinical. In these the abscess was usually so located that it could be emptied through the rectum or vagina instead of waiting twenty-four hours for the subsidence of the acute symptoms.

DR. JOHN B. MURPHY mentioned the statistics of the Health Department of Chicago, saying that in 1895 there were 106 fatal cases of appendicitis; in 1896, 158; in 1897, 141; in 1898, 174; in 1899, 251; in 1900, 233; 1901 (nine months), 203 cases. He believes that the intelligence of the medical profession is far in advance of those statistics, while its practice is just what the record shows—it is not at all up to its intelligence. The question of medical or surgical treatment resolved itself into the relation of pathology to symptoms; and the relation of symptoms and pathology to time. The cases that come to the surgeon are pus cases. The profession errs in allowing patients to reach the stage of formation of pus. The diagnosis can and is made by the majority of practitioners early; by some it is made with sufficient courage to act. He believes in operating in the early stage of the disease, and by this he means inside of the first thirty-six hours, better inside of the first twenty-four hours, and there is no good reason for waiting longer.

DR. A. J. OCHSNER said that the cases reported by Dr. Carstens were improperly treated by the general practitioners. Of several hundred cases treated by him, they did not need, as a rule, more than one hypodermic injection, and not three or four hypodermic injections as mentioned by the essayist. This number of injections meant that the patients received either cathartics or food, and this in turn caused the pain. If no cathartics or food had been given, the pain would have subsided in twenty-four hours. Surgeons should operate on these cases, if possible, before the infectious material has passed out of the appendix; but in his experience the number that come under his care before this has happened is approximately 5 per cent., and in the other cases the infectious material has already passed beyond the vermiform appendix. So long as the infectious material is confined within the vermiform appendix, in any case of appendicitis, it is wise to operate, because such patients will almost invariably get well. It is not because he is afraid of operating that he selects the so-called starvation method of treatment, but it is because his mortality has only been one-fourth as high as it was before he resorted to it. Out of 198 cases in which he demonstrated a perforation at the operation, either on account of a stone or gangrene, he has had a mortality of only 9, less than 5 per cent. In every case that comes under his care within the first thirty-six hours, he invariably advises an operation. If this advice is not accepted, he is certain that there will be a mortality of almost nothing in patients who are not fed.

DR. ARTHUR D. BEVAN said that the subject had not been discussed in a judicial manner by the essayist. If he understood him, the essayist urges operation upon all cases, no matter when the patient is seen; while another speaker advocated that no case of appendicitis should be operated on except it could be demonstrated that the lesion is confined within the caliber of the appendix. Very few surgeons could demonstrate that point. The judicial remarks of Dr. Fenger, as well as the discussions of Keen and other men, would in time be generally accepted; that the mild cases should be handled in a rational, scientific way—no catharsis, cleaning out the stomach, giving opium to prevent peristalsis; that the severer cases should be operated at once; that the middle-ground cases should be dealt with in the manner indicated by Dr. Fenger.

DR. L. L. MCARTHUR stated that Dr. Bevan had expressed his own position in the matter very clearly. He made a plea for those cases that are considered moribund at the time they are seen by the surgeon, and apparently were utterly hopeless. He knew it is getting to be the practice of some surgeons to refuse to operate on this class of patients, permitting the general practitioner to shoulder the responsibility of the fatality himself. Even in such cases he believes a few of them can be saved, and of 72 cases that appeared to be moribund, in collapse, with peritonitis, he has opened in the median line, and has saved 19, but he had operated 17 consecutive times before he got one patient to live. He feels, therefore, that even in utterly and apparently hopeless cases something should be done for them.

DR. FERNAND HENROTIN had not reached the point where he could lay down rules for his guidance in cases of appendicitis. He took it for granted that very few surgeons operated on patients who were moribund. On the other hand, they did not

operate on patients who were practically well. If patients recovered from the acute stage and were then seen if operated in the interval, there was practically no danger. The important thing was to emphasize that appendicitis is a surgical disease. If the case can be seen early, when it is presumable that the infection is still confined within the appendix, nothing is more gratifying than when the appendix is removed. That class of patients usually recovered.

Dr. E. Wyllys Andrews stated that he knew from practical experience that the conservative treatment, including early washing out of the stomach and withholding of cathartics, is followed by death in many instances. He had a patient in whom he carried out this treatment rigorously; but the patient died between his evening and morning visit. He did not think there was any fault in the execution of the conservative technique. He cited a similar case that terminated fatally in his own practice, as well as cases in the practice of others. He knew of cases seen by Dr. Ochsner in consultation that have died without operation. He thought it was folly to permit the statement to go out that a large number of cases can be saved by conservative measures and contrast that method on the one hand with the results of operative treatment on the other.

Dr. A. H. Ferguson said that surgeons were all agreed that in the severe cases, where there is no doubt as to the diagnosis, and there is tumefaction, with all the other symptoms of acute inflammation of the appendix, the appendix ought to be removed as soon as possible. Statistics show that that is the best treatment. In a large percentage of cases, surgeons operated as soon as they could, whether the patients were apparently moribund or not, because they felt it a duty to the patients; they felt that they were not cowards if they gave patients the chance of an operation, even though that chance be very little. He had lost two patients who were operated on within forty-eight hours after the onset of the attack. So far as he could judge, he managed his cases after the method mentioned by Dr. Mayo, although he was prepared to operate more frequently upon the intermediate cases than he did formerly, because he felt that a patient would die now and then because he did not operate.

Dr. D. W. Graham said that he did not like to hear anyone lay down rules for the treatment of appendicitis. Every operator had his own method and made his own rules. In short, a surgeon would make a rule to-day and violate it to-morrow. He had been operating on the intermediate cases more frequently than he did formerly. He believed that more patients could be saved who would otherwise die by simply having regard for a general surgical principle, namely, the relief of surgical tension. All that some of these cases required was a simple incision and drainage for the time-being. The appendix could be removed at a subsequent operation, if deemed necessary.

Dr. A. Goldspohn had applied the method of Dr. Ochsner in three very mild cases. The symptoms were not marked, but the tenderness was positive. He had also had patients brought at once to the hospital so as to be able to do surgery at any moment, and then instituted the starvation treatment. Two of the three very mild cases that he thought would have recovered at home without almost any medical treatment, that had not been overfed, did very well, but the other case did not. This patient was operated on, and a recovery obtained, although he had a good deal more serious case to deal with than he would have had if he had operated twenty-four hours earlier.

Dr. William M. Harsha said there was no question as to the treatment of severe cases at the start, if the surgeon saw them; but the surgeon saw the majority of the cases after two or three days. He had held for several years the view advocated mostly by Richardson, of Boston, that it was dangerous at this stage to operate on every case. He still thought so. He believed there were cases in which the treatment advocated by Dr. Ochsner was the very best that could be pursued. He maintained that every case should be operated on that was progressive at the end of thirty-six hours.

Dr. A. I. Bouffleur was inclined to follow the course outlined by Drs. Mayo and Bevan, with the general proposition that he would operate when in doubt. At the present time that was the most comforting position which he was able to occupy, and such being the case, he adopted it as the nearest thing to a rule that he could make.

Dr. Edward H. Lee said there was one form of appendicitis that had not been mentioned, namely, that form of the disease designated as streptococcus infection, the infection taking place through the wall of the appendix without perforation. It could not be termed a general suppurative peritonitis; but postmortem examination would reveal distention of the entire intestinal tract, a hyperemic condition of the intestine without suppuration. The appendix might or might not show some gangrene. As a rule, it did not show any gangrene whatever. In these cases the symptoms were aggravated from the start; vomiting was persistent; there was no localized tenderness, so that it was very difficult to make an accurate diagnosis of appendicitis. These cases terminated fatally in twenty-four to forty-eight hours, and surgical or medical treatment would not be of any value whatever. However, these cases were very rare.

NORTH BRANCH OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Jan. 16, 1902.

The President, Dr. A. M. Eaton, in the Chair.

Diagnostic Value of Digital Examination in Diseases of Rectum.

Dr. H. A. Bray dwelt at some length on the fact that the general practitioner treats diseases of the rectum too much from a symptomatic standpoint and without making a local examination of the part affected. Cases of this character usually present symptoms of extreme nervousness, melancholia, sometimes with suicidal intent, pain in the rectum, digestive disturbance, disorders of the liver, etc., and very often the case is treated for the most prominent of these symptoms without the real cause of the trouble being suspected. Several cases were cited in support of this theory; in one of them the patient had been treated by many physicians for constipation, the condition having existed many years. When he came under the author's observation a digital examination was made which revealed a stricture 2½ inches above the external sphincter muscle. In another case which was being treated symptomatically for constipation, local examination revealed carcinoma of the rectum situated 2 inches above the external sphincter muscle. The method of making the examination was given in detail and especial stress was laid upon the importance of examining the parts close to the anus, as well as those higher up in the bowel, and the opinion was expressed that practically all pathologic changes in this region except internal hemorrhoids can be detected in this manner.

Operative Treatment of Hemorrhoids.

Dr. Charles F. Nassau read this paper. The different methods of procedure in operating on this condition were fully discussed and the view expressed that the ideal method of operating is to treat the hemorrhoidal area in the same manner as you would treat a varicose condition in any part of the body, thus avoiding the pain produced from unhealed ulcerating surfaces, the result of sloughing away of ligatures or the granulating lines left by the clamp and cautery. As regards the use of escharotic injections they were considered as of no use in external piles and although producing considerable benefit in some cases of internal hemorrhoids, the dangers attendant upon their application were such as to overbalance their merits. Local infiltration anesthesia was recommended in suitable cases, although it was thought to increase the technical difficulties of the operation. In cases having comparatively small internal hemorrhoids, stretching of the sphincter ani and careful attention to the fissures, such as the application of the cautery, division of the base to healthy tissue or complete excision followed by careful suture were recommended. In minor cases of isolated external piles excision of the veins involved followed by careful suturing of the

skin wound was recommended. The Whitehead operation, while based upon correct grounds, was considered at fault in its technical details, and as it is also sometimes followed by stricture and even incontinence, it was not advised. For the more difficult cases the excision of the entire pile-bearing area followed by suturing was thought to be the most desirable procedure. This operation can be done either under local anesthesia or ether, according to the indications of the particular case. Considerable stress was laid upon the importance of general and personal hygiene following this treatment and especially should the patient be instructed to secure a daily action of the bowels.

Diagnosis and Treatment of Carcinoma of Rectum.

Dr. George C. Ross considered that there are five varieties of this condition: epithelioma, scirrhus, encephaloid, colloid, and melanotic carcinoma or sarcoma, the frequency of their occurrence being in the order named. The most common form of cancer of the rectum is the variety of epithelioma known as adenocarcinoma. The most rapidly fatal form is the sarcoma or melanotic carcinoma, which is also the most rare, only 11 cases of this variety being so far recorded. The importance of both digital and optical examination in all cases of local ailment of the rectum was emphasized and the author considers that in cases of doubt the administration of a local anesthetic, or even ether, if the case indicates, is not only permissible but demanded, when necessary, in order to secure a specimen of the growth for microscopic examination. Cancer more frequently occurs in old age, the percentage of cases increasing very rapidly after the age of 20. Attention was directed to the fact that the history of the case will often be of material aid in making a diagnosis of the condition, some of the most common symptoms being loss of weight and strength, cachexia, and difficult defecation, the stools containing bloody, mucous discharges.

Statistics regarding the immediate mortality rate were given and it was shown that about 20 to 30 per cent. of the cases are immediately fatal when radical measures are employed, the causes of death being peritonitis, shock and retroperitoneal infection, with resulting septicemia. There are very few reported cases where the patients have remained perfectly well for a period of four years, and the best authorities on this subject seem to give a very unfavorable prognosis. The two principal methods used for extirpation of the diseased rectum are Kraske's operation and its modifications, and one which is applicable in the female, using the route of the perineum to gain access to the bowel. This operation is claimed by those who have used it to be a very satisfactory one. In the cases where radical treatment is not indicated, either from the disease being too far advanced or for any other reason, colostomy is the only alternative, and this operation was also recommended in some instances as a preparatory measure in order to allow the patient to build up his strength before undertaking radical procedure.

Dr. William L. Rodman, in discussion, stated that he considered too much stress could not be laid upon the importance of a thorough digital examination in diseases of the rectum. In regard to the different varieties of carcinoma he considers the adenocarcinoma of the rectum of the most common occurrence, and in his experience the scirrhous and encephaloid forms of the disease have been rare. Several instances were noted of cases which had come under his observation, where in opposition to the usual rule that carcinoma of the rectum usually proves rapidly fatal, five, ten or even twelve to fifteen years had elapsed before death, the patient in the interim remaining in fairly good general condition. If radical procedure is to be undertaken the importance of early operation was urged, and when the disease has become far advanced before surgical relief is sought colostomy is thought to be the most advisable measure, as at this time only palliation can be hoped for, and this operation seems to afford more relief than any other.

The different operations in use for the removal of hemorrhoids was carefully considered and the Doctor stated that after more or less experience with all of these he feels that ligation is to be preferred. The Whitehead operation was making a major procedure out of what should be a minor one. The author stated that he had known excellent results to follow carbolic acid injections, but felt that the untoward results sometimes following this method more than overbalanced its merit. Regarding the clamp and cautery the chief objections seemed to be the liability of hemorrhage following the operation when the stump is cut off too close, and in some instances embolism has occurred, followed by sudden death. With the ligature operation, the hemorrhage, if it occurs at all, usually happens before the patient comes from under the influence of the anesthetic and no instances have come under his observation where secondary hemorrhage has occurred.

Dr. A. H. Hulshizer felt that the operation which each individual was most familiar with would give the most satisfactory results, for the reason that it would be performed in a more skilful manner, and stated that in his own experience in cases where the ligature had been used, which is the method he prefers, there had been little or no complications.

Dr. E. W. Holmes urged the necessity for thorough local examination in all cases of rectal diseases, and cited instances where, under mistaken diagnosis, due to the physician relying wholly upon the clinical conditions present, grave errors had been made in treatment, and relief by operation delayed until it was too late. Reference was made to an electric proctoscope which had been recently placed on the market which seemed to be a very valuable instrument.

Dr. G. Betton Massey discussed at some length the different varieties of cancer and the various methods employed in their treatment and from his own experience is inclined to favor the electric cautery. In two cases which have recently come under his observation he has used this method with very satisfactory results. He especially urged the early recognition and treatment of this condition.

Dr. Mordecai Price said that the different operations performed by different surgeons for rectal disorders is due principally to the individual's familiarity with some particular operation. Formerly he was much in favor of the Whitehead operation, but some years ago saw a case in which the after-results were such as to deter him from practicing it further. Since that time he has been using the clamp and cautery, and he has never experienced any untoward results therewith. Regarding carcinoma of the rectum he is of the belief that there are very few, if any cases in which it can be cured.

Dr. Lewis H. Adler considered that, notwithstanding the fact many surgeons are opposed to operating on hemorrhoids when they are in an inflamed condition, it is better to operate at this time than to wait until the disease has made such progress that the patient is greatly weakened thereby, which will be the result in a majority of the cases, owing to the fact that when the patient is not suffering pain from the piles, he will not consent to an operation. Stress was laid upon the importance of differential diagnosis between external and internal piles, and for the relief of the external variety the thermocautery was recommended. He considered the clamp and cautery as superior to the ligature and believed that when this method is properly used the danger is practically nil.

Dr. Andrew J. Downes considered that one of the most essential points was to be sure not to include the skin in either the clamp or ligature, as he thought that this was responsible for much of the pain following either method. For the purpose of controlling hemorrhage, instead of the ligature, he recommends the electro-hemostatic forceps.

SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Monthly Meeting, held Jan. 14, 1902.

Dr. John C. Spencer, in the Chair.

A Brief Resume of the Present Aspect of Scleroderma.

Dr. A. B. Grosse read this paper. After a review of the etiology, course and clinical aspect of the disease, he presented a case, one of seventeen which he had the fortune to observe, and the second only which had been reported in San Francisco, the first having been reported by Dr. Leo. Newmark in 1892. C. W., male, aged 51, nativity Schleswig-Holstein; porter, mar-

ried, presented himself March 25, 1901. He had had gonorrhea, stricture, epididymitis and chancre not followed by secondaries—all over 25 years ago. About 12 years ago he noticed swelling, rigidity and formication of skin and muscles of both hands, later encroaching on half the forearm. Symptoms were especially noticeable on days he did not work. At present time skin of fingers was thin and parchment-like, muscles rigid, fingers flexed, neuralgic pains in hands and forearms; impaired motor function makes him useless for his occupation. Skin of face was affected from chin to a line through outer canthi of both eyes. Mucous membrane of mouth was affected, scalp indurated, also feet, upper half of legs and lower half of thighs edematous.

August 25, 1901: Forehead becoming affected; hands and forearms in stage of atrophy, lower half of thighs to toes, stage of infiltration; bands of sclerodermic patches on abdomen and chest; paroxysms of sweating; complains of cold; general pigmentation, but much lighter than Addison's. Nov. 11, 1901: Skin symptoms are progressive; he complains bitterly of sensation of cold; formication and shooting pains in finger tips and unbearable neuralgia of extremities and joints. Dec. 26, 1901: Skin lesions have progressed rapidly; skin is tight over bony prominences and very painful; pigmentation well marked; perspiration now only of feet and legs. Jan. 9, 1902: Right side of body is much more involved; marked loss of function and deformity of right hand and paretic condition of right side of face; he can not chew food; sense of taste is impaired; complains of seeing double; he has not perspired for one week. Jan. 13, 1902: Definite change for worse since last visit; shooting pains through chest and down lumbar spine; breathing and performance of necessary motions are difficult; clonic contraction of muscles of both hands.

Four Cases of Puerperal Toxemia Treated by Accouchement Force.

Dr. J. F. McCone read this paper. He said that opinion was divided as to the expediency of manual dilatation and incision of the cervix uteri with rapid emptying of the uterus in cases of eclampsia, and as these were comparatively new methods of treatment and there were few statistics as to results he reported the following cases of extreme puerperal toxemia:

Case 1.—Mrs. F., primipara; aged 22; previous history negative; date of expected confinement, Feb. 26, 1900. On Nov. 1, 1899, urine was examined, no albumin, urea 2 per cent., no untoward symptoms. On Nov. 10, headache and tingling existed in left ring finger. On Nov. 11, 9 a. m., eyelids were swollen, face disfigured, hands pale and swollen, ankles swollen and feet shapeless; she had severe frontal headache and dimness of vision. Patient was removed to hospital. In ambulance first convulsion occurred so severe that lower jaw was dislocated on both sides. She arrived at hospital unconscious, pulse weak and rapid, breathing short and shallow. Cervix was cut laterally and a five and one-half months' fetus rapidly extracted; placenta was removed and uterine bleeding encouraged by abdominal poultices and warm douches. There were two subsequent convulsions; 150 c.c. of urine were excreted the first day. In six weeks urine was normal and patient in good health.

Case 2.—Mrs. V., aged 39; ten years ago, after pernicious vomiting, swelling of face and extremities, aborted a 3 months' fetus. Feb. 24, 1900, she was six months pregnant; conditions were normal. April 21, amount of urine decreased and albumin present. Milk diet was ordered, purgatives, diuretics and diaphoretics were given. May 1, she had a short convulsion; 50 c.c. of bloody urine were passed in 24 hours. She was removed to hospital. May 2, there was general edema, dulness of sight and intellect, and epigastric pain. Nitroglycerin, salines and hot-air baths were ordered. Urine increased, albumin lessened, patient remaining stupid. May 5, she had a second convulsion; accouchement force was decided upon. Third convulsion occurred before operation; patient was deeply cyanosed, pulse rapid and weak, with respiration labored. We delivered fetus, dead several days. There was no further convulsion; recovery uneventful.

Case 3.—Mrs. S., aged 44, four children, pregnancies normal. Last menstruation was April, 1901. She came under care Sept. 13, 1901, suffering from constant nausea and severe frontal headaches. Blindness occurred following gradual loss of vision for two weeks past. She had been on milk diet, salines and nitroglycerin under the care of country physician. Sept. 15, she was restless; sightless eyes, edema of face and extremities; mind much disturbed, persistent vomiting, epigastric pain; temperature was 96, pulse 98. She was placed on milk diet, nitroglycerin hypodermically, hot-air baths and high enemata of normal salt solution. Sept. 16, amount of urine was 150 c.c. Maniacal tendencies existed; vomiting uncontrollable. Manual dilatation of cervix and version were made; dead fetus delivered. Two hours after operation vomiting had stopped, but violent mania ensued lasting for thirty hours, when it suddenly subsided. Amount of urine became very great, passing 3000 c.c. on the fourth day. Sight improved and in three weeks patient recovered.

Case 4.—Mrs. B., primipara, aged 23, previous history good. Nov. 23, 1901, she entered hospital seven months pregnant; suffering with nausea and vomiting for two weeks past, headache and epigastric pains and general edema. She passed urine 400 c.c. in 24 hours, urea 10 gms., albumin 1.8 gms. Patient was put on mag. sulph., infusion digitalis, milk diet and hot baths. Nov. 26, urine amounted to 350 c.c. Nov. 27, 1 p. m., she had a convulsion lasting twenty minutes; patient remaining cyanosed, respiration labored, pupils contracted. Chloral was given by rectum. At 4:10 p. m. she had severe convulsion. At 4:30 p. m. manual dilatation and multiple incisions of cervix were made, forceps applied and seven months' child delivered alive. There were no further convulsions; gradual increase of urine and decrease of albumin. Dec. 14, mother and child left hospital in good health.

In Cases 2 and 3 the fetuses were dead, refuting the statement often made in text-books that convulsions ceased when fetus perished. Urine charts showed a progressive decrease in the albumin and increase in urea after the operation in Cases 1 and 2, but in Cases 3 and 4 the albumin decreased, the amount of urine increased, but amount of urea bore no constant relation to condition of patients.

On Some Surgical Affections of the Parotid Gland.

Dr. Emmet Rixford read this paper. He said that because of its peculiar anatomic relations the parotid gland was of extraordinary surgical interest, from a pathologic standpoint, on account of the great number of surgical affections to which it is subject; and from an operative standpoint, on account of its proximity to important structures, its transmission of important nerves and vessels and the peculiar properties of its secretion. The lymphatic glands of the parotid were all situated within the capsule or fascial sheath of the gland consisting of a superficial and a deep set, and receiving, as they do, lymphatics from wide regions so prone to infections as the eyelids, the external ear, the auditory meatus and the posterior nares, explained many cases of suppurative processes in the parotid region. The excretory duct opening directly into the mouth was considered the most frequent transmitter of pyogenic bacteria into the parotid, probably accounted for by diminished secretion of saliva in fevers, e. g., typhoid, pneumonia, cholera, etc., and after large abdominal operations. In dispensary practice an eczema of the ear with a painful swelling over the parotid was a common thing. The sheath of the parotid mingling with the periosteum of the ramus at its posterior border pus might reach the parotid by direct extension from an osteomyelitis or periostitis of the lower jaw. When pus was superficial incision was without risk to facial nerve or carotid, but when deep it was far safer to incise only deeply enough to open fascia over the gland and then use blunt dissection. If deep incision was necessary it should be parallel to facial nerve. Cavernous angeioma rarely occurred in the salivary glands, although common just beneath the skin of face. An ordinary subcutaneous angeioma in the parotid region was not properly an angeioma of the parotid gland and diagnosis as such should be made only when the

microscope showed gland tissue between its lobules. In a baby one year old he had removed a true angeioma penetrating deeply into the parotid, which was shelled out with comparatively little difficulty. Opening into the gland was 2½ cm. in diameter and exposed the branching facial nerve crossing the floor of the opening. Primary union resulted with very slight scarring. The so-called mixed tumor was benign, at least in the beginning, often lasting 8 or 10 years before becoming large enough to lead the patient to undergo operation. It was among the more frequent tumors of the parotid and might contain cartilage in varying amounts. He cited case of a woman, age 35, with tumor of the parotid; hard, nodular, the size of a man's fist. First noticed 4 years before. Tumor extended down to level of hyoid bone. Facial nerve was displaced downward 6 or 7 cm. below normal situation lying in groove between two large nodules of the tumor. Wound closed with primary union and recovery. Sarcoma as a primary tumor of the parotid was rare and might be of any one of the ordinary forms of sarcomata and might be encapsulated, a fact of enormous value in prognosis. He reported a case of removal of encapsulated sarcoma together with entire parotid gland one year ago with no sign of recurrence at the present time. In two cases of epithelioma of the cheek the inner end of Stenson's duct was removed and communication of the remainder with mouth established. In first case 2 cm. of the duct were taken away, a funnel of mucous membrane was drawn into the wound and fastened to the anterior edge of the masseter muscle, and the end of the duct introduced through its apex and secured with fine silk sutures. Union resulted with no leakage of saliva through wound. The dimple on inner side of cheek caused no difficulty in mastication or from food lodging in it. In the second case excision of nodule required cutting directly through the whole cheek, making an opening 6 cm. in diameter which was sutured antero-posteriorly in order not to limit the action of the lower jaw; 3 cm. of the duct had been removed. A strip of mucous membrane 5 mm. wide was dissected from the edge of the inner wound and brought out around the edge of masseter and united to the remnant of the duct with fine silk suture. Union occurred without suppuration in wound in cheek, and the new duct remained open and could be entered with a fine probe.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, held Jan. 16, 1902.

The Vice-President, Dr. George L. Peabody, in the Chair.

The Food Factor as a Cause of Health and Disease During Childhood.

Dr. Joseph E. Winters pointed out the paucity in milk of iron, and that while the infant begins life with a store of iron in the liver and other parts of the body, this iron is gradually used up, so that by the time the weaning time arrives the system is in need of a new supply of iron. For this reason, late weaning or the too prolonged use of an exclusively milk diet will cause anemia. Oatmeal was found to be rich in the constituents necessary for the proper growth and development of the child at this period of life, iron not excepted. It was, however, indigestible unless the cellulose were removed by cooking and straining. It was not prudent to change to cereals in the heated term, and it was often well to substitute barley at this season of the year. A child of 15 months should be allowed a crust of stale bread twice a day, and should be given also whole milk, oatmeal or barley jelly, and a soft-boiled or poached egg two or three times a week. It should be remembered that in the growing child carbohydrates were necessary in order to meet the large demand for energy and at the same time shield the proteids and fats from oxidation so that they may be stored for future needs. Nitrogenous matter is essential to every vital process, and proteids must be supplied to the growing child not only for the building up of the muscles but for the proper growth of other structures. Unlike the adult, the child required a generous supply of mineral salts with which to build up the osseous system, but in order that they may be properly assimilated it is absolutely necessary that they remain as in nature in organic combination. An abundance of fat should be the main characteristic of the diet of the young child. The relatively large heat-radiating surface in the child called for an adequate supply of heat, and this was best secured by an ample supply of fat in the food. If the latter were deficient in fat, rickets would result. There was no apparent difference in the nutritive value of animal and vegetable proteid, and the latter possessed the advantage that it is free from crystalline extractives which exist in meats in the proportion of 15 per cent. Metabolism was especially active in the growing child, and an excess of animal food, by over-stimulating this metabolism, would interfere with the laying on of fat and of muscular flesh. One of the greatest evils of a meat diet was that it usually created in the child a distaste for cereals, vegetables and milk—in short, acted very much like coffee, tea and alcoholic beverages. The importance of having a due proportion of the alkaline carbonates in the food might be inferred from the fact that an alkaline fluid was essential to the proper functioning of the body cells. These alkaline bases were to be found in organic combination in certain vegetables and cereals. Vegetable food was probably the chief factor in the production of the coloring matter of the blood. Dr. Winters made strenuous objection to the present tendency to teach that beef and beef juice should form a prominent part of the diet of very young children. He declared that there was more so-called rheumatism, anemia, valvular disease of the heart and chorea in children at the present time as a result of this too free use of meat in the diet of young children than from any other cause. Meat juice should not be given until the age of three years, and then only sparingly.

Dr. Leroy M. Yale said that his experience had led him to practically the same conclusions. The children of the poor, by their free outdoor life, had an opportunity to offset in a measure these defects of the diet, but not so the children of the rich, who in their staid constitutionals had no chance to exercise freely; hence, the latter were often the victims of rheumatism and gout.

Dr. John Dorning thought the reader of the paper had done a good service in calling attention to the dangers of using beef juice too freely in the diet of young children. It was not rare to find an infant of three months receiving from half an ounce to one ounce and a half of beef juice daily. Milk and cereals should be the chief articles of diet, and he would place oatmeal at the head of the list for both children and adults. He preferred to give the children whole-wheat bread.

Dr. Thomas S. Southworth said that the transition from an exclusively milk diet to a mixed diet was a critical period, and without adequate and enlightened medical supervision the child was apt to lay the foundation for much ill health. He hardly felt, however, like agreeing with Dr. Winters in such a wholesale condemnation of beef juice for young children, though admitting that if given in too large quantity it was deleterious. He felt sure that it was often valuable, not only as a nutrient but as a means of improving the quality of the blood.

Dr. Elmer Lee was of the opinion that only such food as was in itself capable of germination was suitable for either the child or the adult. Meat was not only costly, as compared with cereals, but was of low nutritive value.

Dr. Winters, in closing, declared that many of the proprietary infant foods in the market were devoid of any nutritive value by reason of the chemical process to which they had been subjected in order to preserve them. The milk with which they were given to the child, and not the so-called food, was really to be credited with any good resulting from their use. In his experience, the children of the well-to-do in this city were unable, as a rule, to take whole-wheat or other coarse bread without digestive derangement, as he had many times proved to his own satisfaction by watching the digestive trouble disappear simply by forbidding the use of such bread. He would guarantee that an anemic child, free from organic disease and from infection, if given milk, cereals and vegetables in proper proportions would, in every instance, become rosy and rotund.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

PRESCRIPTION WRITING, XII.

(Continued from page 347.)

Methods of Administration—Continued.

Local applications of medicines may be employed on mucous membranes as well as on the skin; and when applied to other surfaces than the skin aqueous solutions, washes and gargles may be used.

When drugs are applied to the skin in order to produce general systemic effect it is usually in those cases in which the stomach has to be protected for certain reasons and where hypodermic medication can not be judiciously resorted to. Difficulties may sometimes arise in calculating accurately the dose of the preparation used, on account of the uncertainty of absorption.

Endermic Administration of Drugs.

This method consists in producing a raw surface by means of a blister, which will readily absorb the medicinal substance, such as strychnin, morphin, atropin, or quinin. This method was formerly employed, but is practically obsolete, being superseded by hypodermic medication.

The Use of Liniments.

Liniments are less used than formerly. Their value probably does not consist in the properties of the ingredients they contain so much as in the vigor of the rubbing or massage of the parts to which they are applied. Their effects are purely local. In the application of liniments mistakes are often made by saturating the bandage with a liniment containing one of the volatile preparations, thus producing a large blister or possibly sloughing. The following are the official liniments: Linimentum ammoniæ (volatile); linimentum belladonnæ; linimentum calcis; linimentum camphoræ; linimentum chloroformi; linimentum saponis; linimentum sinapis comp.; linimentum terebinthinæ. The strength of these liniments range from 10 to 20 per cent.

Ointments.

Some drugs, if properly mixed with certain fatty substances as a vehicle, will be absorbed through the skin. In this manner mercury can be given and will be absorbed, if well rubbed in, without any abrasion of the skin. Quinin is often administered to children by this method. It can be mixed with lanolin, which is the best vehicle for such purposes. The selective points for application are the axillary spaces, and the inner side of the thighs and groins. Mercurial inunctions may be rubbed in between the scapulæ.

In some of the venereal clinics of Europe patients with bared backs are daily placed astride a long plank, one in front of the other; each one is engaged in rubbing a definite amount of the mercurial ointment into the skin of the patient immediately in front of him.

Oleates are supposed to be absorbed more readily than other ointments. There are three official oleates: oleatum hydrargyri, oleatum veratinæ and oleatum zinci.

Suppositories.

Drugs are sometimes administered by the urethra, vagina or rectum, either for local or systemic effects. When introduced in the form of a suppository, oil of theobroma is most frequently used as the base, as it melts at the temperature of the body and remains as a solid at the ordinary temperature outside the body.

The following rules are generally observed in making the different forms of suppositories: Rectal suppositories should be cone-shaped and of about one gram in weight (15 grains). Urethral suppositories should be cylindrical or pencil-shaped and weigh about one gram. Vaginal suppositories should be globular in shape and weigh about three grams. Suppositories for children should be proportioned accordingly. Glycerin is sometimes used as a vehicle, being substituted for cocoa-butter.

(To be continued.)

To Remove Dandruff.

According to *Merck's Report*, among the remedies which have been found to be most serviceable in the treatment of dandruff are resorcin, tannoform, salicylic acid and boric acid. The following mixture is recommended as being most efficacious:

℞.	Resorcin	ʒi	3|75
	Tannoform	ʒi	3|75
	Acidi salicylici	gr. v	|32

Misce. Dissolve the powder in three ounces of alcohol and one ounce of water and filter. Sig.: Apply locally to the scalp.

Or:

℞.	Resorcin	ʒi	3|75
	Acidi borici	ʒss	1|90
	Aquæ	℥iv	120|

M. Sig.: Apply locally to the scalp.

The foregoing ingredients may be incorporated with an ointment if desired, such as aquæ unguentum rosæ (cold cream), adeps lanæ hydrosus, petrolatum, etc.

Treatment of Bronchitis with Bronchoplegia.

Martinet, as noted in *Med. News*, states that in treating bronchitis the two general indications are to lessen the cough and diminish the bronchial secretion. But a third indication, sometimes of great importance, is to combat bronchoplegia, the paralysis of the smooth muscles of the bronchi. This may be due to the toxins of certain infectious diseases, diphtheria, influenza, etc., or may be produced by mechanical causes in the course of chronic bronchitis. There is gradual progressive dyspnea with ineffectual cough, accumulation of secretions and congestion. In such a condition an opiate or sedative might do harm. Drugs that will stimulate the nervous system and reawaken the bronchial contractility are required. A cardiotonic and hemostatic pill of value is:

℞.	Ext. hyoscyami	gr. v	|30
	Quininæ sulph.	gr. xxiv	1|50
	Ergotin	gr. xlv	3|

M. ft. pilulæ No. xxx. Sig.: Six or eight pills daily.

Renaut's treatment of bronchitis is to give balsams, such as terpin, syrup tolutani or Canada balsam for the first three or four days; then for as long a time he gives ergotin combined with opium or hyoscyamus as a suppository. At the same time he prescribes the following pills:

℞.	Ext. hyoscyami	gr. v	|30
	Terpin	gr. xlv	3|
	Ergotin	gr. xxiv	1|50

M. ft. pil. No. xxx. Sig.: One pill three times a day.

In bronchoplegia accompanying la grippe he regards strychnin as the most useful remedy, as follows:

℞.	Strychninæ sulph.	gr. ss	|03
	Ergotin	gr. xxiv	1|50
	Quininæ sulph.	gr. xlv	3|

M. ft. pil. No. xxx. Sig.: Take one pill every two hours with a hot infusion sweetened with syrupus tolutani and containing a teaspoonful of old brandy.

Formalin in Glycerin.

Jordan, in the London *Lancet*, has found that by combining formalin with glycerin the irritating nature of the drug and the pain which it causes may be prevented. Applied to the throat with a brush, a single application can be depended on to kill every micro-organism with which it comes in contact. In follicular tonsillitis formalin in glycerin in strength of 2 to 4 per cent. is a specific if used before there is a deep collection of pus. After a single thorough application the temperature falls to normal within a few hours and remains normal. The application is usually attended by a little soreness, lasting only

a few hours. Formalin in glycerin is useful in all parasitic skin diseases, especially in tinea tonsurans. The entire area is cleansed with soft soap and water and a 4 per cent. solution of formalin in glycerin is applied.

Sodium Citrate in Diabetes.

Sodium citrate has been recommended by Dâlché and Cartaret, in *Bull. Gén. de Thér.*, as a valuable preparation in aiding in the reduction of the excretion of sugar. It is said not to disturb the stomach; for, by its decomposition in the stomach, free citric acid is set free and is well borne.

Gasoline Poisoning.

A subscriber sends us the following: "Having witnessed a nearly fatal case from swallowing gasoline and water kindly inform me what this liquid is chemically, and what the antidote is, if any. The results in this case were marked pallor, cyanosis, almost imperceptible pulse, pin-point pupils, sleepy and stupid state (requiring continued stimulation mostly of strong hot coffee) following the first condition of strangling, spasmodic croup, and vertigo."

Gasoline, like benzine, rhigolene, kerosene, paraffin, and many lubricating oils, is obtained from crude petroleum, and is a mixture of hydrocarbons, though mainly of the methane series, the formulas of the latter being in the order CH_4, C_2H_6, C_3H_8, etc. It may be classified as an intoxicant and gastro-intestinal irritant, along with other members of the hydrocarbon group, such as alcohol, ether, chloroform, chloral, and even turpentine. Its effects, therefore, are very similar to alcohol. The patient in this case probably passed through some of the stages similarly produced by alcohol, namely, the stages of stimulation, narcotism, anesthesia, not reaching the last or paralytic stage. The antidotal treatment, therefore, should be similar to that for the other anesthetics.

T. Sollmann, in his valuable text-book of Pharmacology, commenting on the use of gasoline as an anesthetic, states that toxic effects obtained in animals from too concentrated gasoline vapor consist primarily in very characteristic convulsions. The animal struggles violently, then falls on its side and claws the air with all fours, as if running; the pupils are widely dilated; reflexes are absent. The spasms are intermittent, and between them the subject is limp, except that the toes and eyelids continue to twitch. The respiration is first stimulated and then weakened. There is a paralysis of the vagus, then depression of the cardiac muscle and later of the vasomotor center. Either heart or respiration may stop first.

Medicolegal.

Circumstantial Evidence in Abortion Case.—The Supreme Court of Indiana holds, in Diehl vs. State, that the absence of the necessity for producing an abortion in order to save the life of the mother may be shown by circumstantial evidence in prosecutions for alleged criminal abortion.

Can Not Employ Physician for Smallpox Patients.—The Supreme Court of Idaho holds, in the case of Castle vs. Bannock County, that an individual member of the board of county commissioners can not employ a physician to care for smallpox patients at the expense of the county. Referring to a number of cases, from Indiana and other states, that were cited here, the court says that it will be observed, by reading them, that the board of county commissioners, or the city council of a city, are empowered to do certain things; but nowhere does it find in the citations that an individual member of the board of county commissioners, or a member of a city council can make a contract and thereby create an obligation binding upon the county or city. Of the duty of the officers to act promptly, and take all necessary steps to check the disease, when smallpox was found in the county, the court says that there could be no question. But, it goes on to point out, it did not appear from the record that a board of health was organized, or that any effort was made by any one in behalf of the city or county, excepting that the chairman of the board of county commissioners told the physician suing to look after smallpox patients, and that the county would pay him for his services. The record did not disclose any authority in the chairman to make this or any contract on behalf of the county. The law provides a clerk for the board of county commissioners, whose duty requires him to keep a record of all proceedings of the board. This is a public record, and all parties dealing with the county are charged with notice of this record. The physician suing could have informed himself of the authority the chairman had to make this contract, either as chairman of the board of county commissioners or as a member of the board of health (if there had been one), by an examination of the record, and, the court holds, it was his duty to do so before he accepted the employment. If he accepted such employment from the chairman, it was voluntary on his part, and he could not recover for such services.

Medical Treatment of Stowaway.—The United States District Court says, in the case of the *Laura Madsen*, that it is a principle of maritime law that a ship is liable for the necessary medical treatment and expenses incident to the cure of seamen who become ill or suffer injuries in its service. But in this case the man who was injured had imposed himself on the vessel. He was a stowaway, who was discovered when the vessel was one day at sea. He was not a sailor, but the captain required him to sign the shipping articles to serve as a member of the crew to the end of the voyage and he was marked on the articles as a stowaway. He was not required to do a seaman's work, but was willing to lend a hand whenever he found an opportunity, and while he was voluntarily hauling on the braces when the vessel was being maneuvered he fell on the deck, and was severely injured. On arrival in port, the physicians seeking in this case to recover for his medical treatment removed him to the hospital, and treated his injuries until he was practically cured. Whether the captain induced them to undertake the cure of the stowaway by promising that the ship would be responsible for their bill, was in dispute. According to the opinion of the court, however, it was immaterial whether there was such a promise by the captain or not. It says that neither the vessel, her owners, nor master owed the man any duty, except to give him humane treatment while he necessarily remained on board. He came to the port as a waif from the sea, helpless and destitute, and having no claim upon any particular individual, and was necessarily a public charge, or an object of private charity. The captain of the ship was not authorized to pledge the ship for the expense of his cure or maintenance as an act of charity. The authority of the captain of a ship to pledge the credit of the ship is limited by necessity. He has no authority to enter into any contract which can be enforced by a suit against the ship not required to make his ship seaworthy, or to meet her obligations as a carrier or to her crew. The act of signing the shipping articles at sea under compulsion did not attach the stowaway to the vessel, nor create any obligation different from what necessarily arose from the fact of his being on board by his own voluntary and wrongful act. Wherefore, the court dismisses the suit of the physicians, at their cost.

Effect of Prior Condition on Action for Malpractice.—The Supreme Court of Vermont says, in the malpractice case of Mullin vs. Flanders, that the physician sued requested the judge to charge the jury that, if the diseased condition of the suing party's feet, or either of them, at the time and after the operation on them was performed, or her natural temperament or physical weakness, were contributing causes to the condition complained of, she could not recover damages. The judge declined to so charge, but charged that she could not recover for anything produced by those causes, or any of them; that the physician was liable, if at all, only for the injury to the party suing attributable to his fault. With reference to this, the Supreme Court says that the request, as a whole, was not sound, and that the physician had no reason to complain of the charge as given. Continuing, it says that the condition the patient is in when the physician is called affects the question of damages, but does not control the right of action. The right of action depends upon the continuing or intervening conditions that are due to a neglect of duty on the part

of the physician after the patient is in a condition that may result in permanent loss of health or limb, and the physician has been called upon and has undertaken to exercise his skill in arresting the progress of the disease, in caring for the wounds, or in setting the broken bones. When a physician takes charge of a case under such circumstances, he impliedly represents that he possesses, and the law places upon him the duty of possessing and exercising, that reasonable degree of learning and skill ordinarily possessed by physicians and surgeons in the locality where he practices, and which is ordinarily regarded as necessary to qualify him to engage in the business of practicing medicine and surgery. It is difficult, the court proceeds, to see how, under a holding such as the request called for, a physician could ever be chargeable for the neglect of a duty that the law imposes upon him. When a man is in good health, and sound in limb, he has no need of a physician. It is when disease takes hold of him, or when he has met with an accident, that the physician is called, and the duty attaches, and these conditions which exist at the time he takes charge of the case may be said to contribute to the permanent loss of health or limb which follows; but these conditions do not prevent a recovery for the damages that are due to his neglect of duty.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record (N. Y.), January 25.

1 *The Food Factor as a Cause of Health and Disease During Childhood, or the Adaptation of Food to the Necessities of the Growing Organism. Joseph E. Winters.
2 *The Nature of Cutaneous Epithelioma, with Remarks on Treatment by the X-Rays. Charles W. Allen.
3 *Report of the Committee on Sanatoria for Consumptives. John H. Pryor.
4 Two Cases of Gastro-enterostomy with Entero-enterostomy Done With the Aid of the Elastic Ligature (McGraw's Method). Willy Meyer.
5 Report of a Case of Penetrating Wound of the Abdomen with Protrusion of Viscera and Injury to the Stomach—Operations—With a Later Development of Renal Symptoms—Recovery. William V. Pascual.

New York Medical Journal, January 25.

6 *Curettage of the Puerperal Septic Uterus: An Inexcusable Procedure. W. R. Pryor.
7 *Notes on Cow's Milk and Infant Tuberculosis. A. Jacobi.
8 *The Need of a Municipal Sanatorium for the Treatment of Tuberculosis. George L. Peabody.
9 *Paratyphoid. S. J. Meltzer.
10 *Nephro-ureterectomy; A Report of Two Cases. J. Wesley Bovée.
11 *Farm Colonies and Tent Life for the Tuberculous. W. Freudenthal.
12 The Personal Liberty Plea; The Most Common Argument Raised Against Medical Legislation. Floyd M. Crandall.
13 Transitional Displacement of Purulent Fluid of an Empyema by Normal Saline Solution at the Time of Operation (Rib Resection), Obviating Danger of Hemorrhage by Too Sudden Relief of Pressure (Mechanical), with Report of a Case and Method of Procedure. Arthur I. Boyer.

American Medicine (Philadelphia), January 25.

14 *Three Cases of Pancreatic Disease. Francis W. Murray.
15 *What Reliance Can Be Placed upon the Image Produced by the X-Ray from a Medicolegal Standpoint. Charles L. Leonard.
16 Diffuse Peritonitis Resulting from Appendicitis. Carl C. Warden.
17 *The X-Rays in So-called Sprains. G. G. Ross and M. I. Wilbert.
18 *Thiosinamin in Chronic Joint Affections. Henry S. Upson.
19 *A Rapid Method of Detecting Bacillus Coli Communis in Water. B. H. Stone.
20 Hemorrhagic Typhoid Fever. Report of a Case Ending in Recovery. C. B. Longenecker and Joseph Akerman.

Philadelphia Medical Journal, January 25.

21 *On the So-called Idiopathic Dilatation of the Esophagus (Saccular Dilatation of the Esophagus without Anatomic Stenosis). H. Strauss.
22 *Gastroptosis and Gastric Motor Insufficiency. J. Dutton Steele.
23 A Clinical Lecture on Scalp Wounds, and Cranial and Brain Injuries. Thomas H. Manley.
24 *Remarks on Vaccination in Relation to Skin Diseases and Eruptions Following Vaccination. Arthur Van Harlingen.
25 A Case of Pneumococcic Arthritis, Accompanying Acute Croupous Pneumonia. D. J. Milton Miller.

Medical News (N. Y.), January 25.

26 *The Causation of Multiple Neuritis. M. Allen Starr.
27 Criminal Abortion. E. Stuver.
28 On the Use of the Opiates, Especially Morphin. Oscar C. Young.
29 Gonorrhea in Women. J. B. Killebrew.
30 A Case of Spontaneous Rupture of the Eye-Ball. W. Whitehead Gilfillan.

Boston Medical and Surgical Journal, January 23.

31 Notes on the Life and Writings of Geronimo Cardano. Charles G. Cumston.
32 *Lymphatic and Portal Infections Following Appendicitis. John C. Munro.
33 *Notes on the Management of the Anesthetic in Operations on the Respiratory Tract. Harris P. Mosher.
34 *Notes on X-Light; Radio-active Substances in Therapeutics. William Rollins.

Cincinnati Lancet-Clinic, January 25.

35 Surgical Operations Upon Old People. J. C. Sexton.
36 Is Tuberculosis Contagious? Charles P. King.
37 The Law of Heredity. Brose S. Horne.
38 Operation for Congenital Absence of Uterus and Upper Two-thirds of Vagina; Laparotomy. Earl Harlan.

St. Louis Medical Review, January 25.

39 Dr. E. H. Gregory's Last Lecture, Completing Fifty Years as a Teacher of Anatomy and Surgery.
40 Remarks upon the Completion of Fifty Years' Work by Dr. Gregory as a Teacher of Medicine. F. J. Lutz.
41 On the Agglutination of Tubercle Bacilli and Its Application in the Treatment of Phthisics, According to Koch. Ernest Weigert.

American Practitioner and News (Louisville, Ky.), December 1.

42 Foreign Bodies in the Air-Passages. M. F. Coomes.
43 A Report of Three Cases of Pneumo-typhoid Fever. W. E. Shepherd.
44 A Few Remarks on Heroin Hydrochlorate. E. Y. Johnson.

Virginia Medical Semi-Monthly (Richmond), January 10.

45 *Some Experiences with Blood Examination. John B. Deaver and Edw. K. Moore.
46 Spina Bifida. J. W. Henson.
47 *A Review of Echinococcus Disease in North America. Irving P. Lyon.
48 Strangulated Hernia. Southgate Leigh.
49 A New Supra-vaginal Hysterectomy Forceps. John W. Dillard.
50 *Chronic Myocarditis. J. H. Musser.

Medical Fortnightly (St. Louis), January 10.

51 Etiology and Incubation of Scarlet Fever. Charles L. Hamilton.
52 Puerperal Fever. J. T. Woodward.
53 Neurasthenia. F. Savary Pearce.

Medical Age (Detroit, Mich.), January 10.

54 Phases of Diphtheria Frequently Overlooked. M. Heinberg.
55 A Contribution to the Study of Suicide. L. J. Rosenberg and N. E. Aroustam.
56 The Crescent Form of the Malarial Parasite. Robert B. Preble.

Journal of Nervous and Mental Diseases (Nyack, N.Y.), January.

57 Contribution to the Study of Spinal Fracture with Special Reference to the Question of Operative Interference. G. L. Walton.
58 Report of a Case of Epilepsy Presenting as Symptoms Night-Terrors, Impellant Ideas, Complicated Automatisms, with Subsequent Development of Convulsive Motor Seizures and Psychic Aberration. W. K. Walker.
59 A Case of Myelitis, Exhibiting the Results of Co-ordination Exercises. John K. Mitchell.

Annals of Otology, Rhinology and Laryngology (St. Louis), November, 1901.

60 A Case of Lupus of Face, Nose, Pharynx, and Larynx, with Rare Deformity of Larynx. Samuel E. Allen.
61 Epipharyngeal Lympho-Sarcoma in a Boy. Henry L. Wagner.
62 Radiographic Study (Showing an Impacted Metallic Disc in the Esophagus). Henry L. Wagner.
63 Vomiting with Tracheotomy Tube in Situ. Otto Sommers.
64 *The Principles of Treatment of Tuberculosis Laryngitis. St. Clair Thompson.
65 The Early Operation for Congenital Cleft Palate. Julius Wolff.

Archives of Otology (New Rochelle, N. Y.), December, 1901.

66 A Tumor of the Middle Ear Springing from the Inner and Posterior Tympanic Walls, Simulating Exostosis but Consisting of Calcareous Laminæ. William C. Braislin.
67 *The Microscope as an Aid to the Diagnosis and Prognosis in Chronic Suppurations of the Middle Ear. E. F. Snydacker.
68 A Case of Meningitis from Extension of Acute Purulent Otitis Media Through Osteomyelitis of the Petrous Bone: Operation; Autopsy; Microscopic Examination. Arnold Knapp.
69 Contribution on Otogenous Disease of the Brain, Meninges and Sinuses. (Continued.) Drs. Witte and Sturm.

Transactions of the Chicago Pathological Society, December 9.

70 *The Biologic Test for Semen. C. G. Farnum.
71 An Atypical Acid- and Alcohol-Proof Fungus from the Sputum of a Case Clinically Resembling Pulmonary Tuberculosis. A. P Ohlmacher.
72 Does the Pancreas Secrete a Sugar-Splitting Enzyme? Maximilian Herzog.

Brooklyn Medical Journal, January.

73 What Is the Prognosis in Tubercular Spondylitis? B. B Mosher.

74 Perforating Gastric Ulcer. Thomas B. Spence.
75 Foreign Bodies in the Upper Air Passages. Henry Wallace.
76 The Optic Nerve in Relation to Nervous Diseases. Edward W. Wright.
77 Intracranial Syphilis and Hemiplegia, with Report of Cases Treated in St. Mary's Hospital. L. J. Morton.
78 Pus Foci in Bone; Report of Cases. J. Sherman Wight, Jr.

New Yorker Medicinische Monatschrift, December, 1901.

79 *Paratyphus. S. J. Meltzer.
80 Ueber Einen Mit Urotropin Behandelten Fall von Enuresis Nocturna. Aug. Oreline.

Cleveland Journal of Medicine, December, 1901.

81 Symptomatology and Diagnosis of Cholelithiasis. A. Peskind.
82 Some Thoughts on the Indications for Forceps Delivery. R. E. Skeel.
83 How to Use a Medical Library. Bayard Holmes.
84 The Radical Cure of Umbilical and Ventral Hernia in the Adult. A. F. House.
85 *The Cystoscope: Its Diagnostic Value in Diseases of the Genito-Urinary Tract. Charles G. Foote.
86 "Paretic Dementia." R. B. Leister.

International Medical Magazine (N. Y.), January.

87 *Jamaica as a Health Resort. J. Howe Adams.
88 *Syphilis of the Rectum and the Anal Region. John A. Hawkins.
89 *The Climate of California. V. Bonney.
90 *A Simple and Efficient Apparatus for the Treatment of Fractures of the Shaft of the Femur. W. Wayne Babcock.
91 The First Treatment of Penetrating Wounds of the Eyeball. Walter L. Pyle.
92 Some of the More Uncommon Symptoms of Scarlet Fever. Floyd M. Crandall.
93 *Fistula in Ano: Its Relation to Phthisis. Samuel G. Gant.
94 The Duties and Rights of Medical Witnesses. William F. Craig.
95 Some Small Points of Practical Dermatologic Therapy. I. M. Koch.

Journal of Medicine and Science (Portland, Me.), January.

96 The Present Status of Our Knowledge of Infant Feeding. T. M. Rotch.
97 Fracture of Femur. F. C. Thayer.
98 Some Phases of Quackery. (Continued.) P. J. Noyes.

Medicine (Chicago), January.

99 *Relation of Insects to the Spread of Disease. Joseph McFarland.
100 Purulent Ophthalmia of the New-Born. Willis O. Nance.
101 *A Study of the Hereditary Effects of Alcohol. J. M. French.
102 *The Histopathology of the Pancreas in Diabetes Mellitus. Maximilian Herzog.
103 Acute Pharyngitis of the Streptococcal Type. Lewis S. Somers.

Fort Wayne Medical Journal-Magazine, December, 1901.

104 The Clinical Laboratory as an Aid in Diagnosis. George W. McCaskey.
105 Functional Headaches. Elmer E. Morgan.
106 Some Cases of Brain Traumatism. Edward J. McOscar and George W. McCaskey.

Occidental Medical Times (San Francisco), January.

107 Simulation of Insanity. (Continued.) A. W. Holsholt.
108 The Diagnosis and Treatment of Appendicitis. J. C. Stinson.
109 Gout, Its Pathology and Prophylactic Therapeutics. J. J. Clarke.
110 Bone-Filling with Amalgam. J. Henry Barbat.

American Journal of Surgery and Gynecology (St. Louis), January.

111 "Meddlesome Surgery." Lucy Waite.
112 Hydrocele; Intracranial Infection; Incipient Tubercular Coxitis; Tuberculosis of the Left Hip Joint; Recurrent Carcinoma of the Breast; Strangulated Umbilical Hernia. N. Senn.
113 *The Cause of Diffuse Peritonitis, Complicating Appendicitis and Its Prevention. A. J. Ochsner.
114 Endovesical Surgery with Special Reference to Cystoscopy and Ureter Catheterism. F Kreissl.
115 The Present Status of the Treatment of Pulmonary Tuberculosis by Operation to Secure Compression. A. F. Lemke.
116 Counter-Drainage. Denslow Lewis.
117 An X-Ray and Dissection of the Ureter and Utero-Ovarian Artery, the Utero-Ovarian Vascular Circle. Byron Robinson.
118 Prevention and Management of Infection of the Breast During Lactation. C. S. Bacon.

Bulletin of the American Academy of Medicine (Easton, Pa.), December, 1901.

119 A Suppressed Educational Problem. James J. Taylor.
120 Refraction. James A. Spalding.
121 Necessity for Revising Medical Fees. P. Maxwell Foshay.
122 The First-Year Medical Curriculum. Thomas D. Davis.

Kansas City Medical Record, January.

123 On the Passing of the Trephine. Thomas H. Manley.
124 Report of a Clinical Case. (Unrecognized Fracture.) L. M. Murry.

Indiana Medical Journal (Indianapolis), January.

125 Hydatid Cyst of Liver; Report of a Case. Alois B. Graham.
126 Abnormal Development of Intestine and Obstruction of Bowel. J. C. Sexton.
127 Two Cases of Tubercular Meningitis. E. J. Kempf.

International Journal of Surgery (N. Y.), January.

128 The Surgical Assistant. (To be Continued.) Walter M. Brickner.
129 *Practical Suggestions on the Treatment of Rectal Diseases. James P. Tuttle.
130 Circumcision and Venereal Diseases. W. A. Spitzley.
131 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
132 Cancer of the Uterus. Harvey P. Jack.
133 Report of Cases from Surgical Practice. Howard Lilienthal.
134 Brief Notes on the Treatment of Gonorrhea. E. W. Eberlein.

Bulletin of the Johns Hopkins Hospital (Baltimore), December.

135 *A Contribution to the Study of Amebic Dysentery in Children. Samuel Amberg.
136 The Advances Made in Medical and Surgical Diagnosis by the Roentgen Method. Charles L. Leonard.
137 Pathological Report Upon a Fatal Case of Enteritis with Anemia Caused by Uncinaria Duodenalis. John L. Yates.

Medical Summary (Philadelphia), January.

138 Dysmenorrhea. E. N. Ritter.
139 "True" Cancer and a Plea for a More Rational Treatment. Wm. Alexander Armstrong.
140 The Sin of It (Hematuria). Hen H. Brodnax.
141 General Remarks on the Treatment of Ulcers. G. B. Beeler.
142 Neglected Remedies. Floyd Clendenen.
143 Hemorrhage. S. A. Buchanan.

Therapeutic Gazette (Detroit, Mich.), January 15.

144 *Iodic Purpura with Fever. Alfred Stengel.
145 Quinin Rash, with Report of a Case. Horatio C. Wood, Jr.
146 *Culture Products in the Treatment of Tuberculosis. F. M. Pottenger.
147 Four Unique Cases of Appendicitis. Frank W. Garber.
148 Cleanliness, the Great Secret of Surgical Success. Carl Beck.
149 The Therapeutic Value of Adrenalin. John J. Kyle.

Medical Examiner and Practitioner (N. Y.), December, 1901.

150 Certain Factors Influencing the Death-Rate from Consumption. John Marshall French.
151 Pulmonary Tuberculosis as an Insurance Problem. Charles Lyman Greene.
152 The Present Status of the Medical Examiner for Life Insurance. P. Maxwell Foshay.
153 Industrial Insurance and the Prevention of Tuberculosis. Frederick L. Hoffman.
154 The Reflexes in Their Relation to Life Expectancy. (Continued.) J. Crocq.

St. Louis Courier of Medicine, January.

155 *Glandular Fever. J. Park West.
156 *Some Personal Observations of Malarial and Blackwater Fever on the West Coast of Africa. Vilray P. Blair.
157 Purpura. G. M. Tuttle.
158 *The Early Diagnosis of Measles. Philip Newcomb.
159 Spinal Curvatures—Presentation of Patients. T. C. Witherspoon.
160 A Case of Iodoform Poisoning. Charles H. Dixon.

Pacific Medical Journal (San Francisco), January.

161 Ether. George Adam.
162 Native Methods of Cure for Disease Among the Loas Tribes of Further India. Carl C. Hansen.

---

1. **Infant Diet.**—Winter's conclusions are: Chemistry, physiology, and chemical physiology, have furnished unerring guides for the feeding of children. The time when and what farinaceous substances should be given is wholly evident. Meat juice is contra-indicated in very young children, owing to its exciting effect on the nervous centers, and the loading of the system with extractives which tax the excretory organs. During all the years of early childhood, meat and its preparations should be given only sparingly on account of their overstimulating metabolism, but chiefly for the reason that they create a distaste for cereals, fats, and fresh vegetables, thus depriving the system of materials needed to shield the proteids from oxidation that they may be stored for future needs, and of the necessary mineral salts which vegetables obtain direct from the soil. In a child, with its relatively large cutaneous surface and correspondingly rapid heat loss, the large demand for calories must not be covered by proteid to any considerable extent, otherwise there is a lack of deposition of proteid—or of muscle growth. Increasing quantities of carbohydrates and fats in the food decrease proteid metabolism; a more lasting deposition of proteids for future needs is thus brought about. To provide the mineral constituents necessary to maintain the normal reaction of the fluids of the body when these elements are being appropriated in large proportions for the growth of bone, muscle, etc., vegetables which obtain these elements direct from the soil must be consumed in fairly liberal proportions.

2. **Cutaneous Epithelioma.**—Allen reviews the theories of epithelioma and speaks particularly of the effects of x-ray

treatment, which he has seen in the practice of Pusey of Chicago and has employed to some extent himself. His experience has not yet lasted long enough to give him the authority to speak conclusively, but the results have been so far very encouraging. As regards the technique of the method he suggests caution and short applications in the beginning, protection of the parts not to be operated upon and a funnel-shaped metallic cone into the flare of which the active area of the tube is inserted, especially for mouth, throat, uterine and rectal work. After the first sitting it is well to wait a week before going on with the daily applications. The time of exposure may be gradually lengthened. If signs of dermatitis appear suspend the treatment until they subside. As regards the distance of the tube from the patient much depends on the length of exposure, the character of the tube, nature and size of the diseased area and the operator's experience. The most of his work has been done at rather close range, three to five inches. In specially severe affections as cancers, more chances might be taken as regards burns. We need not think that the cure would be delayed if the diseased parts do suffer from this cause. The time of exposure ranges between 3 and 30 minutes. He specially mentions the use of methylene blue, which he has painted over the diseased part coincidently with the x-ray treatment. He prefers this to the use of blue media at a distance. If it does not shut out the burning rays it does not harm, but gives the patient the benefit of an added form of treatment not devoid of benefit.

3. **Tuberculosis Sanatoria.**—Pryor's report calls attention to the exaggeration of the contagiousness and communicability of tuberculosis and its bad effects. He thinks that we should now try to do something to counteract it. He calls attention to the cost in human life of tuberculosis and its field for study, and maintains that the time will come when this will be appreciated and public sanatoria be founded more generally. We must propagate the belief that pulmonary tuberculosis is curable during the early stage.

6. **Curettage of the Puerperal Uterus.**—According to Pryor the statistics found by the Commission of the American Gynecological Society in 1898 showed that the normal mortality of puerperal sepsis was 5 per cent., while those cases where curettage had been made and the streptococcus found gave the frightful mortality of 22 per cent. Since then he has adopted and practiced a method of treatment which he applies to all cases in which he found the streptococcus present and this has given him and others who have tried it no mortality excepting where curettage had been done before coming into his hands. In these there was 33 per cent. mortality. He considers that curettage of the septic puerperal uterus is a mischievous and exceedingly dangerous procedure.

7. **Cow's Milk and Infant Tuberculosis.**—Jacobi reviews the literature of intestinal infection from milk and holds that the infantile intestine is particularly disposed to absorption both in its normal and diseased condition, and that peritoneal tuberculosis is exceedingly frequent. Therefore, any rule prohibiting the sale and use of milk of cows with diseased udders or general clinical tuberculosis can not be strict enough or too strict. This is a very urgent hygienic and sanitary question.

8. **Tuberculosis Sanatorium.**—This paper calls attention to the need of sanatoria for the tuberculous poor and maintains that it would be a public economy and possibly in time lead to the control or extinction of the disease.

9.—See ¶79.

10.—See abstract in The Journal, xxxvii, p. 1555.

11. **Farm Colonies and Tent Life for the Tuberculous.**—The value of open-air treatment is emphasized by Freudenthal; he calls attention to economy in tuberculosis sanatoria by using tents instead of erecting elaborate hospital buildings. He also mentions the necessity of occupation. Tent life has been found beneficial even in winter by those who have experienced it and good results have been obtained by physicians treating consumptives in tents.

14. **Pancreatic Disease.**—The history of pancreatic disease, its leading symptoms, such as salivation, diarrhea, glycosuria, fatty stools, imperfect digestion of muscle fiber, pain, tumor, etc., are noticed, and also the etiology, chiefly infection. Murray reports three cases, one of suppurative pancreatitis, one of the gangrenous type and one of pancreatic cyst with remarks on each case report.

15. **X-Rays in Legal Medicine.**—Leonard's article is to some extent a criticism of a previous one by Golding-Bird on skiagraphs and their medicolegal relations. He believes that the x-ray may have the greatest possible value in the diagnosis, though the experience and skill of the operator must be relied upon, and skiagraphs used in evidence should be made with the greatest care. This method of diagnosis should not be feared, but courted for the scientific aid which it is capable of giving in the treatment of fractures. It is more accurate than any other and its employment should be demanded wherever feasible.

17. **X-Rays in So-called Sprains.**—The paper of Ross and Wilbert is devoted to the elucidation of actual conditions in many cases of so-called sprains. It shows by line illustrations a number of possibilities from actual cases in practice, fractures, dislocations, etc., where the diagnosis was simple sprain.

18. **Thiosinamin.**—The value of this drug, which is a white crystalline substance made from mustard oil by heating with alcohol and ammonia, is due to its causing increase in the leucocytes in the blood and its value in causing absorption of morbid tissues and scars. He reports six cases where it has been employed, including some of rheumatic origin with fibrous deposits. He questions the theory of uric acid set free by leucocytes and shows that the drug is not, as would be expected from it, a cause of acute attacks of rheumatic disorder. It may be said in general that it is, so far as we now know, useful in removing fibrous deposits due to disease and is not a germicide or an antirheumatic. The cases that he reports, he thinks, indicate that it will be found useful in aiding the absorption of rheumatic fibrous deposits.

19. **Bacillus Coli.**—The method used in the Laboratory of Hygiene of the Vermont State Board of Health is here described by Stone, the bacteriologist of the Board. As soon as the water is received steps are taken to obtain: 1. An estimate of the total number of bacteria per cubic centimeter. 2. The determination of the presence or absence of bacillus coli communis. 3. If this organism is present the estimation of the number of bacteria per cubic centimeter. The estimation of the total number is made by thoroughly shaking up the water before diluting 1 c.c. with 99 c.c. of distilled water previously measured and sterilized. A 1 c.c. of the diluted specimen is then taken by a sterilized pipette and mixed with a tube of plating agar melted at a temperature of 40 C.

This agar, containing 0.01 c.c. of the original water, is then turned into a sterilized four-inch Petri dish and allowed to solidify on a level table. The plate is placed in a room temperature incubator (22 C.) and grown for 96 hours when it is removed and the number of colonies on the plate are counted. This number multiplied by 100 represents approximately the number of individuals per c.c. of the original water.

Determination of the Presence of Bacillus Coli Communis.—A. A Smith's tube filled with a 2 per cent. glucose bouillon is inoculated with 1 c.c. of the water to be examined and grown 24 hours at 38 C. If no gas is formed, the absence of the colon bacillus is shown.

B. If from 25 to 70 per cent. of gas is formed in the closed arm, a tube containing 10 c.c. of neutral broth to which has been added 0.3 c.c. Parietti's solution is inoculated with 0.5 c.c. of the contents of *A.* and grown 24 hours at 38 C.

C. A second Smith's tube is inoculated with 0.5 c.c. of the contents of *B.* and grown 24 hours at 33 C. (If there is no gas, we may be sure the gas producer in *A.* was not the colon bacillus. If, on the other hand, gas is produced in this tube, we may be reasonably sure that the bacillus coli communis is present.)

D. Further confirmation may be obtained by ascertaining the gas formula from *C.* The formula for the colon group is H/CO_2-2/1, further.

E. A pure culture can be easily obtained from *B.* by plating and the following reactions obtained: (1) Gelatin stab does not liquefy after seven days at 22 C. (2) Litmus milk reddens and coagulates in 24 hours at 37 C. (3) Dunham's solution: indol formed in three days at 37 C. (4) Morphology in bouillon: sluggishly motile (?) bacillus.

Estimation of Numbers of Bacillus Coli Communis.—At the same time the plates for total numbers are made, a litmus lactose agar plate of 0.5 c.c. of the original water is made. After solidifying, this plate is inverted and grown 24 hours at 38 C., when the colonies of bacillus coli communis may be identified as red colonies on a blue plate.

The following organisms have been subjected to this method, but only bacillus coli communis and the allied bacillus of hog cholera survive the check solution *B.* and grow in the second fermentation tube: Bacillus pyocyaneus; bacillus prodigiosus; bacillus cloacæ; bacillus liquefaciens; bacillus aërogenes capsulatus; bacillus of lactic acid; bacillus lactis aërogenes; bacillus coli communis; bacillus of hog cholera. Bacillus coli communis from many sources has been tried and in all cases survived the process.

Up to date we have had 550 specimens of water put through this process and we have yet to find an organism surviving the check solution and growing with gas production in the second fermentation tube, which does not give every typical growth reaction characteristic of bacillus coli communis.

21. **Idiopathic Dilatation of the Esophagus.**—Strauss reports a case which is of note on account of the very large amount of dilatation and discusses the condition. His view of the causation of the dilatation is that a developmental obstruction causes stenosis of the lowest portion of the esophagus, the "pars sphincteria inferior" as he calls the region between the hiatus and the cardia, and that a secondary dilatation is brought about by irritation of the mucosa by stagnation, causing inflammatory or excoriation conditions, and these producing spasms in the cardia which become the cause secondarily of progressive dilatation of the esophageal wall. He thinks that we must, however, look for the most certain cause of vascular dilatation of the esophagus without anatomically demonstrable stenosis, to be the coincidence of several synchronously acting factors.

22. **Gastroptosis.**—From a study of a large number of cases Steele finds that ptosis is more common in motor insufficiency of the stomach than changes in the shape and size. Gastroptosis and pyloric dilatation occur in 43 per cent.; next in frequency, was general dilatation alone, 35 per cent.; and then comes gastroptosis alone, 20 per cent., while the least common of all is general dilatation and gastroptosis, 10 per cent. Gastroptosis is much more common in females, while in males general dilatation is more common, uncomplicated dilatation especially. These figures show that ptosis of the stomach is more frequent than has been supposed. In women showing demonstrable alteration in the position and size of the stomach its presence is almost constant. The condition divides itself into two varieties; 1, total displacements downward; 2, that of the pyloric end alone. The latter is much the most common. The former has been denied, but that it exists is shown by the cases reported and simple ptosis of the stomach may be associated with more or less dilatation. The probability is that in pyloric dilatation the primary condition is gastroptosis, while in general dilatation in a large percentage the dilatation is primary. The causes are discussed. A very frequent one is increase in the volume of the abdominal cavity; another is pressure from above. The conditions most often associated with increase in the abdominal volume are repeated pregnancy and too early assuming the erect posture after parturition, while the most frequent cause of downward displacement is pressure from above, the effect of tight lacing or dragging of the skirt band. Glenard's theory that all displacements of the abdominal viscera arise from the presence of adhesions is now generally rejected. J. C. Webster has called attention to the separation of the recti muscles in some cases where the associated enteroptosis is really a form of hernia. Steele advocates a routine examination of the size and position of the stomach as indispensable in all cases showing functional disturbance. The patients are usually emaciated and often anemic, the abdomen sometimes pendulous, sometimes flat, but characteristically relaxed. The "belt sign" of Glenard may be employed, which consists in standing behind the patient, placing the hands on the lower abdomen and lifting upward and backward. If a sensation of relief is felt it is assumed that downward displacement is present. Webster demonstrates the amount of separation of the recti muscles by placing the finger tips of the right hand over the linea alba near the umbilicus with the patient in the recumbent position, while with the left he grasps the patient's hand, and she is asked to raise the head and chest in order to contract the abdominal muscles. The sense of resistance afforded by the recti will give an idea of the extent of their separation. The other diagnostic methods are discussed. Inflation, palpation, auscultation, etc., are noticed at length, also Einhorn's gastric illumination. The most common of the direct results of downward displacement are motor insufficiency and dilatation. Changes in the gastric secretion occur. Subacidity or the absence of free HCl seem to be the most numerous according to Steele's observation, and of importance as indicating the dietetic treatment. The complications of neurasthenia and sclerosis are mentioned. They are absolutely inter-dependent with the gastric abnormality. The treatment should be by the relief of the causes—tight lacing and the hanging of heavy clothing from the waist band. Food should not be given in too large amount at a time and rest should be allowed after eating. The stomach should be held in place by an abdominal band, which should be held against the tubes by perineal bands and one or more pads adapted to exert upward pressure will be found most useful. The operative measures that have been recommended are noticed, but the author holds that it is impossible to say whether or not they will give permanent relief. Still the recent experience of Bier, Blecher and Webster are encouraging.

24. **Vaccination.**—The various skin eruptions associated with vaccination are described by Van Harlingen, who groups them under the pure vaccinia and the mixed inoculation types. In the former he includes the secondary inoculations which may occur, and various angioneurotic conditions following the irritation. The generalized vaccinia is somewhat different in its character from the other eruptions and somewhat analogous to a general outbreak of infectious disease following a period of incubation. The impetigo or eczema attributed to the operation are really due to mixed inoculation. Syphilis, leprosy, etc., have been reported in the old days of humanized vaccine, but he doubts whether there is any case of true tuberculous infection thus produced. He insists on attention to cleanliness in vaccination, though asepsis might be carried so far as to make the virus itself inert. Shields are useful only for the first few days; if retained longer they may do harm as becoming themselves cultivation houses for pathogenic germs. After the first few days, or as soon as the vaccine virus has invaded the system, which is shown by the red and infiltrated areola, the shield should be cast aside, and antiseptic dressings frequently changed should be adopted.

26. **Multiple Neuritis.**—Starr reviews the various causes of multiple neuritis, the toxic metallic poisons such as arsenic, lead, mercury, copper, phosphorus and silver; and non-metallic toxic poisons such as alcohol, carbonic oxid, bisulphid of carbon, sulphonal and trional, the coal-tar products and nitrobenzol, all of which are noticed at length. Alcohol seems to be the most frequent of all the causes. The second type is that of multiple neuritis from dyscrasia. In this class he gives the epidemic form known as beri-beri and leprous neuritis, and that occurring as an accompaniment or sequela to diphtheria, which he holds is less frequent since the use of antitoxin. He emphasizes the frequency of neuritis following la grippe from which cause he has noticed all types. There are certain other dyscrasias such as tuberculosis, rheumatism, gout and diabetes; there are also cases of general multiple neuritis, occurring in the carcinomatous and in old persons with atheroma. It is probable that syphilis does not enter as a factor in the etiology of this affection. Finally, he alludes to certain cases where the cause can not be determined which we must call idiopathic and reports such a one. A double causation may many times be ascertained. Thus arsenic and lead poisons may act together with alcohol or la grippe.

32. **Appendicitis.**—Lymphatic and portal infections, singly or combined, are not as infrequent after appendicitis as many would hold. The obscurity of the symptoms and the insidiousness of their approach obscure the cases. Practically all lymphatic infections are curable by operation. Only a rare case of hepatic infection will be cured, but if the cases are allowed to go on until they become septic skeletons, the chances are almost hopeless. He says, in brief, that a persistent temperature, during or following appendicitis, inconsistent with other lesions and associated with lumbar spasm should suggest a lymphangitis; more or less perhaps fleeting jaundice, irregu-

lar chills, hepatic tenderness and progressive emaciation should suggest portal pyophlebitis following appendicitis, present or remote. He gives cases showing the occurrence of these complications.

33. **Anesthesia.**—Mosher recommends the use of a treadle arrangement for forcing ether vapor through a tube by means of bellows, which has been brought up to its present form by Drs. Thomas Fillebrown and M. F. Rogers, as specially advantageous in operations on the nose and throat. He favors ether rather than chloroform and gives details as to holding the patient, preferring to keep him in the upright position. The prejudice against this is groundless. Experiments on animals are mentioned that seem to show that stimulation of the pharyngeal plexus might cause stagnation of the heart by reflex action, but he thinks in the human species this hardly possible, but it might nevertheless be well to give atropin as a routine preventive measure.

34. **Radio-Active Substances in Therapeutics.**—Rollins suggests the use of a radio-active substance as a substitute for *x*-light. He has prepared a capsule containing 500 mgm. of radium with an aluminum front and back of comparatively non-radiable metal, which is to be worn over a lupus or superficial cancer or whatever disease it is desired to treat with these rays. He does not give any experience with it, but offers this suggestion.

45.—This article has appeared elsewhere. See The Journal, xxxvii, ¶23, p. 1561.

47.—Ibid., ¶84, p. 279.

50.—Ibid., 277.

57. **Spinal Fracture.**—After discussing the symptoms and reporting several cases Walton gives the following conclusions: "1. There are no symptoms which establish (otherwise than through their persistence) irremediable crush of the cord. 2. While total relaxed paralysis, anesthesia of abrupt demarcation, total loss of reflexes, retention, priapism and tympanites, if persistent, point to complete and incurable transverse lesion, the onset of such symptoms does not preclude a certain degree at least of restoration of function. 3. The prognosis without operation is grave. 4. While the results of operation are not brilliant, they are sufficiently encouraging to warrant us in making the practice more general. 5. In most cases it will be wise to operate within a few days of the injury, but a delay of some hours is advisable, partly on account of shock and partly to eliminate the diagnosis of simple distortion. 6. We have no infallible guide to the extent of the lesion. The operation at the worst does not materially endanger life nor affect unfavorably the course of the case, and may at least reveal the lesion and lessen the pain; it may sometimes save a patient from death or from hopeless invalidism of most distressing character. Instead of selecting the occasional case for operation, we should rather select the occasional case in which it is contra-indicated (the patient with great displacement of vertebræ, the patient with high and rising temperature, the patient plainly moribund, the patient still under profound shock). 7. The dura should be opened freely; it need not be sutured; drainage is not necessary."

64.—This article has appeared elsewhere. See The Journal, xxxvii, p. 863.

67. **The Microscope in Otorrhea.**—Snydacker reports three cases illustrating the value of the microscope in the detection of cholesteatomata and traces of carious bone. In each of these the findings warranted a radical operation, but in all three the patients refused to submit to it. He remarks that the presence of shreds of epidermis may not always indicate cholesteatomata, but simply a sort of reparative process. Only when the discharge persists after the epidermal formation has begun, when by its constant irritating contact it causes over-production of epidermis and this is constantly cast off, it may be regarded as a dangerous symptom. Only the discharge persisting for weeks and months should be considered dangerous. The appearance of bone disease may possibly not be a serious indication if it comes only from the ossicles, and the tympanic walls and mastoid cells are intact. The observations, however, of Grunert, who finds only two cases where the ossicles alone were involved out of a total of 108, indicate rather that the presence of carious bone has a bad signification.

70. See The Journal, xxxvii, p. 1721.

79. **Paratyphus.**—Meltzer discusses the cases of apparent typhoid which do not react to the Widal test. He says we have a description of a disease which already has been observed more than a dozen times and which clinically must be considered as typhoid, but in which repeated examination with the Widal reaction is negative. On the other hand, the sera of these patients react readily to bacilli which are isolated from the blood or from excrement. These bacilli belong to the intermediate group closely related to the meat-poisoning bacilli, but are decidedly distinct from these. The symptoms of the patients are, as already stated, exactly as in typhoid: headache, depression, continued fever, slow pulse, enlargement of the spleen, roseola and the diazo-reaction; also nose-bleed and intestinal hemorrhage, delirium, slight affections of the respiratory passages, post-typhoid osteomyelitic abscesses have been observed. All the patients recovered; there is yet no pathologic anatomy of the condition. According to Kurth's view these cases are of milder course than in true typhus and he thinks the old designation of gastric fever might be employed, but that of Schottmueller and one described by Gwynn certainly were severe. In seven of the cases the condition commenced with diarrhea which passed later into constipation, a condition which one rarely sees in typhoid. Gywnn has called these germs paracolon bacilli. Kurth and others have given various names, but the author prefers Schottmueller's designation of paratyphus bacillus. He thinks that in many cases there may be a mixed infection of typhoid and paratyphus and the Widal reaction occur late. See also ¶9 above.

85. **The Cystoscope.**—The history of the cystoscope is given by Foote, who prefers the Berlin pattern of instrument. He considers cystoscopy usually an easy and safe method of diagnosis of gastro-intestinal disease, which should be made in every obscure case and by it the presence of disease in one or both kidneys can be determined in almost every instance. Hence, its value as a preliminary to operation on the kidneys, since it renders the differential diagnosis between vesical and renal disease comparatively easy.

87. **Jamaica as a Health Resort.**—The advantages of Jamaica are described by Adams, who gives the cost of living there in detail, showing that quite a variety of diet can be had at comparatively moderate prices. He also mentions the mineral springs and baths. The climate, according to him, seems to be a very desirable one for a large class of invalids.

88. **Syphilis of the Rectum.**—The most common syphilitic manifestations in the rectal region are condylomas, which are often called piles, but, if uncomplicated by ulceration, usually rapidly disappear when treated by internal medication and the local use of calomel as a dusting powder, with daily ablutions with a weak solution of mercuric chlorid. Chancres are comparatively rare. Ulceration may occur during the secondary stage, but most frequently during the tertiary, and is due to gummatous deposits and infiltration of the submucous tissue. Gummas have been known to obstruct the bowels, but they usually disappear rapidly under the aggressive use of iodid. Infiltration may produce a fibrous condition with great contraction, and stricture is sure to follow syphilitic ulcer. If this occurs in the secondary stage the use of mercury is indicated. For the third the iodid or mixed treatment is best, but it must be remembered that at times the third stage seems to anticipate itself and a mixed treatment early required. It is well not to continue the internal administration of mercury when we suspect ulcerative papillitis of the rectal mucosa. We should use inunctions so as to rapidly produce the desired effect and at the same time keep the bowel clean with semi-daily enemas of creolin solution. Codein may be given for the pain or tenesmus. Hawkins finds it advisable to use sulphocarbolate of zinc 20 gr. to quart of warm water in an enema once or twice daily. In some cases divulsion of the sphincter

is necessary to secure proper drainage and the relief of pain. When syphilitic stricture exists it is advisable, he thinks, to use posterior linear proctotomy with the subsequent use of bougies, but he would give a very guarded prognosis, especially as regards the cessation of discharge. Ulceration is apt to persist and iodin do little good. Colostomy is all that remains for many of the cases, and it should be recommended as no worse than the disease. It allows the diseased surface to be kept clean and free from irritation.

89. **The Climate of California.**—The Colorado physicians, according to Bonney, are ready to admit that California is specially beneficial for certain cases of tuberculosis. He has been sending there many cases with bronchial disorders, cases of emphysema and certain forms of heart, kidney and rheumatic troubles, and has had satisfactory results. He does not endorse the prevailing opinion that nervous patients are aggravated in Colorado. He thinks possibly cases with hemorrhage err in making the trip to high altitudes too rapidly. A reasonable delay before starting and a period of rest immediately on arrival will obviate the unfortunate results. The hemorrhages that occur in Colorado are largely due to such cases and they occur most frequently in the spring, which he attributes to the winds and dust. During the spring he has been sending patients up to an altitude of 7500 feet and has never had a hemorrhage occur at Estes Park during the past six years.

90. **Fractures of the Femur.**—Babcock describes a rectangular splint suspended from a support which keeps the muscles of the thigh in relaxation. He has used, to his entire satisfaction, an ordinary anterior-angular arm-splint. The longer arm should have a length equal to that from the popliteal space to the heel; the shorter arm, a length equal to that from the popliteal space to the great trochanter. It should be slightly broader than the thigh and well padded. In applying it the leg is flexed to a right angle to the thigh and the thigh to a right angle to the body, and displacement corrected and the splint snugly fixed to the posterior aspect of the limb by several strips of adhesive plaster. The leg is supported in extension while the splint is carefully bandaged in position. The apparatus is swung from a point of support above the bed, the chief support attached at the angle of the splint and the extension sufficient to raise the corresponding hip slightly from the bed. The weight of the foot is carried by a bandage passing under the splint at the ankle; this is for support, not for extension. The position is not an uncomfortable one, while the center of gravitation is carried so far into the upper part of the body that active movement of the trunk or legs is discouraged. It has been a surprise to see how quietly children have stood the application of the apparatus.

93. **Fistula in Ano.**—The differential diagnosis of fistula in ano in its simple type from its tuberculous form, is described by Gant. Tuberculous fistulæ are usually secondary to intestinal ulcer caused by tuberculosis of some other organs, as the lung. Non-tuberculous fistulæ frequently occur in phthisical subjects also, due to emaciation, proneness to suppuration from slight causes and the result of bruises of the parts. The chief diagnostic points are the appearance of the rounded and elevated openings of the non-tuberculous forms, rounded buttocks, normal hair, nails, face, ears, and nose and voice; discharge is slight and yellow instead of profuse and watery or whitish; greater pain is caused by the introduction of the probe; lack of complications of cough or hemoptysis, tight sphincter as compared with patulous anus in the tuberculous, and the absence of tubercle bacilli.

99. **Insects and Disease.**—McFarland sums up the possibilities of dissemination of disease by insects in the following methods: 1. They may carry from place to place disease-producing micro-organisms on their bodies causing infection directly by lighting upon wounds and indirectly by alighting upon foodstuffs. 2. They may carry within their body germs of disease which have entered them by food and may subsequently be deposited elsewhere with the feces. This has been demonstrated in connection with tuberculosis. 3. The suctorial insect, by taking blood containing parasites from the bodies of diseased animals, may carry these upon their proboscides into the next animal bitten, directly and immediately affecting it. There are many cases in which anthrax has been apparently brought about in this way. Plague has been said to be thus disseminated, and tsetse fly disease is quoted as being thus produced. 4. Insects may take infectious germs into their bodies and transmit them to their offsprings, whose bites are infectious, as in cases of Texas fever of cattle. 5. Insects may take into their bodies parasitic organisms which there undergo a further development, the insect acting either as an intermediate or a definitive host, and transmitting the parasites to other animals in some changed form in which they are infective. The malarial organism is quoted at length as belonging probably to this class. Yellow fever is probably still another, also filariasis, all three disseminated by the different species of mosquito. 6. Insects may become infected with pathologic organisms and by falling into foodstuff thus impart infection to man. Such accidents are probably rare, but still it has been found that a fly can become infected with plague and die of the disease. The danger that might lurk in such an insect cadaver need not be dilated upon.

101. **Alcohol.**—Heredity of alcoholism is divided by French into three classes: 1. It may be direct, where there is a susceptibility and craving for it transmitted from one generation to another, the form remaining substantially the same. This is not uniform among children and it may skip a generation. Persons with such heredity can not be moderate drinkers, and can only escape inebriety by avoiding alcohol entirely. 2. It may be indirect as where inebriety in the parent or some remote ancestor has resulted in degenerated conditions and degeneracy which may suddenly break out into inebriety in some later generation. 3. The heredity may be complex as where various forms of degeneracy, disease and mental and nervous affections exist in several generations and finally result in inebriety in the succeeding one. He also mentions mental and moral heredity and quotes Morel and others. He concludes that alcohol is the greatest cause of degeneracy, both mental and physical; when not an inebriate, the hereditary victim is likely to be diseased, degenerate, mentally unstable or unbalanced, fanatical, eccentric or a genius. The hereditary inebriety develops rapidly at the first exciting cause and subjects of it can not indulge in alcohol safely. Alcoholism in such is difficult to cure and when apparently cured relapses are very liable to occur.

102. **The Pancreas in Diabetes.**—Herzog reviews the papers on the subject of the condition of the islands of Langerhans in diabetes and reports microscopic examinations of three cases. the results of examination are well in accord with what has been recorded by Scobolew, Opie, Weichselbaum and Stengel. The degeneration of the islands of Langerhans or changes in their structure are largely of the character of fibrosis.

113. **Appendicitis.**—Ochsner reiterates his views in regard to the treatment of appendicitis by gastric irrigation and nourishment only per rectum. His mortality since he has employed this method is less than one-fourth as high as it was in cases operated upon at once on making the diagnosis. Even in advanced cases of diffuse peritonitis there has been a marked decrease in the mortality. In many cases he has removed the appendices later and shown that the condition was not simply a severe catarrhal one. As a result of his clinical observation he formulates the following conclusions: "1. Peristaltic motion of the small intestines is the chief means of carrying the infection from the perforated or gangrenous appendix to the other portions of the peritoneum, changing a circumscribed into a general peritonitis. 2. This can be prevented by prohibiting the use of every kind of food and catharties by the mouth, and by employing gastric lavage in every case in which there are remnants of food in the stomach or in the intestines above the ileo-cecal valve, as indicated by the presence of nausea or vomiting of meteorism. 3. The patient can be supported by the use of concentrated predigested food administered as enemata not oftener than once in four hours, and not in larger quantities than four ounces at a time. 4. This form of treatment, when instituted early, will change the most

violent and dangerous form of acute perforative or gangrenous appendicitis into a comparatively mild and harmless form. 5. Cases of perforative or gangrenous appendicitis with beginning general peritonitis can usually be carried through the acute attack safely with this method. 6. In all cases of this class gastric lavage should be practiced in order to prevent the absorption of decomposing material from the alimentary canal. 7. In cases of doubtful diagnosis this form of treatment should always be employed. 8. This treatment will prevent a large proportion of the most troublesome complications and sequelæ of appendicitis, such as ventral hernia, fecal fistula, extensive adhesions, etc. 9. The patient should be permitted to recover fully from his acute attack before an operation is performed, except in cases encountered within the first thirty-six hours after the beginning of an attack or in case of the formation of a superficial circumscribed abscess. 10. It often requires but a small amount of any kind of food to change a harmless circumscribed into a dangerous diffuse peritonitis. 11. The treatment does not protect the patient against a subsequent attack. 12. It does not contra-indicate the removal of a diseased appendix before the septic material has extended beyond this organ. 13. It is indicated in all intra-abdominal conditions in which it is desirable to prevent the distribution of septic material by means of peristaltic motion. 14. The laity should be taught to stop feeding and giving catharties to patients suffering from intra-abdominal diseases."

129. **Fistula.**—Tuttle reviews the whole subject of fistula, calling attention to the importance of thorough study of physical, clinical and pathologic characteristics and making complete diagnosis in every case. He maintains that the percentage of failures in fistulous operations exceeds that of operations for cancer of the rectum. He thinks this statement may hardly be believed. Eternal vigilance is the price of healing in any of these cases. The surgeon can not safely dismiss the patient until every vestige of granulation and soft inflammatory tissue has disappeared. The causes of failure in many of these cases are imperfect drainage and persistent infection; he insists on thorough disinfection of the wound. In tubercular fistula, healing does not take place because of the pathogenic bacilli in the wound. In non-specific fistulas, complete drainage or radical removal of the entire fistula by incision with immediate suture is essential. It is not necessary always to cut through the fistula at once; cauterization will often give better results if it is done thoroughly. To be effective nitrate of silver should be used in solution in the strength of 900 to 1000 grains to the ounce of water and be applied thoroughly to the fistulous tract. He suggests one or two points in regard to the technique of the incisions, especially in deeper fistulas where this blind cutting from within outward is not only dangerous but unsatisfactory. The fistulous tract may be accurately followed and laid open on the skin until it reaches a point directly below the internal opening and then the internal tissues and muscles are cut squarely across. It is not necessary to incise the intestinal wall as high up as the perirectal abscess burrows. Excision of fistula with immediate suture is being more and more employed. He gives two or three little practical points: 1. Not to chromicize catgut to last more than six or seven days as too much chromicization makes it a permanent and irritating body. The deep wound should be brought together with a continuous mattress suture so as to avoid knots as far as possible, but this same suture should not be used to bring the edges of the external wound together. The ends of the muscles should be brought together by interrupted sutures of the mattress type, and composed of chromicized catgut, for at this point we need a prolonged maintenance of the part in position. After the deep wound has been brought together the skin should be united by interrupted or continuous silkworm-gut suture. The incision into the rectum should be treated as follows: The mucous membrane should be dissected off from each side of the wound to the extent of one-half an inch up to the level of the internal opening of the fistula. From this point upward it should be loosened sufficiently from the muscular wall of the gut to be brought down and attached to the skin just below the margin of the anus, after the manner of a Whitehead operation. This seals off from the intestinal canal the field of operation by healthy tissue and helps in obtaining union by first intention. In tubercular fistula only two courses are open: If the fistula is direct and can be thoroughly excised in all its extent and the wound immediately sutured, this should be done, but it should be as thoroughly done as in cancer operation. If the tract is wide and tortuous, making removal of all the pathologic tissue impossible, it should be thoroughly drained by a dependent incision upon the outside and the fistulous tract treated by methylene-blue, orthoform, or the Roentgen rays. Incision for drainage should be made with a Paquelin or electro-cautery so as to prevent the entrance of the bacilli through the wound. In tuberculous patients any surgical intervention is of doubtful benefit except where the opening is too small for proper drainage. Syphilitic, typhoid and dysenteric fistulas should be treated as in the simple non-specific type, at the same time employing what constitutional treatment is required.

130. **Circumcision.**—Spitzley argues for circumcision as a preventive of venereal disease.

135.—See editorial in The Journal of January 25, p. 253.

144. **Iodic Purpura.**—Stengel first briefly reviews the literature, the character of the eruption, the associated symptoms, joint manifestations and fever and the amount of iodism required. He shows from Robinson's case that a very minimum dose may produce this, even 1 gr. three times a day. In most cases, however, 3 to 10 gr. repeated three or four times a day were required, and he reports and illustrates cases of this condition and calls attention to certain symptoms suggesting Graves' disease, such as tremor, thyroid enlargement, cardiac palpitation, skin relaxation and sweating. These facts are rather suggestive of an actual state of the chronic iodism in Graves' disease itself. The diagnosis is ordinarily not difficult, but in the instances like the one reported there was some suspicion of constitutional or possibly cardiac disease; the suggestion of ulcerative endocarditis embarrasses the diagnosis.

146. **Tuberculosis.**—The value of tuberculin in the treatment of tuberculosis is pointed out by Pottenger, who from a careful review of the subject comes to the following conclusions: "1. Culture products do have a specific action upon tuberculous foci. 2. That this has not been recognized is due to the early unfortunate experience with tuberculin: (*a*) When it was used in too large and too frequent doses; (*b*) when it was employed in unsuitable cases; (*c*) when it was held responsible for all postmortem findings. 3. The field of usefulness for culture products is where recent tubercles are found, and this especially in incipient cases. 4. If used in advanced cases, culture products will help remove areas of recent extensions, but must not be expected to remove dead, decaying or newly formed tissue. 5. When culture products are used, they should be reinforced by every means at command. Every phase of the patient's health should be care for, and the proper hygienic and dietetic measures prescribed. 6. When the case is managed properly and culture products are used, the proportion of cures is greater than when culture products are not used. 7. Culture products produce an immunity which protects the patient from relapses; hence, make a permanent cure more often than hygienic and climatic treatment alone, which fact of itself should be enough to warrant their use in all suitable cases."

155. **Glandular Fever.**—West describes two cases and discusses glandular fever, what he considers as a distinct disease. He thinks there are no grounds upon which to suppose it to be a modified type of any other known acute infection nor any irregular form of any of the acute exanthematous diseases. The symptom-complex resembles catarrhal influenza in its sudden onset, high temperature, muscular soreness, prostration and slow convalescence. There is also enlargement of groups of nodes in influenza, but this is due to and commensurate with local lesions, and suppuration is not uncommon. In glandular fever this local inflammation does not exist or is so slight as to be wholly unaccountable for the trouble. The catarrhal symptoms are also fully as prominent in influenza as the gen-

eral ones. Almost all theories point to this disorder as an infection from the intestinal canal, and facts, he thinks, also point to this. The milder cases are accompanied by diarrhea, the severer by constipation and in every case relief only follows the remedying of the condition. Influenza is an epidemic disease, while glandular fever is restricted to house epidemics and rarely affects adults, and Pfeiffer's bacillus has not been found.

156. **Blackwater Fever.**—Blair describes the health conditions as he has observed them on the west coast of Africa. He gives a very unfavorable description of the malaria of this region and of the prospects of its abolition. He adopts the view of Stephens that blackwater fever is essentially a malarial disease in which quinin is the most common immediate determining cause of intoxication and that protection from malaria will protect from blackwater fever.

158. **Measles.**—Newcomb advocates the examination for Koplik's spots as a constant early sign of measles. He believes that segregation should be resorted to in each individual case, separating patient from patient, especially in hospitals. The dangers of overcrowding have been shown time and time again in epidemics.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), January 18.

1 *The Surgical Treatment of Obstructive Jaundice from an Experience of Over 200 Cases. A. W. Mayo Robson.
2 The Relation of Glaucoma to Thrombosis of Retinal Veins, with Notes of Cases. E. Harries Jones.
3 *Reflections on Ophthalmic Work in the Army. John Grimshaw.
4 *Ambulatory Treatment of a Ruptured Tendo Achillis. J. Lynn Thomas.
5 *A Possible Predisposing Cause of Cancer. Harold Mason.

The Lancet (London), January 18.

6 *Ocular Pain: Its Significance, Varieties and Treatment. Percy Dunn.
7 Typhoid Fever in South Africa. A. Elliot and J. W. Washbourn.
8 Note on the "Blood Relationship" of Man and the Anthropoid Apes. Albert S. F. Gruenbaum.
9 *On the Advisability of Removing the Appendix Vermiformis After Suppuration Caused by Appendicitis. William H. Battle.
10 *Izal in the Treatment of Phthisis. F. W. Tunnicliffe.
11 *Observations on the Nature and Treatment of Pernicious Anemia. Alexander McPhedran.
12 Friedreich's Ataxia. Guthrie Rankin.
13 *Report and Commentary on School Sanitation and Hygiene. Stuart A. Tidey.

The Practitioner (London), January 18.

14 Hypertrophy and Dilatation of the Heart. Thomas Clifford Allbutt.
15 The Treatment of Cardiac Dilatation and Asthenia. I. Burney Yeo.
16 Cardiac Dilatation and Hypertrophy. Richard Caton.
17 Points in the Prognosis and Treatment of Hypertrophied and Dilated Heart. Arthur Foxwell.
18 Prognosis and Treatment of Dilated Heart as the Result of Over-strain and Exercise. William Collier.
19 Dilatation of the Heart in Children. Eustace Smith.
20 On Hypertrophied and Dilated Hearts as Studied and Treated in Recent Times. A. E. Sansom.

Bulletin de l'Academie de Medecine (Paris), January 7.

21 *Successful Treatment of Cancer. L. Le Roy.—"Traitement du Cancer."

Bulletin Soc. Med. des Hop. de Paris, January 2.

22 Severe Lead-Poisoning in Storage Battery Works. M. Labbé. —"Intoxication Saturnine grave chez les ouvriers travaillant à la fabrication des accumulateurs électriques."
23 Cure of Vincent's Angina in Three Days with Methylene Blue. A. Chauffard.—"Augine de Vincent guérie en trois jours par des applications de bleu de méthylène."
24 *Early Diagnosis of Typhoid Fever by Bacilli in Blood. J. Courmont.—"Sur la prèscnce du bacille d' Eberth dans le sang des typhiques."
25 Hemorrhagic Family Cholemia. A. Gilbert and P. Lereboullet. —"Note additionelle sur la cholémie familiale à forme hémorrhagique."
26 *Appendicitic Symptoms in Course of Certain Infectious Diseases. Simonin.—"Manifestations Appendiculaires au cours de quelques maladies infectieuses."

Presse Medicale (Paris), January 8 and 11.

27 *Antiquity of Rachitis. A. Delpeuch.—"De l'ancienneté du rachitisme. Preuves tirées de l'art antique et de la philologie."
28 *Re-education of the Trunk in Tabetics. G. Constensoux.—"La rééducation du tronc chez les tabétiques."
29 *Indications and Contra-indications for Treatment with Phosphoric Acid. A. Martinet.—"Indications et contre-indications de la médication phosphorique."
30 *Alterations in Liver from Renal Impermeability. A. Gouget. —"Des alterations hépatiques dues à l'impermeabilite rénale. Role de l'urée."
31 *To Separate the Urine from the Ureters Without Catheterization. G. Luys.—"La separation de l'urine des deux reins."

Semaine Medicale (Paris), January 8.

32 Surgical Treatment of Tuberculosis of the Testicle. F. Lejars. —"Chirurgie du testicule tuberculeux."

Berliner Klin. Wochenschrift, January 6.

33 Anomalies in the Thorax as a Predisposition to Pulmonary Phthisis and Emphysema. W. A. Freund.—"Thoraxanomalien als Praedisposition zu Lungen-Phthise und -Emphysem."
34 Antibodies Against the Bacteriolytic Immune Bodies of Cholera. R. Pfeiffer and E. Friedberger.—"Ueber Antikörper gegen die bacteriolytischen Immunkörper der Cholera."
35 *Investigation of the Blood of Consumptives. L. Appelbaum.—"Blutuntersuchungen an Phthisikern."
36 *Experimental Cholangitis of Autoinfectious Origin. H. Ehret and A. Stolz.—"Ueber experimentelle Cholangitis autoinfectiösen Ursprungs."

Centralblatt f. Chirurgie (Leipsic), January 11.

37 *Treatment of Sciatica. F. Hoelscher.—"Zur Behandlung der Ischias."

Deutsche Med. Wochenschrift (Leipsic), January 9 and 16.

38 *Food Value of Gelatin. H. Brat.—"Ueber die Bedeutung des Leims als Nährmittel und ein neues Nährpräparat, Gluton."
39 *Stain-Analysis of Prepared Foods. S. Weissbein.—"Ueber einige neuere Nährpräparate. Eine farbenanalytische Studie."
40 *Post-Dysenteric Affections. F. Haasler.—"Ueber Folgeerkrankungen der Ruhr."
41 Improvement for Stomach Tube. Z. Bychowsk.—"Eine kleine Verbesserung der Magensonde."
42 *Simple Test for Albumin. Z. Bychowsk.—"Eine einfache und empfindliche Eiweissprobe."
43 *Improvements in Light Generators for Phototherapy. N. R. Finsen, S. Bang and H. Strebel.—"Weitere Versuche mit Eisenelektroden." "Neue Lichtgeneratoren in der Therapie."
44 Results of Vital Blood-Staining. H. Rosin.—"Ergebnisse vitaler Blutfärbung."
45 Eclampsia Due to Enhanced Tendency to Convulsions in Pregnancy. L. Blumreich.—"Experimentelle und krit. Beitraege zur Eklampsiefrage."
46 *The Fundus of the Eye in General Diseases. M. Litten.—"Ueber den Zusammenhang zwischen Allgemeinerkrankungen und solchen des Augenhintergrundes."
17 Study of the Causal Agent of "Cabbage Hernia." Feinberg.—"Ueber den Erreger der krankhaften Auswüchse des Kohls."

Muenchener Med. Wochenschrift, January 14.

48 *Intestinal Tuberculosis and Amyloid Degeneration in 25 Years of Autopsies. F. W. Zahn.—"Zusammenstellung der im path. Inst. zu Genf während 25 Jahren zur Sektion gekommenen Tuberkulosefälle mit besonderer Berücksichtigung der Darmtuberkulose und Amyloidentartung."
49 *Relations Between Langerhans' Islands in the Pancreas and Diabetes. M. B. Schmidt.—"Ueber die Beziehung der Langerhans'schen Inseln des Pankreas zum Diabetes mellitus."
50 Pleuritic Adhesions and Allied Conditions from the Standpoint of Diascopic Diagnosis. v. Criegern.—"Ueber Pleurasynechie und verwandte Zustäude vom Gesichtspunkte der diaskopischen Diagnostik."
51 Soxhlet's Sugar Food—A New Infant Food. Frucht.—"Soxhlet's Nährzucker.—Ein neues Kindernährmittel."
52 Study of Hysteria. P. Tesdorpf.—"Ueber die Wechselbeziehungen der körperlichen und psychischen Störungen bei Hysterie."
53 Graphic Tracings of the Pulse. A. Jaquet.—"Zur Technik der graphischen Pulsregistrirung."
54 Behring's Latest Theory in Regard to Diphtheria. F. Schanz. "Zu Behring's neuester Diphtherietheorie."

Wiener Klin. Wochenschrift, January 16.

55 *Etiology of Acute Hemorrhagic Encephalitis. E. Sträussler. "Zur Aetiologie der acuten hämorrhagischen Encephalitis."
56 *Experimental Tests of Jez's Antityphoid Extract. G. Markl. —"Exp. Untersuchungen ueber das Antityphusextract Jez's."
57 New Skull Perforator. O. Frankl.—"Ein neues trepanförmiges Schädelperforatorium."

Gazzetta degli Ospedali (Milan), January 5.

57 Laryngectomy. C. Nasi.—"Sulla laringectomia."
58 *Sero-therapy of Tuberculosis. E. Cioffi.—"Ancora della sieroterapia della tubercolosi."

---

1. **Obstructive Jaundice.**—In the diagnosis of obstructive jaundice Mayo Robson considers the following causes must be taken into consideration: 1. Common duct cholelithiasis. 2. Chronic pancreatitis. 3. Simple stricture of the common duct. 4. Inflammatory adhesions causing pressure on or stenosis of the hepatic or common ducts. 5. Hydatid disease pressing on or discharging into the bile duct. 6. Gummata implicating the ducts. 7. Chronic catarrh. 8, 9, 10. Cancer of the common bile duct, pancreas or liver. 11. Cirrhosis of

e liver. 12. Other rare causes such as aneurysm of the patic artery or aorta, and other tumors of the liver, gall-adder, pylorus, kidney, etc. In the first five causes surgery fords good prospects of cure. Medical treatment is advisable ly for gummata or chronic catarrh of the bile duct, while alignant disease is not hopeful and all the remaining cases ould depend according to circumstances on medical or surgical eatment. If the diagnosis is doubtful he thinks exploratory eration is advisable provided the general condition of the atient permits it. In malignant disease there are certainly vo cases where operation can do no good. They are primary ncer of the liver and cancer of the head of the pancreas. owever, in younger patients the operation should be seriously nsidered. In cases of suspected pancreatic cancer, which sually occurs later in life, chronic pancreatitis may only exist nd be curable by drainage of the gall-bladder. As regards allstones the two greatest causes of mortality are hemorrhage nd shock and the next most serious, exhaustion and sepsis. ccidents such as heart disease, syncope, etc., may occur after ny other operation. In his own experience of some 200 cases e finds a decided reduction of the mortality, especially in holedochotomies, where it has fallen nearly one-half. This e thinks is largely due, 1, to increased experience, accuracy nd diagnosis and in the better selection of cases; 2, knowing hen to stop after exploration; 3, by improving the technique f the operation by the preliminary and subsequent treatment; , increased practice enabling the operations to be accomplished n little over half the time they once required. In the free use f calcium chlorid the coagulating power of the blood can be nodified, but it should be given at least two days before operaion and longer with nutrient enemata for three or four days fterwards. Adhesions should be ligatured where possible and ll the bleeding points in the parietes and inside the abdomen e clamped and ligatured, or if general oozing exists pressure y means of sterile gauze should be employed. For preventing hock the enveloping of the patient in cotton-wool, operating n a heated table, administering strychnin before beginning the peration, large normal saline enemata with or without drainge one-half hour before operating and immediately after, are these probability of gastric hyperchlorhydria. When the portion is above 2/5, hypochlorhydric dyspepsia probably exists, with stagnation of the stomach contents and acid fermentations. In such cases phosphoric acid may render signal service.

30. **Alteration of the Liver from Renal Impermeability.**—Gouget reports that experimentation has confirmed the data of the clinic, as he illustrates, in detail, showing that the retention of the poisons of the urine causes certain alterations in the liver and that they are principally, if not exclusively, the work of the urea. The lesions in the liver induced by clinical and experimental uremia are identical with those produced by urea alone. The other organs are more or less affected, but the liver bears the brunt. The insufficiency of its multiple functions, especially of its antitoxic function, has a most important influence on the evolution of the uremia, similar to that of insufficiency of the kidneys in severe icterus. As urea is so little lowering [illegible] Gouget is inclined to believe that the deleterious

2. The examination of such ametropes by ophthalmic experts (civilian or military) and their vision and correction to be recorded on their medical history sheets. Such action would be necessary not only to treat the 'scrimshanking and discharge' stages of a soldier's *folie circulaire*, but to render easy the replacement of broken or lost glasses. 3. Opticians to be officially appointed whose duty it would be to keep an exact record of glasses supplied, to check the regimental data. 4. The distribution of recruits according to their sight to branches of service not necessitating keen vision or otherwise. If the visual tests were lowered, it would be of paramount importance to separate the 'hewers of wood and drawers of water' from the soldier who proposes to become a good rifleman, cavalry man, or artillerist. 5. To support discipline, a. d to lessen the responsibility of medical officers by inflicting summary punishment—by courtmartial and under the certificate of the ophthalmic surgeon—on soldiers afflicted with *folie circulaire* of above type. 6. To encourage the correction of ametropia by

plied to the roof of the bladder, Luys' to the floor. It consists of two catheters with a metal piece between, the same size and shape as the outline of the catheters. There is a hole at the tip in which a fine chain is fastened and the whole is encased in a loose rubber sheath. The two catheters and the intermediate piece form one instrument when the handle is screwed on. It is inserted along the lower wall of the bladder, which it pushes along and against the flattened rectum. By pulling on the chain, the rubber sheath in the center is drawn up and stretched like a curtain, walling off the two sides of the bladder. As the urine drops from one ureter the suction of an exhaust bulb draws it into the perforations in the corresponding catheter, as in Harris' instrument, connected with a corresponding vial for the urine from each side. The rubber curtain extends upward and also presses against the floor of the bladder below so that no intermixture of the urine from the two ureters is possible.

35. **The Blood in Consumptives.**—Appelbaum states that the blood of a consumptive becomes altered when it is long under the toxic influence of the disease. The amount of hemoglobin diminishes, also the number of corpuscles, and the specific gravity drops. In the second stage of the disease there is liable to be a deceptive improvement—the composition of the blood returns apparently to normal. This is probably merely a concentration of the blood from the loss of water in the night sweats, diarrhea and copious salivary and bronchial secretions. This concentration of the blood is shown in the brighter red of the lips and cheeks. The third stage of phthisis is characterized by a leucocytosis. Neutrophile polynuclear cells form 84 to 86 per cent. of all the white corpuscles, and they are probably derived from the mononuclears. The appearance of numerous transitional forms in the blood heralds the approach of a polynuclear leucocytosis. The alterations in the blood in tall, thin, pale, predisposed subjects frequently long precede other physical or bacteriologic signs of incipient tuberculosis.

36. **Experimental Cholecystitis and Cholangitis.**—Ehret packed the gall-bladder with glass balls or wads of cotton in his experiments on eleven dogs. After an interval of apparent health the animals suddenly exhibited symptoms of cholecystitis or cholangitis. The infection was more severe and more constant in the experiments with the cotton wads. One or more of the wads worked down into the biliary passages. The germs causing the infection were probably of auto-infectious origin, derived from the intestines. These experiments show how a person can tolerate gallstones for a long time without symptoms, and suddenly violent infection may develop. They also show that foreign bodies cause less disturbance in the gall-bladder than when they are in the biliary passages. Violent suppurating infection followed in every instance the passage of a wad into the common bile duct, but the glass balls have remained in the gall-bladder without causing the slightest apparent disturbance in two of the dogs to date.

37. **Treatment of Sciatica.**—Hoelscher has been very successful in treating sciatica in the last ten years by applying a gauze tampon, impregnated with a 5 per cent. solution of carbolic acid, directly to the nerve. The cure is prompt and permanent. He has had only 2 recurrences in 15 cases thus treated, and in these patients the technique was not complete. He leaves the tampon for three or more days, suturing the wound partially over it, and protecting the vicinity by working a moist compress in around it. The patient was able to move his leg without pain as soon as he awoke from the chloroform narcosis, but although the sciatic pain was banished, the patients sometimes complained of pains in the knee or thigh for a few days or possibly some relics of the sciatic pain were experienced requiring renewal of the tampon. The wound healed with suppuration but no other complications were noted and all the pain was definitely abolished after the first few days. The nerve appeared sound to the eye, but in some cases adhesions between the muscles must have compressed the nerve against the bone when the limb was moved, which may have co-operated in the production of the sciatica. There was no spinal affection in any of the cases.

38. **Food Value of Gelatin.**—In order to thoroughly test the nutritional value of gelatin, Brat found it advisable to prepare it in some form which would not become solid as it cooled. He accomplished this by submitting gelatin for several hours to the action of acids at a high temperature. The acids were then neutralized and the dialyzed or filtered product was ground into a powder which he calls "gluton." It dissolves readily in water and does not harden even in cold, concentrated solutions. When added to fluid or solid food it alters the taste so little as to be imperceptible and makes palatable lemonades, etc. The metabolism in four patients at von Leyden's clinic was carefully watched during four to seven days before the gluton was administered and during a similar period during and after the tests. The results confirm Voit's assertions that of all the articles of food which contain nitrogen, gelatin is the one most completely consumed in the body. Experiments on animals corroborated the clinical experiences and indicate that this variety of gelatin is utilized the same as the ordinary kind. It may prove useful as a substitute for the carbohydrates in diabetes, obesity, etc., to assist in controlling hemorrhage and be especially valuable in all diseases requiring a fluid diet.

39. **Stain Analysis of Prepared Foods.**—Weissbein states that analysis by staining is an important means of determining the composition of foods, etc. It supplements and completes chemical analysis and clinical observation. All that is necessary is a centrifugalizer and microscope and either Ehrlich's or Pappenheim's panoptic triacid stain. The results of the stain show the exact proportion and kind of albumin in the preparation, whether it occurs in the form of an albuminate or nucleo-albuminate, whether the starch is unmodified or dextrinized, and whether gluten or less digestible particles are present. We learn also that a large percentage of nitrogen determined by chemical analysis does not always represent a high nutritional value and large proportion of albumin. The stain reveals also the presence of minute particles of the hulls and indigestible substances, which are frequently encased in indigestible cellulose.

40. **Post-Dysenteric Affections.**—Haasler's article is based on observation or dissection of hundreds of cases of dysentery (Ruhr) at Tientsin. Death was usually the result of the destruction of the mucous membrane of the intestines, the functional loss of almost the entire large intestine, or to various complications, especially hemorrhages and peritonitis. His experience indicates that injections should not be used during the ulcerating stage, or only with extreme caution. The site and multiplicity of dysenteric liver and spleen abscesses render them inoperable in most cases. The frequent participation of the appendix in the morbid process threatens appendicitis after recovery from the dysentery, and stenosis and kinking of the intestines are liable to follow later. Encapsulated abscesses may linger and prove the source of recurrence. The organs of respiration frequently participate also in the affection and pleurisy is common, but on the other hand, heart and kidney affections seldom develop as a post-dysenteric affection.

42. **Simple Bedside Test of Urine.**—Bychowsk states that even as little as one or two drops of urine will impart an opalescence to a glass of clean hot water in case of the presence of albumin. The glass must be held against a dark background, such as a black sleeve, and the opalescence spreads through the fluid as the glass is shaken, like the smoke from a cigar. The phosphates produce the same phenomenon, but error from this cause can be prevented by adding a few drops of acetic acid.

43. **Improved Light Generators for Phototherapy.**—Bang, Finsen and Strebel each contribute an article on this subject. Finsen endorses the great efficacy of Bang's metal electrode lamp, described in The Journal, xxxvii, p. 1073. It differs from all lamps hitherto constructed as the optic effect is disregarded and the ultra-violet rays are produced in exceptional abundance, but its effect does not penetrate beneath the surface. The lamp has a very powerful bactericidal action, killing a superficial culture of the staphylococcus in as many seconds as the arc light requires minutes. Although it is so effective and convenient for action on the surface, Finsen's apparatus still retains its supremacy for deep lesions. Finsen states that Bang's iron electrode generates actually a new kind of light and will probably aid in our better knowledge of the therapeutic action of light and specialize or differentiate the action of light in the treatment of skin diseases. Strebel describes improvements in his lamp, which is constructed somewhat on the same principle as Bang's, but generates blue and violet as well as ultra-violet rays and has thus both a superficial and a deep action. By a combination of a glass rod to conduct the light and a system of reflectors to reflect it into an endoscope tube, he is able to send the light into the male and female urethra and into the uterus.

46. **Diagnostic Value of Certain Alterations in the Eye in General Diseases.**—Litten some years ago called attention to white specks appearing close to the papilla which he had noticed in 80 per cent. of 35 cases of septicemia or malignant endocarditis, all fatal. Further experience has shown that the phenomenon occurs in only about 40 per cent. and that retrogression of the specks and recovery of the patient is possible. When it occurs it is extremely valuable for the differentiation of acute septicemia and malignant endocarditis in their early stages. The specks were always found in the same layer of the retina and at the same distance from the entering point of the optic nerve. They look like round or oval tumors imbedded in the layer of nerve fibers. They have no decided structure; they never break through into another layer of the retina; they form with great rapidity and may vanish without leaving a trace, and are probably a rapidly coagulating exudation of lymph. He has never found them except in cases of septicemia, leukemia, pernicious anemia and scorbutus, although he has sought for them with special care in typhoid fever, etc. In case of a differential diagnosis between septicemia and typhoid fever, therefore, their presence speaks for the former. Most cases of acute miliary tuberculosis can be differentiated by the tubercles in the choroid. In their absence it may be difficult to differentiate it from septicemia as the white specks do not always occur in the latter. Multiple hemorrhages in the fundus of the eye are observed in certain cases of either affection. If the lungs are entirely negative, the evidence is in favor of septicemia. These hemorrhages are also observed in some cases of tubercular meningitis, but there is almost always an accompanying papillitis, which Litten has never seen in septicemia. He has observed three cases of typhoid fever in which a large hemorrhage occurred in the retina with amaurotic symptoms, quite different from the small circumscribed hemorrhages observed in some cases of septicemia. In one of the cases the lesions retrogressed during recovery, but recurred again during a recurrence of the typhoid fever, which he was able to diagnose from the aspect of the eye alone, before the temperature curve or any other symptom differentiated the disease.

48. **Intestinal Tuberculosis and Amyloid Degeneration at Autopsies.**—Zahn has had sections made of the cadavers of consumptives during the last twenty-five years by his students at Geneva, and has paid special attention to primary and secondary intestinal tuberculosis and to amyloid degeneration. The Path. Institute had 6320 autopsies during this period and tuberculosis had been diagnosed in 2058 or 32.56 per cent. The majority were men. Primary intestinal tuberculosis was rarely found, but secondary infection of the intestines was noted in 63.21 per cent. of all ulcerative tuberculous lesions in the lungs, nearly twice as frequent in men as in women. He believes that this secondary infection in the intestines is due to the swallowing of infectious sputa, consciously or unconsciously during sleep. The question is, why do any escape? He attributes the immunity of the comparatively large number free from this complication, to the good functioning of their stomachs. He noted that gastric disturbances or lesions were common in the subjects with secondary intestinal infection. The anatomic lesions predominated in men, the functional in women. This insufficiency of the stomach allowed the tubercle bacilli to pass through the stomach unharmed and infect the

intestines. The conclusion imposes itself that the care of the stomach is one of the most important indications in tuberculosis to prevent this secondary infection. The coincidence of tuberculosis and carcinoma was noted in 3.69 per cent. of all the cases of tuberculosis, and of tuberculosis and sarcoma in 3 cases. Amyloid degeneration was observed in only 105 cases, that is, in 1.66 per cent. It occurred with florid tuberculosis in 98 cases; the lesions were in the lungs in 79 and in the bones in 19. It was found in 7 cases in which there had been no tuberculosis. This rarity of amyloid degeneration he attributes to the lack of extreme poverty in Geneva and its vicinity.

49. **Langerhans' Islands and Diabetes.**—Schmidt has examined the pancreas in 23 autopsies of diabetics. He found it intact in 8, and only slightly altered in 7. In one case the pancreas of a diabetic woman, 62 years of age, proved sound in every respect except the Langerhans' islands. They were nearly all in a state of hyaline degeneration. Opie has described a similar case. In the case of a child of 10 he found an almost isolated, acute interstitial inflammation of these islands. The child had exhibited 6.8 per cent. sugar. Two other cases belonged to the group of chronic interstitial pancreatitis, both of the intralobular or interacinous form, with sclerosis of the islands. In 2 other cases the islands seemed to be intact inside a fibrous capsule while the remainder of the pancreas was the seat of the morbid process. The islands seemed to be constantly regenerating, but whether the new-formed ones are as functionally capable as under normal conditions is open to question.

55. **Etiology of Acute Hemorrhagic Encephalitis.**—Sträussler describes 2 typical cases of this affection with the autopsies. He compares the findings with those observed by others in acute, fatal psychoses, and emphasizes the fact that the clinical picture is practically identical in all, and all were distinguished by coprostasis, and by symptoms indicating hyperemia of the brain and its membranes. The course of events indicated that the hyperemia was the consequence of the coprostasis, due to the toxic action of substances absorbed from the intestines. A number of writers have attributed acute mania to an acute, hemorrhagic encephalitis demonstrated at the autopsy. The connection between hemorrhagic diseases and intestinal auto-intoxication has been established beyond question. Disturbances in the alimentary canal are an almost constant accompaniment of encephalitis. Instances have been known of its succeeding to gastritis.

56. **Tests of Jez's Antityphoid Extract.**—Markl reports comparative tests of Jez's extract and of antityphoid serum on a hundred rabbits and guinea-pigs, more or less. He found that the serum of animals thus treated contained a specific protecting substance or substances not found in normal animals. Their action is anti-infectious, not antitoxic.

58. **Sero-therapy of Tuberculosis.**—Cioffi reports experiments with guinea-pigs, inoculating them with tuberculosis and then treating them with Maragliano's anti-tuberculosis serum. None of the animals thus treated died. He also describes several cases of patients so improved as to be practically cured. He points out that it is effective only against the tuberculosis and is contra-indicated in secondary infections.

Queries and Minor Notes.

PREGNANCY AND CONTRACTED PELVIS.

———, FLA., Jan. 23, 1902.

To the Editor:—Please tell me what is the right thing to do in the following case: Mrs. R. is two months pregnant, with contracted pelvis. A previous pregnancy was terminated by bringing on labor at the fifth month; it was found necessary to dismember the fetus and bring it away piecemeal. I have urged and insisted on waiting to term and then having a Cesarean section made with removal of ovaries and uterus. But both Mr. and Mrs. R. reject the idea as too dangerous and too expensive, as they are in straightened circumstances and are at a great distance from anyone I could recommend them to for so serious an operation. This is the first case in my twenty-one years' experience where I have been tempted to produce premature labor, or, rather, abortion, but the people are poor and there is no other physician within many miles at present. What is the right thing for me to do? If an abortion is performed now, it will doubtless mean a repetition of the same thing every few months, which, of course, I could not countenance. I have not used a pelvimeter, but the bony outlet of the pelvis is so contracted as to make a digital examination difficult.

ANS.—The case is evidently one of contraction of the pelvis of the highest degree, and therefore furnishes an absolute indication for Cesarean section if the pregnancy is allowed to continue. In the management of these cases there is some difference of opinion among authorities, some refusing to sanction any mutilating operation on a living fetus under any circumstances. The majority admit, however, that such operations are sometimes justifiable. If a woman comes to labor in ignorance of her pelvic deformity it may be admitted that she and her husband have some right to decide whether she shall be subjected to a more dangerous operation for the sake of the child, or whether the child shall be destroyed to avoid the risk of a section. In such a case if the woman is in no danger from infection and the child is still in good condition, Cesarean section is indicated. If, on account of a neglected labor, the woman is in danger of infection or the child undoubtedly weakened as a result of the uterine contractions, there is more reason to perforate and remove the child. The case in question, however, undoubtedly differs from those just alluded to in the fact that this patient became pregnant a second time after she knew from her previous experience, and also undoubtedly from the counsel of her physician, that she could not bear a living child. Her right to a choice in the conduct of the case is undoubtedly much lessened thereby. When a patient presents herself, no matter what the previous history, she must be given the best advice and treatment. Sometimes this is not accepted, and we must be content with an alternative. There is no doubt, however, that the management you suggested is proper, and it should be urged with all possible force. There should be practically no risk in the operation, because it would be provided for beforehand, and done with all possible care. It would be a less dangerous operation than the great majority of the hundreds of laparotomies that are done every day. This fact should be impressed upon the minds of the woman and her husband. It should be possible to meet the expense of such an operation. The woman should go to a hospital where she could have the gratuitous services of a competent abdominal surgeon. Transportation for even two or three hundred miles with a moderate hospital fee would be but little more than ought to be paid for inducing abortion at her home. Forcible presentation of all the advantages of Cesarean section, removal of groundless fears and objections, presentation of the danger of inducing abortion and of future danger to which the woman would be subjected through probable future pregnancies, should lead to a right decision in the case. Finally, abortion should not be resorted to without first calling in consultation.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A MANUAL OF PRACTICAL ANATOMY. By the late Alfred W. Hughes, M.B., M.C. Edin., F.R.C.S. Edin., etc., Professor of Anatomy, King's College, London. Edited and completed by Arthur Keith, M.D. Aberd., F.R.C.S. Eng., Lecturer on Anatomy, London Hospital Medical College, etc. In Three Parts. Part I. The Upper and Lower Extremities. Illustrated by 38 Colored Plates and 116 Figures in the Text. Cloth. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF MICROSCOPICAL AND CHEMICAL METHODS FOR STUDENTS, HOSPITAL PHYSICIANS AND PRACTITIONERS. By Charles E. Simon, M.D., author of Simon's Physiological Chemistry, etc. New (4th) Edition, Thoroughly Revised and Enlarged. In One Handsome Octavo Volume of 608 Pages, Illustrated with 139 Engravings and 19 Plates in Colors. Cloth. Price, $3.75 net. Philadelphia and New York: Lea Brothers & Co. 1902.

A GUIDE TO THE MICROSCOPIC EXAMINATION OF THE EYE. By Prof. R. Greeff, Surgeon to the Ophthalmic Department of the Royal Charité Hospital, Berlin. Translated from the Second German Edition by Hugh Walker, M.A., M.B., C.M., Assistant Surgeon and Pathologist to the Ophthalmic Department of the Glasgow Royal Infirmary. Cloth. Pp. 171. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1902.

A RETROSPECT OF SURGERY DURING THE PAST CENTURY, Being the Hunterian Oration of the Hunterian Society, 1901. By John Poland, F.R.C.S., Surgeon to the City Orthopedic Hospital. Cloth. Pp. 97. London: Smith, Elder & Co. 1901.

TRANSACTIONS OF THE TWELFTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF WASHINGTON, Held at Seattle, June 18, 19, 20, 1901. Cloth. Pp. 259. Spokane: Shaw & Borden Co. 1901.

ROUGH NOTES ON REMEDIES. By Wm. Murray, M.D., F.R.C.P. Lond., Newcastle-on-Tyne. Fourth Edition. Cloth. Pp. 176. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1901.

THE SOCIETY OF THE LYING-IN HOSPITAL OF THE CITY OF NEW YORK. Annual Report of 103d Year, from October 1, 1900, to Sep-

tember 30, 1901. Paper. Pp. 126. Printed by Order of the Board of Governors.

TRANSACTIONS OF THE THIRD ANNUAL SESSION OF THE TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA, Held at the Jefferson Hotel, Richmond, Va., Feb. 26 and 27, 1901. Cloth. Pp. 237. Raleigh: Edwards & Broughton. 1901.

THIRTY-FIRST ANNUAL REPORT OF THE CENTRAL STATE HOSPITAL OF VIRGINIA (Petersburg, Va.), for the Fiscal Year Ending Sept. 30, 1901. Paper. Pp. 126. Richmond: O. E. Flanhart Printing Co. 1901.

A CHART OF DISEASES OF THE LUNGS, PLEURAE, BRONCHI, TRACHEA AND LARYNX. By Edward C. Hill, M.D. Published by the McArthur Hypophosphite Co., Ansonia, Conn.

TRANSACTIONS OF THE BERKS COUNTY MEDICAL SOCIETY, for the Year 1901. Volume VI. Paper. Pp. 99. Reading, Pa.: Norton Printing House. 1901.

SUMMARY OF THE ANNUAL REPORT of the Library Committee of the College of Physicians of Philadelphia, for the Year 1901. Paper. Pp. 4.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., January 16 to 22, 1902, inclusive:

Amos W. Barber, contract surgeon, member of a board at Fort D. A. Russell, Wyo., to examine officers of the Army for promotion.

Edmund Barry, contract surgeon, from duty at the General Hospital, Presidio of San Francisco, Cal., to Fort Dade, Fla., for duty at that post.

James R. Church, lieutenant and asst.-surgeon, U. S. A., on the expiration of his present sick leave, to report for duty to the commanding officer of the General Hospital, at Washington Barracks, D. C.

Walter Cox, lieutenant, asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., whence he will report by telegraph to the Surgeon-General of the Army for instructions.

Louis W. Crampton, major and surgeon, U. S. A., leave of absence for two months granted, on the expiration of which he will report for duty at Fort Adams, R. I.

William F. Lewis, captain and asst.-surgeon, U. S. A., member of a board at Fort D. A. Russell, Wyo., to examine officers of the Army for promotion.

Walter D. McCaw, major and surgeon, U. S. A., leave of absence for one month granted, on the expiration of which he will report for duty at Fort Wadsworth, N. Y.

Edward W. Pinkham, lieutenant, asst.-surgeon, U. S. A., leave of absence for three months, with permission to go beyond sea, granted.

Irving W. Rand, captain, asst.-surgeon, U. S. A., from Fort Trumbull, Conn., to duty at Fort Hamilton, N. Y.

Edwin W. Rich, lieutenant and asst.-surgeon, U. S. A., from Fort Totten, N. Y., to San Francisco, Cal., en route for service in the Division of the Philippines.

Joseph L. Sanford, contract surgeon, from Clifton, Va., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Joseph J. Shafer, contract surgeon, from Fort Dade, Fla., to his home, Atlanta, Ga., for annulment of contract.

Herbert M. Smith, lieutenant and asst.-surgeon, U. S. A., from Fort Leavenworth, Kan., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Guy Stone, contract surgeon, from temporary duty at the General Hospital, Presidio of San Francisco, Cal., to his home, Nashville, Tenn., for annulment of contract.

Harry H. Van Kirk, contract surgeon, now at Sunbury, Ohio, is relieved from further duty in the Division of the Philippines and will proceed to Fort Leavenworth, Kan., for duty.

Walter D. Webb, lieutenant and asst.-surgeon, U. S. A., relieved from further duty in the Division of the Philippines and assigned to duty at Fort Totten, N. Y.

Marlborough C. Wyeth, major and surgeon, U. S. A., from the medical supply depot, Havana, Cuba, to duty at Fort Trumbull, Conn.

Appointments, Promotions, Retirements, Etc.,

of medical officers recorded in the Adjutant-General's Office, Washington, D. C., between Dec. 15, 1901, and Jan. 15, 1902:

Regular Army, Retirements—Colonel Dallas Bache, asst. surgeon-general, Jan. 1, 1902, at his own request, after forty years' service, act of June 30, 1882. Colonel Charles R. Greenleaf, asst. surgeon-general, Jan. 1, 1902, by operation of law, act of June 30, 1882.

Volunteers, Honorably Discharged—Major William F. Lippitt, Jr., surgeon, Dec. 31, 1901. Captain Vernon J. Hooper, asst.-surgeon, Dec. 31, 1901.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended January 25:

Surgeon D. O. Lewis, ordered to the *Pensacola.*

P. A. Surgeon J. E. Page, detached from the *Pensacola,* and ordered to be ready for sea duty.

Rear Admiral W. K. Van Reypen, Surgeon-General of the Navy, retired from active service, January 25, upon his own application, after 40 years' service; with the rank and three-fourths the sea pay of the next higher grade.

Medical Inspector W. A. McClurg, ordered to the *Olympia,* January 25.

P. A. Surgeon E. O. Huntington, commissioned P. A. Surgeon from May 24, 1901.

P. A. Surgeon J. B. Dennis, commissioned P. A. Surgeon from May 25, 1901.

Asst.-Surgeon E. G. Parker, ordered to the *Pensacola.*

Asst.-Surgeon U. R. Webb, detached from the *Pensacola,* and ordered to the Asiatic Station, sailing from San Francisco, February 7.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 23, 1902:

Surgeon S. D. Brooks, to proceed to Bath, Maine, for special temporary duty.

Surgeon G. M. Magruder, granted thirty days' leave of absence, on account of sickness, from January 22.

P. A. Surgeon A. R. Thomas, to proceed to Liverpool, England, for special temporary duty.

Asst.-Surgeon J. F. Anderson, upon expiration of leave of absence, to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for duty.

A. A. Surgeon Felix Garcia, granted leave of absence for 30 days from January 25.

Hospital Steward G. C. Allen, granted leave of absence for two days from January 27.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended January 25, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, Jan. 4-11, 11 cases; San Francisco, Dec. 29-Jan. 12, 10 cases.

Illinois: Belleville, Jan. 11-18, 8 cases; Chicago, Jan. 4-18, 14 cases, 1 death; Freeport, Jan. 4-11, 2 cases; Galesburg, Jan. 11-18, 2 cases.

Indiana: Evansville, Jan. 4-18, 6 cases.

Iowa: Clinton, Jan. 11-18, 3 cases; Ottumwa, Nov. 30-Dec. 28, 79 cases.

Kansas: Wichita, Jan. 11-13, 1 case.

Kentucky: Lexington, Jan. 4-11, 3 cases.

Louisiana: New Orleans, Jan. 4-18, 5 cases, 3 deaths.

Maine: Portland, Jan. 11-18, 2 cases.

Massachusetts: Boston, Jan. 4-18, 76 cases, 9 deaths; Brockton, Jan. 11-18, 1 case; Brookline, Jan. 11-18, 1 case; Cambridge, Jan. 4-11, 3 cases, 1 death; Clinton, Jan. 4-11, 3 cases; Holyoke, Jan. 11-18, 1 case; Lowell, Jan. 11-18, 1 case; Marlboro, Jan. 4-11, 1 case; Medford, Jan. 4-11, 1 case; Quincy, Jan. 4-11, 1 case; Somerville, Jan. 4-11, 2 cases, 1 death; Weymouth, Jan. 4-11, 1 case.

Michigan: Ann Arbor, Dec. 28-Jan. 4, 2 cases; Detroit, Jan. 4-16, 4 cases, 1 death; Grand Rapids, Jan. 11-18, 2 cases.

Minnesota: Winona, Dec. 28-Jan. 4, 1 case.

Nebraska: Omaha, Jan. 4-11, 41 cases; South Omaha, Dec. 1-Jan. 18, 216 cases.

New Hampshire: Nashua, Jan. 4-18, 2 cases.

New Jersey: Camden, Jan. 4-18, 31 cases, 6 deaths; Jersey City, Dec. 29-Jan. 19, 43 cases; Newark, Jan. 4-16, 68 cases, 12 deaths; Passaic, Jan. 4-11, 2 cases, 1 death; Plainfield, Jan. 11-18, 4 cases.

New York: Binghampton, Jan. 4-18, 1 case, 1 death; Mount Vernon, Jan. 11-18, 1 case, 1 death; New York, Jan. 4-18, 48 cases, 8 deaths.

Ohio: Cincinnati, Jan. 4-17, 27 cases; Cleveland, Jan. 4-18, 4 cases; Dayton, Jan. 11-18, 1 case; Hamilton, Jan. 11-18, 1 case; Toledo, Jan. 4-18, 4 cases; Youngstown, Dec. 28-Jan. 18, 30 cases, 4 deaths.

Pennsylvania: Allegheny, Jan. 4-11, 1 case; Altoona, Dec. 28-Jan. 4, 4 cases; Lebanon, Jan. 4-11, 1 death; Norristown, Jan. 4-11, 10 cases, 1 death; Philadelphia, Jan. 4-11, 213 cases, 31 deaths; Pittsburg, Jan. 11-19, 4 cases.

Rhode Island: Providence, Jan. 12-18, 1 case.

South Carolina: Greenville, Jan. 4-11, 1 case.

Tennessee: Memphis, Jan. 4-18, 11 cases.

Utah: Salt Lake City, Jan. 11-18, 1 case.

Vermont: Burlington, Jan. 4-11, 38 cases.

Washington: Tacoma, Dec. 29-Jan. 12, 12 cases.

Wisconsin: Green Bay, Jan. 4-18, 25 cases; Milwaukee, Jan. 4-18, 3 cases.

SMALLPOX—FOREIGN.

Africa: Monrovia, Dec. 7-14, 1 case.

Austria: Prague, Dec. 14-28, 12 cases.

Brazil: Rio de Janeiro, Dec. 7-22, 77 deaths.

Canada: Halifax, Jan. 4-11, 12 cases; Quebec, Jan. 4-18, 110 cases, 1 death; St. John, Dec. 28-Jan. 18, 3 deaths.

Colombia: Panama, Dec. 23-Jan. 13, 48 cases.

France: Lyons, Dec. 21-28, 1 death; Paris, Dec. 21-Jan. 4, 7 deaths.

Great Britain: Glasgow, Dec. 27-Jan. 10, 31 cases; Liverpool, Dec. 21-Jan. 4, 5 cases; London, Dec. 21-Jan. 4, 1419 cases, 68 deaths; Newcastle-on-Tyne, Dec. 21-28, 1 case; Sheffield, Dec. 21-28, 1 case.

India: Karachi, Dec. 8-15, 6 cases, 2 deaths.

Italy: Naples, Dec. 21-28, 32 cases, 2 deaths.

Russia: Moscow, Dec. 7-21, 34 cases, 12 deaths; Odessa, Dec. 14-28, 11 cases, 2 deaths; St. Petersburg, Dec. 14-28, 11 cases, 4 deaths; Warsaw, Dec. 14-21, 5 deaths.

Spain: Barcelona, Dec. 24-31, 3 deaths; Corunna, Dec. 21-Jan. 4, 2 deaths; Vigo, Dec. 1-31, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Dec. 8-22, 2 deaths.

Mexico: Vera Cruz, Dec. 28-Jan. 18, 8 cases, 5 deaths.

CHOLERA.

India: Bombay, Dec. 10-17, 2 deaths; Calcutta, Dec. 7-14, 36 deaths; Madras, Dec. 7-13, 5 deaths.

Java: Batavia, Nov. 30-Dec. 7, 10 cases, 4 deaths.

PLAGUE.

Brazil: Rio de Janeiro, Dec. 7-22, 13 deaths.

China: Hongkong, Dec. 7-14, 1 case, 1 death.

India: Bombay, Dec. 14-17, 144 deaths; Calcutta, Dec. 7-14, 24 deaths; Karachi, Dec. 8-15, 81 cases, 56 deaths.

Turkey: Smyrna, Dec. 28, 1 case.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, FEBRUARY 15, 1902. No. 7.

Original Articles.

THE PROBLEMS OF SERUM-THERAPY.

JOSEPH McFARLAND, M.D.

Professor of Pathology and Bacteriology in the Medico-Chirurgical College.

PHILADELPHIA.

With the advance of our knowledge of immune serums the evidence becomes more and more convincing that they operate chemically to produce their effects. So long as we conceived that their introduction into an animal was succeeded by a general vital reaction by means of which the cells received some kind of invigoration or rejuvenation, the conditions under which the serums operated were so occult that it seemed impossible to attain positive information about them.

The recognition of the chemical nature of the reaction, and the discovery that the laws governing it are not unlike laws governing other reactions with which we are familiar, together with the discovery that the toxin-antitoxin reaction is but one of a large series of vital reactions, has opened the way to new applications of serums in practice, and has suggested entirely new lines of research.

It will be remembered by those who are familiar with the literature and history of serum therapy that the subject had its origin in studies upon immunity. The only form of immunity that suggested itself to the pioneers in the investigations was immunity to the infectious agents—the bacteria. Pasteur was the originator of artificial immunization, and subsequent workers followed closely in his footsteps. The next advance was the production of immunity to the disease-producing products of the bacteria. This was first achieved by Salmon and Smith, and Behring and Kitasato utilized this principle in their researches.

It occurred to Ehrlich that if the toxalbumins of bacteria would cause immunity and the formation of antitoxins, probably other vegetable toxalbumins would do the same and he proved the truth of his conclusion by his experiments with ricin and abrin. The subject of animal poisons was next attacked by Phisalix and Bertrand, and by Calmette, who found that the venoms of poisonous serpents reacted in the same manner. From this time on the subject of toxicology underwent a new development through a great amount of experimental work done in endeavoring to produce immunity to and develop antitoxins for the different animal and vegetable poisons. Very little success was obtained with mineral poisons, the only one of which a successful report is made being arsenic, which Besredka found capable of generating antiarsenine when properly introduced into the body of rabbits. Having thus worked over the field of poisons very thoroughly, experimenters next turned their attention to other active substances, and Morgenroth discovered that the introduction of rennet into the body of an animal was succeeded by the appearance in the blood of a principle (antirennene) which impeded the action of rennet upon milk. Bordet, and Bordet and Gengou, worked with fibrin ferment, and found that the introduction of fluids rich in this ferment into the body is followed by the occurrence of some substance in the serum by which the coagulation of the blood may be prevented or delayed.

There are thus presented to us a variety of reactive phenomena, more or less closely related to one another in that there occur in response to a similar form of stimulation more or less similar substances.

When we come to study more particularly the nature and conditions of the phenomena, many points of interest at once appear. In rare cases the blood of normal animals manifest a more or less marked degree of the same activity which appears in the blood of animals that have undergone the process of immunization. Why a few animals should present this peculiarity is a problem at the present time unsolved. It may indicate that there are various ways in which the balance of physiological energy can be altered, and that at times other stimuli than artificially introduced toxins, etc., may lead to the generation of serums of phenomenal action. On the other hand, it is, of course, not impossible that the experiment animals have under natural conditions come under influences resembling those to which we subject them experimentally. Thus Cobbett, who has made the most interesting and important observations upon the occasional occurrence of antitoxin in the blood of normal horses, has also observed spontaneous diphtheria in a horse.

Except in these rare cases, however, the appearance of antitoxic, anticoagulant or other phenomenal powers in the blood depends altogether upon the manipulations to which animals have been subjected.

The formation of the bodies takes place through means that are not yet clearly explained, though the "lateral chain" theory of Ehrlich affords a very satisfactory explanation for many of them. This theory presupposes that the stimulating substances introduced into the experiment animal have the power of combining with certain groups of molecules in the protoplasm of certain cells in the body, for which they have affinity. The combination is succeeded by a regeneration of the lateral chains, which appear in a quantity slightly in excess of that existing before the stimulation of combination occurred. When more of the combining substance is now injected into the animal and the combining lateral chains again

consumed, another still more copious regeneration occurs, and so on until the particular lateral chains are present in great excess, pass out of the cells into the blood where is it known to us as antitoxin.

It will be noted that this is a purely chemical theory which implies throughout that the lateral chains and antitoxin are "combining substances."

It may be well to consider the evidences which exist at present to support this chemical theory.

1. The action of antitoxin upon toxin always takes place in fixed proportions, without relation to the quantity employed. Thus, if a certain quantity of antitoxin protects an animal against a certainly fatal dose of any toxin, it is always true that within a small percentage of error, ten times the antitoxin will protect against ten fatal doses, and one hundred times against one hundred fatal doses. So positive is this law of multiples, and so accurate is the result of its continued application, that Ehrlich has made it the basis of his method of testing the value of antitoxins, which are estimated against one hundred fatal doses of toxin.

2. The separation of toxin and antitoxin when once mixed under proper conditions is probably impossible. There are different opinions about this, as Roux made what he supposed to be neutral mixtures of toxin and antitoxin, which produced no symptoms when introduced into certain animals, but which caused local symptoms and even death when introduced into other species of animals. This, he believed, showed that the toxin was not combined with the antitoxin, as it was able to produce death. Cobbett, however, points out that in such a neutral mixture there is always considerable free or unneutralized toxin—less than one fatal dose for that animal for which the mixture is neutral—which may be sufficient to cause the death of a more susceptible animal. At Roux's suggestion Calmette endeavored to separate venom from antivenene with which it had been mixed by the use of a degree of heat which coagulated and precipitated the serum, but did not injure the venom. He found that neutral mixtures when heated became poisonous again. Martin and Cherry, however, showed that Calmette might have had different results if he had permitted the venom and antivenene to remain in contact for a short time at a temperature of 35 C. This allowance for time and temperature was shown to be necessary by Ehrlich, who found that the action of antiricin upon ricin was accelerated by warmth and retarded by cold, and that time was essential to its occurrence. Martin and Cherry found that if the neutral mixtures of venom and antivenene were permitted to stand for a half-hour at 35 C., then heated, the mixture did not again become poisonous.

Filtration has also been employed for the purpose of proving the chemical nature of the reaction. Martin and Cherry found that solutions of venom passed through a porcelain filter coated with gelatin, but that the antivenene, having molecules of larger size, did not pass through. If no chemical action between toxin and antitoxin took place, then when a neutral mixture was filtered, the filtrate should be poisonous. This they found to be untrue. The filtrate from neutral mixtures was harmless. Cobbett repeated these experiments with venom and antivenene, and also with diphtheria toxin and antitoxin, and found the filtrates harmless.

3. The occurrence of the reaction *in vitro* is one of the best proofs that it does not occur through some indirect action of the body cells. It is true that no visible reaction takes place between diphtheria toxin and its antitoxin, between tetanus toxin and its antitoxin, or between venom and antivenene as ordinarily mixed, but there are reactions that take place in the test-tube under the very eyes of the experimenter that are of the greatest interest and importance.

It has been shown by Kossel that the serum of poisonous eels (many eels have blood poisonous to small mammals) has the property of dissolving the coloring matter out of the red blood corpuscles of rabbits and guinea-pigs. When defibrinated blood of one of these animals is diluted with physiological salt solution and placed in a test-tube, the addition of a certain quantity of eel's serum causes the corpuscles to dissolve. The addition of the serum of an animal immunized to the poisonous action of eel's blood, when added to the blood and eel's serum mixture, entirely inhibits the laking power of the eel's serum, and does so in definite proportions.

Ehrlich found that ricin, when added to defibrinated blood, caused agglutination of the corpuscles which rushed together in clumps, but that the addition of a proper proportion of antiricin entirely inhibited its action in this respect. The reaction he found to be inhibited by cold and accelerated by heat, and to require a certain length of time for its occurrence.

Morgenroth found that the blood of an animal that had received frequent injections of a solution of rennet entirely inhibited the action of rennet upon milk. Carefully estimating the quantity of rennet, the temperature and the time necessary for the occurrence of milk coagulation, he found that the addition of a definite quantity of the antivenene was invariable in its inhibiting influence. Normal serum exerted no influence upon the coagulating power of rennet.

Madsen has given most interesting demonstrations of the effect of the hemolytic principle of tetanus toxin, and the control of its effects upon the blood corpuscles by immune serum. When defibrinated blood is isotonically diluted with saline solution and placed in a test-tube, the addition of the tetano-lysin is followed by the solution of its pigment. This solvent action is entirely inhibited by the immune serum, though normal serums are powerless to prevent it.

Bordet, and Bordet and Gengou, have succeeded in the production of a body antagonistic to the coagulation of the blood, by the injection of animals with fluids rich in fibrin ferment. They found that a given proportion of this serum would check the coagulation of rabbit's blood to which it was added, and that definite quantities of it were antagonistic to definite quantities of added fibrin ferment.

A most valuable contribution has come from the pen of Ehrlich and Morgenroth, who investigated the solution of blood corpuscles by hemolytic serums. They found that the laking of the blood is by no means a simple matter, but one in which numerous factors are involved.

The chief important factor is what they describe as the *immune body,* and it is through the activity of this that the corpsucles are dissolved. The immune body is however, only able to operate in the presence of another body which is complementary to it, and is called the *addiment.* It is very interesting to note that it makes considerable difference in what order the factors involved in the reaction are brought together, not all combinations of the three essentials—corpuscles, immune body and addiment—being followed by laking.

Mark Richardson, in a paper read before the American Association of Pathologists and Bacteriologists, in Boston, in 1901, has shown how truly this principle applies

in certain diseases for the treatment of which immune serums have thus far been found inadequate. It is well known that highly immune typhoid serums not infrequently cause solution of the specific bacilli. It is, however, an almost universal experience that the injection of such highly immune serums into patients suffering with typhoid fever is not followed by any appreciable amelioration of the symptoms. One would imagine that solution of the bacteria must necessarily follow, but the difficulty seems to be that it is not the immune body, in which the serum is rich, but the complementary body that is needed. This might be supplied with ease, could we find out just what serum best furnishes it, yet its addition might not be followed by the expected result, for the reason that the order of combination is so essential. Thus, Richardson found that the injection of normal serum containing the complementary body did not improve typhoid fever, because the immune body having been preformed in the body, interfered with the necessary primary action of the complementary body upon the bacteria.

Experimenting with bacteria in the hanging drop, he found that if it was true that a mixture of typhoid culture, normal serum and typhoid immune serum produced hemolysis, it was almost certainly not true that typhoid bacilli, immune serum and normal serum would do so, the difference being solely in the order in which the combination took place.

Wassermann also demonstrated the accuracy of Ehrlich's view by his experiments with typhoid infection, and concludes that two separate substances are concerned, one of which kills the bacteria, the other serving to fix its combination with them. To the bactericidal substance he applies the name "end body," that which fixes the combination the "intermediate body." Experimentally he found that normal beef serum was best adapted to the supply of "end body," so that when he inoculated guinea-pigs with three loopfuls of typhoid culture, and after 30 minutes gave them a hypodermic injection of 0.5 c.c. of typhoid immune serum and 4 c.c. of fresh normal beef serum, they recovered, while the control animals which received normal serum, or immune serum alone, all died in 24 hours.

The number of cases reported by men of trained observation, in which the injection of normal serums has been followed by improvement in various diseased conditions, can be in part explained upon the assumption that it supplied to the blood some *intermediate* or *complementary* substance, essential to the proper performance of physiological function, but which is temporarily deficient.

How widespread and important these immune and intermediate bodies may be in our processes it is impossible to say, but the recent observations of Metchnikoff indicate that they have very wide spheres of usefulness.

Metchnikoff found that the introduction of any kind of cellular tissue into the body increases the ability of the blood to act destructively upon that kind of tissue. Thus, if blood of one animal is injected into another, its serum becomes hemolytically active. If comminuted epithelium is introduced, the serum becomes epitheliolytic in its tendencies, etc.

Here we find an entirely new reaction, with an entirely new sphere of usefulness. Unfortunately, it is still too new to predict what may be the value, if any, of this phenomenon in practice. The possibility of thus attacking cancer at once appeals to us. How desirable it would be to produce a serum whose activity would be to inhibit the growth of epithelium and hasten the destruction of epithelial cells!

However, the lesson that is to be learned from the achievements thus far consummated is that the action of immune serums is far from simple, depends upon many factors with which we are just beginning to become acquainted, and that the failure of our efforts in many directions in the past may simply be referable to our ignorance of how to use materials at hand.

THE PREVENTION OF PELVIC DISEASE DURING AND AFTER LABOR.*

J. F. BALDWIN, A.M., M.D.

Surgeon to Grant Hospital; Fellow of the American Association of Obstetricians and Gynecologists, Etc.

COLUMBUS, OHIO.

The prevention of pelvic disease during and after labor consists in the avoidance of infection and traumatism. Infection is frequently the almost necessary result of traumatism, but traumatism without regard to infection is frequently followed by more or less serious pelvic disturbances.

CLEANLINESS NECESSARY.

During the course of an otherwise normal delivery, the great danger to the mother is from infection carried in from without. No modern physician, I take it, believes in auto-infection, that is, in any infection arising from within the pelvis. A chronic disease of the appendix, or of the appendages, may be lighted up by the process of delivery, but no pelvic disease will be initiated except by infection from without. This infection may be introduced in a variety of ways. The very latest bacteriological investigations have shown conclusively that the secretions of the upper part of the vagina are entirely sterile. It is not until they reach the introitus that they show evidences of contamination. The introduction of the examining finger inevitably carries some of this infection from the vulva into the vagina and up to the cervix. Copulation has the same effect. Many women practice self-examination, and this doubtless accounts for certain otherwise obscure cases of puerperal infection in which the attending physician after his arrival has exercised all due precautions.

Before the introduction into obstetrical work of antisepsis, and later of asepsis, the mortality in lying-in hospitals, where infection was carried from patient to patient, was simply frightful; but with the recognition in these institutions of the sources of danger and the means for their avoidance, the mortality has decreased until now a properly managed hospital is the safest possible place for a woman to be confined, not only as regards mortality, but morbidity. The same is not true, however, in private practice. The investigations of Bacon of Chicago, and of Boxall in England, show conclusively that in general practice, and especially in rural districts, puerperal mortality and morbidity are practically no less than before the days of Lister. It is the general practitioner, therefore, who must improve his methods.

The use of antepartum douches, as recommended some years ago when the vaginal secretions were regarded as infected throughout, is to be unequivocally condemned. These secretions are nature's lubricant and should not be unnecessarily interfered with. If, however, from his knowledge of the case, the physician suspects a gonorrheal infection to be present, then not only should

* Read in a Symposium on the Prevention of Pelvic Disease, before the Ohio State Medical Society, at Cincinnati, May 9, 1901.

the douches be used, but the vagina should be scrubbed out as thoroughly as before a surgical operation. This cleansing is done not only in the interests of the mother, but in the interests of the child, for the prevention of gonorrheal ophthalmia. In the absence, however, of such known or suspected infection, the special cleansing processes should be limited to the vulva and the region about. If this is done, and the practitioner uses the ordinary precautions as to the cleansing of the hands and instruments, puerperal infection will not take place.

In giving directions as to the cleansing of the hands of the attending physician it is entirely useless to advise any such extremes of asepsis as will not be carried out. These precautions must be limited to such as are feasible and sensible. I have seen explicit directions given requiring at least ten minutes for the scrubbing of the hands with soap and hot water, and then three minutes' continuous soaking in a 1 to 1000 bichlorid solution; or a similar scrubbing of the hands with subsequent treatment with permanganate of potash and oxalic acid. Such precautions are not feasible in general practice and will not be carried out. If the attending physician scrubs his hands thoroughly with hot water and soap, and if his nails are trimmed short and kept clean, he has done all that can reasonably be expected of him. If, however, he has reason to believe that his hands have been infected by contact with other cases, then the more thorough sterilization previously indicated would be required. If, moreover, an obstetrical operation is needed, involving the introduction of the hand into the uterus, as for turning or the removal of secundines, then the most thorough sterilization of the hand and arm is essential, or, better still, the use of the rubber glove and armlet. For the application of forceps the instrument itself should be sterilized by boiling. This, with the thorough washing of the hands, as above indicated, and the cleansing of the vulva will suffice. The finger-nails of the physician are the main source of danger. Many physicians, especially in country practice, are obliged, to a considerable extent at least, to care for their own horses and to do more or less work about the garden. Such men are very apt to have horny hands which in bad weather are quite liable to become more or less chapped and fissured. It is quite impossible to render such hands absolutely sterile. In such cases rubber gloves can not be too highly recommended.

While the presentation and position of the child can be determined under ordinary circumstances and without any special difficulty by external palpation, this procedure conveys no information as to the condition of the cervix or the progress of labor. This latter knowledge may be unimportant in a lying-in hospital, where nurses and internes are always within reach, but it is of prime importance to the general practitioner, whose duties require him to look after other cases than the patient in labor. He makes a vaginal examination and decides whether he must remain or whether he can be at liberty to make other calls for an hour or more. At the end of the period which he had allowed himself, he returns and another examination enables him to determine for the second time whether he can be spared. These examinations are essential and to forbid them is simply visionary. For these cases, rubber gloves, which can be left in an antiseptic solution during the physician's absence, are a very great convenience and of great value, though not absolutely essential.

Postpartum douches, like the antepartum, should not be used in normal cases. The natural downward flow of the lochial discharge prevents infection from reaching the uterus, while the use of the syringe nozzle, even if just sterilized, may carry infection from the vulva to the cervix, and even within it. In case, however, infection takes place and the lochia becomes offensive, then the use of the vaginal douches carefully administered by a skilful nurse is to be commended.

REMOVAL OF MEMBRANES.

In case a portion of retained membrane or placenta becomes infected, or causes hemorrhage, it should be at once removed. Here, however, the use of the curette has resulted in great harm. A blind curetting of the endometrium under these circumstances will open up a thousand channels for fresh infection while removing the offending body, although it not infrequently happens that the offending bit of tissue itself may in whole or in part be missed by the curette. Under such circumstances the misdirected instrumentation will be followed by a fresh invasion of sepsis, with perhaps promptly fatal results. For the removal of such retained tissue no instrument is as sure and safe as the sterilized finger of the intelligent physician. Give the patient chloroform, sterilize the vagina by thorough scrubbing, sterilize the hands, and then steadying the uterus from above with one hand, introduce the finger and explore the interior. The finger will find the offending tissue and will almost invariably remove it with ease. In case it is too adherent the curette may then be used directly to the spot and without injury to the rest of the endometrium. Such removal should then be followed by a hot intra-uterine douche, so as to thoroughly wash out debris. This douching should be done by the physician himself, and once is sufficient if the preceding removal has been thorough.

TRAUMATISMS.

An overlooked laceration of the perineum, even if the laceration be very slight, furnishes a point for puerperal infection. A lacerated cervix rests in the sterile region of the vagina, but a lacerated perineum is in the region constantly exposed to infection. This exposed surface is promptly removed by an immediate operation. There is no excuse for a failure to detect this injury, since an examination under the eye should be made in every case, nor is there any excuse for failure to close the laceration immediately, since the materials for so doing are in every house. It may be more convenient and look a little more professional for a practitioner to have with him silkworm gut, special needles and needle forceps, but these are entirely inessential. A small darning needle, or a heavy sewing needle, with its temper removed through the center by heating so that it can be somewhat bent; silk, which can be found in nearly every house, or even cotton or linen, hair from the horse's tail, or even a cow's tail for that matter, all these are everywhere available, can be promptly sterilized by boiling and will answer just as good a practical purpose as anything that can be found.

Lack of assistants and of suitable light and instruments render it undesirable to attempt an immediate operation on a lacerated cervix; while the fact that this cervix is in the sterile zone and will very likely heal satisfactorily without further attention, renders its closure of little importance. A laceration, however, involving the vagina and perineum belongs to an entirely different category, for reasons which I have stated, and these lacerations therefore should be repaired either at once or within twenty-four hours.

It will, of course, be useless to cleanse the vulva preceding examinations if the sheets and dressings which

are to come in contact with the cleansed surfaces are dirty. In most houses when labor begins the resources of the ragbag are drawn upon for the construction of an absorbent pad to be placed under the hips of the parturient. If the rags from these sources are clean nothing more can be asked for, but ordinarily their condition is the reverse; hence the attendant should insist upon a sufficient supply of clean sheets, towels, pillow slips, or something of the sort, to secure the necessary protection of the field of delivery both during labor itself and during convalescence.

Rupture of the uterus occurs much less frequently now than it did a generation or two ago, when physicians showed an almost inexplicable disinclination to assist nature by instrumental intervention. The dangers incident to a prolonged second stage are now quite thoroughly recognized and it is seldom that a normal uterus ruptures simply as a result of thinning of its walls from too long continued expulsive efforts or from pressure necrosis. Most frequently rupture occurs either from the presence of a fibroid which has produced pathological thinning, or from efforts at turning made with too great vigor or too long after the rupture of the membranes. The prudent obstetrician recognizes the fact that in certain conditions of the uterus, when the contractions are unusually violent or persistent, the introduction of the hand and the manipulations necessary to turning are fraught with the utmost danger, and the dangers under such circumstances may be much greater even than those of a Cesarean section.

Lacerations of the cervix, vagina and perineum may be considered together, and here I think the present generation is guilty of sins of commission vastly more than our predecessors were guilty of sins of omission. It is confessedly impossible in all cases to prevent these lacerations, but in a large proportion of cases, altogether too large a proportion, these lacerations are the direct result of the too hasty or injudicious use of the forceps. I say this advisedly and as a result of several years of careful investigation of hundreds of cases that have come to me for treatment for conditions the direct result of these injuries.

A normal labor may be defined as one that terminates within twenty-four hours from its beginning, and without injury to mother or child. Of this twenty-four hours all but one or two hours will be taken up with the first stage. Much more than this time may be consumed in the first stage without harm to either mother or child. If the first pains are not too frequent or too severe, a first stage may, without being pathological, last for even two or three days with no effect whatever upon the child, and with no ill-effect upon the mother. An ordinary second stage, however, will not exceed two or three hours, although many times even a longer second stage, if the pains are not particularly frequent or strong, is perfectly normal.

A normal labor should not be interfered with, and any interference, manual or instrumental, is fraught with more or less danger to mother or child, or both. I make this statement deliberately and advisedly. Our predecessors were too timid, and as a result of this timidity, to use no harsher term, many lives were sacrificed, great and unnecessary suffering was endured, and infinite morbidity ensued. But too many physicians of the present day have gone to the opposite extreme, so that their sins are those of commission. The too early and too frequent resort to instrumental delivery is responsible for many serious results. A dead baby with a crushed or disfigured head; a ruptured cervix, vagina and perineum; a collapsed and moribund mother, with a history of forceps delivery undertaken 12, 10, or perhaps only 6 hours from the onset of a first labor, is a picture which is to be seen too often in the experience of a consulting surgeon. The scene does not always close with the lethal exit of the mother, or even of the child, but there follows a tedious convalescence after an immediate operation on the lacerated perineum, with a later operation for the repair of the torn cervix. That is all, provided the patient escape the removal of appendages, made necessary by resulting infection.

A year ago an enthusiastic young gentleman presented to this Society a paper pleading for the earlier use of the obstetric forceps. It is most significant, not to say amusing, that this year the same gentleman is announced for a paper on "The Repair of the Perineum."

It should be impressed most vigorously and pertinaceously that labor is a physiological process and that under all ordinary circumstances delivery will be naturally and safely accomplished. If a physician has not time to do obstetrical work he may refuse engagements or decline the call when it comes, but if he has once accepted the case he is bound professionally, morally and legally to give to the woman and her unborn child all the time that may be necessary for her safe delivery, and no honorable and conscientious physician will do otherwise.

OBSTETRIC FEES TOO SMALL.

I know that in many parts of the country, indeed in most, the fees which physicians receive for obstetric work are ridiculously inadequate. There is no comparison between these fees and the fees received for the ordinary routine work of the profession, and yet the lives and well-being of two individuals, and the happiness of many others, are at stake in every labor, and the responsibility of the physician is correspondingly great. I doubt, however, if the ordinary physician in the state of Ohio receives on an average $10 per case for his obstetric work, this fee including not only his attention during the progress of the case itself, but by custom one to three subsequent visits. I know of nothing in our profession in which reform is more needed than in this particular. An obstetric engagement, carrying with it the responsibility which it does, should certainly furnish as much compensation as a mere broken leg. It is true, perhaps, that among the poorer classes no larger fee can be paid, but the principle should be so far established and the fee-bill so changed that, as in other surgical work, the fees of the rich should make up for the lack among the poor, while for the poorest classes in general clean, skilled midwives could advantageously take the place of physicians for ordinary attendance, the physician being sent for merely in cases requiring intervention or the repair of lacerations.

MISUSE OF INSTRUMENTS.

Instruments should be used only in the interests of the mother or the child, and never simply to save time or suit the convenience of the physician. Convulsions, threatening the life of the mother, or labor so prolonged as to threaten the integrity of the uterus, exhaust the mother or destroy the child, undoubtedly demand instrumental intervention even at the risk of laceration of cervix and perineum. These can be repaired, but the life of the child or the mother can not be restored. With the soft parts dilated or dilatable, but with such a disproportion between the passage and the passenger as will result merely in a long and exhausting, even if not dan-

gerous, second stage, the forceps should be used; but the attendant should be fully satisfied that the soft parts are in suitable condition, since otherwise even if the superficial parts remain intact the underlying fascia may be lacerated with resulting loss of support to the pelvic organs.

But this has not been the teaching, I am afraid, of modern obstetricians, at least if the teaching can be determined by the practice of those who have been taught. I think it is the experience of every man having a large consultation obstetric practice, to be called repeatedly to cases by the physician, who expects him to at once deliver with forceps, and to find the patient in good condition, the membranes unruptured, the cervix half or two-thirds dilated, the vagina only partially relaxed, the perineum not yet reached by the descending head and its tissue far from ready for delivery; the patient a primipara in whom labor had commenced six to twelve hours before. Were convulsions present he would unquestionably apply the forceps and deliver with perhaps a saving of the child and rupture of cervix and perineum. He knows that the woman will deliver herself, if given a reasonable length of time, safely, satisfactorily and without intervention. He explains the matter to the attending physician and sees the case with him three or four hours later. Finds labor progressing and again postpones intervention until finally the patient delivers herself. The attending physician, if wise, has probably been taught his most valuable lesson in obstetrics, the lesson of judicious waiting.

But this is evidently not the teaching which too many young men receive before their graduation, or perhaps after it. In the *Philadelphia Medical Journal*, of April 13, page 706, in this, the first year of the twentieth century, is an article by a well-known teacher of obstetrics in a New York post-graduate school, in the course of which the writer, in alluding to a series of his cases, states that these cases were nearly all of them "operative ones or were made so because of the presence of an ever-inquiring audience. All my cases were delivered before an audience of physicians who . . . were unwilling to camp over night in a pauper hospital to watch a tedious labor case. . . . Most of the cases would have delivered themselves normally."

Here now is a teacher who reports his work without apparently a suspicion of impropriety. He has performed these operations before a class of physicians who, impressed with the utter indifference with which he interferes with what he confesses is normal labor simply to demonstrate to them methods of procedure, will return to their own homes prepared to carry out in their private practice that which they have thus seen demonstrated in a public clinic. Such practice and such teaching are wholly bad and utterly indefensible. If the antivivisectionists should get hold of that teacher and his work I think before they got through with him he would have learned that there is a God in Israel.

Meddlesome midwifery is bad. This is a statement as old as intelligent obstetrics, but the misuse of this aphorism has done much mischief, since timidity born of ignorance does not properly weigh the meaning of the word meddlesome. Meddlesome midwifery is not that which intervenes in abnormal or pathological conditions, but it is that which interferes officiously with normal processes. In conclusion, then, the prevention of pelvic diseases during and after labor consists, in a word, in cleanliness, patience and intelligent intervention.

PREVENTION OF PELVIC INFLAMMATORY DISEASES AFTER MARRIAGE.*

RUFUS B. HALL, A.M., M.D.
PROFESSOR OF GYNECOLOGY, MIAMI MEDICAL COLLEGE.
CINCINNATI, OHIO.

Our present knowledge does not extend far enough to enable us to have any influence in preventing benign and malignant growths of the female pelvic organs. For this reason they will be wholly disregarded in this discussion. I have, therefore, somewhat modified the title of my paper as published in the program and will limit my remarks to the prevention of inflammatory pelvic diseases after marriage, as they are preventable in a large majority of instances.

It has been said that statistics are worthless, but I am convinced that carefully tabulated records of cases coming under the observation of physicians are very valuable, especially when honestly used in a discussion like this one. The following statistics have been taken from my private office records, where every case that enters my consultation-room is carefully recorded. These results may be of interest and value to us in this discussion. The records show that in 498 cases of inflammatory disease of the uterine appendages, or of inflammation in the pelvis, or both, including those having one or many attacks, the infection was due to the following causes: Gonorrheal infection that could be distinctly traced, 247 cases. Of this number 101 required an abdominal section for relief, and of this number a large majority were pus cases. The remaining gonorrheal cases, 146, were not advised to have a section made. Their disease was not serious enough when I saw them to justify a section for the removal of the appendages, and other means were instituted for the relief of their symptoms. How many of this number subsequently came to the operating table the writer is unable to say, but he is reasonably certain that a number of them would eventually be compelled to have a section made for relief. In 143 cases the cause of the inflammation was either an abortion that was unavoidable or induced. A very large percentage of the cases were induced abortion, usually done by the patient herself. Of this number 29 had to be subjected to a section for relief and 114 were otherwise treated, most of them making symptomatic recoveries. I wish it distinctly understood, in passing, that these cases, both gonorrheal and septic, were almost all of them of long standing, from a few months to a number of years, before consulting the writer. Especially is this true in reference to the cases which were subjected to an abdominal section where the cause of the disease was an abortion. In 52 cases the cause of the inflammation was due to the laceration of the cervix and perineum, with malposition of the uterus. Of this number 18 cases were subjected to a section. The remaining number were otherwise treated. Exposure during the menstrual period, or "taking cold" at that time, was recorded as the cause in 29 cases. In the majority of these cases the patients were unmarried, and there is reason to believe that some other cause might be assigned. In 9 of these cases it was necessary to make a section for their relief and 20 did not require a section. Tubercular peritonitis was the cause in 27 cases. Of this number 20 cases were subjected to an abdominal section and 7 were not so advised, because the latter number had no accumulation of fluid or pus that could be diagnosticated.

* Read in a Symposium on the Prevention of Pelvic Disease, before the Ohio State Medical Society, at Cincinnati, May 9, 1901.

Thus it is seen that the two chief causes of pelvic inflammatory diseases are gonorrhea and septic infection following abortion. The prevention of the former has been discussed by the writer on previous occasions, and for this reason will not be considered in all of its phases at this time more than to remind you of the duty you owe to the laity of imparting knowledge upon every possible occasion upon the subject of gonorrheal infection. The physician should instruct young men of the danger to the health of their future wives should they contract gonorrhea. In treating the disease in the male the physician should be certain that the patient has remained well for a period of many months before permitting him to marry. It is a lamentable fact that a very large percentage of the cases referred to in this paper were the wives of men who had the disease before marriage and believed themselves cured; but they infected their wives, in not a few instances, many months after marriage. The writer is still of the opinion expressed in his paper previously published[1] that we must look to the education of the laity for the prevention of gonorrheal infection. Further experience has only emphasized the lesson there taught: "I would advise that during the last year in high school, in every school in this land, a text-book be employed embracing embryology, hygiene, anatomy, and physiology including sexual physiology, and that these subjects be taught to every student, both male and female. This could be accomplished without shocking the morals of the most susceptible or fastidious individual by dividing the classes so as to separate the sexes. A female teacher should teach the girls, and a male teacher the boys."

I can not dismiss the subject without reminding you of the fact that gonorrhea, unrecognized as such, is the direct cause of a long list of what might be termed minor ailments of the female, viz., subacute and chronic inflammatory diseases of Skene's glands and of the glands of Bartholini, which not infrequently result in abscesses. Another complication is inflammation of the urethra, often extending into the bladder and causing cystitis, which is most difficult to cure and in not a few instances remains uncured. The glands of the mucosa also become involved, resulting in cervical and corporal endometritis, with a discharge of the most persistent character. This condition frequently causes sterility or produces a congested condition of the uterus, with dragging sensation in the abdomen, with neuralgia and most serious reflex nervous disturbances. In addition to the above-named ailments we often see the infection extend from the uterus into the tubes, producing salpingitis, ovaritis and attacks of pelvic peritonitis, leading to graver forms of pelvic disease. If we could eliminate gonorrheal infection the gynecologist would lose no small percentage of the patients who come to his consultation-room. The number of operative cases for the removal of pus would be greatly lessened, and we would prevent much of the suffering of womankind.

Septic infection following abortion from retained membranes is of frequent occurrence, and in those cases where the patient makes a primary recovery, as they usually do, there is left an endometritis which is difficult to cure and often leads to salpingitis. The subject of induced abortion is one that is constantly brought before the physician in some of its phases. Seldom a month goes by that some married woman does not come to her physician and state that she is pregnant and wishes to know what she can do to interrupt it. She will frequently tell you that she has taken medicines of various kinds to bring on her menses, but they failed to do it. When we look over our records we find a large number of women suffering from uterine disease which was caused by an induced abortion, and many of the most serious cases calling for the gravest surgical operations belong to this class. Too much stress can not be laid on the gravity of the procedure, and furthermore, it must always be borne in mind that death may be the immediate result of an abortion. Especially is this so where women try to produce abortion upon themselves. About a year ago I saw three cases within three weeks in consultation with other physicians in this city where the women had either produced or attempted to produce abortions upon themselves. In each instance the patient was a married woman, mother of one or more children, and the only reason she had for producing an abortion was the desire not to raise another baby. In each instance the patient was suffering from septic infection. There was a large accumulation of pus in the pelvis, in two of the cases, with profound sepsis. These patients were subjected to vaginal section with the removal of a large quantity of foul-smelling pus. One patient died within a day or two after the pus was evacuated, from her pre-existing sepsis, which had existed for seven or eight weeks. The other patient had a long, tedious convalescence, is a semi-invalid now with adherent tubes and ovaries, and with no immediate prospect of recovery. The third patient referred to had profound sepsis with no accumulation of pus that could be determined. She died within a few hours of my first visit, without any operative interference. These are only a few cases that could be narrated of a long list that every physician is too familiar with. If the patient does not die immediately following the abortion, as stated before, it may be followed by such a serious pathological lesion in the pelvis as to call for the most heroic surgery. They realize their mistake when it is too late to be of service to them and would change it all if they could.

These cases are a fair illustration of what operators see from this cause very frequently. I am inclined to believe that many women are ignorant of the dangers they incur from an induced abortion until it is too late. I make a plea for the more extensive dissemination of knowledge by the family physician to his patrons upon this important subject. Few women would produce an abortion upon themselves or consent to have it done, unless they had a crime to conceal, if they knew of the dangers attending it as the physicians know them. It is in these cases that it is the physician's duty to impart the knowledge. He should explain to her the danger of retained membranes during the early months of gestation and the great danger of septic infection on account of the retained membranes. He should tell her that if she has sepsis afterwards and recovers from it she is left with a septic endometritis which may lead to a salpingitis with suppuration in one or both tubes, necessitating a section for their removal before she is relieved of her pain. It is in this class of cases that an ounce of prevention is worth a pound of cure. They are all preventable; indeed, their occurrence ought to be comparatively rare. It is for this reason that the profession should be united in the effort for the prevention of these diseases.

It is evident that if we are to prevent pelvic inflammation following abortion it is necessary to prevent septic endometritis. This could be done in all instances if the physician could see the patient early enough to thoroughly empty the uterus before decomposition of

1. American Journal of Obstetrics, 1890.

the membranes takes place, but unfortunately, he sees these cases only after this has been in existence for many days, and often he sees them for the first time when they are thoroughly septic from this cause.

By referring to the statistics it will be observed that laceration of the cervix and perineum play no insignificant rôle in the cause of pelvic inflammation. In laceration of the cervix, with the usual laceration of the perineum and the retroversion that so often accompanies these injuries, with the endometritis following it if the injuries are not repaired, we have a condition present which may lead to pelvic disease in a large percentage of these cases. These patients all have subinvolution following their delivery and many of them drift along until the endometritis becomes chronic or even a salpingitis is established. It is the physician's duty to repair the cervix and perineum within a few months after injury, before there is a chronic endometritis and salpingitis established and before the uterus has been in the malposition long enough to cause extensive disease of the ovaries from pressure, to which the ovaries are always subjected after they are dragged down with the uterus in its abnormal position. If the cervix and perineum are repaired within a few months after delivery in all cases where the uterus is retroverted, and that organ temporarily supported by a properly fitting pessary, the physician would save his patient great suffering and prolonged invalidism. It is the physician's duty, where he has waited on a woman in confinement, to examine her carefully within four months after her delivery and make careful notes as to the injuries and the position of the uterus and ovaries at that time; and where the cervix is injured, even if it be slight, and there remains subinvolution, he should curette the uterus and repair the cervix as a means of prophylaxis.

Many of these patients do not complain even where there are extensive tears of the cervix and perineum until several months after delivery, when endometritis is well marked and unmistakable signs of salpingitis are present. The extension of inflammation through the tubes in long standing endometritis following injury of the cervix is a condition not infrequently met with. It is a well-known fact that subinvolution of the uterus, which may continue for many months, is the rule after extensive laceration of the cervix. It is in this class of cases that we occasionally see a chronic catarrhal condition continue for an indefinite period, with depreciated general health of the patient and changed type of menstruation, the patient complaining of pain in the back and abdomen. These symptoms extend over a period of many months until finally the patient goes to bed with a sharp attack of pelvic inflammation. Upon thorough physical examination the physician finds that salpingitis already exists. It may be too late now to cure this patient and prevent recurrent attacks of pelvic inflammation, but I have every reason to believe that if the injury to the uterus had been repaired and the retroversion corrected within a few months after her delivery she would have been perfectly and permanently cured and thus prevented a life of invalidism. Just as long as women bear children just that long will these injuries to the cervix and perineum be recorded against the obstetrician. That should be no cause for chagrin on his part, but neglect to repair them and prevent preventable diseases should be an opprobrium to the medical profession.

The greater frequency of peritoneal tuberculosis in the female as compared with the same disease in the male is a well-recognized fact, and it is fair to presume that the bacillus enters the peritoneal cavity through the uterus and tubes. This theory is sustained by the clinical facts gained in the operating-room in dealing with this disease. If in the future it is definitely settled that the route of infection is through the vagina the question of prevention will be an interesting problem. The fact that the disease occurs in the virgin as well as the woman who has borne children only emphasizes the necessity for careful investigation to settle definitely the mode of infection in this dread disease.

Guarding against the above-named sources of infection is not the only branch of prophylaxis that the intelligent physician is called upon to consider. It is not at all uncommon for the physician to be consulted by one who has recently married in regard to the "best method of preventing conception." The statement is made in almost every instance that they do not wish to have children for a few years, but would not object to one or two after a while. They do not realize the danger that the wife incurs of laying the foundation for a chronic disease which may leave her forever sterile and possibly an invalid as well. The various methods and practices used to prevent conception have a distinct bearing in establishing certain pathologic pelvic conditions in not a few women, especially the practice of using cold water as a vaginal douche. This practice not infrequently causes endometritis which goes on to salpingitis regardless of the best directed treatment for relief, until finally the patient is a subject of pelvic inflammation, with possibly suppuration of the tube, which necessitates a section and removal of the diseased organs for relief.

In closing my remarks I wish once more to emphasize the statement that prevention of pelvic inflammation in women must come largely through the enlightenment of the laity by the medical profession. This can be done only through the profession, and I am convinced that in time it will be done and these preventable diseases will be greatly lessened.

THE PREVENTION OF PELVIC DISEASE BEFORE AND DURING PUBERTY.*

W. H. HUMISTON, M.D.

Associate Professor of Gynecology in the Medical Department of Western Reserve University; Gynecologist-in-Chief to St. Vincent's Charity Hospital.

CLEVELAND, OHIO.

So intimate is the association between the normal functional life and soundness of mind and body in the young woman, that my part of this discussion resolves itself largely into the subject of general hygiene. However interesting the résumé of authorities upon proper diet, dress, posture and exercise (both mental and physical) might prove, yet I shall consider but a few points of more specific character.

The first question which one naturally asks is: "What are the pathologic conditions of the uterus and its adnexa whose causative factors may be traced to the period leading up to and beyond puberty?" 1, retroversions and retroflexions of the uterus; 2, endometritis; 3, metritis; 4, sclerotic and cystic degeneration of the ovaries.

1. *Displacements.*—Goodell has related a number of cases of sudden misplacements of the uterus caused by the making of a misstep, or by jumping from the high old-fashioned stage coaches when the bladder had become, during a long journey, greatly over-distended.

* Read in a Symposium on the Prevention of Pelvic Disease, before the Ohio State Medical Society, at Cincinnati, May 9, 1901.

Many children are loath to give up a moment of their time at play to answer the call of nature, and the older ones are often compelled by their modesty or by unfortunate circumstances to withhold from urination beyond the measure either of comfort or safety. I see in this one of the most frequent causes of the backward displacement.

The habit of undue bending over of the body while sitting, together with the wearing of corsets, which modifies the direction of the intra-abdominal pressure, is another evil universally recognized.

2. *Endometritis.*—The mucous membrane lining the cavity of the uterus is just as liable to catarrhal processes as are like membranes elsewhere in the body, and more susceptible in fact because of the recurring hyperemia attending the menstrual flow. Acute suppression of the menses caused by sudden chilling of the body after prolonged exertion—as one so frequently sees the dancer in the interim between waltzes rushing to an open window for a breath of air—is a direct factor in the causation of an acute endometritis. "I caught cold while menstruating" is the too common phrase to which we have to listen.

This leads to the more chronic forms of endometritis—hypertrophic and hyperplastic glandular endometritis—which I more commonly meet in the virgin.

3. *Metritis.*—This in the young unmarried woman is fortunately less common, but there is a condition described by Mary Putnam Jacobi, and termed by her menstrual subinvolution, which leads to the same pathologic change as does subinvolution following parturition. This condition is seen as a sequence of endometritis in malpositions of the uterus, and is of such serious character that early interference is absolutely necessary to preserve the function.

4. *Ovarian Sclerosis.*—In the non-inflammatory, or as I would choose to term it, primary sclerosis of the ovary, there must be some active etiologic factor of which we as yet know nothing. I hesitate to believe with Osler that the fault lay in the material of which the parts are builded—an inheritance—but that the cause lay rather in some fault of nutrition in the child. It does, however, occur as a sequence to changes in the uterine structure.

PREVENTION.

This brings me to the discussion of the prevention of these disorders. There is no new thought which I can bring to bear to lighten the burden of the young woman.

I can only give added evidence of the necessity of wisely guiding her to a practical knowledge of the conditions which obtain through her often-repeated functionating cycles.

We must find fault with our civilization when we learn of the care which primitive peoples were wont to exercise over the young girl and the woman. It would seem that what they did from purely a religious duty we might be wise enough to attempt at least to carry out for the benefit of our state. It is said that among some of these early peoples it was a time of greatest moment when the young girl approached her first menstrual period, and most carefully was she protected and guided. They had especially designed huts where they were obliged to remain during each period in enforced idleness—not even being allowed to stand erect—their huts being too low to permit it. The Mosaic law compelled such an enforced retirement.

What a contrast to the almost total disregard which we to-day practice toward our children! Engelmann[1] says that "functional disturbances are least in the first years of pubertal development in the high school, increasing with each year, increasing in the normal school and college, increasing with intensity and seriousness of work." He refers to the New England woman as "supposedly more perfect than in any other section, intellectually above the average, but with a physique below par, with greatly reduced reproductive powers—all due to the forcing of study at the age of development."

Dress reform is spreading widely and rapidly; more attention is being given to the proper diet of the young; physical training forms a part of the curriculum of the public and private schools, but there is a tremendous waste of vital energy in the ever-increasing force toward mental acquirements—energy necessary to proper physical development, energy requisite for normal functional life.

"An ounce of mother is worth a pound of doctor," but the burden of responsibility should rightly rest upon the physician, whose care it should be that the mother understand the requirements of the developing girl, and appreciate the necessity of proper methods for equably distributing, during the years of growth and early maturity, the force which will round out her mental, physical and functional qualities.

ISOLATION OF BACILLUS TYPHOSUS FROM UNUSUAL LOCALIZATIONS—CHOLECYSTITIS, MENINGITIS AND A FIVE MONTHS' FETUS.*

O. McDANIEL, M.D.

Assistant Bacteriologist, Bacteriological Laboratory of the Minnesota State Board of Health.

MINNEAPOLIS, MINN.

The first case to be reported is that of the isolation of B. typhosus from a case of cholecystitis.

The patient, a physician, at the time of the attack was in attendance upon typhoid patients in a mild epidemic which occurred during the fall of 1900 in a mining district in the northern part of the state.

Through the kindness of Dr. R. E. Cutts, Minneapolis, it is possible to give the following notes from the history:

Case 1.—Dr. G. A. C., male, aged 24. Family history is negative; there was no history of previous typhoid infection. Present illness began Sept. 30, 1900, with malaise and evening temperature of 100 F. On the second day the patient attended to his work but had some fever and pain in pit of stomach; no pain or tenderness of bowels. Symptoms continued, the evening temperature reaching 103 on the third day. Patient, however, continued his work until the fifth day, when he came to Minneapolis by rail, a distance of 300 miles, and was at once admitted to St. Barnabas Hospital. Specimen of blood taken on this day gave a positive Widal reaction, dilution 1.25.**

Next morning—the sixth day—patient was examined by Dr. J. W. Bell, and presented the following condition: Tongue was coated with a white fur, but not dry. There was marked pain and tenderness in the region of the stomach. Pain was constant, of a gnawing character, and was aggravated by the taking of liquids. During deglutition the pain was most marked about the cardiac orifice. No tenderness of bowels, no distension. Slight constipation, but otherwise stools normal. There

1. Am. Journal of Obstet., December, 1900.

* Read at the Fifty-second Annual Meeting of the American Medical Association in the Section on Pathology and Bacteriology, and approved for publication by the Executive Committee: D. A. Stengel, W. S. Hall and L. Hektoen.

** The method used in this laboratory is that described by Wesbrook and Wilson, "The Serum Diagnosis of Typhoid Fever," Philadelphia Medical Journal, March 26, 1898.

was slight hacking cough, but no other evidence of pulmonary disturbance. Evening temperature 102.4, pulse 98.

On the seventh and eighth days condition remained much the same, the temperature ranging from 99.4 to 102.4. During the afternoon of the ninth day pain became more severe, and was most marked in the right hypochondriac region, necessitating the use of morphin. The pain gradually increased in severity, becoming localized in the region of the gall-bladder and intermittent in character.

During the night of the eleventh day the pain was so severe that one grain of morphin in three doses was given hypodermically with but moderate relief. On the morning of the twelfth day a distinct tumor apparently 4 to 5 inches in diameter was felt just below the liver. Blood count (Dr. G. D. Head) at this time showed 18,500 leucocytes. A diagnosis of cholecystitis with abscess formation was made by Drs. J. E. Moore and J. W. Bell and operation advised. An afternoon leucocyte count showed a decrease to 17,000 leucocytes.

On the thirteenth day the tumor was considerably reduced in size, the patient felt much better and operation was deferred. The improvement was but temporary; the intermittent pain continued with increasing tenderness in right hypochondriac region.

On the seventeenth day cholecystotomy was performed by Dr. J. E. Moore. The gall-bladder was found distended with a bile-stained mucoid fluid, that in the most dependent portion being slightly turbid. No calculi were found. There was a small amount of serous fluid posterior to the gall-bladder with a few very recent adhesions. Palpation of appendix and other abdominal organs was negative. Permanent drainage was established and the patient made a good recovery.

Cultures made from a portion of the fluid which was aspirated before incision into the gall-bladder showed an unmixed growth of an actively motile bacillus—B. typhosus—with the following characteristics:

Broth: Cloudy; no pellicle.

Dunham's peptone solution: Cloudy, no pellicle, indol reaction absent.

Capaldi-Proskauer solution: Red, at the end of 24 hours and remained red.

Litmus milk: Blue tint slightly lessened—no coagulation.

Dextrose agar shake: Small round colonies throughout—no gas.

Agar slant: Small, round, slightly raised, whitish colonies.

Litmus dextrose agar slant (M. S. F.†): Medium turned red at end of 24 hours; remained red.

Litmus lactose agar slant (M. S. F.†): Medium unchanged at end of 24 hours. After two weeks still unchanged.

Litmus saccharose agar slant (M. S. F.†): Medium unchanged at end of 24 hours. After two weeks still unchanged.

Litmus maltose agar slant (M. S. F.†): Medium turned red at end of 48 hours. (Slower than dextrose.)

Potato: Growth invisible except for moist appearance.

Reaction with blood of known typhoid patients was positive in every case in a dilution of 1 to 25 and also 1 to 100. A similar reaction with patient's blood was also present.

Pathogenesis: Intraperitoneal inoculation of 1 c.c. of a 24-hour broth culture killed guinea-pigs in less than 24 hours. At autopsy they showed marked peritonitis.

Within the past five years the literature of cholecystitis complicating and following typhoid fever has been carefully presented by several writers and Camac[1] in 1899 collected forty-three cases, in thirty-four of which B. typhosus was isolated. Since this publication a number of other cases have been recorded.

A study of the reported cases shows that symptoms of cholecystitis arising during the course of typhoid fever rarely occur as early as the tenth day, but most commonly between the twentieth and thirtieth days. Guarnieri[2] in 1892 reported a case of primary typhoid cholecystitis without intestinal lesions, which was verified by autopsy. Cushing,[3] Pratt[4] and others have since reported cases in which there seemed to be no lesions of the intestines.

In the case here reported the symptoms of gall-bladder involvement were marked early in the course of the illness. This fact, together with the absence of definite symptoms of intestinal typhoid including an atypical temperature curve, suggests the possibility of its being a case of primary cholecystitis unaccompanied by intestinal lesions.

The increased leucocyte count may have been due to the slight local peritonitis† which was present or to several small furuncles which appeared below the knee, one of which was opened three days after operation and yielded a pure culture of S. pyogenes aureus.

Hunner[5] has reported a case of typhoid cholecystitis occurring eighteen years after an attack of typhoid fever in which the leucocyte count was as high as 29,000. The anatomical findings in this case were parallel with those herein reported. These cases would seem to indicate the necessity for fuller observations concerning the leucocyte count in typhoid cholecystitis.

CASE 2.—The second case is that of the isolation of B. typhosus from a patient who developed meningitis following typhoid fever. The case occurred in the practice of Dr. F. R. Woodward, at Asbury Hospital.

Mr. N., a private in the 15th Minn., U. S. V., was taken sick during the epidemic of typhoid fever which occurred in the fall of 1898 at Camp Ramsey.

The patient had a mild run of typhoid fever in which the temperature but once reached as high as 102 F. The Widal reaction was present. The patient was discharged on the 38th day of the disease, the temperature having been normal from the 17th day except for a slight rise on the 23d day, which followed 12 hours after repeated doses of magnesium sulphate.

In the afternoon of the day in which he was discharged the patient returned to the hospital somewhat under the influence of liquor. (No particulars in regard to the patient's condition at this time could be obtained as the hospital records of this second illness together with the notes and autopsy record prepared by Dr. C. B. Lenont were lost.) Fever was present and symtoms of meningitis developed, the patient dying five days later.

Autopsy showed an extensive purulent inflammation of the cerebral meninges. Dr. H. E. Cotton collected in a sterile bulb purulent fluid from the base of the brain. Direct coverslip preparations from this fluid showed numerous small bacilli, some of which were within the polymorphonuclear cells. Cultures showed the only organism present to be a bacillus with all the characteristics of B. typhosus. This was, so far as can be determined, a meningitis due to unmixed infection with B. typhosus.

CASE 3.—Through the kindness and interest of Dr. Thomas S. Roberts, of Minneapolis, the opportunity and materials for examination were afforded in the third case which, as noted in

† M. S. F.—Agar rendered primarily muscle sugar free by inoculation with B. Coli communis as recommended by Theobald Smith.

1. Am. Jour. of Med. Sciences, March, 1899.

2. Contributlo alla patogenise delli infezione billari. Revista generale italiana di clinica medica, 1897. Ref. Baumgarten's Jahresbericht, 1897, p. 234.

3. Johns Hopkins Bulletin, May, 1898.

4. Jour. of Boston Soc. of Med. Sciences, April 23, 1901.

† It may be noted that an abundant growth of B. typhosus together with two or three colonies of a white coccus were obtained from a gauze sponge which was packed around the gall-bladder during aspiration, and the placing of stitches. Unfortunately a culture from the region surrounding the gall-bladder was not taken until this chance for infection from the gall-bladder contents had occurred. Presumably the typhoid organisms escaped from the gall-bladder during aspiration, and the few white staphylococci came from the deeper layers of the epidermis.

5. Johns Hopkins Hospital Bulletin, August-September, 1899.

the abstract, was that of the isolation of B. typhosus (?) from a five months' fetus.

Without apparent cause, the mother aborted one week after the beginning of convalescence from typhoid fever. The course of the fever had been typical and the Widal reaction was present in her blood as well as in that of the fetus.

No gross lesions were discovered in the fetus, but from its organs, peritoneal fluid and heart's blood, cultures were made immediately on receipt in the laboratory, i. e., 36 hours after delivery of the mother. It had been kept on ice in the interim.

From the spleen, liver and peritoneal fluid was isolated an organism which presented all the characteristics of B. typhosus with the one exception that it formed gas in the media containing dextrose. In the media which contained lactose, maltose or saccharose, in milk and other cultures and in every other respect it was indistinguishable from parallel cultures of B. typhosus.

It was actively pathogenic for guinea-pigs, in whom a fatal peritonitis occurred in less than twenty-four hours after intraperitoneal injection of 1 c.c. of fresh broth cultures, and from whose organs it was again recovered. Blood of known typhoid patients in a dilution of 1 to 25 reacted to this bacillus, though in about half of the cases the reaction was not quite so marked as with B. typhosus. This is, however, common in freshly isolated cultures of B. typhosus. It should be noted also that the blood of both mother and fetus reacted to this bacillus.

In addition to this micro-organism obtained from the spleen, liver and peritoneal fluid of the fetus there were isolated from both the spleen and liver two other organisms. One resembled B. typhosus in most respects, but did not acidify maltose, was feebly if at all motile and grew less abundantly than parallel cultures of B. typhosus.

The third micro-organism was non-motile and did not ferment any of the four sugars tested. It was found in the heart's blood also. From both peritoneal fluid and liver a fourth organism was obtained. It coagulated milk, acidified all of the four sugars without the formation of gas, but was, however, very short and somewhat resembled a diplococcus.

Further study of these four micro-organisms will be necessary before making a full report of the case. Identification of the three last mentioned has not been completed, though they are still under observation.

In consideration of all of its characteristics, can the first bacillus be considered as B. typhosus, which has undergone some modification in the fetus whereby ability to produce gas—in addition to acid—from dextrose was acquired?

It has been shown by Peckham[6] that B. typhosus may be led to produce indol by change in environment. Is the production of gas by a bacillus a greater departure from the recognized limits than the production of indol? Before answering this question finally it will be necessary to study more thoroughly the influence of fetal tissues, glycogen, etc., upon B. typhosus. The mechanism of the production of the positive Widal reaction in the blood of the fetus is explained in this case if it be possible to consider this bacillus an aberrant type of B. typhosus.[7]

6. Peckham: Journal of Experimental Medicine, vol. ii, 1897, p. 549.

7. A number of interesting cases have been collected and three reported by Bolton, Journal of Pathology and Bacteriology, vol. vii, p. 137, Feb., 1901, bearing on the relation of the Widal reaction to infection of the fetus with B. typhosus. It may be noted that in Bolton's third case the organism isolated from the fetal organs formed indol.

B. typhosus has been reported present in the fetus by several observers who made no mention of a corresponding Widal reaction. Whether this was undetermined or absent was not stated. The presence of the blood reaction in the fetus has not been demonstrated in cases in which infection with B. typhosus could be absolutely excluded.

DISCUSSION.

Dr. Maximilian Herzog, Chicago—I have seen a few cases of peculiar localization of the typhoid bacilli, or peculiar complications brought about by it. A case of interest occurred in the practice of Dr. Maywit, Chicago. The case had been diagnosed at a certain stage as typhoid fever, and confirmed by a Widal test. The patient acting peculiarly, a probable diagnosis of tubal pregnancy complicating typhoid was made. An operation performed by Dr. F. Henrotin demonstrated the correctness of the diagnosis; a 4-week embryo and a ruptured tube were found. A long suppuration followed the operation and the pus examined showed the presence of bacilli identical in their morphology with typhoid bacilli. Pure cultures, unfortunately, were not made, but there is hardly any doubt that the long-standing suppuration was caused by the typhoid bacillus. I recently saw another unusual localization of the typhoid bacillus; the case occurred in the practice of Dr. Chew of Chicago. The patient, a young man 28 years old, had a typical typhoid fever, which ran its course. In the period of convalescence, a temperature again developed, and the objective symptoms of pleurisy became manifest. The pleural cavity was tapped, and some pus was obtained. This pus contained micro-organisms resembling typhoid bacilli. A subsequent careful examination of those bacilli by the usual culture method demonstrated them to be typhoid bacilli. The pleurisy took a somewhat protracted course, but the patient eventually recovered.

Dr. F. F. Wesbrook, Minneapolis—In the first case reported by Dr. McDaniel we are led to ask, was this not perhaps an abnormal case of typhoid fever? Was there not something in addition to the cholecystitis such as some lesion of the intestine? I do not think this was excluded, although there was not very much after the operation to call attention to the intestinal tract below where the contents of the gall-bladder entered. I believe at that time the only thing to which special attention was directed was the immediate locality of the operation. Dr. McDaniel's second case was undoubtedly meningitis due to B. typhosus. In the last case to which Dr. McDaniel called attention, that of the 5-month fetus, one of the micro-organisms isolated showed the characteristics of bacillus typhosus in every respect but one, namely, the formation of gas. It undoubtedly was a pure culture. One is led to ask in how many respects must a bacillus be typical in order to be classed as bacillus typhosus. Is gas formation a fatal objection to such classification? This bacillus was typical in every other respect culturally, and in all points morphologically characteristic. It was pathogenic for guinea-pigs and reacted to the blood of known typhoid patients, while the blood of both mother and fetus reacted to B. typhosus and to this bacillus. These characteristics should probably more than offset the aberrant one of gas production, though, as Dr. McDaniel has stated, more work should perhaps be done before drawing final conclusions.

Dr. Herzog's remarks bring to mind a case which I have recently seen in which, some three or four months following typhoid fever, there developed a tumorous mass slightly below the left nipple and a little to the left of the median line. After some weeks an incision was made to the depth of half an inch and a small amount of pus obtained. Cultures of B. typhosus, typical in all respects and so far as could be determined, without admixture with any other micro-organisms, were obtained. In this case and in the first two cases reported by Dr. McDaniel, the bacilli were unmixed and were characteristic in all respects. In Dr. McDaniel's third case there was a variety of possibly closely related organisms, none of which was absolutely identical in all respects with B. typhosus or B. coli communis. It is in such cases that we hesitate and the longer we work

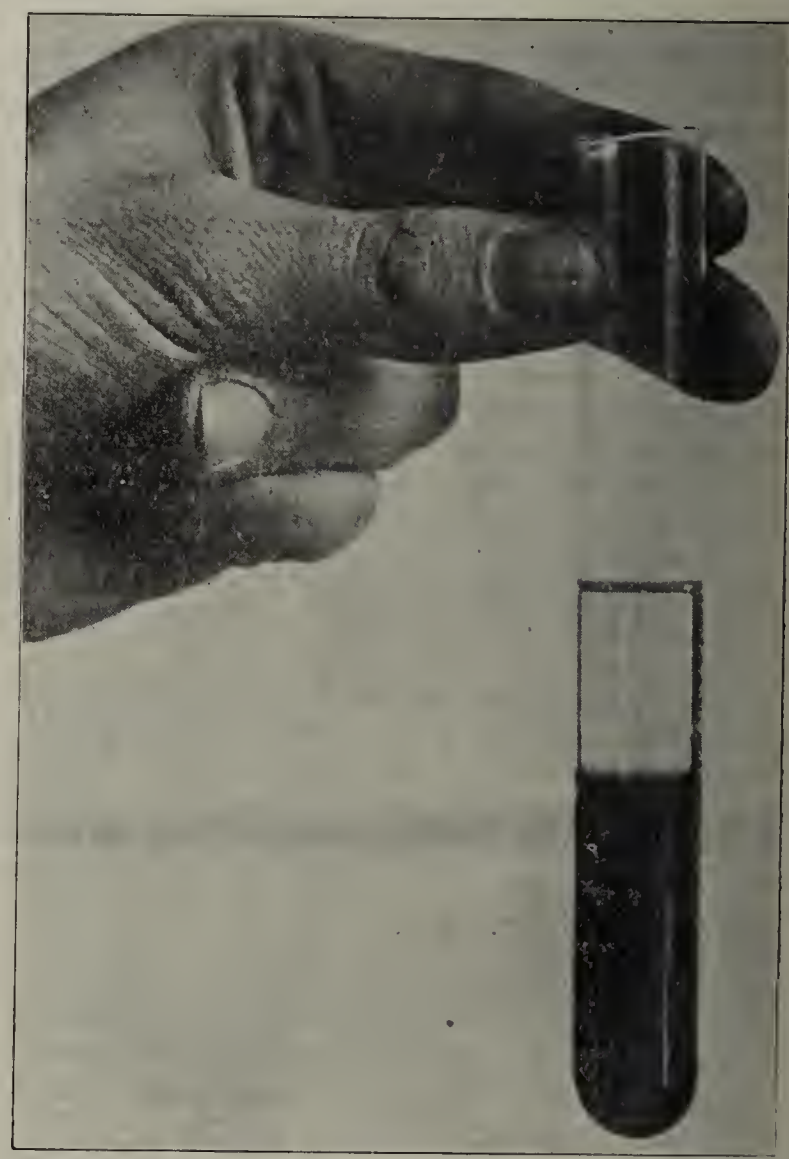
with micro-organisms belonging to the typhoid and colon group the more careful we become in saying when and where we have to draw the line.

COLD WEATHER ACCOUNTABLE FOR TURBIDITY OF THE URINE.

L. NAPOLEON BOSTON, A.M., M.D.
Bacteriologist to the Philadelphia Hospital; Demonstrator-In-Charge of the Clinical Laboratories of the Medico-Chirurgical College.
PHILADELPHIA.

It is common to find a certain percentage of freshly voided urines to present, upon examination, a variable degree of clouding which may have for its cause many different conditions. Among the most striking of these are those dependent upon thermic fluctuations, and in this connection reference shall be made to the changes produced by exposure of the urine to a temperature near the freezing point. With the approach of marked climatic change and a decided fall in the mercury, the number of turbid specimens collected from private practice and dispensary clinics is greatly increased, while specimens collected from hospital patients are seldom influenced by cold. In the urines brought to the laboratory of the Philadelphia, Pennsylvania and Medico-Chirurgical hospitals during the fall and winter months, the writer seldom observed any increase in the number of turbid urines. It was often noticed in specimens brought by patients to the dispensary of the Howard and Medico-Chirurgical hospitals, as well as in those sent to the laboratory by physicians, collected from their private practices. It was further observed that where two specimens, a morning and an evening, were studied, the evening urine would be found turbid, while the morning specimen appeared normal, and when the morning urine was the older of the specimens the reverse was frequently found. It occasionally happened that the patient had inspected the urine before leaving home and noted its clearness, but after carrying the bottle exposed to the cold for a time, it was found turbid on reaching the laboratory. The common cause for this extreme turbidity is the presence, in such specimens, of amorphous urates which on exposure to certain thermic changes are thrown out of solution, the degree of turbidity and consequently the color and consistence of such urine varying in direct proportion to the amount of urates precipitated. The naked eye may detect a slight finely granular clouding of a grayish-white color, which on close inspection is indistinguishable from that occasioned by amorphous phosphates. This precipitate may become sufficiently dense as to present a thick, heavy, pus-like sediment at the bottom of the bottle, which is seen to rise in the form of a thick ropy cloud when agitated. More common is it to find the clouding of a reddish or yellowish tinge, in which case the opacity varies from that scarcely perceptible to that of a thick yellowish-brown or dark-red color with the consistence of syrup. On standing, the lower portion of the urine may be occupied by this sediment, while immediately above it is a narrow zone of either clear, cherry, or wine color, while the remainder of the urine is highly colored. Turbidity directly ascribable to urates is a common finding in the urine of persons suffering from rheumatism, acute bronchitis, tonsillitis and allied febrile conditions, but is by no means rare in the urine of those apparently in perfect health, and during the period of gestation. In nearly 400 specimens where the turbidity was in part or entirely the result of exposure to cold, it was found that the features above given were present to a variable degree. The specific gravity ranged from 1018 to 1045, while fully two-thirds of this number were between 1023 and 1033. In striking contrast to what is usually expected in turbid urines, these specimens were exceptionally free from albumin; but two of them showed this body (serum albumin) in considerable amounts. In none of the specimens was a positive reaction for sugar obtained. Fehling's and the fermentation tests were employed. On several occasions there were reactions which simulated that of glucose, with Fehling's reagent, but these were not typical and could not be confirmed by the fermentation test.

Turbidity or opalescence, the result of an excess of amorphous urates, disappears upon the application of heat. A test-tube is filled one-third to one-half its depth with the suspected urine, and the upper one-third of



the column of urine is passed over the flame of a Bunsen burner and heated to a temperature nearing that of the boiling point. The clouding due to urates disappears from the portion of the urine to which heat is applied, before the boiling point is reached, while the unheated portion of the column remains unchanged.—See illustration. By the addition of a few drops of acid to such urines we may cause the precipitation of uric acid, commonest in the form of rhombic plates, but this procedure can scarcely be regarded as one of practical value. In the teaching of clinical diagnosis there appears to be but few substances that are met with more frequently than the one here under discussion, and the reaction thus obtained proves a most satisfactory safeguard against confusion. The more common causes of turbidity to be differentiated from that due to urates are those dependent upon phosphates, bile pigments, pus, mucus, serum albumin with red blood

cells and many granular casts, and urines containing an admixture of vaginal secretions. It may be added that none of these substances clear upon the application of heat as herein outlined. In biliary urines it was commonly seen that the upper portion of the column cleared when heat was applied, but the color resulting from the bile pigments remained unchanged. Microscopic study assists in distinguishing, beyond any possibility of a doubt, substances likely to be mistaken for amorphous urates. However, we are forced to resort to chemical measures in differentiating between amorphous urates and amorphous phosphates. Albumoses coagulate at about the temperature at which urates are returned into solution, but it is improbable that it would be capable of conflicting in any way with this reaction.

ON THE TREATMENT OF OBESITY.*

HEINRICH STERN, Ph.D., M.D.

Professor of Internal Medicine, New York School of Clinical Medicine; Formerly Professor of the Diseases of Metabolism, St. Louis College of Physicians and Surgeons; Consulting Physician, New York Red Cross Hospital; Visiting Physician St. Elizabeth's and Metropolitan Hospitals.

NEW YORK CITY.

A rational therapy of polysarcia is only possible on the basis of a more precise differentiation between the principal types or degrees of this metabolic anomaly.

A number of authors have attempted to distinguish between the forms of corpulency. The classification of Immermann[1] into the plethoric and the anemic types, partly on account of a certain clinical justification, but mostly on account of its adoption by Oertel,[2] is the best known and enjoys universal acceptance by later writers on the subject. This differentiation, however, is one of degree more than of character, and, in advanced cases of obesity when pronounced degenerative charges have taken place, the one type can not be distinguished from the other.

Guided by the external appearance, Immermann assigns the cases to one of the two categories: 1, to the plethoric group he refers the instances occurring in the robust; 2, to the anemic class, those obese individuals who display a weakened muscular system. In the following I have delineated some characteristics of the two forms—in their extremes:

	PLETHORIC TYPE.	ANEMIC TYPE.
Occurrence:	more frequent in males;	more frequent in women.
Corpulency due to;	hyperingestion of foods and liquids;	deficient oxidation.
Appetite:	excessive;	impaired.
Appearance:	ruddy;	pale.
Endurance:	little if at all reduced;	excessively diminished.
Body temperature:	normal;	frequently subnormal.
Integument:	smooth, greasy;	rugose.
Muscular system and adipose:	firm;	flaccid.
Heart:	vigorous (bradycardia in advanced stage weak and arrhythmic);	feeble.
Arterial tension:	increased;	lowered.
Blood (hemoglobin and corpuscles:	abundant;	deficient.
Edema of lower extremities:	infrequent;	frequent.
Urine:	abundant;	diminished.
Accompanying conditions:	lithemia, oxaluria;	dyspnea.
Tendency to:	arterio-sclerosis;	hypostatic congestion of lungs.

It is obvious that in their extremes these two clinical pictures exist more infrequently than in their intermediate degrees—conditions of corpulency partly resembling the one, partly the other type. The vast majority of instances of lipomatosis belong neither absolutely to the "plethoric" nor to the "anemic" form, and therefore do not permit of a definite classification. Inasmuch as a differentiation is often impossible, the value of the Immermann-Oertel classification, for practical and especially therapeutic purposes, is quite limited and besides often problematic.

CORPOREAL SPECIFIC GRAVITY AND POLYSARCIA.

Sometime ago I attempted to demonstrate that the volume weight of the animal body discloses, with a high degree of certainty, the physical condition of its structures.[3]

Fat is the only important tissue constituent which possesses a lesser degree of density than water. Adiposis causes a reduction of the specific gravity of the organism, and that, in the same ratio in which the increase of fatty material has taken place. Polysarcia, however, in spite of its name—much flesh—is neither always dependent upon an increase of the corporeal solids nor upon the relation of protoplasm to fat; it is frequently but the consequence or the manifestation of tissue hydration, and of the increased contents of water in the organism. In other words, rotundity of the body may be due to an absolute increase of protoplasm, to one of protoplasm and fat, to an absolute increase of fat alone, or to an increase of the liquid tissue constituents either per se or together with fatty deposits.

The specific gravity of an individual in a given case of ploysarcia, is, therefore, dependent upon the following possible factors: 1, protoplasm +, total inorganic solids +; 2, protoplasm +, fat +; 3, protoplasm stationary, fat +; 4, protoplasm —, fat +; 5, protoplasm —, fat +, H_2O +.

It is not my intention to dwell upon the polysarcia-corporeal density relation at greater length. Some of my pertaining investigations will be published in the course of the year. Those who are interested in the subject, I refer to my article in the *Medical Record* of February 9, 1901. The few facts, however, which I have related in the foregoing make it evident that the Immermann-Oertel differentiation, as a basis for rational treatment, is without any doubt inadequate and superficial.

Classifications according to the increase in absolute weight, into very pronounced, moderate and slight corpulence, may serve a purpose, if denoting the obesity degree of a certain type. In differentiating between certain obesity forms, the degree classifications are illogical, and, to say the least, useless for therapeutic intents.

The determination of the volume weight of an individual would be but rarely practiced and the corporeal specific gravity would hardly ever become a factor in physical diagnosis if, to ascertain these, we were compelled to employ any volumetric device or tedious mathematical calculations. However, the density of the blood may well serve as an indicator of corporeal density. A series of observations on men, conducted by the writer, has pointed out that the volume weight of an individual in the physiologic as well as in the pathologic state, is reflected in the specific gravity of his blood. That is, that a high blood density corresponds with a high body density, and a non-transitory hydremic condition with a low corporeal specific gravity. Congruous density degrees of blood and body, it is true, were rarely found. Again, the deviation between the two specific gravities in every instance was so slight that it seems rather due to shortcomings in the methods utilized in ascertaining the densities of both blood and body, than to an abnormal

---

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Materia Medica, Pharmacy and Therapeutics, and approved for publication by the Executive Committee: Drs. Thomas Hunt Stucky, Leon L. Solomon and N. S. Davis, Jr.

distribution of the fluid contents in the organism. The difference between the two densities in these observations amounted, on the average, to about six degrees in favor of the corporeal specific gravity. This figure six may be employed as a standard or coefficient, for the estimation of the volume weight of a healthy adult male from his blood density, by adding it to the latter.

Since reading my first article on the subject—October, 1900—I have had occasion to extend my observations upon the relation of total volume weight to blood density in the female organism. The data obtained are almost analogous to those I had found in males, and the same coefficient, six, is, for all practical purposes, sufficiently accurate for the calculation of the approximate volume weight from the blood density, in the normal female individual.

Again, fluctuations in the physical condition of the body are distinctly reflected in the physical condition of the blood. In the abnormal state, the permanent higher and lower degrees of blood concentration also correspond with a higher or lower specific gravity of the total organism. The various forms of polysarcia are no exception to this rule. The coefficient plus six, as I have convinced myself in a number of observations, may be also utilized in computing from the blood density the volume weight of the obese male or female.

I am in the habit of determining the type of obesity on the basis of the specific gravity of the individual. Accordingly I differentiate between:

1. Polysarcia concurring with a relatively high degree of corporeal specific gravity—hyperplasmic obesity or lipomatous hyperplasma.

2. Polysarcia associated with a normal or slightly diminished degree of body density—metabolic or common obesity.

3. Polysarcia associated with a lesser volume weight of the organism—hydroplasmic obesity, or lipomatous hydroplasma.

HYPERPLASMIC OBESITY OR LIPOMATOUS HYPERPLASMA.

Hyperplasmic obesity is the rarest type, forming, according to my notes, about 6 per cent. of all cases of corpulency. It occurs principally in male subjects, most often between the ages of 27 and 38. I have seen two or three instances of it in women. This form of polysarcia is the only one true to this name, inasmuch as the stoutness is caused by the augmentation of the body protoplasm alone. Corpulency of this type is never very pronounced; the increase in body weight but rarely exceeds 15 kilograms. The average surplus in absolute weight may be put down to 7 kilograms, about 15 pounds.

The polysarcia of this class is characterized by the following: Extreme firmness and strength of the muscles; dry skin; increased cardiac activity; high arterial tension, usually above 160 mg, Hg, by the sphygmomanometer, and high blood density. The latter amounts at least to 1064, but frequently to 1068 and above in the male, and to 1062 and 1066 and more in the female organism.*

The volume weight of the individual attains a considerable degree, which may be ascertained by adding the coefficient to the degree of blood density. It will be found that the corporeal specific gravity in hyperplasmic obesity is from 5 to 9 points higher than in the normal state.

This form of corpulency, not disfiguring or in itself weakening the system to any extent, demands our special attention on account of its complications. Among the latter, incipient nephritis and metabolic anomalies, as xanthemia, arthritis uritica, oxaluria are common. The one concomitant phenomenon invariably present, however, is that chronic condition which v. Basch[5] has designated as "latent arterio-sclerosis." The continued high blood pressure points to the existence of this condition. No other symptoms are indicative of latent arterio-sclerosis, for the moment such occur the affection is not latent any longer. The affection is not even in its incipiency, as there is neither polyuria nor albuminuria, whose presence one might infer to arterio-capillary fibrosis.

At the period when conspicuous anatomic changes symptomatic of arterio-sclerosis appear, which invariably are produced if proper treatment is not early instituted, the polysarcia has been transformed from the hyperplasmic to one of the metabolic types.

Again, as hyperplasmic obesity is always accompanied by latent arterio-sclerosis, we may well assume that this is not a mere complication of the former, but a condition arising from the same factor, and at the same moment as the polysarcia itself. Viewed from this point, hyperplasmic obesity is but a symptom of a certain systemic anomaly.

METABOLIC OR COMMON OBESITY.

Metabolic obesity is the most frequent type, forming, according to my statistics, about 68 per cent. of all instances of polysarcia. Its frequency is greater in males than in females, the ratio being about 5 to 2. It is an affection of middle life, but is not uncommon in well-fed children. In women I have never seen a case above the age of 65, a period of life when it is rare in males.

I distinguish two varieties of metabolic obesity, viz., one kind where an increase of body protoplasm concurs with an enlarged deposition of fat, the other in which adiposis is increased without synchronous augmentation of albuminous tissue constituents.

Its characteristics in general answer to those of the plethoric form of the older writers, heretofore described. There is no or almost no discrepancy between the corporeal density in this type of polysarcia and that of the normal individual. This is especially the case when both body protoplasm and fat are increased in a similar ratio in which they occur in the normal organism. The greater the increase of fat as compared with that of albumin, the lower will be the corporeal specific gravity. The least degree of body density in this form of obesity is found in those instances where the tissue albumin is neither augmented nor reduced, and where fatty matters alone have accumulated. The volume weight in metabolic obesity varies between 1062 and 1067 in males, and between 1059 and 1066 in females. These figures are arrived at by the addition of the coefficient six to the respective blood density.

While in this, the common type of polysarcia, the surplus in absolute weight is often considerable, it does not exceed 20 or 30 kilograms in the majority of instances. However, in the United States cases of 50 and 75 kilograms surplus become more frequent from year to year, especially in the large cities, where great distances have called forth ever ready transportation facilities, which in turn have given rise to abnormal body inactivity and in many instances to corpulency.

* A condition analogous to hyperplasmic obesity is occasionally observed in animals fattened by a special method. Müntz (Comptes Rend., Tome 112, p. 298, v. Limbeck) found a blood density of 1058 in fattened and one of 1038 in normal sheep. The dry residue of the blood of the fattened animals amounted to 20.33, that of the common sheep to 13.60 per cent.

In the same proportion in which the number of those who take their daily "constitutional" declines, the great family of the bodily unsound and the obese grows.

The chronic disorders concurrent with hyperplasmic obesity also accompany this type of polysarcia. Their presence is independent of the degree of corpulency as well as in a certain measure of its duration. However, the concurrent affections are usually more developed than in the hyperplasmic condition—latent arterio-sclerosis has yielded to incipient or pronounced arterio-capillary fibrosis; the heart in consequence is hypertrophic. The most clearly defined complications in metabolic obesity are due, to a certain extent, to the more advanced age of the patient, which, on the average, is about 10 years above that of the individual possessed of the hyperplasmic form of polysarcia. Again, the occurrence of accompanying conditions, which are almost as frequent as the main affection itself, forces us to consider metabolic obesity like the hyperplasmic type, as a mere phase or phenomenon in a general systemic deterioration.

HYDROPLASMIC OBESITY OR LIPOMATOUS HYDROPLASMA.

Hydroplasmic obesity is found in about 25 per cent. of all cases of polysarcia. It is most common in women and may occasionally appear at puberty. Normally, however, it occurs between the 35th and 48th year.

Among the principal characteristics of this type of obesity may be enumerated the following: Pallor eximius; flaccid adynamic muscles; wrinkled skin; flabby abdomen, inclining frequently over the genitals; low arterial tension; weak heart; low blood density; varicosis; edema, and scanty urination. The specific gravity of the organism is considerably lowered, which is evinced by the low blood density. Obese individuals whose volume weights are below 1060 in males and 1056 in women, that is, whose blood density is less than 1054 and 1050 respectively, belong to the hydroplasmic group.

We encounter here two varieties, namely, one in which the protoplasm is diminished and the fat alone increased, the other in which the loss of body albumin coincides with an increase in fatty substances and water. It is evident that the corporeal density of the obese in whom loss of albumin and increase in fat and water occurs, is somewhat higher than that of the individual of similar absolute weight in whom equal loss of tissue albumin but increase of fatty material alone had taken place.† In both eventualities, however, the volume weight would be subnormal, as the density of water is 1 and that of human fat 0.932.

The absolute weight in hydroplasmic obesity, although the patients appear exceedingly corpulent, as a general rule does not reach as high a point as in the metabolic type. An average surplus of kilograms as in the other types of polysarcia, on account of the great divergences in absolute weight in the individual cases, can not be consistently accepted.

Lipomatous hydroplasma, even in a greater measure than the other forms of corpulency, is not an independent affection, but a most conspicuous symptom of a general degenerative process. The latter is probably the same which stands at the foundation of the other classes of polysarcia. Hence, hydroplasmic obesity may be the direct and early result of a systemic degeneration, or it may be consequential to one of the other types of corpulency.

† It is doubtful whether an increase of fat material without one of water can ensue at all; the one variety is characterized by excess of water in the tissues, in the other variety the amount of water is also somewhat increased.

INDICATIONS FOR THE TREATMENT OF OBESITY.

All that has been heretofore stated tends to evince that obesity, irrespective of the type in which it appears, is not an affection per se, but a link only in a chain of symptoms pathognomonic of certain nutritional disorders, which in turn give rise to a slower or more rapid systemic deterioration. In so far as the amelioration of a prominent symptom is followed by an improvement in the general condition, the treatment of polysarcia, apart from some exceptions, is therefore always indicated.

As long as corpulency does not interfere with vital functions, a proper treatment is hardly ever instituted. It does not enter the mind of the otherwise still comparatively healthy obese to undergo unusual exertion or self-deprivation for the mere purpose of reducing the body weight. He does not care whether he weighs a few kilograms more, or less. Nowadays uncomplicated polysarcia, that is, where the concurrent phenomena are still obliterated and remain unrecognized, if treated at all is done for cosmetic reasons only. The vast majority of the corpulent do not consult a physician before the accompanying disorders and conditions compel them to do so. At this stage to be sure, the treatment, be it ever so well advised, can not accomplish what it would have afforded if instituted earlier in the course of the affection.

Cases of *hyperplasmic* obesity never attain the enormous increase in absolute weight which may occur in the other types. The over weight, not exceeding 15 kilograms in most instances, in itself does not call for any treatment. A surplus of from 10 to 15 kilograms in the adult well-developed individual may even be considered as within the physiologic limits, and, as a matter of fact, such individuals are accepted by the life insurance examiner. However, in hyperplasmic obesity we meet not only with an increase in absolute weight, but also with one in the specific weight of the organism. The concurrence of these factors in every instance is an indication of a systemic anomaly demanding treatment.

Hydroplasmic obesity, always denoting the presence of grave disturbances in the organism, irrespective of the amount of overweight in a given case, is *a priori* an indication for the institution of proper treatment.

In *metabolic* obesity, the common form, where there is no or practically no alteration in the corporeal density, treatment may not be absolutely indicated if the surplus weight is yet within physiologic range. A body weight 10 or 15 per cent. above the average may still be considered normal. In those cases, however, where the over weight exceeds 15 per cent., no matter how well the individual pretends to feel otherwise, treatment is urgent and should be insisted upon. Therapeutic measures should be taken before the concurrent affections have become too prominent a factor.

Besides old age and diabetes mellitus, there are few if any contraindications to the institution of de-adiposation.

At this point it is seasonable to mention something relating to the mean height and weight of both sexes in the different ages of life.

Guételet's figures, which are copied in all pertaining works, are based upon investigations and statistics concerning the French race and are certainly misleading if applied to the American people. Children and adults of both sexes on the average are taller and heavier in this country than are individuals of the same age in France. I have computed the appended table as follows: Height to 14th year inclusive, according to Monti[6]: weight to the 18th year inclusive, according to Cam-

erer.[7] The populations of Australia and Southern Germany present almost the identical physical characteristics. Those of the young Americans, if at all, differ but slightly. The remaining figures have been obtained partly by investigation and partly by comparisons and calculations.

AUTHOR'S TABLE DENOTING MEAN HEIGHT AND WEIGHT OF BOTH SEXES IN THE DIFFERENT AGES OF LIFE IN U. S.

Age.	Men.				Women.			
	Body, inches.	Height, cm.	Body, pounds.	Weight, kilo.	Body, inches.	Height, cm.	Body, pounds.	Weight, kilo.
1	28 74	73	21.78	9.9	28.50	72.4	20.24	9.2
2	32.67	83	28.16	12 8	32 44	82.4	24.60	11.2
3	35.82	91	32 70	14.9	35 59	90 4	29.04	13.2
4	38.18	97	36.68	16 9	37.95	96 4	33.	15
5	40 55	103	39 60	18 0	40 31	102 4	35.20	16.
6	42.91	109	43.34	19 7	42.68	108.4	38 50	17.5
7	45.27	115	47.08	21.4	45.04	114.4	41.58	18 9
8	47 63	121	51.7	23.5	47.40	120.4	40 92	18.6
9	50,	127	55.60	25.3	49.76	126.4	49.06	22.3
10	52 36	133	60.94	27 7	52 13	132.4	54 56	24.8
11	54.33	138	66 40	30 2	54 09	137 4	58.52	26 6
12	56.30	143	72 60	33.	56 06	142 4	67 98	30.9
13	58.27	148	78 10	35 5	58.03	147 4	77.44	35.2
14	59.84	152	84 40	38 4	59.60	151.4	87.34	39 7
15	61.42	156	105 80	48 1	59.84	152.	97.02	44.1
16	63.39	161	120.10	54.6	60.	152 4	97.46	44.3
17	65 35	166	132 80	60.4	60.39	153 4	....	..
18	66.93	170	136.40	62.	61.18	155 4	..	....
19	67 32	171	138.60	63.	61 84	157.	118 80	54.
20	67.72	172	144.10	65 5	62 36	158.4	122 10	55 5
25	68 90	175	151.80	69.	63.15	160 4	124.30	56.5
30	69 29	176	154	70	63.78	162.	124.30	56.5
35	68.90	175	157 30	71 5	63.54	161 4	127.60	58.
40	68.90	175	166 60	73.	63 39	161.	133 10	60.5
45	68.11	173	161 70	73.5	62 99	160.	132	60.
50	67.72	172	156 20	71.	61 81	157.	128 70	58 5
55	67 32	171	151.80	69.	61.42	156.	126 50	57.5
60	66.93	170	149 60	68.	61 02	155.	126.50	57 5
70	66.14	168	145 20	66.	60 23	153.	117 70	53 5

GENERAL CONSIDERATIONS CONCERNING THE TREATMENT OF POLYSARCIA.

Lipomatosis universalis may have been caused directly either by excessive ingestion of nutriment or by its diminished oxidation in the organism, or by both eventualities together.

The caloric demand for the maintenance of the metabolic equilibrium is dependent upon the amount of work performed by the organism. The more the individual exerts himself, the higher must be the caloric value of his nourishment and vice versa; the greater the bodily inactivity, the less energy is expended, and the smaller need be the fuel supply of the organism.

A normal man utilizes on the average, for each kilogram of body weight per day when at absolute rest, 30 calories, of which 4.1 calories should be yielded by albumin. For each kilogram of body weight per day when leisurely occupied, 35 calories, of which 5 should be yielded by albumin. For each kilogram of body weight when moderately active, 40 calories, of which 6.1 should be yielded by albumin. For each kilogram of body weight per day when laboring strenuously, 45 calories, of which 7.2 should be yielded by albumin.

A man of 35, weighing 71.5 kilograms, for the maintenance of his metabolic equilibrium, should, therefore, consume daily an amount of foodstuffs yielding as follows: 2145 calories, of which 293.15 should be albumin calories, when at absolute rest; 2502.5 calories, of which 357.5 should be albumin calories, when leisurely occupied; 2860 calories, of which 436.15 should be albumin calories, when moderately active, and 3217.5 calories, of which 514.8 should be albumin calories, when laboring strenuously.

Roughly speaking, about the sixth part of the total calories needed by the animal organism should be derived from ingested albumins.

The same individual having changed his boarding house, continues to take similar nourishment in quantity and quality as before. However, instead of finding boiled potatoes on the table every evening, which he was accustomed to eat by simply adding some salt, he now is served three times a week with fried potatoes. The change, trifling in itself, is hardly noticed by him, but alas, after a few months his waistcoat becomes too narrow for him and he opens at first one, and as time progresses two and more buttons during the meals. Why does he do that? The fried potatoes contain at least 20 grams of butter; one gram of butter yields 9.3 calories, the 20 grams represent, therefore, a caloric value of 186. As he is now eating this dish three times a week, the surplus in calories amounts to $186 \times 3 \times 26$, or 14,508 calories in six months. Almost the total surplus of 1560 grams has been deposited in the organism in the form of fat, and, as adipose tissue contains about 40 per cent. of water, the total increase in body weight amounts to 2184 grams, about 4.5 pounds. In a year the surplus body weight would be 9 pounds, and if the individual chooses to partake of fried potatoes every day for a year his body weight would be increased from 71.5 kilograms, or 157 pounds, to 81.77 kilograms, or 179.5 pounds, during that period.

Assuming, on the other hand, that this same person, who was always moderately active, retires to a life of leisure, but continues to ingest daily an amount of foodstuffs valued at 2860 calories, he introduces about 350 more calories than can normally be burned up in his body. If the non-oxidizable surplus amounts to even but 250 calories, 26.4 grams of fat are daily deposited in the organism. In a year the increase in fat amounts to 9636 grams and that of adipose tissue to about 13,488 grams, or 29.6 pounds.

Before instituting treatment for polysarcia the following factors should be therefore ascertained: 1. Age and absolute weight of patient. 2. Approximate extent of surplus adipose deposition. 3. Degree of body activity other than that essential for the conduct of vital functions. 4. Caloric value of nutriment habitually ingested.

The first step in the actual treatment should be adjustment of the ingesta in accordance with the degree of muscular activity, or regulation of the latter with regard to the amount of calories yielded by the foodstuffs habitually consumed.

When we bring home to our mind the fact that in the obese the surplus weight in the vast majority of instances is due to fat alone, or to fat and water, we can readily understand that it is no easy task to definitely determine from the number of kilograms of body weight the nutrient calories actually needed by the organism. Intracellular fat and water usually neither participate in the general systemic metabolism, nor contribute towards the performance of muscular work. On the contrary, they are an absolute ballast to the individual, predisposing him to various diseases, especially epidemic ones, and impending more or less the vital as well as the muscular activity.

In calculating the necessary calories, at least in an approximate manner, it is best to ascertain the height of the patient, and, with the assistance of the appended table, the corresponding weight in kilograms. In most cases of metabolic obesity it suffices to multiply the number of kilograms thus obtained by 25, to learn the mini-

mum amount of calories daily needed. For instance, take the case of a male, aged 35, having an absolute weight of 95 kilograms, and height of 172 cm. The normal weight corresponding to 172 cm. height is 65.5 kilograms, therefore $65.5 \times 25 = 1673.5$, is the minimum amount of calories necessary to prevent the consumption of body albumin in this individual.

In hydroplasmic obesity, on the other hand, when starting with the treatment, the amount of food prescribed, whether its caloric value was compiled in the aforementioned or any other manner, always remains to a great extent a matter of conjecture. This type of polysarcia, it being virtually a condition of hypotrophy, frequently demands a diet of increased nutritive—not calorie—value. Diminution of absolute weight in hydroplasmic corpulency without concurrent increase in body density as evinced by the specific gravity of the blood, denotes deficient alimentation.

Patients under treatment for obesity should have their food carefully weighed and should be seen every third or fourth day, during the first two weeks, ten at least once a week for one or two months, and after that, fortnightly for a period of from three months to a year. On each occasion the patient should be weighed on an accurate scale, and, in the hyperplasmic and hydroplasmic types, the blood density should be ascertained at least once every two weeks, while in the metabolic variety it is sufficient to take it once a month.

Equally important as the decline in absolute body weight is the degree of blood and body density during the period of treatment. The blood density serves as the means of control, whether the measures which have been taken to reduce obesity are proper or not. For instance, a woman 157 cm. high, weighing 95 kilograms, and possessing a blood density of 1050, undergoes treatment. When seen at the end of a month she complains of extreme weakness, of emaciation and pains in the back and limbs, and of palpitation of the heart on the smallest exertion. She has lost during this time 7 kilograms in body weight. An examination of the blood reveals a density of 1048, a decline of 2 degrees since starting treatment. The diminished specific gravity of the blood, congruous, as we have repeatedly seen, with a lesser volume weight, denotes that the woman was underfed. Her subjective symptoms were probably all produced by underfeeding.

We should endeavor to accomplish the following in the treatment of the different forms of polysarcia:

In hyperplasmic obesity, reduction of absolute as well as of volume weight; metabolic obesity, reduction of absolute weight and maintenance of volume weight, and in hydroplasmic obesity, reduction of absolute weight and increase of volume weight.

The well-known dietary systems of Harvey-Banting,[8] Ebstein,[9] Oertel,[2] (Schweninger) Kisch,[10] and Hirschfeld[11] make no or but indefinite reference to the volume weight of the organism. There is no doubt but that all these regimens serve an admirable purpose in suitable cases. However, they are not applicable in all forms and degrees of obesity. Kisch and Oertel especially have recognized this when they prescribed different diet lists for the plethoric and the anemic types of the affection.

These dietary regulations possess the drawback in common that the patient is underfed, and that the calories elaborated from the prescribed nutriment do not suffice to prevent gradual consumption of the body protoplasm. I had occasion to observe in a number of instances that after ten or twelve days' employment of certain of these dietary systems, the amount of nitrogen egested surpassed that of nitrogen ingested. The large quantities of fat recommended in some of these regimens, although yielding large amounts of calories, may still not be sufficient to avert the loss of body protoplasm after the first or second week. The results of overfeeding can not be obliterated by systematic underfeeding. I am of the opinion that, apart from some exceptional cases, the employment of a diet valued at less than 25 calories per kilogram normal body weight, means, to say the least, unnecessary deprivation to a patient following his vocation. Cases treated according to Weir-Mitchell's or other methods of rest cure, where absolute inactivity is demanded, will undoubtedly get along with a smaller number of calories for a certain period. However, we have to deal, in the vast majority of cases, with people who are not only able but also should be up and about, and it must be our foremost aim to preserve the strength and resistance of these patients. A rational treatment of obesity can only be instituted on the basis of increased bodily exertion and oxidation and not on that of underfeeding.

There is a diversity of opinion concerning the amount of water necessary in the treatment of the obese. In the chapter on the "special management of the different types of polysarcia" the amounts of water per kilogram per day which I found best suited to keep up cellular activity to its fullest extent, are recommended for each specific form of the affection.

No mention is made in these lines of alcoholic and malted beverages. The latter are positively contraindicated in the treatment of obesity, and the former, which some modern authors permit in moderate amounts, although they possess high caloric values, I find, to say the least, entirely superfluous in the therapy of this as well as of all other pathologic states.

All measures which enhance the oxidizing qualities of the organism prevent further deposits of adipose tissue and contribute toward lipolysis. As long as the corpulent is properly fed, as long as he retains a certain amount of strength, such measures may be employed. Hydrotherapy, balneotherapy, mechanotherapy, gymnastics, etc., combined or alone, in any of their manifold variations, they all serve but one purpose—to increase the process of oxidation and the subsequent fat combustion. The selection of a mode of physical treatment when starting may be entirely left to the discretion of the patient. By permitting this the medical adviser gains the latter's good will, does not overburden him, and has no difficulty in adjusting the indicated measures later on. It requires great self-command on the part of many obese to continue and increase a certain method of exercise. This is especially the case when visible results do not immediately follow the first attempt.

Muscular exercise, whether passive, active, concentric or eccentric, is always essential in the treatment of lipomatosis. Even in cases of advanced hydroplasma, when the patient is compelled to stay in bed, massage and certain passive movements should be insisted upon. Active muscular exercise, as walking, climbing hills, rowing, boxing, bicycle riding, etc., are the most potent factors in increasing tissue oxidation. In every individual case the ability for exercise should be carefully ascertained. The patient must not be overtaxed in this respect, as this may call forth results which are analogous to underfeeding. As stated before, the patient may in the beginning select the mode of exercise which he intends to execute; his choice generally is walking on the level

ground. In cases in which cardiac asthenia is very pronounced, the form and amount of exercise to be taken is to be minutely described by the physician. In other cases, especially the metabolic variety, detailed directions are but rarely required. The amount of meters which the patient has to walk is to be increased from time to time. The robust may extend his promenade 1000 meters at a time; in the weak and hydroplasmic a gradual increase, say 100 or 200 meters at a time, will give the best results. Climbing, which may be indicated from the start for persons affected with the metabolic variety of polysarcia, should never be recommended as the initial form of exercise when the systemic deterioration has far progressed. Such cases should be handled with the greatest care—at first walks on the level and later climbing, but this in moderation only. It has been estimated that tissue combustion when climbing for the distance of one meter is ten times greater than when marching the same distance on level ground. In all instances of hyperplasmic and in many instances of metabolic lipomatosis, mountain climbing is imperative for curative purposes. In my experience, descending mountains or stairways has proven a valuable adjuvant in the treatment of polysarcia, principally in such instances where the over weight was considerable. It is true that the act of descending itself does not greatly intensify oxidation; this exercise, however, affords a most convenient means of stimulating the abdominal muscles to increased activity. The technique of descending exercise which I pursue is very simple. The patient is carried by the elevator to the fifteenth or twentieth story of an office building or other high structure. For the first week he is ordered to slowly descend the stairs, without holding to the banister, 10, 15 or 20 stories, as the case may be, from one to four times daily. During the second and third weeks this exercise is somewhat modified, the patient descends from step to step in a jumping manner, which produces a jolting of all the muscles of the abdomen. Later on the same exercise is continued, but the individual is ordered to perform it at his utmost speed. Athletic practices, so long as they do not overtax the strength or affect the heart and nervous system, are of a certain value in the treatment of all types of polysarcia. Of course proper gymnastic exercise has to be selected for each individual case. I prefer a course of calisthenics, especially such as are arranged for strengthening and developing the trunk, for they can not possibly do any harm and most of the movements may be readily executed. One of the most expedient exercises for the furtherance of systemic combustion is gymnastics of the lungs. The patient should be first taught to breathe properly. The inspiration should gradually become deeper and deeper until finally almost the whole lungs participate in the process. It is best to perform these chest-expanding exercises in the evening before retiring. I am in the habit of combining the lung gymnastics with air baths, that is, have the patient exercise while nude, and perform various muscular movements, the detailed descriptions of which I have to forego at this moment.

Besides diet and exercise a number of medicinal agents have been employed in the reduction of obesity. The following drugs and chemicals have been reputed to be anti-fat remedies: Iodin, and its preparations; phytolacca decandra; thyroid extract; vegetable acids; vinegar; lemon juice; alkaline, acidulated and sulphurous mineral waters; alkalies, as liquor potassæ; fucus vesiculosis; sodium chlorid; purgatives, and a legion more. Most of these have of late come into discredit, be it on account of their inefficiency and uncertainty of action, or on account of certain obnoxious results following their administration. It is my opinion, however, that most of these drugs, if given in sufficient amounts, bring about reduction of body weight. They act in large doses like certain poisons, the introduction of which is followed by emaciation, loss of strength, irritability, anorexia, insomnia and often chronic diarrhea. The majority of these are useless in small doses, and in large ones do not only produce dehydration and de-adiposation, but invariably also a melting down of body albumin. Their use, with the exception of a few, should, therefore, be unconditionally condemned, especially in instances of metabolic or hydroplasmic obesity. Some mineral waters, thyroid preparations whose action is modified, and fucus vesiculosis form the exception to this rule.

It is uncertain, apart from their aperient and laxative action, what the modus operandi of mineral waters, as those of Marienbad, Carlsbad, Kissingen, Saratoga, and the Hungarian waters, like Apenta, really is. Their influence in the rarest instances is a chemical one. The blood is not altered in its composition, at least not for any length of time after these waters are taken. Metabolism, however, increases under their continued administration. It appears as if the salt solutions exhibit physical functions by increasing the osmotic pressure in the organism. The acceleration of metabolic processes may be the direct consequence of the latter.

Thyroid therapy a few years ago seemed to be the panacea in the amelioration of obesity. But, alas, the indiscriminate use of the glandular substance by every one who wished to effect rapid reduction of his corpulency, was frequently followed by disappointment and by bad after-effects. In the wake of self-treatment by thyroid extract I have seen glycosuria in six or seven instances. The origin of at least two chronic conditions of glycosuria which came under my observation could be traced to thyroidism. Cases of digestive disturbances, extreme nervousness, jactitation and cardiac weakness were not infrequently met with after ingestion of thyroid substance. Most of these untoward symptoms noted after the use of thyroid occurred in persons who relied upon their own mode of administration.

On account of its uncertainty of action and occasional pernicious effects, the profession has abandoned thyroid therapy to a great measure. However, this means throwing away the good with the bad. Thyroid extract is by no means a necessity in the treatment of polysarcia, but it is a valuable adjuvant if used with precaution. Especially is this the case where the treatment is started and when some immediate results are to be accomplished. The idea of having lost a few pounds in weight during the first week, as a rule, tends to renew the patient's failing energy. Later on, when the obese is accustomed to his new mode of living, the thyroid preparation may be withdrawn. Unless the patient is under a regulated diet so that he is in perfect nitrogen balance, and his tissue oxidation is somewhat increased by suitable exercise, the drug should not be administered under any circumstances. Ewald[12] demands even an adequate surplus of ingested nitrogen in order that the thyroid preparation may accomplish the removal of adipose tissue without doing injury to the body protoplasm.

I have modified the action of the thyroid by the addition of arsenic and adonidin, thus:

℞.	Acid arsenious ..... gr. 1/60	|001
	Adonidin ..... gr. 1/12	|005
	Thyroid gland, dry powder ..... gr. 2	|12

M. Ft. compressed tablet No. i.

Six years ago I first observed that arsenic exerts a specific influence upon the activity of thyroid. Patients who took an arsenical and thyroid preparation synchronously never complained of any deleterious effects, while those who were treated with thyroid alone occasionally exhibited such symptoms as I have mentioned. So pronounced was the modifying power of arsenic that in the course of time I never prescribed thyroid preparations without adding arsenic in some form. My observations have been confirmed by those of Bédart and Mabille,[13] who did not find palpitation, tremor, etc., following the administration of thyroid if Fowler's solution—2½ drops per kilogram—was given simultaneously. Adonidin is added to the combination to further strengthen the heart and enable the patient to continue the prescribed exercises.

Fucus vesiculosis (bladder wrack) I found an innocent and efficient fat absorbent to be used in conjunction with proper diet and exercise. I have devised a citric acid tincture of the drug which serves an excellent purpose in preventing the recurrence of a previous state of obesity. One of my patients, aged 35, an actress of national fame, in spite of a proper diet and a good deal of exercise, would have attained such an embonpoint that she could not have followed her calling were it not for the citric acid tincture of fucus vesiculosis which she has taken for four years. She is and has been in absolute nitrogen equilibrium, possesses great powers of resistance and carries her 85 kilograms with graceful ease.

SPECIAL MANAGEMENT OF THE DIFFERENT TYPES OF POLYSARCIA.

Hyperplasmic Obesity.—Objects to be attained: Reduction of absolute and volume weights; diminution of arterial tension, and increase of body oxidation.

Diet: There should be given for each kilogram of normal body weight during twenty-four hours of albumins 1.3 grams or 5.33 calories; carbohydrates 1.8 grams or 7.38 calories, and of hydrocarbons 1.3 grams or 12.09 calories, a total of 24.80 calories. The quantity of water should be 60 c.c. Thus for a hyperplasmic male, aged 35, absolute weight of 80 kilograms, height 172 cm. (normal weight corresponding to 172 cm., 65.5 kilograms) the calories required for the patient in twenty-four hours would be 1637.5, as follows:

Albumins, 85.15 grams, or 349 calories; carbohydrates, 117.9 grams, or 483 calories, and hydrocarbons, 85.15 grams, or 792 calories, in all 288.2 grams, or 1624 calories. The amount of water would be 3930 c.c. These 1600 calories and 4 liters of water should be divided up thus:

Meal hours.		Albumins, grams.	Carbohydrates, grams.	Hydrocarbons, grams.	Water, c.c.
Breakfast, 7 a. m.	2 cups of tea or coffee, 10 c.c. fresh milk in each cup—no sugar	0.7	1.	0.7	520
	2 boiled eggs	12.6		12.1	. . .
	35 grams rye bread, 8 grams butter	2.7	14 9	6.8	. .
10 a. m.	2 glasses of water	. . .	. . .	.	500
Lunch, 1 p. m.	500 c.c. clear soup	5.	. . .	7.5	500
	100 grams boiled beef	35.	. . .	25.	. . .
	100 grams spinach	3.5	4.5	0.5	. . .
	50 grams Roman salad, 5 c.c. olive oil	1.1	1.8	5	. .
	70 grams wheaten bread	4.9	39.6	0.4	. . .
	100 grams apples, fresh	0 4	17.	. . .	. . .
	Demitasse coffee, 2 glasses water	. . .	. . .	. . .	600
4 p. m.	1 glass of water	. . .	. . .	. . .	250
Supper, 7 p. m.	250 c.c. clear soup	2 5	. . .	3.7	250
	2 boiled eggs	12.6	. .	12.1	. . .
	70 grams wheaten bread, 15 grams butter	5.	39 6	13.	.
	1 cup of tea, 2 glasses of water	. . .	. .	. .	750
Before retiring.	2 glasses of water	. . .	. . .	. . .	500
	Total	86	118 4	86 8	3870
	Calories	352.6	485.4	807.2	. . .

The nutriment should contain the same amount of albumins, carbohydrates and hydrocarbons for at least six months. If after six months the body weight has been diminished and the corporeal density has attained a normal degree, the caloric value of the diet may be increased from 15 to 40 per cent. However, for about one week in every month, for about one year thereafter, if need be forever, the original diet must be followed. In regard to the water, 60 c.c. in twenty-four hours, for each kilogram of body weight, should be taken till the volume weight has definitely declined to a normal degree.

Exercise.—The patient should walk two or three miles after breakfast, one mile after lunch, and three miles after supper every day. A bath at a temperature of 72 F. (22.2° C.) should be taken three times a week, preferably before retiring. This exercise is to be continued for one or two years, or a longer period.

Medicines.—From 3 to 5 of the compound thyroid tablets, as given above, should be prescribed for about ten days; thereafter 3 tablets a day for a week in each of the following five months are to be given.

Metabolic Obesity.—Objects to be attained: Reduction of absolute weight; maintenance or increase of corporeal density; diminution of arterial tension, and increase of bodily oxidation.

Diet.—For each kilogram of normal body weight for twenty-four hours there should be taken of albumins 2.6 grams or 10.66 calories; carbohydrates 1.6 grams or 6.56 calories; and of hydrocarbons 0.8 grams or 7.44 calories; making altogether 24.96 calories. The patient should drink in that time 45 c.c. of water. Therefore a male, aged 35, affected with metabolic obesity, whose absolute weight was 90 kilograms and height 172 cm. (normal weight corresponding to 172 cm., 65.5 kilograms), should have in twenty-four hours 1637.5 calories, as follows: Albumins, 170.3 grams, or 698 calories; carbohydrates, 104.8 grams, or 430 calories; hydrocarbons, 52.4 grams, or 487 calories; in all 327.5 grams, or 1615 calories. The amount of water to be 2947 c.c. These 1600 calories and 3 liters of water should be divided up thus:

Meal hours.		Albumins, grams.	Carbohydrates grams.	Hydrocarbons, grams.	Water, c c.
Breakfast, 7 a. m.	500 c.c. milk, heated to 100° F	17.	24.	18 3	440
	1 roll, 30 grams	2.6	19.	. . .	. . .
10 a.m.	250 c.c. buttermilk	10.	9.	0.7	230
Luncheon, 1 p. m.	500 c c. clear soup	5	. . .	7.5	490
	300 grams roast beef, very lean	100.	. . .	7.5	. .
	250 grams asparagus, little vinegar	4.5	6.5	0 5	. . .
	30 grams wheaten bread.	2.1	17.	. . .	.
	Demitasse coffee, 2 glasses water	. .	. . .	. . .	600
4 p. m.	1 glass of water		. . .	. . .	250
Supper, 7 p. m.	250 c.c. bouillon with 1 egg	8.8	. . .	9 7	250
	30 grams hand cheese	10.9	. . .	1 7	. .
	250 c.c. skimmed milk	8.1	11.6	2 5	230
	30 grams wheaten bread, 5 grams butter	2.1	17.	4.2	. . .
Before retiring.	2 glasses of water	. . .	. . .	. . .	500
	Total	171.1	104 1	52.6	2970
	Calories	701.5	426.8	489	. . .

A nutriment of the same caloric value and possessing the various ingredients in similar proportion, I find best suited for both varieties of metabolic polysarcia. This dietary should be kept up as long as possible, in no instance for less than three months. The purpose of a regimen, like that of the whole treatment advocated, is rather to effect physiologic reduction of obesity than rapid cure of it. It is evident, therefore, that the stricter and longer the diet is adhered to, the better and more lasting will be the results obtained.

Water.—The variety of metabolic obesity characterized by normal volume weight, where we have an increase of protoplasm together with fat, demands each day about 45 c.c. of water per kilogram of normal body weight, and this for a protracted period. In the other variety, where the deposition of fat alone is enlarged, the amount of water should be reduced to 30 c.c. a day per kilogram of normal body weight between the third and fourth weeks, and to 20 c.c. per day for each kilogram normal weight after two months. Soups and milk have then to be abandoned, partially or altogether, and the amount of nutrient thus withheld should be replaced by eggs or meats. However, for one week in each month, 45 c.c. of water a day per kilogram of normal body weight should be taken. Scales and hydrometer, as pointed out before, are to be employed whenever possible. Loss in absolute and increase in specific weight, denotes the effect of diet in the latter variety of metabolic obesity. In some of these cases, it is true, partial withdrawal of water from the onset of treatment will give quicker results, but the tendency to arthritis uritica, etc., especially when under such a highly albuminous dietary regimen, must always be taken into due consideration.

Exercise.—There is no type of polysarcia in which exercise in its various modifications is so much indicated as in metabolic obesity. A diet valued at 25 calories a day per kilogram of normal body weight is just sufficient to prevent underfeeding. Without a proper amount of exercise, therefore, such a nutriment may avert further increase in body weight, but it does not call forth the desired decrease, at least not in instances of highly-developed obesity. The cases in which augmentation of fat is proportionate to that of protoplasm in the greater part, require similar exercise to those of hyperplasmic obesity. But we have seen that the degree of polysarcia of the latter type is rarely as high as that of the metabolic corpulency, and, in the degree in which the obesity is more pronounced, the amount of exercise must be increased.

Walking, climbing hills, rowing, bicycle riding, boxing, wrestling, etc., each and all may be advantageously utilized. When beginning treatment the mode and amount of exercise may be left to the inclination of the patient. Later on, however, the exact amount of exercise has to be adjusted to the needs of the organism from week to week. It is best to start with the amount of exercise recommended for the hyperplasmic type and to increase gradually so that the patient may lose from one to three pounds a week. In the ratio in which the absolute weight declines the amount of exercise must be increased or diminished. The nearer the body weight approaches the standard, the less exercise should be taken; yet daily walks of prescribed lengths should continue to be taken even after the individual has attained a normal weight.

There are always cases of this class which, to all appearances, do not yield, where exercise and diet in the beginning of treatment do not seem to exert the slightest influence upon the body weight. Nevertheless, I have not seen a single instance in which proper treatment ultimately failed. The latter must not be discontinued under any circumstances. The results will be obtained, in the one case, soon, in the other, later.

The variety of the metabolic type in which there is an accumulation of fat only, in respect to exercise, should be managed on somewhat different lines. There are cases in which, as we may assume, *a priori*, the heart is always more or less involved. Although this may not be determinable without difficulty in every instance, I usually start with the descending exercise described heretofore. After the first or second week calisthenics are recommended, at first such movements as tend to strengthen the lower extremities, later such as are designed for the upper extremities and the trunk itself. At the same time gymnastics of the lungs should be insisted upon. After the third week walking in moderation should be begun. This is to be gradually increased and climbing or rowing may be added after another month or so. Calisthenics and the like should not be discontinued, but should be executed every evening before retiring. Resistance exercises should be only resorted to where the condition of the heart peremptorily prohibits any other movements.

The hydrotherapeutic measures, Turkish, Russian and Nauheim baths, deserve consideration in suitable cases. Baths at 86 F., with or without salt, also sea baths during the heated season, as a rule, may be indulged in ad libitum.

Medicines.—For the variety in which protoplasm and fat is increased, compound thyroid tablets, 3 or 4 a day, for two or three weeks, should be taken; then continued in the same dose at intervals of two weeks for one week at a time, and to be continued for from three to six months. For that variety in which fat alone is increased, compound thyroid tablets, 3 a day, for eight or ten days. Thereafter 2 tablets every other day for a month.

Hydroplasmic Obesity.—Objects to be attained: Reduction of absolute weight; increase of corporeal specific gravity; augmentation of tissue oxidation, and increase of cardiac tonus.

Diet.—Per kilogram of normal body weight for 24 hours should be of albumins 3.4 grams or 13.94 calories, carbohydrates 1.6 grams or 6.56 calories, and of hydrocarbons 0.5 grams or 4.65 calories, a total of 25.15 calories. The amount of water should be 20 c.c. Thus a female, aged 35, affected with hydroplasmic obesity, whose absolute weight was 87.5 kilograms, height 159 cm. (normal weight corresponding to 159 cm., height 56 kilograms), requires in twenty-four hours 1400 calories, as follows: Albumins, 190.4 grams, 781 calories; carbohydrates, 89.6, 367 calories; hydrocarbons, 28 grams, 260 calories; a total of 308 grams, or 1408 calories. The amount of water should be 1120 c.c.

These 1400 calories and 1100 c.c. of water should be divided up thus:

Meal hours.		Albumins, grams.	Carbohydrates, grams.	Hydrocarbons, grams.	Water, c.c.
Breakfast, 9 a.m.	150 c.c. tea, without milk or sugar.	.	. . .	. . .	150
	125 grams cold lean roast beef	46.	. . .	3.1	. . .
	40 grams dry toast, 60 grams wheaten bread untoasted	4.	34.	. . .	. . .
Luncheon, 12 m.	150 c.c. clear soup.	1.5	. . .	2.	150
	6 oysters, blue points—60 grams.	5.4	3.8	1.2	. . .
	200 grams boiled, broiled or roast meat—very lean	70.	. . .	5.	. . . .
	500 grams vegetables (Brussels sprouts, savoy, red or white cabbage, spinach, cauliflower, string beans, asparagus, prepared without flour or fat), average	13.4	24.5	1.8	. . .
	170 c.c. lemonade, 1 lemon and 3 grams sugar	. . .	3	. . .	170
3:30 p. m .	150 c.c. coffee, without milk or sugar	. . .	. . .	. . .	150
Supper. 7 p. m . . .	90 grams cold beef	33.3	. . .	2.3	. . .
	2 eggs..	12.6	. .	12.1	. . .
	50 grams rye bread.	3.	24.6	. . .	. . .
	150 c.c. tea.	. . .	. . .	. . .	150
On retiring and during night.	150 c.c. water	. . .	. . .	. . .	150
	200 c.c. water..	. . .	. . .	. . .	200
	Total	189.2	89.9	27.5	1120
	Calories.	775.7	368.6	255.8	. . .

A nutriment very abundant in albuminous material is best suited for instances of hydroplasmic obesity. The calories elaborated and yielded by the proteids should surpass both those derived from the carbohydrate and hydrocarbon ingesta together. While in the normal state but the sixth part of all calories should have emanated from nitrogenous substances, more than half of the total heat units in hydroplasmic polysarcia must be liberated by that source. The ratio of carbohydrates to hydrocarbons in this specific diet in physiologico-chemical respects is immaterial; for practical purposes, however, in order to facilitate the continued ingestion of large amounts of proteids, the absolute weight of the carbohydrates should exceed that of the hydrocarbons at least three times. A diet offering this composition should be continued for months, or, if need be, years. It contains, on the one hand, sufficient elements for the protection of or even increase of the body albumin, and, on the other, not enough of that kind of material which prevents disintegration of adipose tissue.

That proteids are the rational nutriment in this condition is evinced by the increased heart action following their supply. When the circulatory apparatus again performs its functions with sufficient vigor the body density will soon attain a normal degree. The decline of body weight in this form of polysarcia is of secondary consideration, the most potent factor to be accomplished is increase of body density. The patient, after being properly treated for some months, may present a totally different appearance. His rotundity may have disappeared, his cheeks may have sunken in, and in spite of these facts he may have lost but a few kilograms in absolute weight. His muscular system, in the meantime, has become firmer, while fat and water have slowly disappeared. The patient in this condition, being no longer hydremic, belongs to the second variety of metabolic obesity, and, although the diet for hydroplasmic polysarcia should be continued for a more or less protracted period, the exercises designed for that variety should be employed in order to gradually effect the reduction in absolute weight.

Water.—The relative great quantity of water contained in the hydroplasmic organism, *a priori* contraindicates the introduction of much liquid. The amount of water necessary per day and kilogram was estimated by the writer to be 20 c.c. A still more limited water supply, as is recommended by some authorities, I admit is followed by the rapid loss of a few kilograms of body weight. However, this occurs by dehydration only, while the fat deposits themselves are not altered. Total withdrawal of liquids, as shown by Niederstein,[14] is followed by decline in body weight. The latter increases soon after water is again taken. The early increase after the taking again of liquids, is due to the retention of water. The artificial and rapid concentration of blood serum and other body fluids may cause emaciation by starvation, but is certainly not followed by a physiologic reduction. The elimination of water from the tissues can be successfully accomplished—successful in the sense of removing the underlying cause—by but one means, the increased tonicity of the heart. By rapid concentration of serum the latter will never be realized. A certain amount of water is necessary in order that the tissues derive the utmost benefit from the organic as well as the inorganic ingesta.

Exercise.—As already pointed out, the exercise devised for the second variety of metabolic obesity serves well in this form of polysarcia, provided that the individual, by dietary treatment and by exercise described in the following, has already attained a more normal degree of density.

In starting treatment most stress should be laid on passive and resistance movements. Faradism; massage, mechanotherapy, in short, all methods contributing toward the improvement of the circulation will be followed by most beneficial results. The employment of cold hydropathic procedures, resulting in increased oxidation of fatty material, and the systematic performance of lung gymnastics, are other suitable means in the combatment of hydroplasmic obesity.

Medicines—For the heart, strychnin; for the blood, iron, and for the intestinal tract, beta napthalin, bismuth salicylate or hydrastis canadensis. To relieve constipation, saline enemata, podophyllin, leptandrin or calomel may be given.

Thyroid, as a general rule, is contraindicated in hydroplasmic obesity.

LITERATURE.

1. H. Immermann: Die Fettsucht, v. Ziemssen's Handbuch der Speciellen Path. u. Ther., vol. xiii, 2, 1879.
2. Oertel: Handbuch der allegemeinen Therapie der Kreislaufstörungen, 1884; also 20th Cent. Practice Med., vol. ii, pp. 698-699.
3. Heinrich Stern: Investigations upon Corporeal Specific Gravity, etc., Med. Rec., Feb. 9, 1901.
4. K. v. Noorden: Die Fettsucht, vii, Band. iv. Theil in Nothnagel's Specielle Pathologie und Therapie, 1900; also Ueber die Indicationen der Entfettungscuren, Sammlung Klinischer Abhandlungen, etc., 1 Heft, 1900.
5. V. Basch, Ueber latente arteriosclerose, Wiener Med. Presse, 1893, Nr. 20-30.
6. Alois Monti, Kinderheilkunde in Eingeldarstellungen. Sechstes Heft. Das Wachsthum des Kindes, etc., 1898.
7. Wilhelm Camerer: Der Stoffweschsel des Kindes von der Geburt bis zur Beendigung des Wachstums, Zweite Ausgabe, 1896.
8. Wm. Banting: Open letter, etc. London, 1862.
9. Wm. Ebstein: Die Fettleibigkeit und ihre Behandlung. Dritte Auflage, 1883.
10. H. Kisch: Die Fettleibigkeit, Stuttgart, 1888.
11. F. Hirschfeld: Die Behandlung der Fettleibigkeit, Zeitschrift für Klinische Med., xxii, 1893.
12. Ewald: Ueber therapeutische Annendung der Schildrüsenperäparate Verhandlungen des Congresses für innere Med., 14, 100-136.
13. Bédart et Mabille. Compt. rend de la Société biol. 50, 556-557.
14. F. Niederstein. Flüssigkeitsentziehung bei der Behandlung von Fettleibigkeit. Inaugural Dissertation, Tübingen, 1899.

THE MODERN SUBJECTION OF SCIENCE AND EDUCATION TO PROPAGANDA.*

PROF. WM. T. SEDGEWICK.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, BOSTON.

One of the sad pages in the history of science and education is that which relates how, on the death of Alexander the Great, the teacher of his youth, the much greater Aristotle, rightly regarded by the Middle Age as the "master of those who know" when more than sixty years old was driven from Athens into exile by a patriotic propaganda of the anti-Macedonians. A darker and a bloody page tells how Hypatia of Alexandria, the beautiful and learned daughter of Theon, was cruelly and brutally murdered in a Christian church in the year 415 of our era as a victim of a fanatical propaganda against paganism, condoned, if not conducted, by the Christian Archbishop Cyril, Patriarch of Alexandria. Copernicus hesitated long before publishing his splendid discoveries on the movements of the heavenly bodies and the heliocentric theory, for fear of ecclesiastical interference, and when soon after Galileo, more bold, promulgated the truth that Copernicus had hesitated to pronounce, both he and his discoveries fell under the severest ecclesiastical condemnation ever visited upon any man of science for the truth alone.

In our own time we have too often heard of sects which place the propaganda of a special faith before either science or education, and inquire more carefully into the orthodoxy of professors and pupils than into their scientific or educational attainments. However much we may regret such action we can not legitimately complain so long as the sectarians in question confine their actions to sectarian schools, colleges

* Abstract of the President's Address delivered before the American Society of Naturalists, Jan. 1, 1902.

and universities, supported exclusively by private means, for the right to regulate education within the home, the family, the private school or the private college or university, is a fundamental and inalienable right of a well-regulated democracy

The century just closed has witnessed a remarkable liberation of natural science and education from dogma. Geology was first set free by Lyell and his school, and then biology, by the discoveries of fossil man, and the splendid inductions of Darwin. Slowly but surely the teaching of natural science, which, like all teaching, follows closely in the footsteps of discovery, has also cast off its chains and freed itself from the subjection of theology. But as the church has declined in temporal power the state has become supreme, and with the recognition of its power has come the belief in its sufficiency—even its sufficiency to remedy all ills, real or imaginary—and scarcely had science and education freed themselves from the bonds of the church before they began to be threatened with subjection by the state., a subjection sought for not by theologians but by philanthropists and philozoists.

THE ANTIVIVISECTION MOVEMENT.

The first in the field were the philozoists, commonly known as antivivisectionists. In former times charges of cruelty brought against scientific men would have been referred to an inquisition when such an institution existed, but now, the church being powerless in such matters, appeal must be had to the state. Accordingly, a propaganda was started, first, so far as I am aware, in England, but afterwards spreading to this country, which by 1875 had succeeded in bringing into complete subjection in Great Britain animal physiology, then the principal experimental biological science. Since that time a new biological science, bacteriology, has sprung up and found itself hampered also in some of its most important and most humane investigations by the same British statute, enacted on demand of the philozoic propaganda.

Anyone may read in the 29th chapter of the admirable Life and Letters of Professor Huxley, edited by his son, how, in 1870, when president of the British Association, Huxley had been violently attacked for speaking in defense of Brown-Séquard, the French physiologist, and how in the same year a committee had been appointed by the British Association, and reported upon the conditions under which they considered experiments on living animals justifiable. When legislation seemed imminent Huxley, in concert with other men of science, interested himself in drawing up a petition to Parliament to direct opinion on the subject and provide a fair basis for future legislation. A Royal Commission was finally appointed, with Huxley as one of its members. Early in 1876 the Commission reported and a few months later Lord Carnarvon introduced a bill entitled "An Act to amend the Law relating to Cruelty to Animals." "It was," says Mr. Leonard Huxley, "a more drastic measure than was demanded. As a writer in *Nature* (1876, page 248) puts it, "The evidence on the strength of which legislation was recommended went beyond the facts, the report went beyond the evidence, the recommendation beyond the report, and the bill can hardly be said to have gone beyond the recommendations, but rather to have contradicted them."

. . . . . .

Looking back over more than twenty-five years of the practical working of this law we can affirm without hesitation that under its operation both physiological science and physiological education have been kept by the state, or rather by the propaganda which secured the passage of the statute, under a needless and injurious subjection. . . .

In Massachusetts repeated attempts have been made to secure legislation "regulating" vivisection. An antivivisection propaganda is constantly maintained in Boston, and for several successive years bills aiming at the "restriction" or "regulation" of vivisection have been introduced into the legislature by the propagandists, but, having been vigorously opposed by medical and scientific men powerfully aided by such public-spirited citizens as the president of Harvard University, the president of the Massachusetts Institute of Technology and the Bishop of Massachusetts, they have hitherto failed ignominiously. All sorts of restrictions have been suggested, and in the latest bill it was proposed to endow the agents of any society for the prevention of cruelty to animals with powers of entrance and search, so that they might visit any laboratory at any time, taking names and otherwise interfering with the freedom of research and instruction, as well as infringing upon the individual liberty of persons engaged in experimentation upon animals. If such a law had been passed, the subjection of science to propaganda in Massachusetts would to-day be even more complete and more intolerable than it has been in England since 1875.

I need not recount the recent attempt of those engaged in this propaganda to secure restrictive legislation for the District of Columbia. Suffice it to say that the attempt was one of the boldest and most dangerous attacks upon the freedom of research which has ever been made in America.

Nor is this all. Some of those engaged in the antivivisection propaganda seek, at the same time that they would abolish vivisection, to do away with all dissection of whatever sort in public schools of whatever grade. No one in his senses desires vivisection in the public schools except, perhaps, in normal schools devoted to the education of teachers. But dissection of clams, oysters, lobsters, starfish, sea-urchins, worms, snails and possibly fishes and frogs, are not only not necessarily out of place but may even be very useful and desirable in high schools and normal schools. My own feeling is that in grammar schools and all schools lower than high schools instruction should be confined almost wholly to the external structure of plants and animals, with their occurrence, habits, habitats and the like; but I see no good reason why in high schools and normal schools the elements, at least, of the internal structure of invertebrates and even of certain vertebrates may not well be taught. I have taken some pains to secure upon this point the opinion of a number of teachers of natural science in normal schools, most of whom have also been teachers in schools of lower grade, and with one or two exceptions I find they are strongly of the opinion that a moderate amount of dissection is not only desirable but almost indispensable.

Yet in 1895 the American Humane Association published in Chicago a report on vivisection and dissection in public schools, in which various excellent persons unhesitatingly affirmed that dissection in public schools is superfluous, and that physiology can be well enough taught by means of manikins, pictures and the like. In particular, several bishops, apparently regarding themselves as qualified to give evidence on this subject, stated without hesitation that all that is necessary in the practical teaching of physiology is illustrated books, manikins, etc., some even going further and saying that dissection must inevitably blunt the sensibilities and corrupt the character of the young. Cardinal Gibbons, of Baltimore, however, was more cautious when he said: "I am inclined to think that sufficient instruction can be imparted by the use of illustrations and manikins. I think it advisable to give children the knowledge, as Scripture does, of the God-given power of man over the lower forms of life; but they should be warned that this power is not absolute, arbitrary or cruel." In reading the pronouncements of the American bishops referred to, one is reminded of the occasions for Huxley's frequent and contemptuous sneers at the bishops of his own land with whom he so often did battle with delight. . . .

This perhaps is as good a place as any in which to urge upon all those within sound of my voice, or before whom this subject may come upon the printed page, and who desire to keep intact the freedom of science and education, the necessity of watching, in season and out of season, to repel the attacks of that propaganda which would not only compel all practical instruction in physiology to be based upon pictures and manikins, but would also prohibit altogether all experimentation upon animals, whether in physiology, bacteriology or experimental medicine. Science in Great Britain, as has already been stated, has been brought under an almost intolerable subjection by the antivivisection propaganda. In America, though long threatened, this has not yet come to pass; but unless naturalists everywhere, are on their guard they will some day be taken by surprise, very much as the English naturalists seem to have been, and be brought under a similar subjection to the same hostile propaganda.

TEMPERANCE PHYSIOLOGY.

But if in America we can rejoice that we have thus far resisted the onslaughts of philozoists upon experimental science, we must confess with sorrow that we have been less fortunate in dealing with philanthropists, in an important department of elementary education. When, in 1842, Horace Mann published his still excellent essay on "The Study of Physiology in Schools," he seems, judged by recent school statutes of the several United States, to have made one serious omission, for he nowhere mentions or even foreshadows that remarkable creation of our own times, "temperance physiology," and very likely with some old-fashioned people of to-day, he regarded temperance as chiefly a moral question.

The discovery of this new and entirely modern branch of "science" and "education" seems to have been the joint work of Dr. (afterwards Sir) Benjamin W. Richardson, of England, an able but erratic physician, and Mrs. Mary H. Hunt, formerly of Hyde Park, Massachusetts, and now of Boston. At any rate, Mrs. Hunt refers to Dr. Richardson as the author from whom she drew some of her original inspiration, but her own achievements, in organizing and directing the propaganda now associated with her name, have so far outrun anything done for it at the outset by Dr. Richardson that we must regard her, and not him, as the true creator of this astonishing movement. Mrs. Hunt says that her mind was turned to the subject in the early seventies and that she soon found in Dr. Richardson's "Cantor Lectures on Alcohol in Its Relation to Man" the exact data she had been groping for. These lectures seemed to her to prove "the dangerous difference between the demonstrated fact that it is the nature of a little alcohol to create an uncontrollable appetite for more, and the popular idea of the harmlessness of using alcohol in small quantities," and the corollary seemed to her to be "that intemperance could never be prevented until the people were taught to really know the effects of alcoholic drinks, and that this must be done through the schools." From 1880 until the present time this really remarkable woman has given her life with intense devotion and extraordinary success to a national, and even world-wide, propaganda of her faith.

The movement is variously called "scientific temperance instruction," "temperance physiology" or "physiological temperance," and it has now grown to such proportions and has gained such power as to dominate, almost absolutely, all instruction in elementary physiology and hygiene in America. It is of course right and proper that pupils in all grades of the public schools should be taught the dangers of alcoholic beverages as fully and as earnestly as other dangers lurking in food or drink. We may even grant that more stress should be laid upon this subject than upon some others. But an examination of the present status of elementary education in physiology and hygiene in the United States shows that in many cases the instruction demanded by this propaganda, and given according to law, in reference to alcohol goes much further. It even appears that all instruction in physiology and hygiene in the public schools has passed to a great and unjustifiable extent into the virtual control and under the subjection of the the "temperance physiology" propaganda. Mrs. Hunt, as early as 1888, boldly announced: "We are the recruiting officers, and the teachers the drill-masters, for training the coming total-abstinence army that is to banish alcohol from human beverages."

Authoritative sources of information for testing these statements are easily accessible to all. They consist of the statutes of the several states requiring instruction, often of prescribed and peculiar kinds, regarding alcohol; of the text-books on elementary physiology and hygiene actually in the hands of the pupils; of the teachers—many of whom groan in spirit even when they do not dare to complain openly; and last, but not least, of the boastful "histories" of the propaganda prepared by Mrs. Hunt, herself and published, one in 1891 (or earlier) and the other in 1897.[1]

From these latter it appears that largely through her personal efforts statutes now exist in nearly every one of the United States requiring instruction in physiology and hygiene with special reference to the nature and effects of alcoholic drinks; that in some states a penalty clause is attached for non-enforcement; that in some the amount of space to be given in text-books is prescribed, and in the same or in others, the time to be devoted to the subject. In some states it is also required that the subject shall not be treated in an appendix, or in a separate chapter at the end of the book.

In 1897 Mrs. Hunt[2] stated that "a combination of the Illinois law with the penalty [clause] of the New York law would be an ideal statute." It is therefore easy to see at what she aims, for the Illinois law requires that all pupils "below the second year of the high school and above the third year of school work" counting from the lowest primary, "shall be taught and shall study this subject every year, from suitable text-books in the hands of all pupils, for not less than four lessons a week, for ten or more weeks of each year." For students below the high school "such text-books shall give at least one-fifth their space," and for high-school students "not less than twenty pages, to the nature and effects of alcoholic drinks and other narcotics. The pages on this subject in a separate chapter at the end of the book shall not be counted in determining the minimum." The New York law of 1896 is very lengthy and likewise contains an important provision that "this subject must be treated in the text-books in connection with the various divisions of physiology and hygiene, and pages on this subject in a separate chapter at the end of the book shall not be counted in determining the minimum."

The effect of these peculiar laws closely defining instruction in physiology and hygiene has been to create a correspondingly peculiar class of text-books. Some of these have been prepared by competent writers, but most of them are inferior and some are distinctly bad. One chapter in Mrs. Hunt's "History" is entitled "The Text-Book War." It is not agreeable reading, either for scientific men or for educators. In a so-called "Great Petition to Publishers," which reads more like a threat than a petition, it is stated: "This is not a physiological, but a temperance, movement. In all grades below the high school this instruction should contain only physiology enough to make the hygiene of temperance and other laws of health intelligible. Temperance should be the chief and not the subordinate topic, and should occupy at least one-fourth the space in text-books for these grades." In the same "Great Petition to Publishers" we find it also stated that "Those text-books that are largely physiology with a minimum of temperance matter . . . do not meet the requirements of the law, and do not satisfy those who secured its enactment, and *are determined to secure its enforcement*." Further on, publishers are told exactly what is wanted, in great detail and in no uncertain tones.

Text-books conforming with these requirements of the propaganda may be officially "indorsed" by a "Committee of the Advisory Board" sitting in council for the purpose. In another chapter, entitled the "Text-Book War Over," it is stated that "in response to the Great Petition most of the publishers have expressed the desire to have their books revised, on condition that the National Superintendent of the Scientific Department of the Woman's Christian Temperance Union would revise them or supervise their proposed revision." That is to say many publishers were naturally eager to have their books "indorsed" by Mrs. Hunt, doubtless hoping thereby to increase their sale. On August 10, 1888, Mrs. Hunt "with secretaries and helpers returned to Hyde Park, Massachusetts and opened again 'Hope Cottage' which became the local base of operations for text-book revision." "That these revised books might be distinguished at a glance from the unrevised and unworthy books a committee was chosen * * * to indicate upon each its character. * * * The position

1. "A History of the First Decade of the Department of Scientific Instruction in Schools and Colleges of the Woman's Christian Temperance Union." By Mary H. Hunt, Superintendent for the United States and the World's W. C. T. U. Second Edition. Boston, 1891.

2. "An Epoch of the Nineteenth Century. An Outline of the Work for Scientific Temperance Education in the Public Schools of the United States." By Mary H. Hunt, National and International Superintendent of the Department of Scientific Temperance Instruction, and Life Director of the National Educational Association, Boston, 1897.

of the chairman (Mrs. Hunt) of this committee chosen to extend the indorsement to school text-books of this kind in behalf of the signers of the Great Petition to Publishers and of the Woman's Christian Temperance Union has proved a very trying one and a most severe test of loyalty to principle."

I may remark in passing that one is frequently reminded in Mrs. Hunt's 'histories" that the United States Commissioner of Education is, or was, a member of the Advisory Board which has conducted this remarkable propaganda. As to the propriety of the Commissioner's connection with this movement, I make no comment.

It would be tedious, though not uninstructive, to give many more quotations from the extraordinary documents which recount the history of the "scientific" temperance movement. Those who desire to inform themselves more fully should not fail to consult the original authorities referred to above. As an illustration of the almost hysterical scenes accompanying the work of securing favorable legislation by this particular propaganda, I can not forbear quoting the "Report of an Eye-Witness" describing the passage of the Pennsylvania law: "As the work of widening the temperance sentiment goes on we come now and then, would that it were more frequently, to the place where the only thing to do seems to be to raise an Ebenezer, and the only thing to say is 'Hitherto hath the Lord helped us.' * * * Upon a great tide of womanly support that buoyed her up on wave after wave of prayer and of faith in her powers, has the leader of this work (Mrs. Hunt) been borne from city to city like a brave ship, laden with the treasure of knowledge and blessing to be spread out before the listening people. * * *" Then follows a description of the State Capitol, and of the gathering legislators, of their good-natured reception of Mrs. Hunt, of her address and its effect, after which the writer passes on to the opening of a following session: "Almost before the amen of the opening prayer had been uttered, a dozen members were on their feet offering the petitions sent in from their various districts in behalf of the bill for "scientific temperance education"; the dozens swelled to scores, and the scores multiplied all in a moment, until so many boy-messengers were flying down the aisles with the papers, and so many arms were waving in the air, that from every seat there seemed suddenly to have sprung a great fluttering, white blossom of petition. * * * I make no mistake when I call Mrs. Hunt the mother of the bill. * * Behind this mother of the bill stood some of those who have borne it so closely upon their hearts that they may properly be called its godmothers, its sisters, its cousins and its aunts." The bill was passed and signed by the Governor and the writer remarks, "It was a God-given victory and to Him be all the praise."

One of the humors of the passage of a national law requiring "scientific" temperance instruction at West Point, at Annapolis, in the District of Columbia and for all schools under Federal control, was a debate in the Senate in which "A certain senator declared that 'rum-sellers or patrons of rum-sellers have as good right to have their views on temperance education printed by the National Government as any woman. * * * The following extract," says Mrs. Hunt, "from a letter a lady from his own State wrote that senator is a fair illustration of the reception his ideas received among his constituency: 'When I knew you, sir, in our state, you were a chivalric Southern gentleman. Imagine my indignation at the audacity of the reporter who dares to report you as saying that "liquor men have as good a right to be heard in the Congress of the United States on the education of the children as any lady. * * * I am sure you must be misrepresented, for no man who would say such a thing in the National Senate could represent a white man's government from this State.'", "Many such letters," adds Mrs. Hunt, "reached that senator, and thus his opposition died."

No wise educator who has given any attention to the subject can deny that the influence of this powerful propaganda has been in most respects injurious to the proper teaching of physiology and hygiene in the lower schools. Teachers, principals, superintendents, and even school committees, are seldom able to speak with perfect frankness on the subject, from fear of the influences which may be brought to bear against them or of the intemperate criticism to which they may be exposed; and in my opinion it is time for a body of scientific men like the American Society of Naturalists or the American Association for the Advancement of Science to put on record its opinion that the subjection under which science and education are to-day suffering from the "temperance physiology" propaganda has become intolerable. . . .

It is a notorious and a disgraceful fact, that, apparently with a view of pleasing this self-constituted oligarchy, some writers have even made alcoholic instruction the beginning, the middle, and the end, of their text-books. Of such books it may truly be said that they have no permanency of their own, and are only with difficulty preserved by alcohol.

What I have said thus far of this subject applies mainly to elementary education; but those who have witnessed the virulent attacks upon a conscientious chemist and physiologist, who has recently made important physiological experiments upon the oxidation of alcohol within the human body, because his experiments have seemed to confirm the earlier statements that alcohol in minute quantities is more like a food than a poison, do not need to be told that this same propaganda is quite as eager to bring science, as it has already brought education, under its powerful dominion. Signs are not wanting, however, which indicate that its control has already reached its climax, and even begun to decline.

An attempt in 1899 on the part of Mrs. Hunt and others to make the Massachusetts law conform more closely to the ideas of those interested in "scientific temperance" was stoutly resisted by the Massachusetts Medical Society, as well as by various scientific men and educators, with the result that the statute of 1885 remains unchanged. This prescribes that "physiology and hygiene, which in both divisions of the subject shall include special instruction as to the effect of alcoholic drinks, stimulants and narcotics on the human system, shall be taught as a regular branch of study to all pupils in all schools supported wholly or in part by public money, except special schools maintained solely for instruction in particular branches, such as drawing, mechanics, art and like studies." With the exception of the clause "to all pupils" this statute is not unreasonable, for, as I have said above, it is right and proper that the youth of the land should be taught, plainly and thoroughly, the dangers which lurk in alcoholic drinks, in narcotics, etc. What is unnecessary and objectionable is that the exact amount of such teaching should be prescribed by law; and that the method of teaching (by text-books in the hands of the pupils), the space devoted to it, and its treatment, in text-books, should be legally regulated. That, in addition, the particular text-books used should be largely determined by a self-constituted and unofficial oligarchy, leaders of a propaganda, which, in any right use of the terms, is neither educational nor scientific, is both odious and intolerable.

In Connecticut, in 1901, a statute of the objectionable sort referred to above was repealed, and one to which but little exception can be taken was enacted in its place.. It is gratifying to note, also, that the Department of Superintendence of the National Educational Association, at a meeting in Chicago in the early part of the same year, adopted a report containing the following significant, if guarded, paragraphs:

"The questions of highest importance for teachers and superintendents of schools to consider [concerning 'temperance physiology'] are those which relate to the methods by which temperance instruction shall be imparted, the extent to which it shall be carried, and the subject-matter to be presented.

"The educational side of this question is vitally important, and demands thorough and systematic study."

This action is timely and welcome in view of the existence of opinion like the following, expressed in a letter to me by a representative of a prominent publishing house: "I feel that we can not be too emphatic in expressing sympathy with your movement and in denouncing the intimidation of teachers and other educators which has gone on for some years. The whole so-called temperance physiology movement of the

W. C. T. U. seems to have fallen into the hands of blackmailers and schemers, who pull the wool over the eyes of the rank and file of the organization and work both schools and publishers for their own financial benefit. You are quite right in saying that the school teachers are bullied; they are, and they do not dare resent such action as it should be resented."

Time fails me to deal, as I would be glad to do, with other forms of propaganda which seek to bring under their special subjection various departments of science or education. One of these is that known as the anti-vaccination movement, which is widely supported not only in England, but of late also in America, and has already succeeded in both countries in modifying very materially those requirements of compulsory vaccination indicated by science, experience and common sense. It is true that compulsory vaccination should be undertaken only after the most careful consideration, for it constitutes a serious trespass upon the fundamental right of personal and individual liberty. But I have no idea that this movement will ever seriously subvert the cause of vaccination, for the reason that a lively epidemic of smallpox will generally bring the majority of the people to their senses, and such epidemics are tolerably sure to come if anti-vaccinationists become too numerous or too active. I must, however, enter a protest against those medical practitioners who after merely prescribing powders for children give them certificates of vaccination which will enable them to attend the public schools. Such lying and deceit merits only the condemnation and contempt of all lovers of science and truth.

Naturalists should also be on their guard against the influence of that new but rapidly growing sect, known as christian scientists, which virtually denies the existence of disease and accordingly, logically enough, disapproves of all teaching of physiology and hygiene. It has recently come within my own knowledge that a christian scientist refused to attend a lecture on domestic economy by an expert because the latter happened to be at the time attending a meeting of the American Public Health Association, alleging that no one could be worth hearing on the subject appointed who had anything to do with an association devoted to a purpose so useless.

With propagandists besieging more or less successfully our halls of legislation, the time has come when bodies like the American Society of Naturalists and the American Association for the Advancement of Science should have standing committees on legislation to take care, as far as possible, that unwise, extravagant or fanatical ideas regarding science and education shall not be given the force of law by the several States or by the Federal Congress.

If to-day we have little to fear from dogma or theology we may still have much to dread from foolish or needless legislation; and I desire to urge upon all those to whom these words may come, the duty, alike of individual watchfulness and of united effort, to resist everywhere and always the statutory subjection of science and education to propaganda.

Clinical Report.

ACUTE MORPHIN POISONING IN AN INFANT —RECOVERY.*

CHARLES D. SLAGLE, M.D.
CENTERVILLE, OHIO.

At 3 a. m., July 6, 1899, I delivered Mrs. W. of a well-formed and developed female child, weighing 8 pounds, after a normal labor in every respect. Recovery was slow and tedious, due to her highly neurotic temperament.

On the tenth day after labor, the patient suffered considerably from facial neuralgia, due to some carious teeth. This neuralgic trouble resisted ordinary treatment, so one-eighth grain of sulphate of morphin powders was given, with the instructions to the nurse, that a powder should be given every four hours until relief was experienced. This was done. About this time, the tenth day after the accouchement, the child developed considerable intestinal colic as the result of flatulency, and a diarrhea set in. My attention was called to this and I gave ⅛-grain Dover powder, ½-grain bismuth subnitrate and ½-grain soda bicarbonate, to be repeated every three hours till child was easier and diarrhea was somewhat controlled. This was successfully accomplished in a couple of days. From the end of the second week the mother's convalescence was more rapid and finally she was out of bed at the end of three weeks.

The child did well and increased in weight till the twenty-seventh day was reached, when the diarrhea set in again. The father called at my office on the evening of that day and asked if those diarrhea powders would answer which I had given some two weeks previous. He was told they would and was given instructions to give one every three hours till relief. At 11:30 p. m., August 2, I was hurriedly called to the bedside of the little patient by a messenger, stating that the child was dying. Upon arrival, the child was found to be suffering from poisoning from some cause. Inquiry elicited the fact that one of the ⅛-grain morphin powders had been given the babe instead of the intestinal powders. The little patient was found in a comatose and narcotized state with considerable cyanosis. Pulse was 20, very irregular and weak. Respirations were 4 per minute and stertorous. Pupils were the size of a pin-point.

I gave at once 1/150 gr. strychnin sulphate and 1/300 gr. atropin sulphate hypodermically. Hot and cold affusions, alternating, were given by nurse, while the stomach was being washed out, first with strong infusion of black coffee, and finally with clear warm salt solution. High colonic lavage was practiced with the hot normal salt solution. The hot and cold affusions were soon changed to hot and cold baths, to keep up the respirations. As soon as these were stopped the child almost ceased breathing. At the end of one hour, the child was breathing somewhat more regularly. Pulse was 30, full and more regular. The above hypodermic was repeated, and hot and cold baths continued alternately. The action of the hot water was very stimulating to the heart, but if held in this bath too long the respirations became slower and almost ceased, when the cyanotic state developed again. At the appearance of the cyanosis the cold bath was substituted, and breathing again became more regular. This treatment was continuously kept up for five hours, when every half-hour a hot and cold bath was given for two hours. At the end of the seventh hour the respirations were 30 per minute, but not very regular. Pulse was 120, regular but weak. Pupils were moderately dilated. The child was yet sleeping profoundly and would not utter a sound, nor could be aroused. I gave 1/300 grain strychnin sulphate and 1/450 grain atropin sulphate, and in one hour pulse became stronger and respirations became more regular, about 40 per minute.

Here the little patient was placed in charge of the nurse with instructions to give another hot and cold bath should the child show any signs of dyspnea or the cyanosis appear again.

In about four hours the little patient was again seen and found to be sleeping; respirations 40, full and regular. Pulse was 140 and fairly good. At this time the child's temperature in the axilla was 99 F. No urination had occurred, nor had the bowels moved. The colon was again washed and some feces passed. The following was now given: tinctura belladonnæ fol. gtt. ii, and tinctura nucis vomicæ gtt. ii, every two hours till further instructed, with instructions in regard to the application of external heat. In about six hours the child was seen again, at 9 p. m., August 3, twenty-two hours after the ingestion of the morphin, and found to be resting comfortably. Respirations were 40; pulse was 120, full and regular. The child urinated at 8 p. m., a very small quantity. An attempt was now made to have it nurse the breast; the effort was successful. The convalescence was rapid and uninterrupted, and in four days the child was enjoying normal health.

No convulsions were seen in this case, as H. C. Wood, quoting Althaus, says: "In infants, however, and also in the lower races of mankind, as in negroes and Malays, convulsions are observed after its (opium) ingestion." No other effects or sequelæ were noted.

Some few years past the use of a solution of permanganate of potash was very frequently employed as a chemical antidote

* Read before the Montgomery County, Ohio, Medical Society, April 5, 1901.

to morphin or opium. Some very unfavorable results occurred and to-day it is not so often used. Hence we must finally content ourselves in combating the narcosis of poisoning by morphin or opium by aiding the respirations and sustaining the circulation and eliminating the poisonous products from the system.

The Organization of the Medical Profession.

(Continued from page 400.)

VI.

THE REORGANIZATION OF THE AMERICAN MEDICAL ASSOCIATION.

The American Medical Association was organized fifty-five years ago, when there were about 20,000,000 inhabitants and possibly 25,000 physicians in this country. As organized the Association was a representative body, and its legislative and business affairs were controlled by delegates from affiliated societies,[1] such societies being entitled to one representative for every ten members. At that time this apportionment made a delegate body that was representative of the then existing societies, as well as of the settled parts of our country, and at the same time it was not larger than was necessary to transact business.

The rapid increase in population and the settling of vast territories were, of course, accompanied by a rapid increase in the number of physicians and also of medical societies. Naturally, the National Association grew in membership and its annual sessions gradually became larger and larger. In spite of this, however, no change in the apportionment of delegates was made during all these years, and until the last meeting of the Association every affiliated state, district and local society was still entitled to send one delegate for every ten members or fraction thereof. There finally developed such a condition of affairs that practically every member of the American Medical Association who desired to attend its annual sessions as a delegate could do so. This is to say, the numerous societies, and the low apportionment made it possible for all to be delegates who desired. Further, while the annual sessions through the increase in attendance and the excellent work of the sections were becoming more and more valuable from a scientific and educational point of view, the important legislative functions pertaining to a great body representing the interests of the medical profession of the country were neglected.

In the early history of the Association's existence, state societies were more in direct touch with it, since the delegates from these made up the greater portion of the delegate body. As time went on and other societies were organized, the representatives from and the influence of the state societies in the American Medical Association became proportionately less and less each year, in some instances a local society in a state being entitled to send more delegates than the state society itself. The natural result of these conditions has been that, in many instances, the original close relationship existing between the state and national association had become almost extinct, so much so that to many of the state societies the American Medical Association was no more than any other large medical society. We refer those of our readers who desire a fuller understanding of the conditions prior to the reorganization last June to the full report of the Committee.

At the Atlantic City meeting, June, 1900, a Committee was appointed with instructions to consider and recommend a plan of reorganization. This Committee brought in a report at St. Paul, June, 1901,[2] which included a revised constitution to accord with the changes recommended by the Committee. The report and constitution were adopted. By this action two changes were made in the organic law of the American Medical Association.

The first of these provides for a reapportionment of delegates. As mentioned above, each affiliated society—state, district, county and local—was entitled to one delegate for each ten or major fraction of ten of its members. Under the new constitution the state societies alone will be represented, the lower societies being indirectly represented through their state organization. Each affiliated state and territorial society will be entitled to one delegate for each 500 or fraction thereof of its active members. All affiliated state and territorial societies, however, will be entitled to at least one representative, no matter how small the membership.

The second change gives the legislative body a distinctive name—the House of Delegates of the American Medical Association. While in one respect this might be called a new body, it is not strictly so. It is the old delegate body, but smaller, more representative and with a definite title. The old delegate body was unlimited as to number; in quite recent years the delegates numbered about 1500 last year over 1700 having registered. According to the new constitution the number of delegates is limited to 150. When it exceeds this number a new apportionment is to be made. Besides the representatives from the affiliated state and territorial societies, each of the twelve sections will have two representatives and the medical department of the Army, the Navy and of the Marine-Hospital Service one each. Hereafter, therefore, the legislative or business body of the American Medical Association will be created by the state and territorial societies, with the exception of the 27 from the sections and the Government Services. It will be a body in which the state societies will federate themselves, be national in character and will not be influenced by the locality in which the Association may happen to meet.

This evolution of the American Medical Association is the first step in a movement for a systematic organization of the profession of our country on a definite and distinctive plan. The beginning of the great movement had to be made at the top. But the American Medical Association has gone as far as it can and now calls on the state and territorial societies to do their part; successful organization now depends on the mutual co-operation of the state organizations with the American Medical Association.

WHAT THE AMERICAN MEDICAL ASSOCIATION ASKS OF THE STATE SOCIETIES.

The following resolutions, among others, recommended by the Committee on Reorganization were

1. At first certain colleges and hospitals were allowed to send delegates.

2. See Journal A. M. A., May 25, 1901, p. 1435.

adopted at the last meeting of the American Medical Association:

c. That the state societies unitedly agree to federate themselves in the American Medical Association, and as a preliminary to this adopt a uniform organic law in regard to certain fundamental principles: viz., to divide their annual sessions into two branches, legislative and scientific; the legislative branch to be as small as is compatible with representation from all the county societies, and to be composed of delegates elected by the county societies.

d. That membership in the county or district societies shall constitute membership in the respective state society without further dues, and that no one be admitted to membership in the state society except through county or regular district societies.

e. That funds to meet the expenses of the state society be raised by a *per capita* assessment on the county and district societies.

f. That a united effort be made to influence special societies to limit their membership to those who support the regular organization, and the semi-national and miscellaneous societies to encourage systematic organization, by covering a definite territory and also by limiting their membership to supporters of the regular organization.

g. That each state society create a permanent committee and a fund for the purpose of enforcing all medical laws in every part of its territory.

h. That each state society co-operate with the American Medical Association and with the other state societies in solving the problems now before the profession relating to medical education, medical legislation, reciprocity, licensing, etc.

An analysis of these resolutions shows that the American Medical Association requests the following:

1. The federation of all the state associations in the American Medical Association.

2. That all associations adopt a uniform plan of organization as regards certain fundamental principles.

3. That each state association have two distinct branches, legislative and scientific.

4. That the legislative branch be as small as compatible with representation from all county societies in the state or territory, and to be composed of delegates elected by the county (or district) societies.

5. That the scientific branch be composed of and open to all members of county (or district) societies, or as stated in the resolution: "Membership in the county or district society shall constitute membership in the respective state societies without further dues, and that no one be admitted to membership in the state society except through county or regular district societies."

Federation of the State Societies in the American Medical Association.

In asking the various state societies to federate or unite in the American Medical Association, the latter is practically saying to them: "All of you join together, through representatives, and, thus united, be the American Medical Association. Each of you come, stating your needs and your views on the problems that affect the health of the people and the welfare of the profession. With your combined wisdom, consider what can be done to eradicate the evils from which the profession is suffering, both from within and from without, and how the science and art of medicine can be better applied in the interest of the health of the people."

In the future, by this federation, the legislative body of the American Medical Association will be what the state societies make it; and those who compose it will be the mouthpiece of those they represent, to give expression to their views and their desires. There is no doubt but that when the new conditions, with all their possibilities, are appreciated, the important questions brought before the House of Delegates will have been previously considered and acted on by the legislative bodies of the state societies, and the representatives of such bodies will therefore bear a definite message on such important subjects to the national gathering. Thus will be developed and encouraged in the annual sessions of the state bodies a lively interest in affairs of national importance which relate to the health of the people and the welfare of the profession.

That there are many problems to be considered, evils to be eradicated, and conditions to be changed which can only be dealt with by the co-operation of all the state societies, has long been recognized. Uniformity in medical legislation, control and regulation of examinations for license to practice, interstate regulation of epidemics, etc., will be possible through combined action of organized state societies. One of the greatest evils afflicting our profession to-day, as it has been for years, is the large number of medical colleges of inferior grade. The evil is not due alone to the annual out-pouring of thousands of illy prepared men, with a lesser proportion, it may be, of those well-fitted for their work, but to the commercialism, the strife, the petty ambitions, jealousies and general demoralization which go with these, including free dispensaries, free clinics, and free hospitals. These, as well as the majority of the evils of which we complain, are brought on by ourselves, and can be corrected by our own efforts. But individual state organizations acting alone, no matter how strong they may be, can do but little. Well organized state societies combined together can purge the profession of most of the evils which originate in the profession. In the past there has been no possibility for co-operative work for general good among the state societies, and none has been attempted. In the future the state societies, through elected representatives, will be brought together in the House of Delegates for such coöperation. We may, therefore, look forward with hope for better things.

In brief, this federation is necessary as a bond of union between the state societies, to develop and cultivate the community of feeling that should exist in the profession throughout the country, to secure unity of action on national questions where the public health or the interests of the medical profession are involved, and to generally promote the scientific and material progress of American medicine. It is unnecessary to go into further details as regards this feature, the utility of which we take to be self-evident.

(To be continued.)

Successful Laminectomy.—G. Baarnhielm treated a case of spondylitis dorsalis and spinal paraplegia more than five months ago by laminectomy and the application of a plaster corset for a time. The patient was a tailor, 26 years old, who had previously had one testicle removed on account of local tuberculosis. The day after the evacuation of the abscess and caseous masses and extensive laminectomy, the patient was able to move both legs freely and made a rapid recovery. He is unable to work at his trade owing to slight kyphosis, but feels well and strong in another occupation and walks without support. The spondylitic paraplegia had existed for six months at the time of the intervention and the spondylitic process was at its height. The paraplegia was not quite total although spastic symptoms were very pronounced. No preliminary extension was attempted. Suspension and pressure on the hump aggravated the condition and instead of waiting for the tubercular process to reach the stage usually considered best for such intervention, Baarnhielm operated at once. It is the only case to his knowledge in which the paraplegia disappeared immediately after the intervention. Drainage was limited and brief.—*Nordiskt. Med. Arkiv.*, xxxiv, i, 3.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, FEBRUARY 15, 1902.

LEGISLATION AGAINST DEGENERACY.

The idea of restricting the production of defectives is one that appears just at the present time to occupy a large place in the medical mind; hence the propositions sent out in medical papers or in resolutions of medical societies calling for legislation to prevent the marriage of the markedly unfit and to require a medical certificate as an essential preliminary for any license to marry. The multiplication of the defective and criminal classes has become so prominent a feature of modern civilization, and the public danger and expense they entail are so great that it is in no way astonishing that attention should be drawn to it and that radical measures for its prophylaxis be suggested. A hundred years ago society would have sought to make short work of the criminals and the other defectives would have been largely left to the tender mercies of the natural selective operations of mother Nature, which here would mean such neglect and maltreatment that they would not individually long continue a social problem. Moreover, the slower methods and lesser intensity of the struggle for existence did not make defective humanity so prominent a feature as do present conditions. Then sanitation was crude or almost unknown; the span of life was shorter for all and especially for the weaklings; there were no asylums to fill and the insane and idiot quickly went to ground or survived only as the town fools, whom many of even only middle age now living can recall. Crime flourished as ever, but there were no such great centers of population to concentrate it and few newspapers to make it prominent. They dealt with it more rudely then and almost every little county town had its occasional hanging show to which flocked all the countryside. The drunkard was common enough, but all drank and that made him almost respectable. There was not much sentimentality about the criminal in those days nor much more about the non-criminal who had the ill fortune to become a public charge.

Now we have changed all this; we congregate and care for our defectives and they consequently multiply on our hands, and we temporarily sequester our criminals and then turn them loose again upon the public. They are in modern eyes only unfortunates, and if it becomes necessary under laws which many declare relics of barbarism, to put them out of existence it must be in the easiest and most agreeable way. Further, in some respects, we have, in the course of our development, made life harder; the nervous strain in the man of to-day is far greater than that endured by the man of sixty or one hundred years ago. Thus we make defectives by raising the normal standard. If the man of 1902 has not evolved sufficiently beyond the one of 1800 to meet the changes wrought in the past most progressive century of the world's history he is a defective. How many of our respected ancestors would fail to meet the modern conditions, no one can say, but it is likely that many who passed respectably in their day would succumb under the conditions of our modern strenuous life. Degeneracy is a comparative term and atavism may possibly be a serious matter even if it only "throws back" to a century ago.

Admitting that we save up and protect from ordinary and extraordinary perils our helpless defectives and that they therefore increase among us; that we coddle but hardly reform our delinquents; that the constantly increasing demands of modern life put the weaker ones more and more behind in the struggle for existence; that modern urban concentration with its intenser competition, its increased temptations and its less natural and healthy living tends constantly to deteriorate the type, and that all these work together, with still other not mentioned causes, to increase the output of degenerates, the question is, what are we going to do about it? Nature has her ways—rough ones they are—to mend matters, but we can not let her work unrestrictedly, not even as our forefathers did. The present answer to the question is apparently to have the reproduction of degenerates restricted by the methods suggested above. How effective these would be is a question, and it is another whether such rules carried to their logical sequence will really effect any good in their ultimate outcome. Restrictions on marriage for other reasons, economic or religious, have little effect in lessening the birth rate. There are countries where more than half of the births are out of wedlock, but the birth rate does not decrease. Who can suppose that restrictive laws would have prevented the notorious Jukes' family from multiplying? Surely nothing short of the strictest sexual segregation could have been effective.

The danger is that the legislation as proposed would only be restrictive on the most law abiding and would have little or no effect on the really degenerate. We might go so far as to possibly regulate marriage of the epileptic and perhaps some other pronounced defectives: such laws exist on the statute books of one or two states at least, but it is doubtful whether they are thoroughly enforced, and even the possibility of this is a question. When we come to take in the ex-insane, the neurotic and tuberculous, and all the others that are included as fit subjects for marriage restriction, the problem becomes practically an impossible one. Asexualization, which has been proposed by some, would be more effective, but we have not reached the social state where such procedures are likely to be legalized by law.

There is no need, however, of pessimism in regard to this matter; it will follow the rule and regulate itself in some way or other. It is perfectly legitimate to use educational methods, but unfortunately they are effective only with those who need them least. It would perhaps be better to encourage marriage rather than to restrict it. We can rely on one thing, viz., that the proletariat is always with us and will settle its own conduct in this respect, law or no law. If human stirpiculture is ever to be seriously considered, measures to increase the reproduction of the most fit will be far more natural and rational than those to put an extinguisher upon the most powerful and least controllable impulses that influence mankind.

PRACTICAL POINTS CONCERNING MALARIA.

In a recent number, notice was taken of the work of Celli and the Italians in emphasizing the economic side of malaria.[1] Another article has just appeared that deals with the practical side of malaria as seen in the tropical possessions of Germany in Africa.[2] Plehn takes it for granted that the plasmodium is the cause of malaria and that the disease is communicated to man by the bite of the mosquito. In his observations he recognizes the larger pigmented form of parasite with intermittent course, and a smaller form with sparse pigment corresponding in its morphology and clinical manifestations to the estivo-autumnal parasite. The value of blood examinations is not underestimated and the experienced physician can in this way not only tell the variety of malaria but can predict the time of the next paroxysm. Yet clinical manifestations generally enables one to make an accurate and positive diagnosis. Long-continued paroxysms of fever in the estivo-autumnal form speak for double or multiple infections.

There is only one curative agent, quinin. To employ any other, except perhaps, euquinin, is a waste of time. While possibly the "blackwater fever" is precipitated by quinin, Plehn is explicit in advocating quinin in all cases of malaria, warning against the possible occurrence of hematuria in much the same way that one warns against the possible development of nephritis after scarlet fever or neuritis after diphtheria. After recovery from malaria quinin should be given in weekly doses of fifteen grains, or better, in eight-grain doses every five days. This prevents relapse but does not confer immunity.

The negro inhabitants are practically immune. Yet Plehn finds, as did Koch, that the blood of negro children often contains the parasite, and the children, if they are carefully watched, will be found to have splenic enlargement and slight fever, i. e., mild manifestations of malaria. They are by this mild attack rendered immune against future attacks, as they are born relatively immune because of hereditarily transmitted tendencies. Europeans, however, lacking any hereditary immunity or any that is acquired through mild malaria in infancy, readily fall victims to the severe forms of the disease. The comparison is very aptly made between the behavior of the black toward malaria and the white toward measles. It is well known that when communities where this latter disease has not appeared are infected with measles, old and young alike are stricken with a most severe and malignant type of the disease. Through centuries of contact with measles the white man is relatively immune. Plehn suggests that immunity against paludism might possibly be artificially conferred by purposely inoculating individuals by means of the bites of infected mosquitoes and permitting only a mild form of malarial fever to develop by giving small doses of quinin. Experiments along this line are justifiable.

Prophylaxis by means of screening windows, wearing clothing that protects the body from the bites of insects, remaining indoors after sundown and keeping away from districts known to be infected, should be rigidly advised and if necessary enforced by law on sailors and Europeans. One may judge of the susceptibility of the European to malaria by reading Plehn's statement that if 100 Europeans were to attempt to acquire immunity, permitting themselves to be inoculated by the bites of infected mosquitoes and if they were not to take quinin, out of this 100 at least 90 would die, and 9 would be left in a wretched condition of weakness and debility, while one, perhaps, would pass through the ordeal unharmed.

From the experience of this observer, who, while thoroughly scientific, does not overlook the practical side of the question, one sees how important is the attention to the details of prophylaxis, how dependence is still upon quinin, how important from an economic point of view the doing away with this scourge of the tropics and how there are still many problems of scientific interest that still remain to be solved and whose solution will be of immense value. A vaccination against malaria is the great desideratum of the tropical world.

1. Journal A. M. A., 1901, July 20, p. 201.
2. F. Plehn: Ueber die practischen Ergebnisse neueren Malariaforschung und einige weitere Aufgeben derselben. Deut. Med. Woch., 1901, Nos. 46, 48, 49.

THE EFFECT OF GASTRIC JUICE UPON TUBERCLE BACILLI.

Apropos of the recent vigorous discussions regarding the possibilities of infection of the human organism by the bacillus of bovine tuberculosis the question of the effect of the gastric juice upon the tubercle bacillus becomes of particular interest. It is admitted that if man is infected by bacilli from cattle the infection is generally alimentary, from foodstuffs, rather than respiratory as in human contagion, and hence infecting organisms must be subjected to the antiseptic digestive fluids for at least some time. As early as 1883 this subject was considered, first by Falk, who found that caseous materials exposed for some time to the action of an artificial gastric juice were still capable of infecting guinea-pigs. Wesener found that tuberculous sputum mixed with artificial gastric juice and injected into the cecum of a rabbit

produced tuberculosis at that point. Straus and Wurz found that prolonged action of artificial gastric juice upon avian tubercle bacilli attenuated them somewhat, sometimes killing them, but stated, however, that the conditions of the experiment were more severe than those presented during life. Nevertheless, despite the qualifications made by Straus and Wurz, their work has been widely quoted, according to Carrière,[1] as showing that gastric juice kills the bacillus of tuberculosis.

On account of the unnatural conditions under which these experiments were performed, Carrière thought to repeat them in a way more nearly duplicating natural conditions. One series was performed with gastric juice obtained from the stomach of a healthy man. Tubercle bacilli, in sputum, milk and pure culture, were exposed at body temperature to the action of this juice from two to twenty-four hours. It was found that twelve hours exposure, more than they would suffer in the human stomach in the natural course of events, had no effect upon their virulence. Another series of experiments, even more nearly reproducing natural processes, consisted in introducing the tuberculous materials into the stomachs of healthy guinea-pigs and rabbits, and after it had remained there for variable lengths of time it was removed and injected into other animals, which it infected invariably. Evidently, then, gastric juice does not offer much safeguard to infection from tuberculous food. Agreeing with its general behavior to injurious influences the bacillus of Koch resists hydrochloric acid more than most other organisms. For example, Schultzenstein[2] finds that the cholera spirillum is killed in fifteen minutes by a solution of .03 per cent. hydrochloric acid. Although gastric juice does not destroy tubercle bacilli quickly, still it apparently is able to prevent their multiplication, for a tuberculous ulcer in the stomach is one of the greatest rarities. Simmonds[3] found that they existed but eight times in the bodies of two thousand tuberculous subjects, and even then seemed dependent upon digestive disorders.

The experimental observations above referred to have been made on human and avian bacilli. Because of the bearing on food infection it would be interesting to learn if bovine bacilli are equally resistant to human gastric juice.

1. Compt. Rendus, Soc. Biol., 1901, liii, 1098.
2. Cent. f. Bakt., 1901, xxx, 785.
3. Münch. Med. Woch., 1900, xlii, 317.

THE ONE THING NEEDED BY THE HOMEOPATHIC SCHOOL OF MEDICINE.

In the Jubilee Number of the *North American Journal of Homeopathy* (1, 1902, 54), Dr. Millsop gives a gloomy view of the present state of homeopathic therapeutics. A bright picture is first exhibited, depicting the satisfactory side of the situation. The author says: "We have surgeons galore of the best quality; fine college buildings equipped with every modern appliance and competent instructors, numerous hospitals, dispensaries, etc., with a larger percentage of cures than recorded by any other school of medicine. In diagnosis we call to our aid all known scientific methods." After this array of the possessions of the "school," there follows a very pathetic narration of the one thing which it does not have, and which has always been supposed to be the one thing that distinguished the homeopathic from other "schools" of medicine and from scientific medicine. "There is one thing needful to render us the successful practitioners we could and should be. This one essential is a more thorough knowledge of our materia medica, and a more intelligent application of our remedies in practice. This need has been impressed upon me more especially during the past seven months, while upon an extended trip through the South and West. Everywhere the complaint was made by physicians and successful surgeons of our school that there are so few good prescribers and that many of our doctors are resorting to every other means of cure rather than to the prescribing of their own remedies. So general has this state of things become that the sad conclusion has been well-nigh forced upon me that homeopathic remedies are going out of fashion."

If the remarkable success of homeopathic institutions related by the author is due to the therapeutic skill of doctors who are resorting to every other means of cure rather than to the prescribing of their own remedies, it is poor logic which credits homeopathic treatment with the results. It does not appear to have occurred to the writer that the well-equipped colleges with competent instructors in other departments than therapeutics may have been a factor in inducing men, who thus obtain some scientific training, to adopt any means of cure which reasonably promises to be of benefit to the sick, even though it may not consist in the administration of infinitesimal doses. It is a favorable sign to find a faithful disciple of Hahnemann who acknowledges the natural tendency of which most medical men are aware, and it causes us to renew our hope that the time is not so very distant when the believers in the efficacy of dilutions will cease to shut themselves up in a "school" and will become a part of the regular medical profession, the members of which are ready and anxious to employ any and every means which can be scientifically shown to have a favorable influence upon the course of disease.

FARM COLONIES AND TENT LIFE FOR THE TUBERCULOUS.

A great deal has recently been said and written about sanatoria for tuberculous persons, and regarding the value of open air and light in the treatment of such patients. Freudenthal[1] advocates what appear to be practical means, by which many tuberculous patients might be placed in very favorable conditions upon "farming colonies." The colony would be established upon a large farm, which has a favorable location as to climate. The buildings could be inexpensive, and a large part of the year could be spent in tents, which mode of life is

1. New York Medical Journal, lxxv, 1902, p. 146.

beneficial in itself. Norman Bridge[2] called attention in our pages to the fact that most of the climatic benefit that comes to this pathetic class of patients is due to their ability to live practically out of doors a large part of the time, night and day. The patients could help to place such an institution upon an economic basis by doing such light work as they were able to perform, and this would be beneficial to them, both physically and mentally. Such a plan if carried out would place tuberculous patients with small means in a position to obtain the advantages of climate and out of door life which at present can only be gotten with considerable expense, and in many cases is absolutely out of the question. By a certain amount of State aid, persons unable to pay could be provided for upon such a plan at no greater cost than is now required to care for them in poorly located, unsuitable, and often crowded hospitals.

2. Journal A. M. A., Feb. 1, 1902, 289.

A SELF-SACRIFICING PHYSICIAN.

What is the matter with Brooklyn? Within a few weeks one local practitioner of that borough has come into prominence by his alleged experiment of inoculation of a woman with tuberculosis, and now another proposes to go him one better by submitting his own body for a year to vivisection. Of course, it is for the highest kind of scientific considerations that these heroic men sacrifice others and themselves; all the world knows that, and if any doubt existed as to this point it would be dispelled by their own persistent and strenuous efforts to inform the public through the press as to the scientific purity of their motive. They are always "leading physicians"—the newspapers say so, possibly on the highest authority, that of the parties themselves. With such evidence available the unconsequential fact that we have never heard of them before goes for nothing, and we can appreciate the pain they feel from the newspaper notoriety they obtain and the ignorant and unfeeling comments their projects receive. It is said that in this latest case the wife's urgent entreaties have called the doctor off from his proposed self-sacrifice, thus showing a limit to his scientific enthusiasm. He evidently does not go so far as Artemas Ward; there is one of his wife's relations—by marriage—that he is willing to spare. A daily paper rather unkindly suggests that the heroism exhibited by the volunteer for vivisection hardly matches that of the vivisectors, should he discover them, who might have to undergo equally or still more unpleasant operations at the unskilled hands of unscientific officers of the law. It is to be suspected that this kind of heroism will be found lacking. It would require a degree of immoral courage that is rarely at command in the medical profession.

A WISE CORONER'S JURY AND EDDYISM.

In Michigan recently, a Wayne County coroner's jury returned the following verdict in the case of a believer in Eddyism who died without medical attendance:

We find the deceased came to his death as a result of a complication of diseases, mostly acute in form and character, and that his end was untimely and most miserable, owing to his being denied the medical supervision and treatment which by the common consensus of the best opinions of the most enlightened of mankind and the accumulated experience of all time has demonstrated to be necessary and imperative in the proper prevention of disease and death, and the humane amelioration of human suffering. We find inhuman treatment accorded said deceased was by a so-called sect of "christian scientists" in disregard of all basic and physiological laws.

We have more than once had occasion to criticise the decisions of coroner's juries and it is therefore a positive pleasure to quote one that deserves only commendation as in this case. There were, it is said, some peculiar features in this case: among them an internal abscess, of course undiagnosed, but the physicians who made the postmortem saw nothing that would have prevented recovery under proper medical or surgical treatment. "Absent" treatment by an Eddyite practitioner was sought for but was claimed to have been ineffective because he could not read correctly the name as sent to him, thus showing one of the limitations of Eddyism; the little god of the Eddyites can do nothing with bad writing. As the *Detroit Free Press* says in editorially noticing the case, from one point of view the subject is too ridiculous to be seriously discussed. In another, however, it shows a serious condition of affairs; owing to the laxity of our law-makers and law-administrators and the general public delusional apathy this kind of manslaughter, to use no harsher term, can be committed with impunity and only rarely does it receive such a wholesome condemnation by any legal authority. The Michigan jury, however, did its duty and we are glad to have the opportunity to notice the fact.

DIABETES FROM INJECTION OF ADRENALIN.

The suprarenal gland has long been an organ full of mystery. The preparation of the active substance or substances of this gland known as adrenalin (Takamine) is endowed with powerful properties. Recently Herter and Richards[1] showed that the injections into the abdominal cavity of dogs of adrenalin solution, 1 in 1000, in doses of from 6 to 10 c.c., in each instance produces well-marked glycosuria. In one instance the sugar appeared in the urine in less than five minutes after the injection. Blum, Luelzer and Croftan all found that the suprarenal gland had some influence upon carbohydrate metabolism. Croftan[2] concluded that the glycosuria observed by him depended upon a ferment in the suprarenal gland which changes the glycogen of the liver into sugar. But Herter and Richards show that boiling the adrenalin solution for five minutes, which would be expected to destroy any diastatic ferment, does not suspend glycosuria after experimental injection. Furthermore, glycogen and adrenalin added together and kept in the incubator do not result in the production of sugar. Hence these authors do not refer adrenalin glycosuria to a diastatic ferment. In some of their experiments they found marked changes in the intestines and pancreas. In two dogs that died after the injection of 6 c.c. of adrenalin (1 in 1000) the cells of the islands of Langerhans of the pancreas were granular and degenerated, the nuclei refusing to stain; and in some parts of the pancreas the islands of Langerhans were more

1. Medical News, Feb. 1, 1902, 201-203; see also abstract in this issue, p. 478.
2. American Medicine, Jan. 18, 1902; see also The Journal A. M. A., editorial comment, p. 402, Feb. 8, 1902.

injured than the adjacent cells of the pancreatic acini. They mention an experiment in which 1 c.c. of adrenalin solution (1 in 1000) plus 1 c.c. of water applied to the surface of the pancreas gave rise to an immediate blanching followed by congestion, and within ten minutes by the appearance of sugar in the urine. These interesting experiments naturally awaken the disposition to further inquiry. Coming so closely upon the demonstration by Opie, Herzog and others, that in diabetes the islands of Langerhans may be the seat of profound changes, the results of these experiments can not but strengthen the notion that some cases at least of diabetes are dependent upon lesions in these bodies, but the exact and no doubt very complicated mechanism whereby the resulting diabetes is produced still remains to be worked out.

Medical News.

CALIFORNIA.

Smallpox is reported at Arbuckle, where there are five cases and at Sierra City where two cases exist.

Mare Island Quarantined.—The naval hospital at Mare Island is in quarantine, on account of smallpox.

Illegal Practice.—Robert Macbeth, San Francisco, charged with practicing medicine without a certificate, was convicted January 30.——N. C. Heron, a patent medicine manufacturer who signed a death certificate, was arraigned at Los Angeles, fined $150 for practicing without a certificate and paid his fine.

Status of Local Health Boards.—The Supreme Court has decided that the municipal board is a legally constituted body and has jurisdiction over the local health of the city and county, and it also intimates that the state board has other powers, partly independent and partly paramount to those of the local board.

Hospital for Indigent Consumptives.—Plans are being prepared for the first of the series of one-story buildings at Los Angeles designed for the care of indigent consumptives. Each building will contain six wards, bath room, dispensary and nurses' rooms. An administration building is to be erected at the same time, and additional hospital buildings as required.

DISTRICT OF COLUMBIA.

Scarlet fever of mild type is prevalent in Tacoma Park, where 14 cases have been reported.

Antivivisection Bill.—Mr. Gallinger has introduced in Congress the old bill "to prevent cruelty to animals"; it is now labeled "S. 3068."

Hospital Board Election.—At the annual meeting of the medical board of Providence Hospital, Dr. John W. Bayne was elected president, Dr. Zachariah T. Sowers, vice-president, and Dr. Thomas F. Mallan, secretary.

Personal.—Dr. J. Ramsay Nevitt, Washington, who has been ill with appendicitis, is improving.——Dr. Presley M. Rixey has been appointed a member of the board of directors of the Columbia Hospital for Women, vice Dr. Louis W. Ritchie, deceased.

GEORGIA.

Medical Legislation in Georgia.—Bills are being prepared under the direction of physicians for introduction into the Georgia Legislature, covering the following points: All coroners are to be practicing physicians; all proprietary medicines brought into the state must be labeled so that the public can know the ingredients and the proportion of each ingredient; no poisonous drug or narcotic, such as morphin, etc., shall be sold without a physician's prescription.—*Southern Med. Journal.*

ILLINOIS.

Pontiac Hospital.—The citizens of Pontiac have subscribed $10,000 toward the erection of a hospital in that city.

Smallpox.—Woodhull, Henry County, is experiencing the usual sequelæ of diseases diagnosed as chicken-pox, Cuban itch, pustular grip and Porto Rican pox, and now has about 75 cases of smallpox.

Evanston's Health.—The report of the health officer for 1901 shows a death-rate of only 8.65 per 1000, the lowest mortality since 1896. Tuberculosis heads the list of death-causes, with heart disease next and pneumonia third.

Rockford Hospital Enriched.—Alexander D. Forbes has presented $15,000 to the City Hospital, to be used in the erection and furnishing of a new ward for young women and children. He does this in memory of his daughter, Jessie Elizabeth Forbes, by whose name the new department will be designated.——The Rockford Chapter of the Daughters of the American Revolution has given $1000, a prize received from an eastern magazine, to the hospital.

Chicago.

Dr. Alice M. Stevees has resigned her position in the oral surgery clinic of the Woman's Medical College and will remove to Boston.

County Hospital Staff.—At the annual meeting of the regular staff of Cook County Hospital, February 6, Dr. Arthur R. Edwards was elected president and Dr. L. Blake Baldwin, secretary.

Dr. E. C. Dudley, in compliance with the wishes of the trustees of Northwestern University and of the faculty of Northwestern University Medical School, has withdrawn his resignation and has resumed his duties at the school.

Influenza Epidemic.—There is noted a general increase in the prevalence of all the contagious diseases—influenza, diphtheria, scarlet fever, whooping cough, etc. Influenza prevails as an actual epidemic and the Health Department predicts that the mortality from pneumonia, Bright's disease and heart diseases will be most unfavorably affected as a consequence.

New Amphitheater Dedicated.—The new amphitheater built in Mercy Hospital at the expense of the Northwestern University Medical School (Chicago Medical College), at a cost of $25,000, bringing into closer relations the affiliation between Mercy Hospital and the medical school, was opened with appropriate exercises, February 12. Dr. John B. Deaver, Philadelphia, delivered the address. He gave a surgical clinic in the amphitheater on the morning of the same day.

The City's Mortality.—The 530 deaths from all causes recorded during the week made an increase of 2.5 per cent. in the mortality rate over the rate of the previous week and of 10.3 per cent. over the rate of the corresponding week of 1901 in proportion to population. The respective annual death rates per 1000 were 15.18, 14.80 and 13.76. Among the principal causes of death pneumonia, diphtheria and scarlet fever show the greatest increase.

Chicago's Immunity from Smallpox.—The wonderful immunity of Chicago from the disease continues. During the week twenty-eight "suspect" cases were examined by the medical inspectors, but only four were found to be genuine cases. Of these, three came by rail—one from Mexico, one from Elkhorn, Wis., one from Calvary, Wis., and one by boat from Milwaukee. None had even been vaccinated. No Chicago case developed during the week and at midnight, February 8, there were 18 cases in the isolation hospital.

INDIANA.

Methodist Hospital.—Indiana Methodists have undertaken to raise $200,000 for the erection, and $500,000 for the endowment, of a hospital at Indianapolis.

Hospital for Huntington.—The business men and railway employes of Huntington have subscribed $2000 toward a public hospital for the city. A site has already been secured.

Union Hospital, Crawfordsville.—Mrs. Culver, St. Louis, who originally donated $10,000 to the hospital, has given an additional $3000, to be devoted to interior finishing and furnishing.

Losses by Fire.—Dr. Frank S. Kitson, North Manchester, sustained a loss of $2000 by the burning of his home, January 29.——The house of Dr. Zeri H. Fodrea, Westfield, was burned, January 28, with a loss of $2000.

Crown Point Sanatorium.—The new sanatorium was opened, January 15. It is a four-story brick building, with modern fittings and equipment, and has a competent medical staff consisting of Drs. William B. Blackstone, George D. Brannon, Henry Pettibone and Joseph Von Osinski, of Crown Point, with Drs. Emil Ries and D'Orsay Hecht, Chicago, as consultants.

IOWA.

Hospital Burned.—The hospital conducted by the Sisters of Charity at Anamosa, was almost ruined by fire, January 30. All the patients were removed uninjured.

To Replace Medical Building.—The chairman of the appropriation committee has recomended an appropriation of $250,000 to replace the medical building which was recently burned.

Hospital for McGregor.—Dr. Henry H. Clark, McGregor, is building a hospital, to cost $18,000, which will be ready for occupancy early in April. It contains 35 rooms and will be fully equipped.

Quarantine Breaker Fined.—Dr. Samuel C. Kirby, the Grand Junction physician who was charged with breaking smallpox quarantine last summer, was recently fined $250 and costs which will aggregate $400.

Smallpox.—The State Board of Health on February 8, adopted the following preamble and resolution:

WHEREAS, Cases of smallpox exist in nearly every county in this state; and,

WHEREAS, Smallpox has occurred in the family or person of some of the postmasters of the state; therefore,

Resolved, By the State Board of Health of the state of Iowa, that the postmaster-general be requested to require so far as possible all postmasters in Iowa and their employes, including city and rural carriers with their families, to be vaccinated, and to furnish to the local boards of their respective localities satisfactory evidence of successful vaccination.

MARYLAND.

Malignant erysipelas is said to be prevailing among the negroes of Marlboro, Prince George County.

Baltimore Mortality.—The deaths for the week ending February 8 were only 187, against 271 for the same week in 1901. The chief cause of death was pneumonia, 27 cases.

Vaccination of Baltimore-Bound Crews.—Surgeon-General Wyman, of the Marine-Hospital Service, has acceded to the request of the Health Commissioners of Baltimore, and has telegraphed to Liverpool that the crews of all vessels sailing for this port must be vaccinated. He says that any ship will now be held up whose crew can not show that they have been vaccinated.

Personal.—Dr. J. Williams Lord, secretary of the Medical and Chirurgical Faculty of Maryland, has sailed for Cuba.——Dr. Henry W. McComas has purchased a residence on Main street in Oakland, and will establish there a sanatorium.——Dr. Henry Cozens, Hagerstown, was appointed dairy inspector of Washington County.——Dr. T. W. Simmons, Hagerstown, was acquitted, February 1, of the charge of violating the health laws by failing to report an alleged case of diphtheria last summer. The warrant was sworn out by the county and state health officers.

MICHIGAN.

The Detroit Polyclinic held its annual meeting, January 27. The report shows that 2700 patients were treated during the year. The following officers were elected: Dr. James E. Davis, president; Dr. Louis J. Goux, vice-president; Dr. S. G. McDonald, secretary, and Dr. F. E. Sanderson, treasurer.

Disease in Michigan.—Reports to the State Board of Health indicate that bronchitis, influenza, rheumatism, neuralgia and tonsillitis, in the order named, caused the most sickness during the week ended February 1. Cerebrospinal meningitis was reported present at 4 places; whooping cough, 27; diphtheria, 27; typhoid fever, 48; measles, 60; scarlet fever, 117; smallpox, 139; and consumption at 215.

Smallpox.—Norway is said to have more than 100 cases, and public assemblages are prohibited until the epidemic is over.——A train was recently held at Grayling for three hours while all the passengers were vaccinated on account of a case of smallpox having been discovered on board.——In Wyandotte and Ecorse township, the schools have been closed, as 32 cases of the disease exist.——The asylum at Traverse City has 6 cases in mild form.

Michigan's Deaths.—The number of deaths from all causes in Michigan during 1901 was 33,848, as compared with 33,320 during 1900. The annual death-rate was 14 per 1000. The deaths of children up to 4 years of age showed a decrease as compared with the previous year. On the other hand, the proportion of deaths of persons aged 65 years and over rose from 8754, or 27.5 per cent., to 9524, or 29.5 per cent. Pneumonia, both in 1900 and in 1901, was the most fatal disease. There were 2799 deaths reported directly or indirectly from this cause in 1900 and 2993 in 1901.

How Long!—A Dowagiac paper, at this late date, thus notices the advent of a strange disease: "The doctors are badly puzzled over a disease which has manifested itself here, and no two of them seem to agree as to what to name it. It has been raging here six or eight weeks. Smallpox, Cuban itch, Dakota itch and la grippe are the various names that have been attached to it. The disease, whatever it is, is not a violent one, and leaves the person afflicted within a few days, and sometimes even without the care of a physician. No one appeared to be much frightened over it until last Sunday the health officer closed two of the public schools and quarantined and placarded several homes 'smallpox.'"

NEW HAMPSHIRE.

Personal.—Dr. Orlando B. Douglas has moved from Suncook to Concord.——Dr. James Black has located in Nashua.——Dr. Irving A. Watson, Concord, secretary of the State Board of Health, fell and broke his leg.

Hospital Bequests.—By the will of Mrs. Emeline R. Balch, Manchester, Elliot Hospital receives $3000, and after the payment of bequests the balance is to be devoted to the establishment and maintenance of a hospital in Manchester to be known as the Balch Hospital.

Elliot Hospital, Manchester.—At the annual meeting, January 14, the following medical staff was appointed: Attending physicians and surgeons, Drs. George D. Towne, J. Franklin Robinson, L. Melville French, William H. Pattee, A. Gale Straw, Daniel S. Adams, Charles F. Flanders, and John H. Gleason; aural and ophthalmic physicians, Drs. Henry DeW. Carvelle and Emdon Fritz; assistant surgeons and physicians, Drs. Irving L. Carpenter, George M. Watson, Thomas C. Hill and F. C. Stewart.

NEW YORK.

Incipient Tuberculosis Hospital.—The senate has passed Senator Davis' bill, appropriating $50,000 for a state hospital for treatment of incipient tuberculosis.

Hospital Endowed.—It has just become known that, a short time prior to the death of William F. Cochran, Yonkers, he established a fund of $150,000 for the endowment of St. John's Riverside Hospital at that place.

Marine-Hospital for Buffalo.—A bill appropriating $125,000 for a marine-hospital to be erected at this port has been favorably acted upon by the committee on interstate and foreign commerce of the House of Representatives.

The Rodgers bill, embodying Governor Odell's views for the control of the state charitable institutions, and abolishing local boards of managers for state hospitals for the insane, finally passed the senate by a vote of 31 to 18. It was vigorously opposed, and by many who are in a position to judge, this is said to be a distinct step backward.

Emergency Hospital for Bronx Borough.—Senate bill No. 250, introduced by Mr. Hennessy, authorizes the Sinking Fund Commissioners to acquire land for the erection thereon of a reception hospital for persons injured or taken ill suddenly in the Borough of the Bronx. Entire cost of land shall not exceed $200,000, and the cost of the building and equipment and furnishing shall not exceed $300,000.

Evolution of Consolidation.—The council of the New York State Medical Association has acted promptly on the resolution of the Medical Society of the State of New York and has appointed a committee to confer with a like committee from the Society, with a view to a union. The committee appointed by the New York State Medical Association consists of Drs. E. Eliot Harris, Parker Syms, Emil Mayer, W. H. Biggam, and Frederick Holme Wiggin.

New York Deaths.—In addition to the 129,257 deaths for the year reported in the monthly bulletin of the State Board of Health, there were 1500 delayed returns, making the annual death rate 18 per 1000. The mortality was 7500 in excess of the average of the past five years, but the rate was the same as that of 1900. The sanitary districts all participate in the variations of mortality. The infant mortality is unusually low, being 3500 less in 1900 and 2500 less than the average of the past five years.

Decrease in Tuberculosis Deaths Among Prisoners.—The Superintendent of State Prisons, in his annual report, calls attention to the great decrease in the prevalence of tuberculosis among the inmates of the prisons as a result of transferring all convicts suffering from this disease to Clinton Prison, in Clinton County. Statistics which have been prepared by Dr. Julius B. Ransom, the physician of Clinton Prison, show that from 1891 to 1895 there were 253 deaths among the prison population of the state, whereas from 1896 to 1900 there were only 72, a decrease of 71 per cent.

New York City.

Increase of Smallpox.—Smallpox is admitted by the health authorities to be on the increase. One of the students attending the University Medical College was found to be broken out with smallpox. He was hurried to North Brother Island, and vaccination on a large scale was instituted.

Mount Sinai Hospital.—The annual meeting of the hospital was held January 26. The expenses for 1901 were $119,234, and 3196 patients were treated, 2386 of whom were free patients. There has already been subscribed for the building fund $1,294,281 of the $1,650,000 required. The gifts for the year amounted to $45,045, of which $38,000 was given by individuals not of the Hebrew faith.

Reforms in the Barber Shop.—The new Commissioner of Health, Dr. Lederle, has announced his determination to institute certain reforms in barber shops. The prohibition of the use of a sponge on the face after shaving, of the use of the powder puff, of the use of alum in stick form, and of the use of a towel more than once are among the proposed changes. The new regulations are to be posted conspicuously in every barber shop, and the customers are relied upon to see that they are enforced.

Personal.—Dr. Charles G. Child, Jr., has been appointed assistant visiting gynecologist to the City (charity) Hospital. ——Dr. Warren S. Simmons has been appointed to the regular staff, Dr. William B. Brinsmade promoted to visiting surgeon, and Dr. George G. Hopkins made consulting surgeon at St. John's Hospital, Brooklyn.——Dr. George W. Salter, an eclectic physician of Brooklyn, was fined $50 for not reporting a case of smallpox. He first diagnosed the case as one of diphtheria, but when convinced that it was smallpox neglected to notify the health authorities.——Dr. William V. Paschal, who was house surgeon at St. Mary's Hospital, Brooklyn, and who by prompt operation saved the life of Robert J. MacFarland's son, has been gratefully remembered by Mr. MacFarland. A dinner was given in honor of the physician, and he was presented with a gold watch valued at $1000.——Dr. Louis W. Schultze, who was general medical inspector for the Department of Charities under the last administration, at a salary of $3000, has been removed by the new commissioner, Homer Folks.

Protest Against Exclusion of Tuberculous Aliens.—The Academy of Medicine, at its meeting, February 7, adopted the following resolutions:

WHEREAS, The Treasury Department of the United States, upon recommendation of the Surgeon-General of the Marine-Hospital Service, has recently decided to classify pulmonary tuberculosis with dangerous contagious diseases, be it

Resolved, That the New York Academy of Medicine deeply deplores this decision, which is not based either on clinical experience or on scientific experiments.

Resolved, That the Academy considers the exclusion of non-pauper tuberculous immigrants and consumptive aliens visiting our shores unwise, inhumane, and contrary to the dictates of justice.

Be it further resolved, That, while the Academy is convinced of the communicability of tuberculosis and urges all possible precautions against the spread of the disease occasioned by sputum and tuberculous food, the Academy is opposed to all measures by which needless hardship is imposed upon the consumptive individual, his family, and his physician.

Post-Graduate Needs.—Dr. John A. Wyeth has sent a letter to the daily press, setting forth to the public the needs of the post-graduate medical schools in this city, and the good work done by them. He said that wealthy and generous people had been slow to appreciate what post-graduate medical instruction meant to the state. While it was admitted that the best training in practical work for the young graduate in medicine was obtainable by serving as an interne in a hospital, not more than ten in a hundred could avail themselves of these privileges. The remaining nine-tenths must obtain their practical training by post-graduate instruction, and the need for carrying on such work in small classes and with the aid of costly laboratories made it impossible for these schools to be self-sustaining. Dr. Wyeth said that these schools deserved financial aid, not only because they attract annually from one to two thousand practitioners of medicine from all parts of the globe to New York, but for the one great reason that they are teaching physicians in practice to administer more scientifically and successfully to the sick and injured throughout the land.

PENNSYLVANIA.

Typhoid fever is still prevalent in Pittsburg, the 22 cases reported in a single day being located in 10 different wards.

Appropriation for Hospital.—The council of Allegheny has made an appropriation of $10,000 to the Allegheny General Hospital.

Smallpox Hospital Burns.—The Washington County isolation hospital at Scenery Hill has been destroyed by fire. The fire is said to have been incendiary. One patient succumbed to the exposure and excitement, and others are in serious condition.

St. Joseph's Hospital, Lancaster, at its annual meeting, appointed the following staff: Visiting surgeons, Drs. Herbert R. Bowers, Samuel T. Davis, Newton E. Bitzer and Edmund B. Hyus; visiting physicians, Drs. George P. King, Henry E. Muhlenberg, Oliver Roland and Samuel W. Miller; consulting surgeon, Dr. George R. Welchaus; consulting physicians, Drs. John H. Grove, Philadelphia, Ambrose J. Herr and Robert M. Bolenius.

Personal.—Dr. Orion S. Rhodes has moved from East Stroudsburg, to Laramie, Wyo.——Dr. Walter D. Diefenderfer, York, has been appointed deputy medical inspector to the State Board of Health, for the Pennsylvania Railroad.——Dr. Walter Lathrop has been re-elected superintendent of the Hazleton State Hospital.——Dr. John L. Atlee has located in Lancaster. ——Dr. George F. Wise, Tyrone, has gone to Philadelphia as clinical assistant to Dr. L. Webster Fox.——Dr. Emmett A. Sprowls, West Alexander, has moved to Keokuk, Iowa.——Dr. Thomas B. Echard, Connellsville, has won a position on the resident staff of the Pennsylvania Hospital, Philadelphia.——Dr. R. C. Craig, U. S. M.-H. Service, is to remain in Pittsburg as assistant to Dr. F. W. Meade, who has been ordered to that post from New Haven, Conn.

CANADA.

Personal.—Dr. J. F. W. Ross, Toronto, will spend the next two months at Nassau in the Bahamas.

New Laboratory at Hamilton.—The medical health officer, Dr. Langrill of Hamilton, is urging the Board of Health of that city to equip a laboratory which is especially needed for diphtheric cases. He points out that in 1901 in that city 25 per cent. of the cases proved fatal. A new Isolation Hospital is to be built.

American Medico-Psychological Association.—The fifty-eighth annual meeting of this Association will be held in Montreal June 17, 18, 19 and 20, with headquarters at the Windsor Hotel. Dr. Wyatt Johnston will deliver the annual address on the subject of "The Medico-Legal Appreciation of Trauma in its Relations to Abnormal Mental Conditions."

Tuberculin Test.—The annual meeting of the Canadian Shorthorn Breeders was held in Toronto on January 4, when a special committee on the tuberculin test reported as follows: "We, the members of the Dominion Shorthorn Breeders' Association at our annual meeting resolve that the tuberculin test is unreliable, unnecessary and in many ways injurious, and that we urge the discontinuance of the compulsory use of it by the Dominion Government Department of Agriculture."

Consulting Health Board Proposed for Montreal.—Alderman Ames, who has always taken a deep interest in all matters pertaining to the health of Montreal, is trying to have a consulting board appointed to work with the Hygienic Committee of that city. This Board is to consist of four physicians, two English and two French, and a practical plumber. A war will be at once started on privy pits as Alderman Ames has statistics to prove that the death rate is highest in those sections of the city where these exist.

Toronto Hospitals Crowded.—The Toronto Western Hospital has erected a large tent on its lawns for the accommodation of fifteen tuberculous patients. St. Michael's Hospital is full to overflowing, the corridors having been pressed into service. No patients are being admitted at the present time. Grace Hospital has just completed a new operating theater at a cost of $10,000, the gift of Lieutenant-Colonel Pellatt. In the Toronto General Hospital there are 325 patients, the largest number in residence at any one time in its history.

A New Hospital Opened.—On February 4 there was opened at St. Stephen's, New Brunswick, the Chipman Memorial Hospital by the Hon. L. J. Tweedie, Premier of New Brunswick. This hospital is beautifully situated on the banks of the St. Croix a short distance below the town of St. Stephen's, and was formerly the Chipman homestead. The grounds and buildings, thoroughly equipped with all modern appliances, were presented to the town by Lady Tilley and other heirs of the Chipman estate. It is all ready for immediate use and has accommodation for twenty beds.

Smallpox in the Province of Quebec.—The secretary of the Board of Health of the Province of Quebec, Dr. E. Pelletier, has handed out a statement which shows that during the past

year there have been 5069 cases of smallpox in that province. These have been reported from 276 localities in fifty-five out of the seventy-three counties in the province. The percentage of deaths was small, reaching to about one per cent. Three hundred and twenty-four municipalities have notified the Board of Health that they have adopted the compulsory by-laws relating to vaccination promulgated by the provincial health authorities.

FOREIGN.

Escherich Called to Vienna.—T. Escherich, professor of pediatrics at Graz, has been summoned to the similar chair at Vienna.

Von Leyden and Kussmaul Enter the Eighties.—The friends of von Leyden and Kussmaul are preparing to celebrate their eightieth birthdays, the former April 20, and the latter February 22.

Krafft-Ebings Successor.—Professor von Krafft-Ebing retires from the chair of psychiatry at Vienna with the present term. Professor W. von Jauregg has been appointed his successor, and Professor G. Anton takes the place of the latter.

Jubilee of Professor Tamburini.—A medal was presented to Augosto-Tamburini, December 15, the occasion being the twenty-fifth anniversary of his professorship. His work at the Reggio-Emilia Asylum for the Insane has made his name prominent among the leading alienists of the world, the founder of a school of psychiatry, which has contributed many important works to science and trained many distinguished alienists.

Deaths in the Profession Abroad.—H. Pernice, professor of gynecology at Greifswald.——A. Gougenheim, a prominent laryngologist of Paris, editor of the *Annales des Mal. de l'Oreille.*——Dr. Le Baron, the founder of the Syndicat des Médecins de la Seine.——Dr. Soupart, honorary president of the Federation Med. Belge, died in December at Ghent, in his 92d year. His works on amputations have been numerous and important contributions to science.——Dr. E. Cramer, professor of hygiene at Aachen. Dr. G. Garibaldi, professor of surgery at Genoa.

The Income of Physicians in France.—If we are to judge from an item in a recent issue of *The British Medical Journal*, the income of physicians in France is as variable as is the income of medical men in this country. The item referred to is based on a statement recently made by a responsible French writer, M. Chaillysett, from which it appears that there are in Paris 2,600 physicians. Of these, 40 earn from $40,000 to $60,000 a year, 50 earn $20,000 a year, 50 from $10,000 to $20,000, 200 from $6000 to $10,000, 200 from $4000 to $6000, whilst 1700 earn on an average $620. In the whole of France there are 16,000 practitioners, whose average professional earnings are less than $600 a year, and this amount does not represent net but gross earnings.

LONDON LETTER.

The Smallpox Epidemic.

There are now 892 cases in hospital. For the week ending January 18 the number was 877, against 666, 754 and 873 for the 3 preceding weeks; 213 new cases were admitted during the week against 266, 261 and 306 in the 3 preceding weeks. Thus the rate of increase has been checked somewhat. The number of deaths were 55, against 45, 28 and 25 of the preceding weeks. Of 2000 cases which have occurred since August about 200 have occurred in common lodging houses and shelters, and a large number of the remainder among individuals living in tenement houses. The London County Council has taken an active part in the controlling of the epidemic. Their inspectors detected and isolated 44 cases of smallpox in common lodging houses earlier than would otherwise have been possible, and so the spread of the disease was checked. Since the early part of October 41 cases of smallpox have been associated with an antecedent illness said to have been chicken-pox. But this number by no means represents all the cases in which chicken-pox was mistaken for smallpox, as the information was supplied only incidentally. The committee of the London County Council therefore recommend that chicken-pox should be made a notifiable disease in London for 3 months. Probably 500 or 600 cases a week would be notified, which at the rate of 2s 6d a certificate would cost £70 ($350) weekly. Already 7 of the London boroughs have taken this action.

A Scheme for Cancer Research.

Since the King, in his reception of the representatives of foreign countries at the Tuberculosis Congress, referred to the desirability of taking steps to check the ravages of cancer, the necessity of organization for research has been frequently discussed. At last a project has taken shape and will soon be formally submitted to the College of Physicians and Surgeons for approval. As it has already received the support of eminent men who hold or have held high office in these colleges —the president and censors of the Royal College of Physicians, the president and vice-presidents of the Royal College of Surgeons, Lord Lister, Sir William Broadbent, Sir Richard Douglas Powell, Sir Thomas Smith and Sir John Williams—it will probably be approved of by these bodies. It is proposed to raise a fund to (1) endow laboratories devoted exclusively to cancer research, (2) provide an honorarium for the director of cancer research, (3) provide paid assistants to the director and grants in aid of cancer researches within the United Kingdom or in the British dominions beyond the seas, (4) assist in the development of the cancer research department of the Middlesex Hospital or any other hospital where a cancer research department may be provided, (5) provide for the investigation of any method which may from time to time be brought forward for the prevention, treatment or cure of cancer and arrange for the testing under proper supervision of any so-called remedy for cancer, (6) provide means for systematic investigation of the causes, prevention and treatment of cancer. There will be five trustees, in whose name all moneys will be invested. The income will be administered by a committee consisting of these trustees, the president, and two censors of the Royal College of Physicians, the president and vice-presidents of the Royal College of Surgeons, the laboratory committee of the Royal College of Physicians and Surgeons, and a member of the Local Government Board. It is estimated that $500,000 will be required. Both the King and Prince of Wales have expressed sympathy with the scheme.

Smallpox in Glasgow.

The outbreak of smallpox in Glasgow continues to increase. In hospital are 44 cases and a reception house has been opened in which 35 suspects have been lodged.

Sir William MacCormac's Will.

The net personal estate of the late Sir William MacCormac amounts only to $110,000. His widow is sole executrix and legatee.

Plague in India.

The returns for the week ending December 21 show 9198 deaths in all India, against 7795 in the preceding week and 2267 in the corresponding week of last year. One result of the plague is that the city of Bangalore has been largely reconstructed. Of the 10,800 houses, 1922 have been demolished and 5½ miles of new streets have been made. The superintending engineer reports that for symmetry, regularity of frontage, accessibility by the shortest routes, air spaces, public squares, convenience of conservancy and perfect drainage they can be equaled only by some of the most recent cities of America.

Married.

J. E. Berry, M.D., to Miss Anna Taylor, both of Alledonia, Ohio, at Chicago, January 25.

Talbot C. Gernon, M.D., to Miss Ada A. Kuhns, both of Bloomington, Ill., January 29.

William F. Gillan, M.D., of Pawtucket, R. I., to Miss Josephine Coveney, of Cambridge, Mass., January 29.

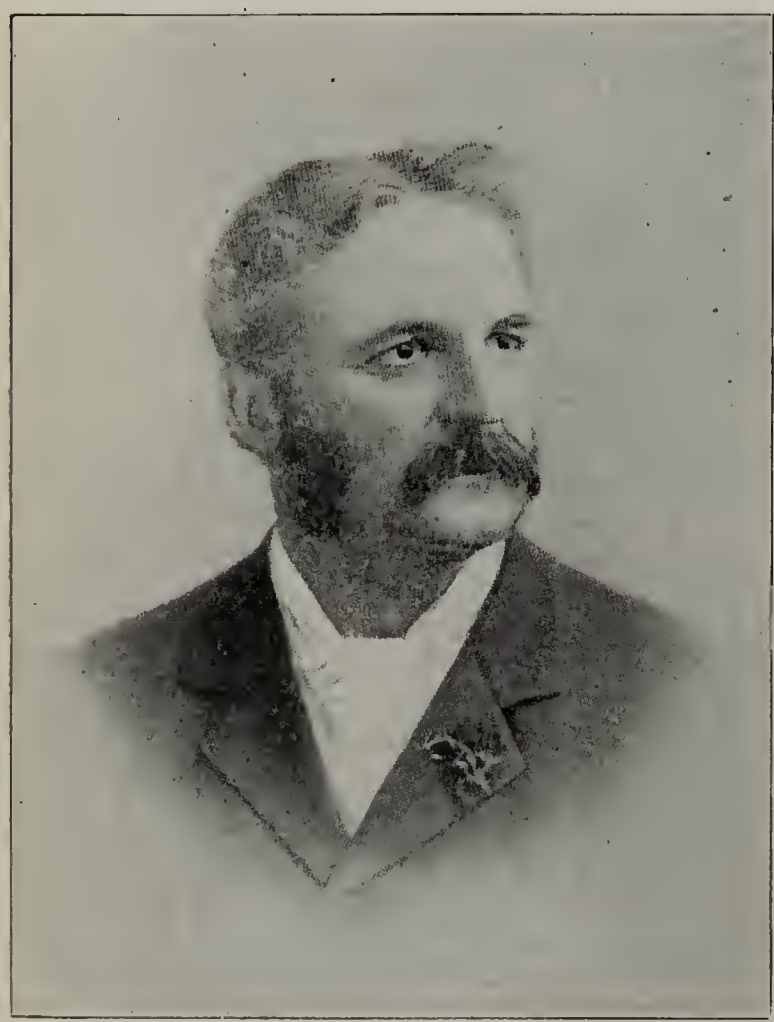
William B. Murphy, M.D., of Minneapolis, Minn. to Miss Amelia C. Heiker, a professional nurse, of St. Paul, Minn., at Faribault, Minn., January 29.

Henry S. Willard, M.D., formerly attached to the Topeka Insane Asylum, to Miss Georgia Brooks, both of Manhattan, Kans., at Kansas City, January 29.

Deaths and Obituaries.

Paul Fortunatus Munde, M.D., was born September 7, 1846, in Dresden, Saxony. When the boy was 3 years of age his father was exiled from Germany and settled in Florence, Mass. He received his early education in the Latin School of Boston, began his medical studies in the Medical Department of Yale University, but attended his two last courses of lectures at Harvard University Medical School, Boston, and was graduated in 1866. During the Civil war he was acting medical cadet in the army for six months during 1864. After his

graduation he went abroad and served as volunteer assistant-surgeon in the Bavarian service in the war between Prussia and Austria. A year later he became resident physician at the Wuerzburg maternity and was assistant to the German gynecologist, Scanzoni. At the onset of the Franco-German war he offered his services and was made battalion surgeon with the rank of first lieutenant in the German army. After the close of the war he studied in Vienna for nearly two years, and there was given the degree of Master in Obstetrics. After continuing his studies in Heidelberg, Berlin, London, Edinburgh and Paris, he returned to the United States and located in New York City, where he established himself as a specialist in gynecology and obstetrics. In 1874 he became editor of the *American Journal of Obstetrics* and held this position until 1892, when pressure of other duties caused his resignation. He was made professor of gynecology in the New York Polyclinic in 1882, professor of gynecology in Dartmouth Medical College in the summer term of 1880, and was gynecologist to the Mt. Sinai Hospital, St. Elizabeth's Hospital and the Italian Hospital. He was a member of the Medical Society of the County of New York, a fellow of the New York Academy of Medicine, a member and president of the New York Obstetric Society, a member and vice-president of the American Gynecological



PAUL F. MUNDE, M.D.

Society and the British Gynecological Society, a member of the German Gynecological Society, and a corresponding fellow of the Obstetrical Societies of Edinburgh, Leipzig and Philadelphia. He contributed a number of important papers to the literature, and, in addition, was the author of standard works on surgical gynecology and minor surgical gynecology, and, in connection with Dr. Thomas, of a "Practical Treatise on the Diseases of Women." He died at his home in New York City, February 7, after a prolonged illness, from heart disease. He rallied in January and expected to take a trip to the South, but suffered a relapse and steadily declined thereafter.

John T. Metcalfe, M.D. University of Pennsylvania, 1843, who died of senility, January 30, at his home in Thomasville, Ga., was for many years in the front rank of his profession in New York City. He was the son of a physician, and was born in Natchez, Miss., in 1818. He graduated from West Point in 1838, and after a short service in the army, resigned to take up the study of medicine, completing his training in Europe. He then came to New York City, where his quickness of perception, readiness in analysis, remarkable memory and keen judgment soon built up a practice. He began in the days before anesthesia and the clinical thermometer, and his calls in those early days were made on horseback. Dr. Metcalfe was a member of the New York Medical and Surgical Society, the County Medical Society, the New York Society for the Relief of Widows and Orphans, the New York Pathological Society, the New York Academy of Medicine, and the New York Physicians' Mutual Aid Association. He was for many years lecturer at the New York College of Physicians and Surgeons, and at the time of his death he was emeritus professor of clinical medicine. He had retired from practice about fifteen years ago. Dr. Metcalfe had been consulting physician to Bellevue, Roosevelt, St. Luke's and the Woman's Hospitals, to the Hospital of the New York Society for the Relief of the Ruptured and Crippled, and to the New York Orthopedic Dispensary and Hospital.

Samuel A. Bonesteel, M.D. University of Michigan, 1867, and McGill University, Montreal, 1870, one of the prominent physicians of Denver, Colo., died at his home in that city, January 29, aged 60, from pneumonia complicating diabetes. Dr. Bonesteel is said to have enjoyed one of the most lucrative practices in Denver for ten years past, and was a member of the Denver and Arapahoe Medical Society and of the Colorado State Society. He was a native of British Columbia, and, before his removal to Denver, practiced in Columbus and Lincoln, Neb. While at Columbus he was one of the chief surgeons of the Burlington and Missouri River railroad, and in Denver was for a time connected with the Denver and Rio Grande road.

Charles A. Harnish, M.D. University of Pennsylvania, 1891, died, January 2, at the Presbyterian Hospital, Philadelphia, of laryngeal tuberculosis, aged 35. His death ends a long and successful practice in Alexandria, Pa. He was a member and ex-president of the Huntingdon County (Pa.) Medical Society, a graduate fellow of the William Pepper Medical Society of the University of Pennsylvania, a member of the State Medical Society and of the American Medical Association.

Henry R. Baldwin, M.D. College of Physicians and Surgeons, New York, 1853, one of the most prominent physicians of New Brunswick, N. J., where he had practiced for forty years, a trustee of Rutgers College, president of the New Brunswick Board of Health, and a member of the American Medical Association, died at his home in New Brunswick from pneumonia, February 3, aged 73.

William A. Dudley, M.D. University of Pennsylvania, 1850, died, February 1, of pneumonia, at his residence in Petersburg, Va., aged 72. He had practiced medicine in that city for nearly half a century, and at one time was a member of the city council. Wealthy, and of one of the first families of Virginia, he had lived alone in most eccentric fashion for many years.

Edwin Schwartz, M.D. Rush Medical College, Chicago, 1881, died at his home in Knoxville, Ill., February 4, aged 48, of complications following pneumonia. He was for a long period house physician of the Knox County Almshouse, and was a member of the Military Tract Medical Society and of the American Medical Association.

Francis M. Black, M.D. Starling Medical College, Columbus, Ohio, 1852, a prominent physician of Fayette County, Ohio, a veteran of the Civil war, in which he served as captain in the Ninticth Ohio Volunteers, and president and director of a bank in Washington Court House, died at his home in that place, January 20, aged 74.

Arthur R. Hagen, M.D. Tulane University, New Orleans, 1897, of Leger, O. T., died in Dallas, Texas, January 18, from appendicitis, aged 33. Dr. Hagen was a member of the U. S. Marine-Hospital Corps during the yellow fever epidemic at New Orleans, and later went to Cuba as surgeon during the late war.

Luther W. Allingham, M.D. Trinity Medical College, Toronto, Ont., 1889, who was obliged to locate in California on account of his health, and practiced at Big Pine and Independence, Inyo County, died at Randsburg, January 29, from consumption, aged 39.

Joseph Wilkins, M.D. University of Maryland, 1847, a retired physician, died at Baltimore, February 5, aged 78. After graduation, Dr. Wilkins studied diseases of the eye and ear in Paris, but he practiced only a short time, retiring to devote himself to mining.

Benson G. Connor, M.D. Castleton (Vt.) Medical College, 1846, a retired physician, aged 80, of Waxahachie, Texas, died February 1, of injuries received in falling from a window.

Henry W. Foster, M.D. Detroit (Mich.) Medical College, 1879, of Bozeman, Mont., died of heart failure at St. Mary's Hospital, Minneapolis, Minn., February 3.

Zenas T. Garland, M.D. Medical College of Ohio, Cincinnati,

1871, one of the most prominent physicians in his section of Ohio, died at Clarksville, February 2, aged 60.

Lock E. Houston, M.D. Tulane University, New Orleans, 1893, of Aberdeen, Miss., died of heart failure at Memphis, Tenn., January 19, aged 38.

Alexander L. Williamson, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1883, died at his home in Humboldt, Neb., February 4.

Walton Saunders, M.D. University of Maryland, Baltimore, 1856, formerly of Essex County, Va., died in San Francisco, Cal., February 2.

George W. Hudson, M.D. Rush Medical College, Chicago, 1870, died at his home in Bethany, Ill., January 21, from pneumonia, aged 59.

Charles E. Woodward, M.D. Jefferson Medical College, Philadelphia, 1864, died at New Egypt, New Jersey, January 25, of nephritis.

Cassius O. Jackson, M.D. University of Buffalo, 1880, died of pneumonia at the age of 47 at his home in Victor, N. Y., January 26.

Moses W. Speer, M.D. Southern Medical College, Atlanta, Ga., 1883, died at his home in Chattanooga, Tenn., aged 46, January 29.

Irvine W. Gilkeson, M.D. Jefferson Medical College, Philadelphia, 1868, died in his home at Mint Spring, Va., January 26, aged 58.

Joseph W. Keene, M.D. Harvard University, 1878, died at his home in Fallbrook, Cal., January 30, from apoplexy, aged 54 years.

Correspondence.

Skilled Anesthetizers.

CHICAGO, ILL., Feb. 5, 1902.

To the Editor: In THE JOURNAL of January 25, Dr. Holmes reports a death from chloroform. This report should not be allowed to pass without some comment and perhaps a word of criticism. Scarcely a week passes that does not bring me rumors of deaths or narrow escapes from death from anesthetics, but the reports on such occurrences are altogether too infrequent. We get reports from everything else that happens in surgery, but there seems to be a "conspiracy of silence" which will not allow occurrences in this field to be published. There is no disposition to criticise the person who gave this anesthetic; for all I know he may have been a skilful anesthetizer and every one who administers anesthetics is liable to this experience. Using some of the statements of Dr. Holmes as a text I would like to point out some of the factors which contribute to such deplorable accidents. In the first place, the surgeon and the anesthetizer should be in perfect sympathy and work in harmony. The anesthetizer is naturally anxious to make a good impression on the surgeon the first time they have a case in common and when the patient interferes with the operation by struggling, the anesthetizer feels that he must give more anesthetic in a hurry, and he is likely to carry the anesthesia as far in the other direction. I have many times seen the anesthetized pick up the bottle when the patient began to move and pour on more of the anesthetic than he would dare to use at the beginning of the anesthesia. The patient is already pretty well saturated with the drug and possibly taking deep inspirations from the pain of the operative procedures, and he may get an overwhelming amount of the anesthetic. Concentrated chloroform vapor and deep inspirations form a dangerous combination.

Resuscitation should not be "tardily begun." The anesthetizer must be on the alert every instant, and if he is, trouble can scarcely exist for five seconds without detection. Valuable time should not and must not be lost, whatever is to be done must be done quickly. I hardly see how a patient requiring artificial respiration can safely be taken from one room to another.

The report closes with the remarkable statement that a man who once gives ether is ever after unfitted to give chloroform. I see but one inference to be drawn from this statement, and it is that the anesthetizer thinks the amount of the anesthetic used is a guide to the patient's condition instead of the patient's condition being a guide to the amount of the anesthetic to be used. I have had too much instruction from Dr. Holmes to believe that he really intended to imply such a thing. If this rule regarding anesthetics is to be observed, then we must insist that a man who has once amputated a leg should never thereafter be permitted to operate upon the neck lest he should carelessly or thoughtlessly amputate the patient's head. Then we will require experts to give gas and experts to give ether, others to give chloroform and still others to give bromid of ethyl and so on to the end of the catalog of anesthetics. Then, as it is sometimes necessary or desirable to use two or three different anesthetics during the course of one operation, we will require at all operations the attendance of as many anesthetizers. There is no doubt that a man may and usually does become more skilful in administering one anesthetic than another, just as an operator becomes more skilful in performing an operation which he does frequently than another which he performs less often; but if a man is expert in the use of one anesthetic he can soon acquire skill in the use of any other. If a man is to be restricted to the administration of but one kind of anesthetic then the anesthetic to be used will depend on who happens to be called in to give it and not on the indications in the case. In other words, the case will be made to suit the anesthetic and not the anesthetic to suit the case. There has been too much of that already in surgery, let us not have it also in anesthetics. I have heard of a doctor who operated on the rectum of every patient who consulted him with little regard to indications in the case, another under the same circumstances would remove the appendix, another the ovaries, another the uterus, the operation being suited to the doctor and not to the case; in other words, the operation or the anesthetic would depend on what doctor a man happened to consult rather than on the disease he happened to be afflicted with. This would be specialism run riot. D. H. GALLOWAY.

Societies.

Upper Des Moines (Iowa) Medical Association.—The fourth semi-annual meeting of this Association will be held at Estherville, February 20.

Atlantic County (N. J.) Medical Society.—This Society, at a meeting held February 5, elected Dr. Wm. Edgar Darnall, president; Dr. Theodore Senseman, vice-president; Dr. Edward Guion, secretary and treasurer, and Dr. A. Burton Shimer, reporter.

Comanche County (Okla.) Medical Society.—This Society held its annual meeting at Lawton, January 20. Dr. A. X. Campbell was elected president; Dr. F. E. Rosenberger, vice-president; Dr. C. M. Maupin, secretary, and Dr. W. M. Turner, treasurer.

Morgan County (Ill.) Medical Society.—The following officers were elected, December 12: President, Dr. P. C. Thompson; vice-president, Dr. David Reid; secretary, Dr. T. A. Wakely; treasurer, Dr. E. F. Baker; and librarian, Dr. T. J. Pitner, all of Jacksonville.

Cincinnati Obstetrical Society.—At the last meeting of this Society, Dr. Julia W. Carpenter was elected president; Dr. William Gillespie, vice-president; Dr. Magnus A. Tate, secretary; Dr. Edward S. McKee, corresponding secretary, and Dr. Chauncey D. Palmer, treasurer.

Harrisburg (Pa.) Academy of Medicine.—At the annual meeting of the Academy, held January 31, Dr. Hugh Hamilton was elected president; Drs. J. Walter Park, first vice-president; Dr. David S. Funk, second vice-president; Dr. Thomas S. Blair, secretary, and Dr. E. Harold James, treasurer.

Brashear (Ky.) Medical Society.—The regular quarterly meeting of this Society was held at Bardstown, Ky., January 21. Dr. W. E. Shepherd, Taylorsville, president; Dr. Joseph L. Pope, Bardstown, vice-president, and Dr. Wiley Rogers, Taylorsville, secretary. The next meeting will be held in Springfield, April 15.

Alameda County (Cal.) Medical Society.—At the meeting held in Oakland, January 14, this Society elected the following officers: Dr. Edmund J. Overend, president; Drs. Oliver D. Hamlin, W. Gray Smith and Wilbur J. Wilcox, vice-presi-

dents; Dr. Albert H. Pratt, secretary, and Dr. Charles A. Dukes, treasurer, all of Oakland.

Steele County (Minn.) Medical Society.—This Society had its annual meeting and supper at Owatonna, February 4, at which time the following officers were elected: President, Dr. George Schulze, Owatonna; vice-president, Dr. Albert A. Finch, Blooming Prairie; secretary, Dr. Allan B. Stewart, Owatonna, and treasurer, Dr. Warren C. Eustis, Owatonna.

Aux Plaines Medical Association.—The association of regular physicians of the western and southwestern suburbs of Chicago which was organized as the Suburban Medical Society, Dec. 27, 1901, has changed its name to the Aux Plaines Medical Association—a name which more clearly expresses its territorial scope. The Association was given a banquet at Maywood, January 24.

Cripple Creek District (Colo.) Medical Society.—This Society met in regular monthly session, January 14, in Cripple Creek. The semi-annual election of officers resulted as follows: For president and secretary: Drs. George McKenzie, Victor, and M. D. Gibbs, Cameron, were unanimously re-elected; for vice-presidents: Drs. Wilbur T. Liggett and Magruder, Cripple Creek; and Dr. Haskell M. Cohen, Victor, were elected; for treasurer, Dr. Sipe, Cripple Creek, was elected.

Chautauqua County (N. Y.) Medical Association.—At the annual meeting of this branch of the New York State Medical Association, held in Jamestown, January 23, the following officers were elected: Dr. William M. Bernus, Jamestown, president; Drs. Orrin C. Shaw, Cassadaga, and Era M. Scofield, Jamestown, vice-president; Dr. Henry A. Eastman, Jamestown, secretary and treasurer; Dr. H. Francis Hunt, Dewittville, chairman of the executive committee, and Drs. Walter Stuart, Westfield, Thomas D. Strong, Westfield, and Henry A. Eastman, Jamestown, fellows of the State Medical Association.

Medical Society of the District of Columbia.—At the meeting of the Society, held on the 29th inst., Dr. W. W. Johnson read a paper on "The Diagnosis and Treatment of Influenza and Pneumonia." Dr. Acker presented an interesting case and specimen of tuberculosis. Dr. Franzonie presented a case and specimen of malignant disease of the lungs and rib. Dr. Bowen reported a case and specimen in the interest of conservative gynecology in a young girl 17 years of age. He removed an ovarian cystic tumor from one side and a cyst of the tumor on the opposite side, leaving a portion of the healthy ovary and the tubes. The president, Dr. S. S. Adams, announced the following standing committees for the year: Public health, J. W. Chappel, chairman; essays, T. C. Smith, chairman; editing transactions, D. S. Lamb, chairman; executive, W. W. Johnson, chairman. The president has organized a committee on prize essay, and secured the necessary funds by subscription. The competition will be open only to the younger men of the society, those graduating since 1890. It is proposed to give an annual prize of $100 for the best essay written in competition during the year. Especial arrangements for awarding the prize and passing upon the merits of the essay will be decided by a sub-committee of the executive committee.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-sixth Annual Meeting, held in Albany, Jan. 28-30, 1902.

(Concluded from page 413.)

The President, Dr. Henry L. Elsner, of Syracuse, in the Chair.

The Constitutional State versus Catarrhal Deafness.

DR. SARGENT F. SNOW, Syracuse, presented a very important and practical aspect of the treatment of these cases, but one that was too often overlooked or its importance under-estimated. Personal hygiene was considered by him as of the very first importance, for an inactive skin or a torpid liver would often effectually thwart the best efforts at local treatment.

DR. J. O. ROE thought that nine-tenths of the cases of "colds" were caused by functional derangements of the internal organs rather than by exposure to cold.

DR. EDWARD B. ANGELL, Rochester, in a paper on "Educational Management of the Neurasthenic," spoke of the value of suggestion, and of the necessity for a carefully graded system of education for this class of invalids.

DR E. F. BRUSH, Mount Vernon, reported "An Epidemic of Typhoid Fever in the Backwoods of Maine," which was of interest because of its isolation, and also because the boy first taken sick infected others in the family by drinking from a barrel of water and throwing some of the water back.

DR. A. T. BRISTOW, Brooklyn, in connection with the report of a "Case of Strangulated Hernia of the Left Ovary and Tube," said that in many of these cases there were other congenital defects, especially of the genital tract. The inguinal variety was most common, but all cases of hernia of the ovary require operation.

Toxic Dosage in the Treatment of Some Nervous Diseases.

DR. WILLIAM C. KRAUSS, Buffalo, read a paper with this title. He asserted that the usual dosage given for bichlorid of mercury, for example, i. e., 1/20 to 1/10 of a grain, was of no avail in cases of brain syphilis. Here the drug should be given hypodermically in doses of one or two grains daily, and if so given the gummata would quickly melt away. Although the ordinary dosage of Fowler's solution of arsenic was from one to ten minims, he had obtained good results in some cases of chorea from giving 30 to 60 minims, three times a day. In certain neuralgic and neuritic disorders marked benefit would result from giving large doses of nitroglycerin.

DR. HENRY R. HOPKINS, Buffalo, said that during the past year he had obtained exceptionally good results in the treatment of severe cases of delirium tremens by a venesection of one or two pints, followed immediately by infusing double the quantity of normal salt solution.

DR. CARL BECK, New York City, said that in the "Pathology of the Tissue Changes Caused by the Roentgen Rays," after prolonged exposure the hair would be found altered in structure, and the blood vessels of the integument narrowed in caliber.

DR. LUCIEN HOWE, Buffalo, exhibited a head-rest useful in connection with "The Position of the Eye at Rest," and said that, in order to find the position of the eye the light should be allowed to fall on the macula of one eye, and then by interposing a prism, the image of the other eye would be thrown off the macula. As there was no tendency to fusion, under such conditions, the eye would assume the position of greatest ease.

DR. A. D. LAKE, Gowanda, read a paper on the "Civilized Indian; His Physical Characteristics and Some of His Diseases." He showed how the Iroquois Indians had degenerated physically since they had adopted the manners and customs of their civilized neighbors, and said that many of them die young, and that they show a special susceptibility to tuberculosis. On the other hand, they had become practically immune to syphilis, though there was evidence that it had raged among them years ago. Another effect of civilization had been to largely increase the diseases peculiar to women.

Symposium on Paresis.

DR. ARTHUR W. HURD, Buffalo, opened the symposium by a consideration of the etiology. He quoted statistics from many sources to prove the important part played by syphilis, as well as to show that in places where syphilis was rare paresis was correspondingly infrequent. It was probable that the great mental strain of the present age was also an important factor.

DR. FRANCIS X. DERCUM, Philadelphia, contrasted the symptoms of the neurasthenic with those observed in the early stage of general paresis. The symptoms of the neurasthenic were almost wholly subjective; the patient was anxious to describe them. He was usually worst in the morning and best late in the day; on the other hand, the paretic rarely sought medical advice of his own volition; he left it to others to describe and point out his deviations from the normal. He was at his best early in the day, while in the evening defects of speech and mentality might be present that were not discoverable in the morning. He early exhibited fatigue, impairment of memory, and an indifference to the details of everyday life, and was occasionally guilty of breaches of etiquette. Perhaps the most characteristic sign was the peculiar manner of the paretic: the slight changes in the expression of the face, and the gestures which indicated that he was not in close touch with his surroundings.

Dr. Charles G. Wagner, Binghamton, took up the "Comparative Frequency" of the subject. He said that, according to Dr. Bell, of the McLean Asylum, paresis had not come under his observation in this country until after 1840, though he had seen many cases abroad. According to the reports of the Lunacy Commission, 49,787 persons had been admitted to the hospitals of the state, and of this number, 3307, or 6.6 per cent., were cases of paresis. In the Manhattan State Hospital, where more than two-thirds of the inmates are of foreign birth, the records show a remarkable preponderance of the disease among native Americans. The disease was gradually increasing in frequency.

Dr. Edward Cowles, of Boston, Mass., considered the "Treatment of Paresis; Its Limitations and Expectations," and stated that the limitations of treatment were evident from a lack of a rational basis for our therapeutics. Hospital experience was opposed to the use of antisyphilitic medication except in cases in which syphilis was actively present. Tonics, and hydrotherapy were useful.

Dr. George Thomas Jackson, New York City, read a brief paper on "Ringworm; A Note on Its Treatment." The most effective remedy for ringworm of the hairy parts that he had ever used was an ointment composed of one dram of crystalline iodin to one ounce of genuine goose-grease. It should be applied twice a day until there is a little swelling of the patches, and then once daily until cured. No epilation is necessary.

Case of Epilepsy with Possible Medicolegal Complications.

Dr. Frederick Sefton, Auburn, reported this case. The patient had developed epilepsy after having been very roughly handled by some college mates who were initiating him into a secret society. He apparently recovered quickly, but some months later became moody and irritable, and then suddenly one evening shot at his sister. The next day he was again almost himself, but he never was able to recall any of the happenings of that eventful night. He was finally given the position of purser on a ship, still occupied that position, and had apparently recovered. The case was interesting because it was evident that, under the present mode of procedure in court, it would have been easy to secure testimony as to this man's responsibility for his acts.

Dr. William Browning, of Brooklyn, said that where fright was the cause of epilepsy the latter usually developed within a few hours or days. These patients with psychic epilepsy rarely do violence to others unless interfered with.

Leucocytes as an Aid to Diagnosis and Prognosis.

Dr. Thomas R. Brown, Baltimore, placed the normal number of leucocytes at 6500 to the cubic millimeter. He said that the leucocyte count had proved very useful in connection with typhoid, malaria, tuberculosis, influenza, scarlet fever, diphtheria and pneumonia. The absence of leucocytosis in an uncomplicated tuberculosis served to differentiate it from other diseases, while its presence pointed to secondary infection. There was reason for believing that the leucocyte count may, in the future, aid in detecting secret drug habits. In cases of appendicitis it was of great value to the surgeon.

The Value to the Physician of Modern Methods of Diagnosis.

Dr. Henry L. Elsner, of Syracuse, delivered the Presidential Address. He spoke of the advances made in the diagnosis of diseases of the stomach by chemical analysis of the stomach contents, the determination of the size and contractility of the organ, and its location in the body. The benefit derived from the use of the iodids in syphilitic disease of this organ and the intolerance under other conditions was mentioned as a useful point in differential diagnosis. The speaker then considered the aid that had been derived from the use of the centrifuge, the value to the surgeon of the *x*-rays, and their possible help to the physician. After speaking at length upon the new science of hematology, he closed by urging general practitioners to take advantage of these new methods of precision.

Dr. Samuel M. Brickner, New York City, in a paper on a "New Symptom in the Diagnosis of Dystocia Due to a Short Cord," said that the occurrence of urination with the cessation of each pain during the second stage he had come to look upon as a pathognomonic sign of a short funis. If to this were added a marked and jerky recession of the head of the fetus with the ending of each uterine contraction, one might feel quite sure that the cord was unduly short.

Symposium on Diseases of the Pancreas.

Prof. R. H. Chittenden, New Haven, Conn., opened this symposium by a consideration of the physiology. He described the production of experimental pancreatic diabetes, and the deductions therefrom, and added that to the physiologic chemist the auto-intoxication theory of diabetes seemed plausible.

Dr. W. S. Thayer, Baltimore, said that interference with the digestion of albuminoids was suggestive of pancreatic disease. Acute pancreatitis was associated with agonizing epigastric pain, tenderness and rigidity of this region, an acceleration of the pus and sometimes with cyanosis. Collapse and death often occurred in four or five days. Some had claimed that it was possible to find a fat-splitting ferment in the urine; if so, we would have the first definite sign of pancreatitis. The diagnosis of chronic interstitial pancreatitis was rarely possible.

Dr. Roswell Park, Buffalo, described the various routes by which the pancreas might be reached, and pointed out the danger of wounding important vessels and nerves. The route usually selected was in front through the gastrocolic omentum. Posterior drainage would usually be required. The treatment of acute pancreatitis was virtually that of peritonitis of the upper abdominal cavity, and consisted in prompt drainage.

Dr. George Blumer, Albany, said that in many cases of diabetes the pancreas appeared normal, except for a hyaline degeneration of the islands of Langerhans. It was now believed that the true cause of fat necrosis was the presence of the fat-splitting ferment, and any pancreatic lesions allowing of the escape of this ferment might cause fat necrosis.

Dr. Joseph C. Bloodgood, Baltimore, in a paper on "Clinical Indications for Surgical Interference in Acute Pancreatitis," said that before abscess formation operation was contraindicated, but after its occurrence no time should be lost in establishing drainage. Out of 39 cases of pancreatic abscess the onset in 23 had been very acute, the symptoms being those of acute pancreatitis. Six out of 24 cases operated upon recovered.

Dr. Denslow Lewis, Chicago, presented in this paper an account of a large number of curious "Traumatisms of Pregnancy," and of remarkable recoveries from the same.

Dr. Arthur W. Elting, Albany, in a paper on "Tendon Transplantation in the Treatment of Paralytic Deformities," said that tendon transplantation should not be done so long as there was evidence of spontaneous improvement. It was especially useful in loss of muscles and tendons from injury, in spinal infantile paralysis, in spastic paralysis, and certain congenital deformities, such as club-foot.

Dr. J. Milton Mabbott, New York City, reported a case of "Pneumogalactocele, with an Unidentified Organism," in which the breast of a primiparous woman became the seat of a tumor containing milk and gas. It developed at the end of the third week. Bacteriologic examination showed the presence of a micro-organism, which was apparently non-pathogenic, but it could not be identified.

Dr. Rowland G. Freeman, New York City, in an essay on a "Simple Method for Determining Percentage of Milk in Home Modifications," endeavored to simplify the calculations by eliminating algebraic formulæ, noting the proportion between the fats and proteids, and then selecting a cream containing the same proportion. Thus, with the formula, fat 3, sugar 6, proteids 1, the proportion is 1 to 3; therefore 12 per cent. cream should be used as the basis, diluting it with water. The sugar is added separately.

Banquet.

The evening was the occasion of an unusually enjoyable banquet. No less than 319 took part, and made merry to a late hour. Governor Odell made an address, in which he begged them not to be unduly anxious about the osteopathy bill, for, if it should happen to slip through the legislature, he would take care of it. He would hardly have taken them so much into his confidence if it had not been that that very afternoon

the public hearing on this bill had been given, and the osteopaths had made a very feeble showing.

DR. HEINRICH STERN, New York City, read a paper on "Obesity of Adolescence." He divided these cases of obesity into those disappearing at the approach of maturity and those continuing after full development had been reached. The latter class he designated as "metabolic," and asserted that they were dependent upon faulty thyroid or parathyroid activity. Neither variety of obesity demanded treatment unless the weight was excessive. In the advanced metabolic cases the treatment was mainly dietetic.

DR. REGINALD H. SAYRE, New York City, read some "Observations on Broken Necks," and exhibited a series of plates illustrative of this class of cases. If the upper three vertebræ were involved, the head would usually assume the position of a torticollis, but in some instances there was an obliteration of the normal curve of the back of the neck. The vertebræ required support for a much longer time than was generally believed. A good plan was to envelop both head and chest in plaster of paris.

Election.

To State Board of Examiners: Dr. A. Walter Suiter, of Herkimer, and Dr. George R. Fowler, of Brooklyn.

Officers of Society: President, Dr. Henry R. Hopkins, Buffalo; vice-president, Dr. William A. Moore, Binghamton; secretary, Dr. Frederic C. Curtis, Albany; treasurer, Dr. O. D. Ball, Albany.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

PRESCRIPTION WRITING, XIII.

(Continued from page 419.)

Inhalations and Atomization.

It is yet a question as to just how much of the respiratory tract is reached by these two methods. That good results can be obtained by this form of treatment in dealing with diseased conditions of the nasal mucous membrane of the pharynx, larynx, trachea and upper bronchi, there can be no doubt. Volatile preparations may be vaporized and the vapor inhaled; non-volatile substances may be dissolved in any good menstruum and, when placed in an atomizer, made to form a very fine spray. The vehicle or menstruum may be liquid petrolatum, glycerin or water. Powders may be employed by means of insufflation.

The following combinations are recommended by E. Fletcher Ingals as local treatment in the different diseases of the respiratory tract:

AS AN INHALATION.

℞.	Formalin	m. xv	1
	Menthol	ʒss	2
	Tinct. iodi	ʒii	7 50
	Alcoholis	℥i	30

M. Sig.: Use in a small inhaler four or five times a day, continuing five minutes each time. This is used in cases of chronic laryngitis and laryngo-trachitis and for five minutes at each inhalation or until the patient can feel its effects in the trachea for several minutes after stopping the inhalation. If this does not seem strong enough the following may be used:

℞.	Menthol	ʒi	3 75
	Formalin	m. xx	1 33
	Tinct. iodi	ʒiii	11 25
	Alcoholis	℥i	30

M. Sig.: Use as an inhalation four or five times daily.

In cases of subacute laryngo-trachitis the following is sometimes employed:

℞.	Tinct. benzoini comp.	℥i	30

Sig.: Pour a teaspoonful in a small vessel of hot water and allow the patient to inhale the vapors by placing the mouth over the vessel and covering the head with a cloth in order to retain the vapors. This may be repeated every two or three hours if necessary.

The following is used as an inhalation in cases of acute and subacute trachitis and bronchitis:

℞.	Thymol	gr. ss	03
	Menthol	gr. x	66
	Liq. petrolati	℥i	30

M. Sig.: Place in an inhaler and use two or three times daily.

As a spray to be used in an atomizer:

℞.	Iodi (5 per cent.)	m. xv	1
	Menthol	gr. x	66
	Liq. petrolati	℥i	30

M. Sig.: Use as a spray once or twice daily.

The foregoing is used in cases of chronic laryngitis, pharyngitis and in rhinitis accompanied by dryness of the membranes. It may also be employed when chronic inflammation of the Eustachian tube is present by directing the spray into the posterior pharynx.

In order to check the secretions in cases of chronic rhinitis with excessive watery discharge the following spray may be used:

℞.	Olei caryophylli	m. viii	50
	Terebeni	m. xx	1 33
	Liq. petrolati	℥i	30

M. Sig.: Use as a spray three or four times a day.

In the more acute forms of rhinitis the following:

℞.	Acidi carbolici	gr. i	06
	Menthol	gr. i	06
	Olei gaultheriæ	m. i	06
	Liq. petrolati	℥i	30

M. Sig.: As a spray four or five times a day.

Yeo, in his *Clin. Ther.*, recommends the following combinations in the treatment of the different forms of bronchitis:

BRONCHORRHEA AND FETID BRONCHITIS.

℞.	Acidi carbol.	ʒss	7 50
	Tinct. opii camph.	ʒiii	90

M. Sig.: A teaspoonful to be inhaled freely from half a pint of hot water; or:

℞.	Acidi carbol.	m. viii	50
	Olei pini prunilionis	m. xx	1 33
	Aquæ q. s. ad	℥i	30

M. Sig.: To be diffused from the surface of water kept boiling.

The following is recommended by him as an antiseptic in fetid bronchitis:

℞.	Thymol	ʒi	3 75
	Acidi carbol.	ʒii	7 50
	Creosoti	ʒii	7 50
	Spts. chloroformi	℥i	30

M. Sig.: As an inhalation.

(To be continued.)

Nasal Ointment.

In crust formations upon the septum, and upon eroded surfaces which may have even gone so far as to produce perforation of the septum, the following ointment is of service:

℞.	Zinci oxidi	gr. xl	2 66
	Acidi carbol.	gr. vi	40
	Olei rosæ	m. v	32
	Iodol	gr. xxv	1 66
	Lanolini	ʒiv	15

M. Sig.: Apply locally to the affected parts.

Terpin Hydrate in Bronchitis.

The following combination containing terpin hydrate is recommended in troublesome coughs:

℞.	Terpin hydratis	ʒss-ʒi	2-3 75
	Glycerini	ʒii	7 50
	Alcoholis	ʒv	18 75
	Elix. simplicis q. s. ad	℥iv	120

M. Sig.: One teaspoonful every three or four hours in water.

Antipyretics in Children.

McGee, in *Cleveland Med. Gaz.*, states that there is frequently no need of reducing fevers in children, but when he does use an antipyretic of this group his preference is for phenacetin. He gives one to three grains to a child two to five years of age. According to Hare antipyrin is safest, especially in treatment of the paroxysms of pertussis. It may be given in doses of two or three grains daily for each year of the child's age. Phenacetin, however, is more useful as a sedative in the treatment of influenza in children.

Treatment of Warts.

Dr. Courbin, as noted in *Pract. Druggist*, states that he has successfully used the following method in removing warts: The skin of the part is carefully disinfected; the base of the wart is transfixed by two needles (rendered aseptic) at right angles to each other. A piece of aseptic silk is then tied tightly around the base of the wart below the needles; the tightening of the ligature constricts the warts, forming a pedicle, and an antiseptic powder is dusted on. At the end of eight days the dressing is removed, when the warts, needles, and silk come away, leaving a small wound, which soon heals.

Treatment of Contagious Diseases of the Eye.

Ziegler, as stated in *Amer. Med.*, discusses the treatment of contagious diseases of the eye by the general practitioner. He states that the local treatment of acute catarrhal conjunctivitis consists of a single application of silver nitrate, grains 5 to the ounce, on the first day, followed by milder applications of glycerol of tannin or a 10 per cent. solution of protargol on each successive day. The following wash is of value:

℞.	Sodii biboratis	gr. v	30
	Acidi borici	gr. x	66
	Aquæ rosæ		
	Aquæ destil. āā	℥i	30

M. Sig.: Drop in each eye freely every two or three hours.

Granular conjunctivitis should be treated daily by an application of silver nitrate, from 5 to 10 grains to the ounce. When the disease begins to yield, milder applications, such as glycerol of tannin or boroglycerid (50 per cent. solution) should be substituted. Purulent ophthalmia should be treated by the daily application to the everted eyelids, of a 10-grain solution of silver nitrate, neutralized by a saturated solution of salt followed by an after irrigation of bichlorid wash. Ice compresses should be applied to the lids, and changed every minute until the swelling and discharge are markedly diminished. A 1 to 4000 bichlorid solution should be used as a wash every fifteen minutes for the first three or four days and then at longer intervals a 1 to 8000 solution may be used. Twice daily a solution of protargol (10 to 25 per cent.) should be instilled. As a prophylactic measure in ophthalmia neonatorum a single drop of a 10-grain solution of silver nitrate may be instilled, or the eyes may be irrigated with a 1 to 4000 bichlorid solution, or a solution of protargol 10 to 25 per cent. may be used.

As an Antiseptic Mouth Wash.

The following is recommended by *Merck's Report* as a mouth wash:

℞.	Formalin	m. v	3 75
	Tinct. benzoini	ʒiii	11 25
	Tinct. myrrhæ	ʒi	3 75
	Olei menthæ pip.	m. iii	20
	Olei anisi	m. ii	13
	Olei cassiæ	m. i	06
	Olei cinnamomi	xv	1 00
	Alcoholis	℥ii	60

M. Sig.: Use as mouth wash once or twice daily.

Medicolegal.

Fracture of Ankle Bone and Septic Pneumonia.—The Court of Appeals of New York says that the only serious question presented in the case of Seifert vs. the Brooklyn Heights Railroad Company was whether the guessing of medical experts, based upon inaccurate hypothetical questions, to the effect that a broken bone in the ankle, which did not perforate the skin, caused septic pneumonia four and one-half months afterwards, furnished sufficient support for a verdict of a jury awarding damages against the negligent party for the resulting death. Death from pneumonia, it says, is not ordinarily the necessary and natural result of an injury to the fibula bone, and when, as it was in this case, it is sought to establish, almost entirely by expert evidence, that such result actually followed, the connection between cause and effect should be made so clear that the conclusion can be said to be the reasonable result of the proof. In this case the proof fell far below that standard, and the verdict of the jury was left, the court declares, too largely upon conjecture and speculation, and so, it thinks, was not supported by evidence, wherefore the verdict should not be allowed to stand.

Sale of Drugs by Physician.—Section 2620 of the Kentucky statutes makes it a misdemeanor to sell or compound drugs, except for a registered pharmacist, or under his immediate supervision. Section 2632 provides, "Nothing in this act shall apply to, or in any manner interfere with the business of any licensed practicing physician, or prevent him from supplying to his patients such articles as may seem to him proper, or with his compounding his own prescriptions." It will be seen, the Court of Appeals of Kentucky says, in the case of Commonwealth vs. Hovious, that this section does not, simply in general terms, exempt physicians from the provisions of section 2620. The true meaning and intent of section 2632, in the court's opinion, is to allow a physician to compound or sell any kind of drugs to his own patients, but not to fill prescriptions sent to him by others. In other words, if a party applies to a physician for examination and treatment, the physician, the court holds, may furnish him any kind of drugs that in his judgment is proper, or compound for him any kind of drugs or medicine; but he can not sell drugs indiscriminately to persons calling for the same, nor compound drugs and sell them indiscriminately to all who may call for them. It results, it holds, that it was error to adjudge not guilty of violating section 2620 a regular licensed physician who carried on the business of a retail druggist in person and by an agent, without obtaining the certificate required by law of pharmacists.

Liability for Failure to Furnish Medical Assistance.—The Court of Civil Appeals of Texas says that, according to testimony in Galveston, Harrisburg & San Antonio Railway Company vs. Rubio, the company violated its contract in regard to furnishing the latter party, who had been in its employ, with necessary medical and hospital assistance. For such breach of contract the man, the court holds, would be entitled to recover to the extent of the damages he may have sustained, which might be expected as naturally resulting from such breach. In other words, the company would be responsible if it violated said provision of its contract to compensate him in reference to his immediate sickness, and the consequences thereof attributable to its failure to give him the necessary attention; and loss of time, and decreased capacity to earn a living, the court says, could not be regarded as too remote. But, as a matter of damages, his act in making his way back to his home, some 700 miles, on foot, was too remote to be considered, though occasioned by his having no money to pay his fare. It says that this act had no connection with the company's refusal to comply with its contract, as a natural result thereof, nor was it an act to be reasonably expected therefrom. The rule that, where there is serious physical injury occasioned by the act of another, mental suffering, if any, may also be considered as an element of damages, the court holds, had application in this case. It says that although the damages sought were for breach of contract, it will be observed that the very subject-matter of the contract was the health or physical condition of the employe. From a breach of it physical suffering and injuries would naturally follow. Hence, the applicability of the rule.

Louisiana Medical Practice Act Not Unconstitutional.—The title of Louisiana Act No. 49 of 1894 reads: "An act to regulate the practice of medicine, surgery and midwifery; to create state boards of medical examiners, and to regulate

the fees and emoluments thereof; to prevent the practice of medicine, surgery and midwifery by unauthorized persons; and to provide for the trial and punishment of violators of the provisions of this act by fine or imprisonment, or both; and to repeal all laws or parts of laws in conflict or inconsistent with this act." Section 12 provides "that any itinerant vender of any drug, nostrum, ointment or application of any kind, intended for the treatment of disease, or injury, or who may by writing, print, or other method, profess to cure or treat disease, or deformity, by any drug, nostrum, manipulation, or other expedient, in this state, shall, if found guilty, be fined in any sum, not less than $25, and not exceeding $100, for each offense, to be recovered in an action of debt before any court of competent jurisdiction, or shall be imprisoned for a term of not less than ten days or more than thirty days, or both fined and imprisoned." The Supreme Court of Louisiana holds, State vs. Lee, that the title expresses but one object, and that section 12 does not go beyond the title, by denouncing the mere selling of drugs and nostrums, etc., as an offense; the offense there denounced consisting of the itinerant vender professing to treat and cure disease and deformity by the use of drugs, nostrums, etc., sold by him, and by the other means mentioned. It says that it can hardly be denied that, if the general purpose of the act is to protect the public from unskilled and incompetent practitioners, provisions relating to venders who undertake to prescribe and effect cures with the nostrums which they sell are quite as germane to the purpose as the provisions which relate to persons who, without having had their qualifications tested, undertake to treat disease by the use of compounds sold by others. It does not think that the section was intended to apply to the itinerant vender, merely in his capacity of vender, but that, as above suggested, the lawmaker was undertaking to deal with him, for the purposes of the act, as a person professing to treat or cure disease or deformity by the use of drugs and nostrums which he sells, or by manipulation or other expedients. Nor, although the section is inartificially drawn, does the court consider that it can be interpreted as defining and denouncing two offenses: the one, of selling, and the other, of professing to cure with, drugs and nostrums. It ignores the disjunctive "or" after the word "injury."

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine (Philadelphia), February 1.

1 *On the Value to the Physician of Modern Methods of Diagnosis. Henry L. Elsner.
2 *Erysipelas in the Negro. Report of a Case of So-called Spontaneous Type; Summary of the Literature on the Subject. R. P. Stoope.
3 The Passing of Drug Giving. John Madden.
4 *The Comparative Value of the Thorner Stationary Ophthalmoscope. Howard F. Hansell.
5 *"The Vexed Question of Vaccination" Again: Have We a Standard Glycerinated Virus? F. J. Runyon.
6 A Durham Tube in the Right Bronchus. E. D. Ferguson.
7 *The Abandonment of Digital Examination by the Vagina in Labor. W. A. Briggs.

Medical News (N. Y.), February 1.

8 *On the Value to the Physician of Modern Methods of Diagnosis. Henry L. Elsner.
9 *Note on the Glycosuria Following Experimental Injections of Adrenalin. C. A. Herter and A. N. Richards.
10 *Sanitary Aspects of Nicaragua vs. Those of Panama. J. Edward Stubbert.
11 A Word on Specialization in Medicine and Surgery. Wm. M. Polk.

Boston Medical and Surgical Journal, January 30.

12 *On the Value to the Physician of Modern Methods of Diagnosis. Henry L. Elsner.
13 *Suggestion in Medicine. George C. Smith.
14 A Case of Raynaud's Disease. George S. C. Badger.
15 *Vaccination and Smallpox. S. H. Durgin.

Philadelphia Medical Journal, February 1.

16 *Results of X-Ray Diagnosis and of Operation in Injuries from Foreign Bodies in the Eye. William M. Sweet.
17 A New Localizer for Determining the Position of Foreign Bodies in the Eye by the Roentgen Rays. L. Webster Fox.
18 *Precancerous Keratosis Probably Due to X-Rays. James C. Johnston.
19 *Treatment of Epithelial Skin-cancers and Sycosis Non-parasitica with the X-Ray. J. F. Rinehart.
20 *The Accuracy of the Negative Roentgen Diagnosis in Case of Suspected Calculous Nephritis and Urethritis. Charles Lester Leonard.

New York Medical Journal, February 1.

21 *The Management of the Tendency of the Upper Fragment to Tilt Forward in Fractures of the Upper Third of the Femur. Russell A. Hibbs.
22 Meckel's Diverticulum and Its Relation to Ileus, with Report of a Case. C. O. Thienhaus.
23 A Case of Hydrencephalocele. David E. Wheeler.
24 *The Influence of Electric Ozonation upon Disease. (Concluded.) G. Lenox Curtis.
25 The Treatment of Defectives. Maximilian P. E. Groszmann.
26 *Typhoid Perforation, Its Frequency, Prognosis, Diagnosis, and Treatment. Hugh M. Taylor.

Medical Record (N. Y.), February 1.

27 *Carbonate of Creosote in Pneumonia. W. H. Thomson.
28 *Ringworm: A Note on Its Treatment. George T. Jackson.
29 Progress in Veterinary Medicine in Its Relation to Public Health. William H. Lowe.
30 Case of Acute Articular Rheumatism with Pyemic Temperature, Treated by Anti-streptococcic Serum. R. J. Chipman.
31 Early Mechanical Effects of Altitude of the Rocky Mountain Plateau in Pulmonary Tuberculosis. J. E. Courtney.
32 Gunshot Wound of the Stomach. George P. Jessup.
33 Gallstones Complicated with Empyema of the Gall-bladder. H. T. Miller.
34 A Case of Galactorrhea. Frederic Griffith.
35 Circumcision for Relief of Acne. W. C. Ussery.
36 Protozoa in Gangrenous Stomatitis. W. Moser.

Cincinnati Lancet-Clinic, February 1.

37 Diarrhea. George J. Monroe.
38 *New Wearing Apparel and Hygiene. M. L. Heidingsfeld.

St. Louis Medical Review, February 1.

39 *Sympatheticectomy in Simple Optic Nerve Atrophy—A Clinical Report. Edwin C. Renaud.

Northwestern Lancet (Minneapolis), January 15.

40 The Stereoscopic Photograph. The Beneficial Effect on the Eyes from the Use of the Stereoscope. A. Edward Davis.
41 The Diagnosis of Extrauterine Pregnancy. J. E. Moore.
42 Hay Fever and Asthma a Permanent Cure by Means of Nasal Surgery. Floyd S. Muckey.

American Practitioner and News (Louisville, Ky.), Dec. 15, 1901.

43 Emotional or Impulsive Insanity. Ewing Marshall.
44 Facts Versus Fallacies in the Practice of Rectal Diseases. A. B. Cooke.
45 Typho-malarial Fever. William A. Howard.

Medical Fortnightly (St. Louis), January.

46 Locomotor Ataxia; with Observations in Nine Cases. Everett J. Brown.
47 A Case of Phlegmonous Erysipelas of the Arm Requiring Amputation at the Shoulder Joint. W. V. Loftus.

Virginia Medical Semi-Monthly (Richmond), January 24.

48 Repeal the Special License Tax—Report of Committee—Essentials for Success. J. Beverly Deshazo.
49 Intubation in Laryngeal Diphtheria with Special Reference to the Influence of Antitoxin. Walter A. Wells.
50 Sarcoma of the Testicle. Lewis C. Bosher.
51 The Crepitant Râle. E. M. Magruder.
52 Treatment of Purpura. John H. Claiborne.
53 Address of Welcome to the Seaboard Medical Association of Virginia and North Carolina. Livius Lankford.

American Journal of Obstetrics (N. Y.), January.

54 *The Surgical Aspects of Carcinoma Uteri Complicating Pregnancy, Labor, and the Puerperium. Charles G. Cumston.
55 Technique of Labor in Private Practice. Stanley P. Warren.
56 Developmental Anomalies of the Uterus. A. L. Stavely.
57 Uterus Didelphys Found with a Pyosalpinx. J. M. Ward.
58 *Intestinal Anastomosis with Suturing of the Entire Thickness of the Intestinal Wall. Oscar H. Allis and R. P. McReynolds.
59 Report of a Case of Primary Carcinoma of the Urethra. Abram Brothers.
60 Elephantiasis of Labium Majus—Fibroma of Labium Majus. Louis J. Ladinski.
61 *Vaginal Hysterectomy with Four and a Half Months' Pregnancy and Closed Cervix. J. H. Carstens.
62 General Treatment in Gynecological Patients. Walter B. Chase.
63 Pelvic Fracture During Labor. U. S. Bird.
64 Cases in Practice (Alveolar Hemorrhages During Pregnancy, etc.) Thomas C. Smith.
65 *Iodoform and Carbolic-acid Intoxication. I. S. Stone.
66 A Catheter. F. F. Simpson.

St. Paul Medical Journal, February 1.

67 Tubal Pregnancy, Its Etiology and Treatment, with Report of Cases. Judd Goodrich.
68 The Treatment of Typhoid Fever, with Special Reference to the Use of Water. G. W. Boot.
69 Insanity and the Poisons. J. D. MacLean.
70 Thermic Trauma. Edward O. Plumbe.
71 Report of Four Cases of Strangulated Hernia, Two of Them of a Rather Unusual Character. F. M. Archibald.

Alienist and Neurologist (St. Louis), January.

72 *The Acquirement of Nervous Health. F. Savary Pearce.
73 *Manual Stigmata of Degeneration. J. Elvin Courtney.
74 *Sexual Inversion Among Primitive Races. C. G. Seligmann.
75 Juvenile Female Delinquents. E. S. Talbot.
76 Clinical Observation on a New Hypnotic. H. Schoenfeld.

77 *Medical Aspects of the Czolgosz Case. Charles H. Hughes.
78 *Leon F. Czolgosz. August Drahms.
79 *Consciousness and the Neural Structure—a Physio-psychical Review. James G. Kiernan.
80 *Science and "Christian Science." Paul Paquin.

Dominion Medical Monthly (Toronto), January.

81 Tuberculosis of the Skin. Graham Chambers.
82 Report of Physician-in-Charge Muskoka Cottage Sanatorium. J. H. Elliott.

Annals of Gynecology and Pediatry (Boston), January.

83 *Treatment of Inversion of Uterus. E. W. Cushing.
84 *Grave Abdominal Injuries without External Evidences of Traumatism. R. Harvey Reed.
85 Diffuse Sarcoma of the Uterus. D. S. Fairchild.

Chicago Medical Recorder, January 15.

86 *The Conservative Treatment of Appendicitis and Fallacy of the Starvation Cure. J. H. Carstens.
87 Fatal False Passage in Hypertrophy of the Prostate—Pelvic Abscess and Embolism of the Pulmonary Artery. Maximilian Herzog.
88 *Indications and Limitations of Massage of the Prostate Gland. Louis E. Schmidt.
89 Case of Brain Abscess. J. Holinger.
90 Infant Incubation, with the Presentation of a New Incubator and a Description of the System at the Chicago Lying-in Hospital. Joseph B. De Lee.
91 The Diagnosis of Latent Frontal Sinusitis. G. E. Shambaugh.
92 Syphilis Hereditaria Tardia. Emanuel Friend.
93 Familiar Cases of Goiter. Wm. L. Ballenger.
94 Case of Aortic Aneurysm. Robert B. Preble.

Pennsylvania Medical Journal (Pittsburg), January.

95 Address in Hygiene, Western University of Pennsylvania. Elmer B. Borland.
96 *Observations on the Nature and Diagnosis of Acute or Infective Endocarditis. Aloysius O. J. Kelly.
97 Diagnosis and Treatment of Gastroptosis. J. Dutton Steele.
98 Thyroiditis Complicating Typhoid Fever. Wm. Egbert Robertson.
99 Some Practical Points in the Treatment of Typhoid Fever. S. Birdsall.
100 *Reforms in Medical Education. H. M. Shallenberger.
101 *The Appendix Vermiformis. Edmund W. Holmes.
102 Strength. John M. Batten.

Medical Bulletin (Philadelphia), January.

103 Acute Gonorrhea. John V. Shoemaker.
104 One Thousand Ophthalmic Operations. L. Webster Fox.

Detroit Medical Journal, January.

105 A Case of Landry's Paralysis, with Notes. Johann Flintermann.
106 The Curability of Deafness. Harold Wilson.
107 Clinical Data Relative to Inebriety. Samuel Bell.
108 Galvanism and Diabetes. F. C. Thompson.
109 Myxedema—A Casuistic Contribution from the Detroit Sanitarium. Max Ballin.

Kansas City Medical Index-Lancet, January.

110 *Scientific Research—The Indispensable Basis of All Medical and Material Progress. (Continued.) George B. Ferguson.
111 *Epilepsy, Responsibility and the Czolgosz Case. J. Sanderson Christison.
112 Treatment of Malignant Growths by X-Ray, with Report of Two Cases. Samuel Ayers.
113 Reminiscences of a Recent Trip Abroad, Including Visits to the London, Paris, Berlin, etc., Hospitals, Clinics, Medical Museums and Libraries, as Well as to the British Medical Association. John Punton.

Ophthalmic Record (Chicago), January.

114 *The Mydriatics: The Motive and Method for Their Employment in the Correction of Errors of Refraction. S. D. Risley.
115 *A Further Contribution to the Study of the New Formed or Vicarious Fovea. A. Edward Davis.
116 *The Difficulties in the Way of an Accurate and Satisfactory Fitting of Glasses in Ametropia. Swan M. Burnett.
117 The Centering and Decentering of Lenses Before the Eye. Edward Jackson.
118 *Climate or Spectacles? Geo. S. Hull.
119 The Practical Value of the Perforated Disc in Subjective Testing of the Refraction. F. B. Eaton.
120 A New Enucleation Forceps. George F. Suker.

Medical Sentinel (Portland, Ore.), January.

121 *Pulmonary Tuberculosis—The Relative Parts Played by Heredity and Infection—Should the Disease be a Notifiable One? Harry Lane.
122 The Prevention of Uterine Displacements with Adhesions with a Special Reference to Partnurition as a Causative Factor. James P. Tamiesie.
123 The Psychopathic Hospital—An Urgent Necessity. Ernest Hall.

The Laryngoscope (St. Louis), December, 1901.

124 *The Early Appearance of Laryngeal Tuberculosis. H. Holbrook Curtis.
125 Report of a Case of Sarcoma of the Right Tonsil. Burton S. Booth.
126 Head Sections Showing the Relation Existing between the Nose and Its Accessory Cavities. John W. Murphy.
127 *Tinnitus Aurium. Phillip D. Kerrison.
128 The Nose and Throat in the History of Medicine. (Continued.) Jonathan Wright.
129 The Attic of the Nose. Edwin Pynchon.

Journal of Eye, Ear, Nose and Throat Diseases (Baltimore), November-December, 1901.

130 The Rod Optometer—A Valuable Aid in Determining Errors of Refraction. Francis M. Chisolm.

Western Medical Review (Lincoln, Neb.), January 15.

131 *Internal Derangement of the Knee-joint. Charles C. Allison.
132 *The Relation between Dental Affections and Those of the Eye. George H. Bicknell.
133 Cancer of the Uterus. W. O. Henry.
134 Further Observations on Intraspinal Injection. Frederick Rustin.
135 *Some Local Uses of Formalin. A. B. Anderson.
136 Some Remarks on Infections. H. P. Hamilton.
137 Inflammation of the Sigmoid and Colon. R. D. Mason.
138 Office Treatment of Gynecological Patients. Ewing Brown.
139 *The Bromid of Strontium. W. H. Dearing.
140 Alimentary Glycosuria. A. C. Stokes.

Medical and Surgical Monitor (Indianapolis), January 15.

141 Complications and Sequelæ of Typhoid Fever. E. L. Larkins.
142 Unsuccessful Operations for Appendicitis—A Plea for Operations in Hopeless Cases. Walker Schell.
143 A Study in the Evolution and Psychology of Sex. N. E. Aronstam.

Medical Herald (St. Joseph, Mo.), January.

144 *The Unreliability of Children's Testimony. Elmore S. Pettyjohn.
145 Scarlet Fever. H. D. Jerowitz.
146 Some Twentieth Century Ideas in Medicine. Charles E. Davis.

Southern California Practitioner (Los Angeles), January.

147 Observations in Johns Hopkins. F. R. Burnham.
148 Achylia Gastrica. W. Jarvis Barlow.
149 Hernia—Indications for Operation. C. Van Zwalenberg.
150 Recent Advance in Clinical Symptomatology in Relation to Abdominal Surgery. W. W. Hitchcock.
151 How I Treat Membranous Croup. A. A. Stafford.

Alabama Medical Journal (Birmingham), January.

152 *The Future of the Negro from the Standpoint of the Southern Physician. Seale Harris.
153 Pathology Necessitates a Consideration of Bacteriology. L. N. Johnston.
154 *Chronic Nasopharyngeal Bursitis (Tornwaldt's Disease). Dunbar Roy.
155 Suppression of Consumption. R. C. Bankston.

Memphis Medical Monthly, January.

156 Growth and Development of Modern Surgery. J. P. Runyan.
157 A Supplementary Report upon the Subject of Gallstones, Cholecystitis and Cholangitis. Frank D. Smythe.
158 Report of Two Cases of Ovarian Cyst. Robert W. Tate.
159 *Febris Innominata. J. H. Preston.
160 Surgery of the Brain and the Appendix, with Report of Cases. E. M. Holder.

Canadian Practitioner and Review (Toronto), January.

161 A New Method of Cutting Urinary Calculi; A Case of Unusually Large Calculus Removed by Suprapubic Section. George A. Peters.
162 Cancer of Rectum. Edmund E. King.
163 Pelvic Lesions in Relation to Their Distinctive Effects upon Mental Disturbances. A. T. Hobbs.

Archives of Pediatrics (N. Y.), January.

164 *A Case of Acute Hemorrhagic Nephritis Complicating Influenza in an Infant of Thirteen Months, with an Analysis of 40 Cases of Influenzal Nephritis. D. J. Milton Miller.
165 Amaurotic Family Idiocy. A. C. Cotton.
166 High Temperature of Three Months' Duration, with Double Sacculated Empyema, Situated on One Side of the Diaphragmatic Surface of the Lung. L. Emmett Holt.
167 Sun Play-Rooms on City Roofs. W. P. Northrup.
168 *The Malnutrition of Tuberculosis. Floyd M. Crandall.
169 A Case of Acute Articular Rheumatism in an Infant Twenty-seven Days Old. Paul J. Barcus.

Texas Medical News (Austin), January.

170 Report of a Case of Large Multilocular Cyst—Adenoma of the Ovary—Operation—Recovery. Thomas F. Kittrell.
171 Malarial Hematuria—Black Jaundice. M. M. Myers.
172 Acute Appendicitis and Its Management. Charles C. Gidney.
173 Acute Rheumatism. J. W. Torbett.

Chicago Clinic, January.

174 The Treatment of Diphtheria. Dudley Jackson.
175 *Report of Case of Idiopathic Dropsy. Emma M. Moore.

---

1. **Modern Methods of Diagnosis.**—Elsner's address covers the subject of the modern improvements in diagnosis which are becoming so numerous and important in medical practice. Of course, not all the newer methods are referred to. He says the individual has the right to demand of his physician, after recording all facts relating to the disease, the investigation of every detail of his case by every method needed for accurate observation and ultimate diagnosis.

2. **Erysipelas in the Negro.**—The rarity of erysipelas in the negro in the literature of the disease suggested to Stoops the report of a case of spontaneous erysipelas in a coal-black

negro woman with typical symptoms and course, with streptococci in the blebs. He briefly reviews cases reported in the literature and offers as his conclusions the following: 1. The negro possesses no special immunity against erysipelas. The impression that he is immune is due to the following causes: *a.* The average physician does not have an extensive practice among the negroes. *b.* In the North, negroes frequently have a superstitious dread of a hospital, and hence do not always apply for treatment. *c.* The physicians who have had such cases have not, as a rule, reported them. *d.* The disease is sometimes unrecognized when it does occur. 2. As interpreted by the course the disease took in my case, the picture of facial erysipelas in a negro is the following: *a.* The onset is attended with enlargement of the cervical glands, sore throat and high fever. The swelling generally begins around the nose or mouth. *b.* No cutaneous flush is visible in a very dark negro. *c.* Hardened projections can be felt at the periphery of the inflamed area. *d.* The blebs, which occurred early in my case, are very distinct, showing as whitish patches in sharp contrast with the dark skin. *e.* Desquamation begins in a part as soon as the inflammation has subsided, and may be complete in one place while the erysipelatous process is active in another. *f.* The general symptoms are those that accompany most of the acute fevers.

4. **The Stationary Ophthalmoscope.**—Hansell illustrates the Thorner stationary ophthalmoscope and shows its use for fundus examination. It can not, of course, replace the hand ophthalmoscope for various reasons, viz.: its size, non-portability, inferiority in the study of lens and vitreous opacity and its indifferent measurement of the state of refraction of the eye, but it is specially valuable in the examination of the fundus and in the teaching and sketching or painting diseased or healthy eye grounds and in diagnosis.

5. **Vaccination.**—Runyon gives a very unfavorable opinion of the use of the glycerinated vaccine, maintaining that there are several possible reasons why it should be more likely to be followed by tetanic infection. He enumerates these as follows: 1. In making the glycerinated virus, parts of the vesicle are used, which were formerly considered unsafe. 2. The germs of tetanus being anaërobic and very resistant to ordinary germicides, possibly find suitable media in the liquid virus (for, so far as I have been able to learn, tetanus when it occurred has almost invariably followed the use of this virus). The incubation period seems to exclude this. 3. Glycerinated lymph is slow in drying, and may thus become contaminated by germs floating in the air, from clothing, etc. 4. This is a point to which I call special attention. The germs of tetanus almost invariably require the assistance of other germs to prepare the soil, else they will not develop (Dercum-Keating's Cyclopedia-Supplement). May not the slough (superficial gangrene, for such it is) not infrequently following the use of certain types of the glycerinated lymph, supply the ideal soil? Then the tetanus germs develop, if present in the vaccine, or otherwise reaching the wound. He reiterates his view that he thinks it is a dangerous virus for general use and one calculated to bring discredit upon vaccination generally, a statement which he made in August and claims that it was a prophecy that has been fulfilled.

7. **Digital Examination in Labor.**—Briggs recommends the use of rectal instead of vaginal examination in labor and claims that equally satisfactory results have been obtained as to presentation, etc., as by the other method, without the risk of introducing germs or interfering with the natural secretions.

8. —See ¶1 above.

9. **Adrenalin.**—Herter and Richards have found that adrenalin solution injected into the peritoneal cavity of a normal dog causes a rapid and usually considerable excretion of dextrose in the urine, an observation not heretofore made. The details of the experiments are reported and attention called to special points. In one case an effort was made to greatly reduce the carbohydrate material by means of injections of phloridzin, together with deprivation of food. It is noticeable that urine collected four hours after the injection did not contain any sugar, though later glucose appeared in small amounts. Another feature of interest is that abundant excretion of glucose followed the injection of adrenalin solution when it had been boiled for five minutes, which process must have destroyed any diastatic ferment contained in the extract. In fact Takamine's method of preparing adrenalin makes unlikely the leaving of any diastatic ferment in the product. It also can be added to the solution of glycogen and kept in an incubator for twenty-four hours without conversion of glycogen into sugar. From these facts they hold that there is no reason for attributing the glycosuria from adrenalin to the presence of a diastatic ferment. There is also no satisfactory reason for referring to the diastatic ferment in the suprarenal body the glycosuria caused by an extract of this gland. The dogs which received the adrenalin subcutaneously showed only slight increase in the reducing substance of the urine, which contrasted sharply with doses of equal size given intraperitoneally. The alterations in the intestines and pancreas in one experiment are remarkable and indicate that the agent is capable of producing highly destructive changes of the parts. After a fatal dose of adrenalin the cells composing the islands of Langerhans were found to be the seat of granular degeneration, very pronounced in some places. The nuclei of many of these cells showed extensive loss of chromatin substance. In some parts of the pancreas the cells of the islands of Langerhans were much more injured than the surrounding cells of the secreting acini. The authors promise to investigate these results more fully. They suggest, however, that this glycosuria is in reality of pancreatic origin, though such advanced pancreatic lesions are not essential to its production.

10. **Isthmus Canals.**—Stubbert reviews and criticises the paper of Soper published in the *Medical News* of January 4, calling attention to the different sanitary conditions along the Panama and Nicaragua routes. While the Panama route is undoubtedly deadly he gives numerous facts to show that the Nicaragua route is comparatively a healthy one.

12.—See ¶1 above.

13. **Suggestion in Medicine.**—The importance of suggestion is illustrated by numerous instances by Smith, who calls attention to the danger of evil results from careless remarks of physicians or from the lack of sufficient instruction. He thinks that the fact of human suggestibility necessitates in the physician more thorough study of human nature and psychology. We should make our examination more exhaustive and sharpen our observation with the result of producing better diagnosis, prognosis and treatment. The two points which he specially wishes to emphasize are the need of thorough psychologic preparation for the medical school and the dangers of bad suggestive therapeutics.

15. **Vaccination.**—The importance of vaccination and revaccination is insisted upon by Durgin, who makes, however, an interesting statement in regard to the Mexican practice of using only humanized lymph and never revaccinating with excellent results as regards prophylaxis from smallpox. He thinks only slight abrasions, perhaps not over ⅛ to ¼ of an inch in diameter, are required and the skin should be only reddened; drawing blood is useless.

16. **X-Ray Diagnosis of Foreign Bodies in the Eye.**—Sweet discusses the value of *x*-ray diagnosis, its accuracy, etc., from a study of some 65 cases in which the foreign body was shown on examination out of a total of 102 cases examined and offers the following conclusions: "1. The Röntgen rays offer the most certain method of detecting and locating foreign bodies in the eye. 2. The position of the foreign body should be determined in all cases before magnet extraction is attempted. Frequent insertion of the small magnet into the vitreous in the hope of finding the metal injures the eye and renders later attempts at extraction difficult, while the employment of the large magnet is not without danger when the position of the body is not known. 3. Early extraction offers the best chance of saving the eye. When the track of the body is through the cornea and lens, its position in the vitreous will indicate whether less damage will be done by removing the metal through the open entrance wound or through a new opening in

the sclera close to the indicated position of the body. 4. The more extended use in the future of the larger magnet in cases of steel in the vitreous chamber to draw the metal to an opening in the sclera, after its position has been accurately determined, will probably achieve better visual results than have been obtained in the past with the small magnet introduced in the vitreous. 5. Iron or steel which has remained in the eyeball until a fibro-cellular covering envelops it can not be dislodged with the magnet. Extraction with forceps, and the employment of normal salt solution to replace any vitreous lost, has resulted in several instances in eyeballs of good cosmetic appearance, and is an operation worthy of trial. Forceps extraction must also be employed when the body is of copper or glass. 6. Extraction is a safe operation, and under proper precautions is free from the dangers of panopththalmitis or meningitis." A tabulated summary of the cases is given.

18. **X-Ray Precancerous Keratosis.**—The conditions described by Johnston differ decidedly from *x*-ray burns, and must be classed, he thinks, as precancerous keratosis. Two cases are reported showing the conditions. There was no tissue lost, but the skin of the exposed part became red, thickened, and hard as in scleroderma, with excruciating boring pains. He thinks it is out of the question to leave these cornifications, as they are potentially malignant. He would excise them thoroughly and repair by grafting. Both cases were in *x*-ray workers, one a surgeon, and the possibility of irritation from developing and toning liquids is suggested, but Johnston remarks that he has examined the hands of a number of photographers and seen nothing approaching to this condition.

19. **X-Ray Treatment of Skin Cancer and Sycosis.**—The paper of Rinehart is written with special reference to the recognition of the *x*-ray in the treatment of skin cancer and nonparasitical sycosis. There is no pain in the treatment, little scar left and the possibility of more thorough eradication of the disease. He thinks that there must be more than the inflammation produced by the light and suggests the possibility of something in the nature of electrolysis destroying the cancer cells and the hair follicles.

20. **X-Ray and Calculous Nephritis.**—Of 206 cases examined on account of the suspicion of calculus, Leonard detected calculus in 65. Contrary to previous opinion the ureteral calculi were more frequent than the renal, which shows the greater accuracy of the method. In only one case in which a negative diagnosis was rendered was calculus found on operation and this mistake was due to defective technique in placing the plate, the shadow of the calculus being cast outside it. In three other cases of negative diagnosis the patient subsequently passed small calculi, the error being made in reading the negative. The percentage of error so far in the negative diagnosis has been less than 2 per cent. The results compare favorably with other methods of diagnosis and it should be noted that the calculi overlooked were all so small that they subsequently passed. There is no inconvenience to the patient to speak of, or pain, or any danger of infection by the introduction of instruments and yet the results of examination are more comprehensive than those obtained by any other method. Another advantage is the rational treatment of the patient by purely medical, dietetic and hygienic methods when the absence of calculi is determined by this means, and the value of the positive diagnosis is shown by the accuracy and completeness of the results of operation.

21. **Fractures of the Femur.**—Hibbs recommends the long traction hip splint, such as is in use in hip-joint disease, as the best treatment for fractures of the upper third of the femur. He illustrates the method of its employment and reports a case. He has since treated two other cases with similar splints with like satisfactory results. With this instrument the tendency of the upper fragment to tilt forward in fractures of the upper third of the femur ceases to be difficult to manage, and the treatment should be as successful as when the fracture occurs at a point lower down.

24. **Electric Ozonation.**—In the conclusion of his paper Curtis recommends electric ozonation to the consideration of the profession for the following reasons: 1. The device is not complicated and the cost of the apparatus is not prohibitive, and its maintenance amounts to practically nothing. A nurse can be easily taught to operate the machine. 2. The high tension and the low ampèrage of the current eliminate all danger from the shock. 3. The high-tension current and the great quantities of ozone liberated are productive of rapid therapeutic results. 4. The efficiency of the machine is not impaired by damp weather, and it is, therefore, always ready for use. 5. The machine is portable and well adapted for use in the sickroom. 6. It generates pure ozone and for that reason it is superior to any oxygen apparatus. 7. Chronic and acute cases are alike amenable to the curative effect of electric ozonation. 8. This appliance is a valuable diagnostic aid.

26.—This article has appeared elsewhere. See The Journal of January 25, ¶147, p. 281.

27. **Creosotal.**—Experience with 18 cases treated in the Roosevelt Hospital from May 1 to November 1, 1901, almost exclusively with creosotal is reported by Thomson. Of these only one died. The cases averaged fairly as the average run of pneumonia cases, and two or three were decidedly severe. In the one fatal case the drug seems to have been ineffectual, for reasons which he does not explain. He thinks it is quite possible that this drug may exert a special effect on the course of pneumonia. It also seemed to effect very favorably the undesirable complication of tympanites. He has never noticed any depressing effect of it on the circulation, nor need there be any fear of its acting injuriously upon the kidneys, even if they were previously diseased. His success in these 18 cases is considerably above the average as regards the slight mortality. His usual formula for administering it is:

℞. Creosot. carbonat.....ʒiv
Glycerini .....℥j
Aq. menthæ .....ad Oss
M. Dose: Tablespoonful in water.

28. **Ringworm.**—Goose grease is the special treatment for ringworm recommended by Jackson. He says if we add a dram or more of the crystals of iodin to the ounce we will have a most effective treatment for ringworm. At the Vanderbilt Clinic at New York, this preparation has been extensively used for two or three years and almost exclusively after a few months' treatment. It should be applied twice daily until it has produced a reaction, as is shown by swelling of the patch, and then once a day is sufficient. In two or three weeks the hair falls out and the spot becomes bald, and when it grows again the patch is well. No epilation is necessary. There may be a little pain with the first application, but later even a child does not complain. He cautions, however, to use the genuine article, as there are some imitations on the market.

38. **New Wearing Apparel and Hygiene.**—Heidingsfeld calls attention to the effect of the use of new clothing which is made in sweat shops and used without previous washing and ironing. Frequently it has been stored away in some damp place under conditions favoring the development of the growth of any pathogenic germs that might exist. He reports several cases that have been observed and says he has often been called in to see members of clothing firms and employes who show marked evidences of herpes tonsurans acquired no doubt by handling finished products from so-called sweat shops. The laity should be disabused from the belief that everything new is clean and led to believe that everything new, if possible, should be washed and ironed. In this way we might eliminate many distressing forms of skin infection.

39. **Sympatheticectomy.**—Renaud finds this operation of value in obtaining the vaso-dilating effect required in the treatment of optic nerve atrophy and he reports cases where he has performed the operation with benefit. He thinks it of value only in cases where atrophy is beginning or is incomplete and before too pronounced structural changes have taken place. There must be considerable normal nerve tissue remaining. It is only necessary that the superior ganglion of the cervical sympathetic be removed, as it is from this ganglion alone that the sympathetic fibers to the eye and orbit are derived. He would also recommend its being removed on both sides and sug-

gests that the lack of success in glaucoma may sometimes be due to unilateral operation.

54. **Carcinoma Uteri in Pregnancy.**—The literature of the treatment of carcinoma complicating pregnancy is reviewed by Cumston, who sums up his conclusions as follows: If the carcinoma can be radically removed the life of the mother alone is to be considered. Up to the beginning of the sixth month of pregnancy vaginal hysterectomy is the operation of choice, but after this period abdominal hysterectomy, or Duehrssen's vaginal Cesarean section followed by hysterectomy is indicated. If the neoplasm is inoperable the life of the child must be considered, but if the progress of the growth is such that the mother becomes rapidly cachectic, thus compromising the fetal vitality, pregnancy should be interrupted. Palliative treatment alone should be instituted, because partial operations on the neoplasms usually produce hemorrhage, and do not materially benefit the mother. Cesarean section at term may be done, but leaving the uterus involves the danger of septicemia, consequently Porro's operation should be chosen if the periuterine tissues are not so infiltrated as to render it dangerous.

58. **Intestinal Anastomosis.**—Allis' first operation here described was resorted to because of the lack of the Murphy button, which he formerly used. It was an end-to-end anastomosis, and he remarks that if the reader will divest himself of his coat and place the cuffs parallel he can look down into the sleeve ends as into a double-barrelled shotgun. The inner surfaces of the sleeves correspond to the mucous surfaces. Now if the two proximal edges of the coat are sewed together by a suture that passes entirely through them, fully one-half their circumference can be utilized. If now you will turn in the remaining portion you will find you can readily complete the circuit by sewing the outer surfaces. In this way he successfully approximated the intestines in the case. The fact that the mucous membrane can be safely included in a suture emboldened him to repeat the operation, and finding by experience that his fingers could not always accomplish the purpose he has added to his case two instruments that he has found very convenient, not only as special aids in anastomosis, but also in general surgical work. One of these he calls the tenaculum forceps, which he uses very much as women use pins and basting thread to secure their work temporarily. It does not matter what stitch is used; all that is essential is that the approximated bowels should be securely united. Having firmly approximated one-half the circumference, he removes the forceps, and, turning the partly united sutures half around he seizes the same with the tenaculum forceps, and with a pair basting the work a little further on, the through-and-through suture can be continued almost entirely around the entire circumference. When near the ends of the approximation he finds the tooth forceps with serrations on the edge, convenient for turning in the mucous edges adjusting the serous, and holding them approximated until sutured. In the sewing of the serous surfaces any suture that is convenient will answer the purpose. The rule that only the serous coat must be pierced is no longer entertained, and the operator will act wisely if he penetrates the thickness of the intestinal wall. Whatever suture he employs, if he makes them fairly near together he finds they will be buried as he tightens them. In this way every possible intestinal anastomosis can be accomplished. He illustrates his paper with schematic drawings of the different stages of the operation as well as further theorizing the gastro-intestinal anastomosis performed in the same manner. Three cases are reported by Dr. McReynolds in which Allis' method was employed with success.

61.—See abstract in The Journal, xxxvii, p. 858.

65. **Iodoform and Carbolic Acid Intoxication.**—Stone has noticed that certain patients have a peculiar susceptibility to these substances and that their use is not without danger. He believes that iodoform can be dispensed with in most cases, at least by obstetricians, gynecologists, and abdominal surgeons to advantage. He notices the bad effects that sometimes occur in apparently producing visceral troubles, such as nephritis, adhesions, etc., as indicated by experiments on animals. He calls attention in conclusion to a peculiar effect of carbolic acid taken internally, namely, the rapid overcoming of the patient by the drug so that the effect is much like that produced by some cerebral or cerebrospinal intoxicant. It is certain that its action is not merely that of a caustic, having a local effect only. In the two cases where it was used this effect was marked, and he believes that the rapid absorption of the drug from the rough surfaces of the endometrium has the same effect as that produced by its internal administration.

72.—See abstract in The Journal, xxxvii, p. 934.

73. **Manual Stigmata of the Hand.**—The special features to which Courtney calls attention are stub-thumb or abbreviation and clubbing of the phalanx of the thumb, shortening of the little finger, and infantile nails. These he thinks are often found in persons of neurotic temperament liable to hysteria, hypochondria and to become the victims of morphin or alcohol.

44. **Sexual Inversion.**—Seligmann's article gives some interesting observations of the modes and habits of certain native races, more especially those of New Guinea and Borneo.

77. **The Czolgosz Case.**—See editorial, January 25, p. 252.

78. **The Czolgosz Case.**—Drahms discusses the peculiarities of Czolgosz and points out what he thinks are stigmata indicating degeneracy. He prophesies that at the postmortem will be found unduly thickened cranium, excess of Wormian bones and possibly imperfectly closed sutures, a pyramidal skull, light brain with few and shallow convolutions and the existence of confluent fissures.

79. **Consciousness.**—Kiernan criticises Barker for ignoring the former articles of Hammond which advocated the co-existence of consciousness throughout the whole extent of the nervous system.

80. **Eddyism.**—Paquin reviews some of Mrs. Eddy's statements, showing her up in quite an interesting way. He believes that christian science advocates immorality and crime by teaching that sin does not exist and directly threatens public welfare.

83. **Inversion of the Uterus.**—Cushing believes that the Thomas operation of laparotomy and dilating the funnel is, with the Trendelenburg position, the operation of choice in old cases of uterine inversion. It is here safer, surer and more surgically satisfactory than any other operation.

84.—See abstract in The Journal of January 11, p. 125.

88. **Prostatic Massage.**—This procedure is adaptable, according to Schmidt, in 1: Where we are treating inflammatory infarctions or congestions, where massage should be applied to hasten this absorption by stimulating the circulation. 2. In cases where it is desired to express out the fluid contents, especially in pathologic cavities. 3. Where endeavor is made to produce normal development of the undeveloped prostatic sphincter. 4. In cases of impotence, due to loss of the prostatic function where infection has not occurred, but exhaustion has set in, following excesses. In general neuroses of the prostate it is necessary to be cautious in the application of massage. The organ is exceedingly sensitive and the condition of the patient frequently changes for the worse. The technique is specially mentioned. All unnecessary pain on the introduction of the oiled finger should be avoided, and gentleness in all particulars should be the rule. The patient must be either in the knee-chest position or a standing one. The author does not believe in the frequent necessity of apparatus for the elongation of the finger as the loss of a tactile guide is objectionable. Nevertheless in certain cases it may be of use.

96.—See abstract in The Journal, xxxvii, p. 995.

100.—Ibid., p. 996.

101.—Ibid., p. 997.

110.—Ibid., p. 327.

111. **The Czolgosz Case.**—Christison's article reviews the subject of epilepsy, maintaining that epilepsy is lunacy pro tem and applies his views to the assassin Czolgosz, claiming that the facts indicate that Czolgosz was a case of the borderland lunatic type.

114. **Mydriatics.**—The design of Risley's article is primarily to discuss the motive for the employment of mydriatics and to

give instances to show the necessity for their use in a very large percentage of cases of asthenopia. He thinks that the opinion that it is not necessary to use these drugs in every case requiring glasses is in accord with the general impression, but that they are required in many cases for their satisfactory and successful treatment is also the experience with the majority of his colleagues. He reports cases of asthenopia and remarks that in cases where there are no fundus changes or morbid anomalies of binocular vision homatropin and duboisin may be and often should be employed. But in cases such as some of the examples given the longer duration of the cycloplegic is an important therapeutic factor, not to mention the greater anesthetic action of atropin and hyoscyamin as compared for example to duboisin.

115. **Vicarious Fovea.**—Two cases of operated strabismus are reported by Davis which indicate to him that in some cases at least the new formed macula has not only the same acuity of vision as the normal macula, but also, like it when stimulated, assists in the most perfect associated ocular movements.

116. **Fitting of Glasses.**—Burnett notices the methods employed for the additional examination of ametropia, and remarks that even when we have used all the data the ophthalmoscope, ophthalmometer, and the shadow test have furnished our real trouble seems often to have only begun. The personal equation of the patient as well as of the observer must be considered. In the eye we are not dealing with an optical instrument only, but a sense organ in which judgment must give expression to the impression received. Then we have the erratic action of accommodation to deal with and the irregular refraction outside the visual zone in the area hitherto covered by the iris. He has found that the difference between the refraction at the nasal and temporal sides of the cornea amounted in some instances to 3 or 4 D. There is nothing left but a patient and painstaking work with the trial case, having in mind always an ideal refractive condition based upon the knowledge obtained by all the objective methods of examination, to which we should endeavor to attain through the sense of the patient. In this time is a most important factor. A number of seances are often required, and then it may be necessary to order glasses for a period of experimentation which can be obtained in no other way. Of the various means that have been devised all are useful, but the great demand is for tact in handling people, quickness in seizing suggestions, and infinite forbearance and untiring patience on the part of the examiner. He is most successful with his refraction cases who possesses these qualities in the highest degree.

118. **Climate or Spectacles?**—Among the various individuals who seek relief in Southern California there are not a few nervous wrecks who find little relief until they have fallen into the hands of the oculist. Hull would suggest to every physician who advises patients to try that climate to ask them whether they have had their eyes examined by a competent oculist. Some would not come, they would find spectacles cheaper. He reports several cases illustrating his views. He thinks it would also be well to examine the eyes of every person having consumption and kindred exhaustive conditions, with the view of correcting any error of refraction, or heterophoria, which could cause reflex trouble.

121. **Tuberculosis.**—Lane has reviewed the health statistics and discusses the relative rôles of heredity and infection in this disease. He agrees with modern opinion that the disease is not usually transmitted directly, but hereditary predisposition offers a favorable soil for its development. He believes that the disease should be a notifiable one, but that we should not consider the consumptive who takes care of himself as a dangerous individual or at all objectionable to immediately associate with. We should avoid exaggerating the contagious nature of tuberculosis and adding unnecessary hardships to the consumptive's lot.

124. **Laryngeal Tuberculosis.**—Curtis describes the principal features of laryngeal tuberculosis and discusses the question as to whether it is primary or secondary, concluding that the former type has been pretty well disposed of for lack of clinical evidence. It has been his experience that autoinfection of the larynx occurs in recently-infected cases, possibly before the toxins have rendered the larynx less prone to autoinfection by the bacilli in the sputum. That the pharyngeal lymphatic ring may be the seat of the disorder and culture ground is abundantly proven. He remarks that in several of his own cases the early symptoms were obscure. The physical signs were lacking except that the vocal cords were sluggish in response to vibratory movement and the morning temperature of the patient was below normal. He calls attention to the fact that the pulmonary signs may be negative and only a slight afternoon temperature exist. We must watch carefully for the sub-mucous yellowish-gray spots which sooner or later appear beneath the translucent membranes in the laryngeal region and the aryepiglottic folds. In the early diagnosed cases we must prevent the results by local treatment, such as the injection of guaiacol and carbolic acid into the tissues. A simple persistent congestion of one cord with a slightly swollen appearance is another indication of the possibility of early tuberculous infection. He ends by remarking on the importance of studying these initial evidences while a possibility of averting the disease still exists.

127. **Tinnitus Aurium.**—The following is Kerrison's recapitulation: "In our search for the cause, we have the following sources of information to draw from: 1. Evidences of disease in any portion of the conducting apparatus as shown by physical examination. 2. History of the case, and character of the sound, as described by the patient. 3. Results elicited by careful functional examination. 4. Evidences of disease in other parts of the body, particularly as to the presence of digestive disorders, circulatory disturbances, blood dyscrasias or disease of the nervous system. 5. Effect of certain drugs, either in relieving or aggravating the tinnitus. The importance of a careful physical examination of the ear becomes evident from the fact that any appreciable lesion in any portion of the conducting apparatus must act at least as a contributing cause in the production of tinnitus, whatever the character of the sound and whatever the chief factor in its causation may be. From the patient is learned the character of the noise—whether unilateral or bilateral, simple or elaborated, constant or intermittent, pulsating or uniform, of high or low pitch. The importance of the pitch depends upon the fact that, generally speaking, low sounds suggest tympanic and high sounds labyrinthine involvement. The pitch is best determined by holding a vibrating tuning-fork of 256 D. V. opposite the patient's ear and requiring him to decide whether the subjective noise is higher or lower in the musical scale, according to which it may be classed as a high or low sound. Further than this, the determination of the exact pitch has not been demonstrated to be of any practical value. It is also of importance to learn whether the noise varies in intensity, at what hour it is most noticeable, how it is influenced by physical exercise, rest, ingestion of a full meal, etc., etc. The length of time during which the tinnitus has been present is also of some importance, since tinnitus of purely tympanic origin rarely persists very long; while a subjective noise persisting constantly from childhood to adult life might suggest the possibility of anomalies in the course or position of vessels, etc., etc. Of still greater diagnostic value are the reactions to functional tests. Thus elevation of the lower tone limit suggests tympanic disease, whereas lowering of the upper tone limit points to labyrinthine disturbances. Bone condition is also of diagnostic value, increase pointing to tympanic, and diminution to labyrinthine disorder. With tinnitus confined to one ear, Weber's test, if lateralized to the same side, would suggest tympanic trouble; whereas if lateralized to the opposite side, the inference would be of labyrinthine disturbance. In other words, the same tests which would aid in locating the cause of an impairment of hearing may be used in our search for the lesion upon which tinnitus depends. But while the physical and functional examinations of the ear may give clear enough indications in tinnitus of purely aural origin, there are also many cases in which they are of service only in their negative results, which direct the attention away from the ear in the search for the

underlying cause. In such cases the most thorough physical examination and most searching inquiry into the patient's general condition may be necessary—all the organs of the body being looked to for evidences of disease, and each slightest symptom being weighed as a possible factor in producing the patient's trouble. Obviously, no single plan of treatment will ever be found applicable to all the different forms of tinnitus and the results of treatment must always be proportionate to the thoroughness of the search for the underlying cause."

131. **Internal Derangements of the Knee-Joint.**—Allison summarizes his paper by saying that: "1. The internal derangement of the knee-joint should suggest: (*a*) Dislocated semilunar cartilage; (*b*) the impingement of a fold of synovial membrane between the ends of the bones; (*c*) presence of a floating cartilage or joint mouse; (*d*) contusion of the margin of the semilunar cartilage, with swelling and infiltration of blood at the site of their attachments. 2. These conditions can usually be differentiated. 3. The treatment is rest, massage, mechanical support, gymnastics, and operative. 4. The operation should not be undertaken without carefully analyzing the case, and usually only when the other measures have failed."

132. **Dental Affections and the Eye.**—The influence of diseased teeth upon the eye forms the subject of Bicknell's paper. He notices first the infectious disorders which travel upward to the orbit by a continuity of tissue and reports two cases of orbital abscess from this cause. Neuroses are considered under the following heads: reflex irritation affecting the striated and unstriated muscles; reflex irritation affecting the mucous membrane; reflex irritation affecting the retina, optic nerve, and intraocular tissues. Each of these with their subdivisions are remarked upon. The literature, of course, is large, since almost everything has been attributed to teething.

135. **Formalin.**—Anderson calls attention to the use of formalin in certain local excrescences, which he classes under the head of semi-malignant, as they have the general appearance of a malignant growth. He also remarks that rectal fissures and fistulas are sometimes cured by this local application, and also suppurating surfaces to which it can be even more quickly applied. Sinuses wherever found can generally be made to close by this agent.

139. **Bromid of Strontium.**—Dearing has found this bromid most effective in an average of 40 cases of epilepsy treated daily in hospital practice. He also gives the results of 60 cases that he treated daily for a period of 130 days with bromid of strontium alone, which record shows a very remarkable reduction in the number and vigor of the convulsions, while there was no depression either mental or physical, or loss of appetite, no acne or untoward symptoms of any kind. Each case, however, must have individual attention, the bowels kept regular, the secretions, excretions and habits attended to. The dose he uses is from 10 to 30 grains, preferably in a solution with a bitter tonic.

144. **Children's Testimony.**—Pettyjohn finds that children are not reliable witnesses. He reviews some legal opinions and gives facts derived from officers connected with the trials of cases. He thinks that the testimony of children and infants is in most cases unreliable, and that children should never be called as witnesses except under the most favorable conditions for the child, and never in an open court. There should be expert opinion as to whether such testimony is admissible and it should not be allowed to stand against the accused except when the court is thoroughly satisfied as to the child's intelligence.

152. **The Future of the Negro.**—This article gives a number of interesting statistical details and the author's conclusions therefrom. He believes that the negro race is dying out, that its death-rate is exceeding its natural increase, and that the negro question will sooner or later become one of the past. The insanitary habits of the mass of the negro race and their immorality are gradually killing off the race. He does not exclude, however, in his arguments the possibility of the few exceptional cases continuing to survive and propagate a better race, a possibility which it seems should be considered. The article is written in a kindly spirit toward the negro, and he advocates the study of his traits and tendencies and, if possible, the rescue of him from the disease and immorality which threaten to destroy him.

154. **Tornwaldt's Disease.**—This condition of chronic nasopharyngeal bursitis is accepted as an actual entity, or at least a clinical syndrome, by Roy. Whether the so-called bursa pharyngea is a distinct bursa or blind pouch, he says it is certainly the cause of a peculiar form of nasopharyngeal catarrh. He does not agree with Delavan in saying that it is nothing more than a neglected hypertrophy. Two cases are reported in neither of which was the treatment satisfactory.

159. **Febris Innominata.**—Preston calls attention to certain cases in which the clinical signs of typhoid were lacking except the continued fever which, however, lacked the cyclic character of typhoid. None of the cases had diarrhea, tympanitis, rose spots, nor delirium to any great amount, nervousness nor the typhoid tongue. The suspicion of malaria seemed to have governed the treatment to a large extent, but without specially striking success. He thinks it possible that we have a toxic cause for some of our cases of continued fever not yet explained, and that we have passing under the name of continued fever conditions that are not true typhoid. The blood test he thinks will come into play to determine the diagnosis, though more than the Widal test alone will be required.

164. **Acute Hemorrhagic Nephritis.**—Miller reports the case of a child thirteen months old in which this condition occurred and reviews the literature, giving an analysis of the symptoms and summary of the reported cases. He concludes that nephritis is a rare complication of influenza occurring chiefly in young adults and children, and is almost unknown in infancy. Albuminuria is more frequent, probably present in all severe cases. Hematuria alone is not infrequent and is seen most often in early life. Nephritis may appear early in influenza or after the acute symptoms have subsided. It is usually an early complication, occurring in one half the cases before the eighth and in two-thirds of the cases before the twenty-first day after the commencement of the influenzal attack. The type varies. It may be that of ordinary acute nephritis, but the majority are of the hemorrhagic type, this being specially frequent in young people and children. Edema is absent in more than one-half the cases, and when present is apt to be slight. The onset is usually attended with fever. The nephritis is of short duration, generally lasting under three weeks. The prognosis is good, though few cases pass into the chronic subacute stage. If the kidneys are already affected the outcome is worse and apt to be serious and fatal. From the meager pathological reports the lesions appear to be those of infectious or toxic nephritis, often taking the form of glomerulo-nephritis.

168. **Tuberculosis.**—Crandall summarizes his views as to the malnutrition of tuberculosis in the following: "1. Wasting, anemia, and other evidences of malnutrition are constant accompaniments of tuberculosis in children. 2. These symptoms may occur in infants long before local disease can be detected and occasionally no local signs whatever are manifest before death. 3. In infants, tuberculosis shows a special tendency to be disseminated or to conceal itself in the deep tissues, as the lymph nodes. The disease may then run a course identical with simple marasmus. 4. In some cases a period of anemia and wasting is followed by a stage of irregular fever, after which local lesions appear, usually in the lungs. 5. In other cases tuberculosis in children begins with well-marked local manifestations, particularly pneumonia. In these, evidences of malnutrition appear promptly and are usually progressive. 6. The anemia of tuberculosis, whether it appears before or after the occurrence of other symptoms, is usually a simple anemia and presents nothing characteristic. 7. A diagnosis of tuberculosis cannot be made alone from the character of the anemia or the malnutrition. However, persistent and increasing malnutrition in a child without discoverable cause is always suggestive of tuberculosis. 8. Anemia in adolescents should receive prompt and active attention, for it vastly increases the danger of tubercular invasion, which is particularly common at that period of life."

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

Archives de Neurologie (Paris), January.

1 Extension in the Treatment of Nervous Diseases. P. Koindjy.—"De l'extension et de son application dans le traitement des maladies nerveuses."

Bulletin de la Soc. Med. des Hop. de Paris, January 10.

2 *Latent Syphilitic Aortitis and Visceral Neuralgia. L. Rénon.—"Aortite syphilitique latente et nevralgies viscerales."

Bulletin Medical (Paris), January 4, 11 and 15.

3 *Early Diagnosis of Relapse in Typhoid. G. Lemoine.—"Sur le diagnostic précoce de la rechute au cours de la fièvre typhoide."
4 Foundation of Climato-Therapy. A. Manquat.—"Les climats thérapeutiques français, la climatothérapie et ses bases."
5 *Information to be Derived from the Urine in Regard to Nutritional Diseases. A. Robin.—"Séméiologie urologique des maladies de la nutrition. Son application au diagnostic, au pronostic et au traitement."

Echo Med. du Nord (Lille), January 19.

6 Study of Wounds of the Diaphragm. O. Lambret.—"Les plaies du diaphragme à gauche."

Gazette Hebd. de Med. et de Chir. (Paris), January 2 and 16.

7 The Hippocratic Finger in Cirrhosis of the Liver. A. Gilbert and P. Lereboullet.—"Le doigt hippocratique dans les cirrhoses biliares."
8 Evolution of Pupil Disturbances and Deformities in the Mentally Unbalanced. E. Marandon de Montyel.—"De l'évolution des troubles et des deformations pupillaires chez les vesaniques."
9 *Surgical Intervention in Biliary and Alcoholic Cirrhosis. M. Guillot.—"De l'intervention chir. dans les cirrhoses biliaires et alcooliques."
10 Hemorrhages from Rupture of Pregnant Tube. Lejars.—"Les hemorrhagies par rupture de la trompe gravide."
11 Cancer of the Testicle in Abdominal Ectopia. C. Kaeppelin.—"Le cancer du testicule en ectopie abdominale."

Presse Medicale (Paris), January 15 and 18.

12 *Trunecek's Inorganic Serum. L. Lévi.—"Le sérum de Trunecek."
13 Koch's Latest Method of Treating Tuberculosis. R. Romme.—"La bactérlothérapie de la tuberculose d'après la nouvelle méthode du Professeur Koch."
14 Constant Presence of Eberth's Bacillus in the Blood in Typhoid Fever. Busquet.—"Présence constante du bacille d'Eberth dans le sang de 21 typhoidiques."
15 Heart Affections Observed in the Course of Syphilis and Gonorrhea. G. Fischer.—"Sur les maladies du coeur dans le cours de la syphilis et de la gonorrhée."
16 *Action of Trunecek's Serum. L. Lévi.—"Sur l'action du sérum de Trunecek."

Progres Medical (Paris), January 11.

17 *Enteroptosis as the Cause of Movable Kidney. F. Glenard.—"Etapes de la théorie entéroptosique du rein mobile."

January 18.

18 Cerebral Syphilis Simulating General Paralysis. E. Brissaud.—"Syphilis cérébrale simulant une paralysie générale."

Revue Hebd. de Laryngologie, etc. (Bordeaux), January 18.

19 *Tuberculosis of the Larynx in Children. M. Perrin.—"La tuberculose du larynx dans l'enfance."

Revue de Chirurgie (Paris), January.

20 *Inguino-Interstitial Hernia. P. Berger.—"La hernie inguino-interstitielle et son traitement par la cure radicale."
21 Cholesteatoma of the Breast. L. Dor.—"Le cholestéatome du sein."
22 *Cure of Serous Meningitis by Trephining. P. Lecène.—"Un cas de meningite séreuse d'origine otitique. Trépanation bilaterale, guérison."
23 *Prompt Intervention in Traumatisms of the Liver. S. Mercade.—"De l'intervention précoce dans les traumatismes du fole."

Revue de Medecine (Paris), January.

24 *Certain Neuropathic Accidents of Digestion. Ch. Féré.—"Contribution à l'étude des accidents neuropathiques de l'indigestion."
25 *New Explanation of Etiology of Tuberculosis. J. Ferran.—"Nouvelle étiologie de la tuberculose et vaccination antituberculeuse." Concluded from preceding number.
26 Toxic and Dehydrating Action of Alcohol. C. Valentin.—"L'alcool comme toxique et comme deshydratant."
27 *The Nitropropiol Test for Sugar. F. de Gebhardt.—"Note sur un nouveau procédé de recherche du sucre par les tablettes de nitropropiole."

Semaine Medicale (Paris), January 15.

28 Comparative Tests of the Pathogenic Action of Human and Bovine Tubercle Bacilli in Animals. D. A. de Jong.—"Expériences comparatives sur l'action pathogénique pour les animaux des bacilles tuberculeux provenant du boeuf et de l'homme."

Allg. Med. Central-Zeitung (Berlin), January 1 and 4.

29 Value of Artificial Ozone to Purify Air in Living Rooms. Eydam.—"Das Werth des Ozons f. Gesunde und Kranke und Künstliches Ozon in den Wohnräumen."
30 Negative Results of Cancroin in Treatment of Cancer.—Jacoby.—"Zur Behandlung des Krebses mit Cancroin."

Archiv f. Gynaekologie (Berlin), lxv, 2, 1902.

31 *Ultimate Results of Operative Treatment of Retroflexion and Prolapse. H. Andersch.—"Dauererfolge der operativen Retroflexio- und Prolapsbehandlung."
32 *Action of Liquid Air in Experimental Infection of the Vagina and Uterus. B. Wolff ii, and J. Meyer.—"Die Einwirkung flüssiger Luft auf die inficirte Vaginal- und Uterusschleimhaut bei Hunden."
33 Etiology of Fever During Delivery. H. Mueller.—"Zur Aetiologie des Fiebers unter der Geburt."
34 Five Years of Maternity Statistics. P. Baumm.—"Fünf Jahre Wochenbettstatistik."
35 Pathogenesis of Eclampsia. A. Dienst.—"Ueber die Pathogenese der Eklampsie auf Grund path. anat. Befunde. Blut und Harnuntersuchungen eklamptischer Mütter und deren Früchte."
36 Eclampsia in Mecklenburg-Schwerin, 1881-1891. Buettner.—"Die Eklampsie in M. S., 1881-1891."
37 Eclampsia. Schmorl.—"Zur Lehre von der Eklampsie."

Berliner Klin. Wochenschrift, January.

38 *Etiology of Infectious Diseases. Menzer.—"Ueber Angina, Gelenkrheumatism, Erythema nodosum und Pneumonie, nebst Bemerkungen ueber die Aetiologie von Infectionskrankheiten."—Concluded from preceding number.
39 Negative Results of Experimental Radiography of internal Infections. Krebs.—"Electrisches Glühlicht und innere Infection."

Centralblatt f. Gynaekologie (Leipsic), January 4.

40 Selection of Operation for Myoma. R. Olshausen.—"Ueber die Wahl der Operation bei Myomen."
41 *Reducing the Size of the Abdominal Cavity by Doubling the Abdominal Wall. L. Heidenhain.—"Ueber Verkleinerung des Bauchraumes und Verhütung von Brauchbrüchen durch Doppelung der Bauchdecken."
42 *Acute Sepsis, Ileus, Pseudo-ileus, Iodoform Intoxication, Uncontrollable Vomiting, Which? Haeberlin.—"Akute Sepsis, Ileus, Pseudo-ileus, Iodoformintoxication, unstillbares Erbrechen?"

January 11.

43 The Ten Months of Pregnancy. B. S. Schultze.—"Ueber die 10 Schwangerschaftsmonate."

Dermatologisches Centralblatt (Berlin), January.

44 Is the Milk Non-Infectious in Case of Recent Syphilis, or Does It Induce Immunization of the Nursling? L. Leven.—"Nicht-Infectiosität der Milch bei frischer Lues oder Immunisirung durch dieselbe?"
45 Aseptic Glass Syringe-Holder. Dreyer.—"Zur Asepsis der Subcutanspritzen."

Centralblatt f. Chirurgie (Leipsic), January 18.

46 *Cold as a Cause of Arteriosclerosis and Degeneration of Certain Tissues. Zoege von Manteuffel.—"Ueber die Wirkung der Kälte auf einige Körpergewebe."
47 *Artificial Pneumothorax as a Preliminary to Extirpation of Tumors in the Thorax. J. Dollinger.—"Der arteficielle Pneumothorax als vorberelte Operation zur Exstirpation durch greifender Brustwandtumoren oder Lungentumoren."

Centralblatt f. Kinderheilkunde (Leipsic), January 1.

48 Post-Typhoid Affectious of the Bones. J. Langer.—"Ueber post-typhöse Knochenerkrankungen."

Jahrbuch f. Kinderheilkunde (Berlin), January.

49 *Buttermilk in Infant-Feeding. Teixera de Mattos.—"Die Buttermilch als Säuglingsnahrung."
50 Uncooked Milk in Case of Atrophy and Chronic Gastro-intestinal Catarrh in Nurslings. S. Monrad.—"Ueber Benutzung von roher Milch bei Atrophie und chron. Magen- und Darmkatarrh bei Säuglinge."
51 Diphtheria in the Vienna Hospitals from 1896 to 1900. F. Siegert.—"Die Diphtherie in den Wiener Kinderspitälen von 1896-1900."
52 *Artificially Clabbered Cow's Milk for Infants' Food. L. Langstein.—"Die Ernährung Säuglinge mit gelabter Kuhmilch."

Muenchener Med. Wochenschrift, January 21.

53 Serum Diagnosis of Tuberculosis. E. Romberg.—"Weitere Mittheilungen zur Serumdiagnose der Tuberkulose."
54 Scientific Hydrotherapy and Courses of Mineral Waters. Von Vogl.—"Ueber wissenschaftliche Hydrotherapie und Wasserkuren."
55 *Treatment of Severe Anemia of Gastro-intestinal Origin. F. Perutz.—"Ein Beitrag zur Behandlung schwerer Anämien gastro-intestinalen Ursprungs."
56 *Albuminuria in Form of an Emulsion in Case of Eclampsia and Uremia. H. Cramer.—"Ueber einen eigenthümlichen Urinbefund (Emulsions-Albuminurie) bei Eklampsie und Uraemie."
57 *Relations between Diabetes Mellitus and Insipidus. P. Kuhn.—"Ueber den Zusammenhang von Diabetes Mellitus und insipidus."
58 Blood Poisoning and Amputation. H. Brauser and H. Doerffler.—"Blutvergiftung und Amputation."

Neurologisches Centralblatt (Berlin), January.

59 Initial Manifestations of Paranoia. A. Pick.—"Zur Lehre von den initialen Erscheinungen der Paranoia."
60 *Dietetic Treatment of Epilepsy. Schaefer.—"Zur diätetischen Behandlung der Epilepsie."
61 Tests of Voltalzation. Zanietowski.—"Versuche ueber Voltaisation."

Prager Med. Wochenschrift (Prague, Bohemia), January 2.

62 Explanation of Irregular Pulse. H. E. Hering.—"Bemerkung zur Erklärung des unregelmässigen Pulses."
63 Medicine in Ancient Egypt. F. v. Oefele.—"Zur altägyptischen Medicin."

Therapeutische Monatshefte (Berlin), January.

64 Malformation of the Thorax as Predisposition to Pulmonary Affections. W. A. Freund.—"Thoraxanomalien als Prädisposition zu Lungenphthise und Emphysem."
65 *Operative treatment of Calculi in the Bladder. Miclescu.—"Die Harnsteine der Blase und ihre operative Entfernung."
66 *Indications for Operating Gastric Ulcer. C. Delachaux.—"Ueber die Indicationen z. Operation bei Ulcus Ventriculi."
67 Puro. L. Fürst.—"Puro in der Kranken-Diätetik."
68 Bromid-Albumin compounds in Nervous Affections. J. Silberstein.—"Ueber die Behandlung von Nervenkrankheiten mit Bromeiweisspräparaten."

Therapie der Gegenwart (Berlin), January.

69 *Treatment of Catarrh. H. Nothnagel.—"Zur Behandlung acuter Katarrhe."
70 Emodin and Purgatin as Purgatives. W. Ebstein.—"Ueber das Emodin und das Purgatin als Abführmittel."
71 *Effects of Exposure to Cold. O. Lassar.—"Ueber Erfrierung."
72 Pentosuria. F. Umber. "Die Pentosurie."
73 *Flap Treatment of Cicatricial Contractions. J. Wolff.—"Ueber einen Fall von Transplantation frischer gestielter Hautlappen bei narbigen Gelenkcontracturen."

Wiener Klin. Rundschau, January 12.

74 *Operative Treatment of Gastric Ulcer. R. Porges.—"Beitrag zur operativen Behandlung der Magengeschwüre."

January 19.

75 *Pathogenesis of Choked Disc in Case of Brain Tumors. Elschnig.—"Die Pathogenese der Stauungspapille bei Hirntumor." Concluded from 1 and 2.
76 Macrodactylia. M. Sattler.—"Ueber Makrodaktylie."

St. Petersburger Med. Wochenschrift, January 11.

77 Efforts and Aims in Treatment of Chronic Gonorrhea in Regard to Consent to Marry. G. v. Engelmann.—"Die Aufgaben und Ziele bei der Behandlung der chronischen Gonorrhœ in Bezug auf die Frage der Eheschliessung."

Gazzetta Degli Ospedali (Milan), January 12 and 16.

78 Study of the Effects of Intravenous Injection of Organ Extract on the Coagulation of the Blood and on the Spermotoxic Value of the Serum. J. Salvioli.—"Degli effetti dell' iniezione endovenosa dell' estratto di ghiandola genitale maschile sulla coagulazione del sangue e sul valore spermotossico del siero."
79 *Difference in Action between the Extracts of the Medulla and of the Cortex of the Suprarenal Capsules. J. Salvioli.—"Sopra il diverso modo di agire degli estratti midollare e corticale delle capsule surrenali."
80 Chorea and Helminthiasis. G. N. De Luna.—"Corea ed elmintiasi."

Revista Medica (Mexico), January 1.

81 Infectious Fevers in Mexico. J. Olvera.—"Un apuntamiento sobre ciertas fiebres infecciosas que se han observado en la capital en estos dias."

British Medical Journal (London), January 25.

82 A Visit to Some American Hospitals. G. B. Ferguson.
83 *The Operative Treatment of Lymphangiectasis of Filarial Origin. J. Maitland.
84 Observations on Human Filariasis in Trinidad, West Indies. George A. Vincent.
85 *On the Causal Relationship between "Ground-itch" or "Panighao," and the Presence of the Larvæ of the Ankylostoma Duodenale in the Soil. Charles A. Bentley.
86 Malarial Fever in St. Lucia, West Indies. George Gray and George C. Low.
87 Leprosy and Congenital Symmetrical Keratodermia. George Pernet.
88 *Blackwater Fever. R. U. Moffat.
89 Notes on Filaria Dermarqualii. George C. Low.
90 The Suctorial Bulb in "Culex." G. Trevor Collingwood.
91 Notes on Lightning-stroke in South Africa. J. G. Berne.
92 Inoculation in the Incubation Stage of Plague. Alice M. Corthorn.
93 *The Treatment of Dysentery by Rectal Injections. Cecil F. Lillie.

The Lancet (London), January 25.

94 *The Progress of Surgical Methods. T. B. Grimsdale.
95 The Art of Clinical Medicine and Its Technique. William Ewart.
96 *A Further Note Concerning the Frontal or Supra-orbital Reflex. Walker Overend.
97 Case of Recent Traumatic Perineal Dislocation of the Right Hip with a Dissection of the Joint. Hugh M. Rigby.
98 A Case of Pulmonary Regurgitation. Edmund Cautley.
99 Combined Fetal and Maternal Dropsy. H. Valdemar Munster.

The Journal of Tropical Medicine (London), January 15.

100 Notes on the First Plague Epidemic at Changpoo, Fokien, South China. J. Preston Maxwell.
101 *Dental Caries. Kenneth W. Goadby.

Australasian Medical Gazette (Sidney, N. S. W.), December.

102 *Feeding in Enteric Fever. Robert Brummitt.
103 Acromegaly. J. Flynn.
104 On the Classification of Displacements of the Uterus. A. Watson Munro.

Indian Medical Gazette (Calcutta), January.

105 Pre-service Surgeons. (To be continued.) D. G. Crawford.
106 *Typhoid as a Common Continued Fever of Natives in Calcutta. Leonard Rogers.
107 A Preliminary Report of Observations of the Habits of Anopheles. R. N. Campbell and U. N. Brahmachari.
108 Anopheles Mosquitoes in Tezpur, Assam. Chas. A. Bentley.

---

2. **Latent Syphilitic Aortitis and Visceral Neuralgia.**—Rénon states that the intense visceral pains in the case described caused the diagnosis of liver or kidney colic accompanied by aortic insufficiency to be made. The aortic lesion had developed in the course of a year and suggested a possible explanation for the visceral neuralgia. The pains began to subside after ten days of specific treatment and all symptoms vanished before the course was completed. There was a history of mild syphilitic infection twenty years before.

3. **Early Diagnosis in Relapse in Typhoid Fever.**—Lemoine calls attention to the dissociation between the pulse and the normal temperature in case of convalescence from typhoid fever when a relapse is impending. He gives the curves of a number of cases showing the rapidity of the pulse with the low temperature.

5. **Information to be Derived from the Urine in Nutritional Diseases.**—Among the various valuable points to be learned from study of the urine, which Robin enumerates, is the early differentiation of typhoid fever. The latter is probable, 1, when the urine is the color of beef bouillon with greenish reflections, turbid but without the urobilinuric tint; 2, when there is slight, constant albuminuria; 3, when urohematin and the derivatives of skatol disappear; 4, the constant presence of indican; 5, increase of uric acid; 6, absence of uro-erythrin and 7, marked decrease in the earthy phosphates. In dubious cases a considerable amount of earthy phosphates, without albumin or indican, testifies against typhoid fever. In case of icterus from liver colic, if the urine ceases to turn green when nitric acid is added, the presumption is that the bile is resuming its natural course. In case of pneumonia or other similar disease, an increase in the amount of urine and sudden increase in the proportion of solid matters herald the crisis and defervescence close at hand. In the treatment of obesity, it is possible to estimate and maintain the balance between the nitrogen ingested and the amount excreted. In a recent case Robin had reduced the patient's weight by 27 kilograms, carefully maintaining the nitrogenous balance. When this point was reached he found that the excreted nitrogen surpassed the amount ingested, demonstrating that urea was being formed at the expense of the muscles. The patient had lost all the fat he could lose, and it was time to suspend the reducing treatment. In diabetes also, the urine will show whether antipyrin is being tolerated or not. If the density of the urine increases, even although the proportion of sugar is diminishing, the drug should be discontinued.

9. **Surgical Intervention in Case of Cirrhosis of the Liver.**—Guillot describes a case in which Talma's operation was successfully performed. He states that this operation has been done 28 times to date. There is no record of the results in the case of one patient; 2 were improved and 11 were cured. It failed in 14.

12. **Trunecek's Inorganic Serum Treatment for Arteriosclerosis.**—Lévi publishes a number of cases of various affections attended by arteriosclerosis, which he has treated by injections of Trunecek's mixture of all the alkaline salts normally in the blood serum, which he calls "inorganic serum." It is ten times more concentrated than natural serum. (See THE JOURNAL, xxxvi, p. 1507.) In one case the patient was a woman of 57 with aortic stenosis and insufficiency and ectasia of the right primary carotid. For twenty months she had suffered from nocturnal attacks of pain simulating angina pectoris, lasting sometimes two and one-half hours, and recurring nearly every night. These attacks were completely banished by a few injections of the serum, but it had no effect on the anatomic lesions. The dyspnea of arteriosclerotic subjects is cured by a very small amount of the serum. Relief is usually experienced even after a single injection. Lévi de-

scribes 5 cases in detail. In a case of arterial cachexia in a man of 86, the attacks of asthma ceased, the dyspnea was relieved, the cyanosis disappeared, sleep, appetite and physiologic warmth returned, with general physical and moral improvement. An ulcerative lesion was not affected, but this also yielded in a similar case in Trunecek's experience. Lévi has been making a special study of the effects of the serum in cerebral arteriosclerosis. He found it very effective in the cure of localized symptoms, vertigo, visual disturbances, tinnitus aurium, headache and deficient memory, even in old established cases. Tests with other patients showed that it was ineffectual in case of an actual focus of necrosis. He applied it also in 22 cases of sclerous otitis. All were improved, some so rapidly that after a single injection the patients could hear sounds which they had not been able to hear for years. He is now studying the action of the serum in rheumatism, nervous affections, etc., and various conditions of congestion, in which it promises well. The formula of the serum is as follows: Sodium sulphate, 44 cg.; sodium chlorid, 4.92 gm.; sodium phosphate, 15 cg.; sodium carbonate, 21 cg.; potassium sulphate, 40 cg.; aeq. dest. to make 100 gm. The amount injected is progressively increased from 1 c.c. to 5, the injection repeated every second, fourth or seventh day. Trunecek prefers the forearm, but Lévi makes the injection in the buttocks. He also alternates rectal with subcutaneous injections, ten of each, in some cases. He states that a rectal injection of 35 c.c. causes no disturbances. The action of the serum is rapid but transient. (See below.)

16. **Study of the Action of Trunecek's Serum.**—Lévi is convinced that Trunecek's concentrated serum has a multiple action. He has demonstrated that it lowers the blood pressure and modifies the composition of the blood to a certain extent. This latter feature explains the benefit derived from it in chronic rheumatism, in the symptoms which sometimes accompany neurasthenia on a foundation of arteriosclerosis, in hysteria, in local congestions, etc. He relates a number of cases in which this serum has proved remarkably effective in curing retention in incipient prostatitis, hysteric sweats and nervous pseudo-rheumatic pains. It is applicable to all cases of arterial hypertension, all forms of arteriosclerosis, sclerosis of the vessels of the heart, brain, ear and kidneys. Its efficacy is more pronounced the earlier it is administered, before the vessels have lost their contractility. Established lesions are no contra-indication, but its action is less evident. It may prove effective in averting or attenuating seizures in epilepsy, eclampsia, in certain cases of uremia and even of diabetes. He is now testing a large number of artificial serums of this kind and mineral and sea water, to see if still better results are attainable.

17. **Enteroptosis, Movable Kidney and Neurasthenia.**—Glénard has been studying for fifteen years the variety of nervous dyspepsia or vague neuropathy which proves rebellious to ordinary treatment. The clinical picture is much the same as in the curable cases, although perhaps symptoms of insufficiency of the liver or cholemia are more pronounced. If the patient reclines, with the lumbar region elevated, and sighs profoundly it is possible to palpate the kidney under the right hypochondrium, with other indications of general enteroptosis. The latter is the primary trouble. It usually commences at the angle of the colon and may be traumatic and primary, or secondary to infectious or toxic processes or to emotions. As the intestines settle down, the kidney is dragged with them, the liver is also affected, and the gastric digestion suffers. The fundamental characteristics of this condition, encountered in all stages, are a sensation of weakness, discomfort in the mesogastrium, attaining its maximum two or three hours after dinner, aggravated by fats, starches, raw foods, wine and milk, with constipation and insomnia during the middle of the night. The abdomen is relaxed, the cecum can be palpated as a small, hard roll, the transverse colon as a cord across the aorta, which is easily accessible to palpation. Treatment should be fourfold: an elastic abdominal bandage; daily saline laxatives, 7 gm. of sodium sulphate and eventually 5 to 10 cg. of aloes; a meat diet; sodium bicarbonate and in case of paroxysmal attacks, treatment as for biliary lithiasis, although calculi rarely occur. Cold hydrotherapy is a valuable and certain adjuvant. The movable kidney is merely an incident in the general ptosis, and symptoms referred to the kidney are much more liable to be the result of the intestinal displacement, as is also the case in troubles caused by deformity or abnormal movability of the spleen, liver or kidney and dilatation of the stomach.

19. **Tuberculosis of the Larynx in Children.**—Perrin's monograph was awarded the Heydenreich prize by the medical faculty of the University at Nancy. He reviews all the cases published in European literature and adds two new case-reports. One of the latter patients—a girl of 6—recovered complete health under medical treatment. Not a trace of tuberculous disease could be discovered nine months after treatment was instituted. It consisted in administration of potassium bromid, hot packs to the neck and thorax and medicinal sprays. Cases of recovery are rare.

20. **Inguino-Interstitial Hernia.**—Berger has operated on seven men on account of congenital interstitial hernia complicated by ectopia of the testicle. The hernia spreads in the thickness of the abdominal wall by separating its layers. It may be exclusively intraparietal or there may be a diverticulum emerging through the external abdominal ring, which may also allow the passage of the testicle. The deep abdominal ring is higher and nearer the anterior-superior iliac spine than normally. The testicle in the hernial sac is almost always undeveloped, and the muscular and fibrous walls of the abdomen usually display marked atrophy and weakness. The spermatic cord is frequently too short to allow the testicle to be drawn to the scrotum. In some cases the testicle is entirely enclosed by a sheath distinct from the peritoneo-vaginal sac occupied by the hernia. In a few rare cases the testicle completes its descent and a parietal and scrotal hernia develops behind it. Inguino-interstitial hernia occurs also in women—he describes eight cases he has personally observed. This condition should be operated even in the aged, unless there are direct contra-indications, as serious accidents are apt to occur, and as it can not be effectively maintained by a truss. The incision should be parallel with the fibers of the external oblique, above Poupart's ligament. The testicle should be ablated if the subject is over 25, except in conditions peculiarly favorable for orchidopexy. Under this age every effort should be made to retain it. The strengthening of the abdominal wall is the most important part of the operation. If the Bassini method does not promise a certain result, the suture of the internal oblique and of the tendon of Poupart's ligament must be reenforced by incising the aponeurosis of the rectus and fastening the outer lip of this incision to Poupart's ligament throughout the entire extent of the inguinal canal. The operation is terminated by the superposing of the two lips of the incision in the aponeurosis of the external oblique and suturing its lower lip to the inner edge of the aponeurosis of the rectus, and its upper lip to the anterior surface of the aponeurosis of the external oblique, close to Poupart's ligament. Four cuts in the article show the various steps of the operation.

22. **Serous Meningitis Cured by Trephining.**—Lecène describes a personal case and summarizes six others that have been published in which the symptoms indicated a serous meningitis. By this he means a very serious syndrome occurring in the course of acute otorrhea or otitis, suggesting brain abscess or meningitis. It is characterized by an evident hypertension of the cerebrospinal fluid, with cerebral edema. Lumbar puncture might cure in such cases, but the violent onset of the symptoms justifies more radical measures, and in the case reported bilateral trephining, allowing the escape of about 20 and 15 c.c. of cerebrospinal fluid, cured the patient completely. He was a young man convalescing from typhoid fever, and for three hours and a half had had a general convulsion every five minutes, with other serious symptoms. The convulsions continued unmodified until the second trephining opening had been made, when after the escape of 15 c.c. of cerebrospinal fluid, they ceased at once and did not recur. In all the seven cases the

trephining was undertaken for the search of a hypothetical abscess, and the exploratory operation proved the unexpected cure of a serous meningitis. Patients exhibiting this syndrome should not be allowed to die under the diagnosis of uremia or meningitis without radical intervention to allow the escape of the accumulated cerebrospinal fluid. One of the patients was not operated on, and the autopsy showed merely an accumulation of six ounces of fluid at the base of the brain, accompanying bilateral suppuration of the mastoid cells.

23. **Treatment of Traumatisms of the Liver.**—Mercade adds two more to the limited number of successfully operated cases of traumatism of the liver on record. One was a stab wound, treated by rapidly suturing the lips of the wound together. The other was a contusion, resulting from the subject having been run over. It was impossible to coaptate the ragged lips of the wound and the suture merely aimed to draw the liver together in order to aid in cicatrization. Hemostasis was secured by supplementary tamponing. The wound was drained in each case and artificial serum injected.

24. **Neuropathic Accidents of Digestion.**—Féré describes 8 cases of unusual morbid manifestations accompanying digestion. In one case a previously healthy man had syncope after every hearty meal, and the same occurred in a patient with paralysis agitans. In a case of uncontrollable vomiting of pregnancy, numerous pains occurred during digestion. In another patient with neurasthenia resulting from a sunstroke, recurring pain was noted during digestion, located invariably in a traumatic wound in the leg which had healed perfectly and been free from symptoms for twenty-six years. There was no pain at any other time. In the fifth case, acroparesthesia and inability to walk occurred during difficult digestion in a woman with neurasthenic tendencies. In the sixth, difficult digestion was accompanied by aggressive actions and once by transient furious delirium, the attacks terminating in vomiting. A child exhibited a specific contraction of the left leg during indigestion, never noted at other times and subsiding always after she had vomited. The eighth patient was a general paralytic and difficult digestion was accompanied by profuse local sweats. Tardy and persisting digestive occurrences of this nature are probably due to intoxication, but the early and acute manifestations, terminating in vomiting or sudden defecation, are probably of reflex origin.

25. **New Explanation of Etiology of Tuberculosis.**—Ferran is director of the municipal laboratory of bacteriology at Barcelona, Spain. He announces that his researches have shown the tubercle bacillus to be merely a modified colon bacillus. Before the tubercle bacillus appears in the sputa, he finds constantly another bacillus which he calls the "phthiseogenic." This heralds the approach of tuberculosis, and tubercle bacilli soon appear. In his experiments with the colon bacillus, he found that under certain conditions this bacillus was substituted by the phthiseogenic bacillus and this in turn by the tubercle bacillus, although the conditions absolutely prohibited the possibility of extraneous infection. He believes that practicable vaccination against tuberculosis will soon be possible by following these indications. He has isolated the phthiseogenic bacillus from human sputa and from the excreta of dogs, and both bacilli finally turned into the Koch bacillus. Both induce cachexia after a preliminary pretuberculous pneumonia or other affection of the respiratory passages, and both are essential for the development of tuberculosis. The latter is merely a colon bacillosis, the bacilli modified by the chemical changes which it induces in the infected tissues. He has obtained the same clinical and experimental results with colon bacilli from man and from the cat. These bacilli grown in Martin bouillon or serum induce tuberculosis after being injected a certain number of times.

27. **Simple Nitropropiol Test for Sugar.**—Gebhardt has modified this test mentioned in THE JOURNAL, xxxvi, p. 354. He adds 10 to 15 drops of urine to 10 c.c. of water and dissolves one nitropropiol tablet in the fluid, warming it for two to four minutes. If there is any grape sugar in the urine, the fluid turns greenish and then a deep indigo blue. This reaction does not occur with any other substances in the urine in the absence of sugar. The test is extremely simple, convenient and sensitive to even a small proportion of sugar.

31. **Ultimate Results of Operative Treatment of Retroflexion and Prolapse.**—Andersch tabulates the result of 304 operations performed at Pfannenstiel's clinic between 1896 and 1900 and 24 in his private practice. The total number of patients was about 750 in each. The remote results observed have confirmed him in the advantages of the following outline for treatment: If the displacement causes symptoms which require intervention, he treats with pessaries, as far as possible, all cases of movable retroflexion with or without prolapse or procidentia. All cases of movable retroflexion combined with prolapse or procidentia, and also all cases of prolapse or procidentia without retroflexion, are treated by vagino-fixation, with or without occlusion of the plica according to the age of the patient. The rare cases of isolated retroflexion of a movable uterus, unadapted for pessary treatment, are treated by ventrofixation or the Alexander-Adams operation, and all cases of fixed retroflexion by ventrofixation.

32. **Liquid Air as a Disinfectant for Vagina and Uterus.**—Wolff and Meyer report that anthrax bacilli exposed to the action of liquid air for eight days were not killed, but their virulence was much attenuated. In eight series of tests on dogs, liquid air applied to the mucous membrane of the vagina and uterus, previously infected, caused the temperature to fall to normal, with other indications of a powerful disinfecting action.

38. **Etiology of Infectious Diseases from New Point of View.**—Menzer thinks that the state of the organism, the external conditions, etc., have a more important share in the etiology of infectious disease than has hitherto been appreciated. For instance, he suggests that the germ causing measles in children and the subsequent immunity may be merely the consequences of the peculiarly receptive state of the organism in childhood. It causes the clinical picture we call measles in the child, but in the adult it is possible that the same germ may be responsible for various catarrhs and bronchitis. He attributes the primary infection to invasion of the tonsils, and describes several cases of articular rheumatism commencing with sore throat, in which he was able to cultivate diplo- and strepto-cocci from the peritonsillar tissue, and staphylococci in a case of erythema nodosum. The etiology, therefore, of infectious diseases may be sought in the varying reciprocal relations between the human cellular economy and the ubiquitous micro-organisms under varying external conditions, such as climate, etc.

41. **To Reduce the Size of the Abdominal Cavity by Doubling the Abdominal Wall.**—Heidenhain reports and illustrates two cases in which he followed Piccolo's suggestion and reduced the size of the abdominal cavity after the removal of a large tumor. He incised the wall on the median line from the symphysis to the ensiform process, and doubled the walls over each other like a double-breasted coat. This procedure may also prove useful in abdominal hernias or enteroptosis.

42. **Acute Sepsis, Ileus, Iodoform Intoxication or Uncontrollable Vomiting, Which?**—Haeberlin describes a case presenting the above puzzling clinical picture. The patient was a debilitated multipara in a new pregnancy. She owed her life to saline infusion, and made a rapid recovery after abortion had been induced. He suggests that possibly many of the operative fatalities are due to a combination of factors, harmless in themselves, such as vomiting and meteorism, but dangerous on account of the condition of debility, and producing symptoms such as we are accustomed to see only in dangerous affections of the peritoneum or violent mechanical disturbance of the intestines.

46. **Cold as a Cause of Arteriosclerosis and Joint Deformities.**—Von Manteuffel explains the tardy appearance of gangrene after a limb is frozen as merely the secondary, remote result of alteration or occlusion of the blood vessels caused by the cold. His research on limbs amputated on account of frost gangrene has confirmed this assumption, and also his success-

ful reproduction of the same condition by freezing the hind legs of guinea-pigs by spraying them with ether. The vessels exhibited the typical lesions of arteriosclerosis. The bones also suffered from the action of the cold, the manifestations being the same as in the vessels, that is, the death of the previous normal tissue and regeneration by connective tissue. As the bone dies, the periosteum probably begins to proliferate as cicatricial tissue, while in the epiphyses the defect is compensated by the bone marrow. The joint thus weakened yields to the pressure and an arthritis deformans may be the result, its development promoted by the weight of the body above. The alterations in the bones were so pronounced and direct that they were evidently directly traceable to the action of the cold rather than to the intermediation of arteriosclerosis. The œdema in a frozen limb is not able alone to induce these processes of degeneration and regeneration, as he established by further experiments.

47. **Artificial Pneumothorax as a Preliminary to Operations on the Thorax.**—Delagénière has announced that a pneumothorax occurring during the course of an operation causes no trouble if it develops slowly. Doilinger thinks that the removal of extensive tumors of the thorax wall or in the lungs, would be much facilitated if pneumothorax were artificially induced the day before as a preliminary measure. He describes two cases showing the great benefit to be derived from this measure. In one a sarcoma the size of a man's fist was to be removed from the right wall of the thorax. The day before he inserted a tube in an incision in the fifth interspace under local anesthesia. The respiration was 35 to 40 a minute, the pulse 120, and the patient experienced no discomfort. When the thoracic cavity was opened for the extirpation of the tumor the lung was seen to be collapsed, but still sharing a little in the movements of respiration. The latter ceased for a few seconds when blood was wiped off the surface of the lung. The action of the heart continued normal all the time. The wound was sutured without disturbing the lung. It expanded completely in the course of two weeks. He had a similarly favorable experience in another case. The patient evidently stands the narcosis better when the pneumothorax is induced the day before and the operation can proceed more rapidly.

48. **Post-Typhoid Affections of the Bones.**—Langer reports two cases of an affection of the vertebræ involving also the spinal cord and emerging roots, evidently a post-typhoid spondylitis. Such post-typhoid ulcerations generally have a long incubation and frequently localize on a spot injured by some recent or old trauma. Quincke describes post-typhoid spondylitis as characterized by the unusual violence and extent of the spontaneous local pains, by the swelling of the soft parts, the acute, febrile course, rapid vanishing of the spinal symptoms, and the extremely frequent localization in the lumbar region. In one case the affection did not develop until seven years after the typhoid fever; in the cases described the intervals were four and eleven weeks. He has noticed that the agglutinating reaction is more often absent in the young than in adults and is soon lost. It was pronounced in one of his cases.

49. **Buttermilk for Infant Feeding.**—DeMattos states that since de Jaeger recommended buttermilk as a food for infants, six years ago, it has become universally and persistently popular throughout Holland. It has been tentatively introduced into Germany during the last year and has already won high appreciation. When pure, fresh buttermilk can not be obtained, families churn a little butter at home to provide the babe with its buttermilk every day. It is prepared by stirring a level tablespoonful—about 10 to 12 gm.—of fine rice, wheat or other flour into a liter of buttermilk less than twenty-four hours old. It is then boiled over a moderate fire until it boils up thrice, stirring continuously, after which two or three heaped tablespoonfuls of cane or beet sugar are added. Five years of extensive experience with this regime have confirmed its remarkable value in cases of children who are not thriving on breast milk or artificial foods and in desperate cases of all kinds.

52. **Clabbered Milk for Infants.**—Langstein reports twenty-five cases of very sick children who were fed on milk artificially clabbered with rennet, and then stirred or beaten to break up the clots very fine. In nearly every case the gastro-intestinal symptoms rapidly subsided, the vomiting ceased and stools became normal. See THE JOURNAL, xxxvii, p. 480.

55. **Severe Anemia of Gastro-Intestinal Origin.**—Perutz points out that pernicious anemia is almost regularly accompanied by a lack of hydrochloric acid and of all the peptic ferments in the stomach, with diarrhea or constipation, and anatomic alterations in the alimentary canal. He describes a case in detail in which the symptoms indicated a serious blood disease and arsenic had been administered on the diagnosis of severe anemia. The patient had suffered from gastro-intestinal troubles for years and the arsenic only aggravated his condition. Perutz therefore treated the gastro-intestinal disturbances alone, by lavage of the stomach every morning and frequent irrigation of the intestines. The patient, a man of 53, was fed with gruel and egg, introduced through the stomach tube. Every evening a quart of chamomile tea was injected into the rectum. He rapidly recovered under this regime, gradually supplemented by more nourishing, easily digested foods, but the anatomic alterations in the alimentary canal still impose continued caution in the diet. His case had been considered hopeless by his previous medical attendants, but under this dietetic treatment he recovered strength and was restored to his business.

56. **Peculiar Emulsion Albuminuria in Eclampsia and Uremia.**—Cramer discovered in the case of three patients already in fatal coma that the urine was turbid and milky and did not become clear by repeated filtering. The microscope revealed that the emulsion consisted of albuminoids. It vanished spontaneously after the urine had stood two days in a warm room. Two of the patients were in puerperal eclampsia, the other in uremia, and the urine had been drawn on account of retention. This super-saturation of the urine with albumin probably indicates great insufficiency on the part of the kidneys and speedy dissolution.

57. **Relations Between Diabetes Insipidus and Mellitus.**—Kuhn describes the case of a patient with diabetes insipidus. Eight days before her death, she presented the classical clinical picture of diabetes mellitus.

60. **Dietetic Treatment of Epilepsy.**—Schaefer had three epileptics under observation for a year and a half whose epilepsy dated from childhood and had proved rebellious to all treatment and entailed more or less imbecility. They had 20 to 30 seizures a month. He treated them from June 26 to August 10 by suppressing salt in their food and incorporating bromid in their bread, according to Balint's directions. (See THE JOURNAL of July 20, 1901, p. 228). The mental and moral improvement was marked and one patient had only 2 seizures during July, the second only 2 and the third 7, while none had any seizures during the last four weeks of the treatment. Return to ordinary diet was followed by the recurrence of the seizures after six to nine days. [Garbini reports similar experiences with 14 epileptics, in the *Revista Mensile di Neuropatologia* for December. The seizures diminished by 73 per cent. under suppression of salt and administration of 1 gm. of bromid a day, and the seizures were only a third as long. The mental and general condition showed marked improvement. All were severe cases. Lion has recently reported remarkable benefit in 21 cases of epilepsy from the simultaneous suppression of salt, administration of bromid and of brain extract.—ED.]

65. **Advantages of Median Lithotomy.**—Miclescu reports that he has performed this operation 120 times in Macedonia and always with the most satisfactory results except in one case. The operation was always done in the patient's home, usually a shanty, without assistance. He ascribes his invariable success to the median operation, and to his practice of suturing the periprostatic and peri-urethral tissues with silk, never suturing the urethra itself. A catheter was introduced

into the fossa navicularis urethræ for three days. The wound healed usually in four days and the patients were able to get up the seventh. His single fatal case was a child. In this case during the course of the operation, the patient, operator and instruments were drenched by sudden rain through the roof.

66. **Indications for Operation in Case of Gastric Ulcer.**—Delachaux considers irrigating the stomach with a solution of iron chlorid the first indication except in case of perforation. Operative intervention is indicated only when perforation is certain, or when treatment with iron chlorid brings no relief and the certainty is thus acquired of the existence of stenosis or malignant degeneration.

69. **Treatment of Acute Catarrh.**—Nothnagel states that complete recovery after an acute catarrh is possible only when Nature's efforts at repair are not disturbed. It is therefore of the greatest importance to treat every acute catarrh, even the slightest, from the very first day, before permanent anatomic alterations occur, perpetuating the catarrh or entailing excessive vulnerability on the tissues. Old-established catarrh is practically incurable. Catarrh that has lasted six months is scarcely capable of complete retrogression. On the other hand, an acute catarrh will heal without medication if all injurious elements are kept away from it. These elements, in case of acute catarrh of the respiratory apparatus, are the breathing of cold or alternately cold and heated air, the action of vicissitudes of temperature on the skin, wind, dust, smoke and speaking. In case of catarrh of the digestive apparatus, food should be abstained from during the first few days as much as possible, and then for a long time the diet should be restricted to the foods making the least demands on the peptic and motor activity of the stomach and intestines. In both cases these precautions must be continued until the functional disturbances have entirely disappeared.

71. **Effects of Exposure to Cold.**—Lassar remarks that the effects of exposure to severe cold—freezing—like those of a burn, range from a mere patch of hyperemia to necrosis. Lupus erythematosus, for instance, develops as frequently in tissues that have been over-cooled as in those that have been overheated, in cabdrivers and field hands as frequently as in firemen and cooks. Cold affects the tissues less intensely at first, but its action is more persistent. The vascular system suffers most. The various pathologic processes which locate by preference at the tip of the nose are probably attracted by some preceding alteration in the blood vessels, due to the action of cold, possibly in remote childhood. Prophylaxis should guard against sudden exposure to severe cold and include rational hardening of the system against cold, as by the custom of a daily cold bath or rub. According to Lassar's experience, there is only one way of treating the permanent redness of nose, cheeks, etc., resulting from venous ectasia, and this is the laying waste of the pathologic, newly-formed ampullæ in the vessels. If quite superficial, they can be reached by applying a salve made of 10 parts beta naphthol, 40 parts sulphur, 25 parts green soap. This is applied once or several times a week for one-half to one hour and then wiped off dry. The skin becomes gradually accustomed to it, and it can then be applied oftener and longer. No inconveniences were observed in any of Lassar's numerous cases thus treated. Transient irritation from it at first is combated with talcum powder or a soothing salve. The amount of dilatation of the capillaries and veins can be best determined by the absorption of light under a powerful microscope, the tissues lighted from the side. He obliterates the lumen of the vessels by a special contrivance consisting of forty gold-plated platinum points, not too sharp, driven by an electromotor, piercing the skin with hundreds of fine pricks in a few seconds. Actual freezing should be treated the same as a burn, keeping the parts aseptic, dusting with a dry powder and dressing with bismuth, watching carefully for indications of gangrene. If this occurs and if it can not be kept dry under anilin blue, which has such remarkable antiputrefaction properties, the gangrened part must be treated like any infected wound. Phlegmons and pyemia are liable to follow the use of household remedies and easily-spoiling salves. Chilblains, on the contrary, are notably benefited by salves, especially by a combination of the cerate of subacetate of lead, olive oil and carbolized vaselin. It is applied over night, smeared copiously on a cloth, and all signs of the chilblain soon disappear. When the hands become red and the redness recurs on exposure to cold, the circulation can be stimulated by gymnastic exercises. Both active and passive massage of the hand can be produced by holding the hand at the level of the shoulder with the wrist loose and snapping the fingers forward, at first slowly and then faster and faster.

73. **Flap-Treatment of Cicatricial Contractions.**—Wolff secured such good results in a case he describes and illustrates, that he recommends the method in similar cases of contraction. The young man's arm was bent almost like a Z in consequence of a severe burn years before. The wrist was cut across transversely on the side of the contraction, the incision avoiding the vessels and nerves, but carried down to the bone until every contracting fiber had been found with the finger and severed. The joint could then be mobilized at once. When the joint was straightened, the defect left by the gaping wound was nearly the width of the palm. This was closed by a pedunculated flap from the thorax. The elbow and thumb were treated later in the same way and almost complete function has been restored, without the excision of a scrap of tissue.

74. **Operative Treatment of Gastric Ulcer.**—Porges states that at Hochenegg's clinic operation in case of gastric ulcer is by Hacker's method when possible and by Wolfler's when it is impossible to pull the stomach forward or when the posterior wall is involved in the morbid process. In case the stomach is small, the entire walls infiltrated with carcinoma and adherent to the pancreas, Maydl's jejunostomy is to be preferred. In a case described a gastric ulcer in the lesser curvature had perforated, but as the wall was adherent to the liver at this point there was very little escape of stomach contents. The case was treated by detaching the liver and introducing a strip of gauze and a drain through the defect, after a Hacker gastroenterostomy had been done. Fluid food was given by the mouth at once; it flowed down into the intestines by its own gravity without seeking an outlet through the defect, which closed later spontaneously by granulation. The recovery was prompt and uneventful, evidently favored by the open treatment of the wound in the stomach and the direct communication into the small intestine.

75. **Pathogenesis of Choked Disc in Case of Brain Tumors.**—Elschnig states that choked disc is an interstitial inflammation, too early in its appearance and too pronounced to be merely the result of the tardy degeneration of the nerve. It must be due—in case of brain tumors—to the toxins generated in the tumor, which are swept to the optic nerve in the orbit by the cerebrospinal fluid. They penetrate into the lymph spaces and cause interstitial inflammation. The optic nerve is evidently predisposed to inflammation and is liable to react with the condition we call choked disc to any intracranial affection or neuritis as well as to a tumor in the brain. The increased pressure of the cerebrospinal fluid in case of tumors causes the serous accumulations in the papilla.

79. **Difference in Action Between Extracts of the Medulla and of the Cortex of the Suprarenal Capsules.**—Salvioli found that both of the extracts increased the blood pressure, but the extract of the medulla had a stronger and more durable action in this respect. The latter also affects the respiration, rendering it more frequent and superficial. The results of his tests establish the fact that the former stimulates and the latter paralyzes the inhibiting centers of the heart.

80. **Infectious Fevers in Mexico.**—Olvera calls attention to the atypical character of the infectious diseases that have prevailed in the City of Mexico since the extensive drainage operations have been under way. He states that cases of abnormal typhus have been numerous, also of pseudo-typhoid fever, true enteric fever, typhoid pneumonia, malignant measles, etc. He believes that only the mildness of the climate has preserved the city from serious ravages by these unusual, mixed diseases. The constitutions of the inhabitants are not tried by

excessive cold nor excessive heat and hence are more resistant than under the same conditions elsewhere.

83. **Filarial Lymphangiectasis.**—Maitland calls attention to the operation suggested by him in 1889 of removing the glands of the groin in cases of this condition, on the theory that they contain the parasites. His first operation was a success. Its practical value has been since fully established by the results obtained by other surgeons. The operation, however, is still condemned in some text-books, and therefore he brings up the subject. Three cases are reported. The objection raised to this operation for the removal of lymphatic varices and lymphadenoceles, that such operations are unscientific in principle and do not completely remove the varix and the obstruction to the lymph circulation, is answered by him that practice has proven it to be quite successful in relieving the patient from the periodic attacks of fever and pain. Three cases are reported illustrating this fact. The second objection, that such operations are liable to be followed by lymphorrhagia or lymphatic fistula, is not the experience of Madras surgeons. He has never seen such a result himself and never heard of it in the experience of others. The third objection, that such cases are prone to be attacked by septic inflammation or erysipelas, is also contradicted by experience. The point he especially wishes to emphasize is that the object of these operations is not to lessen the circulation of the lymph, but to relieve the patient from suffering, and here the result is satisfactory.

85. **Pani-Ghao.**—This condition, known locally in Assam as ground- or water-itch, effects especially the native laborers who go bare-foot. Bentley has investigated its etiology and finds that it is due to introduction of the larval ankylostoma duodenalis from the soil into which it is introduced through the habits of the natives in causing fecal infection of the soil. The wearing of shoes is known to be an almost certain preventive of the disease.

88. **Blackwater Fever.**—Moffat discusses the alleged importance of quinin as a cause in the production of blackwater fever. He remarks that he has himself suffered from the disease when he had had no quinin for two months. He has known cases of it where quinin could be absolutely excluded. His theory of the cause of the disease is that it is due to lack of care in the patient during the apyretic stage. An old malarial patient should go to bed directly he feels the first symptom of a malarial attack, even though the temperature is yet normal, and, if possible, should be kept in bed after an attack until it has been normal for at least twenty-four hours. In these cases he believes hemoglobinuria does not appear. Since quinin is the only really reliable cure for malaria, in crediting to it such a condition as blackwater fever we would be frightening the inexperienced and making them shy of employing it in sufficient doses, with the result of severer attacks of malaria accompanied by a heavier death rate.

93. **Rectal Injections in Dysentery.**—This form of treatment, Lillie remarks, does not appear to be very strongly supported, but he has tried it himself in several cases in South Africa and found it most useful. He gave very gentle injections of small quantities at a time, an ounce or so every few seconds, and two or three times a day. He generally used boracic acid, 10 gr. to the ounce, and sometimes other antiseptics. It is an important point to give them often enough. The bulk of the enema is never less than 1½ pints, but it is very gently introduced and in this way no unpleasantness is complained of. He considers the saline treatment of dysentery to be on the same principle as this. The bowel is flushed out and toxic substances removed, and with these removed griping and tenesmus are relieved. Injections possess the advantage of introducing this fluid for flushing from without and not draining from the patient's already weakened system and of applying antiseptics to the local foci of disease.

94. **Asepsis in Surgery.**—Grimsdale's article is a plea for asepsis as opposed to antisepsis. He gives graphic curves, showing the difference in the temperature and pulse of some 80 cases under the two systems, 40 under each, and also gives credit to a surgeon of 100 years ago, Alanson, for suggesting in principle this method. He quotes from his recommendations, which are surprisingly modern.

96. **Frontal ("Ophthalmic") Reflex.**—The object of Overend's article is to call attention to the more exact designation, "ophthalmic," which he offers, and to express the view that the symptom is a true reflex and obtainable from both the skin and the periosteum supplied by that nerve. He remarks that he first described it in 1896 under the name of "frontal reflex" and demonstrated it to medical friends as far back as 1889.

101. **Dental Caries.**—Goadby discusses the causes of dental caries, and concludes that it is largely due to carbohydrates, and the acid-forming bacilli. Proteids will tend to the reduction of caries; fermentative bacteria of the putrefactive class in that they tend to produce an alkaline reaction will also prevent the development of rapid caries. He attributes the great frequency of the condition among the European races to a defective condition of the enamel, and the fact that owing to the civilization of the race and the influence of sexual selection on the type of beauty as well as the large development of the frontal lobes of the cerebrum, the facial angle has been considerably altered, and with it the superior maxilla has become contracted with concomitant crowding of the dental arch. The teeth have remained for the most part of the same size. The result is that irregularity and crowding are common and a very fruitful cause of dental caries. The general physical condition of foodstuffs also differs; the hard, coarse and fibrous food is no longer used, and its cleansing effect on the tooth surface is replaced by the soft, smooth variety of food so commonly consumed. To prevent caries, he thinks much attention should be given to children from the appearance of the first temporary teeth. The use of the tooth brush should be taught early, and he recommends an alkaline antiseptic wash for the mouth and a dentifrice to be used. His article concludes with a table showing the approximate distribution of caries in the various races, from the Eskimo, 1.4 per cent., to the European, 87 to 90 per cent.

102. **Feeding in Typhoid.**—Brummitt's change from the orthodox mode of treating typhoid with liquid food alone is dated from a patient who ate up her poultice which had been ordered for an abscess, and since then he has used soft instead of liquid foods quite extensively. He reports a number of cases. The nurses observe that the patients do better, keep stronger, and he has seen cases where the desire for stronger food was expressed almost from the outset and as urgent as in the poultice case. He would assume in such that the digestive apparatus was in fair working order. He thinks when the digestive power of the stomach is good as it often is, a mutton chop, an egg, a banana, or a cup of milk would reach the cecum in very much the same form. He commences with light farinaceous foods and bread and milk, and goes on to mince meat, mashed potato with milk or gravy, custard, light boiled eggs with breadcrumbs or thin bread and butter; boiled white fish or fowl, brain, rice in various forms, etc., and some vegetables are often desirable, but he would remove the solid portions. Watchfulness as to the evacuations, however, must be continued, and if non-digested food is passed a change should be made at once. He does not advocate the indiscriminate use of strong food in enterica; adherence to milk diet would be better than that; but the judicious use of a larger dietary scale in many febrile cases and nearly all convalescents, would be good practice. A careful study of 98 cases leads him to conclude that the well-being of the patient generally is favored by the use of a more liberal diet.

106. **Typhoid.**—The difference of opinion as to the frequency of typhoid in the East Indian natives is noticed by Rogers, who says that it is decidedly frequent in those of Calcutta instead of their being immune. Nearly every case in which the temperature remains high for three weeks or more continuously in natives, is enteric, while mild or abortive cases of shorter duration are exceptional. It is not always easy to diagnose with certainty typhoid in these patients until very late in the disease by clinical means, but great assistance can be obtained by the skilled use of the Widal test.

Queries and Minor Notes.

CURE OF ALCOHOLIC AND MORPHIN HABITS.

UPPER SANDUSKY, OHIO, Jan. 28, 1902.

To the Editor:—Would yon be so kind as to state in yonr next issue what the willow-bark cure for alcoholic and morphin habits is which is now being so prominently brought before the public? Also, what treatment, if any, is the best for the above-named habits in your opinion, and oblige. W. W. S.

ANS.—As regards the "willow-bark cure" we have no reliable information; it is probably a bitter tonic. The qnestion is referred to our readers for reply. With regard to the best treatment for the alcohol habit, we believe that a strong moral impnlse is the most effectnal and lasting one in present conditions, as well as the safest one, and that withont it or absolnte restraint, almost any other treatment will probably fail. As regards the morphin habit and its cnre, we would refer to the abstracts of Jennings' paper in the London *Lancet,* which appeared in THE JOURNAL of Aug. 31, 1901; of McBride's paper in THE JOURNAL of Sept. 1, 1900, and the articles and discussion in THE JOURNAL of August 18, of that year.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a fnll equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of onr readers.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS, Comprising Ten Volnmes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavns P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Gradnate Medical School. Volume III. The Eye, Ear, Nose and Throat; Edited by Casey A. Wood, C.M., M.D., Albert H. Andrews, M.D., and T. Melville Hardie, A.M., M.D. December, 1901. Cloth. Pp. 346. Price, $1.50. Chicago: Year-Book Pnblishers.

CHARTER, ORDINANCES AND BY-LAWS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA, as Amended June 14, 1899, with an Appendix Containing Articles of Agreement and Deeds of Trnst, and the Rules Providing for the Creation and Government of Sections of the College, as Amended April 1, 1896. Paper. Pp. 124. Philadelphia. 1900.

DIGEST OF CRITICISMS ON THE UNITED STATES PHARMACOPEIA. Seventh Decennial Revision (1900) Published by the Committee of Revision of the Pharmacopela of the United States of America (1900-1901). Part III, Comprising Abstracts of Papers up to May 15, 1901. Pasteboard. Pp. 181. Philadelphia. 1901.

CHEMICAL PATHOLOGY IN ITS RELATION TO PRACTICAL MEDICINE. By C. A. Herter, M.D., Professor of Pathological Chemistry in the University and Bellevue Medical College, New York. In one 12mo volume of 454 pages. Cloth, net, $1.75. Philadelphia and New York: Lea Brothers & Co.

THIRTY-FOURTH ANNUAL REPORT OF THE BOARD OF WATER COMMISSIONERS OF THE CITY OF MIDDLETOWN, N. Y., for the Year Ending January 31, 1901. Paper. Pp. 70. Middletown, N. Y.: L. S. & J. D. Stivers, Printers. 1901.

PROCEEDINGS OF THE CONNECTICUT MEDICAL SOCIETY, 1901; 109th Annual Convention, Held at Hartford, May 22 and 23. Published by the Society. Cloth. Pp. 350. Bridgeport, Conn.: The Farmer Publishing Co.

MUNICIPAL ENGINEERING AND SANITATION. By M. N. Baker, Ph.B., C. E., Associate Editor of *Engineering News.* Cloth. Pp. 317. Price, $1.25. New York: The Macmillan Co. 1902.

TRANSACTIONS OF THE RHODE ISLAND MEDICAL SOCIETY. Vol. VI —Part II, 1900. Paper. Pp. 277. Providence: Snow & Farnham. 1901.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jannary 23 to 29, 1902, inclusive:

I. P. Agostini, contract snrgeon, leave of absence from the Department of Cnba is extended one month.

James B. Fergnson, contract surgeon, from Fort Yellowstone, Wyo., to his home, Olivia, Minn., for annulment of contract.

William C. Gorgas, major and surgeon, U. S. A., in addition to his present duties is assigned as disbnrsing officer of the Medical Department at Havana, Cnba.

Henry S. Kiersted, lientenant, and asst.-surgeon, U. S. A., now at San Francisco, Cal., assigned, on the expiration of his present leave of absence, to duty at the General Hospital, Presidio of San Francisco, Cal.

John A. McAlister, contract dental surgeon, now at San Francisco, Cal., to report to the commanding general, Department of California, for transportation to Manila, P. I., for duty in the Division of the Philippines.

Edgar A. Mearns, major and surgeon, U. S. A., from Fort Adams, R. I., to Fort Yellowstone, Wyo.

Edward B. Moseley, major and surgeon, U. S. A., president of a board at Denver, Colo., to determine the fitness of officers of the Army for promotion.

George J. Newgarden, captain and asst.-surgeon, U. S. A., member of a board at the General Hospital, Presidio of San Francisco, Cal., for the examination of candidates for admission into the Medical Department of the Army, vice Captain William H. Wilson, asst.-surgeon, U. S. A., relieved.

Ogden Rafferty, major and surgeon, U. S. A., member of a board at the general hospital, Presidio of San Francisco, Cal., for the examination of candidates for admission to the Medical Department of the Army, vice Major Robert Gibson, surgeon, U. S. A., relieved.

Henry H. Rutherford, lieutenant, asst.-surgeon, U. S. A., from the Division of the Philippines to duty at the General Hospital, Presidio of San Francisco, Cal.

Louis A. Thompson, contract surgeon, leave of absence on account of sickness extended two months.

Charles W. Thorp, contract surgeon, relieved from duty in the Division of the Philippines, and at the General Hospital, Presidio of San Francisco, Cal., to accompany the 4th Infantry to Fort Sam Houston, Tex., whence he will proceed to Fort Clark, Tex., for assignment to duty.

Philip G. Wales, captain and asst.-snrgeon, U. S. A., member of a board at Denver, Col., to determine the fitness of officers of the Army for promotion.

William A. Wickline, contract surgeon, from Bntte, Mont., to duty at Fort Lawton, Wash.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending Feb. 1, 1902:

Rear Admiral W. K. Van Reypen, detached from duty as chief of the Bureau of Medicine and Surgery, Navy Department, and ordered home and to wait orders.

Asst.-Surgeon C. M. Oman, commissioned asst.-surgeon from Dec. 18, 1901.

Asst.-Surgeon G. M. Mayers, detached from the Naval Hospital, Cavite, P. I., and ordered to the *Isla de Cuba.*

Health Reports.

The following cases of smallpox, yellow fever, cholera and plagne have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Feb. 1, 1902:

SMALLPOX—UNITED STATES.

Arkansas: Little Rock, Jan. 20, 17 cases, 1 death.

California: Los Angeles, Jan. 11-18, 8 cases; San Francisco, Jan. 12-19, 4 cases.

District of Columbia: Washington, Jan. 11-18, 2 cases.

Illinois: Jan. 18-25, Belleville, 1 case; Chicago, 8 cases; Danville, 1 case; Freeport, 3 cases; Galesbnrg, 2 cases.

Indiana: Evansville, Jan 18-25, 4 cases.

Iowa: Clinton, Jan. 18-25, 5 cases.

Kentncky: Lexington, Jan. 18-25, 3 cases.

Maine: Portland, Jan. 18-25, 1 death.

Massachusetts: Boston, Jan. 18-25, 44 cases, 6 deaths; Cambridge, Jan. 18-25, 3 cases, 1 death; Lowell, Jan. 18-25, 1 case; New Bedford, Jan. 18-28, 6 cases; Somerville, Jan. 18-25, 1 case; Weymouth, Jan. 11-18, 1 case, 1 death; Woburn, Jan. 18-25, 1 case.

Michigan: Detroit, Jan. 18-25, 6 cases.

Minnesota: Minneapolis, Dec. 28-Jan. 18, 57 cases.

Missonri: Hannibal, Jan. 11-18, 1 case.

Nebraska: Omaha, Jan. 18-25, 54 cases.

New Hampshire: Nashua, Jan. 18-25, 3 cases.

New Jersey: Camden, Jan. 18-25, 19 cases, 1 death; Jersey City, Jan. 18-26, 13 cases, 1 death; Newark, Jan. 18-25, 35 cases, 8 deaths.

New York: Jan. 18-25, Binghamton, 1 case; New York, Jan. 18-25, 54 cases, 11 deaths.

Ohio: Cincinnati, Jan. 17-24, 17 cases; Middletown, Jan. 18-25, 1 case; Toledo, Jan. 18-25, 1 case; Youngstown, Jan. 18-25, 4 cases, 4 deaths.

Pennsylvania: Altoona, Jan. 8-25, 1 case; Norristown, Jan. 18-25, 1 death; Philadelphia, Jan. 18-25, 90 cases, 19 deaths; Pittsburg, Jan. 18-25, 2 cases; Reading, Jan. 20-27, 1 case; Scranton, Jan. 15-22, 1 death.

Rhode Island: Providence, Jan. 18-25, 2 cases.

Tennessee: Memphis, Jan. 18-25, 16 cases.

Vermont: Burlington, Jan. 18-25, 31 cases.

Washington: Aberdeen, Jan. 18, prevalent; Coupeville, Jan. 16, 2 cases; Hoquaim, Jan. 18, prevalent; Tacoma, Jan. 12-19, 3 cases.

Wisconsin: Green Bay, Jan. 19-26, 13 cases; Fond du Lac, Jan. 18-25, 1 case; Milwaukee, Jan. 18-25, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Dec. 28-Jan. 4, 13 cases.

Canada: Halifax, Jan. 18-25, 1 case; Winnipeg, Jan. 11-27, 6 cases.

Colombia: Cartagena, Jan. 1-12, 7 deaths.

France: Marseilles, Dec. 1-31, 1 death; Nantes, Dec. 1-31, 3 cases; Paris, Jan. 4-11, 6 cases; St. Etienne, Dec. 15-31, 1 case.

Great Britain: Glasgow, Jan. 10-17, 4 cases; Liverpool, Jan. 4-11, 3 cases; London, Jan 4-11, 872 cases, 56 deaths; Newcastle-on-Tyne, Jan. 4-11, 5 cases.

Greece: Athens, Jan. 4-11, 1 case.

India: Bombay, Dec. 17-24, 1 death; Karachi, Dec. 15-22, 14 cases, 3 deaths.

Italy: Naples, Jan. 4-11, 12 cases, 4 deaths; Palermo, Dec. 28-Jan. 4, 1 death.

Russia: Odessa, Dec. 28-Jan. 4, 4 cases, 2 deaths; St. Petersburg, Dec. 28-Jan. 4, 8 cases, 1 death.

YELLOW FEVER.

Mexico: Vera Cruz, Jan. 11-18, 3 cases, 2 deaths.

CHOLERA.

Straits Settlements: Singapore, Nov. 30-Dec. 7, 2 deaths.

PLAGUE.

India: Bombay, Dec. 17-24, 175 deaths; Karachi, Dec. 15-22, 55 cases, 43 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, FEBRUARY 22, 1902. No. 8.

Original Articles.

AN EXPERIMENTAL AND CLINICAL RESEARCH INTO COCAIN AND EUCAIN.*

GEORGE CRILE, M.D.
CLEVELAND, OHIO.

EFFECT ON PERIPHERAL NERVE TRUNKS.

The injection of eucain or cocain into a nerve trunk so as to place all its structures in contact with the drug produces an effectual physiologic "block." By the word "block" is meant such condition of the nerve that neither afferent nor efferent impulses can pass, the conductivity being as completely interrupted as if the nerve were divided. While general anesthesia prevents the appreciation of pain and the production of voluntary motion, it does not prevent such other afferent impulses as those caused by mechanical, thermal or electrical stimulation of the nerve endings or trunks, which produce changes in the frequency and the amplitude of the respirations, in the frequency and force of the heart beats, and in vasomotor action. Either eucain or cocain injected into a nerve trunk as above described prevents the passing of such afferent impulses, thereby preventing effects upon the respiration, the heart or the vasomotor mechanism, i. e., shock. Under general anesthesia, if the paw of an animal is subjected to the flame of a Bunsen burner, after the lapse of a short time the leg is drawn up by the contraction of groups of muscles in a deliberate but rather forcible manner, removing the foot from the flame. General anesthesia, no matter how deep nor what anesthetic employed, does not prevent such action of the muscles. It seems, if the expression may be allowed, to be an "unconscious purposive" action. Either eucain or cocain injected into the path of these afferent impulses prevents this phenomenon. If it is intended to produce an immediate effect it is necessary to make a thorough injection. If a little time is allowed to elapse, the solution need not be directly injected into all the parts of the nerve trunk. Even if injected underneath the sheath, without penetrating the substance of the nerve trunk, a "physiologic" block may be produced. No unfavorable later effects were noted. In a number of cases in which the nerves were thus blocked, and the animals allowed to recover, there was but temporary functional impairment, and in no instance was there evidence of neuritis or of degeneration following. The effect of the eucain and cocain upon nerve structures is apparently the same as their well-known general effects upon the protoplasm; that is, they temporarily suspend its functional activity. They form no chemical combination and cause no destruction either of its physiologic properties or of its substance. As to afferent impulses, it was found that the cortical discharges of the brain were blocked either when they originated as a voluntary action, or when they originated as an artificial convulsion produced by the administration of the essential oil of absinthe. Even powerful electrical currents applied to the nerve trunk, near the block, were found to be incapable of forcing their impulses through the "block." What has been said of the effect of cocain thus applied to the nerve trunks may be said of like injections into the spinal cord. The effect upon the optic nerve is that of at least partially blocking the impulses of the light waves and were the injections given directly into this nerve the "block" would probably be complete. Either eucain or cocain when applied upon the medulla or fourth ventricle within a few seconds suspends the action of the respiratory center. This suspension is characterized by a gradually increasing slowness of respiration, together with gradually decreasing amplitude, so that within thirty seconds respirations cease. The blood pressure in nearly every instance suffers a profound depression, the nature of which is a gradual decline such as is observed on making a cross-section of the cervical spinal cord; that is to say, the vasomotor center or paths are anesthetized. Another effect of the application of eucain or cocain upon the medulla or the floor of the fourth ventricle is immediate complete general anesthesia and immediate total loss of all voluntary action. The corneal reflexes are at once abolished and the pupils are dilated. When the paws of the dog are exposed to the flame of a Bunsen burner the legs are not drawn up, the blood pressure is not altered, and the heart's action is not affected. It is needless to say that there are no respiratory changes. In other words, application of these anesthetics upon the medulla or the floor of the fourth ventricle suspends temporarily all the manifest functions of that organ excepting the heart's action, and that is modified. General anesthesia may be indefinitely prolonged by repeated applications. Upon the vagi the effect of an injection of these drugs is to suspend their inhibitory action. The action of cocain is probably a little more prompt than that of eucain; the latter, however, seemed to be quite as effective as the former. Cocain and eucain block the impulses set up by electrical stimulation in nerve trunks even after death; that is, if after the death of an animal a nerve trunk is stimulated, within a certain time the muscles supplied will be thrown into contraction; but if cocain or eucain is injected into the nerve trunk and a stimulus applied above it, no contraction will occur.

* The experimental research consisting of 89 experiments on animals, mostly dogs, will be published in detail elsewhere. This paper is a summary.

The physiologic action of cocain and eucain, both local and general, are so nearly alike that one description may serve for both. The first effect, observed after the intravenous injection, is a temporary increase in the blood pressure. This increase appears almost immediately, and continues for a brief period of from five to twenty seconds, when the blood pressure returns to or near its former level. The heart strokes forming the curve are usually a little shorter, and the rapidity of the heart's action somewhat increased. No definite vasomotor change was indicated by the peripheral venous or peripheral arterial manometers. A water manometer recording the splanchnic blood pressure indicated a rise out of proportion to the rise in the general blood pressure. In rare instances there was a fall in the blood pressure, but compensation was immediately inaugurated and the lost pressure was quickly regained. In overwhelming doses with lethal effect the general blood pressure, in fact, all the pressures, rapidly sink to the abscissa line. It was noted that when the animal was under the systemic effect of these drugs the blood pressure curve was, as a rule, not so regular as under normal conditions. It was also noted that in a number of experiments the length of the stroke of the writing style, expressing the heart's action, was shortened under the systemic effects of these drugs. This irregularity of the blood pressure curve was similar to the irregular curve when the animal was under physiologic dosage of atropin or when both vagi had previously been severed. It was also found that when animals were under the effect of these drugs, stimulation, by applying the electrodes upon the vagi, did not produce normal characteristic effect; that is to say, that while in normal conditions the application of a Du Bois Reymond electrode upon the vagi causes slowing or arrest of the heart; in animals under the systemic influence of cocain or eucain the application of such stimulation to the vagi in most instances produced little or no effect. In a number of experiments it was observed that if after having secured a control tracing of the inhibitory effect of intralaryngeal manipulation the animal was subjected to a physiologic dosage of cocain or eucain, a like manipulation of the larynx usually produced no inhibition. In the experiments in which inhibition was noted it was in most instances less than normal. The same may be said of other experiments upon the superior laryngeal nerve. The physiologic effect of cocain and eucain in this respect is quite analogous to that of atropin, though the effect is not so marked. The increase in the blood pressure after the administration of cocain is in a measure similar to that which follows section of both vagi. Taking into consideration all of the evidence, it would seem that cocain and eucain partially or wholly suspend the inhibitory function of the vagi, whether produced by direct or indirect stimulation. While not prepared to make a positive statement on the subject, it appears that the increased rapidity of the heart's action under the influence of these drugs was due to the removal of the vagal influence and not to stimulation of the accelerators. The splanchnic area, especially the veins, when the abdominal viscera were subjected to exposure or irritation, or both, was dilated.

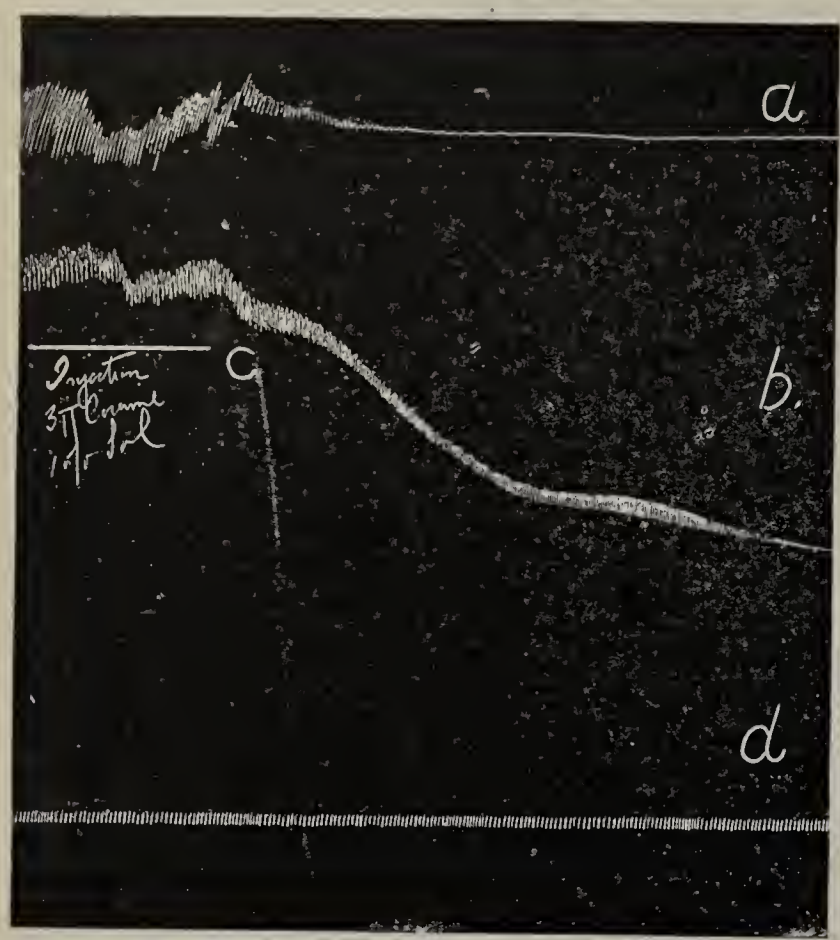


Fig. 1.—*a*, Respiration; *b*, blood pressure; *c*, signal; *d*, seconds. Injection in lumbar region with considerable force, showing how quickly both the respiratory and the vasomotor centers may be paralyzed. The secondary rise in the blood pressure was due to the first disturbance of the convulsive center in the medulla.

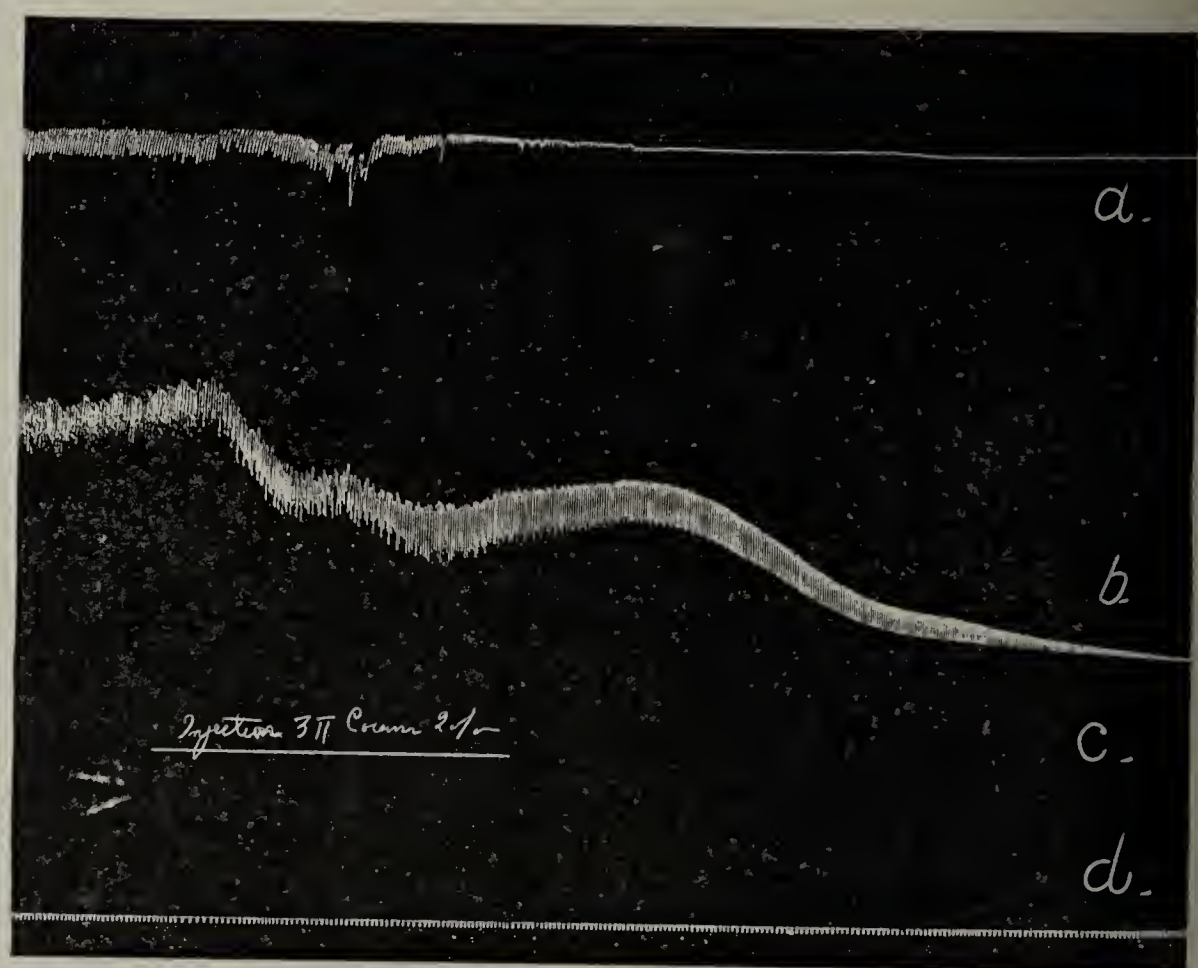


Fig. 2.—*a*, Respiration; *b*, blood pressure; *c*, signal; *d*, seconds. Effects of injecting two drams of cocain into lumbar subarachnoid space. Note the gradual cessation of respiration, the irregular strokes occurring during the convulsions, the abrupt fall in the blood pressure due to paralysis of the vasomotor center in the medulla.

the intestines became red, extremely congested, and often livid. When the animal had been given a physiologic dose of cocain or eucain and exposed to like experiment the splanchnic vessels did not dilate, except-

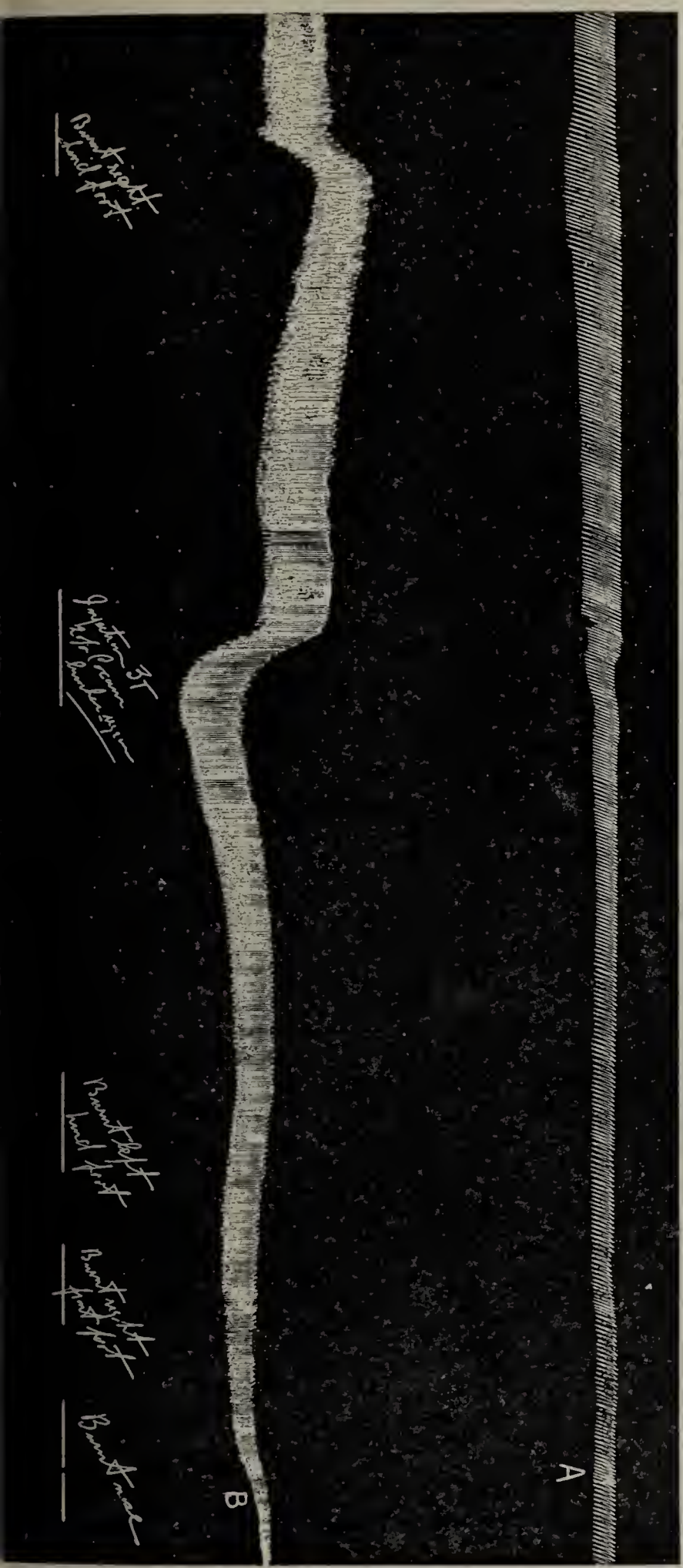


Fig. 3.—*a*, Respiration; *b*, blood pressure. As a control the hind foot was burned, causing a rise. Then cocain solution was injected into lumbar region, after which burning of the foot caused no effect upon either the blood pressure or the respiration.

ing those at the bases of the intestines. The arteries became decidedly smaller and the intestines a peculiar palish red. In a large series of control experiments it was found that with but rare exceptions such irritation or exposure of the splanchnic area caused a fall in the general blood pressure proportional to the exposure or irritation and the condition of the animal. In some instances the fall was extremely rapid and the animal soon died, but in a series of experiments in which cocain was systematically administered there was but a slight, if any, fall in the general blood pressure. There was a striking difference between the results in the control experiments and the "cocain" ones. In order to make the comparisons more reliable double experiments were performed. Two animals of as nearly the same size and under as nearly the same conditions as possible were placed side by side on similar dog boards, and precisely the same experiments were performed simultaneously upon each. In every instance the benefit of any doubt was allowed the control dog. The writing style recording the blood pressure and the respiratory action of each was placed in a vertical line, so that direct comparisons could be accurately made. The result of these double experiments may be summarized as follows: In the control dogs exposure and manipulation of the intestines produced a fall in the blood pressure; in the cocain and eucain dogs, as a rule, no fall occurred. The cocain and eucain dogs endured more mechanical injury than the control dog. The latter in every experiment died first. In burning the hind feet in the animals the blood pressure in the control rose higher and more promptly than in the cocain or eucain dogs. In crushing the testicle the blood pressure fell more promptly and a greater distance than in the cocain or eucain dogs. The same may be said of the manipulation of the larynx, stimulation of the vagi, operations in the pharynx, in short, of every portion of the body. The comparison between the appearance of the abdominal viscera in the control dog and that in the cocain or eucain dog is that in the latter the intestines were of a peculiar shade of pale red, and the vessels were, if any change was noted, of less caliber than before the experiment; while in the control dog all the vessels were engorged, the viscera exceedingly red, and in many instances livid. It was at once apparent that the difference in the blood in the splanchnic area of these two animals was very great. Even the inferior vena cava was smaller in the cocain animals. The effect upon the circulatory apparatus: first, an immediate rise takes place in the blood pressure lasting a few minutes; this is followed by a compensatory fall; later, a gradual rise occurs. The inhibitory influence of the vagus is partially or wholly suspended. The vasomotor reflexes are considerably lessened. The circulatory apparatus is less responsive to stimulation. The latent period of vasomotor reflex action is markedly increased. The vessels of the splanchnic area are contracted.

There is but little doubt that there is an increased tendency to clotting. Upon the respirations a small dose seemed to act as a stimulant. A medium dose seemed to lessen the length of the respiratory stroke, while a large dose caused respiration to gradually diminish. It was frequently observed that if a series of injections of these drugs were administered at given intervals a very marked tolerance was acquired, so that finally but little effect could be produced. It was also observed that animals under the influence of these drugs were more difficult to maintain in the condition of even surgical anesthesia. More general anesthesia seemed to be required, and the animals had a tendency to come unexpectedly out from its influence.

SPINAL CORD ANESTHESIA.

Injection into the Spinal Cord.—In 1897, after performing the experiments upon nerve trunks showing that cocain was capable of producing physiologic section, that is to say, the afferent or efferent impulses could not pass the point cocainized, and after having performed amputations on the human subject without pain and without shock by this method, similar procedures upon the spinal cord were suggested. The experiments along this line consisted in injecting the solution directly into the substance of the cord. This produced immediate anesthesia at all the points with which the cocain came in contact. Although the anesthesia was immediate and complete, and for operative purposes was entirely satisfactory, it was obvious that this procedure necessitated a physical damage to the cord.

Recovery experiments were made as follows: The cord was anesthetized by injecting cocain directly into its substance by means of a fine needle. The completeness of the anesthesia was proved, the animal allowed to recover, and after a lapse of varying periods of time was killed. The cord was subjected to microscopic examination. While in some of the cases it was impossible to detect any microscopic damage to the cord, there was found some round-celled infiltration and disturbance of the histologic arrangement. It was at that time concluded that this was not a justifiable procedure in any but most exceptional cases. Later experiments were made by injecting cocain into the subarachnoid space. In dogs this space is so small that it is necessary to expose the cord in order to make an injection without traversing the cord. The injection of a 1 per cent. solution of cocain into this space produced almost immediate anesthesia.

Subarachnoid Injection.—Effect on the Circulation: The effect of injecting a solution of cocain into the subarachnoid space in the lumbar region was an immediate fall in the blood pressure, the beginning of the fall being almost coincident with the contact of the solution of cocain with the cord. The depth of the fall was proportional to the completeness and the anatomical parts involved. The curve in the descent of the blood pressure was gradual and even, after which a regular line was maintained for some distance, which indicated the loss of vasomotor control. The effect upon the blood pressure when the medulla or the fourth ventricle was cocainized was the greatest, the pressure falling almost to the abscissa line. When the entire cord had been subjected to the influence of cocain and the pressure had fallen as above described, if any part of the body below the level cocainized was subjected to burning, crushing, or any other mechanical, thermal or electrical stimulation, no rise in the blood pressure occurred. There was usually but a trifling amount, if any, of compensation after the fall of the blood pressure until the cocain effects passed off.

Effects on Respiration: The immediate effects on the respiration, after a subarachnoid injection of a comparatively small amount of cocain in any part of the spinal cord, not involving the medulla, is acceleration. The application of a 1 per cent. solution of cocain upon the medulla or the floor of the fourth ventricle produced within a period of time ranging from a few seconds to a few minutes, complete respiratory paralysis. There is first loss of the intercostal and extraordinary muscles, then the abdominal muscles and lastly the diaphragm. The action of the diaphragm becomes shallower at each contraction until it is entirely paralyzed.

The membranes of the cord are so nearly inelastic that for the present purpose they may be regarded as being so, while the cord itself is so nearly incompressible that it may be considered so. The subarachnoid space is always filled with its own fluid. If additional fluid is added, it must cause a displacement similar to that of fluid in a capillary glass tube. The rapid and uncontrollable ascent of the anesthesia of the cord was most striking. In order to better study this a series

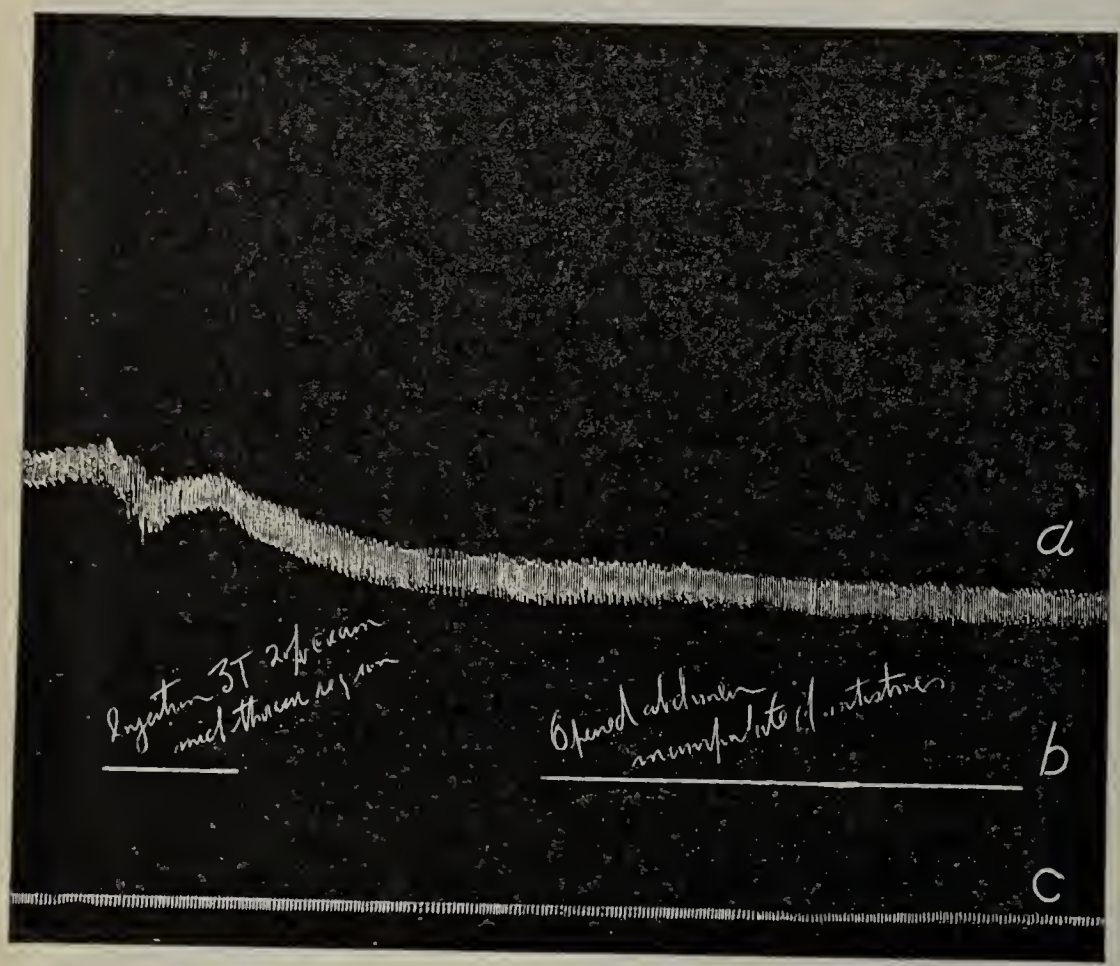


Fig. 4.—*a*, Blood pressure; *b*, signal; *c*, seconds. This experiment shows that after an injection in the thoracic region manipulation of the abdominal viscera does not affect the blood pressure.

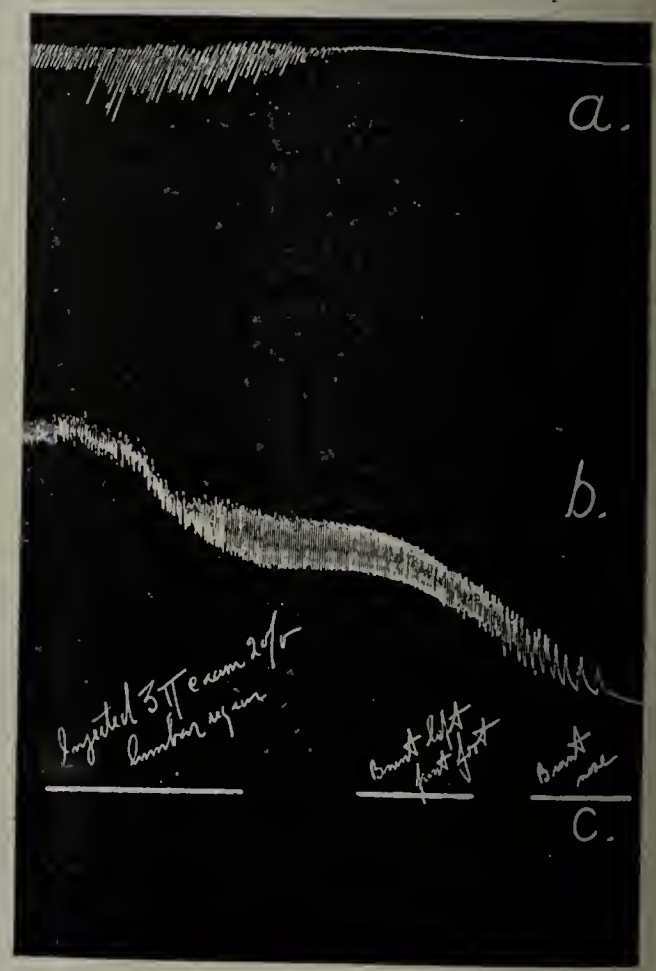


Fig. 5.—*a*, Respiration; *b*, blood pressure; *c*, signal. This experiment shows how quickly an injection in the lumbar region may kill, and that after the effect is obtained burning of the feet does not produce any change in the blood pressure.

of injections was made with cocain solution colored with methylene blue. It was found that an ordinary injection in the lumbar region of one-half dram of this solution stained the entire cord and the under surface of the brain within thirty seconds. All the various localized functions of the cord and medulla were with rapidity anesthetized. The respiratory center in the medulla, for example, could be anesthetized by a lumbar subarachnoid injection within a few seconds, so rapidly did the fluid pass up the cord. Marked fall in the blood pressure and cessation of the respiration occurred within a few seconds, after a rather forcible injection in the lumbar subarachnoid space. The fluid ascended about as readily in the vertical posture as in an horizontal. There can be but little doubt that the effect is due to the local contact of the nerve structure and not to absorption. This view is in full accord with the action of cocain on other nerve tissue. A solution injected with

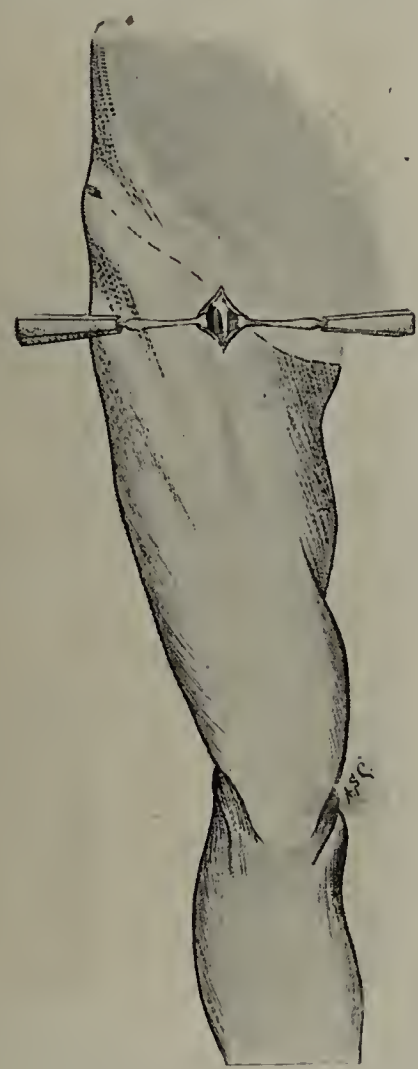


Fig. 6.—Showing the most accessible portion of the anterior crural nerve.

considerable force into the lumbar subarachnoid space was attended immediately by convulsions. The convulsions were due to the stimulation of the convulsive center in the medulla. The dosage used in these experiments was purposely made large to determine the control, or rather the want of control, the operator could have upon the extent of the anesthesia. In control experiments in which normal saline solution was injected into the spinal cord an immediate fall in the blood pressure occurred, but compensation quickly followed. The respirations were but slightly affected. There was the most striking difference between the overwhelming paralysis in the one case and the want of it in the other. The experiments showed that the operator has but little control over the extent of the anesthesia produced under the subarachnoid injection. While direct injection into the cord gave a complete control of the extent, it produced a distinct mechanical lesion. In the clinical reports of the subarachnoid anesthesia these experimental data have been corroborated. This was most strikingly exhibited in a case described by Fowler in which the anesthesia during three minutes extended up to the level of the clavicle, at which time the patient became cyanotic and artificial respiration was necessary. Other observers have noted the marked effect on respiration, the lowered blood pressure, and the rapid pulse, the latter indicating that the cocain solution was affecting the centers of the medulla. In 692 reported cases there were six deaths that were attributable to the anesthesia, a mortality rate at least fifty times greater than that of chloroform.

CLINICAL APPLICATION OF THE EXPERIMENTAL EVIDENCE.

Operations on the Extremities.—Leg: The "blocking" method was employed independently by Dr.

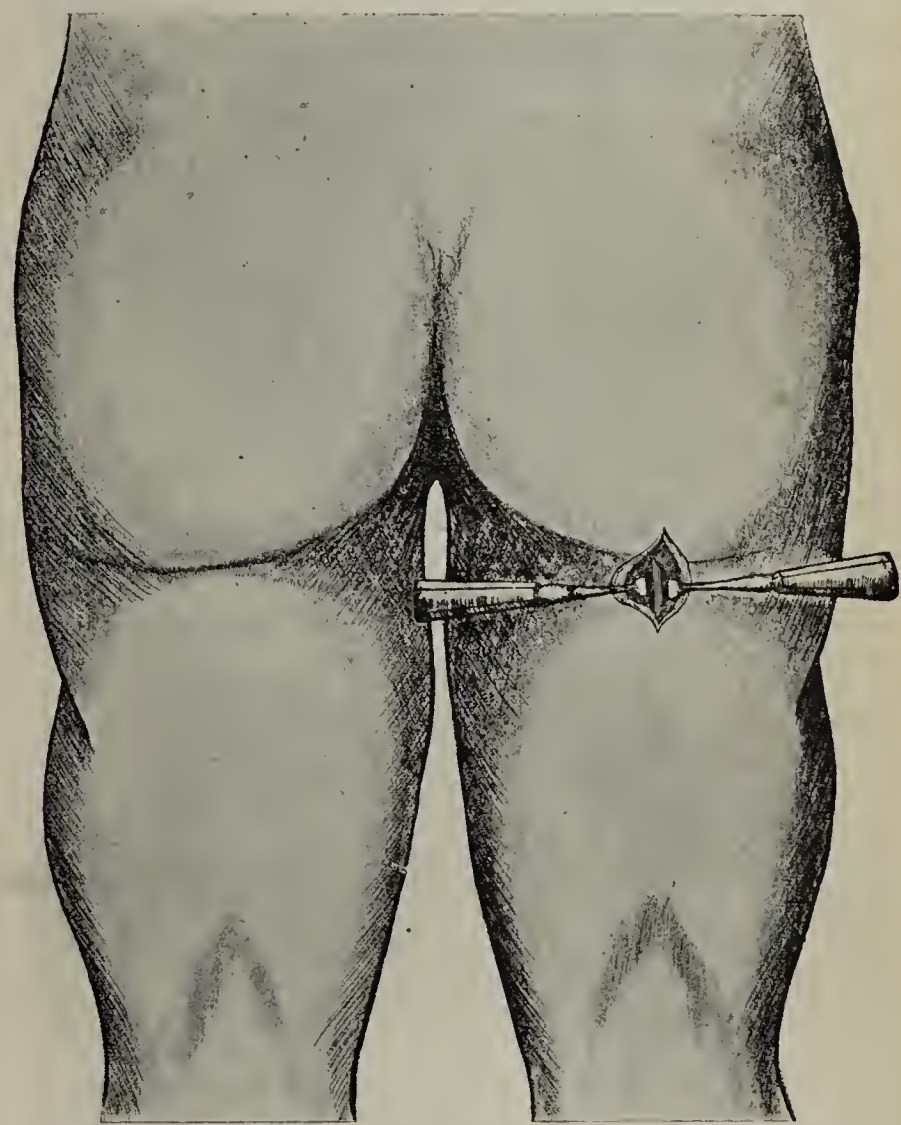


Fig. 7.—Showing the most accessible portion of the sciatic nerve.

Rudolph Matas of New Orleans, of which his brilliant monograph on anesthesia gives a full account. Applying the so-called physiologic "blocking" properties of cocain or eucain to surgical practice, we have been enabled to perform certain operations upon the extremities without causing pain and shock by injecting a 1 per cent. solution of cocain into the supplying nerve trunks. The external cutaneous nerve is so superficial that it is readily accessible. The anterior crural is readily exposed in its relations with the artery, and the sciatic at the margin of the gluteal fold along the inner border of the biceps muscle. In operations performed upon the area supplied by the "blocked" nerve trunks the afferent impulses can not reach the central nervous system. There is, therefore, neither pain nor shock. This method is of the greatest possible importance in operations in which general anesthesia is contraindicated. The operation under these circumstances can cause no more shock than if the member had no connec-

tion with the body, as the "block" for such purposes is equal to a physiologic amputation.

In this manner I have five times performed amputation of the leg below the knee, and in all but one the patient was not aware that the operation was performed until told of it afterwards. It is necessary to control the patient well. After preliminary preparations have been made, the patient's attention should be diverted. I have usually said that an examination and a dressing would be made requiring considerable time, and that the operation would be performed next day. In the meantime the eyes were covered. In the one case the patient became aware of the progress of the operation by hearing the noise of the saw while dividing the bone. The "block" continues from twenty-five to thirty minutes. The clinical observations are in entire accord with the experimental evidence.

Operations in the Area of the Distribution of the Ulnar Nerve: The superficial position of this nerve at the elbow joint enables the surgeon to apply a cocain or a eucain "block" almost painlessly by inserting a hypodermic needle, first into its close vicinity, then into the trunk itself, injecting the solution on its way. After the lapse of ten minutes the entire area supplied will be rendered anesthetized, and if the patient's attention is diverted operative procedures, such as amputations and resections, may be performed painlessly and without the patient's knowledge.

Fig. 8.—Point of election in making the incision for exposure of the subclavian artery and the brachial plexus.

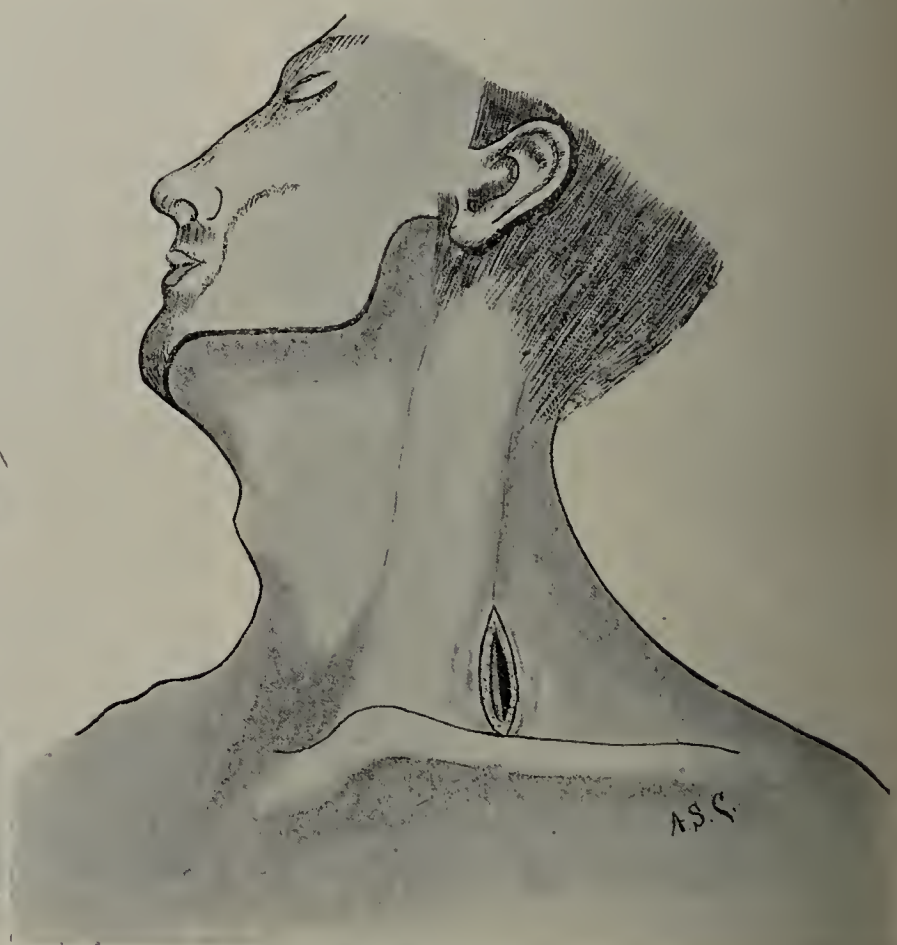


Fig. 9.—Showing the point of election for exposing the subclavian artery and the brachial plexus.

Case 1.—A railway employe, whose hand and little finger were severely crushed within the area of the distribution of the ulnar nerve, required amputation and revision. Bending the elbow, a wheal was produced by injecting a 1/12 per cent. solution of beta-eucain, thereby creating a painless path to the nerve trunk, which was then anesthetized. In a few seconds there was complete anesthesia, and the finger and the corresponding metacarpal bones were removed while the patient was an interested spectator. The night following this operation the patient complained of a burning sensation over the distribution of this nerve. There was some local tenderness at the point of injection, but this disappeared after several days.

Case 2.—A small boy discharged a pistol, which took effect in the ulnar side of the hand, tearing away the soft parts and a portion of the fifth metacarpal bone. By "blocking" the ulnar nerve at the elbow the wound was examined, and the fragments of the bone removed without pain. In this case there was no complaint of the burning sensation described in the preceding. The wound healed readily.

Case 3.—In a tuberculous patient a local focus appeared in the metacarpal-phalangeal joint. In performing an operation for the removal of this focus, the ulnar nerve was "blocked." At first an attempt was made to secure anesthesia by injecting the solution around the nerve, but after waiting five minutes it was found that anesthesia was only partial and that it was necessary to inject the nerve itself. In performing the operation it is best to fix the nerve well against the bone and insert the needle gradually as anesthesia occurs in advance of the needle. After such an injection the anesthesia was complete and the operation was performed painlessly. The patient complained of some burning the first night, but the second day it decreased and was not again experienced.

In two other cases this nerve was in a similar manner "blocked." In each the anesthesia was complete in five to ten minutes and no after-effects were noted. In no case was there any interference with the function of this nerve in consequence of the injection. Neither did the points at which the injection was made remain tender. No neuritis followed.

Amputations at the Shoulder Joint.—Amputations at the shoulder joint are usually indicated on account of a serious accident or disease, and in consequence such operations are frequently performed under unfavorable circumstances. There has been considerable mortality following this operation, even under the more favored conditions. In operations for malignant disease in the aged, and operations in the presence of profound depression or shock, general anesthesia adds seriously to the danger. There are many instances of contraindication to the use of general anesthesia. A method by which this operation may be performed without general anesthesia, without shock and without hemorrhage, was devised in accordance with the experimental evidence

set forth in the preceding pages, and put into practice in June, 1898.

Technique: The technique is based upon the fact that nerve trunks may be safely and effectually subjected to a physiologic "block" by injecting cocain or eucain in a comparatively weak solution, and that arteries may be, with entire safety, temporarily closed without injuring their walls. Fortunately, in the application of these principles, in amputation of the shoulder joint the subclavian artery is in close surgical relation with the brachial plexus so that the same incision may be utilized for exposing the nerve and the blood supply.

Case 1.—Female, aged 74, was suffering from sarcoma of the arm, situated in the lower third and extending well down to the elbow. There was a metastatic growth in the axilla. She was suffering great pain and the tumor was growing rapidly. Owing to her extreme age, an amputation at the shoulder joint by the methods hitherto in vogue, giving a general anesthesia without "blocking" the nerve trunks to protect her against the afferent impulses caused by the mechanical irritation of the amputation and thereby producing shock, would have been a risk too great to assume. It was decided to perform the operation by employing the technique above described. An incision was made along the outer border of the sternomastoid muscle under 0.1 per cent. infiltration cocain anesthesia. The incision was carried through the superficial and the deep fascia, exposing in the first part of the incision the external jugular vein. The lower part of the incision was carried well down on the clavicle. The omohyoid muscle was retracted downward, the anterior angle of the trapezius backward and the posterior margin of the scalenus anticus forward, thereby exposing the trunks of the brachial plexus, and by extending the dissection a trifle farther downward and inward the arching subclavian artery was brought into the field. In making this dissection it is important to keep the field of the operation entirely free from blood, so that the translucency of the tissue will permit the ready recognition of the anatomic structures in their minutest detail. It will then be possible to detect small nerve twigs before they are encountered and enable the operator to subject them to local anesthesia in advance. In this way the area supplied by these branches may be anesthetized. The small vessels may be caught with narrow-bladed forceps, between which the incision may be carried. The smaller nerve twigs are usually found running along the blood vessels or in the connective tissue planes. It was observed in this dissection that in the deeper structures the sensory nerve supply is not so abundant as in the more superficial. After exposing the trunks of the brachial plexus, there being but a slight amount of pain in the dissection, they were subjected to a physiologic blocking by injecting first on their outer covering, then into their substance, a 0.5 per cent. solution of cocain, just sufficient to cause a localized swelling. It required but a small amount of solution. After injecting each trunk there was a total loss of sensation and of motion in all the parts supplied by the brachial plexus. The subclavian artery was then closed by means of a special clamp, over the blades of which rubber tubing was drawn. The blades were then approximated by adjusting the screw sufficiently to close the lumen of the vessel. The patient was then told that the operation would not be performed at that time, but would be deferred until the next day. A towel was thrown over her eyes, and under the pretext of making a careful examination of her arm the amputation was made without her knowledge. The flap on the outer and posterior aspects over the deltoid was made rather low, because of the sub-

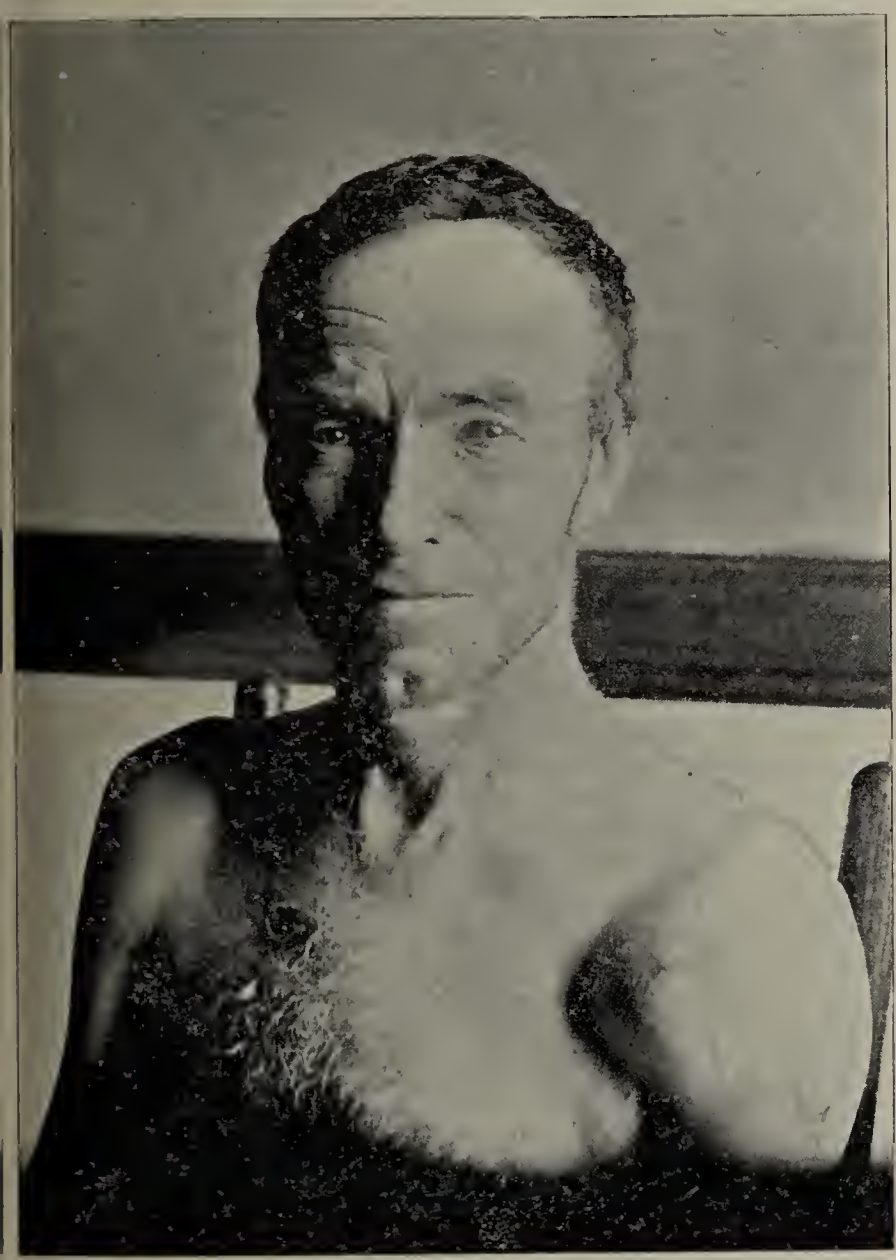


Fig. 10.—Showing sarcoma of the head of the humerus, involving the scapula.

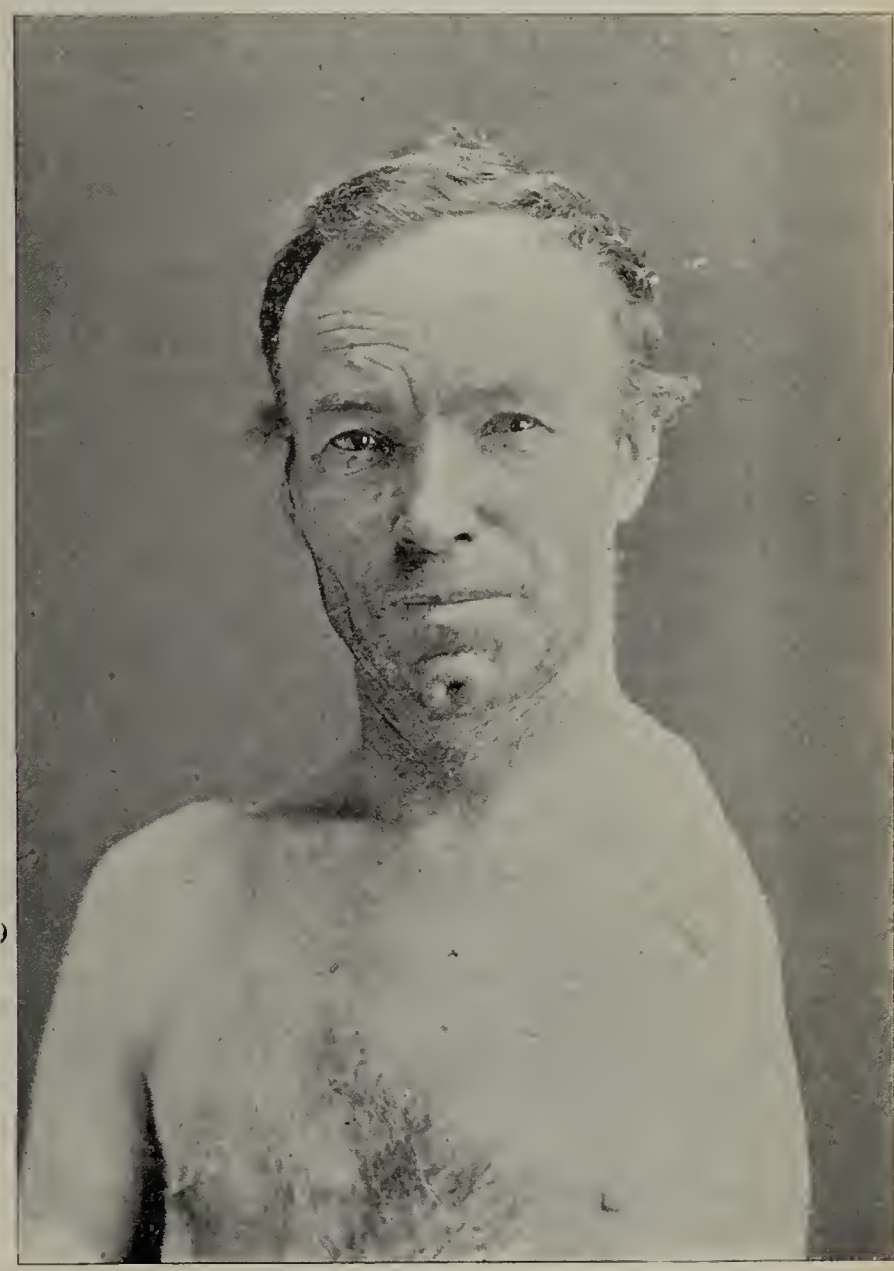


Fig. 11.—Patient upon whom excision of the left half of the shoulder girdle was made.

cutaneous distribution of the branches of nerves from the cervical plexus, which, of course, had not been included in the physiologic block.

She experienced no pain except a slight one as the incision was carried around the posterior surface of the upper portion of the arm supplied by the supra-acromial nerve. The pain was, however, comparatively slight and was felt only during the incision of the skin. During the disarticulation the patient was not aware that she was being touched. After the operation had been completed it was found that there was absolutely no shock and that the operation had made no appreciable impression on her. The vessels were all picked up and tied before releasing the clamp from the subclavian. The total amount of cocain used in the operation was about ⅛ grain. A portion of this amount was recovered by sponging away the free solution in the wound. When the patient was returned to her bed she was not aware that her arm had been removed. She soon missed it, and manifesting some excitement, was informed by the nurse. She experienced some pain for a few hours after the operation and vomited several times the first night. She made a good recovery from the operation and there was nothing in the after-progress of the case different from operations performed in the usual way.

CASE 2.—Amputation of the arm at the middle was performed by the same technique as the preceding without producing any pain and without the slightest shock. Patient made a good recovery. The operation was performed on account of moist gangrene of the forearm in a patient having advanced pulmonary tuberculosis.

Amputation of Half the Shoulder Girdle.—This operation has been performed a number of times by various methods. The purpose of discussing it is to point out a technique by means of which hemorrhage and shock may be wholly avoided. Under general anesthesia an incision is made over the clavicle and the inner half of this bone is resected, after which the subclavian vein and the trunks of the brachial plexus are exposed. The trunks are then subjected to a physiologic block of cocain and eucain in comparatively weak solution, say 0.5 per cent. The brachial plexus is next severed and the artery and vein closed by ligature. The incision for the further technique in removing the scapula will vary with the object for which the operation is done. The amount of shock will be limited to what will be produced by making the incision through the structures supplied by the nerves from the cervical plexus, which is almost nil.

Observations on the Pharynx.—Clinical experience, as well as physiologic experiments, have demonstrated that when the pharynx is subjected to a considerable manipulation, especially that portion nearest the glottis, reflex inhibition both of the respiration and of the heart may occur. The respiratory inhibition is the more frequently produced. In the cases in which manipulation required considerable force the heart may be inhibited, causing collapse. I have observed this reflex inhibition of both the heart and the respiration in removing a tumor of considerable size from the nasopharynx. In operations for removing adenoid growths from the nasopharynx these phenomena have also been observed. In extracting large foreign bodies collapse may be produced. Not infrequently, in performing difficult operations in this portion of the pharynx, reflex inhibition confuses the operator. The respiratory inhibition is likely to give the impression that the patient is suffering from a mechanical obstruction. The inclination might be to clear out the upper respiratory passage, but this additional irritation would increase the symptoms. In the experiments it was found that reflex inhibition in this area may be prevented by the local application of a 2 per cent. solution of cocain. The solution may be as weak as an 1 per cent., or even a 0.5 per cent., and be effectual. A hypodermic injection of atropin prevents reflex inhibition of the heart. In cases necessitating the removal of adenoid growths and tumors of the pharynx the efficiency of these drugs was proved. It is advisable, before beginning the technique of an operation involving this area, to make a local application of a solution of eucain or cocain, and a hypodermic injection of atropin, to prevent reflex inhibition. If during an operation inhibition does occur, the distinction between inhibition and obstruction must be borne in mind, for if the case is one of obstruction there will be increased respiratory efforts, but if it is a reflex inhibition respirations instantly cease. In obstruction the pulse continues unaltered for some time before it becomes markedly slower. In reflex inhibition the pulse is instantly and markedly slowed or arrested.

Laryngotomy.—Not infrequently in this operation at the moment the larynx is opened the patient goes into a state of collapse from which he may not recover. This operation is more frequently performed on children, oftentimes in great haste, under the stress of circumstances. If the operation is performed through the cricoid, collapse at the moment of entering does not occur. If made higher, it is very likely to occur, the reason being that in the higher operations the inhibition area of the larynx is mechanically stimulated. This causes a reflex inhibition, as in operations upon the pharynx. The superior laryngeal nerves are endowed with very strong inhibitory functions which are more active in the upper part of the larynx. The clinical observations are in entire accord with the experimental evidence.

CASE 1.—Dr. M. called in a colleague to aid in performing a laryngotomy upon a child who had a grain of corn in the larynx. The operation was successful until the larynx was opened, when suddenly collapse occurred, resuscitation seeming impossible. During the first stages of the collapse the corn was removed. Artificial respiration was maintained for a time, though life seemed extinct, when suddenly respirations began and there was an uneventful recovery.

CASE 2.—I was called to see a child 3 years old having a large bean lodged in the larynx. The history of the case was that while playing the bean, in a fit of laughter, was inspired into the larynx. Paroxysms of coughing followed, occurring at intervals. Each time the child stopped breathing, it became cyanotic and apparently dead. After a brief interval respirations returned, another paroxysm soon followed with a repetition of the collapse. From these symptoms alone the location of the bean was diagnosed as being in the upper part of the larynx. An operation under local anesthesia was performed. The incision was made through the cricoid cartilage, below the so-called inhibition area, and the laryngeal mucosa was treated with a 2 per cent. solution of cocain, after which the larynx could be readily explored, the bean located and removed without inducing reflex inhibition.

Cases might be multiplied, but the foregoing are typical. The difference between reflex inhibition and obstruction is very marked. Reflex inhibition can not be produced by a foreign body at any point below the so-called inhibition area of the larynx. The importance of the use of local anesthesia, to prevent reflex inhibition in laryngeal operations, can not be overstated.

In all the operations upon the larynx, especially in laryngectomy and intralaryngeal procedures, the use of cocain and eucain is of the greatest importance. In laryngectomy especial attention has been called to the

collapse that not infrequently appears while removing the larynx from its attachments.

Bardenhauer encountered this three times in one case while inflating the Trendelenburg apparatus. In intubation sudden death frequently occurs, the collapse being due to reflex inhibition of either the respiration or the heart, or both. Cocain or eucain applied to the mucous membrane wholly prevents such reflex inhibition. If such local application can not be applied, all the necessary arrangements for the maintenance of artificial respiration may be made in advance. A hypodermic injection of atropin will prevent the cardiac inhibition, so that, without the use of local anesthesia, atropin, with artificial respiration, may be depended upon to carry the patient over the inhibition crisis. In 156 intubations, I have encountered reflex inhibition six times, twice fatal, and they occurred before the nature of the inhibition was comprehended. Since making use of the experimental data, no case has been lost from reflex inhibition or "laryngeal collapse."

Death can not occur as a result of reflex inhibition if a preliminary hypodermic of a physiologic dose of atropin is given. The use of cocain is not practical in intubations for diphtheritic stenosis.

CLINICAL SUMMARY.

In the clinical use of cocain and eucain particular attention is called to a most important feature, viz., that shock is almost wholly avoided, because all afferent impulses are blocked. It is now known that afferent impulses set up by injury or operation are the causes of shock. These impulses are but slightly modified by general anesthesia. The afferent impulse, constituting pain, is abolished by general anesthesia, but those affecting the vasomotor, the respiratory, and the cardiac mechanisms are not controlled; but cocain or eucain absolutely blocks their passage, making a physiologic amputation of the part. These anesthetics wholly prevent reflex inhibition, the principal causes of collapse in certain operations and injuries, e. g., operations on the larynx and pharynx. Given hypodermically, the experimental evidence shows that they diminish shock in operations on the splanchnic area and absolutely alter this area in the processes of operation or exposure, as abundantly proved by the series of double experiments.

I have had but two opportunities of testing this clinically, both in operations for gunshot wounds of the intestines, and in each the experimental evidence seemed to be corroborated. Comparative results require such a large number of observations that I prefer for the present to offer no more than the clinical suggestion.

CANCER OF THE PENIS.*

HENRY H. MORTON, M.D.

Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital; Genito-Urinary Surgeon to Kings County and Long Island College Hospitals and the Polhemus Memorial Clinic.

NEW YORK CITY.

Malignant disease of the penis occurs almost invariably as epithelial carcinoma and begins with about equal frequency on the inner surface of the prepuce or upon the glans.

According to Jacobson, its mode of commencement is varied. It appears most frequently as: 1. A wart or warty excrescence. 2. Sometimes, however, it makes its appearance as a small nodule or knot of induration under the surface of the mucous membrane. 3. Again, epithelioma is observed occurring under the form of a superficial excoriation or raw patch, resembling the erosions found in balano-posthitis. 4. It may develop as an ulcer resulting from the transformation of a chancroid or the breaking down of an old cicatrix, or sometimes from a crack or tear on the margin of a tight foreskin.

In cases of extreme rarity epithelioma of the penis develops from the extension of the malignant process outwards from the urethra or upwards from the scrotum.

Etiology.—Under the head of predisposing causes, age plays an important role, and epithelioma of the penis is very rarely found except between the fiftieth and seventieth years.

The next most important predisposing cause is phimosis. Demarquay found that out of 59 cases of epithelioma of the penis 42 had long and phimotic foreskins, and many authors have called attention to the fact that the circumcised Jews are almost entirely free from this disease.

Fig. 1.—Incision dividing scrotum into two halves and exposing corpus spongiosum, urethra, corpora cavernosa and triangular ligament.

Even though the glans be covered with a long foreskin, if the individual attends to the daily cleansing of the balano-preputial sac, there is no opportunity for irritating secretions to be retained; but we notice that cancer of the penis almost always occurs in men in the lower walks of life, of neglectful and uncleanly personal habits.

Any condition which gives rise to a balano-posthitis, such as the retention of decomposed smegma and urine under a phimotic foreskin, particularly if aggravated by a gouty diathesis in the patient, excites a persistent and long-continued irritation. In an elderly person in course of time the simple inflammatory process undergoes a transition into carcinoma of a polymorphous type, composed of large pavement cells and small epithelial cells.

Course.—No matter in what form the disease had its origin, its course is one of extension at the edges, accom-

* Read before the New York State Medical Association.

panied by ulceration and breaking down in the older parts, and in most cases this is attended by the formation of large vegetations or fungosities, resembling a cauliflower in shape. A thin fluid, of a most disgusting odor, which dries into scabs, is continually secreted.

As the cancerous process extends only by continuity, its advance through the corpora cavernosa is not rapid, but the lymphatics readily take up the infectious material, carry it to the glands in the groin, and these are usually involved quite early in the disease. The inguinal lymphatic glands are often the seat of a mixed infection if pyogenic bacteria have been conveyed to them through the lymphatics and cause them to become inflamed and suppurate.

Diagnosis.—Every warty or papillomatous growth or persistent erosion occurring on the glans penis or inner surface of the prepuce, in an elderly person, should always be regarded with grave suspicion.

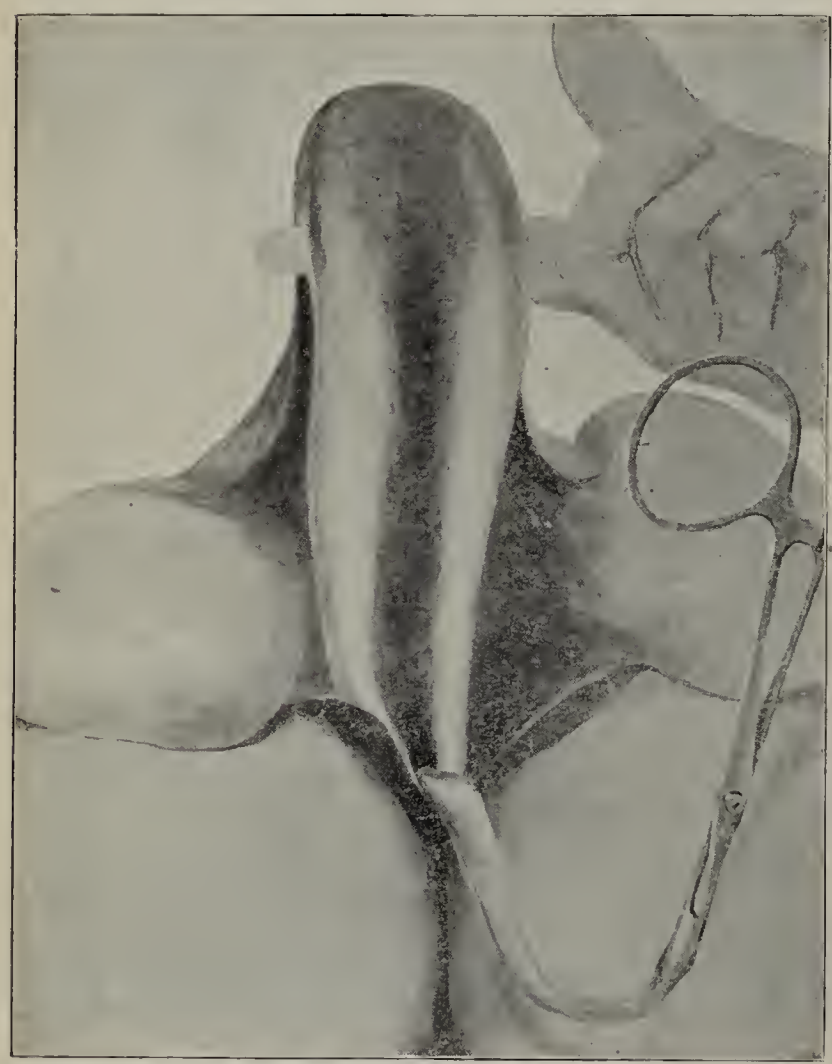


Fig. 2.—Corpus spongiosum containing urethra dissected away from corpora cavernosa, cut through and hanging down at lower angle of the wound.

It is often difficult to differentiate simple papillomata or a chronic balano-posthitis from carcinoma, but the sore, together with a base which is hard, infiltrated and immovable, and an edge which is hard and infiltrated, would point strongly in the direction of epithelial carcinoma. The diagnosis could be definitely determined by cutting a small piece from the growth and subjecting it to microscopic examination. A gumma of the penis occurring in tertiary syphilis might be easily mistaken for epithelioma, but a few weeks' treatment with mercury and iodids would cause the gumma to disappear.

Prognosis.—The prognosis of epithelioma of the penis is of course fatal without operation, and death occurs in from one to two years. If the disease is seen early and the growth removed by amputation of the penis and extirpation of the groin glands the prognosis is good, but many cases come into the hands of the surgeon too late for a complete removal of all the foci of infection. Winiwarter reports twelve amputations, of which five remained permanently well, one died of the operation and six had recurrences, three of which were in the stump and three in the glands.

Treatment.—As already indicated, complete removal of all deposits at the earliest possible moment offers the patient the only opportunity of saving his life, and the application of caustics only excites greater activity in the growth and is a waste of valuable time.

Two forms of operation are in use, and a selection depends upon the extent to which the inguinal glands and corpora cavernosa are involved.

Operation.—In amputation of the free portion of the penis, a 20 French sound is introduced through the meatus into the bladder to indicate the position of the urethra. A harelip pin is thrust through both corpora cavernosa at the root of the penis to hold in place a rubber band, which is made to encircle the penis and act

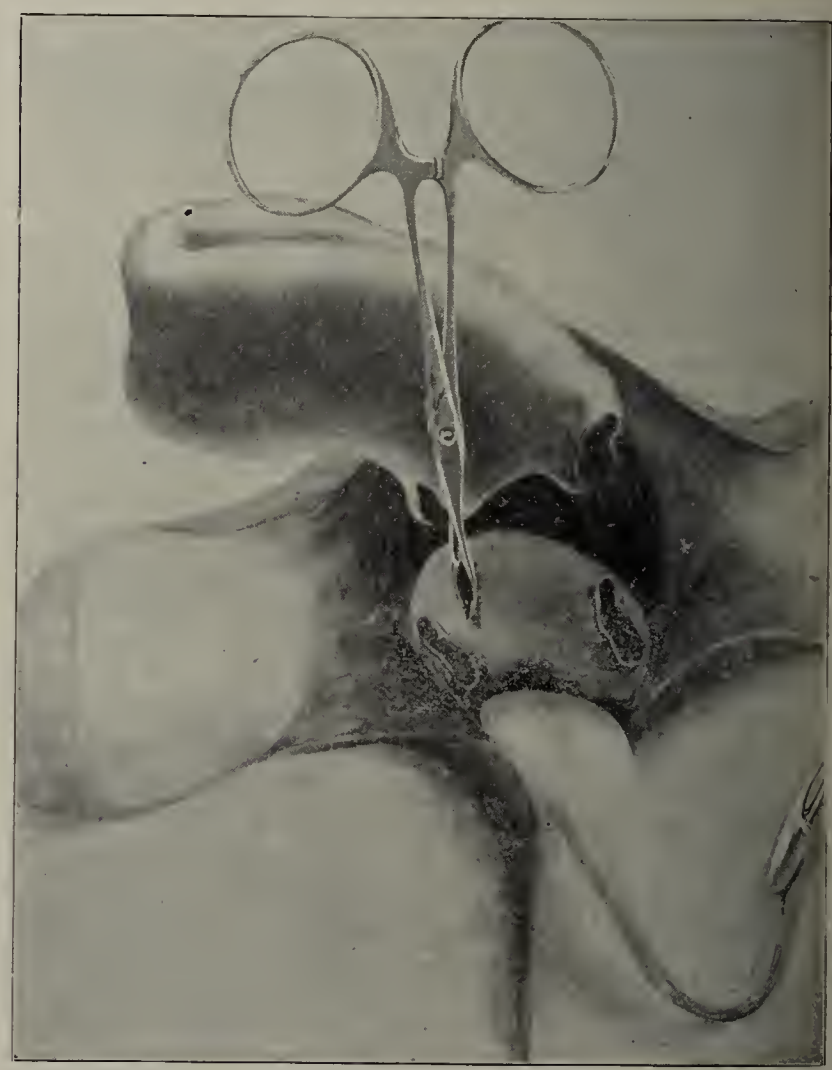


Fig. 3.—Charred stumps of corpora cavernosa after separation from pubes by burning through them with Paquelin cautery.

as a tourniquet. The skin of the penis is then cut through with a circular sweep of the knife and turned back an inch. The corpora cavernosa are then divided, down to the corpus spongiosum, which, with the urethra, is left to project like a spout for an inch, before being cut through. The tourniquet is then unloosened and at least four arteries will require ligation. The skin flaps are then sutured together and the urethra stitched to the margins of the skin flaps. A soft rubber catheter is tied in the bladder to prevent the urine from infecting the fresh wound.

Amputation of the entire penis is a much more serious operation than the former, but is demanded in the case of extensive infiltration of the corpora cavernosa with cancerous deposit.

The patient is placed in the lithotomy position and a sound is introduced through the urethra into the bladder. An incision is made along the raphe of the scro-

tum, splitting it into two halves. The dissection is carried down so that the corpus spongiosum is seen perforating the triangular ligament with the corpora cavernosa lying on either side and attached to the rami of the pubes (Fig. 1).

The corpus spongiosum containing the urethra is then dissected away from the corpora cavernosa for three inches, cut through and allowed to hang down out of the way, at the lower angle of the wound (Fig. 2).

The next step is to separate the corpora cavernosa from their attachments to the rami of the pubes. It is generally recommended that this should be done with a periosteal elevator. The close attachment to the bones renders this a matter of considerable difficulty, and after separation there is a free hemorrhage which is difficult to control. The author prefers to burn through the crura penis with a Paquelin cautery close to their attachments to the bone and in this way the corpora cavernosa

Fig. 4.—Operation as completed. Urethra sutured into wound, with sound introduced through it. Lateral flaps brought in apposition and retained by interrupted sutures.

are readily freed from the pubes and without hemorrhage (Fig. 3). The Paquelin can also be used to stop bleeding, which generally occurs from the dorsal vessels of the penis under the symphysis pubis, at the upper angle of the wound. The final steps of the operation consist in bringing the urethra up into the wound and stitching it to the margins of the skin flaps, and then the skin on either side is brought into apposition and stitched. A catheter may be carried through the urethra and left in the bladder to drain it (Fig. 4).

In this operation the testicles are exposed and may be left in the wound, or castration may be performed to quell the sexual desire on the part of the patient after his recovery. The inguinal lymphatic glands should be removed at the time any operation is performed for the relief of malignant disease of the penis, for if the glands have become infected, which occurs early in the disease, a recurrence of the cancer will inevitably take place later on.

The writer has operated in the manner described in three cases. One patient, a man of advanced years, died from sepsis a week following the operation. In this case the operation was a protracted one, as the crura penis were separated from the pubic bones by means of the periosteal elevator, and the difficulties of freeing them from their attachments and afterwards of stopping the hemorrhage were very considerable. In the second and third cases the separation of the crura penis was accomplished with great facility by burning through their attachments with the Paquelin cautery.

The second patient lived a year after the operation and died of a recurrence of the growth in the healed scar of the wound.

The third case was operated on three months ago and the wound healed by primary union, but although the glands in the groin, which were enlarged and beginning to break down, were entirely removed at the time of the operation, a recurrence has taken place at that point and the progress of the disease is very rapid.

40 Schermerhorn St., Brooklyn, N. Y.

MEDIAN PERINEAL PROSTATECTOMY: TOTAL REMOVAL OF THE PROSTATE GLAND, SIX CASES.*

ALEXANDER HUGH FERGUSON, M.D., C.M.

Professor of Clinical Surgery in the Medical Department of the Illinois University (P. & S.); Professor of Surgery, Chicago Post-Graduate Medical School; Surgeon-in-Chief to the Chicago Hospital, etc.

CHICAGO.

There are so many different methods of treating prostatics that one is forced to the conclusion that the subject is in an evolutionary stage. I venture the assertion that every surgeon of experience has often been disappointed with many of the procedures he had employed. It is true that every case is more or less a special one, having individual features and combined phenomena of its own, but when we consider the radical treatment, that is, total prostatectomy, it should not take us very long to establish one method as the safest and best. The era of giving permanent relief to over 25 per cent. of the male population in the last third of life began in 1887, with first, Belfield of Chicago, and then McGill of Leeds, England. They did a partial and then as they improved their technique, complete suprapubic extirpation of the prostate gland. At the present time, through the combined efforts and experience of surgeons the world over, not forgetting to give a larger amount of credit to American surgeons, suprapubic total prostatectomy with a perineal incision for drainage is about as perfect as can be expected. I am surprised to notice that Mr. P. J. Freyer of London, England, in speaking of suprapubic prostatectomy, gives no credit to other surgeons for removing the entire gland by that method. In closing a lecture delivered by him at the Medical Graduates' College, June 26, 1901, entitled "A Clinical Lecture on Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ," he makes the following statement: "I think I shall not be accused of exaggeration when I state that all previous so-called methods of radical cure of enlarged prostate are unsatisfactory, and that catheterism, though the least objectionable mode of treatment in the vast majority of cases, is liable sooner or later to terminate in cystitis, or other danger-

*Read before the Southern Surgical and Gynecological Society meeting held at Richmond, Va., November 12-14, 1901.

ous complications; I admit that the thoroughly successful results obtained in these four cases of total extirpation of the enlarged prostate encourage us in the hope that we have at last arrived at a rational method of dealing with this painful and frequently fatal malady."[1]

This is an illustration of a surgeon probably too busy to look up the literature on his own special subject. In accordance with our American text-books on genito-urinary surgery, let alone the most recent articles in medical journals, the claims of Mr. Freyer that, by his procedure, "we have at last arrived at a rational method," etc., come too late.

We have all been practicing it, and still we are not satisfied. The patient is often disappointed with the results. The dangers from shock, hemorrhage and sepsis by this method are not trifling; the mortality is too high; the discomfort from the suprapubic incision with sometimes a permanent fistula as a sequel, is objectionable; in a proportion of cases the bladder fails to regain its power of expulsion, especially when all the urine had to be drawn off by catheter before the operation was performed. The prostate is difficult of extirpation from above and when large masses are removed they overstretch the neck of the bladder and incontinence of urine may result. It must not be forgotten that the prostate is situated external to the bladder and it seems too bad that the latter should be attacked and injured in front and behind in order to deal with offending portions of the former. I shall endeavor to show that the entire prostate can be removed more quickly and safely through the perineum than through the bladder. Let me first briefly state what has been done by other surgeons in this line.

In 1895, six years ago, Nicoll of Glasgow removed the prostate through a T-shaped incision in the perineum. He did an intra-capsular enucleation with the fingers of one hand, while through a suprapubic cystotomy he made counter-pressure from above within the bladder with the fingers of the other hand. He packed the perineal wound with gauze, inserted a retention catheter through the urethra into the bladder, and closed the suprapubic wound.

In 1896, Alexander improved Nicoll's operation by performing a suprapubic and also a perineal cystotomy. He cut through the membranous portion of the urethra. After enucleation he drained both ways.

Guiteras performed a perineo-prevesical operation. He opened the space of Retzius suprapubically, through which he made counter-pressure on the bladder without opening it here.[2] Another method of Guiteras is the vesico-rectal method. It is objectionable to open the rectum and the same can be said of the prevesical space or bladder.

Syms[3] endeavors to aid perineal prostatectomy by using a rubber retractor with which he claims "to pull the bladder and prostate down into the perineum so that the lobes can be reached and enucleated with the index finger. This retractor consists of a soft rubber bulb, cemented to the end of a strong rubber tube of a caliber of 38 French scale. It is introduced into the bladder through an opening in the membranous portion of the urethra; the bulb is then distended till it has a diameter of 2½ or 3 inches." In this operation the membranous urethra is opened, which can be avoided by the method which I practice. The injury to this portion of the urethra is objectionable and the overstretching of the neck of the bladder by means of the bulb of the retractor is, I am convinced, a serious procedure. Let me here quote his own words: "In two of the cases there was incontinence of urine for some weeks." In one case the patient regained control of his bladder, but in the other the incontinence is permanent, as is honestly given in a foot-note. This result to the neck of the bladder is exactly what might be anticipated from such a retractor. Powerful traction made on the retractor dilates the neck of the bladder unduly, and incontinence is the result. In connection with the literature of perineal lithotomy many cases of permanent incontinence of urine are recorded, following the forcible extraction of a large stone .

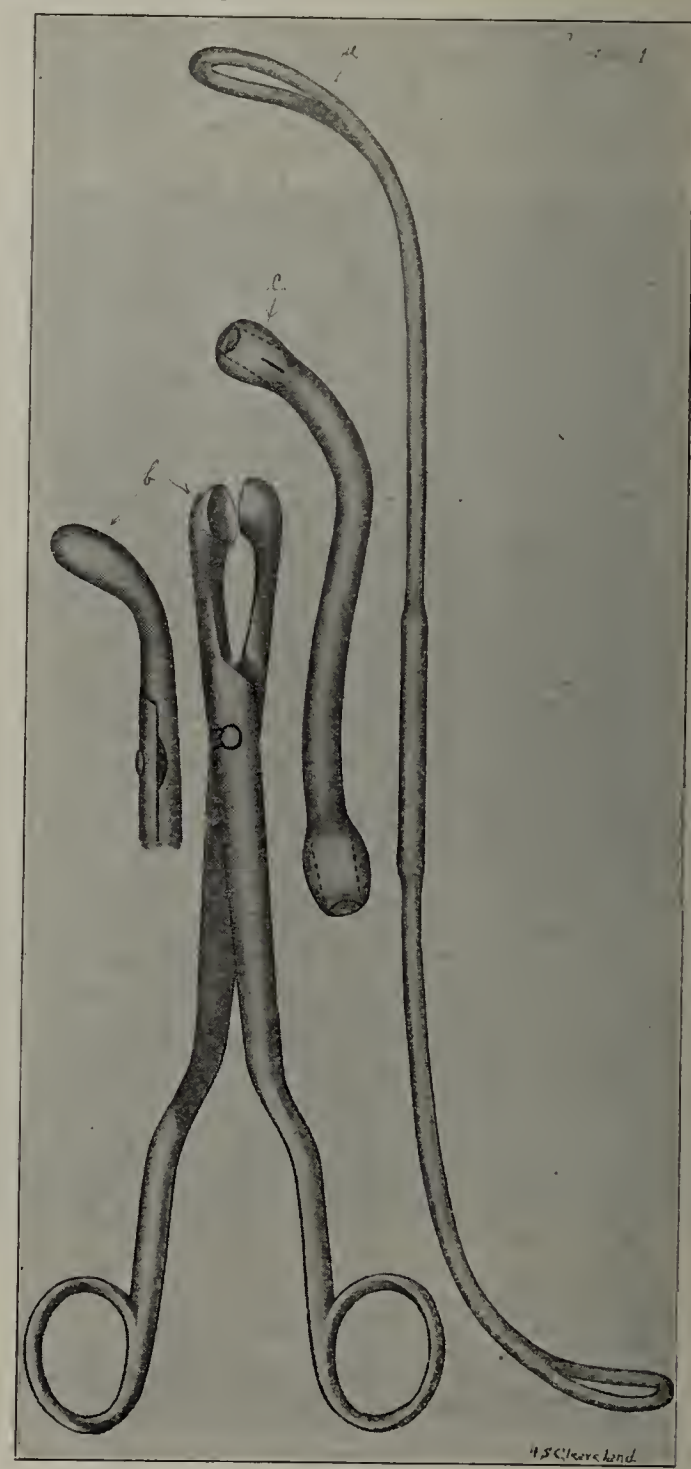


Figure 1.

Von Dittel, previous to Nicoll's operation, had several times successfully removed the prostate through an extra-vesical incision, beginning at the apex of the coccyx and going to the right of the anus in a semicircular manner. The dissection is carried along the side of the rectum to the prostate, etc. Several other surgeons have operated by this method. A crescentic incision in front of the anus has also been used, even for a partial prostatectomy, but in reaching the prostate undue destruction of the perineum was done. The most recent surgical text-books, Bryant's "Operative Surgery," for instance, state that "if the prostatic urethra be so much lengthened because of the prostatic hyper-

1. Brit. Med. Journal, July 20, 1901.
2. Phil. Med. Journal, April 20, 1901.
3. Journal A. M. A., Nov. 2, 1901.

trophy that the finger is not available for exploration purposes, this method (median perineal prostatectomy) of operation should not be practiced."

In the literature are found the writings of many surgeons in connection with partial as well as complete prostatectomy through the perineum. Chief among these are T. E. Bryant, Gouley, Eugene Fuller, Reginald Harrison, Mercier, G. Frank Lydston, R. D. Webb and H. H. Young.

By the method I am about to describe, all forms of prostatic enlargement are successfully treated.

OPERATION.

Put the patient asleep with chloroform and place him in the extra-lithotomy position; insert the prostatic depressor—Plate 1, (A)—into the bladder, through the urethra, and hand it over to a trusty assistant. Insert a sponge into the rectum to prevent escape of liquid feces. Then introduce the middle finger of the left gloved hand into the rectum and press it against the urethra at the junction of membranous and prostatic portions; pass a long narrow-bladed knife into the perineum through the raphe, posteriorly, two inches in front of the anus, until it reaches near the tip of the finger in the rectum and with one stroke cut through all the structures to the prostate without injury to the urethra, prostate, rectum or anal sphincter. Refrain from doing this in your first cases, but incise more carefully. Now enlarge the skin incision, if necessary, for the introduction of two fingers. Place suitable retractors—Plate 2, (A)—one on each side, into the wound, and by blunt dissection expose the prostate and with the depressor in the bladder force it into the perineal wound—Plate 2. Open the capsule with knife or scissors in a transverse direction sufficiently to admit one or two fingers. *Place the retractors within the capsule.* This is important, because traction made on them drags the gland still further into the wound and holds it firmly while enucleation and extirpation are being performed. It is experienced that by traction from below and depression from above, the prostate is fixed, within easy reach for its entire removal. Enucleate with the finger and bite away the portions thus liberated with the prostatic forceps—Plate 1, (B)—until by piecemeal the prostatectomy is completed. Small, strong, blunt hooks may be used to advantage to drag the gland down. No effort is made to save the posterior portion of the prostatic urethra; indeed, injury to it can not be avoided when the entire gland is removed. While morcellement is in progress, it is always advantageous to advance the retractors farther within the capsule and sometimes to introduce the middle finger into the bladder. The forceps can be rapidly thrust between the two fingers to the object to be removed, without any danger to surrounding structures, for when the instrument is closed, its end is perfectly smooth and round. The lateral lobes can be reached to any extent without damaging the wall of the bladder, and prostatic projections of the middle lobe are detected and removed without difficulty. Flush out the bladder very thoroughly with a weak antiseptic solution. A large stream of water should be used, for the ordinary irrigating toy only does harm. Mop out with gauze any water that is in the bladder and wound and introduce a drainage tube—Plate 1 (C)—surrounded with iodoform gauze—Plate 3—through the wound into the bladder. A couple of stitches close the part of the skin wound not occupied by the tube and at the same time prevent the gauze from coming out too soon. Remove the sponge from the rectum, place a comfortable firm dressing over the perineum and retain it by a T-shaped bandage. Now attach a long rubber tube to the external end of the drainage tube, and the toilet of the operation is finished.

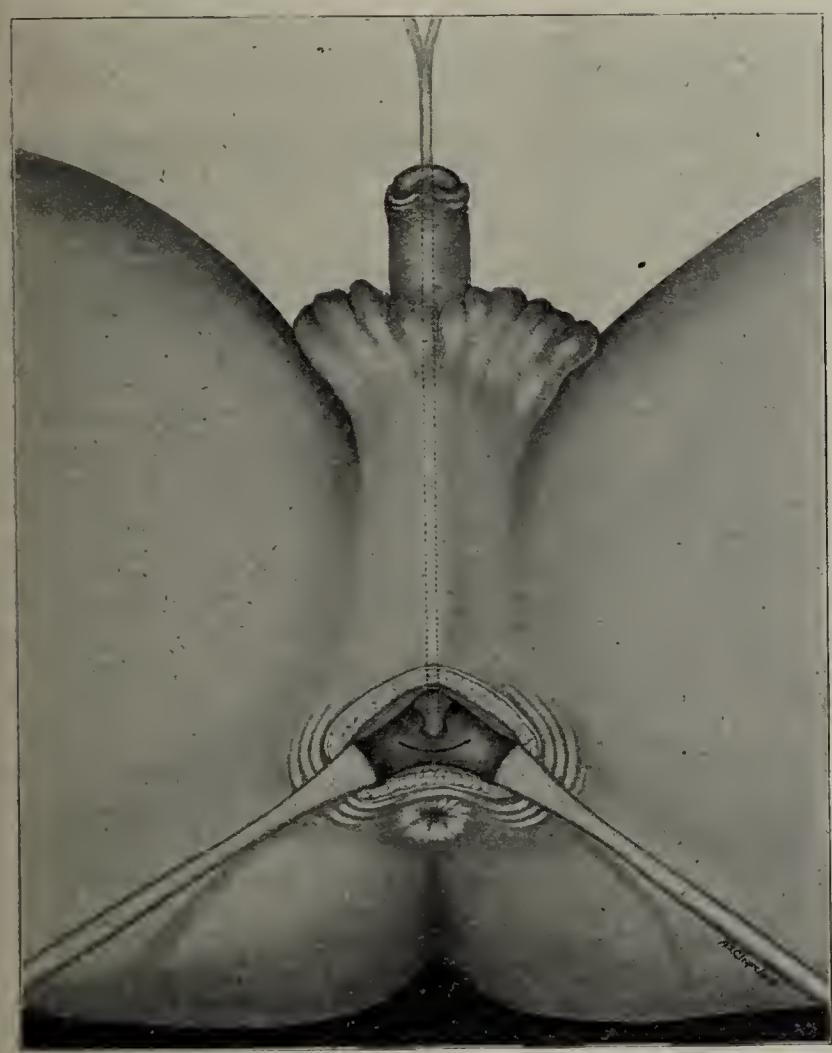


Figure 2.

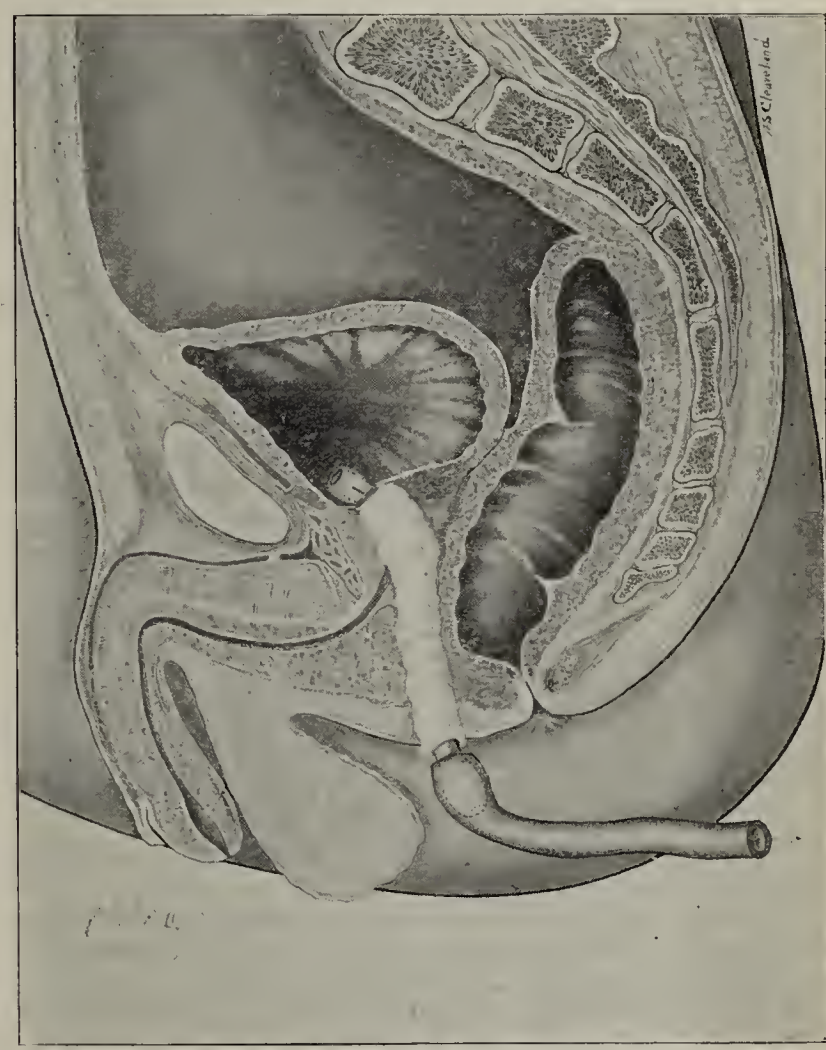


Figure 3.

If the patient's urine has been scanty or should he

show depression or shock, then it is better to introduce two or three pints of normal salt solution, at a temperature not less than 115° F., beneath the skin while he is still in the operating room than to wait until he is taken to bed.

CASE 1.—Mr. W., aged 65, German farmer, was referred to me by Dr. Pratt, of Goodland, Ind.. complaining of frequent, difficult and painful urination. Temperature was 101 F., pulse 96 and respirations 20. When he entered the hospital there was great desire to urinate, but he could not accomplish it. The urine, to the amount of 24 ounces, was drawn off through a soft rubber catheter with surgical cleanliness. In three hours he had a chill, vomited, temperature 102, pulse 120 and respirations 24. The bladder was washed out with boric acid solution, and 5 grains of urotropin given every four hours internally. The next day he was as well as he was when he entered the hospital. The urine drawn off contained a large quantity of pus, was acid, and had specific gravity of 1010. It was ascertained that his bladder symptoms began ten years previously. The painful urination only commenced three months before; complete retention occurred three times during the last six months. In brief, he had the symptoms and signs of prostatic obstruction, complicated with prostato-cystitis. Seven days were occupied with preparatory treatment. He was given light diet, calomel, strychnia, urotropin, salines and enemata. The bladder was washed t. i. d. with a solution of chinosol, 15 grs. to the ounce of sterilized water. Each time, before the bladder was irrigated, he passed what urine he could, and was then catheterized. During those seven days the amount of residual urine averaged 18 ounces and he voided about 50 ounces in all during each twenty-four hours. It contained pyogenic germs, pus, bladder cells, no sugar and a trace of albumin. The temperature did not fall below 99 F. There was slight leucocytosis, no pain in lumbar region, and no tenderness elicited by prodding over the kidneys nor by palpation. He could not bear firm pressure over the bladder. Through the rectum I could ascertain that the lateral lobes were tender and very large; the one on the left could be felt bimanually. The preparation relieved him very much, and the quantity of pus was very markedly reduced. No cystoscopic examination was attempted, on account of the prostatitis and cystitis. His personal and family history was excellent. On Nov. 20, 1900, I performed a median perineal prostatectomy. The whole prostate was removed with ease; the portions projecting within the bladder were reached without any difficulty. Some sections of the organ were so adherent to the capsule that the finger could not liberate them, but these were snipped away with the cutting forceps. The aid rendered by the depressor was valuable when dealing with the central lobe, which projected into the bladder fully an inch; at one time the instrument was turned end downwards, behind the prostate, and traction made on it, which brought the central lobe into view. The bladder was now washed out and a cystoscopic examination made. There was no injury done to the bladder and the membranous urethra was not lacerated in the least, but the posterior portion of the prostatic urethra was taken away. The cystoscope was not of much use, except in seeing that the bladder was not traumatized. With my forefinger I could feel the large cavity from which the gland had been removed. He suffered no manifestations of shock whatever; had no vomiting; the highest temperature during convalescence was 99 F., and the highest pulse rate 98. The tube was removed on the seventh day. The perineal wound closed on the fifteenth day and he left the hospital on the 11th of December, 1900, just three weeks from the day of the operation.

Condition on Leaving: He was walking about, urinating six times during the day, and once at night. Had no pain or discomfort, no residual urine, was gaining in flesh, and felt happy. A few pus cells and bacteria were still in the urine, and a trace of albumin. There were no casts. He reported two months later that he was working on his farm, had no trouble in urinating, no pus and no albumin in the urine. Report six months later from Dr. Pratt: Mr. W. died suddenly of angina pectoris. He was working at the time; had not complained of bladder symptoms.

CASE 2.—Mr. B. B. F., aged 69, also referred by Mr. Pratt, of Goodland, Ind., entered hospital Dec. 6, 1900, with a letter stating his exact condition. He complained of inability to pass water freely; the onset was tardy; the stream was slow, painful, and urine dribbled. The quantity of urine, passed the first twenty-four hours, was only 12 ounces; it was acid, dark-brown in color; specific gravity 1021; urea 2.5 per cent.; albuminous, contained blood, pus and cylindroids. The frequent urination began to be troublesome five or six years ago. His personal and family histories were very good. In order to increase the quantity of urine and to improve its quality, all the water possible was administered by mouth, rectum and subcutaneously. He improved every day; at the end of a week he voided 68 ounces of urine, but it still contained pus and albumin. During preparations the residual urine varied between 7 and 16 ounces. The bladder was irrigated twice a day; urotropin and strychnia were given three times a day. With the attention given so comfortable did he become that he almost backed out of an operation. The prostatic urethra was two inches longer than normal. The left lobe could be felt per rectum to be enlarged. With the cystoscope I could see the central projection and the tumor formed by the left lobe quite distinctly. The redness and granular appearance of the inflamed prostate were very distinct.

On Dec. 14, 1900, I performed a median perineal prostatectomy and removed the entire left and median and about two-thirds of the right lobe, although it was normal. There was no shock. The next day his temperature was 100 F., pulse 70, and respiration 22. The second day the slight fever had subsided. On the fifth day the tube and gauze were removed and replaced. On the sixth day temperature was 102, pulse 78, and respiration 24. The gauze and tube were removed and left out, after which the constitutional disturbances subsided. On the seventeenth day the wound closed and much to his delight he passed his urine per vias naturales. By this time it had increased to 8 ounces, but it still contained some pus and a trace of albumin. He left the hospital Jan. 9, 1901, twenty-six days after the operation. He was then passing his urine every three or four hours, during the day and twice during the night. A cystoscopic examination revealed a slightly reddened portion of mucous membrane at the neck of the bladder. Five months after leaving the hospital he came alone to Chicago with a carload of cattle and called to see me. He stated that he was a new man. This gave me an opportunity to see him pass a full stream of urine, with that ease and comfort which might be envied by a younger man. On passing a catheter, no residual urine was there; this specimen of urine was normal. This gentleman never had used the catheter, but his physician had passed it for him occasionally the last couple of weeks before coming to the hospital.

CASE 3.—Mr. C. W. G. entered the hospital March 15, 1901, accompanied by Dr. Wagner of Tacoma, Wash. He was complaining of inability to urinate naturally. The act of urination was slow, difficult, sometimes painful, and often impossible. The time occupied was often from twenty minutes to half an hour, and repeated efforts not infrequently were futile to pass any at all; then the catheter had to be used. He has had to get up six or eight times during the night; three hours is about the longest time he could go without trying to urinate. The quantity passed each time varied, but often only about an ounce was voided. He had had two years and a half of catheter life. It is four years since his bladder trouble began. He remembered going to Victoria, B. C., to play golf, and held his urine too long, and after the game was over he had trouble to urinate. At that time the urine came slowly and only with considerable effort; for a few years before this he had to get out of bed at night once or twice, but thought nothing of it and after this he had more or less difficulty. He was steadily getting worse. In the fall of 1899 the prostate was enlarged with sounds of a suitable curve. In October, 1899, inflammation of the bladder and prostate nearly ended his life. During this illness he lost 50 pounds and a slough of prostatic

tissue came away. He then improved. Although he has had several attacks of irritation of the bladder, prostrating him for several days at a time, still he has had none so severe as in October, a year ago. His personal and family histories are excellent.

Physical Examination: He was passing only 30 ounces of urine, which contained pus, etc. Residual urine was 12 ounces. In four days this quantity was increased to 70 ounces, but residual was just the same. Urea, 1.2; specific gravity, 1014; contained pus; acid reaction. I made two cystoscopic examinations in this case, one two months before he came for operation, and again after he entered the hospital. The instrument passed into the bladder without difficulty each time; there was a deep groove posteriorly where the middle lobe had been, and from which it had sloughed away, as already mentioned. The prostatic urethra was nearly normal in length, but two large tumors could be seen closing the canal as the cystoscope was being removed. There was no cystitis and I feared the pus came from one of the kidneys, but fortunately it did not. The central groove simulated that left after a Bottini operation, but was much deeper and wider. Here was an excellent proof of urinary obstruction, caused by enlarged lateral lobes. By a rectal examination the hypertrophy did not feel to be excessive, although the size of two hens' eggs. On March 19, 1901, the operation was performed and the two large lateral lobes and what was left of the central were removed. Patient suffered practically no shock. He vomited a few times after the chloroform. The tube and gauze were removed on the fourth day. Bladder control was regained on the tenth day. At the end of two weeks he went out driving, the next day his left testicle was swollen and tender. The orchitis (not epididymitis) did not subside for ten days. On the twentieth day urine ceased to come through the perineum. The wound was reopened twice thereafter, and then it closed permanently. It was six weeks before he left the hospital, at which time a few pus cells could be detected in the urine, but he completely emptied his bladder, without pain or inconvenience. Reports since are to the effect that he feels as well as he ever did.

Case 4.—Mr. M. A. Perry, Iowa, age 51 years, referred by Dr. Mercer of Chicago, entered the Chicago Hospital on April 3, 1901, complaining of: 1, frequent and painful urination; 2, inability to work; 3, disturbed every hour or two of the night, and 4, a sudden stoppage of the stream occasionally. He suffered most excruciatingly. It was distressing to witness him having what he called "spasms." The pain in the bladder was constant and severe, but that in the urethra and at the glans penis was much worse. His trouble began eight years ago with symptoms of stone in the bladder. The last year attacks of pain and fever would confine him to the house for days. The last two years he passed small uric acid calculi off and on, which he carried in his pocket. The urine has been scanty for three years. He was now passing 64 ounces and there is 11 ounces of residual; specific gravity, 1020; urea, 1.5 per cent. Blood, pus, albumin and indican are present. Thompson's stone-searcher was passed, and the stones felt and the clicking sound heard as they were tapped by it. Examination through the rectum was negative; no enlargement of the prostate could be felt; but the large amount of residual urine indicated obstruction. At the end of four days he was ready for the operation. He was then chloroformed, and cystoscopic examination made. The middle lobe protruded into the bladder. It was pear-shaped, and inflamed. It was with some difficulty that the stones could be seen by direct view. On April 7 I did the median perineal operation and removed the whole prostate and six stones. Although the lateral lobes were not much enlarged, I thought it wise to remove them, to prevent further trouble. He suffered so much with spasms at the neck of the bladder, after the operation, that morphia had to be given freely. On the third day I removed the tube with the hope of relieving him, but he suffered with the spasms four days longer. He passed his water naturally on the fourteenth day and left the hospital on April 30, 1901, in excellent spirits and health. There was no residual urine then; pus was still present. October 10 last he presented himself to show me how well he was. He was completely cured; urine normal, etc.

Case 5.—Mr. P. C. H., aged 69, entered Chicago Hospital on April 19 1901, complaining of difficult and painful urination. The quantity of urine varied from 30 to 60 ounces, of low specific gravity, 1002; urea less than one per cent.; contained blood, pus, and hyaline casts. Passed from 2 to 4 ounces at a time. On account of some fever (99 F.) and general weakness, he was in the hospital for twelve days before operation; during this time the pyrexia continued. Difficulty in urinating began sixteen years ago (1885), which he attributed to horseback-riding. In 1893 cystitis came on, and he has not been well since. The last year he expertly catherterized himself. He had several attacks of double epididymitis, and is now suffering from a chronic hydrocele that has been several times injected.

Operation was on April 30, 1901. Through the perineum I made a very sweeping operation of the whole prostate gland in a very few minutes. The gland protruded in all directions. It could be outlined bimanually as a huge mass in the pelvis, the left lobe extending upwards into the bladder, so as to be palpable. The prostatic urethra was two and one-half inches too long. The central lobe was nodular, three large nodules extending from it into the bladder. A more difficult case could not have been selected to test the scope of my procedure via the perineum. I also operated on the hydrocele. The tube was removed on the fourth day. On the twelfth he sat up in a chair. Perineum closed on the twentieth day. He left the hospital on the thirty-third day after the operation. He has written that he has not been so well for years. When he left for home the urine was free from pus.

Case 6.—Mr. A. M., age 72, carpenter, referred by Dr. Alexander, presented himself on March 12, 1901, complaining of incontinence of urine. He was wearing a rubber urinal to keep himself dry. In 1888 frequent urination and night disturbances began. For six years he managed to bear with his "weakness," as he called it. In 1894, after drinking too much spirits, and after going home about 12 o'clock at night, he failed to micturate. Towards morning he became so distressed that a physician was called. He catheterized him. On two other occasions within a year the physician drew off his urine. In the intervals, outside of frequent acts, he felt all right. During the last two years he has been using a catheter somewhat carelessly, but without infecting himself. It was a silver catheter, No. 6, of English make, with a good curve. It was never boiled. He simply washed it with soap and water after using it, blew his breath through it and put it back into an old leather case. He declared that before using it the desire to urinate was so urgent he simply smeared vaseline or lard over it and then relieved himself. Three weeks ago the urine began to dribble. It made him uncomfortable, so he bought the urinal. Since then he has only used the catheter about once a day. In the interim he allowed the urine to escape into the urinal.

After he had urinated two ounces I passed the catheter and withdrew 36 ounces of almost normal urine. I was surprised at this because of the careless manner in which he used the catheter. Its specific gravity was 1018; straw color, urea 1.5; no pus, blood or bacteria, nor casts, albumin, nor sugar. He said that years ago he had passed some blood once or twice, but since he had learned to use the silver catheter his urine has been clear and normal in color.

On March 15, 1901, I removed through the perineum the two lateral lobes, hypertrophied to about the same extent, being about two inches in their longest diameter. On the third day I removed the drainage tube from the bladder. He urinated through the perineum for a week when about one-half the urine began to come through the penis. At no time did I deem it necessary to wash out his bladder. On the twentieth day after the operation the perineal wound was closed permanently, but it took him over an hour to empty his bladder. In the course of two months the contractile power of the bladder markedly improved and it did not then take him over twenty minutes to empty his bladder, but still the abdominal muscles had to be used and he had to strain in order to void all the urine. November 5, 1901, this gentleman is well and happy,

passes his urine normally, but it is diminishing in quantity, according to his judgment. He stated that he knows the quantity is less, but did not think it necessary to measure it.

ADVANTAGES OF THE OPERATION.

1. It is the most direct route to the prostate.
2. Injury to the bladder is avoided.
3. The operation can be quite easily performed. Even in those cases where the gland has been repeatedly inflamed it is not as hard to remove it from below as from above.
4. It is an advantage to remove the gland piece by piece for it enables the surgeon to work through a small opening without bruising the surrounding parts by the finger or a blunt instrument.
5. Hemorrhage is avoided so long as one is careful to work within the capsule. The hemorrhage in suprapubic prostatectomy or in the combined method is often very alarming. On one occasion the writer had to leave pressure forceps on bleeding vessels and pack the bladder tightly with gauze for twenty-four hours. The patient narrowly escaped death from both hemorrhage and sepsis. Sepsis and intoxication from pus and fetid urine coming in contact with the prevesical tissues and wounded and raw surfaces within the bladder are sources of great danger in the suprapubic operation. The bladder may be opened in two stages, it is true, and the prevesical space thereby greatly protected; but the traumatism of the bladder over the prostate, even though done with a cautery knife, furnishes an opportunity for sepsis.
6. Perineal drainage is more complete.
7. The danger from septicemia is not at all prominent after perineal prostatectomy, and so far has given no anxiety whatever, whereas more or less absorption of septic material is the rule in the suprapubic operation.
8. There is less danger of uremia. The operation consuming less time; the short anesthesia affects the kidneys less and there being a minimum opportunity for sepsis there is less work for the kidneys to perform. Uremia is always to be dreaded regardless of the operation.
9. The perineal operation is accompanied by far less shock than the author has noticed following suprapubic prostatectomy.

While not unmindful of the fact that but six cases are here reported, still the results obtained in these six cases have been so satisfactory that I am encouraged to continue this method of operating and also feel justified in recommending it to the profession.

Additional work on the prostate for hypertrophy of the middle lobe alone may be justly mentioned. In four cases, two complicated with vesical calculus which I crushed, the central pathologic lobe was removed through the median perineal section. In four other cases, viz., tuberculosis of prostate, which had extended to it from the epididymis on each side, I removed the gland entirely through the median incision. In these cases the testicles were preserved. Through an incision in each inguinal region the epididymis and testicles were pulled up, the former carefully separated from the latter, the internal inguinal ring enlarged, the vas deferens followed to the base of the bladder, and by blunt dissection a through-and-through communication with the perineal opening was obtained, which enabled me to extirpate the whole diseased track on both sides.

Double inguino-perineal as well as vesico-perineal drainage is necessary in those cases.

FRACTURE OF THE METACARPAL BONES, AND OBLIQUE FRACTURE, SIMPLE OR COMPOUND, OF THE FOREARM.*

W. W. GRANT, M.D.
DENVER, COLO.

The functional results in the treatment of fractures are, in the main, so good that we can not hope for much better, without material improvement in the methods of treatment. The time has come when we must give more thought and consideration to anatomic results and appearances, regardless of the excellent results in useful limbs obtained by present methods. The *x*-ray has demonstrated this necessity, which overrides the argument of mere utility. Though the skiagraph may exaggerate and distort, yet, in honest and capable hands, it gives a fair illustration of the position of the fragments and with the aid of the fluoroscope, no serious mistake need be made. More accurate adjustment and coaptation of fragments is a manifest necessity, not only for the patient himself, but in a medicolegal sense to the surgeon. This is specially true in the treatment of oblique fractures of the long bones, and of special moment and consideration in the management of oblique fractures of both bones of the leg and forearm. Knowing that inflammation and complications incident to fractures of the forearm are more common than elsewhere, we also can not forget that rotation, affecting as it does, the future usefulness of the arm, is always involved. These considerations lend additional interest to these injuries. Despite union with much overlapping and displacement, or bony union of one and non-union of the other, good functional results are common, with no disfigurement in the outline of the limb; yet we can not be content with this result and condition. If the surgeon does not protect his reputation by every safeguard, the *x*-ray will destroy it in the courts if he treats many fractures—now the most dangerous field to the surgeon.

If the x-ray reveals what the educated senses and manipulation of the surgeon will not, and this is sometimes the case especially in fleshy subjects and fractures in the middle and upper third of the tibia and fibula, what is the remedy? If effusion of blood and lymph are, as Lane asserts, the chief obstacles to reduction and coaptation of fragments, then it is true that nothing short of operation by wiring, nailing or fixation by some such contrivance will enable the surgeon to thoroughly adjust and fix the fragments. There can be no question that blood and lymph do play important parts in the malposition of fragments. To this extent the application of splints, bandages or plaster will not correct the displacement: and extension, if delayed, will not be of much use. So whatever method is adopted, whether operation or the ordinary application of splints and extension, it should be used promptly. Delay, with the action of blood, lymph and muscular action, tends only to maintain the fragments more rigidly in the position left by the force of the offending agent. The action of the muscles, it seems to me, is under-estimated by Lane, while probably over-estimated by others and the influence of blood and lymph under-estimated. The fact remains that the ordinary treatment of oblique fractures of both bones of leg and forearm by splints, box, plaster, silicates and extension, are often very unsatisfactory, as is the case in similar treatment of fractures involving the elbow joint.

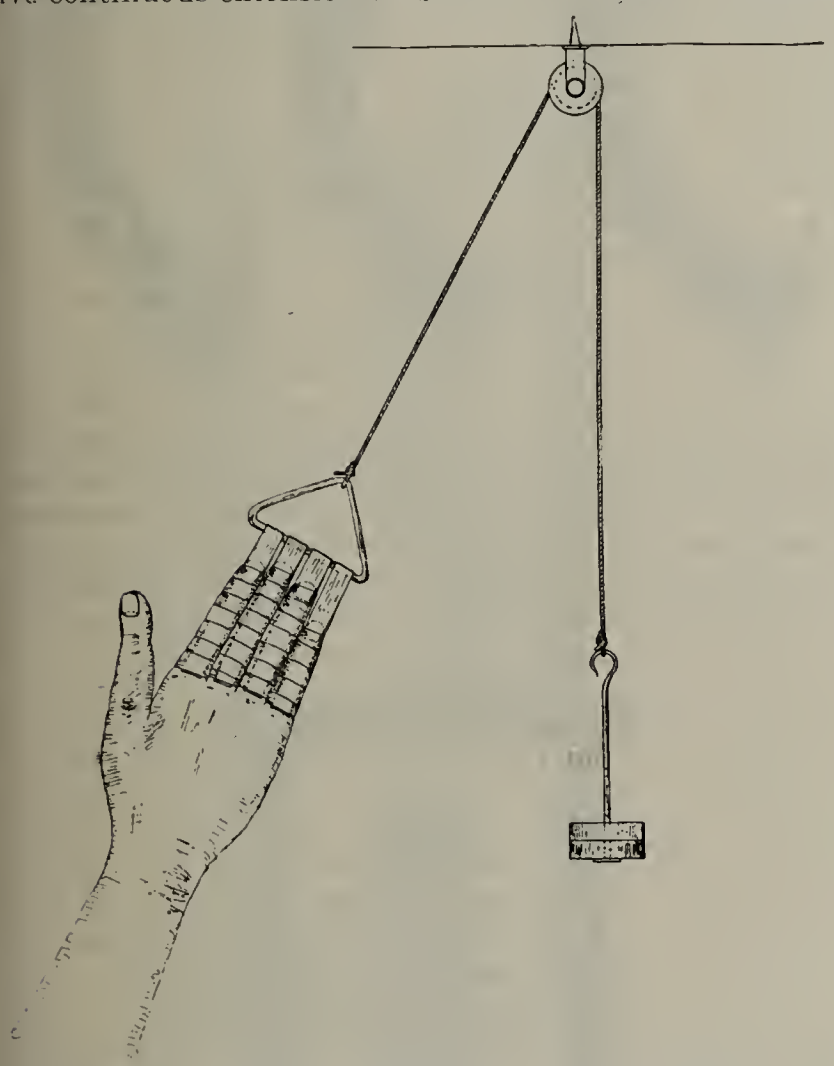
I know of no other procedure short of wiring, nailing

* Read at the Western Surgical and Gynecological Association, Chicago, Dec. 18, 1901.

or the application of some fixation device directly to the fragments that will insure more perfect results. If either fibular fragment in any part is forced against the tibia, with or without a fracture of the latter, will any manipulation or force short of direct application to the fragments restore them to their proper place in apposition? I believe not; yet the outward contour and functional results may be satisfactory to the surgeon.

How would the ordinary Pott's fracture, as treated, look under the fluoroscope or in a skiagram? Doubtless it would not appear very pleasing in its axial line and its relation to the astragalus.

As to oblique fractures of the forearm, extension is not ordinarily used. If compound, the fragments should be wired or nailed. If not compound, continuous extension should be applied, or the bones should be treated by direct fixation. The latter has the advantage of not necessarily confining the patient to the room. Effective continuous extension does confine him, and it should



be maintained ten or fifteen days. We hesitate, quite naturally, to resort to the operative treatment, even with all the best aseptic agencies at hand, as long as fairly satisfactory results are obtained by other means. We can not, too, be unmindful of the fact that without the ordinary text-books and teachings to support us, we are in law and practice exposed to the dangers always incident to new and unfrequented paths. Yet without courage and the force of individual conviction progress is not possible.

I have nothing new in principle to present. It is but the application of Buck's extension in the treatment of fractures of the femur, to fractures of the forearm and hand. The method is equally appropriate in certain inflammatory conditions of the wrist and elbow joints. My attention was first directed to the matter in a desperate case that came under my care on July 4 last. The National Guard in camp at Boulder was firing a salute with 6-pound brass cannon when the premature discharge of a gun completely lacerated the soft tissues of the left arm of Corporal P. from shoulder to hand, and also badly lacerated the right hand from the palmar surface and front of wrist. The little finger was torn off at the second joint, and its metacarpal bone was fractured in two or three places, completely detaching the proximal half. The second and third metacarpal bones were fractured near the metacarpo-phalangeal articulations; the third had a second fracture near the proximal end, and the fourth metacarpal also near the wrist was fractured; the ulnar artery was severed at the wrist, and the pisiform and cuneiform bones so badly damaged that they were removed. The thumb and first metacarpal were the only parts connected with the hand that were not badly damaged. I was on hand promptly and by the quick application of a rubber tourniquet around axilla and shoulder stopped the severe hemorrhage from the left arm. His left side was extensively and deeply burned, and face and eye were burned badly and powder stained. By the use of saline infusions with strychnin and external heat, reaction was sufficient in two hours to justify operation. Under heart tonics and the continuous subcutaneous infusion of normal salt solution while operating, I promptly amputated left arm at shoulder. With the compound comminuted fractures of right hand and badly burned and lacerated tissues, which were infiltrated with foreign matter, I could not expect the hand to escape infection. The bones were adjusted as well as possible, but to retain them in position, and therefore in respectable form to the hand, was, at the time, impossible. It was not safe to prolong the operation. So the badly damaged carpal bones and half of the fifth metacarpal were removed, vessels ligated, and the hand dressed and drained with iodoform gauze between loose splints. Hot water was applied continuously for ten days. Suppuration ensued and finally the middle flexor tendon, which was badly lacerated, and some of the fascia sloughed. At the end of two weeks I made incisions over the fractures of middle and index metacarpals near the phalangeal joints, as the greatest disfigurement existed at these points, and fastened the fragments with silver wire. The bones were soft, and, in order to hold all the parts in as good shape as possible (splints and bandages being practically useless), I applied the following extension apparatus to the fingers (index, middle and ring): Moleskin plasters, the width of the fingers, were applied back and front, all passing in a loop through a triangular ring (with a horizontal bar) about two and one-half inches in diameter, and each finger bandaged separately. (These are fortified by a wide piece of plaster covering all.) A small cord is tied to the ring and carried over a small pulley screwed into the ceiling lath. Three 1-pound weights were attached by a small iron hook to the distal end of the cord. Counter-extension may be applied by bandaging the arm to the body, commencing with a loop of bandage around the arm just above elbow and passing at first backwards around the body. With this arrangement the patient could lie down, sit or stand, and the extension will not vary a particle. If desired, the arm can be fixed by bandage to the bed frame. Splints, with antiseptic gauze drainage to the palm, were lightly applied during the treatment, which was maintained for two weeks and was easily borne. For fracture of forearm wide strips of plaster should be applied to back and front of hand and through the ring as before. In this case my aim was not only to save the hand, but to preserve its form, with as much motion as possible to the fingers. I am gratified to state that the thumb, first

metacarpal and wrist motions are perfect, and there is some movement to index and ring fingers, with promise of more. The flexor sloughed, and the others are necessarily crippled by adhesive inflammation. Had the other hand and arm been intact there would have been great temptation to amputate this hand; but in this day of bold and radical surgery, conservatism, too, achieves its greatest triumphs, which splendidly justifies the greater labor, time and skill devoted to it. Although the hand suppurated rather freely and there was extensive sloughing of the skin on left side from shoulder to waist line, which, with the hand, healed slowly, there was no general infection at any time. The patient at this time is in very good condition, and has one good arm and a fair hand, and will become again self-supporting.

I am aware that ambulatory extension to the forearm, with the lower part of the humerus as a fulcrum, is sometimes made or attempted, but I doubt if efficient, continuous and comfortable extension can in this way be satisfactorily carried out.

THE QUESTION OF SPINAL BRACES IN LATERAL CURVATURE.*

A. B. JUDSON, M.D.
NEW YORK CITY.

It has been proposed that apparatus having a strong antero-posterior action for the maintenance of lordosis be used, instead of braces which make the customary pressure on the ribs, in lateral curvature of the spine. Experiments in this direction have, however, resulted in nothing notable, and the suggestion has been fruitless so far as I am aware. It may be that the inconvenience of wearing such a brace is too great in a disease which carries with it no menace to the patient's life and but little to her health and comeliness. It might be argued, but not too seriously, that lateral curvature of the spine is an attractive feature, falling in the same category as a slight cast or squint, which has been thought to add piquancy to the beauty of a pretty face. It can not be denied that the typical sigmoid curvature reproduces the technical curved line of beauty or that the accompanying rotation carries with it an expression of serpentine or sinuous grace.

It is true that in rare instances the rotation is so extreme that the kyphos rivals that of an ill-treated case of Pott's disease. As a rule, however, the deformity is not conspicuous and we are generally satisfied with the results of treatment which is palliative rather than radical. In Pott's disease the forcible production of lordosis transfers compression from the vertebral bodies to the processes, which as a rule are healthy. The same force in lateral curvature produces the same effect, taking superincumbent weight from the bodies which depart from, and putting it on the processes which are held near, the median plane. This provides a mechanical application directed against rotation, which is the most intractable element of the deformity.

Such may never be the established treatment, but an appreciation of the mechanics involved makes clear the fact that rotation is produced by the lateral mobility of the anterior section of the column combined with the absence of such mobility in the posterior section.

An interesting contribution to the study of this subject is the suggestion that rotation in lateral curvature may be determined by the flexion or extension of the spine. As an aid in this inquiry I arranged for photography an imitation of the spine, made of India rubber, Fig. 1, in order to see whether antero-posterior variation would influence rotation in any way. The middle pin is taken point blank in each photograph in order to secure the same point of view in each exposure. In Fig. 2

Figure 1.

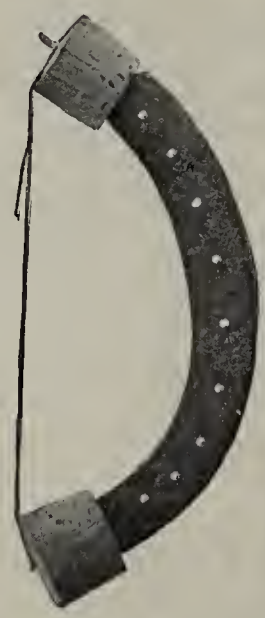


Fig. 2.

Fig. 3.

Fig. 4.

there is a plain lateral curve without flexion or extension. The heads only of the pins are seen, showing the absence of flexion, extension and rotation. In Fig. 3 a lateral curve is combined with flexion. The latter is shown by the inclination of the pins and the absence of rotation is demonstrated by the fact that the head only of the

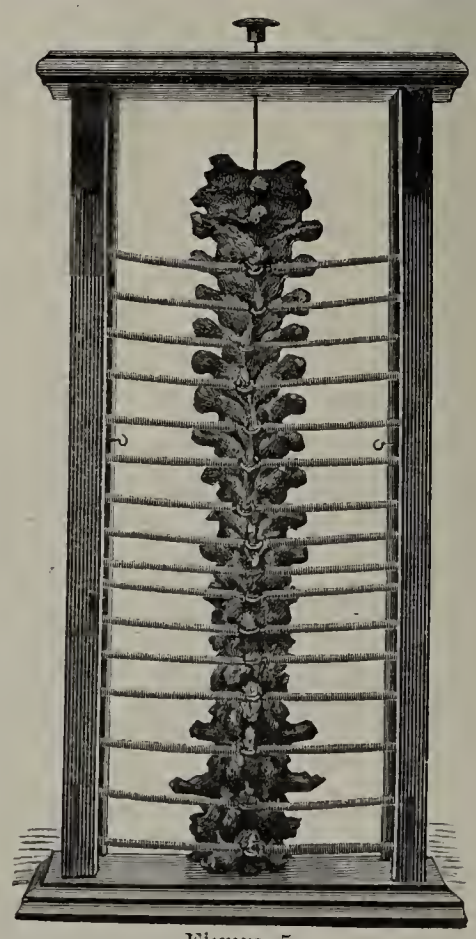


Figure 5.

middle pin is visible while the heads of all the pins are found in the middle of the curved column. In Fig. 4 a lateral curve is combined with extension as is shown by the inclination of the pins. Some rotation is apparent, but this would have disappeared if the object had been

* Read before the American Orthopedic Association, June, 1901.

placed more carefully before the camera so that only the head of the middle pin had been exposed.

From this it would appear that rotation of the spine is unaffected by its flexion or extension, a result which might have been expected *a priori,* because the curve in any case is but a simple curve and incompetent, as such, to govern rotation. In Figs. 3 and 4 the curve may at the first glance seem to be made up of two curves, a lateral and an antero-posterior one, but further consideration leads to the view that it is a simple curve, produced by the resultant of two forces, one acting in an antero-posterior and the other in a lateral plane, and as such it has no more power over rotation than any other simple curve.

It may be said that any rod or flexible column can not, of itself, rotate when curved. The spine, however, is a flexible column, a part of which, made up of the vertebral bodies, has wide lateral displacement (or has extra flexibility) in the cavity of the trunk; while another part, composed of the processes, is prevented from lateral

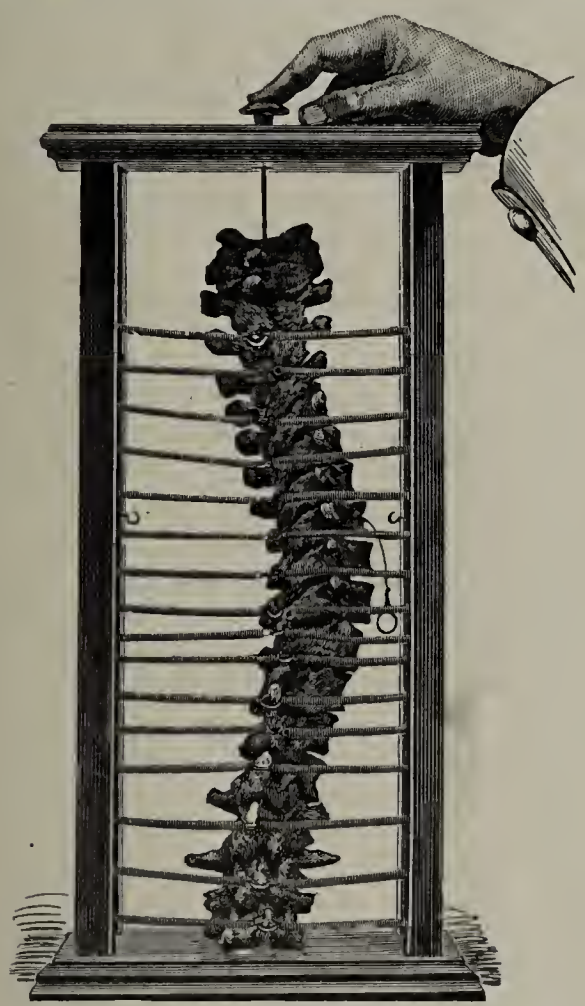


Figure 6.

displacement (or has less flexibility) from being a constituent part of the wall of the cavity. It, therefore, rotates when curved. This view was presented by Mr. Charles H. Rogers-Harrison in 1842.[1] The mechanics of spinal rotation thus described in words is shown in the common preparation of the vertebral column, Figs. 5 and 6, in which the processes are held near the median plane by a succession of spiral wire springs, while the bodies, swinging away from the median plane, exhibit rotation.[2]

The application of posterior pressure is demanded by the mechanics of the deformity which, on the other hand, furnish no warrant for the use of a brace making lateral pressure at the ribs. Such a brace may promote comfort and conceal asymmetry, but if it is applied with force it will add to the deformity. As the ribs spring from the posterior section of the column, pressure on them will push the spinous processes still further towards the concavity and thus increase the rotation, as was pointed out by Mr. Andrew Dods[3] in 1824. The difficulty may be readily appreciated by imagining the effect of lateral pressure made directly on the vertebral bodies without the intervention of the ribs. The effect of such an application, impossible as yet, would be to combat, by one motion, both the lateral curvature and the rotation, at once correcting the deformity in simple cases in which structural changes were absent.

1. Deformities of the Spine and Chest. London, pp. 93 and 94.
2. Transactions New York Academy of Medicine, 1876, pp. 315-330.
3. The Rotated or Contorted Spine, London, pp. 226 and 227.

THE REPORT OF A TYPHOID EPIDEMIC AT THE IOWA STATE AGRICULTURAL COLLEGE.

W. E. HARRIMAN, B.S., M.D.
AMES, IOWA.

This epidemic occurred at the State College of Agriculture and the Mechanic Arts, at Ames, Iowa, in the fall of 1900. The total number of cases was 65. Of this number 23 went to their homes at the onset, or early in the disease; 42 remained to be cared for at the college—males 33, and females 9.

General Environments.—The college is located one and one-half miles from the town proper. It is situated on a 1000-acre plot of high rolling land, provided with most excellent natural drainage, abundant exposure to sun and wind, and altogether one of the most naturally healthful spots in the state. The buildings are large and well constructed, and fitted with first-class water supply, plumbing and sewage-disposal—in short, they are in good sanitary condition.

The enrolment of students at the time of the outbreak was about 900. Many of them roomed at the various college dormitories. Margaret hall, a building devoted to the lady students, contains also the large college dining-hall. Most of those students who roomed in college buildings and a few additional students and faculty assistants took their meals at this dining-hall. Of those remaining, some lived in the dormitories and dined outside the college; others both roomed and boarded entirely off the campus in private residences near the college or in the town proper, but all used the one water supply, closets, etc., while on the grounds.

This definite knowledge of the whereabouts and customs of the entire student body rendered possible a systematic study of etiologic factors and warrants a somewhat detailed narration of the events which led to the discovery of the source of infection.

When it became apparent that the college was in the face of an epidemic there was instituted a renewed study of the existing sanitation and a determined search for the origin of the disease. The problem was approached from the following vantage grounds: 1, sewers and sewage disposal; 2, water supply; 3, food supply; 4, all other possible sources.

Sewers and Sewage Disposal.—The closets of the various buildings, the laboratories, the creamery, the laundry and kitchen in Margaret hall, as well as many of the faculty residences, are connected by individual outlets with the main sewer. The sewers are of the most approved sewer tile, comparatively new, and were constructed under the direct supervision of most thoroughly competent sanitary engineers. The plumbing is of the best; modern ventilated traps are used throughout, and are supplied with arrangement for abundant flushing. It has been the custom during the college term to give the sewers an extra flushing at least once a week. The

system was inspected without the discovery of any defect whatever. No leak could have existed without detection owing to quantitative measurements of the sewage and other sewage experiments which were then in progress.

The sewage-disposal system is that known as the septic tank and intermittent filtration process. This is the most modern and satisfactory system in use to-day. It is so successful that after the sewage has passed through the septic tank and through the bacterial filter beds the effluent can scarcely be told by its appearance from the clearest sparkling well water. The principle upon which the plan depends entails the process of septic precipitation and bacterial consumption, combined with simple filtration. This plant was in the most perfect condition and was heartily approved by Dr. J. F. Kennedy, of the State Board of Health, during his inspection of the entire college premises.

The College Water Supply.—The water is pumped from a well 2215 feet deep into a large, tightly closed steel tank, 168 feet above the surface, and is piped to the various college buildings and residences on the campus. The tank, when filled, contains 160,000 gallons. The daily consumption of water is 90,000 gallons. So that if the tank were completely filled the regular demand would exhaust the supply in less than two days. However, as a rule, the tank is kept about half full. Hence, practically each day's supply is freshly drawn from over 2,000 feet below the surface. When the tank is half filled there is a pressure of 60 pounds to the square inch in the mains. Had there been even such a misfortune as a leaky main passing through a bed of typhoid bacilli, the water would have found constant exit through the leaks with such force as to have positively precluded the possibility of bacillary entrance.

The water had been examined each year and always found in good condition. But, not content with this and the above negative evidence, it was again subjected to thorough chemic and bacteriologic tests, and found to be in an exceptionally high state of purification. These analyses were made by Prof. J. B. Weems, of the department of chemistry, and Prof. L. H. Pammel, college bacteriologist, and were confirmed by Prof. Macy and Dr. Grimes, respectively chemist and bacteriologist of the Iowa State Board of Health. Failing to locate the difficulty in the college water supply attention was called to the

BOARDING DEPARTMENT.

Here nothing leading to a clew was discovered, until in the investigation of food and its sources there was reached the important item of milk.

The Milk Supply.—At the beginning of the term the college had contracted with one Skelton and one Pritchard (farmers near the college) for the necessary supply. But on September 2 Mr. Skelton's supply having practically failed, he arranged with one Mr. Briley (another farmer) to make good the deficit. Mr. Briley did so and in large amounts from September 3 until October 17, the greatest amount having been delivered during the week from September 15 to 24. At the mention of the Briley milk the recollection at once occurred to the author of the existence, nearly all summer, of a severe and prolonged case of typhoid in the family of Mr. Briley. The case occurred in the practice of Dr. C. S. Hutchinson, of Ames, who assured me of the correctness of diagnosis. Acting upon the suggestiveness of this coincidence the Briley milk was rejected in toto, and all other milk subjected to pasteurization prior to its use. Investigation was further continued, but it is very interesting to note in this connection that the last case was bedridden November 3—three days less than three weeks (usual limit of period of incubation) from the date on which the Briley milk was condemned.

Additional Water Examinations.—Specimens of water were obtained from Skelton's, Pritchard's and Briley's wells—the latter having two wells. Both chemists and bacteriologists pronounced all the specimens free from suspicion except the shallower one of the two Briley wells. This water is said to have contained over 180,000 germs to the cubic centimeter—among them a bacillus somewhat resembling Eberth's bacillus—if not that identical organism, it was at any rate a member of the typhosus group. Regarding the chemic conditions of this water, Professor Weems reported as follows:

> The Briley wells, two in number, are situated about four feet apart, one having a depth of 180 and the other 45 feet. The 180-foot well showed chemically to have water of excellent quality. The shallow well is, on the other hand, evidently contaminated from some source. The excessive amounts of nitrogen as nitrates and nitrites, and also chlorids would indicate that some vault or outhouse was the cause of contamination. The results also indicate that a large amount of the organic matter in the original source of contamination had been oxidized by the process of nitrification. The water was in worse condition than the effluent of the college sewage beds. . . . From a chemical consideration of the matter the conclusion of the investigation shows that the Briley shallow well is evidently the cause of the trouble, as it probably is in connection, by some underground means, with a vault. It would naturally result that should typhoid bacilli be introduced into the vault or outhouse the underground connection would transmit them to the well readily through the casing of the well; and the use of this water for washing the milk cans and watering the milk would transfer the germs to the individual using the milk.

Mr. Briley admitted that he did not scald the milk cans; hence, if bacilli were present in the wash water nothing hindered their development in the cans.

Further Facts Regarding the Milk.—The milk collected in these unscalded cans was delivered at the college once each day, about 8 or 9 a. m. It was kept all day and served for supper, thus allowing an abundance of time for the development of bacilli. Owing to its tendency to sour easily it was kept separate from the other milk. The cook drew from this supply for cooking purposes, but the greater portion remained to be served first for supper. The dining-room contained 61 tables, with 8 persons per table, making the total of 488 people in the dining-room served at the same time. Three pounds of milk were served to each table, except Nos. 58 and 59, the patrons of which received a double portion, six pounds each. These were known as the training tables, being patronized by sixteen football men in training. These students were encouraged to use their double portion of milk, and it is a painfully significant fact that thirteen of those sixteen powerful fellows contracted typhoid.

Some of the Briley milk reached various parts of the room, but a greater portion was distributed in the west half, and a greater number of cases occurred among those of that end. The younger students, many of whom were recently from rural homes, occupied this section, and being accustomed to the use of milk at home as an acceptable food, doubtless drank more than the older students. There were no cases among those who did not drink raw milk, and in every instance of sickness, upon interrogation regarding the milk, the patient replied that he had drank milk freely. Whether the Briley well

water contained the organisms and the milk became in this manner infected, or whether by flies passing from the dejecta to the milk cans in a tank near by will never be positively known because of the unfortunate destruction of the bacteriologic laboratory and its contents by fire. Isolation experiments with the milk and with the Briley water were in process when the disastrous fire occurred in the main building and destroyed all cultures and further means of determining the exact method of infection of the milk. But in the light of the above facts there can be no reasonable doubt as to the infectiousness of the milk from whichever of the two sources it may have originated.

General Management of the Epidemic.—The college is provided with a very satisfactory little hospital for the care of its sick. But, unfortunately, at the time of this epidemic the building was not habitable owing to extensive repairs then in progress. We had a small tent which was in use as a temporary hospital, and into this were taken the first few victims. But new cases developed rapidly. We were compelled to leave many of them in their various rooms to the care of their already over busy room-mates until suitable quarters could be obtained. Upon October 15 we procured a large recitation-room in the Agricultural building. All furniture was removed, floors scrubbed and patients installed with great dispatch. Nurses were procured, and with this unorganized, unfitted arrangement our epidemic continued to swell. Between October 8 and 17 there occurred 46 cases, 33 of whom remained to be cared for in our improvised hospital. The other 13 went to their homes. From this time on the number of new cases grew less rapidly till by November 3 the last case was bedridden and the total number had swelled to 65—of whom 42 were in our hospital.

The actual disease was severe and the demand for medical attention on the part of the genuine cases and the "psychologic typhoids" was so great that it became necessary to procure assistance. Accordingly, the services of Dr. C. G. Tilden (now of Stanhope, Iowa), were procured.

Diagnosis.—The 42 cases treated at the college occurred in the following sequence:

October 8, three cases.
" 9, one case.
" 10, two cases.
" 11, four cases.
" 12, seven cases.
" 13, two cases.
" 14, three cases.
" 15, seven cases.
" 16, three cases.
" 17, one case.
" 19, two cases.
" 20, one case.
" 24, two cases.
" 27, two cases.
November 3, two cases.

There was some hesitancy in the first three or four cases, but the diagnosis was practically forced upon us within a few days by the continued daily development of new cases. The usual history of insidious invasion was characteristic of all cases in this series. Headache with slight elevation of temperature, noticeable body soreness, and general malaise were common to almost every case. Epistaxis was present in about half the cases, constipation was the rule with two or three exceptions. Confinement to bed, enlargement of the spleen, and the steplike temperature were noticeable in a vast majority within a week of their first report of illness. The splenic involvement was more generally present here, I believe, than is usually the case. The appearance of rose spots was wonderfully constant, and there were cases in which this phenomenon was most generously present, not only on the abdomen and chest, but over the entire body surface. The diagnosis was almost purely clinical. There was little apparent need for microscopic confirmation of our fears. Indeed, I am now quite in sympathy with an elderly physician of my acquaintance who once unburdened himself to me in the following terms: "When you have a patient between the age of 10 and 50, especially if it be in the fall of the year, who has complained of general depression for a week, and then becomes bedridden with a temperature higher each day, the sooner you decide the case is one of typhoid the sooner you are right." Gilman Thompson voices the same sentiment when he says: "It is a good rule to suspect typhoid fever as present, with any temperature not explained by demonstrable cause, which lasts for three or four days without complete morning intermission especially if the facies be dull and dusky, and the tip of the tongue be sharp and red, with prominent papillæ."

It is not my wish to ignore the serum diagnosis, nor to belittle the claim of blood counts, but the average physician is not supplied with a pure culture of typhoid bacilli, or even in touch with a laboratory which is thus prepared to make the Widal test. The Widal reaction was obtained very positively in the six cases in which it was made in this epidemic. About the time we were able to get our cases into the improvised hospital the question of diagnosis was raised again by certain conventional people, and so we called Dr. L. W. Littig, of the chair of medicine at the State University. He confirmed the diagnosis, assisted very materially in the organization of the hospital and gave us many valuable suggestions.

Classification of Cases.—The clinical picture of typhoid fever is so varied that one speaks of typical or atypical cases with a considerable lack of definiteness. To be properly considered atypical a case must present a very unusual symptom complex in typhoid. From a purely clinical standpoint the division into the abortive, the ambulatory and the grave forms is convenient. In this epidemic we had typhoid with intestinal lesions in every one of the 42 cases. There were 5, and possibly a 6th, in whom the intestinal involvement was slight, but general infection was markedly present. It is somewhat remarkable that in a list of 42 there should have been none of the rather common pneumo-typhoid. We had one case which was properly a spleno-typhoid. It is true that there was one case which suffered from an intercurrent attack of pneumonia, and another who had acute mania, but these must be considered complicated cases rather than varieties. From the clinical basis there were of the abortive typhoid 4, of the mild variety 7, of grave form 18, and of very severe or intensely grave nature 13. Those considered very grave were cases in which there existed serious complications accompanied by profound infection and prolonged duration of the disease. Those considered grave suffered from exaggeration of all the phenomena common to typical typhoid, and many of them had complications of varying severity. That group of cases chronicled as mild were typical cases not accompanied by severe complications, but which continued for from four to six weeks uneventfully through the successive stages of the disease.

Complications and Special Symptoms. Intestinal Hemorrhage.—Intestinal hemorrhage occurred in 7 of the 42 cases, or 16.66 per cent. Most of the hemorrhages

occurred in the latter part of the second week or later, but there was one case in which from one to eight ounces escaped from the bowel from one to six times in each twenty-four hours, beginning in the first week and ceasing two weeks later. He made a good recovery after sixty days of illness. Another case was peculiar in that every time he had an enema, be it ever so small a quantity and ever so soothing in quality, the procedure was followed by hemorrhage. There were bloody evacuations at other times, but this peculiarity was interesting. In those cases where the actual loss of blood was considerable the prompt use of normal salt solution seemed to strengthen the patient rapidly, but one of our deaths was due to very large hemorrhages frequently repeated.

Cardiac Complications.—One young man who had been an habitual user of large amounts of tobacco had a weak heart to begin with. We feared very much for this patient, but under generous allowances of strychnia and digitalin with most persistent bathing, he weathered the storm nicely. There was only one pronounced case of endocarditis, one of pericarditis (following an intercurrent pneumonia) and six cases of myocarditis or cardiac myasthenia. All the cardiac cases recovered.

Respiratory Complication.—There was but one real complication of this sort, though about half the cases showed some slight bronchial irritation early in the disease. One patient contracted a left-sided lobar pneumonia in the second week of his illness. He passed through the stages of pneumonia in a manner seemingly independent of the typhoid. After resolution he continued the usual indications of uneventful typhoid, but in a few days developed pericarditis, with slight effusion, and finally, after numerous pseudo-collapses and the lapse of eighty-three days, recovered without sequela.

Phlebitis.—Occurred in five patients—both limbs being affected in one of the cases. These cases were prolonged as result of the thrombosis and suffered quite as much as did those who had neuritis, but all made good recovery. It developed invariably late, not earlier than the fifth week.

Neuritis.—This was experienced by four cases. In each instance the nerves of the feet and toes were affected. The slightest touch was painful, and no voluntary movement could be made by the patient without the penalty of most intense pain. Like phlebitis, neuritis occurred very late in the disease, and recovery was finally complete in every case.

Hyperpyrexia.—There were three patients whose temperature reached a point higher than 106 F., one of whom sustained for three hours a registration of 107.2 and recovered. This temperature was at the outset of endocarditis and was followed by profound collapse which nearly cost the patient his life.

Intestinal Perforation.—This occurred in one case and remarkably early, being on the eighth day of the fever. It was sudden, without ascertainable cause, and death followed within twelve hours, due ultimately to collapse. Surgical interference was impossible owing to the profound shock.

Acute Mania.—A lady student, aged 30 years, developed acute mania with suicidal tendencies at the very onset of the fever and continued through an otherwise mild attack of the disease. Her mind gradually returned to a more nearly normal state, but had not entirely cleared when she passed from our observation two weeks after the temperature reached normal. She was an exceptionally fine student and especially interested in psychology. No doubt her excessive brain work had much to do with her mentality during the attack.

TREATMENT.

There was no specific treatment unless, indeed, the routine administration of baths and other stimulants may be considered specific treatment.

Baths.—To most patients cold baths were given whenever the temperature reached 102.6. Those whose temperatures did not reach that during twenty-four hours were given tepid sponging at least once each day. Cold sponging was substituted for cold emersion bath in a few instances where the sponging was found sufficient to reduce the temperature satisfactorily. The actual all-over baths were given with water but slightly warmer than ice. Ice was kept constantly in the water and packed about the head. These baths were continued from five minutes to as long as a half-hour in extremely high temperature of persistent character. Large rubber sheets were used by being placed under the patient as is any sheet, then by pinning the head and foot to the bedstead and rolling up the sides a veritable bath tub was made which would hold, besides the patient, four or five pails of water. If he were able the patient was encouraged to rub himself while from two to four people were kept actively at work on the skin. In those whose temperature had shown tendency to persist in spite of previous baths and in cases not accompanied by severe intestinal hemorrhage, several pints of iced water were thrown into the colon by means of a 15-inch rectal tube, during the bath or immediately following it. In many instances the patient would complain bitterly of the bath, the teeth chatter, the skin become cyanotic, etc. But generally in a short time the buccal temperature would be somewhat lowered, pulse become stronger and less frequent, delirium lessened, subsultus cease, carphologia disappear, and by the time the patient was out and wrapped in dry woolen blankets, many times, would be asleep perhaps for the first time in twenty-four hours. I have known patients to waken after two or three hours of this "post-hydral" sleep mentally clear and physically improved beyond the most sanguine expectations. Weak heart instead of being a contra-indication positively indicates such treatment in high temperature. Menstruation is no contra-indication, nor is intestinal hemorrhage, nor again profuse epistaxis or apparent nervous collapse, provided in the latter instance the temperature is as high as 103. It is said that phlebitis and neuritis are more frequent complications under this treatment than by other methods. But between a living patient with one or both of these complications and a deceased one with neither, one very much prefers the former. I can not understand how any man who has watched a series of cases under this treatment, properly supported by such medicinal measures as are indicated from time to time, can possibly question its superiority over any other method.

Probably the practice next nearest the routine in this epidemic was the administration of strychnia. Whenever the first sound of the heart began to be weak, whether it was in the first week or later, the strychnia was exhibited, sometimes by mouth, but when the myocarditis became marked it was given hypodermically—in some cases so often and heroically as 1/20 grain every three hours. In many cases brandy or whisky was added and sometimes substituted for the strychnia. There were, however, cases in which from a cardiac standpoint neither strychnia, alcohol or the combination of the two, seemed to accomplish good circulation. Here digitalis was administered—generally in the form of hypodermic injections of digitalin. When given in or-

dinary doses no results followed, but at the suggestion of Dr. J. T. Priestley, of Des Moines, who saw the cases with us at one time, we employed digitalin in hypodermic doses of 1/18 to 1/8 grain and obtained finally the characteristic effect of digitalis in spite of high temperature. However, digitalis seemed totally without the sustaining power which is obtained by strychnia in conjunction with cold baths.

In the matter of medicines perhaps the next most used drug was calomel in combination with sodium bicarbonate. In the early stages—first and second weeks—this combination was prescribed for all patients whose bowels were not moved at least once a day. A tablet containing calomel 1/5 grain and sodium bicarbonate ½ grain was given every half, or in some instances every hour, until the bowels were evacuated or until ten were taken. Frequently this was followed by from one to three ounces of hunyadi water, or a small dose of magnesium sulphate, but not in every instance did we deem the saline essential. We did not hesitate to exhibit the calomel later in the disease, and saw only most happy results. The only contra-indication was intestinal hemorrhage. I am aware that so eminent an authority as J. C. Wilson recommends the use of small enemata daily to accomplish the required movement, but I learned to dread the use of the enema after witnessing the occurrence of copious bright red hemorrhages in three cases immediately following its use, and a repetition of the hemorrhage in one markedly tympanitic patient at each succeeding attempt with the enema. I believe the secret in the management of constipation throughout the disease is in persistently procuring a daily movement. Compound licorice powder, cascara cordial and a pill of podophyllin, belladonna and physostigma were employed with success, but nothing seemed more satisfactory than calomel as used above.

In diarrhea beta-naphthol bismuth acted kindly, as did rather large infrequent doses of guaiacol carbonate. When tympanites was marked the old-time turpentine emulsion made without egg proved quite satisfactory, though there were instances in which six grains of guaiacol carbonate every four hours was really more efficacious.

Of the 42 cases treated at the college 2 died, a percentage of mortality of 4.7. Of the 23 who were treated at their homes, 3 died, a mortality of 13 per cent. This is a great argument in favor of hospital treatment of typhoid.

THE IDENTIFICATION OF CRIMINALS THROUGH THE FUNDUS OF THE EYE.

M. F. WEYMANN, M.D.
Professor of Ophthalmology and Otology, Central Medical College.
ST. JOSEPH, MO.

Commensurate with the importance of the certain identification of criminals have been the efforts at elaborating a reliable system for this purpose. Most prominent in this line stands out the method of M. Bertillon; yet even in it there occur so many data subject to change by reason of growth, voluntary effacement or disfiguration, that further additions are by no means undesirable.

I wish here to call attention to the fact that anybody could at any time, with a certainty, be identified by the anatomical conformation of the fundus oculi; in fact, the disposition of the arteria centralis retinæ and its branches alone would be sufficient for the purpose.

I admit that a casual observation would fail to do so, but identification by a previously made—and that with the greatest exactitude—drawing of the fundus would leave no room for doubt. While there are many details sufficiently characteristic in the papilla, yet there is enough inconstancy to make them unavailable. This is not true of the vascular branching on the papilla and in the peripapillary region. Text-books describe fully the retinal vessels, usually according to Leber's description, which is a good one, indeed, but, after all, it is only schematic. For reference, this is quite sufficient, but, in this manner, there has been produced in the minds of oculists the idea that the anatomical arrangement is fairly constant—a belief thoroughly erroneous.

I could extend this article *ad infinitum,* as I am in possession of several hundred fundus records which plainly prove my statements. However, any fairly proficient ophthalmoscopist can so easily prove my assertions, that I prefer confirmation by others. If at any time detailed data should be desired, I should be most willing to submit them. My proposition reads thus:

Absolute identification can be obtained by a drawing (exact as a photographic reproduction or nearly so) of the papilla and a surrounding retinal circle distant from the scleral ring by two papillary diameters. So great is the multiplicity of the anatomical relations of the vascular twigs that I have never been able to find even two fellow organs exactly alike.

The points to be considered are:

1. The method of division (dichotomous or otherwise).
2. The exact point of division.
3. The exact angle of the vessels with the primary meridians.
4. The exact distance of one divisional point from the other.
5. The relative size of the divided twigs.
6. The angle of division.
7. The course of the twigs (straight, curved, etc.).
8. The exact distance, everywhere and at every point, between venous and arterial branches (parallelism, convergence or divergence, twining, etc.).

While other marks may be added, they are, though perhaps valuable, not needed. No knowldge of pathology is required. Identifying inspection could not be made by a collective glance, but only by the most scrupulous attention to every structural detail. It would, therefore, require some time. The only condition able to impair the value of this test would be impossibility of fundus exploration due to clouding of the media.

Inordinate enthusiasm and positivism very often bear the earmarks of immature consideration, but, in this instance, I beg my confrères to ignore this circumstance by lending their help to verify the truth of assertions fraught with so much practical importance.

Radiotherapy of Lupus.—Leredde reported at a recent meeting of the Paris Société de Thérapeutique that he had treated during the last year 43 patients with lupus of one to thirty-five years' duration. They had a previous record of 1796 thermo- or galvano-cauterizations, 908 seances of scarifications, 7 deep cauterizations under chloroform, 61 applications of high frequency electricity and 295 injections of tuberculin. Only one patient had been cured by these measures and the lupus had recurred later in him. None of the rest had had even a small segment of the lupus cured. Under radiotherapy 8 are now completely cured; 7 seem to be cured, but the interval is not long enough for certainty.

The Organization of the Medical Profession.

(Continued from page 461.)

VII.

UNIFORMITY OF ORGANIZATION OF STATE SOCIETIES NECESSARY.

The organization of most of the state and territorial societies was adopted without any idea of conforming to a definite plan. The constitution or organic law of each was made in accordance with the views of the little band who gathered to form the new society, and no central or national body attempted to guide them so that they might follow any particular system. In fact, thirteen of these state societies were in existence before the American Medical Association was started, and five more were formed before it could have outlined any system for them to follow had it attempted to do so. We find, therefore, what might have been expected, that no two are organized on the same plan in every particular. Some are incorporated and recognized by the law of the state, and are endowed with certain legally defined functions, such as the power to hold property; others have still further powers granted them, as the right to appoint officers of certain boards, of granting license to practice, etc., and some are incorporated with practically no powers. The great majority, however, are not incorporated, and consequently have no existence in the eyes of the law. But whether they are incorporated or not is immaterial as regards their relations to the American Medical Association, yet there are many reasons why state societies should be legally recognized; in fact, this will be necessary if some of the work contemplated should be taken up.

Aside from this difference in the organic laws, there are other differences that are extremely important, and these must be eliminated if the plan of bringing the state societies together, as proposed, be carried out. We refer to the relation they bear to the subordinate societies in the state. In this regard the various state organizations may be divided into three classes: 1, those in which the county or district societies are federated in the state society, membership in the subordinate body carrying membership in the state; 2, those in which there is an only indirect relationship between the two, and 3, those that do not recognize in any manner any subordinate society. In the first class are Alabama, Connecticut, Indiana, Massachusetts, New Jersey, New York State Medical Association, and Pennsylvania, although no two of these are organized at all alike, aside from the fact that membership in the lower carries with it membership in the higher body. As regards the second class, the relationship between the state and the county or district societies varies greatly in different states; but it would take too much space to show here in what this difference consists. Some that theoretically are classed in this second division really belong to the third, namely, those which ignore the existence of any other societies whatever, and do nothing to encourage or foster them. In this third class belong the larger number of the state societies.

To change this unsatisfactory condition is the first and most important work to be done in the organization of the profession of our country. Touching on this we quote from the report of the Committee on Reorganization:

"No successful organization of the profession is possible without the mutual coöperation of the state societies. There is at present no close relationship among the state societies; each is an independent body recognizing no other, and no concert of action among them regarding measures of mutual importance is possible under present circumstances. It will be accepted as an axiom that before such a federation can become an established fact a common plan of organization must be adopted by all. To successfully accomplish this and have such a common plan accepted by each state society, it will be necessary that each of these bodies shall be willing to sacrifice for the common good certain minor details in their present plan of organization, certain preconceived ideas as to what are the objects of the state medical society, and existing methods of procedure of minor importance. For without a willingness on the part of all to make some minor sacrifices, there can be no successful issue to the undertaking, and present chaotic conditions with their resulting weakness will continue to prevail."

In this part of the report the Committee was making a plea: 1, to get the American Medical Association to reorganize so that it might be a body in which the state societies could affiliate, and 2, to have the state societies reorganize on a more or less uniform basis, so that a federation might be possible. The recommendations as regards the American Medical Association were adopted by that body. The state societies are asked to adopt that part of the recommendations which refer to them.

There must be a uniformity of organization as regards certain fundamental principles before a true representative federation is possible. It will be impossible to get a truly representative national body made up of delegates from the state societies in the way the latter are at present organized. Delegates to the House of Delegates of the American Medical Association from a state society in Classes 2 or 3, as defined above, would not be representing the profession of the state, because the body that sent them would not represent the state, but only one independent society in the state.

Division of the State Society into Two Branches.

While it is immaterial whether or not the state societies organize alike in every particular, it is important that they conform as regards certain fundamental propositions. These are specified in the recommendations made by the American Medical Association, and are, 1, separating the annual session into two branches, legislative and scientific; and 2, making membership in the county or district society carry with it membership in the state society. As regards the first proposition, the wording of the recommendation to the state societies is "to divide their annual meeting into two branches, legislative and scientific; the legislative branch to be as small as is compatible with representation from all the county societies, and to be composed of delegates elected by the county societies."

While seven state societies already have two distinct branches, in none of the others does this division exist. In the annual gathering of these there is no distinct business body, nor, for that matter, a distinct scientific body. On the contrary, the annual meeting is simply a general one for any and all purposes, and is made up of those who come without any delegated authority. The meetings are not representative, but are liable to be dominated by those living near the place of meeting, or by those coming from a large city, if there is one in the state. Such meetings may be, and often are, controlled by those who want a certain set of officers elected, or by those who want some pet measure carried or endorsed. Much feeling and almost a disruption of a

certain state society occurred a few years ago because a large number went from a certain town, packed the meeting, and elected their favorite as President. Such occurrences would be impossible if there were a small legislative body to transact the business of the association, made up of delegates elected by the county or district societies.

While the annual meetings are unrepresentative, they are, as a rule, too large to be able to deliberatively consider important questions. This is especially true in the larger states. Further, those who attend the meetings do so for scientific and social purposes; very few have the inclination to take part in, or will give time to medico-political discussions, or to the consideration of business or legislative problems. If such matters are brought before the meeting, there is always developed an impatience on account of time wasted, and thus important topics are not deliberatively considered but are acted on with undue haste; or, what is more common, they are not acted on at all but laid on the table or indefinitely postponed.

We are only repeating what everyone knows who has attended the average state society meeting. It is exactly the same condition, only in less degree, that has prevailed for years in the annual meetings of the American Medical Association, but which has been remedied by the creation of the House of Delegates.

Aside from the fact that in such meetings the necessary consideration of important business and medico-political matters are interfered with, the scientific and educational work is also greatly hindered. There is always some legislative work brought before the meetings; if nothing more there are usually some vexatious ethi troubles, besides business pertaining solely to the society itself, and the election of officers—the latter often no small consumer of time. The great majority of those present have only an indifferent interest in these matters; they have attended the session for scientific work and it is not just to ask all of them to waste their time in an interminable debate on matters in which they are not interested. In brief, the general meetings are unsatisfactory either as business bodies or as scientific gatherings; hence, neither one nor the other of these functions is properly exercised.

The Business Body.

It will no doubt be appreciated that when the American Medical Association recommends the division of the state society into two branches, it is really asking that there be created a small representative body which shall have full control of all business and legislative matters, the scientific work of the general annual meeting going on as now, although, it is hoped, improved in certain particulars. The business body should be as small as is consistent with fair representation, and while in some respects there may be much wisdom in a multitude of councilors, the disadvantages of an unwieldy body greatly exceeds the advantage of the little extra wisdom that may be obtained by large numbers. The smaller in reason a deliberate body is, the more effective it is for work. If possible, the membership of the legislative body of the State Society should not exceed 50 or 75. The difficulty to be met, however, is that there are more counties in the majority of states than this number and it is absolutely necessary that every county society have a representative. But it often happens that in many states a county in which there is a large city is liable to dominate the State Society. In these cases there is usually a jealousy or rivalry between the country and city. The little county society, the one to be most encouraged, is liable to feel that its influence is dwarfed by that of the larger. For these reasons and for the purpose of making the legislative body small, it would be well if in many states the apportionment of delegates might be made large, say one delegate to every 100 members or fraction of that number. In this case the small county society would have an abnormally large proportionate influence, but there would be no harm in this. If this ratio were adopted in Illinois, for instance, the Chicago Medical (Cook County) Society would be entitled to but 10 delegates and as there is no other county society in the State with a membership exceeding 100 and as there are 102 counties in the State, the business body of the Illinois Medical Society would consist of 111 members if every county were represented. The Chicago Medical Society might object, but as it will probably be found that in those counties in which there is a live active society there will be at least three-fourths of the regular profession of that county on its membership rolls, and as not one-third of the regular profession of Cook County belong to the Chicago Medical Society it might stimulate this body to do a little more active work in organizing the profession in its territory than it is now doing. At present it would have as much influence as 10 county societies. If it were built up as it should be and had three-fourths of the regular profession on its rolls it would have a representation equal to 25 or 30 counties, even with this high apportionment.

In Pennsylvania, which in a certain way has the county society plan and the business body separate from the scientific nominally, there would be under this apportionment three counties entitled to more than one delegate, namely, the Philadelphia County,[1] 8; Allegheny County, 4; and Lancaster County, 2. As there are 67 counties in the State the business body would be composed of 78 members, which would be sufficiently large to be representative.

It may be asked why it is necessary to create these business bodies now, why the methods of the past should not be allowed to continue. In reply it may be said: 1. In the past the majority of the state societies have been, to all intents and purposes, purely scientific bodies and, as such, they had no need of the proposed business branch. In the future it is expected that each state society will widen its scope of action, coöperate with other state societies, and assume all the functions which a body representing the profession of a state should assume. 2. While most of the state societies, in annual session, are now too large to calmly deliberate on the important questions that should and do come before it, yet in the future, if the recommendations of the American Medical Association are adopted, their membership and the number in attendance at the annual meetings will greatly increase. 3. A body assuming to pass judgment on matters affecting the profession of the whole state, and maintaining for itself the right to appear before a legislature in behalf of all the physicians of the commonwealth, or in any way claiming to be representative, should be composed only of men duly delegated to speak for those they assume to represent, and the method of their appointment should be such that even the most obscure reputable practitioner can have his part in their selection.

1. At the annual meeting of the Philadelphia County Medical Society, January 15 last, it elected 150 delegates to the Society of the State of Pennsylvania. The number from this county society of itself would make a body too large for deliberative work. What then must be the business body if every society in Pennsylvania should send its full quota?

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, FEBRUARY 22, 1902.

EXPERIMENTAL INVESTIGATIONS RELATING TO SURGICAL OPERATIONS.

Surgical anatomy, normal and pathological, has received and is receiving much attention. It occupies a conspicuous place in literature, almost overshadowing wholly what Crile calls surgical physiology, the importance of which from a surgical standpoint does not seem to be appreciated as much as desired. Yet it is very clear, even self-evident, that many surgical operations require ready and exact application of definite knowledge of human functions, gained to a large extent by animal experimentation. It is with this idea that George W. Crile of Cleveland has been carrying out a number of experimental researches bearing upon problems connected with surgical operations. A good example of the sort of work he is doing is furnished by the interesting essay from his pen printed elsewhere in this issue. Studies in the laboratory of various phenomena produced experimentally are made to yield conclusions of direct practical value in the operating room. The larger essay in which Crile records the results of his more extended work in this field was awarded the Alvarenga prize for 1901 of the College of Physicians of Philadelphia.[1] It may be of interest to briefly note the more important phases of Crile's work. The effects of dividing or mechanically irritating the vagus nerves naturally come up for consideration in various operations on the neck. It seems that the statements in the literature upon these points vary considerably. In his experiments on dogs Crile finds that mechanical irritation of the vagus nerve causes more or less slowing of the respiration and in most instances a rise in blood pressure. Sometimes an inhibitory effect was noted, but in no case was there complete inhibition of the heart, even when the vagi were mechanically destroyed. Division of one vagus has but little effect upon either respiration or circulation. Severance of both vagi causes rise of the blood pressure and increased frequency of the heart's action; while the respirations are lessened in number, the amplitude of the excursions is so much increased as to practically counterbalance the slowing. "The respiratory mechanism was much more affected than the circulatory, and exhibited early signs of exhaustion." Several clinical cases are cited in which a close correspondence was noted between the effects of necessary operative lesions of the human vagi and those mentioned in the foregoing, from which fact it is probably permissible to infer that the surgeon need not be deterred by fear of the disastrous effects of vagal irritation and division from executing various mutilating maneuvers necessary for hemostasis, complete removal of malignant tumors, etc.

A large series of experiments on dogs were made in order to study the effects of intravenous infusion of saline solution, and the results are discussed fully under various headings. The most important conclusions are that when blood pressure is lowered by a not too excessive hemorrhage, saline infusion promptly restores the lost pressure, but that when the vasomotor mechanism is destroyed infusion has no effect. If the peripheral resistance is lost from "shock" no amount of infusion is able to restore the lost pressure—infusion is without avail then because one of the necessary factors to establish blood pressure is removed. Between the two extremes here given, infusion is effective in proportion to the impairment of the vasomotor innervation. Crile's experiments and discussion of these weighty questions will interest greatly surgeons and others; the question is too broad for further notice at this time.

The physiologic action of cocain and eucain when injected into the tissues is considered also.[2] Among other interesting observations it is especially noteworthy that the injection of these substances into a nerve-trunk promptly "blocks" both afferent and efferent impulses. General anesthesia does not prevent the passage of afferent stimuli that may produce shock. Cocain or eucain applied upon the medulla or fourth ventricle suspends action of the respiratory center. The "blocking" action of cocain and eucain makes it possible to operate upon the extremities without pain and shock by injecting a one per cent. solution into the supplying nerve trunks—a method of signal value where general anesthesia is contra-indicated. Crile cites a number of interesting illustrative cases; perhaps the most striking are two amputations of the shoulder. Inhibitory reflex arrest of respiration and heart's action may follow manipulations of the pharynx and larynx; cocain or eucain applied to the mucous membrane wholly prevents such reflex inhibition ("laryngeal collapse"). From the fact that shock may be avoided because afferent impulses are blocked by cocain or eucain it may be permissible to suggest the use of these substances by intraneural or subarachnoid injection as preventives of "shock" in cases of crushing and other injuries that come under observation immediately after the accident.

In the last section of his essay Crile deals with the effect of temporary closure of the carotid arteries. The literature is reviewed and then the experimental and clinical observations are presented. In order to control hemorrhage in various operations upon the head and neck Crile recommends a preliminary injection of atropin (1/100 grain) in order to prevent possible inhibition

1. Problems Relating to Surgical Operations, Philadelphia, 1901.

2. See first article in this issue.

of the heart from involvement of the vagi; the temporary clamping of both common carotid arteries by means of a special device; to prevent entrance of the blood into the lungs the patient should be placed in the Trendelenburg posture; and in operations involving the pharynx or larynx the application of cocain to the mucous membrane. In this way operations of the head and neck may be rendered so much safer "as to greatly increase surgical possibilities."

The industry, ingenuity and judgment manifested in Crile's experimental study of surgical physiology and in the clinical application of the results seem to make the work outlined of much practical value and interest to surgeons. The researches illustrate well the great value of the experimental method in this special field.

ORGANO-THERAPY IN UREMIA.

Since the work of Bouchard showed so clearly the toxicity of the substances normally eliminated by the kidneys, and retained under conditions of renal insufficiency, other possible agencies in the production of the condition resulting from such renal insufficiency have been overshadowed and lost from view. Recent studies of the functions of the kidney that are other than eliminative lead to a reconsideration of the subject, and suggest that perhaps after all the retention of normal metabolic products is not the only factor, possibly not the chief one. That the kidney produces an internal secretion that is of further use within the body is scarcely to be doubted, *a priori*. Probably among the products of cell activity in every tissue are some substances that are available, if not essential for other tissue cells. In the kidney, however, the excretory function is so prominent that its other possible functions have escaped general observation, both in experimental and clinical studies.

The experiments which have demonstrated the importance of the "internal secretion" of the kidney are of two chief types. First, those in which the renal tissue is reduced to a minimum by operative procedures. Bradford[1] found that removal of two-thirds of the entire kidney substance in dogs did not cause death, but if three-fourths were removed death followed in one to six weeks through asthenia, but not from uremia as ordinarily manifested. When so little as one-half of one kidney remained the elimination of urine was normal both as to quantity and solids. In spite of the normal urea elimination in such cases a marked increase in nitrogenous extractives occurs in the tissues, especially in the muscles. As the amount of these substances is much greater than that resulting from simple urinary retention, and as there is much wasting of the tissues, Bradford suggests that on account of the absence of the internal secretion of the kidney there results a breaking down of the muscles and to a less extent of the other structures of the body.

Vitzou[2] has worked with the other method, which studies more directly the effect of the hypothetical internal secretion. He followed up the experiments of Brown-Sequard and d'Arsonval, who had showed that dilute extracts of renal substance prolonged the life of animals made uremic by double nephrectomy, and of Meyer, who found that the Cheyne-Stokes respiration of dogs under similar conditions was arrested by injections of renal juice, normal blood, or blood from the renal vein. Vitzou found that blood from the renal vein had striking effects on uremic animals. The symptoms were promptly stopped, and for a time the animal would appear quite normal. Repeating the injections whenever uremic symptoms returned prolonged the life of animals deprived of both kidneys, and which usually died in twenty-four to forty-six hours, to over one hundred hours, in one case to one hundred and sixty-four hours.

From these experiments it seems that the kidney turns into the blood some substance which seems to act as an antitoxin to some other unknown substance, which in turn is either toxic itself or acts, as Bradford thinks, by causing tissue waste. Organo-therapy in renal disease suggests itself at once as the natural outcome. It is significant that the form of nephritis associated with most marked uremic manifestations is the one in which there is the greatest loss of renal tissue, the chronic interstitial nephritis, and so the theoretical results obtain confirmation. A few trials of defibrinated blood from the renal vein of goats have been made in nephritics, and it is stated that amelioration of the symptoms followed. As yet such treatment is not generally practicable, and much more experimental data must be obtained, but the hope of aiding the otherwise hopeless nephritic should be sufficient incentive to much work along these lines.

1. Journal of Physiology, 1899, xxv, p. 18.
2. Jour. de Phys. et de Path. gén., 1901, iii, 901 and 926.

SKIN ERUPTIONS AND VISCERAL LESIONS.

One of the most interesting practical advances in our knowledge of disease in recent years has come from the gradual development of the doctrine that internal viscera are often affected by the same virus that causes cutaneous eruptions. Until within the last ten years it was the custom to consider skin diseases under ordinary circumstances independent of internal organic affections. The discovery that certain skin lesions such as peliosis and purpura were evidently of rheumatic origin and that even such ordinary skin diseases as roseola, urticaria, erythema and certain forms of herpes were so frequently associated with rheumatism as to be surely connected with it etiologically was the first definite advance in knowledge that pointed out the intimate relation of the skin to affections of organs deeper seated.

More recently Osler described various visceral complications that occur with erythema multiforme. At Heubner's clinic in Berlin it was noted that an intra-abdominal rub, probably due to the friction of slightly affected peritoneal surfaces of intestines upon each other, could be often felt in so seemingly superficial a skin affection as measles. Koplik's description of intra-oral spots in

this same disease probably points to the fact of a rather general involvement of the mucous membranes of the gastro-intestinal tract in the affection. In a word, it has become ever clearer and clearer that the skin seldom suffers alone in any disease and that lesions at least analogous to those on the skin occur in various internal organs during the course of cutaneous eruptions.

It is not surprising, then, that Van Harlingen[1] in a review of the recent literature as to the nature of herpes zoster admits that in a certain number of cases various visceral complications may accompany this form of herpes. These internal complications consist, so far as our present knowledge goes, mainly of paralyses of sensory or motor nerves, inflammations of the pleura and peritoneum, articular involvements, and occasionally visceral ailments analogous to the skin lesions. The later advances in our knowledge of herpes zoster, especially its frequently reported occurrence in groups in recent years so that it assumes something of the character of an epidemic, has prepared medical men for the acceptance of the doctrine that herpes zoster is a specific fever. It has, of course, the prodromal period of malaise, temperature and discomfort; then a characteristic eruption with remission of the symptoms and a definite course to run before cure is complete. Van Harlingen calls attention to Head's statistics of the recurrence of the disease, only four times in 400 patients, as probably indicating that one attack of zoster provides a modicum of protection against subsequent attacks. Admitting, then, that herpes zoster is a specific fever, it is to be expected that viscera would also be affected by the virus of the disease and another link in the chain connecting cutaneous affections with visceral lesions is complete.

Dr. Roland Curtin[2] has just presented a series of cases that seem to demonstrate the occurrence of visceral lesions in patients suffering from typical herpes zoster. In nearly one-half of his cases the internal pathologic condition preceded the cutaneous appearance of the zoster. In most of the others the developments, internal and external, seemed almost simultaneous. The joint involvement in one of his cases is especially interesting because it carries with it some confirmation of the theory that arthritic inflammatory conditions are usually not diathetic but specific in nature and origin. The trend of modern medical thought is evidently towards the acknowledgment of specific viruses as the most frequent cause of disease and the effects of each virus is not as distinctly localized as has been thought. Typhoid fever is not merely in the intestines, nor measles in the skin and external mucous membranes, nor rheumatism limited to serous membranes, any more than so-called skin diseases are confined to the cutaneous tissues. In all disorders specific affections of parts distant from the original localization may be looked for and they serve to explain many hitherto obscure symptoms.

1. Amer. Jour. Med. Sciences, January, 1902.
2. Amer. Jour. Med. Sciences, February, 1902.

EARLY DIAGNOSIS OF CERVICAL CANCER.

Much recent literature on cancer of the cervix, both European and American, has been a plea for earlier diagnosis in this common and deadly form of uterine disease. Under present conditions patients so often present themselves too late for operative relief that some hospital records show nearly as many cases turned away as are received. Even when operation affords some hope it is generally performed so late that the necessary extensive removal of tissue gives a very high primary mortality and in the immediately convalescent cases renders great the chance of recurrence. The figures presented by even the more hopeful writers are disheartening—the freedom from recurrence is calculated as not higher than 10 per cent. There is now little to expect in the way of improved technic, so, barring any discovery of a non-surgical cure, the only hope is in the earliest possible diagnosis.

Early diagnosis of cervical carcinoma rests clinically upon the investigation of even slight hemorrhages. The other classical symptoms of pain and odorous discharge mean, respectively, that the cancer has spread beyond the actual cervical tissue and that the diseased tissue has become secondarily infected. Gynecologists insist that the general practitioner has practically the only professional opportunity for early suspecting the diagnosis. He must suspect and immediately investigate every case where there is irregular bleeding before or after the menopause, occurring with or without irritation, such as coitus or douching. The early suspicion of a case is the prime necessity—investigation can then be carried out by clinical or laboratory examinations. However, the matter by no means rests entirely in the physician's hands, because he can not compel a woman to consult him about slight "bloody shows," more especially if the hemorrhages occur near the climacteric, which is popularly supposed to account for any irregular bleeding during a considerable period of years.

The duty of the family physician lies in educating women whose confidence he possesses, so that they may be insured as much as possible against the unrecognized inroads of cervical cancer. He should tactfully attempt the teaching of common-sense watchfulness with avoidance of hysterical worrying about the matter. To this end he must be willing to confidently assume the responsibility of declaring whether or not there is cause for alarm.

AN OBJECT LESSON IN ANTI-VACCINATION.

A Boston anti-vaccinationist crank recently exposed himself by deliberately visiting the isolation hospital and is now suffering from the effects of a severe attack of smallpox. Another, one of the two physicians in the city of Camden, N. J., who opposed vaccination, died the other day of the same disease. The Wisconsin anti-vaccination fanatic who deliberately exposed himself and others appears to have so far escaped, but the town where he lives is suffering from an epidemic which may

be largely due to his agency in disseminating the pest. It is a pity that he is apparently immune—perhaps by vaccination in infancy—not that one wishes to see him suffer, but because his escape is advertised by him as proof of his theories, and as a result the health officials are embarrassed or even hindered in their work in combating the epidemic. If his exposure had meant only danger to himself the case would be different, but his carrying the infection to others and his example and teaching are under the circumstances nothing less than criminal. It is said that in London where the present pandemic of smallpox is raging, there is, in view of the approaching coronation festivities, a panic among those who expected to share the profits from the crowds attracted by the occasion and that insurance companies are charging high rates for insurance against smallpox. The anti-vaccination propaganda has had its way so much in England that a very considerable proportion of the people are unprotected. In this country it has perhaps been less effective, but present conditions indicate that we are none too well off in this respect. If a few more of the blatant anti-vaccinationists would only furnish an object lesson like the eastern physicians mentioned it could perhaps be said that they did not suffer or die in vain.

IODOPHILIA.

Iodophilia is the reaction which certain leucocytes give when a dry blood-film is brought in contact with a solution of iodin and potassic iodid in mucilage of gum arabic. Normal leucocytes are colored bright yellow, but in certain pathological conditions, such as septicemia and uremia, the polymorphonuclears contain reddish-brown granules, or show a diffuse brownish coloration. Similarly colored larger and smaller masses may occur outside the corpuscles. The number and the grouping of the intracellular granules and masses may vary. They are mostly irregular in form. In their recent study of iodophilia Locke and Cabot[1] point out that Ehrlich first called the attention to the occurrence of iodophilia, especially in pus. Since then its occurrence in blood has been studied by Galritschefsky, Czerny, Lievierato, Goldberger and Weiss, and others. From their observations on over 400 cases Locke and Cabot conclude that extracellular brown masses are found in normal as well as pathologic blood, and that only large numbers are to be regarded as of pathologic significance. They are increased in diabetes and sometimes in chronic suppurations. But the intracellular masses are probably always pathologic, although they are not characteristic of any special disease or condition, being, however, most constant in sepsis and purulent infections. The authors claim that iodophilia is a certain sign that the patient is ill. It occurs also in bacterial toxemias, in uremia, in respiratory disturbances, and in grave anemias. Much work remains to be done before the exact significance and the actual diagnostic value of the test can be fully determined. The method of examination for iodophilia is very simple and the staining with the iodin solution does not at all prevent a more general examination of the blood at the same time. It does not seem that the nature of the substance or substances giving the reaction has been determined. Glycogen gives a similar reaction with iodin, and so does amyloid material. At the present time iodophilia may be classed with phenomena like leucocytosis, fever, and the diazo-reaction, as a sign of the presence of morbid processes within the body, and as such it would seem to merit careful investigation in routine examinations of the blood.

1. Journ. Medical Research, 1902, January, 25-43.

IOWA MEDICAL LAW AND OSTEOPATHY.

An Iowa judge has issued a mandamus writ compelling the State Board of Medical Examiners to grant certificates to graduates of an osteopathic school. The grounds for this action, as given, are apparently that osteopathy is excepted by the statute from the laws regulating the practice of medicine, that the Board of Examiners have no right to establish any minimum standard for schools of osteopathy, and that the standing of a school in good repute could not be estimated by the Board from its actual character, but only from the opinion of osteopaths and others in regard to it. It is a little puzzling to see why the statute should give the Board anything whatever to do with licensing osteopaths if the legislature did not really consider that they had something to do with the practice of medicine. The function of the Board is judicial throughout; it is not merely executive, and that it should be made so for the the benefit of the osteopaths alone does not seem reasonably within the intent of the legislators. The judge, it appears to us, has made a strained interpretation of the statute; he ignores the very obvious implication of the act in putting the licensing of the osteopaths in the hands of the Medical Examining Board. His ruling, moreover, that the osteopathy act conferred no special privileges and was therefore not unconstitutional because the study of osteopathy is open to everyone, seems unreasonable as here applied. The legislature might enact that no one should vote who is not an osteopath and, according to this judge's construction, it would be constitutional, because everyone is privileged to adopt that alleged profession. He would "know of no legal reason why every citizen of Iowa can not bring himself within the provision of the act in question and thus secure the privilege provided thereby." He would probably find some precedent for this, but not in recent American law. His decision is, as far as it can be, a practice annulment of the medical laws of Iowa. It is to be hoped that it is not a final adjudication of the matter. If it is, it becomes the duty of the medical profession of Iowa to exercise their influence and see that legislation is secured that will not be possible to misconstrue in favor of ignorance. That they can do it, if they earnestly work for it, need not be questioned. But our inactivity in the past has led the lower grade of politicians—and among these we too often have to include the elective judges—to court the favor of blatant quacks and count for nothing the influence of educated physicians. It is time they were taught better.

MOSQUITOES AND MALARIA.

The mosquito has long been suspected of being a factor in the production of malaria, and during the past seven

years scientific methods have been employed by investigators in different malarious countries to determine whether this suspicion were true. The proof that the mosquito is an essential factor in the production and spread of malaria is now sufficiently conclusive to satisfy all biologists and physicians who have closely followed the publications upon the subject. The argument is still advanced by the laity, and even by some members of the medical profession that malaria can not be caused by mosquitoes because mosquitoes are abundant in many places where malaria does not prevail. Not all mosquitoes are carriers of malarial infection, but only those belonging to the genus anopheles. While it is true that anopheles are present in all places where malaria is rife, it is also a fact that anopheles may be and are present where there is no malaria. Anopheles are harmless unless they bite a person with malarial parasites in his blood. In the middle intestine of the infected mosquito sporoblastic forms of the parasite develop and from these there arise sporozoites which accumulate in the salivary glands and are again deposited in man's body when he is bitten by the insect. It follows then that both man infected with malaria, and anopheles are essential for the propagation of malaria. Celli, one of the accepted authorities upon the subject, says: "Down to the present time (1900) the hereditary transmission of malaria from mosquito to mosquito has not been demonstrated experimentally or morphologically." The inoculation of man through the proboscis of the mosquito at the time of the bite of the insect is the only way in which malaria has been proven to be naturally produced. In northern countries, where malaria is not endemic, anopheles have been found by various observers to be quite widely distributed, and they may become infected at any time if a person with malaria is introduced from without. This might occur if a soldier or other person who carries the malarial plasmodium in his blood, returns to his home after living in a malarious country. It is said that every case of malaria investigated by the Massachusetts State Board of Health during the past ten years has been traced to the presence in the neighborhood of Italian laborers. The mosquito must, therefore, be considered as only one of the essential factors in the spread of malaria, and in the effort to eradicate the disease the protection of the mosquito from infection from man is of almost equal importance with the protection of man from the bite of the infected insect.

Medical News.

CALIFORNIA.

For failure to notify the authorities that he had smallpox Dr. Malcolm K. McKenzie was removed from the Kern City Board of Health.

Another Medical College.—Physicians interested in starting a medical college in Oakland have secured $3000 toward the building fund, and state that on April 1 work on the new building will be commenced.

Club Practice.—Sacramento Fraternal Hospital Association was incorporated, February 5. Its object is to give members of fraternal orders and their families, and any other who may wish to purchase stock, medical care at reasonable rates.

New Hospital in Oakland.—The Catholic Sisters of Providence have purchased for $12,000 a site 350 by 221 feet whereon they will erect a hospital which will afford clinical facilities to the Oakland College of Physicians and Surgeons.

Expectoration Ordinance Enforced.—More than fifty citizens of San Francisco were arrested for spitting on sidewalks in violation of the ordinance prohibiting expectoration in public places. Since the ordinance was passed in 1897, it has been enforced only once, and then the offender was fined $5, and on a second offense was sent to jail for twenty-four hours.

DISTRICT OF COLUMBIA.

Marine-Hospital Appointment.—Dr. Francis A. Ashford, son of the late Dr. F. A. Ashford, has been appointed resident physician at the marine-hospital at Chelsea, Mass.

Senate Confirms Rixey's Appointment.—The Senate has confirmed the nomination of Medical Inspector Presley M. Rixey, U. S. Navy, to be Chief of the Bureau of Medicine and Surgery in the Navy Department, with the rank of rear admiral. Surgeon-General Rixey succeeds Surgeon-General Van Reypen, just retired.

Health of the District.—The report of the health officer for the week ended February 8 shows the total number of deaths to have been 110, of which 59 were white and 51 colored; the death-rate per 1000 for the whites was 15.1 per cent. and for the colored 29.5. There were 4 cases of smallpox, 38 of diphtheria, and 27 of scarlet fever.

Vacancies in Army Medical Service.—Examination of applicants for appointment as assistant surgeons in the army will be resumed by the Medical Board in Washington, on April 7. The Board will remain in session until all the vacancies are filled. Full information concerning the nature and scope of the examination will be furnished on application to the Surgeon-General of the Army, Dr. George M. Sternberg. At present there are sixty-three vacancies in the medical corps.

To Regulate Surgery in the Navy.—The Secretary of the Navy has rendered an opinion on the question involving the rights of officers and men of the Navy in the matter of submission to surgical operations decided by the medical officers to be necessary for restoration to health and duty. The question arose from an inquiry by Surgeon O. D. Norton of the *Monadnock* for information as to the authority of medical officers in such cases. The Secretary rules as follows:

> While the Department will not undertake to lay down as a general rule that a man must, particularly in cases involving risk of life or loss of limb, submit to a surgical operation, it can not, on the other hand, accept the opinion of the junior squadron commander on the Asiatic Station that it is optional with the man concerned whether or not he shall submit to such an operation in the course of medical treatment. By a judicious application of the principles set forth in an endorsement of the Bureau of Medicine and Surgery, friction in the cases of the character therein referred to will probably be avoided. In ordinary cases, when, in the opinion of the medical officer, after consultation, if advisable, with other surgeons available, it is deemed necessary, in order to restore a man to his capacity for the performance of his duties, that a minor surgical operation be made upon him, he can be required to undergo the same, under the penalty of punishment, as a sentence of court-martial, in the case of his refusal to submit thereto. If the particular case under consideration was of this character, disciplinary action would have been proper upon the report, made to the commanding officer of the *Monadnock*, by the surgeon, of the private's disobedience of orders.

ILLINOIS.

New Cottage Hospital Opened.—The patients were transferred from the old into the new Cottage Hospital, Peoria, February 3.

Julia F. Burnham Hospital, Champaign, has received $2000 bequeathed by the late Mary Ida Harris, to which her father, B. F. Harris, has added $1000 as his personal contribution.

Semi-Centenary of Practice.—Dr. Clinton Helm, Rockford, who will complete his 50th year of practice this month, has been tendered a banquet by the Winnebago County Medical Society, February 25.

Hospital for Incurable Insane.—The State Hospital for the Incurable Insane at Bartonville, near Peoria, was formally opened February 10, and 100 patients from the Jacksonville hospital were installed in their new home.

Chicago.

The Bridewell Clinic.—Dr. Heman Spalding suggests that a staff of internes be assigned to the Bridewell and that that institution be made use of as a place of clinical study. Medical classes should be taken out there and receive instruction through actual work.

Chicago Eye, Ear, Nose and Throat College.—The faculty held its annual meeting February 10. The following were

named as Board of Directors for the ensuing years: Drs. William A. Fisher, president; Adolphus G. Wippern, vice-president; John R. Hoffman, secretary; Thomas Faith, and Harry W. Woodruff.

Reforms at Dunning.—The County Commissioners are planning many reforms at the county institutions, which include a reorganization and enlargement of the medical staff, relief of the overcrowded condition of the hospital for the insane, and eventually the erection of a series of cottages to replace the present building.

Northwestern University Medical School.—The faculty has set aside the week of June 16 as "alumni week." There will be general and special clinics of all kinds, private operations, ward visits, ward walks; men of international reputation will hold clinics at Mercy and Wesley Hospitals, and the alumni will be given special opportunity to see and study cases, for which they express a desire. It will be a week of concentrated post-graduate work. The social side of the week will consist of the banquet, small luncheons and dinners, receptions by the wives of the faculty, etc.

New Mercy Hospital Amphitheater.—The new clinical amphitheater in Mercy Hospital was dedicated, February 12, under the auspices of the Chicago Medical Society. Dr. John B. Deaver, of Philadelphia, made an eloquent address, eulogizing the hospital as a sign of the great strides by which science is advancing. The occasion was made further notable by the graduation of fourteen nurses from the training school. Dr. John H. Hollister presented the diplomas with words of wise counsel and hearty well-wishing. The introductory addresses by Prof. Robert D. Sneppard and Dr. Nathan S. Davis, Jr., were of a historical character. This fine amphitheater has been built at the expense of Northwestern University at a cost of $25,000. It is beautifully finished and well equipped. The following morning the first clinic in the building was held by Dr. Deaver, who performed an operation upon the gall-bladder and an appendectomy.

INDIAN TERRITORY.

Mayor Ejected from Territory.—For refusing to comply with the law requiring physicians to receive certificates from the Choctaw Board of Health, before practicing medicine, Dr. W. A. Abbott, mayor of McAlester, has been removed from the territory and escorted to Oklahoma City by the chief of police.

Health Ordinance.—The city of Muskogee has passed an "ordinance to protect the inhabitants of the city from the evils of malignant, infectious and contagious diseases." The ordinance provides for compulsory vaccination, fumigation and disinfection of persons and premises and for the issuance of such rules as may be deemed necessary for the public safety.

Medical Boards.—The Choctaw Medical Board has notified physicians in the Going Snake, Tahlequah and Illinois districts to present themselves at Fort Gibson to be examined as to their professional qualifications.——The Creek Medical Examining Board has ruled that graduates of reputable schools may obtain licenses by presenting their diplomas and paying a fee of $5, but non-graduates must appear before the board and pay $25 for examination.

IOWA.

Certificate Revoked.—The State Board of Health has revoked the license of Dr. Samuel C. Kirby, Grand Junction, after a three-days' trial, for incompetency. Dr. Kirby's fine for breaking quarantine last summer was noted in last week's Journal.

The Board's Ultimatum.—At a meeting of the State Board of Health, February 8, a resolution was adopted giving the local authorities of Des Moines 17 days to demonstrate their ability to deal with the smallpox situation. In the event of their failure successfully to do this, the board will convene in special session to take such action as may be thought best for the public health.

Public Gatherings Prohibited.—The city fathers of Des Moines have at last become aroused to the fact that the public health is in danger from smallpox, and has ordered all churches, theaters, lodges and other public gatherings prohibited during the prevalence of the disease. It has also ordered "that the city clerk notify all schools, and private parochial colleges, to prohibit the attendance of all pupils who are unable to show vaccination certificates from some reputable physician. Also that the managers of hotels, boarding-houses, business houses, or stores be requested to require employes to show vaccination certificates." Orders were given to employ 100 officers to establish a perfect quarantine over the 180 infected houses, and to employ as many physicians as the city physician desires to aid him in enforcing immediate general vaccination.

MARYLAND.

Deaths in Baltimore.—For the week ended February 15, the deaths were 232, the largest number being from pneumonia, namely 27.

The Woman's Medical College, Baltimore, celebrated its twentieth anniversary, February 22. Addresses were delivered by Drs. Louise Erich, W. Milton Lewis, W. F. Skillman, Henry Lee Smith, Henry P. Hynson and Francis M. Chisolm.

Annapolis Hospital.—A meeting was held at Annapolis, February 9, to consider the subject of establishing a hospital there. A board of lady managers was selected, and it was decided to erect a hospital to be called the "Emergency Hospital." A number of accidents have occurred which could be treated only after being taken by railroad to Baltimore.

Detention Hospital.—Health Commissioner Bosley has secured an old building on North Street, Baltimore, as a place of detention for smallpox cases until they can be sent to the Quarantine Hospital. The building is being comfortably equipped and furnished. The commissioner's action was made necessary by the mayor having forbidden suspects to be kept at the City Hall annex.

Results of November Examination.—The statistics of the last state medical examination, November 6 to 9, have been made public. There were 30 applicants, 2 of whom withdrew, of the other 28, 23 received an average of 75 and passed and 5 failed. The highest percentage, 94 1/3, was attained by a colored graduate of Rush Medical College. The 3 women who came up for examination, passed.

Gift to Johns Hopkins University.—The friends of the Johns Hopkins University have been gratified by the present to that institution by a number of public-spirited and wealthy citizens of Baltimore of a large tract of land in the northern suburbs sufficient for the growth and development of the University for a long time to come. Thither the university will be removed as soon as suitable buildings can be provided.

Souvenir for Dr. Gilman.—The alumni of Johns Hopkins University are preparing a unique gift for Ex-President Gilman, namely a handsomely bound book containing the autograph of every graduate of the institution. The silver jubilee of the University was held on February 21 and 22. A general reception was held on the evening of the first day, and the alumni held their meeting on the following evening. The laboratories and hospital were thrown open to visitors.

Personal.—Dr. Henry J. Berkley, clinical professor of psychiatry at the Johns Hopkins Medical School and author of a work upon that subject, has met with an accident which will probably cost him the sight of one eye. While working on an instrument in a shop in Baltimore, a piece of steel flew into the eye, injuring seriously the iris and cornea.——Dr. S. S. Maynard has been elected physician of Montevue Hospital for the Insane at Frederick.——Dr. William W. Goldsborough, a member of the legislature, will begin next month the publication of the *Caroline Sun*, at Ridgely, Caroline County.

Maryland Woman's Quarter Club.—As the result of the public meeting held at the Johns Hopkins University, January 28, and the statement of Dr. William Osler then made, that the neglect of the 10,000 consumptives in Baltimore is a disgrace to the city, an association has been formed, called the Maryland Woman's Quarter Club, whose purpose is the raising of funds to build a sanatorium for consumptives. The club was incorporated February 14, and as the name implies, 25-cent subscriptions will be asked for. A thousand subscription books have been printed and circulated, each containing 20 coupons, and these coupons are to be given in receipt for the subscriptions. Mrs. Robert Garrett has consented to act as treasurer for larger amounts, and everything indicates a great success. The purpose is to erect a state sanatorium in the mountains of Maryland, from which the greatest benefits may be expected.

MICHIGAN.

Harper Hospital, Detroit, receives $10,000 bequeathed to it by the late Gen. John E. King.

Health Appropriations.—The health commission of Detroit has made its estimates for 1902-1903. It asks for $38,638, or $2893 more than it asked for last year. Of the amount asked for, $5000 is to be used in the conduct of a careful quarantine system.

Battle Creek Sanatorium Burned.—The Battle Creek Sanatorium, with its five-story hospital, annexes and conservatories, was burned just before daylight, February 18. More than 350 patients and 100 physicians, nurses and servants were sleeping in the building, but thanks to the presence of mind of the employes and the excellent fire escapes, only one death resulted. The property loss will be about $500,000, on which there is about $100,000 insurance.

Comparative Morbidity.—For January, compared with the preceding month, pneumonia and measles were more prevalent; and typhoid fever, intermittent fever, diphtheria and cerebrospinal meningitis were less prevalent. Compared with the average for January in the 10 preceding years, scarlet fever, smallpox and measles were more than usually prevalent; and influenza, consumption, intermittent fever, remittent fever, diphtheria and cerebrospinal meningitis were less than usually prevalent.

Alger Not Entitled to Practice.—In reply to the allegation of a homeopathic member of the State Medical Examining Board that Dr. Warren W. Alger was a competent physician and had failed to pass the board's examination by only 10 points, Dr. Beverly D. Harison, secretary of the board, states that W. W. Alger failed to pass two examinations, receiving respectively 60 and 53, the passing percentage being 75; that he is a graduate of the Independent Medical College, a diploma mill, Chicago, and that, not being legally registered under the medical act of 1883, his application for registration under the present act was refused.

Mortality of Michigan.—There were 2824 deaths returned to the Department of State for January, an increase of 54 deaths over the number returned for the preceding month. The death-rate was 13.5 per 1000 population, the same as for December. There were 442 deaths of infants under 1 year of age, 197 deaths of children aged 1 to 4 years, inclusive, and 910 deaths of persons aged 65 years and over. Important causes of death were as follows: tuberculosis, 200; typhoid fever, 45; diphtheria, 39; scarlet fever, 34; measles, 24; whooping cough, 19; pneumonia, 378; influenza, 64; cancer, 125; accidents and violence, 147. There was a slight increase in the number of deaths from pulmonary tuberculosis and pneumonia, and a considerable decrease in the mortality from diphtheria, as compared with the preceding month.

MISSOURI.

Leper's Keeper Resigns.—Dr. Louis Knapp, St. Louis, who five month's ago renounced the world to become nurse and attendant to Dong Gong, the Chinese leper, has found isolation irksome, and has resigned. He will be replaced by a veteran quarantine nurse.

Enlarge State Hospitals.—Two wings to the main building at State Hospital for the Insane, No. 2, at St. Joseph, are to be erected at a cost of $25,000. State Hospital, No. 3, at Nevada, is to have a new wing to the west of the present building, to cost also $25,000.

Banquet in Honor of Dr. Gregory.—The medical profession of St. Louis, under the auspices of the St. Louis Medical Society, will give a testimonial banquet to Dr. Elisha H. Gregory, who for fifty years has been an active teacher of medicine, probably longer than any other man living. The banquet will be held at the Planters' House on April 17. A large number of guests will be invited, including all the ex-presidents of the American Medical Association, out of compliment to Dr. Gregory, who was president of the Association in 1886-1887. A committee composed of Drs. F. J. Lutz, N. B. Carson, J. P. Bryson, C. H. Hughes, W. B. Outten and H. W. Loeb, has the matter in charge.

Finding of the Tetanus Court.—As a result of the investigation to fix the responsibility for the 13 deaths from tetanus following the injection of anti-diphtheric serum in St. Louis, the committee, consisting of the Board of Health and a committee from the city council made the following report:

Pursuant to the resolution adopted by the Board of Health on Nov. 25, 1901, in reference to investigating the responsibility of the Health Department as charged in the coroner's verdict in regard to the deaths from the use of diphtheria antitoxin, prepared and distributed gratuitously by the city, the board, after having made, jointly with a committee of the city council, a searching and complete investigation of the matter, does find:

1. That the diphtheria antitoxin heretofore issued by the city was prepared, bottled and distributed by and under the supervision of Dr. Amand Ravold, who was employed by the Health Commissioner, with the approval of the Board of Health, in 1894, as consulting bacteriologist, and to have charge of the preparation and distribution of diphtheria antitoxin, and that he was responsible for the quality of material so prepared and distributed.

2. That a horse kept by the city under the supervision of Dr. Ravold, as a producer of diphtheria antitoxin serum, was bled by him Sept. 29, 1901, and on October 2 was found to have tetanus and was killed.

3. From Dr. Amand Ravold's testimony, the poisonous character of the serum from this bleeding of September 29 was known to him, but he failed to cause the serum to be destroyed.

4. That, owing to this inexcusable negligence, the poisonous serum was, in part, bottled and issued to physicians between October 10 and 23, with the deplorable results which instigated the coroner's investigation.

5. That the bottling of the serum proven to be poisonous was done by Henry Taylor, who was janitor of the City Chemist's office, and assistant, at the time, to Dr. Ravold in the work of preparing the serum for issuance.

6. That it does not appear that Henry Taylor was aware of the poisonous character of the serum at the time, but that his course is reprehensible in that he obscured and retarded the investigation by conflicting statements under oath.

In view of the foregoing finding, the board recommends that Dr. Amand Ravold and Henry Taylor be dismissed from the service of the Health Department. And the board further recommends that the city do not hereafter manufacture diphtheria antitoxin.

NEW YORK.

Opening of Syracuse Hospital.—The reconstructed Hospital of the Good Shepherd, Syracuse, was formally opened, February 4. The president announced that William B. Cogswell had given $100,000 to the hospital and had also loaned the institution $100,000 without interest during his lifetime.

Personal.—Dr. Henry L. Elsner, Syracuse, addressed the medical section of the Buffalo Academy of Medicine on "Pneumococcic Cardiac Toxemia and Its Treatment." He was entertained at dinner by Dr. Julius Ullman.——Dr. Charles G. Stockton and wife, Buffalo, sailed for Europe on the S. S. *Celtic*. They expect to go to Egypt by way of the Mediterranean and will return about the middle of April.——Dr. John Byrne, of Brooklyn, and his wife, overcome with grief at the death of seven of their children from consumption, have left their old home in Clinton Street, and have gone to Europe for an indefinite period.

Compulsory Vaccination.—Apropos of the announcement that there are many new cases of smallpox in New York City, comes word that a bill is now before the legislature, making vaccination compulsory. It provides that local boards of health shall enforce the law regarding vaccination in the case of all policemen, firemen, school-teachers and public officers generally; that no person is to be admitted to the National Guard without a certificate of having been successfully vaccinated within five years, and that no firm or corporation employing more than ten persons shall have in their employ anyone who has not been vaccinated within five years. Violation of these provisions is made a misdemeanor, punishable by a fine of not less than $50 or more than $100.

State Cancer Laboratory.—The new state laboratory for the investigation of cancer in Buffalo has been removed into the building donated through the generosity of Mrs. Gratwick. It is a three-story fireproof structure located on High Street, directly opposite the General Hospital. The first floor has a large laboratory and several private laboratories. The second floor has offices, a library, the private laboratory of Dr. Gaylord and the chemical laboratories. The third floor has the bacteriological laboratory, incubation room, a perfectly equipped room with skylight for photography and its dark room, and another room for microphotography. The lighting of all the laboratories is perfect, and they are all fitted with modern appliances. Dr. Gaylord and his associates are to be congratulated on their new home, and New York State may well feel proud of giving its support to scientific research work. The community and the medical profession owe Dr. Roswell Park gratitude, as he was the one who first undertook the establishment of this institution.

Amalgamation of Medical Organizations.—The New York State Medical Association, on February 7, passed the following resolution, appointing a committee on conference: "Whereas, the Medical Society of the State of New York, having appointed a committee to confer with a similar committee from the New York State Medical Association, with the view to a union of the two organizations, and notice of such creation of a committee having been officially given to our President, together with a request that a corresponding committee be appointed by us; therefore, be it resolved that this Council (the executive board of the Association) appoint for the purpose of the conference in question, a committee of five, consisting of Dr. E. Eliot Harris as chairman, and Drs. William H. Biggam, Emil Mayer, Parker Syms, and Frederick Holme Wiggin, to which committee the President is added as a member ex-officio." The committee representing the Medical Society of the State

of New York consists of Dr. Abraham Jacobi, New York; Dr. Albert Vander Veer, Albany; Dr. Abel M. Phelps, New York; and Dr. George R. Fowler, Brooklyn.

New York City.

St. Catherine's Hospital, Brooklyn, at its annual election selected the following officers for its medical board: Dr. Ferdinand G. Kneer, New York, president; Dr. Peter G. Hughes, Brooklyn, vice-president; Dr. Maurice Enright, Brooklyn, secretary, and Drs. Matthias Figueria, Kneer and Enright, executive committee. Separate tuberculosis pavilions are to be added to the hospital this year.

German Hospital Prospers.—During 1901, 3398 patients were treated at this institution, of whom 2695 were non-paying. In the dispensary 21,504 patients were treated in 63,274 visits. The new building, which brings up the capacity of the hospital to 245 beds, was completed in December. Four of the five stories of the building have been dedicated to the memory of deceased friends on payment of $25,000 per floor. Dr. Florian Krug was elected to the medical board in place of Dr. Otto G. T. Kiliani.

New Site for the Woman's Hospital.—Although an option was held on property fronting on Amsterdam Avenue between 109th and 110th Streets, it is now announced that a plot of ground situated in this block, but 200 feet from the avenue, has been purchased by the hospital. There is a frontage of 300 feet on each street, so that 60,000 square feet of space is at the disposal of the architect. The trustees are said to have paid nearly $250,000 for the land, but as they will receive $450,000 for their present site, there will be a handsome balance toward the building fund. The building is to be five or six stories high.

PENNSYLVANIA.

Osteopath Held.—An osteopath of Meadville, arrested on the charge of practicing medicine without a license, has been bound over to the Quarter Sessions Court in $1000 bail.

Homestead Water Condemned.—At a meeting of the local society, February 6, the water supply of Homestead was condemned and a committee consisting of Drs. John Purman, Elmer E. Wible and Edward H. Wood appointed to examine and prepare a report on the subject.

Norristown Hospital vs. Philadelphia County.—In the suit of the trustees of the State Hospital for the Insane at Norristown against the County of Philadelphia to recover for board, clothing and treatment for indigent insane during 1896, a verdict was rendered in favor of the plaintiff for $67,508.

St. Vincent's Hospital, Erie.—At the annual meeting of the trustees, Dr. Chester W. Stranahan was elected consulting physician; Drs. Frank A. Walsh, Thomas Purcell, Charles A. O'Dea and Wallace R. Hunter were elected assistant physicians, and Drs. James H. Delaney and B. D. Schlaudecker, specialist. The bequest of $6000 to the hospital by the late Ada A. Mehl has been cut down by order of the Orphans' Court to $1503.

Philadelphia.

The Philadelphia Neurological Society will hold a meeting, February 25, 8:15 p m. Dr. Adolph Meyer, director of the Pathological Institute for the New York State Hospitals will, by invitation, deliver an address entitled "Conditions for Psychiatric Research." Members of the profession are cordially invited to attend. After the address a reception will be tendered Dr. Meyer at the University Club.

Nathan Lewis Hatfield Prize for Original Research in Medicine.—The College of Physicians of Philadelphia announces that the sum of $500 will be awarded to the author of the best essay in competition for the above prize on the subject "The Relation between Chronic Suppurative Processes and Forms of Anemia." Essays must be submitted on or before March 1, 1903. The competition is open to members of the medical profession and men of science in the United States. Address for particulars, J. C. Wilson, M.D., 219 South 13th Street, Philadelphia.

Quarantine to Be Raised.—Dr. John V. Shoemaker, president of the Department of Charities, has recommended to the Department of Public Safety that quarantine, where established in the city, be raised, and that its practice be discontinued. He considers fumigation, sunshine and plenty of fresh air much more effectual as remedies than the close and continuous quarantining of houses. Dr. Shoemaker cites the fact that London some time since gave up quarantining, and that large cities in this country are beginning to recognize the greater efficiency of fumigation.

New Hospital for Jefferson.—Plans are nearing completion by the trustees of Jefferson Medical College by which a new hospital will be built soon. It is proposed to construct a fireproof, seven-story building, fronting on 10th Street, including the site of the old college. There will be space for 250 to 275 beds. Provision will be made for equipment for treatment by the most modern methods. A gymnasium will be provided for the treatment of deformities; sun-parlors will communicate with each ward, and a roof garden will cover the entire building. Provision is made for the J. M. Da Costa Clinical Laboratory and Amphitheater, which will be a gift to the institution from the alumni and friends of Dr. Da Costa.

Medical Laboratories.—The trustees of the University of Pennsylvania have contracted for the erection of medical laboratories, which, it is claimed, will be the largest and most complete in the United States. It is proposed to expend $600,000 upon the building and equipment. Half the sum, including a recent gift of $75,000, is now in hand. The building will be 245 by 340 feet, and two stories in height. It is to contain amphitheaters, demonstration rooms, and physiological, pharmaco-dynamic, pathological and histological laboratories. An unusual quantity of glass will be used in providing for lighting, and the halls, corridors, and stairways will have floors and wainscoting of marble.

Typhoid Fever and Smallpox Situation.—The typhoid fever and smallpox situation showed improvement last week. Of the former there were in the city 154 new cases, of the latter 75. A committee of experts, consisting of Drs. Shoemaker, Tyson, Hare, Henry and Anders recently submitted a report, regarding the quarantining of smallpox, to the Department of Public Safety. The suggestions, which are as follows, were adopted by the department: That as soon as a case of smallpox be diagnosed the patient be sent to the municipal hospital; that the house from which the patient is removed be thoroughly disinfected; that as soon as the inmates of the premises are vaccinated, they be given their liberty. Strict quarantining of the inmates for 18 days has previously been observed. Much, perhaps the whole of the city, is to be recanvassed by the special vaccine corps; lodging-house inmates are being vaccinated at night. The smallpox epidemic will probably cost the city $500,000.

Money for Hospitals.—By the will of the late J. Alfred Kay, the following institutions receive $5,000 each: Pennsylvania Hospital, Germantown Hospital, University Hospital, Jefferson Hospital, Orthopedic Hospital and Polyclinic Hospital, for the purposes of endowing free beds in each institution in memory of Mary Kay. With certain provisions regarding the death of a niece, to whom is left the net income of the balance of the estate, in case she dies without issue, the residuary estate, less $15,000, is to be equally divided among the hospitals already mentioned. Of this amount, $11,000 will be divided in portions of $1000 each among the following hospitals: St. Agnes' Hospital, St. Joseph's Hospital, Jewish Hospital, Presbyterian Hospital, Philadelphia Dispensary, German Hospital, Gynecean Hospital, Howard Hospital and Infirmary, Medico-Chirurgical Hospital, Church Home for Children, and Children's Hospital. Germantown Hospital has received a bequest of $1000 by the will of the late Katharine P. Bockius.

Personal.—Drs. J. W. Kline, J. A. Davis, Aaron G. Miller and E. L. Kiesel have been elected to the medical staff of the German Hospital.——The Department of Charities and Corrections has appointed the following outdoor physicians: Drs. Daniel A. Modell, W. E. Morgan, J. Winslow Longfellow and William H. Semple.——Dr. Sherborne W. Dougherty has been appointed medical inspector in the Philadelphia postoffice, succeeding Dr. James B. Harmer.——Dr. Jonathan C. Biddle has been re-elected superintendent and chief surgeon of the State Hospital for Injured Persons, Fountain Springs.——Through a private letter it is learned that Dr. Keen, ex-president of the American Medical Association, and daughters, have reached Benares, on their way around the world. They started on the journey traveling westward, after attending the Association meeting at St. Paul last June. While in Burmah Dr. Keen had the misfortune to suffer a fracture of the clavicle, from which he had nearly recovered on last reports.——Dr. George E. de Schweinitz, professor of ophthalmology in Jefferson Medical College, has recently been elected to the chair of ophthalmology in the University of Pennsylvania, made vacant by the death of Professor Norris a few months ago. It is reported that Dr. de Schweinitz will accept the new position. He will thereby return to his alma mater.

GENERAL.

The Woman's Medical Journal.—This journal enters on its twelfth volume with the January number in an entirely new form and general "get up." It bears every evidence of prosperity and of the fact that it is well managed both from the business and editorial side.

Liberal Prizes by a Pharmaceutical Firm.—Cash awards are being offered by the Maltine Company, Brooklyn, N. Y., for the two best essays on preventive medicine. The liberality of the prizes, $1000 for the first and $500 for the second, will, no doubt, bring meritorious articles into the competition. While the firm does not so state, it is assumed that the essays will be published and presented to the profession, thus doing good generally. The three judges are well-known and reputable physicians. One of the restrictions governing the competition is that no mention of the preparation in which the house is interested be made, either directly or indirectly.

CANADA.

Personals.—Dr. A. D. McIntyre has been appointed house surgeon at the Kingston General Hospital to succeed Dr. Grimshaw, who has gone to England for a post-graduate course.——Dr. J. R. Lancaster, who has been practicing at Tilsonburg, Ont., for the past seven years, has been appointed house surgeon at Grace Hospital, Toronto.

Dr. J. A. Fife, one of the oldest practitioners of Peterboro, Ont., died there on the morning of February 12. Dr. Fife was born in the County of Peterboro in 1838 and received his medical education at the Toronto School of Medicine and his degree from Victoria University, Toronto. Subsequently he took a post-graduate course at Bellevue. During the American Civil war he served for two years in the Northern navy as surgeon.

Toronto University's New Medical Building.—Dr. R. A. Reeve, Dean of the Medical Faculty of Toronto University, headed a deputation to the Ontario Government during the past week with a view to obtaining a grant of $50,000 toward the proposed new physiologic building which it is proposed to erect in the Queen's Park along with the other university buildings. The estimated cost of the new building is $125,000 and it is proposed that the Arts Department carry one-third of the expense, hence the appeal to the government.

The Efficacy of Vaccination.—According to Dr. J. E. Laberge, of the Contagious Diseases Hospital, Montreal, the efficacy of vaccination as a preventive of smallpox has been abundantly proven within the last year in that city. Since May last there have been in the City of Montreal Contagious Diseases Hospital 240 cases of smallpox, and in no instance had a single patient been vaccinated. In addition to these there was a staff of eighteen persons, physicians and nurses, who for these months have been in daily and hourly contact with these smallpox patients, but not one of them has ever contracted the disease. The order issued to municipalities throughout the province of Quebec has been fairly well obeyed, and three hundred and forty-seven municipalities have so far adopted the prescribed by-law with regard to general vaccination with its accompanying fines for non-fulfillment of same.

Insanity Increasing in Ontario.—The Inspector of Insane Asylums in Ontario has reported to the government that on September 30 last there were resident in the asylums of the province no less than 4604 patients. In 1890 the number was 3318. The respective population of the various asylums of the province is as follows: Toronto, 724; London, 1034; Kingston, 509; Hamilton, 1029; Mimico, 605; Brockville, 613. In comparing the relative increase of insanity with the increase in population since 1861 the report states that in that year there were in the province 1631 lunatics in government institutions and that the total population was 1,396,091, while in 1901 there were insane and idiots to the amount of 5880 when the population was 2,182,942. The population has increased in forty years at the rate of 56 per cent., while the insane and idiotic officially known have increased at the rate of 260 per cent. The ratio of insane to population in 1861 was as one to 856; in 1901, as one to 371.

Capsular Nephrotomy at the Toronto Clinical Society.—The Toronto Clinical Society held its regular meeting on the evening of February 5. A case of capsular nephrotomy was reported by Dr. W. P. Caven and Dr. George A. Peters; a second by Dr. Primrose, who had operated on his own case. Dr. Caven gave a detailed history of his case: A. W., a male, aged 34 years, who had suffered from migraine since childhood. In the summer of 1899 he was first told that he had Bright's disease. His kidneys were considered to be sound in 1892 when he had been passed for life insurance. In 1896 he had a great deal of worry, and traces the commencement of his ill-health from that time. When he came under the observation of Dr Caven a diagnosis of Bright's disease was made. The quantity of urine passed in the twenty-four hours was from 60 to 80 ounces and there was three to seven grams of albumin to the liter present. In addition to the albumin, there were hyaline, granular and fatty casts present in great abundance; urea from 1.5 to 2 per cent. On January 3, this year, he was placed under chloroform, and Dr. Peters performed encapsulation of both kidneys at the same sitting. Prior to the operation there had been a gradually increasing number of casts in the urine, but Dr. Caven stated there was none now found in the twenty-four hours. A record was shown from which it could be seen that there was no material change in the albumin, or in the quantity of urine passed or in the urea. The man was very ill for some days after the operation, but his general health lately is commencing to improve. Dr. Peters stated there was a small abscess on the neck of the patient which seemed to him might have some bearing on the case. He thought that Dr. Edebohls was preceded by Mr. Harrison, who had used this operation in cases of acute disease. Dr. Peters did not deliver the kidney through the wound as advised by Dr. Edebohls. Dr. Primrose's case occurred in a boy of 10 years of age, and the operation was performed before Edebohl's paper on the subject was published. For six months prior to the operation the boy had had general anasarca and ascites, the general edema over the body being particularly well marked on the face and extremities. Paracentesis abdominis had been performed seventeen times. Albumin was present in the urine to the extent of 1.6 per cent. On November 20 he cut down upon the right kidney in the line following Harrison's incision and drained for a fortnight. After the operation the urine gradually increased from 20 to 40 ounces and the albumin diminished to .03 per cent. On December 20 he cut down upon the left kidney and removed the kidney capsule entirely. Here he followed Edebohls' suggestion and brought the kidney out of the wound. The child was critically ill for some days, but gradually recovered, and the renal symptoms underwent remarkable recrudescence.

FOREIGN.

American Hospital in Paris.—Funds have been raised, it is said, sufficient for the purchase of land, and the erection of an American hospital in Paris.

Gruber in London.—The Royal Inst. of Public Health invited Prof. Max Gruber, Vienna, to deliver the Harben lectures in January. His theme was "Bacteriolysis and Hemolysis."

Fifth International Congress of Psychology.—Professor A. Tamburini, of the Instituto Psichiatrico at Reggio nell' Emilia, is the secretary general of this congress, which is to be held at Rome in 1904.

Title for von Bergmann.—Kaiser Wilhelm has conferred the title of "Wirklicher Geheimer Rath" on Prof. E. von Bergmann, of Berlin. It entitles him to be called His Excellency, and is considered a great honor. It has been conferred on only two physicians before, von Langenbeck and von Esmarch.

German Congress of Internal Medicine.—Professor Naunyn, of Strassburg, will preside over this congress, which will convene at Wiesbaden, April 15 to 18. The main addresses will be on "Diagnosis and Treatment of Gastric Ulcer," by Ewald and Fleiner, and on "Radiotherapy," by Bie, of Copenhagen.

The Ollier Monument.—A Paris exchange states that the amount subscribed for the purpose of erecting a monument to the French surgeon, Ollier, of Lyons, has already reached more than 50,000 francs. The surgeons of this country, through Professor Keen, have subscribed 3217 francs, of Austria 600 francs, and of Germany 6000 francs.

Deaths Abroad.—Dr. Ballay, governor-general of French West Africa.——Dr. Spirido Mavrogeny Pasha, chief physician to the Sultan, died January 22, aged 83. He studied and graduated at Vienna. He was general inspector of military hospitals and held the rank of general. Dr. Mavrogeny was a linguist, and edited a medical journal in Turkish and French.

International Conference of the Medical Press.—The Prince of Monaco is to preside over this conference, which is to met at Monaco, April 7, 8 and 9. The Société Médicale de Monaco is planning a splendid reception and lavish hospitality. Among the measures to be discussed are the constitution of the international committee and the protection of literary property.

LONDON LETTER.

The Smallpox Epidemic.

The number of patients in hospital, which has been 754, 873, and 877 in the three preceding weeks, has declined to 870; 203 new cases were admitted during the week against 261, 306, and 213 in the three preceding weeks. The deaths were 28, 45 and 55 in the preceding three weeks, but fell last week to 34. The epidemic has cost a very large sum; up to the present it has entailed a special expenditure in providing new hospitals of $2,000,000.

The Census of London.

The official report on the census taken last year, so far as it refers to London, has just been issued. The area comprised covers 74,832 acres, and has a population of 4,536,541. In 1801 the population was 959,310; it has therefore increased five-fold during the century. Since 1881 a decline in the rate of increase has been in progress, the lowest rate (7.3 per cent.) being in the decade just concluded. That this rate still continues to decrease is shown by the fact that the increase from 1891 to 1896 was only 4.8 per cent., from 1896 to 1901 2.4 per cent. During the last 10 years the population has increased by 308,224, but as the natural excess of births over deaths in that period was 491,000, the loss by migration exceeded 180,000. This migration is one of the causes of the rapid increase of suburban districts. In what is known as greater London the population increased in 10 years by 947,000. In the central parts of London the population has declined during the last 40 years in consequence of the transformation of dwelling houses into warehouses, offices and places of business.

Treatment of Paralysis of the Upper Root of the Brachial Plexus by Muscular Transplantation.

At the Clinical Society Mr. Tubby and Dr. J. Purnes Stewart showed a case illustrating a new method of treating old-standing paralysis of the upper root of the brachial plexus. A man, aged 57, fell on his shoulder and head two years ago. He was unconscious for an hour afterward, and on recovery was unable to use his left arm. After treatment at various hospitals without benefit he was admitted to Westminster Hospital. There were marked paralysis and atrophy about the left shoulder and upper arm, and total loss of electrical excitability in the deltoid, infraspinatus, biceps, brachialis anticus and supinator longus on the left side, and consequent inability to adduct the arm or flex the elbow. There was also some anesthesia along the outer side of the upper arm and forearm, which subsequently disappeared. These symptoms pointed to paralysis of the upper roots of the brachial plexus of the Erb-Duchenne type. Twenty months after the accident Mr. Tubby transferred part of the triceps and fixed it into the biceps with the object of restoring the power of flexion at the elbow and a month later attempted to restore power to the deltoid. Since the operation the transplanted portions of muscle have been assiduously massaged and the faradic current has been applied. There has been great improvement in the movements and in the utility of the limb. The patient can flex the elbow fairly and during flexion the transplanted part of the triceps can be felt in front of the elbow and both galvanic and faradic excitability have returned. He has not yet recovered the power of abducting the arm, but the transplanted part of the pectoralis major can also be felt to harden. At first there was a total loss of excitability both to induction shocks and to the galvanic current. Three months after operation the galvanic excitability returned and six months after faradic reaction could be demonstrated.

Improvement in the Health of London.

According to the returns just issued, the mean mortality of London during the decennium which has been completed was below that of 1881-90 at all periods of life. Mr. Shirley Murphy, medical officer of the London County Council, gives a table showing the mean annual number of deaths in 1891-1900 as compared with the annual number that would have occurred had the death-rates of the previous decennium been maintained. The number of lives gained and the number of lives lost at the several ages in the later period are also shown. This gain or loss is expressed in terms of "life capital," the figures being obtained by applying the "mean future life time" values, as ascertained from a London life table, to the number of lives gained or lost at each age-group. According to this calculation in the 10 years, 1891-1900, as compared with the previous decennium, there accrued a saving of 3664 lives per annum, representing an annual salvage of 118,483 of life capital. This reduction in mortality has by no means been manifested in the death-rate from all causes alike. Thus, there has been in the later decennium, as compared with the earlier, a marked increase in the death-rate from diphtheria, cancer and influenza and a slight increase in the death-rate from a few other causes. On the other hand, there has been marked reduction in the mortality from phthisis and also from non-tuberculous respiratory diseases, and diseases of the nervous system, as well as a less strongly marked decrease in the death-rate from several other causes. The most important change for the worse is in the death-rate from cancer, which has increased during the last decennium by little less than 27 per cent. In the decennium ending with the year 1900 London experienced the lowest infantile mortality of any of the principal English towns save one, viz., Bristol. During 1900 the eastern metropolitan districts showed the highest infantile mortality, 175 per 1000 births; the northern group, the lowest, 145 per 1000, while the southern, the central, and the western groups experienced a rate of 158 per 1000.

Improved Record of Vital Statistics.

With the new year the method of furnishing the usual weekly returns of births and deaths has been greatly improved. The area covered is much enlarged; 74 cities and boroughs being included in place of the previous 32. Particulars of mortality are now published weekly respecting nearly one-half of the population of England and Wales. The tabular matter has been re-arranged so as to present the more salient facts in a manner as convenient as possible for reference. The classification of diseases and the list of causes of death have been improved. Several of the less important diseases are omitted and other and more definite diseases added. Certain of the terms retained (presumably because they are still in use by some medical men) are printed in italics, to show that they are either the names of symptoms merely or are otherwise objectionable. Some of the principal groups of disease have been subdivided so as to give opportunity for the more accurate classification of causes of death, hitherto sometimes ambiguously returned. Thus deaths from tuberculous phthisis are generally certified as from phthisis or consumption simply, which term includes, according to the authorized nomenclature, other diseases besides pulmonary tuberculosis. The more precise term is therefore inserted in addition to the term more commonly, but less correctly employed. So also, as an alternative for the old-fashioned but misleading tabes mesenterica, tuberculous peritonitis is suggested. In the past tabes mesenterica has been held by some to include not only tuberculous mesenteric disease, but likewise atrophy, marasmus, and certain other ailments attended by wasting which are not necessarily tuberculous. The malignant group of diseases also has been subdivided so as to distinguish the carcinomata from the sarcomata, and both of these from the numerous tribe of diseases indefinitely returned as malignant.

Correspondence.

Is Membership in County Society Necessary for Old Members of State and National Societies?

DENVER, COLO., Feb. 14, 1902.

To the Editor:—In considering the proposition for change of the by-laws of the various state societies to conform with the new requirements of the Association, might it not be well to bear in mind the legal status of those persons who already have membership in some state societies and who have not maintained their membership in county societies. It has been suggested that any proposal to forfeit the membership of such persons in either the state organizations or the American Medical Association could not be enforced lawfully, so long as these persons continue to comply with the letter of the regulations that were in effect at the time they acquired membership. I do not, of course, presume to pass upon the question so raised, but simply call attention to the fact that it has been brought forward in the discussion of the subject and that it is most likely to be tested judicially by some of the affected members in some part of the country.

It will be at once admitted that the majority of the Association members have no intention of adopting a standard which will work a hardship upon any old members who, for whatever reason, may not desire to re-enter their local or county society, while at the same time they do not wish to forfeit their existing and legally acquired membership in either the

state society or the Association. The number of members actually affected in this manner will be very small compared with the total membership of the Association. If it can be arranged that they shall continue in good standing and that the new requirements will apply only to persons who do not already hold permanent membership in the Association or in a state society, it will make the adoption of the new requirements more certain in some state societies and prevent a feeling of grievance on the part of some old and highly honored members. Such feeling of grievance, we can not but admit, would have a very substantial basis.

May it not then be wise to add to the clause affecting membership acquired through membership in the county societies a "saving clause," to this effect: "Provided, that the operation of this condition of membership shall apply only to new members and shall in no instance be so construed as to forfeit an existing, legally acquired membership in the Association." It will thus be made perfectly evident that it is the intention of the Reorganization Committee to thoroughly and effectually safeguard the privileges of all. Very respectfully.

WILLIAM P. MUNN, M.D.

A Physician's Directory.

LAWRENCE, MASS., Feb. 3, 1902.

To the Editor:—I am of the opinion that a step in the right direction may be taken by establishing a system of registration followed by the publication of a "Physician's Directory" by the American Medical Association. The great danger to the medical profession is not from the quack or the promoter of a fad, but from him who has obtained a medical degree, secured a state license, perhaps has been admitted to the state society, and has been unable morally to keep up with the respectable members of the profession. Such an individual sooner or later is found out and can be easily cared for. The great majority of immoral and ignorant of those who have received medical degrees and state license do not seek admission to societies because they fear the required examination and the discussion of medical topics by regular physicians. This class, I believe, constitutes a majority of cheap contract physicians. They lower the standard and prostitute the title of Doctor of Medicine. The "quack" is recognized and classified by the people. The harm comes from him who has some right to the title of doctor other than a clear and moral right. Registration and an honest directory would do much to lessen the evil.

This would be a preliminary toward the establishment of a National Board of Health, which could in time demand a place in the cabinet for its representative. If that could be consummated a standard could be set and maintained and the question of reciprocity solved. Furthermore, an American Medical Education Society might be formed to enlighten the American Humane Education Society on some topics, and when they understand each other they could do much for humanity, because the Humane Society is an aggressive, active organization, and does much good within certain circumscribed limits. If a Medical Society had half its spirit and pugnacity it would soon make the title of Doctor of Medicine respected, and not, as it is now, a hollow mockery. Very truly yours,

JOHN T. CAHILL.

Inhalation and Atomization.

CHICAGO, Feb. 17, 1902.

To the Editor:—On page 474 of THE JOURNAL of February 15, it is stated that "It is yet a question as to how much of the respiratory tract is reached by inhalations." I am surprised that the writer of the above is ignorant of the experimental work that I have done in this line. It is now positively proven that nebulized medicaments reach the pulmonary alveoli of the human lung, of the lung of dogs and of guinea-pigs. The microscopic slides which are the proof of this contention and statement are in my possession, and unquestionably prove the truth of this assertion. As far back as May 28, 1898, THE JOURNAL published an article by me on "Experimental Work on the Penetrability of Vaporized Medicaments into the Air Passages." This proved the existence of nebulized medicaments in the lung of a human being. Since then much experimental work has been done that demonstrated the presence of nebulized medicaments in the pulmonary alveoli of dogs and guinea-pigs.

On April 12, 1897, I presented the subject before the Chicago Pathological Society, and in 1900 before the Chicago Academy of Medicine, and at both times exhibited microscopic slides to demonstrate the truth of the assertion.

In view of the foregoing, I claim that it is definitely proven that nebulized medicaments properly subdivided and administered do reach the pulmonary alveoli. I am quite aware that this statement is at variance with those found in the older books upon this subject, but such former statements can not stand as true in the light of the microscopic demonstration of the fact that they do reach the pulmonary alveoli.

HOMER M. THOMAS, M.D.

The Proper Method of Vaccination.

SCHAEFFERSTOWN, PA., Feb. 14, 1902.

To the Editor:—To a great many physicians a sore arm after vaccination signifies immunity, regardless of the nature of the soreness. A proper vaccination is attended with slight, or no, local or constitutional disturbances. The extreme local and constitutional disturbances, such as erysipelas, hospital gangrene, abscess, phlegmon, septicemia, pyemia, and tetanus, are due to an abrasion of the surface, admitting the entrance of the different bacteria. In my opinion the proper way to vaccinate is by means of a spring lancet, which leaves no open wound for the introduction of germs. It requires very little lymph to produce a proper vaccinia, one capillary tube being sufficient to produce half a dozen. The puncture made by the lancet is barely discernible, and leaves no abraded surface for any sort of exterior infection.

During the epidemic of 1874-75, I vaccinated, by means of the lancet, over eight hundred people of all ages—primary and secondary—and not one manifested any serious local or constitutional trouble. During the present epidemic this method has given the same satisfactory results, while those who employed the scalpel, or the needle, with the same environment and using the same lymph, have had many complications. Hence it is again to be inferred that the faulty method of operation and not the lymph employed is responsible for the sufferings and deaths due to vaccination. I wish to emphasize the erroneous technique of an abrasion by scraping, or almost cutting, of the arm; producing a good culture-medium for germs not intended. With the spring lancet, no untoward effects will ensue.

J. W. KEATH, M.D.

Married.

JOSEPH E. HAILE, M.D., to Miss Mae Hayes, both of Kershaw, S. C., January 29.

WILLIAM F. C. HEISE, M.D., to Miss Adella von Rohr, both of Winona, Minn., February 5.

C. K. CARRUTHERS, JR., M.D., to Miss Ethelene Rowell, both of Pine Bluff, Ark., February 9.

J. RAY ALLEN, M.D., Orwell, N. Y., to Miss Ethel J. Barney, at Sandy Creek, N. Y., January 30.

SAMUEL B. POTTER, M.D., to Mrs. Sarah E. Peoples, both of Frederichtown, Ohio, January 30.

JAMES P. TUCKER, M.D., Galveston, Texas, to Miss Thelma Cooper, at Waco, Texas, January 29.

NICHOLAS C. PARRISH, M.D., Denison, Texas, to Miss Emma Ryle, at Pilot Point, Texas, January 28.

WILLIAM T. DOWDALL, M.D., Cosner, Ill., to Miss Anna Connole, of Carrollton, at Jacksonville, February 8.

ROY S. BARNSBACK, M.D., Edwardsville, Ill., to Miss Minnie E. Whitbread, at Edwardsville, Ill., February 1.

ALFRED S. JAEGER, M.D., Indianapolis, Ind., to Miss Blanche C. Keiffer, of Bronson, Mich., at Indianapolis, February 5.

Deaths and Obituaries.

Martin L. Herr, M.D. University of Nashville, Tenn., 1866, chief surgeon of the Lancaster, Pa., General Hospital, one of the organizers of the Lancaster Pathological Society, member of the City, County and State Medical societies and of the American Medical Association, died of paralysis at Lancaster, Pa., February 8, aged 63. He had been on two occasions delegate to the International Medical Congress. Dr. Herr was prominent in business as well, having been director and president of a Lancaster bank, a street railway company and manufacturing companies.

William Murray Weidman, M.D. University of Pennsylvania, 1860, an eminent physician of Reading, Pa., died from heart trouble, February 8, aged 66. He served through the Civil war and was formerly president of the Pennsylvania Medical Society, of the Berks County Medical Society and the Reading Medical Association. Dr. Weidman was upon the staff of the State Asylum for Chronic Insane, of St. Luke's Hospital, and Reading Hospital, and was a member of the American Medical Association and the American Academy of Medicine.

Benjamin Franklin Pope, M.D. Albany (N. Y.) Medical College, 1864, lieutenant-colonel and deputy surgeon-general, U. S. Army, chief surgeon of the Division of the Philippines, died at Manila, February 14, after an illness of two weeks, from Bright's disease. He served as assistant surgeon in the Civil war, and at its close entered the regular establishment.

Abijah T. Hudson, M.D. Albany (N. Y.) Medical College, 1847, Stockton, Cal., member of the San Joaquin Medical Society, former physician in charge of the San Joaquin Hospital, surgeon of the 26th Iowa Infantry during the Civil war and one of the oldest practitioners in California, died of general debility, February 5, aged 83.

Ira W. Baldwin, M.D. Ohio Medical College, Cincinnati, died of apoplexy at his home in Xenia, Ohio, February 1, aged 63. He had practiced also in Spring Valley and Yellow Springs, Ohio, and in Iowa. The members of the Greene County Medical Society attended the funeral in a body.

Nathaniel Ostrander, M.D. Washington University, St. Louis, Mo., 1848, died at his home in Olympia, Wash., February 7, aged 83. He was one of the pioneers of the northwest, and had been mayor of Olympia and a member of the territorial legislature.

Washington D. Jeffries, M.D. Williamette University, Salem, Ore., 1887, who had practiced medicine for nearly fifty years in Salem, and had been a member of the legislature, died February 5, aged 63, after an illness of several years.

Jacob A. Baird, M.D. College of Physicians and Surgeons, Baltimore, Md., 1878, of Dunlo, Pa., while assisting two women from in front of a train, slipped in the snow and fell upon the rail, meeting instant death. He was 52 years of age.

Armistead Peter, M.D. National Medical College, Washington, D. C., 1861, died of heart disease on January 28 at his residence in Georgetown, D. C., aged 61. He was a member of the Medical Association of the District of Columbia.

Thomas N. Penrose, M.D. University of Pennsylvania, a retired medical director of the U. S. Navy, died at the U. S. Naval Hospital in Philadelphia, February 13, aged 67, from an involvement of heart and kidneys.

Adam Trau, M.D. University of Pennsylvania, 1861, a practitioner of Philadelphia, died, February 7, of paralysis, aged 61. He was for many years president of the German Hospital medical board.

Joseph G. Skaro, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1882, of Minneapolis, Minn., died at a private hospital in South Minneapolis, February 9, aged 43, after a long illness.

Edwin W. Pyle, M.D. University of Pennsylvania, 1873, assistant surgeon at the New York Eye and Ear Hospital, died of pneumonia, February 7, at his home in Jersey City, N. J., aged 52.

Emily A. Hill, M.D. University of Michigan, 1886, of Bowling Green, Ohio, member of the Wood County Medical Association, died, February 7, of heart disease.

John L. Million, M.D. Missouri Medical College, St. Louis, 1851, died, February 14, in Springfield, Ill., where he had practiced for forty years, from pneumonia, aged 75.

T. W. Taylor, M.D. Starling Medical College, Columbus, Ohio, 1849, died at his home in Fountain City, Ind., February 3, of an affection of the throat, aged 82.

Dabney Luckie, M.D. Birmingham Medical College, 1898, of Birmingham, Ala., died, February 6, at Plant City, Fla., where he had gone for his health.

Rupert D. Cogswell, M.D. Northwestern University Medical School, Chicago, 1860, died at his home in Rogers, Ark., of pneumonia, January 21, aged 66.

James L. Holbrook, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1888, died at his home in Higginsville, Mo., February 9, of pneumonia.

Thomas C. McCord, M.D. Medico-Chirurgical College of Philadelphia, 1898, died, February 8, at his home in Pittsburg, Pa., of heart disease, aged 30.

Edward H. Plank, M.D. Jefferson Medical College, Philadelphia, 1870, died from pneumonia, February 6, at his home in Christiana, Pa., aged 50.

Herbert E. Martin, M.D. Central Medical College, St. Joseph, Mo., 1886, died at St. Joseph, February 7, after an illness of two years.

John P. Stack, M.D. Washington University, St. Louis, Mo., 1891, died at his home in East St. Louis, Ill., February 10, of pneumonia, aged 32.

Newman W. Smith, M.D. Berkshire Medical College, Pittsfield, Mass., 1846, a retired physician of Sublette, Ill., died at Dixon, recently.

John B. Andrews, M.D. Dartmouth Medical College, Hanover, N. H., 1875, died of paralysis at Lynn, Mass., February 10, aged 61.

James Hine, M.D. New York University, 1847, died at New Milford, Conn., February 9, aged 79, from injuries received in a fall.

Sterling P. Bond, M.D. Arkansas University, Little Rock, Ark., 1886, died in Mangum, O. T., February 9, of pneumonia, aged 36.

George A. Hess, M.D. University of Pennsylvania, 1870, of Grand Rapids, Mich., died of paralysis, February 9, aged 58.

Samuel H. Rodman, M.D. New York Medical College, 1863, of Huntington, N. Y., died of apoplexy, February 10, aged 64.

Charles H. Kennedy, M.D. University of Michigan, 1869, died at his home in Sylvania, Ohio, February 7, aged 92.

Peter R. Cortelyou, M.D. Bellevue Hospital Medical College, New York, 1867, died at Marietta, Ga., February 6.

William H. C. Smith, M.D. University of Pennsylvania, 1866, died at his home in Millville, N. J., February 12.

Richard S. Vest, M.D. Medical College of Virginia, died at his home near Ashland, Va., February 2, aged 76.

Henry T. Dalgleish, M.D. Ohio Medical College, Cincinnati, died, February 2, at Vevay, Ind., aged 42.

James S. White, M.D. University of Michigan, 1866, died at Hodgdon, Me., January 29, of pneumonia.

Frederick F. Tucker, M.D. University of Texas, 1897, of San Angelo, Texas, died, February 6.

George W. Thomas, M.D., of Eatonton, Ga., died of Bright's disease, February 2, aged 64.

Miscellany.

Osteopathy.

The following is an abstract of the argument against the osteopath bill, made before the Judiciary Committee of the New York Legislature, by Dr. E. Eliot Harris, representing the New York State Medical Association:

The tendency of modern times is to raise, rather than to lower the standard of the educational qualifications of professional men. The public has so long suffered from poorly educated physicians that the legislatures of nearly every state in the Union have enacted laws raising the educational qualifications of the candidates to be examined for a license to practice medicine. We claim osteopathy, so-called, is an agent used in the treatment of disease, and as such has no more right or reason to be separated from the general practice of medicine than electricity, mechanical exercise, bathing, nursing, massage, or any other valuable agent or method used in the treatment of disease, and is not entitled to a special examining board. The eye, ear, nose, throat, electrotherapeutic and other

specialists do not ask exemption from the examination in the general science of medicine demanded by the Regents of the University of the State of New York, of all candidates who apply for a license to practice medicine or any branch of medicine, and they do not ask for a special examining board. If the so-called osteopaths desire to establish a special branch of medicine, then they, too, should possess at least that minimum of the knowledge of the general science of medicine demanded by the present law governing the granting of a license to practice medicine in this state; and they should not try to escape the preliminary and final examinations for a license to treat disease, by securing the enactment of the so-called osteopathic bill.

Every part of the human body is connected sympathetically with every other part; an affection of the eyes or stomach may be due to disease of the kidneys; persistent cough or pain in the knee may be due to disease in the pelvic region; eyestrain may produce pains in distant parts of the body, and so on, indefinitely. The protection of the public health demands that no one should be allowed to treat diseases in this state, unless he can make a diagnosis based on the study of the general science of medicine, as taught in the incorporated medical colleges of this state.

The medical laws of the State of New York were enacted to protect the people of the state from charlatans, quacks and pretenders of all sorts. The time spent in the study of medicine prepares the mind and molds the character along the lines of truth and science and away from commercialism in medicine. A reaction from commercialism in medicine was a factor in causing the legislature to enact the laws which prevent any person, not presenting the intellectual and moral qualifications required by the Board of Regents, from practicing medicine in this state. The public is protected by discouraging commercialism in medicine and is benefited by fostering the science of medicine.

To summarize: 1. Osteopathy, so-called, is an agent or method used in the treatment of disease, and should not be separated from the general practice of medicine.

2. Osteopathy should not be made a special branch of medicine, by an act of the legislature, but should come under the present state laws, which govern all the special branches as well as the general practice of medicine.

3. The legislature should protect the public by denying the endorsement of the state to any person, as being capable of treating the diseases of the human body, unless such person can make a diagnosis of the condition of the human body, to do which requires a full knowledge of the science of medicine, including the use of drugs and other valuable therapeutic agents.

4. If the so-called osteopathic bill becomes a law, all candidates who fail to pass the Regents' examinations to obtain a license to practice medicine in this state may in this state treat all diseases of the human body by holding a diploma from any regular osteopathic college in the United States, a privilege which a graduate from Harvard or Yale medical college, for instance, does not enjoy.

[After the hearing by the Judiciary Committee the bill was quashed by a vote of 7 to 2.]

Societies.

Jacksonville (Ill.) Medical Club.—The new officers of this Club, elected January 27, are Dr. Albyn L. Adams, president; Dr. George E. Baxter, vice-president; Dr. David W. Reid, secretary; Dr. E. F. Baker, treasurer.

Giles County (Tenn.) Medical Society.—At the January meeting this Society elected the following officers: Dr. John S. Harris, president; Dr. John E. Baugh, vice-president; Dr. P. M. Anderson, secretary and treasurer.

Garrard County (Ky.) Medical Society.—At Lancaster, January 24, this Society elected these officers: Dr. Henry C. Herring, president; Dr. Elijah Evans, vice-president; Dr. Hugh M. Grant, secretary and treasurer.

Portsmouth (N. H.) Medical Society.—At the annual meeting, February 4, the following officers were chosen: President, Dr. Benjamin Cheever; secretary, Dr. C. W. Hannaford; treasurer, Dr. Andrew B. Sherbourne.

Leavenworth County (Kan.) Medical Society.—This Society, on January 23, elected Dr. John S. Wever, president; Dr. Simon B. Langworthy, vice-president; Dr. Mayer Shoyer, secretary; Dr. Charles R. Carpenter, treasurer.

Otsego County (N. Y.) Medical Association.—This is a new organization, formed January 18, at Oneonta by members of the State Association. These officers were elected: President, Dr. Julian C. Smith; vice-president, Dr. S. G. Pomeroy; secretary, Dr. Arthur H. Brownell; treasurer, Dr. Frank L. Winsor.

Douglas County (Kan.) Medical Society.—On January 21 this Society made preliminary plans for entertaining the State Medical Association in May. Dr. Samuel W. Williston was elected president; Dr. Elizabeth B. Laslett, vice-president; Dr. George W. Jones, secretary; Dr. Alfred Gifford, treasurer.

Newport (R. I.) Medical Society.—This Society's annual meeting, January 16, resulted in the election of the following: President, Dr. Christopher F. Barker; vice-president, Dr. William S. Sherman; secretary, Dr. Mary E. Baldwin; treasurer, Dr. Douglas P. A. Jacoby; librarian, Dr. Harry J. Knapp; curator, Dr. F. Jerome Davis.

Kalamazoo (Mich.) Academy of Medicine.—The annual meeting of this body was held at Kalamazoo, January 21, ending in a banquet in the evening. The election of officers resulted as follows: President, Dr. Charles H. McKain, Vicksburg; vice-presidents, Dr. Orton H. Clark, Kalamazoo, and Dr. Orrin F. Burroughs, Plainwell; secretary, Dr. Herman Ostrander; librarian, Dr. Edwin H. Van Deusen; treasurer, Dr. Orlo B. Ranney.

Los Angeles County Medical Association.—At the meeting of this Association, on February 7, at Los Angeles, the subject of Federation of Medical Societies was considered, a large number of members being present. All appeared in favor of a closer affiliation with the State and National Societies, and a committee was appointed to take up the matter and to confer with the Committee on Revision of the Constitution of the Medical Society of the State of California relative to a closer affiliation. The committee consists of Drs. W. L. Wills, G. L. Cole, W. W. Hitchcock,, F. T. Bicknell, E. R. Smith, William Dodge, and C. G. Stivers, secretary.

CINCINNATI ACADEMY OF MEDICINE.

Regular Meeting, held Dec. 16, 1901.

President, Dr. N. P. Dandridge, in the Chair.

Spinal Cocainization.

DR. C. A. L. REED read a paper on this subject. His experience embraces thirty cases, including abdominal sections, curettage, reparative operations on the cervix and perineum, hemorrhoids, cystoscopic examination, and one case for the purpose of controlling irritability of the bladder.

In speaking of technique Dr. Reed emphasized the necessity of using a sterile solution and carefully locating the site for puncture. A line drawn from one crest of the ilium to the other serves as a guide with which to locate the space between the third and fourth lumbar vertebræ. The needle is inserted a little to the left and below the spine and should be directed forward and slightly inward and upward. A slight resistance is encountered when the needle touches the ligaments of the vertebræ, but this disappears when the arachnoid cavity is entered. As soon as this space is reached a few drops of clear fluid will escape through the needle. The syringe is then attached to the needle and the fluid thrown gently into the cavity. Unfortunately the puncture is not always accomplished with the facility implied by this description. Unless a local anesthetic be first applied, the pain attending the puncture may cause involuntary muscular contractions, making access to the intervertebral canal more difficult. In fat subjects the intervertebral canal is remote, and is only found after some difficulty. In a few cases the needle, after entering the intervertebral space, seems to pass to one side of the arachnoid. It has thus happened that Dr. Reed has had three "dry taps," no arachnoid fluid escaping. In one of the cases the fluid containing one-fifth grain of cocain was discharged to one side, no analgesia resulting; in a few minutes, however, alarming constitutional effects were manifest: the pulse went to 160, the respirations became exceedingly rapid, cyanosis was pronounced, prostration was extreme, while the patient's anxiety amounted to panic. In a few instances he has found that the complete consciousness that attends the anesthesia leaves the patient open to the depressing influence of the surroundings, the instruments and the operative procedures.

The complications of surgical analgesia induced by spinal injection are not more serious, while they are less constant, than those that attend the administration of chloroform or ether. Vomiting probably occurs in less than 10 per cent. of all cases, a decided improvement over the records of chloroform or ether. Syncope and headache have been observed. Spinal cocainization was offered to the profession exclusively as a surgical expedient. Our experience with it thus far has, with two exceptions, been limited to the body below the diaphragm, and usually to cases in which chloroform and ether were contraindicated, but the present trend indicates that it may be made the method of choice in preference to any general anesthetic and that the zone of its influence may be extended.

In childbirth, its use gives analgesia without diminishing the normal rhythm or force of the uterine contraction, while involution is assisted after delivery.

It is not to be supposed that the possibilities of so powerful an expedient as spinal cocainization should be limited to analgesia induced for either surgical or obstetric purposes. M. Brocard has called attention to the fact that cocain thus administered becomes an eligible remedy in sciatica, lumbago, zona, intercostal neuralgias, and in certain cases of irritable bladder. Dr. Reed's personal experience in two cases of the latter character has been very satisfactory. In one, that of a woman of 36, who was afflicted with frequent and painful urination, but in whom the cystoscope failed to reveal any local lesion, cure was effected by three spinal cocainizations.

The effort has been made to find some other agent that will produce the desired analgesia with similar effectiveness. Experiments have been made with antipyrin, tropococain and eucain, but all of them have been reported upon adversely by Bier. Jedlicks, however, reports a series of 93 cases, embracing abdominal sections, operations upon the lower extremities, perineum and scrotum, all of them done satisfactorily under eucain. Mixed injections have been given with but little advantage. In two instances he has given a quarter of a grain of morphia with the cocain, with the result of prolonging the analgesia, without producing any unpleasant effects attributable to the cocain.

The time has not yet arrived when the debit and credit sides of the account can be computed. It is to be hoped, however, that the near future will witness a systematic investigation of the results, immediate and remote, of this operation, upon which an authoritative utterance relative to its dangers or safety can be based. At the present day the statistical reports are essentially chaotic. Of the six alleged fatalities there are none that can not be explained upon a theory other than that of cocainization. The time has arrived when the complete statistics should be compiled; but in the meantime we are left with the comfortable realization that in spinal cocainization there has been added to our resources a safe means by which to induce anesthesia within certain limitations, and that its possibilities for the future are among the valuable though undetermined resources of the profession. We can accept for the present: 1, that spinal cocainization is practicable; 2, that it is relatively safe both as to immediate and future results; 3, that it is eligible in cases that can not take the general anesthetics with safety; 4, that its determined zone of influence is from the diaphragm downward; 5, that individual observations point to the possibility of general analgesia by spinal cocainization; 6, that it seems to be a safe expedient in parturition; 7, that it gives promise of a broader therapeutic applicability.

In the discussion, Dr. H. J. Whitacre dwelt upon the position of the patient. He places the patient in a perfectly erect position, an assistant holds a strand of silk across the back upon the crest of each ilium. That strand of silk goes immediately over the spine of the third lumbar vertebra. The finger is held on the apex of this spine and the patient bends forward, thus increasing the space between the laminæ to give the necessary room for the insertion of the needle. Another point in the technique of importance is that of first making a minute incision with a knife. The needle which we use for the introduction of cocain may be compared to a Mixter punch. When pushing the needle in, it is perfectly possible that we may take out a little fragment of skin and carry it in as we go along until it reaches the spinal canal, where it may set up irritation. Dr. Whitacre held that boiling the solution to sterilize it destroys its properties. The headaches, which he thinks have been proven to be due to the increased tension, will be relieved by a second puncture after the operation has been completed, allowing a small amount of fluid to escape. The suggestion has been made that such operations as fissure of the anus, hemorrhoids, etc., be done with spinal anesthesia. Considering the possibilities of danger in spinal anesthesia, I think it unjustifiable to use this means when local anesthesia by the intradermic injection of cocain will answer the same purpose. It is possible to incise a fissure under a two per cent. solution of cocain; it is possible to dilate the sphincter, not completely, but certainly sufficiently to remove hemorrhoids and to dissect out fistulæ; indeed, many operations in which it would seem impossible to use this method can be performed successfully and much more safely than by spinal or general anesthesia. When these things can be done in this way it hardly seems justifiable to me to employ spinal anesthesia.

Dr. Frank W. Langdon made some interesting observations on the order in which sensation returns to anesthetized parts.

Dr. Louis Strickler said that in his experience sterilizing the cocain solution undoubtedly largely, if not entirely, destroyed its anesthesia properties. He called attention to the fact that eucain can be sterilized whereas cocain can not. His method with cocain is to sterilize the bottle and then boil the water, and on the latter cooling sufficiently to add the cocain crystals and allow them to dissolve, which is as near as he believes we can get to the sterilization of cocain.

Dr. C. R. Holmes took exception to the statement that cocain solutions become inert after sterilization. He has not used any cocain solution for twelve years that had not been sterilized by boiling, and has used it upon operations upon the eye, ear and nose thousands of times. In his experience it is the rarest thing to find that the drug is not efficacious, and in these rare cases he has regarded its lack of action to the individual idiosyncrasy of the patient. One must always bear in mind that there is a great difference in alkaloids, and my remarks have reference only to Merck's preparation, as I have used none other.

CHICAGO MEDICAL SOCIETY AND THE CHICAGO SOCIETY OF INTERNAL MEDICINE.

Joint Meeting, held Jan. 29, 1902.

Dr. E. T. Wells, in the Chair.

The Classification of Cirrhosis of the Liver.

Dr. Arthur R. Edwards, after giving the classification of Rosenstein and that of Gilbert and Surmont, offered the following, with a view of including the principal conflicting clinical and pathological divisions.

I. Capsular cirrhosis. Also known as glissonian or lymphatic cirrhosis. (*a*) Chronic perihepatitis; isolated or part of a chronic peritonitis. (*b*) Portal vein syphilis (also vascular in origin).

II. Vascular cirrhosis. (*a*) Hepatic vein. 1. Stasis cirrhosis (cyanotic induration). 2. Cirrhosis, in (*b*) 1, or Laennec's cirrhosis; also Brieger and Sabourin, known as bivenous cirrhosis.

(*b*) Portal vein. 1. Laennec's cirrhosis or atrophic. First stage, pseudohypertrophy; second stage, atrophy. 2. Hypertrophic alcoholic cirrhosis, like Laennec's, only remaining large; fatty cirrhosis. 3. Cirrhosis from portal vein, syphilis, and from pylothrombosis.

(*c*) Arteriosclerotic cirrhosis.

III. Biliary cirrhosis. (*a*) Obstruction—"Retentions icterus" and cirrhosis. (*b*) Biliary or hypertrophic, in French sense (Hanot's cirrhosis). 1. With icterus. 2. Without icterus.

IV. Mixed cirrhosis. Vascular (II) and Biliary (III) varieties combined.

Dr. Frank Billings discussed "Clinical Manifestations of the Early Stage of Cirrhosis of the Liver."

Cirrhosis in Childhood.

DR. FRANK X. WALLS said that cirrhosis of the liver was one of the most uncommon diseases occurring in infancy or childhood. The cirrhoses belong to the decadent period of life and only under the most unusual conditions are they encountered during its ascendancy. Though morbid factors be evolved within the economy of the child, that in the adult lead to a gradual parenchymatous decay and interstitial overgrowth, still in the child the nutritive and reparative powers of the individual are sufficient to sustain and restore the hepatic parenchyma, even though seriously damaged. In children who die as a result of some overwhelming sequel of the acute infectious diseases the liver is frequently found to be the seat of an extensive cellular infiltration of the connective tissue, with a granular, fatty, or even necrotic degeneration of the epithelium, and so often was this seen that one might believe there was always more or less hepatic inflammation in the severer cases of infection. Klein examined the livers in eight consecutive autopsies on scarlet fever patients and discovered acute hepatitis in all. Moreover, sufficient evidence was found in the enlarged livers and subjaundiced skins of those who recovered, to indicate that the acute hepatitis was not confined to the lethal cases. Despite the frequency of this acute hepatitis, it was most unusual to meet with a case in which there was the slow productive overgrowth of subsidiary tissue at the expense of the granular elements which constituted the morbid picture of cirrhosis. Cirrhosis was an advanced lesion, slow and tardy in its evolution, and demanded time for its development. It was so rare a disease in the young that those who had had the largest clinical experience could count their cases in the units. Baginsky had seen four cases. Henoch had never seen a fully developed case. Charles West, among 70,000 sick children, saw cirrhosis but four times. Frerich saw but one.

Male children were afflicted more often than female in the proportion of five to one. In Palmer's group, the ages varied from one month to eighteen years, and fifty per cent. of these occurred between the ninth and fifteenth years. An alcoholic history had been obtained in less than twenty per cent. of the recorded cases. In a few of these the amount of alcohol taken daily for a considerable period of time had exceeded a pint of brandy, but in most of them only a small quantity of spirits had been drunk. While the influence of alcohol in the production of cirrhosis in children was decisive, it was not so consequential as in the adult. Syphilis was mentioned as an etiological factor in about ten per cent. of the cases, tuberculosis frequently, acute infectious diseases seemed only accidentally in the history, chronic sepsis occasionally, and Thompson had collected a number of instances of obliteration of the bile ducts in the new-born, which were followed by cirrhosis.

Dr. Walls then discussed at length the symptomatology, the diagnosis, prognosis, and treatment of cirrhosis of the liver in childhood. Treatment, he said, had thus far been fruitless. Could the advent of the cirrhosis be anticipated, one might hope for much by withdrawing all harmful factors and giving careful attention to the hygiene and diet. Much had been claimed, particularly by the French school, for an exclusive milk diet, even if the cirrhosis be established. The use of the so-called resorbent waters, such as Carlsbad, the inunctions of gray salve, and the rational fulfilment of the symptomatic indications grasped the present possibility.

Pericarditic Pseudocirrhosis of the Liver.

DR. JAMES B. HERRICK read a paper on this subject, which clinically presents relatively slight edema of the lower extremities, enlarged liver and rather obscure cardiac findings. Three cases described in 1896 by Pick showed postmortem an adhesive obliterating pericarditis; adhesive pleuritis and changes in the liver described as nutmeg liver, cirrhosis of the liver and coarsely granular liver. From his studies of these cases and other similar ones reported by other observers, he concluded that this symptom-complex resembling true cirrhosis was caused by a late pericarditis that induced circulatory disturbances in the liver, leading to an increase of connective tissue, in this way producing portal stasis and ascites.

Dr. Herrick referred to the importance, from a diagnostic standpoint, of inquiring into the past history for symptoms suggestive of preceding pleurisy for pericarditis; and of seeking the physical signs of active, or healed pleurisy. The coarser signs of pericardio-mediastinitis should be sought, such as the systolic retraction interspaces, the diastolic rebound, the paradoxical pulse, the fulness of the veins in the neck, and the feeble apex impulse.

Dr. Herrick agreed with Strumpell that the cases were not all of one pattern and thought that the trouble, perhaps, originating in the pericardium, might from this point involve the contiguous pleura and peritoneum; in other words, that passive congestion of the liver was not an ample explanation for all the phenomena of the disease. While Pick's observations had been preceded by somewhat similar observations of others, and while one might criticise somewhat his line of reasoning, yet full credit must be given to Pick for having most accurately described the symptom-complex, and for calling the attention of the profession to this peculiar condition.

Medical Treatment of Cirrhosis of the Liver.

DR. JOHN A. ROBISON said that cirrhosis of the liver was incurable if the fibroid stage had supervened. Prior to this stage there was a small chance for recovery, especially in the syphilitic cases.

The medical treatment should be considered, therefore, under three headings: Prophylaxis, the first stage of treatment, and the palliative treatment. The knowledge of a gouty ancestry, especially with a list of deaths from cirrhosis of the liver, should be of great value to the patient in conducting his habits of life in a channel where toxic products would not produce the cirrhosis. But unfortunately for the cirrhotic victims, their medical adviser's advice was seldom asked, and less often followed, until active signs of the disease were present.

If the use of alcoholics be the cause of the disease, it should be stopped. If malaria or syphilis, the proper active treatment should be established. If the cirrhosis was manifestly the result of disease of other organs, treatment should be specifically directed toward them.

No matter what the etiological factor, the general management of the patient, the supervision of his daily habits, exercise, diet, and the treatment of the various symptoms must receive constant attention. The diet should be plain and simple, free from alcoholics, strong condiments, or spices, relishes, sauces, fried food, pastry, and sweets. Vegetables and fruits might be allowed, and milk should be a main staple. The patient should receive plenty of rest and fresh air. An outdoor life is beneficial, especially at mineral spring resorts and in mild climates.

Vomiting should be allayed by bismuth and alkalies, with the addition of thymol, resorcin, creosote, etc., if fermentative dyspepsia is present. The only benefit from mercurials seems to be in their action on the intestinal tract. The routine treatment of ascites by hydragogue cathartics, diuretics, and other drugs was unsatisfactory, and paracentesis should be resorted to early. The union of the liver to the abdominal wall with omentopexy would relieve the portal circulation before the ascites was established. Paracentesis should be performed early, and often, if the fluid rapidly accumulated, as the pressure embarrassed respiration and the heart's action. Opium, absolute rest and the withholding of food from the stomach were essential in the treatment of hematemesis.

In case the diarrhea was intractable, large doses of the bismuth compounds were the safest remedies. In many cases it could not be checked, and it would be necessary to support the patient by administering the concentrated foods and alcoholics. Exhaustion should be combated by the use of tonics and restorative remedies.

DR. I. A. ABT presented a case of hypertrophic cirrhosis of the liver in a Russian boy, 13 years of age, whom he had had under observation for six years.

DR. HENRY B. FAVILL referred to mediastinal pericardial cirrhosis and narrated a case, twelve years of age. He said that the case presented by Dr. Abt and the paper by Dr. Walls would lead to the idea that these were all infections. If there was

anything more pronounced than another in connection with the subject of cirrhosis of the liver, it was the growing belief that it is infectious either primarily or is the result of infection, and whether the suggestion of Adami (as to the presence of latent and changed micro-organisms in the liver, which become weakened under toxic influences and stimulants) be accepted, or whether another view is taken of the infection, the general trend of opinion on the subject is that instead of having essentially a degenerative fibrosis, as an explanation of the cirrhotic process, we have a complex process in the fibrosis which bears some essential relation to the infective agent directly, causing it to be whipped into renewed activity by pre-existing toxic agents.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

PRESCRIPTION WRITING, XIV.

(Continued from page 474.)

Administration of Medicine per Os.

Medicines may be given by the mouth in the form of a capsule, powder, cachet or liquid. When capsules are given the amount of the combined ingredients should be observed so that the capsule will not be too large for the patient to swallow. If such be the case, the druggist may be instructed to make up double the number of capsules and direct the patient to take two at each dose. Capsules can be prescribed for certain patients who object to the taste of medicine, especially when it is given in sufficiently small doses. Creosote may be taken in capsules rather than in an unpalatable mixture. There are, however, instances where capsules have traversed the entire gastro-intestinal tract undissolved; under such circumstances a powder or liquid may be prescribed.

Powders are preferable to capsules when large doses are to be given and when the preparation is palatable. Sulphonal serves as an illustration, since it is given in two large doses for a capsule and acts more promptly when dissolved in hot water. There are certain drugs which should never be prescribed in powder form, because of their tendency to deliquescence. Salol and sodium salicylate belong to this class. Some combinations in the form of a powder, liquefy, as is demonstrated by combining chloral and camphor.

The liquid preparations can be prescribed suitably in the majority of cases if the practitioner observes care in selecting a proper vehicle. As previously mentioned, medicines which tend to irritate the stomach should, if possible, be taken immediately after eating, and well diluted in water. Arsenic when given in the form of Fowler's solution to children afflicted with chorea, should always be well diluted. The nurse should be instructed to put the required number of drops in at least half a glass or a glass of water, and if the child can not drink it all at one time, set the glass aside for a few minutes and then let him drink the remaining portion. In this way the stomach can be made to tolerate much larger doses than when given in too concentrated form. Iodids should likewise be well diluted before being introduced into the stomach if large doses are in the end desired.

In acute cases where changes in the condition of the patient may quickly arise, small amounts should be prescribed at a time; if capsules are given the physician should not write, as a rule, for more than fifteen, or two ounces if liquids, unless more than one teaspoonful is given at a dose. The patients feel that they are being imposed upon when they are required to purchase new medicine if one or two ounces of the previous prescription remains unused. On the other hand, in chronic cases it is preferable to prescribe much larger quantities at a time.

In administering certain medicines by the mouth it should be remembered that the mucous membranes of the stomach and intestine may not be in condition to carry on proper absorption. Literature records several cases where some opiate preparation has been introduced into the stomach to relieve severe localized pain or headache, and resulted in acute opium poisoning; this was not because the dose was too large but the gastro-intestinal tract was not in condition to absorb the first doses given; consequently by this delayed action, several doses were taken up at the same time with fatal result.

A word also must be said as to caution in prescribing for pregnant women. There are some drugs which produce untoward results upon a pregnant uterus by exciting abnormal contractions, and perhaps causing abortion. Ergot and quinin are especially included in this class; they act upon the unstriped muscle of that organ and set up a tendency to the expulsion of its contents.

There is danger in placing in a patient's hands a prescription for certain drugs, such as morphin, cocain, chloral, etc. If the physician finds it necessary to prescribe these drugs to susceptible individuals he should not neglect in some way to indicate to the druggist that they should not be refilled without his knowledge and consent. Otherwise he has not done his duty toward that patient. Another point is that such patients are prone to talk to their neighbors and advise them to try their medicines for relieving symptoms apparently similar to their own, while in fact the cause may be far different. A writer states one such instance where a female patient was given pills of hydrargyri protoiodidum to cure a headache of specific origin; the results were so miraculous and satisfactory that in a short time several of her lady friends were taking the same little yellow pills upon her recommendation. This bears out the old rule that what is food for one may be poison for another.

(To be continued.)

As an Inhalant in Bronchitis.

℞.	Tinct. benzoini comp.	ʒii	7 50
	Tinct. tolutani	ʒii	7 50
	Spts. chloroformi	m. x	66
	Spts. etheris	m. x	66
	Spts. ammon. arom.	ʒi	3 75
	Alcoholis	ʒv	18 75

M. Sig.: Use in the inhaler three or four times daily.

Ichthyol in Trachoma.

Ichthyol, according to *Rev. de Thér.*, has been employed in the treatment of trachoma. It is used in the form of instillations as follows:

℞.	Ichthyol	ʒii	7 50
	Glycerini	℥ss	15
	Aquæ destil q. s. ad	℥ii	60

M. Sig.: Drop into the eye once or twice daily, first anesthetizing the conjunctiva with cocain.

Under this treatment diffuse infiltrations of the conjunctiva in trachoma, of not very long duration, disappeared in a week's time; the follicles diminished in size and no new ones were formed. In chronic cases the purulent secretion was arrested with rapidity. It is also efficacious in corneal pannus.

Methylene Blue in Otitis Media.

According to H. Gaudier, in *La. Sem. Méd.*, the installation of a warm solution of methylene blue, 2 per cent. strength, into the auditory canal is of great service in the treatment of certain chronic forms of otitis media, especially in fetid otorrhea of children. He employs the following method: First thoroughly cleanse the canal with a warm soap and water injection, then instill 15 to 20 drops of the methylene solution into the ear. During this procedure the patient is directed to make forced expiratory movements while keeping the nose and mouth closed. In this way air is forced into the ear and the solution passes from the canal into the tympanic cavity. He states that the deodorizing properties of the methylene blue render it superior to other antiseptics. In using this prepara-

tion a pure medicinal article must be insisted on as some similar preparations contain arsenic and zinc.

Treatment of Acne Rosacea.

According to Dr. J. Nevins Hyde, a systemic treatment that will apply to any case can not be outlined. The treatment is that of the patient rather than of the disease. The use of wines, beers and liquors of all sorts should be interdicted. The diet should be simple in character; tea and coffee should be restricted, and all articles of food selected with special care. Proper attention should in all cases be given to the gastro-intestinal tract as dyspepsia and constipation are effective factors. Dr. Hyde states that most drugs are valueless aside from the local treatment. The local treatment of the first grade of acne rosacea should consist of stimulating lotions of green soap, formalin or sulphur in connection with ablutions of hot water. The following is recommended:

℞.	Sulphur. precip.	ʒi	3 | 75
	Pulv. camphoræ	gr. v	| 30
	Pulv. tragacanth.	gr. x	| 66
	Aquæ calcis		
	Aquæ rosæ, āā	℥i	30 |

M. Ft. lotio. Sig.: Apply locally several times daily; or:

℞.	Sulphuris precip.	ʒi	3 | 75
	Ung. aquæ rosæ	℥i	30 |

M. Ft. unguentum. Sig.: Bathe the parts well in warm water and apply locally twice a day.

Medicolegal.

Number of Physicians Allowed on Boards of Health.—The Supreme Court of Louisiana says, in the case of State vs. Kohnke, that there is no sufficient reason for holding that the general assembly, in requiring, by Act. No. 192 of 1898, that three out of five members of municipal boards of health "shall, if practicable, be duly licensed and registered physicians," intended to prohibit the organization of any municipal boards with more than three physicians as members. The purpose seems, rather, it says, to be to require that a majority of the members shall be physicians, leaving the selection of the others to the discretion of the municipal councils, though, no doubt, this purpose is more plainly expressed in the provisions in the act relating to the parish boards.

Duty of Secretary of State Board of Health.—The case of McClatchy vs. Matthews was an application for a writ of mandamus to compel the secretary of the State Board of Health of California to permit the publishers of a local newspaper to inspect and take copies of the written reports of a bacteriologic examination of an alleged case of bubonic plague made for the State Board of Health. But from the answer filed it appeared that the secretary did not have the care, custody, or control of the reports in question when this proceeding was commenced; that they had prior to that date been transmitted to the governor, as a special report of the State Board of Health. In other words, the reports had been made to the State Board of Health, and by its direction transmitted to the governor. The secretary was only one member of the board, and, as its secretary, it was his duty, the Supreme Court of California says, to comply with all the lawful directions that it might make in the conduct of its business. Whether he opposed their transmission or consented thereto was immaterial. It could not be said that he committed any wrong in complying with the directions of the board; nor could it be said that it was unlawful, under the circumstances, for the board to transmit the reports to the governor. This point the court considers decisive of the case, and, in consequence, it reverses a judgment granting a peremptory writ of mandate as prayed.

Failure of City to Warn Employe as to Smallpox.—The case of Nicholson vs. City of Detroit was brought to recover for the death from smallpox of a carpenter who was in the employ of the city. At the time he contracted the disease he was at work upon a new hospital near an old one for contagious diseases—particularly smallpox; or was employed in tearing down the old building. Concerning the case, the Supreme Court of Michigan says that it was a cruel thing to permit him to enter the valley of the shadow of death unwarned, if those who sent him knew of the danger. A case involving a stronger appeal to the sympathy of a tribunal could hardly be imagined. But the court feels constrained to say that, if there was culpable negligence here, the remedy was limited to the persons to whose negligence the deplorable event was due, if there was a remedy. It was not a case where the doctrines of imputed negligence and that the principal must answer could be applied. The court says that it has been held that a city was not liable to a non-paying patient for injuries resulting from the neglect or misconduct of hospital officers or servants; or for the unskilful treatment of a resident physician; or for failure to take proper precautions to prevent the spread of the smallpox; or to notify the party suing, who was required to assist in the removal of the corpse of a person who had died of this disease, of the dangerous nature of the service required; or where a person caught the smallpox from a nurse who was permitted to leave the hospital without being properly disinfected; or for carrying a well person to the smallpox hospital, whereby he contracted the disease; or for negligence of a servant of the board of health in removing garbage. The true theory, the court holds, is that the township or city represents the state in taking measures for the preservation of the public health and building hospitals for contagious diseases, and, like the state, it enjoys immunity in case of injury to individuals, leaving liability for such injuries to rest upon the persons whose misconduct or negligence is the immediate cause of the damage. The township and city must always act through officers. If it provides a smallpox hospital, it must do it through persons selected for the purpose; and whether the law broadly directs that it shall do a thing, or shall select officers whose duties are prescribed by law, its obligation is the same. In imparting a portion of its powers, the state also imparts its own immunity.

The Law of Insanity.—The Supreme Court of Nebraska makes a kind of summary, in the case of Clarke vs. Irwin, of the law of insanity as applied by the courts of this country. An examination of the reported cases, it says, shows that the issue of insanity most frequently occurs in judicial proceedings as follows: First, in direct proceedings to procure the commitment of persons alleged to be insane; second, in suits affecting the validity of wills, where it is sought to show that the testator was not of disposing capacity; third, in criminal proceedings, where the defense pleaded is insanity and irresponsibility; fourth, in suits to avoid contracts because of insanity; and, fifth, in proceedings otherwise barred, where the plea is that he against whom the statute of limitations is pleaded comes within the enumerated exceptions because of insanity. The rule deducible from these cases is that for the purposes of judicial inquiry men are either sane or insane, and that such insanity is either total or partial. A total deprivation of sense, without lucid intervals, presents few legal difficulties. Such an unfortunate may be presumed never to be on an equality with the sane. The law, however, distinctly recognizes that species of insanity where the subject is deprived of his reason but a portion of the time, or deprived of his reason, either temporarily or permanently, only upon certain subjects. Instances of this character are not rare. They constitute the major portion, if not all, of the reported cases. Early in the history of English jurisprudence the courts did not make a distinction between different degrees of insanity. Insanity was regarded as a fixed term in law, having a certain meaning. If a man were insane on one subject, he was supposed to be insane on all subjects, and for all purposes. Continuing, the court says that in suits to avoid contracts and conveyances on the ground of insanity, it is settled law that the insanity must have entered into and induced the conveyance or contract; in other words, that it was not the act of the free and untrammeled mind, and that on account of the diseased condition of the mind the person entered into a contract or made a conveyance which he would not have made had he been in the possession of his reason. In the case of wills in most all jurisdictions it is held that the insanity available for the purpose of invalidating the will must be of a kind and degree that clearly

affected the testator's disposition of his property, so that the disposition attempted to be made can not be said to have been that of the testator, but the result of mental disease. In criminal proceedings, where the defense is insanity, the universally recognized rule is that, before the defendant can escape punishment, it must appear that the insanity induced the commission of the crime, and that the defendant, because of the diseased condition of his mind, could not understand the consequences or moral enormity of the act, or had not the power of resisting the impulse to commit the crime. And the court holds here that there is no valid reason why the rule regarding monomania or partial insanity should not be applied in the determination of questions involving the statute of limitations.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine (Philadelphia), February 8.

1 *Nature of Typhoid Fever. Eugene Wasdin.
2 Tuberculosis of the Eye. Allen T. Haight.
3 Malarial Iritis: Report of a Case. Sidney D. Jacobson.
4 *Phlegmon and Fistula of the Lower Jaw, Consecutive to Eruption of the Wisdom Teeth. Fracture of the Bone or Fractures of the Teeth and Infection After Extraction. Thomas H. Manley.
5 *Peripheral Anesthesia Paralysis: With a Report of Three Cases. A. H. Levings.
6 Black Vomit in Inflammation and Injury of the Peritoneum. John H. Landis.
7 The Aspect of Disease as Seen in Arctic Alaska. Ernest W. Kelsey.

Medical News (N. Y.), February 8.

8 *The Surgical Treatment of Ascites Due to Cirrhosis of the Liver. George E. Brewer.
9 *On the Etiology of Cirrhosis of the Liver. James K. Crook.
10 *On the Treatment of the Alcoholic Cirrhoses of the Liver. George M. Converse.
11 *On the Diagnosis of Cirrhosis of the Liver. J. C. Wilson.
12 *Cirrhosis of the Liver as Seen in Children. W. C. Hollopeter.
13 *Intestinal Obstruction Due to Gallstones. Lewis S. Pilcher.
14 Percussion of the Lower Border of the Liver. Albert Abrams.
15 Tumors of the Liver. George R. Fowler.

New York Medical Journal, February 8.

16 *Age of First Menstruation on the North American Continent. George J. Engelmann.
17 *The President's Address, Southern Surgical and Gynecological Association. Manning Simons.
18 *Closure of the Abdominal Incision, with Remarks upon the Cause and Prevention of Ventral Hernia. I. S. Stone.
19 *Gastrostomy and Retrograde Dilatation in Impermeable Benign Traumatic Stricture of the Esophagus by the Abbe Saw-string Method. Hugh M. Taylor.
20 *What Shall We Do with the Consumptive? Antonio Fauoni.
21 The Management of the Tendency of the Upper Fragment to Tilt Forward in Fractures of the Upper Third of the Femur; a Question of Priority. Newton M. Shaffer.
22 The Anachronism of the Coroner's Inquest. H. R. Purdy.

Medical Record (N. Y.), February 8.

23 The Diagnosis of Pericarditis. Arthur R. Edwards.
24 *Dengue: A Study of Its Mode of Propagation and Pathology. Harris Graham.
25 *Treatment of Vessels from Yellow Fever Ports. Edmond Souchon.
26 Nephrectomy—A Clinical Study of Four Cases. Louis J. Ladinski.

Philadelphia Medical Journal, February 8.

27 *Regenticides Not Abnormal as a Class—A Protest Against the Chimera of "Degeneracy." E. C. Spitzka.
28 *Tumor of the Brain Localized Clinically and by the Roentgen Rays—With Some Observations and Investigations Relating to the Use of the Roentgen Rays in the Diagnosis of Lesions of the Brain. Charles K. Mills and G. E. Pfahler.
29 The Treatment of Paralytic Attacks. A. Pick.
30 *A Case of Cerebral Bulbar Palsy, with a Study of the Localization of the Tongue and Lip Centers. Charles L. Dana.
31 *Myasthenia Gravis (Asthenic Bulbar Paralysis). L. Wharton Sinkler.
32 *Scleroderma and Sclerodactylia. B. Sachs.
33 *Hypochondria. F. X. Dercum.
34 Fibroma of the Upper Dorsal Region of the Spinal Cord; Removal; Death and Autopsy. M. Allen Starr.
35 The Surgery of the Spine. Samuel Lloyd.
36 *The Sensory Segmental Area of the Umbilicus. William G. Spiller.
37 *Remarks on the Treatment of Syphilis of the Nervous System. Joseph Collins.
38 A Case of Cerebellar Tumor. James Hendrie Lloyd and T. Percival Gerson.

Boston Medical and Surgical Journal, February 6.

39 The Proposed Boston Academy of Medicine. J. G. Mumford.
40 *A Plan for the Municipal Control of Tuberculosis in Boston. Agnes C. Vietor.
41 *Six Cases of Operation for Cleft Palate. C. A. Porter.
42 *The Treatment of Congenital Cleft Palate by Mechanical Appliances. George A. Raymond.
43 Rabies: Report of Cases. Charles J. Patton.

St. Louis Medical Review, February 8.

44 Report of a Case of Congenital Absence of Auricle and Auditory Canal. Robert M. Ross.
45 *The Treatment of Tuberculosis—A Word for Climate. Arch Dixon, Jr.

Cincinnati Lancet-Clinic, February 8.

46 *Spinal Cocainization. Charles A. L. Reed.
47 The Crime of Vera Cruz. Brose S. Horne.

Northwestern Lancet (Minneapolis), February 1.

48 *Some Points Concerning Irreducible and Strangulated Hernia. J. B. McGaughey.
49 Fractures of the Neck of the Femur, and Their Management. W. E. Rochford.
50 A Case of Cerebellar Hemorrhage. Lester W. Day.
51 An Interesting Case. G. H. Mesker.

Pediatrics (N. Y.), January 15.

52 Bottle-fed Babies. Wm. Z. Holliday.
53 Involuntary Micturition in Children. G. Frank Lydston.
54 Treatment of a Case of Pertussis with Cerebral Engorgement. J. F. Rinehart.

Medical Age (Detroit, Mich.), January 25.

55 The Cult of Centenarianism. P. H. Kinnear.
56 The Use of Opium in Lead Poisoning and in Cardiac Disease. Charles R. Wilson.
57 Relief of Pain in Neuralgic Conditions. E. H. Sickler.
58 The Importance of the Trained Nurse. C. C. Mapes.

American Journal of the Medical Sciences (Philadelphia), February.

59 *Affections of the Mouth and Throat Associated with the Fusiform Bacillus and Spirillum of Vincent. Emil Mayer.
60 A Case of Acute Cholecystitis with Gangrene; Cholecystectomy; Recovery. Francis D. Donoghue.
61 *Phrenic Nerve Injuries. Report of a Case. Anatomical and Experimental Researches and Critical Review of the Literature. W. E. Schroeder and F. R. Green.
62 A New Factor in the Etiology of Malarial Fever, Indicating New Methods of Treatment. A. F. A. King.
63 *Angina Pectoris. Beverley Robinson.
64 The Pathology of the Healed Fibrous Adhesions of the Pericardium. H. Gideon Wells.
65 A Case of Fibroma Molluscum. M. B. Hartzell.
66 *Herpes Zoster and Its Relation to Internal Inflammations and Diseases Especially of the Serous Membranes. Roland G. Curtin.
67 *The Changes Occurring in Striped Muscle in the Neighborhood of Malignant Tumors. Frank P. Anzinger.
68 A Case of Ophthalmia Neonatorum Caused by the Diplobacillus of Morax and Axenfeld. E. Andrade.
69 Forward Dislocation of the Head of the Fibula. J. F. Rinehart.
70 *A Note on Osetophytes of the Nasal Chambers. Alexander W. MacCoy.
71 A Review of Some Recent Literature on Certain Infective Diseases. Aloysius O. J. Kelly.
72 Report of a Case of Fibrinous Bronchitis, with a Review of All Cases in the Literature. Milton Bettmann.

Woman's Medical Journal (Toledo, Ohio), December, 1901.

73 Postpartum Surgery. Bertha Van Hoosen.
74 Some Experiments with Antiseptic Solutions in the Oral Cavity. Esther Mitchell.

Clinical Review (Chicago), February.

75 On the Etiology of Goiter. S. R. Slaymaker.
76 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
77 Causes and Treatment of Sterility. Oscar J. Price.

Albany Medical Annals, February.

78 *On the Value to the Physician of Modern Methods of Diagnosis. Henry L. Elsner.
79 *Tropical Diseases as Observed in the Philippines. (Concluded.) R. W. Andrews.

Toledo Medical and Surgical Reporter, February.

80 The Lithemic Condition. Charles L. Van Pelt.
81 Empyema. W. D. Stewart.
82 A Case of Ovarian Tumor. Stephen A. Freund.

Oklahoma Medical News-Journal (Oklahoma City), January.

83 Shock—Its Prevention and Treatment. J. B. Rolater.
84 Hypodermoclysis of Normal Salt Solution in Anemic Heart Murmur, with a Report of Three Cases. Ira B. Bartle.
85 Neoplasms Complicating Pregnancy and Labor. James G. Lynds.
86 Foreign Bodies in the Ear. Frank C. Todd.

Medical Examiner and Practitioner (N. Y.), January.

87 *Rectal Examination for Life Insurance. Rufus D. Mason.
88 Appendicitis as Related to Life Insurance. Hal C. Wyman.
89 *What Bearing Have Skin Diseases upon Longevity. Charles W. Allen.
90 The Blood in Life Insurance Examination. W. D. Schauffler.
91 Heart Strain in Life Insurance. S. S. Herrick.
92 Endocardial and Exocardial Murmurs. George S. Mathews.
93 Albumin Testing. Frank S. Grant.
94 The Reflexes in Their Relation to Life Expectancy. (Concluded.) J. Crocq.

95 Crime and Its Remedy. T. C. Claflin.
96 The Good Life Risk. C. A. McCollum.
97 Résumé of the Report on the Acceptability of Glycosurics. Armand Siredey.
98 Insurance Against Agricultural Accidents. Melite E. Chartier.
99 Where Can Life Insurance Examinations Be Best Made? D. Lichty.
100 The Relative Importance of Diseases of the Heart Muscle and the Heart Valves. Louis F. Bishop.

New York University Bulletin of the Medical Sciences, October, 1901. (Received Jan. 24, 1902).

101 Phlorhizin Diabetes in Goats and Cats and the Non-Production of Sugar from Fat in Diabetes. Julius F. Atrega and Graham Lusk.
102 Metabolism in Diabetes. Graham Lusk and W. L. Foster.
103 The Cephalic Index. Henry L. Winter.
104 Report of a Case of Traumatic Rupture of the Spleen, Splenectomy with Recovery. H. A. Haubold. With Observations on the Blood. I. B. Goldhorn.
105 A Further Contribution to the Knowledge of the Excretion of Organic Phosphorus in the Urine. John A. Mandel and Horst Oertel.
106 The Disinfection of Sleeping Cars. Robert J. Wilson.
107 The Urine as a Soil for Bacterial Growth. William H. Park.
108 A Thread-Test of the Acidity of the Stomach Contents. Edward K. Dunham.
109 Simple and Convenient Apparatus for the Anaerobic Cultivation of Bacteria. Edward K. Dunham.
110 A Note on the Physiological Action of Alcoholic Stimulants. Alphonse A. Wren and Horst Oertel.

Medicine (Detroit, Mich.), February.

111 *Valvular Heart Disease in Relation to Pregnancy and Labor. J. Clarence Webster.
112 *The Recognition of Butyric Acid in Stomach Contents. J. H. Salisbury.
113 Latent Diffuse Gangrene of the Lung with Rupture and Fetid Pleurisy. James M. Anders and Joseph McFarland.
114 Chemic Aspects of Cocain Untoward Effects in Spinal Anesthesia. C. S. N. Hallberg.
115 A Specimen of Bothriocephalus Latus. David Riesman.
116 Stoppage of the Heart in Death from Violence. W. Ramsay Smith.

Medical Review of Reviews (N. Y.), January 25.

117 A Study of Postoffice Criminals. Wm. L. Robins.

Hot Springs Medical Journal, January.

118 Chronic Lacerations of the Perineum. J. G. Carpenter.
119 Galvanism as a Remedy for Uterine Hemorrhage. Edwin Walker.

Bulletin of the Johns Hopkins Hospital (Baltimore), January.

120 Jacob Bigelow—A Sketch. J. G. Mumford.
121 *Proper Footwear and the Treatment of Weakened and Flat Feet by Mechanical Devices for Maintaining the Adducted Position. John A. Sampson.
122 *Mastitis in Typhoid Fever, with the Report of Three Cases. Thomas McCrae.
123 Preliminary Report on the Blood in Two Cases of Filariasis. W. J. Calvert.

Kingston Medical Quarterly, January.

124 Chemistry. I. Wood.
125 Clinical Cases in Hotel Dieu Hospital. E. Ryan.
126 The Use of Bone Chips in Osseous Cavities. D. E. Mundell.
127 Gunshot Wound of the Left Shoulder—Removal of the Whole Upper Extremity. W. G. Anglin.
128 A Case of Actinomycosis of the Liver. W. G. Anglin.

Louisville Monthly Journal of Medicine and Surgery, February.

129 Preventive Medicine. T. H. Baker.
130 *Movable Kidney, and Its Treatment Through Lumbo-abdominal Incision. A. M. Cartledge.
131 *The Modern Small-bore Projectile and Its Effects. Thomas L. Butler.
132 New and Improved Rectal Instruments. J. Rawson Pennington.
133 Worms in the Intestines. J. B. Scholl.
134 Hour-Glass Contraction of the Uterus and Retained Placenta —Arm Presentation. L. G. Contri.

Illinois Medical Journal (Springfield), February.

135 Mediastinal Tumor. E. Fletcher Ingals.
136 Cases Illustrating the Plastics of the Face. Weller Van Hook.
137 Conservative Gynecology and Electricity. F. C. Vandervort.
138 Tuberculosis of Bladder, with Report of Case. P. L. Markley.
139 Gumma of the Spermatic Cord, with Report of a Case. R. R. Campbell.
140 Medical Inspection of Schools. Martha Anderson.

Brooklyn Medical Journal, February.

141 The Clinical Differentiation of Brain Syphilis and General Paresis. W. A. McCorn.
142 The Therapeutics of the X-Rays. John A. Lee.
143 *The Question of Drainage in Appendicitis with Outlying Peritoneal Infection. Richard W. Westbrook.
144 A Case of Traumatic Neuritis of the Median Nerve. A. T. Bristow.

Canadian Journal of Medicine and Surgery (Toronto), February.

145 Treatment of Laryngeal Tuberculosis. J. Price-Brown.
146 Chronic Ulceration of Stomach Simulating Cancerous Disease —Relation of a Case of Gastro-enterostomy with Murphy Button—Recovery. James F. W. Ross and E. B. O'Reilly.
147 *Vaccinal Protection Against Smallpox. P. H. Bryce.
148 Is Vaccination What It Should Be? A. J. Harrington.

Vermont Medical Monthly (Burlington), January 25.

149 Bladder Troubles in Women. A. Lapthorn Smith.
150 Tetanus and Vaccination. C. S. Caverly.
151 Gunshot Wounds of the Abdomen. Henry Janes.
152 Some Remarks Relative to Two Cases of Tetanus Following Vaccination at Burlington, Vermont. Clarence H. Beecher.

Buffalo Medical Journal, February.

153 *Pelvic Lesions in Relation to the Distinctive Effects upon Mental Disturbances. A. T. Hobbs.
154 Renal and Bladder Tuberculosis. J. Henry Dowd.
155 Concerning the Welfare of the Medical Society of the County of Erie. William C. Phelps.
156 The Present Outbreak of Smallpox in Buffalo. Walter D. Greene.
157 A Century of Medical History in the County of Erie—1800-1900. (To be continued.) William Warren Potter.

Medical Times and Register (Philadelphia), January.

158 Tumors and Their Treatment. W. H. Walling.
159 The Responsibility for the Recent Deaths from the Use of Impure Antitoxins and Vaccine Virus. W. R. Inge Dalton.

Mississippi Medical Record (Vicksburg), January.

160 Fracture of the Internal Malleolus and Tibia. W. O. Roberts.

Southern Medical Journal (La Grange, N. C.), January.

161 *Typhoid Perforation: Its Frequency, Prognosis, Diagnosis and Treatment. Hugh M. Taylor.
162 Dipsomania. S. Scruggs.

Columbus Medical Journal, January.

163 Cancer of the Cervix Uteri with Special Reference to Diagnosis. D. Tod Gilliam.
164 Address, Columbus Academy of Medicine. J. C. Lawrence.
165 Chloroform in Labor. W. E. Gordon.

Georgia Journal of Medicine and Surgery (Savannah), January.

166 *Protargol: Its Efficacy in Ophthalmia Neonatorum and Trachoma. J. Lawton Hiers.
167 Facial Erysipelas. Geo. M. Norton.
168 *Gastrostomy and Retrograde Dilatation in Impermeable Benign Traumatic Stricture of the Esophagus and Internal Esophagotomy by the Abbe Sawstring Method. Hugh M. Taylor.
169 Cough and Treatment in Pulmonary and Laryngeal Tuberculosis. Henry Levien.
170 *The Treatment of Fractures of the Femur with the Ambulatory Pneumatic Splint. Walter B. Metcalf.

Charlotte Medical Journal, January.

171 *Foreign Bodies in the Esophagus. J. W. Long.
172 Cancer of the Uterine Cervix. Geo. W. Pressly.
173 Vaccine Virus, with Special Reference to the Dangers of Glycerinated Lymph. F. J. Runyon.
174 Shall the Negro Practice Medicine? W. T. English.
175 Puerperal Eclampsia. H. R. Coston.
176 Koplik's Spots as a Diagnostic Sign of Measles. W. C. Brownson.
177 The Artificial Delivery of the Placenta. B. H. Blair.
178 (Medical Practice) Then and Now. J. A. Reagan.

Mobile Medical and Surgical Journal, January.

179 Wounds of the Heart. L. L. Hill.
180 Diseases of the Gall-Bladder. W. R. Jackson.
181 Some Clinical Thoughts Concerning Amebic Dysentery. W G. Harrison.
182 General Paresis. E. D. Bondurant.

---

1. **Typhoid Fever.**—From a general study of typhoid fever Wasdin has come to believe that the treatment of the disease should be directed more energetically to the destruction or attenuation of the germ in what he considers its primary pneumonic colony, not lessening, however, the great importance of the destruction of the secondary intestinal or terminal colonies. He has sought those germicides that will not be injurious to the patient and will be effective, and this he has found in the chemical recently described by Novy, benzylacetyl peroxid, which is germicidal in aqueous solution, 1 to 33,000, being equivalent to 1 to 1000 bichlorid solution. He has found this innocuous in his patients when given by the mouth or hypodermically in the abdominal cavity after laparotomy and in powders of 3 decigrams three times a day for an indefinite time. It is rapidly eliminated as a hippuric acid by the kidneys. Novy will soon give fuller details. Wasdin has found its application in typhoid fever to have very happy results, and its use has been directed to decrease the germs in the primary lung colony and also in its secondary intestinal colony, and it has been used by hypodermoclysis to combat terminal expressions with the result that in 24 cases the disease has been limited almost entirely to the expression of intoxication from its primary focus, the intestinal symptoms being entirely in abeyance. He suggests the importance of the danger of laying

of dust in the streets by polluted water, and suggests that it would be safer perhaps to filter the street-sprinkling supply and allow the drinking of hydrant water.

4. **Phlegmon and Fistula of the Lower Jaw.**—Manley summarizes his article as follows: Perforative endostitis of the lower jaw is an infective lesion usually consecutive to caries of the crown, incomplete extraction, or the late eruption of the third molar. Infection first provokes an alveolar abscess, with widespread tumefaction and rigidity of the jaw. This may be followed by dislodgment of the imbedded fang or by alveolar necrosis. Perforative osteitis from a dead fang occurs through the least vascular surface of the mandible, by way of the dental canal; this is followed by an abscess, ultimately degenerating into a chronic, unsightly fistula. Surgical aid is resorted to, rather as a means of removing the blemish than because of severe pain. Operative intervention embraces the complete extraction of diseased fangs; dissection away of scar tissue; the thorough curettage of the sinus, and the closing of the breach in the soft parts in such a manner that little or no deformity will result after healing. Drainage must be entirely from the base of the alveolus into the mouth, hence the importance of frequent cleansing of the gums with antiseptic lotions until repair is complete.

5. **Peripheral Anesthesia Paralysis.**—A study of three cases reported by Levings shows that the muscles most frequently implicated are those supplied by the musculocutaneous, circumflex, musculospiral and median nerves. Few of these could be injured in the axilla by stretching, but all can be injured in the neck or between the first rib and the clavicle by pressure, and the lesson to be learned is that during operative procedure the arms should never be forcibly abducted or extended and maintained in this position for any considerable time. Forcible extension or abduction of the arm for the purpose of practicing artificial respiration or while clearing out the axilla in carcinoma, or other operative measures about the shoulders for short periods of time, is not followed by paralysis.

8. **Cirrhosis of the Liver.**—The treatment of hepatic cirrhosis by the Talma-Morison operation is discussed by Brewer, who reports 5 cases and analyzes in tabular form about 50 more from the literature. From reviewing these statistics he finds at least 6 patients who have been cured of ascites by this procedure, and who have remained well for two years or more; 6 others have died, with relief of this symptom from 2 to 6 months before death, or had not been under observation long enough to demonstrate a permanent cure. Another patient suffering from hemorrhage of the alimentary canal was promptly cured by this operation. Many others have been materially benefited. Thirty-eight have recovered from the operation, and considering that the great majority of these were within a few weeks of inevitable death, he thinks that it should encourage us to suggest operation at an earlier and more favorable stage of the disease. If this suggestion is followed he believes that statistics will show a great improvement over those he is able at this time to present.

9. **Etiology of Hepatic Cirrhosis.**—According to Crook there are only three forms of hepatic cirrhosis that have gained an unequivocal position in medical terminology. Venous atrophic cirrhosis, the original cirrhosis of Laennec, is by far the most common form and the only one recognized by many writers. He analyzes the cases reported by the New York Health Board for 11 years, nearly 5000 in number, and finds that the largest number of cases occurred between the 25th and 45th years. It is rare in youth and infancy and in old age. There are 9 cases, however, reported under one year of age, which disposes apparently of the doubt of the existence of the disease in infancy. The great majority were males, 62.28 per cent., and nearly three-fourths were of foreign birth. This goes to show that the native American is much less liable to the condition; while of the foreigners the Irish furnish the larger proportion; the Germans are a short distance behind. Among the exciting causes, alcoholic stimulants take first rank, and even the milder alcoholic beverages are not innocuous in this direction. According to Lancereaux, *vin ordinaire* is a common cause in France. Syphilis has been credited with an important influence, but the difficulty of obtaining information makes reliable statistics scarce. No doubt in some cases it is combined with alcoholic excess. Other conditions mentioned are malaria, infectious diseases such as typhoid, over-eating of highly spiced foods, certain mineral poisons, etc. According to Von Kahlden, cases of acute yellow atrophy of the liver may also indirectly produce cirrhosis. Other forms mentioned are the hepatic cirrhosis of Hanot, where the liver is uniformly large and smooth, moderately granular on the surface, differing from the ordinary venous cirrhosis in the tendency of the liver to remain enlarged, probably having the same etiologic factors, though occurring rather earlier in life, and biliary cirrhosis which consists fundamentally in a primary affection of the biliary reticulum, more especially in an angiocholitis or a periangiocholitis of the bile-ducts of small and medium caliber. Here it seems highly probable, he says, that the immediate cause of the trouble is an upward extension of some pathogenic influence through the biliary system.

10. **Treatment of Alcoholic Cirrhosis.**—The logical indications, according to Converse, are the suppression of alcohol, a non-irritating and a minimum toxic diet, chiefly milk, until the gastro-intestinal symptoms and congestion have subsided and gradually changing to eggs, vegetables, etc., and, last of all, meat. Purgatives and laxatives should be given judiciously at intervals. The patient should take advantage of rest, open air, moderate hydrotherapy, and lead as careful a life as his financial situation and occupation will permit. When ascites develops, it is all important to differentiate between the atrophic and the hypertrophic forms, but the treatment should be mainly on the same lines. If accumulation is due to mechanical obstruction in the portal system, frequent tappings will probably only precipitate the end.

11. **Diagnosis of Hepatic Cirrhosis.**—The following are the conclusions of Wilson's article: 1. The term cirrhosis is an unfortunate one. It has been applied to conditions wholly unlike etiologically, anatomically and clinically, which have, however, in common an overgrowth of the connective tissue of the liver. 2. The term chronic interstitial hepatitis is to be preferred. 3. Alcohol is by far the most common cause of interstitial hepatitis alike in the cases in which the liver is of normal size or slightly enlarged, in the atrophic form and in the hypertrophic form. 4. The symptoms of this condition are in many cases ill-defined and not rarely the liver is not changed in size or contour. The clinical diagnosis in a large proportion of the cases is therefore impossible. 5. In the presence of definite symptoms and of the signs of enlargement or diminution of the liver,, that is to say, in terminal conditions, the diagnosis is commonly a simple matter.

12. **Infantile Cirrhosis.**—According to Hollopeter, who reports two cases, cirrhosis of the liver in infants and adolescents is not so infrequent as clinicians infer and cirrhosis in children can generally be relegated to either syphilitic or alcoholic types, with a very small percentage as sequelæ of the acute infectious diseases. As a rule the premonitory symptoms are disguised by a long train of gastro-intestinal irritations that render early diagnosis uncertain.

13. **Intestinal Obstruction from Gallstones.**—Pilcher reports a case, and considers the symptoms and diagnosis. It is not unusual, as in the case reported, for notable abdominal symptoms to be entirely absent. The diagnosis does not usually declare itself until the lower portion of the small intestine is reached, which he considers as probably due to localized irritation and circumscribed peritonitis, with its attendant paresis, probable adhesions and possible acute angulation. The diagnosis must often be obscure. He suggests exploratory operation, holding that while in many cases it may be fruitless and that some cases may be operated on which might have recovered if left alone; nevertheless the operative failures will bear but an insignificant relation to the increased number of recoveries of patients who otherwise would have died.

16.—See abstract in The Journal, xxxvi, p. 1650.

17.—Ibid., xxxvii, p. 1481.

18.—Ibid., p. 1480.

19.—This article has appeared elsewhere. See THE JOURNAL of January 4, title 50, p. 61.

20. **Tuberculosis.**—Fanoni takes an extreme view in regard to the danger of contagion or infection from consumption and would restrict the marriages of consumptives. He insists on early diagnosis and reporting of cases and the isolation of patients. He is sanguine enough to say that a battle waged in this manner against consumption would stamp out the disease in a few years.

24. **Dengue.**—Graham finds that dengue in Beyrouth, Syria, offers peculiar advantages for its study. He experimented with the mosquito and commenced a series of investigation quite analogous with those of Reed and Carroll to decide whether these insects carry the infection. Besides clinical observations which pointed strongly to this, he experimented by direct inoculation, infecting his mosquitoes from patients suffering from the disease and then placing them under nettings with healthy persons, who readily submitted to the experiment at a cheap rate and produced the disease with the entire exclusion of other insects. To further make his experiments conclusive he carried the mosquitoes out into the country villages where dengue was not to be found, and there made his inoculations. He thinks his experiments prove that dengue is not a contagious disease, but that certain forms of culex may carry it from one person to another. Blood examinations carefully made revealed an ameboid form inhabiting the blood corpuscles which he has been able to study throughout the most of its life history in the blood. He illustrates this, and says it may not be absolutely proven that this hematozoon is the cause of dengue, but its constant presence in the red corpuscles during fever, its resemblance to the parasite of the Texas cattle plague, and its similarity in mode of growth and propagation to the malarial parasite all point in the same direction and lead us to believe by analogy, if in no other way, that in this parasite we have the cause of dengue.

25. **Yellow Fever.**—Souchon criticises the recommendations of Reed and Carroll as regards quarantine, quoting large numbers of cases which seem to him to prove that disinfection alone without quarantine is insufficient. He says that the final recommendations of Reed and Carroll that the disinfection of vessels before departure be thoroughly carried out, together with abolition of all causes of yellow fever in the ports, is the key to the situation. If this can be done quarantine regulations may be altered.

27. **Regenticides.**—Spitzka's article is an elaborate historical study of the mental conditions of assassins of prominent individuals. It covers an immense field and goes a long way to show that in comparatively few cases are these criminals to be considered insane.

28. **X-Ray in Brain Tumors.**—Mills reports a case and Pfahler discusses the *x*-ray diagnosis. The tumor was correctly located during life, but only a portion of it was removed. The patient died two hours after operation. The only previous case to the one reported is that of Church of Chicago, where a cerebellar tumor was diagnosed during life and found by autopsy where the skiagram showed it. Obici and Ballici have also showed the presence of tumor, but postmortem. Pfahler has experimented on living individuals and also cadavers with the *x*-ray to detect tumors, and from his experiments draws the following conclusions: 1. That fibrosarcomata, and probably other tumors, can be photographed in the living subject and their location and extent shown. 2. That various tumors can be photographed in their most common locations. 3. That other abnormalities and deficiencies in brain tissue itself can be photographed, which will probably be of value in the diagnosis of cysts, softening and hemorrhages. 4. That over-exposure of the third series and the under-exposure of the fourth show that good results will only follow the most careful technique and keen judgment as to the special conditions in each case. 5. That the shadows obtained in normal parts of the brains studied indicate that great care is necessary in the interpretation of any shadow obtained in the living subject.

30. **Tongue and Lip Centers.**—With the report of a case of cerebral bulbar palsy, Dana describes the localization of the tongue and lip centers, both in view of clinical experience as reported in the literature and from experiments observed. His conclusion is that in the human brain the lip and the tongue centers are closely connected and more or less identical. One group of centers for the tongue is in relation with the articulatory movements of the lips, and another with the movements of mastication, opening and shutting the mouth and deglutition. The area for the excitation of movements of the tongue is a wide one, being associated probably in its lower parts with the articulatory movements and in the upper parts with the masticatory movements. The centers lie at the base of the pre- and post-central convolutions. Paralysis of the tongue, and to some extent of the lips, from a one-sided cortical lesion occurs, and may perhaps be explained by the fact that in many individuals the brain becomes accustomed to use only the center of one side, and that temporary paralysis will frequently follow an injury to the center in use. This will also explain the difficulties of deglutition and often of articulation in hemiplegia. Dana also doubts that permanent bulbar paralysis can be produced by cortical lesion of one hemisphere, if so, it must be considered an anomaly.

31. **Myasthenia Gravis.**—Sinkler describes the disease, having studied all the reported cases. He describes its essential features, which are weakness beginning in the bulbar muscles—those of the tongue, lips, larynx and eye—with exhaustion and apparent recovery after rest, lack of sensory symptoms and the myasthenic reaction, that is, exhaustion by prolonged faradic stimulation as from voluntary effort, but no exhaustion by galvanism. The etiology is also discussed. It seems to occur alike in both sexes, and frequently follows some acute illness. There may be a family tendency to neuroses, but there is no constant predisposing cause. Ptosis is one of the most common symptoms, occurring perhaps only in the latter part of the day. Other symptoms are ocular muscle weakness, difficulty in deglutition and articulation, weakness, especially in the neck, and dorsal movements, and sometimes facial paralysis—all aggravated by various conditions such as cold weather, menstruation and general affections—normal reflex and absence of Babinski reflex. In most cases no postmortem lesions were discovered; rarely degeneration existed in the medulla; there was nothing to settle the pathology. The most reasonable theory is that there is some toxin attacking the motor neurons, but we are ignorant of the character of the toxemia. The well-marked cases are easily diagnosed; bulbar paralysis is readily distinguished by the ptosis and distribution of the lesions throughout the organism, the less progressive character and the absence of sensory disorders when the limbs are involved. The organic symptoms show up clearly from hysteria and neurasthenia. Nearly 50 per cent. of the cases end fatally. The disease ranges in duration from a few days to many years. It is difficult to say whether complete recovery ever occurs. No treatment seems available, strychnia is useless, and electricity is likely to do more harm than good. Arsenic has apparently been of service in some diseases, but its specific action is questionable. The best line of treatment is building up the general health, improving nutrition, avoiding exposure and carefully regulating the exercise. In fact, the treatment is much like what would be employed in marked neurasthenia.

32. **Scleroderma and Sclerodactylia.**—These conditions are discussed and cases reported by Sachs, who calls attention to the resemblance in effect of treatment between this condition and myxedema, thyroid gland having remarkably good effects in both. He calls attention to the typical facies of the disease, the pinched and attenuated nose, sunken cheeks, and retraction of the upper lip in advanced stages. As regards thyroid he does not say that it does good in all cases, but that it is well to try it. Everything else has been tried without much benefit, and this seems to be the most hopeful medication.

33. **Hypochondria.**—Dercum describes the symptoms and differentiates hypochondria from hysteria, neurasthenia, etc. He also calls attention to the necessity of carefully distinguish-

ing between the condition itself and the various hypochondriacal stages observed in some insanities. Simple or true hypochondria is a well-defined affection, he says, which may last for an entire lifetime. It may be general in its type, or specialized on a few functions on which the attention of the patient is fixed, as in the gastro-intestinal or sexual form. It may appear early in childhood.

36. **Sensory Area of the Umbilicus.**—Spiller reviews the subject and reports a case. He concludes from his study: 1. That Head is probably correct in placing the umbilicus between the ninth and tenth thoracic sensory areas. 2. That the Babinski reflex may be absent in cases of lesion of the lumbar and sacral regions of the cord, though the clinical symptoms may indicate merely that the cord is compressed above the lumbar region. The absence of the Babinski reflex in such cases may possibly be a valuable sign of disorganization of the lumbar and sacral regions. 3. That while loss of the patellar reflexes may occur from transverse lesions of the cord above the lumbar region, the cause of this loss in a certain number of cases is to be found in lesions of the area through which the reflex are passes.

37. **Nervous Syphilis.**—Collins points out the difference between parasyphilitic and syphilitic conditions, holding that the latter are not amenable to antisyphilitic medication. He gives mercury or iodin for other indications, and in cases where tabes and paresis occur within a comparatively short period after the infection and proper antisyphilitic treatment has not been employed, he would employ it. He recognizes syphilitic pseudo-tabes and syphilitic pseudo-paresis. As regards the recovery from syphilis he is dubious, and does not agree with syphilographers who teach the rapid and complete curability of syphilis. There is nothing that will absolutely insure a syphilitic of perfect safety in the future. He also says that the time to begin antisyphilitic medication is when the diagnosis is made. Unfortunately we must often wait for this. His method of using mercury is preferably by inunctions and next hypodermically, rarely by the mouth or inhalation. No definite dose can be given, each case requiring individual treatment. The patient should never realize the toxic effects of the drug. The maintenance of nutrition and the general tone of the patient are insisted upon. In treating syphilitic nervous disease mercury should be given first, in exudative nervous syphilis, while the iodids should be given preferably when the nature of the nerve lesion is that of granuloma. The dose of iodid must be regulated by the individual case and the duration of the treatment will depend on the readiness with which the patient responds. The general treatment is that for a patient suffering from depressing neurasthenia. The special treatment applicable to each case will depend upon the intensity and seat of the lesion.

40. **Tuberculosis.**—Victor deprecates the prominent emphasis on the contagion of tuberculosis as an error in fact as well as judgment, and as liable to create a condition of panic which does infinite harm and does nothing toward combating the disease. A large proportion of the community has tuberculosis and every little symptom is magnified by public fear. The problem is a dual one. Tuberculosis is a diseased condition caused by germs of low vitality which die rapidly under unfavorable conditions, but its diminution by attacking it outside the living body is impossible because of its strong entrenchment in the bodies of people in the condition of lowered vitality. As long as such people exist, its virulence can never be destroyed. The great sources of such lowered vitality are insufficient food, insufficient air and light, overwork and worry. From this it follows that the fundamental factor in the existence and increase of tuberculosis is the health of the mass of the people, and that the community which does not vigorously attack the removable causes that lower this mass-health, passively supports a city laboratory for the manufacture and maintenance of virulent cultures of tubercle bacilli. The only definite decrease in tuberculosis is such as that recorded: 1, in the cures effected in patients who adopt some modification of the open-air life, with superfeeding and freedom from overwork and worry: 2, the improvement in certain New England statistics, the only changed factor of general extent being the almost universal use of the bicycle and other reactions tending to increase outdoor life, especially among women; 3, the decreasing statistics of tuberculosis in a German village where tuberculosis sanatoria were established, the lives of the villagers consciously and unconsciously immitating the good example of the sanatoria. She suggests the following: An unpaid municipal tuberculosis committee of men and women fitted to view the subject broadly. Sub-committees on air and light in tenements and dwellings; in other buildings, as workshops, factories, schools, etc.; on cooking and savory serving of food on large enough scale to give the poorest a chance to be well nourished; on employment, to put the vast army of unemployed or precariously employed in connection with the equally vast field of undone work; on dust and noise, which decrease the available air and light in even the best localities; on nursing and disinfection and so on, and a modern sanatorium located in each section of the city as a living example of the method of living which cures. To these sanatoria selected cases should be sent for short periods to learn the lesson by actual experience; returning to their homes they will themselves be teachers to ever new and widening groups. Finally, but of least importance for the eradication of disease, a distinctly charitable hospital is needed to care for the really destitute and desolate; but with the proper better control of the situation by the whole community, this hospital will not need to be a very large one.

41. **Cleft Palate.**—The following points are mentioned by Porter as of importance in the technique of the operation for cleft palate; 1. Careful and complete denudation of the whole cleft, best accomplished by grasping the tip of the uvula with fine forceps, and cutting from before backwards, on either side, a continuous strip of mucous membrane about one-eighth of an inch in width. If, as sometimes occurs, the edge appears too thin, the flap may be split for one-eighth of an inch before suture, thus giving a broader surface for approximation. Two lateral incisions are then made from the level of the canine teeth, close to the margin of the alveolar arch, back to, and through the fan-like expansion of the tensor palati muscle. Each incision should not be nearer than one-half an inch to the tendon of this muscle where it winds around the hamular process. By these incisions, tension on the stitches through the soft palate is avoided, and after healing the tensor again resumes some of its functions. The levator palati muscle should not be cut and the enlarged tonsils and adhesions should be removed previous to the operation. The most important points are that the edges to be sutured should never be crushed by grasping with forceps and that all tension must be avoided. As a rule too many stitches are used and they are tied too tightly, causing subsequent swelling and cutting out. He puts the suture stitches three-eighths of an inch apart and some distance from the edge of the wound. Usually 6 will suffice. He has used silk previously soaked in balsam of Peru which is better than silver wire or silkworm gut. Rose's position is, without question, superior to any other, and unless contra-indicated, the anesthesia should be chloroform, as allowing more quiet breathing and the absence of mucus. The after-treatment he thinks has been too much neglected. Adhesions about the palate should be divided where present, the soft palate exercised, massaged and made movable by voluntary contraction in adult cases, and by passive motion and stretching with the finger, in children. The power of speaking properly, in spite of good technical results, is always in direct ratio with the time spent in instruction and intelligent effort of the patient. It is possible that enlarged tonsils and adenoids may in certain cases aid in closing the nasopharynx and be of definite advantage in speech. Porter suggests that possibly the submucous injection of paraffin according to Gersuny's method, may be of advantage to diminish the nasopharyngeal space at a point opposite the soft palate.

42. **Mechanical Appliances in Soft Palate.**—Raymond has never seen a case where perfect speech has resulted from the surgical treatment of cleft palate alone. Any careful operator can close the palate and make it a surgical success, but he

never found anything like a physiologic success; hence the failure to produce speech. He therefore believes in appliances fitted and adapted so that even children can become accustomed to them and wear them with as much ease and comfort as a set of artificial teeth and which would be a great help to perfect articulation. He reports a number of cases demonstrating this point.

45. **Treatment of Tuberculosis.**—Dixon believes in the climatic treatment of tuberculosis, but says only general rules can be employed in advising locations. Only trial will show which special place will most benefit a given case. Patients in the infiltrative stage with good hearts, a fair amount of strength, and without nervous manifestations or high temperature, should be sent to high altitudes; but it is usually wise first to send them to a moderate altitude. The more advanced cases should be sent to medium altitudes, and still further advanced cases to a still lower altitude. The two essentials of a good climate for the treatment of tuberculosis are dryness and sunshine.

46.—See proceedings of the Cincinnati Academy elsewhere in this issue.

48. **Strangulated Hernia.**—After general remarks and report of a case, McGaughey summarizes as follows: "1. Every irreducible hernia is a menace to the patient, and it is the duty of his medical adviser to fully explain the possible dangers and to recommend interference. 2. Strangulated hernia should not be subjected to violent or prolonged attempts at reduction, but operation should be resorted to as soon as possible after reasonable attempts to replace it have failed. 3. The sac should be opened in every case. 4. The omentum should be tied securely, and cut off well above the point of constriction. 5. Lavage of the stomach should be made use of prior to the administration of the anesthetic if there has been stercoraceous vomiting. 6. No case not actually moribund should be refused operation."

59. **Ulcero-Membranous Angina.**—Mayer reports a case of ulcero-membranous angina in which numerous bacilli and spirochetæ were discovered, corresponding with those described by Bernheim and Vincent. He reviews what he knows in regard to the disease, giving its nomenclature by various authorities and suggests that it is generally conceded that the presence of virulent bacilli precludes the existence of the diphtheria germ. The symptoms are comparatively insignificant in the beginning, and the prognosis is generally good, but there is a tendency to recurrence. Clinically it is very difficult to differentiate from any one form of specific disease, hence the importance of its careful study. It must be borne in mind that syphilis may be present. A membranous deposit with fusiform bacillus and spirillum may be associated with underlying syphilis. In this case he would say: Treat the angina and eliminate that, if necessary giving iodids until entirely healed. The treatment consists in the use of boric acid solution as a gargle and the local application of iodin and peroxid of hydrogen.

61. **Phrenic Nerve Injuries.**—Schroeder has studied a case of paralysis of the phrenic nerve and has also made experimental observations by pinching the nerve during exposure in tubercular gland operations, and also in animals. Green reviews at length the bearing of these experiments and others on the question of the innervation of the diaphragm. The general conclusions are summed up as follows: "1. From the clinical and experimental data it would seem that the diaphragm is not an essential muscle of respiration. 2. That as the symptoms commonly described as caused by an irritation of the phrenic were uniformly absent not only in the operation but in all of the experimental work as well, it is safe to infer that they may have been due to something other than a simple injury to the phrenic. 3. That while from an anatomic point of view the diaphragm undoubtedly is innervated by branches from the intercostal nerves, this nerve supply is secondary to the phrenic and is insufficient to carry on the action of the diaphragm after a division of the phrenic. 4. That a division of the phrenic nerve, producing a partial collapse of the lower lobe of the lung on the affected side and an atrophy of one-half of the diaphragm, might predispose to infection of the lung or be followed by a diaphragmatic hernia. 5. That a division of one phrenic nerve in man, resulting in paralysis of one-half of the diaphragm only, is not necessarily fatal."

63. **Angina Pectoris.**—Robinson finds typical angina pectoris a rare disease, while the pseudo-angina is comparatively frequent. He thinks the latter is generally of neurotic character, but would be slow to admit the existence of true angina of purely neurotic origin. He reviews the symptoms and etiology at length and remarks in regard to the treatment. Of course, for the treatment of the attack the vaso-dilators—the nitrites and nitroglycerin—are the standbys. The condition of the heart is to be looked after, the hygiene of the patients attended to, and over-exertion, exposure to wind, great heat or cold or rapid changes carefully avoided. The article is too detailed to be fully abstracted.

66. **Herpes Zoster.**—In a former paper entitled: "Is Herpes Zoster a Cause of Pleurisy and Peritonitis?" Curtin raised certain questions which he thinks he can now better answer. A number of cases of herpes are reported complicating pleurisy, Bright's disease, localized peritonitis, meningitis, etc., and rheumatic affections. Their study seems to indicate that inflammation of the serous membrane precedes a zoster, therefore inflammation causes the eruption. The cases here reported settle at least some of the problems suggested in this former paper.

67. **Malignant Tumors.**—Anzinger has investigated the changes occurring in striped muscle in the neighborhood of malignant tumors in a large number of cases, including 30 cases of cancer of the breast, infiltrating the pectoralis, 15 of epithelioma of the lip, and others of carcinoma and sarcoma involving different portions of the body and affecting the adjoining muscle tissue. The changes produced in muscle by invading carcinoma are more marked than those produced by sarcoma, but do not differ essentially in kind. Those produced by sarcoma are chiefly mechanical; those due to carcinoma are mechanical, nutritive and metabolic. Evidences of toxic action are more marked in the latter than in sarcoma. Carcinoma acts more as an active injurious foreign body upon muscle than does sarcoma.

70. **Nasal Osteophytes.**—MacCoy finds the presence of these bodies in the nasal chambers generally situated well back underneath the lower turbinated bone, on the bony septum, and on the floor of the nose, varying in size from a sharp spicula to the small irregular mass. The summary of his paper is as follows: "1. Under an anesthetic, with the little finger as an intelligent probe, certain osseous structures foreign to normal nasal conditions may be found. 2. These osseous masses are osteophytes, having the anatomical structures of such bodies. 3. Osteophytes, clinically, are new conditions to be considered and studied. 4. In operations for deflection of the nasal septum, lack of complete success may result from their presence. 5. Osteophytes are loose in structure and readily removed by proper instruments."

78. This article has appeared elsewhere. See THE JOURNAL of February 15, ¶1, p. 477.

79. **Tropical Diseases.**—In this concluding instalment Andrews describes the symptoms of ankylostomum duodenale as described by him in the Philippines. He states that alcohol, oils, turpentine, etc., and glycerin are all solvents of thymol, and if these should be given while thymol is being administered, there is grave danger of poisoning; also, unless the patient is properly prepared by rest and feeding, it is dangerous. Nevertheless, it was the treatment generally used in the army. The patient was put on a liquid diet for two or three days and the bowels freely opened. On the next day no food was allowed, and then usually 20 grains of well triturated thymol was given in capsules every hour for three hours or until 60 grains had been taken. If the bowels did not open spontaneously, another aperient was given, usually a seidlitz powder, four or five hours after the last dose of thymol. One such course of treatment may be sufficient, but it is well after a week has elapsed to

again examine the feces and if ova are present to repeat the treatment as before, once or oftener. Male fern is given in the same dose as thymol, but was not used after the thymol treatment was introduced. Prevention of contamination of soil and water constitute the prophylaxis. There was frequent disease of the gums; some of these cases may have been sprue. Some of the patients had diarrhea and dysenteric symptoms besides the sore mouth. The various forms of dysentery are noticed in conclusion.

87. **Rectal Examination for Life Insurance.**—Mason calls attention to the rectal conditions which may affect the expectancy of life. He does not advocate thorough examination in all cases, but where anything indicates disease in this region it should be attended to.

89. **Skin Diseases and Longevity.**—Besides the specific skin disorders, cancer and leprosy, there are a number of other cutaneous troubles which have more or less to do with underlying conditions that may affect the longevity of the sufferer, such as glycosuria and the scrofulides, which, if not tuberculous, are probably luetic. The everyday affections which make up the work of the dermatologist, such as acne, eczema, psoriasis, erythema, parasitic disease, impetigo, lichen planus, etc., have not a very marked influence on life duration.

111. **Heart Diseases in Pregnancy and Labor.**—The recognition of the importance of the condition of the heart in relation to pregnancy and labor is largely a matter of the last 30 years, and the text-books before 1871, as a rule, made little mention of it. It is well known that many patients of this class pass through pregnancy and labor without difficulty. Nevertheless it is a matter of serious importance, in some cases requiring the physician's most careful attention. So far as we can judge from the statistics, the most fatal lesion is mitral stenosis. There is, of course, a certain amount of disturbance of the heart in normal pregnancy, but true valvular disease rarely begins in this condition and acute endocarditis is rarely found. When it does occur it must be regarded as more serious than in non-pregnancy. The effects of pregnancy on the woman who has valvular lesions vary greatly and depend upon a variety of factors, such as the extent of the disease, the degree of compensation existing, the general health, habits, etc. There is always a danger, especially when the disease is recent, that fresh fibrin-vegetations may form on the valves, owing to the increased hyperinosemia of the blood. The pregnant woman has, other things being equal, a short life expectancy if she exercises the function of child-bearing, and the danger is increased with succeeding pregnancy. When the compensation is perfect, she may pass through with no more trouble than in normal cases, but in mitral disease, especially where stenosis exists, the most marked symptoms occur. They usually supervene after mid-term, but may develop earlier. The majority of cases which go to term become worse during the last weeks. As regards the influence of cardiac disease in deciding the question of marriage, different views are held. It is very commonly taught that a woman with weakened heart should not marry if her well-being alone be taken into consideration. Some would insist on this restriction only in such cases as mitral stenosis, when the woman's health is not good or some other bodily lesion exists. Careful hygiene should be observed during pregnancy. Where no abnormal symptoms occur no medical treatment is required, but tonics where needed and heart tonics for strengthening the heart muscle. When digitalis is used, a nitrite should also be used to counteract the effect of digitalis in increasing the blood pressure. If the heart failure seems to show, most authorities claim the pregnancy should be terminated, especially when the more severe signs are present. This should be done in the majority of cases, but it should be remembered that the procedure may be as dangerous as a full-term labor, especially when cardiac symptoms are marked. The greatest danger is at the end of the third stage of labor, especially in mitral stenosis cases. The circulation in the uterus is practically checked, the organ being quite anemic and the circulation in the extra-uterine tissues greatly interfered with. This alteration in the circulation throws an extra burden on the already overworked heart, and paralysis may follow. Fritsch's view that death occurs from syncope on account of an insufficient amount of blood reaching the heart, is not proven. When labor occurs the patient should be carefully watched and kept quiet through the first stage. She should not be allowed to pass through the second stage on her own strength, especially if mitral disease exists. Chloroform should be used. Webster advises nitrite of amyl given by inhalation. Hypodermic injections of nitroglycerin may be used. In the third stage, according to his theory of overworking of the heart, the indication is not to conserve but to allow the free escape of a certain amount of blood from the body in order to prevent over-distension of the lungs and the right side of the heart. The patient is kept under chloroform, ether is given hypodermically from time to time, and the nitrite tends to counteract the contractibility of the uterus, and so delay the separation and expulsion of the placenta. This should not be allowed to take place naturally and neither the Dublin or Credé method should be used. The best method is manual separation; allow a certain amount of blood to escape through the torn sinuses, but watch it carefully and watch the heart also at the same time. He thinks that it is not necessary to bleed the patient from other parts while the easy method of bleeding from the uterus is possible. The treatment of these cases during the puerperium is of the greatest importance; rest in bed for several weeks, stimulants, administration of heart tonics, easily digested nourishing food, no straining, the bowels regulated so as to move easily and catheterization for some days, complete quiet and good nursing are imperative. The patient should lose no sleep or be disturbed, and as soon as the stomach is able to bear iron it should be given.

112. **Butyric Acid.**—Salisbury has tried a new test for butyric acid in the stomach which was published by Knapp, of New York, in the *Medical Record*, Nov. 10, 1901, and finds that it is not sufficiently delicate for clinical use. Butyric acid, unless present in large quantities, does not interfere with titration of free HCl, by the use of dimethyl-amido-azo-benzene as an indicator. Butyric acid may be readily separated from the stomach contents by distillation in a side-neck test-tube, and may be recognized by its odor when contained in moderate quantities.

121.—This article has appeared elsewhere. See The Journal of February 1, ¶12, p. 351.

122. **Mastitis in Typhoid.**—This is apparently one of the rarest complications of typhoid, occurring much less frequently than orchitis, thyroiditis, or parotitis. McCrae, however, reports two cases and sums up his conclusions as follows: "1. Mastitis is a rare complication of typhoid fever, and usually occurs late in the attack. 2. It occurs in both sexes, and is apparently not associated with a functionating gland. 3. Both breasts are involved in about one-half of the cases. 4. Suppuration occurs in about half of the cases, and may be associated with the typhoid bacillus or staphylococcus. 5. It is of no special moment in the prognosis."

130. **Movable Kidney.**—Cartlege finds the right kidney much more susceptible to displacement than the left, and he thinks that 15 per cent. of all women who consult physicians for pelvic or abdominal disorders are thus affected. He thinks that tight lacing, chronic constipation and pregnancy, together with the great frequency of gall-bladder disease in women, are sufficient to account for the greater frequency in that sex. He also holds that movable kidney of the right side is frequently associated with chronic changes in the appendix. Whether this is entirely one of effect or should be considered a contributory cause he is unable to say. He has removed the appendix in every case of movable kidney operated on by his method of removing by one incision, which he describes. That there is a connection between movable kidney and chronic appendicitis he is inclined to believe. The restless kidney probably does adjacent structures more injury than it sustains itself. The descending colon and cecum are kept in a chronic state of congestion or irritation. In conclusion he describes his method of operating. The incision should begin an inch external to McBurney's point and be directed upward, outward

and backward for five inches. The tip of the twelfth rib is the objective point above. Separate aponeurosis and muscle fibers of the external oblique, split internal oblique with scissor point and thoroughly retract by retractors; open the peritoneum in the usual way through a small incision, and explore. Draw cecum, if not fixed, into the wound and close the peritoneum with running gut suture. Split the fibers of the transversalis and grasp in the same retractor as the internal oblique. At this stage of the operation dilatation by traction is the secret to easy access. Render the muscle patulous to succeed. In splitting the fibers of the internal oblique the rather large size of the last dorsal nerve will be observed. Next split the peritoneum from the transversalis fascia, beginning at the lower end of the incision. This is best done with a flat sponge. The split in this transversalis runs as far back as the thick aponeurosis known as the lumbar fascia. Place a wide retractor against the colon, draw it toward the median line, enter under the lower costal arch lifting the same. These retractors will keep muscles separated as well. We are now in a position to work with the greatest ease and accuracy with the patient in the dorsal position, though slightly inclined to the opposite side is best. With this control of the operating field, Cartledge believes it possible to suture the kidney so that it will remain stationary.

131. **Modern Small-Bore Projectiles.**—Butler's article describes the effects of bullets from the American army rifles, illustrated by cases showing the effects at short range in the soft tissues, which may be extreme even in the muscles. He has not found as much tendency to split up as with the old projectiles, little infection of the wound and lodgment rather exceptional at long range. Primary hemorrhage is more apt to occur than with the old weapons. In the explosive zone hard bone is often shattered in many pieces with the fragments scattered over large areas, but the bone area decreases as the range increases. There are many cases on record where perforation has occurred at medium and long range with apparently little damage and where the damage from perforating wound of the hard bone is often slight. Chest wounds are less dangerous with modern projectiles, but wounds of the abdominal viscera, especially the glandular organs, show an explosive effect often up to 1000 yards or more. Wounds of the cranium are often disastrous even at long range; at the extreme range of 2000 to 4000 yards, a hit is exceptional. He has not been able to get much data of such cases, but he is inclined to think that the wounds are sometimes very severe, owing to the so-called "tumbling" effect of the bullet.

143. **Drainage in Appendicitis.**—Westbrook takes up the subject of drainage and summarizes his conclusions as follows: "1. There are as yet no well recognized formulæ to guide the surgeon as to when to omit drainage in purulent collections attending appendicitis. 2. While it is true that the peritoneum may be relied upon to take care of a certain quantity of infectious material, we have no means of estimating in any individual case what that quantity may be. It is contrary to experience to expect the peritoneum to care for any large quantity of infection, otherwise we would never have to operate at all for appendicitis, or septic peritonitis. 3. An estimate of the individual's resistive powers to infection may be approximately made by the usual methods of consideration of the conditions of his lungs, kidneys, etc., his pulse and temperature, his previous health and talents, and perhaps, in some instances, by the amount of leucocytosis found on blood examination. But we have no means of placing over against this, at the time of operation, an accurate estimate of the amount and virulence of the infection with which the patient's resistive powers will have to contend. We can not estimate any individual susceptibility or immunity to infection which he may possess. 4. If the surgeon decides to omit drainage in any case of appendicitis with outlying infection, he must do so relying entirely on his personal ability to estimate the clinical facts in the case, and the nature and extent of the pathological process exposed at operation. Then, if his previous experience has brought him to the point of omitting drainage, he is warranted in doing so. 5. The majority of surgeons the world over still consider drainage necessary in all degrees of the class of cases under discussion, and that we must consider the safer teaching."

147.—See abstract in The Journal, xxxvii, p. 48.

153. **Pelvic Lesions in Insanity.**—This latest of Hobbs' papers on the subject gives the results of numerous operations in various forms of insanity with special reference to the effect on the mental disease. The operations included ovariotomy, replacement of the displaced uterus, cervical diseases, diseases of the uterine body and of the perineal body. His figures are certainly favorable to the results of operation, but most of the cases where recovery occurred were of the acute type and the exact relation of the operation to the recovery is not so evident. The most significant cases were the chronic mania and melancholia recoveries and the elements of time and recurrence are here to be considered. The paper is not so detailed in regard to this point as might be desired.

161.—This article has appeared elsewhere. See The Journal of January 25, ¶147, p. 281.

166. **Protargol.**—The use of protargol in eye disorders is advocated by Hiers, who reports cases and offers the following deductions from his experience: "1. On account of its noncoagulability of albumin and albuminous products, and the facility with which it can be indiscriminately combined with the alkalies and local ocular anodynes, protargol possesses a marked advantage over silver nitrate. 2. As contrasted with the latter in the therapy and prophylaxis of gonorrheal ophthalmia, protargol does not undergo chemical changes nor decomposition; and is advantageous in that its action is noncaustic and unirritating. 3. The harmlessness of protargol renders its application easy and safe. 4. Protargol, while exercising remarkable penetrative power, will not stain the mucous membrane nor sear the tissues. 5. Its penetrability enables it the better to undermine and eradicate diseased conditions; which faculty, in a measure, is denied nitrate of silver, on account of the pseudo-membrane eventuating from its application. 6. For general prophylaxis simple washing of the eyes with protargol is sufficient; but where gonorrheal infection has been proven, or is suspected, instillation is indicated. 7. As a routine measure, washing the eyes with protargol should be made obligatory in private obstetrical practice. 8. Protargol should be advocated and substituted for silver nitrate in clinics. It possesses all of the advantages with none of the disadvantages of its silver salt. 9. Protargol is reliable, safe, certain and quick in the therapeutics of ophthalmia neonatorum and trachoma if used in sufficient strength and with proper frequency. 10. In my practice and experience it has manifested itself the remedy par excellence in those conditions in which its employment has been indicated."

168.—This article has appeared elsewhere. See The Journal of January 4, title 50, p. 61.

170.—This article has appeared in The Journal, xxxvii, p. 1605.

171.—See abstract in The Journal, xxxvii, p. 1554.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), February 1.

1 Total Extirpation of the Prostate for Radical Cure of Enlargement of That Organ. P. J. Freyer.
2 Ten Cases of Movable Kidney. J. Scott Riddell.
3 *Methods of Incising, Searching, and Suturing the Kidney. Howard A. Kelly.
4 *Clinical Observations in the Treatment of Severe "Stammering" Bladder and Urethra. E. Hurry Fenwick.
5 Partial Nephrectomy. B. G. A. Moynihan.
6 Recurrent Carcinoma Treated by the Roentgen Rays. G. B. Ferguson.

The Lancet (London), February 1.

7 *The Heart of the Child. D. B. Lees.
8 *Notes Concerning a Native Remedy for Blackwater Fever. D. R. O'Sullivan-Beare.
9 On the Ultra-violet Light from a Rapid Oscillation High-tension Arc, for the Treatment of Skin Diseases. Hugh Walsham.
10 Two Cases of Uterine Cancer Successfully Treated with Cancroin. Albert Adamkiewicz.
11 *The Trial, Execution, Necropsy, and Mental Status of Leon F. Czolgosz. (To be continued.) Carlos F. MacDonald. With Report of Postmortem Examination. E. A. Spitzka.

12 The After-Histories of 100 Cases of Supravaginal Hysterectomy for Fibroids. G. Crewdson Thomas.
13 A Case of Recurrent Sarcoma with Apparently Spontaneous Cure and Gradual Shrinking of the Tumor. A. Laurie Watson.

Bulletin Gen. de Therapeutique (Paris), January 8.

14 Medical Treatment of Pulmonary Tuberculosis—Action of Thiocol. E. Vogt.—"Apropos du traitement médical de la tuberculose pulmonaire—Action de thiocol."
15 *Ovarian Opotherapy. P. Dalché.—"Opothérapie ovarienne."

Bulletin Med. de Quebec, January,

16 *Pneumonic Meningitis. T. Savary.—"Meningite pneumonique."
17 *Efficacy of Apomorphin in Hysteria, Hystero-epilepsy and Epilepsy. E. V. Faucher.—"De l'apomorphine contre les attaques d'hystérie, d'hystéro-épilepsie et d'épilepsie."

Bulletin de la Soc. Med. des Hop. (Paris), January 23.

18 Cytodiagnosis of Cerobrospinal Fluid in 45 Cases of Nervous and Mental Affections. Nageotte.—"Cytodiagnostic du liquide cephalo-rachidien dans 45 cas d'affections nerveuses et mentales."

Correspondenzblatt f. Schweizer Aerzte (Basle), January 1.

19 *Treatment of Tuberculosis with Cinnamic Acid. T. Heusser.—"Die Behandlung der Tuberkulose mit Zimmtsäure (Hetol)."

Gazette des Hopitaux (Paris), January 18, 21 and 23.

20 The Kidney in Consumptives. E. Gulhal.—"Le rein des tuberculeux."
21 Prescaphoid and transcuboid Amputation. H. Morestin.—"Amputation prescaphoidienne et transcuboidienne."
22 Different Methods of Treating Malaria. Lemanski.—"Les diverses méthodes de traitement du paludisme."
23 New Apparatus for Re-educating the Movements of the Legs. A. Riche.—"Quelques nouveaux appareils pour la ré-éducation des mouvements des membres inferieurs."
24 Mercury Benzoate in Treatment of Syphilis. Desesquelle.—"Le benzoate de mercure en injections hypodermiques dans le traitement de la syphilis."
25 Treatment of Muco-Membranous Entero-Colitis. G. Lyon.—"De l'entéro-colite muco-membraneuse et de son traitement."
26 *Inoculation of Cancer in Animals. Mayet.—"Inoculation du cancer aux animaux."
27 Proportions between Heat Emitted and Surface of Body. H. Bordier.—"Determination exp. du rapport qui existe entre la quantité de chaleur dégagée par l'homme et la surface du corps."
28 *Exaggeration of Knee-Jerk in Asthma. Moncorgé.—"De l'exagération des réflexes rotuliens chez les asthmatiques."
29 Rôle of Nephritis in Production of Hypertrophy of the Heart. Mayet.—"Demonstration exp. du rôle des néphrites dans la production de l'hypertrophie du coeur."

Presse Medicale (Paris), January 22.

30 *Hemolytic Substances and Their Clinical Application. P. E. Launois. "Des substances hémolysantes dans leurs applications à la clinique."
31 Four Cases of Cancer of the Esophagus Cured by Cancroin. A. Adamkiewicz.—"Quatre cas de guérison du cancer de l'œsophage par la cancroine."
32 Principles and Indications for Massage. M. Marchais.—"Le massage dans la pratique courante—Principes et indications."
33 Plehn's Method of Treating Dysentery. R. Romme.—"Le traitement de la dysenterie d'après M. Plehn."

Revue Mens. des Mal. de l'Enfance (Paris), January.

34 Are Women Losing the Power to Nurse Their Children? A. B. Marfan.—"Le pouvoir d'allaiter a-t-il diminué chez les femmes de nos jours?"
35 *The Amylolytic Ferment in the Blood Serum of Children in Health and Disease. P. Nobécourt.—"Le ferment amylolytique du sérum sanguin chez l'enfant normal et chez l'enfant malade."
36 *Peculiar Form of Osteo-Arthritis of the Hip in Children. G. Nové-Josserand.—"Variété particulière d'une osteo-arthrite de la hanche chez les enfants."

Semaine Medicale (Paris), January 22.

37 *Pleural Effusions in Persons with Heart Disease. E. Barié.—"Les épanchements pleuraux chez les cardiaques."

Deutsche Med. Wochenschrift (Leipsic), January 23.

38 *Study of Glycolysis. R. Lépine.—"Zur Lehre von der Glykolyse."
39 Progressive Chronic Chorea. A. Westphal.—"Ueber Chorea chronica progressiva."
40 *Blackwater Fever in Quartan Fever Acquired in Poland and Germany. M. Otto.—"Ein in unseren Breiten erworbener Fall von Schwarzwasserfieber bei Quartana."
41 *Plague. W. Kolle and E. Martini.—"Ueber Pest." (Concluded from No. 3.)
42 Results of Vital Blood Staining. H. Rosin.—"Ergebnisse vitaler Blutfärbung."
43 *Determination of Quality of Human Milk by the Microscope. Friedmann.—"Die Beurtheilung der Qualität der Frauenmilch nach ihrem mikroskopischen Bilde."
44 *Committee for Cancer Research.—"Comité für Krebsforschung."

Muenchener Med. Wochenschrift, January 28.

45 *One Hundred Cases of Spinal Tropa-Cocainization. K. Schwarz.—"Erfahrungen ueber 100 medullare Tropakokain-Analgesien."
46 Auscultation of the Respiratory Apparatus. O. Rosenbach.—"Ueber die Auskultation des Respirationsapparates."
47 Peculiar Odor of Breath in Incipient Tuberculosis. O. Rosenbach.—"Ueber einen eigenth. Geruch der Expirationsluft im Beginn der Lungenphthise."
48 *Thymus Gland and Rachitis. F. Mendel.—"Thymusdrüse und Rachitis."
49 Addison's Disease. J. Bruno.—"Ueber Morbus Addisonii."
50 Relations between Angiomata and Carcinomata. Gebele.—"Ueber Angiome u. ihren Zusammenhang mit Karzinomen."
51 Scientific Hydrotherapy and "Water Cures." Von Vogl.—"Ueber wissenschaftliche Hydrotherapie u. Wasserkuren." (Concluded from No. 3.)

Wiener Klin. Wochenschrift, January 23.

52 The Point Attacked by the Tetanus Toxin. L. Zupnik.—"Ueber den Angriffspunkt des Tetanusgiftes."
53 *Experimental Study of Influence of Fractures on Circulation and Temperature. R. Fibich.—"Exp. Beitrag z. Theorie von der Einwirkung der Knochenbrüche auf den Kreislauf und die Temperatur."

Wiener Med. Wochenschrift, January 4.

54 The Tuberculosis Question. F. Hueppe.—"Standpunkte und Aufgaben in der Tuberculosefrage."
55 *Sham Operations in Case of Imaginary Affections. M. Schächter.—"Scheinoperationen bei eingebildeten Krankheiten."

Zeitschrift f. Diaet. und Phys. Therapie (Leipsic), January.

56 Invalids' Restaurant and Catering Establishment. Frau A. vom Rath.—"Die öffentliche Krankenküche."
57 Therapeutic Portable Lamp. S. Bang.—"Eine therap. Handlampe mit gekuehlten Eisenelektroden." Illustrated.
58 Etiology and Physical Treatment of Hemiplegic Contraction. P. Lazarus.—"Ueber die Theorie der hemiplegischen Kontraktion und deren phys. Behandlung."
59 Simple Contrivance to Prevent Flexion-Pronation Contracture of the Arm. W. Alexander.—"Eine einfache Vorrichtung zur Verhütung der Flexionspronationskontraktur des Armes."

Zeitschrift f. Hyg. u. Inf. (Leipsic), xxxix, 1, 1902.

60 *Differentiating Study of Bacteria with Capsules. P. Claermont.—"Differentialdiagnostische Untersuchungen ueber Kapselbakterien."
61 Checking Hemolysis by Salts. Markl.—"Ueber Hemmung der Hämolyse durch Salze."
62 *Length of Life of Disease Germs in Droplets and Dust. F. Kirstein.—"Ueber die Dauer der Lebensfähigkeit von Krankheitserregern in der Form feinster Tröpfchen und Stäubchen."
63 *Study of Natural Immunity and Bactericidal Sera. F. Wechsberg.—"Zur Lehre von der nat. Immunität u. über bakt. Heilsera."

Zeitschrift f. Klin. Med. (Berlin), xliv, 3 and 4, 1902.

64 Experimental Study of Excitability of the Cortex After Exclusion of Cerebrospinal Tracts. M. Rothmann.—"Die Erregbarkeit der Extremitätenregion der Hirnrinde nach Ausschaltung cerebrospinaler Bahnen."
65 Analysis of Irregular Pulse. K. F. Wenckebach.—"Zur Analyse des unregelmässigen Pulses."
66 *Methylene Blue Test of Renal Function. K. Assfalg.—"Die Verwendung des Methylenblau z. Prüfung der Nierenfunction."
67 Enlargement of Hands and Feet on Neuritic Basis. H. Hirschfeld.—"Ueber Vergrösserung der Hände u. Füsse auf neuritischer Grundlage."
68 *Micrococcus Catarrhalis as Disease Germ. A. Ghon.—"Der Mikrococcus catarrhalis als Krankheitserreger."
69 *Clinical Study of Pathology and Treatment of Idiopathic Enlargement of Esophagus. H. Strauss.—"Klin. Beitraege z. Path. u. Therapie der sogenannten idiopathischen Oesophagus-Erweiterung."
70 *Myelitis consecutive to Acute Diffuse Encephalomyelitis. L. Huismann.—"Ueber Myelitis im Anschluss an einen Fall von Encephalomyelitis disseminata acuta."
71 *Source and Solubility of Oxalic Acid Eliminated in Urine. G. Klemperer and F. Tritschler.—"Untersuchungen ueber Herkunft u. Löslichkeit der im Urin ausgeschiedenen Oxalsäure."

Tidsskrift f. d. Norske Laegefor. (Christiana), January 15.

72 *Treatment of Tuberculosis. T. C. Wyller.—"Om tuberkulosens behandlung."

---

3. **Surgery of the Kidney.**—The importance of the knowledge of anatomy of the kidney itself is first mentioned by Kelly, who confines his article to the methods of incising, searching and suturing of that organ in case of calculous extraction. The presence or absence of stone can be determined with tolerable accuracy by the *x*-ray, which has simplified modern surgery. He finds the ureteral catheter of value in two ways. In the first place, before the operation the catheter is passed up the ureter into the pelvis of the kidney, which is then thoroughly irrigated and washed out by letting water flow into it from the funnel, in this way distending the pelvis. The water then escapes into the bladder, and out into a receptacle through a urethral catheter. Boracic acid or a weak carbolic solution can be run through the kidney, in this way washing away the pus and rendering the surfaces relatively clean.

The second use of the catheter is, after washing out the pelvis, to leave it *in situ*, and then to expose the kidney by lumbar incision. Before incising the kidney, however, fluid is forced rapidly into the renal pelvis, so as to distend the pelvis and cause the kidney to swell up, making prominent certain surface landmarks as guides for correct incision. If the kidney is grasped in the full hand during the distension the exact position of the calices can be detected, as it alternately swells and collapses as the fluid is forced in. Any sacculation or local thinness of the cortex is also made evident, and the incision is best made there. In normal kidneys this distension is almost imperceptible on the convex surface, but with calculi present the antero-posterior diameter is sometimes increased 1.5 c.c. Lobules of the kidney are made prominent and the fibrous vascular septa between them are readily distinguished when the kidney is distended; there is less injury to the cortex from incision in this distended condition and the gush of water at once serves to show the entry into the pelvis. Sometimes a small stone is washed out in this way, saving further trouble. The irrigation of the pelvis through the incision by means of the renal catheter can be kept up as long as the catheter is kept in and the wound remains open. The most important point in the surgical treatment of renal calculus is the locality for the incision. Broedel's researches have shown that the vascularization of most kidneys is provided for by two arterial systems which are completely separated by the renal pelvis. There is a major system carrying three-fourths of the arterial blood providing for the anterior and part of the posterior half of the kidney, and a minor system carrying one-fourth of the arterial blood providing for the remaining posterior portion. These facts are illustrated by drawings in the article. The nearer the surgeon makes his incision in the line which divides these completely separated systems, the less blood is lost, whereas if he strikes the major vessels the hemorrhage may be frightful. The greater the distension of pelvis and calices the wider the separation of these systems; while in the normal undistended pelvis there is rarely more space than a few millimeters between the anterior and posterior vascular planes; in distended pelves these are not infrequently parted by as much as 2 cm. or even more. If the kidney is examined attentively it will always be found to be divided up into irregular areas (the bases of the pyramids) the size of the end of a thumb. These areas are bounded by lighter colored lines which are often slightly depressed. These whitish lines represent the columns of Bertini, which extend up between the pyramids forming the framework which supports and carries the vessels. The white lines come together in a longitudinal white line on the anterior surface, which he proposes to call Broedel's white line. When the white line dividing the pyramids can not be found readily, their position is often marked by little groups of stellate vessels. The best place then to incise the kidney is down through the lateral portion of the posterior pyramids between the anterior and posterior vascular trees. The worst possible incision is the one which follows the course or wounds largely the vascular column found in cortical septa between the pyramids. In order, then, to make a correct incision one must cut parallel to Broedel's line and parallel to the posterior surface of the kidney, leaving about three-fifths of the kidney anterior and two-fifths posterior to the incision. The cut must be extended in a parallel direction to the posterior surface and not angling toward the center of the kidney as one would naturally incline to do. Through such an incision both anterior and posterior systems of calices can be readily explored. In about two-thirds of the kidneys these landmarks will prove reliable, but there may be an abnormal arrangement, slipping the least vascular plane forward so that it comes to lie in the plane of the median section or may extend even into the anterior portion of the kidney. Conditions of this kind, as a rule, are recognized: 1. By the form of the kidney, which shows Broedel's longitudinal white line not on the anterior surface but further back, as well as by the bulging of the posterior surface of the kidney, which is much flattened in normal cases. 2. By the arrangement of the large arterial trunks at the hilum. If the palpating finger feels as many vessels entering the parenchyma anterior to the pelvis as posteriorly, this would be an indication for an incision through the middle of the lateral convex border. If there are even more vessels posteriorly to the pelvis than anteriorly, which is extremely rare, the least vascular plane would be found in the anterior third of the kidney. To reiterate, the incision should pass parallel to the longitudinal white line, 1 cm. away from it and on the same side of the kidney where the palpating finger feels the lesser number of vessels, in the majority of cases on the posterior surface, but occasionally anteriorly. Where the renal pelvis is not divided, after extracting the stone, the remaining calices are explored with a steel curved handle attached to a blunt knife which would at once reveal the presence of even a small stone by the grating sensation conveyed. If a stone is found the blunt curved handle may be pushed up into the calyx and the incision made down through the prominent part of the corresponding pyramid, and the stone extracted in this way through a small additional incision if it can not be lifted out with forceps through the original incision. Kelly has often, in fact, resorted to two incisions in the upper and lower poles separately, so as to spare the median portion of the kidney. It is best, as a rule, not to try to remove the stone primarily from the pelvis of the kidney without incising the renal tissue proper. He would resort to this only where the stone is known to be a small one, and there is no inflammation or edema of the pelvis, and where the pelvis can be incised, exposed and sutured without much difficulty. In closing the kidney wound we have three sets of sutures which may be used to advantage. One of fine catgut placed between the calices including the fat and fibrous tissues without involving the mucous surfaces, thus approximating the pelvis. The second series and the most valuable as devised by Dr. Hunner and Mr. Broedel are one or two series of mattress sutures, introduced with a straight, slightly-blunted needle, extending through the entire substance of the kidney. These give a perfect and sufficient control over bleeding. Finally, for perfect accuracy the capsule may be closed by a continuous catgut suture.

4. **"Stammering" of the Bladder.**—The symptom sometimes complained of by young males that urination is sometimes impossible in the presence of anyone is accounted for by Fenwick by the tonic spasm of the compressor urethræ, and the cure of the trouble is a section of that muscle. He gives his reasons for believing this the cause, which seem conclusive, and that the muscles around the neck of the bladder are not responsible. In some cases a stricture induces a spasm, and division of the stricture cures it. Fenwick says it is perhaps true that the relief often afforded by perineal section in deep-lying strictures with spasm is due not so much to drainage of the bladder as to division of the compressor urethræ. He would go further and say that some of the misery of tubercular ulceration of the bladder is induced by reflex spasm, and much of the relief supposed to result from temporary perineal drainage for this disease is due to division of the compressor urethræ. In some cases of vesical irritability in women which are relieved by exploration of the bladder with the finger, the beneficial result is due to overstretching the sphincter muscle, the analogue of the male compressor urethræ. In cases of prostatitis, where there is delay before micturition and a sense of obstruction, these are due to inflammatory swellings in the neighborhood of the urethral orifice of the bladder, and are in no way connected with true stammering, or benefited by section of the compressor. The same holds true in senile prostatic enlargement.

7. **The Heart of the Child.**—The importance of the study of the heart of the child is dwelt upon by Lees, who says it can be examined by the same methods as employed for the adult. He gives directions how to go about this without alarming the patient. Percussion will not be troublesome or objected to if done lightly with the fingers only. What the child allows is exactly what the physician ought to use. First, however, warm your hand and lay it gently over the precordial region to feel the cardiac impulse, its strength and whether it is localized or diffused. It gives information as to the strength of the left ventricle. Then shift the hand to the epigastrium and notice whether any impulse of the right ven-

tricle is to be felt there. If so, there is some congenital malformation or some disease of the lungs or left heart. Then pass the hand over the hepatic region and see whether it meets the resistance of an enlarged liver, and try very gently to feel its edge. Passing then to percussion, what we really want to know is the exact size of the heart. We can determine very little by physical examination as regards the size of the left auricle and only an approximate opinion can be formed as to the size of the right ventricle, but that of the left ventricle and of the right auricle can usually be determined with considerable accuracy. Use a terminal phalanx of the finger of the left hand for the pleximeter, pressing it gently but firmly on the spot and let no other part of the hand touch the chest wall, thus avoiding conduction of resonance from elsewhere. First select a spot in the mid-axilla and percuss here with the lightest possible stroke, then gradually shift your percussed finger towards the sternum and you will readily notice a change of note when the border of the heart is reached. Though the left lung apparently overlaps the heart it is thin and airless, and does not require deep or heavy percussion to recognize it. Expect to find the cardiac margin a little to the left of the position of the impulse. The left border of the cardiac dulness in health extends a little to the left of the position of the impulse and when dilated this may amount to a finger-breadth or more. Next determine whether the dulness extends to the left of the nipple itself and if so to what amount in the nipple acromial line. Two points on the border of the left ventricle thus determined, the line connecting these should correspond to this border. Next determine the size of the right auricle. Dulness due to it may always be detected in the fourth right intercostal space. In the third intercostal space the resonance should extend to the sternum and in the fifth space the hepatic dulness alters the note, but in the fourth space the right auricle dulness is present for about one finger-breadth in an adult and rather less in a child. In dilatation it may extend to two or three finger-breadths. When the dilatation is very great it may amount to three finger-breadths in the fourth space, one and a half in the third, and may even be detected in the second. The correct determination of the size of the right auricle is a matter of the greatest importance and indicates the necessity for leeches to relieve this condition, but nothing is so universally neglected. By this time you are ready for auscultation and the child is more ready for you and is not alarmed by the production of an instrument. In auscultating the heart of a child, be on the look-out for murmurs due to congenital malformation. Some of these are very peculiar and puzzling. The most frequent is a systolic murmur, loudest at or just below the junction of the left fourth costal cartilage with the sternum, probably often due to an incomplete cardiac septum. The next most common perhaps is a systolic murmur over the pulmonary artery, indicating obstruction there. Congenital murmurs are systolic in time; a presystolic or diastolic congenital murmur is exceedingly rare. Congenital malformations of the heart mainly affect its right side, which is most active during intra-uterine life. After birth this is less liable to disease than the left, though the tricuspid valve does not always entirely escape in rheumatism. But the most important affection of the right heart is secondary to active or extensive chronic disease of the lungs or to disease of the left heart, and careful watch must be kept on the amount of distension of the right auricle. The author speaks particularly of the importance of this and attention to it every day, especially in cases of pneumonia, and the need of local blood extraction with leeches for relief. Pallor of the face and smallness of the pulse are not necessarily contra-indications. These symptoms will improve after the right side has been relieved. In acute bronchitis, chronic bronchitis with an acute exacerbation, in whooping cough with its mixture of collapse, broncho-pneumonia, and emphysema, and in asthmatic attacks we should always notice the amount of distension of the right auricle, also in all cases of disease of the left heart especially after rheumatism. If dilatation of the right auricle is rapid, dyspnea and cardiac depression will probably be present, but the more gradual increase will only be revealed by percussion. As time passes the heart accommodates itself and comparative comfort may be attained while heart dilatation still exists, but the condition is one of unstable equilibrium and another rheumatic attack may turn the scale. With this trouble the liver enlarges and if you find it down to the umbilicus or lower and the amount of urine passed be decreasing there is no time to be lost. Prompt venesection or leeching may be resorted to and the hypodermic use of strychnin to restore compensation. He calls attention before leaving the right side of the heart to a systolic murmur over the tricuspid region which is not very uncommon in healthy children and does not indicate any organic disease. On the left side of the heart the auricle is inaccessible, but the enlargement of the left ventricle, which is probably shared to some extent by the right, can be easily determined by careful percussion, and the strength of the ventricular muscle can be fairly estimated. It is very important in children out of health to get a clear idea of the left border of the cardiac dulness. In normal children this left border is usually distinctly internal to the nipple line. It may sometimes reach to but rarely goes beyond it. If we find the left limit one-half to one finger-breadth external to the nipple line, as is frequently the case, the matter is not unimportant. The cardiac muscle of the child is specially susceptible to poisons and the most characteristic instance of this is in diphtheria, which is much more fatal in children owing to the disease of the heart muscle. If the dilatation after diphtheria amounts to two finger-breadths to the left of the nipple line the case should be very carefully watched, as the danger is great. If it is only one finger-breadth we must bear in mind that it may suddenly increase. Enlargement of the ventricle always occurs in influenza, but the danger here seems less in children than in adults. In rheumatism the toxic effect on the heart does not seem to be so great. In typhoid, tuberculosis, debility and anemia as well as in renal disease, dilatation of the left ventricle is common and may be due to toxemia. The same is true in chorea, where with rheumatism it does not seem to be entirely the result of toxemia; but in rheumatism we are dealing with inflammation of the child's most important organ, probably caused by the local presence of a pernicious micro-organism. As for remedies he remarks that sodium salicylate in adequate doses seems to be distinctly antagonistic to rheumatic processes. The child bears salicylate well, and it rarely causes any troublesome symptoms. Sodium bicarbonate may be given along with it to advantage. Leeches are useful in repressing cardiac inflammation and local ice-bag applications. Ice is undoubtedly depressing to the normal heart, but when preceded by leeches and used with care it is the reverse to the rheumatic heart. Digitalis is of little service in rheumatic cardiac inflammation. Its value comes later when the inflammation has subsided and the mechanical effects manifest themselves. In ventricular dilatation and enfeeblement caused by toxemia leeches and ice are inapplicable. The hypodermic injection of strychnia is here mentioned as of value. Iron is of some use, but in diphtheria Lees relies mainly on the subcutaneous injection of atropin when danger threatens.

8. **Blackwater Fever.**—O'Sullivan-Beare gives his observations on the native treatment of blackwater fever with a decoction made from the root of a plant which he finds in East Africa and which has been described by E. L. Holmes as a new species, the Cassia beareana. He has had a fluid extract made of it with which he has had the best effects, but the native method of using it is also effective; it seems to be non-toxic and harmless in large doses. The fluid extract he has given in doses of one fluid dram well diluted in water every two hours at first and afterwards at longer intervals. The natives use a decoction made from the root boiled in water for one-half hour and give it freely whenever the patient feels like drinking, either hot or cold. It seems from his results to be a valuable remedy in this condition.

11.—This article has appeared elsewhere. See The Journal of January 8, ¶9 and ¶10, p. 202.

15. **Ovarian Opotherapy.**—Dalché observed a polyuria, or at least a marked increase in the amount of urine, in patients taking ovarian extract. There was also an absolute and relative increase in the total of phosphoric acid, and the propor-

tion of urea was increased in 50 per cent. of the cases. The normal proportions of uric and phosphoric acid were re-established in two out of the six cases whose metabolism was studied in detail. He has had extensive experience with ovarian medication, and has found it effective in forestalling or curing many derangements of function. He also noticed that chronic arthritis deformans frequently followed dysmenorrhea, amenorrhea, metrorrhagia or pregnancy, as well as the menopause. This "asthenic gout of elderly women," as it has been called, suggests the possibility that it may be due to dystrophy of the ovaries and lack of function. He consequently administered ovarian extract in such cases. The deformed joints did not diminish in size under this treatment, but they did not increase, and the patients unanimously announced that the pains had decreased. The nearer the menopause and the more recent the onset of the arthritis, the greater the relief from the pain. An interesting fact noted was the marked improvement in the case of a young man under this treatment. This suggests that possibly the ovary and the testicle may contain a similar alkaloid.

16. **Pneumonic Meningitis.**—Savary says that he has never observed a case recover from pneumonic meningitis. A sudden rise in temperature after defervescence may be the only symptom to betray the meningitis at first. There are no special characteristics to differentiate the pneumococcus meningitis from others. It remains latent in about half the cases of pneumonia or at least is masked by the symptoms of the latter. Headache, delirium and immobility of the back of the neck are the principal symptoms, or the affection may run rapidly through the entire syndrome of a tubercular meningitis. Netter observed only 4 recoveries in 65 cases of the affection; death occurred between the first and the fourth day. Recovery is apt to be protracted. Hensinger witnessed a case in which it was not complete until after five weeks. Others have witnessed permanent nervous troubles left as the relics of the meningitis —epileptiform seizures, paralysis or contractures. Recovery is more liable to occur when the meningitis precedes the pneumonia. The development of the latter is frequently accompanied by the subsidence of the former. Treatment can be only symptomatic, cold local applications, leeches behind the ears, laxative water every two hours, blisters in the neck region and in case of great depression, camphor per rectum, one part to 60 parts of some emulsion.

17. **Efficacy of Apomorphin in Hysteria and Epilepsy.**—Faucher recommends one-tenth to one-fifteenth of a grain of apomorphin as a speedy means of arresting an attack of hysteria or hystero-epilepsy and even an epileptic seizure. The patient's attention is diverted by the injection, then follows the vomiting and the subsequent depression, the whole soothing and relaxing the nervous system and controlling the seizure. It is an actual specific against hysteria, he observes, whatever form it may assume. He describes a number of cases of supposed apoplexy, etc., promptly cured in a few minutes after the injection. The epileptic is usually inclined to eat too much, and the seizure frequently follows an abundant meal. The indications, therefore, are to relieve the digestive system and reduce the congestion of the nerve centers, both of which are promptly accomplished by apomorphin. The seizure is arrested and is not followed by others. Of course, apomorphin is by no means a specific against epilepsy, but it is a valuable means of controlling the attacks of certain neuroses in whose presence the physician is too ready to consider himself powerless.

19. **Treatment of Tuberculosis with Cinnamic Acid.**—Heusser of Davos Platz has previously published 22 cases of tuberculosis treated with cinnamic acid or hetol, and now adds 60 more to the list. The results have convinced him that this method of treating tuberculosis, within the limits established by Landerer, is entirely harmless and is more effective in inducing cicatrization and healing in cases of complicated tuberculosis than any other remedy yet recommended for the purpose.

26. **Inoculation of Cancer in Animals.**—Mayet discusses the results of an extensive series of experiments on animals inoculated with cancerous matter. The tests on dogs and rabbits were always negative, but neoplastic lesions were induced in a number of white rats, when they had been inoculated merely with the soluble products of the cancer.

28. **Exaggeration of Knee-Jerk in Asthma.**—Moncorge examined 141 patients with asthma and found the knee-jerk very much exaggerated in 18 of the 66 men and in 29 of the 75 women. The knee-jerk was exaggerated to a certain degree in 30 of the men and in 34 of the women. It was normal in only 18 of the men and 12 of the women.

30. **Clinical Application of Hemolytic Substances.**—Launois announces as the result of much experimental and clinical research, that normal human blood-corpuscles may be destroyed by certain organic fluids derived from diseased subjects, such as the serum, ascitic fluid or pleural effusion. On the other hand, the corpuscles of the persons from whom the fluid was originally derived are peculiarly resistant. The fluids contain, therefore, an alexin, a "sensibilisatrice" for human corpuscles and an antihemolysin. The hemolytic substance is variously called alexin by Buchner, cytase by Metchnikoff and complement by Ehrlich. The substance existing in the organic fluid which favors the action of the alexin and renders it elective, is called the sensibilisatrice in France, or the hemolytic antibody, preventive substance, immune body or amboceptor by Ehrlich, philocytase or fixateur by Metchnikoff, and desmon and copula by others. All these various terms merely represent the hemolytic substance and the other substance in the serum which favors its action and renders it elective. Still other substances in the organic fluids oppose the hemolytic action and hence are called antihemolysins.

35. **Amylolytic Ferment in Children.**—Nobécourt describes his researches which established the fact of the frequent presence of an active amylolytic ferment in the blood serum even immediately after birth. This ferment is unquestionably secreted by the organism of the child and is not derived from the mother. There is no appreciable difference between this ferment found in the serum of the breast-child and of the child fed with cow's or goat's milk.

36. **Peculiar Form of Osteo-Arthritis of Hip in Children.**—Nové-Josserand has observed a number of cases of children between 5 and 15 who began to limp a little, with occasional pain in the hip-joint. Abduction was slightly restricted. These symptoms subside spontaneously or after a few days' rest. They might be explained by a sudden congestion occurring in the midst of unusually rapid growth, but this explanation does not suffice for the occasional cases in which the symptoms persist during several weeks or months. A tubercular affection can be excluded on account of the final complete disappearance of all symptoms without much treatment. In a case described in detail, radioscopy disclosed a strange condition, which, without destroying the bones, affected them locally with a transient alteration, manifested in the enlargement at the periphery, and permeability to the x-rays in the center. Restitution was complete after a few months, and the functions and shadows of the joint returned to normal except for a slight hyperostosis of the supra-cotyloid region. The head is also a trifle thicker than in the other hip. The slight coxa vara noticed has entirely disappeared and the neck has resumed its normal slope. Immobilization was applied at intervals during a few months, and recovery has been complete for more than a year.

37. **Pleuritic Effusions in Persons with Heart Disease.**—Barié states that he noticed pleurisy with effusion in 13 out of 126 cases of heart disease. Hydrothorax can be differentiated from pleural effusion by its bilateral development, usually accompanying other tardy complications of organic heart trouble. A true pleural effusion is usually unilateral and on the right side, and even although small in amount, is liable to cause marked dyspnea. The pleurisy is, as a rule, of an inflammatory nature, the result of irritation of the pleura from the subjacent hemorrhagic infarct. The cytologic formula is like that of pneumococcus pleurisy, polynucleated and epithelial

cells predominating. The presence of polynucleated cells may disclose some preceding unsuspected hemorrhagic infarct. The pleurisy may not be directly dependent on the heart disease. It may be induced by some intercurrent attack of acute articular rheumatism. In a case of this kind in his service, the patient recovered under sodium salicylate in less than a month, and the rheumatism and pleurisy disappeared together. This rheumatic pleurisy is characterized by its sudden onset, by the extent of the painful area and by a tendency to invade the pleura on the other side in turn. In other cases, the same infectious or toxic influences which cause the heart disease, may induce pleurisy, as in case of malignant endocarditis. The pleuritic manifestations are merely the effects on the pleura of the same poison which causes the endocarditis. Hydrothorax is a very serious complication of heart disease, but the prognosis of pleurisy under the same conditions is more favorable, under appropriate treatment, simple and purely medical, purgatives, diuretics and revulsion. If the dyspnea persist and transient hyposystolic accidents develop, thoracocentesis may be necessary even with a small amount of fluid in the pleural cavity. Hydrothorax requires general treatment of the underlying asystoly.

38. **Glycolysis.**—Lépine states that recent researches have fully confirmed his previous announcements that the tissue of the pancreas is endowed with the property of destroying substances which otherwise prevent glycolysis in the tissues. This property is distinct from the internal secretion of the pancreas. He has succeeded in extracting a crystallizable substance from the urine of diabetic and other patients, which prevents glycolysis. This substance becomes destroyed in its passage through the vessels of the living pancreas in dogs and guinea-pigs.

40. **Hemoglobinuria After Quinin.**—Otto reports a case of quartan fever acquired in Poland, which was treated, after it had lasted four weeks, by a single dose of 50 cg. of quinin after the patient had returned to Hamburg. This was followed immediately by a typical attack of blackwater fever with hemoglobinuria. This is the first case on record, he remarks, which demonstrates that tropical conditions are not indispensable to the development of blackwater fever, and also that hemoglobinuria is liable to occur in the course of a quartan malaria. There was no idiosyncrasy to quinin as the patient had previously taken it without disturbance.

41. **The Plague.**—This article is issued from the Institute for Infectious Diseases in Berlin, and is thus an official contribution to the further study of the plague. It proclaims that the recent advances in our knowledge of the means of dissemination of the plague by rats renders a new international conference necessary, as the rulings of the conference of 1897 are now obsolete in many respects. The quarantine regulations adopted by the conference need revision, and the introduction of international measures against rats on ships and in harbor towns. Rats are to the spread of the plague what water is to cholera, and the successful results of prophylactic measures when the rats have been consciously or unconsciously destroyed or driven away, are the most important acquisitions to our campaign against the plague. In Egypt the rats were not directly attacked as the attempt was considered absolutely hopeless, but the disinfection of the houses, the destruction of accumulated garbage, etc., and the saturation of the houses with sublimate, had the unexpected effect of driving the rats away and keeping them away from human habitations, and it was thus possible to control and stamp out the plague. The principal prophylactic measure, however, is to destroy all the rats on a ship leaving an infected port. A single infected rat escaping to shore is infinitely more dangerous to the community than plague patients, as contagion from the latter can almost certainly be controlled. Ships can be cleared of rats by poisonous gases without injury to the cargo. The ship *Pergamon* recently arrived at Hamburg from an infected port with dead rats but no cases of plague on board. Prompt extermination of the rats before unloading prevented any infection of the crew or workmen unloading the ship. The Danysz bacillus is uncertain in its results, but may be found useful in places where poisons can not be used, as in grain warehouses, etc. Protective vaccination or serum treatment is useful for persons directly exposed to the plague, physicians, nurses, etc., but can scarcely be applied on a large scale. In fact all the statistics collected to date in respect to their practical value, are unreliable or else compiled under such varying conditions as to exclude all comparative conclusions. Even in the recent tests at Cape Town the number inoculated, 10,000, was so small in proportion to the uninoculated, 120,000, that it is impossible to draw conclusive deductions from the results. Anti-plague serum promises well, and if suitable improved media and methods of cultivation for the plague bacillus can be discovered, which will produce in young cultures a soluble, powerful toxin, serum treatment may prove a valuable adjuvant in the war against the plague.

43. **Microscopic Examination of Human Milk.**—Friedmann has found that when nurslings are not thriving on breast milk, the microscope invariably shows a degenerated condition of the milk. Under normal conditions the fat globules are seen under the microscope to be of three sizes, small, large and medium. The medium and small ones are most numerous, and about 10 to 20 of the large are found in the microscopic field with a magnifying power of 400 or 500. If the proportion of large globules is more than this, the milk is harder to digest, but if the child can accomplish it, he thrives exceptionally on this milk. When the small-sized globules predominate, the milk is poor in quality and the child usually suffers from chronic dyspepsia, especially when the globules are very small and deformed or disintegrated. The globules usually crowd close together. This examination of the milk with the microscope is sufficient for all practical purposes and affords important indications for the physician. He should adopt it as a routine measure before recommending a wet nurse.

44. **Committee for Cancer Research.**—At the meeting November 14, it was decided to organize another collective inquiry among the surgeons of Germany to elicit new statistics in regard to the ultimate results of operations for mammary cancer. The main address was on the dissemination of cancer in Germany. It is to be published later in full. Hansemann is studying the cases of cancer discovered for the first time at the autopsy. He has already found that 131 or 18.42 per cent. of 711 cases of cancer had not been diagnosed during life. Von Leyden replied to the suggestion that the assumed increase in the number of cases of cancer is due to improved methods of diagnosis, that this can not be accepted as there has been little improvement in this respect in the last few decades. The question of the occurrence of cancer among the natives of Africa was discussed. The impression prevailed that it did occur but no definite statistics were offered.

45. **One Hundred Cases of Spinal Tropa-Cocainization.**—Schwarz does not include the cases in which he gave more or less than the dose of tropa-cocain which he finally decided was the most suitable. At this dose he never failed to induce analgesia reaching to the umbilicus and was thus able to perform every operation required below this zone, without pain or any disturbing after-effects. In a very few cases, after-effects were evident, but so brief and so mild that there is no comparison between them and those liable to follow the use of cocain. He concludes by proclaiming that he prefers spinal tropa-cocainization for appropriate cases to any kind of inhalation narcosis. He follows Tuffier's technique, and injects 5 cg. of tropa-cocain dissolved in 1 c.c. of water, then elevates the pelvis for ten minutes, after which he lowers the patient to the horizontal plane. He uses 6 cg. if the operation is to be on the hip-joint, but never more than 4 cg. if the patient is under 17 years of age. The analgesia in a few rare cases extended to the head. It always lasted one or two hours for the legs, genitalia, perineum and anus, but sometimes subsided in thirty minutes during operations for hernia, requiring a few whiffs of some narcotic to complete the operation. He does not recommend spinal analgesia for laparotomies, as, although the analgesia of the skin is complete, the patients are disturbed by the pulling and stretching of the intestines. The analgesia induced by tropa-cocain is perfect, and the few rare after-effects noted are merely the rudiments of what is liable to follow cocainiza-

tion. When headache does occur it is so trifling that the patients do not mention it unless questioned. After-vomiting was observed in only two cases, during the operation in only two, and nausea in two. The temperature did not rise above 38.2 C. in any instance. The youngest subject was 12, the oldest 78. Decrepit subjects with senile gangrene bore this method of analgesia with remarkable tolerance.

48. **Thymus Gland and Rachitis.**—Mendel calls attention to the great similarity between the symptoms exhibited by dogs whose thymus glands have been removed, and those observed in rachitis in children. He also suggests that the hypertrophy of the spleen noticed in rachitis may be due to its vicariously substituting the insufficient thymus gland. Friedleben found in examining the thymus gland in the cadavers of 300 children, from infancy to puberty, that the gland was abnormally small or abnormally large and hard in every case in which rachitis was certain or probable. In the cases of pronounced rachitis the gland was much atrophied. Reasoning from these premises, Mettenheimer has applied the extract of the thymus gland to the treatment of rachitis, following the example of thyroid treatment of myxedema. The success was not so striking as in the latter, but this was probably due to inadequate dosage. Mendel has been treating more than 100 rachitic children with thymus during the last five years, each child receiving as many grams of fresh gland substance as he was months old, or 6 to 12 tabloids a day. Even after exceptionally large doses, no by-effects were evident in any case, demonstrating the absolute harmlessness of thymus treatment. The rachitic process was favorably influenced in many cases. The functional disturbances were most rapidly and effectively controlled; the hyperidrosis diminished in two or three weeks; the sleep became more tranquil, the general appearance brighter and livelier. The symptoms recurred when the treatment was suspended for any cause, and vanished again on its resumption. Spasm of the glottis occurred less and less frequently until it finally ceased entirely. In one case in which a thorough course of phosphorus had not produced the slightest benefit, the spasms ceased completely after a few days administration of thymus tabloids crumbled in a tablespoonful of milk, and further treatment for three months banished all the other rachitic symptoms. The enlarged spleen usually commenced to subside after two or three weeks and gradually returned completely to normal size, as did also the distended abdomen. In one case the treatment was suspended for a fortnight on account of a stomatitis, and the spleen began to enlarge again. The rachitic alterations in the bones gradually returned to normal, dentition was promoted, the fontanelles grew smaller, and everything indicates that the skeleton is resuming normal conditions. When the rachitic process is definitely arrested, he found that 6 to 12 tabloids, according to the age of the child, twice a week instead of every day as at first, were sufficient to promote retrogression, although months were required for the complete cure. This method of treatment of rachitis aims to cure the rachitic symptoms by substituting the gland extract for the defective internal secretion, and to improve the general health. This improvement brings about a gradual restitution of the gland to normal, and by this means the definite cure of the tendency to rachitis. For this reason, if the thymus gland is irremediably injured by tuberculosis or congenital syphilis, it is impossible to anticipate a cure from it.

53. **Influence of Fractures on Circulation and Respiration.**—Fibich states that the temperature almost invariably rose in dogs after a subcutaneous fracture of a bone, especially when there was friction between the ends. The pulse was also accelerated for a moment, followed by a brief period of abnormally slow pulse. The latter was not noticed in curarized dogs. The higher temperature is frequently preceded by a depression of the temperature. All these phenomena occur so rapidly and so soon after the trauma that they are evidently independent of re-absorption or infection, and must be due to nervous influences.

55. **Sham Operations in Case of Imaginary Affections.**—Schächter relates a number of interesting experiences in regard to neurasthenic patients who clamored for an operation on account of some fancied deformity or lesion. The results were always unfortunate when their requests were complied with, as the morbid fancy was not cured and always recurred in the same or another form. Reassuring, harmless suggestion is alone applicable in such cases, and sham operations should always be avoided for numerous and cogent reasons, which he enumerates.

60. **Differentiating Study of Bacteria with Capsules.**—Claermont's researches on bacteria with capsules are summarized in tabulated form, including the results of the inoculation of mice, guinea-pigs and rabbits, the bio-chemical properties of the bacteria and the peculiarities of their cultures. He identifies the "ozena bacillus" with Friedlaender's pneumonia bacillus, but distinguishes two varieties. One is found exclusively in the secretions of ozena and is not pathogenic for guinea-pigs. The other is seldom found in ozena secretions, but occurs frequently in the most diverse morbid processes and is pathogenic for guinea-pigs. The scleroma bacillus is another species. The bacillus lactis aerogenes should be differentiated from the pneumonia bacillus.

62. **Length of Life of Disease Germs in Droplets and Dust.**—Gaffky found that microbes retain their vitality much longer in dimly lighted than in sunny rooms. This may be one reason why disease germs flourish better in winter than in summer, owing to the lesser hours of sunlight. He points out that influenza epidemics have never occurred in Germany except when the weather has been long cloudy. The vitality is also directly proportional to the size of the particle of dust or moisture. The germ dies more rapidly the finer the particles. In his tests with droplets such as are expelled in speaking, sneezing or coughing, he found that the bacillus prodigiosus and the typhoid bacillus retained their vitality 24 hours in daylight; the diphtheria bacillus 24 to 48 hours in daylight and 5 days in a cellar; the tubercle bacillus 5 days in daylight and 22 days in a cellar; the fowl cholera bacillus 10 hours in daylight and 24 hours in the cellar; the staphylococcus pyogenes aureus 8 to 10 days in daylight and 35 days in the cellar; the streptococcus longus 10 days in daylight and 38 days in the cellar, and anthrax spores 10 weeks in daylight, and at least 3 months in the cellar.

63. **Natural Immunity and Bactericidal Sera.**—Wechsberg reviews the latest researches on this question and emphasizes the fact that serum therapy for man must be established on the principle that the "amboceptors" in the therapeutic serum must find their appropriate complements in the patient's serum. He agrees with Ehrlich that the non-success which as yet has attended the employment of typhoid and cholera serum may be due to the fact that the serum is derived from species of animals which are so distantly removed from man. The amboceptors of the animal serum can not find their special complements in human serum.

66. **Methylene Blue Test of Function of Kidneys.**—Assfalg has employed this test in 46 cases of various affections. He concludes from his experience that this test, with other clinical indications, may prove of some service to the surgeon, but the individual physiologic and pathologic conditions must also be taken into account. It is impossible to formulate an anatomic diagnosis from it any more than from the determination of the amount of hydrochloric acid in the stomach, but it aids in determining the functional capacity of the kidney. Even nervous disturbances in the organism are liable to influence the elimination of the blue.

68. **The Micrococcus Catarrhalis.**—Ghon presents evidence to prove that this microbe is pathogenic at times. It is able to set up a simple bronchitis without the co-operation of other microbes, or even a lobular or lobar pneumonia, with severe general symptoms. The infection it induces has no characteristic features. It resembles most closely that from the influenza bacillus and pneumococcus, and it is frequently associated with or precedes their invasion.

69. **Idiopathic Enlargement of the Esophagus.**—Strauss points out that analysis of the seventy cases of bag-shaped

enlargement of the esophagus which have been published, shows that it began to develop in childhood, at puberty or under 40. It is therefore probably the result of some constitutional anomaly. Gastroptosis was noticed in 3 cases and probably was not sought in all. The stomach was vertical in some instances. The pressure of the aorta probably first starts the morbid process, inducing some slight erosion or ulceration of the wall of the esophagus. This in turn may induce spasmodic contraction of the cardia by reflex action, and by this means a depression is formed which in time develops into an actual diverticulum. He describes two cases in detail with the autopsy findings in one. In the other case the diverticulum had developed in childhood, and was referred to a trauma. The patient was able to force the food down into his stomach by drinking copiously of effervescing beer or pressing on the thorax when the lungs were inflated. The sound could not be introduced except when the esophagus was inflated at the same time. By introducing two sounds, one a flexible spiral sound with a thread fastened to the tip and passing through an eyelet in the side, thus enabling the lower portion of the sound to be drawn up into a curve at will, it was possible to locate the outlines of the diverticulum with the fluoroscope. The curved sound pushed the other sound around as it was rotated. He determined the size by adapting for the purpose a long, narrow rubber balloon such as Turck uses for his "pneumatic gymnastics" of the stomach. This was introduced empty and then inflated when in the diverticulum until the patient began to experience discomfort. By this means it was possible to estimate the size of the cavity much more accurately than by the usual method of filling and emptying it of fluid. It is applicable even when the cardia is quite permeable. He tested the permeability of the cardia by administering carmin by the mouth and watching for its appearance in the urine. Another aid in diagnosing the diverticulum was the difference in the noise when air was blown through a sound at different levels in the esophagus. In the attempt to distinguish between the contents of the stomach and of the diverticulum, the presence of ferment, sugar, and the degree of acidity are important points. Differentiation is difficult in case of gastric apepsia, but traces of some ferment will decide the question. Sugar speaks for the esophagus and against a gastric origin, but this test is unreliable after a meal of carbohydrates in case of motor insufficiency. The total acidity can only be accepted as testimony in case of gastric apepsia when there is motor insufficiency. In such a case he found the stomach acidity 40 to 95 while that in the diverticulum was 10 to 25.

70. **Myelitis Consecutive to Acute Disseminated Encephalomyelitis.**—Huismann proclaims that every myelitis is induced by bacteria and describes a personal case in which every feature indicated this origin. He remarks that other causes may create a predisposition, but they are unable to induce a myelitis without bacterial invasion. The predisposition to myelitis consists in a congenital or acquired alteration of the walls of the spinal vessels which favors thrombosis. Acute myelitis resembles embolism in its course, while the chronic form is more like primary arterial thrombosis. Acute myelitis either heals with sclerosis or becomes progressively chronic. In many cases the affection assumes the latter character from the start, but a predisposition is required in this case, while on the other hand, acute myelitis can develop without a preliminary disposition.

71. **Source and Solubility of Oxalic Acid Eliminated in Urine.**—Klemperer announces that the most favorable conditions for keeping the oxalates dissolved are afforded by the presence of at least 20 mg. of magnesia in 100 c.c. of urine and no more than 20 mg. of lime. The proportion of magnesia in the urine is not much modified by ingestion of salts of magnesia, but even this slight increase is sufficient to keep the oxalates dissolved. The food should contain little oxalic acid or lime and much magnesia. Spinach, cocoa and tea should be avoided, also foods containing lime, especially milk, eggs and fresh vegetables. The prolonged administration of 2 gm. of magnesium sulphate a day will aid in keeping the oxalates in the urine constantly dissolved. The most favorable proportions are when the lime is to the magnesia as 1 to .8, 1 or 1.2, with 20 mg. of magnesia to 100 c.c. of urine.

72. **Treatment of Tuberculosis.**—Wyller believes in increasing the resistance of the organism in childhood by massage and gymnastic exercises to strengthen the chest, done by, or under the eye of, an expert. After losing two children in his own family from tubercular affections, he has strengthened in this way the other members of the family, who had each a phthisical habitus, and has witnessed the throwing off of this predisposition.

Queries and Minor Notes.

CONTAGIOUSNESS OF EARLY SMALLPOX.

WEST SUPERIOR, WIS., Feb. 12, 1902.

To the Editor:—The Health Department of this city has been subjected to criticism on account of keeping secret the occurrence of several cases of smallpox in one of our best hotels, by a morning paper, which concludes as follows: "Prominent citizens are complaining that the public are not being kept thoroughly familiar with the true smallpox situation in the city, so that the infected places can be avoided. They believe that the citizens can not act in conjunction with the health officials unless they have a correct understanding of the situation, and feel that the department has erred in keeping the situation secret." A statement of our Health Commissioner explains, in an evening paper, the situation, a copy of which I enclose: "The patient was taken sick four days ago and had the ordinary fever symptoms attending many such diseases; on the forenoon of the fourth day the characteristic symptoms of smallpox appeared and he was immediately removed. The disease is not contagious during that period. . . ."

It is something entirely new to me that smallpox should not be transferable from a patient, who is sick already for four days with so-called "ordinary fever symptoms." I beg the editor to inform me, kindly, if facts are known which corroborate this statement.

F. HERB, M.D.

ANS.—It is not safe to count on the non-contagion of smallpox at any stage of the disease from the initial fever to the very final disappearance of all relics. There are abundant facts to show that it may be contagious before a complete outbreak, though there is no doubt that the danger is greatest after the stage of pustulation and scabbing has begun. In a public institution recently a case was received and almost immediately diagnosed and removed before the eruption had fully broken out. Nevertheless in the course of time a number of cases developed without any other known cause. It is possible that an officer may, to avoid excessive alarm on the part of the public, say things to minimize the danger which he does not himself believe. Whether this is advisable or not, is questionable; but it certainly is not right to say that any case of smallpox in any stage is safe as regards communicability. Some authorities have even gone so far as to say that even in the incubation stage there is a possibility of conveying the disease, but there is not much evidence to show that there is danger before some symptoms of the disease begin to manifest themselves.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia; with the Collaboration of Drs. John B. Murphy, Chicago; Alexander D. Blackader, Montreal; H. C. Wood, Philadelphia; T. M. Rotch, Boston; E. Landolt, Paris; Thomas G. Morton, Philadelphia; Charles H. Reed, Philadelphia; J. W. Ballantyne, Edinburgh, and John Harold, London, with Regular Correspondents in Montreal, London, Paris, Leipsic and Vienna. Volume IV, Eleventh Series, 1902. Cloth. Pp. 302. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1902.

THE STANDARD MEDICAL DIRECTORY OF NORTH AMERICA, consisting of Twelve Parts, Including Directory of Physicians of North America, Medical Colleges, Medical Service of the United States, Medical Societies, Medical Practice Acts, Medical Publications (Including Books and Periodicals), Mineral Springs, Drugs and Medicines, Medical and Surgical Products, Manufacturers and Life Insurance Companies. Handsomely Bound in Red Buckram. 824 Pages, Imperial Octavo. Price, $10.00. Chicago: G. P. Engelhard & Co.

ON THE ALTERATIONS PRODUCED IN THE LARGE INTESTINES OF DOGS BY THE AMEBA COLI, BY HEAT, AND BY VARIOUS CHEMIC

SUBSTANCES, with Notes on the Anatomy and Histology of the Viscus. By H. F. Harris, M.D., Atlanta, Ga. A Research Carried on under the Auspices of the Nathan L. Hatfield Prize Committee of the College of Physicians of Philadelphia. Paper. Pp. 143. Philadelphia: Printed for the College. 1901.

A MANUAL OF OPHTHALMOSCOPY. For Students and General Practitioners. By J. E. Jennings, M.D. (University of Pennsylvania), Author of "Color-Vision and Color-Blindness," etc.; formerly Clinical Assistant, Royal London Ophthalmic Hospital, London. With 95 Illustrations and 1 Colored Plate. Large 12mo. Price, $1.25 net. Philadelphia: Published by P. Blakiston's Son & Co. 1902.

DIRECTIONS FOR CLASS WORK IN PRACTICAL PHYSIOLOGY. Elementary Physiology of Muscle and Nerve and of the Vascular and Nervous Systems. By E. A. Schaeffer, LL.D., F.R.S., Professor of Physiology in the University of Edinburgh. With Diagrams. Cloth. Pp. 76. Price, $1.00. New York: Longmans, Green & Co. 1901.

MARKET MILK: A PLAN FOR ITS IMPROVEMENT. By R. A. Pearson, M.S., Assistant Chief of Dairy Division, U. S. Department of Agriculture, Bureau of Animal Industry. Paper. Pp. 193. Reprint from the Seventh Annual Report of the Bureau of Animal Industry. 1900.

OUTLINES OF ANATOMY. A Guide to the Methodic Study of the Human Body in the Dissecting Room. By Edmund W. Holmes, A.B., M.D., Demonstrator of Anatomy, University of Pennsylvania. Second Edition. Cloth. Pp. 185. Lancaster, Pa.: New Era Printing Co. 1902.

SIXTH ANNUAL REPORT OF THE BOARD OF MANAGERS OF THE SPRINGFIELD STATE HOSPITAL of the State of Maryland, Sykesville, Md., to His Excellency the Governor of Maryland. Oct. 1, 1901. Paper. Pp. 41. Baltimore: Sun Book and Job Printing Office. 1902.

CLINIQUE DES MALADIES DU SYSTEME NERVEUX, HOSPICE DE LA SALPETRIERE (1897-1898, 1898-1899). Cinquième and Quatrième Serie. Paper. Pp. 606 and 678, respectively. Price, 70 francs. Paris: Octave Doin. 1900 and 1901.

REPORT OF THE COMMISSIONER OF EDUCATION for the Year 1899-1900. Volume II. Cloth. Pp. 1368. Washington: Government Printing Office. 1901.

PRINCIPLES AND PRACTICE OF OPERATIVE DENTISTRY. By John Sayre Marshall, M.D. (Syr. Univ.), Dental Surgeon U. S. A. Cloth. Pp. 635. Price, $5.00. Philadelphia and London: J. B. Lippincott Co. 1901.

MOSQUITO BRIGADES and How to Organize Them. By Ronald Ross, F.R.C.S., D.P.H., F.R.S., Walter Meyers Lecturer in Tropical Medicine. Cloth. Pp. 100. Price, $1.05. New York: Longmans, Green & Co. 1902.

ANATOMY AND PHYSIOLOGY OF THE EYE, with Hints for the Preservation of the Eyesight. By J. Frederick Herbert, M.D. Second Edition. Cloth. Pp. 68. Price, $1.00. Philadelphia: P. Blakiston's Son & Co.

HYGIENE FOR STUDENTS. By Edward F. Willoughby, M.D. Lond., Diploma in State Medicine of the London University. Cloth. Pp. 563. Price, $1.25. London and New York: The Macmillan Co. 1901.

REPORTS OF THE SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN. Volume I. Session of 1900-1901. Cloth. Pp. 237. Price, $5.00. Philadelphia: P. Blakiston's Son & Co.

THE PERVERTS. By William Lee Howard, M.D. Cloth. Pp. 388. Price, $1.50. New York: G. W. Dillingham.

New Patents.

Patents of interest to physicians, etc., Jan. 14, 21 and 28:

691,143. Hernial truss. Richard Hummel, New York City.
691,270. Water bandage. Charles H. Jones, Tempe, Ariz.
691,290. Tank for medicating water. Charles W. Perkins, St. Louis, Mo.
691,295. Exercising apparatus. Franklin Schneider, Cleveland, Ohio.
691,224. Invalid bed-rest. John F. Wilkins, Norfolk, Va.
35,580. Design, hot-water bag closure. Christian W. Meinecke, Jersey City, N. J.
691,698. Vaginal syringe. Richard H. Eddy and J. B. Johnston, Providence, R. I.
691,732. Device for therapeutic application of smoke. Philip J. Schreiber, Toledo, Ohio.
691,681. Aseptic preparation from pancreas and producing same. Wilhelm Weber, Stolberg II, Germany.
691,687. Capsule. Robert B. Wilson, Woodhaven, N. Y.
692,043. Suspensory. Joel U. Adams, Cincinnati, Ohio.
692,102. Nitrocellulose. David Bachrach, Baltimore, Md.
692,139. Making hydrogen dioxid. P. L. Hulin, Clavaux, par Riouperoux, France.
692,061. Douche bench. Thomas F. McCullough, Memphis, Tenn.
692,166. Medicine carrier. Jakob Schaffer, New York City.
691,881. Registering faucet for syrup bottles. Francis E. Thompson and F. N. Young, Boston, Mass.

The Public Service.

Army Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the fourteen days ended Feb. 6, 1902:

Surgeon P. C. Kalloch, granted leave of absence for fourteen days from February 5.

Surgeon J. J. Kinyoun, department approval of June 28, 1901, granting leave of absence for four months, amended so that said leave shall be for one month and twenty-one days.

P. A. Surgeon A. R. Thomas, to proceed to London, England, for special temporary duty.

Asst.-Surgeon Taliaferro Clark, granted leave of absence on account of sickness, for fourteen days from January 16.

A. A. Surgeon J. T. Bullard, granted leave of absence for twenty-five days from February 1.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for two days.

A. A. Surgeon R. T. Walker, granted leave of absence for four days from February 18.

Hospital Steward E. S. Maguire, granted leave of absence for thirty days from February 5.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending Feb. 8, 1902:

Asst.-Surgeon F. M. Furlong, ordered to Naval Hospital, Norfolk, Va., instead of to the *Topeka*, as previously ordered.

Asst.-Surgeon W. H. Ulsh detached from the *Annapolis*, and ordered to the Naval Hospital, Mare Island, for treatment.

Medical Inspector J. R. Waggener, detached from the *Constellation* and to duty at the Marine Recruiting Rendezvous, Boston, Mass.

Surgeon J. F. Urie, detached from the Marine Recruiting Rendezvous, Boston, Mass., and ordered to the Naval Dispensary, Washington, D. C.

Surgeon L. W. Spratling, ordered to duty at the Naval Hospital, Portsmouth, N. H.

P. A. Surgeon S. G. Evans, detached from duty at the Naval Hospital, Portsmouth, N. H., and ordered to the Pensacola Navy Yard.

Surgeon F. J. B. Cordeiro, detached from the Pensacola Navy Yard, and ordered to the *Constellation*.

Asst.-Surgeon C. M. Oman, ordered to the Naval Hospital, New York, for duty.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Feb. 7, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, Jan. 18-25, 5 cases; San Francisco, Jan. 19-26, 14 cases.

Illinois: Jan. 25-Feb. 1, Belleville, 1 case; Chicago, 5 cases; Danville, 1 case; Galesburg, 2 cases.

Indiana: Crawfordsville, Jan. 18-Feb. 1, 14 cases.

Iowa: Clinton, Jan. 26-Feb. 2, 6 cases.

Kentucky: Covington, Jan. 26-Feb. 2, 6 cases.

Louisiana: New Orleans, Jan. 25-Feb. 1, 4 cases, 1 death.

Massachusetts: Boston, Jan. 25-Feb. 1, 47 cases, 12 deaths; Brookline, Jan. 18-25, 1 case; Cambridge, Jan. 25-Feb. 1, 5 cases; Chicopee, Jan. 18-25, 1 case; Malden, Jan. 25-Feb. 1, 1 case; New Bedford, Jan. 25-Feb. 1, 5 cases; Somerville, Jan. 25-Feb. 1, 1 case; Waltham, Jan. 25-Feb. 1, 1 case; Woburn, Jan. 25-Feb. 1, 1 death.

Michigan: Ann Arbor, Jan. 11-18, 1 case; Detroit, Jan. 25-Feb. 1, 6 cases; Ludington, Jan. 26-Feb. 2, 1 case.

Minnesota: Minneapolis, Jan. 18-25, 23 cases.

Montana: Butte, Jan. 12-26, 9 cases.

Nebraska: Omaha, Jan. 25-Feb. 1, 51 cases; South Omaha, Jan. 24-31, 172 cases.

New Jersey: Camden, Jan. 25-Feb. 1, 7 cases; Jersey City, Jan. 25-Feb. 1, 25 cases, 1 death; Newark, Jan. 24-Feb. 2, 40 cases, 3 deaths.

New York: Jan. 25-Feb. 1, Binghamton, 3 cases; New York, 42 cases, 15 deaths.

Ohio: Cincinnati, Jan. 24-31, 16 cases, 1 death; Cleveland, Jan. 25-Feb. 1, 3 cases; Middletown, Jan. 25-Feb. 1, 2 cases; Toledo, Jan. 25-Feb. 1, 3 cases.

Pennsylvania: Auburn, Nov. 16-Jan. 25, 48 cases, 1 death; McKeesport, Jan. 25-Feb. 1, 1 case; Norristown, Jan. 25-Feb. 1, 1 case; Philadelphia, Jan. 25-Feb. 1, 73 cases, 13 deaths; Pittsburg, Jan. 25-Feb. 1, 1 case; Williamsport, Jan. 25-Feb. 1, 2 cases.

Rhode Island: Providence, Jan. 25-Feb. 1, 1 death.

South Carolina: Jan. 18-25, Charleston, 2 cases; Greenville, 1 case.

South Dakota: Sioux Falls, Jan. 24-Feb. 2, 4 cases.

Tennessee: Memphis, Jan. 25-Feb. 1, 12 cases.

Washington: Tacoma, Jan. 19-26, 3 cases.

Wisconsin: Green Bay, Jan. 24-Feb. 2, 10 cases; Milwaukee, Jan. 25-Feb. 1, 3 cases.

SMALLPOX—FOREIGN.

Brazil: Para, Nov. 1-Dec. 31, 25 cases, 2 deaths.

Colombia: Cartagena, Jan. 13-19, 2 deaths; Panama, Jan. 20-27, 25 cases.

France: Paris, Jan. 11-18, 7 deaths.

Great Britain: Bristol, Jan. 4-11, 1 case, 1 death; Liverpool, Jan. 11-18, 3 cases; London, Jan. 11-18, 877 cases, 60 deaths.

India: Bombay, Dec. 31-Jan. 7, 1 death; Karachi, Dec. 29-Jan. 5, 8 cases, 2 deaths; Madras, Dec. 14-20, 3 deaths.

Italy: Naples, Jan. 11-18, 15 cases, 3 deaths.

Russia: St. Petersburg, Jan. 4-11, 5 cases, 1 death.

Uruguay: Montevideo, Nov. 8-Dec. 7, 268 cases, 26 deaths.

YELLOW FEVER.

Brazil: Para, Oct. 1-Dec. 31, 24 deaths.

Dutch Guiana: Paramaribo, Jan. 9, 2 cases suspect.

Mexico: Vera Cruz, Jan. 18-25, 1 case.

CHOLERA.

India: Bombay, Dec. 31-Jan. 7, 1 death; Calcutta, Dec. 28-Jan. 4, 33 deaths; Madras, Dec. 14-20, 4 deaths.

PLAGUE.

China: Hongkong, Dec. 14-21, 1 case.

India: Bombay, Dec. 31-Jan. 7, 213 deaths; Calcutta, Dec. 28-Jan. 4, 22 deaths; Karachi, Dec. 29-Jan. 5, 31 cases, 26 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, MARCH 1, 1902. No. 9.

Original Articles.

THE HISTORY OF THE INVENTION AND OF THE DEVELOPMENT OF THE OPHTHALMOSCOPE.*

HARRY FRIEDENWALD, M.D.
BALTIMORE, MD.

The marvelous advance that modern medicine has made is due in great part to the invention of instruments of precision. They have lent delicacy and accuracy to our methods of examination and have opened new fields that were closed to our unaided senses.

When early in the last century Laennec invented the stethoscope, he gave us the means of discovering morbid processes within the body and thus revolutionized internal medicine. Helmholtz's invention of the ophthalmoscope did the same for ophthalmology. In both cases the field had long been cleared and there was no reason why the instrument should not have been invented earlier, but that in the one case it required the genius of Laennec and in the other the versatile and profoundly scientific talent of Helmholtz to lay bare simple facts which every tyro saw plainly after they had once been pointed out.

As the invention of the stethoscope enabled us to perceive deep-seated morbid processes by means of the sense of hearing, so the invention of the ophthalmoscope gave us the means of recognizing by the sense of sight the normal or abnormal conditions of the fundus of the eye which had been hidden from view during all the ages. Auscultation might have reached a high state of development without any instrumental aid, but no one could ever have seen the details of the fundus oculi without some instrument based upon the principles which Helmholtz discovered.

It is now fifty years since Helmholtz announced his invention in the unpretentious monograph which I here show. It is most fitting that this body representing ophthalmology in America should commemorate the jubilee, and show its grateful appreciation of the work of Helmholtz and of the value of his gift.

It is of special interest to us to take a glance at the gradual accumulation of facts and observations, the building stones which were needed before even a Helmholtz could rear his structure. The most important of these was the observation of the luminous appearance of the pupil. The ancients had observed this in the eyes of certain animals.[1]

The first mention of the observation in the human eye was made in 1796 by Fermin, who found that the pupils of an Ethiopian albino were luminous. Other cases were published, as rare and curious during the first quarter of the 19th century. The statement was made that the light radiating from such eyes illumined the objects on which it fell and enabled the fortunate individual to read in the dark!

The bright yellow appearance of the pupils in certain forms of disease, first mentioned by Scarpa in 1816, was classically described by Beer in 1817 under the title of "Amaurotic Cat's Eye."

We find no mention of luminosity in other than albinotic or diseased eyes until 1837, when Behr observed it in a case of total irideremia and it was not until the forties that the observation was made on normal eyes.

It is interesting to learn the theories that were offered to explain these observations. First it was regarded as a phenomenon of phosphorescence; by some as the light absorbed during the day and given off at night, and later by others as the result of an internal activity similar to that of the fire-fly. It was described as varying with the seasons, with the age of the individual and with his nervous state. Electricity was also called upon to assist in explaining the luminosity of the eye. It was the "naked electricity emitted by the retina, for nowhere in the animal organism is the brain substance exposed to the naked eye as clearly as in the open interior of the eyeball" (Pallas, 1811). But Prevost in 1818 pointed out the true cause: it was the reflection of the light which entered the eye, and Gruithuisen about the same time came to a similar conclusion.

In 1821 Rudolphi added the observation that success of the experiment depended upon having the light thrown in, in a definite direction and that the eyes of the decapitated head of a cat were as easily made luminous as the living.

Esser in 1826 showed that such eyes shone even brighter than the living, because of the larger size of the pupil, and Johannes Mueller expressed the same view.

In 1836 Hasenstein showed that he could make the pupil luminous by compressing the eyeball in its antero-posterior diameter, and in 1845 Brucke gave the correct explanation of the red color of the luminous pupil in that the light was reflected by the choroidal blood vessels.

In 1846 a most important communication was published by Cumming in the Medico-Chirurgical Transactions. He showed that every healthy human eye can be made luminous. The person is placed at a definite distance from a light, this distance varying with the intensity of the light, and the observer places himself close to the straight line between the course of light and the eye examined. He showed that the luminosity of the

* At the Meeting at Atlantic City, Drs. Harry Friedenwald and Casey Wood were appointed a committee to arrange exercises and an historic exhibit for the St. Paul Meeting, to commemorate the 50th anniversary of the invention of the ophthalmoscope.

pupil varied with the intensity and the distance of the light and that when the distance was decreased to a few inches it vanished because the light is cut off by the head of the observer. He reported a number of cases in one of which only could he not produce the luminous appearance. In this case the pupils were very small. It was Cumming who first suggested and used this method for examination of the porterior portion of the eyeball, making the endeavor to draw conclusions concerning the retina as well as the media from the conditions of the reflex.

About this time Bruecke's attention was directed to this subject by accidentally observing a young man's eyes become luminous, and in 1847 he invented independently the same method as that of Cumming. He also mentioned an observation of Erlach, that eyes could be made luminous by the bright light reflected from his concave spherical spectacle glasses, a fact which Bruecke substantiated by experiments on others.

About the same time an instrument was constructed by Babbage, of calculating machine fame, which almost made this scientist take Helmholtz's place as the inventor of the ophthalmoscope. Almost! The account was not published until three years after Helmholtz's invention had been made and appeared in an article by Wharton-Jones[2] in which he reviewed Helmholtz's publication and several that appeared subsequently. He says: "It is but justice that I should here state, however, that seven years ago Mr. Babbage showed me the model of an instrument which he had contrived for the purpose of looking into the interior of the eye. It consisted of a bit of plain mirror, with the silvering scraped off at two or three small spots in the middle, fixed within a tube at such an angle that the rays of light falling on it through an opening in the side of the tube were reflected into the eye to be observed and to which one end of the tube was directed. The observer looked through the clear spots of the mirror from the other end. This ophthalmoscope of Mr. Babbage we shall see is in principle essentially the same as those of Epkens and Donders, of Coccius and of Meyerstein, which themselves are modifications of Helmholtz."

What a pity that Babbage did not devote a little more time to this invention! He could hardly have missed being the inventor of an instrument whose value is a thousand times greater than that of all the calculating machines ever invented.

To return a moment to another aspect I must point out that as early as 1704, Mery observed that the fundus of cats' eyes became distinctly visible when the animal was placed under water. LaHire explained this phenomenon five years later: "When a normal eye is in the air the rays of light issuing from a point in the fundus are so refracted that they leave the eye in parallel lines. For this reason we should be able to see the point in the fundus clearly, for parallel or almost parallel rays always produce a distinct perception in our eye; nevertheless, we do not see the object. On the other hand, when the eye is under water the rays leaving the eyeball diverge and in passing from the water into the air they are made to diverge still more. The result is that wherever we place our eye these divergent rays give us a clear picture of the point in the fundus from which they emerge." He does not attempt to explain the problem why parallel rays emerging from an eye exposed to the air can not be seen.

LaHire's profound statement was too advanced; others receded from it and it required almost 150 years before the problem was solved.

In 1851[3] a little pamphlet was published by Helmholtz, then a young professor of anatomy and physiology in Königsberg, under the title of "Beschreibung Eines Augen-Spiegels zur Untersuchung der Netzhaut im Lebenden Auge." In this he demonstrated the fundamental facts that *the rays pass out of the eye in the same lines in which they have entered and that they can be made to form a distinct image in an observer's eye.* He explains Cumming's and Bruecke's observations as being due to the fact that the eye is not exact focus for the light and thus rays pass out by lateral dispersion. But what was most important he added the *practical* to the *theoretical* and invented an instrument with which the details of the retina could be examined. He described the ophthalmoscopic appearance of the retina, calculated the enlargement under which it is seen, pointed out the value of the instrument as a measure of the refraction and of the accommodative changes of the eye. His short monograph was thorough and complete and gave into our hands a means of examination of which no one had yet dreamed. In his modest way Helmholtz thus prophesies its usefulness:

"I do not doubt, judging from what can be seen of the state of the healthy retina, that it will be possible to discern all its diseased conditions, so far as these, if seated in other transparent parts such as the cornea, would admit of diagnosis by the sense of sight. Distension or varicosity of the retinal vessels will be easily perceptible. Exudations in the retinal substance, or between the retina and choroid, will be seen precisely as in the cornea, by their brightness upon a dark ground. . . . Fibrinous exudations, usually much less transparent than the ocular media, will, when lying upon the fundus, considerably increase its reflection. I believe also that turbidity of the vitreous body will be determined with greatly increased ease and certainty. In brief, I do not consider it an overstrained expectation that all the morbid changes of the retina or of the vitreous body that have been found in the dead subject will admit of recognition in the living eye; an expectation that appears to promise the greatest progress in the hitherto incomplete pathology of the organ."

It will not be out of place to tell the story of the invention of the instrument in Helmholtz's words: "I was endeavoring to explain to my pupils the emission of reflected light from the eye, a discovery made by Bruecke, who would have invented the ophthalmoscope had he only asked himself how an optical image is formed by the light returning from the eye. In his research it was not necessary to ask it, but had he asked it, he was just the man to answer it as quickly as I did and to invent the instrument. I turned the problem over and over to ascertain the simplest way in which I could demonstrate the phenomenon to my students. It was also a reminiscence of my days of medical study that ophthalmologists had great trouble in dealing with certain cases of eye disease, then known as black cataract. The first model was constructed of pasteboard, eye lenses, and cover glasses used in the microscopic work. It was at first so difficult to use that I doubt if I should have persevered, unless I had felt that it must succeed; but in eight days I had the great joy of being the first who saw before him the living human retina."

How peculiarly applicable are the lines of Weir Mitchell:

How keen the mind-thrill of delight
When some new sun illumes our lessening night,
And problems, dark for many a weary year,
Shine, simply answered—luminous and clear.

THE HELMHOLTZ OPHTHALMOSCOPE.

This interesting instrument, of which there are five models in the exhibit, consists of a little metallic box with plates set at an angle which act as reflectors. In the back of the instrument correcting lenses were placed to neutralize the refractive and accommodative conditions of the eye examined and of the eye of the observer. In the early cases these lenses were all concave[4] and ranged from —12 in. to —6 in. which Helmholtz[5] says "suffice for all conditions of the accommodation." He himself usually used —10 in. spherical glass to examine normal eyes, and for high degrees of myopia he combined two concave glasses.

For the purpose it was invented, this instrument is optically perfect, and Helmholtz not only recognized all the possibilities of pathological discovery which it offered but he also saw the value that it possessed for the determination of the refractive condition of the eye examined.

"One can easily convince himself objectively with the ophthalmoscope of the presence and the degree of short-sightedness and of far-sightedness." His method consisted in having the observer first determine the concave glass required for examination of a normal eye and subtracting this constant from the glass required for the examination of other eyes, a method which we all use in teaching beginners.

No instrument used in medicine was destined to undergo a greater number of changes and modifications than the ophthalmoscope. In the same year in which Helmholtz's monograph appeared, Epkens constructed a plain silvered mirror with the silvering removed at a spot in the center.

RUETE'S OPHTHALMOSCOPE.

In 1852 Ruete[6] announced the invention of an ophthalmoscope by means of which the fundus was rendered visible in an inverted image by what has since been known as the indirect method. It is true that Helmholtz discussed the question of examining the fundus in this manner by means of convex spheric glasses placed between the observer and the observed eye, but he placed his lenses behind the ophthalmoscope, between the reflecting surface and the eye of the observer. After making careful and interesting calculations, he described that "in experiments with such lenses the proper position of the instrument for the examination of the retinal image was very much more difficult to find and to hold." Helmholtz himself therefore only used the direct method.

Ruete's instrument, which through the kindness of Dr. B. Joy Jeffries, I have the good fortune of being able to show in the exhibit, is most curious and interesting. As reflector, Ruete introduced a concave perforated mirror placed at a distance from the observed eye and he interposed between this mirror and the eye examined one or two spheric convex lenses.

Ruete therefore deserves the credit for having introduced a practical method for examining the inverted image of the retina and too great praise can not be bestowed upon him. Helmholtz himself said of it: "I consider the invention of his instrument an important advance in the examination of the fundus." In his article Ruete describes a few pathological cases examined by means of his instrument; these, so far as I am aware, are the first on record.

Ruete's paper soon called forth another from Helmholtz[7] in which he explained the theory of the indirect method and described his "simplest ophthalmoscope" which required nothing but a screen, a candle and a convex spheric lens.

The observer's head is placed close to the candle and shaded by a screen and the lens is held near the eye examined. This and Ruete's method he showed were practically identical. Helmholtz also mentioned an addition made to his original instrument by Rekoss, an instrument-maker of Königsberg. Rekoss placed two discs which had lenses inserted in their periphery in the instrument; by turning these the lens desired could be obtained. This device,[8] the Rekoss disc, has been used in most modifications of the instrument.

In 1853[9] Coccius invented an instrument which consisted of a plain mirror upon which the light was thrown through a convex spheric glass. The mirror and the lens were firmly attached to each other, but their distance from each other admitted of change. In this manner the plane mirror acted as a concave mirror of variable focus. (Several forms of this mirror are found in the exhibit.)

Eduard Jaeger[10] in 1854 modified the instrument of Helmholtz. The three plates of unsilvered glass were retained for the direct method, but these could be replaced by a concave silvered mirror for the inverted image; thus he made a combination of the Helmholtz and the Ruete instruments. In 1871 Dr. George Strawbridge[11] of Philadelphia further modified this instrument by adding three Rekoss discs which were interchangeable.

We have now seen that plain and concave mirrors were used. In 1854 Zehender[12] used a convex mirror with a convex spheric glass attached in the same manner as that of Coccius. But this does not exhaust the mirrors used. Lenses were employed, both convex and concave and concavo-convex of varying strengths, which were silvered on one side and thus acted as both correcting lenses and mirrors. In the exhibit you will find several such mirrors made of silvered biconvex lenses and known as Burrow's[13] ophthalmoscopes. All of the instruments thus far mentioned are found in the exhibit.

Prisms were employed as mirrors by Ulrich, Froebelius, Meyerstein, Coccius and Zehender,[14] but I have been unable to obtain any of these forms.

A very simple ophthalmoscope was early invented by Liebreich, first in the form of a concave metallic mirror, later of perforated glass. You will find a long series of these in the exhibit. Liebreich also invented an instrument in which the various parts were fixed and the head of the patient likewise made stationary.[15]

Follin also constructed an instrument in which the mirror and the collecting lens were stationary—and Galezowski[16] invented one in which the lens and the mirror were placed at the two ends of a telescopic tube. The stationary instruments were especially intended as demonstrating ophthalmoscopes. Special demonstrating ophthalmoscopes were also constructed by Schweigger,[17] in which the rays returning through the opening in the mirror were in part allowed to proceed to the observer's eye, in part deflected by a prism to the eye of another to whom the demonstration was to be made. Graefe and Peppmueller[18] described an instrument for the same purpose in which a small piece of mirrored glass was placed on the mirror at the side of the

opening.[19] All of these instruments are found in our exhibit. We have also a Schoeler[20] demonstrating ophthalmoscope in which a minute mirror is placed obliquely behind the opening of the ophthalmoscopic mirror.

Numerous attempts were made to obtain a binocular view of the fundus. A number of modifications of Giraud Teulon's binocular ophthalmoscopes are found in our exhibit.

Of the half dozen electric light ophthalmoscopes that have been invented I am only able to present one model, that of Schweigger.

REFRACTION OPHTHALMOSCOPES.

The first to invent a refraction ophthalmoscope was Helmholtz when he added the Rckoss dises to his instrument. This same device has been used in numerous forms of instruments.

No one has contributed more to perfecting this than our fellow-countryman, Loring. I am very fortunate in being able to show the various steps which led up to the present instrument, which is known to you all. Loring first inserted three interchangeable dises behind the mirror, later he placed all the lenses in one dise making a double circle of glasses and by moving the disc up and down he could place either circle before the eye. Finally he secured all the strengths necessary by means of a single dise and a super-added segment. Wadsworth of Boston first suggested a mirror set obliquely before the observer, so as to enable the latter to look directly through the lenses and not at an angle. This instrument we have in our exhibit, loaned by Dr. Wadsworth. Loring adapted the same modification in an ingenious way by cutting off a segment at one edge of his round mirror and still later he found that he was able to take off a segment on each side and thus came about the modern Loring tilting mirror.

Another method of placing a great number of lenses in an instrument was invented by Cooper of London. He formed a long chain of lenses sliding in a groove. Morton modified this and his instrument is also in the exhibit.

A number of instruments have the correcting lenses arranged in a line and placed in a narrow metal plate which slides in a groove. Several are in the exhibit.

I should like to devote a little time to the consideration of skiascopy but time will not permit, and I shall only call your attention to a number of varied mirrors for this purpose to be found in the exhibit. Nor dare I spend any time on ophthalmoscopic photography.

The days of invention of new ophthalmoscopes are not over. In 1900 two important instruments were invented, one a demonstration ophthalmoscope by Thorner, the other an electric light ophthalmoscope by Oscar Wolff. I regret that we were unable to obtain these for the exhibit.

It would have been impossible to make this collection complete. But a sufficient variety is shown in the 140 instruments making up the exhibit to afford a good demonstration of the development of the ophthalmoscope and of its many modifications. All have been collected in this country, and I trust that the section will agree with me in urging the Surgeon-General of the United States to arrange a permanent historic exhibit at the Army and Navy Museum in Washington. Many of these instruments are already very rare and will otherwise be lost in a few years. I feel confident that many who have loaned their instruments to us will be willing to loan them, and some, perhaps, to give them, to the Surgeon-General's Museum.

In conclusion I desire to give thanks to Dr. Casey A. Wood, my colleague on the committee and to the following gentlemen who have kindly loaned their instruments:

LOANERS.

Dr. B. Joy Jeffries, of Boston (eight instruments).
Dr. Charles H. Williams, of Boston (eight).
Dr. Hasket Derby, of Boston (six).
Dr. D. W. Hunter, of New York (six from the collection of the late Dr. Noyes).
Drs. F. M. Chisolm and Herbert Harlan, of Baltimore (five).
Dr. Casey A. Wood, of Chicago (four).
Dr. William Thomson, of Philadelphia (four).
Dr. Conrad Behrens, of Philadelphia, Wills Eye Hospital (four).
Dr. Webster Fox, of Philadelphia (three).
Dr. Charles H. May, of New York (two).
Dr. Lucian Howe, of Buffalo (two).
Dr. Jackson, of Denver (two).
Dr. Dudley Reynolds, of Louisville (two).
Dr. Callan, of New York (two).
Dr. Edward Morrow, of Canton, Ohio (one and Montnieja's Atlas).
Dr. Flemming Carrow, of Ann Arbor, Mich. (one).
Dr. C. Barck, St. Louis (one).
Dr. Hermon Thomas, of Philadelphia (one).
Dr. Alex. Stirling, of Atlanta, Ga. (one).
Dr. K. Koeller, of Pittsburg (one).
Dr. C. M. Culver, of Albany, N. Y. (one).
Dr. Samuel D. Risley, of Philadelphia (one).
Dr. Shallus, of Philadelphia (one).
Dr. Jessop, of Philadelphia (one).
Dr. Zimmerman, of Philadelphia (one).
Dr. G. Edgar Dean, of Scranton, Pa. (one).
Dr. William C. Bane, of Denver, Colo. (one).
Dr. H. B. Young, of Burlington, Iowa (one).
Surgeon-General's Museum, through Dr. Caloni DeWitt (one).
Dr. Brown Pusey (seven), and Chambers, Inskeep & Co., Chicago.

I feel that Messrs. Tiemann & Co., of New York, Messrs. Bonschur and Holmes, of Philadelphia, and Mr. Alex. Shaw, successor of Mr. H. W. Hunter, of New York, and Mr. E. B. Meyrowitz, of New York, deserve our special gratitude for the interest and pains they have taken in collecting old instruments. Messrs. Tiemann & Co. sent twelve instruments, Messrs. Bonschur & Holmes collected fourteen and added four more from their stock, and Mr. Alex. Shaw sent two made by Hunter.

REFERENCES.

1. There is doubtful mention of it by Aristotle, and Pliny says: "The eyes of nocturnal animals, such as cats, are brilliant in the darkness." See Mauthner's Ophthalmoscopie, p. 2.
2. British and Foreign Medical Review, October, 1854.
3. From certain statements in Michaelis' "Life of v. Graefe" (Berlin, 1877, p. 34), it would appear that the invention was really made in 1850.
4. Since higher degrees of hypermetropia than 4 Ds are not of common occurrence, Helmholtz required no convex spheres.
5. Nederl. Weekblad voor Geneeskundigen, Dec. 21, 1851.
6. Der Augenspiegel und d. Optometer, Göttingen, 1852.
7. Vierordt's Archiv, 1852, p. 827.
8. Each disc contained four lenses: one those from 6 in. to 9 in., the other those from 10 in. to 13 in., all concave.
9. Ueber d. Anwendung d. Augenspiegel, Leipzig, 1853.
10. Ueber Staar und Staar-operationen, Vienna, 1854.
11. Amer. Ophth. Soc., 1871, p. 120.
12. Graefe's Arch. f. Ophth., vol. i, pt. 1, p. 121.
13. Arch. f. Ophth., iii, 2, p. 68, 1857.
14. See Graefe Saemisch Handbuch, vol. iii, p. 155.
15. Arch. f. Ophth., vol. i, 2, 1854.
16. Acad. de Med., Jan., 1862.
17. Berl. Klin. Woch., 1871, p. 585.
18. 50 Versammlung Deutscher Aerzte und Naturforscher, 1877.
19. Most all are familiar with the device as adapted by laryngologists to demonstrate the larynx and known as Noltenius' demonstrating instrument.
20. Jahresbericht d. Augenklinik for 1876, pp. 51-56.

HERMANN VON HELMHOLTZ—THE INVENTOR OF THE OPHTHALMOSCOPE.*

CASEY A. WOOD, M.D.
CHICAGO.

Vormals im Leben ehrten wir dich, wie einen der Goetter,
Nun du todt bist, so herrscht über die Geister dein Geist.

Quite apart from the interest that is naturally excited by the life-story of the great scientist who invented the instrument that revolutionized the science and art of ophthalmology, there are, at least, two reasons why this gathering should be especially interested in the life of Hermann Ludwig Ferdinand Von Helmholtz. In the first place it was as a student and practitioner of medicine that he entered upon those studies that carried his name and spread his fame throughout the world of science. Then, in the second place, there coursed in his

* At the Meeting at Atlantic City, Drs. Harry Friedenwald and Casey Wood were appointed a committee to arrange exercises and an historic exhibit for the St. Paul Meeting, to commemorate the 50th anniversary of the invention of the ophthalmoscope.

veins the bluest of American blood. His mother was the daughter of a Hanoverian artillery officer named Penne, a direct descendant of William Penn. It is more than possible that the calm, thoughtful spirit which distinguished all the actions of this truly great man was largely due to the Quaker element in his character. He was born at Potsdam, near Berlin, on August 31, 1821—the son of Ferdinand Helmholtz, a teacher in the gymnasium, and a man of unusual intelligence and culture. The subject of this sketch had, on the whole, a quiet uneventful life. He was not given to talking much about himself even to his most intimate friends, although he occasionally broke through his natural reserve in this respect. In 1891, when he replied to a toast in honor of his seventieth birthday, he opened his heart to his hearers, and we are indebted to this festive occasion for much that we know of the private life and opinions of the speaker. Although by no means robust as a boy, his mind always showed great activity. He tells us that it was while playing with a set of wooden blocks that his attention was first drawn to mathematical problems. He had the good fortune to possess a father who encouraged him in the study of general literature, and although he acquired languages with great difficulty, he was very fond of poetry, and at an early age read Homer, Virgil and even Arabic tales and verse. He also had the advantage of listening to the discussions, philosophical and other, that took place in his father's house, and made an early acquaintance with the metaphysics of Kant and Fichte. As he grew older he threw off the physical disabilities that affected his early youth and began to take long walks through the country, first in the beautiful environs of Potsdam and later through Europe, that formed, with the delightful and profitable companionship of his father and other friends, one of the most fruitful experiences of his whole life. Du Bois Reymond asserts that these excursions, as well as his later mountaineering experiences in the Alps, had for him something more than a hygienic value. We know that the solution of many a problem came to him while engaged in these holiday recreations. For example, it was while watching the troubled sea at Cap d'Antibes that he measured the velocity of the wind with an anemometer, counted the number of waves on a given surface of sea and thus obtained the necessary data for his conclusions on the relation of wind velocity to wave lengths.

Helmholtz was soon attracted by the study of physics as opposed to mere abstract investigation of algebra, geometry and trigonometry, and although he regarded mathematics as a *sine quâ non* in physical research, he was essentially a student of physical phenomena. If there is one thing that characterizes his life-work it is a passionate desire to know things as they really are and to study them especially from their physical side. This zeal became more pronounced the older he grew, and we know that as an experimenter he had no superior and few equals. While his class in the gymnasium was reading Greek and Latin authors, generally regarded as a severe task by the young physicist, he was surreptitiously working out optical problems and illustrating the passage of light rays through the telescope. His father was a man of small means and could not afford to purchase expensive apparatus for his son; hence the latter was obliged to utilize in his primitive investigations spectacle glasses and a small lens used for examining botanical specimens.

In 1838 he left the gymnasium to attend the University at Berlin with the following prophetic testimonial from the rector: "His exceptionally calm and reserved disposition is combined with great intellectual enthusiasm. In it we recognize an excellent combination of clear and prudent understanding and deep good nature. His manners bear witness to a carefully preserved, exceptionally pure, and genuine childlike innocence. These peculiarities, along with the richness and power of his mental development, give an agreeable and captivating impression, and justify the hope that such a ground-soil of intellectual life will only bring forth the best of fruits."

It is difficult to realize from what we know of his maturer years, that Helmholtz had no extensive training in mathematics during his youth. It appears, however, that he recognized the necessity of a thorough knowledge of this branch as an adjunct to his study of physics, and he applied himself to it with the quiet persistence that also marked his successful acquirement of foreign languages. Those of us who remember the speech he made at the dinner in his honor at Chicago in 1893 will scarcely believe that he was not a ready linguist.

Helmholtz was one of four children, and the difficulties which Ferdinand Helmholtz encountered in supporting his family made it necessary that Hermann should earn his own livelihood at an early age. He was advised to study medicine and, with the assistance of a relative, Surgeon-General Mursinna, in 1838, entered as a bursar the Royal Medical-Chirurgical Friedrich-Wilhelm Institute in Berlin. Here a free medical education was given the student on condition that he afterwards become a surgeon in the Prussian army. He attended the usual courses in the Medical Department of Berlin University, was attached for a time to the Charité Hospital, finally obtained his diploma and became an army surgeon.

In a lecture delivered in 1877 on "Thought in Medicine," a lecture which I respectfully commend to the attention of all who have not carefully read it, he speaks of this period of his life. "My own original inclination," said he, "was towards physics; external circumstances obliged me to commence the study of medicine. It had, however, been the custom of a former time to combine the study of medicine with that of the natural sciences, and whatever in this was compulsory I must consider fortunate; not merely that I entered medicine at a time in which any one who was even moderately at home in physical considerations found a virgin field for cultivation, but I consider the study of medicine to have been that training which preached more impressively and more convincingly than any other could have done, the everlasting principles of all scientific work; principles which are so simple and yet are ever forgotten again; so clear and yet always so hidden by a deceptive veil."

It was during this time that he became the associate—the fortunate associate—of a number of other students in Berlin whose names are now and ever will be as household words to the medical man—Johannes Müller, Du Bois Reymond (an old school friend) Brücke, Gustav Magnus, Kirchoff, Virchow and many others of that brilliant group who, with himself, became the founders of the Berlin Physical Society. The main function of this association was, as you know, to consider physiological and other problems from the physical rather than from the metaphysical side.

While engaged in his usual medical duties, Helmholtz had, as he tells us in "Thought in Medicine," an attack of typhoid fever, for which he was treated gratuitously in the Charité. As his allowance for board was in the

meantime continued, he found himself at the end of his convalescence in the possession of a small sum of money, which he invested in a compound microscope. Do not imagine for a moment that this was one of those expensive and effective instruments with which every medical college is nowadays liberally supplied. In Helmholtz's youth microscopes were rare, and microscopical research by the student still rarer. Yet with this primitive instrument he demonstrated in the nervous ganglia of leeches that the nerve fiber or its axis cylinder always originates from the polar process of the nerve cell, and this investigation formed the basis of that inaugural thesis (De Fabrica systematis nervosi Evertebratorum) which at the age of 21 he presented on graduation. Sometimes we are led to believe, and our splendidly equipped laboratories in a certain sense reflect this belief, that it is a particular kind of tool that plays the important part in the work of original research, without a reckoning of the workman, just as occasionally we lose sight of the "man behind the gun" in estimating the probable value of the firearm.

It is not the purpose of this paper to follow, from these beginnings, Helmholtz's triumphant progress through the world of physical science. Even a short account of the additions which he made to our knowledge of chemistry, physiology, mechanics, hydrodynamics, optics, acoustics, electricity, color and mathematical physics generally, not to mention their practical application in the invention of instruments of precision, would more than occupy the time at my disposal. McKendrick says of him that from 1842, when his thesis was published at 21 years of age, until 1894, when he died, papers flowed from his pen in almost uninterrupted succession. With the exception of the year 1849 he always published at least one important contribution, so that no fewer than 217 distinct papers and books represent his labors. He lived in Berlin from 1842 to 1847, when he became, at the age of 29, professor of physiology at Königsberg. There he remained until his 35th year (in 1856) when he was promoted to the chair of physiology in Bonn. In 1859 he was made professor of physiology in Heidelberg. When 50 years old he was called to occupy the chair of physics in Berlin, and there he remained until his death. His early years in Berlin were occupied as assistant physician at the Charité and as assistant surgeon in the Red Hussars regiment at Potsdam. He never had a private medical practice; indeed, we know that every moment he could spare from his public medical duties was devoted to physical science. Eventually Alexander von Humboldt, recognizing his capacity, asked that he be relieved from all military duty and obtained for him several minor positions where he could devote most of his time to the study of anatomy and physiology.

As a student, some fifteen years ago, in the Physiological Institute of Berlin University, it was my good fortune to have been thrown in contact with many of the teachers that have made that institution famous—with Helmholtz, Du Bois Reymond, König, Fritsch, Gad and others of the same school. No one could fail to be impressed by the spirit of earnestness, simplicity and devotion to science for its own sake that characterized the labors of these brilliant investigators. I can not refrain from mentioning a circumstance illustrative of this idea, that is familiar to most of you. At intervals the students and teachers of the Institute were invited for a social gathering to some convenient place where all topics imaginable—but especially scientific subjects—were discussed. One in particular I remember at which Helmholtz and Du Bois Reymond were present. It was called, if I recollect aright, in the invitation posted at the Institute, *eine Bier-microscopische Versammlung,* a term fairly descriptive of the entertainment, because we wore our everyday clothes, drank beer, ate sandwiches, examined microscopical slides, listened to animated scientific discussion and enjoyed what then, and what still seems to me to be the very best society in Germany. Probably a corresponding entertainment would be represented in some other countries by an orchestra behind a row of palms, floral decorations, ten courses of indigestible imitations of French cooking and all the "guests" in their "dress" suits and on their finest behavior. Whenever I attend a medical "banquet" I can not help breathing a sigh for the simple (primitive, if you will) social joys of the German University.

Something, by the way, ought to be here said about the important work which Helmholtz did in perfecting the microscope—in supplementing the labors of Abbé of Jena in this direction. Among many other things he showed us how to find and measure the angle of aperture, and he proved that because of the light-dispersion at the margins of minute objects none of these can be seen that are of a smaller diameter than 1/5000 of a millimeter.

In some form or other and at some time or other the great problems relating to the forces that play in us and about us occupy one's attention, and Helmholtz endeavored to solve some of these great questions (so far as physical research can ever solve them) in his famous essay, "Ueber die Erhaltung der Kraft." Although the principle of the conservation of energy is now so universally accepted as to be considered almost axiomatic, and though it was dimly realized by Newton, Descartes and others, this paper of Helmholtz, read before the Physical Society, aroused much criticism, and it was actually refused publication in the well-known *Annalen* of Poggendorff on account of its doubtful value!

In 1849, when Helmholtz was 29 years of age, he married Frl. Olgo von Velten of Potsdam, who died at Heidelberg in 1859. He had by this marriage two children, a son, an engineer now living in Munich, and a daughter who became the wife of Professor Branco, the geologist.

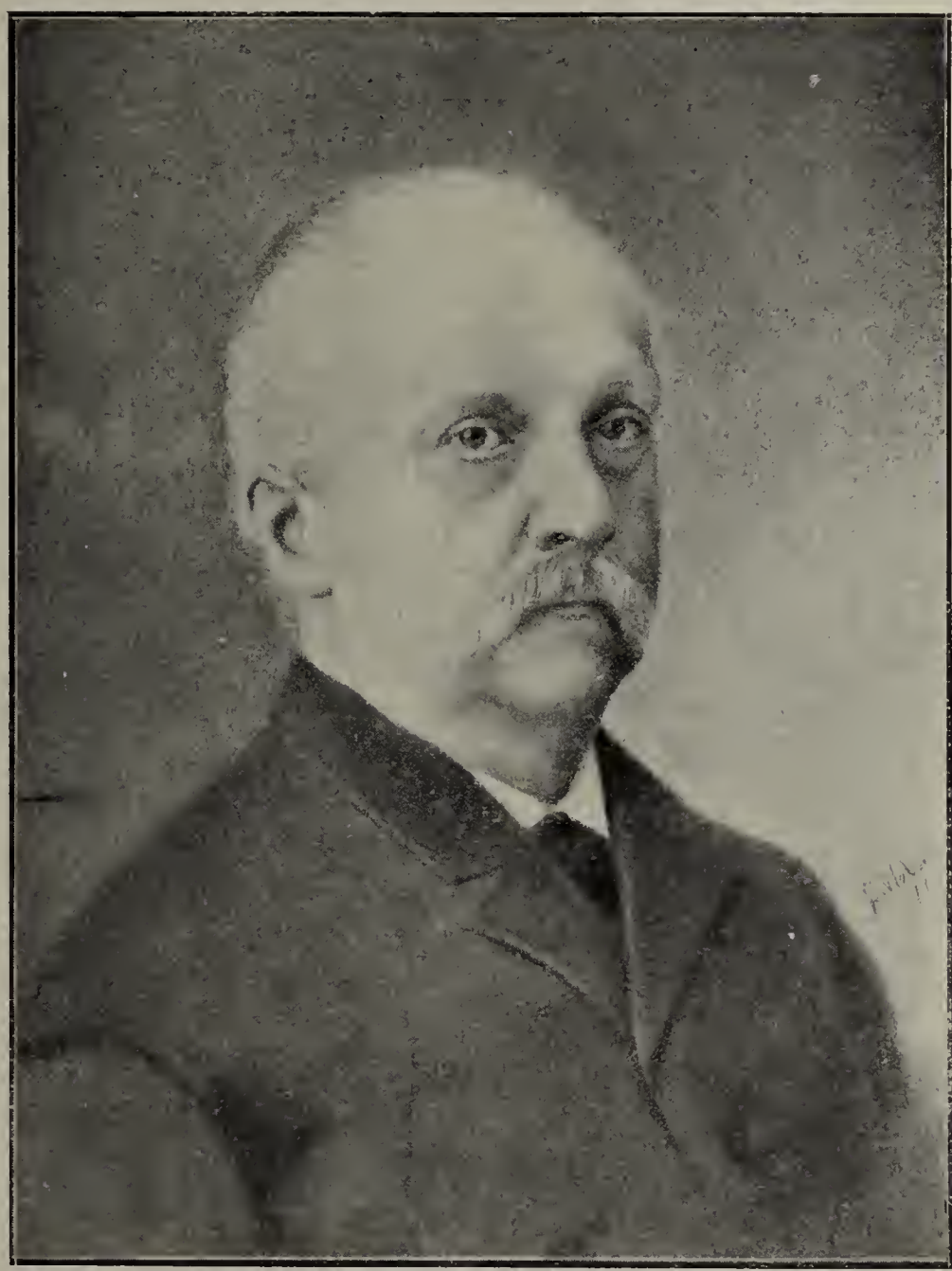
In 1861 he entered upon a second marriage with Frl. Anna von Mohl, a lady belonging to a Wurtemberg family of high social position, who also bore him two children, a son and a daughter. Robert, the elder, died in 1889 after he had given evidence of having inherited many of the mental qualities of his distinguished father. It is said that Helmholtz never entirely recovered from this blow. The daughter married the son of Werner von Siemens, the well-known electrician.

Helmholtz was an accomplished musician and no mean vocalist. The pleasures of congenial society, with music, formed his principal recreation. It may be said, in passing, that the splendid grand piano upon which he loved to play was presented to him by the house of Steinway of New York in recognition of his services to music.

The answer which the devotee of pure science is likely to give to the objection raised by the so-called "practical" man that there is little value to be attached to merely theoretical investigations, might take the form of a reference to the invention of the ophthalmoscope which we may consider the most beneficial of all the works of Helmholtz. We have the testimony of the inventor himself that its origin was the outcome of a desire to exhibit a purely physiological phenomenon to his students in Königsberg. Its application in the diagnosis and treat-

ment of disease was really an after-thought. As you are well aware, and as the labors of my colleague have enabled us so well to appreciate in the fine exhibits his industry has set before us, the first ophthalmoscope was a very crude instrument. For that matter, so also were the forerunners of the modern myograph, phakoscope and ophthalmometer, all invented at Königsberg by this versatile genius. As a further example of Helmholtz's universal study of men and things, Du Bois Reymond tells us that as a recreation he was in the habit of watching through a telescope the walking methods of the Königsberg citizens so that he might compare his observations of human locomotion with those of Weber.

In Bonn he wrote the well-known monograph on the ossicles and membrana tympani that forms so large a portion of modern physiological acoustics, just as his researches in physiological optics contributed so much to our knowledge of optical problems.



Prof. H. von Helmholtz.

In 1864 he delivered the well-known Croonian lecture "On the Normal Motions of the Human Eye in Relation to Binocular Vision." His studies of the horopter and stereoscopic vision led to the invention of the telestereoscope which, as you well know, is an instrument where two images of distant objects are seen as if the foveæ were much more widely separated than normal.

Helmholtz was a sufferer from a form of hay fever that greatly interfered with his enjoyment of the *Ferienzeit*. As no one appeared to be able to relieve him, and as little was then known of the etiology of this strange disease, he, with his usual energy, attempted to discover its cause. A full account of these researches will be found in the 46th volume (1869), page 67, of Virchow's Archiv in an article by Professor C. Binz of Bonn, entitled "Pharmakologische Studien ueber Chinin." Having read the experiments of Binz with quinia sulphate on the organisms supposed to be responsible for the symptoms, Helmholtz used a nasal wash (1:800) of this remedy for four or five years and finally announced himself as cured. The following account of the attacks, their etiology as the sufferer himself worked it out, and the means he adopted for their cure, show what an admirable clinician he might have made. The English account is given in *Nature*, vol. x, page 26, and is entitled "An Experimental Observation on Hay Fever," being a letter to Professor Tyndall from Professor C. Binz in Bonn, and forwarded by the former for publication.

"I have suffered as well as I can remember since the year 1847 from the peculiar catarrh called by the English 'hay fever,' the specialty of which consists in its attacking its victims regularly in the hay season (myself between May 20 and the end of June), that it ceases in the cooler weather, but on the other hand quickly reaches a great intensity if the patients expose themselves to heat or sunshine. An extraordinary violent sneezing then sets in, and a strongly corrosive thin discharge with much epithelium is thrown off. This increases after a few hours to a painful inflammation of the mucous membrane and of the outside of the nose, and excites fever, with severe headache and great depression if the patient can not withdraw himself from the heat and the sunshine. In a cool room, however, these symptoms vanish as quickly as they come on, and there then only remains for a few days a lessened discharge and soreness, as if caused by the loss of epithelium. I remark, by the way, that in all my other years I had very little tendency to catarrh or catching cold, while the hay fever has never failed, during the twenty-one years of which I have spoken, and has never attacked me earlier or later in the year than the time named.

"The curious dependence of the disease on the season of the year suggested to me the thought that organisms might be the origin of the mischief. In examining the secretions I repeatedly found in the last five years certain vibrio-like bodies in it which at other times I could not observe in my nasal secretions. They are very small and can only be recognized with the immersion lens of a good Hartnack microscope.

"It is characteristic of the common isolated single joints that they contain four nuclei in a row, of which two pairs are more closely united. The length of the joints is 0.004 mm. Upon the warm objective-stage they move with moderate rapidity, partly in mere vibration, partly slowly backward and forward in the direction of their long axis; in lower temperatures they are inactive. Occasionally one finds them arranged in rows upon each other or in branching series. Observed some days in the

moist chamber they vegetate and appear somewhat larger and more conspicuous than immediately after their excretion. It is to be noted that only that kind of secretion contains them which is expelled by violent sneezings; that which drops away slowly does not contain any. They stick tenaciously enough in the lower cavities and recesses of the nose. I made a neutral solution of sulphate of quinin (1 to 800) which produced moderate irritation of the nasal mucous membrane. I then lay flat on my back, keeping my head very low, and poured with a pipette about 4 c.c. into both nostrils. Then I turned my head about in order to let the fluid flow in all directions. The desired effect was obtained immediately and remained for some hours so that it was sufficient to repeat the treatment only three times daily. I then found no vibrios in the secretion. After continuing this treatment for some days the symptoms disappeared completely, but if I leave off they return till toward the end of June."

Helmholtz's experiments began in the summer of 1867 and in 1872 he told Binz that his fever was quite cured and that several others had, by his advice, tried the same treatment with success.

Although we now have reason to believe from the observations of Blakely, Bostock and Bosworth that true hay fever is the result of the irritation set up by the pollen of certain flowering plants in individuals having a neurotic idiosyncrasy against them and that the organisms seen by Helmholtz were probably fragments of spores containing the fovilla of the pollen cells the clinical observations were accurate, the description of the disease eminently truthful, and the methods of examination were in accord with the teachings of modern science.

In 1877 Werner von Siemens founded the Physico-Technical Institute at Berlin, and Helmholtz, his lifelong friend, was chosen as its first Director. This position furnished him with some rest from teaching, but he still continued to deliver lectures twice a week in the University.

Five years after the demise of his son, Helmholtz sustained a further loss in the death of his favorite pupil, Heinrich Hertz, best known as the discoverer of electromagnetic or "Hertzian" waves. We may understand something of his grief from the following words which Helmholtz wrote but a few months before his own death: "The news of the death of this favorite of genius was a severe shock to all who recognize the development of the individual, both as regards mental capacity and the victory of the soul over the passions and opposing powers of nature. Endowed with the rarest gifts of mind and character, he has in his short life reaped a harvest in a field in which many of the most talented of his scientific brethren had labored in vain. In classical times his death would have been regarded as a sacrifice to the envy of the gods. Nature and fate co-operated in his development. In him we found all the qualities required for the solution of the hardest problems in science. . . . Heinrich Hertz appeared to be predestined to disclose new vistas into the unpenetrated depths of nature; but all these hopes were crushed by the insidious disease which slowly and unceasingly crept on until it destroyed the life we esteemed so valuable. I myself deeply feel the loss, as I have always looked on Hertz as the one of all my students who had entered into the innermost circle of my scientific thoughts, and the one in whose ultimate development and success I dared to place my surest hopes."

In 1894, the year of his death, appeared a new edition of his *opus magnum*, the "Handbuch der Physiologischen Optik," a fitting crown to a long and successful life.

There is a matter to which the particular attention of this audience may well be drawn and that was the habit of Helmholtz to deliver popular lectures. Here was a man whose whole time was occupied in considering the most abstruse problems, whose every day teaching involved the use of terms intelligible only to minds with a special training, and yet he did not consider it outside his province to lay before the public the results of his own scientific experience and that of others. When Tyndall's lectures were published in German, Helmholtz wrote the preface and maintained that such popular presentations of scientific subjects were calculated to stimulate thought and to awaken an interest in scientific work. There can be no doubt but that his own public explanations of the phenomena of sight, of hearing, of the theories of music, of color and of the art of painting, may serve as models for popular lectures of all sorts. One may venture the assertion that medical topics discussed before public audiences in a tactful manner are not only useful in combating many ignorant ideas entertained by otherwise intelligent people, but they go a long way towards preserving these same persons from the machinations of the charlatans and panacea-vendors that infest the community. Do we not owe it to the public who, in a sense, are our medical wards, to provide them with authoritative teaching in physiology and pathology? If the elementary mysteries of biology and pathology are not publicly expounded by worthy representatives of the medical profession, it is no great wonder that the laity investigate them, to their hurt, elsewhere.

Reference has already been made to the mountaineering expeditions of Helmholtz. These strongly remind one of Tyndall. If one reads, first, the Helmholtz lecture on *"Eis und Gletscher"* and then Tyndall's "Glaciers of the Alps," or his "Forms of Water," he will surely feel that they were written by the same kind of man in an atmosphere that stimulated while it satisfied not only the inquiry into material, but into those immaterial things that both approached with a reserve tinctured by reverence.

Honors of all kinds flowed in on Helmholtz during the latter part of his life. He was ennobled by the Emperor William I, and the present monarch sent him an autograph letter on the celebration of his 70th birthday. This event was considered not only of national but of international importance. The Kings of Sweden and Italy, the Grand Duke of Baden and the President of the French Republic, conferred upon him the insignia of various orders. He was the recipient of many university degrees, while academies and learned societies the world over sent congratulatory addresses. A Helmholtz medal, to be awarded for distinguished services to science, was struck in his honor. At a banquet shortly afterwards, Helmholtz had the pleasure of presenting the first medal to his friend, Du Bois Reymond, after a speech so characteristic of the man that I cannot refrain from quoting a portion of it:

"It is the greatest honor men of science could pay to me to connect my name with this medal, which will stamp the progress of science in future times. Science, to modern humanity, proclaims peace. The scientific man does not work for his own welfare, but for that of his nation, and for the whole of humanity, especially for those who are sufficiently educated to enjoy the fruits of science. You desire to associate my name with this medal, and to hold me up to coming generations as an

example of an investigator. I waver between a feeling of joy and a feeling of grave responsibility. I have a proud joy that the result of my thoughts is to work on to future generations far beyond my individual life. You will also understand that as a father cares for his offspring, and endeavors to help them, so I have also a love for the children of my thought. These contain the best of my convictions; I lay upon them the utmost stress; and I rejoice if the further development of science is to be in their direction. But the doubt may arise, whether my own ideals are not too narrow, and my principles sometimes too imperfect, for the wants of humanity in all time. If so, I hope the awarders of this medal in the future will not confine themselves to what I have accomplished, but I should like to wave on high the one banner on which are inscribed the words, that the purpose of science is to comprehend reality and the play of phenomena as regulated by law."

As you know, in 1893 he visited the Columbian Exposition, and afterwards made a tour over a part of the United States and Canada. On the return journey, just before landing at Hamburg, he had an attack of vertigo, and fell down the ship's companion-way. He received a severe scalp wound and suffered a concussion of the brain. This was followed in July, 1894, by a cerebral hemorrhage. He lingered two months longer, dying September 8, 1894, in his 73d year.

From personal acquaintance and from portraits we all know Helmholtz's appearance. He had a well-knit, erect frame, a quiet, graceful carriage, and a fine, well-developed face and head. Although his manner was reserved and dignified, he was always kind and courteous.

Of Helmholtz's attitude toward religion nothing definite can be said. Like Darwin, he considered religious questions so purely personal that he rarely mentioned them even to intimate friends. Perhaps, with Spinoza—another philosopher having affiliations with the ophthalmic art—he felt that the free man deliberates not upon matters of death or of after-death, but on the problems of everyday life. In any event, we have chiefly to deal with the achievements of a useful, noble and pure career, and in so far as we strive to imitate such a master do we surely keep his memory green.

A FEW PERSONAL RECOLLECTIONS OF HELMHOLTZ.

HERMANN KNAPP, M.D.
NEW YORK CITY.

The writer had the great privilege of being a pupil of Helmholtz, living eight years next door to him, at Heidelberg, seeing him almost every day. It gives me great pleasure to furnish some personal notes about Helmholtz's character, his working methods, industry, etc.

His working methods, from my first interview with him, aroused my admiration, by their directness. I presented myself in his laboratory without any introduction. He asked me what I wanted to do. I said I wanted to study ophthalmology, and my particular object was to drill myself in physiological optics, under assistance I could not obtain in Berlin.

"Where do you wish to begin your work?" I said: "I would like to begin at a certain problem in your paper on accommodation, of which I can not find a solution." He replied: "Sit down and let us see." I showed him the place, and told him that I was unable, with my knowledge of trigonometry, to reach a solution to which he had arrived at, without having given his readers the benefit of a demonstration. It was about a year after the celebrated paper had been published. He began to calculate and got puzzled. He began a second and a third time, with the same result. Upon the fourth attempt he handed me the paper and said: "This seems to be the way in which you may find the solution."

Later on, when I was in the midst of my optical studies, I was surprised that a man, so original and deep as Helmholtz, was a believer in authority. I told him that in the study of Thomas Young's "Mechanism of the Eye" I thought I had found a mistake in a demonstration. He looked at the problem and its solution and said: "That seems wrong to me, too," but he added: "I advise you to go over the subject again as carefully as you can, for what Thomas Young has asserted has usually been correct." I followed his advice and found that not Thomas Young but I was in error.

Helmholtz was an independent, methodical, and persistent thinker. When he received a paper on a new problem he used to read only the first pages containing the question, then he laid the paper aside, and tried to find the solution himself. If it agreed with the author's solution he looked the book over to find whether the demonstration of the author differed from his own. If his solution disagreed with the author's he began his independent demonstration anew. You see what a wonderful self-education this habit must have been and how resourceful it must have made his mind. Hemholtz, like Thomas Young, had not received a classical education in mathematics. Both men were original in their demonstrations. His father was professor of mathematics, but the son studied medicine in the military school of Berlin. From his later works it would appear that he must have had an extensive library. That was not so at all. Professor Kirchhoff told me that his library was very small, but he had the wonderful gift of being able to select the best books, and these he studied carefully. "He always went his own way, which we school mathematicians could frequently follow with difficulty, and besides," Kirchhoff said, "when in a physical problem Helmholtz finds that the structure of the best mathematical treatise is too low for his purpose, he builds another story on it himself."

How often have I admired the harmony and efficiency of his working methods. He never undertook an investigation if the problem, on mature consideration of its nature and estimation of his own strength, did not promise a solution. This forethought spared him many a disappointment, and gave him the greatest return for his time and labor.

With regard to discoveries and inventions he was of opinion that most men failed to accomplish what they aimed at not by lack of ability and intellect, but by laziness, i. e., abandoning the subject before they had pushed it to the end of their thinking.

Apart from all these excellent qualities, I should not forget to mention that he also possessed that quality without which the best minds will not accomplish a great deal; I mean the trivial quality of industry. How often have I looked up to him standing before his desk at 11 at night when I returned from some entertainment. He was a judicious and untiring worker; he did all his work himself, not as is the custom nowadays—to let other people work for him. He had no assistant in his scientific work, not even an amanuensis.

As to his character, I can speak only with the highest praise. His was a true and noble nature. He was silent and distant in conversing with people that were selfish, vain and frivolous, but kind and courteous to all that

were unassuming and honest. He would explain to a lady physical and philosophical problems of an obscure nature animatedly if he saw that she took a real interest in them. With his laboratory students he was very generous; he gave them a great deal of his time, all the advice and help that could benefit them, and he would not let them have "all work and no play." Every Saturday afternoon we walked together through the beautiful country about Heidelberg, taking supper at some village on the Neckar or in the mountains. He loved music, literature, and art. He took a lively interest in everything that promised progress. On the excursions with his pupils and his friends he was a jovial companion, and happy to see everybody else happy. In his character he was frank and honest, never stooping to a shadow of untruth, however plausible the excuse for it might appear to be. He was a man, noble, great, and true.

THE CONTRIBUTIONS OF HELMHOLTZ TO PHYSIOLOGY AND PSYCHOLOGY.

WINFIELD S. HALL, PH.D., M.D.
Professor of Physiology, Northwestern University Medical School.
CHICAGO.

PHYSIOLOGY.

Physiology is an experimental science. The problems of physiology are problems of physics or of chemistry. Physiology thus becomes a superstructural science based upon anatomy, physics and chemistry. One who would solve the physical problems of physiology would also require a good working knowledge of mathematics. At the time Helmholtz undertook the solution of physical problems of physiology he was probably the best equipped man living, in the fundamental subjects above mentioned. For about ten years of his professorial life he was professor of anatomy and physiology. His foundation in anatomy was thus extended and elaborated far beyond that which most physiologists possessed. He was associated in his early studies with physicists and mathematicians so that his knowledge of physics and mathematics was also far beyond that of other physiologists of his time. We see in Helmholtz, then, a man in whom the circumstances of his early training and early professional life conspired to produce the best conditions for effective work. At the time he was a student in the University of Berlin, Johannes Mueller was professor of physiology and Gustav Magnus was professor of physics. Associated with him as pupils of one or the other of these great men were Du Bois Reymond, Virchow, Bruecke, Classius, Kirchhoff, Quincke, Seimens, Tyndall, and Wiedemann. It is said of Mueller that he "gave a great impetus to the movement that had already been begun in Germany in the direction of the investigation of biological problems by the methods of physical and chemical science." Helmholtz said of Mueller: "When one comes into contact with a man of his rank his spiritual scale is changed for life." There can be little doubt that Johannes Mueller's indefatigable search for truth and his enthusiastic demonstration of it when he had found it, profoundly impressed this group of disciples who were destined to reconstruct the whole field of experimental science.

Helmholtz's graduating thesis from the Medical Department of Berlin University was an anatomical one "On the Structure of the Nervous System of the Invertebrates" (De Fabrica Systematis Nervosi Evertebratorum). In this work he succeeded in establishing the fact that the nerve fibers were branches of nerve cells, the ganglia of the crayfish serving as material for demonstration. The microscope which he used, though a very crude instrument, was one which he had bought from savings of his allowance accumulated at a time when he was confined to the wards of a charity hospital with typhoid fever.

Very soon after Helmholtz graduated from the medical school he took up the problem of *animal heat,* devising a triple thermo-electric junction of iron and German silver, which he bent into the form of needles that could be inserted into the muscles of the frog. With the help of these thermo-electric needles he was able to detect a change of temperature as small as .001 of a degree centigrade. He determined that one contraction of a frog's muscle produced from .001 to .005 of a degree while tetanus of the same muscle lasting from two to three minutes caused a rise in temperature of from .014 to .018 of a degree. With the help of calorimeter experiments Helmholtz determined that the heat given off from the body is less than the heat which should be given off to the calorimeter during the combustion of the same amount of food consumed in the body in a given time. From this he inferred that the food undergoes incomplete combustion within the animal body. Some time later it was found that the nitrogenous foods are completely burned outside of the body while they are reduced within the body from the proteid level to the urea level, thus giving up only about five-sevenths of the total heat represented by the food. Helmholtz determined further that 2.6 per cent. of the heat given off by the body represents the heat of the excrementitious matter; 2.6 per cent. is required to warm the air which we breathe; 14.7 per cent. passes away in the water liberated from the surface of the lungs; while 80.1 per cent. is either radiated from the surface of the body or required to evaporate the perspiration. When we remember that all of this work that Helmholtz did on animal heat was new work and accomplished with instruments which he devised for the occasion we are compelled to give him great credit for the important additions which he had made to our knowledge in this field.

The subject of *fermentation* was one of the first subjects to engage the attention of this young medical man. Various theories had been put forward as to the cause of fermentation. It was known to be associated in some way with the yeast plant, but just how, was the matter under discussion. Helmholtz performed an experiment which went far toward solving the question at issue. He inclosed some sterile grape juice in a pig's bladder and immersed this in a vat of fermenting grape juice. After the lapse of a number of days it was found that the grape juice within the bladder had undergone no fermentation. It was concluded from this that the cause of the fermentation could not operate through the animal membrane. Helmholtz believed that it was the living yeast cell that caused the fermentation and that the liquid within the bladder did not ferment because the yeast cells could not pass through the bladder. This experiment by Helmholtz started others to experiment, and it was soon found that a filter paper or a plug of cotton would also protect sterilized grape juice from fermentation. It thus appears that Helmholtz was the pioneer in a line of experimentation from which has developed the whole modern science of bacteriology.

While Helmholtz was still in Berlin, before he had been called to his first professorship in Koenigsberg, he took up the study of energy, and after a mathematical

treatment of the subject, he presented, in July, 1847, his epoch-making thesis on the "Conservation of Energy" (Ueber die Erhaltung der Kraft). The principal points in this thesis were: 1, that energy is indestructible; 2, that energy may be transformed, but is never lost or destroyed. For example, the latent chemical energy of fuel may be liberated in the furnace; the steam produced may set the parts of the engine into motion; thus the energy of motion is the transformation of the original energy, some of which has escaped, but none of which has been destroyed. These were new ideas to most of the physicists of one-half a century ago. The conservative Magnus declined to express an opinion regarding the thesis of Helmholtz; Jacobi alone recognized the truth of it. Many of the physicists said: "This has already been well known to us. What does this young medical man imagine when he thinks it necessary to explain so minutely all this to us?" Poggendorff refused to print Helmholtz's article in his "Annalen." Finally, however, Du Bois Reymond's publisher, Reimer, not only published it, but paid Helmholtz for the manuscript, a thing quite unusual in those days, as at present for technical papers. Like all great discoveries and newly-formulated laws, this one had been long since foreshadowed by Newton, by Descartes and by Leibnitz, while Joule of Manchester and Colding of Copenhagen had several years before made thorough and conclusive experimental demonstrations of the principle of conservation of energy. In confirmation of this, note the following quotation from Colding's address of 1843, published by the Royal Society of Copenhagen: "Force is imperishable and immortal, and, therefore, where and wherever force seems to vanish in the performance of mechanical work, the force then merely undergoes a transformation and reappears in the new form." In the case of each one of these men the discovery seemed to be original and independent of other investigators. To Helmholtz belongs not the priority of the principle, but the credit for first presenting it in clear and unmistakable terms which made possible its application to problems of mechanics, as well as to problems of physiology. Helmholtz stands to the law of the conservation of energy the same relation that Darwin stands to the law of organic evolution: In both cases the field had been occupied by advanced scholars, but no one had succeeded in catching the ear of the public until these men in turn presented their theses in terms translatable into the living and moving thoughts of the people. This is only a repetition of what has occurred repeatedly in history of the development of the sciences.

In 1849 Helmholtz was made professor of anatomy, physiology and pathology in the University of Koenigsberg. The first physiological work of note which he produced in Koenigsberg was to determine the *velocity of the nerve impulse.* He used, in these preliminary experiments, the gastrocnemius muscle and the sciatic nerve of the frog. He used an especially elaborated set of electrical appliances which were far more accurate than any which had been used before in this field of research. With the help of these appliances he found that the rate of propagation of the motor impulse is about 100 feet per second. His method of procedure was to stimulate the nerve near to the muscle in one case or two inches away in another case, and determine the difference in time of the responses in the two cases. This difference represents the time required to traverse the two inches of nerve. Incident to this investigation Helmholtz found that however near to the muscle the nerve be stimulated a certain time will elapse before the muscle can respond. This period has been called the "latent period." Helmholtz followed this by the determination of the rate of the propagation of the sensory impulse. For this he used the human subject and a new set of appliances. By establishing the new idea, namely, the "reaction time," and determining the difference in reaction time between the thigh and toe he was able to compute the rate of propagation of the sensory impulse to be 160 to 300 feet per second. These methods of Helmholtz are practically the same as those used in the laboratories of physiological psychology for determining reaction time, time of discrimination, etc.

Helmholtz's interest in electro-physiology and animal electricity did not seem to be one that inspired him to seriously take up the problems in this field and pursue them to a finish. On different occasions something turned his attention briefly to this subject, and on each occasion he made invaluable contributions, but more particularly in the apparatus with which the problems could be solved. Helmholtz's knowledge of physics was an important element in his equipment for this work. One of his first contributions was his modification of the inductorum in such a manner as to equalize the effect of make and break shocks, while before his modification the break shock as produced by the Neef hammer was much the more irritating. He invented the pendulum myograph, the muscle lever or simple myograph, the moist chamber, and various electrical devices for controlling the strength and time of the stimulus. He contrived the non-polarizable electrodes and formulated the generally accepted theory regarding the muscle currents and the electromotive force of the muscle cell.

The next notable work which Helmholtz accomplished was the invention of the *ophthalmoscope.* His own words as to how he hit upon the idea may be of interest:

"I was endeavoring to explain to my pupils the emission of reflected light from the eye, a discovery made by Brücke, who would have invented the ophthalmoscope had he only asked himself how an optical image is formed by the light returning from the eye. In his research it was not necessary to ask it, but had he asked it, he was just the man to answer it as quickly as I did, and to invent the instrument. I turned the problem over and over to ascertain the simplest way in which I could demonstrate the phenomenon to my students. It was also a reminiscence of my days of medical study, that ophthalmologists had great trouble in dealing with certain cases of eye disease, then known as black cataract. The first model was constructed of pasteboard, lenses and cover glasses used in the microscopic work. It was at first so difficult to use, that I doubt if I should have persevered unless I had felt that it must succeed; but in eight days I had the great joy of being the first who saw before him a living human retina."

It was first described in the paper entitled, "Beschreibung eines Augenspiegels zur Untersuchung der Netzhaut im lebenden Auge." Though many changes have been made in the details of construction of this instrument the most modern and complete ophthalmoscope possesses no optical qualities not possessed by the one which Helmholtz first devised. The invention of this instrument opened a new era not only for ophthalmologists but also for practical medicine, as the retina may be regarded as an outlying portion of the brain. The examination of the fundus of the eye then gives to the physician information as to the pathological changes

occurring in the nerve centers. Thus it is of service in the diagnosis of inflammatory actions in the brain both acute and chronic; of changes in the meninges; in locomotor ataxia; of the various forms of Bright's disease and very many other maladies (McKendrick). In 1858, at the Ophthalmological Congress in Heidelberg, Helmholtz was presented with a cup, on which was inscribed the words, "To the creator of a new science; to the benefactor of mankind in thankful remembrance of the invention of the opththalmoscope." Twenty-eight years later, at the same university, at a meeting of ophthalmologists, Helmholtz was presented with the von Graefe medal in recognition of the services which he had rendered to mankind in the invention of the ophthalmoscope. The presentation was made by Donder, who closed his presentation speech with the words: "May this gift still remain to you a gratifying symbol of the privilege you enjoy of living in a generation that honors you as its benefactor."

Helmholtz's interest in physiological optics began with his invention of the ophthalmoscope, but it did not end until he had completely mastered the whole field and written his classic work on the subject of physiological optics. The second problem which he attempted concerned *the optical constants of the eye.* In order to determine the curvature of the refractive surfaces Helmholtz devised the *opththalmometer.* Without stopping to describe this instrument, it will be enough to give some of the results obtained with its use. Helmholtz found the radius of the curvature of the anterior surface of the cornea to be 7.829 mm., the radius of the curvature of the anterior surface of the lens 10 mm., and the radius of the posterior surface of the lens to be 6 mm., the distance of the posterior surface of the lens from the anterior surface of the cornea to be 7.2 mm. The distance of the anterior surface of the lens from the cornea is 3.6 mm. during rest and about 3.2 mm. during accommodation. From the above values Helmholtz calculated the index of refraction of the lens to be 1.4371 and that of cornea to be 1.3365. Helmholtz states of these optical experiments on the eye, that they fitted him especially for the solution of the problem that was engaging many of the physiologists and clinicians, namely, the problem of *accommodation.* Helmholtz's solution of the problem of accommodation, though antedated by that of Kraemer, was perfectly independent and was by far the most exhaustive study and most complete solution that had appeared up to that time.

The next subject to engage Helmholtz's attention was that of *color sensation.* Up to the time of Helmholtz, ideas of color had been based largely upon experiments with pigments. Helmholtz began to experiment with the spectral colors and found it necessary to reconstruct the whole theory regarding composite colors. He found: 1, that red, green and violet are the primary spectral colors; 2, that the quality of every luminous sensation depends on three variables: intensity, tone and degree of saturation; 3, that there are in the retina three kinds of nerve elements, each of which is especially responsive to the stimulus of color of one wave length and much less so to others. Thus when the three sensations are equally excited white light is the result; green is caused by a very weak violet stimulation, a stronger red and a still stronger green stimulation. At each end of the spectrum we have only the simple sensations of red and violet, and all the intermediate color sensations are compounds of varying proportions of the three primaries.

According to this theory, red blindness is attributable to the absence of red sensation, and green blindness to the absence of green sensation. As this represents Helmholtz's amplification and extension of Young's Theory it is known as the Young-Helmholtz Theory of Color Sensation.

We have briefly reviewed the more important contributions of Helmholtz to physiological optics. His experimental research on this subject was made mostly in Koenigsberg between the years of 1849 and 1856, but his great work, "Handbuch der Physiologischen Optik," was published in 1866, when he was in Heidelberg. This work is a classic and will be so considered through ages yet to come. "Everywhere one feels the grasp of a matter, whether in the exposition of the subject in hand or in its mathematical treatment" (McKendrick).

Next to his physiological optics, his greatest work was on *physiological acoustics,* for the most part accomplished during his professorship at Bonn (1856 to 1859), though some portions of it were done at Koenigsberg. The result of all of this work in acoustics was summed up in his masterpiece entitled, "Die Lehre von den Tonempfindungen als Grundlage für die Theorie der Musik" (Sensations of Tone as the Physiological Basis of Music). Published in Heidelberg, 1863.

Though his work on hearing has been less productive of ideas applicable in clinical medicine, it is no less profound and exhaustive, and will, like the other, remain among the classics in physics, in physiology and in psychology. The title of the work suggests that the master was addressing his presentation of the subject of physiological acoustics to the musicians. Curiously enough, it has been far less used by them than by workers in the several other fields mentioned. The reason is not far to seek: The masters in music no less than their pupils give their attention almost wholly to the esthetic side of their art. They are willing to accept without mathematical, anatomical or experimental proof certain fundamental principles of harmony, and in the elaboration of their art to be guided by these accepted principles and by any intuitions or inspirations which might come to them as natural gifts.

In his work on physiological acoustics, as in that in physiological optics, Helmholtz began his researches with a minute study of the anatomy of the organ in question; this was followed by a searching inquiry, both experimental and mathematical, into the physical properties and relations of the mode of motion (sound, light) concerned. Thus equipped he could hardly miss making notable contributions to the subjects.

Later subjects of study by Helmholtz were: 1. The cause and quality of the human voice. 2. The mechanics of respiration. 3. The movements of the eyes in binocular vision. 4. The visual horopter. These later studies, together with the publication of his works on acoustics and optics, occupied him during his professorship in Heidelberg (1859 to 1871).

Helmholtz was called to the professorship of physics in Berlin in 1871. For twenty-three years he occupied in Germany a position similar to that which his friend, Sir William Thompson—Lord Kelvin—occupied in England.

It is doubtful if the world has ever produced a man who combined greater breadth of knowledge and greater depth of wisdom, with keenness of vision, persistency and patience of pursuit, and modesty of claim. The debt of physiology to Helmholtz is inestimable.

PSYCHOLOGY.

The psychology of 1850 was the fruit of the introspective method of research. The value of this method as applied in the study of the higher intellectual processes can not be gainsaid. Even here, however, it is to be recognized as only one of several methods of extending knowledge of the higher intellectual faculties and processes.

The psychology of to-day is an experimental science, or, if not wholly so, at least the foundations and a large part of the superstructure represent experimental and laboratory research, the introspective method coming in only at the last to complete and round out the superstructure.

The metamorphosis in the methods of research in psychology has had the effect of giving it a new and much higher standing in the scientific world than it ever had in the period of a purely introspective method.

This renaissance of psychology is due in very large measure to the influence of von Helmholtz. A curious feature of the relation of Helmholtz to psychology is that those contributions of his which have come to be fundamental in psychology were at the time they were made published as contributions to physiology. In this connection it is significant to remember that the methods which Helmholtz originated in the fifth and sixth decades for the study of the senses and sensation, are the methods of the new psychology of the last three decades of the nineteenth century.

The contributions of Helmholtz to this realm of human knowledge are more notable in their character and quality than in their number and quantity. They mark Helmholtz in his relation to psychology as a pioneer and a pathfinder rather than a developer and finisher. This last is characteristic of his work in psychology alone. In physiology and physics the world has never produced a man who went deeper for the foundations of his subjects and who at the same time developed them more extensively and finished them more completely. His work in physiology and physics is at the same time the inspiration and despair of the leading students in these fields. That his relation to psychology was that of an explorer only may be readily accounted for in the fact that at the time he was working upon problems of sensation and the senses, psychology was the product of the introspective method alone, and the relation of his laboratory methods to the armchair meditations of the mental philosophers and metaphysicians was not at once apparent, and a considerable period elapsed before the psychologists began to apply the methods of Helmholtz to their branch. When they did they found his work an inspiration and a guide without finding the subjects so completed that there remained little to do. In the hands of such men as Wundt, Ladd, Stanley Hall, Cattell, König, Münsterberg, Ziehen, Baldwin and Scripture, all inspired by the pioneer work of Helmholtz, the new psychology has been put upon a thoroughly experimental basis.

Let us now consider briefly those studies of Helmholtz which may be accepted as making the basis of the new psychology.

In 1850, when Helmholtz was determining the velocity of the nerve impulse in sensory nerves, he originated the idea of the *reaction time*. The way in which this was applied is described under the head of Physiology. We know of what fundamental importance and far-reaching application this idea of the reaction time has been in psychology. Growing out of this idea we have the *discrimination period* and the *judgment period* or *decision period*.

Early in the fifth decade Helmholtz began his series of studies on the Sensations of Tone or the sense of hearing. As a part of this series of researches he made an exhaustive study of the anatomy of the tympanum and labyrinth. That portion of his work which was directed toward the nerve endings and the specialized epithelium of the labyrinth covers ground now included in psychology. Helmholtz worked out the only tenable theory as to the way in which these end organs of hearing are stimulated by the mechanical vibrations which beat upon the membrana tympani as sound waves. He went farther, and discussed the mechanism of cerebral sensation and the physiology (or psychology) of the sense of harmony in musical tones. In fact, Helmholtz's great work entitled "Sensations of Tone as a Physiological Basis of Music" is a classic for the psychologist as well as for the physicist and the physiologist.

We need to make only brief mention of the work of Helmholtz on the sense of vision. It was as exhaustive as that on hearing and was of as great importance to psychologists. Particularly important are the studies of the retina and its neuro-epithelium (rods and cones) and its nerve cells with the part that these play in visual sensation. Helmholtz studied especially the color sense. He revived and extended Young's theory of color sense; and this new theory has since been known as the Young-Helmholtz theory.

The new psychology had its birth in the studies of Wundt, begun in 1858 and leading to his "Beiträge zur Theorie der Sinneswahrnehmung," and later to his notable work on "Physiologische Psychologie," published at Heidelberg, in 1874.

Up to the present time the psychologists have not seemed to accord to Helmholtz the credit due him for the initial impulses which he undoubtedly gave to their department of physiology. Perhaps the physiologist tends to overestimate the importance of the work of their confrère Helmholtz; but it seems impossible that work such as his, lying on the border line of pure psychology and quite within the field of physiological psychology, should not have exerted a profound and far-reaching influence on all subsequent work in psychology.

THE DEBT OF OTOLOGY TO HELMHOLTZ.

B. ALEX. RANDALL, M.A., M.D.
PHILADELPHIA.

The influence of Helmholtz upon otology is almost incalculable, although signalized by no instrument like the ophthalmoscope with its epoch-making application and its huge clinical field. Reflectors of various kinds to illuminate the aural, nasal and pharyngeal cavities had been somewhat used before his day and received but moderate impulse directly through his ophthalmoscope, for it was really the perforated concave mirror of Hoffmann and Ruete which became the aurist's illuminator; but they did lead to marked gain in diagnosis and treatment through rivalry with the ophthalmic progress which he had inaugurated. His advance lay principally in his contribution to the underlying science of acoustics. This he found in almost the rudimentary and empyrical phase known to Pythagoras; and just as his disproof of spontaneous generation made a beginning of minute biological study, and his physical corollary of the conservation of energy became the basis of all modern material science, so he here applied

the fundamental principles and proceeded by experiment and deduction to build up a rounded science of acoustics. He filled out the many gaps in the observation of phenomena until the bulk of the observations were really his own, and then linking these with all otherwise discovered, he made them the coherent parts of general laws. So complete was his study that he could not only explain the known facts and point out the lines of new discovery, but could also define the probable limitations to practical advance in the dependent arts.

Physiologist, as well as physicist, he did not stop at the external phenomena, but worked out the transmission of sound through the aural apparatus to the end organ in the labyrinth, himself supplementing the anatomical details of the most advanced investigations; and while his conclusions have been combated, and alternative views have been plausibly presented, the Helmholtz theory still receives predominant acceptance. Nothing more strongly demonstrates the skill of Helmholtz, the teacher, than the matter-of-course acceptance as fundamental of most of his discoveries and the fact that his classical treatises have remained the text-books of the world. Yet the lucidity of the language has made translation almost wholly needless and his desire to simplify the mathematical elements of the problems, has put them in form which tempts many a reluctant student to deeper study than any other contributor to the subject has been able to inspire. Keenly alive to the artistic side of music, he has cleared much with regard to its composition and the musicians in their narrower field of esthetic production are largely indebted to him for his explications, and the physiology of such impressions has been developed to what seems nearly its full limit.

It is only indirectly, then, that we, as practicing otologists, owe to von Helmholtz our present means of diagnosis upon which, of course, must hang treatment as well as comprehension. Having defined the end organ of hearing and so differentiated the percipient from the conducting apparatus, he banished the term "nerve deafness" from the position of a broad category cloaking much ignorance and restricted it to a properly narrow group of our cases. He made the tuning-forks and other tone-producing apparatus the practical instruments in medical hands which they now are. He made clear the function and mechanism of the drumhead and ossicles in a way that forbids any undue regard for them as essential to useful hearing or an equally unscientific indifference which would needlessly remove them as unimportant. Many aurists do not recognize their debt to von Helmholtz and shortsightedly preach or practice in contravention of the principles which he has discovered or formulated; but the inevitable result is a fall in ruin of any structures they may have fondly reared and their own heads have often suffered in the collapse. His treatises will never make light reading for beginners, but the ophthalmologist and otologist who hopes to take and hold rank among his colleagues must always count as essential to his education a close study of the writings of Herman von Helmholtz.

Anal Fissure Simulating Coxalgia in Children.—The subjective symptoms in the case of three children observed by Svehla seemed to indicate hip-joint disease, but the discovery of a fissure in the anus revealed the true character. After the cure of the fissure the pains in walking, the limping and the deformed attitude, all vanished.—*Vratch*, December 29, 1901.

CONTRIBUTIONS OF HELMHOLTZ TO PHYSICAL SCIENCE,

ESPECIALLY WITH REFERENCE TO PHYSIOLOGICAL OPTICS, INCLUDING THE DYNAMICS OF EYEBALL MOVEMENTS AND OF ACCOMMODATION.

ARTHUR W. GOODSPEED, PH.D.
PROFESSOR OF PHYSICS IN THE UNIVERSITY OF PENNSYLVANIA.
PHILADELPHIA.

Helmholtz's attention was directed to the subjects to be discussed in this paper while very young. Even while attending the gymnasium and reading Cicero and Virgil, for which he had little taste, Helmholtz was pondering on various problems in optics not met with in text-books, and which served as a basis some years later for the construction of the ophthalmoscope. The mathematics of physical problems always came easy to him, not that he seems to have had any special love for pure mathematics for its own sake, but only as a means of solving the questions which interested him. His mathematical ability was of a very high order, and this fact seems all the more remarkable when it is noted that he never had any systematic training in this branch of science, as have most other eminent mathematical physicists. His knowledge in the more advanced departments of mathematics was acquired entirely through his own unaided efforts. Although circumstances of his early life made it best that he be educated for the medical profession, his taste was always on the side of pure science. Evidence of this is given by his own words, found in a lecture on "Thought in Medicine," delivered in 1877: "My own original inclination was towards physics; external circumstances obliged me to commence the study of medicine."[1]

Helmholtz appreciated, however, the great advantage to be gained by a thorough course of medical study, and in after years never regretted the time he had been obliged to spend on this and allied subjects.

Without detracting at all from the fame of Helmholtz, it must be noted that the state of physical science in Germany at the time he began his career was just right for a boom. Physiology was not admitted to be based on physics and chemistry, and, therefore, experiment and observation were not resorted to, to any extent, for the solutions of physiological problems. This was the case doubtless because it was profoundly believed that a mysterious vital force was responsible for most physiological changes.

France, and especially Paris, on the other hand, during this dormant period in Germany, had been leading in investigation, especially along physical and chemical lines. This condition soon had a decided influence upon Germany through the association of young men educated in Paris and holding positions subsequently in their home universities. From this beginning, then, the objective science school became prominent as opposed to the metaphysical school. To the former belonged Brüke, Du Bois Reymond and Helmholtz, who founded with others the Physical Society of Berlin. Of this group, according to Wiedemann, Helmholtz was the most distinguished, and certainly his superb work in later life in nearly all of the departments of science represented by the founders of the Physical Society quite justify Wiedemann's first impressions of him.

Helmholtz's aptness for both mathematics and physics led him to look upon physiology as attractive in furnishing an abundance of problems suitable for investigation along the physical and mathematical lines, rather than

1. Popular Lectures, 1881, p. 202.

on its own account. The physics of the eye, as well as of the ear, present notable examples of this sort, and both these organs were critically investigated by Helmholtz and a vast amount of most valuable and accurate information obtained. Also Helmholtz's investigations on the phenomena of animal heat led him gradually to lay the foundation for the great conservation principle as applied to energy as a whole.

His remarkable paper, "Ueber die Erhaltung der Kraft" was written when he was only 25 years old. Fifteen years later, in 1862, he had to force the idea embodied in his original essay upon the scientific world against much opposition, even Poggendorff refusing to publish his paper in the *Annalen*. The work was, however, published otherwise and its value very soon recognized. Of course the fundamental idea dates back perhaps to Newton, but it was never generally recognized or half understood.

PHYSICAL AND PHYSIOLOGICAL OPTICS.

One of the most important as well as practical departments of Helmholtz's researches was that of physical and physiological optics, and we shall now examine a few of the various problems therein involved, most of which he studied to conclusions the truth of which have never been questioned.

It is the general impression among people that the human eye, when considered in its normal type, must be about as perfect an optical instrument as can be imagined. Helmholtz was among those to point out, however, what is now well understood, viz., that the eye is so far from perfect that he remarked in his "Physiological Optics": "Should an optician send me an instrument having like optical defects, I should feel justified in sending it back." He further remarks, however, that "the defects which may be traced in the eye, *considered as an optical instrument*, do not detract from the excellence of the eye *considered as the organ of vision*." Physical perfection is quite a different thing from practical perfection considered from the point of view of a physiologist. The latter had persisted in failing to recognize the physical defects, though we find "that Newton pointed out the chromatic aberration of the eye two centuries ago; that D'Alembert, in 1767, proved that the lenses of the eye might have as great a dispersive power as glass without the want of achromatism necessarily becoming noticeable; that the celebrated optician Dolland, the inventor of the achromatic lens, showed that the refractions which take place in the eye all tend to bring the violet rays towards the axis more than the red; that Maskelyne the astronomer, Wollaston the physicist, Frauenhofer the optician, and other scarcely less distinguished men of science have made actual measurements of the distances of the foci in the human eye for the different rays of the spectrum. The persistence with which writer after writer has asserted the achromatism of the human eye appears so extraordinary that it can only be accounted for by the prevalence of the preconceived notion that the eye is absolutely perfect—a notion not without its reason and grounds in the fact of the exquisite adaptation of the organ of sight to the needs of humanity."[2]

Although a method of examining the retina had long been desired and almost had been found before Helmholtz, it remained for him to devise finally the instrument in its completeness, viz., the ophthalmoscope. Although many of these instruments have been made since, none of them present essentially any new methods for illuminating and examining the retina. It was in 1851 that Helmholtz first described the ophthalmoscope, and during the last fifty years this little instrument has been probably the chief means of extending the knowledge of oculists regarding the diseased and healthy conditions of the eye. In this way the substance of the lens and the state of the fluids can be directly examined, the causes of impaired vision can be discovered, and the nature of many maladies made out with reasonable certainty. Many insidious troubles can thus be detected and very likely successfully treated and cured before the organ has become permanently diseased. In some cases even, as is well known at the present time, the ophthalmoscope gives the most certain evidences of the existence of obscure and often unsuspected diseases of other parts of the body. In 1858, at a meeting of the Congress of Ophthalmologists at Heidelberg, Helmholtz was presented by von Graefe with a cup inscribed, "To the creator of a new science, to the benefactor of mankind, in thankful remembrance of the invention of the ophthalmoscope." Some years later the von Graefe medal was instituted with which to honor, once in ten years, the man, without regard to nation, who should have done most for the science of ophthalmology. The first medal of this foundation was presented to Helmholtz in August, 1886, at the occasion of the celebration of the 500th anniversary of the founding of the University of Heidelberg.

The details of the ophthalmoscope differ somewhat with different makes, but the general principles are familiar to all medical men and to most physicists. The instrument consists essentially of a converging or concave mirror for concentrating the light of a lamp, conveniently placed for the purpose, through the pupil to illuminate the retina or other parts of the eye to be examined. The eye of the observer is behind a small hole in the center of the mirror. In front of this opening and therefore between it and the part under examination is a magnifying lens or combination. The whole arrangement is very simple, efficient and easy of manipulation.

Another instrument invented by Helmholtz, by means of which the optical constants of the eye can be measured accurately, is the ophthalmometer. Such a piece of apparatus must necessarily be more complicated than a simple observing device and requires far more skill to operate it for accurate results. It is fully described and the method of using it discussed in Chapman's "Human Physiology." In the hands of this author a few years ago the average radius of curvature of the normal cornea in fifty cases measured was found to be 7.797 millimeters in the vertical plane and 7.552 millimeters in the horizontal plane.[3]

Helmholtz made use of the ophthalmometer also in the solution of the problem of accommodation of focus for different distances. An ordinary optical lens, as, for example, a camera combination, has a definite focal length, i. e., a fixed distance at which a beam of parallel rays incident on one side will be brought together on the other side. Suppose a camera adjusted with its ground glass showing sharply defined the image of a very distant object. Direct the camera to an object near at hand and the image will be out of focus. Theoretically sharp definition may be restored in two ways—either by moving back from the lens the ground glass a small distance, or by changing the curvature of the lens surfaces. The latter, of course, is impracticable,

2. Discoveries and Inventions of the Nineteenth Century, p. 343.

3. Proceedings Academy Nat. Sciences, 1893, p. 349.

and the readjustment of distance from plate to lens is easily accomplished. Now, the eye is a small camera and we easily and rapidly adjust for the distinct vision of both near and far off objects. But how is this done in the case of the eye? Do we change the position of the retina relative to that of the lens and cornea, or do we change the shape of the lens? This problem Helmholtz attacked and studied very satisfactorily by means of the ophthalmometer. He was ignorant at the time that it had been shown already by Cramer that in changing the eye adjustment suitable for far objects to one suitable for near ones the convexity of the lens increases. The three images observed by light reflected from the eye, one formed by the anterior surface of the cornea and one each by the two lens surfaces had been progressively discovered some years before, but nobody before Cramer had noticed that in changing the eye adjustment as above, the middle image moved nearer the outer one and at the same time became smaller. As this image is a virtual one formed by the anterior surface of the lens, both changes indicate an increase in curvature of this surface.

To perform this experiment more conveniently than can be done in a dark room Helmholtz invented an instrument he called a phakoscope. It is simply a shallow triangular black box truncated at the corners, with openings through the corner faces and in one long side. The eye to be examined is placed at the corner opposite the side opening and looking through or at the same. At one of the other corners is the observer's eye and at the third is the light. The method is obvious.

The ophthalmometer was now used to measure the sizes accurately of the three images under various sets of conditions. The essential parts of the instrument consist of a pair of plano-parallel glass plates about 2 centimeters square and 6 or 8 millimeters thick, whose refractive index has been measured with the greatest accuracy and also their thickness; a short focus telescope and a rod or frame for holding the luminous object, images of which are to be formed by the eye surfaces under examination. The plates are mounted one above the other initially co-planar and independently capable of rotation about the same vertical axis. This combination can be rotated at will, the plates in the same or opposite directions and the angle determined with great precision on a suitably graduated circle. It is placed on the optical axis of the telescope, the eye to be observed being located on the same axis looking into the telescope and beyond the plates. The source of light is near the observer's eye and images of it can be seen through the telescope formed by the surfaces of the eye to be examined. It is a well-known fact that if an object be viewed obliquely through a plano-parallel plate it will seem laterally displaced in amount depending on the angle and on the thickness of the plate, as well as upon its index of refraction. This is the principle of the ophthalmometer. If the two plates be rotated in opposite directions the image will divide, half moving to the right and half to the left. If the rotation be continued until the displacement is equal to the width of the image, this value can be calculated from a simple formula involving the rotation angle which is observed and the constants of the instrument previously determined. By this arrangement Helmholtz proved that the shape of the cornea does not change, but that the anterior surface of the crystalline lens changes its radius from 10 millimeters to 6 millimeters in viewing a near object after looking at a remote one; that the radius of the posterior surface changes from 6 to 5.5 millimeters only. Also that the minimum distance from the cornea to the anterior lens surface is 3.3 millimeters, while the maximum distance is 3.7 millimeters; that the minimum thickness of the lens is 3.8 millimeters; maximum thickness 4.3 millimeters. These values, when considered together with the indices of refraction of the several media concerned, easily account for the changes of focal length required for accommodation. Helmholtz made this investigation quite complete by offering an explanation of the mechanism of accommodation which is now universally accepted as the true one. The matter had been studied before by Thomas Young, C. Weber, Cramer, Donders, Brücke, and others, so that the anatomy was well understood. In the words of McKendrick,[4] Helmholtz's conclusion was, "that in accommodation the fibers of the ciliary muscle contract and tend to draw the ciliary processes of the choroid forward. Passing in close proximity to these processes, and connected with them, is a thin transparent membrane, the hyaloid membrane, which lines the posterior chamber of the eye. Anteriorly this membrane divides into two layers, one passing before and the other behind the lens, forming what is termed its capsule. The lens is thus bound down, as it were, by its capsule, more especially by the portion of it passing over its anterior surface. When therefore the ciliary processes are pulled forward by the ciliary muscle, the tension of the layer of the capsule in front of the lens is diminished, and the anterior surface of the lens bulges forward by its elasticity. There are certain muscular fibers of the ciliary muscle that also assist in this beautiful mechanism. When the eye is again directed to a distant object, the fibers of the ciliary muscle relax, and the lens is flattened by the pressure of the capsule." Helmholtz further proved that the conditions above explained are not only the *necessary* ones, but that they are also *sufficient* for the accomplishment of accommodation.

This investigation, with its results, is deemed by McKendrick "one of the greatest triumphs of modern physiology."

COLOR SENSATIONS.

During the period of 1852 to 1856 Helmholtz devoted much time to color, more especially to the subjective side of it, viz., color sensation. Assuming the wave theory of light, as some years before demonstrated by the great work of both Thomas Young and of Fresnel, Helmholtz directed his attention to the mechanism of color sensation. Young had concluded that there are three simple color sensations, viz., red, green and violet, since each of these color sensations can be produced only by objective waves of a limited range of length which can be definitely measured physically, and since all the other colors may be matched by a judicious mixing of these three. The quality of the resultant hue depends on the proportional intensity of each component in the mixture and the total brightness is the sum of the component intensities.. Brewster developed the red, yellow and blue primary color theory, which led to much controversy and has failed to meet the requirements. Many of Brewster's experiments were made with pigments instead of with colored light. Helmholtz stepped in at this stage and invented a simple method of superposing any part of one spectrum on any part of another, thus to study the result of the numerous combinations possible. By varying the relative intensities of the two spectra he could at will change the relative brightness of the colors to be mixed.

4. Hermann von Helmholtz, by Dr. T. G. McKendrick, p. 102.

This method is more exact than Maxwell's, in which the eye is made to receive consecutively various color stimuli, and which relies on the persistence of vision for the resulting sensation. By Helmholtz's method the retina receives at the same time, in the same place, the two or more stimuli applied. By mixing the spectral colored lights in pairs he was able to reproduce all the spectrum colors except red, green and violet, and also to produce many shades besides, the names of which at the present time largely depend on convention. He further concluded that a definite color sensation required for its complete definition the determination of three values, those of hue, of saturation and of luminosity. The first depends on the objective wave length of the color present; the second on the ratio of the quantity of the pure color to the quantity of white present; the third affects the intensity of the sensation and is partly dependent on the actual amount of radiant energy incident on the retina. Near the end of his life Helmholtz held that this third characteristic, viz., luminosity, really plays a more important part in the theory of color perception than was formerly supposed. By exceedingly careful analysis of white light, assisted by Arthur König, he specified definitely three fundamental color sensations, a nearly pure carmine red, green, and ultramarine blue. This in the main, it will be remembered, was the classification advanced by Thomas Young in 1802, whose basic assumption was, though not so clearly stated as by Helmholtz, that the optic nerve terminates on the retina in three distinct sorts of organs which, when stimulated, give rise to the sensations of red, green and blue respectively. According to this theory, the particular set to be stimulated depends on the wave length of the incident light. Helmholtz accepted this theory in general as correct and by his careful studies extended it to account for various phenomena not studied by Young. This general theory, known as the Young-Helmholtz theory of color sensation, accounts for most of the facts in a very satisfactory manner. It serves remarkably well in accounting for color blindness of various kinds; also for contrast effects; subjective color (due to retinal fatigue), etc.

Many physiologists and modern psychologists, especially the latter, do not accept this theory as the correct one, but are inclined to the Hering[5] theory, which supposes actual change in a visual substance, some of the processes being of a "constructive-assimilating kind" and others of a "destructive assimilating kind," but the scope of this paper does not permit a discussion of the relative merits of these two theories. Although there are some cases from the point of view of a psychologist not explicable on the Young-Helmholtz hypothesis, it certainly appeals very strongly to physicists and was firmly adhered to by Helmholtz and his associates to the time of his death, only seven years ago.

OCULAR MOVEMENTS.

Another special study taken up by Helmholtz appropriate for consideration in this paper was that of the mechanics of the eye movements. It does not seem at first as if this subject should require a very great amount of study for the solution of the problems presented; but in the language of McKendrick in his life of Helmholtz, "only those, however, who have read the chapters on the subject in his 'Physiological Optics' can form a conception of the amount of work expended upon it. The bibliography alone is a model of literary research." Helmholtz's work in this department of optics was done from 1862 to 1867, although he wrote two or three

5. Wien. Sitzbericht, lxvi, lviii, lxix, lxx, 1872.

more papers ten or fifteen years later. In 1862 appeared a preliminary paper which investigated the surface, images of any point of which would fall on homologous points on the two retinas, thus giving rise to the sensation of a single image. Such a surface had been called the horopter by Agnilonius in 1613, and it was shown by Helmholtz that when viewing the horizon the horopter is a horizontal plane passing through the feet. In general the case is not so simple.

In 1863 he published two mathematical articles on eye movements illustrated by clever experiments. In 1865 appeared three contributions on phases of the same subject. In 1864 he gave before the Royal Society a famous paper "On the Normal Motions of the Human Eye in Relation to Binocular Vision." Also two papers on the horopter were published in the same year.

At the International Ophthalmological Congress at Paris in 1867 Helmholtz read a paper on "Stereoscopic Vision." The anatomy of the subject would be out of place here, but the voluntary and involuntary muscle actions were carefully differentiated by Helmholtz, and he demonstrated by the higher mathematics the truth of the so-called "Listing's Law," which provides for all the degrees of freedom of rotary motion for the eyeball except a pure rotation about an antero-posterior axis through the optic center of the lens, i. e., about the optic axis. Within a few years a paper on this subject by Carl Weiland[6] throws some doubt on the generally accepted views of eyeball movements as developed by Listing and Helmholtz.

While studying the general case of the horopter Helmholtz invented the telestereoscope which, in the hands of a well-known German firm, has taken the size of an ordinary binocular opera glass and shows distant objects in relief as if the two eyes subtended the same angle that they would subtend if moved much nearer.

Helmholtz concluded from his final researches on binocular vision that the homologous positions on the two retinas of the images of an object do not entirely explain the mental interpretation of these as belonging to a single object; and further, that the problem can not be solved from a purely anatomical study.

6. Archives of Ophthalmology, vol. xxvii, 1898.

APPENDIX—DESCRIPTIVE LIST OF THE OPHTHALMOSCOPES

IN THE HISTORICAL EXHIBIT, ST. PAUL MEETING OF THE AMERICAN MEDICAL ASSOCIATION. PREPARED BY DR. HARRY FRIEDENWALD, BALTIMORE.

Older Ophthalmoscopes.

HELMHOLTZ. 1851.

1. Original form, described in Helmholtz's monograph "Beschreibung eines Augenspiegels, etc., Berlin, 1851." Formerly in the possession of Albrecht von Graefe. See Plate I, No. 1. Loaned by Dr. Harry Friedenwald, Baltimore, Md.

2. Similar. Angle of glass plates 25°. Formerly belonged to Dr. Julian J. Chisholm. Loaned by Drs. Herbert Harlan and F. M. Chisolm, Baltimore, Md. See Plate I, Fig. 12.

3. Similar to 1. Angle of glass plates 30°. Presented in 1853 by Dr. Eduard Jaeger, of Vienna, to Dr. John Brinton, and in 1870 by the latter to Dr. Wm. Thomson, of Philadelphia. See Plate I, Fig. 49. Loaned by Dr. Thomson, through Messrs. Bonschur & Holmes, Philadelphia.

4. Modification. The lenses are inserted in a slit at the side. See Plate I, Fig. 41. Sent to Dr. John H. Dix, of Boston, by Prof. Sichel, of Paris. Loaned through kindness of Dr. B. Joy Jeffries, Boston.

5. Similar to 4. Made in Halle, Germany. Loaned by Dr. H. B. Young, Burlington, Ohio.

RUETE. 1852.

First *concave* mirror. First practical instrument for indirect method. Described in "Der Augenspiegel und das Optometer. Göttingen, 1852." See Plate II. Loaned by Dr. Haskett Derby, Boston.

COCCIUS.

"See Anwendung des Augenspiegels. Leipzig, 1853."

1. Plane mirror with condensing lens attached. Plate with circular perforation to reduce size of mirror. See plate III, Fig. 71. Loaned by Dr. Lucian Howe, Buffalo.

2. Modification: Circular mirror. Plane, metallic mirror, with convex lens attached, distance between mirror and lens adjustable. See Plate III, Fig. 26. Makers: Messrs. Tiemann & Co., New York. Loaned by them.

3. This instrument has a fixed distance between the ophthalmoscope and the lens; in the original instrument this distance is variable. See Plate III, Fig. 25. Loaned by Messrs. Tiemann & Co., New York.

4. With slide containing six lenses behind mirror. Loaned by Wills Eye Hospital, through Dr. Conrad Berens, of Philadelphia.

ZEHENDER. 1854.

1. *Original form* (described in Graefe's Archiv, I, 1, 121). Convex, metallic mirror. See Plate III, Fig. 47. Loaned by Dr. F. Koeller, of Pittsburg.

2. Slightly modified. Makers: Messrs. Otto and Reinders, New York. See Plate III, Fig. 29. Loaned by Dr. Haskett Derby, of Boston.

BURROW. 1856.

1. (See Graefe's Archiv III, 2, 68.) Heterocentric Reflector: Made of biconvex lens silvered on back, in pillbox case. Loaned by Dr. B. Joy Jeffries, of Boston.

2. Similar to 1, but with handle attached. See Plate III, Fig. 30. Loaned by Dr. Haskett Derby, of Boston.

3. Modification by Eisberg, revolving sector with four lenses back of mirror. See Plate III. Fig. 20. Loaned by Messrs. Tiemann & Co., New York.

Jaeger. 1854.

1. Large Jaeger (described in "Staar and Staar Operationen, Wien, 1854). Three reflectors: (*a*) plates of glass; (*b*) concave silvered mirror; (*c*) plane silvered mirror. See Plate III, Fig. 40. Used by Dr. Jeffries in Vienna in 1858 and 1859. Loaned by Dr. B. Joy Jeffries, of Boston.

2. Loaned by Dr. Haskett Derby, of Boston.

3. Loaned by Dr. Risley, of Philadelphia, through Messrs. Bonschur and Holmes, of Philadelphia.

4. The plates of glass are protected on the back by a metal shield with central opening. Loaned by Wills Eye Hospital, through Dr. Conrad Berens, Philadelphia.

5. Loaned by Dr. Barck, of St. Louis.

6. Mauthner's pattern.. See Mauthner "Ophthalmoscopie," 1868, page 108; more compact than original. Formerly belonged to Dr. Noyes, of New York. Loaned by Dr. D. W. Hunter, of New York.

7. Similar to 6. Loaned by Dr. Wm. Thomson, of Philadelphia, through Messrs. Bonschur and Holmes, of Philadelphia.

8. Similar to 1. Loaned by Dr. C. H. Williams, of Boston.

9. Similar to 4. Loaned by Dr. C. H. Williams, of Boston.

10. Incomplete. Loaned by Dr. Callan, of New York, through Mr. E. B. Meyrowitz.

Demonstration Ophthalmoscopes.

1. *Schweigger:* Demonstration Ophthalmoscope for two observers. Described in Berl. Klin. Wochenschr., 1871, p. 581. See Plate IV. (Similar to Sichel's instrument, as described in Graefe & Saemisch's Handbook, First Ed., Vol III, p. 161.) Makers: Messrs. Paetz & Flohr, of Berlin; formerly in possession of Dr. Noyes. Loaned by Dr. D. W. Hunter, of New York.

2. *Graefe-Peppmuller:* Demonstration Ophthalmoscope. See Plate IV, Fig. 66. Described at the 50th Versammlung Deutscher Aerzte und Naturforscher, 1877. Loaned by Dr. Charles H. May, of New York.

3. *Graefe-Peppmüller:* Small mirror attached to Liebreich's Ophthalmoscope, similar to 2. Loaned by Dr. Harry Friedenwald, of Baltimore, Md.

4. *Schoeler:* Demonstration Ophthalmoscope: Small mirror set at angle just behind opening of Ophthalmoscope; described in Schoeler's Jahresbericht der Klinik fuer 1876, p. 51. Loaned by Dr. C. H. Williams, of Boston.

Simple Ophthalmoscopes.

1. *Small Jaeger:* See Mauthner's "Ophthalmoscopie," p. 108, similar to early "Liebreich." Concave metal mirror. The fork holding the correcting lens is detachable. Makers: Messrs. Tiemann & Co., of New York. Loaned by them.

2. *Liebreich:* Earliest pattern. Metal mirror. Makers: Messrs. Paetz & Flohr, of Berlin. Loaned by Dr. W. B. Hunter, of New York (formerly in possession of the late Dr. Noyes).

11. *Dr. G. Strawbridge's Modification.* Three revolving Rekoss discs. See Plate III, Fig. 52. See Trans. Amer. Ophth. Soc., 1871, page 120. Loaned by Dr. Strawbridge, of Philadelphia, through Messrs. Bonschur and Holmes.

Stationary Ophthalmoscopes.

Liebreich.

1. See Plate IV (described in Arch. f. Ophth., 1854, Vol. I. 2). Loaned by Dr. Hermon Thomas, of Philadelphia, through Messrs. Bonschur and Holmes, of Philadelphia.

2. Similar to 1. Loaned by Drs. Chisolm and Harlan, of Baltimore.

3. *Fixed Model of Follin:* Made by Nachet, of Paris. See Plate IV. Loaned by Dr. Haskett Derby, of Boston.

4. *Galezowski:* 1862. See Acad. de Med. France, 7 Jan., 1862. This is a modification of Liebreich's Stationary Ophthalmoscope and of Hasner's. See Plate IV. Makers: Messrs. Otto and Reynders, of New York; formerly in possession of Dr. E. N. Brush. Presented to and loaned by Dr. Harry Friedenwald, of Baltimore, Md.

5. *Galezowski:* Concave metallic mirror and collecting lens contained in telescopic tube; opening on side for entrance of light; one end fits on patient's face; may be used in light room. Maker: Charriere, of Paris. Loaned by Drs. Herbert Harlan and Frank M. Chisolm, of Baltimore, Md.

6. *Galezowski:* Similar to 4 and 5, metal mirror. Loaned by Wills Eye Hospital, through Dr. Conrad Berens.

7. *Galezowski:* Similar to 4 and 5. Loaned by Dr. Charles H. May, of New York.

3. *Liebreich:* Earliest form, concave metal mirror. Loaned by Dr. B. Joy Jeffries, Boston.

4. *Liebreich:* Later model, concave metal mirror. Loaned by Dr. F. M. Chisolm, Baltimore, Md.

5. *Liebreich:* More modern form, glass mirror, long handle. Loaned by Messrs. Tiemann & Co., New York.

6. *Liebreich:* Later model. Loaned by Dr. B. Joy Jeffries, Boston.

7. *Liebreich:* Small model. Loaned by Messrs. Tiemann & Co., New York.

8. *Liebreich:* Very small form. Loaned by Dr. C. H. Williams, Boston.

9. *Anagnostakis:* Similar to Liebreich, but of very short focus. Described in "Essai sur l'exploration de la Retine," Paris, 1854. Made by Soleil, Paris. Loaned by Dr. C. H. Williams, Boston.

10. *Anagnostakis:* Similar to 9. Loaned by Wills Eye Hospital, through Dr. Conrad Berens, of Philadelphia.

11. *Nachet:* Modification of Liebreich: Small revolving disc with four correcting lenses attached to back of mirror. Loaned by Dr. Flemming Carrow, Ann Arbor, Mich.

12. *Desmarres:* Concave metal mirror single sight hole. Maker: Charriere, Paris. Loaned by Dr. Haskett Derby, Boston.

13. *Desmarres:* Concave metal mirror with two sight holes. See Plate III, Fig. 39. Maker: Charriere, Paris. Loaned by Dr. B. Joy Jeffries, Boston.

14. *Desmarres:* Two openings; metal mirror; similar to 13. Loaned by Dr. C. F. Clark.

15. *Pocket Ophthalmoscope:* Concave mirror, with metal protecting cover; the cover is attached to the mirror by a hinge, and

when open is used as handle. Makers: Messrs. Curry & Paxton, London. Loaned by Dr. Harry Friedenwald, Baltimore, Md.

16. *Argyll-Robertson Ophthalmoscope:* Made by Gardiner in Edinburgh, 1878. The whole is about the size of a large flat pillbox, of which the mirror forms the lid; the box contains a convex lens; very compact. Loaned by Dr. A. W. Stirling, Atlanta.

17. *Pocket Ophthalmoscope:* According to Donders: Very compact, similar to 16. Loaned by Dr. Dudley Reynolds, of Louisville, Ky.

Binocular Ophthalmoscopes.

1. *Giraud-Teulon Binocular Ophthalmoscope:* Made by Nachet, Paris. See Annal. d'oculist, 1861. Cong. méd. de France, 1863. Annal d'oculist, 1867. See Plate III, Fig. 53. Loaned by Dr. G. Strawbridge, through Messrs. Bonschur & Holmes, of Philadelphia.

2. *Giraud-Teulon:* Made by Nachet, formerly in possession of Dr. Metz, of Massillon. Loaned by Dr. E. P. Morrow, Canton, Ohio.

3. *Early Giraud-Teulon:* See Plate III, Fig. 97. Loaned by Dr. C. H. Williams, Boston.

4. *Lawrence's Binocular Ophthalmoscope:* Modification of Giraud-Teulon. Makers: Murray & Heath, London. See Plate III, Fig. 45. Loaned by Dr. B. Joy Jeffries, Boston.

5. *Giraud-Teulon:* Old form. Loaned by Dr. Callan, of New York, through Mr. E. B. Meyrowitz.

6. *Giraud-Teulon Binocular Ophthalmoscope:* With spectacle attachment. Loaned by Dr. Casey A. Wood.

7. *Lawrence's Binocular Ophthalmoscope:* (Modification of Giraud Teulon) made by Gruuow. Formerly property of Dr. Noyes. Loaned by Dr. D. W. Hunter, New York.

5. Three interchangeable discs. Described in Trans. Am. Ophth. Soc., 1869, p. 47. See Plate V, Fig. 73. Made by Hunter. Loaned by Mr. Alex. Shaw, New York.

6. Three discs similar to 5. Loaned by Dr. C. H. Williams, Boston.

7. Slight modification of 5. Three discs. European make. See Plate V, Fig. 80. Loaned by Dr. Harry Friedenwald, Baltimore.

8. Similar to 7. European make. See Plate V, Fig. 77. Loaned by Dr. Dudley Reynolds, Louisville, Ky.

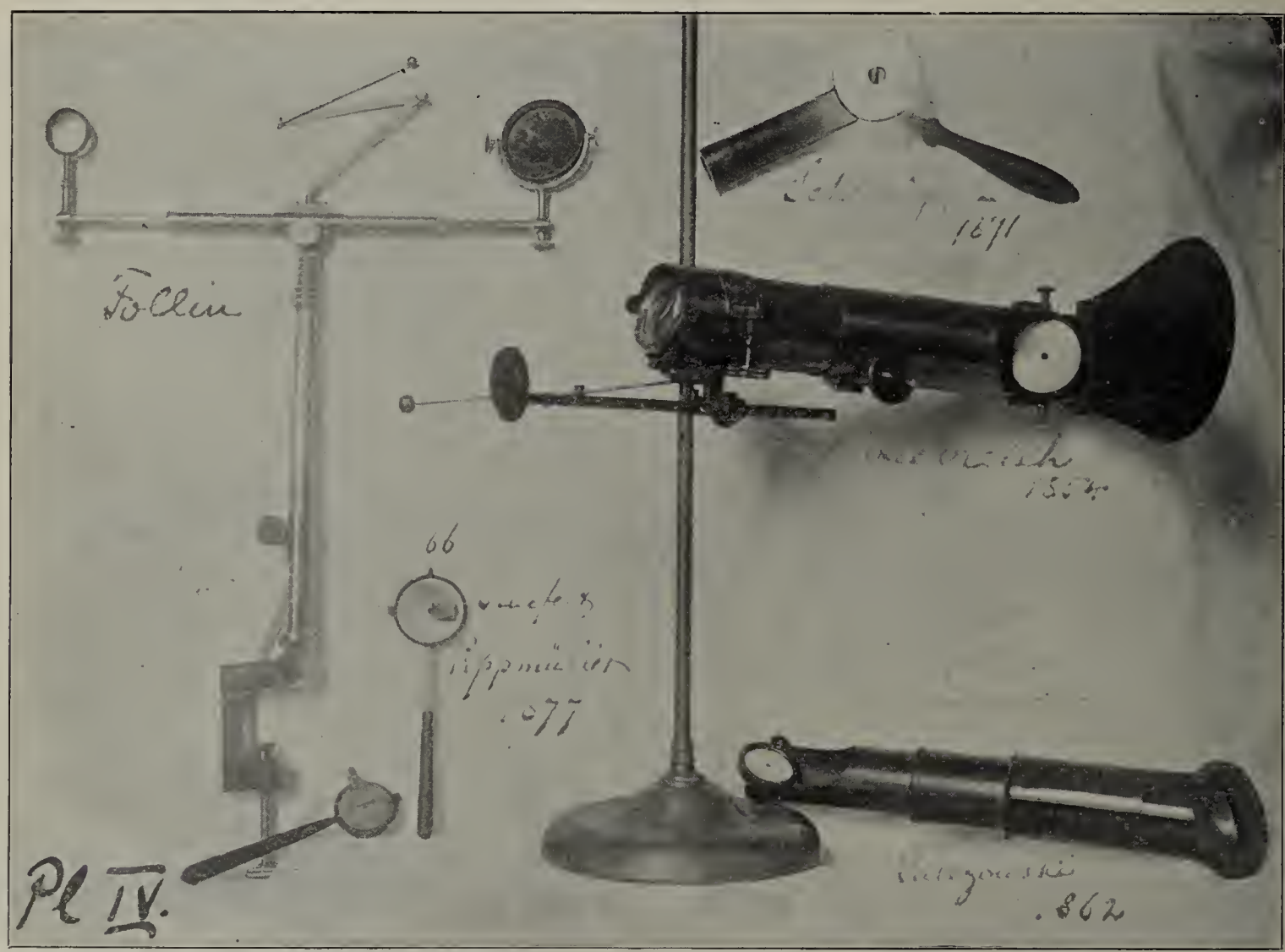
9. Three interchangeable Rekoss discs with *Wadsworth Tilting Mirror.* See Boston Med. and Surg. Journ., 1877, p. 105. Maker: H. W. Hunter, New York. Loaned by Dr. Wadsworth, Boston.

10. Single disc (12 concave lenses, 12 convex lenses). Tilting mirror. See Plate V, Fig. 19. Loaned by Messrs. Tiemann & Co., New York.

11. Early model. Disc contains two concentric rows of lenses and can be pushed up and down on handle; mirror fixed and not tilting. Made by Hunter, New York. See Plate V, Fig. 62. Formerly in possession of Dr. Noyes. Loaned by Dr. D. W. Hunter, New York.

12. *First Form of Loring Tilting Mirror:* See Plate V, Fig. 64. The little metal plate seen above is placed on the mirror to reduce the size of the latter. One Rekoss disc with two rows of lenses, as in 9, moved by cog-wheel. Made by H. W. Hunter, New York. Formerly property of Dr. Noyes. Loaned by Dr. D. W. Hunter.

13. *Earliest Form of Sector:* See Plate V, Fig. 72. Loaned by Mr. Alex. Shaw, New York.



8. *Lawrence's Binocular Ophthalmoscope:* With Loring Tilting Mirror. See Plate III, Fig. 57. Made by Bonschur & Holmes, Philadelphia. Loaned by Dr. H. I. Jessop, through Messrs. Bonschur & Holmes, Philadelphia.

Electric Ophthalmoscopes.

1. *Schweigger's Electric Light Ophthalmoscope:* See Helmholtz Festschrift, 1889. Maker: Sydow, Berlin. Loaned by Dr. Harry Friedenwald, Baltimore, Md.

2. *Dennett's:* Shown in drawing. See Transact. Amer. Ophth. Soc., 1885 and 1886.

3. *Meyrowitz's:* Attachable to any Loring Ophthalmoscope. Loaned by Mr. E. B. Meyrowitz.

4. *Wolff's Ophthalmoscope:* Received too late for exhibit. See Zeitschrift fuer Augenheilkunde, February, 1901.

Refracting Ophthalmoscopes.

LORING.

1. Mirror not tilting, early model. See Plate V, Fig. 44. Loaned by Dr. B. Joy Jeffries, Boston.

2. Early model, one Rekoss disc. See Plate V, Fig. 17. Made by Messrs. Tiemann & Co., New York. Loaned by them.

3. Early model. One Rekoss disc exposed. Mirror not tilting. See Plate V, Fig. 18. Made and loaned by Messrs. Tiemann & Co., New York.

4. Early model. See Plate V, Fig. 16. Made and loaned by Messrs. Tiemann & Co., New York.

14. *Latest pattern,* as made by Messrs. Bonschur & Holmes, Philadelphia. See Plate V. Loaned by Messrs. Bonschur & Holmes.

15. *Latest form,* as made by Mr. E. B. Meyrowitz. Loaned by Mr. Meyrowitz. See Plate V.

16. *Latest model,* as made by Messrs. Chambers, Inskeep & Co. See Plate V.

ROTH.

1. Refracting Ophthalmoscope: Modification of Loring's latest. The revolving sector is replaced by a plate containing three lenses which moves automatically. Described in Klin. Monatsbl. f. Augenh., 1894. See Plate V. Loaned by Mr. E. B. Meyrowitz.

2. Improved model. Loaned by Mr. E. B. Meyrowitz.

3. Loaned by Messrs. Chambers, Inskeep & Co.

KNAUER.

1. Refracting Ophthalmoscope: Two discs forming all combinations automatically. Loaned by Dr. Harry Friedenwald, Baltimore, Md.

2. Loaned by Mr. E. B. Meyrowitz, New York.

KNAPP.

1. *Knapp:* Two discs, the upper has one aperture and 13 concave lenses; the lower, one aperture and 13 convex lenses. The discs overlap. See Archives of Ophth. and Otol., Vol. III, No. 2, 1874. Loaned by Surg. Gen. Museum, Washington.

2. *Small Knapp Ophthalmoscope:* Single disc for lenses. Makers: Messrs. Tiemann & Co., New York. Loaned by them.

3. *Small Knapp Ophthalmoscope:* Single disc, one opening and

23 lenses, flat mirror. See Arch. of Ophth. and Otol., Vol. IV, No. 1, 1874. Loaned by Dr. H. Knapp, New York.

4. *Knapp:* Large disc ophthalmoscope, with crystal lenses. Disc 2 inches in diameter, containing 16 convex and 16 concave lenses, and one opening. Loaned by Dr. H. Knapp, New York.

Keyser.

1. Very small refracting ophthalmoscope. See Phila. Med. Times, 1887-8, Vol. XVIII, p. 167. Loaned by Dr. Wm. Thomson, through Messrs. Bonschur & Holmes, Philadelphia.

Harlan.

1. Combination of Loring, Knapp & Noyes. Two discs superimposed, one rotated by serrated edge, the other by cogwheel. Loaned by Messrs. Bonschur & Holmes, Philadelphia.

Hirschberg's.

1. See Deutsch. Zeitsch. f. Prak. Med., 1877, p. 353. Two Rekoss discs. Three mirrors, one large plane mirror, one large concave mirror, one small plane mirror set at angle. Loaned by Dr. Harry Friedenwald, Baltimore, Md.

Dudley.

1. Two discs, one containing + lenses, the other — lenses; slightly decentered axes, so that one is moved on one side, the other on the other side of the mirror. Loaned by Dr. Dean.

DeWecker.

1. DeWecker's Ophthalmoscope. One disc with 11 + Spher., and 13 — Spher. lenses. Similar to Loring's one disc Ophthalmoscope. Loaned by Dr. Casey A. Wood.

2. One disc with 20 lenses from + 0.5 to + 10 D. Converted by slide containing — 10.5 D. into — 0.5 to — 10 D. Loaned by Dr. C. H. Williams, Boston.

Refracting Ophthalmoscope.

1. Two small mirrors (concave and plane) reversible. Two revolving discs moved by cogs, one containing 10 convex, the other 10 concave lenses. Author not identified. French model. Loaned by Dr. F. M. Chisolm, Baltimore, Md.

Jessop's Pocket Refraction Ophthalmoscope.

1. See Brit. Med. Journ., 1887, pt. 2, p. 724. Loaned by Dr. Harry Friedenwald, Baltimore, Md.

Howe's Pocket Refracting Ophthalmoscope: See Am. Journ. of Ophth., February, 1893.

1. Very compact. Loaned by Dr. Lucian Howe, Buffalo.

Refracting Ophthalmoscopes with Cylindrical Lenses.

1. *Burnett's* Modification of Loring's Ophthalmoscope. Two mirrors; attachment for cylindrical glasses. See Amer. Ophth. Society, 1885, p. 589. Loaned by Dr. Shallerson, through Messrs. Bonschur & Holmes, Philadelphia.

2. Callan's Ophthalmoscope, with Stokes constant axis cylinder. Loaned by Dr. Callan, through Mr. E. B. Meyrowitz.

3. *Parent:* Ophthalmoscope. Early form, with Wadsworth mirror. Loaned by Dr. Casey A. Wood, Chicago.

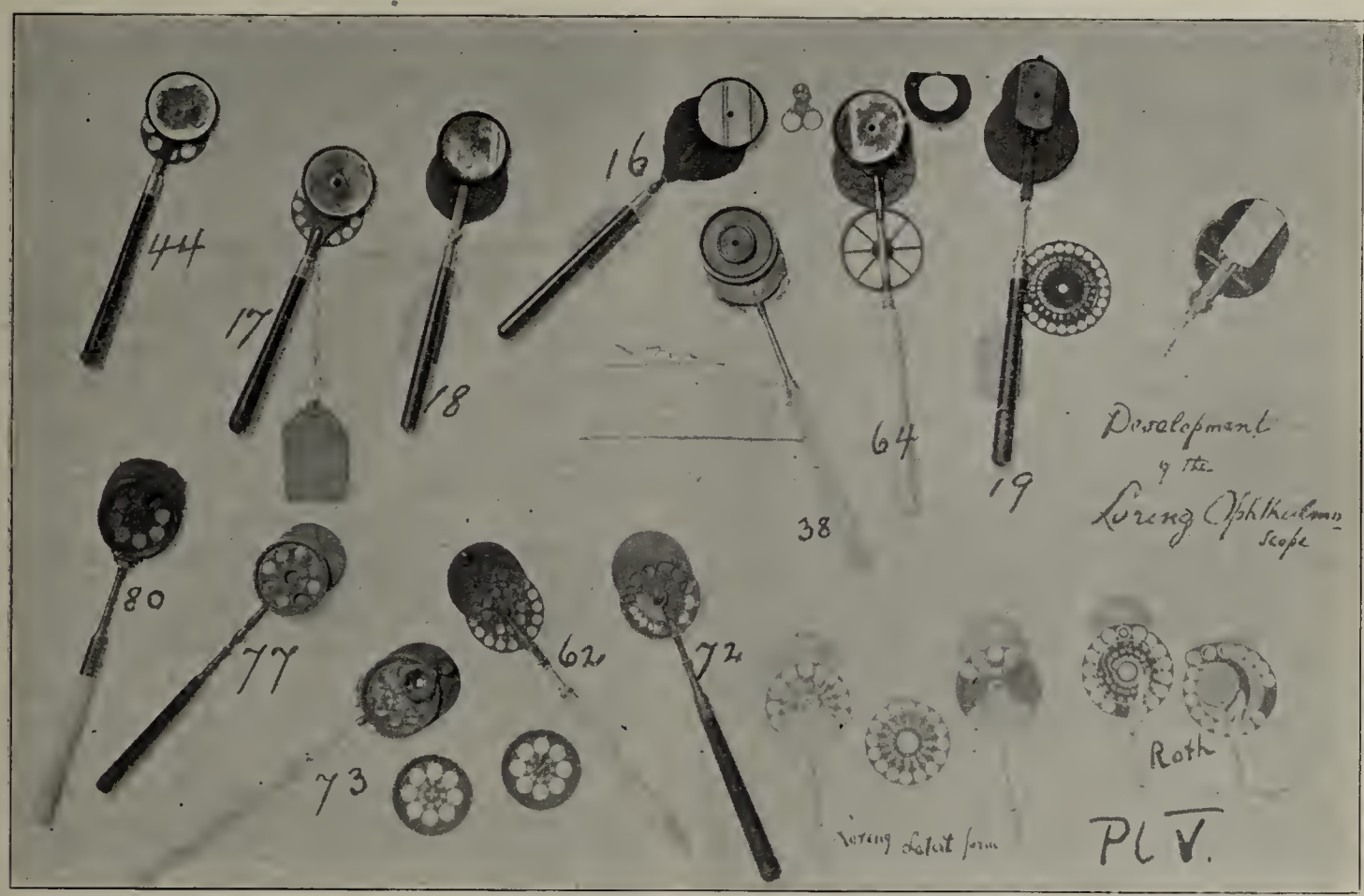
4. *Parent:* (Old pattern.) Loaned by Mr. E. B. Meyrowitz.

5. *Parent:* Contains spherical and cylindrical correcting lenses. See Rec. d'Ophthal., 1883, p. 628. Loaned by Dr. C. M. Culver, Albany, N. Y.

6. *Parent:* Made by Chambers, Inskeep & Co. Attachment with *cylindrical lenses.* Loaned by Dr. Casey A. Wood, Chicago.

Boeckman's Combination Trial Case and Ophthalmoscope.

1. The instrument consists of a handle and three forks into which the circular mirrors and the correcting glasses of small trial case can be placed. Very simple. Loaned by Dr. Boeckman, of St. Paul, Minn.



Landolt.

1. Early pattern. Loaned by Dr. Zimmerman, through Messrs. Bonschur & Holmes, Philadelphia.

2. Late model. See Bull. Soc. de Chir. d. Paris, 1876, Vol. II, p. 359. Loaned by Dr. Wm. Thomson, Philadelphia, through Messrs. Bonschur & Holmes, Philadelphia.

3. With Wadsworth Mirror. Loaned by Dr. Bane.

4. With Tilting Mirror. Loaned by Dr. Fox, through Messrs. Bonschur & Holmes.

Fox.

1. Early model. Loaned by Dr. Webster Fox, through Messrs. Bonschur & Holmes, Philadelphia.

2. One disc and additional sector. Wadsworth Mirror. Loaned by Dr. Fox, received through Messrs. Bonschur & Holmes.

Jackson.

1. Two vertical slides with + and — spheres. Earliest form. Loaned by Dr. Jackson, Denver, Colo.

2. Improved form, circular tilting mirror. Loaned by Dr. Jackson, Denver, Colo.

3. Latest improved form. Loring tilting mirror. Loaned by Messrs. Bonschur & Holmes, Philadelphia.

Morton.

1. Modification of Cooper's Ophthalmoscope. Contains chain of lenses instead of Rekoss disc. Also large plane and concave mirrors and small concave mirror set at angle. Made by Curry & Paxton, London. Loaned by Messrs. Tiemann & Co., New York.

2. Modified: Two inclined mirrors, plane and concave. Loaned by Dr. Harry Friedenwald, Baltimore, Md.

3. American form, as made by Messrs. Bonschur & Holmes, Philadelphia. Loaned by them.

Skiascopic Mirrors.

1. Small, plane mirror according to Jackson. Makers: Messrs. Bonschur & Holmes, Philadelphia. Loaned by Dr. Harry Friedenwald, Baltimore, Md.

2. Large plane mirror, with pupillometer on back. Maker: Sydow, Berlin. Loaned by Dr. Harry Friedenwald, Baltimore, Md.

3 to 15. Thirteen varied forms of skiascopic mirrors. Made by Messrs. Chambers, Inskeep & Co., Chicago.

16. *Roth's Skiaskop:* With tape and correcting lenses. Made by Sydow, Berlin. Loaned by Dr. Harry Friedenwald, Baltimore, Md.

17 to 23. Seven forms of Brown Pusey's combination Ophthalmoscope and Skiascope. Made by Messrs. Chambers, Inskeep & Co., Chicago. Loaned by Dr. Brown Pusey, Chicago.

Morbid Changes in the Kidneys with Insufficiency of the Thyroid Gland.—Blum has found evidences of pronounced interstitial nephritis in 36 out of 46 dogs whose thyroid gland had been removed. The other dogs died almost immediately with symptoms of acute tetany, before the nephritis had time to develop. This is the first time that morbid processes in the kidney have been pointed out as the direct result of the intoxication consequent upon the loss of the thyroid function. The intoxication was evidently connected with the processes in the intestines, and was thus an auto-intoxication.—*Virchow's Archiv*, clxvi, 3.

EXAMINATION OF A GENITO-URINARY PATIENT BY THE GENERAL PRACTITIONER.*

FERD. C. VALENTINE, M.D.

Professor of Genito-Urinary Diseases, New York School of Clinical Medicine; Genito-Urinary Surgeon, West Side German Dispensary; Genito-Urinary Consultant, Metropolitan Hospital and Dispensary, and United Hebrew Charities, etc.

NEW YORK CITY.

At the onset it is necessary to avow that the principal object of this paper is to obtain instruction. Through this instruction I hope to make valuable to the general practitioner the methods which study and experience have led me to employ in examining patients whose ailments come within the exclusive genito-urinary specialty. If incidentally to the confessed object it be shown that examination of the majority of genito-urinary patients can well be performed by the general practitioner, the purpose of this effort will be more than attained.

Family History.—As in all other diseases, the examination of a genito-urinary case, whatever its character, must begin with the history of the patient's family. Heeding a tubercular heredity, for example, will keep us alert to the greater possibility of a patient so stigmatized to fall a victim to genito-urinary tuberculosis. This is especially likely when he has acquired even a mild form of gonorrhea. At the opposite pathologic extreme we find neurotic proclivities reproduce themselves in genito-urinary neuroses. These may vary from an hysterical bladder to psychic impotence.

The importance which the family history has in all ailments is, however, so well appreciated by all practitioners that it need but be mentioned to recall its weight as a diagnostic and prognostic element, and as a guide to individual therapeutics.

Personal General History.—The patient's preceding ailments, whether of a constitutional or local character, are certainly not of minor importance, in view of the impress they may have made upon his resistance. His environment and occupation play a large part in contributing to chronicity and complications. It need but be recalled that a person exposed to malaria, or to the bites of infected mosquitoes, is often obliged to interrupt his treatment for gonorrhea. A book-keeper, standing at a high desk all day, is more likely than others to invite complications involving the scrotal contents. This holds equally, albeit of different etiology, for people engaged in occupations requiring great physical efforts. These mere examples, taken at hazard, will call to mind the many others.

Genito-Urinary History.—Precedent syphilis may be the direct foundation for involvement of the urethral adnexa, in which local treatment will be futile, unless supplemented by antiluetic medication. Residua of apparently cured previous gonorrhea must be always suspected. Heed must be taken of their possibly delaying success in the condition under consideration, and also of the possibility of recrudescence of dormant infection and alterations.

The individual history of each attack of a genito-urinary ailment must be minutely recorded, as each detail serves to assist not only in diagnosis, but also prepares one for possible intercurrences due to previous ailments, and renders intelligent treatment possible.

The many elements necessary to diagnosis, however, are too vast for consideration in a brief paper. They are being collated in a book now in preparation, entitled "Gonorrhea and Marriage." This will present them in convenient form and detail what experience has led me to adopt as a method of eliciting and recording them.

Besides, there is no need to dilate upon these matters now, as the general practitioner is conversant with the history of each patient whom he sends to the genito-urinary specialist for examination and suggestions regarding treatment.

PHYSICAL EXAMINATION.

With these premises we are prepared to now consider, in as much detail as possible, the physical examination of the patient. In doing so, while not unmindful of the pedagogic value of the finer divisions of our present subject, time confines us to the consideration of the gross elements only.

Preparation of the Examiner.—Inasmuch as the most frequent genito-urinary diseases are of a contagious character, it is the practitioner's distinct duty to protect himself from that contagion, not only to preserve his professional usefulness, but also to avoid becoming a focus of infection to others. The convenience of observing every physical and chemical aseptic precaution is materially enhanced when the examiner is properly dressed for his work. The ordinary slit of the shirt-sleeves should be extended to reach 2½ inches above the olecranon along the arm, when flexed; the cuff should not be over 3 inches in width. So prepared, the sleeves can easily be folded, leaving the forearms bare well above the elbows. As every infectious step of an examination is followed by cleansing the hands, an inadvertent soiling of the forearm is remedied at the same time. If, however, such contamination occurred upon the sleeve of a shirt or operating-coat, it might be relegated to the time of the usual change of garments. In this interim the spot of infection would be forgotten while complying with the demands of urgent work. Then a nervous patient, apprehensive of the pain which a careful examiner will never give him, may grasp his arm at the infected spot and afterwards rub his eyes with the pus containing gonococci. Again, the surgeon may be troubled with an itching eyelid just at a time when his hands are infected, and nothing would be more natural, unless he had acquired the acme of self-control, than that he almost automatically relieve the eyelid with the infected sleeve.

With the arms bared, the ordinary garments should be protected by a suitable gown and apron, of which a number of desirable forms are made. The observations regarding sleeves apply to the operator's vest and trousers. When a gown or apron are soiled they can be easily slipped off and substituted by clean coverings.

Surgeons so unfortunate as to need aids to sight should not wear nose-glasses during their work. Without reflecting upon any of the devices which make it "impossible for eye-glasses to slip," the fact is, that all with which I am acquainted do slip at the most inopportune moments. The annoyance at the interruption is likely to militate against thoroughness, if the examiner is obliged to continue with defective eyes, or he will, if so engrossed in each effort as he should be, forget himself and replace the glasses with infected hands. For these reasons no attempt should be made to examine a genito-urinary patient unless defective vision be corrected with firm spectacles. But even when the ex-

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee of the Section: Drs. Frank Billings, George Dock and J. M. Anders.

aminer is blessed with emmetropia, it is always wise for him to protect his eyes from infection by wearing plain spectacles.

Preparation of the Patient.—The ideal examinations are made in all cases early after arising from bed, and before the patient has passed urine. Unfortunately, for self-evident reasons, this is not always possible in private practice. The best substitute, therefore, is to instruct the patient to hold his urine as long as possible before the time appointed for the examination. The other preparations of the patient will be mentioned in each special step of the examination.

Positions of Examiner and Patient.—The patient's physical condition permitting, he stands before the examiner. The latter is seated, with his back to the light, which, falling fully upon the patient, reveals many points which might not be discovered otherwise. When the patient is feeble or likely to faint, the examination may be conducted while he is lying on a bed, or, better still, on a firm operating table.

When standing before the physician, the patient is ordered to drop his trousers and drawers to his knees for inspection of the genitalia, the thighs, the abdomen and chest, if need be. The appearance of an eruption on the latter may expose previously unsuspected syphilitic infection. The drawers, shirt and undershirt are then carefully examined.

Stains.—These, when present on the garments, will often serve materially as diagnostic guides. Briefly, the most frequent of them may here be described.

The shape is: Circular or ovoid, in urethral discharges; irregular diffusive, in after-dribbling of urine from stricture; shred-shaped or band-like, in seminal discharges.

The edges are: Sharply defined, from excess of urethral secretion; undefined, in dribbling after urination; elevated, in seminal discharges.

The size is: Small, from excess of urethral discharge; large, in dribbling after urination; variable, from seminal discharge.

The color is: Homogeneous throughout, in excess of urethral secretions; darker at center than at periphery, in after-dribbling; deeper in spots, owing to varying thickness, from semen.

When no crass evidences of disease, further than stains on the garments are found, or when they are so commingled as to prevent their distinction, microscopic examination will reveal their character. If the stains have dried, they may be moistened with distilled water and the spot then carefully rubbed upon a cover-glass for staining and mounting.

Inguinal Glands.—The most convenient manner of examining these glands is to pass the finger along the inguinal region. Any enlargements, however small, should be recorded, whether they preceded the genito-urinary affection or whether they came after it. The early recognition of their implication may enable prompt treatment and save the patient much unnecessary suffering. The wisdom of heeding enlargements of these glands is graphically portrayed by A. Cooper[1]. In an abstract[2] of his article the following appeared:

> In typical cases and when the condition has reached its height a group of glands—from three to six or more—can be felt in each groin. * * * Besides being multiple, the glands are also indolent and separate; that is, they are not painful when handled, and can by palpation be clearly defined and isolated from the others. They are freely movable beneath the skin, are of moderate size, and more or less hard. Both sides are generally affected, but occasionally one groin alone may be involved, and that not always on the same side as the specific lesion. Although multiple indolent glands form one of the most important features of primary syphilis, it must be remembered that they are not in themselves proof of it, and that an apparently typical condition of the groins is sometimes due to other causes, more especially in persons whose glands are unusually susceptible. Among such cases may be mentioned severe gonorrhea, urethral irritation from too strong injections or other injury, irregular herpes, severe balano-posthitis, and tuberculosis. The diagnosis will depend on the history, on the absence of an indurated primary lesion, and on careful watching throughout the incubation period of syphilis.

1. London Lancet, April 13, 1901.
2. N. Y. Med. Record, April 27, 1901.

Before proceeding further it will be well to note whether there is a discharge of pus from any part of the penis. In such case it will be well to cover the organ with a gauze bandage so that in continuing the examination none of the discharge be carried on the surgeon's hands, to other parts of his own or patient's body.

Genitalia.—The scrotum should be inspected and palpated in all its parts. It may be pendulous in a generally debilitated condition; drawn up tightly by fear, or by the reflex influence of a renal disturbance; it may be distended or distorted by hernia, epididymitis, orchitis, malignant or benign diseases of its contents, hydrocele or varicocele. Its integument may be the seat of extended intertrigo, or other skin lesion, from perspiration or drugs. In swellings within the scrotum palpation should be supplemented by transillumination. This can be most satisfactorily done by aid of the urethroscopic light, which will be mentioned later on.

The testicles can be most conveniently palpated by what is tantamount to balancing their lower poles upon the inner tips of each of the ring fingers and passing the thumb-tips along the anterior surface of the scrotum and the index and middle fingers along its posterior surface. The size, shape and consistency of each testicle can thus be easily outlined.

The epididymis can be examined in the same manner at first, and any abnormality more closely studied by taking the testicle in the hand of the opposite side, while palpating the epididymis with the fingers of the hand at the same side.

The spermatic cords can easily be palpated, except when the testicles are tightly drawn up, or when the cords are thickened, or are the site of a large hydrocele. Ordinarily, grasping the testicle with the fingers of the same side and gently drawing it downward, enables the fingers of the opposite hand to palpate the vas deferens and the vessels of the cord.

The prepuce's most frequent abnormalities vary between slight fissures at the muco-cutaneous margin, to pronounced gangrenous paraphimosis. When the foreskin can be retracted, all its parts should be examined for posthitis, chancre, chancroids, condylomata, etc.

The glans is sometimes found deformed from arrested development, due to a very tight, thick or inelastic foreskin, or from a badly performed circumcision. It may be the seat of the same diseases that affect the foreskin; it may have erosions from inspissated smegma or from small stones formed of urinary salts, or parts may be destroyed by devastating chancroid.

The meatus in acute urethritis is often much reddened and swollen. This gives its lips a pouting appearance. The meatus may also be the seat of chancre, chancroid, or condylomata.

EXAMINATION OF THE DISCHARGE.

The discharge from the meatus may vary from a free, thick, greenish-yellow, bloody flow, to a mere excess of watery moisture, expressible from the urethra with much difficulty. When the latter obtains, it is well not to rely upon the patient's untaught manner of producing this evidence of disease. To demonstrate the presence of such a minimal excess of moisture, the examiner takes the left corpus cavernosum with the fingers of the left hand, and the right corpus cavernosum with the left thumb. The left little finger is thus turned to the patient's pubis. In so holding the penis, care is taken that neither the thumb nor the fingers project below the corpora cavernosa. The right index finger is then semiflexed and its middle phalanx pressed through the scrotum to the lower margin of the symphisis pubis. As it is drawn forward it compresses the urethra tightly and so propels to the meatus any excess of moisture.

Fig. 1.—Convenient sleeve for exposing arms for genito-urinary work.

The difference in the color of the discharge, from the stain it makes upon the patient's garments or the cotton he wears upon his glans, is noteworthy. Observations subsequent to verification of these differences, as formulated by Diday, lead to the following conclusions: If the discharge is colorless the stain is starch-like; if opaline, it is grayish; if white, it is a yellow stain; yellow, a green stain; a green discharge, a reddish-brown stain, and if the discharge is red there is a mottled dark-brown stain. In noting the color of these stains, however, heed must be taken of stains that may be due to the color of the injections which the patient has used.

Whatever the quantity of the discharge, a specimen for microscopic examination must be taken by a platinum loop, which has been rendered incandescent in a Bunsen or alcohol flame and allowed to cool. The smallest possible quantity of the discharge so taken is then quickly and as thinly as possible spread upon a cover-glass, which has been cleaned and drawn through the flame just before use.

The conduct of the specimen merits attention. Thus a urethral discharge is easily spread, a prostatic discharge is inclined to roll itself into large tenuous lumps, as if to defy spreading; a discharge from the urethral crypts and glands forms small obstinate hillocks, and a discharge from the seminal vesicles often conveys the sensation of grit between the loop and the cover-glass.

After the specimen has been taken, it is left under a bell-glass until thoroughly air-dried. With an ordinary urethral discharge this may occur in from 3 to 5 minutes; with very thick prostatic discharges this may require 24 hours. When air-dried the specimen is fixed by drawing it through the flame two or three times.

Fig. 2.—Palpation of kidney. Guyon's method.

While the cover-glass is still warm, a saturated solution of eosin is dropped upon it. It is then held high over the flame until the alcohol of the eosin solution begins to evaporate. The specimen is then washed and rewashed until, stood on edge upon bibulous paper, the water passing from it is entirely colorless. The specimen is then stained for 5 minutes with a 2 per cent. solution of methylene blue. It is then again washed until the water flowing from the glass is entirely free from color. The specimen may then be gently dried with bibulous paper, or, better still, left to dry under a bell-glass. When thoroughly dry it is ready for mounting in balsam for examination and preservation.

The microscopic findings in the discharge may be conveniently arranged into: 1, variation of the normal constituents, such as increased mucus and epithelium; 2, bacteria whose presence may explain the pathologic products, and 3, the pathologic products—pus corpuscles.

in severe cases with blood, and in chronic ones with eosinophile cells.

Naturally the diagnosis is predicated upon the class of bacteria found. And if the discharge is the sole feature of the disease, the treatment of the case is governed by the kind of bacteria discovered. In a general way it may be said that, when the gonococcus is the only provocative element, irrigations with permanganate of potash, as elsewhere described,[3] serve in the vast majority of cases.

But when other microbes are found, resembling, or which perhaps really are, colon bacteria, mercuric bichlorid alone, or combined with potassic permanganate will be required. When the specimen, stained as before described, contains no perceptible bacteria, it will be wise to stain another with carbol-fuchsin, and treat it as are the specimens examined for tubercle bacilli. This precaution may lead to the early discovery of a genito-urinary tuberculosis, before it has invaded the deeper genitalia. A word more regarding the gonococcus. On several occasions I have expressed the view that there are probably numerous forms of the gonococcus. Our present instruments of precision have not yet enabled us to definitely distinguish any such differences. Until they do, further experiments with cultures will probably show that some gonococci flourish on one medium and die on another. When expressing this opinion, purely from a clinician's viewpoint, I was unaware of the work being done by Dr. A. Williams, assistant bacteriologist of the New York Board of Health, who kindly wrote on May 21:

Fig. 3.—Palpation for prolapsed kidney. Goelet's method. (From *Medical Record*, June 1, 1900.)

In reply to your note of the seventeenth, I can as yet make only the following statement in regard to work done by me on the gonococcus.

1. Certain gonococci grow well on 2 per cent. peptone agar from the original pus and continue to grow well on this medium after being obtained in pure cultures.

2. Certain gonococci grow poorly upon 2 per cent. peptone agar when planted from the original pus, and immediately after isolation in pure cultures; but after a number of culture generations on this medium, they grow as well as those of the first group.

3. Certain gonococci do not grow upon 2 per cent peptone agar from the original pus, neither will they grow upon it immediately after isolation in pure cultures unless very large quantities be inoculated. Even then they grow spasmodically on this medium.

This emphasizes the hope that precise differentiation, and through it the selection of the appropriate remedy in each case, is less Utopian than might at first appear, It also tends to explain why in a certain case or series of cases, mercurol, argentamine, argonin, protargol, etc., will abort a most severe attack, while in others the selected drug fails.

As the scope of the present object, however, excludes therapeutic considerations, except when necessary to elucidate a diagnostic measure, we may rest at the above memoranda.

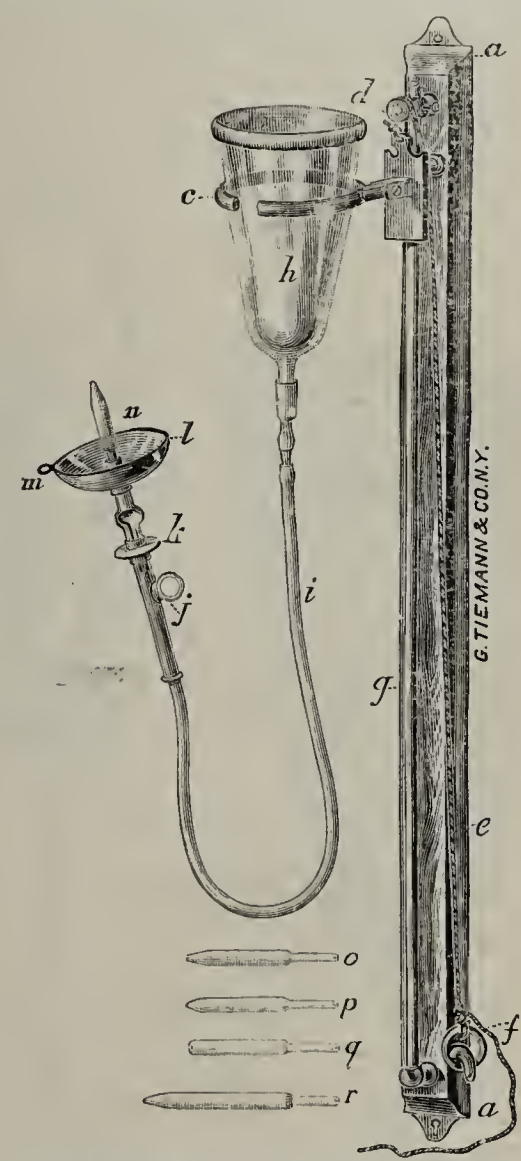


Fig. 4.—Valentine Irrigator. (From the Irrigation Treatment of Gonorrhea, Its Complications and Sequelæ. Wm. Wood & Co.)

3. The Irrigation Treatment of Gonorrhea; Its Local Complications and Sequelæ.

URANALYSIS.

Such detail as this division of the present subject merits would make a respectable volume, if nothing were cited but the names of the authors who have written upon it. Therefore, only the merest gross outlines of the urinary examination can here be mentioned. In this the general practitioner's often necessarily rapid work will be considered.

Lest extraneous substances become mixed with the urine it is well to clean the meatus, the glans and the foreskin with cotton soaked in bichlorid (1-6000) before asking the patient to empty his bladder. In ordinary, rough office-work the 3-glass test suffices. For convenience, I have, for a number of years, been using 12-inch ignition tubes instead of the glasses or beakers usually employed. The difference between these tubes and those sold as "Valentine urine-tubes" is only one of price. These tubes, whose clear glass gives the exam-

ner a column of urine easily inspected, has other advantages, which will become evident in further consideration. The tubes hold about 175 c.c. (fl. ℥vi).

Whenever possible it is well to conduct an examination after the patient has held his urine for at least three hours. As said before, the ideal examination is made when the patient has not urinated since the night before. For more thorough work it is advisable to order the patient to bring the entire urine for the preceding 24 hours in eight-ounce bottles, each one labeled with his name, the date and the hour at which the urine was passed. A memorandum of the food, drink, drugs, mental and physical exercise taken in the intervals will often explain many abnormalities encountered.

The patient is ordered to pass about 3 ounces—100 c. c.—of his urine into as many tubes as he may need to empty his bladder.

The first specimen may be crudely assumed, in the

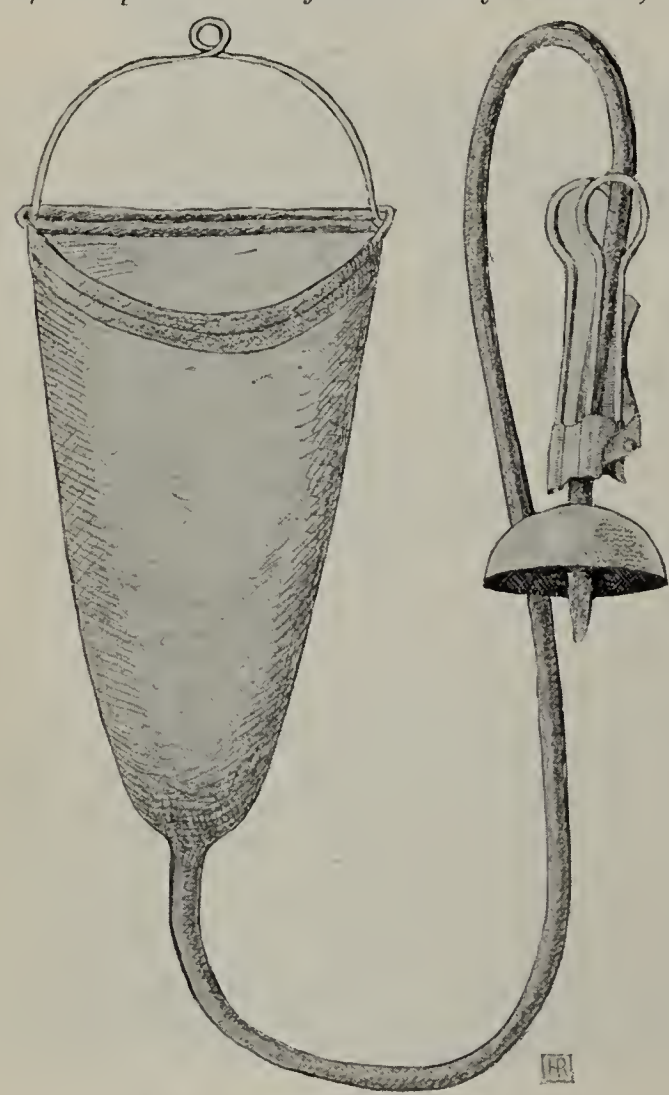


Fig. 5.—Valentine Auto-Irrigator.

average case, to contain all the washings from the anterior urethra.

The second and subsequent specimens of this urination may be crassly taken as carrying any abnormal additions that are detached from the bladder-walls.

The last specimen voided may be assumed to contain such additions as can be expressed from the adnexa of the posterior urethra—prostate, seminal vesicles, etc.—and the posterior urethra itself, by the final extrusive efforts—the "coup-de-piston" of Guyon.

Lest a false impression be conveyed to junior practitioners by what is here said about the macroscopic examination of the urine, it must here be emphasized that nothing but the crudest outline is now attempted. For ordinary purposes, however, the plan designated and the inferences adduced will suffice.

Having obtained the specimens, it next behooves us to study the transparency of each one; and then the "floaters" it contains. When this term was introduced by me it was with the reservation that some of the "floaters" do not float, but sink rapidly or drop to the bottom of the tube. The forms of the "floaters," their dimensions, their conduct and the pathologic significance of each, merit separate study.

The transparency of the urine may be impaired most frequently by phosphates and pus. When phosphates cause the turbidity, the addition of nitric acid will clear the urine with or without the evolution of gas bubbles. When pus causes the turbidity, a saturated solution of caustic potash added to the urine makes it at first assume a syrup-like consistency. If the tube is then twirled, in a species of imitation of the centrifuge's work, a ropy agglomeration is formed. This, Donné, who devised the test, called "rotzig." For some reason this German forcibly descriptive adjective seems less gross than its English translation "snotty." Even the best dictionaries do not give us a more acceptable synonym. The other causes of impaired transparency are subjects for finer examination.

The manner of passing urine is often pathognomonic. Thus the neurasthenia which obtains in the majority of genito-urinary affections may prevent the patient from urinating at all in the presence of others, or even when he suspects that another may know of his attempt to urinate. This, too, may cause interruptions in the force of the stream and in its caliber, or may compel its entire interruption. It may be accepted with Wossidlo[4] than any aberration in the manner of urinating, to indicate a pathologic change in the urethra or its adnexa, must be permanent. The most frequent aberrations, aside from those of neurotic origin, are, difficulty or delay in starting the stream, which indicate prostatic enlargement, deep stricture, or a growth within the bladder; reduction in the size of stream, evidencing stricture; interruption of the stream—"stammering urination"—suggesting prostatic enlargement, a growth or foreign body in the bladder; or, dribbling after urination, possibly due to beginning prostatic enlargement, but oftener to stricture.

In extreme cases dysuria, due to any urethral impediment, may compel the patient to squat on the floor, in order to supplement abdominal pressure with his thighs against the belly, so that he may thus plainly force out the few drops which give but partial relief to his overdistended bladder.

The other physical and chemical characteristics of the urine itself are proper subjects for the practitioner's detailed laboratory work, but their discussion has no place in a mere outlined effort. The same applies to the microscopic examination of the urine. In this connection, however, it will be permissible to note that almost universally too little heed is paid the epithelia found in the urine. As Heitzmann[5] has so frequently demonstrated and as clinicians, I among them, have so often occasion to confirm, the recognition of the epithelia found is, in the majority of cases, sufficient to indicate the location of the disease.

FURTHER PHYSICAL EXAMINATION.

In similar rough outlines as the other points are discussed, the further examination of the patient may now be considered. The kidneys are not readily palpable in health. The two ways experience has led me to prefer are:

1. In Guyon's technique the patient is placed upon

4. Wossidlo: Die Stricturen der Harnröhre und ihre Behandlung.
5. Heitzmann: Urinary Analysis and Diagnosis by Microscopic and Chemical Examination.

his back, his head comfortably supported, but his shoulders at no higher level than his buttocks. The knees are drawn up to relax the abdominal walls. The physician's hand of the opposite side is passed under patient's back, until the tips of the fingers are exactly within the lowermost costo-vertebral angle. The patient is ordered to inhale deeply, then to fully exhale; at the conclusion of the latter act the fingers of the hand of the same side are pushed as far as possible beneath the ribs, as closely to the kidney as possible. Then the fingers of the other hand are made to produce sharp contractile motions, giving the kidney a forward impetus. If it is enlarged or displaced the fact is recognized by the fingers upon the abdomen.

When the patient is very thin the kidney may be grasped with one hand, the fingers upon the dorsal region, the thumb on the anterior superficies.

2. Goelet's method[6] is especially applicable in prolapse of the kidney. The patient is placed erect, his buttocks resting against a firm table. The hand of the opposite side grasps his renal region firmly and the fingers of the opposite hand press backward and upward on the same half of the abdominal wall. As the prolapsed kidney is so replaced, it passes between the thumb and fingers of the other hand, and is thus readily recognized.

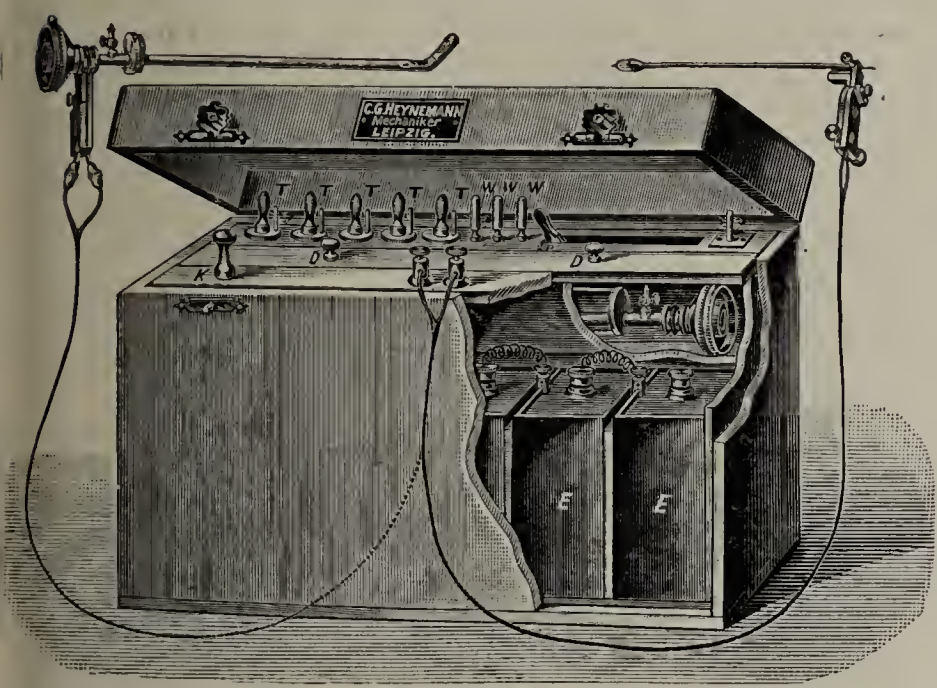


Fig. 6.—Kollmann and Wossidlo's modification of the Valentine urethroscope.

The capacity of the bladder is approximately gauged by the amount of urine passed in the morning, the patient not having urinated since the night before. A more exact estimate is made by filling the bladder with a boric acid solution to the utmost of comfortable distension and then allowing the solution to escape into a vessel for measuring.

The amount of residual urine is determinable only by catheterization immediately after the patient has expelled all the urine he can, without such aid.

The seminal vesicles can but rarely be felt in health. The patient is preferably placed on his back, as for renal palpation. The left foot rests upon its external margin so that its hollow may comfortably receive the heel of the right. The knees are then well drawn up and the hands lightly laid upon the chest. Previous to placing the patient in this position, the examiner has assured himself that his index finger has no projecting nail and consequently no sub-ungual space. He then coats the finger with the following mixture:

6. N. Y. Med. Record, June 1, 1901.

℞.	Copal	2
	Venetian turpentine	4
	Sulphuric ether	100
	Collodion	100
	Acetone	8

This dries almost instantly and forms a perfect sheath in nowise compressing the finger or obtunding its tactile sense. The finger so protected is then liberally lubricated. For this purpose I have for the past ten months used Synol soap, first presented to the profession by Goelet in June, 1900. The finger, coated and lubricated, is held aside, while the left fingers take the scrotum and penis out of the way of being possibly soiled with the lubricant. The hairs about the anus are then separated with the other fingers of the right hand, and its prepared index finger inserted into the rectum, not with gyratory motions, but directly upward and slightly to the right. The other fingers are closed upon the palm, and the thumb extended to lie as high up as possible along the left side of the scrotum. The left fingers then release the external genitals, and are curved upon the vesical region, pressing it down towards the examining finger in the rectum. Meanwhile the backs of the closed right fingers press the perineum upwards, while the right wrist is held as straight as possible and the elbow is approached to the level of the table. The finger tip passes the prostate and beyond it, and to its outer sides it encounters the seminal vesicles. When enlarged these are distinctly felt; in health, however, as mentioned before, they are often very difficult to outline.

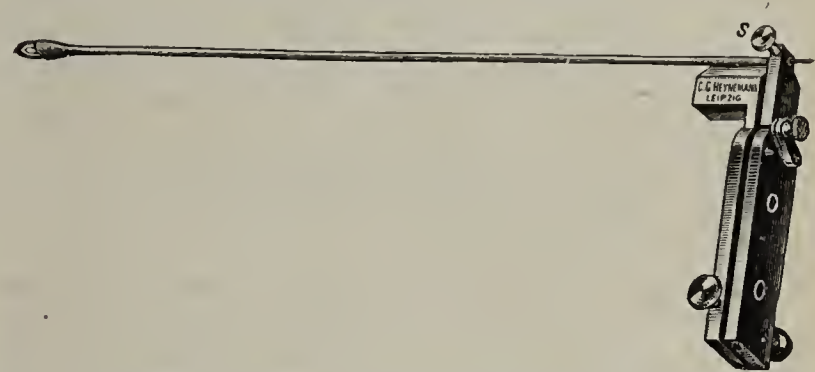


Fig 7.—Light-carrier of Kollmann and Wossidlo's modified Valentine urethroscope.

The prostate is explored in the same manner as are the seminal vesicles. It differs, however, in being always discernible, although in very great enlargements its entire outlines may be beyond the finger's reach. There are cases in which the prostate projects further in the direction of the bladder than it does towards the rectum. In these the cystoscope is required for diagnosis.

Cowper's glands are never tangible in health. In disease, however, they project forward in the line of gular ligament and then can be readily felt in the perineum. In some cases the abscess presents as far forward as the peno-scrotal angle. Before its full development Cowperitis is usually felt at only one side of the raphè. The tense general swelling that follows may so extend to both sides as to make the gland originally involved indistinguishable.

It is wise to supplement rectal exploration of the urethral adnexa with gentle massage, so as to express some of their contents. As these escape from the meatus a minute quantity may be taken on two cover-glasses for microscopic examination. These specimens will require much longer time for drying than do those emanating from the urethra. After they have dried one specimen should be stained with eosin-methylene and the other with carbol-fuchsin.

Palpation of the urethra is performed by taking the

penis in the left hand, as outlined in connection with the method of obtaining a urethral specimen. The tips of the right fingers then feel all parts of the palpable urethra, to discern any general thickening of its walls, any localized swelling, e. g., peri-urethral abscess, or the presence of foreign bodies, e.g., so-called urethral calculi.

Previous to sketching examinations that require ingressions into the urethra, it is well to recall the need of aseptic work, which, if anything, is more necessary here than in other parts of the body. While conceding that absolute asepsis of the urethra is not obtainable, this does not excuse omission of any detail that may reduce the danger of carrying infection to uninfected parts. The technique thereof is not difficult, as I endeavored to show in a paper[7] read before this body last year. It may be summed up as follows: 1, cleansing the meatus, glans and prepuce with cotton soaked in bichlorid 1-6000; 2, cleansing the urethra with boric acid by means of the office irrigator, or the easily portable auto-irrigator; 3, filling the cleansed urethra with 5 per cent. iodoform suspension in glycerin, and, after instrumentation, 4, repeating the urethral irrigation.

In exploration of the urethra the soft, flexible bougie-á-boule, with an almost rectangular shoulder, is the only instrument which can serve for tactile exploration. It is the essentially diagnostic instrument; rigid instruments are for therapeutic purposes exclusively. Omitting all argument hereon, it will suffice to remember that many a urethra will easily and smoothly permit the passage of a steel sound of large caliber. But when a properly constructed bougie-á-boule, even one or two sizes smaller, after having been inserted into the urethra, is deftly whipped out of the channel, it reveals impingements which the rigid instrument could not. I repeat, therefore, that a rigid sound or dilator is a therapeutic instrument, while the softer instrument is the only one that can serve for diagnosis.

Urethroscopy with modern devices is now as much a procedure for the general practitioner as it is for the genito-urinary specialist. I may be pardoned for expressing a decided preference for the urethroscope upon whose simplification I have spent much time and study. Briefly described, it consists of a box containing all that is needed for urethroscopy, viz., dry cells for illumination, tubes for various calibers of the urethra, lamps which snugly fit along the urethral tubes, and applicators to carry cotton for cleansing the urethra and for such topical remedies as the conditions found may require.

The newest form of this instrument is the one I have the honor of showing. It is a modification of the Valentine urethroscope, by Prof. Kollmann, Leipzig, and Dr. Wossidlo, Berlin. The original device, as presented by me before this body two years ago, was, as I then emphasized, a modification of the Oberländer urethroscope. Kollmann and Wossidlo further modified this device, rendering it more convenient for its work. These eminent German scientists, in doing me the honor to improve upon this device, did not, however, eliminate my name therefrom. A signal convenience is in the ingenious addition to the case, of a Nitze irrigating cystoscope, whose lamp is of such low tension that the same cells used for urethroscopy can be employed for visual examination of the bladder.

The technique of urethroscopy is self-evident on examination of the instrument. Naturally, to distinguish the various pathologic conditions some experience is required. But the experience necessary for good diagnostic work is far less than that needed for any other of the instruments of precision, such as the opthalmoscope, the laryngoscope, etc.

Cystoscopy implies all that has been said of urethroscopy, except that its technique entails considerable training and much practice. It involves catheterization of the ureters in some cases, a process demanding the acme of that skill which experience gives. It naturally is applicable only when the mouths of the ureters can be entered.

Cultures and inoculations are mentioned here only to recall the cases in which, without them, the examination can not be completed. They require elaborate laboratory facilities, which are necessary addenda to the specialist's office, and to which but few general practitioners can devote the large amount of time and attention they demand.

Cryoscopy, as its inventor, Raoult, defines this new method of urinary examination, is "the study of dissolved bodies, based upon the observation of the point of congelation of their solutions." As cryoscopy, however, is a laboratory method, its consideration has no place in a purely clinical study.

SUMMARY.

Throughout this effort it has been my desire to emphasize the following points:

1. All genito-urinary examinations should be painless.
2. The operator should conduct no examination unless his arms are bared to above the elbows and his clothing protected by a gown and apron.
3. During every genito-urinary examination the physician should protect his eyes with spectacles—not eyeglasses—even if he has no visual defect.
4. Ideal examinations are made in the morning, before the patient has passed his first urine.
5. The amount and character of a urethral discharge can be estimated only by correct technique in expressing the urethral contents.
6. The color of a urethral discharge changes when it dries upon the patient's garments.
7. The meatus should be cleaned before passing urine for examination.
8. The manner of urinating is often pathognomonic.
9. The epithelia found in the urine are indicative of the locality of the lesion.
10. Examination of the urethral adnexa is a necessary part of the steps for complete diagnosis.
11. No instrumental ingression of the urethra should be attempted without most thorough efforts at rendering it aseptic.
12. The technique of striving at urethral asepsis is neither complicated nor difficult.
13. The soft bougie-á-boule is the only instrument that can be used for tactile exploration of the urethra; it is purely a diagnostic instrument; the rigid sound is wholly a therapeutic instrument.
14. Urethroscopy with a modern instrument is not difficult.
15. The general practitioner is perfectly competent to examine the vast majority of genito-urinary cases.
16. Such examinations only exceptionally require extraordinary skill or a large armamentarium.
17. The pathology of genito-urinary disease does not materially differ from that of other affections.

31 West Sixty-first Street.

7. Surgical Asepsis of the Urethra and Bladder. JOURNAL A. M. A., Jan. 12, 1901.

THE UNVEILING OF THE CELL.*

LEWELLYS F. BARKER, M.B.
PROFESSOR OF ANATOMY, UNIVERSITY OF CHICAGO.
CHICAGO.

In the kind invitation of your secretary to read a paper before this Academy, it was suggested that a subject of general interest be chosen rather than one involving a very technical description of some single especial research. On thinking over the few topics upon which I might with fairness venture to address you, it occurred to me that perhaps one dealing with the newer knowledge of the cell might be as acceptable as any. I have decided to ask you, therefore, to permit me during the next half hour or more, to place before you some examples illustrating the trend of cellular research, to outline to you a few of the results thus far attained, and to indicate along what lines of investigation work is likely to proceed in yielding us the discoveries that the near future has to reveal.

I may be permitted to say in the beginning that I regard the development of the cell doctrine as one of the most brilliant and most important generalizations of the century just passed, as one which has given us a clearer conception of the general organization of animals and vegetables than any which preceded it. I do not wish, however, to be understood as joining the ranks of those extremists who, traveling always on the purely cellular highway, refuse to consider, as practicable or desirable, progress toward a knowledge of structure and function along any other road. To me such a prejudged attitude is but little less condemnable than that of propogandists of another type, who, adding the sin of ingratitude to the defect of hemianopic biologic vision, declare not only that the study of cells in themselves offers no hope for the future of science but also that such study has done little or nothing for it in the past. Both these attitudes are unfortunate; but critical minds, incapable of occupying either, must fain be charitable with the mistakes to which the enthusiasm of special investigation leads. It is perhaps enough that special investigators supply us with new facts and set up for us new theories; if sometimes one of them loses sight of the wood on account of the trees and another, occupied with the wood, forgets that there are trees, we need not despair, for men of a more philosophic turn will from time to time preserve for the majority of us the privilege of seeing both.

According as one looks upon the cell as an elementary organism only, or as an integral and determined part of a higher organism only, he will tend to gravitate to the one or the other pole of partisanship; it is only when he recognizes that the cell occupies a double position that the investigator is likely to keep his mind in that equatorial plane in which justice can be done to each of the two views.

Purely cytographic studies have, since the work of Schleiden and Schwann in histology and of Virchow in pathology, steadily progressed in volume and in penetration until one wonders if the limit has not almost been reached. That this is not the case, is, however, evidenced by the fact that the journals continue to pour out cytological articles, and new monographs dealing with the problems concerned are more numerous than ever. The cytological school, which, especially with the chromosmium-acetic mixture, did so much to give us data concerning the characters of nuclei and the changes which they undergo during division, has been followed by another group of investigators who, using sublimate and other fixing reagents and finding centrosome and archiplasmic radiations in the protoplasm have constructed theories of protoplasmic structure which exceed in intricacy the doctrine of the chromosomic architecture of the nucleus. Again, the method of Golgi has given us an entirely new conception of the extent and complexity of branching to which the protoplasm of certain of the cells of the body is subject; and a host of special methods have been devised to demonstrate special features in the cells of the various tissues of the body.

Opinions as to ultimate structure have, as everyone knows, been most disparate and the champions of the granule-theory, the thread-theory, the sponge-theory, the foam-theory, vie with one another for supremacy. Physiologists, like morphologists, indulge in conceptions of plasomes, biophores, pangenes, micellæ, bionten, and physiologic units of other sorts intermediate between the cell as a whole and the ultimate chemical substances of which it is made up. One of the important advances recently made consists in the general recognition by histologists of the necessity of distinguishing sharply between the constituents of the cells as they actually exist in nature and the modifications of these which are to be met with in the rigid, stained or unstained cadavers of cells which we study under the microscope in ordinary histological fixed preparations. Thanks to the researches of many men in many lands and especially, recently, to those of the botanist Fischer of Leipzig, we have been made to realize what we have known all along but did not fully appreciate that, when a fixing reagent acts upon a cell, changes occur which in a physical and chemical sense are of a very gross type, fully as gross as those involved in the transformation of a raw egg into a hard-boiled one. These changes vary with the character and concentration of the fixing reagent employed, and with the nature of the substance in the cell acted upon. Thus it has been shown that substances like serum, serum globulin, nucleo-albumin, and nuclein, when in solution are precipitated by various fixing reagents in a *coagulum* of some form, while substances like deutero-albumose, proto-albumose, peptone, nucleinic acid and hemoglobin tend to be thrown down in the form of *granules*—the thinner the solution, the finer and more regular, as a rule, the character of the granulation.

Curious results have been obtained by Fischer on injection of pith with solutions of albumose or other substances and subsequent fixation. On microscopic examination of sections of the pith he could demonstrate exquisite granule- and coagulum-pictures, some of which were almost indistinguishable from the appearances of centrosome and archiplasmic radiations occurring in ordinary cells.

As a consequence of these investigations, there has, and with right, been a strong reaction against those views which strive in spite of apparently irreconcilable contradictions to conceive of the structure of living protoplasm as being monomorphous. The "living substance" as contrasted with the "non-living" paraplasm is presupposed in Altmann's doctrine, in Flemming's, in Bütschli's, to be of some form, alteration of which is incompatible with the maintenance of its life. Berthold's theory alone, as Fischer has emphasized, is consonant with a conception of a polymorphism of the protoplasm, since his idea of an emulsion is not irreconcilable in its presuppositions with changes in morphology. Berthold himself believes that mikrosomes, which may be some-

* Read before the Buffalo Academy of Medicine, Nov. 19, 1901.

times solid, amorphous or crystalline deposits, sometimes drop-like formations, are like vacuoles, oil droplets, etc., to be regarded as products of "separation" in the protoplasmic emulsion. In such instances there would be polymorphous pictures during life as well as after fixation. On the whole it is fair to say that there is a growing belief in the polymorphism of protoplasm and in a protoplasmic constitution represented in large part by substances in colloidal solution.

The scramble to escape from the tumbling edifice of the monomorphists has in some quarters amounted almost to a panic. Some of the former occupants are willing not only that the structure should vanish as rapidly as possible, but would gladly deny ever having had any connection with it, and especially ever having received any benefits from it; some indeed would go so far as to discredit even every tool utilized in the construction and to hint that the methods of the microscopic cytologist are doing nothing and never will do anything to help solve the problems of living organisms! If in fixed preparations we have to deal merely with precipitates and coagula, then how, they ask us, can the microscopic pictures of these things be of any value to us? But here a calmer consideration of the situation will save us from so gross an injustice. One has only to recall the practical benefits derived from histologic and cytologic studies of fixation pictures to immediately realize that the studies in which they have been employed have been richly rewarded. Nissl's idea of the constancy of what he calls "equivalent pictures" is here of distinct value. The details of the phenomena of inflammation, degeneration and regeneration, or of tumor-formation could never have become known without these methods. The degree of malignancy of a tumor can often be directly determined by a microscopic examination of its elements. Our knowledge of that great group of diseases in which alterations in the number and character of the corpuscles of the blood occur has been built up largely through cytologic study. The studies on the classification of bacteria, the development of bacteriology in general, and particularly the investigations on the relation of bacteria to cells of the body owe a large debt to the same methods. So many important examples will immediately leap to the eyes of any one who will give the subject a little careful thought that further comment in this direction is unnecessary.

Another side of the subject, not often enough dwelt upon, but of no little significance for the future, ought to be pointed out here. I refer to the advantages derivable from a study of micro-chemical reactions. The study of microscopic histology is likely, it seems to me, to resolve itself more and more into this. Even if the protoplasm of a cell consists only of chemical substances of a greater or less degree of complexity, and the prevalent ideas of its organization be baseless—I do not say that they are—one of the best means of studying it will be by combining microscopic observation with the methods of analytical chemistry. Who would assert that the precipitates producible by various chemical substances in solutions of albumin, of copper sulphate, or of silver nitrate are of no interest to the chemist as regards the nature of these solutions? Is it any more true that the precipitates and coagula formed by means of others can be of no help to us in investigations on the nature of cells? I think not, nor do I see how any one familiar with the beautiful experiments of Fischer on the micro-chemical fixation-analysis for albumoses and nucleinic acid or the important deductions made by R. R. Bensley concerning the glands of the stomach, or the researches of A. B. Macallum upon the distribution of iron and phosphorus in animal and vegetable cells, to choose only three of many striking examples, can entertain the idea for a moment.

A large portion of the confusion which has arisen in the minds of investigators is due to differences in conception with regard to the meaning of organization. Everyone is clear as to the application of the word to the structure of complicated higher organisms but ideas become hazy when the structure of unicellular organisms is thought of. There are many who think that we have an infinite series of gradations of complexity of organization and that the view expressed by Nägeli in 1884 that everything in the world, even what hitherto we have designated as "inorganic," possesses organization in a higher or lower degree, has much in its favor. When men like Darwin, Spencer, Weismann, de Vries, Pfeiffer, O. Hertwig and Roux have supported views which are based upon the idea that the secret of the ultimate constitution of living organisms must be sought in some hidden organization, that function is explicable only by the assumption of the harmonious co-operation of certain ultimate units in the cell and that these units work together like the parts of a machine, one naturally hesitates to summarily reject these hypotheses.

On the other hand, there is much that appeals to the speculative mind in the other view in which instead of hypothecating a machine-like organization of the ultimate constituents of organisms, a chemical organization of these constituents is assumed. The truth may here, as it does in so many cases, lie in a compromise between the two views. It may very well be that, since in large part at least the capacities of an organism depend in the ultimate analysis upon chemical energy, the energy which runs the machine is not simply brought to it, but is actually produced within the machine itself. At the same time, as Bütschli points out, there would seem to be no reason why a great significance should not be ascribed to the formal structure-relations in explaining the peculiar phenomena which organisms present. In so doing, as he says, it is not necessary to assume that these structural relations form an unbridgeable chasm between the "organized" and the "unorganized"; on the contrary, structures agreeing in principle with them are probably to be found in the inorganic world, those occurring in organisms being only farther developed and more complicated on the one hand and on the other endowed with especial capacities owing to the special chemical nature of the substances constituting them; one is reminded at once of the peculiar properties of certain purely physical structures, and of other chemico-physical structures (micro-crystalline structure, imbibition phenomena, properties of sphäro-crystals, mobility of oil-soap foams, etc.).[1]

Whatever may finally be decided upon, certain it is that noteworthy progress is being made just now in the study of the cell through investigations in which the attempt is made to apply the laws of physics and chemistry to the phenomena of cell-life. Indeed, the harvest reaped by Ludwig and his pupils in the field of organ-activities and apparatus-mechanisms promises to be succeeded by a still more profitable yield in the domain of the cell-activities underlying them. Time will not permit me to do more than to refer to two or three of the more striking series of achievements. The studies of fermentation, of certain organic and inorganic intoxications, of antitoxin formation and the production of immunity, will serve as examples.

1. Bütschli O. Mechanismus und Vitalismus, 1901.

Out of the vagueness of earlier conceptions there have been gradually evolved more precise ideas of ferments and of the process of fermentation. To quote Carl Oppenheimer, "a ferment is the material substratum of a peculiar form of energy which is produced by living cells and is more or less firmly attached to them, though the part it plays in the vital process is not so bound; this energy is capable of liberating latent (potential) energy of chemical substances and of transforming it into kinetic energy; the effect is such that when the chemical substance is altered, the substance newly formed or the sum of newly formed substances possesses a smaller potential energy, i. e., a smaller heat of combustion than the original substance. The ferment itself remains unaltered during the process. It acts specifically, i. e., each ferment is active only upon substances of wholly definite structural and stereo-chemical arrangement." Or to quote J. Reynolds Green, by fermentation is meant "the decomposition of complex organic material into substances of simpler composition by the agency either of protoplasm itself or of a secretion prepared by it." These are the definitions given in two of the most recent books dealing with the subject, one published in 1899 and the other in 1900. So rapidly is the subject moving that, as will be pointed out farther on, it seems quite probable that each of these definitions may have to be modified. One of the greatest achievments in connection with fermentation since Pasteur's time is undoubtedly the proof brought by E. Buchner that the fermentative activity of the yeast cell, so long inseparably connected with the life of the cell, is the property of an enzyme which he calls *zymase* and which can, when expressed from the cell, change glucose into alcohol just as well as the original yeast. Here at a blow fell down the partition between the so-called "organized ferments" and the "unorganized ferments" or enzymes. The fact appears to be that some ferments in nature act chiefly within the cells in which they are formed (zymase) while others are thrown off into the environment of the cell to carry on their work outside it (secreted enzymes, "unorganized ferments").

I have had occasion, during the last few months, to review some of the recent literature on ferments and have been astonished to find in how many instances and in what divers processes the proof of ferment participation appears to have been brought, and to learn how extensive and penetrating have been the researches dealing with their nature and mode of action. Aside from alcoholic fermentation and the prodigious labor of Hansen and others on the different species of yeasts and their bearing upon the industrial methods of brewing and the manufacture of wine, one is much impressed on approaching the subject seriously for the first time, by the progress made in connection with the saccharifying ferments, the ferments which split up glucosids and the various proteolytic and coagulum-producing enzymes. The oxidizing ferments or oxidases which seem to play so large a part in the processes of vegetable life, are in all probability of just as great significance in the life of animal cells.

Most fascinating in connection with the ferments are the experiments and hypotheses of Emil Fischer, who, so well known in connection with his work on the stereochemistry of the sugars has during the past three or four years been devoting his attention also to a stereo-chemical consideration of the ferments. Pasteur had made the remarkable observation that fungi are capable of fermenting the dextrorotatory tartaric acid, not the levorotatory. It has also been known for a long time that in the fermentation of sugars by yeasts only those sugars ferment which contain 6 and 9 carbon atoms in their molecules (and of the latter only those belonging to the "d" series, and indeed not all of them). Sugars of identical chemical composition may or may not ferment according as the spatial relations of the atoms to one another in the molecule conform to one or another configuration. Fischer has undertaken to investigate the stereo-chemistry of the enzymes proceeding on the hypothesis that for a particular stereo-chemical configuration of a sugar there must be a corresponding particular stereo-chemical configuration of the enzyme which is capable of fermenting it—in other words that the relation of enzyme to its fermentable sugar is something of the nature of the relation of a key to the chambers of a lock. Fischer prepared artificially various derivatives of the sugars like glucosids or alcohol-sugar ethers. On submitting these to the action of ferments he found that the ferment of yeast and that known as *emulsin* acted only upon the glucosids which correspond to the sugars fermentable by them and not upon glucosids of the same chemical composition but of different stereo-chemical configuration. Further, from the fermentable sugars it is possible to prepare two stereoisomeric series of glucosids, so-called alpha-glucosids and beta-glucosids and of these Fischer discovered that the members of the alpha-series are fermentable by the enzymes of yeast only (maltases and invertases), while the members of the beta-series are split only by emulsin—an exquisite example of the specific effect of enzyme action. But, on the other hand, this specificity is not dependent upon the molecule as a whole, as is shown by the fact that the influence of an enzyme is not confined exclusively to a single chemical substance. Diastase is capable of splitting all starches and a part of the dextrins. Emulsin can split up numerous natural glucosids of varying composition (amygdalin, salicin, arbutin, etc.) as well as the beta-series of artificial glucosids prepared from fermentable sugars. The proteolytic-enzymes (pepsin and trypsin) can split up the great group of albuminous substances though, as is well known, different members of the group must be very differently constituted chemically. The specificity of the action of the ferment obviously must concern therefore a certain spatially arranged group of atoms in the molecule; no matter then, what the size or total composition of the molecule, its splitting by a given ferment is conditioned by its possession of the steric atomic group corresponding to it. The fact that certain substances are split by different ferments in different ways supports rather than detracts from the validity of the theory. Amygdalin, the glucosid present in bitter almonds, is split up by both emulsin and the yeast enzymes (maltases and invertases) but in an entirely different way. The yeast enzymes split off only one molecule of glucose and leave behind the remainder of the glucosid in the form of a peculiar body known as mandelnitrilglucosid. Emulsin on the other hand splits up amygdalin into benzaldehyd, hydrochloric acid and glucose. While mandelnitrilglucosid is insusceptible to further action by yeast ferments, it can be split up by emulsin further into benzaldehyd, HCl and glucose. Thus while the yeast-ferments can unlock, as it were, only the outer door of the molecule, entrance to the inner compartment can be gained, apparently, only with the aid of the emulsin pass-key.

With such wonderful phenomena before us, it is but little wonder that speculation is rife with regard to the

nature of what we call ferments and enzymes, for any distinction between the two may theoretically, at any rate, from now on be dispensed with. It does not seem profitable to go into a full discussion of the topic on this occasion. The difficulties in coming to a decision are very great. For the view that the ferments represent actual chemical substances a very great deal can be said; the specific effects of enzymes speak in favor of a specific material substratum. On the other hand the theory of Arthus that enzymes represent simply non-material centers of energy has some adherents. Attempts at preparation of enzymes as pure chemical substances have thus far been fruitless; and if they are chemical substances, they are quite different from anything we know as yet in the inorganic world, if certain substances acting "katalytically" and the so-called inorganic ferments (spongy platinum) be excluded.

Some very recent work strengthens markedly the position of those who espouse the chemical theory. I refer to the experiments of Croft Hill and of Kastle and Loewenhardt on the reversibility of ferment action. In 1898 Hill asserted to the astonishment of the scientific world that maltase, which ordinarily splits a molecule of maltose into two molecules of glucose, can, under certain circumstances (concentration of the solution), turn about and act in the opposite direction, a certain amount of glucose combining to reform maltose. In some quarters Hill's findings have been received with great skepticism, Oppenheimer especially tending to discredit Hill's interpretation of the phenomena he met with, and asserting that even if it were confirmed it would put maltase in a wholly exceptional position, separate from other enzymes. A large part of Oppenheimer's objections to Hill's work would seem to be his assumption that such a reversibility is impossible; it is out of accord with his definition of a ferment *(vide supra)* and his objection is in a sense a *petitio principii.* Though Green's definition is also incompatible with Hill's work, possibly having been formulated before he was familiar with it, the English author accepts Hill's results enthusiastically, looks upon them as bringing ferment action into accord with the general theory of chemical equilibrium or mass action, and as increasing the credibility of the chemical hypothesis. To the delight of many, Hill's observations and conceptions have received striking confirmation in the work of two American investigators—Kastle and Loewenhardt, of Lexington, Kentucky. With an entirely different enzyme, viz., lipase, the fat-splitting enzyme, they appear to have been able to demonstrate a very definite reversibility of action, and a flood of new light is thrown at once upon the problem of fat absorption and fat translocation. Further experimentation along these lines with the same and other enzymes will be eagerly awaited.[2]

Let us now turn to the consideration of another series of problems which concern the cells of the body, namely those dealing with the effects of certain poisons upon the constitution of the cells and with the cellular activities which lead to the production of antitoxins (Behring, Ehrlich) and various anti-bodies, among others the bacteriolysins (Pfeiffer), the anti-complements (Ehrlich), the hemolysins (Ehrlich), and other cytolysins (Bordet). This subject is a very large one and I realize that in the time available I can do no more than sketch very briefly and in coarsest lines its most salient features. The work which has been done is, however, so brilliant, and fits in so neatly with the investigations on the enzymes, and, moreover, its results carry with them so much hope for the future of pathology and therapy that I can not deny myself the pleasure of referring to it here.

Just as Emil Fischer, as the basis of his views on the nature of ferments, has made the stereochemical configuration of certain atomic groupings in the molecule of the greatest significance, so Ehrlich, in his studies of toxins and antitoxins has applied similar stereochemical conceptions. He believes that the specific affinity of a toxin for an antitoxin can be most simply explained by the assumption of two atomic groups which correspond to one another in configuration. As a result of a large number of experiments he has concluded that the toxin molecule (*e. g.,* diphtheria toxin or tetanotoxin) possesses at least two combining groups. Diphtheria toxin and tetanotoxin are toxic products of secretion, but closely related to them are certain vegetable poisons like ricin and abrin, and certain poisons of animal origin like snake venom and the hematoxins present in the sera of normal animals (*e. g.,* ichthyotoxikon of eel serum). Toxic bodies of this class differ from poisons like the alkaloids and toxic glucosids in that they are capable of producing antitoxins. Even morphin, to which great tolerance, as everybody knows, can be developed, does not, it is said, give rise to the production of anti-bodies, but leads to increased oxidation capacity of the cells, by which the excess of morphin is destroyed. Ehrlich believes, therefore, that alkaloids, antipyretics, aromatic amines and anilin dyes when introduced into the body form only very loose combinations with certain of the cells of the tissues instead of being anchored there by a firm synthesis, and it would appear from his and other investigations, that in the brain especially it is lecithin and similar fat-like bodies which account for the accumulation there of alkaloids and similar substances. Toxins, on the contrary, Ehrlich thinks, form a much more permanent and firm combination with the protoplasm, entering actually into its constitution by a process of assimilation quite like that underlying the nutrition of the cell by food substances. To explain the assimilative processes in cells and to account for the firm chemical syntheses by which they are accomplished, Ehrlich has suggested that "protoplasm is equipped with certain atomic groups, whose function especially consists in fixing to themselves certain foodstuffs of importance to the cell life." These atomic groups he speaks of as "side chains" or "receptors," and he assumes that the foodstuffs for which these side chains have a maximal chemical affinity must contain atomic groupings of similar stereochemical configuration.* It is only a step farther to his conception of the mode of action of toxins. One of the two combining groups of the toxin molecule corresponds to foodstuffs in being able to unite with the receptors of definite cells; this is designated, therefore, a *haptophore* group, and the receptors may be considered as a toxophile group. The other group of the toxin molecule, called the *toxophore* group, is the one which injures the protoplasm, although it can affect the latter only through the haptophore group. From the researches of Konitz and Heymans, it appears that the

2. Nef's conception of the mode of action of enzymes is most interesting. Basing his view upon a long series of experiments in the so-called "methylene chemistry," he assumes that catalytic agents, among them enzymes, act by depressing the temperature of a dissociation process by which compounds containing tetravalent carbon are split up into two or more substances, one of which contains carbon in a bivalent condition and is therefore very unstable, uniting with oxygen, water or other available substance to form a new compound. It is his opinion that a large proportion of both analytical and synthetical reactions will ultimately be explained in this way.

* I am indebted to Dr. Preston Kyes for much information with regard to Ehrlich's views.

haptophore group becomes *immediately* active when the toxin is injected into the organism, the poison combining at once with the cells which have corresponding receptors. The toxophore group, however, is often very slowly active, a longer or shorter incubation period elapsing after injection before the specific toxic effects become evident. The toxophore group would seem to be far less stable than the haptophore group; it can be destroyed without injury to the haptophore group, in which case a toxin is converted into a toxoid. Moreover, as Morgenroth has shown, the activity of the toxophore group of the tetanus toxin is inhibited by low temperature, while the haptophore group is not, a view quite in accord with Courmont's observations that frogs kept at a temperature of 20° C. show no signs of tetanus, even after large quantities of toxin are injected, though they quickly succumb in a warmer environment. Tetanus toxin in the mouse appears to combine only with nerve cells. This may be explained by assuming that receptors of the proper sort are present only in the nervous system of this animal; in other words, the localization of toxins in organisms is probably to be explained upon the possession by the variously differentiated tissues of specific combining powers. The number and distribution of specific receptors may be called upon to account in part, at least, for the variations in lethal dosage and for the distribution of the lesions in the tissues in different infections and intoxications.

Ehrlich's explanation of the origin of antitoxins is easily grasped if the theory thus far has been followed. When receptors which ordinarily unite with a foodstuff combine with the haptophore group of a toxin, there results a defect in cell life, since the receptors are thrown out of their normal function. If Weigert's theory of regeneration is correct, the cells will not only build new receptors to repair the defect, but the regeneration will go far beyond the necessary limit—"over-compensation" being the rule. By suitable dosage of toxin, the amount being gradually increased, the over-compensation finally reaches a stage in which the excess of receptors or side chains is so great that they are, like useless ballast, thrown off into the blood. According to Ehrlich's theory, the antitoxins are nothing more or less than such free side chains. Each supplied with a group combining with a haptophore group of a toxin is capable of fixing and thus neutralizing one molecule of toxin.

In the production of immunity, it is the haptophore group of the toxin molecule which is essential; the toxophore group is of no significance. If this be true, toxoids or toxins deprived of their toxophore group may be of the greatest importance in future therapy. We have held out to us the prospect of the establishment of an active immunity through the injection of substances which are entirely innocuous.

Some of the difficulties met with by the investigator in connection with toxins and antitoxins are disappearing now that we are being better informed with regard to the life of the bacterial cell. The great complexity of the products of cell activity is gradually becoming apparent and we no longer think of the tetanus bacillus or of the diphtheria bacillus as producing a single poison. On the contrary, it seems very probable that a given pathogenic bacterium may produce several or even a whole series of poisons. Thus the tetanus bacillus has been shown to produce not only the poison which is now called *tetanospasmin,* and which causes the typical convulsive attacks, but also a substance which breaks up red corpuscles and is known as *tetanolysin.* That the haptophore group in tetanospasmin is different from the haptophore group in tetanolysin is shown by the fact that the receptors of the red blood corpuscles can combine with tetanolysin but not with tetanospasmin. In the production of immunity against tetanus, therefore, it is safe to assume that at least two varieties of antibodies are developed and that each of these has an independent origin in different parts of the body. Besides the production by the same bacillus of different poisons having different haptophore groups there is evidence that some bacilli can produce poisons which possess identical haptophore groups but different toxophore groups. Thus the diphtheria bacillus besides giving rise to the ordinary toxin which is the main poison it produces, also manufactures a second poison called the diphtheria *toxone.* Toxin and toxone are believed to possess similar or identical haptophore groups since both poisons are completely neutralized by antitoxin. The toxin, however, has a lower degree of affinity for antitoxin than has the main toxin, since when an amount of antitoxin insufficient to neutralize all poison present is added to a mixture of the two, the toxin is the first to become saturated, just as when we neutralize a mixture of HCl and $HC_2H_3O_2$, the HCl is neutralized first and the acetic acid only later. This makes it probable that the difference between the two poisons lies in the toxophore group, a view supported by the difference in biological effect between toxin and toxone; the former causes the extensive necroses characteristic of this disease, while the latter does not, though it is responsible for the slowly appearing alterations of the nervous system which account for the post-diphtheric paralyses.

As many of you are aware, the side chain theory of Ehrlich can be and has been applied to explain the mode of formation and action of the bacteriolysins of Pfeiffer, the hemolysins and cytolysins of Bordet, the "coagulins" of Kraus and Bordet, the "agglutinins" of Durham, Gruber and Pfeiffer, and the "antiferments" of von Dungern. It is very interesting, indeed, to have learned that the two components of hemolysin, for example, the "immune body" and the "complement," combine with one another to form the active substance, which appears to be quite analagous to a simple toxin, differing from it only in this, that it is composed of two separate parts, one of which (the immune body) carries the haptophore, the other (the complement) the toxophore group. I need not dwell upon the special features of these bodies, for I am told that Dr. Clowes has already presented the subject to this society, and, moreover, the articles of Ehrlich and others are easily available to those who wish to follow the subject further.

Had I the time—I know I have not—I should like, in contrast to the work done with very complex organic bodies, such as the ferments, foods, bacterial toxins and antibodies, to review the remarkable results which are being obtained with the relatively simpler methods of physical chemistry—results which are cutting large windows in walls hitherto impenetrable between us and animal and vegetable cells. The application to biology of the laws to which the phenomena of osmotic pressure, of chemical equilibrium and of substances in various conditions of aggregation conform, is being crowned with unusual success. One has only to read Ernst Cohen's recent monograph to be convinced that there is a very important future for the principles introduced by van't Hoff and Arrhenius in connection with medical problems. Already some very striking observations have been made and experimentation in this field is most active. It is matter for congratulation that much of the successful work of this kind is

being conducted by American investigators. Loeb, Morgan, Kahlenberg and True, and others are important contributors. Loeb's researches especially on artificial parthenogenesis, and upon the effects of ions of various sorts upon muscular and neural activity, may be mentioned as significant examples of the value of the conceptions of osmotic pressure and electrolytic dissociation in revealing the secrets of cell life. The most recent publications of the same investigator indicate that the domain of toxicology, with its poisons and anti-poisons, and even the "intermediate" bodies may be successfully invaded by the physical chemist.

From the various observations touched upon in what has preceded, three points seem especially worthy of emphasis:

1. The extraordinary variety and complexity of the chemical substances given off by the cells to the lymph and blood.

2. The chemical specialization of the various tissues of the body; and,

3. The value of chemical and physical conceptions as working hypotheses in the interpretation of life phenomena.

When we regard the blood serum in the light of these newer studies; when we think of the host of substances derived from the food on their way to hydrolysis or oxidation on the one hand, or to a larger synthesis on the other; when we recall the enormous number of receptors, immune bodies and intermediate bodies, complements and anti-complements, ferments and anti-ferments, coagulins, etc., which the blood of every higher animal must contain; when we think of the constancy of osmotic pressure retained despite the presence of a variety of dissociable salts in solution, we are led to exclaim with greater meaning than even Mephistopheles could have attached to the words: "Verily 'Blut ist ein ganz besonderer Saft!'"

The conception of a chemical differentiation of the tissues more divergent even than that which characterizes their morphology promises to be most heuristic.[3] Even though Ehrlich's hypothesis should later prove to be insufficient, and considering the present crude state of our chemical knowledge of the body, there can be but little doubt that it must be replaced or at least supplemented later by still more far-reaching speculations; it is at the present time stimulating a whole series of investigators to fruitful original research, and no more can be asked of any hypothesis. As long as it continues to lead to discoveries of importance, we may cling to it and utilize it. Only when it ceases to exercise a heuristic influence need we cast it aside for another more potent. Certain it is that aside from the chemical and physical peculiarities common to protoplasm in general, there are a host of special activities localized in the cells of different regions of the organism, the necessary consequence of ontogenetic development and a long phylogenetic history.

One can not help but be impressed with the fact that the important discoveries are being made by men who, no matter what their ultimate beliefs, in their work avoid animistic hypotheses and animistic phraseology, and with René Descartes, choose the guiding hypothesis that vital phenomena are resolvable on analysis into the same elements as those underlying all other phenomena of the physical world. The mysteries of matter, energy and ether may never be fully explained to us, or they may ultimately be satisfactorily interpreted in terms of some grand monistic hypothesis. For the present this matters but little to us. It is enough that mechanistic conceptions are leading to discoveries of the greatest value for the alleviation of the sufferings and increasing the joys of mankind.

We have good reason to be proud of the progress already made in the unveiling of both the general and special processes which go on in the cell. Let us hope that in the near future, the investigators already at work, together with new men and new methods, may tear away more of the coverings which prevent our clearer insight; it is not, I believe, too much to hope that the present generation will be permitted to view with considerable distinctness many of the subtle processes which go on in the cell but which as yet we only dimly and vaguely begin to perceive.

3. Bichat, the founder of the science of histology, differentiated the tissues from one another chiefly by means of chemical reagents. He used the microscope only to a slight extent, and found it of but little use in his researches. Since his time, histologists supplied with a perfected instrument, have enthusiastically prosecuted microscopic research, very often, it is to be feared, to the neglect of chemical histological methods. Both morphological and chemical methods are of value to the histologist; they are reciprocally helpful. If morphologists would pay more regard to the methods of the chemists and chemists would take the trouble to more carefully enter into the thought of the morphologists, we should have better balanced views of histology and cytology than some of those which confront us in current text-books and periodicals.

Clinical Report.

GASTRO-JEJUNOSTOMY FOR STENOSIS OF PYLORUS—POSTMORTEM SIX YEARS LATER.

A. H. CORDIER, M.D.

Professor of Abdominal Surgery, University Medical College; Ex-President Mississippi Valley Medical Association.

KANSAS CITY, MO.

Mr. C., aged 38, eighteen years ago began having digestive trouble. It was noticed at that time that solid particles of food in the stomach gave rise to more or less pain. A year or so later, vomiting began as a symptom. This vomiting was usually produced by the presence of food in the stomach. After the stomach was emptied the pain would cease, and the patient would be fairly comfortable until after another meal. On one or two occasions he had quite a perceptible show of fresh blood in the vomited material. This condition of painful digestion continued up to the time of my first examination. In addition to the above history I learned from the patient that large quantities of material would be thrown up that had been retained in the stomach for two or three days. As much as twelve or fourteen pounds of strongly acid, offensive material would be thrown up from the stomach at one time. This usually brought some relief, but even when the stomach was emptied of its solid contents gaseous distention would go on producing great distress from the pressure of the enormously dilated stomach. Cardiac and pulmonary dyspnea was a very prominent symptom as a result of this pressure against the diaphragm.

He had lost very much in weight at the time I saw him, and weighed only 115 pounds, was taking 20 grains of morphin a day, and was in a desperate condition in every sense of the word. My examination revealed an enormously dilated stomach and a very much emaciated patient. There was no tenderness on pressure at any spot over the abdomen; no enlargement or induration could be detected through the thinned abdominal walls. A diagnosis of pyloric obstruction resulting from the healing of a non-malignant ulcer was made. An operation having in view the establishing of a free communication between the stomach and the lower alimentary tract was advised and accepted.

It was noticed in the examination that the pylorus was very low and unusually far to the right of the median line. From this reason, at the time of the operation, the incision was made in the right semilunaris, believing that it would give the near-

est approach to the most dependent portion of the dilated organ. The correctness of this decision was verified at the operation. I found on opening the abdomen the stomach very much dilated, but in position as before described. Believing, as I do, that all of these operations should be primarily drainage procedures, the anastomosis was made nearer the pyloric end of the stomach than that usually advised or found necessary. The incision in the stomach was made in its anterior wall about four inches from the pylorus. A coil of the jejunum 15 or 18 inches below the pylorus was selected as the suitable site for the incision in this portion of the canal. The usual precautions were used in the application of the sutures in the use of the Murphy button.

The operation was quickly performed and the patient returned to bed in good condition. Following the operation there was no unpleasant symptom. In a few days he was able to take the necessary nourishment without any inconvenience or pain following its ingestion. The morphin was withdrawn from him, and at the end of three weeks he was not only broken of his morphin habit, but was able to return to his home, taking both liquid and solid nourishment with perfect comfort. He continued to improve until his former good health and weight were regained. He increased in weight until he weighed 180 pounds, and was strong and able to do any work that was necessary for him to do. His digestion was perfect and free from pain; the gaseous distention disappeared and the stomach seemingly regained its natural size and tonicity. He continued in this state of health for six and one-half years. He was then taken with acute pneumonia, and within two weeks died as a result of this attack.

I was fortunate in being able to make a postmortem in this case. On examining the stomach I found that there was a complete obstruction of the pylorus; that the stomach had regained its former size; that its muscles were well developed and in a healthy condition; that the portion of the duodenum and jejunum above the point of anastomosis, while in a healthy condition, showed well-marked evidence of atrophy from disuse. At the site of the anastomosis there was absolutely no omental or other adhesions except those made by the union of the bowel to the stomach. The opening from the stomach into the lower segment of the bowel was as large seemingly as at the time of the operation. There appeared to be a species of valvular action that prevented the contents of the stomach from going into the upper coil of the bowel. A similar arrangement seemed to exist preventing the bile from going into the stomach. On filling the stomach with air or water not one drop or bubble could be forced through the pylorus. The water would enter the lower segment of the bowel with perfect ease, and none at all would go into the upper segment until after the stomach and lower segment of the bowel were thoroughly distended.

As remarkable as it might seem, the Murphy button, instead of passing into the intestine and finding its way out into the external world, as is usual, had dropped into the stomach and remained there for nearly seven years, or until the time of his death. Its presence in the stomach had never given rise to a single symptom. One end of the button was very much destroyed, presumably by the secretions of the stomach.

The accompanying illustrations show very distinctly the strictured condition of the pylorus, also the perfect anastomosis between the bowel and the stomach. It also shows the distended condition of the stomach and the lower segment of the bowel with very little distention of that portion of the intestine above the site of the anastomosis.

Gastrojejunostomy (Murphy button). Patient died of pneumonia seven years later. Stomach is filled with air in this picture. Notice difference in size of distal and proximal ends of bowel; very little air in duodenal end.

Gastrojejunostomy (Murphy button) nearly seven years ago. Stomach removed from patient dead of pneumonia.

While the dropping back of the button into the stomach might be used by some as an argument against its use, this objection would certainly lose its force from the fact that not a symptom was produced by its presence, and also from the fact that the time of performing the operation is very much shortened, a no small item in many of these cases. The greatest of all in favor of the button is the fact that nearly everyone of these cases recover from the operation if the work is properly done.

"**Interviewitis**" is a word nearly as good and entirely as bad as many that have been recently coined, and it is surely on a par with the thing it is designed to name. Almost every week one sees reports of interviews in the daily papers, all properly earmarked, none ever disavowed, in which it is plain that the doctor has been only too eager to be quoted. The interview is usually upon a matter about which the physician named has little knowledge and no special qualification for instructing the lay public whatever. His opinions are therefore without weight, and are almost always absurdly trite or erroneous.—*Amer. Med.*

The Organization of the Medical Profession.

(Continued from page 515.)

VIII.

MEMBERSHIP IN THE COUNTY TO CARRY WITH IT MEMBERSHIP IN THE STATE SOCIETY.

One of the most important resolutions regarding reorganization adopted by the American Medical Association last June was the following: "That membership in the county or district societies shall constitute membership in the respective state society without further dues, and that no one be admitted to membership in the state society except through county or regular district societies."

Essential to Representation.

Last week we called attention to the benefits to be derived by separating the business or legislative from the scientific functions of the state society, and suggested the necessity of recognizing that the county or district societies must create the business body. While it is not necessary to adopt the principle enunciated in the above resolution to carry into effect this idea, it is necessary that the bodies which create the business part of the state society be definitely recognized as branches of the state society.

When the American Medical Association changed its organic law, it took from the district, county and local societies the right of direct representation in its legislative body, limiting this right to the state and territorial societies. In doing so there was no thought of depriving the members of these subordinate bodies of the privilege of expressing their views, and of registering their desires, as regards matters of national importance, such as will be brought before the House of Delegates of the American Medical Association, but rather to create a way in which they could do this much better and more satisfactorily than under the old method. Instead of every subordinate society, large or small, in every part of the country, sending its representatives to the National body, thus making the latter unwieldy, it is proposed that such representatives shall first gather together as a state organization and then elect from among themselves one or more delegates to represent them in the House of Delegates of the American Medical Association. If the state society does not take in county or district societies, members of the latter who are not members of the state society will not be represented. The American Medical Association is therefore justified in asking each state society which has not heretofore done so, to arrange to give its subordinate bodies the right of indirect representation in the legislative body of the National Association, since the right of direct representation has been taken away in the interest of the greatest good to the largest number.

An Aid to Local Societies.

The comparative slight interest in state societies is partially due to the fact that they are separated from the local organizations. To the great majority of physicians a state society is a sort of superfluous body membership in which carries little distinction and no appreciable advantage, meeting once in a year and dormant the rest of the time. They have done nothing to make the mass of practitioners think otherwise since they have no fraternal feeling or direct affiliation with them. The annual meeting of the average state society, the country doctor is apt to say, owes its general interest, aside from a very moderate social element, to the addresses and communications of those from the medical centers who thus utilize it for their coming in contact with their clientele of rural consultants. While this feeling is not founded on good reason, direct affiliation with local societies will remove the sentiment. A state society should be a state society in fact as well as in name, not an oligarchy above and beyond the great body of practitioners. Its aim should be to build up strong local societies, and through them reach the members of the profession. One of the most important results to be gained from the plan suggested will be the building up of such live county societies. As has been mentioned many times, but it will bear repetition—the great, the all-important object now before us is the encouraging of county, or in thinly settled territory, district societies, so that every member of our profession may have the opportunity of society fellowship. The best way to build up these bodies is to make it impossible to obtain membership in the state or national associations, except through membership in one's own county society.

The Scientific Branch of the State Society Should Be Open to All.

The object of the scientific branch of the state society is the diffusion of medical knowledge. The primary object of its annual gathering is educational; the second is social and fraternal. There is no reason why every reputable physician should not be welcome to such a meeting, especially if he is considered by his fellow practitioners, who know him best, to be a desirable member of their society. There can be none unless the members of the state society desire that body to be select and exclusive, an idea which is as far from their wishes as it would be repugnant were it a fact. To make high professional attainments a qualification for membership in certain exclusive societies devoted to special work may be right, but it certainly would not be right in a body which claims to be democratic and representative, as all state societies are supposed to be. They all gladly welcome to membership every reputable physician, so that there can be no objection to absorbing all members of recognized county societies on this score. As far as excluding from the state societies those who are not reputable and ethical, it would seem that limiting membership to those who belong to county societies is more likely to prevent admission of such men than the present method of governing entrance. If, however, the subordinate societies are made, *de facto,* branches of the state society, then the latter can control admission of members to its branches by any rules it may deem best to lay down.

Would Result in Increase in Membership of the State Societies.

Membership in the state society would be greatly increased by adopting the county society plan. As an illustration, the membership of the Illinois State Society is 1170, according to the *Illinois Medical Journal,* and the membership of the subordinate societies is 3700. How many of the latter belong to the former we do not

know; but probably it would be under- rather than over-estimating, to say that 300 belong to the state society who do not belong to any subordinate body. Combining the county societies with the State would then give the Illinois State Medical Society 4000 members at once without any effort whatever. The combining of the subordinate bodies with the state society in Ohio would give about the same number. In many other states likewise large increase of membership in the state society will result when the plan recommended is adopted by them.

Advantages from Increased Membership in State Societies.

The advantages to be derived from this large membership in the state society are so many and so obvious that it will be unnecessary to more than hint at two or three. The most important of these will be an increased total revenue, at a small cost to the individual. The lack of money in the past has prevented the undertaking of many important measures. Little can be accomplished in this world without money and yet this fact does not seem to have been appreciated by the members of our medical societies. To illustrate this point of increased revenue, we again refer to the two states mentioned. The present membership of the Illinois State Medical Society should result in an income of $3510, providing all pay their dues. Under the new order, the same annual assessment, $3, would give an income of $12,000, much more than would be necessary after the first year or two. Thus the annual dues could be reduced. The present membership—960—and annual dues—$2—of the Ohio State Medical Society should net that body $1920. If it adopts the broader scope and plan, the annual income on the same individual dues would be $8000.

Decreased Proportionate Expense.

The larger the membership, the smaller is the proportionate expense. The financial outlay of the state society, of course, varies with the work done. It will not be an unfair statement to make that at least three-fourths of them have been doing nothing in the past except to hold an annual meeting, principally devoted to scientific work, and hence the only expense has been that which was connected with these annual meetings, that is, the secretary's salary, the printing and issuing of programs and transactions. The former varies from nothing up to two or three hundred dollars. The increase in membership would increase the work of the secretary, but not proportionately. The printing and sending out of the programs is a small item to be sure, but this would be increased but slightly with the increased membership. The publication of the annual transactions is always the greatest item of expense. It is well known that the greatest expense of producing a book is that which pertains to the first copy. The typesetting, putting the matter in the forms, the "make-ready" and getting the presses started constitute the greatest outlay. When the presses are running, the additional thousand or ten thousand copies adds very little to the cost of the press work. The plain white paper is a small item for each book, and the larger the number of copies the less the proportionate cost of binding.

If the annual volume of transactions could be substituted by a monthly journal—a most excellent thing to do for many reasons[1]—the reduction in cost to each individual by an enlarged circulation would be very great. Referring again to Illinois, the *Illinois Medical Journal,* owned and published by the State Society, would almost quadruple its circulation. The cost of getting out 4000 copies of that journal would be little more than that of 1000 copies, the added expense being simply the added cost of the white paper, an infinitesimal item for extra press-work and mailing. The good resulting through reaching the increased number at but a slight increase in expense, both as this applies to the annual transactions in book form and in a monthly journal, would be very great, without mentioning the very important fact that as regards the journal proposition as an advertising medium it would be a producer rather than a user of funds.

It will be urged that we are taking it for granted that all who now belong to subordinate societies will willingly stay in these bodies and thus become members of the state societies and assume the financial responsibilities that such membership carries. We certainly are taking this for granted, because we recognize as a fact that physicians are endowed with business sense, in spite of the statement so often made to the contrary. All will willingly give one, two, three or even five dollars annually for the privilege of being a member of the regular organization, provided they get value received for their investment. As business methods are expected to be adopted in the management of the regular organization when this is once effected, and as decided benefits of a practical nature will result from membership, there will be no hesitancy on the part of members of regular societies in paying the small annual assessments that will be required. Of course, if no greater advantage follows membership in the state society in the future than has followed it in the past there will probably be a large proportion who will object to this enforced membership. For, what has it been in the past? The average attendance at the majority of our state society meetings is less than one-third of the total membership. What advantage accrues to the two-thirds who do not attend—whether they can not or will not, does not matter—the annual meeting? What do they get for the $2 to $5 they pay each year? 1. A copy of the annual transactions which contain papers that, if they are of value, are published in the medical journals, a book that is usually thrown on one side and soon covered with dust, for the reason that it is of little interest except to those whose papers or discussions appear in its pages. 2. A satisfaction that one is helping in a good cause, and 3, the honor of being a member. The two latter reasons can not be considered from a business point of view. To secure membership in a medical organization, value received should be given for the annual dues. Physicians are business men, in some things at least. It is not necessary at this time to refer to what shall constitute value received; we are taking it for granted that, when thoroughly reorganized we shall enter on a new era in medical society management in which business methods will be adopted.

(To be continued.)

1. The journal would increase the membership of the local societies, and their additional income in time could be made to meet the expenses of the state body, that is if common business sense is employed. The average physician is far more ready to join a society if his membership includes the subscription to a live medical journal giving especial attention to the local medical interests of his commonwealth.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, MARCH 1, 1902.

HELMHOLTZ AND THE PUBLIC LECTURE PLATFORM.

Of the many phases that the life of Helmholtz presents to the student of his life and times, by no means the least important is the scientist as an exponent, in popular fashion, of the more difficult subjects of his investigations. These run all along the line of physics and physiology and include such subjects as painting, musical tones, as well as others more closely related to medicine. Too little stress is generally laid upon the great teacher's ability as a public speaker. His addresses and popular lectures form no mean part of the legacy that has come down to us from him—commending themselves as examples of what such expositions should be—dignified, interesting, instructive and inspiring. An untiring and successful teacher himself, he possessed well-defined ideas of the requirements of professional fitness and these he set forth in his Rectorial Address at Berlin University. A few of the axioms he laid down on that occasion are: "He who wishes to inspire his audience with a complete conviction of the truth of what he advances, ought, above all, to know from personal experience what produces conviction. It is necessary, then, that he should have known how to advance alone into a region where no one has ever broken ground; in other words, he must have worked upon the frontiers of human science and conquered for himself new domains. A master who presents only results acquired by others, suffices for scholars to whom authority is given as the source of their science, but not for those who desire to deepen their convictions to their final foundations." Of the judgment formed by students of their teachers he further remarks that the general current of opinion can not long be at fault. The majority among them come to us "with a reason sufficiently formed by logic, with a sufficient habit of intellectual effort, with a judgment so considerably developed by a knowledge of the best models, as to be able to discern the truth from the phraseology which has only the appearance of truth." The fitness for a teaching career, according to Helmholtz, is most surely marked by doing something for the progress of science, and in this connection he makes a claim that will surely be allowed by every one who has been a teacher or student, that a good lecture or demonstration demands from the listener much less sustained effort than a bad one; it enables the subject to be comprehended much more surely and much more completely, and with a well-ordered arrangement, bringing into strong relief the principal points and the divisions, so that much more can be overtaken in the same space of time.

The main reason why Helmholtz gave the time and labor needed for the preparation of his popular lectures is he believed that the great body of scientific teachers and investigators owe something to the public and that the interests of the whole community are best served by properly directed extra collegiate teaching. It is not so much the *little* knowledge that is the dangerous thing as the *quality* of that knowledge. The laity will have, and always do manage to possess, medical information of a kind—if not the right kind so much the worse for scientific medicine. Movements to present popular courses of medical lectures have usually failed, chiefly because the initiative was not taken in the proper quarter.

Why should not the local medical societies, general and special, appoint a joint committee for the purpose of choosing from among their members lecturers of acknowledged ability to meet the demand for popular expositions of the truths of physiology and pathology and not leave these to furnish doubtful "copy" for the Sunday newspaper or the illustrated columns of the advertising charlatan? In the past, very successful and most interesting lectures on medical subjects have been given in the old Manchester "Science Series," as a part of the New York "State Science Lectures," in Chicago under the direction of a committee appointed by a daily newspaper, etc. Why should the medical profession delegate this function to irresponsible, even if perfectly sincere, laymen? It would seem as if we had pursued a dog-in-the-manger policy long enough. Surely the belief or suspicion that public lectures on medical topics are sometimes put to an unworthy use is no excuse for our neglect to provide them with proper safeguards against such a contingency. If the master who speaks of medicine as the "intellectual home in which he grew up" did not consider it improper or without his province to lay before a popular audience the fruits of his own and other scientific labors we can not be far astray in following his example.

TYPHOID BACILLI IN THE BLOOD OF TYPHOID PATIENTS.

The examination of the blood of typhoid patients for the presence of typhoid bacilli at first gave exceedingly variable results, and there was a time when but little earnest work was done in this field. Of recent years, however, the systematic examination of the blood by cultural methods has been taken up anew by many investigators, and their results seem to have established definitely that the typhoid bacillus frequently exists in the blood in typhoid fever; indeed, it seems probable that it is present at some time in every case. The occurrence of typhoid bacilli in the rose-spots, in urine and in the various post-typhoid suppurative foci can be explained only upon the grounds that bacilli are carried

by the blood. Furthermore, the existence of clinical typhoid fever, without the existence of typhoid intestinal and other lesions, and due apparently to a pure typhoid septicemia, shows that typhoid bacilli may thrive well enough in the blood during life.

In this country bacteriologic examination of the blood in typhoid fever has been carried out more or less systematically by Cole in the Johns Hopkins Hospital[1] and by others. Cole obtained cultures of typhoid bacilli in eleven of fifteen cases, and in the last seven cases, in which the blood was diluted with from 75 to 150 parts of bouillon, bacilli developed in every experiment. The earliest period at which he obtained bacilli from the blood was on the sixth day; in several cases the bacillus was demonstrated in pure culture before the serum gave the agglutinating reaction. These observations are confirmed in every way by Courmont[2] of Lyons, who was led to seek the bacillus systematically in the blood of his typhoid patients in order to determine the value of the procedure in the prompt and early diagnosis of the disease. He obtained the blood by puncture of a vein at the elbow, and inoculated immediately into broth, using a small but varying quantity of blood and a large quantity of broth (3 c.c. of blood to 500 c.c. of broth being the usual dilution). If the flask appeared clear the following day, it was agitated thoroughly. He examined in this manner nine cases, in all of which he found typical bacilli in pure culture in the blood without a single failure before the twenty-third day. Hence he considers it probable that the bacillus occurs in the blood of all typhoid patients. He found it present as early as the fifth day, and while it seems generally to disappear towards the end of the third week it may occur in the blood at a much later period in prolonged cases and those with relapse. As far as Courmont's observations go, the bacillus presents the usual characteristics when it is isolated from the blood; usually it is of high virulence. At first the bacilli seemed less agglutinable than the laboratory stock cultures, but with time the agglutinability increased materially. In four cases typhoid bacilli were present in the blood at a period when the serum of the patient had absolutely no agglutinating powers, and for this reason Courmont advances the claim that the bacteriologic examination of the blood in typhoid fever is of decided value in the early diagnosis of the disease, especially when the serum reaction is absent.

The essential point in the technic of this examination is the use of considerable quantities of blood, relatively speaking, diluted in large quantities of broth. This makes the method somewhat complicated, and there is required the apparatus and facilities of a well-equipped laboratory. Because the bacilli in the blood are few it is necessary to use comparatively large quantities of blood, and in order to overcome the bacteriicidal action of the blood it is necessary to dilute the blood at least a hundred times with broth. Further studies are necessary to work out many interesting details that suggest themselves as one reviews the work of Cole, Courmont and others.

1. Bulletin Johns Hopkins Hospital, 1901, July, xii, pp. 203-206.
2. Jour. de Phys. et Path. gén., Jan. 15, iv, pp. 154-170.

ABSTRACTS, A VALUABLE FEATURE.

A short time ago one of our contemporaries indulged in an editorial expression of opinion that was decidedly unfavorable to the plan adopted by this journal and by several others, of giving a brief résumé of the leading articles in the current medical literature. It charged that the abstracts were incomplete, superficial, generally unscholarly and uncritical, and it mentioned without specifications a flagrant case in which the author's meaning was wholly misinterpreted. Undoubtedly such things occur, but they also are observed in critical résumés such as are found, say in our critical contemporary. Indeed, medical literature abounds in recriminations caused by such mistakes, which are sometimes unavoidable. Abstracts should not be critical; it is the policy of The Journal to avoid this, as it is deemed better to give so far as is possible a perfectly unbiased statement of the author's ideas. It is a harsh accusation, however, to say that those appearing in four of the eight medical weeklies of the country are "generally unscholarly" and one that ought not to be made by anyone so open to the criticism of ignorance of foreign medical literature as apparently is the writer of the editorial in question. One ought to be quite invulnerable himself to make such a sweeping charge against the scholarship of others.

The prophecy that the "abstract idea" is doomed to ultimate failure is, we believe, as incorrect as the assertion that it was new in weekly journals. The *Philadelphia Medical Journal,* which our contemporary credits with its origination, politely corrects this error, admitting that it derived the idea from one of the great German weeklies,[1] and with this, also the inference that it was about to discontinue its usual method of abstracting. This plan has found favor abroad, not only in the German weekly referred to but in other special and general publications and its use is extending. The numerous appreciative letters received from prominent medical men in this country convince us that it is not unfavorably considered here.

Critical summaries of special medical subjects of importance are excellent things if judiciously made, but they are often open to the same objections as to their incompleteness made against the abstracts, and are open to the further objection that they are not always unbiased statements of the views of the writers but are colored and we could sometimes say even adulterated, by the reviewer's prepossessions. The one can not supply the place of the other, useful as it may be, and with what experience we have had in working up medical literature, we would as a rule prefer—lacking original authorities—to depend upon the average abstract rather

1. Münchener Med. Wochenschrift.

than on "reports of progress," "critical summaries," etc., excellent as they are in their own way. We might say more on the subject, but this is probably sufficient. We trust that our esteemed contemporary will in the future be less sweeping and more judicious in its criticisms. If it lacked the enterprise to install such a feature in its own columns, this fact gives it no right to disparage the work of others.

LESSONS FROM TYPHOID EPIDEMICS.

It is perhaps unnecessary to call attention to the manner of origin of epidemics of typhoid fever; the subject may be regarded as somewhat trite. Yet the story of every epidemic, be it great or small, is worthy of attention, as it serves to fix more firmly in the mind of the physician and through him the mind of the laity the great importance of prophylaxis and of proper sanitary precautions. Two very instructive reports on small epidemics of typhoid fever have just been published. In last week's issue of THE JOURNAL,[1] Harriman describes how 65 cases developed in a school where the general environment, the sewers and sewage disposal and the water supply were found perfect. But about September 15 a new milkman began to supply some of the milk and on October 8 three cases of the fever developed and others continued to do so until eighteen days after this milk supply was discontinued. There had been a case of typhoid fever in the milkman's family a few months before. On investigation it was found that this particular milkman rinsed his cans with water from two wells, one of which, the shallower, contained a large amount of organic matter with a large number of germs, among them one regarded as the bacillus typhosus. The cans were not scalded. The milk from this particular supply was served chiefly to students sitting at certain tables. Most of the cases were among these students. Sixteen young men in training for football drank daily double portions; of these sixteen, thirteen contracted typhoid.

The other report is by Rachford.[2] At a summer resort in northern Michigan 35 cases appeared among those who took their meals at a certain dining-hall. The local physicians with some of the physicians summering there, with the cordial coöperation of the landlady, formed themselves into a committee of investigation and made a formal search for the source of infection. The general water supply of the town, the milk supply, the water of the bay in which the resorters bathed, were all excluded by a careful study of the facts surrounding each individual case and the cases collectively, and then a search was made for the source of local contamination of the water or food supply. It was found that a manhole receiving the sewage and kitchen water from the dining-hall was distant but a few feet from two water tanks, in one of which vegetables and fruit were placed for cooling, and in the other, water for drinking purposes was collected. The manhole was of brick and not cemented, the water tank of wood. On pumping out the latter, water from the manhole was seen to ooze through the intervening six feet of soil. The defects were corrected and the epidemic ceased abruptly after nineteen days. The original case of typhoid was believed to have been one which occurred in the building several months before.

It is worthy of note that in both these epidemics the diagnosis of the disease, the detection of the source of the infection, and the application of the remedy were effected without dependence upon the services of expert bacteriologists or chemists, though in each instance confirmatory aid was obtained from experts in these lines. We mention these facts not to decry the value of these aids, nor to advocate the attempt to get along without them, but to show that the practitioner and the country doctor who may be far removed from city laboratories, may often by a careful investigation of an epidemic of this sort and by a close analysis of his cases reach an almost certain conclusion as to the origin of the trouble and suggest the proper remedy. His knowledge of the broad principles of bacteriology and infections will often serve him, though he may be unable to understand the details or practice the technique of bacteriology.

1. JOUR. A. M. A., Feb. 22, 1902, p. 509.
2. B. K. Rachford: Study of a Typhoid Fever Epidemic, Medicine, December, 1901.

DANGER OF UNPROTECTED FIREPLACES.

The British Home Secretary has published the statistics of child mortality from fire as given by 200 coroners in England and Wales for the years 1899 and 1900. From these it appears that there have been 1684 inquests of children thus sacrificed, and in 1425 of these the evidence showed that an unprotected fireplace was the cause. The use of open grates is almost universal in Great Britain and this appears to be one of the prices they pay for it. The associations with it are generally considered the most cheerful, and an open fire figures largely in the description of English home life in literature, but such a holocaust as the above figures indicate reminds one of the Druidical sacrifices of early Britain and is anything but cheerful to contemplate. Undoubtedly the conservatism that is characteristic of our transatlantic relatives will keep it up, to some extent, even after this revelation. Taken altogether, with its good and bad qualities, the American stove has its advantages in safety as well as efficiency over the open grate.

QUACK METHODS IN HIGH PLACES.

Disreputable or questionable advertising methods are not restricted to any country, and we are probably as well off in this respect as are the transatlantic regions. At least we have no one here as prominent in surgery as a certain French operator whose alleged performances in connection with the Dreyfus trial, and certain still more recent events have excited not merely professional but also lay comment. Among the press dispatches from Paris we find the following: "Dr. Doyen's methods of advertising himself in connection

with the operation of separating Radica and Dodica, the Hindoo twins, are exciting general disgust among Paris medical practitioners. M. Charles Laurent, in the *Matin*, has belled the cat by denouncing the quackery of France's foremost surgeon in indignant terms. Dr. Doyen, in the meantime, issues daily bulletins wherein he does not scruple to advertise patent nutriments supplied to the patients." When this sort of thing becomes of such public interest as to be mentioned in cable dispatches, the notoriety becomes hardly desirable, however profitable it may be in some ways. An international reputation of this particular kind would seem least of all to be sought for. But tastes differ.

RESPIRATORY EXCHANGES IN TUBERCULOSIS.

Robin's claim that the respiratory exchanges in phthisis are exaggerated and that such excess in the non-tuberculous indicated a favorable soil for the disease, while the reverse conditions exist in arthritism, is already known to physicians. The importance of these facts, if they are such, seems hardly to have been duly appreciated, partly perhaps because, as stated by Robin, they emphasize the importance of heredity and predisposition. According to him, this exaggerated respiratory exchange is especially notable in the descendants of consumptives as well as in the victims of the disease themselves, though it may also be acquired by others through overwork, alcoholism, etc. In a recent session of the Paris Academy of Medicine[1] he again called attention to these facts and to certain deductions from the same, especially the facilities afforded for early diagnosis, the possibility of recognizing predisposition, and the new direction given to prophylaxis by suggesting the use of agents capable of retarding or restraining the organic tendency to retain too much oxygen and produce too much carbonic acid. Among these last he includes rest, especially in the reclining or recumbent position, and also certain medicinal agents such as cod-liver oil (ten ounces a day) tartar emetic in fractional doses, the arseniate and the cacodylate of soda. Temperature has also its effect; cold air diminishes production of carbonic acid; therefore, cold climates appear suited to the majority of consumptives provided injurious cutaneous exposure can be guarded against. The theory and its practical applications above suggested are apparently worthy of the attention of tuberculosis specialists, but so far we have seen very little published indicating that it has received their consideration.

SURGICAL TREATMENT OF MITRAL STENOSIS.

The operative treatment of wounds of the cardiac muscle is one of the latest advances in surgery. Enough has been done to show that in a certain proportion of cases—nearly 25 per cent. according to the latest statistics—life can be saved by prompt intervention and suture of cardiac wounds, at least in special cases, and the future of surgical intervention will probably give better results than in the past. Improved technique based upon widened experience can hardly fail to show improved results. That the success already attained has been suggestive of still more daring operations in cases of cardiac abnormalities, is shown by a recent communication by Sir T. Lauder Brunton,[1] in which he discusses the feasibility of operation for the relief of mitral stenosis. Even a grave risk, he says, is perhaps justifiable for the chance of relieving the distressing symptoms that sometimes occur in this condition. Thus far his experimental work has been confined to the cadaver and to operations on healthy valves of cats, and very much more will be required to even make the operation a justifiable one. A needle wound of the ventricle, however, rarely gives rise to any hemorrhage and the knife need not be thicker than a needle, but in the auricle similar puncture may cause considerable bleeding. In experiments made for other purposes, Brunton says that he has often been surprised at the tolerance of the heart to manipulation, and it seems probable that this tolerance exists also in man. In operating, the knife should be introduced during systole as it is then less likely to wound the opposite ventricular wall. The pericardium should be opened, not only for the operation, but should be left open, to give exit to any oozing or hemorrhage, as the heart has little power to resist rapidly-occurring intrapericardial pressure. The paper is only a preliminary note and its suggestions are tentative merely, but it is noteworthy as indicating a trend of advanced surgical ideas. "The good results," he says, "that have been obtained by surgical treatment of wounds of the heart emboldens one to hope that before very long similar good results may be obtained in cases of mitral stenosis." The practical application of the suggestion is probably still only in the dim future if indeed it will ever be realized.

HYGIENE OF BARBER SHOPS.

The importance of hygienic measures in barber-shops has been emphasized anew in an article by Dyer[2] upon dandruff. Dermatologists agree that a large proportion of the cases of baldness is secondary to a seborrheic disease of the scalp. There is no certainty as to the essential cause of seborrhea, different investigators of the subject having described various micro-organisms in connection with it. The microbacillus of Unna and Sabouraud appear to be quite constantly present. Whether there is any particular bacterium which is alone responsible for the disease or not, it is generally conceded that it is probably parasitic in its direct origin. If this be accepted, then the liability of carrying the infection from one person to others by means of toilet articles is apparent. To prevent this hair-brushes, combs, etc., should not be used as common property for an entire household, nor for an entire community as is the custom in most barber-shops, but each individual should possess and use his own brush and comb. Such articles should be thoroughly cleansed occasionally, and in barber-shops should be frequently disinfected. Shaving instruments also are undoubtedly the means of spreading certain infections of the beard, especially tinea sycosis. It is not unlikely that other diseases of the skin due to micro-organisms may also be carried in the same manner. Under the conditions which prevail

1. Medical Press and Circular, January 29, p. 113.

1. The London Lancet, February 8.
2. Medical Review of Reviews, 1901, 1003.

in the ordinary barber-shop this is liable to occur at any time. Hyde goes so far as to say: "Where the whole or any part of the beard is to be removed every adult male should shave himself." Most of the dangers referred to could be eliminated if barbers would apply the principles of antisepsis and asepsis in their work. It would be no hardship to sterilize razors, strops, brushes, combs and hands. Little apparatus would be required and that used could be very simple and inexpensive. Efforts have been made in various places to compel barbers to employ antiseptic measures in their shops, but it is difficult to force such matters. If it becomes a matter of business and of pecuniary interest to the proprietor of a shop to manage his place upon proper antiseptic plans, something may be accomplished. Physicians could do much to bring about the desired reforms by requiring the shops which they patronize to carry out the measures indicated in a systematic and thorough manner, and by advising barbers as to the best and simplest means which are efficient in accomplishing the desired results.

ACUTE DYSENTERY IN THE UNITED STATES.

The influence of the Rockefeller Institute for Medical Research is beginning to make itself felt. Reports of work done under its auspices are being published, and a very interesting and valuable one is that by Vedder and Duval on the etiology of acute dysentery in the United States.[1] It will be recalled that Shiga in Japan isolated a bacillus from the discharges in acute tropical dysentery. Subsequently Flexner and Strong found the same bacillus in connection with dysentery in the Philippines, and Kruse in Germany. The bacillus is known as Bacillus dysenteriæ (Shiga). The object of the work undertaken by Vedder and Duval was to show that the acute dysentery of this country is caused by the bacillus of Shiga. In order that a given bacillus may be regarded as identical with Bacillus dysenteriæ, it must show, of course, the same cultural and morphological characteristics as standard cultures of the typical organisms, and it must give positive agglutination reactions with sera of known dysenteries. Vedder and Duval record three groups of cases of acute dysentery occurring, one in Philadelphia (five cases), another in an institution in Lancaster (three cases), and the other at the Springside Home, New Haven (fourteen cases). In all these cases typical bacilli like Shiga's bacillus were isolated from the feces according to recognized bacteriological methods. As practiced, the agglutination reactions were made with the patient's blood serum and cultures obtained by Shiga, Flexner and others, and also with bacilli, isolated by the authors, and the blood of the patients from which they were isolated as well as with other serums previously shown to agglutinate Bacillus dysenteriæ. Finally they studied the agglutination produced by Shiga's antidysenteric serum. The general and unequivocal result of these studies is that acute dysentery in the United States is associated most closely with a bacillus indistinguishable from those obtained from epidemics in various parts of the world. The etiological relationship of Bacillus dysenteriæ of Shiga to sporadic, institutional and epidemic acute dysentery seems, therefore, to be well established. Physicians have good reason to feel happy over this demonstration; heretofore acute dysentery has been to a large extent an unsolved problem as regards the exact etiology, and the so-called institutional dysentery has been especially puzzling. While much work still remains to be done, particularly upon the mode of infection and upon the intelligent prevention of infection, it would seem that we have a most valuable diagnostic measure in the agglutination reaction, which seems to be fairly constant and definite.

1. Jour. of Exper. Med., Feb. 5, 1902, pp. 181-205.

Medical News.

COLORADO.

Fraudulent Diploma.—Mrs. E. W. M. Cory, Denver, charged with obtaining a license to practice by false and forged evidence, has been found guilty. The complaint against "Dr." Cory set forth that she obtained a copy of a diploma from the University of Michigan by representing herself to be Dr. E. W. Moores, who graduated from that institution in 1884 and that her diploma had been destroyed by fire.

Guardsmen Instructed in Military Medicine.—The surgeon-general of the state, Dr. William W. Grant, Denver, has inaugurated a series of lectures on elementary subjects for the benefit of the National Guard. In his first lecture he quoted statistics to prove that the army surgeon should be a general practitioner rather than a surgeon. During the Spanish war 5000 men died from disease aside from wounds, while only 450 perished from gunshots. He discussed questions of personal cleanliness, the digestibility of foodstuffs, cooking and clothing.

In Memoriam.—The Denver and Arapahoe Medical Society held a meeting in memory of Drs. Clayton Parkhill and J. T. Eskridge, deceased members. The following program was carried out: Introductory remarks, Dr. Leonard Freeman, president; reports of resolutions committees, Drs. William C. Banc, and Josiah N. Hall; "J. T. Eskridge, the Public Spirited Citizen and Friend of the Court," Tyson Dines, of the Denver bar; "Clayton Parkhill, Citizen-Soldier," Brig. Gen. Irving Hale, U. S. V.; "Eskridge, Alienist, Neurologist, Scientist," Dr. Edward Jackson; "Parkhill, Surgeon and Anatomist," Dr. Josiah N. Hall; "Eskridge, His Extra Professional Character," Dr. William Munn, and "Parkhill, the Teacher of Medicine," Dr. Robert Levy.

CONNECTICUT.

Hartford Hospital Fund.—The fund for the aid of the Hartford Hospital now amounts to $38,827, and $5000 has been donated to the permanent fund.

General Hospital Society.—At the annual meeting of this body at New Haven, Drs. Francis Bacon, Charles A. Lindsley, William L. Bradley and William W. Hawkes, all of New Haven, were elected directors. The prudential committee reported that the patients treated in the past year had paid $24,017, and that the receipts for the year amounted to $57,863.

Litchfield County Hospital, Winchester, has been publicly dedicated. It has been erected at a cost of $42,000, of which the state furnished $30,000. The officers of the hospital are Dr. Edward H. Welch, president; Dr. Arthur L. Clark, vice-president; Dr. William S. Richards, secretary; and Drs. William S. Richards, Edward L. Pratt, Edward H. Welch and William S. Hulbert, visiting staff.

State Mortality and Infectious Morbidity.—The January deaths in the state were 1172, 127 more than for the preceding month and 267 less than for the corresponding month of 1901. The annual death-rate was 15.4 per 1000. Infectious diseases were reported as follows: Smallpox, 32 cases; measles, 115 cases; scarlet fever, 360 cases; cerebrospinal fever, 2 cases; diphtheria, 225 cases; pertussis, 69 cases; typhoid fever, 31 cases, and consumption, 25 cases.

New Haven Hospital.—At the annual meeting of the directors of this institution, the following staff was selected: Attending physicians, Drs. Samuel D. Gilbert, William G. Daggett, Louis S. De Forest, Charles J. Foote, Max Mailhouse and John S. Ely; attending surgeons, Drs. Francis Bacon, William H. Carmalt, Thomas H. Russell, William W. Hawkes and Leonard C. Sanford; consulting physicians and surgeons, Drs. Charles

A. Lindsley, Robert S. Ives, Frank E. Beckwith, Walter Judson, William L. Bradley and Timothy H. Bishop; laryngologist, Dr. Henry L. Swain; ophthalmologist, Dr. Henry W. Ring; chemist, Dr. Herbert E. Smith; pathologist, Dr. Charles J. Bartlett, and obstetrician, Dr. Otto G. Ramsay.

ILLINOIS.

Incurable Insane.—The 99 incurably insane patients assigned to the new hospital at Bartonville from the Illinois Eastern Hospital, Kankakee, were safely transferred, February 13.

No Spitting in Decatur.—Decatur passed an anti-expectoration ordinance, February 17, making it an offense punishable by a fine of from $2 to $5, to expectorate on any public sidewalk, doorstep or elevator.

A hospital car was attached to each of the five trains required to transport the Twenty-ninth Infantry from Fort Sheridan to the Presidio, en route to the Philippines. This was rendered necessary by the prevalence of measles at the post.

Compulsory vaccination has been ordered by the Chicago and Alton Railroad, under penalty of dismissal, and this mandate is said to take in president and office-boy. This road has also arranged to subject each passenger coach, at the end of each run, to thorough fumigation.

Personal.—Dr. Vincent J. Cohenour, Chicago, has located in Joliet.——Dr. Harry W. Giles, Wataga, has moved to Knoxville, and his brother, Dr. William N. Giles, Rio, succeeds him. ——Dr. William R. Kincaid and family, of Elkhart, have moved to Denver, Colo.——Dr. Albert J. Maris, Oakland, has located in Waterloo, Ind.——Dr. W. P. Davidson, Laplace, is about to move to Lovington.——Dr. George E. Krieger, South Chicago, has been appointed surgeon of the Inland Steel Company, with headquarters at Indiana Harbor.——Dr. J. Harvey Banks, Atlanta, will locate in Lincoln.——Dr. Clyde F. Horner, El Paso, has moved to Knoxville.——Dr. Preston Kyes, Chicago, has been appointed a Fellow in the Rockefeller Institute of Medical Research, and will leave for Europe April 1. ——Dr. D. C. Strong, Chicago, has been appointed house physician of the Wichita (Kan.) Hospital.——Dr. Edgar L. Phillips, a retired physician of Galesburg, will move to Goshen, N. Y., his old home.——Dr. Frank G. Kuhls, Aviston, has moved to Breese.——Dr. John F. Tidwell, Crab Orchard, has moved to Marion.——Dr. E. R. Lovesee, Harvard, has located for practice in Monticello, Wis.

Healers Lose.—The Supreme Court has decided that magnetic healers and osteopaths must have a license to practice, in the case of the People against George P. Gordon, an advertising "healer" of Rockford. Gordon was charged with practicing medicine without a license, and after trial the Circuit Court directed the jury to find for the defendant. The Supreme Court reversed and remanded the cause. The following is the text of the finding of the court:

> We all agree that the object of this [the statute] is to protect the sick and suffering and the community at large against the ignorant and unlearned who hold themselves possessed of peculiar skill in the treatment of disease, and to prevent them from holding themselves out to the world as physicians and surgeons without having acquired any knowledge whatever of the human system or of the disease and ailments to which it is subject. Without some knowledge of the location and offices of the various nerves, muscles, and joints the manipulation of those parts and the flexing of the limbs can not be intelligently, if, indeed, safely, practiced.
>
> Merely giving massage treatment or bathing a patient is different from advertising one's business or calling to be that of a doctor or physician, and, as such, to administer osteopathic treatment. The one probably falls within the profession of a trained nurse, while the other does not.

Chicago.

Resignation Demanded.—Warden Healy of the County Hospital has asked the resignation of Dr. Herbert R. Hammond, a member of the attending staff, because he allowed an interne under his personal supervision to perform an amputation. This action the warden construed as a violation of the rule prohibiting internes from performing operations in which an anesthetic is administered.

Scarlet Fever.—The Department of Health in contrasting the mortality from scarlet fever and smallpox during the past three years shows that the mortality from the first was 924, while smallpox claimed only 7 deaths. It expresses the hope that in the munificent foundation of the McCormick Memorial Institution for Infectious Diseases—in which this infection is the first to be studied—that a disease, often more merciful in the life it takes than in the crippled survivor it spares, may finally be shorn of its terrors.

Cook County Clinical School.—The incorporation of the Cook County Clinical School, Chicago, is reported from Springfield. The incorporators are said to be Daniel D. Healy, John J. Hanberg and William McLaren. The first of these was president of the Board of County Commissioners, and is now warden of the County Hospital, and the second is president of the County Board. This looks strange, coming so soon after Warden Healy's radical decisions regarding clinics at the hospital, rights of internes, discipline of attending staff, etc., but perhaps it is merely a coincident.

Pneumonia, Influenza and Cancer Mortality.——In the last dozen years influenza has become not only an important factor in the mortality of the city, but as a mischievous complication has notably increased the death-rate from pneumonia, the deaths from which have increased 50 per cent. since influenza appeared in 1889. Cancer is increasing with frightful rapidity. In the decade ended in 1870 there were only 7.3 cancer deaths in every 1000 deaths from all causes in Chicago. In the decade ended in 1900 there were 28.9 such deaths in every 1000—an increase in thirty years of more than 80 per cent. Last year there were 1003 deaths from this disease in a total of 24,406 deaths from all causes—a proportion of more than 41 in every 1000, instead of the 7.3 in the decade of 1870, of the 14.5 in that of 1880, of the 19.8 in that of 1890 and of the 28.9 in that of 1900.

INDIANA.

Hospital for Garrett.—A new hospital to cost between $35,000 and $50,000 is to be erected in Garrett. It will be called the Sacred Heart Hospital.

Pledges for Methodist Hospital.—The Methodist churches of Indianapolis, on February 16, raised $30,000 in subscription for the $200,000 hospital which it is proposed to build there.

New College Building.—Central College of Physicians and Surgeons, Indianapolis, has purchased a site on North Senate Avenue and will erect a new building for laboratories and recitation rooms thereon.

Indiana Mortality for January.—The reports to the State Board of Health show a decided improvement in the health of the state as compared with the preceding month, and as compared with January, 1901. The number of deaths reported was 2829, an annual rate 13.2 per 1000. In January, 1901, there were 3460 deaths, or 16.2 per 1000. The number of deaths from important causes were: Violence, 117; smallpox, 5; cancer, 83; puerperal fever, 12; diarrheal diseases, 20; whooping cough, 18; measles, 2; scarlet fever, 23, and diphtheria, 4.

KANSAS.

Douglas County Medical Association, of Lawrence, has been incorporated without capital stock.

The new Post Hospital at Fort Leavenworth has been inspected by a board consisting of Major Henry P. Birmingham, surgeon, U. S. A., and Lieut. Herbert M. Smith, assistant surgeon, U. S. A. The building is now practically complete and will be ready to receive patients early in the spring.

Appeals Against Medical Law.—Dr. M. W. Wilcox, of Barton County, recently fined $50 for practicing medicine without a license, has appealed to the Supreme Court, the only question to be considered being the validity of the law passed by the last legislature requiring physicians to secure licenses before practicing in the state.

Personal.—Dr. Alfred C. Davis, Hamlin, has been appointed surgeon to the St. Joseph and Grand Island, and the Kansas City, Omaha, and Council Bluffs railways.——Dr. John W. Lauck, assistant surgeon at the National Military Home, Leavenworth, has resigned and will enter practice at El Reno, Okla.——Dr. H. H. McLellan, St. Mary's, has moved to Topeka. ——Dr. Meigs F. Thomas has been appointed physician at the federal prison, Leavenworth, vice Dr. David M. Dill, deceased.

KENTUCKY.

Non-Resident Physicians.—The Kentucky State Board of Health notifies us that non-resident physicians can not be registered in the state.

Dr. Rodman's Estate.—The will of the late Dr. James Rodman, Hopkinsville, was probated February 23. The estate is valued at nearly $100,000.

Epileptic Colony.—A bill has been introduced in the senate establishing an epileptic colony at Lakeland Asylum, and appropriating $75,000 for the purpose named.

Dr. John Mason Williams, Louisville, who was sued for alleged malpractice, was given the verdict by the jury, Feb-

ruary 18, evidence showing that the plaintiff's condition was due to disobedience of the orders of his physician.

Personal.—Dr. Charles H. Voorhies, Jr., has been re-elected health officer of Lexington, and Dr. S. L. Holm, city physician. ——Dr. James H. Souther, Three Forks, has moved to Alvaton. ——Dr. W. O. Green has resigned as clinical lecturer on rectal diseases in the Kentucky School of Medicine, at Louisville.——Dr. Vernon Robins, city chemist and bacteriologist of Louisville, has fitted up a laboratory in the City Hall.

MAINE.

Bowdoin Medical College opened its spring session with a freshman class of 38.

Hospital Association Meets.—The General Hospital Association of Knox County, at its annual meeting, elected Dr. John M. Wakefield, Warren, president; Dr. Willis F. Hart, Camden, vice-president; Dr. Addison R. Smith, Rockland, secretary, and Dr. Walter M. Spear, Rockland, treasurer. The hospital will be ready for occupancy in April or early in May.

Personal.—Dr. J. M. Lowe, Vinalhaven has entered the Central General Marine Hospital, Lewiston, as an interne, to succeed Dr. D. A. Barret.——Dr. O. M. Head, North Chesterville, has associated himself with Dr. Benjamin F. Makepeace, of New Sharon, who, owing to spinal disease, has been obliged to confine his practice to office work.——Dr. James F. Hill, Waterville, has been appointed assistant surgeon National Guard of Maine and also examiner-in-chief of the Maine Grand Lodge A. O. U. W.——Drs. Alfred Mitchell, Jr., and Richard B. Small have been elected to the staff of the Maine General Hospital, Portland, as adjuncts in surgery.——Dr. W. L. Hayes, city physician of Gardiner, has resigned and located in Massachusetts.

MARYLAND.

Phi Beta Pi Banquet.—The members of the Phi Beta Pi fraternity of the College of Physicians and Surgeons, numbering about 40, held their banquet, February 18.

Personal.—Dr. John Arthur Luetscher, Baltimore, has been appointed lecturer on normal physical diagnosis in the Woman's Medical College.——Dr. R. R. Crothers, of Elkton, had a paralytic stroke, February 21.

Maryland Woman's Quarter Club Sanatorium.—Drs. William Osler, William H. Welch, L. McLane Tiffany, I. E. Atkinson, S. C. Chew and Robert Johnson have agreed to serve as a committee which will co-operate with the state authorities in procuring a suitable tract of land for the proposed new Maryland Woman's Quarter Club Sanatorium, and to serve as trustees of the fund therefor.

The quarter centennial of the Johns Hopkins University was celebrated with great pomp and ceremony on February 21 and 22. Thirty-three honorary degrees were conferred, among them LL.D. upon Dr. John S. Billings, of New York, and that of M.A. upon Drs. W. T. Councilman, of Harvard University, Henry M. Thomas, and Robert L. Randolph, of Baltimore. A luncheon and reception was held by the trustees of the medical school of the hospital on the afternoon of the second day. Private receptions were held by Drs. Osler, Welch, Paton, Earle, Gilman and others. Dr. Hurd, of the Johns Hopkins Hospital, entertained President Angell, of the University of Michigan, and Dr. John S. Billings, of New York, the designer of the hospital.

NEW MEXICO.

Sanatorium at Silver City.—The Sisters of Mercy have decided to build a large sanatorium in Silver City.

Sanatorium for Raton.—Eastern capitalists intend to build a sanatorium at Raton, to cost $100,000 and to accommodate 150 patients.

St. Joseph's Sanatorium, Albuquerque, is almost completed and will be ready to receive patients early in April. The cost of the building will be about $40,000.

A solarium is being built at the Government Sanatorium for Tuberculosis at Fort Bayard. During the last two years the government has expended about $200,000 on this institution and has put in a new sewerage system, waterworks, etc.

NEW YORK.

Olean General Hospital directors have purchased a lot and building for $6000 and will be given possession in May, when the building will be remodeled for hospital uses.

Isolation Hospital Donated.—Mr. Robert M. Bruce has donated a 15-acre plot of ground to the town of Greenwich and will erect thereon a number of one-story buildings to be used as an isolation hospital.

Through Regular Channels Only.—The Commissioner of Charities and Corrections of Syracuse has notified the physicians of the city that the department will not pay for the hospital service rendered any patient (emergency cases excepted) unless he or she be committed by the department physician.

Quinquennial Vaccination.—A bill has been introduced in the senate by Dr. McCabe, of Brooklyn, which provides for free and compulsory vaccination of all inhabitants of the state who come under the control of boards of health. If passed, it means enforced vaccination once every five years.

Buffalo.

Dr. John A. Fordyce, New York, gave an address, illustrated by stereopticon of clinical and pathological cases in dermatology, before the Academy of Medicine. Preceding the meeting a dinner was given in his honor at the Saturn Club by Dr. Grover W. Wende.

Swine and Smallpox.—Dr. William G. Bissell and Charles H. Zink, D.V.S., have made the following preliminary report on the investigation of a peculiar dermal disturbance in swine and its possible relation to smallpox; based on the discovery of the existence of a disease of septicemic origin with papular and pustular appearances, resembling smallpox, in swine brought from a particular part of the country:

1. The unusual disease noticed in swine is not of the same nature as smallpox.
2. In the opinion of the investigators, it is impossible by any known means of inoculation, to communicate smallpox to swine.
3. There is an infectious agent present in vaccine that is distinct from that present in the virus of smallpox.
4. The peculiar dermal disturbance, as seen in the swine, is of unusual occurrence in this section of the country, and so far as it has been possible to ascertain, it is not described in the literature of the day.
5. Inoculation of swine with the virus of smallpox does not confer immunity to vaccinia.
6. Most of the reports of the transmission of smallpox to the lower animals are without scientific substantiation.
7. The investigators would suggest that with a more complete study into the nature of the variolæ of the different domesticated animals, a greater distinction, rather than a closer relationship, will be established, and that the relationship between these diseases and smallpox, with a possible few exceptions, will be found equally remote.

New York City.

Dr. Beverly Robinson.—As a token of esteem, physicians formerly connected with the staff of St. Luke's Hospital have presented to Dr. Robinson, one of the visiting physicians, a handsome silver cup.

Hebrew Hospital in Brooklyn.—A number of wealthy Hebrews of Brooklyn have taken the first steps toward the establishment in that borough of a Hebrew hospital. They have formed the Jewish Hospital Society, which has a membership of 600, and already $25,000 has been pledged.

Women and Physicians for School Inspectors.—Of the 110 school inspectors appointed for the Borough of Manhattan by President Cantor, 44 are women and 22 physicians. Mr. Cantor believes that by placing two women and one physician on each of the local boards in the borough, the inspections will lead to much better practical results, and school life will be materially improved.

An Immoral Healer.—Dr. John Armstrong, formerly of Gloversville, N. Y., but now of Queens County, is under arrest on the complaint of a 15-year-old girl, who alleges that the medical treatment she was compelled to undergo by her mother at the hands of this practitioner was such as to be subversive of good morals. The mother and a number of fashionably gowned women appeared in court, in the double rôle of patients of Dr. Armstrong and as witnesses in his behalf. The description of the method of treatment employed by this healer was such as to lead the District Attorney to insist upon a most searching investigation. Incidentally, it may be mentioned that this "vital force healer," as he styles himself, made a pitiful appeal to the magistrate to allow him to replenish his stock of morphin, as he uses this drug to steady his nerves. He says the "vital force" is transmitted to his patients through his hands, but his healing power is "like many of the things in the Bible, indescribable." Judging from the comments made at the trial his therapeutic methods are likewise "indescribable," though he assured the court that "there was nothing immoral in his methods except in the eyes of the impure."

OHIO.

The Cleveland Medical Journal Company has been incorporated with a capital stock of $6000.

Gifts to Cleveland Hospitals.—Mrs. Mary H. Castle, Cleveland, has given $10,000 each to the Huron Street and Lakeside hospitals.

Illegal Prescriber Fined.—J. P. Berney, Cincinnati, a colored, unregistered practitioner pleaded guilty to illegal prescribing and was fined $21 and costs.

Fifty-Thousand-Dollar-Eye Suit Decided.—Dr. Frank S. Wagenhals, Columbus, who was sued for $50,000 by a convict whose mutilated eye he removed in order to save the other eye, has been vindicated by the court, which found in his favor.

Sanatorium Burns.—The Central Ohio Sanatorium at Fountain Park, recently purchased by Drs. George W. Pickering and Robert M. Henderson of Urbana and Dr. Clarence M. McLaughlin, Westville, and equipped by them, was burned, February 8. The patients were all rescued, but the building is a total loss.

Letting Down the Bars.—On account of the agitation engendered by the law requiring all applicants for license to practice medicine to pass an examination before the State Board, Representative Painter of Wood County has introduced a bill which provides that all Ohio medical students matriculating in any recognized medical college of the state on Jan. 1, 1902, or thereafter, may upon graduation begin the practice of their profession without taking the medical examination as given by the State Medical Board.

PENNSYLVANIA.

Philadelphia.

The Resignation of Dr. D. D. Stewart as professor of diseases of the stomach was recently accepted by the Board of Trustees of the Polyclinic Hospital. Dr. Joseph Sailer was elected to fill the vacancy.

Weir Mitchell Honored.—At the public exercises held by the University of Pennsylvania on Washington's birthday, Dr. S. Weir Mitchell read an original, scholarly finished and impassioned poem, and was one of several distinguished persons who received honorary degrees.

Resignations from Orthopedic Hospital Staff.—Dr. S. Weir Mitchell recently resigned as senior physician from the Orthopedic Hospital and Infirmary for Nervous Diseases. He had held the position for thirty years. Dr. John K. Mitchell was elected to fill the vacancy caused by his father's resignation. The resignation of Dr. J. Madison Taylor, as assistant physician, was also accepted. The elder Mitchell remains as consulting physician to the hospital.

Roswell Park on Medieval University Work.—Dr. Roswell Park, of Buffalo, N. Y., on February 19, delivered an address to the Medical Society and the medical students of the University of Pennsylvania, under the auspices of the Charles K. Mills Neurological Society. The address on "University Work in the Middle Ages" was a graphic portrayal of student life and of the overshadowing hand of the church in medieval times, and of the final emancipation of the practice of medicine from the domination of the church.

Vaccination or Filth.—Great interest in medicolegal circles was recently aroused by trial of a certain case in Common Pleas Court. Damage suit was brought by Mrs. Bridget Nugent against Dr. Harvey M. Righter to recover for the death of her 6-year-old child, which Dr. Righter had vaccinated. The attorney for plaintiff is an antivaccinationist, and persisted in displaying his theories, though the judge constantly ruled that the matter was irrelevant. Members of the Antivaccination Society were on the witness stand. Plaintiff alleged that Dr. Righter, in vaccinating her child, Sept. 11, 1900, used impure virus; that his method was careless; that, as a result, impetigo contagiosa developed, from which the child died October 20. Plaintiff further alleged that defendant did not exercise proper skill and diligence in the treatment of the latter disease. To the reputable doctors who heard the testimony, much of it by eminent physicians or experts, it seemed to be conclusively shown that Dr. Righter had used much more than ordinary care in the vaccination; that the impetigo, which did not develop for nearly a month after vaccination—the vaccination wound having healed—could by no possibility have been introduced at the time of vaccination, the period of incubation of impetigo being a few days at most; furthermore, that defendant recognized the disease and gave eminently proper treatment, and that he exercised unusual diligence in the case. Contributory negligence on the part of the plaintiff seemed to be established by the testimony of several physicians, all of whom testified to the filthy hygienic conditions of plaintiff's home. As to the latter, several witnesses for plaintiff were called who testified to the cleanliness of the surroundings. Referring to the conflicting testimony on this point the judge in his charge to the jury said:

> It is for you to say which of the witnesses you will believe. It is for you to say whether it is probable that these physicians would come here and swear that a condition of filth existed when it did not exist. Is it likely that they would come here to do that? Have they any motive for coming here to tell you, in the presence of God, a lie like that? It seems to me that perjury exists somewhere in this case.
>
> If you conscientiously come to the conclusion that the defendant was guilty of any negligence, or want of ordinary care and diligence, resulting in the injury to the plaintiff complained of, you will not hesitate to say so by your verdict. But if, on the contrary, you come to the conclusion that the plaintiff's complaint is altogether unfounded, then it concerns not only the interest of the parties in the present cause, and not only the interest of public justice, but also the established medical fame of this city, a fame established by many examples of men great and distinguished in this profession, who have lived and labored and died —that you put an end, so far as you can, to experiments by unjustifiable lawsuits against skilful, attentive and humane physicians.

The jury, after deliberating twenty hours, returned a verdict for the plaintiff, awarding her $1000 damages. Many of the profession in the city are aroused and indignant at what they believe an unjust decision. Not only individual members but medical societies purpose taking a vigorous part in continuing the fight of the case in the courts.

GENERAL.

New Marine Hospitals.—Bills establishing marine-hospitals at Pittsburg and Savannah were ordered favorably reported by the House Committee on Commerce at Washington, February 14.

Smallpox.—During January there were 11,015 cases of the disease in the United States, and 253 deaths, a death rate of 2.25 per cent., approximately.——The number of new cases in Philadelphia for the week ended February 22, namely, 63, was the smallest reported this year.——For the first two weeks of February there were reported to the New York Health Department 119 cases of smallpox and 24 deaths from this disease. The people are disposed to believe that "the chief horror of smallpox" is to be found in the compulsory removal from home and friends and isolation. This feeling has been voiced in the daily press in the popular demand for the building of a private smallpox hospital. Although the agitation is only a few days old there seems to be little difficulty in raising the necessary money. If the plan were to build a new pavilion to some existing hospital, such as the Minturn Hospital for contagious diseases, it could probably be carried out for $50,000, but if a separate hospital is to be erected, the cost would easily be double this amount. It is stated that last year Mr. Carnegie offered to the managers of the Minturn Hospital $50,000, but it was declined because of the difficulty experienced in finding a site for such a hospital in the Borough of Manhattan. A new center of infection has just been discovered in a densely populated quarter of Williamsburg, inhabited by negroes.——On February 17 the eleventh case of smallpox at Baltimore was sent to quarantine. It is supposed to have originated in contagion among the crew of a steamer from Liverpool, the captain of which mistook a case of smallpox for peritonitis. The twelfth case of smallpox developed February 21. The contagion was traced to Philadelphia.——Smallpox was reported in the following counties in Indiana during January: Shelby 9 cases, Dearborn 11, Union 2, Knox 12, Perry 12, Dekalb 1, Howard 1, Vanderburg 11, Marshall 7, Warrick 27, Morgan 23, Adams 3, Gibson 3, Marion 34, Greene 26, Montgomery 43, Wayne 8, Wells 6, Fountain 50, Grant 10, Owen 17, Wabash 12, Decatur 2, Daviess 15, Pike 7, Monroe 8, Vigo 2, Jefferson 17, Delaware 3, Spencer 60, Floyd 9, making a total of 461. Five deaths from the disease occurred.——In Michigan during the week ended February 1, the disease was reported at 139 places.——Dr. Frederick Dillingham, assistant sanitary inspector for Manhattan, furnishes the following comparative table of cases and deaths from the disease in January, 1901, and January, 1902:

State.	January, 1901. Cases.	Deaths.	January, 1902. Cases.	Deaths.
New York	82	11	295	25
Pennsylvania	20	1	581	81
New Jersey	7	0	327	47
Minnesota	425	3	1740	11
Illinois	94	2	176	1
Wisconsin	299	1	4357	23

Smallpox in modern times, says the Health Commissioner of Chicago, does not merit a tithe of the concern its appearance in a community always excites. A hundred years of vaccination has demonstrated that smallpox is one of the most easily controllable of diseases. The higher the degree of civilization

in a community or a country, as measured by its work in sanitation and preventive medicine, the less the importance of smallpox. In Chicago the deaths from the disease have steadily diminished from 17.5 in every thousand deaths from all causes in the ten years between 1861 and 1870 to 4.9 in the ten years 1891-1900—a decrease of 71.5 per cent. from the earlier proportion. Smallpox is a vanishing disease. No one need—no one can—"catch" it except through a culpable, if not criminal, neglect of vaccination.

CANADA.

Dr. George K. Grimmer has been appointed assistant laryngologist to the Western Hospital, Montreal.

McGill University.—The total number of students attending classes at McGill reaches 1114, distributed as follows among the different faculties: Law, 60; medicine, 490; arts, 294; applied science, 254; veterinary science, 16.

New Superintendent of the London Asylum.—Dr. T. A. McCollum, of Dunnville, Ont., has been appointed to the superintendency of the London Asylum rendered vacant through the unfortunate death of Dr. Bucke. Dr. McCollum has been a leading surgeon of the Niagara Peninsula for the past twenty years.

Toronto University Medical Building.—The problem of how to solve the financial aspect of the new medical building for Toronto University has been solved by the adoption of the suggestion of the Minister of Education. The trustees of the University will advance the money upon which the medical faculty will pay 4 per cent. interest per annum. To this the government will give its approval.

Low Birth-Rate in Ontario Cities.—The total births recorded in Ontario in 1900 was 46,127, as compared with 44,705 in 1899. There has been an actual decrease in every city in the province excepting Ottawa, London, St. Catherines and Guelph. The birth-rate of 23.4 in 1891 has decreased by some 20 per cent. in the various cities of Ontario. Applications for insurance in 1862 showed 7.8 children per family, and in 1900 6.7, a decrease of 14 per cent.

Death of Dr. R. M. Bucke.—Dr. Richard Maurice Bucke, superintendent of the Asylum for Insane at London, Ont., a prominent alienist, and lifelong friend and literary executor of Walt Whitman, accidentally slipped on the ice on the veranda of his residence on the evening of February 20, instant death resulting. Dr. Bucke was born in 1837 in Norfolk County, England. He was graduated from McGill University in 1862, the gold medallist of his year. He was appointed to the London Asylum in 1877.

Fewer Births and More Deaths in Montreal.—The report of the health department of the city of Montreal for 1900 shows that although the population has enormously increased since 1891 there has been a tremendous falling off in the birth rate. In 1891 the birth-rate was 48.87 per thousand of the population; in 1900 it was 34.26. The rate for marriages for 1891 was 9.65; in 1900 it was 7.76. With a population of 218,268 in 1891, the death-rate was 24.24; while in 1900, with a population of 288,658, the rate is 25.46.

Ontario Hospitals Association.—The leading hospitals of Ontario have just organized an association under the above title. There is said to have been a great falling off in hospital funds recently, which may be laid at the door of the Ontario government, which recently cut down the hospital grant to 30 cents per day. The Association will seek a larger grant and also ask for powers to conduct provincial examinations for nurses' diplomas. The Association will meet annually in Toronto. Dr. John Ferguson, of the Western Hospital, Toronto, has been elected secretary-treasurer.

Annual Meeting, General Hospital, Montreal.—At the annual meeting of this institution held last week the report of the secretary showed that for the eight months ending Dec. 31, 1901, the ordinary income had been $50,183 and the ordinary expenditure $60,287. During that time 1,919 indoor patients had been treated to a conclusion. Of these 154 remained over from the previous year; and 168 remained in the hospital at the end of December, 1901. The death-rate was 7.7 per cent. as compared with the previous year, 8.5 per cent. In the outdoor department there were 20,189 consultations.

Notices in Hospitals Respecting Charges.—"Hospital authorities should post up notices in all hospitals stating the conditions under which patients are charged for doctors' attendance. Then the contract would be clear." This is the manner in which one of Toronto's judges delivered himself in the case of a local physician who was suing the executors of an estate for professional attendance rendered the testatrix. The doctor was on the staff of the hospital as a junior surgeon; and the defense entered the absurd plea that because he was attached to the hospital in that capacity it was understood that he was rendering his services free. Judgment has been reserved.

The Hospitals of the Penitentiaries.—According to the report of the Inspector of Penitentiaries for Canada, recently handed to the Minister of Justice, the population in these institutions during the past year numbered 1382, as against 1424 for the previous year. During the year there were 23 deaths, as compared with 22 in the previous year. Special attention is called to the health of the convicts in the St. Vincent de Paul penitentiary, in Quebec Province, which the surgeon in charge has frequently admitted to be unsatisfactory. In this respect the inspector has made special investigation and finds, in his opinion, that the fault lies in a vicious drug habit. During the year about 150 pounds of tincture of opium and about 10,000 morphin pellets passed through the dispensary of the institution. The inspector, therefore, believes that the unsatisfactory state of health in the St. Vincent de Paul penitentiary can be directly traced to too much quieting and soothing medicine.

FOREIGN.

Virchow's Recovery.—The last mail brings the welcome news that Virchow's recovery is progressing smoothly. Callus has developed normally and the limb can be moved freely. He is able to sit up, but becomes easily fatigued. Five weeks have elapsed since he fractured the neck of the femur when alighting from a street car.

Thirty-first German Congress of Surgery.—Seven communications on the principal question, the Treatment of Wounds, have been received for this congress, which meets at Berlin, April 2 to 5. Gussenbauer, Petersen and von Mikulicz will discuss the subject of cancer; abdominal surgery will have numerous representatives.

Prussian Appropriations for Scientific Research.—The Prussian Budget for 1902 appropriates 20,000 marks for further study of means of prevention and early diagnosis of typhoid fever. The sum of 10,000 marks is given to the Committee for Cancer Research, and 53,000 marks are to be applied to the erection and maintenance of a cancer ward and laboratory in connection with the Charité Hospital at Berlin.

Organization in the Profession in Switzerland.—The various medical societies in Switzerland, speaking French, German or Italian, have combined into a central organization. The newly organized Medical Chamber is to watch over the material interests of the profession and promote the measures dictated by circumstances. It is also to transmit the wishes of Swiss physicians in questions regarding the public health and the care of the sick, to the proper civil authorities.

Honors to Physicians Abroad.—The golden professional anniversary of Professor Marey, of Paris, was celebrated by his friends, January 19. A portrait medallion was presented to him, the work of Dr. Paul Richer, member of the Acad. de Medecine, who is quite a fine sculptor. One of his groups received a prize at the recent exposition and salon.——Dr. A. Fraenkel's twenty-fifth anniversary as privat docent was celebrated, January 30.——Professor A. Murri of Bologna was the recipient of a medallion and other homage on his recent silver jubilee.

New Sanitary Law in France.—The recently enacted public health law in France requires vaccination within the first year after birth and re-vaccination during the 11th and 21st years. Parents or guardians are held personally responsible for the execution of this law. It also has a provision enacting that whenever the mortality in any commune exceeds the average mortality in France during three consecutive years the departmental council of hygiene shall be called upon by the prefect to make an investigation, either by itself or a commission, into the sanitary conditions.

Eddyism to be Debarred from Court Circles.—The *Norrd. Allg. Ztg.* officially announces that Kaiser Wilhelm has expressed his disapproval of faith healing, Eddyism, and other modern fake medical methods, as nuisances (Unfug) unworthy of our day and age and of the imperial capital. In a recent conference on the subject with the chiefs of police, he asserted unequivocally that persons participating in such proceedings will be excluded from the imperial court. The *Deutsche Med. Wochenschrift* applauds this resolution, and says that it will have far more influence than any appeals to reason and common sense.

The Plague in India.—A correspondent who resides in North India makes a gloomy prognostication as to health conditions there. The rain has failed absolutely, not a drop having fallen from the end of August to the middle of January and in the hill reservoirs there have only been two and one-half inches of rain since the beginning of September. The springs which feed the great rivers are drying up and famine threatens. The plague is advancing by leaps and bounds. There were several cases in January in the City of Lahore and the natives were in a state of terror. What they fear is not the plague—to that they are willing to submit in a fatalistic way—but they are in terror lest they should be inoculated by force, which they think means poison. A high official of the Punjab informed our correspondent that for the last few years he had been in the habit of regarding the number of cases of plague which occurred during the first three months of the cold season as a scale by which to gauge its increase during April and May, before it is beaten down by the fierce heat. In former years the number has been below 300 in the early part of the season, rising to 10,000 in April and May. This cold season, however, the cases in the first three months of the cold season have been 24,000, and it can only be hoped that the ratio will not be the same as in former years. The plague committees are dividing up the province into districts and make frequent visits endeavoring to keep the occupiers of houses on the alert to see that there are no nuisances nor any unreported deaths.

LONDON LETTER.

The Smallpox Epidemic.

The number of patients in hospital for the week ending February 8 was 1102, against 877, 870, and 1135 of the previous three weeks; 287 new cases were admitted in the week against 213, 204, and 499 in the three preceding weeks. The daily number of cases notified from February 8 to February 13 were 32, 23, 48, 58, 58 and 54. Since August 3000 cases have been admitted to Metropolitan hospitals of which 523 were fatal, 1647 were discharged cured and 1002 remained under treatment. In addition 270 cases were admitted from areas outside the metropolis.

Clinical Instruction in Smallpox.

The Metropolitan Hospitals Board has prepared regulations relative to clinical instruction in smallpox and recommended the local government to modify the terms of its order so as to remove the obligation of residence at present imposed on students in smallpox hospitals. The principal points are as follows: 1. No student shall be admitted until he has completed his third year, has held the offices of clerk and dresser, and obtained sanction to his attendance at the hospital. 2. The ordinary course of study shall consist of twelve demonstrations, and no student shall receive a certificate unless he has attended eight. 3. The fee shall be $21. 4. The means of conveyance to and from the hospital shall be by the Board's steamers. 5. Every student shall wear within the hospital a suit of brown holland overalls consisting of coat, trousers and cap, which the Board will provide. 6. Any qualified doctor may attend the hospital as if he were a student. 7. To give doctors who have not leisure to attend a course opportunities of seeing smallpox demonstrations will be given from time to time, the fee being $5 for one demonstration and $10 for three demonstrations. 8. The rules as to disinfection and vaccination will apply to all students.

Air-Borne Smallpox.

The question whether the increased incidence of smallpox in the neighborhood of a hospital is due to conveyance of the disease through the air or by persons from the hospital has not been decided by epidemiologists. An investigation by Dr. Thresh, medical officer of health for Essex, made in connection with the present epidemic seems to show conclusively that the infection is air-borne. The hospital ships in the Thames are anchored on the Kent side, some 700 yards from the Essex shore, with which no communication is allowed. In 1895, when smallpox was prevalent in London and the ships were receiving numerous cases, the disease was constantly present in the neighboring district of Essex. The same fact has again been observed during the present epidemic. In August last a workman employed on the nearest point of railway to the ships was attacked. Other cases followed, notwithstanding all the efforts of the local authorities, who have a well equipped hospital. Within a radius of three-quarters of a mile of the ships no less than 8.8 of the population were attacked; beyond this 2.4 per cent., still further away .65 per cent. The evidence is further strengthened by the fact that in the part exposed to the prevailing wind 12 per cent. of the population were attacked, while in an area on which the wind rarely blew the rate was less than 1 per cent. Dr. Thresh thinks that the effect of the ships extends as far as two miles.

Gallantry of a Surgeon in the War.

The king has conferred the decoration of the Victoria Cross upon Surgeon-Captain T. J. Cream, 1st Imperial Light Horse. During the action with De Wet at Tygerskloof on Dec. 18, 1901, he continued to attend to the wounded in the firing line under a heavy fire at only 150 yards, after he had himself been wounded, and only desisted when hit a second time and thought to be mortally wounded.

Cheese Poisoning.

The medical officer of health for the city of London has reported an extremely interesting series of outbreaks of poisoning from cheese, which have occurred in various parts of London during the last three months and which have been traced to a common source. In October last certain cases of illness occurred in Bethnal Green which were supposed to have been caused by Dutch cheese sold by a local shopkeeper, who had bought it from a large firm in Finsbury. Nine persons were traced who had eaten the cheese and been taken ill. Samples were obtained from the Finsbury firm, to whom the remainder of the consignment had been returned, and who had purchased it from another city house. Many other cases occurred, and the symptoms in each were similar. No deaths resulted, and the symptoms passed off in 48 hours. The maker of the cheese did not detect anything unusual in its appearance when ripened ready for shipment. The poison was not present in all portions of the consignment.

The Plague.

During the week ending January 11 there were 10,368 deaths from plague in India. In the city of Bombay 234 deaths from the plague occurred during the week ending January 11, being an increase of 37 upon that of the previous week. During the corresponding period of 1901 the plague deaths were higher by 78. The director-general of the sanitary department of Egypt in his report for the week ending January 19 states that during the week 17 fresh cases of plague and 14 deaths from the disease occurred in Egypt. The population are averse to notifying plague, and as a result it is mostly by dead bodies being found that the presence of the disease is known. Out of a total of 39 cases up to the present announced at Tantah 24 have been found only after death in their houses. During the week ending January 30, 12 fresh cases of plague occurred in Mauritius and 9 deaths.

Statistical Report of the Health of the Navy.

This report, which has just been issued, shows that the death rate per 1000 was 7.27, an increase of 1.86 as compared with the previous year, and of 2.09 as compared with the average of the last three years. The stations which show the highest death rate are the Cape of Good Hope and West Coast of Africa (20.03), China (17.34) and East Indies (13.92); those which show the lowest are those of North America and the West Indies, 3.59. The total force afloat was 95,830. The total number of cases of disease and injury was 84,550—a rate of 882 per 1000—an increase as compared with the previous year, but a decrease of 11.2 as compared with the average of the last three years. The invalidating rate was 35.8 per 1000. There were 464 cases of typhoid fever with 124 deaths.

War Casualties.

An official statement just issued gives the casualties in the South African war from the commencement to the end of January, 1902, as 86,459, which, however, includes 66,000 men sent home as invalids, the great majority of whom have rejoined their regiments. The actual reduction of the military forces through the war is 25,305, which is made up as follows: Killed in action, 5314; died of wounds, 1763; prisoners who died in captivity, 103; died of disease, 11,809; accidental deaths, 598; invalids sent home who have died, 474; missing and prisoners, 439. The casualties last month (January) were 3202, which were made up as follows: Killed, 153; wounded, 362; missing, 21; died of disease, 536; accidental deaths, 36; invalided home, 2104.

Error in Teaching the Arrest of Hemorrhage in Ambulance Cases.

The old proverb, "A little learning is a dangerous thing," is illustrated by the correspondence evoked in the *Lancet* by a

letter of Mr. Walter G. Spencer, surgeon to the Westminster Hospital, showing that "first aid" in cases of hemorrhage rendered by persons instructed in ambulance classes often does more harm than good, and may even be responsible for a fatal result. Those who have attended such classes seem to think that they must always apply some sort of an improvised tourniquet to the limb above the bleeding point, while they have not learned the necessity of applying pressure directly to the wound. They do not understand that by applying an improvised tourniquet above the bleeding point with a degree of tightness short of absolutely controlling all circulation they cause venous obstruction. It is thus easy for a large part of the patient's blood to be forced out of a small wound. Entirely unnecessary hemorrhage is produced in this way in cases of superficial lacerated wounds, compound fractures and ruptured varicose veins. Thus, a man struck his leg against the corner of a box causing a minute puncture, such as might be made with a tenotome, in a varicosity behind the knee. His fellow workmen tied a handkerchief round the thigh sufficiently tight to cause venous obstruction, but did not apply pressure to the bleeding spot. This they had been taught. When the patient reached the hospital, the handkerchief was removed and the bleeding immediately ceased. He was profoundly anemic, and transfusion of saline solution had to be performed. Other examples given by Mr. Spencer are the cases of two men with superficial lacerated wounds near the elbows. A bandage was applied above the wound and bleeding continued severely. When they reached the hospital they were very anemic. Only the superficial veins had been divided. In the following case the improvised tourniquet seems to have caused death. A strong man, aged 20, sustained a compound fracture of the lower third of the femur. Immediately a handkerchief was tied round the thigh above the wound, and he was carried straight to the hospital. When brought in he was absolutely anemic; all the clothes of the limb were soaked in blood. The half-tight constricting handkerchief was removed, and no blood escaping a pad and firm bandage were applied to the wound. Infusion with 6 pints of saline fluid stimulating enemata, and drinks were all tried, but he died in an hour. Necropsy showed that the popliteal vessels were uninjured, only terminal branches of the profunda artery and vein were lacerated. Mr. Spencer insists that the application of direct pressure is the proper "first aid" in all cases. In the vast majority of cases there are only superficial lesions affecting small arteries and veins. In the rarer cases of hemorrhage from a large artery the wound must be pressed upon or too much blood will be lost while the tourniquet is being improvised. It only causes confusion to enter on the subject of the compression of main arteries in an elementary ambulance class.

Correspondence.

Letter from India.

BOMBAY, INDIA, Jan. 15, 1902.

To the Editor:—England has sent many of her best medical men to India for service in both army and civil hospitals. Bombay, the chief city of the Empire, is well supplied. The Grant Medical College is equipped for good work and the great hospital adjacent always teems with patients. At a surgical clinic recently held there eight capital operations were performed for various phases of tubercular infection; hip disease, amputation of forearm, peri-rectal abscess, deep cervical abscess, peritonitis, axillary glands, ankle joint and tendo-vaginitis of thigh. Many of the hot-climate ills are mere preparatory steps to general tuberculosis, whose ravages are fearful in the native population of the cities.

INCREASE OF PLAGUE.

Just now plague is again attracting attention. It is increasing rapidly in other parts of India and is spreading. The Plague Commission has made its reports. Nothing but the continued persistence of the pest has been seriously determined. Several thousand more people have perished from it this year than last year. There is, however, no panic. At this great seaport the fight is steady on the part of health officers. Physicians are at a premium and some have been imported especially for plague services. They are each paid about $300 a month. The city of Bombay provides hospitals and segregation camps for plague sufferers. There is a determined effort to break up the overcrowding of the people in infected parts of the city. In one house 15 feet wide, 100 feet long, and five stories high, 600 people were found living in the full depth of India squalor. They were moved to a camp of thatched huts on the coast front of the city where sea air and sunshine are abundant. Segregation camps in this climate are made of bamboo, matting and thatch, a good overhead protection against rain and direct rays of the sun, with ample openings on all sides for free circulation of air. Huts are about 15 by 20 feet on the ground, about 7 feet high at the eaves, with roof about 4 feet higher at the ridge pole than at the eaves. These camps appear most effective in the fight against the plague and are in line with ancient custom. In former plagues the people of infected towns and cities would move to new sites and rebuild. They learned this method of dealing with the black death and other plagues long before the Europeans came to India.

On a great building in a big garden, which was the seat of English government until cholera drove the inmates out, is a small sign which reads, "Imperial Research Laboratory." Here Professor Haffkine conducts the plague laboratory and makes a prophylactic serum which is being freely used. In some localities physicians think it very efficient. The government pays all the expenses of the institution and sends the serum free to all who will use and report upon it.

DEATHS FROM SERPENT BITES.

All sorts of research and serum work is done here. Typhoid, cholera and snake poisons receive special attention. The collection of cobras and vipers is large. Experiments with antivenene are constantly being tried. They follow the methods of Weir Mitchell in collecting the venom. Thousands of people perish in India every year by the bites of serpents and it is hoped that the research laboratory may discover some efficient method of neutralizing snake venom before it has killed its victim.

QUARANTINE.

There is a plague quarantine against Bombay at all Red Sea, Mediterranean, Indian and East Indian ports. But it is modified by the time the ship has been at sea after leaving Bombay and whether she has had any outbreak of plague on board. To guard against this latter phase of the quarantine, a very careful examination is made of passengers and crew before leaving the harbor. The crew is under surveillance for at least ten days before going on the ship. The men are stripped and the port physician runs his hands over the lymphatics of neck, arm-pits and groins; looks at tongue; feels pulse and takes temperature by touch. If any have indurated glands, hot skin, quick pulse, or morbid tongues they are at once separated for re-examination. Any who are found with elevated temperature by the thermometer are rejected. If glands are enlarged also they are sent at once to a hospital for suspects, and if fever and peri-adenitis come on rapidly they are sent to the plague hospital. All passengers are examined the same way, but the cabin passengers are not stripped; a careful inquiry is made as to their general health and where they have been living. In an examination of a crew engaged for a voyage to China, I saw eight men selected for re-examination out of 160 who were examined; of those eight two were sent to hospital as suspects and six were found to have indurated glands due to other causes than plague germs. A high order of medical skill is required for these examinations. Not a ship is allowed to leave the harbor until Mayor Crimmis, M.D., health officer, and his staff have passed upon the entire ship's personnel and the disinfection of the ship and cargo. There is no perfunctory business about it, but thoughtful painstaking examination. So when a ship has been put through this course and no case of plague develops on board during the voyage of seven or eight days other ports do not hesitate to receive her.

If a passenger or member of the crew develops plague at sea he is isolated in a tent on top of the deck houses above the promenade awnings, where light and air are valued adjuvants in the treatment. He is given liquid foods. His glands are poulticed and encouraged to resist the invasion by the germs which commonly proceed from scratches and abrasions in the lower extremities. All open sores are washed with 1 to 1000

sublimate solution twice a day and the heart is supported by digitalis and strychnia. If sweats appear, fever and delirium subside, and the bubo continues to enlarge and fluctuates, recovery is hastened by incision and the evacuation of the pus. Several physicians whom I saw in Bombay have conducted plague cases to a favorable termination and in no sense despair of saving a fair proportion of their European cases. Some had plague themselves. They spoke of a tedious and tardy convalescence characterized by a great adynamia. Statistics, I am told, are not very trustworthy guides of the mortality from plague, because the death often results from the absolute neglect of the native by his friends. Good doctors told me that where they could have the cases from the start with good nursing they could save five out of six cases. Most of the deaths would occur in the pneumonic cases, which might at first be mistaken for pneumonia due to other causes. Early diagnosis is not easy. Here fevers are due to many things that do not occur in temperate climates. Sores of diver sorts are plentiful with lymphatic gland induration due to scratching simple insect bites. Oriental cases of malaria are so often seen that the real plague infection may be overlooked at the first visit. The chronicity of all these troubles and the sudden assault of the plague virus makes the diagnosis sure and prompt in the hands of cautious and skilful physicians. My inquiries in Bombay and other parts of India and at Aden lead to the inference that the serious obstacle to the control of plague by sanitation is the difficulty of breaking up the overcrowding of natives and of destroying rats and other vermin. Popular opinion has to be consulted in the East or the riots will kill more people than the plague. The Hindu will not destroy rats or other animals; it is contrary to his religion. He will die of famine before he will take food from the hand of a person of another caste and he can only be induced to enter the segregation camp by great effort and when paralyzed with fear. Now that plague and famine are both spreading in some parts, prospects are not everywhere bright in India.

LIVER ABSCESS.

An American surgeon visiting this country usually wants to learn something about liver abscess. At home he has been told that it is the scourge of the tropics and is quite unprepared to learn that hepatic abscess is not much of an abscess in the northern meaning of the word. It has no abscess wall like pyosalpinx. When treated by incision and drainage it discharges bloody brown pus from the usual pus microbes of northern climates and is not nearly as plentiful in numbers as dysentery, which is the guide in its diagnosis, dengue, beriberi, elephantiasis and filariasis. At Indore, at Ujjani, at Mhow and Bombay I found cases in all stages from early to late inception, with vast destruction of liver tissue and death. A soldier reported sick had fever, pain and swelling in right side; had been losing flesh for two weeks, but kept about. Here was fluctuation at the costal margin near the median line. Incision evacuated a great amount of brownish clotted material. He died in 24 hours; autopsy revealed destruction of the greater part of the right lobe. Was it a rapid destruction of liver tissue with sudden fever and prostration, or was it a chronic lesion of the organ with sudden appearance of symptoms? Liver abscess here has always an antecedent history of dysentery or disease of the alimentary tract. It is distinguished from malarial and other fevers by a daily evening rise of temperature, usually 102 F. There is always enlargement of liver if carefully looked for; rarely enlargement of spleen. Quinin dosing has been usually tried and given no benefit. There is more or less pain, always in the region of the liver; tired feeling, loss of strength and rarely any jaundice, but the complexion is muddy. Natives, unless alcoholics, never have it. The patient usually dies of exhaustion or of lung complication if the abscess is not opened. All the surgeons I talked with confirm the diagnosis by resort to aspiration and treat the abscess by drainage. The cavity is syringed out with salt solution every day. The tube is left in as long as any cavity remains to hold it. The back part of the right lobe is the favorite location of abscess, but it is sometimes found pointing beneath the costal margin and is opened there. The favored place for introduction of aspirator trocar is between the eighth and ninth ribs in the axillary line. If pus is not found on aspiration once, they try two or three more thrusts, always with caution to avoid a long gall-bladder, portal veins and intestines. If fever does not abate and condition improve after opening one abscess, others are sought for in the same manner as the first. Chloroform is given for anesthesia throughout all India. Accidents are very rare.

Hal. C. Wyman, M.D. (Detroit).

Arterio-Venous Aneurysms of the Subelavian Vessels—An Addendum.

New Orleans, La., Feb. 2, 1902.

To the Editor: I regret that in preparing the text of this contribution the very interesting and instructive case of arterio-venous aneurysm operated upon by Dr. John F. Erdmann and reported by him to the New York Surgical Society, January, 1899 (see Annals of Surgery, pp. 618-622, vol. 29, Jan.-June, 1899) should have escaped my observation while compiling the bibliography. It presents so many unique features and is so encouraging from the operative point of view that it is well worthy of a special abstract in connection with the analytical study of the subject which has been attempted in this contribution.

The case is one of arterio-venous aneurysm of the left subclavian vessels outside of the scalenes, and is not an aneurysmal varix as erroneously stated in the title of the report. The patient, a gymnast aged 20 years, was accidentally shot Aug. 19, 1898. The bullet (revolver, 32 caliber) entered left chest wall about 1½ inches below the middle third of the clavicle. This was followed by an immense swelling in the neck which persisted for a week or ten days. The wound healed after the first week, leaving the corresponding arm cyanotic and weak. A loud bee-buzzing murmur and thrill could be easily recognized in chest, axilla and upper brachial region. After a rest of seven weeks without improvement it was decided to cut down upon the subclavian artery, ligate it, and sew the aperture in the vein.

Under ether anesthesia, the patient was operated upon Nov. 11, 1898, three months after the date of injury. After dissection, a band of cicatricial tissue in the tract of the bullet was found encroaching upon the third division of the left subclavian. Compression of this band of scar tissue completely arrested the bruit and thrill in the affected areas. This band of scar contained the channel of communication between the injured artery and vein and was three-eighths of an inch wide and one-eighth inch long, just allowing an ordinary aneurysm needle to pass between the vessels. While dissecting this scar channel, the communication was nicked and torn through about half its width. Bleeding occurred, but was readily checked by pressure with the aneurysm needle. The needle was withdrawn and the silk tied about the communication. Hemorrhage was thus absolutely controlled. Finding it impossible to ligate the proximal side without further dissection, the clavicle was sawed at the junction of its middle and inner thirds, with a Gigli saw. Considerable difficulty was experienced even then in exposing the subclavian on account of dense cicatricial matting of the tissues. Finally the plexus and artery were freed and a ligature was applied to the third portion of the subclavian just outside of the scalenes anticus, another about the artery at the beginning of the axillary. Then a ligature was placed about the communication and the original ligature of long silk removed. Owing to the time involved and the patient's condition, the portion of the artery between the ligatures was not removed. The clavicle was wired and the wound closed without drain. Dressings were applied to keep the extremity warm. At the end of twenty-four hours, the color of the fingers and forearm was of a healthier hue than for six weeks past. At the end of the sixth day feeble radial pulsation could be felt and on the tenth day, it was quite demonstrable.

The wound healed per-primam with slight necrosis of skin. Patient left his bed on the tenth day. Union of the clavicle was not solid, but improving at time of report two months after operation. Condition of the arm as to innervation and nutrition has improved since operation. No murmur or thrill since operation.

* * * * *

In closing the analytical summary of the cases of arterio-venous aneurysm that the author has been able to collect from the literature it is important to revise the statistical conclusions as they are modified by the addition to the three remarkable cases recently reported by Vallas, Reboul and Erdmann which were not included in the statistics at the time when the text of this paper was written. In accordance with these new data the statistics must be amended as follows:

Total cases of arterio-venous aneurysm of the subclavian vessels reported, 18. Cases treated expectantly or without operation, 12. Operated cases, 6. Of the 12 unoperated cases, 2 died (Will's and Reboul's). Of the 6 operated, 2 died (Wattmann, Vallas).

Total mortality of the entire group, 4/18 or 22.2/9 per cent.

Mortality of the unoperated, 1/6 or 16.2/3 per cent.

Mortality of the operated, 2/6 or 33.1/3 per cent.

While these figures are interesting as showing the gross mortality of this class of lesions when viewed as a whole, they also demonstrate once more the fallacy of statistics especially of small groups, as guides, in arriving at conclusions, when the individual cases are not subjected to critical and discriminating analysis. In fact, a study of the records shows that if the two deaths included in the non-operated group had been subjected to a timely intervention before the patients had been exhausted by protracted hemorrhage and other complications they would, in all probability, have been saved. On the other hand, the two deaths which appear in the operated group could not fairly be attributed to the operation as in both instances (Wattman's, Vallas') the operations were undertaken in desperate conditions, when septic infection and other grave complications had already darkened the prospect of recovery. In trying to arrive at a fair estimate of the mortality of the operated cases, the conditions under which the interventions were undertaken and the division of the subclavian tract involved, should always be considered. Viewed in this light, the cases of Wattmann and Vallas, in both of which sepsis existed and a rupture of a varicose sac was threatened by suppuration, should be eliminated from the non-septic and non-complicated group. If separate groups of such desperate cases were collected we do not doubt that the mortality would not fall short of 95 per cent. On the other hand, the recovery of the four patients who were operated upon early (Rötter, Veiel, Erdmann and the author) in comparatively uncomplicated conditions and in the accessible portions of the artery and vein (2d and 3d divisions) demonstrates that a radical operation can be undertaken with great prospect of success and with a mortality less than in the unoperated cases in similar conditions. If we still eliminate the cases in which the profuse hemorrhage has greatly exhausted the patients and group together the type of cases represented by Erdmann's patient and my own, in which the operation was undertaken for aneurysmal varix or varicose aneurysm of the 2d and 3d division of the artery and vein, after full recovery from the effects of the primary hemorrhage and shock has taken place, we will find the operative mortality reduced to a very low percentage perfectly compatible with the aims of a thoroughly conservative surgery.

The prognosis as regards the viability of the limb still remains a debatable question to be determined by future observations; but it is evident from the results of Veiel's case and my own, that a prudent reserve must be maintained on this important point before deciding definitely as to the comparative merits of expectancy and the radical operation in the group of cases last referred to. But even from this point of view it is evident, from the lessons gathered in my case, that further modifications of the technique will justify a far more aggressive attitude than in the past. RUDOLPH MATAS, M.D.

2255 St. Charles Avenue.

Tuberculophobia.

COLORADO SPRINGS, COLO., Feb. 6, 1902.

To the Editor:—The recent agitation in California shows a growing tendency to make the life of a tuberculous patient miserable. It is said to be done in the interests of the people and for the good of the states that are to bar these unhappy victims. But in fact it is due to nothing less than what may be called tuberculophobia. Physicians are to a great extent responsible for this. There are too many exaggerated statements about the contagiousness of tuberculosis. Here is a city built up almost entirely by its fame as a health resort for lung patients; also because no useless restrictions have been placed upon invalids. Yet it is a fact that there are hundreds of people in Colorado who came for their health, have regained it and taken up permanent residence, who now advocate the passage of laws restricting others from regaining their health in the same way. A young man from the East went to New Mexico over a year ago. He arrived in a town where he found the people so afraid of a consumptive that it was with the greatest difficulty he secured boarding, and he was unable to find a place in the town where he could rent a room permanently. Disheartened and discouraged he turned eastward again, only to die. Such fear is nothing short of criminal. It seems to me that the medical profession at least should be the friend of the sick. Even consumptives are entitled to some rights.

The plan suggested of isolating them in colonies like lepers is both inhuman and uncalled for. If there is anything depressing to the mental condition of a consumptive it is in being thrown into constant contact with so many others in his own state. Whatever may be the legal right of a state to shut the citizens of other states out from its natural advantages (though we doubt the legality of it) there can be no question about the inhumanity of such a law.

Any physician knows that tuberculosis is neither contagious nor infectious as the ordinary layman understands those terms. Yet we meet with people who will walk a block out of their way to keep from passing one of these poor victims. A few days ago I was called to see a man who works at one of the hotels in this city. He had a severe cold and an accompanying cough. His first question was: "Do you think I could have caught consumption?" I inquired how. "Well," he said, "there were some men stopping here who had it." I found out that the men referred to had stopped at the hotel over night, and my patient had an idea he might have taken it from them as he would smallpox. No word but "panic" expresses the present attitude toward this disease in some quarters.

JOHN INGLIS, M.D.

Sugar Testing with Haines' and Purdy's Solutions.

BUFFALO, N. Y., Feb. 17, 1902.

To the Editor:—The method of quantitating sugar in urine, reported by Dr. Wm. H. German, and credited to Mr. Carl Irenaeus in THE JOURNAL of February 1, apparently does not differ in principle from that of Dr. Purdy, yet the table does not seem to correspond proportionately to that published in Dr. Purdy's book. Is the "Purdy's solution" of different strength or what is the explanation? A. L. BENEDICT, M.D.

The above was submitted to Dr. German, who answered as follows: "The proportion of urine required in this test is larger than in the Purdy test, though the same copper solution is used. This is due to the smaller bulk of the test, a slight excess of urine being required to give a perfect end-reaction."

Book Notices.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF MICROSCOPICAL AND CHEMICAL METHODS FOR STUDENTS, HOSPITAL PHYSICIANS AND PRACTITIONERS. By Charles E. Simon, M.D., author of Simon's Physiological Chemistry, etc. New (4th) Edition, Thoroughly Revised and Enlarged. In One Handsome Octavo Volume of 608 Pages, Illustrated with 139 Engravings and 19 Plates in Colors. Cloth. Price, $3.75 net. Philadelphia and New York: Lea Brothers & Co. 1902.

Four editions of this work have been issued in the brief space of five years. This is an indication not only of the excellence of the work, but also of what is even more gratifying, namely, a rapidly growing appreciation on the part of the general practitioner of the necessity of familiarizing himself with the methods of accurate clinical diagnosis, as it is work of this character that lies at the very foundation of all medical progress. The author presents the facts as they are known to-day in a clear and concise manner, and the frankness with which he acknowledges the many points that are not known instead of attempting to hide ignorance in misty theory, is highly commendable.

The first chapter of 137 pages is devoted to the blood, and the subject is admirably presented, with the exception of the use of the hematokrit. The author acknowledges that his enthusiasm for this instrument is dampened by the fact that he has only a hand machine, and the information which its use affords concerning the size of the corpuscles, "volumn index," etc., is therefore entirely omitted. The importance which is attached to the urine is well shown by the fact that 250 pages are devoted to its consideration. We find no men-

tion made of the rapid quantitative estimation of urinary constituents by means of the volumetric method and the centrifuge, perhaps for the same reason that applied to the hematokrit. A chapter on transudates and exudates is of much interest and value, as is one on the cerebrospinal fluid.

The colored plates are nearly all original and well executed. The work is one which should not only be possessed, but constantly used by every practitioner.

American Edition of Nothnagel's Encyclopedia.—Variola (Including Vaccination), by Dr. H. Immermann, of Basle. Varicella, by Dr. Th. von Jürgensen, of Tübingen. Cholera Asiatica and Cholera Nostras, by Dr. C. Liebermeister, of Tübingen. Erysipelas and Erysipeloid, by Dr. H. Lenhartz, of Hamburg. Whooping Cough and Hay Fever, by Dr. G. Sticker, of Giessen. Edited, with Additions, by Sir J. W. Moore, B.A., M.D., F.R.C.P.I., Professor of the Practice of Medicine, Royal College of Surgeons, Ireland. Handsome octavo volume of 682 pages, illustrated. Cloth. Price, $5.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

The second volume of the Nothnagel series following so soon after the appearance of the first gives promise of early completion into English of this excellent encyclopedia. From the fact that nearly half of this second volume is devoted to smallpox, vaccination and chicken-pox, it will be especially welcome at this time. It is unnecessary to say that the treatment of these subjects is exhaustive. The historic and statistical phases are valuable, especially in their relation to prevention of smallpox by vaccination. No doubter could possibly read this monograph and resist believing in the efficacy of vaccination. Besides the above, the volume contains monographs on three common every-day diseases, erysipelas, whooping-cough and hay fever, as well as a treatise on the less common disease, cholera. One is rather surprised to see hay fever treated under the title "Bostock's summer catarrh," until one recalls the fact that it was first described by an English physician, John Bostock, who reported his own case in 1819.

The editorial revision has been exceedingly well done, and this, with the numerous additions made to bring the subjects well up to date, makes the volume superior to the original German edition. We would repeat the favorable comments we made on the previous volume.

The Mental Functions of the Brain, An Investigation into Their Localization and Their Manifestation in Health and Disease. By Bernard Hollander, M.D. (Freiburg L.B.), M.R.C.S., L.R.C.P. (London). Illustrated with the Clinical Records of 800 Cases of Localized Brain Derangements and with Several Plates. Cloth. Pp. 507. Price, $3.50. New York and London: G. P. Putnam's Son. 1901.

This work is an attempt to rehabilitate phrenology. The author thinks that the results of the investigations on the localization of functions in the brain confirm the deductions of Gall of nearly a century ago, and he makes the statement that no subject has ever been so thoroughly misrepresented even by men of acknowledged authority and no author has ever been left to such malice as Gall, notwithstanding there is not one man of scientific repute who has left anything that would indicate that he has examined Gall's chief work. We are under the impression that the recognition of Gall's services as an investigator has been more general than the author would admit. In fact, it is our opinion he has not been spoken of disrespectfully, even when the pseudo-science of phrenology has not been recognized. We do not find on perusal of the work any reason to adopt the author's opinions in regard to the minute localization which he claims, and phrenology stands in our minds in the same position it formerly occupied. The rather combative tone of the work we think is uncalled for, though, of course, in the attempt to demonstrate what has been repudiated by scientific men, some vehemence of statements might be expected. The book is well illustrated, and must have required considerable labor, and will undoubtedly be treated respectfully, even by those who do not agree with its conclusions.

A Treatise on Orthopedic Surgery. By Royal Whitman, M.D., Instructor in Orthopedic Surgery and Chief of the Orthopedic Department of the Vanderbilt Clinic in the College of Physicians and Surgeons of Columbia University. Illustrated with 447 Engravings. Cloth. Pp. 650. Price, $5.50 net. Philadelphia and New York: Lea Brothers & Co. 1901.

This, the latest work on orthopedic surgery, is also one of the best thus far published, a coincidence which is often not the case. The author considers the subject in a manner born of an intimate personal knowledge of the conditions treated, and in a style that is both interesting and pleasant. The relative frequency with which the different conditions present themselves to the surgeon has been used as a basis for determining the amount of space to be devoted to each. The wisdom of such a division of space is questionable, for it is usually the case that the rarer conditions are the ones most difficult to diagnose, and therefore most frequently overlooked or mistaken. Thus, more space could with advantage have been devoted to such subjects as syphilitic diseases of the joints, hysteric spine, joint diseases in connection with diseases of the nervous system, some of the painful affections of the feet, etc. The common affection, such as Pott's disease, tuberculosis of the hips, lateral curvature of the spine, etc., are admirably handled, and these chapters are replete with useful and valuable suggestions.

Appendicitis: Its Pathology and Surgery. By Charles Barrett Lockwood, F.R.C.S., Assistant Surgeon and Lecturer on Descriptive and Surgical Anatomy in St. Bartholomew's Hospital. Cloth. Pp. 287. Price, $2.50. London and New York: Macmillan & Co. 1901.

The author in his introductory chapter makes an earnest plea for a correct use of terms, and decries the so-called classifications which are so much in use, but which are more or less confusing in that they are not self-explanatory. Chapters two and three on anatomy and histology give a clear and concise statement, particularly with reference to the blood, nerves and lymphatic supply, but the relations of the peritoneum are not as clear as might be. The succeeding chapters, up to the 15th, deal with the different types of inflammation of the appendix, and numerous clinical histories are given as examples of the particular type under consideration. The remaining chapters deal with symptoms, difficulties and errors in diagnosis, treatment, expectant and operative, incomplete operations, and lastly, the after-treatment. The author still uses a 1-60 solution of carbolic acid to keep his instruments in after they have been sterilized in the usual manner.

The work has no doubt required a great deal of time and attention, but its perusal is rendered less pleasurable on account of the citations of so many clinical cases.

A Complete Expose of Eddyism or Christian Science, and the Plain Truths in Plain Terms Regarding Mary Baker G. Eddy, Founder of Christian Science. By Frederick W. Peabody, Member of the Boston Bar. Paper. Pp. 68. Price, $0.25.

This pamphlet, which is published by the author, is the most scathing exposé of Eddyism that we have seen, not only in the facts that it tells but in those it infers, and it would appear that if there were any possible chance for it the founder of this widespread cult might start a libel suit. As there has been no attempt at such it is a strong support of the correctness of the author's statements. Being an attorney Mr. Peabody undoubtedly knows just what chances he is taking in the matter. We believe that the general reading of this exposé by the profession would have a good effect. We have nowhere else seen such a thorough showing up of the fraud.

Progressive Medicine, Vol. IV, 1901. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, Handsomely Bound in Cloth, 400 Pages. 13 Illustrations. Price, per annum, in Four Cloth-bound Volumes. $10.00. Philadelphia and New York: Lea Brothers & Co.

The December number of this serial contains valuable reviews from the literature on diseases of the digestive tract by Dr. Max Einhorn; on surgery and orthopedics, by Dr. J. C. Bloodgood; on renal disease, by Dr. J. R. Bradford, the only foreign contributor; on physiology, by A. P. Brubaker; on hygiene, by Dr. Henry B. Baker, and on practical therapeutic referendum, by E. Q. Thornton. The volume as a whole maintains the general character of excellence of the series and will be a useful addition to the physician's library.

Le Malattie del Sangue. Manuale di Ematologia. Dottor Emilio Rebuschini. Un vol. di pag. viii-432. Milano: Ulrico Hoepli. 1902.

This little work is one of the latest issues of the Hoepli series reviewing the anatomy and physiology of the blood and its clinical examination and general pathology. Special attention is given to the subject of anemia, which takes up a large portion of the work. Other disorders included among blood diseases are certain parasitic disorders of the blood and

malaria which might hardly be expected to be thus included. Of course, the work is elementary, but anyone who reads Italian will find it a valuable little work of reference on its subject.

A TEXT-BOOK OF DISEASES OF WOMEN. By Charles B. Penrose, M.D., Ph.D., formerly Professor of Gynecology in the University of Pennsylvania. Fourth Edition, Revised. Cloth. Pp. 539. Price, $3.75 net. Philadelphia and London: W. B. Saunders & Co. 1901.

As the preceding editions of this work have been reviewed in these columns it is deemed unnecessary to say more of the present edition than that the author has brought it fully abreast of the times and that it therefore continues to hold its position as one of the most practical text-books on diseases of women in the English language.

Married.

HENRY J. PARKER, M.D., of Clayton, Ill., to Miss Rhodes, of Moweaqua, February 5.

HUGO A. KIEFER, M.D., to Miss Alice B. Campbell, both of Los Angeles, Cal., February 10.

WILLIAM S. SHOUSE, M.D., to Miss Alice C. Duston, both of Kingston, Mo., January 30.

AUGUSTUS GUERTIN, M.D., to Miss Ludivinee Morin, both of Nashua, N. H., February 11.

JAMES H. CHIPMAN, M.D., to Miss Edna Manners, both of Georgetown, Del., February 8.

J. W. WYNN, M.D., to Miss Bertie Cunningham, both of Comanche, Texas, February 12.

CLARENCE S. RAMSEY, M.D., to Miss Della E. Wilson, both of Springfield, Ohio, February 11.

C. B. ALBRIGHT, M.D., Keene, N. H., to Miss Effie C. Booth, Rochester, N. Y., February 11.

CHARLES H. SCHOFF, M.D., of Media, Pa., to Miss Helen G. Duffee, of Chester, February 11.

GEORGE E. PENDER, M.D., to Miss Grace M. Sherwood, both of Portsmouth, N. H., at New York, February 9.

Deaths and Obituaries.

George A. Shurtleff, M.D. Vermont Medical College, Woodstock, 1845, formerly professor of mental diseases and medical jurisprudence in the medical department of the University of California, president of the California State Medical Society in 1872, delegate to the International Medical Congress in 1876, member of the American Medico-Psychological Association and of the State Medical Society, who was for eighteen years medical superintendent of the State Insane Asylum at Stockton, died in that city, February 11, aged 82. He had retired from practice about nine years ago because of his failing health, and for the past five years had been an invalid.

Joseph B. Holland, M.D. Dartmouth Medical College, Hanover, N. H., 1866, and Columbia University, New York, 1867, died of muscular atrophy in Boston, Mass., February 14, aged 61. He had been a prominent citizen of Galesburg, Ill., since 1870, and, having retired from the practice of medicine because of his health, became a wholesale publisher of medical books.

Levi Cooper Lane, M.D. Jefferson Medical College, Philadelphia, 1851; member of the Royal College of Surgeons, England; founder of the Cooper Medical College and of Lane Hospital, San Francisco; a member of the American Medical Association, died at his home in San Francisco, February 19, aged 70.

William McKean, M.D. Jefferson Medical College, Philadelphia, 1867, died of cancer of the liver and stomach, February 12, at his home in Canal Dover, Ohio, aged 64. He was a member of the Tuscarawas County Medical Society and of the Northeastern Ohio Medical Association.

Dexter C. Holly, M.D. University of Michigan, Ann Arbor, 1853, a prominent physician of that state, formerly president of the Grand Rapids Medical Society, who had retired from practice a few months ago, died at his home in Ann Arbor, February 13, of heart disease, aged 76.

Benjamin Franklin Pope, M.D.

By the death of Colonel Pope, which occurred in Manila, February 14, and was noticed in the last issue of THE JOURNAL, the Medical Department of the Army loses one of its most prominent members. He was born in Rome, N. Y., on Feb. 24, 1843, and, therefore, at the time of his death was within ten days of being 59 years of age. He entered Hamilton College, New York, and studied there two years, being a class-mate of the present Secretary of War. He was graduated from Albany (New York) Medical College, in June, 1864, and immediately entered his country's service as assistant surgeon of the 10th New York Heavy Artillery. He served in the trenches in front of Petersburg and in the Shenandoah Valley in Sheridan's campaign; was chief of the field hospital at Bermuda Hundreds, in the provisional department of Virginia and North Carolina, and was afterward in charge of the Washington Hospital at Petersburg after the evacuation of the town, and until the close of the war. At this time, although he was young in years and in professional experience, he manifested a high degree of professional skill and of executive ability. He was mustered out of the volunteer service, July 19, 1865, was appointed lieutenant and assistant surgeon in the Regular Establ-

BENJAMIN FRANKLIN POPE, M.D.

lishment, May 14, 1867; was made captain and assistant surgeon in 1869, and received his majority on Sept. 16, 1885. He was the first to notice and report the fungous growth resulting in "Madura foot" and reported a case in which he amputated the foot for this condition. To him also belongs the credit of establishing the circulating library for the army. At the outbreak of the Spanish-American war he was made Lieutenant-Colonel and Chief Surgeon of the 5th Army Corps, on May 9, 1898, and served throughout the war as chief surgeon under General Shafter, having entire medical charge of the Department of Santiago. He was mustered out of the volunteer service on Oct. 31, 1898, and on December 21 of the same year received his promotion to Lieutenant Colonel and Deputy Surgeon-General. On Jan. 1, 1902, he was made Colonel and Assistant Surgeon-General. Dr. Pope's chief contributions to medical literature were: "Trichinosis in the Army," 1884; "Mycetoma, the Fungous Foot of India," 1896, and "A Plan for the Organization of a Medical Department for War Service in a United States Volunteer Army," read before the Association of Military Surgeons of the United States in 1900.

Oscar W. Peck, M.D. University of Vermont, Burlington, 1880, member of the Burlington Clinical and Vermont State Medical Societies, who had been state senator and Surgeon-General of Vermont, died, February 16, at Winooski, aged 47.

Jesse Myer, M.D. New York University, 1845, who had practiced medicine in Kingston, N. Y., since his graduation, died, February 16, at his home in that city, aged 80, from injuries received in a fall on an icy sidewalk.

Howard Jennings, M.D. Hospital College of Medicine, Louisville, Ky., 1886, of Savannah, Ga., died February 11, at El Paso, Texas, on his way home from Arizona, whither he had gone in pursuit of health.

Thomas H. Smith, M.D. Cincinnati Medical College, Ohio, 1855, died at his home in New Philadelphia, Ohio, February 19, after an illness of many months with heart disease, aged 78.

William H. Clark, M.D. New York University Medical College, 1882, of Bellingham, Mass., aged 55, was killed, February 15, by a train while he was driving across the track.

William M. Ridenour, M.D. Western Reserve University, Cleveland, Ohio, 1895, died of pulmonary tuberculosis at Las Cruces, N. M., recently.

N. J. Newell, M.D. Reform Medical College of Georgia, Macon, 1854, died at his home in Anderson, S. C., February 14, of heart disease.

Louis Z. LaJoie, M.D. Laval University, Quebec, 1894, died after a long illness, February 13, at his home in Haverhill, Mass., aged 34.

Joseph H. Baker, M.D. University of Pennsylvania, 1854, died of Bright's disease, February 12, at his home in Tarboro, N. C.

James B. Crane, M.D. South Carolina Medical College, Charleston, 1851, of Batesville, Ark., died suddenly about February 6.

John T. Dooley, M.D. New York University, 1888, died of pneumonia at his home in Manchester, Conn., February 15, aged 34.

Richard C. Mackall, M.D. University of Maryland, 1847, died at his home in Elkton, Md., February 16, of paralysis, aged 80.

John P. McClanahan, M.D. Jefferson Medical College, Philadelphia, 1854, died recently at his home in Alexis, Ill., aged 78.

Lyman J. Adair, M.D. Rush Medical College, Chicago, 1870, died February 14, at his home in Anamosa, Iowa, of pneumonia.

George S. Glenn, M.D. Bellevue Hospital Medical College, New York, 1874, of Morrilton, Ark., died February 9, aged 48.

P. D. Flower, M.D. University of Pennsylvania, 1869, died at his home in Albion, Pa., February 9, of apoplexy, aged 72.

State Boards of Registration.

Iowa State Examination.—The Iowa State Board of Medical Examiners held quarterly examination for license, at Des Moines, January 21 and 22. The number of subjects examined in were 8; total number of questions, 80; percentage to pass, 75. There were 18 applicants, of whom 14 passed:

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Percent.
487	H.	Chicago Hom. Medical College.....	1900	90
489	H.	Chicago Hom. Medical College.....	1900	85
490	R.	College of Phys. & Surg., Chicago.	1901	83
491	R.	Coll. of Phys. & Surg., Keokuk, Ia.	1894	80
492	R.	Coll. of Phys. & Surg., N. Y. City..	1894	90
493	H.	Hom. Hospital Coll., Cleveland, O.	1882	80
494	R.	Illinois Medical College, Chicago..	1901	83
495	R.	Kansas Medical College, Topeka...	1897	76
496	R.	Northwestern U. Med. Sch., Chicago	1900	84
497	R.	N.-W. U. Woman's M. S., Chicago..	1901	86
499	R.	N.-W. U. Woman's M. S., Chicago..	1889	87
501	R.	Rush Medical College, Chicago....	1901	93
503	R.	Trinity University, Toronto, Can..	1898	92
504	R.	Tufts Coll. M. S., Boston, Mass...	1898	81

FAILED.

488	R.	Meharry Med. Coll., Nashville....	1895	63
498	R.	Keokuk Medical College, Iowa.....	1893	52
500	R.	Missouri Med. Coll., St. Louis....	1874	66
502	R.	St. Louis Coll. of Phys. & Surg...	1901	74

Indiana Examination.—The Indiana State Board of Medical Registration and Examination held its regular semi-annual examination on January 14, 15 and 16, at Indianapolis. The number of subjects examined in were 18; number of questions, 130. The applicants numbered 39, of whom 32 were successful in obtaining the necessary 75 per cent.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Percent.
1	R.	Jefferson Medical College.....	1901	88
2	R.	Medical College of Ohio.....	1897	88
3	R.	Medical College of Ohio.....	1899	95
4	R.	Univ. and Bellevue Hosp. Med. Col.	1899	90
5	R.	Chicago Medical College.....	1891	82
6	E.	Bennett Medical College.....	1883	86
9	E.	Bennett Medical College.....	1901	83
7	H.	Hahnemann Med. College, Chicago.	1898	90
8	R.	Kentucky University	1901	96
10	R.	Rush Medical College.....	1900	80
19	R.	Rush Medical College.....	1893	91
11	R.	Louisville National Medical College.	1896	90
18	R.	Louisville National Medical College.	1901	76
12	R.	Kentucky School of Medicine.....	1894	80
13	R.	Harvard Medical College.....	1887	94
14	R.	Western Reserve, Cincinnati.....	1877	75
22	R.	Western Reserve, Cincinnati.....	1898	77
15	R.	Marion Sims Medical College.....	1898	80
16	R.	College of Phys. and Surg., Chicago	1900	89
17	H.	Kansas City Homeopathic Med. Coll.	1900	80
20	R.	College of Phys. and Surg., Keokuk.	1885	77[1]
21	R.	Woman's Medical Coll. of Penna...	1900	95
28	R.	Woman's Medical Coll. of Penna...	1899	91
23	R.	Illinois Medical College.....	1901	92
24	E.	Eclectic Med. Institute, Cincinnati.	1901	79[2]
25	R.	University of Michigan.....	1901	92
26	R.	Vanderbilt University	1901	86[2]
27	R.	Miami Medical College.....	1901	89
29	R.	University of Pennsylvania.....	1900	90
30	R.	Barnes Medical College.....	1899	91
31	R.	Michigan College of Med. and Surg.	1897	90
32	R.	American Med. Missionary College.	1901	91

FAILED.

1	R.	University of Louisville.....	1898	72
2	R.	Missouri Medical College.....	1878	64
3	R.	Kentucky School of Medicine.....	1901	66[2]
4	R.	Barnes Medical College.....	1901	72[2]
5	R.	College of Phys. and Surg., Chicago	1898	60[3]
6	E.	Eclectic Medical Inst., Cincinnati..	1901	71[2]
7	R.	Ohio Medical College.....	1877	70[3]

1. Conditionally.
2. Second examination.
3. Examination not completed.

Wisconsin Examination.—The Wisconsin Board of Medical Examiners held the regular quarterly examination at Milwaukee, January 14 and 15. The number of subjects examined in were 12; number of questions, 120; percentage required for pass, 75. The number of candidates examined was 19, of whom 16 were successful.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Percent.
1	R.	Rush Medical College, Chicago.....	1901	77
3	R.	Rush Medical College Chicago.....	1901	77
2	R.	Northwestern University	1900	86
7	R.	Northwestern University	1893	85
10	R.	Northwestern University	1901	80
11	R.	Northwestern University	1899	84
12	R.	Northwestern University	1901	85
14	R.	Northwestern University	1899	81
4	H.	Hahnemann, Philadelphia, Pa.....	1901	81
5	H.	Hahnemann, Chicago	1900	78
6	O.	Northern Inst. of Osteopathy.....	1901	81
8	E.	Bennett Medical College, Chicago..	1898	86
9	R.	College of Phys. and Surg., Chicago	1900	80
13	R.	Trinity Med. College, Toronto.....	1891	83
15	R.	Jefferson, Philadelphia, Pa.....	1899	81
16	R.	Columbia University	....	81

FAILED.

17		Acad. Med. Kentucky.....	1901	70
18		Harvey Med. Coll., Chicago.....	1901	71
19		Certificate of Graduation unsatisfactory (probably fraudulent). He did not complete his examination.		

New Instrument.

A SUTURE HOLDER.

A. E. BENJAMIN, M.D.

MINNEAPOLIS.

All operators have found some inconvenience in the use of the forceps to hold sutures as they are introduced in abdominal wounds. A great many forceps are necessary if each suture is to be held at each end by a separate forceps. Much time is consumed in clamping and reclamping the forceps, on the part of the operator and his assistant.

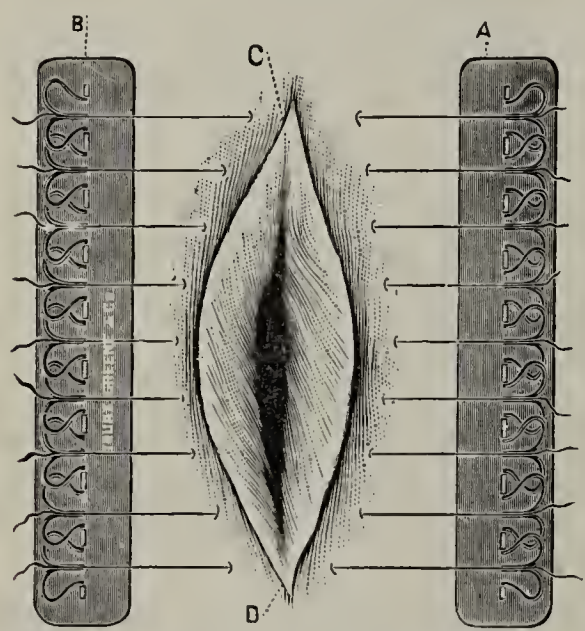
I have devised an instrument which may be used for all linear incisions when the sutures are introduced before they are tied. The above illustration represents the two suture holders, A and B, in operation. C and D represent the angles

of incision, and the sutures are shown as they pass out of the skin to the loops on the plates.

Each instrument consists of a plate of steel about four inches long, three-fourths of an inch wide, and one-eighth of an inch thick. Upon this plate are soldered loops of steel wire, placed in a manner so there is sufficient spring to retain the sutures, and as each successive suture is introduced, the operator and his assistant on their respective sides of the patient, quickly slip the ends of the sutures between the loops. These loops being soldered at an acute angle on the plate, and with an obtuse angle next to the wound, any pulling in the direction of the wound tightens the grasp of the loops upon the suture, making it impossible to get out of the grasp of the loop. Yet, when these sutures are to be tied successively, a little pull in the opposite direction and raising the suture at the same time, easily loosens it, so as to be tied.

The plates are placed at a sufficient distance from the edges of the wound, so that they do not interfere in any way with the introduction of the various sutures. The advantages claimed for this instrument are as follows:

1. The economy of time while the sutures are being introduced.



2. It holds the sutures separately, not allowing them to get mixed up or twisted.

3. It saves the unclamping and reclamping of forceps, which are often used to hold the ends of the sutures or avoids the use of many forceps to retain the individual sutures.

4. The operator himself, without loss of time, quickly shoves the end of the suture between the loops without having to loosen his hold upon it.

5. The two instruments may be raised after all the sutures are introduced to approximate the edges of the wound, showing at once any failure of an individual suture to approximate the opposing surfaces, and this suture can be quickly identified, removed and reintroduced properly.

I have been using these suture holders in nearly all my abdominal operations for the past six months, and have found them a great convenience and saver of time in this work.

302 Pillsbury Bldg.

Miscellany.

Diagnosis of Insufficiency of the Pylorus.—THE JOURNAL has mentioned Queirolo's method of determining the outlines of the stomach. A small rubber balloon is fastened on the end of a sound which branches above. One branch connects with a Marey drum, the other has a faucet to shut off the air. After the balloon is partially inflated and communication with the outer air is closed by the faucet, percussion over the stomach causes the index to vibrate at the slightest touch, while it does not move when the percussion passes beyond the limits of the stomach. It is possible by this means to locate the outlines of the stomach with extreme accuracy if the pylorus is normal. In case of insufficiency of the pylorus, on the other hand, the air escaping through the pylorus deprives the stomach of the conditions necessary to enable the effect of the percussion to be transmitted from the stomach walls to the balloon and in turn to the index. Hence the index does not stir in case of insufficiency of the pylorus, even when the percussion is applied directly over the stomach. The insufficiency may be intermittent or total. In some cases the index moves at certain times and is immovable at others, thus allowing the complete supervision of the behavior of the pylorus under varying conditions. Queirolo stated in his communication on the subject at the recent Italian Congress of Internal Medicine, that these tests fail only in obese subjects or when there is an excessive tendency to borborygmus on the slightest occasion.

The Bibliographia Medica.—Professor Richet, one of the editors of the *Bibliographia Medica*, remarked in a recent editorial in his *Revue Scientifique*: "Americans appreciate the advantages of organized classification of contemporaneous medical bibliography better than Europeans. Almost all the subscribers to the *Bibliographia Medica* are in America, principally in the admirable libraries of American Universities. The Germans, Russians, Italians and even the French, have been strangely indifferent." He continues, "If even one-half of the university libraries in the world would subscribe to the *Bibliographia Medica*, the work could go on, as it is not published for profit." It is a strictly interuational undertaking, and if German and American works are in the majority in the index, it is merely because the medical output is larger in Germany and the United States than in other countries. The Newberry Library of Chicago wrote to urge the continuance of the work "at any price," gladly agreeing to pay any subscription that might be asked.

Subarachnoid Serum Treatment of Tetanus.—Professor Penna, of Buenos Ayres, is convinced that tetanus is essentially an affection of the spinal cord rather than of the brain. For this reason he injects the antitetanus serum into the subarachnoid cavity and reports in the *Semana Medica* of October 31, five patients thus treated. The amount of Pasteur antitetanus serum varied from 30 to 40 c.c., so that the different patients received a total of from 100 to 240 c.c. All were severe cases of traumatic tetanus. Three patients recovered under daily injections of the serum with a slow, regular subsidence of the symptoms in three to seven days. The other two patients died of an intercurrent pneumonia, but the tetanic symptoms had already subsided, the limbs were relaxed and voluntary movements were possible. As much as 60 c.c. were injected once in a peculiarly severe case. Penna had previously tried antidiphtheria serum in subarachnoid injectious, but found that the course of the tetanus was not affected unless possibly the disease was aggravated. He always withdraws an approximately corresponding amount of cerebrospinal fluid, and no inconveniences were ever noted from this technique.

Gersuny's Treatment of Furuncles and Carbuncles.—Instead of waiting for an abscess to ripen, Gersuny incises at once and drains with a tube or rubber tissue, after scraping out the necrotic substance. This prevents the spread of particles to induce further abscess formation. He treats a carbuncle on the same principle, as he believes that the tension of the skin above forces the contents of the abscess out into the surrounding tissues, thus favoring the spread of the infection. He is careful to avoid making a large hole, which takes long to heal, but makes his incisions like the spokes of a wheel, leaving the center intact. He curettes through each one of the incisions and keeps them open with iodoform or dermatol gauze at first and later with rubber tissue. The lesion heals usually in a week.

The Physician in Politics.—As a matter of fact, the doctor is under a greater obligation to actively interest himself in matters pertaining to local government, public education and other civic service than almost any other citizen in his community. His obligation is greater because of his fitness for responsibility through education, high ideals of character and the close relationship he sustains to the families and homes of the community in which he lives. He can not be a successful

practitioner without some measure of scholarly attainment. A physician's knowledge is rarely confined to pathology and therapeutics. He has been in the college atmosphere. He has a taste for books and a desire to explore the wide fields of scientific investigation. He is generally a man of liberal culture and refined instincts. His profession also gives him wide knowledge of men. Such a man is needed in the responsible civic positions in every city and town. Public service of this character need not carry with it any loss of professional prestige or any sacrifice of personal interest. It is true that the doctors are drafted for school boards and other positions closely related to educational affairs in many towns, serving in such capacities with great credit to the profession and great profit to the schools. But the doctor is needed in larger fields of civic usefulness. It is an obligation he should not be permitted to escape.—*Record-Herald* (Chicago), February 16.

Experimental Spinal Cocainization.—Experiments on dogs and frogs are described in the Russian *Med. Obos.* for August, which show that a solution of cocain injected into the lumbar subarachnoid space is more liable to reach the medulla oblongata the larger the amount of fluid injected, and the more the head is lowered. It penetrates into the gray matter by diffusion, by osmosis and also by the lymphatics. The analgesia is more profound than in morphin-chloroform narcosis. The terminals of the nerves feel the analgesia more than the trunks. The intestinal peristalsis is very much diminished and the abdominal organs become anemic. If the animal is suffocated after it is cocainized, the clinical picture of the asphyxia is much less pronounced than usual, which suggests that the conducting power of the spinal cord is paralyzed or much diminished. The arterial and venous blood pressure was increased, the pulse rising from 68 to 108. The blood pressure increases with the smallest amount of cocain injected into the blood. Halbreich deduces the practical conclusions from his research that: the amount of fluid should be restricted to 1 c.c.; that the injection should be made very slowly, and persons with short bodies, especially children, should be excluded from spinal cocainization on account of the danger that the fluid may reach the medulla oblongata. Weak heart action is not a contra-indication and repeated injections at brief intervals are well tolerated.

Societies.

COMING MEETINGS.

Medical Association of the Missouri Valley, Lincoln, Neb., March 20, 1902.

Medical Association of the District of Columbia, Washington, April 1, 1902.

Tri-State Medical Society of Iowa, Illinois and Missouri, Chicago, April 3-4, 1902.

Tennessee State Medical Society, Memphis, April 8, 1902.

Florida Medical Association, Tampa, April 9, 1902.

Western Ophthalmological and Oto-Laryngological Association, Chicago, April 10-12, 1902.

Medical Association of the State of Alabama, Birmingham, April 15, 1902.

Medical Society of the State of California, San Francisco, April 15-17, 1902.

Medical Association of Georgia, Savannah, April 16, 1902.

Mississippi State Medical Association, Jackson, April 16, 1902.

South Carolina Medical Association, Spartanburg, April 16-17, 1902.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 22, 1902.

Association of American Physicians, Washington, D. C., April 29-30, 1902.

American Association of Genito-Urinary Surgeons, Atlantic City, N. J., April 30, 1902.

Rock Island County (Ill.) Medical Society.—This is the name of the new society incorporated February 7.

Chehalis County (Wash.) Medical Society.—This is the name of a new society recently organized at Aberdeen, with Dr. George W. Overmeyer as president and Dr. J. William Scamell, secretary.

Pasadena (Cal.) Medical Society.—The annual election, February 12, resulted in the election of Dr. Henry H. Sherk, president; Dr. Stanley P. Black, vice-president; Dr. John E. Janes, secretary and treasurer.

Shelby County (Tenn.) Medical Society.—This new organization was formed at Memphis, February 12, with temporary officers and will be the local society affiliated with the American Medical Association.

Redlands (Cal.) Medical Society.—This Society elected the following officers in January: President, Dr. Charles C. Browning, of Highland; vice-president, Dr. Gayle G. Moseley; secretary and treasurer, Dr. J. E. Payton.

Bay County (Mich.) Medical Society.—The annual meeting in Bay City, February 10, elected Dr. Virgil L. Tupper, president; Dr. Everett A. Hoyt, vice-president; Dr. Morton Gallagher, secretary; Dr. Charles H. Baker, treasurer.

St. Joseph County (Ind.) Medical Society.—The annual election, January 27, resulted as follows: President, Dr. William G. Wegner; vice-president, Dr. James H. Cannon; secretary, Dr. Harry F. Mitchell; treasurer, Dr. Charles M. Butterworth.

Platte County (Neb.) Medical Society.—This new Society elected the following officers, February 14: Dr. H. J. Arnold, Columbus, president; Dr. J. C. McKinley, Humphrey, vice-president; Dr. Berthold C. Tiesing, Columbus, secretary; Dr. H. A. Hansen, Columbus, treasurer.

New York Neurological Society.—The following officers have been elected for the ensuing year: President, Dr. Joseph Collins; vice-presidents, Drs. J. Arthur Booth and Frederick Peterson; recording secretary, Dr. Joseph Fraenkel; corresponding secretary, Dr. Frank Hallock; treasurer, Dr. Graeme M. Hammond.

Fox River Valley (Wis.) Medical Association.—At Green Bay, January 21, these officers were elected: President, Dr. Charles D. Boyd, of Kankanna; vice-presidents, Drs. Daniel W. Harrington and Bertha V. Thomson, of Oshkosh; secretary and treasurer, Dr. James S. Reeve, of Appleton; censor, Dr. Theodore J. Redelings, of Marinette.

Kendall County (Ill.) Medical Society.—This new organization was formed, February 11, at Yorkville under the guidance of Dr. Edmund W. Weis, of Ottawa, secretary of the State Society. The following officers were elected: Dr. Julius A. Freeman, Millington, president; Dr. William M. Hanna, Lisbon, vice-president; Dr. Robert A. McClelland, Yorkville, secretary.

Randolph County (Ind.) Medical Association.—The meeting of this Society in January resulted in the election at Winchester of Dr. Forrest A. Chenoweth, president; Dr. Clifton M. Kelley, vice-president; Dr. W. O. Hinshaw, of Lynn, secretary; Dr. John T. Chenoweth, treasurer; Dr. James S. Blair, of Lynn, Dr. Joseph J. Evans, Dr. William Commons, Union City, censors.

Eastern Ohio Medical Society.—At Steubenville, January 23, this Society elected as president, Dr. Arthur B. Holland, Wellsville; vice-presidents, Dr. Joseph J. McCoy, Steubenville; Dr. William L. England, Jewett; Dr. Brady O. Williams, Martin's Ferry; Dr. William M. Calhoun, East Liverpool; secretary, Joseph F. Purviance, Steubenville; corresponding secretary and treasurer, Dr. James C. M. Floyd, Steubenville.

Ramsey County (Minn.) Medical Society.—At the annual election and banquet, January 27, this Society elected Dr. John L. Rothrock, president; Dr. Angus Macdonald, vice-president; Dr. Ethelbert F. Geer, secretary; Dr. Frederick Leavitt, treasurer; Dr. Alvah F. Whitman, necrologist. The *St. Paul Medical Journal*, owned by the Society, was reported to be a profitable enterprise. The editor, Dr. Burnside Foster, and business manager, Dr. H. L. Taylor, were warmly praised for their excellent management and for the high class of the journal.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, held Jan. 20, 1902.

The President, Dr. Parker Syms, in the Chair.

Primary Sarcoma of the Pancreas.

Dr. Edward Schnaper presented a primary sarcoma of the tail of the pancreas, taken from a woman of 53, who had been operated on by Dr. M. S. Kakels under the belief that he was dealing with a tumor of the left kidney. The tumor was inoperable. It was large and soft, and presented firm nodules on its surface, which, on microscopic examination, proved to be lymph nodes that had been incorporated in its growth. The left kidney and spleen were not involved in the neoplasm. It was worthy of note that although the pancreatic tissue was

almost completely destroyed, repeated examinations of the urine failed to show any sugar.

DR. M. S. KAKELS said that it was exceedingly difficult to make a diagnosis of a tumor of the pancreas unless the growth were palpable. This woman had been sick about six months, and he had done an exploratory laparotomy in the expectation of finding a sarcoma of the kidney. He had been able to find in the literature only 20 tumors of the body, and 4 of the tail of the pancreas.

Diabetes Mellitus.

DR. C. E. NAMMACK opened a symposium on diabetes with this paper. With regard to the diagnosis, he said that even a change from blue to green in the copper-test solution called for further investigation. By repeated filtration through animal charcoal one could remove the other substances likely to reduce the copper, and leave the sugar alone in solution. The combination of chronic gastritis, alcoholism and chronic hepatitis furnished by far the largest number of cases of non-diabetic glycosuria. When the function of sugar assimilation was depressed the sugar taken as food would appear temporarily in the urine. The majority of cases of transient glycosuria presented no other symptom than the presence of sugar in the urine. It was merely a perversion of function yielding readily to treatment, and not accompanied by severe symptoms. It was very different from true diabetes. Under the influence of diabetes the tissues melt down, emaciation develops, and life is often terminated in a coma which is the result of a true auto-intoxication. True diabetes was a frequent disease in this city, and it appeared to be on the increase as a result of our strenuous life. Out of 202 deaths occurring in the boroughs of Manhattan and the Bronx, 54 were in Jews and 51 in people of Irish nativity or parentage, but his personal experience did not bear out the idea of the compiler of these statistics, that this disease was common in these races because of their breeding in and in. Grief, fright, joy and anger or anxiety, if protracted, exerted a marked influence. The association of insanity with diabetes was so marked as to be more than a mere coincidence. Gouty glycosuria was more or less persistent, and was liable to pass into the graver condition of diabetes mellitus. Diabetes mellitus was of frequent occurrence in obese individuals, and this form was more amenable to treatment than that variety associated with emaciation. Much had been written about pancreatic diabetes, but this disease occurred without injury to the pancreas, and extensive disease of that viscus might occur without diabetes. The perverted metabolism theory supposed an inability on the part of the muscles and glands to appropriate the sugar brought to them by the blood. It was improbable that all cases of diabetes were dependent upon a single cause—indeed, it was probable that diabetes mellitus was a disease of nutrition, sometimes acute, but generally chronic, characterized by the presence of dextrose in the urine, by polyuria and by a progressive loss of flesh and strength.

Surgical Aspect of Diabetes.

DR. ARPAD G. GERSTER read this paper. He called attention to the observation of Dr. Theobald Smith, that pyogenic bacteria thrive best in media containing between .2 and .5 per cent. of sugar, or that percentage found in the blood of diabetics. The products of faulty assimilation circulating in the blood of the diabetic caused a lowering of the vitality of the tissues, and led to a condition similar to premature senility. For this reason the tissues were especially vulnerable to the onslaught of microbes. It was well known that in a minority of persons wounds of all kinds show a tendency to suppurate, and it was possible that in such persons there was a latent diabetes, or at least a condition of the system which would finally lead to diabetes. Furunculosis and carbuncle were relatively common in diabetics, more particularly in persons of middle age having glycosuria. The favorite location for carbuncle was on the dorsum, and he had seen one case in which one enormous carbuncle extended from the occiput to the sacrum. The treatment should consist in early, free multiple incisions. Slight traumatisms in diabetics often gave rise to gangrene. The treatment should consist in measures for improving the circulation of the part. Perforating ulcer, occurring in a diabetic, showed a special tendency to lymphangitis and phlegmonous inflammation. The non-infectious form of gangrene arose from the existing arteriosclerosis. An evanescent limping, or a peculiar painful sensation or numbness coming on after remaining quiet for a short time, should be looked upon as the precursor of gangrene. Gangrene of the extremities was about four times more frequent in men than in women. The mortality was about 50 per cent., death often occurring in coma. In the non-infectious cases of gangrene without fever, the part affected should be kept dry and elevated, and when the line of demarcation had formed no operation should be done without stringent necessity. The point at which to do an amputation must be determined by the amount of arteriosclerosis present. In the infectious cases, it was often necessary in order to avoid contact infection, to perform a high amputation. In operating on such cases there was danger both from the anesthetic and from the occurrence of diabetic coma. The operation should be done in the morning, so that there need not be too much fasting beforehand, and before and after the anesthesia the patient should receive 2 drams of bicarbonate of soda and 10 grains of bicarbonate of potassium. In amputations, it was better to use short flaps and keep an open wound, avoiding sutures.

Diabetic Affections of the Eye.

DR. S. BUSBY ALLEN said that one of the early symptoms of diabetes affecting the eyes was a partial paralysis of the ocular muscles, most commonly of those innervated by the third nerve. These paralyses bore no constant relation to the gravity of the disease. Paresis of accommodation usually occurred early, and if rapidly progressive in a person under 35, was strongly suggestive of glycosuria. A cataract in a young person, ripening within a few weeks, and appearing in both eyes was almost certainly of diabetic origin, but in older persons a diabetic cataract presented no characteristic features. Diabetic retinitis closely resembled the retinitis of Bright's disease. It occurred early and was one of the causes of diabetic amblyopia. This form of amblyopia was in all respects like the amblyopia of tobacco or alcohol, and was often an indication of impending diabetic coma.

Prognosis and Treatment of Diabetes.

DR. ABRAHAM MAYER said the favorable symptoms were: 1, advanced age at the commencement of the disease; 2, long duration of the disease without serious complications or marked emaciation; 3, traumatic or syphilitic origin; 4, absence of the disease in other members of the family; 5, association with obesity, or with gout or the uric acid diathesis; 6, a mild glycosuria along with a fair tolerance for carbohydrates; 7, rapid excretion of sugar with increasing tolerance for the carbohydrates; 8, conditions of life favorable to proper dietetic and hygienic management, and 9, the development of the disease about the time of the menopause. The unfavorable symptoms were: 1, development early in life; 2, early loss of flesh and strength; 3, severe gastro-intestinal symptoms; 4, diabetic gangrene; 5, presence of diabetes in other members of the family; 6, the occurrence of phthisis as a complication, particularly if associated with a cessation of the glycosuria; 7, a large excretion of acetone and an increase of ammonia; 8, unfavorable conditions of life, and 9, the coexistence of organic disease of the pancreas. In the treatment, our chief aim should be to increase the power of the system to assimilate carbohydrates, and it should be ever kept in mind that no method of treatment which excluded dietetic management was of any avail. Fortunately a diabetic dietary could now be made varied and palatable. The patient should at first be placed upon a standard rigid diet, composed of albumin, fats and a very little alcohol. If the type of the disease were mild, the patient would become sugar-free in a few days, but in the more severe forms it might be necessary to also reduce the nitrogenous elements of the food. When a diabetic continued to excrete sugar for some time his tolerance for carbohydrates diminished, and conversely, when a diabetic was kept sugar-free for a considerable time by a strict regimen his tolerance for carbohydrates increased very

materially. Diabetics usually suffered most from the exclusion of bread from the dietary, and he had found that walnuts could often be advantageously substituted. The diabetic should be warmly clad, and, while taking open-air exercise, should have an abundance of rest for both mind and body. Opium and its alkaloids allay the nervous irritability and improve assimilation. Half a grain should be given as the initial dose, three times a day after meals, and should be cautiously increased, its constipating effect being counteracted by the administration of rhubarb or cascara. The speaker said that he had had the honor some years ago to advance the bacterial theory of diabetes, and in accordance with that view he had treated suitable cases with the bichlorid of mercury. This had given him better and more lasting results than any other medicinal treatment.

Dr. J. C. Bierwirth, Brooklyn, said that, according to his experience, there were many cases of glycosuria in which there was no increase in the quantity of urine and no augmentation of the specific gravity. For example, he had just seen a case in which only 57 ounces of urine were voided daily, and the specific gravity of this urine was only 1018, though it contained 3 per cent. of sugar. The importance of recognizing this fact was obvious when one recalled that very many physicians are in the habit of omitting to test for sugar if the specific gravity of the urine is not over 1020. He was not quite so sanguine as Dr. Mayer regarding the results of treatment in diabetes. When thirst, polyuria and beta-oxybutyric acid were present, the physician could do very little, but in the earlier stages he could accomplish a great deal.

Dr. James J. Walsh thought it not improbable that in the future we would have to admit the contagiousness of diabetes. The general practitioner could hardly be expected to examine the urine of every patient, but when a young man complained of soreness of the gums, of fatigue on slight exertion, or of loss of sexual power, the urine should certainly be examined for sugar.

Dr. N. E. Brill pointed out that Dr. E. Libman, of New York, had discovered that when the percentage of sugar in culture media was the same as in the blood of diabetics the bacteria grown on such media immediately precipitated the peptones. This raised the question as to whether such a precipitation of peptones might not possibly explain the frequent occurrence of thrombosis and furunculosis. He declared that Dr. Mayer's views regarding the action of bactericides in diabetes were purely speculative, and had never been substantiated by pathologic research. Bichlorid of mercury was certainly sometimes beneficial in diabetes, but only, according to his own experience, in syphilitic cases.

Dr. Alexander Lambert remarked that as peptone was only found in the portal vein, the theory of the precipitation of peptones might well be characterized as fanciful.

Dr. Mayer, in closing, said that he had found both husband and wife diabetic in nearly 8 per cent. of the cases he had investigated, and he was a firm believer in both the contagiousness and infectiousness of diabetes.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, held Jan. 28, 1902.

Myositis Syphilitica.

Dr. D. W. Montgomery reported this case and presented the patient, who was a man aged 30 years with a history of venereal sores three months previously. He came under the author's care July 26, 1901, when he was suffering with a roseola and general adenopathy. In August a painful tender swelling of the left sterno-cleido-mastoid muscle throughout its course occurred with some interference with function, causing stiff neck. The swelling of the muscle was most marked in the middle third of its course, causing a decided bulging of the side of the neck. This subsided, but reappeared to a less extent five months later, December, 1901. On Dec. 13, 1901, there was density of the muscle in its middle third, but extending up and down almost its entire length, pain only where the muscle was put on the stretch, and a little tenderness. There was a packet of enlarged lymphatic nodules both in front and behind the muscles and extending beneath it at the point where the muscle was most affected. The patient also complained of pains in the left shoulder and in the left elbow, and consequent lack of strength in the whole left upper extremity, with pains in both ankles and both knees. On the cutaneous surface there was a well-marked papulo-crusted syphilid. The patient was given 10-grain doses of potassium iodid, associated with 30-drop doses of fluid extract of senna to overcome a coincident constipation. He was also directed to rub mercurial ointment into the skin over the affected muscle. On Jan. 28, the affection of the sterno-cleido-mastoid muscle had improved, but the swelling of the lymphatic nodules was more pronounced. There was so much pain in the bends of both elbows that he could not completely extend either arm, and there was pain in the left knee. The papulo-crusted syphilid was still present.

Primary Luetic Sore on Lower Lip.

Dr. Howard Morrow reported a case and presented the patient, a young woman. The sore was of five weeks' duration and began as a fissure, later becoming nodular. There was enlargement of the neighboring lymphatic glands. Under treatment the swelling was rapidly decreasing.

Hepatic Abscess.

Dr. F. B. Carpenter presented the liver of a woman 35 years of age, who had lived in Mexico for the past two years. Reported well until six months ago when she was taken sick with chills and fever and said to have had malaria. This condition continued until she came to San Francisco about one month ago. Patient was confined to her bed at the time and profoundly jaundiced, appetite gone, bowels constipated and patient had lost in weight from 80 to 120 pounds. There was a history of tumor having been present about three weeks before in the region of the gall-bladder. Tumor suddenly disappeared, and was followed by a discharge of blood and pus from the rectum. Examination showed lower border of the liver to be about three inches below the costal margin and somewhat tender to the touch. Pain had been continuous but never spasmodic; patient had acquired the morphin habit to a slight degree. There was no history of diarrhea at any time and but slight vomiting; sweating had been more or less persistent from the beginning. Leucocyte count showed 35,000; no ameba was found in intestinal discharge. The abdominal veins were well defined. The diagnosis lay between empyema of the gall-bladder and hepatic abscess with rupture into the intestinal tract. Operation showed that an abscess the size of two fists existed in the right lobe of the liver, that the under surface of the abscess cavity was formed by the coherent stomach and colon. The cavity was filled with a thick, stringy and dark-colored pus containing blood, broken-down liver substance and evidently some mucus. Autopsy on the fourth day showed that the adherent stomach was in direct communication with the abscess through a perforation in its posterior wall. The gall-bladder was contracted, thickened to about one-half inch, and its cavity and duct nearly obliterated. The case was thought to be one of tropical abscess, though a hasty pathologic examination by Dr. Philip King Brown had developed no evidence of ameba in any portion of the abscess walls, though it was most likely that that was its original cause. The entire liver was studded with abscesses of all sizes, from a pinhead to a marble.

The Species of Blister Beetles Inhabiting the United States.

Dr. F. E. Blaisdell exhibited and called attention to a collection of blister beetles that were indigenous to the United States. They were of special interest to the physician on account of the cantharidin which they contained, and the vesicating power which they possessed, which was utilized as a counter-irritant and also as an internal remedy in several diseases. To the entomologist they were of interest because of the phenomena of hypermetamorphosis that they presented during their development. These coleopterous insects belonged to the family meloidæ, which comprised 26 genera and about 191 species. Out of the 47 species of the genus cantharis found in our fauna, 29 are found in the State of California. There was only one officinal species, the cantharis vesicatoria. It was found

in southern Europe about the Mediterranean, and in the southern provinces of Russia, those from the latter being the most esteemed. A fact of interest was, that all of the American species tested had proved as efficient as their European relative. The cantharidin was found to be more abundant in the soft parts of the insects than in the hard exoskeletal parts. To test the efficiency of a given species, the insects were collected and killed by either exposure to the steam of hot vinegar or the fumes of chloroform, drying them in a warm room. They were then either simply powdered and made into a paste and applied to the skin, or by throwing the powder into chloroform and after a time filtering or straining off the fluid and allowing evaporation to take place spontaneously, the cantharidin would then be found deposited. In 500 parts of the Chinese blister beetle, or mylabris cichorii, had been found 2.13 parts of cantharidin. According to our present classification cantharis cinerea of the dispensatory was known as *macrobasis unicolor*, and was found from Canada to Kansas, Georgia and Arizona; cantharis marginata as *epicanta cinerea*, found in the Middle States; Cantharis atrata as *epicanta pennsylvanica*, found in the Middle States to Texas; cantharis albida, as *macrobasis albida*, found abundantly in Texas. Some species were very abundant. Cantharis Nuttalli had been found on the plains of Missouri so abundantly as to be swept up by bushels; cantharis vulnerata of southern California was also found in great abundance.

Election of Officers.

The following officers were elected for the ensuing year: Dr. D. W. Montgomery, president; Dr. H. M. Sherman, vice-president; Dr. L. A. Kengla, secretary; Dr. H. Kreutzmann, treasurer.

CHICAGO NEUROLOGICAL SOCIETY.

Regular Meeting, held Dec. 19, 1901.

Dr. Hugh T. Patrick, in the Chair.

Description of Curves Representing the Areas of White and Gray Matter in Human Spinal Cord at Level of Each Spinal Nerve.

DR. H. H. DONALDSON gave the description of a new chart drawn by Mr. Davis to represent the areas of the gray and white matter in the human spinal cord at the level of such spinal nerve. The base line represents the average length of the adult cord, and is divided into thirty-one parts, each having the length of the corresponding segment. The data for the areas of the cross-sections were taken from Stilling's tables. The new features in this chart are the division of the base line into lengths equal to those of the corresponding segments, and the use, for the areas of the cross-sections, of data derived from the measurement of the adult cord. The diagram at present found in the text-books is based on Stilling's measurements of the cord of a 5-year-old child, while the base line is divided into equal intervals for the segments, thus failing to give the measurements for the adult cord, and disturbing the relations of the curve which is presented.

Number and Size of Spinal Ganglion Cells and Dorsal Root Fibers in White Rats of Different Ages.

DR. DONALDSON next presented some results obtained by Mr. Hatai from his studies on the spinal ganglion of the white rat during the growing period. Four rats were used, their body weights being 10, 24, 63 and 167 grams respectively. In each rat the number of cells in the ganglion and the number of fibers in the dorsal nerve roots of the sixth cranial, fourth thoracic, and second lumbar was determined. On comparing these numbers thus obtained, it was possible to draw the following conclusions: 1. In the spinal ganglia the number of cell bodies is constant between birth and maturity. There is, of course, some individual variation in this number. 2. The fibers of the dorsal nerve roots are more than twice as numerous in the 167-gram rat as in the 10-gram rat, and the intermediate weights show intermediate numbers in the roots. 3. Since this is the case, it follows that the ratio between the number of cells in the ganglia, as compared with the number of fibers in the dorsal nerve roots, steadily decreases. In the youngest stage, there may be as many as eleven cells in the ganglion for each fiber in the dorsal nerve root, while in the case of the most developed nerve there are still 2.7 cells for each fiber.

It appears that the new fibers are formed by the outgrowths of cells present in the ganglion from the earliest stage. Studies on the general activity of the rat show that they are most active when weighing from 25 to 35 grams, and therefore at a time when the number of fibers in the dorsal nerve roots is still very incomplete.

DR. HUGH T. PATRICK inquired, in discussion, whether a piece of foil cut out to correspond to the gray matter was used as the basis of measurement.

DR. H. H. DONALDSON said that the section was first enlarged about four times, the outline then drawn on tracing paper, which is placed over the foil, which is cut in accordance with the figure. From that figure the calculation is made. The foil used for this purpose must be of uniform thickness, so that the measurements will be accurate. The foil is sold in strips, and as the ends of the strip are much thinner than the middle piece, only the latter is used. These strips are all weighed so that they will correspond to the standard. The measurements can also be made with cardboard.

DR. HUGH T. PATRICK thought that this subject was of some practical importance in some of the degenerate diseases, especially cerebellar ataxia, in which the central nervous system has been found very small. He could not recollect any statement bearing on the small amount of white or gray matter, but simply recalled mention of the small size of the brain, the cerebellum, pons, medulla and cord. In one case, measurements of the cord were given in different diameters. He was of the opinion that in connection with some of the congenital diseases these comparative measurements might be of considerable interest.

DR. L. F. BARKER inquired as to the kinds of reproductions in Stilling's "Atlas."

DR. H. H. DONALDSON said they were lithographs, and were probably pretty accurate. The cross-sections of the cord were placed in cells filled with alcohol. The observations were made while the specimens were in a good state of preservation, before the alcohol had shrunken them.

DR. H. H. DONALDSON read a paper entitled

A Study of the Cells and Fibers in Different Segments of the Spinal Cord.

DR. L. F. BARKER regretted that Dr. Donaldson did not divulge his opinions based on the results of this work. Naturally a great many questions arise in connection with this work. He was especially interested in getting an explanation of the reason for the increase in the number of fibers. Three possible explanations suggest themselves. One, the growing-out of more fibers from the cells in the ganglion to the cord, probably the most likely explanation. The second possibility would be a division of single fibers already present, and the third an outgrowth of fibers from the cord to the ganglion, although that might be the least plausible.

The second point was the disappearance of so many of the small cells, the increase in the large cells, which apparently was due to the development of the small cells. Nevertheless, there are in all cases a large number of small cells left undeveloped. He said he would like to know whether these were surplus cells that never attained to maturity, remaining small cells without any processes, or whether they possibly can be cells which send out axis cylinders to end in cell bodies of other neurons. If they remain immature, it would be in accord with what is believed to occur elsewhere in the nervous system, namely, that in all parts of the nervous system, as in most parts of the body, there are cells left in an immature state capable of further development under certain circumstances. If that is the case, there are as many reserve cells in the ganglia as there are cells in the commission. That would be a very large excess in proportion to reserve cells, but if it is remembered that as in the substantia gelatinosa many cells develop and degenerate, as many as attain maturity, the excess would not seem so great. He also asked for the reason of the increase in the ratio of fibers to

cells, especially in the cervical region. Naturally the first thing to which attention would be directed is the possibility of the enormous development of the hand as a sense organ as compared with the thoracic region, and the lower extremity as a sense organ. He did not know whether in the rat the hand was more of a sense organ than the foot. In the human we might naturally expect a greater number of root fibers in the cervical roots than in the thoracic or lumbar. The hand area in the cerebral cortex is very large compared with the trunk or foot area. Another point, that this change in proportion takes place during the point of greatest activity of the animal, is extremely interesting, and suggests the possibility of a relationship between activity and development. It is a well-known fact that the exposure to strong light of prematurely born cats increases the rapidity of development of the myelin sheath. Why could it not be possible that the further activity should determine this rapid change in the ratio of fibers to cells? He hoped that Dr. Donaldson would explain these points.

Dr. Donaldson said that we might account for the increase in the number of fibers in the dorsal nerve root by assuming that the new dorsal root fibers grow out from cells which entered into commission in the later stage of the ganglion, being immature in the early stage. That explanation receives its best support from the relation in the cervical region between the large cells and the number of fibers. In the dorsal nerve root the number of large cells is equal to the number of nerve fibers. The division of fibers does not appear so probable in the sense in which it would have to take place, although many of the fibers are divided. These divided fibers all pass to the periphery, but such a division has always been observed at a stated place, the dividing branches being of equal length and equal growth, and not simply representing a series of twigs which might run out and thus add to the number of fibers. If these run out together, they would be counted at the same time, and would not account for the change in the condition in this period and some period where there were more dorsal nerve roots. All the evidence tends to point toward the throwing into commission of new cells for the addition of new fibers to the dorsal nerve root.

The question as to the excessive number of cells in the spinal ganglia, he deemed difficult to answer. One author found most of the nerve cells in the spinal ganglia to be of this type (indicating). There were a few cells, the axones of which ended within the limits of the spinal ganglion itself. These, however, are few in number, and can not account for the very large apparent excess of the cells in the ganglia. The excess will probably be found to be due to the immature cells which have not yet sent their axones out any great distance. The higher one goes in the nervous system, the greater appears to be the excess of cells found in the different localities. In man the excess is probably much greater than in the frog or rat. That is a rather dangerous thing to say, he said, because it is in the nature of a prophecy. However, it does not appear to be impracticable. It is rather difficult to say what these cells can be doing and yet there appear to be many of them in the cortex and there is no reason why they should not appear in the spinal ganglia. It seems to be a property of the nervous system to contain more parts than it actually needs and lives up to.

As to the difference between the number of fibers and the number of cells in the thoracic and lumbar regions as compared with the cervical region, he believed that possibly the sympathetic nerves have something to do with this. He said his first impulse was to associate the excessive number of cells in the thoracic region with the sympathetic connection which is absent in the cervical. This, however, is but a poor explanation, as it is open to question.

Dr. Hugh T. Patrick inquired whether the fibers in the brain had ever been counted: whether there is a tremendous increase in the fibers with the mental and intellectual development of the individual, or whether they simply take on sheaths; whether the corpus callosum at birth contains more fibers than in the adult.

Dr. Donaldson said that he had found the fibers present, but they did not have any medullary sheaths. The cell bodies might be present, he said, but not their axones. He felt that the axones are a later growth in a large number of the cell elements. These observations have been made only from the standpoint of medullation, showing the increase in medullation as maturity is reached. He was positive that the axones are not present in rats. The rat's cerebrum can be cut very deeply and a few weeks later it is impossible to find the scar. The wound grows over completely, because the brain is cut at a time when most cell elements are in a neuroblast stage. There are no axones. For that reason it is difficult to find the place of injury.

Dr. J. W. Engbert said that from comparative anatomy and biology it has been ascertained that the cord at one time had different segments which seemed to be more or less similar. In man it is found that certain segments gain a great deal, as, for instance, the cervical and lumbar, whereas the thoracic loses. In what does the gain consist? Do the segments gain chiefly in cell bodies, or do they send out fibers?

Dr. Donaldson said that in the gray substance where it is voluminous, there is an excessive number of cells. There is also an excessive number of fibers as is shown by the rise in the curve in the white substance coincident with the enlargement of the gray. The white substance is distributed both around the gray matter and within it. In the lumbar region the gray matter is comparatively less than in the cervical enlargement, and in that sense the smallness of this segment is really a reduction in the amount of white matter in it. It is accomplished by change in the shape of the cells. They lie like watermelons, on end, in the thoracic region; on their side in the cervical, and in the lumbar region as if they were sat on on their side, with the widest plane in the plane of this section. They have different shapes, according to the segments in which they are located. Though the segments are short in the lumbar region, the amount of gray matter is as large as in the cervical segment.

Dr. L. F. Barker advanced the supposition that if the base line were made so that the segment distances were equal, how, then, would the gray matter lie?

Dr. Donaldson said that the vertical length would have to be multiplied by the horizontal length, and the difference in the area exaggerated by making the segments equal. There is a relative increase of gray matter in the two enlargements when reduced to cubic contents.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

PRESCRIPTION WRITING, XV.

(Continued from page 531.)

Estimating Size of Dose for Children.

There have been several rules introduced for estimating the size of the dose, but the one generally employed is Young's rule, as follows: The adult dose is taken as the unit, and the child's dose indicated by a fraction having the age as numerator, and the age plus 12 as denominator. For illustration, in prescribing for a child 6 years of age the following formula will explain how the size of the dose can be ascertained:

$$\frac{6}{6+12} = \frac{6}{18} \text{ or } \frac{1}{3}$$

Therefore a child of 6 years should be given a dose equal to one-third the size of an adult dose.

Some one has recommended the following plan for prescribing quickly and accurately for infants under one year of age: In a 3-ounce mixture, when a teaspoonful is given at a dose, direct the druggist to put into the mixture as much of each ingredient as may be given to an adult at one dose. The following prescription will serve to elucidate the rule:

℞. Tinct. nucis vom. . . . . m. x | 66
Sodii bicarb. . . . . gr. x | 66
Aq. aurantii . . . . . m. x | 66
Tinct. card. comp. q. s. ad . . . . . ℥iii 90

M. Sig.: Take one teaspoonful three or four times a day in water.

It will be seen by the above illustration that the amount of each preparation is approximately a single dose for an adult. In short, the infant receives one-twenty-fourth the adult dose, which is a safe calculation. In children between the ages of 2 and 4 years the size may be increased so that the amount of each ingredient in a 3-ounce mixture may equal two or three times the adult dose.

Cowling's method is somewhat similar to the above. His rule is to divide the age next birthday by 24; consequently for a child of 6 years the following formula would apply: 6/24 = 1/4, or one-fourth the adult dose. The fault with this rule is that under ordinary circumstances the dose would be too small. Some physicians find 20 a convenient and safe denominator. Occasionally a rule is followed, based on the weight of the child, which is taken as the numerator of a fraction whose denominator is 140; this is supposed to be the average weight of an adult.

In prescribing for children as well as old people, exceptions arise in using certain drugs, as has been previously mentioned.

Metrical System.

The metric system is certainly being employed more and more each year and every physician should acquaint himself with this method. It has the advantages over the apothecary system in that it is exclusively used in nearly all civilized countries, and, when once learned, mathematical calculations are more easily made, as it is based on the decimal system. In order to convert the apothecary system into the metric system and vice versa, the following tables of approximate weights and measures should be memorized:

TABLE OF WEIGHTS.

1 grain	.065	gram.
15.43 grains	1	gram.
1 dram (troy)	3.90	grams.
1 ounce (troy)	31	grams.

TABLE OF CAPACITY.

1 minim	.061	c.c.
16 minims	1	c.c.
1 fluid dram	3.75	c.c.
1 fluid ounce	30	c.c.

Thus, to convert grains or a fraction of a grain into the corresponding quantity in the metric system, multiply the number of grains by .065, and to convert the quantities written in the metric system into their equivalents in grains, divide by .065.

To convert drams into grams, multiply the number of drams by 3.75, and to convert grams into drams divide the number by 3.75, or less approximately and more conveniently by 4. The same rule is to be observed in dealing with ounces. But in converting minims, as observed in the second table, into the metric system the number of minims must be multiplied by .061 c.c., the number of fluid drams must be multiplied by 3.75 c.c., and the number of ounces by 30 c.c.

(To be continued.)

To Promote Elimination in Scarlet Fever.

The following is recommended by *Med. Standard* to increase the elimination and as a febrifuge in scarlet fever:

℞. Tinct. aconiti . . . . . m. viii | 50
Potassii citratis . . . . . ʒiii 11 | 25
Syrupi limonis . . . . . ℥ss 15
Aquæ q. s. ad . . . . . ℥iv 120

M. Sig.: One teaspoonful every hour or two.

And as a gargle for the throat in scarlet fever the following:

℞. Acidi carbolici . . . . . ʒss 1 | 90
Glycerini . . . . . ℥i 30
Aq. camphoræ . . . . . ℥i 30
Pot. chloratis . . . . . gr. x | 66
Aq. destil. q. s. ad . . . . . ℥vi 180

M. Sig.: Use as gargle or spray.

Treatment of Subacute Vesicular Eczema.

Dr. Jay F. Schamberg recommends the following as an excellent application in the subacute form of eczema:

℞. Acidi carbol. . . . . gr. x | 66
Hydrarg. chloridi mitis . . . . . gr. xx 1 | 30
Pulv. amyli
Pulv. zinci oxidi, āā . . . . . ʒii 7 | 50
Petrolati . . . . . ℥ss 15

M. Sig.: Apply locally once of twice a day.

This paste is valuable in all forms of eczema except the very acute forms. He recommends the following as a valuable antipruritic and cooling ointment in the different forms of eczema:

℞. Menthol . . . . . gr. v-x | 33-66
Acidi carbolici . . . . . gr. x-xx | 66-1.33
Ung. aquæ rosæ . . . . . ℥i 31

M. Sig.: Apply locally to the itching surface.

Guaiacol Inunctions in Tuberculosis of Childhood.

Dr. Rachford, in *Archives of Pediatrics*, has derived very satisfactory results from the use of the following ointment in treatment of tuberculosis of children:

℞. Guaiacol . . . . . ʒi 3 | 75
Lanolini . . . . . ʒii 7 | 50
Adipis . . . . . ʒv 18 | 75

M. Sig.: One level teaspoonful to be applied to the chest at bedtime each day and well rubbed in.

To Abort Attacks of Coryza.

℞. Acidi carbol. . . . . m. xv 1
Aq. ammoniæ . . . . . m. xx 1 | 33
Alcoholis . . . . . ʒi 3 | 75
Aq. destil. . . . . ʒii 7 | 50

M. Sig.: Five or ten drops to be placed on blotting paper and the vapor inhaled for a few times every two hours; or:

℞. Cocainæ hydrochlor. . . . . gr. x | 66
Menthol . . . . . gr. v | 33
Salol . . . . . ʒii 7 | 50
Acidi borici . . . . . ʒi 31

M. Sig.: To use as an insufflation four or five times a day.

Treatment of Hemorrhoids.

The following is recommended as a local application in treatment of hemorrhoids:

℞. Morphinæ sulph. . . . . gr. ii | 13
Olei olivæ . . . . . ʒii 7 | 50
Ung. zinci oxidi . . . . . ℥i 30
Pulv. gallæ (nutgall) . . . . . ʒii 7 | 50

M. Sig.: Cleanse the parts thoroughly and apply locally once or twice daily; or:

℞. Acidi gallici . . . . . gr. xx 1 | 33
Ext. opii . . . . . gr. x | 66
Ext. belladonnæ . . . . . gr. x | 66
Ung. simplicis . . . . . ℥i 30

M. Sig.: Apply locally to the painful parts.

Treatment of Granular Lids.

J. G. Huizinga, in *Amer. Med.*, mentions two classes or stages. In the first or catarrhal stage, the symptoms are those of an aggravated conjunctivitis and the granulations are not visible. Ice or the artificial leech is applied locally to reduce the congestion. He recommends the following to be instilled every hour:

℞. Acidi borici
Sodii biboratis, āā . . . . . gr. xx 1 | 33
Aq. camphoræ
Aq. destil. āā . . . . . ℥i 30

M. Sig.: A few drops into the eye every hour or two.

He also recommends that an application of tannic acid, boroglycerid, silver nitrate or protargol to the everted lid be applied once a day; an ointment of ichthyol 1 to 5 per cent. strength may be applied at night. In the second stage the secretion becomes mucco-purulent and well-marked granulations are present. Often there is pannus due to irritation of the cornea. For this stage the same treatment is indicated as already outlined, except that hot applications are preferred. The follicles should be evacuated with a suitable forceps. After removal, the surface should be mopped with a bichlorid solution, 1 to 1000, followed by a boric acid douche. Excision of the redundant folds has been practiced and may be effective in

cases which resist other treatment. He favors metallic electrolysis. After cocainization the lid is everted and a constant current of five milliamperes used for five minutes with a copper or silver electrode. The deposited metal is believed by the author to be antiseptic. This operation may be repeated once or twice a week and is supplemented by a protargol solution 25 per cent. strength and boric acid washes.

Medicolegal.

Injury to the Eye.—The Appellate Court of Indiana holds, in Van Camp Hardware & Iron Company vs. O'Brien, that where a girl not quite 9 years old had her left eye injured by another's negligence, the eyeball being cut open, causing her to suffer pain and lose the sight of the eye, an award of $2500 damages could not be considered so excessive as to warrant a judgment therefor being disturbed.

Expert Evidence and Testamentary Capacity.—The Supreme Court of Iowa holds, in the case of Marshall vs. Hanby, that it is not for a witness, though an expect, to say what will constitute capacity. That is a question of law for the court, and when advised the jurors are to say whether, in view of all the evidence, it was possessed by the deceased at the time the will was signed. The opinion of the expert must be limited to the estimate of the mental condition of the person concerning whom inquiry is made, and never allowed to be given as to the effect of that condition upon the particular transaction being investigated.

Court Not Entitled to Introduce Medical Witnesses.—In a personal injury case against a street railway company the latter moved to require the party suing to submit to an examination by two physicians, named in the motion, for the purpose of ascertaining the character and extent of her injuries, and in order that the physicians might testify with reference thereto upon the trial of the case. This motion, on objection by the party suing, was overruled, but the trial judge offered to require her to submit to an examination by two doctors to be appointed by him, and the company filed a motion to that effect. The judge then named two physicians to make the examination, and the case went to trial. Later, and before the examination was made, the company withdrew its motion. On the following day the judge called one of the physicians, over the objection of the company, and asked him a number of questions, after which counsel for the party suing continued the examination. Then the judge called the other physician, over the objection of the company, and required the parties to examine him, over the objection of both parties. Now the Court of Appeals of Kentucky does not consider it necessary, in reviewing the case, South Covington & Cincinnati Street Railway Company vs. Stroh, to decide what might have been done had the examination been made before the withdrawal of the motion. But the examination having been made after the withdrawal of the motion, it thinks that it was clearly erroneous to introduce the physicians as witnesses in the manner in which it was done. It says that they were presumably disinterested, and the fact of their introduction by the court against the earnest protest of the defense tended to give undue weight and prominence to their testimony, in so far as it supported the contention of the party suing.

Taking Injured Person to Hospital Against His Will.—The Supreme Court of Pennsylvania makes use of the opinion of the lower court, in deciding the case of Ollet vs. the Pittsburg, Cincinnati, Chicago & St. Louis Railway Company. Here a boy 17 years of age, while endeavoring to climb upon a freight train fell from it, having the front part of his foot crushed under the wheels. He was immediately taken to a private house, the only one in the neighborhood. Then the crew of the train, having run to a town one or two miles distant, returned with the engine, and finding the boy in the house, and no one present except a young woman who lived there, took him on the engine to the town, where the company's physician was in attendance, and where an uncle of the boy was also at the station when he was brought there. Thence, upon the advice of the company's doctor, and accompanied by the uncle, he was taken to a hospital, where his foot was afterwards amputated. But at the time of the accident one or more other boys were present, and one of them went to the town to call the family physician of the boy's father, and another went to the house of the boy's father to call him. In consequence, when the crew of the train got back to the house, on the return thereto above mentioned, they were told by the boy that his family physician had been sent for, and that he did not want to go to the hospital, but they insisted that he should; carried him out; put him on the tender of the engine. This removal of the boy from the house by the railroad to the town, and thence to the hospital, was made the basis of an action for false imprisonment. That the crew of the train, in doing what they did, were endeavoring to act the part of the Good Samaritan, the court said, was perfectly plain, and it did not see how a jury could be allowed to find otherwise from the evidence. The circumstances certainly seemed to call for great haste, and one who endeavors to assist his neighbor who is in great danger and distress is certainly not liable for a mistake in judgment, nor did there appear to have been any such mistake in this case. In addition, the court said that it did not see how the railroad company could be held liable for a false imprisonment on these acts of its employes, which were certainly not done within the scope of their employment, which was that of a crew of a freight train. On this opinion, the Supreme Court holds that the court below properly refused to take off a non-suit.

Skill and Contributory Negligence in Malpractice Case.—The Supreme Court of Iowa holds, in the malpractice case of Decatur vs. Simpson, that locality is material, in determining the skill required of a physician. Here, the physician asked that the jury be instructed that, "The implied contract of the defendant when he assumed charge of the treatment of plaintiff's injuries was that he possessed and would employ in the treatment of the case such reasonable skill and diligence as were ordinarily exercised in his profession at and in localities similar to that in which he practiced, by the members as a body; that is, the average of the reasonable skill and diligence ordinarily exercised by the profession at the time and in places similar to G——. Regard is to be had, in determining this ordinary skill and diligence, to the improvements and advanced state of the profession at the time the case was treated." That this instruction announced the correct rule was conceded. And the court holds that it was not sufficient to give one similar in terms, except that it ignored locality. It also holds that in an action for malpractice, based on alleged negligence, in which the relation of the parties is material only as fixing the degree of care required, the party suing must negative contributory negligence. It says that there are many and respectable authorities to the contrary, but that it seems irrevocably committed to the doctrine, and has generally applied it in all cases where a party seeks to recover for the negligent or unskilful acts of another. Indeed, it says that the only exception it has recognized seems to be in cases where the owner of stock is seeking to recover for the unskilful acts of a veterinary surgeon. So, the party suing in this case having failed to show that he was not guilty of contributory negligence, the court holds that his petition did not state a cause of action, and was subject to demurrer, or the same question could be raised by motion in arrest of judgment. Nor does it consider that the overruling of such a motion was without prejudice by reason of the fact that the issue was submitted to the jury under an instruction that the burden was on the party suing to show freedom from contributory negligence. It says that the physician was compelled to first introduce his evidence regarding contributory negligence, and, of necessity, was limited to such acts and conduct of the party suing (the patient) as came to his knowledge. Under this order of procedure, all that the party suing needed to do was to negative these particular facts. That done, his case was made out, without showing his freedom from negligence generally. Manifestly, this was to the disadvantage of the physician, even though it be conceded the jury was properly instructed with reference to the matter.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal, February 15.

1 The Proposed Change in the Administration of Hospitals for the Insane in the State of New York.
2 A Case of Osteitis Deformans. J. C. Wilson.
3 *A New and Improved Method of Closing Vesico-vaginal Fistulæ, with Report of a Case. A. Lapthorn Smith.
4 *What Constitutes "Septic Poisoning" in Accident Policies? G. W. H. Kemper.
5 The Progress of Knowledge Concerning Venom and Antivenene; A Synoptical Review of the Literature of the Past Fifteen Years. (To be continued.) Joseph McFarland.
6 The Surgery of the Spine. (Continued.) Samuel Lloyd.

Medical Record (N. Y.), February 15.

7 *Tumors of the Central Nervous System—Remarks on Noteworthy Cases. Joseph Collins.
8 *Latent and Masked Malarial Fevers. Charles F. Craig.
9 Auto-intoxication and Disease from a Practitioner's Standpoint. Beverley Robinson.
10 Diabetes Mellitus—Etiology and Pathogenesis. Charles E. Nammack.

American Medicine (Philadelphia), February 15.

11 *Surgical Treatment of Injuries and Diseases of the Pancreas. Roswell Park.
12 *A Consideration of 28 Cases of Tuberculous Peritonitis at the Boston City Hospital, with Particular Reference to the Results of Operative Treatment. John T. Bottomley.
13 *The Inhibition of the Contraction of Striated Muscle. Alexander Spingarn.
14 Respiratory Gymnastics; Pulmonary Atelectasis; Pulmonary Anemia. Albert Abrams.
15 One of the Etiologic Factors in the Production of Deflected and Deformed Nasal Septums, and the Methods for Its Relief. Nelson M. Black.
16 Popular Dose Measures, and Their Relation to the Use of the Metric System in Prescription Writing. M. I. Wilbert.
17 Medical Allusions in Shakespeare's Plays. P. S. Donnellan.

Boston Medical and Surgical Journal, February 12.

18 Surgery of the Gall-bladder and Ducts. (To be continued.) John W. Keefe.
19 *Faulty Uterine Growth. Daniel H. Craig.
20 *Treatment of Inversion of Uterus. E. W. Cushing.
21 Variola or Smallpox. Joseph E. Duxbury.

New York Medical Journal, February 15.

22 *The Management of Cerebral Hemorrhage, and Its Abortive Treatment. William Browning.
23 The X-Ray in the Diagnosis and Wiring in the Treatment of Fractures. Charles Graef.
24 Soaps of Lime and Magnesia in Urine. George E. Pfahler.
25 Age of First Menstruation on the North American Continent. (Concluded.) George J. Engelmann.
26 *Treatment of Lobar Pneumonia. Charles E. Nammack.
27 The Active Principle of the Suprarenal Gland in Genito-urinary Work. Charles Chassaignac.
28 How to See the Stomach Curvatures with Our Naked Eyes, Without the Aid of Intragastric Instruments or Inflation. Mark I. Knapp.
29 The Eye, Ear and Throat Sequelæ of Typhoid Fever. L. D. Brose.

Medical News (N. Y.), February 15.

30 Address to the Graduates of the Training School for Nurses of the Colored Home and Hospital. T. Gaillard Thomas.
31 *Heredity. J. W. Kiernan.
32 *The Limitations of Medical Therapeutics. Frank Billings.
33 A History of the Army Post Exchange or Canteen. Dunning S. Wilson.
34 *The Roentgen Method in the Diagnosis of Renal and Ureteral Calculi. Charles Lester Leonard.
35 *Retinal Lesions of Chronic Interstitial Nephritis. Edward Jackson.
36 Exostosis of Femur Due to Traumatism. W. R. Townsend.

St. Louis Medical Review, February 15.

37 Treatment of Infantile Atrophy. John Zahorsky.

Cincinnati Lancet-Clinic, February 15.

38 *Consideration of Two Operations for Hemorrhoids. H. A. Ingalls.
39 Hematoma of the Ovary. S. P. Kramer.
40 Two Difficult Forceps Deliveries. John B. Enright.
41 Some Obstinate Bladder Cases. George W. Hopkins.

Pediatrics (N. Y.), February 1.

42 *The Action of Heat upon Cow's Milk as an Infant Food. S. Henry Dessau.
43 Hygiene of the Mouth. S. L. Goldsmith.
44 Congenital Heart Lesion. Wm. J. Butler.

American Practitioner and News (Louisville, Ky.), January 1.

45 Surgical Aspect of Intracranial Tumors. J. T. Dunn.
46 The Easement of Labor by Use of Heat and the Retained Injection. William A. Galloway.
47 Extrauterine Pregnancy: Operation at 266th Day: Recovery. D. C. Bowen.

Archives of Ophthalmology (New Rochelle, N. Y.), January.

48 Case of Embolism (Thrombosis) of a Branch of the Central Retinal Artery Treated with Forcible Massage: Recovery: A Barkan.
49 Further Clinical Experiences with Haab's Giant Magnet, with Some Experimental Statements Regarding Hirschberg's New Large Hand-Magnet. A. Barkan.
50 Papillo-Retinitis Due to Chlorosis: Two Cases in Which Eye-Strain Was Relieved by Vertical Decentration of Lenses. Cassius D. Westcott and Brown Pusey.
51 Ciliary Processes in the Pupillary Area. R. Schweigger.
52 Ciliary Processes in the Pupillary Region. J. Herbert Fisher.
53 On Leucemic Pseudo-Tumors in the Retina. Hugo Feilchenfeld.
54 Remarks upon A. S. Percival's Article upon "Perioscopic Lenses." F. Ostwalt.

University of Pennsylvania Medical Bulletin (Philadelphia), January.

55 *The Pathology of Diabetes. Simon Flexner.
56 Cervical Rib. Henry K. Pancoast.
57 *Cerebral Lesions in Experimental Lead Intoxication. D. J. McCarthy.
58 *A Review of the Literature of Ovarian Transplantation. William R. Nicholson.
59 *Observations on the Nature and Diagnosis of Acute or Infective Endocarditis. Aloysius O. J. Kelly.
60 *The Pathogenesis of Lacunar Keratosis of the Tonsil. George B. Wood.

Maryland Medical Journal (Baltimore), February.

61 Gunshot and Stab Wounds of the Stomach. Randolph Winslow.
62 The Treatment of Incipient Pulmonary Tuberculosis. George C. Johnston.

Journal of Medical Research (Boston), January.

63 Notes on the Occurrence and Habitat of Anopheles Punctipennis and Anopheles Maculipennis in the Valley of the Androscoggin. Edwin O. Jordan.
64 *Iodophilia. Edwin A. Locke and Richard C. Cabot.
65 Coffee and Tea as Precipitants for Poisons. Torald Sollmann.
66 *Dermoid Cysts and Teratomata of the Anterior Mediastinum. Henry A. Christian.
67 *The Movements of the Intestines Studied by Means of the Roentgen Rays. W. B. Cannon.
68 *Leucocytosis After Violent Exercise. Ralph C. Larrabee.
69 *Tubular Perivascular Sarcoma, Its Origin, Structure and Metastasis. H. C. Low and F. B. Lund.
70 The Intercuneiform Bone of the Foot; a New Bone. Thomas Dwight.
71 Branching in Bacteria, with Special Reference to B. Diphtheriæ. Hibbert W. Hill.
72 Observations on the Morphologic Variations of Certain Pathogenic Bacteria. A. P. Ohlmacher.
73 A Rapid Method for the Differential Staining of Blood Films and Malarial Parasites. James H. Wright.
74 On the Blood Lymph Cells and Inflammatory Processes of Limulus. Leo Loeb.

Journal of Mental Pathology (N. Y.), December-January.

75 *The Trial, Execution, Autopsy and Mental Status of Leon F. Czolgosz, Alias Fred Nieman, the Assassin of President McKinley. Carlos F. MacDonald. With a Report of the Postmortem Examination. Edward A. Spitzka.
76 Acute Delirium. B. Semidalow and V. V. Veidengammer.
77 On the Frequency and Significance of Transverse Striæ of the Finger-Nails in the Normal, the Criminal and the Insane Subjects. Marco Treves.
78 A Clinical Study of Morbid Obsessions and Impulses. Louise G. Robinovitch.

Journal of Advanced Therapeutics (N. Y.), January.

79 A Case of Rectal Stricture Treated by Electrolysis. Walter H. White.
80 Armamentarium and Modus Operandi of the Treatment of Urethral Stricture by Electrolysis. Robert Newman.
81 *The Use of Electricity in Renal Disease. A. D. Rockwell.
82 The Case of Mrs. D.—A Study in Contemporary Gynecology. G. Betton Massey.
83 Therapeutics of Dry Hot Air. Clarence E. Skinner.

February.

84 Hystero-neurasthenic Paralysis. Francis H. Bishop.
85 A Case of Round-Celled Sarcoma Successfully Treated by X-Ray Exposures. Frank A. Kirby.
86 Therapeutics of Dry Hot Air. Clarence E. Skinner.
87 The Value of Electricity in the Gynecological Work of the General Practitioner. Marcus S. Wheatland.
88 *Hot-Air Treatment of Rheumatism. J. D. Gold.

American Medical Compend (Toledo, Ohio), February.

89 Malignant Disease of the Mammary Gland. Wm. J. Gillette.
90 The Practical Aspects in the Treatment of Cervical Carcinoma, in Their Relation to the Diagnosis Thereof. J. H. Jacobson.
91 What Insanity Really Is. Hiram A. Wright.
92 Brain Complications in Suppurative Ear Disease. F. G. Stueber.
93 Report of a Case of Morphinomania, with Extravagant Claims of Aural Disease. Francis W. Alter.

Journal of Experimental Medicine (Baltimore), February.

94 The Effects of Subminimum Doses of Strychnin in Nephrectomized Rabbits. S. J. Meltzer and W. Salant.
95 Contribution to the Pathologic Anatomy of Malarial Fever. James Ewing.
96 *The Etiology of Acute Dysentery in the United States. E. B. Vedder and C. W. Duval.

Medical Dial (Minneapolis), February.

97 Lateral Cervical Triangle. Byron Robinson.
98 State Preventive Medicine—Its Progress and Influence. Franklin Staples.
99 Notes on the Use of Tannopin in the Summer Bowel Troubles of Children. Caryl B. Storrs.

The Post-Graduate (N. Y.), January.

100 *Pleurisy, Errors in Diagnosis and Treatment. William Henry Porter.
101 *On the Treatment of Heart Diseases. Thomas E. Satterthwaite.
102 Some Observations on the Haab Magnet. Frank Van Fleet.
103 Clinical Bacteriology. Hermann Leuhartz.
104 Mosquito in Disease and Otherwise. Joseph Clements.

Proceedings of the Pathological Society of Philadelphia, January.

105 Compression of the Brain in a Case of Hyperostosis Cranii. William G. Spiller.
106 A Case of Microcephaly. William G. Spiller.
107 Internal Hemorrhagic Pachymeningitis. William G. Spiller.
108 Melanosis of the Cerebrospinal Meninges. D. J. McCarthy and Mazyck P. Ravenel.
109 Latent Diffuse Gangrene of the Lungs, with Rupture and Fetid Pleurisy. James M. Anders and Joseph McFarland.
110 A Case of Fibroma Molluscum. M. B. Hartzell.
111 Case of Spontaneous Rupture of the Heart. Roland G. Curtin.
112 A Specimen of Bothriocephalus Latus. David Riesman.
113 A Case of Tuberculosis of the Skin Following Accidental Inoculation with the Bovine Tubercle Bacillus. Mazyck P. Ravenel.

Kansas City Medical Index-Lancet, February.

114 *The Method of Teaching Diagnosis in the Northwestern Medical School. George W. Webster.
115 Report of Cases. (Hysterectomies.) J. B. Rolater.
116 Pneumonia: Its Diagnosis and Treatment. R. S. Magee.
117 Reminiscences of a Recent Trip Abroad, Including Visits to the London, Paris, Berlin, etc., Hospitals, Clinics, Medical Museums and Libraries, as Well as to the British Medical Association. (To be continued.) John Punton.
118 New Operation for Hemorrhoids. J. M. Frankenberger.
119 Puerperal Sepsis, Prophylaxis Treatment. H. C. Crowell.

Carolina Medical Journal (Charlotte, N. C.), January.

120 Food Value of Alcohol: The Chemico-Physiologic Evidence. J. W. Long.
121 *Lachrymal Stenosis in Infants and Its Treatment. Dunbar Roy.
122 A Personal Experience with Anti-diphtheria Serum. M. R. Braswell.

New Orleans Medical and Surgical Journal, February.

123 Fractures of the Long Bones of the Upper and Lower Extremities. E. D. Martin.
124 The Negro as a Surgical Subject. Lucien Lofton.
125 A Plea for More General Dissemination of Surgical Talent Throughout Our Country Towns. Burdett A. Terrett.

Canada Lancet (Toronto), January.

126 *The Etiology and Early Diagnosis of Pulmonary Tuberculosis. D. Gilbert Gordon.
127 Acute Miliary Tuberculosis. Jas. Third.
128 Tuberculosis of the Pelvic Organs in the Female. Thomas S. Cullen.
129 Tubercular Disease of Bones and Joints. Hadley Williams.
130 Tuberculosis of the Alimentary Tract. R. J. Dwyer.
131 Genito-Urinary Tuberculosis. Geo. A. Bingham.
132 Glandular Tuberculosis. Herbert A. Bruce.
133 Tuberculosis of the Larynx. D. J. Gibb Wishart.
134 Tubercular Disease of the Middle Ear. Charles Trow.
135 On the Disposal of Tuberculous Sputum. J. H. Elliott.
136 The Relations of the Tuberculous and the Public. J. T. Fotheringham.
137 Tuberculosis—Some Needed Regulations. John Ferguson.
138 *Statistics of Tuberculosis in Canada. Charles P. Lusk.

Nashville Journal of Medicine and Surgery, January.

139 Local Manifestations of Disease. J. S. Cain.

New York State Journal of Medicine (N. Y.), February.

140 Prognosis and Treatment of Diabetes Mellitus. Abraham Mayer.
141 The Management and Treatment of Arteriosclerosis. Egbert Le Fevre.
142 *The Treatment of Carcinomatous Growths by Caustics. A. R. Robinson.
143 Malignant Disease of the Nose and Accessory Sinuses. (Concluded.) Joseph S. Gibb.

International Journal of Surgery (N. Y.), February.

144 *Chemical Treatment of Traumatisms. R. Harvey Reed.
145 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
146 Briefs on the Surgery of the Genito-Urinary Organs. G. Frank Lydston.
147 The Surgical Assistant. (To be continued.) Walter M. Brickner.
148 Appendicitis: When to Operate. I. B. Perkins.
149 Urinary Calculi, Report of Three Cases. M. B. Saunders.
150 Rectal Prolapse of Many Years' Standing Successfully Operated on by Intra-Abdominal Traction and Fixation to Internal Oblique and Transversalis Muscles, the Analgesia Being by Intraspinal Injection of Cocain. F. W. Parham.

Medical Standard (Chicago), February.

151 *Floating Kidney Idolatry—A Polemic. A. Rose.
152 A Neurological Clinic. (Muscular Atrophy, etc.) Daniel R. Brower.
153 Pain and Its Indications. (To be Continued.) Edward C. Hill.
154 The Jews in Medicine. E. Schreiber.
155 Mild Alcoholic Stimulation. Herman Gasser.

Memphis Medical Monthly, February.

156 A Brief Sketch of the Evolution of Gynecology and Its Present Perfected Status. William D. Haggard.
157 Quinsy. E. C. Ellett.
158 Antimicrobes vs. Autitoxin. E. H. Randle.
159 Tetanus. James S. Rawlins.
160 Timely Suggestions. Jacob Deutsch.
161 Pulmonary Lithiasis. James S. Rawlins.

The Medicus (Frederick, Md.), January.

162 Diphtheria and Its Treatment. T. B. Johnson.
163 Consideration of Some of the Functional Signs of Diseases of the Stomach. J. H. Potter.
164 Serum Therapy in the Treatment of Disease. Wm. Dow.

Medical Times (N.Y.), February.

165 Ears and What We Should Know About Them. Edwin W. Pyle.
166 Angina Pectoris. Egbert G. Rankin.
167 A Study of Gastric Ulcer and Rheumatism. J. C. Patterson.
168 Paresis Following Typhoid Fever, with Discussion. Louis Frank.

Southern Practitioner (Nashville, Tenn.), February.

169 Enteric Fever. R. B. Macon.
170 A Well-Tried Combination. Deering J. Roberts.

---

3. **Vesico-Vaginal Fistula.**—The new operation described by Smith consists in the following procedures: 1. The vagina was incised across and in front of the cervix, pushing the bladder off from the uterus in the same way as in the first step of vaginal hysterectomy. The cervical laceration which extended up the internal os was operated on by the Emmet method. "2. The vagina was separated easily from the bladder with the finger everywhere except where the two torn edges had become united by fistula. With the finger between the vagina and the bladder it was quite easy, by a few cuts with the scissors, to separate them from one end of the fistula to the other. As this cut gave a raw edge there was no need of cutting away a single particle of either. 3. The long tear in the bladder was now caught with a catgut stitch at either end, only taking in the muscular wall and held on the stretch by an assistant. It was only the work of a minute or two to bring the muscular wall together with an over-and-over fine chromicized catgut suture going back fully an eighth of an inch on each side, but taking care never once to penetrate the cavity of the bladder or even to touch the mucous membrane. When this was finished there was a strong ridge on the site of the tear, nearly one-fourth of an inch wide, which was tested with sterilized milk injected into the bladder from a fountain four feet above it, giving quite a pressure and not a drop came through. 4. The slit in the vagina was closed with interrupted silkworm gut passed through the vagina, then through the muscular wall of the bladder but half an inch to the right of the tear in the bladder, and then through the other side of the vagina, thus displacing the bladder half an inch to the patient's left, so that the line of suturing in the two membranes was no longer in the same place as the line of the tear was. By this means the line of suture of the bladder was backed up or strengthened in front by half an inch of solid vagina instead of a line of sutures, and should any pressure be accidentally brought to bear upon the sutures in the bladder, it would have to overcome a valve instead of a hole, and the harder it pressed the tighter did the valve close." The catheter was left in for five days, after which the patient passed water naturally three or four times a day, and has had no trouble since. He lays special stress on three or four points, one is that by adopting this method we avoid leaving any stitches in the bladder mucous membrane, where they are liable to become the nuclei of most troublesome calculi. Stitching of the mucous membrane is quite unnecessary because the edges are brought together by the drawing together of muscular layer immediately underneath it. Instead of depending on the union of a narrow edge, about one thirty-second of an inch thick, we obtain a thick ridge fully an eighth of an inch thick in the bladder alone, to say nothing of the vagina against it. He emphasizes the great importance of leaving in a *catheter à demeure*, which should be used in every case in which anything has been done to the bladder wall, as it removes all tension and places the bladder at complete rest so long as it remains in. He thinks there is no longer any need of a woman dragging out a wretched exist-

ence when we have at our disposal such an easy and certain method of closing the very worst vesico-vaginal fistula.

4. **Septic Poisoning and Accident Insurance.**—Kemper gives his experience with accident insurance companies as regards this disability and goes over the policies of different companies in regard to this point. He thinks the following propositions may be declared: 1. The surgeon who is insured and receives a disabling wound unfitting him for practicing his profession, is entitled to an indemnity whether he contracts septic poisoning or not. 2. A surgeon, while operating, may become infected through an old injury, or a new wound. The effects are the same in either instance. There is no valid reason why a policy should not indemnify alike in both cases. 3. If a surgeon can not recover indemnity from an infection received through a sore, or an abrasion, then he gains nothing from a clause or rider attached to his general policy. In other words, the term "septic poisoning" in an accident policy is simply an aid to secure policy holders!

7. **Brain Tumors.**—Collins' article is largely casuistic; he reports five cases of brain tumor showing certain points of interest. One of these was a tumor of the pons with the symptom of unilateral ataxia, extending from the beginning of the illness to the end, an extremely rare accompaniment. It is credited by him to lesion of certain fibers of the fillet, the central sensory pathway. There was also absence of choked discs, of degeneration reaction in the right seventh nerve and of pressure symptoms. The sense of hearing was also unaffected. Another was a case of syphiloma with nuclear symptoms and diagnosed as a tumor of the pons, but found in the anterior portion of the left hemisphere. The third case was a rare instance of cerebellar sarcoma in a child.

8. **Latent and Masked Malaria.**—Craig gives an analysis of 195 cases treated at the Presidio Hospital in returned soldiers from the tropics. Of these, 44 were tertian, 1 quartan and 150 estivo-autumnal infection. The clinical diagnosis before the blood examination in the majority of cases was chronic dysentery or diarrhea. In 14 cases pulmonary tuberculosis was diagnosed. Other ailments and derangements were clinically diagnosed in one or two cases each. He thinks that the occurrence of masked malaria in cases coming from the tropics is a matter of the greatest importance and in dysentery cases the marked debility that exists is often due to this complication. There is also evidence of the estivo-autumnal form originating in San Francisco. From an analysis of these cases he calls attention to the danger produced by malarial infection complicating any disease and to the good effects of elimination of this element.

11. **Surgery of the Pancreas.**—Park comprehensively reviews the surgical possibilities of the pancreas, noting the injuries that may occur and routes and methods in which the organ may be reached. In acute traumatisms the indications are, to check the bleeding, to prevent escape of pancreatic juice, to suture, etc., to disinfect the cavity, and to repair the balance of the injury. The fatality of such traumatisms is not easily ascertained. At least four cases of men injured during the Civil war lived for a period after their injuries and died from complications, and how many others had the viscus injured and completely recovered may never be known. There has been no case of complete removal of the pancreas in the human subject, but a great portion of it has been and can be spared and nearly all of a prolapsed pancreas has been removed. In a few cases prolapse of the pancreas has been noted and certain portions have been removed from such cases or the prolapse has been reduced. For malignant tumors of the head of the pancreas there is probably no hope, but in localized abscesses or tumors of the splenic portion excision of the splenic end has been successfully practiced and is as justifiable as removal of this part for gangrene. Pancreatic cysts have been thorougly dealt with by Senn and others, and their surgery more fully discussed than some other lesions. Park remarks that operation is often difficult from adhesions and these of such strength that injury to other organs may occur from breaking them up. The cyst may be exposed and tapped and a portion of the redundant part cut away, the remainder sewed to the abdominal wall and drainage provided for with a large tube. In a few cases the cysts have been pedunculated and, therefore, could be extirpated. The surgeon should be prepared to find more or less of the true pancreatic tissue stretched over such a peduncle, and if it can be done it would probably be better to peel this pancreatic tissue back before ligating the peduncle. The amount of discharge is enormous in these cavities, but where radical measures are impossible, drainage usually is followed by slow contraction and final healing, and where possible it is desirable to explore for calculus. Some pancreatic cysts are the result of obstruction of the duct of Wirsung, and removal of such calculi, if they can be detected, should certainly be made part of the operative procedure. If the calculus can be found it should be removed by excision. Whether this be done through the texture of the gland, or through the extremity of the duct, or through the duodenum, depends on the case. In some instances it has been possible to draw the stomach so far forward and outward as to bring the duodenum into the field sufficiently to justify opening it and going through it into the diverticulum of Vater, and one should be prepared to do this if necessary. Acute pancreatitis is discussed at some length. The cases of the severest type need early and prompt intervention. Those which go on to gangrene offer more hope to surgery. Park says an acute pancreatitis is characterized in the case in hand by fat necrosis, hemorrhage, pus or gangrene. In cases where the tumor can be felt in the left lumbar region, the entire operation can be done from the rear, and Park advises exploratory operation in most cases of acute pancreatitis with decided symptoms. There seems to be a connection between pancreatic disease and hemorrhage. The more acute the symptoms, Carnot claims, the greater the liability to hemorrhage and that it often follows grave traumatism as well as sometimes poisoning by mercury and other chemicals. The treatment of acute pancreatitis is virtually that of peritonitis of the upper abdominal cavity and consists very largely, as Fitz has suggested, in drainage. Early operation is just as wise as in fulminating appendicitis. Drainage is preferable posteriorly, though the initial operation is usually made anteriorly. In subacute pancreatitis, treatment consists for the most part in opening and of drainage of localized abscesses. In chronic pancreatitis the treatment consists in a large measure of attacks on the biliary passages, which for the most part are best approached by incision through the right rectus, or by Bevan's sigmoid incision, splitting the rectus as far as needed, the cut being several inches long. Most cases are produced by conditions having their origin in the biliary organs and involving the pancreas only secondarily. The cases of pancreatic calculus causing obstruction of Wirsung's duct, of course, are well known and probably more would be reported were observations and examinations more frequently made. Most of the cases are characterized by jaundice as well as enlargement of the liver and gall-bladder. Cipriani has emphasized the diagnostic importance of glycosuria as well as the presence of calculi in the feces. In some cases the difficulties would suggest the expediency of cholecystenterostomy, which may be the best way out of the trouble, especially when there is well-marked obstruction in the neighborhood of the diverticulum of Vater. The relief of tension afforded by draining the bile-ducts may indirectly drain the pancreatic ducts and lead to subsidence of the pancreatitis. Simulation of malignant disease by chronic interstitial enlargement, especially of the head of the pancreas, should not be a barrier to operation in cases in chronic jaundice where the health is failing, since much can be done so long as malignant disease is not present. The method of reaching the calculus is described. Pancreatic tuberculosis in most cases is probably due to extension from neighboring foci, primary tuberculosis being certainly rare.

12. **Tuberculous Peritonitis.**—Bottomley has studied the effects of operation on tuberculous peritonitis at the Boston City Hospital in 28 cases, which he tabulates. The immediate results are almost always improvement, at least in the general if not in the local condition. The remoter results are not so uniformly good, but he reports in the 28 cases 9 of recovery

ranging from fourteen months to five and one-half years of observation. Several cases are not traced and others report improvement for periods of several months. He summarizes as follows: 1. We may reasonably expect cures (*i. e.*, one year or more after operation) to follow the operation in from 30 to 40 per cent. of all cases. In fatal cases the patients usually die within a few months after operation. 2. Family history does not appear to be important etiologically. Previous inflammatory affections of the abdominal viscera may have etiologic significance. 3. Operation usually affords at least temporary improvement either locally or generally even in cases that later may prove fatal. The use of drainage following the operation should be avoided when possible. 4. Inferences as to the remote results of operation should be drawn very guardedly, if at all, from the immediate results; though in cases which do not immediately receive from an operation either local or general benefit, the prognosis is very unfavorable.

13. **The Inhibition of Muscular Contraction.**—The points attempted to be brought out by Spingarn in this essay are summarized as follows: 1. It is possible, by means of electric, mechanic, physical and chemic stimuli, to inhibit a condition of muscular contraction. 2. All motor nerves probably contain two sets of fibers, one excitatory and the other inhibitory—the excitatory ones ordinarily predominating in their effect on the muscles. 3. The function of the inhibitory fibers is to prevent an excessive manifestation of the energy of the muscle, when the latter has been aroused to contract; the inhibitory fibers bearing a relation to the muscle-machine somewhat like that of the "governor" to the steam engine.

19. **Faulty Uterine Growth.**—The condition here treated of by Craig is non-development of the uterus, which is often seen in young women from 15 to 17 years of age or who have recently passed the period of puberty. They have lived a sedentary and studious life, which almost invariably results in a sluggish metabolism and constipation, and are usually long and constant sleepers. The principal factor in the diagnosis is the uterine probe. If the body cavity equals or exceeds in depth that of the cervix a hopeful prognosis may be given, though both measurements are small, but if the cervical canal exceeds that of the body an unfavorable prognosis is the only one justified. Treatment must be both general and local, and it is usually best to withdraw such a patient from school or the sedentary occupation for about a year, and to require out-of-door life. Iron often has been useful, even in cases where it did not seem to be indicated. The local treatment employed by him has been the intracervical application of impure carbolic acid, negative galvanism, and faradism, and these have been supplemented by prescribing for the patient's home use very hot two-quart douches each night. Where this treatment has no direct result discission may be used and has proven almost invariably useful. There is some danger of increasing the retroversion tendency, and especially if the intra-uterine electrode be used, and if the sagging shut off the circulation the result is to stop the growth. He therefore has used pessaries to properly support the uterus from the start and he ordinarily employs a small soft or hard rubber retroversion pessary, with or without a bulb, according as the ovaries show a tendency to prolapse or not. The smallest pessary that will do the work should be used. If the patient is frequently seen there is no danger of its doing any harm. He requires the patient, as a rule, to wear it six months after the uterus becomes of normal depth and menstruation is regular. It is then removed tentatively and the patient seen once a week until after the next menstruation, to make sure that the ligaments are sufficiently strong. One caution seems specially noteworthy, and that is to see that the flows of blood are really catamenial and that the increase is actual growth and not merely swelling due to inflammatory reaction. Bleedings from the uterus accompanied by swellings are easily induced, but this is not what is desired.

20.—This article has appeared elsewhere. See The Journal of February, ¶83, p. 480.

22. **Management of Cerebral Hemorrhage.**—Browning advises elderly persons and those giving evidence of senility to avoid excessive strain as well as physical shocks, jars, brain-tire, and severe muscular exertion are included. Mild constipation, indigestion, rush of blood to the head, insomnia and prolonged worry must all be attended to. He gives illustrative cases showing how the attacks begin and the necessity of prompt and proper treatment. The first and main principle that he wishes to advocate is the use of powerful, quickly-acting muscular and vaso-depressants. Among these he ranks first gelsemium, then aconite and veratrum. He would start the fluid extract of gelsemium in 10-drop doses and continue with from 5 to 10 drops as indicated, or with gelsemin in doses of 1/10 to 1/8 of a grain and continuing in 1/20. Aconitin might be given at first in doses of 1/100 to 1/50 of a grain. The initial dose often needs to be large or else rapidly repeated until the physiologic effect is produced. If the cause be traumatic, the same principles hold good. He would absolutely immobilize the patient as far as possible, allowing no muscular exertion whatever and though purgatives may sometimes be needed it is not necessary to disturb the patient by their use. Phlebotomy is more than replaced by the depressants. The use of gelatin to prevent hemorrhage is mentioned, but its action is considered too slow to meet the emergency. The question whether it may be used as a prophylactic is suggested. For the headache that so frequently attends the attack, antipyrin and its allies in small doses do well, but the depressants are best for the restlessness. Sometimes a little bleeding would be good, and he suggests the methodical trial of nasal scarification in suitable cases. Where nephritis, syphilis or alcoholism exists we must remedy that factor as well as we can. Among the "don'ts" he says "don't give stimulants, don't resort to saline injections, don't use depressing diaphoretics, don't prescribe digitalis, don't resort to opiates, don't try the nitrites as their use in any form is here out of place, don't permit any muscular exertion on the part of the patient." In the subacute stage, after about one week, during which the patient has been kept as quiet as possible, the rent may be assumed to be permanently obstructed and we may allow limited exercise. As the arterial tension demands it the vascular depressant should be kept up in smaller doses. The return to exercise should be gradual. In the chronic state he believes in cultivating whatever power remains and gives directions as to the exercises that are advisable.

26. **Pneumonia.**—Nammack is doubtful as to the value of the serum treatment and the most that can be said is that it does no harm. The increase of leucocytosis is a favorable symptom, but we should avoid anything that increases leucocytosis and also weakens the heart; therefore, pilocarpin, acetanilid, antipyrin and nuclein are not advisable. The patient should be kept in a cool, well-ventilated room. A bodily temperature under 104 F. requires no special antipyretic measures, since a moderate elevation of temperature may be welcomed as useful in the presence of infection. Temperature above 104 F. may require a compress of linen wrung out of water at 60 F. and applied around the chest; if associated with delirium an ice helmet can be ordered in addition. Snug bandaging will help the pain, cough or dyspnea, and Dover's powders will be a valuable adjuvant. When hepatization has occurred, his faith remains pinned to four things, strychnin, nitroglycerin, alcohol and oxygen. The first two will be sufficient in the moderately severe cases. His practice is to order 1/60 of a grain each of strychnia and nitroglycerin in a teaspoonful of wine of pepsin every two hours with six ounces of milk, and Apollinaris water two ounces, on the alternate hour, the cold water in the intervals *ad libitum*. If these remedies fail to hold the case and the pulse goes up to 120 then whisky is ordered in half-ounce doses frequently repeated, as better than in larger quantities at longer intervals. Nammack believes that alcohol has a triple use in pneumonia: It reduces temperature by evaporation and radiation; lessens the heat production and, most valuable of all, it supplies a fuel or food to be burned up instead of tissues. Its drawback is that it tends to produce relaxation of the peripheral capillaries and to favor stagnation in them, with damming back of the blood upon the right heart, which must be met by the conjoint admin-

istration of vasomotor stimulants, like strychnin. Regarding the use of oxygen in pneumonia, he gives no logical reason for its value, but admits that it is of use. It is possible that it is inimical to the germs. The author is in accord with Dr. Keefe in his statement that without primary venesection it is never safe or advisable to make any considerable addition to the circulating fluids at the acme of an acute disease like pneumonia. The chief cause of death in uncomplicated cases is degeneration of the myocardium, due to toxemia and mechanical obstruction. Our objects of treatment are to eliminate the poisons and sustain the heart, and since the lungs and usually the kidneys are crippled, our available avenues of elimination are the bowels and the skin. The familiar "five and fifteen" (calomel, 5 grains; sodium bicarbonate, 15 grains) followed by saline laxatives, and repeated judiciously during the progress of the case, will attend to the gastro-intestinal system. The skin may be acted upon by water—cold, tepid or hot—each according to its special indications. The peripheral circulation or resistance are kept up by the vasomotor stimulants, strychnin, alcohol, and nitroglycerin. Local treatment is often expected by friends in private cases and it is cruel and unnecessary to disappoint them altogether, but it is more cruel and unnecessary to blister, poultice and bake a patient's thorax. He calls attention to the danger of pneumonia spreading to other members of the family, especially when they are in close attendance on the patient. The disinfection of pneumonia sputum and disinfection of the house in which several cases have occurred in rapid succession is suggested by Osler. He does not wish to have it understood that he follows any routine treatment by this mention of four principal remedies. It is the patient with pneumonia, and not the pneumonia that he treats. "Drugs are of no use unless mixed with brains."

31. **Heredity.**—This article, as stated in a footnote, is an expansion of the paper read before the American Medical Association and published in THE JOURNAL of February 8, p. 388.

32.—See abstract in THE JOURNAL, xxxvii, p. 1730.

34.—This article covers the same analysis of cases as the one which was abstracted in THE JOURNAL of February 15, ¶20, p. 479.

35. **Retinal Lesions and Bright's Disease.**—Jackson describes the retinal conditions in Bright's disease, including the alterations in the contour, size and color of retinal vessels, especially the alteration in the color of the optic disc, a dirty brick-red discoloration which is one of the earliest and perhaps the most constant ophthalmoscopic symptoms. It belongs to the stage of high arterial tension and may antedate any notable change in the urine. It is not well described in the usual account given to ocular lesions, but the author has observed it often and mentions it with no question as to its significance. The irregularity in the caliber of the vessels, the alterations of outline of the arteries, which may be set down with certainty as abnormal, notable contractions and considerable lengths of broadened vessels are more frequent than distinctly sacculated aneurysmal dilatations, though these latter do occur. Alterations in the contour of the veins are much more common and can be made out in practically all cases. The changes in the size of the vessels really include the foregoing conditions. The tortuosity of the retinal vessels is chiefly a sign of dilatation. It may be marked in a single vessel, but more frequently affects all. Pathologic tortuosity shows great variations of depth of the different parts of the vessels. The curves are toward and from the center of the eyeball as well as in the plane of the retina, but the most frequent guide to the character is the co-existence of other retinal lesions, particularly the irregular venous dilatations. He also notices changes in the color, darker in dilatation and paleness from anemia and changes due to opacity of the vessels, which are often yellowish from such causes. A rare but most striking condition is an opaque brilliant white color due to fatty degeneration which is usually confined to a single vessel or in limited patches, though it may be quite general as in one case observed. Retinal hemorrhage is pretty constant, but there are times when it can not be found. Usually the hemorrhage spreads in the nerve fiber layer to give it the usual flame shape, but smaller rounded dots of effused blood are frequent, and may be overlooked. Very large hemorrhages are rare in this condition. They are more apt to attend the toxic exudative form. How long any particular retinal hemorrhage will be recognizable is always uncertain. Small ones may be apparently unchanged for a considerable period and larger ones may rapidly disappear. Rapid and complete disappearance is probably a favorable signs. All these symptoms are dependent upon alteration of the vessel walls and are the retinal expression of the general vascular degeneration which is essentially a part of the disease. The edema and degenerative changes are so constantly associated with these that it is reasonable to suppose they have the same origin. Edema is usually localized or more permanent in certain parts than others. The brilliant white patches due to fatty degeneration are the most striking ophthalmoscopic appearances of chronic interstitial nephritis and probably always appear in cases that run the complete course. They may be the result of retinal hemorrhage, the late stage in the history of a mass of exudate or follow localized edema, but smaller patches may arise without any evident preceding lesion and seem to have a direct relation with the underlying vascular change or its cause. These may be found at the very first examination of the case, but are usually of later appearance. The masses of exudates cause swelling and dirty reddish-white blotches of the fundus which undergo great changes and may sometimes entirely disappear. The large majority of patients who present these lesions die within a year or two. In conclusion he says: "Whether the vascular changes cause the retinal lesions, or whether their connection is that both spring from a common cause, the retinal symptoms take from this close connection great importance. They throw light upon what goes on in the central nervous system, and modified *pari passu*, in other organs of the body. Whether considered as a means of understanding the essential nature of this disease process, or as throwing light on the character and course of the individual case, they have an importance that the mass of physicians very imperfectly appreciate."

38. **Hemorrhoids.**—The two operations here described by Ingalls are the Thompson modification of the Whitehead operation and the Keiller method, which consists in dissecting under the mucous membrane for about an inch above the anus and depriving it of its veins and connective tissue. It is then re-sutured, using a padding or plug of iodoform and gauze in the rectum with central drainage tube, and removing it in twenty-four hours. He thinks this last operation deserves first place among recognized procedures for the relief of this very troublesome condition. The chief points of superiority are: 1, No danger of stricture; 2, no possibility of recurrence, all venous radicles being removed; 3, the least danger of infection; 4, no blood clot in the peri-anal space; 5, the greater comfort of the patient.

42. **The Action of Heat on Cow's Milk.**—Dessau claims that the action of heat on cow's milk when exposed for ten minutes to a gradual rise to from 140 F. to 160 F. does not coagulate the albumins and nucleins, neither does it decompose the fats nor render the calcium salts insoluble. It does, however, destroy or inhibit the growth of 99 per cent. of the vegetating germs in the milk and it does modify and alter the curdling of the caseinogen to the extent of approaching nearer to that of the curd of human milk. This action of heat upon the digestibility of casein is increased by dilution with plain water and possibly also by gruels made from cereals. While his ideas are not exactly in accord with the present theories of imitating human milk on a so-called scientific basis and as the observations on the digestibility of heated cow's milk do not entirely agree with those of other authorities, he claims that it is submitted on the basis of careful observation and not on any mere theory or laboratory results. His experience enables him to make the emphatic assertion that cow's milk prepared in this way by heating will not only make infants thrive when given as a daily food, but that the same results were obtained in numerous instances where other artificial foods, including home modification or percentage feeding, had previously markedly failed.

55. **Diabetes.**—Flexner states the limits of our knowledge concerning pancreatic diabetes and mentions the evidences of other forms. He thinks it probable that diabetes can also result from disease of the liver, but the theory is less satisfactory. The notion that the pancreas regulates the carbohydrate metabolism seems to be most in favor, though he points out that it is purely hypothetical. It is largely supported by analogy with other glands, such as the thyroid and adrenal. Thus far the number of theories advanced fail to explain all the phenomena, but it seems to be demonstrated beyond doubt that diabetes results from failure of a special internal function of the pancreas and that it is not due to nervous lesions or the absence of the digestive secretion of the organ. That pathologic conditions of the central nervous system and per-

[redacted]

metabolism are the pancreas and liver, but their mechanism has not yet been solved.

57. **Lead Poisoning.**—McCarthy reports experiments on lead poisoning in dogs with brain examinations, showing a progressive degeneration with disappearance of the ganglion cells, followed by an increase in the gliar elements associated with a very remarkable non-inflammatory endarteritis and periarteritis. The reaction of the tissues in this case to an invading toxic irritant are very marked, and associated with the capillary hemorrhages would, in that sense, constitute an inflammatory process, but he prefers not to use this term in the absence of round-cell infiltrate other than that of proliferation of the gliar nuclei. The same process occurring in a human being could give all the symptoms, including the convulsions, of a case of paresis, and it can be easily understood how some cases present a clinical picture of that disease.

58. **Ovarian Transplantation.**—The history of ovarian transplantation is reviewed by Nicholson, who sums up the results of the work reported to date. It may be first stated that transplantation of the ovaries, either homo- or heteroplastically, is possible and that pregnancy will follow in a small proportion of cases. Further, it may be authoritatively stated that there is without doubt an influence inherent in the ovaries beyond the mere process of ovulation which is very important for the development of the genitalia and also for their conservation. Whether this is strictly an internal secretion or not remains to be proved, but there is a good deal of evidence pointing that way. The influence of transplanted ovaries may be most beneficial in the prevention of degeneration of the ovaries, but as yet too few cases have been reported to be conclusive. All the evidences adduced tend to strengthen the view that the whole ovary, or if that be impossible, at least a portion, should be left in all operations where the condition of the patient will permit.

59.—See abstract in The Journal, xxxvii, p. 995.

60. **Tonsillar Keratosis.**—The conclusions of Wood's paper are as follows: "1. The disease commonly called mycosis pharyngitis leptothricia is a true keratosis of the epithelium lining the crypts of the tonsils. 2. The leptothrix buccalis maximus, the bacillus buccalis maximus, and like organisms, do not possess any etiologic importance, but are present simply as saprophytes. 3. The disease is probably the result of a moderate degree of inflammation of the parenchyma of the tonsil, causing an increased growth of the normal epithelium of the crypts."

64.—See editorial in The Journal of February 22, p. 519.

66. **Dermoid Cysts.**—These cysts are described by Christian, who summarizes as follows: "1. Dermoid cysts and teratomata of the anterior mediastinum occur infrequently, generally give evidence of their presence during early adult life, and are of relatively long duration. 2. Their most frequent position is immediately behind the upper portion of the sternum. From there they may grow out into the lung or down between heart and lung. 3. These tumors may be classified as follows: (*a*) Tumors of ectodermal origin with the addition of some tissues from the mesoderm—dermoid cysts. (*b*) Tumors derived from all three germ layers—teratomata. (*c*) Dermoid cysts or teratomata which in some part of their structure show evident malignancy. The first class includes a large proportion of the reported cases. 4. The coughing up of hair is pathognomonic of this mediastinal condition. 5. Cure is possible only through surgical procedure. 6. The genesis of these tumors is to be referred to the fetal period of life. The origin of most is branchiogenic. Some may result from germ layers misplaced at the time of closure of the anterior chest wall."

67. **Intestinal Movements.**—Cannon has investigated the movements of the intestines with the Roentgen rays, using bismuth subnitrate mixed with food. He thinks the most notable activity of the small intestines is in the simultaneous division of the food lying in a loop into small segments and a rhythmic repetition of the division without any notable advance of food through the gut, mixing up the food and the digestive juices and bringing them in contact with the absorbing mechanism. Peristalsis is usually combined with segmentation. As the food is advancing, interfering constrictions often momentarily separate the rear end of the mass from the main body. The ileocecal valve is perfectly competent to prevent the repassage of food from the colon. The usual movements of the transverse and ascending colon and the cecum are antiperistaltic, occurring in periods about fifteen minutes apart. Thus the food in the closed sac is thoroughly mixed and again exposed to the absorbing wall without any interference with the processes in the small intestines. There is a gradual pushing, however, of the food forward. In emptying the large intestine, the material in the lower descending colon is first carried out by combined peristalsis and the pressure of the abdominal muscles. The remainder of the material is then spread into the evacuated region and this region again cleared. There is no evidence of antiperistalsis in the small intestine. Signs of emotion, such as fear, depression or rage, are accompanied by a total cessation of the movements of both the large and small intestines. The movements continue in the cat during sleep.

68. **Leucocytosis After Violent Exercise.**—The following are Larrabee's conclusions: Violent, prolonged, exhausting work produces a leucocytosis. This leucocytosis is made up principally by an increase in the polymorphonuclear cells, but the other forms may also be considerably increased in numbers. More than one cause acts to produce the leucocytosis, probably a temporary, mechanical cause, and also a toxic cause, more slow to develop, but lasting as long as the exercise continues."

69. **Tubular Perivascular Sarcoma.**—After reporting cases in detail and discussing the literature as to the origin, etc., of this class of tumors, Low and Lund say that in reviewing the history in connection with the pathological findings the chief conclusions to be drawn are as follows: "1. A pigmental growth of the skin may at any time take on malignant characteristics. 2. If the removal of a pigmented growth be undertaken at all, it becomes important for the surgeon to cut wide of the growth, as is the rule in carcinoma. All pigmented tissue should be removed practically in one piece, and without cutting through the tumor tissue. 3. Metastasis may take place from the peripheral organs to the brain, without the lungs being involved. 4. A melanotic sarcoma of the skin may in its metastases assume the type of a perivascular angiosarcoma."

75.—This article has appeared elsewhere. See The Journal of January 18, ¶9 and ¶10, p. 202.

81. **Electricity in Renal Disease.**—Rockwell finds that electricity is of value in certain cases of kidney disease. He

uses a high-tension faradic current in seances of not more than ten minutes' duration at first, but increasing to longer periods and employing as strong a current as the patient can reasonably bear. He also uses, in some cases, in connection and alternation with this, the static wave current, which has an advantage over the other of exceeding it in frequency and tension. He finds as a result of these infinitely rapid vibratory disturbances, which cause no pain or fever, a very marked influence on circulation and compensation. They affect the general nutrition at the same time. He also uses the older method of general faradization for its influence on the systemic nutrition.

88. **Hot-Air Treatment in Rheumatism.**—Gold finds the use of hot air exceedingly valuable in the treatment of chronic articular and muscular rheumatism and neuralgias, and thinks it not sufficiently appreciated by the profession. He uses the Betz's apparatus made in Chicago, but all others embody the same principle and probably may be equally effective. He reports several cases of rheumatic sciatica and gonorrheal rheumatism in which cure was effected by this remedy.

96.—See editorial in this issue.

100. **Pleurisy.**—Porter's paper reports a number of cases where difficulties in the diagnosis of pleurisy affected the treatment. They show the ease and accuracy with which most cases can be diagnosed, especially if the aspirating needle be used. They also show that at times it is almost impossible for even the best-trained diagnostician to be absolutely certain of the pathologic conditions, and that errors in diagnosis may result in permanent damage and possibly death, especially if the most scientific methods of treatment are not adopted early. They also illustrate positively the good results following free opening, meaning by this resection of the rib, cleansing of the pus cavity, and that small and valvular openings do not give the same favorable results.

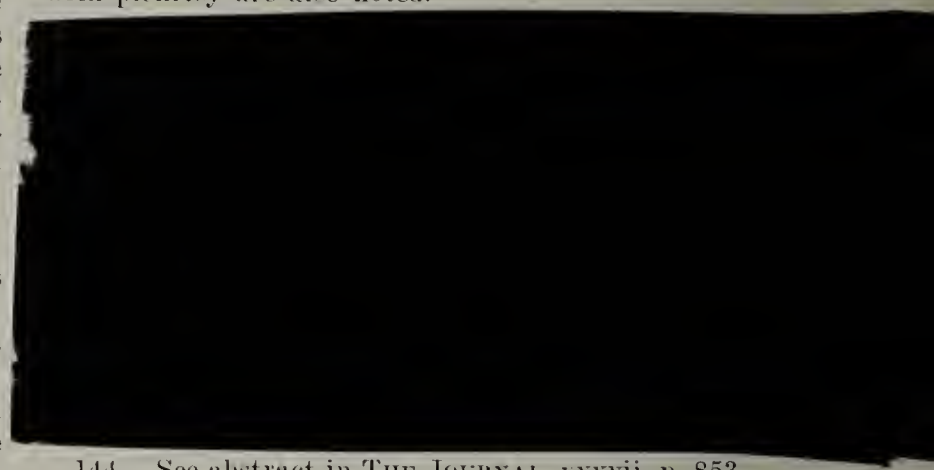
101. **Heart Disease.**—Satterthwaite's paper aims to show that in the modern treatment of heart disease "milder methods are replacing older ones—in particular, that the idea of absolute rest has been superseded by rest alternating with physical activity; that venesection has been supplanted by restoration of the capillary circulation, mainly by resistance exercises and carbonated baths; hydragogue catharics are in general to be replaced by stomachics, mild laxatives and diuretics; heart stimulants by general nerve tonics or sedatives and nutrients; while drugs of the digitalis group are being gradually avoided, except in particular instances, for the reasons that have already been given."

114. **Diagnosis.**—Webster describes the methods of teaching diagnosis in the Northwestern University Medical School, summing up as follows: "A combination of didactic lectures, recitations, laboratory work in normal diagnosis, clinical laboratory work, amphitheater clinics, ward visits and hospital clinics so arranged as to secure the greatest economy of the student's time with a maximum of individual instruction. Education in methods with the dominant idea that 'the whole art of medicine consists in observation.' Especial value placed on thorough training, in the laboratory work of normal physical diagnosis. Teaching one thing at a time and never taking the student out beyond his depth. Teaching all students how to write a concise, accurate clinical history and to make a general examination before taking up special examinations. Teaching them to reason rather than to memorize, a drawing out rather than a pouring in."

121.—Published in THE JOURNAL, xxxvii, p. 1671.

126.—See abstract in THE JOURNAL, xxxvii, p. 714.

138. **Tuberculosis in Canada.**—According to the résumé of the statistics here given by Lusk, it would seem that there has been no decrease in the last 25 years in the proportion of deaths from tuberculosis in Canada, while in England and the United States there has been a large decrease. Death returns from this scourge are there as great as those of the combined diseases of influenza, pneumonia, diphtheria and croup; as great as those from the diarrheas, heart disease and cancer; and greater than the mortality following pneumonia and the diarrheas of children and adults. Other noteworthy features are the frequency of meningeal involvement in Montreal, causing 15 per cent. of deaths, and that almost 10 per cent. are in children under one year; that 15.1 per cent. die between 20 and 24, and 12.5 per cent. die between 25 and 29. The death-rate in males is greater in the first decade and during and after the seventh, while among females it is greater between 10 and 40 years, reaching its maximum between 10 and 20. The disparity between urban and rural population is also noticed, the town inhabitant being almost twice as liable to infection as the dweller in the country. Altitude and soil exercise a considerable influence in increasing the liability; the large percentage of infection following repeated colds, debility, and those associated with pleurisy are also noted.



144.—See abstract in THE JOURNAL, xxxvii, p. 853.

151. **Floating Kidney.**—Under this title of "floating kidney idolatry" Rose argues against the importance of this anomaly. He believes that great benefit may be often obtained by strapping of the abdomen in patients who have splanchnoptosia and that it does more good than nephropexy in these and in consumption. His experience tells him that one is not justified in resorting to operation, to perform nephropexy in cases of splanchnoptosia without first having tried the method of supporting the abdominal muscle and that the method of strapping seems to be the best of all. He also holds that we are not justified in pointing out the floating kidney as being especially the cause of gastric and nervous symptoms in cases of splanchnoptosia.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), February 8.

1 Two Cases of Perityphlitis (Commonly Called Appendicitis). David W. Finlay.
2 Appendicitis and Its Treatment. James Taylor.
3 Some Cases of Chronic Non-Malignant Gastric Ulcer. Arthur E. Barker.
4 *An Address on Some Points in Connection with Ulceration of the Stomach and Duodenum. C. R. Box.
5 *The Treatment of Intestinal Obstruction from Malignant Disease. Leonard A. Bidwell.
6 Two Cases of Recovery After Operation for Diffuse Peritonitis from Perforation of the Appendix. Charles A. Morton.
7 *On Intracranial Thrombosis as the Cause of Double Optic Neuritis in Cases of Chlorosis. C. O. Hawthorne.
8 Arsenic in the Hair of Beri-Beri Patients from Penang. Ronald Ross.
9 Contract Practice: The Evil and Its Remedy. A. Baillie McKee.

The Lancet (London), February 8.

10 Two Cases of Solid Abdominal Tumor with Ascites. Thomas W. Eden.
11 Preliminary Note on the Possibility of Treating Mitral Stenosis by Surgical Methods. Lauder Brunton.
12 The Trial, Execution, Necropsy, and Mental Status of Leon F. Czolgosz, Alias Fred Nieman, the Assassin of President McKinley. Carlos F. MacDonald, with a Report of the Postmortem Examination. E. A. Spitzka.
13 Ovarian Tumors and Ovariotomy During and After Pregnancy. Alban H. G. Doran.
14 *Four Cases of Word-Blindness. James Hinshelwood.
15 A Case of Tumor of the Left Pre-frontal Lobe Removed by Operation. William Elder and Alexander Miles.
16 *Acute Suffocative Pulmonary Edema. Thomas Lissaman.
17 *The Decay of Auscultation and the Use of Binaural Stethoscope. H. W. Syers.

The Practitioner (London), February.

18 *Scarlet Fever, Measles, and German Measles—Is There a Fourth Disease? Claude B. Ker.
19 What Is the Best Form of Operative Treatment for the Cure of the "Enlarged" Prostate? E. Hurry Fenwick.
20 *Auscultatory Percussion as a Means of Diagnosis in Thoracic Disease. S. H. Habershon.
21 *On Floating Kidney as a Cause of Obstructive Jaundice and Hepatic Colic. J. Hutchinson.

Archives Gen. de Med. (Paris), January.

22 *Uremic Ulcerations in Stomach and Small Intestine. A. Mathieu and J. C. Roux.—"Sur un cas d'ulcération urémique de l'estomac et de l'intestin grêle."
23 Neutralization of Toxalbumins by Sodium Hyposulphite. E. Boix and J. Noé.—"Essai de neutralisation de quelques toxalbumines par l'hyposulfite de soude dans l'organisme animal."
24 Early Syphilitic Hydrarthrosis. F. de Grandmaison.—"Hydrarthrose syphilitique volumineuse et précoce."
25 Gastric Affections. G. Linossier.—"Les maladies de l'estomac." Revue critique.
26 *The Hospitals of St. Petersburg. M. Marcou.—"Les hôpitaux de St. Petersbourg."

Bulletin de l'Acad. de Med. (Paris), January 21.

27 *Prophylactic and Therapeutic Indications in Pulmonary Phthisis Based on a Knowledge of Its Soil. A. Robin and M. Binet.—"Les indications prophylactiques et thérapeutiques de la phthisie pulmonaire fondées sur la connaissance de son terrain."

January 28.

28 *Treatment of Club Foot by Ablation of All the Tarsal Bones. Lucas-Championnière.—"Traitement du pied bot par l'ablation de la totalité des os du tarse sans immobilisation ni appareil orthopédique."

Echo Medical (Lille), January 26 and February 2.

29 *Modifications of the Reflexes in Spinal Traumatisms. O. Lambret.—"Des modifications des réflexes dans les traumatismes médullaires."
30 *Chronic Splenomegalia. A. Deléarde.—"Les splénomégalies chroniques."

Presse Medicale (Paris), January 25 and February 2.

31 Segmental Topography of Pneumonia. P. Carnot.—"La Topographie segmentaire de la pneumonie franche."
32 Chromo-diagnosis of the Cerebrospinal Fluid. A. Sicard.—"Chromodiagnostic du liquide céphalo-rachidien."
33 Ganglionary Reactions in Children. M. Labbe.—"Des réactions ganglionnaires chez les enfants."
34 Suppuration of the Labyrinth. M. Lermoyez.—"La suppuration du labyrinthe."

Semaine Medicale (Paris), January 29.

35 *Traumatic Scarlet Fever. R. de Bovis.—"La scarlatine traumatique."

Beitraege zur Path. Anat. und Allg. Path. (Jena), xxxi, 1.

36 Small-cystic Degeneration of the Ovaries and Hydrops Folliculi. C. v. Kahlden.—"Ueber die kleincystische Degeneration der Ovarien und ihre Beziehungen zu dem sog. Hydrops Folliculi."
37 Coagulation Necrosis of the Striped Muscles. E. Oberndorffer.—"Exp. Untersuchungen ueber Coagulationsnekrose des quergestreiften Muskelgewebe."
38 Compensating Hypertrophy of the Kidneys. G. Galeotti.—"Ueber die compensatorische Hypertrophie der Nieren."
39 Parathyroid Glands. C. E. Benjamins.—"Ueber die Glandulæ parathyroidæ."

Berliner Klin. Wochenschrift, January 20.

40 *Organotherapy of Pancreatogenic Fatty Diarrhea. H. Salomon.—"Zur Organotherapie der Fettstühle bei Pankreaserkrankung."
41 Manner of Transmission of Syphilis. W. Friedländer.—"Zur Uebertragungsweise der Syphilis."
42 *Psoriasis and Glycosuria. W. Pick.—"Psoriasis und Glykosurie."
43 Prophylactic Measures to Supplement Sanitarium Treatment of Consumptives. H. Gebhard.—"Maassnahmen zur Ergänzung der durch Unterbringung in Heilstätten geübten Fürsorge für Lungenkranke."
44 *Rapid Test of Quantity of Uric Acid in Urine. I. Ruhemann. "Eine einfache Methode zur sofortigen quantitativen Bestimmung der Harnsäure im Urin." (Concluded from No. 2.)

Centralblatt f. Bakteriologie (Jena), January 8.

45 *Mechanical Protection Against Infection. O. Kausch.—"Verfahren und Apparate zum Schutze gegen Infektion."

Centralblatt f. Chirurgie (Leipsic), February 1.

46 *Progress in the Domain of Finsen's Treatment of Lupus. Kattenbracker.—"Fortschritte auf dem Gebiete der Finsen'schen Lupusbehandlung."

Centralblatt f. Gynaekologie (Leipsic), January 18.

47 Median Incision of the Uterus in Total Extirpation. Krönig.—"Die mediane Spaltung des Uterus bei der vag. u. abd. Totalextirpation desselben."
48 *Topography of Uterus and Bladder After Alexander-Adams Operation. G. Bulius.—"Zur Top. des Uterus und der Blase nach Alexander-Adams Operation."
49 *Nature of Dysmenorrhea. A. Theilhaber.—"Das Wesen der Dysmenorrhoe."

Deutsche Med. Wochenschrift (Leipsic), January 30.

50 Changes in the Blood in Case of Intoxication with Benzine Bodies. L. Mohr.—"Ueber Blutveränderungen bei Vergiftungen mit Benzolkörpern."
51 *The Nature of Fever. E. Aronsohn.—"Das Wesen des Fiebers."
52 *The Alkalinity of the Blood in Disease and the Alkali Tension. Brandenburg.—"Ueber Alkaleszenz und Alkalispannung des Blutes in Krankheiten."

Mitteilungen a. d. Grenzgebieten (Jena), ix, 1 and 2, 1902.

53 *Exophthalmic Goiter. Albert Kocher.—"Ueber Morbus Basedowi."

Muenchener Med. Wochenschrift, February 4.

54 *The Dangers of Taxis. O. Lanz.—"Weg mit der Taxis."
55 *Injuries from Powerful Electric Current. F. Jessen.—"Zur Kenntniss der Starkstromverletzungen."
56 *Treatment of Hemoptysis by Subcutaneous Injections of Gelatin. L. Thieme.—"Zur Behandlung der Lungenblutungen mit subkutanen Gelatineinjectionen."
57 *Treatment of Chronic Dry Catarrh of the Middle Ear by the Pneumatic Cabinet. Hamm.—"Die Behandlung des chronischen trockenen Mittelohrkatarrhs durch Sitzungen in der pneumatischen Kammer."
58 Escape of Hemoglobin from Blood Corpuscles Hardened by Sublimate. H. Sachs.—"Ueber den Austritt des Haemoglobins aus sublimatgehärteten Blutkörperchen."
59 *Lowering the Pelvis in Operations on the Biliary Passages. W. Ruehl.—"Ueber steile Becken-Tieflagerung bei Operationen an den Gallengängen."
60 Myelopathic Albumosuria. T. R. Bradshaw.—"Myelopathische Albumosurie."

Pflueger's Archiv f. d. Ges. Phys. (Bonn), lxxxviii, 12.

61 The Anatomy and Physiology of the Labyrinth of the Dancing Mouse. G. Alexander and A. Kreidl.—"Anat.-phys. Studien über das Ohrlabyrinth der Tanzmaus."
62 Study of the Frog's Heart. M. v. Vintschgau.—"Elekt. u. mech. Reizung des unversehrten Froschherzens u. nach einer linearen Längsquetschung."
63 *Chromic Acid Diabetes. J. Kossa.—"Ueber Chromsäure Diabetes."

Wiener Klin. Rundschau, January 26.

64 Indications for Radical Operations in Cases of Chronic Empyema of the Maxillary Sinus. M. Hajek.—"Ueber die Radicaloperationen und ihre Indicationen bei chronischem Empyem der Kieferhöhle."

Wiener Klin. Wochenschrift, January 30.

65 *Carcinoma and Malaria. L. Prochnik.—"Carcinom und Malaria."
66 Bacteriohemagglutinins and Antihemagglutinins. R. Kraus.—"Ueber Bacteriohämmagglutinine und Antihämagglutinine."
67 *A New Differentiating Reaction of Human Milk. E. Moro and F. Hamburger.—"Ueber eine neue Reaction der Menschenmilch. Ein Beitrag z. Kenntniss der Unterschiede zwischen Menschenmilch und Kuhmilch."
68 Keratosis Nigricans. S. Grosz. "Ueber Keratosis nigricans."

Janus (Amsterdam), January.

69 Was the Plague of Thucydides the Bubonic Plague? W. Ebstein.—"Ob es sich bei der Pest des Thukydides um die Bubonenpest gehandelt hat?"
70 *Ship Physicians in the Byzantine Epoch. I. Bloch.—"Schiffsaerzte in byzantinischer Zeit."
71 Rupture Operators, Lithotomists and Oculists of the Preceding Centuries. V. Fossel.—"Bruchschneider, Lithotomen und Oculisten in früherer Zeit."
72 *Origin of Syphilis. B. Scheube.—"Ueber den Ursprung der Syphilis."

Gazzetta Degli Ospedali (Milan), January 19 and 26.

73 *Value of the Gelatinized Urine Method of Bacteriologic Diagnosis of Typhoid. F. Strada.—"Sul valore del metodo Piorkowsky nella diagnosi bacteriologica del tifo addominale."
74 *Treatment of Arteriosclerosis with Trunecek's Inorganic Serum. Zanoni and Lattes.—"Alcuni risultati di cure dell' arteriosclerosi col siero inorganico di Trunecek."
75 *Treatment of Trigeminal Neuralgia by Resection of the Cervical Sympathetic. G. Cavazzani.—"Contributo alla cura delle nevralgie del trigemino colla resezione del simpatico cervicale."

Riforma Medica (Rome), January 2, 3, 4 and 7.

76 *The Action of Antiperiodic Drugs on the Malarial Parasite. D. Lo Monaco and L. Panichi.—"L'azione dei farmaci antiperiodici sul parassita della malaria."
77 *New Method of Isolating the Typhoid Bacillus. L. Biffi.—"Su di un nuovo metodo d'isolamento del bacillo del tifo."
78 The Auto-Neuro-Therapeutic Method in Bronchial Asthma. B. de Luca. "Il metodo auto-neuro-terapico nell' asma bronchiale."

---

4. **Gastric Ulcer.**—Box holds to the infective theory of gastric ulcer; in any part of the intestine below the duodenum the infective nature of the ulceration has been accepted. Therefore, the same might reasonably be supposed to hold for gastric ulcer. It is not uncommon to find multiple ulceration both in the stomach and duodenum and so placed, either opposite or so close to each other, that infection from one to the other may have easily occurred. The appearance of a recent acute ulcer at the time of the operation for perforation is itself highly suggestive and this first led him to the infection theory. There is a zone of highly edematous and softened tissue surrounding it. This is not present in every perforated ulcer, for there is a form which he calls secondary which is due either to the rent of the thin peritoneal base or the tearing of an old adhesion, uniting such an ulcer to the surrounding tissue. This may be due to overdistension of the stomach or some unwonted muscular exertion, etc. We must, therefore, modify our views of gastric ulcer somewhat and admit the widespread inflammatory condition in some cases. He thinks the following points

should be borne in mind in the investigation of supposed gastric ulcer: "1. The patient's statements as to the occurrence of hematemesis should be received with due reserve, and corroborative particulars inquired for. 2. In doubtful cases it is necessary to see the vomited materials oneself if this be possible, and better still to observe or have observed the actual act of vomiting. 3. In all cases the urine examination should be a routine procedure. This examination should be thorough, and include the search for casts as well as for albumin. A single examination is often not enough. 4. The eyes should be always examined, particularly with a view to the presence of the normal light reflex, and the occurrence of changes in the fundus. Optic atrophy may put us on the track of locomotor ataxia; the presence of optic neuritis may reveal an unsuspected cerebral tumor, and the presence of neuro-retinitis may indicate renal disease. 5. An examination of the stomach contents for the presence of excess of free HCl should always, where practicable, be made. And if the first examination be negative a second should be undertaken before being positive as to its absence. Hyperacidity is a valuable, although not absolutely constant, sign of gastric ulceration. 6. Every patient in whom gastric ulcer is diagnosed should be looked upon as seriously ill. The disease is commonly treated much too lightly, considering its liability to such serious and fatal complications. I believe that prolonged rest in bed and proper dieting for some time is essential in all early cases."

5. **Malignant Intestinal Obstruction.**—Bidwell confines his remarks mainly to obstructions in the ascending and transverse colon, and remarks that in operation the use of the Murphy button should be avoided. In anastomosis between the ileum and colon he would open the abdomen in the middle line, introduce two fingers and explore the sigmoid to find whether it is dilated. If dilated follow it down with the finger until the obstruction is felt. If this is movable and capable of being brought outside the abdomen its removal should be attempted, but if it is too low down or fixed by adhesion, colotomy is required. In either case another incision should be made in the lower iliac region. In the case of a movable growth it should be brought out through the second incision and great assistance is obtained by using the fingers of the other hand inserted in the abdomen through the median incision. "When the growth and knuckle of the sigmoid have been prolapsed through the wound the gut should be divided above the stricture and a Paul's tube inserted and tied into the lower end of the descending colon. The sigmoid is then divided below the growth and a small Paul's tube inserted; a wedge-shaped piece of mesentery is now removed in which some enlarged gland may be found. The two portions of the intestine; viz., the lower part of the ascending (?) colon and the lower part of the sigmoid, are then united together with five or six silk sutures so as to bring a considerable amount of their serous surface into apposition, thus paving the way for the closure of the artificial anus." If the growth is immovable or too low down colostomy is performed, and in this case he employs the following method to prevent the passing of the feces toward the rectum: "After the peritoneum has been sutured to the skin in the ordinary way a portion of the sigmoid is prolapsed, and a hole is torn in the meso-sigmoid; the two edges of the skin nearly at the center of the incision are then brought together within the rent of the meso-sigmoid so that when the operation is completed the upper and lower openings of the bowel are separated by a bridge of skin about half an inch wide. Two stout silk ligatures are then passed through the hole in the meso-sigmoid, and an incision having been made into the loop above its center, a Paul's glass is inserted and tied in with one of these ligatures. The lower end of the gut is also tightly ligatured with the one piece of silk. The loop of gut between this ligature and the part where the glass tube is tied in will slough away at the end of a few days, and the tube itself will fall off, leaving the two openings completely separated and flush with the incision. If the sigmoid should be found to be empty it is best immediately to examine the cecum. In the very few cases in which the obstruction is situated in the small intestine the cecum, of course, will also be collapsed, and the ileum leading to it will be empty. In these cases it will be necessary to follow up the collapsed portion until the seat of the obstruction is reached. This is best done by bringing the contracted portion outside the abdomen, and returning it as soon as the growth has been reached and brought into view. When dealing with the small intestine, removal of the growth, followed by a primary end-to-end anastomosis, is the best treatment, the anastomosis being completed with sutures or possibly with a Murphy button." He has never removed the growth in the small intestine, but in several cases of acute obstruction, leading to gangrene, he has been obliged to do a primary resection, and in three of these the result was perfectly satisfactory. If the growth is situated in the cecum it will be felt at once. The small intestine will be gradually distended while its walls are considerably thickened. If the cecum is freely movable and is not bound down by adhesions it should be treated in the same way as the sigmoid, that is, brought out after another incision has been made, and the growth cut away after tubes have been tied in the ileum and ascending colon. The fecal fistula will be closed later by an anastomosis between the ileum and the ascending colon or this anastomosis may be made at once, leaving the removal of the growth until the patient is recovered from the effects of the obstruction. This method, however, he does not recommend. The above applies to movable tumors. If the growth is immovable only palliative treatment is indicated. He does not recommend an artificial anus at the cecum in these cases, but anastomosis by the above method of the ileum with the sigmoid is preferable. He reports several cases, and concludes that colostomy should never be performed for any growth which is situated above the middle of the sigmoid flexure, and that an artificial anus formed in such a case should be only a temporary one left after the removal of the growth and subsequently to be closed by ileo-sigmoidostomy.

7. **Optic Neuritis.**—The object of Hawthorne's article is to support the view that double optic neuritis, occurring in a patient the subject of chlorosis, is due to intracranial thrombosis. The case observed, in which the ocular paralysis was associated with double optic neuritis, raised with him the question whether the latter occurring alone with chlorosis was due to the same cause. In his case the ocular paralysis and ocular neuritis were undoubtedly, he thinks, due to a common cause. There is one condition, namely, intracranial thrombosis, capable to produce them, and from this he reasons that when unattended by ocular or other evidences of cerebral disturbances the occurrence of optic neuritis in chlorosis is also to be referred to cerebral thrombosis. That thrombosis is to be numbered among the possible complications from chlorosis is not in question. Professor Welch has collected 82 cases and believes more could be gathered by a thorough overhauling of the literature. Chlorosis, he says, "must be given a leading place among the causes of spontaneous thrombosis of the cerebral veins and sinuses in women." It is certain that double optic neuritis may be connected with the symptoms of such thrombosis, and Hawthorne quotes various authorities to prove this. The arguments may, therefore, be briefly presented as follows: "The simultaneous occurrence of the optic neuritis and sixth nerve paralysis suggests a common origin; the nature and temporary duration of the two events make it difficult to imagine any single cause capable of producing them other than an intracranial lesion; an intracranial thrombosis may certainly produce them; intracranial thrombosis is a recognized possibility in chlorosis; the patient is the subject of chlorosis: therefore it may be concluded with a considerable measure of confidence that both the optic neuritis and the sixth nerve paralysis were due to intracranial thrombosis. From such a conclusion, it is but a step to the proposition that thrombosis is probably the cause of optic neuritis when this occurs in chlorosis apart from other incidents having a possibly cerebral origin. The invitation to take that step is rendered more pressing when it is perceived that from cases of chlorosis with optic neuritis and severe cerebral disturbances a series of cases of gradually diminishing severity can be traced downward to the instances in which chlorosis is complicated by optic neuritis as the single event having thrombosis as the possible interpre-

tation. At one extreme are fatal cases in which delirium, coma, hemiplegia and double optic neuritis have been shown by necropsy to be associated with thrombosis of the intracranial veins and sinuses; following these are instances of less severe, though considerable, cerebral disturbance, with optic neuritis and evidences of thrombosis in the veins of the limbs or other parts of the body; these are succeeded by examples of chlorosis with headache more than usually extreme, more or less vomiting, and an ocular paralysis; next may be placed cases—like the one reported with this paper—in which the symptomatic disturbances other than those common in chlorosis are restricted to an ocular paralysis and double optic neuritis; and last of all are those in which the optic neuritis is the sole unusual event. Such a gradation is certainly an impressive one, and may reasonably be presented in support of the proposition that in these different groups we have to deal with different degrees of severity and extent of one and the same pathological process, and that the pathological event underlying them all is a thrombosis of the intracranial sinuses and veins." Another series of evidences which he thinks supports these views is the occurrence of optic neuritis in ear disease, and the optic neuritis developing after a considerable hemorrhage. As to the mechanism it is not necessary to assume that to produce optic neuritis a thrombosis must be so situated as to interfere with the venous return of the eyeball. A thrombus once formed is for all practical purposes a tumor in that it is a foreign body within the skull. Whatever conflict of opinion may yet exist about the manner in which cerebral tumors cause optic neuritis it is certain that neither the size nor the position of the tumor is the determining factor. A thrombus, therefore, he thinks, behaves as other forms of tumors and produces the symptoms which we would observe in connection with cerebral tumor. The principal deductions he draws are that there is probably cardiac weakness, a sluggish state of the circulation and that the immediate risks are that the thrombus will grow over a larger area and that a portion will become detached and lead to embolism. To prevent the latter result complete rest is imperative, but we should take steps at the same time to keep up the vigor of the circulation so as not to favor the extension of the thrombus and, therefore, it would be wise to supplement the administration of iron with cardiac tonics as digitalis and diffuse stimulants, more particularly ammonia. After the above measures have assured with reasonable certainty that the danger of extension of the thrombus is probably over we should try to increase the vigor of the vital processes by moderate exercise.

14. **Word-Blindness.**—Hinshelwood reports several interesting cases of word-blindness, in one of which, in an educated man, there was a complete aphasia, both motor and sensory, but a gradual improvement occurred so that in about a week he could express his ideas. There was a trace of auditory aphasia still left, but word-blindness was the most prominent symptom. There was no letter blindness. Of the four languages which he read, Greek, Latin, French and English, his knowledge of Greek was complete; in Latin he was a little less perfect; in French he was better than in English, and in his mother tongue he was the least perfect. There was evidence or suspicion of a specific disease, and he was put upon specific treatment, with the result of a very pronounced improvement in all respects, though there still remains apparently some traces of the difficulty in reading English. It requires greater mental concentration, he says, to read English than to read Greek or Latin. While this is the first case Hinshelwood met with the different degrees of word-blindness in different languages, he has met with a case where the patient was word deaf to one language and not to another. In two of the cases reported the word-blindness was associated with right lateral homonymous hemianopsia, in one case temporary, in the other permanent. In three of the four cases there was recovery; in one the word-blindness persisted. The recovery will depend on whether the centers or the fibers leading to it have been destroyed, in which case the loss will be permanent, or whether its function has only been suspended by its blood supply being interfered with, either by pressure of a growth or by hemorrhage, or by an occlusion of a cerebral vessel by a thrombus or embolism. With no actual destruction of cerebral tissue recovery may take place, but one can never say whether the loss will be permanent. If there is any suspicion of a syphilitic taint, specific treatment should be employed. In cases of permanent destruction of the visual memories or words or letters re-education is the only resort. This should not be begun as long as there are any traces of active cerebral disease present. The chances of success will be greater with young patients. He holds, and thinks these patients prove the truth of his published statement "that all the varieties of word-blindness met with in clinical experience can be intelligently explained by regarding them as disorders of the visual memory produced by lesions affecting more or less completely a definite area of the cerebral cortex in which are preserved these past visual impressions arranged in definite and ordered groups."

16. **Acute Suffocating Pulmonary Edema.**—Lissaman reports a case of this kind in which he tried nitrite of amyl with unsatisfactory results. He then tentatively employed chloroform with the best of success. He holds that in this condition, which might be called a sort of wet asthma, the lungs are, perhaps, in a similar condition to the extremities in certain forms of erythromelalgia, and relies on chloroform as the remedy in the future.

17. **Auscultation.**—Syers claims that the use of the binaural stethoscope is damaging to correct auscultation and that the instrument is unreliable as regards the investigation of the heart sounds, and that if its popularity is continues, at least aortic regurgitation will be a disease which can not be certainly diagnosed. He maintains that many cases of this sort are overlooked through the unsuitability of the instrument in the hands of the examiner. The soft low pitched murmur due to incompetent aortic valves is inaudible or unnoticeable by this instrument. He also holds that in lung examination beginners who use this instrument never really appreciate the difference between bronchial, tubular and cavernous breathing. Another objection to it is the compression of the delicate organs of hearing by the ivory heads and the unyielding spring of the binaural stethoscope. This pressure kept up intermittently for long periods for hours, as is the case with house surgeons and others, may be most injurious to the hearing of the observer. He does not deny that the instrument has a certain value. It is convenient in illnesses which render it difficult to move the patient in a manner suitable for examination by the wooden stethoscope, but here it is only an accessory, needed for particular occasions and special needs. What he protests against and in the strongest possible manner, is the predilection shown for the binaural stethoscope by the young student who is allowed to make use of it at the very commencement of his clinical work so that he is totally unable to appreciate the advantages of the old-fashioned instrument. This he has found the cause of much of the indifferent diagnosis of chest diseases so often observed at the present time.

18. **Fourth Disease.**—Ker discusses the symptoms in measles, German measles, and scarlet fever, with special reference to the occurrence of the "fourth disease" described by Dr. Dukes. The conclusion which he reaches is that, while he had accepted its occurrence previously and endeavored to find facts to support the claim, after eighteen months and in face of the criticisms on the subject he feels only one verdict is possible regarding the contention of Dr. Dukes. It is, namely, the Scottish one, of "not proven."

20. **Auscultatory Percussion.**—Habersohn's article is a plea for the greater use of auscultatory percussion, which he thinks is neglected by the profession; while it has its limitations and its value may be exaggerated, he thinks it is a physical sign which should never be ignored.

21. **Floating Kidney.**—Hutchinson does not find sufficient evidence of the hepato-renal bands of peritoneum described by Weisker to account for the obstructive jaundice produced in certain cases. He thinks that jaundice may be caused, either by downward displacement of the duodenum with stretching of

the common bile-duct, by displacement of the gall-bladder and sharp kinking of the cystic duct, or by torsion of the vertical part of the duodenum and perhaps even of the bile-duct, and that in one of these conditions an explanation is usually to be found, and not in traction through bands of the peritoneal investment of the right kidney connecting it with the liver. The latter may possibly be the fact in certain cases, but he has not found convincing evidence of it where he has been able to investigate.

22. **Uremic Ulcerations of Stomach and Small Intestine.**—Mathieu states that the prognosis of uremic ulcerations in the intestines is always grave, but healed lesions have been found at autopsies, showing that recovery may occur. He has been able to find 22 cases in the literature; 12 of the 20, in which the age was mentioned, were between 18 and 24 and one was 14. Pain is rare and diarrhea the rule, but in a personal case, pain was intense and the patient constipated. She was a young woman presenting the clinical picture of chronic Bright's disease, hypertrophy of the heart and bruit de galop. Five small ulcerations were found in the stomach, corresponding to similar lesions in the intestines, and also a large ulcer with all the characteristics of simple gastric ulcer. All the lesions in the stomach were evidently recent. They had been unaccompanied by any of the usual symptoms of gastric ulcer. He believes that this is the first case of the kind on record.

26. **The Hospitals of St. Petersburg.**—Marcou speaks with envy of the management of the St. Petersburg hospitals, which are entirely under the charge of medical men. The attendants are trained nurses and the wards are kept clean by expert cleaners. All appointments are entirely free from politics. There are 169 hospitals and medical institutions and nearly $17,000,000 is spent annually on the care of the sick and poor.

27. See editorial in this issue.

28. **Treatment of Club-Foot by Ablation of All the Tarsal Bones Without Immobilization or Apparatus.**—Lucas-Championnière has treated 31 cases of club-foot by a method which has proved uniformly successful in his experience extending over a period of thirteen years. He thinks that it is much more important to conserve the muscles and tendons than the tarsal bones, which are all more or less altered in shape and size and displaced in a club-foot. Through a single incision in the dorsum of the foot, he removes the astragalus, scaphoid, cuboid and the three cuneiform bones and sometimes the rear end of the fifth metatarsal bone. The posterior third of the calcaneum is all that is left, and sometimes only the insertion of the tendo Achillis. This resection of both groups of the tarsal bones enables the foot to be modeled into a good shape. The metatarsus fits against the remainder of the calcaneum, thus shortening the foot somewhat. The worst deformities can thus be completely corrected and the foot restored to normal appearance and function. No orthopedic apparatus of any kind is applied. The subject wears an ordinary shoe, or one made a little more solid than usual. Mobilization is commenced the fourth day, and the patient commences to use his foot the third to the sixth week. Of all the methods of correcting club-foot in vogue, this is the simplest and the surest, under thorough antisepsis. The patient presented at the Academie was a man 31 years of age. One foot had been operated on with complete success the year before, and the other was soon to be treated in the same way.

29. **Modifications of the Reflexes of Traumatisms of the Spine.**—Lambret describes the case of a young man whose spinal cord had been severed by a bullet near the fifth dorsal. There was complete anesthesia and motor paralysis below the nipple line, and the reflexes in the legs were abolished except for a very slight flexion of the toes when the sole was stimulated. The slight persistence of this reflex shows that Bastian's law is too absolute. In another case, mere compression of the spinal cord by a small exudation completely abolished the reflexes of the legs. These and other facts which he cites sustain his assertions that the brain participates to a considerable extent in the production of normal reflexes.

30. **Chronic Splenomegalia.**—Deléarde classifies chronic splenomegalia as primary and secondary. Tuberculosis may induce either form and, besides the classic symptoms common to all cases of chronic splenomegalia, there may be an excess of blood corpuscles and cyanosis. Three cases of this kind are on record. In one there were eight to nine millions of reds, but they were not deformed nor nucleated. Vaillard suggests that this hyperglobulia may be due to the loss of the spleen function which normally destroys the excess of corpuscles. The spleen is very large in syphilis neonatorum, but subsides to normal size by the third to the fourth month. It is also hypertrophied in the first period of acquired syphilis and this condition may persist into the second stage. The diagnosis of the different forms of the lymphogenic diathesis depends principally on the blood count and the exclusion of tuberculosis, syphilis and acute infections affecting the adjacent organs. Treatment has been occasionally successful with the iodids, mercury, phosphorus, arsenic or tonics in certain cases, and it is advisable to try one after the other. Hayem gives the preference to arsenic. Organ treatment of leukemia with spleen and lymphatic extract has not been successful to date. Surgical interventon is absolutely contra-indicated in the various forms of leukemia, but may be required in chronic malaria. In leukemia, syphilis, tuberculosis and liver affections, splenectomy does not induce any improvement but rather seems to hasten the fatal termination.

35. **Traumatic Scarlet Fever.**——De Bovis has collected 147 cases of traumatic scarlet fever; 80 per cent. of the patients were under 15 years of age and two-thirds of the total number were males. Many of these cases were evidently merely ordinary scarlet fever occurring in a person who had been wounded in some way, but a large proportion remains in which the scarlet fever was evidently the direct result of the traumatism. This form differs from the first by its shorter incubation, the insignificance of the sore throat, the smaller proportion of young children and the earlier appearance of desquamation, but more than all by the development and spread of the eruption. It usually starts in the peripheral wound and thence spreads like a lymphangitis, finally invading the entire cutaneous surface. This course is extremely abnormal if we assume that the infection occurs by the usual routes, but it is easily explained by the penetration of the scarlet fever germs through the portal of entry afforded by the wound. The scarlet fever in this case is inoculated. It may transmit the disease and start an epidemic. A traumatism evidently engenders a peculiar receptivity to scarlet fever infection, which surgeons should bear in mind in operating after contact with scarlet fever patients.

40. **Organotherapy of Pancreatogenic Fatty Diarrhea.**—Salomon, assistant at von Noorden's clinic, reports the successful administration of a preparation of pancreas substance in two cases of fatty stools associated with diabetes. There are scarcely twenty-four such cases on record. The pancreas must be totally impotent, with entire loss of its secretory function, or else the pancreatic juice must be completely shut off from the intestines. In either case, organotherapy promises benefit, and administration of pancreas substance has been successful in the experience of von Noorden, Pribram and others. Pankreatin (Rhenania) and pankreon were even more effective than the gland substance, while far more convenient.

42. **Connection Between Psoriasis and Glycosuria.**—Pick examined 50 patients with psoriasis and 50 with other cutaneous affections for alimentary glycosuria after ingestion of 100 gm. of grape sugar. He found it in only 2 of the first group and in 3 of the second.

44. **Rapid Test of Quantity of Uric Acid in Urine.**—Ruhemann's test is based on the principle that iodin is neutralized by a certain proportion of uric acid until the brown color vanishes completely. He has calculated the exact amount of each necessary to determine the percentage of uric acid in a given amount of urine, and established a graduated scale. He calls the test tube and stopper graduated for this scale the "uricometer," and states that this quantitative test is simple,

reliable and can be made by any physician. The test is complete in thirty to forty minutes when the yellowish fluid formed by the mixture of iodin and urine has turned a milky white. Study of this reaction suggests that possibly drugs which readily and rapidly decompose iodin in the organism might be beneficial in gout and the uric acid diathesis, to increase the solubility of uric acid and the urates. Lithium iodid takes the lead in this respect. Iodin appears promptly in the urine when it is administered. He gives it in pills with bolus alba, commencing with 15 to 20 cg. three times a day after meals. It can also be administered in a subcutaneous injection in the vicinity of the point affected. The elimination of uric acid increases under its influence and it can be long continued, even at the same time as colchicin during the attacks. "For this and other reasons it is superior to urotropin and all other drugs recommended for gout."

45. **Mechanical Protection Against Infection.**—The formula of the varnish recommended as a covering for the hands by Kausch, is 200 parts resin; 200 parts absolute alcohol; 400 parts ether (sp. gr. .725), and 20 parts castor oil. He illustrates an apparatus for spreading it evenly on the hands.

46. **Improvements in Treatment of Lupus by Finsen's Method.**—Kattenbracker discusses the bactericidal action of the Kjeldsen portable iron therapeutic lamp, constructed on the same principle as those mentioned in The Journal of Feb. 8, 1902. He found that an exposure of one to sixty seconds enfeebled bacteria so that their further growth was much checked. In some of his tests the typhoid bacillus made no growth after a sixty seconds' exposure and the anthrax bacillus after thirty seconds. The cultures were all superficial. He concludes that these iron lamps constitute an improvement in light treatment of all kinds of skin diseases as they accomplish in three minutes with 5 amperes what is only possible with the Finsen apparatus with 70 or 80 amperes in an hour and with the constant aid of an attendant.

48. **Topography of Uterus and Bladder After Alexander-Adams Operation.**—Bulius found that the round ligaments retained or regained their complete functional capacity after this operation in three cases investigated. Their perfect function was best observed as the distended bladder was evacuated with a catheter.

49. **Nature of Dysmenorrhea.**—Theilhaber adds the following arguments to his previous statements in regard to the tetanic contraction of the circular muscles which he believes is the nature of the dysmenorrhea in certain cases: 1, the pain disappears after birth of first child; 2, the pain appears twelve to twenty-four hours before the menstrual flow commences, and the acme of the pains has passed before coagula form; 3, the pain is continuous, not intermittent like labor pains or those that occur in case of submucous myomata or perimetritis; 4, resection of the sphincter of the internal os cures the dysmenorrhea.

51. **The Nature of Fever.**—Aronsohn has continued his studies of the essence of fever and describes a number of interesting experiments on animals which seem to establish that fever is due to a morbidly exaggerated stimulation or irritation of the heat centers. The irritated centers incite the motor trophic apparatus of the muscles, including the muscles of the vessels, to increased production of heat and also to increased metabolism and alterations in the elimination of heat. The various types of fever are determined by the varying kinds of irritation brought to bear on the heat centers in the course of infectious diseases. This irritation is evidently multiple in its nature, and other centers in the brain and other organs are liable to be influenced at the same time. The fundamental type of fever, however, is the elevation of temperature induced by direct mechanical, electric or chemical stimulation of the heat centers in the absence of any morbid process in the organism. After inducing fever by puncture of the heat center in an animal, he excluded the muscles by paralyzing the intramuscular terminals of the motor nerves with curare. The temperature dropped at once by 0.23 Centigrade. The decrease in the temperature is much more marked after curarizing in febrile than in normal animals. In tests on starving dogs he found that the temperature did not rise so high after puncture of the heat center as in normal dogs, and it remained below the fever limit. He found that it was possible to induce these high temperatures in animals on puncture of the heat center even after almost all the blood had been substituted by physiologic saline solution. This established that the blood could not be the seat of the heat production. The fact that the glandular system rests during sleep testifies that it can not be responsible for the heat production during fever. Ito has demonstrated that the liver has nothing to do with it. He holds the pancreas responsible, but his arguments are not conclusive, while Aronsohn has shown that the muscles generate fever heat even after the temperature in the rectum has fallen to normal, and commence to generate it before the rectal temperature rises.

52. **The Alkalinity of the Blood in Disease.**—Brandenburg calls attention to the fact that alkali occurs in the blood under two forms, that combined with carbon dioxid and that combined with albumin. The albumin compounds are very tenacious of their alkali and the two forms can be distinguished by their capacity for diffusion. If a parchment tube is prepared with a solution of sodium for dialysis and suspended in a glass of water, the alkali in the tube gradually diffuses through it until the concentration of the alkali on the inner and outer walls of the tube is the same. If blood be used instead of the solution of sodium, the amount of concentration on the inner and outer walls never becomes equalized, no matter how long the tube hangs in the water. The alkali bound in the combination with albumin does not diffuse. It is possible to use an alkaline solution instead of water for this test, the concentration so graduated that the blood neither loses nor gains alkali. The amount of concentration in the external fluid can then be accepted as the index of the amount of "alkali tension" of the blood. This "alkali tension" is thus a new means of estimating the properties of the blood, and will supplement the determination of the amount of albumin in it and the freezing-point. There seems to be a certain proportion between the alkali tension and the freezing-point. The alkali tension does not vary much from a certain standard, notwithstanding the fact that the total alkalinity of the blood may range within such wide limits without symptoms. In the serum, the alkali is about evenly divided between the bound and the diffusible form. In anemia about 33 per cent. of the total alkali is diffusible. The proportion is therefore dependent on the amount of albumin in the blood. The higher the total alkalinity, the lower the percentage of diffusible alkali, and *vice versa*, but the alkali tension remains approximately the same throughout. Possibly in the disturbances in metabolism, the acid intoxications, the chief symptoms may be due to the variations which they induce in the alkali tension. Brandenburg believes that the freezing-point is directly dependent on the amount of diffusible alkali in the blood, aside from cases of retention in consequence of contracted kidney, etc. The wide variations in the alkalinity of the blood with the comparatively insignificant clinical manifestations, suggest that it is not particularly important from a biologic view-point. But the constant value of the alkali tension suggests that it may be of moment to the vital processes, and should hence be taken into consideration in diagnosing disease. Recent research has shown that the bactericidal properties of blood are enhanced by increasing the amount of diffusible alkali in it. Hamburger found that after determining the bactericidal power of a blood, the addition of carbon dioxid releases the alkali from the albumin, increasing the proportion of diffusible alkali, and thus raises the alkali tension and has a marked effect in augmenting the bactericidal properties of the blood. The addition of an alkaline solution to the blood scarcely affects the alkali tension, as part of the alkali unites with the albumincids, and the proportion between the bound and the diffusible alkali remains about the same. In normal blood about 20 per cent. of the total alkali is diffusible.

53. **Exophthalmic Goiter.**—Kocher's communication fills the entire 304 pages of this issue of the *Grenzgebiete*, and con-

cludes with a bibliography of 1423 titles. He describes his experiences with 93 cases of this disease since 1887, all treated on the same principle, that is, to put an end to the excessive vascularization of the thyroid gland with the smallest possible resection of tissue. He operated on 59, which is more than a seventh of all the operated cases of the disease previously on record. Of this number of 59, 45 are permanently cured, with in many cases not a trace of the former troubles to be detected; 8 are much improved, 2 slightly improved and 4 have died. When the operation succeeded in permanently modifying the excessive vascularization of the gland, the cure was rapid and complete. This occurred in 75 per cent. of all the cases. Only the hypervascular portion of the struma is important in this respect. The aim is to limit the supply of blood to the gland. Ligature of both superior arteries is an insignificant measure, but ligature of the afferent arteries and partial excision is effective in even the severest cases. Unilateral excision causes less hemorrhage than the bilateral. Kocher always proceeds gradually, watching the progress of the case, ready to operate more extensively if conditions require it, but he found that the desired results were accomplished in most cases by partial operations. The remainder of the gland spontaneously subsided in many instances, rendering further intervention unnecessary. In view of the favorable results he has attained, he counsels operation at once in every case, without wasting time on internal treatment. The operator should always avoid general anesthesia, and remember that the main point is scrupulously minute hemostasis. He asserts that it is well demonstrated that treatment with iodin has actually aggravated many incipient cases. Thyroid treatment is harmless. Hydrotherapy is always beneficial, and he always orders it in preparing his patients for an operation. Of his 93 cases, 37 were extremely severe; 22 well developed cases; 14 were cases of struma vasculosa (9 were operated on); 2 of a "pseudo-Basedow" (both operated), and 4 of transient. The exophthalmus vanished completely in only 26 of his 45 completely cured cases. In the others it persisted in a slight degree, probably owing to the anatomic alterations induced by the morbid process previous to the operation.

54. **Dangers of Taxis.**—Lanz has witnessed several cases in which an incarcerated hernia was reduced without much difficulty, but the results were disastrous. Some terminated fatally and others required an operation at once. Even when reduction was easy, a predisposition had been acquired, and the recurrence of the incarceration was in most cases only a question of time, with an operation required sooner or later. He has become convinced that taxis is below the level of modern science, and should be definitely discarded. An early herniotomy meets with much more favorable conditions for success than when the parts have been irritated by attempts at reduction. The narcosis induced for the taxis should be utilized for the herniotomy instead, or the latter be performed under local anesthesia with Schleich's solution. Lanz has had occasion to successfully perform a herniotomy on three children a few weeks old. He describes a number of instances of chronic ileus, perforation and peritonitis, which followed an unfortunately too successful taxis, and states that herniotomy should be proposed at once when the physician is summoned to an incarcerated hernia.

55. **Injuries from Powerful Electric Currents.**—Jessen reviews the list of such injuries on record and describes a personal case. All the symptoms suggest the possibility that the powerful current causes certain minute alterations in the brain like those observed in dogs under similar conditions. These induce the transient symptoms which indicate an organic lesion, although the symptoms in general are of a purely functional nature with hysteric features. All writers are unanimous in lauding the benefits of artificial respiration. D'Arsonval was able to resuscitate in this way a man who had been unconscious for hours after a current of 4500 volts had passed from hand to seat. Eulenburg observed a case of severe progressive epilepsy, followed by paralysis and blindness, in a man of 48 who had received a current of 500 volts.

56. **Treatment of Hemoptysis with Subcutaneous Injection of Gelatin.**—Thieme was much pleased with the results of the injection of 100 c.c. of a 2 per cent. solution of gelatin in 12 severe cases of hemorrhage from the lungs. The injection was made in the thigh, the part lightly massaged afterward. The temperature rose in all the patients except one, the maximum between 37.6 and 38.9 C. One patient had a temperature of 40.3 to 40.7 C. for five days. Another had been febrile for a long time, but the temperature dropped to normal when the hemorrhage occurred and the patient was dismissed later clinically cured. Only one of the patients succumbed to the hemorrhage. He renders the solution slightly alkaline with soda.

57. **Treatment of Dry Catarrh of the Middle Ear in the Pneumatic Cabinet.**—Hamm has utilized the pneumatic cabinet as a means of treating deafness from sclerosis of the middle ear. Transient improvement was noted in all the cases, and 3 were very much improved. One was a young man who before treatment could not hear the ticking of a watch nor a whisper, and the speaking voice only at 26 cm. by the right and 17 cm. by the left ear. After treatment, he could hear a whisper at 148 cm. with one, and at 12 cm. with the other ear, and the speaking voice at 600 cm. with the right, and 65 with the left ear. This great improvement was not maintained, but the hearing remained permanently very much improved. Another patient before treatment could hear the speaking voice only at 260 and 130 cm. After six weeks of daily seances in the pneumatic cabinet, he could hear the speaking voice at 8 meters and a whisper at 200 cm. He had been under various kinds of treatment before with no benefit. Hamm himself had suffered for eight years from chronic otitis of the middle ear, rebellious to all treatment. He could hear a whisper only at 14 cm. and 5 cm. before, but after treatment, at 130 cm. and 32 cm. This improvement yielded somewhat in consequence of repeated colds, but a new series of seances restored it to the same point, where it has permanently remained. He could not hear so well inside the cabinet, while one patient could hear much better than at other times. Each seance lasted one and one-half hours. The pressure was gradually increased during twenty-five minutes and then reduced during the last forty. It was graduated to .5, 1 and 1.5 atmospheres. The treatment included 25 to 40 sittings. The improvement seemed to be progressive after treatment. He proposes to maintain the benefit by another course of a few sittings each year.

63. **Chromic Acid Diabetes.**—Kossa has established that most of the compounds of chromic acid, and especially potassium chromate, induce glycosuria in warm-blooded animals, most pronounced in dogs. This chromic acid diabetes belongs to the group of "kidney diabetes" like phloridzin diabetes. The proportion of sugar in the blood does not increase after the excretion of urine has been prevented.

59. **Lowering the Pelvis in Operations on the Biliary Passages.**—Ruehl proclaims that by lowering the pelvis so that the patient is in a half standing position in operations on the biliary passages, hemostasis is materially facilitated as the blood flows down without masking the field of operation. Over-sight of the field is much more complete.

65. **Carcinoma and Malaria.**—Prochnik is the retired chief of the medical department of the Dutch army in the East Indies. He states that carcinoma was not at all rare in his experience in Java, etc., and that as every one had malaria more or less, it must have accompanied or followed malarial infection in nearly every case. There is no antagonism therefore between carcinoma and malaria. On the contrary, he is inclined to admit that malaria is a predisposing factor in the evolution of carcinoma of the liver, the most common variety in his tropical experience.

67. **A New Reaction of Human Milk.**—Bordet has called attention to the precipitation of the albuminoids in milk when it is added to the serum of animals which have been previously injected with milk from the same source. Schlossmann found further that the fluid from a hydrocele on a breast child was

also able to precipitate the albuminoids in human but not in cow's milk. Moro now announces that if a few drops of human milk are added to a few c.c. of fluid from a hydrocele, in a few minutes the hydrocele fluid coagulates into a solid mass. This reaction does not occur with cow's or goat's milk. The hydrocele fluid evidently contains fibrinogen, and the milk, fibrin ferment. The combination of the two induces the coagulation. It occurs even with minute quantities of the milk; all the serum in contact with the milk coagulates around it. The same reaction occurs when human serum is added instead of the milk, but much less pronounced and much slower, and the same difference is observed when the human milk is boiled or long heated. Particles of coagulated ox blood also induced a slow and partial coagulation.

70. **Ship Physicians in the Byzantine Epoch.**—Bloch has found a reference in the works of Paulos of Ægina dating from the seventh century in which he speaks of the three classes of medical men: city, country and ship physicians.

72. **Origin of Syphilis.**—Scheube cites extensively from Spanish medical works of the time of Columbus which describe a disease found among the natives of Haiti by the Spanish explorers. It was mild among the natives, but proved virulent for the Spaniards who contracted it and infected others on their return. The description tallies exactly with that of syphilis, he thinks. He has become convinced that Haiti, and possibly the other West Indian islands, were the original source of infection with syphilis. It had probably not spread to the North American continent, as the natives on the continent were free from it and suffered from its ravages when it was introduced among them. The mildness of the disease in Haiti suggests that it must have been long established there. Pre-Columbian syphilitic relics could alone decide the question, but Virchow announced in 1895 that not a single pre-Columbian bone had yet been discovered which can be adduced as conclusive evidence in favor of the existence of syphilis.

73. **Value of the Gelatinized Urine Method of Bacteriologic Diagnosis of Typhoid.**—Strada found that Piorkowsky's method is simple and reliable, but that it varies with the age of the cultures used. They should consequently be young and the plates should be kept at a constant temperature of 22 C. The urine should be from patients on a predominantly vegetable diet, as otherwise it is not sufficiently alkaline. The bacteriologic test proved positive in 20 out of 22 patients examined and enabled the diagnosis to be definitely established within twenty-four hours. The contradictory results obtained in other clinics are probably due to the progressive loss of their differential characteristics by the bacilli as they age. Piorkowsky recommends to leave the normal urine for twenty-four to forty-eight hours, until it has become spontaneously alkaline, then add .5 per cent. of peptone, 33 per cent. of gelatin and boil for an hour at 100 C., then filter without heat, and distribute in test tubes, sterilizing it for fifteen minutes and again the next day for ten minutes. It is then poured on plates and sown with the suspected material. The colonies of the typhoid bacilli send out long tendrils while the outlines of the colonies of the colon bacillus are sharply defined with none of the straggling growth of the typhoid colonies.

74. **Treatment of Arteriosclerosis with Trunecek's Inorganic Serum.**—Zanoni confirms all that Trunecek claims for his serum. His experience includes three cases of severe arteriosclerosis treated with it. He ascribes the benefit derived to the chemical modification of the blood serum and the consequent stimulation of nutrition and function of the fibers in the heart and vessels.

75. **Treatment of Trigeminal Neuralgia by Resection of the Cervical Sympathetic.**—Cavazzani reports his third case of rebellious trigeminal neuralgia cured by resection of the cervical sympathetic. The benefit was not immediately apparent in any case, but became more and more pronounced with the lapse of time.

76. **Action of Anti-Periodic Drugs on the Parasite of Malaria.**—Lo Monaco and Panichi announce that a drop of a solution of quinin added to a fresh specimen of malarial blood, affects the parasites in proportion to its concentration. A weak solution causes them to contract for a few minutes and then expand with marked pseudopodia. This condition of excitement is still more pronounced if a drop of a medium solution of quinin is added to the specimen, and it terminates in the escape of the parasite from the blood corpuscle. A still stronger solution permanently shrivels the parasite and it does not leave the corpuscle. They, therefore, administer quinin in malaria in the dose and solution equivalent to that which produces the detachment of the parasite from the corpuscle *in vitro*—the second phase of the action of quinin. They state that the smallest forms of the parasite are the most resistant to quinin, and that all the parasites grow more resistant the longer the interval since the febrile attack. They conclude from the latter fact that there must be some substance in the blood at the time of the attack which has an antiparasitic action and the effect of quinin administered at this time is re-enforced by this substance already in the blood. This antiparasitic substance affects all the forms of malaria and all species of the malarial parasite with the sole exception of the young unpigmented variety found in estival tertian. The pigmented forms, on the other hand, are resistant to the action of quinin during apyrexia, but become less resistant during a febrile attack and can then be detached from the red corpuscles with a comparatively weak solution of quinin. But when the malaria has assumed the pernicious form, both the pigmented and the non-pigmented forms display great resistance, probably owing to the absence of the antiparasitic substance in the blood under these conditions, or the presence of some yet unknown antagonistic substance. The quinin behaves the same whether in a solution of distilled water or in a .38 per cent. saline solution. A stronger saline solution prevents these phenomena.

77. **New Method of Isolating the Typhoid Bacillus.**—Cambier proposed recently to utilize the property possessed by the typhoid bacillus of passing through a Berkefeld filter, as a means of differentiating it. Bifli pointed out at the time that the test was unreliable as the bacterium coli also possessed this property. The latter now suggests a method of differentiating the typhoid bacillus by the combination of these two phenomena, and in this preliminary communication lauds this latest method as simple, convenient and reliable. The material to be examined is sown in bouillon containing a certain amount of serum known to agglutinate the bacterium coli. The latter as it develops becomes agglutinated, and hence is unable to pass through the filter with which the test tube is supplied, while the typhoid bacillus passes through it and develops in pure cultures on the farther side. The test can be reversed and pure cultures of the colon bacillus be derived by substituting a serum that agglutinates the typhoid bacillus. The colon bacillus agglutinating serum must be prepared by inoculation with different species of colon bacilli, so that the agglutinating effect will be certain. The effect must also be tested to determine the proper dilution, as an excess might affect also the typhoid bacillus, while if too weak it might fail to agglutinate all the colon bacilli.

Queries and Minor Notes.

DISCOVERY OF CHLOROFORM AND ETHER.

Lebanon, Ill., Feb. 17, 1902.

To the Editor:—Will you please state in The Journal the facts regarding the discovery of chloroform and ether as anesthetics? Were these chemicals in use before their use as anesthetics? Who first used each and both as anesthetics? J. H. F.

Ans.—Chloroform is said to have been discovered in 1831, independently by Liebig, Soubeiran, and Guthrie; its chemical composition was first determined by Dumas in 1834. Chloroform was experimentally studied by Flourens in 1847, and was first employed in surgical anesthesia on Nov. 15, 1847, by Sir James Y. Simpson, in Edinburgh. It had previously been used in obstetrics. Ether was discovered, it is said, by Valerius Cordus, in 1540, and was called by him oleum vitrioli dulce. Another authority says that the substance was discovered by an Arabian chemist, Djabar Yeber, and its method of manufacture by Dr. Michael Morris. It

was employed as early as 1785, as an inhalation for asthma, and its narcotic properties caused it to be used in the treatment of phthisis early in the nineteenth century. About 1840 it was common among medical students to inhale ether in order to experience the exhilarating effect. In 1842, Dr. Crawford W. Long, of Jefferson, Jackson County, Ga., administered ether for the removal of a small tumor and for several subsequent minor operations. William T. G. Morton, a dentist of Boston, also claimed to have been the first to employ ether as an anesthetic, and he administered ether on Oct. 17, 1846, in the Massachusetts General Hospital for Dr. Warren. The question of the priority of the use of ether is a vexed one and has provoked much acrimonious discussion.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 30 to Feb. 12, 1902, inclusive:

Robert A. Anderson, contract surgeon, from Clarksdale, Miss., to duty at Fort Duchesne, Utah.

Peter W. Beckman, contract surgeon, from Fort Duchesne, Utah, to Alton, Ill., for annulment of contract.

Justus M. Brown, colonel and asst. surgeon-general, to report in person to the Surgeon-General in Washington, D. C., on official business of the Medical Department and thereafter to return to his proper station in New York City. George H. Cassaday, contract dental surgeon, now at San Francisco, to proceed to Manila, P. I., for assignment to duty.

James B. Ferguson, contract surgeon, former orders so amended as to direct him to proceed to Fort Sheridan, Ill., for duty at that post.

James D. Glennan, major and surgeon, U. S. A., on his arrival in San Francisco, to report to the commanding general, Department of California, to relieve Major Robert J. Gibson, surgeon, U. S. A.

Harry Greenberg, contract surgeon, from Milwaukee, Wis., to San Francisco, en route for assignment in the Division of the Philippines.

Hubert Grieger, contract surgeon, from South Milwaukee to San Francisco, en route to the Division of the Philippines.

George L. Hicks, contract surgeon, now at Cambridge, Md., will proceed to Fort Totten, N. Y., for temporary duty.

Frank A. Hodson, contract surgeon, from Fort Mackenzie, Wyo., to San Francisco, en route for assignment in the Division of the Philippines.

Palmer H. Lyon, captain and asst.-surgeon, Vols., from temporary duty at Fort Hamilton, N. Y., to the Division of the Philippines via San Francisco.

Arthur W. McArthur, contract surgeon, from Fort Yates, N. D., to his home, Chillicothe, Mo., for annulment of contract.

Ben H. Metcalf, contract surgeon, now at Winthrop, Mass., to report for temporary duty at Fort Banks, Mass.

Charles E. Marrow, lieutenant and asst.-surgeon, U. S. A., former orders directing him to proceed to Fort Morgan, Ala., amended so as to require him to proceed to Fort Totten, N. Y.

William G. Miller, captain and asst.-surgeon, U. S. Vols., leave of absence from the Division of the Philippines extended one month.

Edward J. Morris, major and surgeon, U. S. A., from duty at the Model Camp, Angel Island, Cal., to the Division of the Philippines.

Edward L. Munson, captain and asst.-surgeon, U. S. A., member of a board of officers at Washington, D. C., to investigate and report upon a uniform size of packing boxes for transportation beyond the sea to secure ready handling and admit of packing securely in army wagons and upon pack animals, taking into consideration the contents of the boxes, weight, marking, etc.

Lorin B. Ohlinger, contract surgeon, leave of absence for one month granted.

Frank D. Pease, contract surgeon, now at Los Angeles, Cal., to proceed to Fort Mackenzie, Wyo., for duty.

Elias H. Porter, contract surgeon, relieved from duty in the Department of the East and on the expiration of his present leave of absence to proceed via San Francisco to the Division of the Philippines for assignment to duty.

John J. Reilly, lieutenant and asst.-surgeon, U. S. A., now at Fordham, N. Y., is relieved from further duty in the Division of the Philippines, and on the expiration of his present leave of absence will report for duty at Fort Slocum, N. Y.

Edwin W. Rich, lieutenant and asst.-surgeon, U. S. A., former orders directing him to report at San Francisco, for transportation to Manila, P. I., revoked; he will report for duty at the General Hospital, Presidio of San Francisco.

Charles Richard, major, surgeon, U. S. A., leave of absence for fifteen days granted.

A. H. Simonton, contract surgeon, leave of absence for two months granted.

John T. H. Slayter, captain and asst.-surgeon, Vols., having tendered his resignation, is honorably discharged from the service of the United States.

Blair D. Taylor, major and surgeon, U. S. A., leave of absence extended ten days.

Samuel S. Turner, contract surgeon, from Fort Sheridan, Ill., to duty at Fort Yates, N. D.

William J. Wakeman, major and surgeon, U. S. A., on his arrival at the Presidio of San Francisco will report for duty at the Model Camp, Angel Island, Cal.

M. Manley Waterhouse, contract surgeon, from duty at Fort Wadsworth, N. Y., to Fort Hancock, N. J.

Francis A. Winter, captain and asst.-surgeon, U. S. A., member of an army retiring board at St. Louis, Mo.

Marshall W. Wood, major and surgeon, U. S. A., member of an army retiring board at St. Louis, Mo.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ended February 15:

Surgeon L. W. Spratling, order to the Naval Hospital, Portsmouth, N. H., revoked; ordered to continue on waiting orders.

P. A. Surgeon E. V. Armstrong, detached from recruiting duty, February 17, and ordered to the *Olympia*.

P. A. Surgeon J. E. Page, ordered to Seattle, Wash., March 1, for temporary recruiting duty.

Rear-Admiral P. M. Rixey, commissioned Surgeon-General of the Navy and Chief of the Bureau of Medicine and Surgery, with the rank of rear admiral, from Feb. 10, 1902.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Feb. 13, 1902:

P. A. Surgeon Rupert Blue, to proceed to Des Moines, Iowa, for special temporary duty.

P. A. Surgeon E. K. Sprague, to assume command of the service at Detroit, Mich., relieving Surgeon J. J. Kinyoun.

P. A. Surgeon A. R. Thomas, to proceed to Liverpool, England, for special temporary duty.

A. A. Surgeon C. B. Sweeting, bureau letter of Jan. 16, 1902, granting leave of absence for five days from Jan. 23, 1902, amended so that said leave shall be effective from February 16.

Pharmacist F. L. Brown, granted leave of absence for ten days from February 10.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Feb. 14, 1902:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Jan. 25-Feb. 1, 2 cases.

California: Los Angeles, Jan. 25-Feb. 1, 7 cases; San Diego, Jan. 25, 1 case; San Francisco, Jan. 26-Feb. 2, 9 cases.

Illinois: Feb. 1-8, Belleville, 4 cases; Chicago, 2 cases; Danville, 2 cases; Freeport, 1 case; Galesburg, 1 case.

Indiana: Evansville, Jan. 25-Feb. 6, 13 cases; Indianapolis, Feb. 1-8, 23 cases.

Iowa: Clinton, Feb. 1-8, 3 cases; Ottumwa, Dec. 28-Feb. 1, 73 cases.

Kansas: Wichita, Feb. 1-8, 1 case.

Kentucky: Covington, Feb. 2-9, 3 cases; Lexington, Feb. 1-8, 3 cases.

Louisiana: New Orleans, Feb. 1-8, 3 cases.

Maryland: Baltimore, Feb. 1-8, 8 cases.

Massachusetts: Boston, Feb. 1-8, 54 cases, 7 deaths; Brockton, Feb. 1-8, 1 case; Cambridge, Feb. 1-8, 4 cases; Everett, Jan. 25-Feb. 8, 4 cases; Fall River, Feb. 1-8, 1 case; Holyoke, Feb. 1-8, 1 case; Lowell, Feb. 1-8, 4 cases; Malden, Feb. 1-8, 1 case; New Bedford, Feb. 1-8, 1 case; Newburyport, Jan. 25-Feb. 8, 3 cases; Somerville, Feb. 1-8, 1 case.

Michigan: Bay City, Jan. 25-Feb. 8, 12 cases; Detroit, Feb. 1-8, 6 cases; Ludington, Feb. 1-8, 2 cases.

Minnesota: Minneapolis, Jan. 25-Feb. 1, 18 cases.

Montana: Butte, Jan. 24-Feb. 2, 1 case.

Nebraska: Omaha, Feb. 1-8, 45 cases.

New Hampshire: Nashua, Feb. 1-8, 3 cases.

New Jersey: Camden, Feb. 1-8, 8 cases, 1 death; Jersey City, Feb. 2-9, 15 cases; Newark, Feb. 1-8, 33 cases, 7 deaths.

New York: Feb. 1-8, Binghamton, 1 case; New York, 61 cases, 10 deaths.

Ohio: Cincinnati, Jan. 31-Feb. 7, 12 cases; Cleveland, Feb. 1-8, 5 cases; Dayton, Feb. 1-8, 3 cases; Hamilton, Feb. 1-8, 3 cases; Toledo, Feb. 1-8, 2 cases.

Pennsylvania: Allegheny City, Feb. 1-8, 1 case; Norristown, Feb. 1-8, 1 case; Philadelphia, Feb. 1-8, 110 cases, 20 deaths; Pittsburg, Feb. 1-8, 1 case; Providence, Feb. 1-8, 1 case.

South Carolina: Charleston, Feb. 1-8, 3 cases; Greenville, Jan. 25-Feb. 8, 4 cases.

South Dakota: Sioux Falls, Feb. 1-8, 2 cases.

Tennessee: Feb. 1-8, Memphis, 15 cases; Nashville, 1 case.

Texas: Houston, Feb. 1-8, 32 cases, 2 deaths.

Washington: Tacoma, Jan. 24-Feb. 2, 20 cases.

Wisconsin: Fond du Lac, Feb. 1-8, 3 cases; Green Bay, Feb. 2-9, 19 cases, 1 death; Milwaukee, Feb. 1-8, 7 cases.

SMALLPOX—FOREIGN.

Austria: Budapest, Jan. 15-21, 11 cases; Prague, Jan. 11-18, 11 cases.

Belgium: Antwerp, Jan. 11-25, 6 cases, 1 death.

Brazil: Rio de Janeiro, Dec. 21-Jan. 12, 98 deaths.

Canada: Halifax, Jan. 25-Feb. 8, 3 cases; Quebec, Jan. 25-Feb. 3, 80 cases, 3 deaths; Winnipeg, Jan. 25-Feb. 1, 10 cases.

Colombia: Cartagena, Jan. 26, 2 deaths.

Great Britain: Liverpool, Jan. 19-25, 8 cases.

Italy: Naples, Jan. 18-25, 9 cases, 1 death; Rome, Dec. 16-21, 1 death.

Russia: Moscow, Jan. 4-18, 15 cases, 6 deaths; Odessa, Jan. 11-25, 13 cases, 3 deaths; St. Petersburg, Jan. 12-25, 12 cases, 3 deaths; Warsaw, Jan. 4-11, 2 deaths.

Spain: Corunna, Jan. 18-25, 1 death.

Uruguay: Montevideo, Dec. 28-Jan. 4, 77 cases, 4 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, Dec. 21-Jan. 12, 15 deaths.

Mexico: Vera Cruz, Jan. 25-Feb. 1, 1 case, 1 death.

CHOLERA.

Java: Batavia, Dec. 7-14, 3 cases.

Straits Settlements: Singapore, Dec. 21-28, 1 case.

PLAGUE—INSULAR.

Hawaii: Honolulu, Jan. 23-24, 2 cases; Kauai, Eleele, Jan. 22-26, 3 cases.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Jan. 4-12, 8 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, MARCH 8, 1902. No. 10.

Address.

THE NEW ERA IN MEDICINE—WHAT IT MEANS TO CLEVELAND.*

P. MAXWELL FOSHAY, M.D.

CLEVELAND, OHIO.

Before taking up for consideration this Society, its relations, its ideals, its accomplishments and its future prospects, it will be necessary to my purpose first to secure a broad view of our present duty by widening our horizon to the extent of clearly apprehending some, at least, of the present conditions of professional life in America.

THE NEW ERA IN MEDICINE.

At the risk of tiring you with a partial repetition of ideas that have been expressed elsewhere, but feeling that it is justified by its inherent importance, I earnestly urge you to recognize the fact that we are living in a new era of medicine. The change from past conditions has occurred so gradually, when compared to the span of one active life, that the transition has in large part escaped our notice. It is, however, of the utmost importance that we at once realize its full significance, in order that time may not longer be lost in taking advantage of new and fruitful opportunities. The change to which I refer, when considered as a phase of the history of medicine, seems almost cataclysmal. Evolution in Nature and in society at certain periods moves with astonishing rapidity after long intervals of rest. Within a generation the science of medicine has been born, and the art and practice have been recreated. To-day we are living in the midst of the process, yet it is sufficiently far advanced for us to understand something of its meaning and profitably to reflect upon the goal toward which we are developing.

Coördinate with and in consequence of the tremendous development of the natural sciences during the nineteenth century, medicine has become rational. Adapting the scientific method and appropriating much of the knowledge accumulated by the pioneers in the natural sciences, medicine has finally and completely thrown off the heavy shackles of empiricism, of dogma, and of a narrow unreason. Medicine has arisen from the domain of empiric art to a fixed position among the applied sciences. True, medical science while thus correctly characterized has not yet reached the stage of completeness required for the passive extinction of the last remnants of medical superstition, ignorance, and bigotry. The world does not yet apprehend the full significance of the change, and we yet have Eddyism, Dowieism, and a host of dishonest or misguided "isms" and "pathies." I do not agree with those who assert that these evidences of popular ignorance will continue so long as human nature remains unchanged. To do so is to disregard all the evidences supplied by the history of the development of knowledge. To hold this pessimistic belief is the same as it would have been in the Middle Ages to have asserted that the world in general would never know the paths of the planets, or the mass of the sun, or the law of gravitation, or the cause of the tides, or the circulation of the blood, or a hundred other truths which are so self-evident to the layman of to-day that he hardly realizes that they ever were unknown.

The medical profession, much less the layman, has not yet fully accustomed itself to its new environment of exact fundamental knowledge. Only the youngest among us have had the advantage of scientific educations. A distressingly large proportion of us still practice medicine very nearly with the same mental attitude as did our forefathers in medicine, who had none of the invaluable helps that have come to us through the growth of physiology, of pathology, of bacteriology, of pharmacology. Present students of medicine are being trained in accordance with the scientific method. In another generation they will constitute the profession of medicine. Shall we believe that the public will learn nothing from its intimate contact everywhere with these trained men? Has such a thing ever happened before? Never! Under such circumstances the people at large under modern conditions very promptly grasp much of the real significance of things. The hopelessly ignorant and the defective will, indeed, always be with us, but I am absolutely confident that in only a generation or two public opinion will have assimilated the broad conclusions of rational medicine, as it has the results of the evolution of all the sciences; and that general support for quacks, pretenders, faith-curists, and other preachers of the "isms" and "pathies" who depend for their success solely upon the ignorance of the public in relation to medical matters, will become absolutely impossible in civilized countries. To hold any other belief is to maintain that medicine is exempt from the natural laws of sociologic evolution. Such a supposition is preposterous.

THE FUTURE OF MEDICAL POLITY.

Medicine is every day gaining slowly and imperceptibly in public esteem. Our cessation of unseemly quarrels, our abandoning the discussion of dogmas, our devotion to the pursuit of real knowledge, our recognition from the workers in pure science, our common-sense methods, our rational attitude, are daily making a deep and permanent impress upon the minds of the educated

* Inaugural Address of the President of the Cleveland Medical Society, January 24, 1902.

portion of the public. The rest will follow as day follows night. The conclusion, then, is easy that medicine in the future is destined to play an increasingly large part in public affairs. Of this I do not admit the shadow of doubt. It is our present duty adequately to prepare ourselves for our new functions in the body politic. Day by day there come into our possession facts and generalizations which are of comparatively slight importance to each of us in his daily routine, but which possess the most intimate relations to the welfare of the whole commonwealth. In the protection of the public health, considered in its widest significance, medicine of the future is surely destined to play a first part in general polity. In the very nature of things it can not be otherwise. To a very considerable extent we are now ready to assume this burden, but as yet the community only faintly realizes the value to itself of the knowledge which we possess and which we are constantly increasing and defining. It is then our present duty to undertake the education of the public. This can be accomplished solely through the powerful voice of perfected medical organization, aided by the instruction in rationalism that the active physician can give to his clients as they come and go.

RISING PROFESSIONAL STANDARDS AND INFLUENCE.

The work has been begun. Having perfected the methods of medical education we have forced the states to demand that all who intend to practice medicine shall have been properly educated. We have insisted that the state shall itself determine the qualification of physicians, rather than to leave it to our schools. Further, we have everywhere placed upon the statute-books laws regulating the care of cases of contagious or communicable disease, and laws for many other purposes connected with the protection of the public health. These have a most distinct educational value in creating a more healthy public sentiment toward sanitary control. The elimination of the more or less empiric and irregular and generally-disqualified practicians of the past, which is a steadily proceeding development, accompanied by the infiltration throughout the community of the younger and more scientifically educated practicians, is producing a marked and healthy change in the public mind. Perhaps many of you think this too roseate a view. But look at the occurrences in this city among those whom we formerly regarded as irregulars. Look at the present status of the newest medical delusion; its exponents by actual observation are unable to remain more than six months or so in any one locality, unless in case of the great cities where the pabulum is in larger quantity. Of the apostles of this Still delusion there are fewer to-day in Ohio than there were a year ago. Former fads were not so readily eliminated. It is clear that it is becoming increasingly difficult to "work" the public, although far too easy yet to quiet all sense of recrudescent danger.

I need only mention it in order to recall to your mind the infinite improvement in the methods of medical education which so prominently mark the advent of the new school of medicine. Think of the facilities now required to teach medicine; the paid teachers, the laboratories, the instruments of precision, the well-organized hospitals and clinics. To teach medicine to-day is indeed a formidable task; only a generation ago it was the recreation of the teacher. Rhetoric has been displaced by science. The schools that give evidence of future permanence have of necessity become departments of the universities. The school privately owned by the faculty is henceforth impossible. The spirit of university life and culture will forever hereafter be a powerful influence in medical training.

MEDICINE NOW A SCIENCE AS WELL AS AN ART.

The new school of medicine naturally divides itself into two or three broad departments. In the first place we find a line between the art and the science of medicine. Included in the science of medicine we find such well-recognized sciences as physiology, anatomy, pathology, bacteriology and hygiene. It seeks definitely to determine the cause and course of disease, and to know the exact mechanism of the reaction of the organism to remedial agents. The art of medicine on the other hand is concerned with the application of this coördinated knowledge to the study, the prevention, and the alleviation of concrete instances of disease. Within the art of medicine we find therapeutics, including surgery and its branches, physical diagnosis, and the larger part of the subjects grouped under the title "practice of medicine." Most of us necessarily are concerned solely with our art, but the science is at once the distinguishing feature of the new school of medicine and the indispensable and imperishable basis of our art.

PUBLIC MEDICINE.

Medicine may from another view-point be divided conveniently into two departments. The first deals with the individual instance of disease, the second with the health problems that concern the community as a whole. Improved educational methods are constantly perfecting our equipment for treating the individual. Up to the present we have been very halting in our methods of dealing with the problems of public medicine. These problems are daily growing in number and importance, and it is imperative that we should be prepared to meet them so fairly, so strongly, and so unanimously that we will gain the public respect and the satisfaction of having done our full duty. This can only be accomplished through our associating ourselves together so generally and so firmly that we will become a power in political affairs in so far as they may relate to medicine.

AN ERA OF GOOD FEELING.

The new school of medicine possesses one characteristic feature which stands out prominently and in marked contrast to the background formed by its antecedents. Professional progress has so often, indeed so usually, been retarded, even for a time arrested, by internal jealousies, personal quarrels, and the conflict of schools and cliques, that we should rejoice when we see about us so many evidences that physicians now view their professional conduct in a broader light, recognizing the desirability, the necessity, and the pleasure of maintaining cordial relations with all their fellows. Progress in this direction is by no means complete, and the chief agency in its steady promotion is the well-conducted medical society. More than all else we need to know each other and to be forced frequently to associate together. Often a few moments devoted to frank and hearty discussion of one of the unfortunate accidents of practice will make mutually respecting men of two doctors who, cherishing their misapprehension of each other, would otherwise drift into outspoken and lifelong enmity. Not seldom the social session of a medical society clears up long-standing disputes. This function of medical societies is not the least important, for unity of purpose and action inevitably develop from the establishment of harmony. Indeed, I think hardly any other one thing can be done by our profession which will so

promptly give us a high place in public esteem—an end much to be desired. Among the laity the disagreement of doctors has from time immemorial been the subject of levity. However, we have passed the turning point, and in this city even the laity has noted the change for the better. Perfected organization with its friendly association and its fraternal sharing of burdens is alone capable of continuing to its full fruition this happy tendency of modern medicine.

THE PUBLIC RELATIONS OF MEDICINE.

It is, however, principally of our present environment as affecting our own destinies and duties that I wish to speak now, and that is of the chiefest concern to each one of us here to-night. The fund of knowledge that has already accumulated as a result of the application to medicine of the scientific method is so vast that no one man pretends intimately to comprehend it all, and the possession of this trust inevitably brings with it power and responsibility. "Knowledge is power." Our knowledge may, must, be employed for the good of the whole world, as well as for the promotion of our own fortunes. The power that comes with it is all-sufficient to enable us to accomplish our full duty to the community. But we must each share in this responsibility, and stand ready to take up a part of the educated man's burden. Life is an opportunity to do good, to help our fellows, to leave the world a shade better than we found it, as well as a chance to secure some pleasure. He who misses the chief part of this opportunity loses that which above all else makes life worth living. The physician to-day has right to his hand an opportunity for rendering an illimitably beneficent service to his fellows which is far beyond that which comes to other men, because his knowledge closely affects the poignant problems of life, of health, of suffering, and of disease. This idea is not offered with any pretention of novelty. For at least a generation it has been repeated by thoughtful members of our profession. What I wish to make clear to-night is that never before has so favorable an opportunity been afforded us for actually doing that of which our forefathers in medicine dreamed.

PERFECTED ORGANIZATION.

No doubt some of you are tired of constantly having the benefits of perfected medical organization preached to you, but the importance of the subject is such that it may not be ignored. Medical organization is not a panacea for all the ills of mankind, nor a remedy for all existing defects in medical life. Effectively done, it will accomplish certain tasks to which our profession is pledged; pledged by the inexorable logic of events, not perhaps by voluntary expression on our part. Nor is the conception of the value of organization, of which you hear so much of late, a new one. The ground long since was thoroughly thought over by far-seeing minds amongst us. In all our recent discussion of this topic there is hardly a new idea. The real father of many of our ideas in this respect was Jerome Cochrane of Alabama, whose work was done under the difficult circumstances accompanying the "reconstruction period" in the Southern States. His writings during the early '70's breathe deeply of the spirit that now animates so many physicians throughout the Union. In his conception of the benefits of proper organization of the medical profession Cochrane has never been excelled for clearness of vision, force of presentation, or single-heartedness of speech and action. And the profession of Alabama has for 20 years been reaping the benefit, while the rest of us, with only a few exceptions, have sat in disorder awaiting somebody to carry the news a few miles and to do our work for us. In 1875 Cochrane wrote: "We have no hesitation in saying that the medical profession is fully able to bring about a reformation of all the evils from which it suffers; but this consummation, most devoutly to be wished, can not be accomplished by wishing—can not be accomplished either by means of grandiloquent speeches and paper resolutions—can, indeed, be accomplished only in one way, namely: by wise and resolute work, and by thorough organization and concert of action among the members of the profession." Seven years later he urged the Alabama men "to seek always the public good and not our own, and always to recognize the great principle that union and organization involve strength and permanence and lead on from conquest to conquest, while the assertion of individual rights and privileges, and the gratification of personal jealousies and ambitions are always the agents of disintegration and defeat."

To-night the particular is of more importance than the general, and I will spare your patience by at once asking your consideration of conditions existing in this city and by suggesting some apparent present duties of this Society. And to begin with, I will recite some mild criticisms of ourselves that have come to me from different members, for it is well to conduct a careful self-examination before undertaking new duties.

BUSINESS TO BE DONE BY THE COUNCIL.

A number of the members object to the time now occupied in the early part of our meetings by the consideration of the business affairs of the Society. Under the rules some business goes to the Council for preliminary consideration. It might be well, however, to go one step further and entrust the final disposition of most of our business to the Council, as is done by many societies. I should heartily favor such an arrangement, if the majority of the members wish it. Our history shows that the men who comprise the Council have always been such as might be fully entrusted under proper rules to dispose finally of nearly all the routine and new business of the Society, even including the election of new members. When the first Constitution of the Society was drawn I made such a proposition, but it was agreed that the Society itself would wish to consider all its business in detail. I am sure that day has passed. In case such added duty is given to the Council, I earnestly suggest that the members of the Board of Trustees be added to the other officers who now compose the Council. The Trustees are elected for terms of three years so that this would tend to ensure continuity in the policy of the Society.

COMMITTEE WORK.

Of late years the Committees of the Society have not shown the interest and energy which would do so much toward making the Society really accomplish work of permanent value. This criticism falls chiefly on the standing committees, but not all special committees may escape. The Society appointed a Committee to investigate our public schools from a medical standpoint, which spent some time and some of the Society's money in collecting data that have not been reported on. The resolution appointing the Committee was specific in its instructions, and its report should have been of value to the whole community, so that it is a matter for general regret that after nearly two years the Committee has expired without making a report. I wish to add that

during the present year Committees which appear to be slighting their duties must not be disappointed to receive a request for their resignations. The interest of the Society is in such matters paramount to all other considerations. A medical society will be of service to the profession just in proportion as it is conducted along business-like lines such as apply to other organizations.

And here is a good place to state the truism that office in a medical society is an opportunity to serve the profession, and no one of us should accept a position unless fully prepared and determined to give to it enough of his time to successfully perform its duties. This indeed should be the chief clause in the creed of a medical society, whatever its scope.

There are those who criticise society methods but who rarely ever attend a meeting or make any endeavor to remedy defects of which they complain. On such critics rests the chief responsibility for every real fault that they see. Those who wish to see the Society do differently should show the honesty of their criticism by coming right here and giving their influence to promote the best interests of the Society. The stay-at-home critic is certainly not practical, and to all appearances he is lacking in candor. I am fairly familiar with medical societies, and I feel confident of my ground when I assert that there is no society which, having fallen into some undesirable habit, can not in a short time be completely rescued by the determined efforts of even one or two serious and unselfish men.

Other members do not come to our meetings because they have evening office-hours and have so many patients that they can not leave them two evenings in a month, even though others at least equally busy are among our most regular attendants. These absentees are themselves the chief sufferers, and were medicine a selfish calling we would simply say that those who thus deny themselves the educational influence of society work will themselves pay the penalty, as younger and better educated men, equipped with the most recent methods, slip ahead. But the spirit of our calling is more kindly, and so we wish to prevail on these men to turn out to our meetings and keep abreast of the times.

Some of the younger members say that they do not feel free to read or discuss papers and cases before other members who are older in the profession. This is a matter of determination. The physician who has the confidence in himself necessary to undertake the charge of a patient seriously ill should never hesitate to express his convictions on any subject with which he has had experience. The members must not overlook the fact that when they take part in the proceedings of the Society, even to a very small extent, they are sure to find afterwards that the salient points of the subject under discussion are much more firmly impressed on their memory than they would have been by merely listening to others. So I urge every member to take advantage of the opportunities offered for taking an active part in Society work. I think that if provision were made for the meeting between times of small numbers of the members to quietly discuss various topics, they would in this way very soon acquire sufficient readiness of speech to enable them to take part in the proceedings of the Society. A little later I will offer some specific suggestions as to means for meeting this demand, which is, I think, quite of first importance.

ORIGIN AND WORK OF THIS SOCIETY.

The birth of this Society on February 3, 1893, was one of the early evidences of the liberal and progressive professional spirit which marks so distinctly the new era in medicine. Along with the application by physicians of the scientific method to the problems of physiology and pathology, and with the growth in medicine of the scientific spirit, there has come an appreciation of the catholicity of learning and of the brotherhood of knowledge. This Society was one of the first, and perhaps rather unconsciously, to mold itself according to the new conditions of professional thought and life. Arising to meet new conditions, and beginning without experience, the Society would have had to be superhuman to have wholly avoided mistakes in conduct, and as one of the early members I have no hesitation in admitting my full share in some of them. But having from its inception been guided by a clear aspiration to be of real service to the profession of Cleveland; the Society has profited by its errors, which have not been vital but merely incidental. I believe that it has been of definite service to the profession of this city. Were its only result to be found in the fact that it has brought about harmony in our professional relations, its existence would have been amply justified. But we all know that it has done a great deal more.

However, to-night it is chiefly to the future of the Society and of medicine in Cleveland that I would direct your attention. So far our work has been good, and in keeping with the spirit of the times, but progress is essential to the greatest usefulness in human affairs. We physicians of to-day are living in the most wonderful period of the history of medicine. Of this there is no shadow of doubt. Evolution in medical science and in professional thought is moving at a prodigious pace. We can not rest, or in but a moment we should be lost in the past. All over the United States thoughtful physicians are realizing that the time has come for the complete organization of the medical profession, in order that the commonwealth may receive to the fullest extent those real and great blessings which medical science is now prepared to offer and which will yearly, almost daily, increase in number and value.

TIME TO FURTHER PERFECT OUR ORGANIZATION.

What, then, can we physicians of Cleveland do to meet the ever-changing conditions of our professional life? I firmly believe that the time is now ripe for a further regeneration of our scheme of organization. I believe that it is now possible, indeed imperative, that we should organize ourselves on a still broader basis that shall give the opportunity to extend to a greater number of physicians the well-recognized benefits of society work, and to grant to the community the greatest usefulness of which we are now capable. I speak from some knowledge of professional conditions of other American cities when I say that I believe there is no other city in America in which the conditions are more favorable for working out to their fullest extent the possibilities for public service that are comprised in modern medicine. In other words, I believe that we medical men of Cleveland have to-day at our hands the opportunity of leading the way in demonstrating to the people and to the profession of this country just what of good can be accomplished by an organization of physicians thoroughly imbued with the high ideals and fully equipped with the perfected tools of the new school of medicine. Shall we allow our opportunity to slip by only to be seized by our confrères of some other community? I hope not.

EXISTING MEDICAL INSTITUTIONS OF CLEVELAND.

Let us look at our materials. We have here in Cleveland excellent institutions for teaching medicine and for caring for the sick. We have an earnest group of men thoroughly in touch with the activities, ideals, and practical worth of scientific medicine. We have a most excellent beginning for a first-class medical library. We have two good medical societies doing creditable scientific work, each in its organic law assuming to represent the medical thought of the city. We have two good medical journals whose reputation for cleanness of conduct is second to none in the United States, and they are wholly controlled by physicians. Plans are matured for merging these two publications into one journal that shall be owned and controlled by the profession of this city, and which hence will be thoroughly representative of the best that Cleveland can do for medical science and for medical polity. The amalgamation of these two journals into one active and clean publication, which shall in effect be one of the distinctive professional institutions of Cleveland, marks a tremendous step forward.

NEED FOR CONCENTRATION.

This, then, is a list of our tools. What shall we do with them? The suggestions as to how we shall answer this question are not original. The aim of the hour in medicine, as well as in all other progressive departments of human activity, is concentration and consolidation. The medical journals of Cleveland have met the demand. The hospitals in the nature of things are apart from this tendency. Most of us wish that for the greater prestige of the Cleveland profession the colleges were united, but that is a difficult problem, and one which is not for us to discuss to-night. We can only say that the schools are in good hands and that when the conditions for union become favorable, if they do, and we hope they will, those in control will meet the task in a frank, manly, and willing spirit. The scientific workers among us stand ready to assume their full share of the responsibility that naturally falls to them under the new order of things. The medical library provides an opportunity for the study of nearly all the best recent literature of medicine. The library is controlled by an independent association, has some permanent endowment, and owns the building in which it is housed. Its condition is highly encouraging. What concerns our purpose to-night is that the library needs a closer relation to the medical societies and to the profession as a whole. I think that our Society should set apart each year a fixed amount or percentage of its revenue to be added to the library endowment or used for whatever other library purpose seems most suitable. If sections or small subsidiary societies are arranged for, they should meet at the library. Its rooms furnish an ideal place of assembly for small society or section meetings to consider problems not yet ready for formal presentation to the whole profession and to clarify thought by the rapid and informal conversational method which is so effective. The time has come when gradually as need arises such groups should be formed and cordially supported by the representative medical organization. I believe that that society does the most good which reaches the greatest number of physicians, and so the most useful society in a city is the largest, but there is admittedly a very important function to be served by smaller groups which meet informally and perhaps oftener. To this I shall refer more specifically later.

UNITE OUR PRESENT SOCIETIES.

There now remains for discussion this evening the chief topic in immediate importance. Every one of you I doubt not guesses it readily. Of course, it is that of the union of our two medical societies into one new organization of enlarged scope, of broad foundations, of high ideals, of absolutely representative character, in fine of thorough equipment, so far as is now possible, for the work of the future. Some of you perhaps believe it to be impossible, unwise, and unnecessary; but my friends, it is easy of accomplishment if we will, and if we appreciate our new duties. It is, I am sure, the wisest thing that we can do, and above all I wish to impress upon you that under present and future conditions it is absolutely necessary. It is demanded by the steady processes of professional evolution, and if we now ignore this demand we shall for many years suffer the penalty that comes inevitably to those who ignore an opportunity for growth—namely, stagnation or even retrogression. Further, this much-to-be-desired end can now be attained without the least necessary sacrifice of any of the cherished methods of either present organization. A new organization started upon a proper basis can readily be devised to continue all the good features of the present societies and also to inaugurate and conduct to a successful issue many new undertakings for which there is now a real need.

REASONS FOR UNION.

First, as to the present necessity for this union. As you undoubtedly know, the American Medical Association has asked every State Society to re-organize itself upon one definite and suggested plan. It is difficult to see how our own State Society can ignore the request, and still more difficult to imagine any adequate reason for a refusal to comply with it. As other States are already heartily complying, and as our own State Society has a committee appointed to formulate the new plan of organization for presentation at its next meeting, it is certainly not assuming too much to take it for granted that it will follow the other States. This plan of organization is perfectly simple, and merely puts into effect in the common affairs of the medical profession the well-recognized American principles and forms of representative government. Already the American Medical Association has delegated all its business affairs to a body of less than 150 men in an association now numbering over 12,000 members. These delegates are to be elected by the various State Societies in proper ratio to their membership. The State Societies are asked to adopt a similar form, and in many the work is done. In one—Connecticut—this form of professional government has been in successful operation for over 100 years.

In putting it into execution in a State the plan of course will be for the state organization to turn over its business affairs to a body of delegates elected from the county societies. Of course, in any scheme of general organization some common unit is necessary, and by general consent the county medical society, as at present existing in all parts of the country, is recognized as the most useful and most readily available unit. It follows from these premises, then, as a necessary conclusion, that only one representative and affiliated society may be recognized in each county. As a necessary corollary to this it follows that, except under most extraordinary circumstances, no new society can arise to challenge this recognition. The new order of things has the element of permanence. In those counties which include large

cities this will in some instances for a time produce friction, though not in Boston, New York, Philadelphia, Baltimore, Cincinnati, or Chicago. Cincinnati deserves especial mention because she is our near neighbor and in our own state. Only a few years ago there existed there side by side the Cincinnati Medical Society and the Hamilton County Medical Society, a situation exactly analogous to ours at present, but with little difficulty they were both merged into the Cincinnati Academy of Medicine which now has a larger membership than had the two separate societies before the amalgamation. The lesson in this to us is direct and near to hand, the result has in every way been beneficial to the profession of Cincinnati, and our confrères in that city are fully prepared for the improved mode of organization. In Chicago, Cook County is represented by the Chicago Medical Society with its 1000 or 1100 members and its numerous correlated societies. I have already spoken of the undoubted benefits of small groups of medical men meeting quietly and informally to discuss those topics in which they are especially interested, and in which many others are little if at all concerned. So in Chicago they have a number of special societies, but each one requires that a physician to be eligible for membership must first be a member of the Chicago Medical Society. This provides adequate machinery for representative government, and places all the business interests of the profession in the care of one large representative society.

In the concrete, then, my suggestion is that we unite the Cleveland Medical Society and the Cuyahoga County Medical Society in a new organization to be known as the Cleveland Academy of Medicine, whose organic law shall be of the broadest and most liberal type, and whose aim shall be to forward the work of scientific medicine in Cleveland, to care for the material interests of the profession and to assist the community whenever the opportunity arises for the application to public affairs of the results of medical science. Those who are particularly and rightly attached to the small, informal, and quiet methods of the county society can at will meet their wants by organizing themselves into sections, societies, or clubs, whose membership shall be drawn from the membership of the Academy. This latter provision is necessary to preserve the representative functions of the Academy, and to enable us to turn upon the public the full force of our numbers, when occasion arises.

METHOD OF PROCEDURE.

To be specific, I recommend that the Society authorize the appointment of a committee of five whose duty it shall be to meet with a like committee from the County Society for the purpose of considering, outlining, and recommending a plan of union. As a preliminary the Secretary should be instructed to communicate with the County Society in order to first learn whether it is agreeable to that organization to receive our overtures. These negotiations should be conducted solely in the spirit of doing that which is best for medicine in Cleveland. In such a laudable undertaking both organizations should be willing to yield a point whenever necessary. As a matter of fact their methods of organization are so similar that little sacrifice will be necessary on either hand. Let us, then, at once approach this enterprise with a determination again to improve the status of medicine in Cleveland.

CONDITIONS TO BE MET BY THE NEW ORGANIZATION.

At present the Cleveland Medical Society meets twice a month from September to June inclusive, holding 20 meetings in a year, several of which are devoted to addresses by invited guests. The County Society meets once a month, holding 10 or 12 meetings a year. The programs of both organizations are kept well filled, and it would, I think, be detrimental to permit the consolidation of the societies to permanently reduce the number of medical meetings held in this city during a year. Therefore, in case the union is effected, as I earnestly hope, I recommend that at once a subsidiary clinical society shall be organized which shall hold its meetings at the library, thus at once replacing the good scientific work of the County Society, providing for a quiet society for free and informal discussion, and furnishing an attraction to draw more men to the library. This subsidiary society should in every respect be free from the control of the Academy, except that it should receive no members who are not members of the Academy. Other subsidiary societies can be organized on the same plan and with the same meeting-place, whenever the need arises. The time has come when we must recognize the fact that one large medical society with biweekly meetings does not meet all the needs of our medical community. The meetings of the County Medical Society once a month, while of distinct and unquestionable value, do not provide fully for the deficiency. Nor is the reason for this state of affairs far to seek. As a result of the rapid and tremendous accumulation of medical knowledge during the past generation no one of us is able to cover the whole field either in practice or in study. In consequence each of us can not any longer be expected to have a direct interest in each of the few phases of our knowledge that can be dealt with at the 30 medical meetings held in this city during the year. So we find that many men do not attend our meetings regularly because they say the programs do not present subjects in which they are specially interested. Under present conditions the result can not be otherwise. Therefore when urging a union of our two societies it is necessary to at once suggest an elastic system whereby as need arises new but closely related bodies may be formed on demand.

There are at present in this city two small independent medical societies which, in case of our executing this scheme of centralization of interest, should be invited to attach themselves to the general body by the simple and sole bond of requiring their members to belong to the proposed Academy.

EXECUTIVE FUNCTIONS.

The new Society might well consider some change in the functions of its officers. At present in this Society the President is the sole executive head and upon him rests the greater part of the responsibility for the successful working of the organization. This being the case it is essential for our welfare to elect as President men who will heartily interest themselves in its work and who will not hesitate to sacrifice their own interests for the Society. There are many times, however, when the members feel that it would be a graceful compliment to bestow the presiding function upon a member who has passed the period of chief activity. Under present conditions this can not be done without risking the welfare of the organization. Therefore it is possible that it would be wise to create another office, or to so enlarge some present one, that the business part of the President's duty could be placed on other shoulders. In pursuance of this idea, the New York State Medical Association now employs a lay business manager.

PERMANENCE OF METHODS.

Another valuable feature that should be introduced by such a new organization would be a permanent assistant secretary, paid a small stipend for seeing to the printing and mailing of the programs and other notices. This would ensure permanency of system. Such an assistant Secretary might well be the resident librarian at the Medical Library. The regular Secretary could then keep the minutes and have a general oversight of the work.

A REFERENDUM.

In considering improvements for the future it has occurred to me that perhaps the membership would be better satisfied with the conduct of the Society if in electing officers or in voting on an amendment a referendum were provided for by having ballots sent to every member, so that he can vote by mail. This would ensure to each one his franchise, and not leave the determination of such questions merely to those who happen to be in attendance. This I make as a suggestion, rather than as a recommendation. The same method is in satisfactory operation in a number of non-medical societies. The necessary machinery is simple, and our Society can readily adopt the method if it seems desirable.

NEED TO INCREASE MEMBERSHIP.

Our Society should at once undertake an active and systematic canvass for new members. In this county there are over 800 regular physicians and we in both our present societies include but 265. Many more must be brought into our borders and made welcome. I shall urge our Committee on Growth and Prosperity to district the city, call for volunteer aids, and solicit every possible member. In this connection we should not forget how far ahead of us some other cities are. For instance, the Cincinnati Academy of Medicine now has about 90 more members than our two societies together, not counting our duplicated members. We certainly must not allow Cincinnati to maintain this lead that has followed her concentration of effort into one organization. The New York County Association each year issues a medical directory of the city. This is, of course, of the greatest service in the work of organization and also of enforcing the laws. If we wish, we can just as well have a directory of our own in Cleveland. This would enable us to follow the irregulars, as well as to furnish material for a canvass for new members.

SOCIAL FEATURES.

An unscientific, unpolitical, but still really important part of medical society work remains to be considered. The marked success and value of such a social evening as we spent together last week suggested to all of us that such events should not be so uncommon. The very greatest good surely follows such evenings of social intercourse. Some provision should in the future be made for having assemblies of somewhat similar character once a quarter if possible. Or we might imitate the successful example of the Chamber of Commerce in dividing its meetings into two parts, separated by a twenty-minute interval during which light refreshments are served. On the whole I prefer the quarterly social evening, and I suggest that if it is adopted provision should be made for holding it on some other than a regular meeting night, so as not to reduce the number of scientific meetings in a year.

OUR AIM.

Gentlemen, I see nothing in the way of our undertaking to make Cleveland a model city in respect to its sanitary condition. With our enthusiastic and capable health officer supported by a united profession we can very readily not alone equal the health conditions of other cities but actually take the lead. While I have taken largely of your time in outlining how this may be accomplished, I have left much unsaid that will occur to your minds as following naturally from the perfection of an active medical organization. Further than this we can, by all pulling together, put Cleveland up among the very first rank of cities in respect to the quality of medical work done. We can become a widely known medical center if we will. True, the quantity of our work will fall below that of larger cities, but there is not the least need for this to apply to the quality. Our laboratories, hospitals, colleges, and the workers are now available. A medical journal on the broadest possible foundation is now provided for. A large representative society with subsidiary sections or societies which shall continue more carefully to cultivate the highest type of research and clinical study, and shall lay its results before the world in the journal, will supply the remaining factor necessary to making Cleveland a widely known medical center. In making this our ambition none of us has anything to lose, and it seems to me that every one has something to gain. Let us heartily and in fraternal spirit determine to do this thing. If we do, the deed is done. The time is propitious. I can not imagine that the present opportunity will long remain with us, or that it will soon recur.

Lastly, let us make our medical society as nearly an ideal one as is attainable. Even now our Society is held up as an example of successful society work, but we can do so much more. Above all our other ambitions let us bear in mind that the most essential feature of our organized life must ever be its harmony. We must bring within our fold every available physician in Cleveland and then let us dwell together in the spirit of science, in the spirit of mutual courtesy, in the spirit of true brotherhood, and above all in the spirit of peace.

[N. B. Since this address was delivered both societies have unanimously accepted the principle of union and have appointed committees to arrange details.]

Original Articles.

EXTRA-UTERINE PREGNANCY.

F. F. LAWRENCE, M.D., D.Sc.

Clinical Lecturer on Diseases of Women and Abdominal Surgery, Starling Medical College.

COLUMBUS, OHIO.

To those who have looked upon a ruptured tubal pregnancy, I need not attempt to paint in words the picture of this terrible complication. That the surgeon is still so frequently called upon after a tubal pregnancy has ruptured and the patient is exsanguinated, all too forcibly emphasizes the fact that the importance of this subject has not yet been fully grasped by our obstetric teachers. That it is practical to diagnosticate the condition before rupture has been demonstrated so thoroughly that if the medical profession were fully awake to the needs of the hour very few of these cases would ever reach the stage of rupture. In 1892 I made the diagnosis before rupture—which operation verified—of extra-uterine pregnancy, and, since that time, have diagnosed this condition no less than nineteen times before rupture. I have always considered that the diagnosis

could be made, and was unaware that it was not a usual routine among men competent to rank as abdominal surgeons, until a few months since a paper was published upon the subject, in which it was claimed to be something unusual.

As a rule the diagnosis before rupture is easier than it is after the rupture and its accompanying hemorrhage have resulted in peritonitis. The fact is becoming increasingly apparent that extra-uterine pregnancy occurs much more frequently than has been supposed. A few years ago it was considered a very rare experience for one surgeon to see more than two or three cases in as many years. Now there are very few men of any experience in abdominal surgery but that have had more than one series of two or three cases in one week. The importance of this from an obstetric standpoint can not be overestimated. It should lead to an emphatic demand for early and thorough examination of every woman supposed to be pregnant—aye, more, it should lead to such obstetric education as will cause every woman to look with suspicion upon any and every irregularity of menstruation and prompt her to seek competent advice.

This course will result in the diagnosis of practically all cases before rupture, or at least an opportunity for the diagnosis to be made. It might be said here that a reformation in methods of teaching, which will make diagnosis and pathology paramount to operative clinics, would result in greater diagnostic acumen, a healthier view of the responsibilities involved in abdominal surgery, and fewer attempts to mount the ladder of fame with woman's abdomen forming the first round.

It is a sad reflection upon the scientific spirit which pervades our profession to note that in many of the medical colleges, the chairs of obstetrics, gynecology and also that of diseases of children are filled by such material as can be secured regardless of past experience, training, or special preparation. No man should attempt to teach obstetrics who is not competent to make the diagnosis of extra-uterine pregnancy, either before or after rupture, and then he should be able to teach his students how to do the same thing.

A safe rule in the surgery of the uterus is to regard every enlargement of the uterus as suspicious of pregnancy until that is positively known not to exist. I should like to add that I believe an equally safe and valuable rule is to look upon every woman who has the opportunity of pregnancy, as a probable victim of extra-uterine form, and, if she presents the slightest irregularity of menstruation, institute a thorough examination of the tubes. The history of the patient should be carefully and thoroughly taken. This will develop the fact that she has at some time in the past had some form of tubal disease. This has been found to be true in every one of my cases, now numbering thirty-one.

This is one thing upon which there may be some difference of opinion based upon different interpretation of the signs and symptoms of tubal disease, but if close inquiry be made it will be found that the patient has suffered premenstrual pain to a greater or less extent. The menstrual flow has been irregular both as to amount and duration. In some cases she will give a history of a severe attack of pelvic inflammation at some time. There will be a history of leucorrhea, irritable bladder, and in some cases rectal tenesmus. Then will follow an ordinary menstruation, which did not stop in the usual number of days, but there was a "little flow" right along for one, two or three weeks. During this time there has been an increasing feeling of discomfort in the pelvis. There has been irregular but frequent pains through one or other side of pelvis, irritability of bladder and rectum with painful defecation. She is frequently found to be apprehensive of some unexplainable calamity impending. The breasts have developed the usual condition of pregnancy, but in a more rapid manner than usual.

In some cases there has been a long interval between this and the last pregnancy, but this is a very unreliable indication, as I have had two recent cases in women who had given birth to children within eleven months and fourteen days, and thirteen and one-half months respectively. Two years ago I operated upon a woman who was two and one-half months in tubal gestation, whom I had delivered at term only seven months previously.

The examination of a patient with the above symptomatology will reveal the following: 1. The conditions of vagina and uterus found in a normal pregnancy except that the uterus is hypersensitive. 2. To one side or behind the uterus will be found an elastic, sensitive, sometimes but not always, pulsating tumor. 3. There is one evidence found in extra-uterine pregnancy before rupture that I have never been able to find in any other condition; that is a peculiar elastic crepitation, not unlike that elicited by feeling the normal placenta when the membranes have been turned external. It is not the crepitation of blood clot, as is so well known to be present after rupture, but it is absolutely different and distinctive. 4. In nearly all cases the mass will be practically fixed, and, if a careful search be made, the ovary can be found in close proximity to the tumor, but still not a part of it. It has been said that the tumor of extra-uterine pregnancy is "only blood clot;" this is not the case before rupture. At this time the entire tumor consists of the enlarged tube, such placental tissue as can develop from tubal mucosa and the fetus itself. There has as yet been no hemorrhage, hence there could be no blood clot. If the above conditions be found, and, in addition, there is known to have been shreds of membrane in the menstrual discharge, or if this is shown to be so by microscopic examination, the chances of being correct in the diagnosis of extra-uterine pregnancy are about ninety-nine out of every one hundred cases.

I wish here to be understood thoroughly when I say I believe the diagnosis of this condition is practicable in the majority of cases and that it is due to the wives and mothers that we not only emphasize the frequency, importance and danger of the condition, but that we also emphasize that a failure to attempt to make a diagnosis before rupture when the opportunity for investigation is presented, and we do not examine with a view to diagnosis, is a failure totally without excuse, and one which, if the woman should die as a result of rupture and hemorrhage, would place a very heavy moral responsibility upon the shoulders of him who caused the delay by failure to recognize the condition. You may say this is harsh, but it is not so cruel as to stand by and say, we must wait until the tube is ruptured and the woman's life in peril from both shock and hemorrhage, before we awake to the possibilities of her danger! Let us at once say, "The diagnosis can be made and we will do it." Then let us teach all our students as well as all others who wish to know, how to do this, and, when that has been done, men will see and feel not only the need of examining each patient carefully, but they will be proud to point to the many whose lives are and ever will be a proof that there is science in diagnosis.

Let us teach, not the technic of some new-fangled modification of some other man's operation, but teach men how to recognize this obstetric condition, and also

teach them that the diagnosis is greater from a life-saving standpoint than is the operation itself. Give the medical world to understand that an "exploratory incision" as a means of diagnosis is in all but very rare cases a course only resorted to by incompetents and cowards. The exploratory incision has and ever will have a proper and necessary place in abdominal surgery, but I am convinced that no other procedure has been so much misused, or so fatal in its results as this. The term would be better eliminated from our literature, if it is to continue, as in the past, to be the means whereby men without training, ability or conscience, shall cover their weakness, incompetence or mercenary characters. It is the duty of those whose work and study have rendered them competent to teach the world that true surgery is conservative, honest, scientific, safe and founded upon correct and accurate ideas of pathology and the conservative powers of nature. The medical profession and the laity have a right to demand of us sound and fearless teaching, thorough preparation, diagnostic acumen, as well as operative dexterity. The latter can not be acquired by all because opportunities for all to operate frequently can not be obtained, but the first three can be and should be the right and possession of every man.

The diagnosis after rupture has taken place will present the same history as already given, except that there has been a severe tearing pain, accompanied or followed by faintness, pallor, rapid pulse and all the other signs of hemorrhage. This sharp pain that has been considered almost an essential part of the case is by no means always so marked. Too much stress has been placed upon this symptom. Abdominal distension is rapid, and unless the patient dies as a direct result of hemorrhage, peritonitis is a very early complication. The vaginal and bimanual examinations are both extremely apt to add to the hemorrhage by displacing the clot, hence great gentleness and caution are necessary. The early occurrence of peritonitis renders the bimanual and vaginal examinations still more unsatisfactory. The tumor formed by the hemorrhage behind or to one side of the uterus is tender, and usually pulsating. If peritonitis be not present, gentle palpation will elicit the crepitation of a blood clot.

The history being as that outlined in diagnosis before rupture, these findings will be enough to determine that we have an extra-uterine pregnancy with which to deal. The choice of route by which to operate is to be determined by two factors: 1, the condition of the patient, and 2, the method in which the individual operator is most dexterous. It must always be borne in mind that these patients are, or have been as a rule, the subjects of tubal disease, hence while the primary object is to remove the extra-uterine pregnancy, an equally important object should be the safety from complications and accidents. It has never yet been my good fortune to see an extra-uterine gestation which was not more or less complicated by intestinal or other adhesions. Before rupture of the tube has occurred these adhesions form the greatest source of danger in the operation. The rapidity and safety with which they can be overcome through an abdominal incision, are in strong contrast with the uncertainty involved in a vaginal operation. After rupture has taken place clots may be found in the renal, or hepatic regions; in fact, in any place in abdominal cavity, even the fetus may be high up, as I have twice found it, once immediately under the transverse colon.

It is necessary to work rapidly and yet the work must be thorough. These objects can best be accomplished through an abdominal incision, i. e., the prompt and efficient control of the hemorrhage, the cleansing of entire peritoneal cavity, and the safe separation of visceral or other adhesions. There is, however, one class of cases in which the hemorrhage has ceased, infection has taken place, followed by suppuration. In these cases the infection is of a very virulent type, and is the chief factor in the case, hence if the mass be low down and easily accessible, it should be incised and emptied through the vagina, no effort being made to separate adhesions or to remove the tube. Simply incise, drain and after the patient shall have recovered from the infection, the adhesions can be treated as the case may require. The idea that we should ever enter upon a vaginal operation which may present conditions requiring us to open the abdomen with haste in order to save our patient's life, seems to me one fraught with many possibilities for evil, and an idea it would be well to abandon.

Our responsibility for the teachings in our papers does not cease when the meetings are over; many men, both young and older, will be influenced more or less by what we here teach, and if I have seemed dogmatic in what I have written it is not from a spirit of dictatorial narrowness, but rather the earnest belief that the statements made are supported by pathology, clinical observation and logical deduction, and the desire to urge upon all who may hear or read what I have written, the importance of careful study and accurate diagnosis of our cases before we begin an operation, then perform the operation best suited to the case, be that abdominal or vaginal.

THE ROLE OF CERTAIN NON-GRANULAR AND GRANULAR SOMATIC CELLS IN INFECTION.

TECHNICS—THE ORIGIN, SIGNIFICANCE AND FATE OF THESE MORPHOLOGIC ELEMENTS.

H. F. HARRIS, M.D.

PROFESSOR OF PATHOLOGY, COLLEGE OF PHYSICIANS AND SURGEONS. ATLANTA, GA.

It very rarely happens that these cells can be studied with advantage without proper fixation and staining. Indeed, with our present knowledge, it may be said that it is impossible to recognize some of them in the fresh state, and their study in this condition does not, therefore, seem of sufficient importance to take up any of our time on the present occasion.

Whenever we wish to make studies of cells it is always a matter of the highest importance that the tissues be as fresh as possible, since many of the more delicate morphologic constituents of these bodies immediately begin to undergo alteration following death, and this process continues until they undergo complete disintegration. Fortunately for us, however, in this connection it is as a rule the case that we are more particularly concerned with the protoplasmic portions of the cells, and as these do not undergo such rapid changes as those parts that go to make up the nuclei, it is not absolutely essential that the tissues should be so fresh as is necessary where studying the latter-named bodies; therefore, although it is axiomatic that tissues for accurate study should always be fresh, it is not infrequently possible to recognize these various cells even in tissues that have been dead for a considerable period before having been placed in the fixing solution.

It is unfortunately true that those fixing solutions which preserve nuclei best are not those well suited for

studying these cells, inasmuch as they interfere seriously with many microchemic reactions; and as it is upon these reactions that we largely depend to differentiate some of them, it is apparent that such solutions can not be employed for fixation with advantage.

Of the various fixing solutions that may be recommended for the study of these cells those mixtures containing corrosive sublimate are to be most highly recommended. The reason for this lies in the fact that most of the microchemic reactions which are of value in their study are obtained with aniline dyes belonging to the thionin group, and these stains possess the peculiar property of uniting with mercuric salts, producing compounds which are more brilliant in color than the dyes originally employed, and also that these newly formed substances cling to the tissues with much greater tenacity. It does not appear to be a matter of great importance which of the corrosive sublimate solutions are employed. Recently I have been in the habit of using the mixture of Bensley, which consists of equal parts of a saturated solution of bichlorid of mercury in alcohol and a 1 per cent. solution of bichromate of potassium in water. The only fault with this solution is that it has to be made fresh each time and can not be used over again. The fixation produced by it is very fine, and in addition to leaving the tissues in such a condition that the various microchemic reactions may be easily obtained, the several morphologic elements of the cells are preserved with great faithfulness. Zenker's solution, Foa's solution, and the various other solutions of bichlorid of mercury may be also employed, but for some reason that I can not explain those fixing fluids containing bichromate of potassium seem to act best.

Alcohol may be also used for hardening the tissues, but as it is impossible to obtain the brilliant microchemic reactions after its use that we get following corrosive sublimate, and as the morphologic constituents of the tissues are not so well preserved, it does not seem that there is any good reason for employing this reagent in a routine way for hardening.

Either celloidin or paraffin may be used for embedding the tissues, but on account of the fact that paraffin is much more convenient, that the tissues can be preserved in it indefinitely without injury, and, more than all, for the reason that much thinner sections can be cut when it is employed, it should always be given preference.

For staining the tissues various methods will have to be employed, depending upon what part of the cell it is especially desirable to investigate. When we wish to study the nuclei the various stains that are obtained from hematoxylin are to be particularly recommended—especially is this the case if the tissues be fixed in corrosive sublimate, for this substance and the hematoxylin derivations unite with each other with great readiness, forming dark purple compounds which are even more brilliant than those produced by this staining reagent alone. The iron hematoxylin methods are also of much service—that of Benda being especially convenient. When studying the microchemic peculiarities of these cells the aniline stains belonging to the thionin group are absolutely necessary. It is rather singular that microscopists, following the lead of Unna, have apparently without question assumed that alkaline solutions of these dyes are necessary for obtaining the various microchemic reactions which they are capable of producing, but as a matter of fact the staining effects are in every way as good when neutral solutions of these dyes are used. Thionin, methylene blue, and toluidin blue will either of them, when employed in a simpe aqueous solution, give these reactions in a perfectly characteristic way, but if they be dissolved in a 4 or 5 per cent. solution of carbolic acid in water, the staining effect is somewhat more brilliant and is produced with greater rapidity. After corrosive sublimate fixation it requires from ten to fifteen minutes for staining. Specimens from alcohol should be always washed in water before being placed in the staining solution, as a dirty precipitate otherwise often occurs; for the same reason a like precaution should be taken in cases where alcoholic solutions are employed to differentiate the stain. After rinsing in water the specimens should be washed in a weak acid solution of alcohol, or, what I think somewhat better, Unna's glycerin-ether mixture diluted 5 to 10 times with water; differentiation by either of these methods is brought about in a few minutes. The tissues are then thoroughly washed in alcohol, and cleared with cedar-wood oil, xylol, or chloroform. If the various procedures be carried out in the proper manner the chromatin of the nuclei of all cells is stained in varying shades of blue, depending upon the dye that is used; the granules in the so-called plasma cells (really fibroblasts) are colored a dark, purplish tint, and the granules in the mast cells assume a bright cherry-red color.

Eosin as a counter stain should be employed after hematein, or following toluidin-blue when it is desired to bring out the peculiarities of the protoplasm of eosinophilic cells and polymorphonuclear leucocytes.

As regards the origin, fate and significance of these morphologic elements, I thoroughly appreciate that we as yet possess little absolute knowledge; still the facts in our possession would seem to justify certain conclusions concerning them which make their further study a matter of great interest.

Plasma Cells.—In the light of more recent investigations the view first advanced by their discoverer, Unna, that these cells are produced from connective tissue by a process of direct division does not appear to be tenable, but, as was first maintained by von Marschalko,[1] it seems that there is little doubt that they are directly derived from lymphoid cells by an increase in their protoplasm, and by the formation around their nuclei of small, basophilic masses that are undoubtedly closely related to the prozymogens which have been discovered in the secreting epithelial cells of glandular organs, and, like them, probably the result of the migration of certain parts of the nuclei into the surrounding protoplasm. This brings up the exceedingly interesting question as to how the lymphoid cells that are so abundantly present in and around old inflamed areas reach these situations. True, it is maintained by many that these cells possess the power of ameboid movement, and hence it is assumed that they are capable of passing through the walls of the blood vessels just as do the polymorphonuclear leucocytes. It can not be denied that this may be true, but it does not appear to me altogether likely for the following reasons: In the first place in those inflammatory conditions where great numbers of polymorphonuclear leucocytes collect in the diseased parts there is never, in my experience, the proportion of lymphoid cells intermingled that occur in the blood. And in the second place, nothing is more familiar to every pathologist than the fact that in mild inflammatory conditions of a chronic kind enormous numbers of lymphoid cells may

1. Von Marschalko: Ueber die sog. Plasmezellen; ein beitrag zur Kenntniss der entzuendlichen Infiltrationzellen, Arch. f. Dermat. u. Syphilis, Bd. xxx, 1885; and also in Centralbl. f. Path. u. path Anat., Bd. x, S. 841.

be massed together without any of the polymorphonuclear leucocytes being present at all—which certainly would not be the case if they all passed directly from the blood vessels. Of course it is conceivable that the different chemotactic substances may each have the power of attracting only one kind of leucocyte, but so far as I am aware we have no knowledge bearing directly upon the matter. For some years it has appeared to me that the explanation of these peculiar facts might lie in the possibility that the lymphoid cells reach the diseased parts by means of the lymphatics, and on account of the damaged condition of the walls of the lymph vessels, and the greater amount of pressure in the diseased parts the cells do not pass through, but accumulate in and around these areas. I have made a number of experiments in the attempt to prove this, but have not as yet reached any satisfactory results.

As regards the fate of these plasma cells it seems highly probable that they are the real fibroblasts—the collagenous tissue being formed by a process of secretion around their periphery. After a certain amount of fibrous tissue has been formed around them, they seem to be what are commonly, but erroneously, called fibroblasts. As cicatricial tissue develops these cells undergo retrogressive changes, break up, and the resulting debris is carried away by means of the lymphatics or by the phagocytes. This, however, does not always seem to be the fate of these cells, since a certain number of them become branched, their protoplasm loses its basophilic affinities, and the cells remain in the parts as fixed connective tissue cells. Under certain conditions it is not improbable that other alterations may occur in the cells, as a result of which they become hyaline, and, as von Marschalko[2] has recently claimed, in this condition may become the so-called cancer parasites of certain authors.

Concerning the significance of these cells, I should personally look upon them as always indicating the beginning formation of cicatricial tissue.

Perhaps the easiest and simplest method of demonstrating them is to stain in carbol-toluidin-blue for from 10 to 15 minutes, and to afterwards differentiate in Unna's glycerin-ether mixture. The cells may be recognized by the fact that they are rather large, and that there are numerous fine granules within them that are colored a very intense slaty blue by the dye, and that the cells are not uncommonly of a somewhat squarish form.

Endothelial Cells.—Concerning the new formation of these cells in disease, I must confess to complete ignorance. It appears, however, not improbable that they are never produced from other cellular constituents of the body, but, like epithelial cells—with which they appear to be identical—are only reproduced from preexisting cells of their kind.

The endothelial cells may be easily demonstrated by any of the ordinary methods of staining.

Eosinophilic Cells.—The eosinophile cells are generally regarded as being old polymorphonuclear leucocytes. As regards the fate of these cells in infection, I possess no definite knowledge, but presume that when the infection is of a virulent kind they, along with the others present in the diseased area, undergo necrotic changes. I am not aware that their presence is of any significance in connection with infections.

These cells may be readily demonstrated by staining with hematoxylin and eosin, and although more elaborate methods may be employed, the results do not appear to warrant the extra amount of trouble necessary in order to use them.

Mast Cells.—In the light of present knowledge it seems fairly certain that there are several different kinds of cells that have received this common appellation.

1. The mast cells of Ehrlich. These cells are found especially in the submucous tissues of the body, but may be found in any of the connective tissues except those of the brain, spinal cord and meninges; they are rather large, very irregularly shaped cells, and doubtless have the power of ameboid movement. They never contain more than one nucleus, which is quite homogeneous, and it takes basic dyes feebly. The protoplasm of these cells contains many large granules that give characteristic reactions with certain dyes.

2. The mast cell of the lymphatics. These cells are found in the lymph nodes of the lower animals, and under certain conditions in those of man, and differ from the mast cells just described in that they are smaller, and that they are, as a rule, more rounded in outline, that their nuclei are generally nearer the centers of the cells, and that their protoplasm contains but few granules.

3. The mast cell of the blood. These cells differ only from the cells just described in that their nuclei are oftentimes lobulated; when this is not the case the two cells appear identical.

4. The muscle-fiber mast cell. Around chronic lesions the protoplasm of involuntary muscle fibers sometimes undergo alterations as a result of which mast cell granules are formed. The change does not interfere with the morphologic peculiarities of the fiber in which the process occurs.

As I pointed out some time ago,[3] the granules that are present within these cells stain with Mayer's muchematein, as well as with other specific stains for mucin, and they therefore appear to be made up of mucin or some substance very closely related to it. I have suggested that the name *mucinoblast* should be substituted for the entirely misleading word, mast cell.

As regards the origin of the first three of these cells we are still, more or less, in the dark. It would appear not improbable that the mast cell of Ehrlich is derived from either the large phagocyte of Metchnikoff, or from cells that are nearly related to them, though there is, so far as I am aware, no definite proof of this. Those mast cells occurring in the lymph nodes appear to have been derived from hyaline cells that themselves very closely resemble the large phagocytes just referred to, and the mast cell of the blood seems undoubtedly to take its origin from the large hyaline cells that are present to a limited extent in this fluid.

There can be no question that these cells, both in health and in disease, in the course of time undergo degenerative changes, break up and entirely disappear; this process is particularly active under the latter condition. When the large intestines of dogs are subjected to some powerful irritants the mast cells, even deep down in the walls of the gut, disappear with remarkable rapidity, and there can be no doubt that under these circumstances they break up, and that their granules undergo solution. As the result of recent investigations, I am strongly disposed to think that the granules from these mast cells sometimes pass directly through the basement membranes, and become included in the bodies of the mucin-bearing epithelial cells; the granules then become united with the constituents of the protoplasm of the

2. Von Marschalko: Die Plasmazellen im Rhinoscleromgewebe, etc. Arch. f. Derm. u. Syph., 1900, Bd., 54, Heft 2 u. 3.

3. Harris: Histology and Microchemic Reactions of Some Cells to Aniline Dyes, Phil. Med. Jour., April 7, 1900.

cells, and give rise to the substance that we call mucin. Concerning the mechanism by which this is brought about, I hope to be able to speak in a future communication.

Inasmuch as these cells have a tendency to disappear in acute inflammatory conditions their absence under these circumstances is of more or less significance, but in chronic processes they not infrequently considerably increase in number, and their presence under these circumstances may be suggestive of the character of the condition. This peculiarity seems to be of especial importance in differentiating so-called inflammatory conditions from sarcoma.

There are many methods of demonstrating these cells, but perhaps the most satisfactory is to stain for a short time in carbol-toluidin-blue, and afterwards to differentiate in Unna's glycerin-ether mixture. These cells after being stained in this way may be always readily differentiated by the fact that the granules contained within them take on a peculiar cherry-red tint, to which reference has already been made in this paper. As has been before remarked, they stain intensely in Mayer's muchematein.

THE CORRECTION OF DEFLECTIONS OF THE NASAL SEPTUM WITH A MINIMUM OF TRAUMATISM.*

OTTO T. FREER, M.D.
CHICAGO.

It is not my purpose to describe a new operation for the correction of deflections of the nasal septum, but to give my experience with the methods that I prefer and to mention the additions to their technique and instrumentarium suggested to me by their use. These methods will also be contrasted with the type of another class of operations that has become popular with many, to the exclusion of other procedures. I refer to the straightening of deflections in the way described by M. J. Asch.

While the means advocated in this paper inflict a minimum of traumatism on the nasal interior, the operation of Asch is accompanied by an amount of force and injury out of all proportion to the resistance of the frail partition that is to be straightened. Asch's procedure is intended to accomplish by force under narcosis, in a few minutes, without the aid of sight, a result which can be attained only by the use of much more time and with the infliction of some pain by rhinoscopic methods. With these, however, the end is gained with the neatness, deftness, exactness and adaptability to varying conditions only possible when an operation is done with the help of vision, while in operations of the Asch type, no consideration can be taken of the endless variety in shape and extent of septal deflections.

In addition to the large proportion of quite atypical deformities, those that I have seen group themselves mainly into two general types of angular and bowed deflections. The angular variety is more apt to be limited in my experience to the cartilaginous septum than the bowed. Often the angle is far forward so that the deflection may be seen by lifting the ala of the nostril. Very frequently it involves the osteo-cartilaginous junction, so that the receding posterior plane of the angle is more or less bony. While the anterior surface of the angle is apt to jut out abruptly, the posterior or hidden surface generally slopes gently back towards the nasopharynx so that it forms the longer limb of the angle and causes a general narrowing of the nasal passage along the bony part of the septum, and even where the angular deformity is wholly within the cartilaginous septum I usually find that the bony portion behind it bends into the narrowed naris, slightly, but enough to obstruct breathing noticeably. The ridge at the summit of the angle, or corner of the angular deflection, usually has a vertical direction or extends upward and backward in the direction of the upper border of the vomer.

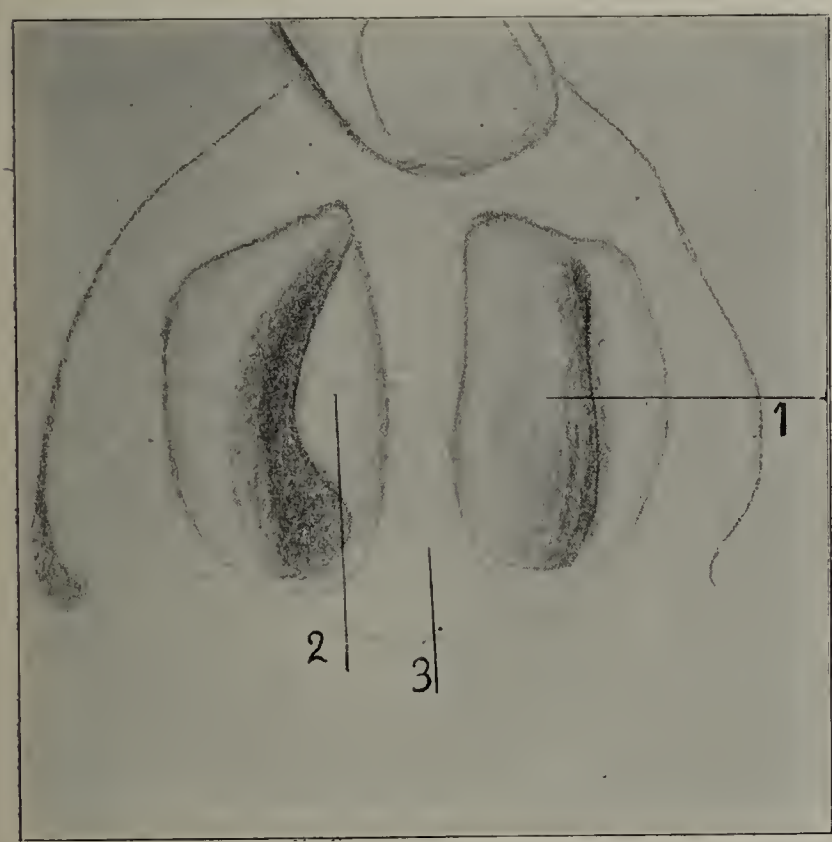
The curved or bowed deflection is quite common and often extreme, so that its anterior portion may be visible without a reflector, protruding like a red tumor into the nostril. The bowed deflection, as I have seen it, almost invariably involves the bony septum, often for nearly its entire extent. With both angular and bowed deflections, but especially the latter, the anterior lower angle of the quadrangular cartilage is often found dislocated from the superior maxillary crest and seen to project across the nostril containing the septal concavity. The concavity of both angular and bowed deflections presents a certain uniformity of shape not possessed by the convexity, which is often varied by spurs, crests and thickenings. The concavity in both varieties usually appears as a deep pocket whose convex walls unite at the bottom at an angle, often acute, lying opposite the point of greatest convexity. The bowed deflections are more apt to be thin-walled than the angular ones, and the latter are more prone to be associated with crests and thickenings. Often, however, what appears to be a solid spur or crest proves on measurement to be a hollow prominence. Some deflections are so exceedingly thin that the cartilage is of the thickness of an egg-shell. The cartilaginous septum, as I have measured it, is commonly one-eighth to three-sixteenths of an inch in thickness; the cartilage without the mucosa in most cases is from one-sixteenth to one-eighth of an inch thick, but may attain a thickness of five-sixteenths of an inch in some cases.

From the foregoing it is evident that septal deflections vary so greatly in shape, thickness and extent that operations for their correction can not well be of an unvarying, typical kind as is the Asch procedure. The operator who would accomplish his end with the least injury must be ingenious, make a different plan of operation for almost every case and find new ways for overcoming unexpected difficulties as he goes on. It is especially the bony septum that presents these difficulties and Mackenzie's statistics show how often this part of the septum is involved in the deflection; in fact a very moderate experience will demonstrate it to any one. Asch's operation, as admitted by those who practice it, is not well fitted to cope with bony deflections. It is a procedure largely depending for its results on the use of blunt force, producing fractures and contusions, and it is my experience that the use of blunt force in the nasal interior, as elsewhere in the body, creates far more reaction, devitalizes the tissues more and invites infection more than does the use of cutting methods. I advocate, therefore, as far as possible, resection of the redundant cartilaginous septum in preference to forcing it to assume a straight line by means of infractions after incisions. Resection is much more an operation of precision than fracture. The latter will not always occur where it is desired, will extend too far or occur in the wrong place, and involves the temptation to use violence to overcome the resiliency of the septum.

To E. F. Ingals belongs the credit of having origin-

* Read at the meeting of the Chicago Laryngological and Climatological Society, Jan. 21, 1902.

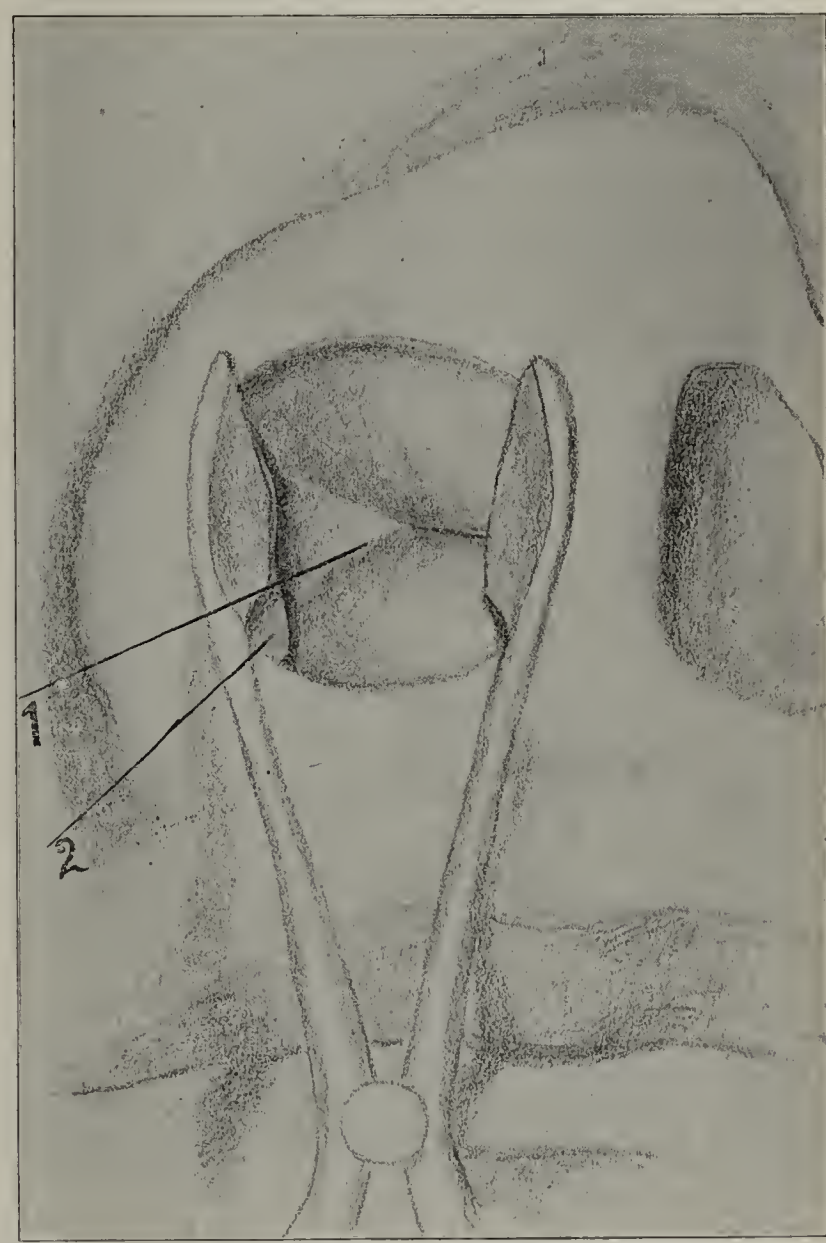
ated in 1882 the type of operation designed to correct the septal deformity by complete removal of a portion of the quadrangular cartilage, the so-called resection of the septum, or window resection, as it is named by Krieg. Four years later Krieg reported his "Fensterresektion," which differed from that of Ingals in the manner of the incision in the mucous membrane and in that he removed the entire deflected cartilage and not merely a triangular portion in front. Boenninghaus followed with an admirable article in which he laid stress upon continuing the resection into the vomer and perpendicular plate if necessary, taking away not merely the bent cartilage but the deflected bone as well. Without knowledge of Krieg's or Boenninghaus' operations I began in May, 1901, to remove by resection completely, in such cases as seemed suitable, the cartilaginous portion of the deflection as far as it extended or until the bone was reached. Consultation of the literature on the subject has shown me that my method is not original but that Krieg had continued the Ingals operation backward long before I had thought of doing so. Neither



Bowed deflection of the septum seen from in front. The tip of the nose is raised by the thumb of the operator. 1. Convexity of deflection in left naris. 2. Dislocated anterior inferior angle of the quadrangular cartilage lying across the entrance to the right nostril. 3. Cutaneous septum.

he nor Boenninghaus give Ingals the credit that is due him, probably from lack of attention to American literature on the subject. Among my own cases I have found, so far, 15 suitable for the resection operation, and have corrected the deflections by this method. Krieg reports 130, Boenninghaus 19 cases.

It naturally suggests itself that the extensive removal of cartilage or bone from between the mucous layers of the septum will deprive the external nose of support and that it will sink in. This would be the case if the nasal septum were a supporting wall for the external nose instead of a mere division between the nares. The intrinsic cartilages of the external nose, the nasal bones and the anterior edge of the quadrangular cartilage maintain the form of the nose even if the rest of the septum be gone. Cases are constantly presenting themselves where loss of all of the quadrangular cartilage and often of large parts of the bony septum as well, as the result of disease, is not accompanied by deformity of the external nose. Where this sinks in, it is because cicatricial retraction draws the facial nose back into the nasal interior. The only influence on the shape of the external nose that I have seen result from removal of the deflected cartilage is bringing the nose into the median line when it is twisted to one or the other side, an effect very agreeable to the patient. I have never seen tilting upward of the tip of the nose or sinking in of its bridge. As an example of the fact that this does not need the support of the septal cartilage I refer to the custom of most operators to excise the anterior lower portion of the quadrangular cartilage when this is dislocated from the superior maxillary crest. It is quite evident in these cases that the cartilaginous external nose derives no support from the septum and no surgeon fears injury to the nasal profile. Neither



Septal deflection seen from right nostril, showing concavity of the deflection. 1. Angular pocket at bottom of concavity of deflection. 2. Inferior turbinated body. 3. Nasal speculum.

Boenninghaus nor Krieg speak of any such consequence to their numerous operations in which they cut away all of the cartilage or bone involved in the deflection, and Boenninghaus denies the possibility of deformity. Boenninghaus reports several cases in which he removed the entire quadrangular cartilage and in some cases extensive portions of the vomer and perpendicular plate as well.

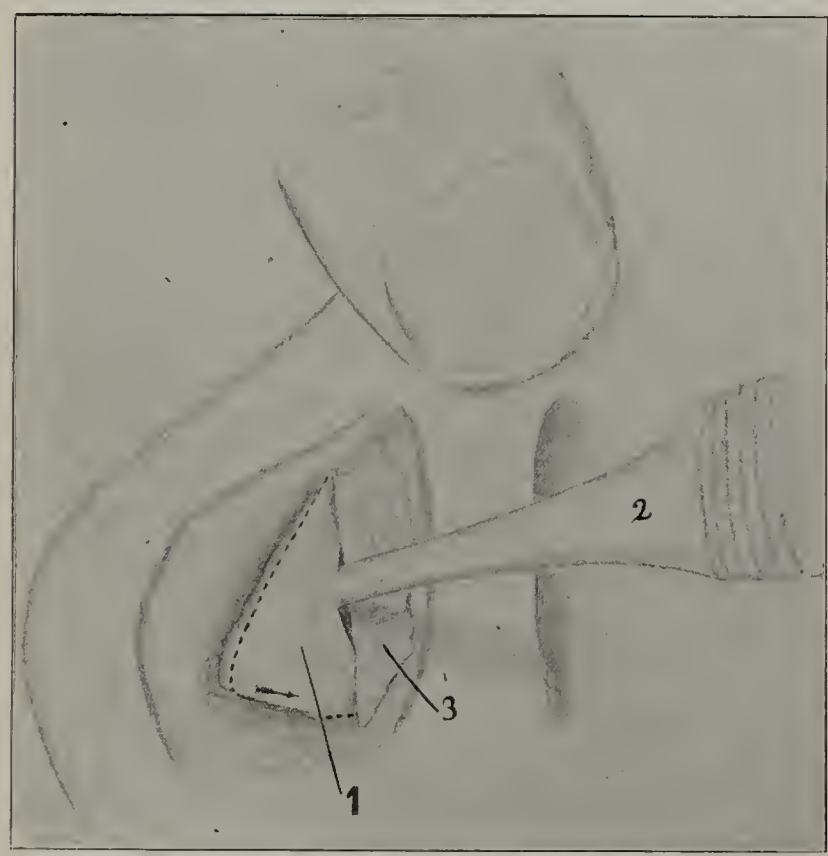
While the supporting function of the septum may be therefore disregarded, its physiologically important mucosa must be respected and perforations are to be avoided if possible. Boenninghaus says that the mucosa will regenerate in time a new cartilaginous and bony septum from the perichondrium and periosteum which

it contains. In two of my cases examined three months after operation, I found partial reformation of cartilage in one and no attempt at its replacements in the other.

I do not continue my resection into the bony wall as do Krieg and Boenninghaus, who cut away large portions of the vomer or perpendicular plate if deflected, but prefer to fracture the bony septum with Roe's forceps after preliminary chiseling or trephining. This previous weakening of the bony septum in the directions desired limits the force required for the fracture to the least degree and indicates its direction.

The methods of operation to be described are designed for the typical deflections mentioned, as it would be impossible to detail the variations made necessary by divergences from the usual types.

For the local anesthesia I employ powdered cocain. This I apply with a small, moist swab to both sides of the region of the septum to be operated on. It produces an intense insensibility, but so limited in area that



Right nostril showing angular deflection with mucous flap reflected forward. The triangle of cartilage has been outlined with the cartilage knife, and is being raised at its anterior border with Ingals' spud, which is lifting off the mucous membrane in the opposite nostril. The dotted line indicates cut through cartilage. The arrow shows direction of cut along base of triangle underneath bottom of deflection and therefore for the most part invisible. 1. Triangle of cartilage. 2. Ingals' spud. 3. Reflected flap of mucosa.

I have never seen cocain intoxication, as the amount of the drug used is small. An advantage of cocain in the dry state is that it contains none of the poisonous products of decomposition of the drug liable to occur in solutions. In the nasal vestibule, where the septum is covered with pavement epithelium, the sensitiveness is not entirely removed by cocain, as absorption is deficient, but back of this region the anesthesia is so complete that even children permit excision of large portions of the cartilage without complaint. The bony portions of the septum, however, remain much more sensitive, so that chiseling, trephining and fracturing cause a good deal of pain at times, but nothing that may not be endured with moderate fortitude, and no more than is inflicted in sawing away an exostosis. As long as the operation is confined to the cartilage the chief annoyance felt by the patient is due to holding the nostril open with the speculum, so that his patience is taxed rather than his courage in enduring pain.

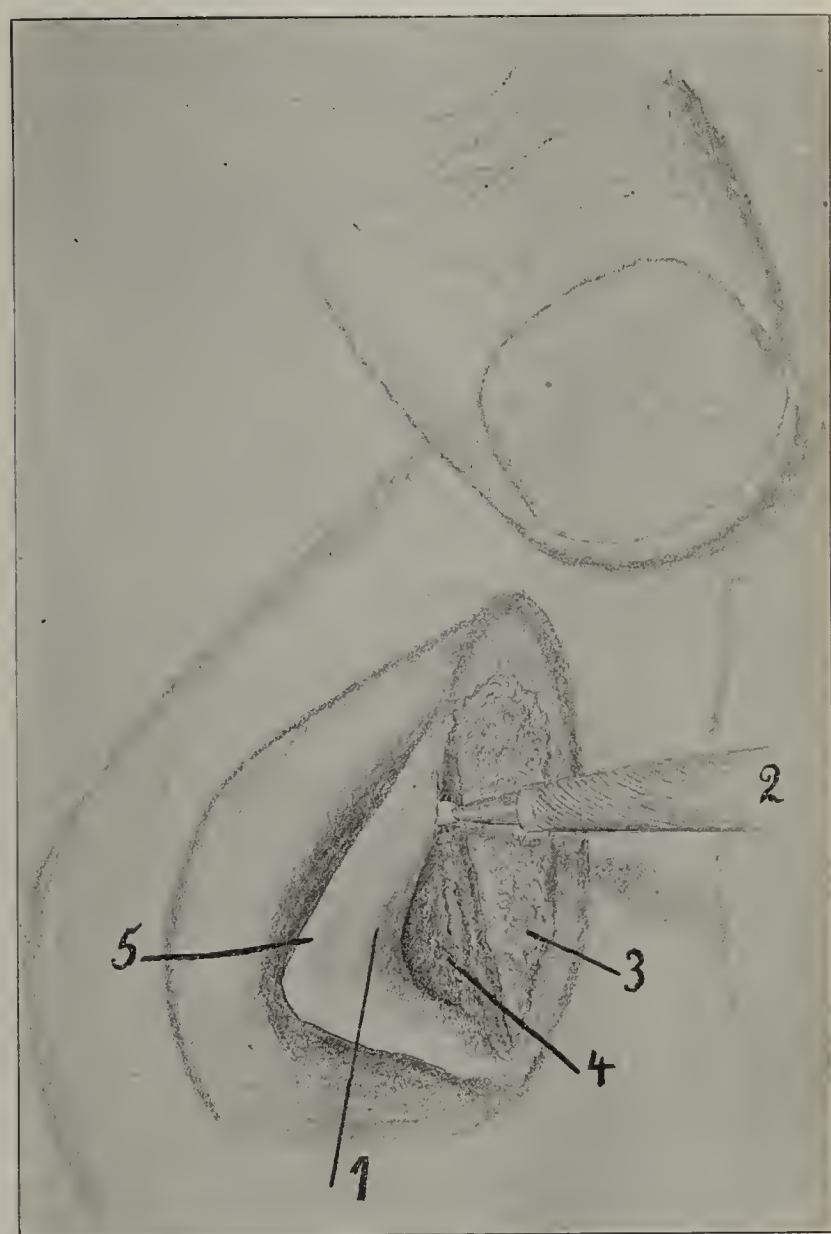
Adrenalin applied in the strength of 1 to 1000 will often, especially in young subjects, make the operation practically bloodless and so shorten it greatly, as the blood does not interfere with vision in the usual manner. In other cases adrenalin has no appreciable effect on the bleeding. A fresh application of cocain has, however, never failed in my experience to act as a prompt but temporary hemostatic, so that I employ it to permit progress of the operation when the bleeding is great enough to interfere with a view of the field.

Before operating, the usual precautions as to asepsis are employed and a large number of swabs are placed on applicators to be used to wipe away blood, as even a drop of this will interfere with a view of the narrow cavity in which the work is done.

Taking, for example, an angular deflection far forward, an incision is made down the crest of the angle and forward at its base so as to outline a triangular flap of mucosa. This incision is made with a small knife whose blade is bent on the flat on the shank at an obtuse angle. The blade is one-half of an inch long and three-sixteenths of an inch wide. The triangular flap of mucosa thus outlined is pushed away from the cartilage in the usual manner with Ingals' nasal spud. The exposed triangle of cartilage is cut around at its borders with the small Ingals cartilage knife designed to cut merely through the cartilage without injuring the mucosa of the opposite side. The triangle of cartilage, after separation at its margins, is freed from the mucous membrane of the neighboring nostril with a spud. This is accomplished by passing the spud through the incision in the cartilage at the anterior border of the isolated triangle of cartilage, which is seized with rat-tooth forceps and finally removed. When the angular deflection extends far up towards the nasal roof it is often difficult to sever the attachment of the triangle at its uppermost part. To meet this difficulty and for continuance of the operation further back after the triangle has been removed I have designed two modifications of Ingals' cartilage knife, a right and a left hand knife, for cutting up or down. In these knives the plane of the flat surface of the little blade is at right angles to its slender shank and may therefore be used far back or high up in the nasal cavity. Its blade is only one-eighth of an inch long and if the cartilage be thicker than this it may be made to sever it by pressing the knife into its substance while making repeated cuts. In all but very rare cases it will sever the cartilage at the first incision. I have never made perforations with these knives and do not find it necessary to keep the finger in the opposite naris to feel if the blade be cutting through as Boenninghaus recommends for his incisions, but find this proceeding of value to support the septal cartilage so that the knife can enter it.

Up to the removal of the triangle of cartilage the operation has been a typical Ingals one. Its continuance, as far as the cartilage is concerned, is practically the method of Krieg. The removal of the triangle of cartilage leaves exposed to view the inner surface of the mucosa of the opposite side of the septum. At the posterior border of this raw area the cut edge of the septal cartilage presents as a snow-white vertical narrow surface. The spud or a slender spatula is inserted between the outer edge of this surface and the mucosa of the convex side which is separated from the cartilage as far back as it can be reached. While the cutis-like mucous membrane of the anterior one-quarter of the cartilaginous septum is difficult to undermine with the

spud and has to be dissected away from its attachment, the mucosa of the parts of the septum back of this may be peeled from the underlying bone or cartilage with perfect ease. It is thin and delicate and not easy to see. The mucous membrane of the opposite or concave side of the deflection is next separated in a similar way, great care being taken not to perforate it. When this step is completed the cartilage or cartilage and bone of the posterior limb of the angle of deflection is bare of mucous membrane on both sides as far back as can be reached and if it be moderate in length, in its entirety. The next step is removal of the bared cartilage. For this purpose the little cartilage knives with right-angled attachment of blades mentioned are used. According as the right or left nostril is the field of operation one or the other is introduced between the mucosa of the opposite naris and the septal cartilage and pushed back as far back as the mucous membrane has been separated from its base. The point is then turned outward and made to pierce the cartilage. Next the blade is swept around the base of the cartilaginous flap to be removed, cutting it through. Usually the cartilage knife will catch the loose piece like a hook and bring it away. If this does not occur the fragment may be twisted off from its remaining adherence with forceps. Another white narrow surface, the edge of the cut cartilage, will now be in view and if the deflection be not entirely removed more of the mucosa should be peeled from both sides of it farther back, in the manner described, and another piece of cartilage be removed. Though the work gets more difficult the further back progress is made, it is nevertheless not a hard matter to dissect out the cartilage from between the mucous layers as far back as the bony septum. If the deflection has been entirely taken out in the manner described the operation is ended and the nose ready for tamponing, but if the posterior surface of the deflection extend back into the bone I begin the use of chisels as a preparation for the Roe forceps. Doubtless, in some cases the method of Krieg and Boenninghaus of removal of the bone by fragments with cutting forceps is preferable, but in my cases I have usually found it so difficult to work at this great depth within the naris that other and less tedious methods seemed preferable. The chisels I use are those employed by dentists for the cutting of enamel; any narrow-bladed one will do. The chisel is applied to the white edge of the cartilaginous strip remaining in front of the bony part of the deflection and pushed back within the cartilage until it rests firmly on the anterior edge of the bone, which is usually the vomer. It is then driven longitudinally into the bone as far back as needed. The bony septum is thus easily fissured in such directions as seems desirable. It is a matter of no consequence if the chisel pierce the mucosa of the opposite side, as slits in the septum back of the denuded area of mucous membrane of the opposite nostril do not cause permanent perforations. It is easy, however, to keep the blade of the chisel from going through in most cases. When chiseling is complete I apply the largest blade of the Roe forceps that will enter the naris and fracture the bony deflection in the manner described by Roe. The use of this instrument without preliminary fissuring or trephining I have not found satisfactory. I have never succeeded in correcting cartilaginous deflections with it and have found that as soon as the forceps was removed the cartilage sprang back into its old place. For bony deflections, however, after preliminary weakening as mentioned it is in most cases an entirely satisfactory instrument. It has been my experience that some elastic septa in young subjects can not be made to break sufficiently with Roe's forceps to become straight, or that they are too resilient to break at all when it is used. In these cases the resection may be carried as far back as possible and I have found Ingals' nasal punch forceps, which makes several parallel slits through the septum, a useful instrument to destroy the resiliency. Where the bony septum is thick and massive, as it is very apt to be at the base instead of merely weakening it with the chisel a part of its substance may be removed with this instrument or with the trephine, several cores being taken out after the manner of Ingals. Where the septum is thin and elastic it is hard to apply the trephine so that it will follow the bone as the anterior edge of this is so movable in these cases



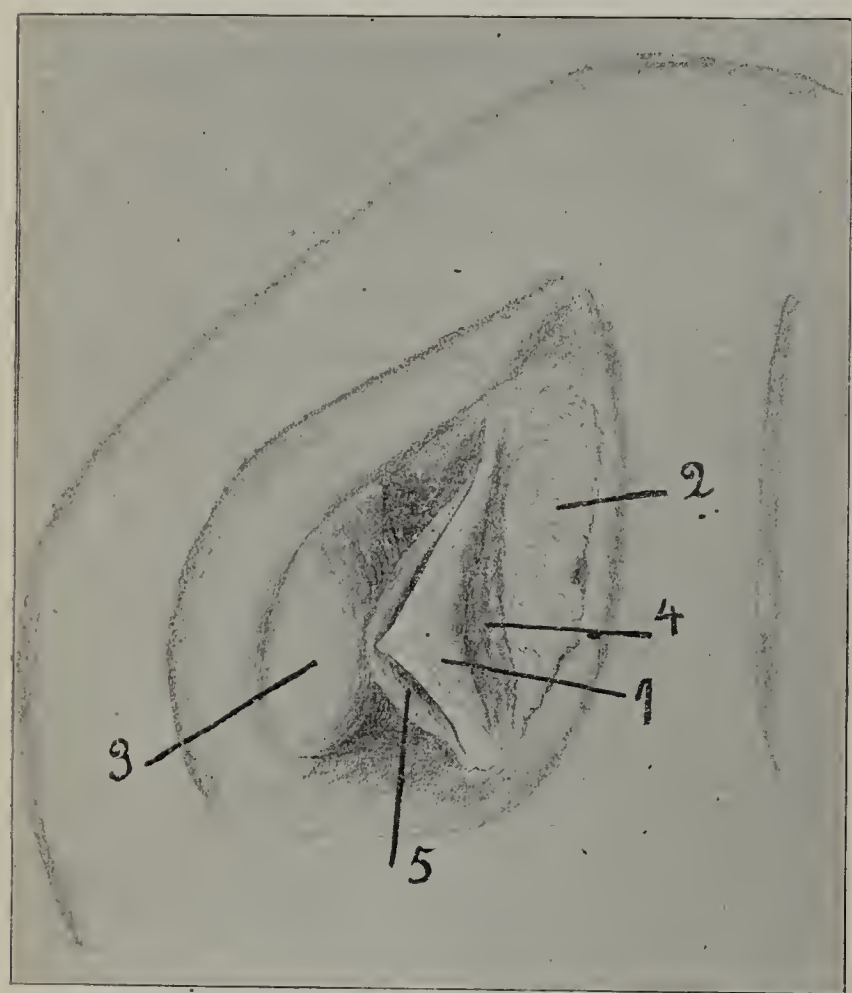
Later stage of operation upon deflection shown in Fig. 3. The triangle of cartilage has been removed and shows the cut edge of the septal cartilage. 1. Hollow of deflection exposed by peeling away of the mucous membrane of the opposite nostril. 2. Freer's angular cartilage knife making downward incision at posterior part of bared deflection. 4. Inner surface of intact mucosa of opposite nostril which has been separated from the concavity of the deflection with Ingals' spud. 5. Cut edge of quadrangular cartilage.

that it slips away as soon as the trephine begins to rotate. In the majority of cases perfect success may be attained with the chisel and Roe's forceps.

Sometimes a crest or spur in the opposite nostril makes the application of this instrument impossible or unsatisfactory. The sawing, chiseling or trephining away of these obstructions, in addition to the procedures mentioned, is a matter of course and should be done at the same time.

The operation is not complete until the patient can breathe perfectly through the previously obstructed nostril without the use of pressure to force the septum to-

wards the opposite naris. No tubes are needed to maintain the correction as, under the conditions established, the deformity can not recur, because the cartilaginous deflection has either been removed bodily or what little remains of it at the posterior part is held in proper position by the infracted bony portion of the septum, which shows no tendency to spring back into its old position after being broken. The after-treatment consists in packing the naris after the manner of Ingals with a long strip of lint. This it is my custom to impregnate with powdered bismuth subnitrate, as I have found that a tampon filled with this antiseptic will remain odorless and fresh for as long as ten days in the nasal cavity. Whether it would stay so longer I have not tested, but have not so far found a bismuth tampon putrid when removed. The object of tamponing is to avoid secondary hemorrhage and to make the flaps of mucous membrane apply themselves so that they will heal by primary union. Krieg and Boenninghaus remove the reflected mucosa of the convex side, claiming that it forms hypertrophic prominences later. This has not been my experience if primary union can be obtained and this results almost invariably, shortening considerably the time of healing. Previously to introducing the lint strip the flaps are neatly applied and protected from displacement during the tamponing by placing against the wound surface one of Ingals' metal guards. The tampon is removed on the fourth or fifth day and not replaced. To avoid crusting during healing, the patient is directed to insert daily into his nostril a 2 per cent. ointment of salicylic acid in lanolin and vaselin equal parts. A spray of normal salt solution is also employed by him.



Still later stage of operation. The deflection has been removed all but its posterior portion which is partly cartilaginous and partly bony. The inferior turbinated body has been exposed to view by removal of deflection. 1. Remains of deflection. 2. Reflected anterior flap of mucosa. 3. Inferior turbinated body. 4. Mucous membrane of opposite nostril. 5. Separated mucous membrane of convex side of deflection, lying loose in naris.

The patients are not directed to go to bed but usually go about their business in from one to three days. They do not need iced sprays or cold applications to the external nose as after the Asch operation. They do not have to endure the annoyance of a tube for weeks. The operation is not as Emil Mayer says of the Asch, "an operation of magnitude" as far as the traumatism is concerned. I can recall no case in which septic symptoms or suppuration followed it.

Perforations of small size are not always avoidable and are generally about one-quarter of an inch in diameter. Boenninghaus states that he has not seen the irritation and crusting supposed to be due to them. Neither have I found these conditions after healing is complete though the perforation may have occurred far forward. A mere slit in the mucosa of the opposite nostril after the cartilage has been removed will give rise to a perforation, as during healing its borders retract, but a perforation of this kind will have normal mucous membrane to line its edges; hence it will not crust, while a perforation in the cartilage will have a rim of this substance from which the mucosa has shrunk away, and which will therefore be covered by cicatricial tissue not possessing the normal epithelial surface and hence liable to give lodgment to scabs. This, I think, accounts for the absence of crusts when the perforation has been made through mucous membrane from which the cartilage has been detached. During the first two to eight weeks after the operation, until the epithelial surface has become normal again, there is always a tendency to drying of secretions in the nostril which has been operated on.

The time required to complete the operation described is from one-half to two hours, seldom longer than one hour. The reason for its lengthiness is the accuracy of vision required. A drop of blood may obscure the minute field of operation so that much time is used in swabbing the wound dry. Since the introduction of adrenalin, in the majority of cases the proceeding is practically bloodless and hence much more speedy.

Chloroform may be used for the employment of the Roe forceps but only in one case have I found it needed. The anesthesia must be complete, as in half narcosis the patient struggles against the introduction of the instrument.

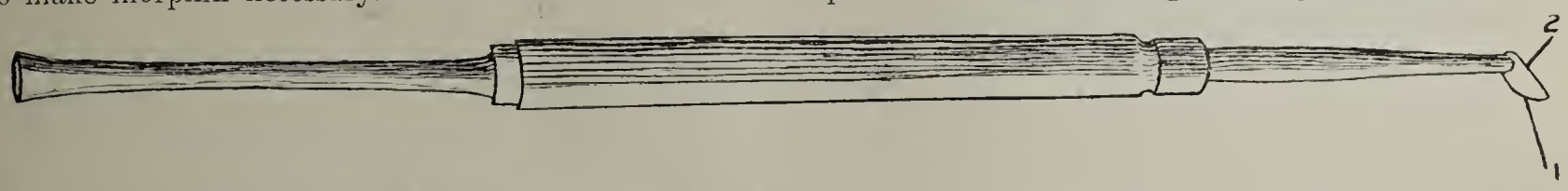
When children are old enough to sit still during the operation it may be performed upon them as well as upon adults, as the resection is generally unusually easy in their case because the mucosa separates with great readiness from the cartilage, and this extends further back into the naris before bone is reached. It is not well, however, to attempt the operation unless the child has passed his tenth year, as before this time his patience can not be relied upon.

Fainting during the operation has rarely occurred in my practice and then only in the beginning of the procedure. No patient has actually swooned but some have felt so giddy and weak that they had to lie down for a time before the operation could be proceeded with. Faintness seemed to me to be due more to fear than any other cause, for when the patient had recovered from his weakness and the resection was well under way, this class of patients endured it as well as any and the fainting fit was rarely repeated. If the tendency to syncope in these cases were due to cocain intoxication it would not be so readily recovered from and would be repeated after each renewed application of the drug. This does not occur.

The hemorrhage, even without the use of adrenalin, is usually confined to the soaking of about ten to twenty cotton swabs with blood. When the correction involves

the bony part of the septum the bleeding is greater than when it is confined to the cartilage, but is never a noteworthy feature. Nevertheless, a tampon should always be inserted at the end of the operation as secondary hemorrhage may supervene some hours after its completion and it seems to me that the use of adrenalin predisposes to this complication.

Sloughing of the exposed mucous membrane of the opposite naris has never occurred in my experience. Pain after the removal of cartilaginous deviations is insignificant, but infractions of the bone create some painful reaction for a day or two, though never enough to make morphin necessary.



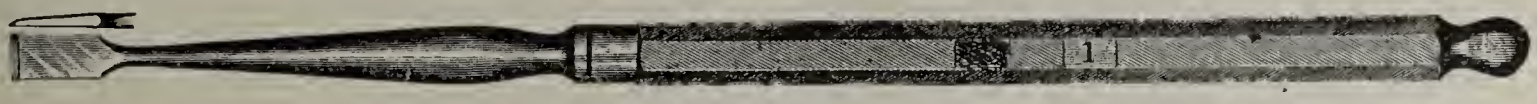
One of Freer's angular cartilage knives. 1. Blade of knife attached to shank at angle on the flat. 2. Cutting edge of blade.

The breathing through the nostril that has been operated on is freer immediately after the operation than for some weeks afterward, as congestion and swelling of the mucosa of the opened naris and a certain amount of provisional callus growing on wounded bone and cartilage need time to be absorbed. After two months or more the nostril becomes as open as right after the operation.

In contrast to the method described, the operation of Asch represents a departure from the more skilful procedures of rhinology and a return to those of the general surgeon not having special practice in visual operations within the nasal cavity. I have referred to Asch's

Ingals' submucous cartilage knife. (One-half size.)

operation as one involving the use of force. As examples of the results of this I refer to two cases reported by Stucky. Both of these had been operated upon by experienced operators in the manner of Asch. In the first case the operation caused a fracture of the lower turbinal closing the lower meatus and a fracture of the middle turbinal forcing this against the septum. Almost entire removal of the lower turbinal and turbinectomy of the middle were needed to restore the patient's health. Much granulation tissue had to be curetted from the lower meatus. In the second case two weeks after the operation the lower and middle turbinal showed plainly the defects of traumatism. That the



Chisel for bony septum.

results of the Asch operation may be even more serious is shown by the case reported by Robert Levy in which fatal sepsis with thrombus of the posterior cerebral artery and endocarditis and pericarditis followed an Asch operation. Though Emil Mayer in commenting on this case states that sepsis may follow almost any rhinological operation, the danger of this complication is certainly greatly increased by forcible manipulations within the nose such as characterize the Asch method. A case has come to my notice in which suppuration of both sphenoidal sinuses was a sequel to an Asch operation. The surgeon was one of extraordinary experience and skill and one to whom the procedure was thoroughly familiar. The mode of infection in this case is obscure, but it seems possible that as a result of fracture, a fissure in the perpendicular plate entered the septum of the sinuses and caused a double infection. These remote parts of the nose would be quite out of danger of injury from the localized fracture produced by the Roe forceps.

The severity of the traumatism induced by the Asch method is emphasized by the need of keeping the patient in bed for three days and the iced sprays and cold applications used in the after-treatment.

That the Asch operation is designed especially for operations on the cartilaginous septum is admitted by

Freer's flat angular knife for incision of mucous membrane of the nasal septum. (One-half size.)

even those who employ it and a consideration of the instruments and mode of procedure will show that it is not adapted to deal with bony deflections, not to speak of complicating exostoses and ecchondroses. Yet no one can tell with certainty until the anterior part of a septal obstruction is removed from the naris what second and more formidable obstacle may be found behind it.

When the surgeon in doing an Asch operation finds that after removal of the cartilaginous deformity he has a bony part of the deflection to correct he will certainly be tempted to forcibly straighten this, impelled by a desire to relieve his patient in one operation. The Asch forceps, with its flat and parallel blades is not at all suited to this work. To quote Roe: "With flat-bladed forceps it is only possible, except by twisting the blades to bring the bend in the septum up to the median line, which seldom suffices to fracture the bone, and then only when the bend in it is so great and the blade of the forceps sufficiently wide to bring a large amount of force to bear at the center of the angle."

It seems to me that the only way that the Asch forceps can be made efficient is by twisting the septum with it, a proceeding rightly forbidden by Asch and Mayer as dangerous. To complete the Asch operation with the Roe forceps where there is bony deviation would be a better proceeding, but their action is unreliable unless the septum has been previously weakened by chiseling or trephining and this can not be done with accuracy without the aid of vision. I do not see how an exostosis behind a cartilaginous deflection can be distinguished from a bony deflection during an operation done without the aid of sight; yet to attempt to crush in an exostosis with fracturing forceps is obviously useless and liable to do injury. It seems to be impossible to accurately determine the extent and nature of a bony obstruction during an Asch operation. Max Thorner speaks of additional operations on spurs and posterior obstructions after the septum is healed in the new position. The bony deformity may be corrected after this

manner, but this means two operations to the patient, the first of which was out of all proportion in gravity to the result obtained, which may be so easily reached by resection as described.

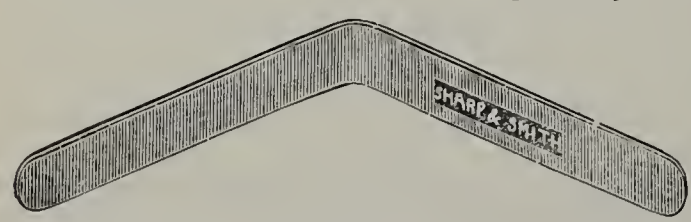
The method I have described permits removal of bony obstructions at the same time that the deflection is corrected. There is one condition which may be saved for a secondary operation with profit and this is the dissection from its bed of the anterior lower angle of the quadrangular cartilage when this is dislocated from the superior maxillary crest and lies across the entrance to the nostril of the concave side of the deflection. The

Ingals' spud. (One-half size.)

reason for postponing the removal of this angle is the fact that it is most readily dissected out by means of an incision in the nostril of the concavity and it is not desirable to wound both nares at the same time.

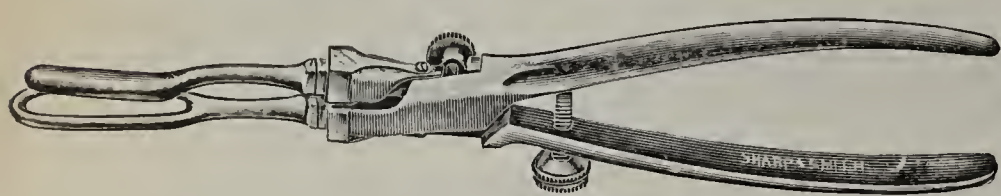
There is a good deal of hemorrhage during the Asch operation. This is admitted in the descriptions of most operators. Stucky graphically speaks of "the patient under an anesthetic bleeding profusely and choking with blood."

The Asch and Mayer tubes are objectionable. An operation for the correction of septal deflection should be so perfect that the nostril remains open without support. The tube is an irritating foreign body like any



Ingals' nasal spatula. (One-half size.) Sets of three varying in width, angle of 45 degrees. Made of steel.

other within the nose and in one that has just been wounded by an operation is doubly irritating. It is not to be compared in harmlessness with soft lint, made slippery with imbibed mucus. Max Thorner, an ardent advocate of the Asch operation, says: "There is no doubt that granulation tissue will spring up around, above and below the tube." Richardson, who warmly endorses the Asch method, says: Nor can the fact be denied that such a body as a splint of hard rubber placed within the nasal cavity will produce temperature and inflammatory reaction." He speaks of "exuberant growth of granulation tissue" about the edges of such a foreign body.



Roe's septum forceps.

The position of the head in the Asch operation produces venous congestion and increases the bleeding during its performance, while the upright position assumed by the patient during a rhinoscopic operation together with the effect of cocain limit the bleeding to a minimum.

General narcosis includes the usual dangers and disagreeable after-effects and a rhinoscopic operation can not well be done where it is employed. Vision is difficult with the patient lying down and the tendency to hemorrhage soon makes a view of the field of operation impossible. E. F. Ingals in a personal communication has informed me that the correction of septal deflections in children with the use of anesthesia has proven unsatisfactory to him for the reasons mentioned. The introduction of a blunt separator into the naris at the beginning of the Asch operation to discover and break up adhesions seems to me a crude and rough way of finding what can be discovered with a probe without difficulty and irritation by means of rhinoscopy. Adhesions between the turbinals and septum are very rare and where they exist are best severed by cutting instruments.

There is no reason for tearing them apart with blunt ones. It seems to me that the chief reason for the growing popularity of the Asch operation is its ease of performance and the time saved by the fact that but a few minutes are required for it. Its chief defects are that it can not deal intelligently with the frequent bony obstructions and that it does not remove the redundancy of the septum. Though it must be admitted that the procedure I have advocated is at times tedious and requires great painstaking; as elsewhere, time and care give better results than hasty and forcible work.

THE INDICATIONS FOR MYOMECTOMY IN YOUNG MARRIED WOMEN, WITH A REPORT OF FOUR CASES OF STRANGULATION OF FIBROIDS DURING PUERPERAL INVOLUTION.

EDWARD REYNOLDS, M.D.
BOSTON, MASS.

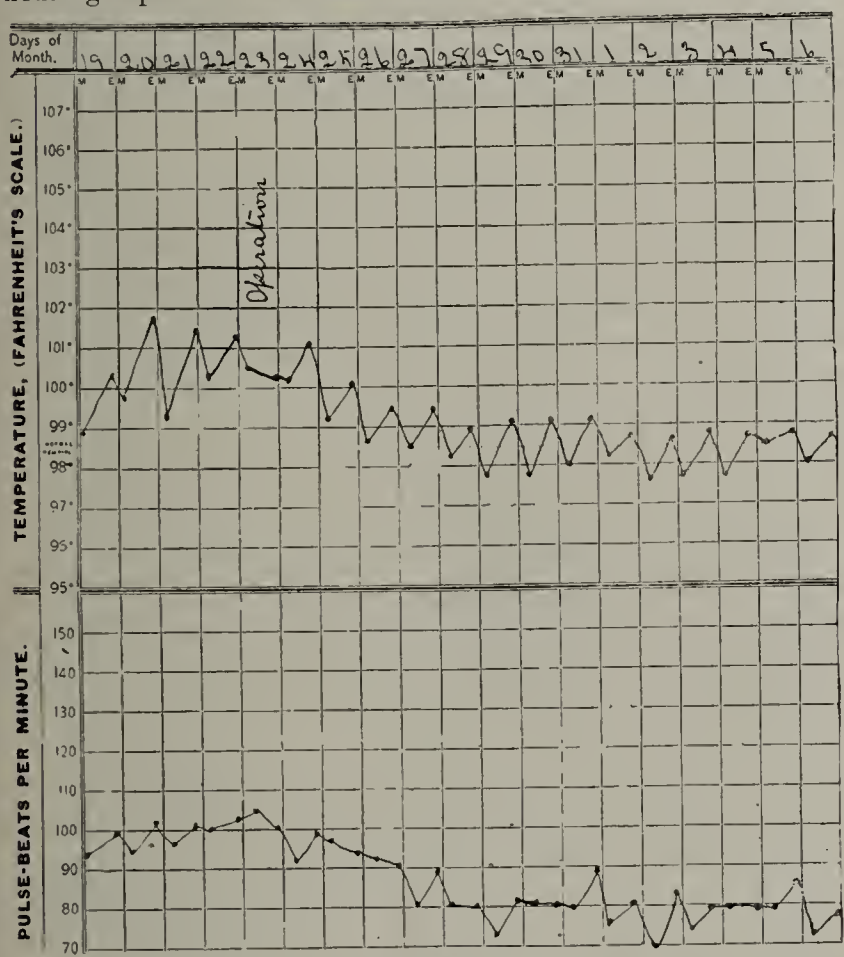
My belief that the comparative rareness of the accident which forms the subject of this paper, together with the absence of any description of it from the more accessible literature, makes me think these four cases worthy of record; and, moreover, that their considerable clinical importance makes a systematic presentation of the accident worth attempting. These are the two objects of the present paper .

Case 1.—M. L., a primipara of 30, seen March 12, 1898, with Dr. C. W. Townsend. She was delivered by normal labor on March 9. At the time of the labor, Dr. Townsend discovered a fibroid tumor as large as a mandarin orange on the anterior face of the uterus, near the left cornu. On March 11, she began to have extremely sharp pain in the region of the fibroid, which then became very tender to the touch. This pain came in paroxysms, was intermittent, and evidently very severe; relieved only after four 1/8 gr. doses of morphia subcutaneously. The next morning the patient was free from pain and the fibroid was not tender. At noon the same pain recurred; for a time it quieted down, and then came on in the afternoon as severely as before, still intermittent, but in the height of the paroxysms almost continuous. I saw her at this time.

The fibroid was easily recognized, and was exquisitely tender to the touch; the abdomen was swollen and tympanitic, the rectum empty and inflated, and both rectum and vaginal vault were hard and board-like in feeling and apparently drawn up into the pelvis. The diagnosis of strangulated fibroid seemed clear, and I was inclined to think that there was a little pelvic peritonitis present. As the pain became less during the time I was there, I advised no treatment, but close watching; the pain gradually ceased and did not return; the patient made a good recovery. The fibroid rapidly diminished in size, and Dr. Townsend tells me it could not be felt six weeks later. At a second confinement on Nov. 8, 1899, two small fibroids, each the size of half an English walnut, were to be felt on the uterus at the same spot. The patient made an absolutely normal convalescence from this second labor.

Case 2.—I saw this case with Dr. G. K. Sabine and Dr. S. A.

Houghton, of Brookline, on Dec. 22, 1898. She was a multipara, 38 years old. All her labors had been easy and successful. She had a spontaneous miscarriage, eight years ago, and was told by her physician that she perhaps had a fibroid, but no definite diagnosis was made. She has been in the best of health since. She was delivered Dec. 1, 1898, and made a normal convalescence, unmarked by any symptom or elevation of temperature, until December 19 (18 days), when she felt some pain of neuralgic character on the outside of the left thigh, and had a moderate elevation of temperature (see chart). The next day there was some paroxysmal abdominal pain and the temperature rose higher. The uterus was found by Dr. Sabine to be at the level of the umbilicus, but not tender. The abdominal pain was extremely severe, and only partially relieved by large doses of morphia. There was great tenderness to the left of the uterus and some tympanites, flatus passing freely. On the next morning, the fourth day of the attack, the distension was more marked; the pain was now continuous, but still marked by occasional paroxysmal increase. There was now extensive tenderness over the uterus, and also over a large mass, which was now felt for the first time, to the left and on a level with the fundus, apparently continuous with the uterus. The sharp neuralgic pain in the outside of the left thigh had continued



Case 2.

throughout this time, and was now very distressing. I saw her at 5 p. m. of that day, and my notes say: "Aspect slightly peritoneal. Pulse a little wiry. Temperature 103. Coils of intestine perceptible to the touch and perhaps to the eye in the upper abdomen. On vaginal examination a mass to the left apparently continuous with the cervix. Diagnosis thought to lie between a strangulated fibroid and a collection of pus. Some peritonitis is present in either case." We decided to wait until morning before operating in the hope of improvement or more definite indication. On the next day, December 23, at 9 a. m., the condition was as follows: "Facies worse. Coils of intestine distinctly visible to eye in upper abdomen. Face flushed, finger nails cyanotic, color in them returning slowly after pressure." The patient's general condition was so bad that I thought that the shock of an abdominal operation would be almost certainly fatal, and advised an immediate vaginal incision, on the ground that bad as her condition was, it was probably shortly to become hopeless.

Under ether the uterus was found at the umbilicus, and a mass was felt to its left of about equal size and continuous with it. The lower end of the mass was at about the level of the internal os, small, tapering and firm. A finger forced through the cervix found the uterine cavity unaltered in shape and at least four inches deep. An incision was made through the mucous and submucous tissues to the left of the cervix, the finger was forced up through the connective tissue into contact with the lower end of the mass, which was then felt to be evidently a fibroid. A pair of sharp scissors was plunged deeply into the tumor, opened and withdrawn. A finger pushed into this opening found the tissues extremely friable, and enlarged the opening in the tumor freely, extending it to the full length of the finger. The withdrawal of the finger was followed by a smart flow of rather thinnish blood. This was allowed to continue for about two minutes, but as at the end of this time it was rather profuse and continued without diminution, the hole was then plugged with iodoform gauze. The patient came out of ether rapidly, with the pulse rather better than before operation. During the evening and night the patient slightly improved, the temperature falling. The sharp pain in the left thigh continued, but was now relieved by morphia and the patient passed a fair night. The next morning she looked decidedly better and was complaining of nothing except of intense pain in the left thigh. The gauze was withdrawn and this pain instantly and finally ceased. From this time on there was a considerable, though decreasing flow of serum from the wound, and the patient steadily convalesced, there being no new symptoms. As this patient's age makes another pregnancy unlikely, and the fibroid has caused no symptoms, it has been left undisturbed.

Case 3.—Mrs. C. W. was seen on Feb. 3, 1900, with Dr. Willard H. Pierce, and Dr. G. B. Twitchell of Greenfield, Mass She was a primipara, 26 years old, 7 years married, and has always desired children, but has never been pregnant. She has always been anemic, but was otherwise well, except three years ago, when she had an acute abdominal attack of unknown cause and gradual onset, which kept her in bed for three weeks and under treatment for three months, and was considered at the time a salpingitis, though as the appendages of both sides were found normal at the time of operation this was probably a mistaken diagnosis. She made an entire recovery, has been very well and free from pelvic pain ever since. She was delivered Feb. 1, 1900, by Dr. Pierce, by difficult high forceps following an atonic labor, of a still-born child. On February 2, she was attacked by tenesmic pains in the rectum, appearing at intervals, with comfort between, and at first relieved by morphia, but during the night they became so severe that morphia did not relieve them, even though a total of one grain was given subcutaneously (the patient had no habit). They finally disappeared after primary anesthesia by chloroform, but only to reappear in still more severe form a few hours later. I saw her about noon (two days and a half after delivery); the temperature was then 104.4, the color and appearance very bad, the nails cyanotic, the abdomen tympanitic, the coils of intestines outlined to the eye under the abdominal wall. Tenderness was so extreme that the patient was unwilling to have the abdomen touched without ether, and pain was again severe. Under ether I found the uterus retroflexed, and consequently crowded against the rectum, and on raising it found a fibroid the size of an orange in the posterior wall and slightly to the left. The patient recovered from ether free of pain.

As the tumor was plainly too high for a vaginal incision and I anticipated considerable relief from raising the retroflexion, and as anesthesia had each time relieved the pain, I recommended that an expectant policy should be pursued for the immediate future; that the patient be anesthetized, and the uterus, if necessary, raised as soon as an attack of pain began. If the attacks were persistent and the condition grew worse, I proposed to make an incision into the tumor from within the uterus, for the purpose of drainage. There were fortunately no further attacks of paroxysmal pain, but the temperature continued high, abdominal tenderness and moderate pain persisted, tympanites was for some days troublesome, and the outcome of the case at first looked uncertain; but this condition passed off, the patient gained rapidly, and the remainder of

the convalescence was normal. I regret that, owing to the illness of her physician, I was unable to obtain detailed records of this portion of the case.

On August 14 she came to my office, anemic, but otherwise well and free from symptoms. She was exceedingly anxious to have the fibroid removed, in hope of another pregnancy, and from fear of a repetition of the trouble. On examination I could find nothing but a markedly tender spot at about the site where the tumor was last felt, and advised the use of glycerin depletion till the heat of the summer was over. During the next two months she had two slight attacks of acute abdominal pain, accompanied by some obstruction of the bowels. On September 17, I opened the abdomen; I found the intestines and omentum adherent together in a large mass on the left side, the omentum in front, and the sigmoid behind the left broad ligament and appendages. These adhesions were thoroughly separated, though with much difficulty, being exceedingly tough and well organized. There was a fibroid the size of a very small English walnut on the posterior surface of the uterus near the fundus. It was exceedingly adherent to its capsule, and it was a long and tedious process to take it out from its bed. The tube and ovary were normal and were not removed.

There was almost uncontrollable pain referred to the left lower abdomen for the next twenty-four hours, although there was no vomiting, the bowels moved spontaneously twice in the first twenty-four hours, and gas passed within a few hours of the operation. This pain was finally and definitely relieved after taking large quantities of hot water by the mouth. A considerable quantity of feces was passed in the first two or three days after operation, although four days had been devoted to care of the bowels before it, and it was supposed that they were thoroughly unloaded. The downward movement of this mass of feces was probably the cause of the pain above referred to. The remainder of the convalescence was uneventful and the patient is in good condition to-day.

Case 4.—Mrs. A. L., seen Dec. 21, 1900, with Dr. A. C. Aldrich, of Somerville. The patient was a iv-para, 30 years old. She was delivered on the morning of December 18, by a normal easy labor. Was comfortable and normal till the evening of the next day, when she was attacked by intermittent pain resembling labor pains but referred to the left ovarian region, and vomited at short intervals all night; the temperature being 101 at 1 a. m., and the pain increasing until she was given a fourth of a grain of morphia subcutaneously at 4 a. m. This was followed by relief, but the pains recurred in the afternoon of the following day; the temperature rose then to 105, the pulse to 110. The abdomen was then slightly tympanitic, and not very tender, except in the left ovarian region; the pains more moderate than on the preceding day. On the 21st, when I saw her, the temperature had been 101.8 all day, the pains were moderate, the pulse about 80. On examination the fundus of the uterus was about at the umbilicus, and anteflexed. On the left cornu there was a moderate projection, like a small fibroid. This was exceedingly sensitive to pressure, but there was no tenderness anywhere else. She was recommended ether for the relief of pain, and to abstain from nursing, since it had been noticed in this case that putting the child to the breast produced an increase of the pain. The trouble gradually passed away and no ill effects persisted, yet it must be noticed that the elevation of temperature and the abdominal pain and tenderness presented a very alarming picture at the time, and until the diagnosis had been established. Mrs. L. gave the history of having had a similar attack after the birth of her first child, but had escaped it after the second and third deliveries.

The clinical picture presented by these cases seems to me an exceedingly clear one. In each case the patient is attacked within the first few (2, 18, 1, and 1 respectively) days after labor, by severe intermittent paroxysmal pain bearing a close resemblance to labor pains, but more severely painful; the pains being referred in each case to the spot at which on subsequent examination a fibroid is found. A few hours of this pain is followed by considerable pyrexia, tympanites, vomiting, abdominal tenderness, and, in short, all the symptoms of a pelvic peritonitis.

The detection of the tumor varies in ease with its situation. In the first case, in which it was fairly large and on the anterior wall of the uterus, it was found with the greatest ease. In the second case it was not observed at all until the patient was in a very bad condition, by which time it is probable that it had greatly increased in size from the edema consequent on strangulation, but even then its characteristics were not easily made out until after ether had been given. In the third case it was impossible to detect it without ether though it was then plain. In the fourth the diagnosis was made more from symptomatology than from the examination, although on careful examination a localized irregularity of the contour of the uterus, probably representing a very small fibroid, could be made out with fair certainty. This case was promptly relieved by morphia and was throughout of less severity than any of the others.

The features of an intermittent paroxysmal pain of great severity appearing in the first few days after labor, attended by pyrexia with abdominal distension and the other signs of beginning peritonitis, and the presence of a small uterine tumor, were common to all the cases.

The end and aim of treatment is, of course, the relief of the strangulation, and the means which should be adopted follow on the natural history of the accident.

An intramural fibroid has been nourished by vessels running through the soft and expanded wall of the pregnant uterus. After the delivery of the child, the rapid involution of the first few days of the puerperium decreases the size of the uterus—which may be regarded for the moment as the pedicle of the tumor—and thus so changes the relation of the tumor to its bed that its presence excites spasmodic contractions of the uterine muscles. These contractions partially cut off the venous return from the tumor, which thus becomes edematous and increases in size; this increase of size and pressure in turn increases the strangulation, and thus the vicious circle is formed.

The pain and the slight peritonitis—probably due to an exudation of serum from the surface of the tumor—are well recognized as a necessary result of the strangulation of any abdominal tumor; but it is important to remember that this differs from other strangulations in the fact that its cause is functional and intermittent, *i. e.*, it is due to the intermittent action of the muscular fibers which surround the tumor, and are excited into activity by its presence. For this reason the allaying of the irritability of these fibers by morphia, or better—and probably far better—their complete relaxation by anesthesia, at once puts an end to the strangulation for the time; and it is probable that the majority of the cases so treated will recover spontaneously, as in Cases 1, 3 and 4. When this happy result does not follow there can be no relief unless by the knife, as in Case 2.

In operative cases in which the situation of the tumor renders it inaccessible except by the abdomen, or in any case in which the inefficiency of the treatment by occasional anesthesia and morphia has been demonstrated while the patient is still in good operable condition, I should advocate an abdominal extirpation of the tumor, by myomectomy, or hysterectomy, as circumstances might render necessary; but when the tumor is easily accessible from the vagina, or even from the interior

of the uterus—as in many largely sessile tumors—and especially in cases in which a resort to the knife is not decided upon until the patient is nearly *in extremis,* I think well of some such procedure as that employed in Case 2, of which I wish to speak a little more in detail.

This operation though, so far as I know, previously untried, was naturally suggested by the nature of the lesion which had been diagnosed. It was evident that the increasing size of the tumor was due to a compression which was just sufficient to occlude the veins without stopping the influx from the arteries which supplied the tumor. It was also evident that this muscular compression was excited and continued by the pressure of the enlarged tumor on the surrounding muscular fibers. It seemed probable that if the retained serum were freely drained off and the tumor allowed to decrease rapidly in size, the contracting muscular fibers would be relaxed and free return of the venous blood be permitted. All these consequences apparently followed, as the result was immediate and exceedingly happy.

This subject is to me a new one. I have seen no mention of it in any text-book, nor even in periodical literature. No doubt many such cases have been seen by other men and perhaps reported spasmodically, but the subject seems to me to have received less attention than it deserves, and to be worth calling to the attention of the profession generally.

The possibility of the occurrence of this distressing and dangerous accident after parturition should, I think, be made an element in weighing the question of the necessity for removing fibroids by myomectomy from young married women.

CONCLUSIONS.

The diagnostic points are the following:

1. The appearance in the early part of the puerperium of severe, intermittent, paroxysmal pains bearing close resemblance to labor pains, and referred to a definite spot at which there is acute tenderness.

2. The appearance, after a few hours of these pains, of the symptoms of a pelvic peritonitis, and often in an alarming degree.

3. The detection on physical examination of an irregularity in the uterine wall at the tender spot, not necessarily of large size, and possibly to be made out only under anesthesia.

The principles of treatment should be:

1. The control of the pain by morphia, and if this is not promptly successful, by brief but profound anesthesia, which should be succeeded by relief, and should be repeated whenever the pain reappears.

2. If the preceding measures fail, and the patient is still in good operable condition, an immediate myomectomy is probably the best treatment.

3. If the condition has remained undiagnosed until the peritoneal symptoms are extreme and an abdominal operation will probably involve a high mortality risk, and if in this case the tumor is in any way accessible from below, its free puncture and the drainage of the contained serum may probably be relied upon to terminate the attack, and permit a safe removal of the tumor at a later date, should that be necessary.

130 Marlborough Street.

Quack Medicines in Germany.—One of the measures adopted in the campaign against charlatanry being waged in Germany, is the publication in the medical journals of descriptions of the nature of the most widely advertised quack medicines.

SYMPHYSIOTOMY.

PRACTICAL DEDUCTIONS FROM AN EXPERIENCE IN THIRTEEN CASES WITHOUT A DEATH FROM THE OPERATION.*

EDWARD A. AYERS, M.D.

PROFESSOR OF OBSTETRICS, NEW YORK POLYCLINIC. NEW YORK CITY.

In complying with the request of the officers of this Section for a short paper on symphysiotomy it is my belief that the most acceptable handling of the subject would be such as best exploits the lessons learned through my own experiences.

I have performed symphysiotomy thirteen times upon eleven individuals, repeating the operation in subsequent pregnancies upon two women, the operation being done three times on one, she having had it done in the first instance by another physician.

Were I to have my obstetrical work to do over again I would refrain from symphysiotomy in one of the cases, selecting Cesarean section instead; I would perform symphysiotomy with less previous use of the forceps in three of these cases, and would perform symphysiotomy in at least ten cases in which it was not done.

Cesarean section was done in one case successfully, in which symphysiotomy would have done equally well, speaking from an *a priori* point of view. In a service of some 5000 confinements, partly indoor and partly outdoor, I estimate that there were about 25 cases which would have been suitable for symphysiotomy from a theoretical standpoint, had they been reached when in proper condition to justify the operation. The results in my cases have been as follows:

Case 1.—Third pregnancy following craniotomy. Complete recovery from symphysiotomy; child still-born from prolapsus funis, due to shoulder presentation.

Case 2.—Breech presentation. Cephalic version performed by another physician. Complete recovery from symphysiotomy done by the writer. Child still-born as a result of version and forceps efforts.

Case 3.—Primipara. Delivery of twins following symphysiotomy. Complete recovery. Infants lived.

Case 4.—Primipara 3 days in labor. Symphysiotomy, complete recovery. Infant lived.

Case 5.—Second pregnancy. First child born dead after a week of labor. A vaginal cicatrix of great thickness limited the vaginal caliber to 2 inches diameter. Cicatrix was cut on both sides of the posterior median line. Symphysiotomy was next performed and child delivered in good condition. The pubic wound healed properly, but two sloughs from the cicatricial tissue caused vesico-vaginal and recto-vaginal fistulæ. Puerperal and pneumonic sepsis ensued from bacillus coli communis infection. Patient died 33 days after delivery. Cesarean section should have been performed.

Case 6. A primipara. Symphysiotomy was performed after hard use of the forceps. Complete recovery. Child lived.

Case 7.—Third pregnancy following two still-births, one after forceps traction and the other after forceps, podalic version and traumatic separation of the body from the head by traction. Symphysiotomy performed in third labor. Complete recovery. Child lived.

Case 8.—Eighth pregnancy. Two premature labors, two miscarriages, four forceps deliveries of living children. In present labor, forceps had been used unsuccessfully before I received the case. They also failed after extreme trial by me. Symphysiotomy performed. Complete recovery. Child lived.

Case 9.—Second pregnancy. The first child was delivered dead after symphysiotomy performed by another physician. The second labor was completed by me after symphysiotomy. Complete recovery. Child living.

---

* Read before the Obstetrical Section of the New York Academy of Medicine, April 25, 1901.

CASE 10.—Primipara. After severe forceps use symphysiotomy was performed and the child delivered in good condition. Complete recovery.

CASE 11.—Third pregnancy; both of the others resulting in delivery of living children after violent efforts, but both children dying shortly after birth. I delivered the third child after symphysiotomy in excellent condition. Complete recovery of mother barring a pinhole fistula which lay just anterior to the cervix. I attribute it to the abnormal condition of the cervicovaginal tissues, which had been much injured in previous deliveries. Child lived.

CASE 12.—Same patient as Case 9.—Two previous symphysiotomies. Following hard forceps traction I performed symphysiotomy for the third time and delivered the child in excellent condition. Mother recovered completely.

CASE 13.—Eighth pregnancy. Two children living. Symphysiotomy performed after failure with forceps. Child delivered alive, but died quickly from over-use of the forceps. Complete recovery of the mother.

I afterwards delivered Cases 6 and 11 of living children without resorting to symphysiotomy. In each case the fetal head diameters were smaller than in the previous children.

Case 1 in a subsequent labor was in charge of another physician during my absence from the city. Podalic version, rupture of the uterus, and death of mother and child resulted.

Summarizing the results, I have operated 13 times without infection of the joint, and without a death due to the operation. Three children were lost and 11 saved. Perfect union of the pubes, that is, firm, fibrous union with a play of the joint of about one-eighth inch, has been secured in every case, except in Case 5, which died as above stated. Each patient was kept in bed four weeks. My method of operation was followed in all cases. Hemorrhage did not amount to more than three to four ounces at any time. No stitches were taken in any case. With the exception of Case 5 with the cicatricial vagina, there was no laceration of the vagina, bladder, urethra or peritoneum. No general disability has ensued. Moderate cystocele resulted in two cases, and bladder irritability lasted in most of the cases for four to six weeks. In no case has discharge from the wound occurred. In the last six cases the patients were placed in my symphysiotomy hammock bed, with marked improvement in comfort, cleanliness and ease of nursing.

A well-defined prejudice exists against symphysiotomy. This seems to be due to the dislike we feel to making wounds close to the vulva in labor, to the opening of a joint, to fear of hemorrhage that might be difficult to control, to fear of tearing the soft tissues around the symphysis, to fear of injuring the sacro-iliac joints, and to the dread of failure of union of the joint and consequent crippling.

This prejudice has been still further strengthened by two factors: 1, that the majority of operations have been undertaken only after severe efforts had been made to deliver the child with forceps, and 2, in about 90 per cent. of cases the operators' experiences have been limited to but one or two symphysiotomies.

In addition to the above, the general statistical results of the operation have, if taken at their face value, justified this prejudice, for a mortality percentage of between 9 and 10 is far from satisfactory. The true mortality can be had only after we have subtracted that due to all efforts at delivery which preceded the operation. The mortality from parturition is about seven-tenths of 1 per cent. From such cases as involve delay, version or forceps, and all objectionable features, difficult deliveries in short, the mortality, outside Cesarean section, symphysiotomy or craniotomy, is surely in the neighborhood of 4 to 5 per cent. The onus of such efforts long falsified the truth regarding Cesarean section; and it is still giving a bad name to symphysiotomy.

I protest against the recent statement of Professor Reynolds, that, when the patient is of the "favorable class" Cesarean section should be the choice, and when the "unfavorable class" symphysiotomy should be preferred.[1] Nor do I agree with him in the statement, that the essential mortality in Cesarean section is as low as that of symphysiotomy. Properly, an operator should select that method which will give the best results, not in general, but in his hands; and he may be able to get better results with the unsafer method as compared with such results in general.

In briefly considering the sources of prejudice against symphysiotomy I am compelled to speak from the standpoint of my method of operation, as my experience is limited to that method.

1. Wounds About the Vulva.—The site of the small wound made just below the clitoris can be made absolutely aseptic, even though infection of the vaginal tract has already occurred. This wound is kept open for but a few minutes while the joint is being severed; and it is kept safe from infection during delivery by placing a wet antiseptic wad of cotton over it until final closure. No stitches are required, as the mouth of the wound is tightly closed by bringing the knees together, which closes the vulva, and by drawing the skin to the median line with transpubic adhesive strips. Anterior rotation of the trochanters further helps to close the labia over the wound. A soft-rubber retention catheter being left in the bladder and dropped down behind the thighs to the bed-pan, avoids any necessity of disturbing the wound after dressing the patient for bed.

2. Opening of a Joint.—The dangers from opening a joint depend primarily upon the ability to secure perfect technic in asepsis, and in avoiding exposure of the bone structure in case of suppuration. Notwithstanding many statements which I have noted to the contrary, I believe perfect technic and asepsis can be easily attained in the subcutaneous method of section of the symphysis. The latter is not a joint in the ordinary sense, as, while there is motion there is not any play of one surface over the other. It is more like the joints of the bodies of the spinal vertebræ in construction than sliding joints, having a cartilaginous plate interposed between the pubic bones. The osseous tissue should not be touched by the knife, although it may occur. But certainly it is much easier to secure perfect asepsis here than in a Cesarean section, and drainage and thorough irrigation are easily obtained if needed.

3. Hemorrhage.—It is simply impossible for hemorrhage beyond several ounces to occur, unless one stupidly passes the scalpel below the pubes instead of along its face, cutting the bulbi vestibuli, or pushes the knife up beyond the upper border into the peritoneal cavity. That which might result from laceration of the vagina must depend upon the judgment used as to the amount of disproportion between the fetal head and the pelvic caliber and the care employed to secure full dilatation of the cervix before operating, and that employed during delivery by the operator and the one holding the pelvic crests. Separation of more than 2½ inches should not be counted upon to secure passage of the head.

4. Peri-symphysial Lacerations During Delivery.—

1. JOURNAL A. M. A., Feb. 16, 1901.

To my mind the chief anxiety is felt over this feature in symphysiotomy. Section, hemorrhage, sepsis and postpartum disability combined scarcely cause as much anxiety as this feature, and I have tried to study its points accordingly. Symphysiotomy should never be undertaken until one has introduced his hand within the cervix sufficiently to directly palpate the fetal head and pelvic inlet, and so ascertained that a reasonable pubic separation, 2½ inches will secure delivery. Next, as I believe in immediate delivery after pubic section, it is very important to secure full antepartum dilatation of the cervix before operating for these reasons: When the pubes have been separated the bladder and anterior cervix and vagina loose their support and show a marked increase over normal in the tendency to drag down in advance of the head and below the pubes. The anterior cervix appears at the vulva and the bladder rolls around the sub-pubic arch unless prevented. If forceps traction is made with the cervix insufficiently dilated these soft parts are then drawn away from the post-symphysial attachments and thus lead to lacerations. While antepartum dilatation can not be artificially rendered complete, it should be fully approximated by hands or rubber bags; then, in using the forceps, the disengaged hand should press back the cervix and bladder while the forceps slowly and gently bring the head, not so much through the brim as through the cervix. When the latter has been slipped back over the head, the next aim, after the head has entered the pelvic basin, is to assist anterior rotation of the occiput with the forceps. The separation of the pubes alters the normal mechanism as to rotation of the occiput under the pubes, the tendency being for the head to remain in a transverse position. Continued care must be taken in delivering the shoulders, delivery of the anterior shoulder first being my preference.

That my method of operating is best for avoiding lacerations I believe, because by it there is less operative separation of the tissues immediately connected with the symphysis than by other methods, and, consequently, less weakening of their supports and fewer starting points for laceration. I have tested this question by comparisons on cadavers and satisfied myself that this view is correct.

5. Injuries to the Sacro-Iliac Joints.—Such injuries need not occur so long as selection of the operation regards its proper scope. Its avoidance is further secured by means of skilful harmony of action between operator and the one holding the pelvic crests, which means steadiness in traction and evenness in pelvic support.

6. Failure of Joint Union and Subsequent Crippling.—If failure of joint union after symphysiotomy were a matter of good fortune rather than the reward of care there would not be any symphysiotomists. The natural tendency under ordinary care and by various means of pelvic support is to good union. Under the best methods such union becomes a practical certainty.

The following are the requirements necessary to secure the surest and best results:

1. Constant apposition of the pubic bones with even coaptation, but without compression.

2. Ability of the patient to empty the bowels and bladder without disturbance of the pubic joint, and ease of cleansing the genital and anal regions.

3. Freedom of restraint of the body above the pelvis, and of the limbs, whereby lactation can be performed and the great discomfort of prolonged restraint avoided.

4. The avoidance of bedsores.

Considering that what we want is a guarantee, not a probability, of union of the joint, I believe the only sure method of treatment is one in which the pelvis is swung in a U-shaped hammock. I used sandbags in my first two cases and a patent bed similar to the Dupont or Herbet "elevation bed," strapping strips of adhesive plaster across the pubes and pelvic sides; but, while I secured proper union, as many others have done by various methods, there was constant risk that the bags might get displaced or the patient turn on her side and the joint coaptation thus become disturbed.

In my last seven cases I have used my hammock-bed, descriptions of which have courteously been incorporated in the text-books of Drs. Jewett, Grandin and others. I feel satisfied that its features meet all the requirements mentioned above satisfactorily, and particularly afford a guarantee of joint union with proper coaptation of the opposing bones. The only criticism which has been applied to it is that of non-availability, which is true in private practice, but not in hospital work. Where my hammock is not available I recommend Dr. Dickinson's canvas sling, which can be swung from the ceiling or a tripod, and which, like my hammock, represents the safest method of securing union.

The Question of Sutures.—If I believed that suturing of the pubic bones were necessary after symphysiotomy I would discard the operation in favor of Cesarean section. But there is not the slightest need of such procedure by my method of operating; not even suturing of the soft parts is required. Drilling and suturing the bones greatly adds to the objections to the operation.

Scope of Symphysiotomy.—It seems scarcely worth the while to go over the arguments in favor of one or the other of the four means of securing delivery in obstructed pelvic cases. Nearly all of us argue along the line of our own successes; and in one respect this is, if not logical, at least wise, for the best method in the individual case depends more on the special skill of the operator by one method than upon the results obtained in general. The *essential* mortality from Cesarean section and symphysiotomy is not now far apart, although I believe that of the former to be nearly double the latter. The difference in fetal mortality is, of course, favorable to Cesarean section. The practical advantage between Cesarean section and symphysiotomy will depend upon the operator.

The most influential point affecting the results is the performance of the operation selected when the patient is in a favorable condition. This one point affects the results in general probably 50 per cent. For myself I grant symphysiotomy the following scope:

1. Mensural; obstructed delivery due to pelvic incapacity.—Where separation of the pubes is limited to 2½ inches to secure passage of the head, its availability is not easily ascertained, and we must consider the shape and dimensions of the pelvis and head. With equal length of the conjugata vera in different types of pelves a greater pubic separation is necessary in one form than in another.

The justo-minor pelvis requires a relatively wider separation than others, as gain in dimensions is secured entirely by the separation. Further, the "masculine" type of justo-minor pelvis, with its thicker bones, which encroach upon the caliber, will require more separation than the "juvenile" form with thinner bones.

The obliquely contracted, or Naegele pelvis, requires a relatively lesser separation, as the caliber is greater than in the justo-minor, and becomes utilized by the

head after pubic separation. To illustrate my meaning: If the right half of the pelvis is contracted but not the left, and the fetal head presents in a left occiput transverse, when the pubes separate the occiput moves snugly into the left half, slightly rotating posteriorly, with the right brow pressing into the inter-pubic space. In this way what might be called the normally inutilized space just to the side of the promontory is taken up and offsets the loss in caliber of the right half of the pelvis to some extent.

The narrow, funnel-shaped pelvis requires the least separation relatively, as the separation of the pubic bones, which is like the swinging open of double gates set somewhat out of the perpendicular, secures the fullest effect in increasing the transverse diameter. One-inch separation of the pubes increases the middle transverse diameter at the brim a fraction over one-half inch. The flat, rachitic pelvis, with its projecting promontory and narrow conjugata vera, occupies a place midway between the justo-minor and the narrow-transverse pelvis. The contracted outlet pelvis likewise occupies a middle place.

As symphysiotomy is an operation that should never be determined upon until a patient is in active labor, and as it requires but a few minutes to properly prepare for it, the actual test of the question of its adaptability for securing passage of the head is and should be made during labor and while the patient is anesthetized. Due regard must be given to the previous history in multiparæ and to palpation, pelvimetry, Müller's test, and, if we like, to cephalometry by Perret's method in both primiparæ and multiparæ; but one is neither justified in making a final decision nor required to do so previous to the stage of fair cervical dilatation and moderate test of both automatic engagement of the head and artificial effort with the forceps. An exception might be made to this that it would not be desirable conduct in view of the selection of Cesarean section when it was found that too much separation would be required to justify symphysiotomy. My answer to this would be that pelvic contractions to such degree as demand Cesarean section constitute an exception, as they can be determined before labor.

2. Symphysiotomy is justifiable in certain mal-presentations: Impacted posterior occipital, and chin presentations, in which the fetal pulse is good and delivery is not possible without mutilation.

The operation should give place to premature delivery when the forecast of impossible delivery without major operation is sure and the patient prefers it, or the physician is not accustomed to major operative work. It should give place to Cesarean section in cases in which there are obstructions to vaginal delivery by tumors, exostoses, cancer and pelvic contractions greater than the rule given above allows for symphysiotomy.

The great majority of cases of pelvic contraction beyond the scope of forceps delivery lie within the range of symphysiotomy. In some forty cases of such contractions occurring in my clinical experience, and observation of others' work, there was not one which could not have been delivered by symphysiotomy; and in only one case was Cesarean section positively indicated.

23 West Fifty-third Street.

Novel Post-graduate Course.—The medical officials in the duchy of Hesse were taken on a trip to Hamburg instead of having the usual course of post-graduate lectures. All the sanitary and hospital arrangements of the city were inspected under the guidance of experts.

Clinical Report.

FEVER OF HODGKIN'S DISEASE.

CARL C. WARDEN, PH.B., M.D.
Professor of Anatomy and Operative Surgery in the University of Nashville.
NASHVILLE, TENN.

The "Note on the Fever of Hodgkin's Disease," by Dr. J. H. Musser,[1] has led me to report a case that, while it does not conform rigidly to a definite type of Rückfall fever, presents many characteristic points.

The case is that of a lady, 30 years of age, married, mother of three healthy children. Up to the present illness she had enjoyed good health. Her family history was negative. In the fall of 1898 she complained of weakness, malaise and swelling of the cervical glands. She was treated for malaria and spent the winter of 1898-9 in Florida. She stated that she had fever "off and on." Early in 1899 she had a febrile attack that persisted for some weeks. During that time the cervical glands on the left side and the inguinal glands on both sides became enlarged and tender. Upon subsidence of the fever the glands became reduced in size and less tender. In May there was another lighting up of the fever accompanied by growth and induration of the glands, but under Fowler's solution the pyrexia again subsided and the glands softened and diminished in size. All medication was suspended June 19. The temperature remained normal until June 26. The duration of the apyrexial period was about 16 days. From June 26 until July 30 there was a pyrexial wave reaching its fastigium about July 15, when the systematic record of temperature was begun.

From July 30 to August 10 the temperature hovered about normal with slight daily elevations and intermissions. Then followed an afebrile stage lasting three days. During the decline of the paroxysm the patient improved rapidly, the glands diminished in size, the color improved, the appetite became urgent and she was out of bed and going about the house. On August 14 the fever returned, and during the time between that date and the date of her death, September 30, there occurred three distinct paroxysms but with remissions only between. The temperature curve showed morning remissions and evening exacerbations as a rule, but there were observed scattered instances of a reversed type.

The record of the temperature and the amount and distribution of the glandular involvement may be seen in the accompanying diagrams. This case illustrated fairly well the tendency of the fever to recur in waves separated by an interval of calm. With the progress of the disease the waves increased in frequency, with lulls more brief between them. Repeated blood examinations showed no variation from the normal beyond a slight leucocytosis, noted but once, and oligocythemia toward the close. Late in the progress of the case there was considerable pain in the left arm, chest, right side of the abdomen and in the right hip and thigh, all easily accounted for by pressure effects. The liver and spleen were moderately enlarged. An autopsy could not be obtained.

Dr. Musser's paper is an important and valuable communication. The writer has seen four cases of Hodgkin's disease in Nashville during the past four years; in two the course was characterized by fever and two were seen for a brief period only and subsequently were lost sight of. Only in the case reported were there opportunities affording a partial study of the temperature.

1. American Medicine, Jan. 4, 1902.

Fecal Matters in Urine.—Desesquelle writes to the *Bulletin des Sciences Pharmacologiques* that the discovery of fecal matters when urine is being examined in case of cystitis, should not always be attributed to contamination of the receptacle, but should suggest the possibility of vesico-intestinal fistula. He mentions three cases in his experience in which the etiology of a rebellious cystitis was explained by the discovery of traces of fecal matters in the urine, when nothing previously had indicated such a possibility.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, MARCH 8, 1902.

REGENERATION OF NERVES.

The healing of nerves is a subject of much scientific as well as actual, practical interest. At the present time most investigators hold that when a peripheral nerve regenerates, either after division or degeneration, the peripheral segment undergoes "neurotization" from the end of the proximal portion. This means that the ends of the axons above the point of division or degeneration grow out into the distal part of the nerve, the continuity of which is thereby restored. Clinical surgery teaches that this process may require weeks and months for its completion. But there is another view, at the present time held by a small number only, which teaches that in nerve regeneration axons, medullary sheaths, and neurilemmata are formed from cells in the distal segment, called neuroblasts, and that the fusion of the different parts thus produced with one another and with the central part restores the continuity of the nerve trunk. This theory, which may be called the peripheral theory, is not in harmony with our present conception of neurons, each of which is regarded as a complete cellular unit capable of regenerating its lost parts, at least within certain limits.

The most recent investigation in nerve regeneration is by the two Englishmen, Charles A. Ballance and Purves Stewart,[1] whose numerous experiments gave results that in their view are reconcilable only with the peripheral theory of regeneration. Ballance and Stewart find that when a nerve trunk is divided the axons and myelin sheaths soon suffer a fragmentary disintegration followed by absorption, which eventually extends throughout the entire nerve distal to the point of division, while in the proximal end there is only limited degeneration, the cut fibers curving back and forming a more or less distinct bulb-like swelling. The subsequent regenerative changes take place in about the same manner whether or not the cut ends are united by suture or other means. The cells of the neurilemma take on active neuroblastic function and produce short lengths of axons and myelin sheaths, which, linking themselves together, form continuous nerve fibers. At first the new sheaths are beaded, due it is thought to the presence at more or less regular intervals of cells which produce the myelin. Finally, the cells become less conspicuous and are recognizable at the internodal points only. In the scar tissue that always forms between the ends of a divided nerve, the new sheaths increase in number from above downward and not from below upward as would be the case did the new sheaths represent downgrowths of the old. In transplantation experiments the engrafted nerve acts as a scaffolding for the invading neuroblasts which enter chiefly by the side of new blood vessels. As regards the axons, our authors state that from the appearances obtained by various methods "it is clear that regeneration of axis cylinders does not take place by a process of outgrowth from the proximal segment, but is commenced and completed by the activity of cells already existing in the trunk of the nerve." As stated, the junction of the proximal and distal segments of a divided nerve is not essential for the regeneration of axons in the distal part, but the axons that form under such conditions do not attain maturity. As the proliferating neurilemma sheaths finish their activity as producers of myelin and axons they arrange themselves in columns and coalesce into new neurilemmata enclosing the newly-formed myelin, which in turn is wrapped around a new axon.

Such in brevity is the manner in which nerves heal, according to the English investigators. They regard the peripheral nervous system as composed of chains of neuroblasts fused to form neurilemmata, myelin sheaths, and axons. The limited degree of regeneration of axons in the central nervous system, as seen, for example, in hemisection of the cord, they would explain as dependent upon the absence here of neurilemmata, which are of fundamental import in regeneration of axons and myelin sheaths. The neuron theory must be abandoned, because it is not in harmony with the facts observed by them in the healing of peripheral nerves. In the literature are several examples of early return of sensation after secondary suture of divided nerves. Jessop, Langenbeek and MacCormac have recorded cases of secondary nerve suture in which sensation returned on the eighth day, the seventh day, and the same day after the operation, and other cases of like nature might be cited. Ballance and Stewart point out that this early return of sensation after secondary suture is easily explained on the score of "peripheral regeneration" of nerves, the secondary suture restoring the conductivity of the otherwise quite fully regenerated parts. But there are many conflicting statements in the literature in regard to the early return of sensation after secondary suture, and it is noteworthy that there is no early return of motion under similar conditions; for this reason much weight can not be attached to the significance of the early return of sensation after secondary suture in its bearing upon the mode of regeneration.

Without attempting minute criticism of the work of Ballance and Stewart, it may be permissible to point out the general fact that the peripheral degeneration distal to the point of division of a nerve does not harmonize well with the theory that regeneration is accomplished by the neurilemma cells taking on neuroblastic

1. The Healing of Nerves, London, 1901.

functions. If these cells have the power to form pieces of axons and medullary sheaths, at first discontinuous, it becomes rather puzzling to attempt to discover any good explanation for the degeneration that follows division. It rather would seem that the peripheral end, if of peripheral origin, might maintain its vitality at least for a time even though its connection with the central neurocytes is severed. On the other hand, degeneration after nerve division is easily understood when we regard the neuron as a functional, nutritive and anatomic unit. Further investigations are necessary before the neuron concept now in vogue is materially modified.

FUNCTIONAL ATHYROIDISM.

The impression is gaining ground that besides disease-conditions due to absence of the thyroid gland or total inhibition of its secretion, there are also functional deficiencies of thyroid secretion that produce recognizable symptoms. These symptomatic conditions have proved utterly obstinate to treatment, as a rule, up to the present time because of failure to recognize their cause. Two recent contributions to the subject show that the therapy of these conditions is very encouraging when their true etiology is recognized and that the diagnosis is not difficult if suspicions of the nature of the fundamental disturbance of metabolism are aroused. The therapeutic test of the administration of thyroid extract and its good effect makes the diagnostic conclusions absolutely certain.

Dr. Heinrich Stern[1] recently called attention to the fact that juvenile obesity is not infrequently accompained by a tendency to tachycardia, with symptomatic dyspnea on exertion. These conditions are more common among females than among males. Not infrequently there is an associated chlorotic tendency. This set of symptoms seems to depend on faulty function of the thyroid or parathyroid glands. It has been noted often before that thyroid extract frequently proves beneficial in cases of the adolescent obesity that sometimes sets in just after puberty. About this time the thymus gland disappears and the thyroid gland takes on special developmental activity. Any interference with normal development is sure to be felt in the general metabolism. The thyroid enlarges proportionately more in females than in males at this time, and all through the subsequent life this gland is evidently more intimately related to metabolic processes of various kinds and especially with sexual manifestations than in the male. It is not surprising, then, that these conditions which result from lowered function of the thyroid, obesity, nervous symptoms, and at times chlorosis, should be seen rather frequently in the female. The therapeutic test of the good effect derived from the administration of thyroid extract would show that the presumed etiology is correct.

At the October meeting of the Harvard Medical Society of New York City, Dr. J. G. Perry called attention to a set of symptoms also presumably due to deficient thyroid secretion that improved under the administration of the gland over prolonged periods. This last characteristic of prolonged tolerance to thyroid medication is of itself an absolute index of thyroidic disturbance of metabolism, since symptoms of intolerance develop very soon in the normal individual. In Perry's cases four symptoms were practically always present. They were: 1, a tendency to obscure painful conditions of the joints somewhat resembling the neuropathic joint pains described by Charcot and grouped under the term neuro-arthropathy; 2, persistent headache for which no direct cause can be found; 3, a weak and rapid heart; and 4, in women—a marked menorrhagia. In one series of cases described, these symptoms were noted in three generations of the same family. In the grandchild there was a distinct associated myxedemic tendency that promptly grew better under the administration of thyroid extract.

It would seem, then, that though the mystery of thyroid chemism remains almost as obscure as ever, we may yet be able to base rational therapeutics of functional athyroidism on clinical experience. It is not the first time in the history of medicine that clinical teaching has led scientific theory. Great care is needed to avoid self deception in such matters, but the field is most promising for empirical applications of clinical indications. The success so far attained encourages the hope that further experience may add still more to practical knowledge on the subject.

1. See THE JOURNAL A. M. A., Feb. 15, p. 447; also p. 474.

THE DAWN OF FRATERNAL UNITY.

We are too apt to take a pessimistic view of things in relation to the medical profession; we are so conscious of our failure to be what we ought, or what we would like, to be that the gloomy aspect often unduly colors our outlook on medical conditions. It is not altogether bad if it but makes us duly modest and causes us to strive for more satisfactory conditions, but it is well to occasionally look on the bright side. There are many reasons for this and we believe never more than at present.

The address of Dr. Foshay[1] in this issue is in this tone and, while it is of special local interest, it will also interest many in every part of the country. It points to a new era in medicine, not one to come at some future time, but a new era that has already dawned. We do not refer to the new conditions which Foshay mentions, wherein medicine has arisen from the domain of empiric art to a fixed position among the applied sciences; nor to the broadening and liberalizing influence of the higher education that is beginning to be felt; nor yet to the bright hopes of the physician's greater usefulness in the future from the rapid increase in scientific knowledge in every branch of medicine. All these indicate a new era in medicine, which promises a higher good for the people and a future for medicine encouraging in every way. But the particular thing to which we

1. See page 625.

refer points to a new era in the profession itself; to a fraternalism that has in the past been none too much in evidence, to a spirit of self-sacrifice and a banding together for mutual good. That the address was timely and found the ground prepared for its recommendations is the best evidence that the new era of fraternity and combined effort is at hand. What is true in Cleveland is true elsewhere, more true now, we believe, than at any time in the past; the profession is ready to become a united body, to drop its bickerings and work for the good of all. In no other profession can this be done more appropriately, for in no other are the local and professional interests so closely allied in every way to the public good. We have no need to sacrifice any of our high traditional ideals; these are all in the line of progress we wish to follow. That they have not been enough our guides in the past is the reason for the evils that have existed and of which we now begin to see the end.

What a united profession can do needs hardly to be told and yet the good it can accomplish may be more than our fancy can at present compass. First of all it will command public respect and esteem more than ever before and this alone is the key to much of what we need. An influential medical profession, respected for qualities that no one can overlook or honestly depreciate, will be the only possible successful bulwark against the multiform manifestations of quackery. It can not be exploited to its disadvantage by unprincipled commercialism. Even should the socialistic ideals be realized at some future time the profession will still be one of the right hands of the State, the indispensable adjunct of the civilization of the day. We are not looking for a medical millenium, for whatever the order social evolution may take, everything will be at our command if we march as a united body on the road upon which we have entered. As Dr. Foshay says, we are living in the most wonderful period of the history of medicine, but it largely depends upon our union and harmony in work, as well as upon our scientific spirit, to make the present only an adumbration of what will be realized by our successors.

ALCOHOL A DANGEROUS FOOD.

It seems to be the fashion to commend alcohol as an article of diet. Text-books on physiology, university professors, authors of papers before medical meetings, all have their say on the subject and their words are taken up by the reporters and given to the newspaper-reading public not at all diminished in the strength of their endorsement of this agent. We call it a fashion, because just at present there seems to be an unusual amount of literature devoted to the subject. Indeed, this has been noticeable since Professor Atwater gave his opinion that alcohol is a food. He was, however, much more guarded in his statements than many that have followed him. In fact, if we accept only his dictum that it is a food, but one that a healthy man can better get along without, it would seem that the less we say of its purely nutritive value the better. Some of the later utterances, however, are that alcohol in moderation harms no one, but is actually beneficial. Much of this is undoubtedly the reaction caused by extreme statements on the other side, but it is not exactly becoming for scientific men to be thus influenced. The question whether or not alcohol is a food is largely an academic one; except when prescribed for pathologic conditions it rarely if ever fills the place of a food. There is good testimony, not yet controverted or even contradicted, that comparatively small doses of alcohol have a direct deleterious action on the nervous functions and the capacity for work. We should not ignore these facts in the discussion of the safety or value of this agent in the normal human system, any more than we should ignore its occasional usefulness in conditions of disease. We may admit that it seems to add to the enjoyment of life for many individuals and yet we question its real benefit. Everyone admits that excess in alcohol is bad, but a large proportion of the population seems to find its happiness in such excess.

We believe that the consensus of the best medical opinion of to-day is that alcohol, while a valuable medicine in some conditions—and here many would include a limited dietetic value—is not properly a food. It is not what the Germans call a *Nahrungsmittel,* but is a luxury and a perfectly non-essential one to the healthy normal individual. The need of moderation in the use of alcohol and the difficulty in drawing the line between moderation and excess, together with the habit-building tendency, have all to be considered. The worst thing about the present tendency to say a good word for alcohol, is the certainty that whatever may be said will be utilized unscrupulously by advocates of the liquor interest. Give them an inch and they will take a mile, and some of our confrères have had good reason to regret this fact. We believe it will be found far safer for medical men to stand on the facts opposing the general use of alcohol than to even qualifiedly advocate its usage, except exclusively as a medicine and under medical prescription. Its cause is not one that requires any fostering by our profession.

TETANUS AFTER INJECTIONS OF GELATIN.

The recent outbreak of tetanus in St. Louis following the injection of faultily prepared and contaminated diphtheria antitoxin, and the occasional development of tetanus after vaccination are only too striking an illustration of the grave dangers that may lurk in otherwise not only harmless but beneficial and even life-saving procedures. Physicians can not be keenly enough alive to the fact that the cause of tetanus, be it the bacillus or its toxin, may find its way into the human body under the circumstances mentioned. Recently, cases of tetanus have developed after injections of gelatin—Gerulanos, Georgi, Lorenz.[1] In all these cases (four)

1. Deutsche Zeitschrift für Chirurgie, Bd. lxl. Abstr. in Centralbl. f. Bakt., 1902, xxxl, Feb. 2, 1902, p. 112-113.

the gelatin was injected for the purpose of arresting hemorrhage after severe operations in connection with existing lesions, such as subphrenic abscess and disease of the urinary tract. In one case a small abscess developed at the point of injection; the pus from it caused tetanus in a rabbit. In the other cases the connection between the injection of gelatin and the tetanus does not seem to have been proved by scientific methods, but the relation was so close that the observers report the cases as examples of tetanus after injection of gelatin. In one of the cases the hemorrhage was so threatening and severe that the solution of gelatin was injected "without sufficient sterilization." Recent experimental tests made at Strassburg proved the presence of tetanus germs in four out of six samples of gelatin.[2] Experiences such as those referred to in the foregoing carry with them the warning that practitioners can not be too careful in their sterilization, even when it concerns so insignificant an operation as a puncture of the skin.

THE VALUE OF ANTIDIPHTHERIC SERUM.

Judgment on the value of Behring's antitoxin can not fairly be made from individual impressions of what might have been the course of this or that case of diphtheria if antitoxin had or had not been given, because the possibilities in any given instance are incalculable. Observation and comparison of a long series of cases under as nearly as possible equal conditions reduce the chance of error to a minimum and so form the only safe basis for opinion. When a large number of cases can be collected, the principles for judging the efficacy of antitoxin remain the same as when Roux in 1894 published his celebrated clinical investigations: 1. The disease must be pure diphtheria, bacterially verified. (Antitoxin has no effect on streptococcic membranous croup and but slight effect when there is mixed infection.) 2. The antitoxin must be of definite strength and be given in adequate dosage. 3. The duration of the disease before treatment must be taken account of in estimating the probable effect of antitoxin. Reports which cover the above eminently fair points, unanimously agree in demonstrating the great life-saving qualities of antitoxin when given early and in sufficient dosage. Extensive experiences in the Boston City Hospital,[1] for instance, show in every way wonderful effects from initially injecting 4000 units and repeating every four hours if necessary. The careful statistics of the Chicago Health Department show 8 per cent. of the total number of bacterially verified cases treated on the first day of the disease with a case-mortality of .42 per cent., 24 per cent. treated on the second day with 1.5 per cent. mortality, 35 per cent. on the third day with 3.5 per cent. mortality, 18 per cent. on the fourth day with 11.3 per cent. mortality, 13 per cent. treated later with 23 per cent. mortality. In giving a prognosis or in calculating what part antitoxin played in the outcome of any case it must be remembered that with or without this remedy the prognosis is progressively better for every year childhood advances. Including all cases over 15 years of age treated with antitoxin the death rate is not larger than 3 per cent. The harmlessness of pure antitoxin being abundantly proven and the facts being substantiated that most cases which look like diphtheria clinically are true diphtheria and grow graver in prognosis during every hour left untreated, it follows that it is the safest plan to adopt the advice of the many authorities who early use antitoxin in every suspected case.

2. Deutsche Med. Wochenschrift, Feb. 20, 1902.
1. F. G. Burrows: Am. Jour. Med. Sciences, February, 1901.

POISONS AND DEFECTIVE RENAL ELIMINATION.

In cases of diseased kidneys where elimination through the renal secretion is more or less interfered with, it has usually been stated that poisonous medicines should be administered with more than usual caution for fear that they might accumulate in the blood and cause fatal effects. Such statements have generally been founded upon theoretical and not experimental considerations. For a long time opium was withheld in cases of uremia and other conditions associated with diseased kidneys because of fear that the lessened elimination would lead to poisonous results from the accumulation of the drug in the body. Although Loomis was not the first to employ hypodermic injections of morphin for the cure of uremic convulsions, it was he who especially pointed out the value of such treatment, and his advocacy of it has been largely instrumental in leading to its general adoption. Most clinicians now employ morphin in uremic convulsions without fear of bad results and with confidence that good will follow its use. In this instance the fear which came from false theoretical conclusions was overcome by the practical results of actual experience. Meltzer and Salant[1] have recently published the results of an important study of the effects of strychnin in rabbits after the removal of the kidneys. They have shown that less than the smallest fatal dose—"subminimum"—of strychnin may be administered subcutaneously at proper intervals to rabbits from which the kidneys had been removed without any resulting reaction, although large fatal doses of strychnin are apparently accumulated in the body. Several hypotheses are advanced to explain these phenomena, but none has yet been demonstrated experimentally. Knowing that strychnin is eliminated by the kidneys under ordinary circumstances, it was not unnatural to infer that the removal of the kidneys would lead to an accumulation of the poison in the body with resulting deleterious effects. These experiments show that such is not the case, either because of vicarious elimination assumed by other organs or for other reasons. Similar phenomena are observed when urea is excreted by various organs in cases where the renal tissue is largely destroyed by disease. The observations of Meltzer and Salant show how unsafe it is to conclude that the removal of an organ or the destruction of its function results in the accumulation in the body of the materials usually eliminated by it. In such cases the wonderful power of the remaining tissues and organs to assume the functions of those parts which are removed or rendered inoperative, must not be forgotten. The fear that cumulative effects may result if poisons are administered in the usual doses in cases of diseases of the kidneys has no experimental foundation.

1. Journal of Experimental Medicine, Feb. 5, 1902, 107.

Medical News.

CALIFORNIA.

"Dr." Minnie Wells, Los Angeles, has been convicted of practicing medicine without a certificate from the State Board of Medical Examiners, and has been fined $300. This is her second offense.

German Hospital.—A hospital, to cost $25,000, is to be erected by the First German M. E. Church of Los Angeles. The building will contain 30 rooms and work will be commenced on it by or before May 1.

College Anniversary.—The sixth anniversary of the College of Physicians and Surgeons, San Francisco, was celebrated with a banquet, February 25, at which Dr. Winslow Anderson spoke of the history of the college and addresses were made by members of the faculty and undergraduates.

Berkeley Hospital.—Although the directors of the Berkeley Hospital Association have decided to abandon their project of erecting a hospital, the Prytanean Society of the University of California will, in a measure, carry out the original plans by either erecting a hospital building on the campus or endowing a free room in one of the Oakland hospitals.

DISTRICT OF COLUMBIA.

Transfer of Hospital Control.—Commissioner Macfarland has approved the report made by the Board of Charities upon Senate bill 3363, to transfer the control of the Government Hospital for the Insane, the Freedmen's Hospital and Asylum, and the Washington Hospital for Foundlings to the Interior Department. The Board of Charities reported against the passage of the bill, claiming that such a law would be a step backward in the establishment of the present department of charities.

Medical Society.—At the recent meeting of the Medical Society, Dr. Johnston's paper on grip pneumonia was discussed and Dr. Kober read one on the causation of disease. Dr. Lamb presented specimens and gave the histories of vegetating endocarditis. Drs. Woodward and Lamb jointly presented specimens and gave the history of cases of hemorrhage of the liver in the newborn. The smoker held on the 13th inst. was a success, almost every member of the Society attending and taking part in the relaxation. This was the first smoker ever given by the Society and its success will assure its adoption as an annual feature.

ILLINOIS.

Fifty-four Years in Practice.—Dr. William W. Burns, Polo, now in his 81st year, has been in active practice for fifty-four years.

St. Joseph's Hospital Ready.—St. Joseph's Hospital, Elgin, which has been turned over to the Franciscan Sisters, has been fully equipped and is ready to receive patients to-day.

Banquet to Dr. Helm.—Dr. Clinton Helm, Rockford, was tendered a banquet, February 25, by the Winnebago County Medical Association, at the Nelson House, Rockford, in honor of the semi-centennial of his entry into practice. Dr. Daniel Lichty served as toastmaster, and among the speakers were Drs. David B. Penniman, Argyle; Thomas N. Miller, Rockford; Thomas H. Culhane, Rockford; John F. Snyder, Monroe Center; Emil C. Dudley, Chicago; Robert W. McInnes, Belvidere; Frank H. Kimball, Rockford; Ernest C. Helm, Beloit, Wis.; E. Wyllys Andrews, Chicago, and Clinton Helm.

Chicago.

Dr. Hugh T. Patrick sails for Europe on the *Kronprinz Wilhelm* to-day. He expects to remain abroad for four months, returning about July 1.

"Dr." Mabel Jackman was fined $100, February 22, for illegal practice of medicine, the evidence being secured by two employes of the State Board of Health.

Dr. Fenger Ill.—We regret to learn that Dr. Christian Fenger is seriously ill with pneumonia at his home. Drs. Billings and Favill are in attendance and report slight improvement.

Attending Skiagrapher.—The County Board has elected Dr. Harry J. Haiselden attending skiagrapher to the County Hospital; he will have charge of the *x*-ray apparatus recently installed there.

For Poor Consumptives.—Mr. Charles L. Adams has given $30,000 for the purpose of erecting a home in Denver for needy consumptives, and has promised $20,000 additional provided a second $20,000 is secured. The new home will bear the name of Mr. Adam's wife.

Cook County Clinical School.—In order to provide suitable conditions for rapid growth of the laboratory recently established at the County Hospital, the county officials have decided to incorporate the laboratory and museum into a school, the management of which is placed in the hands of the warden, the president of the county board and the superintendent of public service.

In Charge of Dunning.—Dr. John R. Neely has been chosen to take up the work of placing the county institutions at Dunning on an improved basis, and has been made medical director. He assumed charge, March 1. It is announced that the medical staff will be reorganized and increased to twelve, and that the number of nurses and attendants will also be increased. Dr. Neely is well fitted for this work, and has already won laurels by the excellence of his work in the Surgeon-General's office in Washington, and in the Department of Health of Chicago.

Campaign Against Smallpox.—Several of the railroads entering Chicago have endorsed the plan suggested by the Department of Health for preventing the spread of the disease. This comprises the following features: Vaccination for all employes and reports on the results; immediate notification by conductors when smallpox or suspicious illness is discovered on trains; notification by station agents of cases in their locality; reports by local railroad surgeons on their districts and instructions to them to push the propaganda of modern methods of vaccination; the distribution at stations of the Health Department's "Vaccination Creed," and other literature of that sort; the provision of facilities for disinfection, and the establishment of a central bureau of information in Chicago.

The Health and Deaths of the Week.—Twenty per cent. more deaths were recorded by the Bureau of Vital Statistics of the Health Department for the week ended March 1 than the week previous and 46 per cent. more than in the corresponding week of 1901. The exact figures are 434 one year ago, 529 the week before last, and 634 last week. The annual rates per 1000 of population are 12.87, 15.14 and 18.15, respectively—this latter figure being unpleasantly near the average New York mortality rate. For this city it is the highest on record for the season of the year. The causes of death showing the greatest mortality as compared with the previous week are—with the exception of pneumonia—the chronic diseases, and the result is seen in a 20 per cent. rise in the deaths of the aged, those over 60 years. Nervous diseases show 72 per cent. increase; consumption 46 per cent.; pneumonia nearly 35 per cent.; Bright's disease nearly 32 per cent., and diseases of the heart 30 per cent. There were 16 suicides and 36 other violent deaths—an increase of 53 per cent. over the number in the corresponding week one year ago and of 85 per cent. over that of the previous week.

IOWA.

Eleanor Moore Hospital, Boone, was formally opened with appropriate exercises, February 17.

Hospital Fund Grows.—The fund for the new hospital to be erected at Marshalltown by the Sisters of Mercy now amounts to $8000.

William Woods Hospital.—Mrs. Phebe Ann Cole, Osage, has deeded her property in that city to nine trustees, to be used as a public hospital. It is to be known as the William Woods Hospital in memory of Mrs. Cole's deceased brother.

Personal.—Dr. R. F. Raines, Arcadia, has located in Dixon, Ill.——Dr. Alonzo E. Rodgers, Tipton, has returned to his old location at Stratford.——Dr. Charles O. Grimes, Hayesville, has located in Harper.——Dr. W. Herbert Linder has moved from Stratford to Story City.——Dr. Sylvester L. Clabaugh, Yorktown, has moved to Bedford.——Dr. Joseph H. Sams, Clarion, has been appointed a member of the State Board of Health, vice Dr. John C. Schrader, Iowa City.——Dr. Louis M. Coon, Arion, has gone to Southern Kansas.——Dr. Park A. Findley, Des Moines, has been appointed first lieutenant and assistant surgeon in the Army, and has been ordered to Fort Leavenworth.——Dr. Owen S. Townsend, Blockton, has gone as a medical missionary to China.——Dr. Norman S. Craig, Manchester, has moved to Jennings, La.——Dr. Fred J. Raven, Mason City, has located in Grinnell.——Dr. John V. Littig, Davenport, has gone to Europe.——Dr. T. A. Kreuser, Chicago, has located at Calmar and will also have an office in Decorah.——Dr. W. P. Burke, Iowa Falls, has gone to Europe for a year of post-graduate study.——Dr. William N. Hurst, Blakesburg,

has moved to Oklahoma.——Dr. Anthony H. Vorwerk, Bancroft, has located in Burlington.——Dr. Charles E. Todd, Oskaloosa, has moved to Los Angeles, Cal.

MARYLAND.

Annapolis Emergency Hospital has been incorporated.

Militia Surgeon.—It is reported that a bill has been reported favorably by the House, "providing for the appointment of a surgeon to state militia."

Fund for Johns Hopkins.—The women have started a fund for the benefit of the Johns Hopkins University. It is proposed that every woman in the state contribute one dollar.

Mortality.—For the week ended March 1 the deaths in Baltimore were 201, pneumonia leading with 35, followed by consumption, 19. During February there were 194 deaths from pneumonia.

Dr. William Osler, Baltimore, lectured at the University of Maryland, February 28, on the "Religio Medici" of Sir Thomas Browne, exhibiting nearly all the editions of his works and showing lantern pictures.

Personal.—Dr. Jesse C. Coggins, of the staff of the Maryland Hospital for the Insane No. 1 has returned from a visit to the European hospitals for the insane.——Dr. William J. McDowell, Baltimore, fell on the ice, February 21, and broke his left arm at and above the elbow. The injury is said to be serious.——Dr. S. A. Keene, Baltimore, has been appointed assistant superintendent of public buildings in charge of the court house at a salary of $1200. Dr. Bernard P. Muse has been appointed assistant medical inspector, with a salary of $500, vice Dr. Keene.——Dr. R. R. Crothers, Elkton, Cecil County, had a paralytic stroke, February 21.——Dr. J. Williams Lord, Baltimore, has returned from Cuba.

MASSACHUSETTS.

Emergency Hospital Opened.—The Boston City Hospital relief station at Haymarket Square was opened for service, February 20.

Brockton Hospital Donations.—The endowment fund of the Brockton Hospital has been increased $15,000, of which $10,000 was donated by Mr. Daniel S. Howard and about $5000 received from the George O. Stevens estate.

Keep Memorial Hospital.—Mrs. J. W. Keep has offered to erect and equip a building in memory of her husband on the Westfield Hospital grounds, at a cost of not exceeding $15,000 for the care of contagious disease patients, to be known as the Keep Memorial Building.

Millions for Harvard.—Harvard University Medical School needs $4,950,000 to carry out the plans projected. Of this all but $294,000 has been contributed and the trustees still have four months in which to secure the balance. Mr. James Stillman, New York, has contributed $100,000, and the faculty has subscribed $75,000.

New Salem Hospital.—The Hospital Association of Salem is about to erect 12 new buildings, which will accommodate 100 patients. The completed hospital will consist of an out-patient department and accident ward, maternity and children's ward, men's surgical ward, men's medical ward, women's surgical ward, women's medical ward, operating wing, annex wards, and a two-story private ward.

MICHIGAN.

Epidemics.—Detroit has an epidemic of mumps, and measles is overspreading Albion.

Dr. Kinyoun Resigns.—Surgeon Joseph J. Kinyoun, U. S. Marine-Hospital Service, stationed at Detroit since his transfer from San Francisco, a year ago, has resigned, and will reside in Philadelphia and devote himself to bacteriologic work.

Founders' Day at Ann Arbor.—The celebration of the founding of the medical department of the University of Michigan, was held February 23, in Sarah Caswell Angell hall, and addresses were made by Dean Victor C. Vaughan; William A. Evans, president of the Students' Medical Association; Drs. Albert B. Prescott and J. Carl Huber.

War on Quacks.—Committees from the Wayne County Medical Society, the Detroit Medical Society and the Homeopathic Practitioners' Society, met March 3 to plan a crusade against the quacks of Detroit, who number about forty. Dr. B. D. Harison, secretary of the State Board of Registration, will co-operate with the joint committees in the work.

Sloane Sues Society.—Dr. J. Byron Sloane, on March 1, entered suit against the Detroit Medical Society for damages for his expulsion from that body because of alleged breaches of the medical code of ethics. Dr. Sloane denies that the charges or alleged offenses constitute a breach of the code and says that his formulas and prescriptions are always on file, and that he has not patented a surgical instrument, but has patented an appliance which he has used for the past two years in the treatment of consumptives and others for throat and lung troubles. His attorney says: "We propose to find out whether or not the real merit of a physician, made known to the public by and through the public press, is derogatory either to the medical profession or the public at large, and whether or not the press of the community is to be muzzled."

MINNESOTA.

Hospital Burned.—The residence and private hospital of Dr. Elias P. Case, Waterville, has been completely destroyed by fire. The patients were all removed in safety. The loss exceeds $10,000, partially covered by insurance.

Street Car Disinfection.—The St. Paul Health Department is to disinfect all street cars in that city every night. The Health Commissioner of Minneapolis does not consider that there is any necessity of joining with the St. Paul department in this particular prophylactic line.

Physician Freed.—Dr. Thomas J. Pierce, Duluth, who several months ago was found guilty of performing a criminal operation, but in whose case the Supreme court ordered a new trial, has had the criminal charge against him dismissed, the complaining witness having disappeared.

Minneapolis Hospitals Dedicated.—The Norwegian Lutheran Hospital was dedicated with appropriate ceremonies, February 23, and opened its doors to receive patients on the next day. Dr. Edward Boeckmann is the chief of the medical staff. The hospital has, at present, a capacity of 35.——The new Swedish hospital was dedicated on the same day. This hospital will have cost, when completed and equipped, about $50,000.

MISSOURI.

New Medical Building.—The contract for the medical building for the State University of Columbia has been awarded for $29,500.

Hospital Saturday and Sunday Association.—At the annual meeting of this Association of St. Louis it was reported that $24,945 had been realized at the annual collection.

The Enno Sander Banquet.—Dr. Enno Sander, St. Louis, on the eve of his 80th birthday, was tendered a dinner by pharmaceutical friends of St. Louis and Chicago, February 26. Albert E. Ebert, veteran druggist of Chicago, and president and historian of the Chicago Druggists' Association, acted as toastmaster.

Antitoxin Investigation Aftermath.—The logical results of the antitoxin investigation in St. Louis are now taking place. The city authorities have placed the responsibility upon Dr. Ravold, and his resignation followed immediately. There is no question of Dr. Ravold's ability as a bacteriologist, and it was unfortunate, to say the least, that the conditions in the city laboratory made such errors possible. The city should never have undertaken to make antitoxin without a thorough equipment. The bacteriologist was not an independent officer of the Board of Health, but was rated simply as an employe. Now it is proposed to establish the office of "City Bacteriologist," to which the appointee shall give his whole time. Following the conclusion of the investigating committee's work, suits for damages against the city are being instituted by the relatives of the dead children. One suit for $20,000 is now pending.

NEW YORK.

Canandaigua to Have Hospital.—Mrs. F. F. Thompson has agreed to erect a public hospital in Canandaigua to cost $50,000 and to endow it with $50,000. Two other persons have pledged $25,000 each to the endowment fund.

State Vital Statistics.—The annual report of the State Commissioner of Health states that during 1901, 139,389 births, 64,680 marriages, and 131,788 deaths were recorded. The death rate was 18 per 1000. The mortality was 7500 in excess of the average of the past five years, but the rate was the same as that of 1900. The infant mortality is unusually low, being 3500 less than in 1900 and 2500 less than the average of the past five years.

Physicians Exonerated.—The Commissioner of Public Safety has investigated the report that Drs. Winfield S. Hale and E. Hudson Rider of Albany had refused to attend an in-

digent poor sick call, February 17, at the request of a patrolman and has found that the order was misunderstood by the physicians, who supposed the call was for them to attend a private case, which neither of them cared to accept. Therefore the commissioner has ordered that the said physicians be and they are hereby exonerated from any blame in the matter.

State Hospitals.—On February 18 Governor Odell signed the bill abolishing the boards of managers of the state hospitals for the insane. These hospitals are the Manhattan Hospital and the Long Island Hospital, in New York; the Hudson River Hospital, at Poughkeepsie; the Homeopathic Hospital, at Middletown; the Matteawan Hospital, at Matteawan; the Utica Hospital, at Utica; the Willard Hospital, at Ovid; the St. Lawrence Hospital, at Ogdensburg; the Buffalo Hospital, at Buffalo; the Rochester Hospital, at Rochester, and the Gowanda Hospital, at Gowanda. The boards of managers of these institutions will retire April 1 and the State Commission in Lunacy will then assume charge of the hospitals. The Governor will appoint boards of visitation for each of the hospitals.

Liability of Hospitals.—A bill introduced in the senate by Mr. Grady declares that no hospital incorporated under the laws of this state, sustained in whole or in part by charitable contributions or endowments, shall be liable for the neglect, carelessness or want of skill, or for the malicious acts of any of its officers, agents or employes, in the management of, or in the care or treatment of any of the patients or inmates of such hospital. Nor shall it be lawful for any such hospital to enter into any agreement whereby liability shall be incurred for such neglect, carelessness, want of skill or malicious acts. This bill is not to be construed as to impair any remedy under existing laws which any person may have against any officer, agent or employe of any such hospital for any wrongful act or omission in the course of his official conduct or employment.

Buffalo.

Check to Tuberculosis.—The Buffalo Society for the Prevention of Tuberculosis is endeavoring to enlist the co-operation of local clubwomen in its work, and has arranged for a number of addresses to be delivered before various clubs on the subject.

Nurses as Health Inspectors.—The health commissioner is considering the advisability of asking the Common Council to empower the four district nurses of the District Nurse Association to act as inspectors for the health department. The nurses ask no pay for exercising such authority.

For a Quarantine Hospital.—A bill has been introduced in Albany to allow the city of Buffalo to bond itself for $50,000 for the purchase of lands to be a site for a new quarantine hospital. The funds are to be at the disposal of the common council and mayor, by whom the site is to be selected.

Personal.—Dr. Edward A. Southall, University of Buffalo, 1898, a member of the Board of Health of Manila, P. I., has been appointed a member of the medical examining and licensing board of the Philippine Islands.——Dr. Walter L. Savage has been appointed U. S. Government medical examiner of immigrants at this port.

Gratwick Laboratory Opened.—The new Gratwick Laboratory was formally opened, February 22. The staff of the laboratory is composed of Dr. Daniel Lewis of New York City, State Commissioner of Health; Dr. Roswell Park, director; Dr. Harvey R. Gaylord, pathologist in charge; G. H. A. Clowes, Ph.D., chemist; Dr. Herman G. Matzinger, bacteriologist; Dr. Irwin P. Lyon, statistician; John E. White, Ph.B., and George Austin, assistants in chemistry; Miss C. A. McClay, secretary, and Miss Alice G. Owen, assistant in microscopy.

New York City.

Borough Pest Hospitals.—Health Commissioner Lederle is perfecting a plan to build five new isolation hospitals, one in each of the boroughs of Greater New York.

German and Seney Hospitals, Brooklyn, have become members of the Hospital Saturday and Sunday Association and hereafter will share in the distribution of the receipts.

Diphtheria or Smallpox.—A Brooklyn physician who diagnosed a case of smallpox as diphtheria and who, when convinced of his error, neglected to inform the health authorities, has been fined $50.

Donation for Neurological Ward.—Mrs. Hannah N. L. Sherman of Lawrence, L. I., has given $25,000 to the Post-Graduate Hospital and College for the partial endowment of a new ward for women and children afflicted with nervous diseases.

Hospitals Benefit.—As a result of the German Charity Ball, January 23, there remains $10,000 to be distributed among the hospitals and other charities of the city. The German Hospital receives $1700; St. Francis Hospital, $1050; St. Mark's Hospital, $1050; Policlinic, $1050, and the West Side Dispensary, $900.

German Hospital Legislation.—A bill introduced in the senate by Mr. Elsberg authorizes the city to exchange lease now held by the German Hospital and Dispensary to a grant of the lands upon which the hospital buildings are erected so as to enable the said hospital to convey the whole or any part of said premises in fee simple absolute or to lease said premises or any part thereof for a term of years, the proceeds of such sale or the income from such lease to be devoted to the maintenance and support of said hospital.

OHIO.

Physician's Residence Burned.—The house and office of Dr. Samuel G. Herrington at Rawson was burned to the ground, February 21. The loss exceeds $7000, with about $3000 insurance.

Semi-Centennials.—Two of Starling's alumni, Drs. David W. Henderson of Marysville, and Dr. Lafayette Woodruff of Columbus, celebrated the fiftieth anniversary of their graduation, last month.

Dr. A. F. Shepard, assistant superintendent of the Toledo State Hospital, was to-day, February 26, elected superintendent of the Dayton State Hospital. The salary is $1200 a year, residence and other accommodations, and an additional $400 as clerk of the board.

Memorial to Fellow Student.—The members of the graduating class of Starling Medical College, Columbus, have published a very neat memorial souvenir of their class president, Orville Michael Dyson, whose death occurred Dec. 12, 1901, at Pleasant City, Ohio.

Condemnatory Resolution.—The Marion County Medical Society has adopted the following resolution:

> It is the consensus of opinion of the Marion County Medical Society and other physicians of the city and county, that Senator Harding misrepresents 99 per cent. of his constituents in this district, and that we condemn it and protest against his action on the "Demuth" bill as reported in the daily press of Feb. 18, 1902.
>
> Further, That he misrepresents all religious denominations, except "Dowieites and Faith Cures."

PENNSYLVANIA.

Dissecting Room Fire.—A blaze in the dissecting room of the West Penn Medical College, Pittsburg, February 23, caused damage to the extent of $1500.

Jewish Hospital.—The Hebrew Ladies' Hospital Aid Society of Pittsburg has purchased a site for $10,000 on which it proposes to erect a hospital to cost $50,000; the hospital is to be non-sectarian.

Workingman's Hospital.—The president of the United Mine Workers of the Pittsburg district has received an offer from Mr. Andrew Carnegie of $50,000 toward the erection of a hospital for workingmen.

Philadelphia.

Dr. Leidy Decorated.—The French government has honored Dr. Joseph Leidy, Jr., with the insignia of *Officier d'Instruction Publique,* for services rendered during the exposition of 1900, where he represented the United States on the International Jury of Hygiene.

Deaver Dines Society.—Dr. John B. Deaver gave an informal dinner to the members of the Surgical Society of the University of Pennsylvania which bears his name, at the Fifth Street Rathskeller, February 14. About 175 were present, and Dr. G. G. Ross acted as master of ceremonies.

The Righter Case.—In the medicolegal case of Mrs. Nugent against Dr. Harvey M. Righter (previously reported in The Journal) the County Medical Society has appropriated $200 toward the defense of Dr. Righter. Many individual members volunteer to subscribe sufficient to carry the case, if need be, to the court of last resort.

The W. W. Keen Surgical Society held its annual banquet, February 26. Dr. Keen sent greetings from abroad, and Dr. J. Chalmers DaCosta was installed as guest of honor. Dr. Hobart Amory Hare responded to the toast "High Ideals in Medicine"; Dr. W. L. Rodman to "Reciprocity Between State Examining Boards." Dr. R. H. M. Dawbarn, New York, previously addressed the society and their friends.

German Hospital Banquet and Musicale.—On February 28, a banquet and musicale were given and addresses made by Dr. C. J. Hexamer, the Mayor and others, in celebration of the

40th anniversary of the Ladies' Aid Society of the German Hospital. The society has nearly 900 members, pays yearly $200 for the maintenance of a free bed in the German Hospital, and is now energetically engaged in raising $5000 for the establishment of another free bed.

Rush Hospital.—At the annual meeting of the Corporation of the Rush Hospital for the Treatment of Consumption and Allied Diseases, trustees were elected, including Drs. James T. Mellor Tyson. The latter was also elected secretary of the trustees. The following medical staff was elected: Consulting physicians, Roland G. Curtin, John H. Musser, James C. Wilson, J. P. C. Griffith; visiting physicians, Thomas J. Mays, S. Solis Cohen, T. Mellor Tyson; otologist, B. Alexander Randall; surgeon, Charles W. Dulles; pathologist, William S. Newcomet; laryngologist, Henry J. Off; ophthalmologist, Wendell Reber; physicians to the out-patient department, John D. McLean, Charles A. E. Codman.

GENERAL.

Savannah Marine Hospital.—The Senate Commerce Committee has reported favorably on Senator Clay's bill appropriating $100,000 for the purchase of a site and the erection of a marine-hospital at Savannah.

Manila Prepared for Plague.—The Health Department of Manila, P. I., is making comprehensive and commendable preparations to resist a possible outbreak of plague. Five to six hundred rats are captured daily, while numerous others are poisoned. Tents and ambulances are ready in the hands of the sanitary inspectors.

Colorado Not Averse to Consumptives.—Owing to the fact that repeated statements have been made that Colorado has seriously considered quarantining against consumptives, it is deemed but just and fair that the following statement, by past or present officers of the State Board of Health and State Medical Society, be published:

We hereby certify on our honor as professional gentlemen:

1. That so far as we are aware, no member of the Colorado State Board of Health ever proposed the subject of preventing tuberculous persons from entering the state.
2. That so far as we are aware, no member of the legislative or executive branch of the State of Colorado ever suggested such a course.
3. That there is no law to that effect on the statute books of the State of Colorado, nor so far as we know has any such law ever been suggested by any responsible citizen of the state.
4. That so far as can be ascertained, there does not now exist, nor has there ever existed, any ordinance to that effect in any city or town in Colorado, nor has there been any suggestion by those in authority, or by any responsible citizen that such an ordinance be passed.
5. That so far as we can learn, there does not now exist, nor has there ever existed, any regulation of any board of health in the State of Colorado covering the subject of quarantining against consumptives, nor has any such regulation been suggested by any responsible citizen of the state.
6. That on the contrary, in February, 1900, the Colorado State Board of Health issued a circular containing the following: "That this climate has saved the lives of many who have come early can not be doubted. There is no need to talk of quarantining against consumption. Such a course is both unnecessary and impracticable. Doubtless, many persons with advanced tuberculosis should not be sent here, but for those who can be benefited by coming, Colorado should have nothing but a warm welcome."
7. That we know of no proposition of the sort mentioned by any one in Colorado, and that all of us who sign this paper have held responsible sanitary positions, and that we have persistently and constantly stated that no such measures are necessary.

[Signed.] Drs. G. E. Tyler, Hubert Work, J. N. Hall, Henry Sewall, L. E. Lemon, Wm. P. Munn, Leonard Freeman, A. A. Clough, and W. H. Campbell.

Smallpox.

Philadelphia: There were only 62 new cases of smallpox reported for the week ended March 1, one less than for the preceding week. The health authorities believe that they have the disease under control.

New Jersey: In Camden there are only 25 cases in all, most of which are in the Isolation Hospital. The special vaccine physicians have been discharged. They vaccinated 7000 persons at a cost to the city of $3500.

Baltimore: Three of the smallpox cases have been discharged cured from the Quarantine Hospital, leaving ten still there.

Ohio: Dr. David H. Miller, Newark, charged with treating a case of smallpox—his wife—in November last, without reporting same to the authorities, was recently tried before a jury in probate court. The secretary of the State Board of Health and the physician employed by the City Board of Health to attend the cases of smallpox in Newark during October, November and December, testified that the patient had smallpox. Two other physicians called to see the patient testified that they believed she had smallpox. Defendant testified that the disease was not smallpox. The jury agreed in acquitting the defendant.

New York: In the annual report of the Commissioner of Public Health, considerable space is devoted to the prevalence of smallpox during the year. There were 110 places in the state in which one or many cases occurred, there having been during that time 1100 cases with 19 deaths outside of New York City, 1982 cases with 426 deaths in New York City and the maritime district. At the end of the year smallpox existed in sixteen localities, in all of which there was but one case, except at New York and Buffalo, where it was declining in prevalence, at Binghamton and Watertown, where there were several cases, and in lumber camps in the vicinity of Tupper Lake in the Adirondacks, which region, from its exposure to the province of Ontario, from which the cases have come, is the present chief source of concern.

Illinois: The smallpox situation in Chicago affords a refreshing contrast to almost every other part of the country. Only two new cases of the disease were discovered during the week, while 3 were discharged recovered, from the Isolation Hospital, leaving 20 known cases all told in the city. Neither of the new cases had ever been vaccinated; one was contracted from a supposed case of chicken-pox and the origin of the other is as yet unknown. Statistics compiled in the office of the State Board of Health show that since February 1 last smallpox has been reached from 162 localities in 65 counties of the state. Officials of the Board state that the foothold gained by the disease has resulted largely from lack of strict quarantine, some physicians in certain localities where the contagion appeared for the first time terming it chicken-pox, Cuban itch, or Illinois scratches. It is found that where vaccination has been general, few reports of the disease have been received and that where vaccination has been enforced after an outbreak, the spread of the disease has been invariably checked.

Nebraska: The State Board of Health has entered on an educational campaign. It has issued a circular and the "vaccination creed" recently formulated by Dr. Reynolds, of Chicago, is being distributed through the schools of the state.

CANADA.

Obituaries.—Dr. John Coventry, Windsor, Ont., died on February 22 from pneumonia.——Dr. David Roberge, of Montreal, is dead, aged 32, from pneumonia. He was a graduate of Laval University and for some time after graduation served as house surgeon at the Notre Dame Hospital.

Provincial Board of Health.—The new Board of Governors of the College of Physicians and Surgeons of the Province of Quebec has just had elected to membership the following university representatives: University of McGill, Drs. Craik and Lafleur; Laval University, Quebec, Drs. Simard and Catellier; Laval University, Montreal, Drs. E. P. Lachapelle and Demers; University of Bishop's College, Montreal, Drs. F. W. Campbell and J. H. McConnell.

Undergraduates' Medical Society of McGill.—This Society was organized in 1879, through the efforts of Professor Osler and Dr. Buller. A fine new reading room has recently been put in order with all the principal medical and scientific journals and the leading daily papers. Its support is assured through the action of the medical faculty since 1886 collecting a dollar from each student as part of his yearly fees. A beautiful tablet has recently been erected by members of the classes of 1901 to 1904 to the memories of two former students: Harold L. Borden, B.A., of Canning, N. S., and A. Patrick O'Reilly, of Hamilton, Ont., who died in active service in South Africa, in 1900.

Montreal Medico-Chirurgical Society.—This Society, live and progressive, is entering upon a new era of prosperity. During the past year fine new commodious quarters have been secured in the West End Branch of the Bank of Montreal. They comprise a large meeting hall, nicely and comfortably furnished and capable of seating 125 persons. Adjoining is a coat room and reading room, with a stock room for the accommodation of the library and a committee room. In the reading room all the important medical journals are kept on file. The rooms are in charge of an attendant, and are kept open from 2 to 6 p. m., and from 8 to 11 p. m. The Society will extend its advantages in the future to non-resident members.

Medical Acts (Extension Bill) and Canadians.—General Laurie, a member of the Imperial House of Commons, who some years ago was a member of the Canadian House of Commons, has introduced again into the Imperial House his bill bearing the above title. General Laurie was first prompted to introduce this measure on account that "Surgeons of the

highest standing in Canada and holding commissions from His Majesty in the militia volunteered for service in South Africa; but the War Office refused to accept such service on the ground that it was contrary to the Medical Act of 1858 to permit a colonially trained surgeon to attend professionally to British troops." The object of the bill is to remove this disqualification.

Dominion Registration.—Dr. Roddick, M.P., has re-introduced his bill into the Dominion House of Commons. The changes in the measure which received the endorsation of the Canadian Medical Association at the last annual meeting at Winnipeg refer particularly to the representation on the proposed Dominion Medical Council which is to be on the basis of population. Dr. Roddick has asked that when the bill receives its second reading it be referred to a special committee of the house, to be composed of all the members who are physicians and two or three prominent lawyers. When the bill is before this special committee delegations of prominent medical men will proceed to Ottawa from all of the provinces of the Dominion; and a determined effort will be made to have the bill ultimately passed through both Houses of Parliament during the present session.

Bill to Amend the Ontario Medical Act.—The bill introduced into the Ontario legislature by Dr. Jessop to do away with the homeopathic and college representation on the Ontario Medical Council has aroused the ire of the senate and medical faculty of Toronto University. An elaborate memorandum has been prepared by the Chancellor, Sir William Meredith, and presented to the Minister of Education on the subject. This memorandum takes exception to the bill as follows: 1. It excludes from the body entrusted with fixing and determining the standard of medical education and prescribing the curriculum of studies those who, by reason of their vocation, as well as training, and experience, are, if not best fitted, at least specially qualified for performing those duties. 2. It hands over to a practically irresponsible body the entire and absolute control of medical education, and creates a close corporation or guild. 3. It imposes on the universities and colleges engaged in the work of medical education the obligation of following the curriculum of studies prescribed by the Council without having any voice in the framing of it. 4. It violates the compact entered into with the universities and teaching bodies by which they were given representation on the Council in consideration of their giving up the right to confer degrees or diplomas in medicine and surgery, entitling the possessor of them, without further examination, to practice upon obtaining his license or becoming registered.

FOREIGN.

Prof. Nil Filatow, the specialist in children's diseases, died at Moscow, February 8, in his 56th year.

Extermination of Rats.—The German Imperial Council of Health has appointed a committee to report on measures to be adopted for the extermination of rats as the most dangerous means of conveyance of the plague, especially on ships. Robert Koch is the chairman of the committee.

The International Congress of Dermatology.—This congress has been postponed till 1904, to avoid conflicting with the International Medical Congress at Madrid in 1903. Prof. E. Lesser will preside over the congress, which is to be held at Berlin in September, 1904. Dr. O. Rosenthal, Berlin, is the secretary.

LONDON LETTER.

The Smallpox Epidemic.

The number of cases in hospital on February 15 was 1185, against 870, 1135 and 1102 at the end of the three preceding weeks; 390 new cases were admitted during the week against 204, 499 and 287 in the three preceding weeks. In the House of Commons, Mr. Walter Long, President of the Local Government Board, stated that the number of successful primary vaccinations were as follows: 1898, 500,-314; 1899, 669,349; 1901, 677,625. The number of certificates granted to "conscientious objectors" (whereby the penalty for non-vaccination is avoided) were: 1898, 20,341; 1899, 32,345; 1900, 39,839; and for the first half of 1901, 19,252. In the House of Lords, Lord Newton brought in a bill to abolish the "conscientious objector." He pointed out that the legal recognition of this individual had caused 100,000 children to be unvaccinated in the last three years. The bill was defeated in consequence of the opposition of the government, who, while admitting the benefit of vaccination, were unwilling to disturb the compromise of the act of 1898.

Casualties in the South African War.

A return has just been issued which shows that the following are the total casualties up to the end of 1901, when the forces amounted to 237,800 men: Killed, 5,231; wounded, 20,937; died of wounds, disease or accidentally killed, 13,733; disbanded and discharged in South Africa, 6,683; in hospital, 11,720.

The Investigation of Cancer.

We have previously announced in The Journal the formation of a scheme for the investigation of cancer which took its origin from the expression of the King, when he received the foreign delegates at the Tuberculosis Congress, of the necessity for checking this dire disease. The following resolution of a special committee was unanimously adopted by the Council of the Royal College of Surgeons on February 13, and at an extraordinary meeting of the Comitia of the Royal College of Physicians on February 18. This committee recommends the two Royal Colleges to consider and develop a scheme for investigation into the causes, prevention and treatment of cancer, and that for this purpose delegates be appointed by the two Royal Colleges (who shall have power to add to their numbers) to draw up a detailed scheme. In pursuance of this resolution the following delegates were appointed to draw up a detailed scheme for systematic investigation into the causes, prevention and treatment of cancer, viz.: As representing the Royal College of Physicians, Sir William Church, Sir William Broadbent, Dr. H. Pye-Smith, Dr. Whipham, Dr. Payne, Dr. Rose Bradford and Dr. Tatham; as representing the Royal College of Surgeons, Mr. H. G. Howse, Mr. J. Langton, Mr. H. Morris, Mr. H. T. Butlin, Mr. Watson Cheyne, and Mr. R. J. Godlee.

Ligature of Left Carotid for Aneurysm of the Arch of the Aorta.

At the Royal Medical and Chirurgical Society, Christopher Heath read an important paper on this subject. He reported two cases, which were the sixth and seventh on which he had performed the operation. The sixth case was in a woman, aged 61, who was admitted to hospital in July, 1890, with all the symptoms of aneurysm of the arch of the aorta. She was kept in bed and given large doses of iodid of potassium for many weeks, but no alteration in the pulsation resulted. She always sat up in bed with the knees drawn up and her head resting upon them. On attempting to lean back the dyspnea increased and inspiration became stridulous. The left carotid was tied without an anesthetic, on November 16. On November 19 the respiration was no longer noisy and the patient was able to recline against her pillows. On November 22 she was able to sleep for seven hours consecutively. In January, 1891, there was some return of pain in the right shoulder. In February the pulsating tumor above the sternum had decreased and the patient was able to lie and sleep in any position. She continued to improve. On September 3 the pulsating tumor could be just felt above the clavicle. She died suddenly, November 29. The seventh case was that of a man, aged 36, who was admitted to hospital on Nov. 4, 1898, with aneurysm of the arch. The physical signs were well marked and included tracheal tugging and a blowing systolic sound over the aneurysm. During November, December and January he had severe attacks of pain in the shoulder, back and neck. The aneurysm at first diminished, but in January it increased and definite swelling and pulsation appeared beneath the pectoral below the right clavicle. Mr. Heath tied the left carotid with silk under eucain B. on Jan. 18, 1899. On January 20 the pulsation was distinctly less marked and daily improvement followed. On February 6 the patient had pain in his chest and next day his temperature rose to 103 and he rapidly developed symptoms of acute phthisis and died on March 21. The aneurysm gave no trouble and was daily less evident.

Four specimens were shown, one from a man on whom Mr. Heath tied the left carotid in 1872, and who greatly improved for a twelvemonth, when he resumed his hard agricultural labor and the aneurysm began to grow and eventually burst four and a half years after the operation. The second specimen was from a man, aged 38, whose left carotid Mr. Heath had tied on March 8, 1890, and who died suddenly on May 12. The aneurysm was filled with laminated clot. The third specimen, an aneurysm the size of an orange, almost completely filled with laminated clot, was from the sixth case. The fourth specimen was an aneurysm of the arch the size of a clenched fist, with a second small aneurysm of the root of the innominate. Both were nearly filled with laminated clot, the center of the larger being occupied with soft clot. These were from the seventh case. Mr. Heath maintained that ligature of the left carotid undoubtedly produced an immediate effect upon

aneurysm of the arch. He thought that the ultimate solidification of the aneurysm, though its only method of cure, accounted for the sudden deaths which occasionally occurred some months later, owing partly to pressure effects and partly to the induction of syncope.

Chronic Edema.

At the Medical Society of London, Dr. Essex Wynter showed two cases of this comparatively unrecognized condition. A single woman, aged 23, enjoyed good health till November, 1900, when she developed a cough which lasted through the winter. For the past ten years she had complained of attacks of misty vision lasting one or two minutes, which had lately increased in frequency. Three years ago there was some swelling of the lips and tongue noticed, chiefly on rising, and lasting two months. Swelling of the face and legs came on gradually and was notably worse since May, 1901, especially after walking or long standing, the legs being at times so stiff she could only flex them with difficulty. In the mornings the swelling was softer and less distinct. The swelling of the face was noticed a few months earlier than in the legs, especially about the right eye. The general health appeared to be unaffected and there had been no pain. The thoracic and abdominal organs appeared to be normal. The urine contained no albumin. Temporary improvement in the swelling of the face and legs occurred under massage. Thyroid extract was given without effect. The second case was a girl, aged 17. About three months ago the face and hands were noticed to be swollen on rising and enlargement of the legs increased. The swelling increased daily and became more persistent. Recently she had noticed some dyspnea on exertion and polyuria. The face was pale and uniformly swollen, the eyes being half closed; the hands also were swollen, but not distorted; and dimples over the knuckles were well marked. The legs were uniformly enlarged and very firm, only pitting slightly on sustained pressure, the skin not being white or shiny. The thoracic and abdominal organs appeared to be normal. The urine was pale, clear, alkaline, of 1009 sp. gr., and free from albumin. While lying in bed there was a marked improvement, but on the patient getting about the measurements of the body returned nearly to their original dimensions, but were not so hard.

PARIS LETTER.

Operation on the Hindoo Twins by Dr. Doyen.

An operation which has caused much comment in Paris is that which Dr. Doyen has just performed on the Hindoo twins of the Barnum and Bailey circus. Dr. Doyen, whose name is undoubtedly familiar to many American physicians, is the man who rushed across France to Rennes at the time of the Dreyfus affair to take an *x*-ray photograph of the bullet which had been fired at Labori and had lodged in his back. Professor Reclus was, however, the regular surgeon of the family and refused to have the bullet sought after or extracted. Dr. Doyen is now at loggerheads with another professor, this time the professor of infantile clinical surgery, Dr. Kirmisson. As the Hindoo twins were showing signs of failing health, they were taken to the new Trousseau Hospital, where they were found to be suffering with incipient consumption, and Doodica (the name of the other is Radica) presented symptoms of tubercular peritonitis. Professor Kirmisson was called into consultation by Dr. Guinon, but refused to operate unless he had a written authorization from the foster mother or the agent of Barnum and Bailey. The former would only give it on condition that she could assist at the operation and have it cinematographed. To this Dr. Kirmisson refused to consent, so the foster mother took the twins to Dr. Doyen's clinic, and the operation was carried out on February 9. The operation lasted in all only twenty minutes and Dr. Doyen has given the following account, which is printed in the *Echo de Paris*:

The two sisters were placed on a table covered with a sterilized cloth. I placed myself to the right and cut the skin above the connecting ligament. A certain amount of cartilage was cut through with a lancet. Two little veins alone had to be tied. The peritoneum was then cut and the hepatic band which always exists in such cases was laid bare. There were certain adherences on the side of Doodica, who, as the diagnosis had shown, was suffering from tubercular peritonitis. The hepatic bridge was 7 centimeters long and 4 centimeters in diameter. It seemed very vascular. This was a case for the employment of the method of hemostasis which I have invented, by the crushing of the hepatic pedicles with my double-lever forceps which gives instantly, under an effort of the hand, a pressure of 2000 kilograms. The hepatic pedicle was superficially fibrous. The crushing was carried out with great prudence, and succeeded so well that two ligatures of catgut *en chaine* sufficed for Radica. The pedicle, which was very short, was cut between this first ligature and Doodica, and three voluminous arteries were immediately seized with pincers and tied up. The hemostasis, on the side of Doodica, was completed by two ligatures *en chaine*. The back part of the peritoneum, that on the side of Doodica, and then the skin, were severed with a few cuts of the scissors. Doodica, liberated from her sister, was carried to a neighboring table, a compress was placed on the wound, and the skin temporarily fastened over it with pincers. The operation was then terminated on Radica, the hemostasis verified, and the abdominal partition was sutured, leaving a morsel of sterilized lint to drain the wound.

The operation itself was cinematographed. This operation has only been carried out once before by Dr. Chapost-Prevost in Brazil. One of the patients died. For the first few days the condition of both Radica and Doodica steadily improved, but on Sunday morning Doodica died suddenly, after having shown symptoms of embolism. Dr. Doyen and the authorities at the Trousseau Hospital have had a dispute in the papers. Dr. Guinon contradicted the statement made by Dr. Doyen that the twins had been worried by medical students examining them, and Dr. Doyen said that when they arrived at his clinic they were found covered with vermin and affected with thrush.

Correspondence.

Papers Fraudulently Obtained from the Department of Medicine and Surgery of the University of Michigan.

ANN ARBOR, MICH., Feb. 26, 1902.

To the Editor:—The medical profession may possibly be interested in a brief statement of the following facts: Some years ago I received from a physician at a small town in northern Michigan a letter stating that Dr. Emma W. Mooers, who graduated in the Department of Medicine and Surgery of the University of Michigan in 1884, was practicing medicine in an irregular way in his place. I knew that Dr. Mooers was pathologist to the McLean Hospital at Waverly, Mass., and I wrote my medical friend that the person impersonating Dr. Mooers was a fraud. Papers were issued for her arrest, but before they were served she left the town. Soon after this, the fraudulent Dr. Mooers turned up in Chicago, and I made another attempt to secure her arrest, but again she evaded the officers of the law and for some years disappeared. A few months ago I learned that she had registered under the name of E. W. M. Cory before the State Board of Medical Examiners in Colorado, and I requested Dr. Van Meter, secretary of their board, to secure her arrest. [See THE JOURNAL, March 1, p. 590, Colorado News.] This was done, and the woman was tried, convicted and sentenced to the penitentiary for one year. The judge allowed her to go on parole instead of being sent to the penitentiary, but she is to report once a month, and if she leaves the state she becomes a fugitive convict.

Now, the paper that this woman had was a certificate signed by James H. Wade, secretary of the University of Michigan, stating that Emma W. Mooers had graduated in the Department of Medicine and Surgery of this University in 1884. The fraudulent woman had written to Mr. Wade that she was Emma W. Mooers, who graduated in 1884, and that her diploma had been destroyed by fire, and requested a certificate of graduation. The secretary looked over the list of graduates for that year, and, finding the name in this list, sent the certificate. I report this case because, in the first place, the impersonator has given great annoyance to the real Dr. Mooers, whose work has been of the highest character and whose conduct has always been strictly professional; and in the second place, it shows that university authorities, at least the authorities of this university, have in the past not exercised sufficient care in issuing certificates of graduation to those who have claimed that their diplomas have been destroyed.

Thanks are due to Dr. Van Meter, of the Colorado State Board of Medical Examiners, and to the assisting prosecuting attorney, Mr. Smith, of Denver, for the energy with which they pushed this case. It is possible that the University of Michigan, through its secretary, has issued certificates of graduation to others who do not deserve them, and I desire to call the attention of state boards of medical examiners to this possibility. It is also possible that other institutions have been imposed upon in like manner. Dr. Van Meter, in a letter to me concerning this matter, suggests that it might be desirable for each diploma to contain some description of the person to whom it is granted in order that such a person may be recognized. This is a matter worthy of consideration.

The second instance of obtaining fraudulent papers is quite as serious as the one referred to above, although quite different in character. Last year the medical faculty of this univerversity expelled one of its students on account of gross immorality. He was furnished with a statement of his class standing, and across this statement in red ink was written "Expelled for gross immorality." This statement was signed by the dean and secretary. Some time later, I learned that this man had entered Rush Medical College. I therefore wrote to Dr. Dodson, dean of that school, asking why he had accepted the man. Dr. Dodson sent me the credentials which the young man had presented him. The young man had had printed a duplicate of the statement given him; had made his class standings all right; and had omitted the statement of the cause of his expulsion. More than this, he had forged the names of the dean and secretary of this school. When these facts were made known to Rush Medical faculty, the young man was immediately expelled from that school. Such an experience as this indicates that the officials of medical schools should exercise more care in accepting credentials from other schools. Respectfully yours, Victor C. Vaughan, M.D.

County Society Membership.

Kingston-on-Hudson, Feb. 24, 1902.

To the Editor:—The Journal of Feb. 22—page 525—contains a letter from Dr. William P. Munn, of Denver, concerning the reorganization of state medical societies. The point to which he takes exception is that in all cases membership in the county society shall constitute membership in the state society, and that membership in the lower body shall be necessary for membership in the higher. His objection is that this is unfair to certain honorable members of the profession, who are already members of the state societies, but who do not care to work in county organizations. (He also refers to the judicial side of the question, upon which I have no opinion to offer.) From my own experience with physicians it seems incredible that any honorable physician could wish to do other than work in his own county society and do all in his power to make it an organization that would merit the respect of the community, so that when its members came together and expressed themselves in matters pertaining to the public good their opinion would be respected.

It certainly would seem to be just to both old and new members that there should be a common standard for all alike; that the opinion of the majority of the physicians of one's own community, who know him best, rather than that of the members of the state society, should determine one's membership. This seems so just and reasonable that I fail to see any necessity for special exemptions or any good to come from them. When the medical profession of the United States becomes reorganized upon this basis it is reasonable to expect two results: 1. It will wield a power in the national, state, and local affairs worthy of the dignity of the profession; for physicians will have learned how to work effectively together. 2. No physician will be practicing medicine very near, if not over, the border line of quackery, in his own community while still preserving some remnants of professional respectability for himself by membership in a state society, and the American Medical Association. Mary Gage-Day, M.D.

Reflex in Irritable Urethra.

Bagley, Iowa, March 4, 1902.

To the Editor:—An aid in the diagnosis of irritable or irritated urethral mucous membrane and in the so-called uricacidemics, especially in those where there is great benefit derived from a few passages of the cold steel sound, is what may be called the "umbilico-urethral reflex." The elicitation of this is an easy matter in lean individuals, but in fat persons, difficult, yet practicable.

The manner of performance is a movement from above downward of the nail of the forefinger over the exact center of the umbilicus—"a scratching"—and done not quickly or lightly. This causes the above characterized patients to complain of a sharp, shooting, cutting pain, sometimes of momentary persistence followed by a desire to urinate—from the neck of the bladder to the meatus urethræ.

I will not attempt to explain the observation, but believe it due to the complex innervation of the fetal remnants of the allantois—the urachus—in the adult, and the genito-urinary tract. I have seen no mention of this in literature to which I have access, but if otherwise I would like to know.

Yours sincerely, Jas. H. Morroway, Jr.

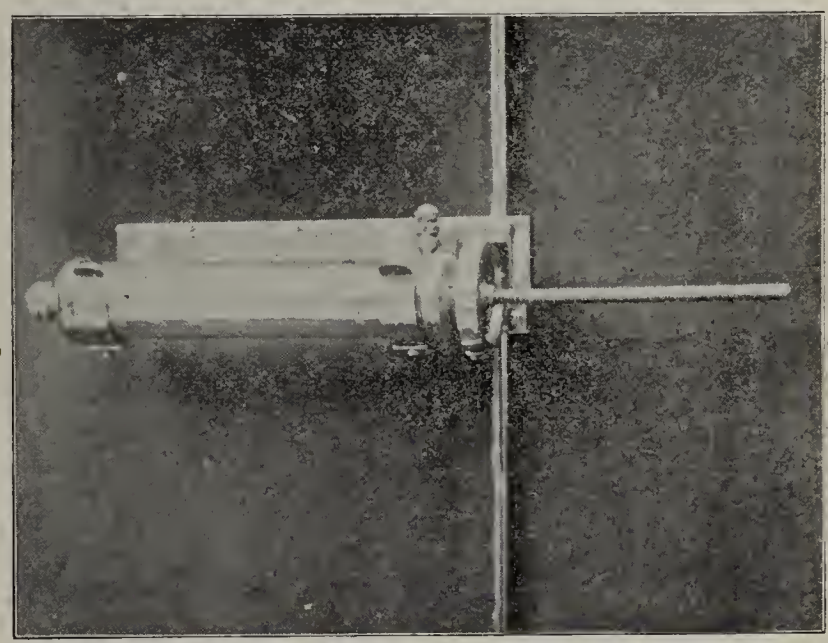
New Instrument.

STERILE SOAP MACHINE.

J. H. FIRESTONE, M.D.
FREEPORT, ILL.

The accompanying cut shows something new in the line of a foot-power sterile soap machine for use in operating rooms.

It consists of a cylinder and plunger, operated by foot power, applied to a ratchet wheel acting upon the arm of the piston by a double-thread screw, which forces the plunger into the cylinder. There are two blank screw caps that go with each cylinder. The plunger, cylinder and contents are sterilized before using.



The machine is taken from the bracket and the plunger removed from the cylinder; then the cylinder is filled with green soap and the blank caps are screwed on either end. The filled cylinder and plunger are then sterilized. After sterilizing the blank caps are taken off, the plunger is adjusted and the machine is placed in the bracket ready to operate.

The machine is made in three sizes, each containing ½, 1 or 2 pounds of green soap.

State Boards of Registration.

Utah State Examination.—The Board of Medical Examiners of the State of Utah held its regular quarterly examination at Salt Lake City, January 6 and 7. The number of subjects examined in were 10; total number of questions, 70; percentage required to pass, 75. The number of applicants were 6, of whom 5 passed.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
		PASSED.		
1	R.	Creighton Medical College.....	1900	77
2	R.	Long Island College Hospital.....	1884	79
3	R.	University of Denver, Med. Dept..	1894	79
4	R.	Gross Medical College.....	1900	85
5	R.	Washington University, Med. Dept.	1886	80
		FAILED.		
6	R.	Berlin University, Germany.....	1899	73

Can Not Practice in District of Washington Pending Examination.—In the case of a physician of Alexandria, Va., a graduate of the Columbian University School of Medicine, who requests the privilege of following his profession in the District until an opportunity is given him to take the examination prescribed for practicing physicians, Dr. William C. Woodward, the health officer, has submitted a report in which

he says that the licensing of physicians is regulated by the act of congress of June 3, 1896; this law authorizes the issuance of licenses to licentiates of states under certain conditions, but only when such states issue licenses to licentiates of the District under the same conditions; that the State of Virginia does not so issue licenses and therefore that physicians from Virginia are not entitled to the license under the law. The law referred to does not authorize the issuance of temporary licenses pending examination.

Married.

WILFRED TAYLOR, M.D., to Miss Helen Marot, both of Dayton, Ohio, January 1.

ALFRED J. ABBOTT, M.D., to Miss Jennie M. Congdon, both of Albion, Mich., February 19.

GARDNER PERRY POND, M.D., to Miss Phoebe Painter, both of San Francisco, Cal., February 13.

EMIL MAISNER, M.D., to Miss Sophie Bloch, both of Union Hill, Hoboken, N. J., February 12.

JOHN GRANT WILKINS, M.D., Atlanta, Ga., to Miss Daisy Hester, of Albany, Ga., February 19.

CYRUS D. LLOYD, M.D., Boston, Mass., surgeon of the 44th U. S. Volunteer Infantry, who has served in the Philippines for three years and is now on his way to this country, was married to Miss Mary E. Hiatt, of Leavenworth, Kan., May 23, 1899, in Jackson County, Mo.

Deaths and Obituaries.

John Coventry, M.D. University of the Victoria College, Cobourg, Ont., 1866, health officer of Windsor, Ont., and one of the prominent physicians and citizens of that place; member and some-time president of the Ontario Physicians' and Surgeons' Association; a veteran of the Civil war, in which while still a student he served on the medical staff of the 16th N. Y. Volunteer Infantry, died at his home in Windsor, February 22, from pneumonia, aged 64.

Louis Lewis, M.R.C.S. England, 1862, Fellow of the Royal College of Surgeons, member of the British Chemical Association, some-time editor of the *Medical World, Medical Council* and *Medical Times and Register*, at one time a surgeon in the Royal Army Medical Corps, and for nearly twenty years a practitioner of Philadelphia, died at St. Vincent's Hospital, New York, after a surgical operation, February 19, aged 63.

Henning H. Murrey, M.D. University of Nashville, Tenn., 1898, an esteemed young physician of Nashville and assistant to the chair of surgery in his alma mater, died from meningitis, February 20, after a brief illness, aged 25. The Nashville Academy of Medicine at a special meeting, February 21, passed resolutions of regret and sympathy regarding his death.

James M. Taylor, M.D. Jefferson Medical College, Philadelphia, 1848, who practiced for many years in Indiana, and Kittanning, Pa., but who retired from practice in 1874, died at his home in Indiana, Pa., from strangulated hernia, February 21, aged 82.

Edward K. Bacon, M.D. Michigan College of Medicine and Surgery, Detroit, 1895, one of the most esteemed among the younger physicians of Detroit, died at his home in that city from pneumonia, February 20. The Wayne County Medical Society appointed a committee to draft resolutions touching his death.

Sullivan A. Taylor, M.D. McGill University, Montreal, 1870, who had practiced at Gilmanton Iron Works, N. H., for more than a quarter of a century, died at his home in that place, from valvular heart disease, February 24, aged 63.

George Zabriskie Hunter, M.D. New York University, 1872, for many years a surgeon on the Pacific mail steamers, died from rheumatism, with complications, at his home in Glen Ellen, Cal., February 16, aged 54.

Joseph Jones, M.D. Bellevue Hospital Medical College, New York, 1866, a veteran of the Civil war, in which he served as surgeon of an Ohio regiment, died at his home in San Antonio, Texas, February 24.

George W. Seip, M.D. Jefferson Medical College, Philadelphia, 1862, a specialist on the eye and ear, who practiced in Stroudsburg, Oil City, and finally in Erie, Pa., died at his home in that city, February 21.

Daniel S. Young, M.D. Albany (N. Y.) Medical College, 1855, formerly one of the prominent surgeons of Cincinnati, Ohio, died at the City Hospital in that City, February 19, from bronchitis, aged 78.

William N. Jett, M.D. Jefferson Medical College, Philadelphia, 1849, the oldest physician in King George and Westmoreland counties, Va., died at his home in Port Conway, Va., February 16, aged 76.

John Johnson Heeren, M.D. Rush Medical College, Chicago, 1899, who practiced for a time in Marinette, Wis., but was soon compelled to go to Colorado for his health, died at Orange City, Iowa, February 23.

John A. Moore, M.D. Keokuk Medical College, 1859, who had practiced in Emporia, Kan., since 1860, died at his home in that city from pneumonia, February 14, after an illness of one week, aged 72.

Alice Ewing, M.D. Northwestern University Woman's Medical School, Chicago, 1894, a practitioner of Chicago, died at the home of her sister in Kenosha, Wis., February 26, aged 52.

George Hunn, M.D. University of Louisville, Ky., 1853, a prominent practitioner of Central Kentucky, died from heart disease at his home in Shelby City, Ky., February 25, aged 73.

M. C. Simmons, M.D. Vanderbilt University, Nashville, Tenn., 1889, formerly of Sutter Creek, Cal., died at his home in Grant's Pass., Ore., from pneumonia, after a short illness.

Daniel W. McKitrick, M.D. Starling Medical College, Columbus, Ohio, 1897, died at his home in Columbus, February 21, after an illness of a year, from tuberculosis, aged 33.

Joseph Temm, M.D., a pioneer druggist and physician of St. Louis, Mo., died at the home of his son in that city, February 19, aged 88.

John T. Moore, M.D. Medical College of Alabama, Mobile, 1891, died from pneumonia, at his home in Orrville, Ala., February 21.

William W. Lark, M.D., a pioneer physician of Monroe County, Ill., died at his home in New Hanover, February 21, aged 67.

Miscellany.

"Thiersched" Skin Flaps in Plastic Surgery.—J Berg describes in the *Nordiskt Med. Arkiv*, xxxiv, i, 3, his brilliant success with a single skin flap, lined inside with Thiersch slices of the epidermis, in operations to close large defects in the bladder, cheek, etc. He has been treating exstrophy of the bladder in this way for eleven years. The thin layer of epidermis protects the skin flap against the action of the urine. Several of his patients seen again after a number of years demonstrated to eye and touch the excellence of the results obtained, in the smooth, soft anterior wall of the bladder. The method has also proved a success in the treatment of hypospadia, but he has been most pleased with the results in five or six cases in which he had occasion to restore the cheek after removal of a neoplasm or for other cause entailing an extensive defect. He always takes the skin flap from the neck and leaves the base wide until the Thiersch grafts have grown into place, after which he cuts it to the proper size. The success depends mainly on allowing ample latitude for the shrinking of the flap and on the care of the flap during the interval while the grafts are healing, before the flap is sutured into place. A week is usually sufficient. A piece of rubber tissue is sutured over the defect in the cheek in the meanwhile. He has also obtained excellent results in rhinoplastics by combining Mangoldt's cartilage transplantation with a Thiersched single flap when the framework of the nose was destroyed. He has recently treated a defect in the trachea by this combined method, but too recently to judge of the results.

Pneumonia and Exposure to Cold.—It is years now since the medical profession gave up the idea that exposure to cold was capable *per se* of giving rise to pneumonia; we know that the disease is due to a specific micro-organism. But the notion that "this is good weather for pneumonia"—meaning cold

weather—still holds almost unquestioned sway among the people. It is said that the President's son, ill with pneumonia, has been in the habit of taking long walks in the country bare-headed, and that in this practice he has been joined by a number of his school-mates. To this exposure of the head to cold some newspaper writers have felt inclined to attribute the pneumonia. No argument is needed to upset this theory; we have only to point to the experience of the pupils of Christ's Hospital, in London, commonly known as the "blue coat school" on account of the garb worn by the boys. The small blue worsted cap which has always formed part of their uniform they seldom wear, having cast it aside soon after the founding of the school, in 1553. They are to be met with in all parts of London at any season of the year and in all sorts of weather, always bare-headed. This practice of theirs has been going on for more than three hundreds years now, furnishing on a large scale experimental evidence against the notion that cold causes pneumonia, for the disease has been no more rife among them than among other school boys.—*N. Y. Med. Jour.*

Legal Quacks and Medical Quacks.—The difference in the treatment accorded unprofessional members of the legal profession by the profession as a whole, and the treatment of similar interlopers in the medical profession, or rather the lack of treatment, has been frequently commented upon. A dishonorable or quack lawyer is disbarred, and he can no longer fleece the public under his respectable cloak. But once a physician, always a physician, and the abortionist and quack, known and condemned as he may be, goes his way so long as he is not behind bars. His evil reputation is indeed often his best card. Still the legal profession is not satisfied with the cleansing of its ranks that has been done, which is commendable. The lay press appreciates the deficiences also, as shown by the following editorial from the *Chicago Record-Herald* of Feb. 20:

The grievance committee of the Chicago Bar Association has inaugurated what it is hoped will be a serious and aggressive crusade against disreputable and unprofessional lawyers. Through a circular sent to members of the Association it asks the co-operation of attorneys in this work of purging the local bar, and offers to investigate complaints of unprofessional conduct if the allegations pertaining to such misconduct are made under oath, as required by law.

The number of unworthy lawyers in Chicago has grown so large that reputable members of the bar have become aroused to the necessity of doing something to remove the stigma that unquestionably rests upon the profession by reason of illegal and immoral practices. There appears to be general agreement among judges and leading members of the bar that a considerable portion of the 3,700 lawyers in Chicago either violate the statutes governing the practice of law or are persistently guilty of unprofessional conduct. Notwithstanding this acknowledgment the disbarments are known to be very few.

With the ethics of the profession the public is not deeply concerned. The lawyer who insults the court by offensive language or brutally browbeats a witness can generally be dealt with by the judge, and, as a rule, he soon invites the contempt of decent practitioners. Even the ignorant lawyer can be tolerated, especially if he have enough honesty to compensate for deficiencies in legal knowledge.

But the scoundrel and the shyster, who resort to illegal and immoral practices to pervert or defeat justice, who openly violate the statute by fomenting strife that culminates in litigation, should be booted swiftly and unceremoniously out of the profession.

For the ignorant lawyer who was admitted to the bar in the days when the requirements were not so high, there may be room for reasonable leniency But for the rascally marplot who makes a business of promoting litigation, who is willing to use the testimony of a hired or perjured witness as a basis for a suit, there should be no mercy. Kick him out.

If in this arraignment the word "doctor" is substituted for "lawyer" the situation is still correctly described. The results accomplished by the legal quack are so insignificant when compared with those of his medical congener that they seem trivial indeed, and yet how much does the public or the public press concern itself with the latter. Is it that which touches purse strings more than that which assails health, or is it simply that legal quacks use so much less advertising space?

Consequences of Nearly Total Strumectomy.—When four-fifths or more of a struma are removed the results depend on whether the portion left continues to retain its vitality or atrophies. In the latter case there is liable to be acute tetany with or without myxedema, sometimes terminating in recovery. In a case described by Lundborg in the *Upsala Lack. Forhandl.* for December 21, acute and chronic tetany were observed. Hoffman reports a similar case, in which a four-fifths strumectomy was followed by chronic tetany, myxedema and myotonic reaction of the muscles. Both patients were young and both improved remarkably under thyroid treatment.

Tetanus from Carious Tooth.—*El Siglo Medico*, of February 2, describes a case of severe tetanus which developed suddenly in a young man with no apparent portal of entry. The presence of three carious teeth and the patient's habit of picking his teeth with pins, etc., suggested that a cavity in the teeth might be the focus of infection. The physician had them drawn at once and the mouth thoroughly disinfected every morning under chloroform. The case terminated in recovery.

Association News.

New Members.

New members for the month of February, 1902:

ALABAMA.
Prince, E. M., Coleanor.

ARKANSAS.
Greeson, W. R., Conway.
Rinehart, J. S., Camden.

CALIFORNIA.
Parker, A. S., Riverside.
Kraemer, Adolf, Los Angeles.
Hodghead, D. A., San Francisco.
Cowan, A. B. Fresno.
Trowbridge, D. H., Fresno.
Schafer, A. F., Bakersfield.
Carson, J. S., Bakersfield.
Harry, C. R., Stockton.
Young, W. J., Stockton.
Gibbons, W. E., Stockton.
Hammond, R. R., Stockton.
Newark, Phillips, Los Angeles.
Kahn, S. S., San Francisco.
Noble, Maude, San Francisco.

COLORADO.
Pollock, A. R., Antonito.
Hillkowitz, P., Denver.

CONNECTICUT.
Kent, J. B., Putnam.
Brown, D. C., Danbury.
Smith, H. H., New Haven.
Strosser, H., New Britain.
Taft, C. E., Hartford.
Moore, H. F., Bethel.

DISTRICT OF COLUMBIA.
Bowen, W. S., Washington.

FLORIDA.
McNamar, W. D., Jacksonville.

HAWAIIAN ISLANDS.
Holland, Jno., Kapolio.

IDAHO.
Hinkly, F. L., Lewiston.

ILLINOIS.
Byrnes, Frank, Chicago.
Elliott, C. A., Chicago.
Cox, S. W., Chicago.
Kinder, R. G. W., Rockford.
Shambaugh, G. E., Chicago.
Manierre, J. T., Chicago.
Gill, J. C., Chicago.
Harnish, F. C., Chicago.
Anderson, Niels, Chicago.
Gray, W. L., Champaign.
Warren, J. A., Greenville.
Scott, C. R., Belvidere.
Lewis, U. S., East Dubuque.
Hopkins, S. R., Springfield.

INDIAN TERRITORY.
McAllister, J. S., Sapulpa.
Thompson, C. A., Muskogee.

INDIANA.
Hill, L. B., Seymour.
Langhlin, C. E., Orleans.
Mason, G. C., Oakland City.

IOWA.
Putnam, E. D., Lake Park.

KANSAS.
Norman, E. J., Eureka.
Howard, Minerva F., Cuba.

KENTUCKY.
Caldwell, A. G., Ballard.
Keffer, S., Glenwood.
Kavanaugh, E. W., Lawrenceburg.
Lambert, S., Owensboro.

LOUISIANA.
Roaldes, A. W., de, New Orleans.

MASSACHUSETTS.
Cobb, T. F., Boston.
Brewster, G. W. W., Boston.
Lund, F. B., Boston.
Blake, J. B., Boston.
Keefe, D. E., Springfield.
Robbins, E. E., New Bedford.
Tilden, I. N., New Bedford.
Blair, G. K., Salem.

MEXICO.
Harle, C. S., Chihuahua.

MICHIGAN.
Hornbogen, A. W., Marquette.
Brock, W. H., Midland.
Mitchell, J. W., Bridgeport.
Graham, F. W., Ludington.
Williams, N. H., Jackson.

MINNESOTA.
Irish, P. H., Akeley.
Munro, A. T., Wood Lake.

MISSOURI.
Bristow, G. M., Princeton.
Culbreath, C. B., Cleopatra.
Thompson, J., Kansas City.
Copeland, C. C., Mill Grove.

NEBRASKA.
Lorance, B. F., Brock.

NEW HAMPSHIRE.
Gleason, A. R., Keene.

NEW JERSEY.
Davenport, G. S., Garfield.

NEW YORK.
Purdy, W. I., Middletown.
Hulett, J. B., Middletown.
Wakefield, H., New York City.
Hadley, W. W., Stone Ridge.
Hannon, T. H., Hoosick Falls.
Irish, R. H., Troy.
Nisbet, J. D., New York City.
Allen, C. W., New York City.
Ware, M. W., New York City.
Schneider, L. B., Troy.
Meyer, W. J., White Plains.

NORTH CAROLINA.
Davis, T. W., Mayodan.

NORTH DAKOTA.
Westeen, A. A., Grand Forks.

OHIO.
Syman, L. L., Springfield.
Barger, W. T., Cleveland.

OREGON.
Chipman, R. J., Portland.
Paine, D. A., Engene.
Simmons, W. R., Portland.
Roth, J. B., Portland.
Mackay, A. E., Portland.

PENNSYLVANIA.
Mills, H. Brooker, Philadelphia.
Davenport, S. M., DuBois.
Clouse, A. W., Geneva.
Nightingale, H. B., Philadelphia.
Eaton, A. M., Philadelphia.
Irish, W. B., Pittsburg.
McGraw, E. B., Pittsburg.
Cochran, J. C., Big Run.
Neely, E. E., Allegheny.

RHODE ISLAND.
Peters, W. W., Providence.

SOUTH CAROLINA.
Tuten, T. H., Brunson.

SOUTH DAKOTA.
Talbott, E. F., Flandreau.
Geib, D., Groton.
Roberts, T. S., Sioux Falls.

TENNESSEE.
Flippin, P. J., Rosemark.

TEXAS.
Clavin, E. C., San Antonio.
Garrett, W. A., Corsicana.
Withers, R. L., San Antonio.

VERMONT.
Hammond, S. W., Rutland.

VIRGINIA.
Smith, T. W., Bethel Academy.
Harris, J. E., Norfolk.
Walker, E. E., Pamplin City.
Grandy, C. R., Norfolk.

WASHINGTON.
McGeer, G. H., Tacoma.
Smith, J. L., Spokane.
Lynch, C. J., North Yakima.
Axtell, W. H., Whatcom.
Kirkpatrick, W. D., Whatcom.
Hilscher, F. W., Spokane.
Rummel, T. C., Tacoma.
Van Zandt, E., Whatcom.

WISCONSIN.
Smith, C. S., Elroy.
Campbell, B. L., Monches.
Dewire, M. V., Sharon.

Societies.

COMING MEETINGS.

Medical Association of the Missouri Valley, Lincoln, Neb., March 20, 1902.
American Association of Pathologists and Bacteriologists, Cleveland, O., March 28-29, 1902.
Medical Association of the District of Columbia, Washington, April 1, 1902.
Tri-State Medical Society of Iowa, Illinois and Missouri, Chicago, April 3-4, 1902.
Tennessee State Medical Society, Memphis, April 8, 1902.
Florida Medical Association, Tampa, April 9, 1902.
Western Ophthalmological and Oto-Laryngological Association, Chicago, April 10-12, 1902.
Medical Association of the State of Alabama, Birmingham, April 15, 1902.
Medical Society of the State of California, San Francisco, April 15-17, 1902.
Medical Association of Georgia, Savannah, April 16, 1902.
Mississippi State Medical Association, Jackson, April 16, 1902.
South Carolina Medical Association, Spartanburg, April 16-17, 1902.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 22, 1902.
Association of American Physicians, Washington, D. C., April 29-30, 1902.
American Association of Genito-Urinary Surgeons, Atlantic City, N. J., April 30, 1902.

The Memphis (Tenn.) Medical Society has changed its name to "The Memphis and Shelby County Medical Society," and will be recognized as the Shelby County Society.

Medical Society of the Missouri Valley.—This Society will hold its 14th semi-annual meeting at Lincoln, Neb., March 20, under the presidency of Dr. Richard C. Moore, Omaha.

Harrison County (Tex.) Medical Society.—On February 4 it was decided by this Society to endeavor to affiliate with the State Society and delegates were appointed to the May meeting.

Hancock County (Ohio) Medical Society.—This Society met at Findlay, February 13, and elected Dr. Myron J. Ewing, president; Dr. Norman L. McLachlan, vice-president, and Dr. Don C. Hughes, secretary and treasurer, all of Findlay.

Lynn (Mass.) Medical Fraternity.—On February 9, the Fraternity held a meeting and discussed smallpox and vaccination. Dr. Charles A. Lovejoy, president; Dr. Leonard V. Hatch, vice-president, and Dr. Charles D. S. Lovell, secretary and treasurer.

New York Academy of Medicine.—In the Section on Medicine, Dr. James K. Crook has been elected chairman, and Dr. E. Ellsworth Smith, secretary. In the Section on Obstetrics and Gynecology, Dr. James N. West has been elected chairman, and Dr. Louis J. Ladinski, secretary.

King County (Wash.) Medical Society.—At the postponed annual meeting of this Society, held at Seattle, February 17, Dr. David A. Mitchell was elected president; Dr. George H. Randell, vice-president; Dr. Guy S. Peterkin, secretary, and Dr. W. T. Miles, treasurer, all of Seattle.

Southwestern Iowa Medical Association.—The annual meeting of this Association was held at Creston, February 20. Dr. Enos Mitchell, Weldon, was elected president; Dr. Ross H. Gregory, Nevinville, vice-president; Dr. Joseph P. Claybaugh, Creston, treasurer, and Dr. Frank E. Sampson, Creston, secretary. The midsummer meeting will be held at Albia, August 21.

Medical and Chirurgical Society of Richmond (Va.).—The colored medical men of Richmond and vicinity organized this Society, February 19, with the following officers; Dr. Richard F. Tancil, president; Dr. Henry L. Harris, vice-president; Dr. John Meriweather, treasurer, and Dr. O. B. H. Bowser, secretary, all of Richmond. The membership includes colored practitioners of medicine, dentistry and pharmacy.

New Castle County (Del.) Medical Society.—The regular physicians of the county met at Wilmington, February 20, and organized a medical society with the following officers: Dr. Willard Springer, Wilmington, president; Dr. Harry G. M. Kollock, Newark, vice-president; Dr. Joseph W. Bastian, Wilmington, secretary, and Dr. James A. Draper, Jr., Wilmington, treasurer. The Society will meet in Wilmington monthly.

Shelby County (Tenn.) Medical Society.—The permanent organization of this Society was held at Memphis, February 17. A constitution and by-laws were adopted and the following officers elected: Dr. Joseph H. Stolper, Memphis, president; Dr. Benjamin L. Branch, Collierville, vice-president; Dr. George E. Pettey, Memphis, secretary; Dr. Joseph H. Liebkemann, Memphis, treasurer, and Dr. John H. McKay, Memphis, reporter.

Pottawatomie County (Okla.) Medical Society.—This Society was organized at Shawnee, January 27, auxiliary to the Oklahoma Medical Society. The following officers were elected: Dr. J. W. Kerr, president; Dr. A. T. Grayson, vice-president; Dr. Ed. E. Rice, secretary, and Dr. G. R. Connally, treasurer. At the next meeting, February 11, a constitution and by-laws were adopted and the Society started on routine work.

Grand Rapids (Mich.) Academy of Medicine.—The annual meeting and banquet of the Academy were held at the Morton House, February 18. Dr. Henry Hulst was elected president; Dr. John R. Rogers, secretary; Dr. John A. McColl, vice-president, and Dr. Earl Bigham, treasurer. Dr. Reuben Peterson, Ann Arbor, spoke on "Maternal Impressions"; Dr. George Dock, Ann Arbor, delivered an address on "Specialism in Medicine," and Dr. Donald MacLean, Detroit, discussed "Professional Plagiarism."

Eastern Hampden (Mass.) Medical Association.—At the annual meeting of this body, held at Springfield, February 20, Dr. Walter R. Weiser, Springfield, the retiring president, gave an address on the history of medicine, and prophesied as to its future. The following officers were elected: Dr. George W. Rawson, Amherst, president; Dr. Richard E. Dickson, Granby, vice-president; Dr. George H. Finch, Springfield, secretary and treasurer, and Dr. Harry C. Martin, censor. It was decided to hold the next annual meeting at the same place.

CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL SOCIETY.

Regular Meeting, held Jan. 21, 1902.

The President, Dr. W. E. Casselberry, in the Chair.

DR. OTTO T. FREER read a paper on "The Correction of Deflections of the Nasal Septum, with a Minimum of Traumatism." This article is published in full on page 636 of this issue.

DISCUSSION.

DR. MOREAU R. BROWN, in opening the discussion, said that, as to the method advocated by Dr. Freer, the length of time the operation requires would cause one to hesitate performing it, and as it is the popular idea, not only among the laity in general but among the members of the medical profession, that the septum is the support to the nose and that if we remove the support the nose is apt to fall in, one should hesitate in removing it. Should the nose become depressed later on through disease or accident and legal proceedings be brought against us, it would be difficult to protect ourselves from the charge that removal of the septum was the cause of the depression of the nose. However, the operation of Dr. Freer is an interesting one and surely would be followed with excellent results in certain cases, though as satisfactory results can be obtained with less disturbance by converting all cases of deflected septum with thickening or outgrowth of the partition into those of simple deflection and then rectifying the latter, as, for example, where the lower part of the septum is dislocated from the septal crest of the superior maxillary or in cases of angular deflection where the septum is thickened; the mucous membrane should be divided and dissected back the entire length of the ridge, the ridge removed and the mucous membrane stitched back in position. The parts heal rapidly within a few days, after which the Roe instruments should be used, first to divide the mucous membrane and the cartilage on the concave side of the septum, secondly by means of forceps to straighten the septum. However, with this precaution, that the smaller size

male blade should be used and not that which was originally intended to be employed with the given size female blade. After the septum has been straightened by this method, the Wyeth's hard rubber tubes are placed in the nose for several days. I have performed this operation without a general anesthetic and have had uniformly very satisfactory results and no complications of any kind.

Dr. A. M. Corwin—With regard to the use of the Roe instruments, especially the Roe forceps, I have had rather pleasing results in using it in the way Dr. Brown has referred to, that is, by employing a small male blade and large female blade. It seems to facilitate the work by giving room for the septum to pass between the blades when they are closed, so that the fracture is more complete. Simple deflection of the septum without thickening affecting the anterior half of the cartilaginous septum, coming away out to the front is very trying to deal with. These septa are frequently extremely thin and bend easily; the whole nose is very flexible. To straighten them properly or to give any result with reference to the relief of stenosis, without great danger of leaving perforation, has been to me at times no small problem. But with the forceps referred to, I obtained a very fair result in one case a number of years ago, by depressing the curvature at the part of greatest convexity—thus converting the simple into a double Cupid's bow-shaped bend and leaving a fair opening on both sides without disturbing the external contour of the nose. In another case I recall I converted a simple bow-shaped into an S-shaped curvature; the patient breathed through the upper curve of the S on one side, and through the other at the lower side. This was a short distance back, from the extreme anterior end of the septum, so that in that case there was a good practical, but not an ideal, result.

Dr. E. Fletcher Ingals—We find numerous deformities in the nasal septum, and as different physicians have to operate on them they necessarily call for many variations in the operations recommended, and I think for their correction. Some cases are suitable for one and some for another operation, and I presume all of the operations that have gained popularity are adapted to certain cases. The old operation of Chaissagnac, for example, in which the mucous membrane was dissected up and the cartilaginous tissue pared off, the membrane undoubtedly being replaced, is an excellent one for certain deformities. The Roberts operation, highly extolled for some time, consisted of first cutting through the lower part of the deflected portion of the septum, which was then bent over and a pin thrust in from the free side, through the cartilage and imbedded in the mucous membrane back of the cut on the operated side to hold it in position; another pin was then inserted through the nose to support the first. There appears to have been a good deal of discomfort from this procedure that would not arise from ordinary operations, and few laryngologists employ the method. The Gleason operation consists of cutting out at the bottom and sides a U-shaped piece from the septum. This flap, consisting of the whole thickness of the septum, is then forced through the opening and caught and held by a spur at the lower part of the wound on the other side; this operation is well adapted to some deflections, but is not suitable for those cases in which there is much of an exostosis. The so-called Asch operation is a very good one for a bow-like deflection of the cartilaginous septum, where the bony tissues are not much involved; but when the bony tissues are involved, the criticism by the author of this evening's paper appears to me quite just. There is nothing new about the so-called Asch operation, excepting the instruments that Dr. Asch devised with which to perform it. The crucial incision that he recommended, one incision from above downward and the other from before backward, has been the common practice of general surgeons for ages. In the cases for which this operation is specially adapted the crucial incision can be made better by means of a knife than by Asch's scissors, for with the knife they may be made obliquely so that the cut edges will easily slide by each other, and the abrupt edge made by the edge of the right angle cut will be avoided.

The procedure that has been spoken of as my operation is designed for those cases in which the cartilaginous septum is bent so as to more or less close the nostril by a nearly transverse triangular plate, narrow above but from 5 to 10 mm. in width at the lower part. The operation consists of removing a triangular piece of cartilage from the front wall of this conical projection of just sufficient size so that the opening will be closed when the lateral wall of the conical projection is brought to a vertical position, but this can not be done without cutting away the lower wall or what from the front constitutes the base of the triangle. This, it should be remembered, runs upward and backward as a hard, bony ridge 2 or 3 cm. It may be cut away with a saw or trephine, but I commonly use the latter. The first incision is made from above downward and outward nearly through the middle of the triangle; the mucous membrane is reflected on both sides of this incision to uncover as large a portion of the cartilage as it is desirable to remove; the cartilage is then cut through, preferably with Sajous' knife from above downward on both sides of the triangle, care being taken not to cut through the mucous membrane on the opposite side. This piece of cartilage is then seized at its apex by forceps and drawn down, the mucous membrane being loosened from its posterior surface at the same time, and cut off at the base of the triangle. The lower wall or floor of the conical projection is next cut away with a trephine, and the resiliency of the septum is overcome by cutting through it beneath the mucous membrane with my small hook-like cartilage knife, or by cutting through it in many places with the blades of my septum forceps. The lateral wall is then pressed over to the normal plane of the septum and held in position by a tampon of surgeons' lint that is made to fill the formerly obstructed naris. This tampon is made from a strip of lint about a centimeter wide and a meter in length, that has been thoroughly impregnated with iodoform and boric acid. The flap is held in position and the outer part of the naris retracted with my bent steel nasal spatulæ and the strip of lint is pushed in, fold after fold, with my bent nasal scissors which take the place, for this purpose, of forceps and probe, and which by the way add enormously to the facility in packing this cavity. In destroying the resiliency of the septum, I sometimes cut it through at the upper part with a small trephine beneath the mucous membrane, being careful not to cut the latter, at least on both sides at the same time, but several years ago in one case I had sloughing of the flap from such an operation on account of having destroyed the blood supply. This was a very bad case in which the external wall of the projection had pressed firmly upward and outward upon the roof and external wall of the nasal cavity and the operation was followed by severe hemorrhage that necessitated tamponing both sides for many days. I think a chisel would be an excellent instrument for cutting through the upper part of this triangle in destroying the resiliency, although I have never used one. The operation I perform where there is a good deal of thickening of the septum and a spur, as there is in most cases, is somewhat different. With a Sajous knife passed first to the farther end of the exostosis I cut through the mucous membrane from behind forward, as nearly as possible along the crest. When the incision reaches the anterior end of the exostosis it is swept forward and upward in front of the bent cartilage to the upper part of the septum. With a spud this flap of membrane is lifted off of the cartilage and upper surface of the exostosis throughout its entire length. Occasionally, we cut entirely through the septum when there is a deep furrow on the opposite side, but I try to avoid this and can succeed when the furrow is not too deep; however, if an opening is made the flap will usually cover it. I cut away the bottom of the spur with a trephine and then starting the saw at the very upper part of the spur where the septum is in the normal plane, I cut straight down to the floor. The exostosis is thus removed. Sometimes I cut downward with a saw about 4/5 of the whole distance and then insert the saw below and saw upward to meet the cut from above, but the bony tissue is so hard at the lower part of the exostosis that it is easier to cut with trephine than with saw. After the exostosis is removed, the mucous membrane that has been lifted up is applied to the cut surfaces and

covers any opening that may have been made unless the opening is very large, thus a perfect result will be obtained in the majority of cases. Of course, we do not want a fenestrum, yet if the perforation is only in the bony section, it is of no consequence; however, if close to the front, it is sometimes an awkward thing, causing the patient much annoyance from scabbing, and, as Dr. Corwin suggested, sometimes causing whistling, which is not pleasant. I recall one patient who had a very pronounced whistling that kept him awake at night and annoyed all his friends, and I had a good deal of difficulty in closing the opening, though I finally succeeded. I have never tried the operation of taking out all the cartilage advocated by Dr. Freer; it does not seem to me that I should like it. The front portion of the cartilage and the floor is all that I should take out. The external wall is then bent down so as to cover the opening if one has been made and we have a normal septum instead of a septum with only mucous membrane making up the two sides.

The author employs powdered cocain as an anesthetic. I used it some years ago, but I was not as fortunate as he has been in absence of unpleasant consequences. I had several patients who became very much intoxicated with the cocain, so much so as to be alarming, and I therefore discontinued using it in powdered form. For several years I have employed a 4 per cent. mixture, which very rarely causes constitutional symptoms; indeed, since using this I have not seen a case of cocain poisoning that has caused me any anxiety. This solution which I apply with a swab is guarded by atropin 1/10 grain, strophanthus 1/5 grain, ol. caryophilli 3 minims, and carbolic acid 10 grains to the ounce. The carbolic acid appears to prevent absorption into the blood current to the extent that would occur if it were not used.

DR. CHARLES M. ROBERTSON—It seems to me that of all the cases, practically, that come under the care of the rhinologist, there is a redundancy of tissue at the convex apex of the deflection. According to my experience, the matter in most cases resolves itself into simply cutting away the tissue that is hypertrophied at the apex of the deflection. We can save producing a perforation at the point of greatest concavity by a method mentioned, in the work of Shurly, where a saline solution is injected under the mucous membrane at the point of greatest concavity, which has the effect of lifting the membrane up at this point and, therefore, the saw if it should cut through the cartilage does not cut the mucous membrane. I should think in the class of deflections described by Dr. Freer, his operation would be unique; at the same time, the number of cases to which it is applicable would be exceedingly rare, as exostosis is the rule in all cases of deflected septa. I should feel very chary about using powdered cocain. I have always taught students that it was dangerous to apply cocain, other than on very small pledgets of cotton on a probe, and then only to the part to be operated on, never allowing the pledget to remain upon the tissues for any length of time. I have seen instructors pack pieces of saturated cotton into the nasal cavity and allow it to remain upon the mucous membrane for ten minutes or more. It has been my unfortunate experience to have seen several cases of cocain poisoning, even where small amounts of the drug were used and some of them gave evidence of alarming symptoms. I have, by the use of atropin, overcome to some extent the toxic effect of cocain, and it has been my custom in these cases to place the patient upon full doses of strychnia several days prior to the operation with the administration of stimulants during the operation.

I have never used the Kyle tube, but have used all the rest of them, and to my idea it is about the poorest method of holding the septum in place that could be devised. As to the dressing mentioned, I think anyone would have a hard time in putting iodoform gauze into my nose; I do not appreciate the smell of it, and very many people are susceptible to the effects of iodin. I pack the nose with gauze strips of the same size that Dr. Ingals mentioned, with the exception that I use plain sterilized gauze saturated with sterilized vaseline. The first dressing is allowed to remain in place usually for thirty-six hours, and then the nose is dressed daily for three or four days. The great advantage in this dressing over the dry gauze is that it does not stick to the tissues, and it keeps the tissues covered with sterilized vaseline, thus affording comfort to the patient, and an ideal dressing to the wound. I have seen elevation of temperature in cases where the gauze was allowed to remain in the nose longer than thirty-six hours, and where there is purulent discharge from the nostril at the time of the operation it should be changed much oftener. I pack the nose thoroughly as far back as I can, doubling the gauze so that it can not project into the nasopharynx, and tight enough to control hemorrhage, and hold the parts in place. The other nostril is left open for breathing. I am not so conservative of the mucous membrane as are some of you, as I have often removed it with the spur under it, and, as yet, have never been troubled with scab formation.

DR. HENRY GRADLE—I have come more and more to avoid the Asch operation, although I have never seen bad results from it. I have always considered the Asch operation applicable only to those cases where we deal with a curved septum without thickening, and with plenty of room on the concave side. This condition is not very common, but it does occur, and in such cases the Asch operation is indeed very useful. When the cut edges overlap too much I trim them at the time so as to get as smooth a septal surface as possible after the regular Asch operation. I have never fractured the bone, only the cartilage. I can also say I have not found it necessary to go back into the bone in the operation Dr. Freer describes in my limited experience with it. I have done it according to the original description of Krieg and Boenninghaus, and not with the refined technique and instruments which Dr. Freer employs. I have not been able to save all of the mucous membrane, but I try to save as much as possible of it. The greatest difficulty I find in the operation is to sever the mucous membrane on the convex as well as on the concave sides, and wherever the bend is angular. When the bend is bow-shaped, the separation is not so difficult. I have used submucous injections of salt solution with some cocain on the concave side, and found them of some advantage, but not much. In none of my operations did I go back into the bone. In the majority of cases it is the cartilaginous portion which occludes the nose. However, whenever I can I avoid operations according to the Asch or Krieg methods, if possible, and limit myself to removing all edges and spurs so as to gain space thereby, as these operations are less formidable. After all, the saw is the most ideal instrument, if it is applicable, that is if the spur has not too gradual a slope to permit the successful application of the saw. I wish to call attention to two instruments that are not used quite as much as they deserve, not for the condition which Dr. Freer described, but for the removal of ledges or spurs that extend far back. One is a large trephine; mine has a diameter of 8 mm. It is rather difficult to steady this large trephine. On this account I have had a sheath made consisting of a cylinder into which the trephine fits accurately. The posterior part of this sheath is halved in such a way as to represent only a semi-cylinder instead of a complete tube. The sheath is pushed in so that the open portion hugs the septal crest and the trephine working in the sheath cuts away very accurately the portion hugged by the semi-cylindrical part of the sheath. If necessary, I first use a smaller trephine to weaken the bone and finish with one single sweep with the larger trephine. If the trephine does not remove enough in one application, I reapply the sheath to the edge of the wound and cut off another slice.

Outside of two cases of acute mania I have never been seriously alarmed. During the last six years I have used cocain only on pledgets of cotton, wound very tightly around toothpicks, so that the amount of cocain is not large. In this manner I have used 20 per cent. solutions in hundreds of operations, and have never seen any unpleasant results therefrom.

DR. FREER, closing the discussion—Dr. Brown has referred to the possibility of damage suits after the operation I advocate, providing the patient accidentally should fracture and deform his nose at some time after the deflection has been corrected. It is possible that this very statement may direct

the attention of a certain doubtful class of lawyers to the matter, but I think that the fact that such an authority as Dr. Brown agrees with me that the septum is not needed as a support to the external nose and that no member of this Society has objected to my statement to that effect, would deprive the legal action mentioned of all basis. My operation would not weaken the septum more than would the usual operations for correction of deflections. For example, if the septum had any supporting function for the external nose, the operation of Gleason would certainly destroy this more than the window-resection operation would, as the U-shaped flap separated by the saw is certainly incapable of supporting anything, and this flap in extreme deflections is intended by Gleason to include the entire septum from the cartilaginous part anteriorly back to near the posterior border of the vomer. This will leave only a small frame of undivided septum left to furnish the supposed supporting function. The fractures and incisions of the Asch operation would act in a similar way. The amount of cartilage or bone removed by the resection operation that I advocate bears but a small proportion to the portion remaining untouched, so that an abundant frame of untouched septal cartilage and bone, and that composed of the thickest portions, remains. This suffices amply to maintain the form of the septum and preserve its elasticity. I think that the resection operation may be regarded as a standard one considering the large number of cases reported by Krieg and Boenninghaus, with my own in addition.

Dr. Brown's preliminary removal of the dislocation of the anterior inferior angle of the quadrangular cartilage is probably better than my mode of its subsequent excision, as when the main operation is done the patient is disappointed if he can not breathe freely at once. With reference to the stellate punch included in the Roe set of instruments I think that Roe himself has largely given this up for the knife used by him to cut through the cartilage. The suggestion to use a smaller male blade with a larger female one I think would add to the efficiency of the Roe forceps.

I seem to have produced the impression that the resection operation is excessively lengthy. I included preparations and dressings in my estimate of time. The actual operating, even in a case of great deformity, usually does not exceed three-quarters to one hour. I do not think that any surgeon can correct an extreme deflection involving the bone extensively in much less than an hour by any method.

Dr. Ingals has emphasized the usual association of deflection with ecchondroses, exostoses and thickenings. It has been my fortune to meet a number of deflections of even thickness, but I agree that this is not the rule. The resection method is especially fitted to cope with ecchondroses and exostoses and especially the greatest difficulty, thickenings of the wall of the deflection. These can all be removed bodily during the operation with chisels or cutting forceps from between the two layers of mucosa. I endeavor to limit the use of the trephine as much as possible on account of its tendency to tear the mucosa into shreds. It is even more difficult to preserve the mucous membrane when a saw is used. The chisel I employ more and more as it does no injury beyond its proper field of action. It is what Nicholas Senn calls "the instrument of precision." By making the incisions made by it in the bony septum meet behind at an angle it is possible to cut out nearly all of a bony deflection with a few blows of the mallet. Operations of the Asch or Gleason type are not fitted to cope with the frequent ecchondroses and exostoses mentioned by Dr. Ingals.

It is the amount of cocain in grains or parts of a grain absorbed by the patient that involves possible danger to him and not the concentration of the solution. With powdered cocain an intense local effect is produced while but little cocain is absorbed. The swab used is moistened before it is dipped in the cocain powder so that this is applied in the form of a thick syrup which adheres to the part touched with it while cocain solutions run and diffuse themselves over a larger surface with greater danger of absorption. Atropin, as suggested by Dr. Ingals, would prove a valuable antidote to the depressing effect of cocain. Dr. Corwin's lucid explanation of the mode of action of the Roe forceps was pleasing to me, as he explained so clearly the mechanical reasons for their action, in fact I did not understand the manner in which they produced their effect perfectly until I had seen his drawings.

I have never tried the effect of the injection of saline solution underneath the mucous membrane of the concavity, as I should fear lifting this off further than the operation was intended to go, thus endangering the nutrition of the mucosa.

I am glad that Dr. Robertson agrees with me concerning the use of tubes. I think that he misunderstood me in regard to the material used by me in packing the nostril. I do not use iodoform gauze but lint saturated with powdered subnitrate of bismuth. My packings have never become foul nor have I ever had sepsis follow the operation; this may occur, however, and depends largely on the vitality of the patient.

Therapeutics.

PRESCRIPTION WRITING, XVI.

(Concluded from page 608.)

Metric System—Continued.

In order to facilitate rapid calculation in the use of the metric system, certain rules have been formulated which render the estimation of the dose of each individual ingredient unnecessary and yet insures accuracy in the amount of each given.

When a liquid preparation is prescribed the amount called for should be 2 ounces or a multiple of two, and when capsules are ordered the physician should write for 15, or a multiple of 15. A 2-ounce mixture, one teaspoonful at a dose, contains practically fifteen doses, since a teaspoon holds a fraction more than a dram. The following will serve to illustrate these statements: The amount of each ingredient prescribed in a 2-ounce mixture should contain as many cubic centimeters (or grams if solid) as correspond to a single dose of the ingredient when given in minims (or grains) in the apothecary measure. This may be seen in the following prescription:

℞. Quininæ bisulph. 2
Tinct. nucis vomicæ 5
Tinct. hyoscyami 10
Tinct. card. comp. 15
Tinct. gent. comp. q. s. ad 62

M. Sig.: Take one teaspoonful in water before each meal.

In the above it will be observed that by converting these amounts into the apothecary system and calculating in the ordinary way the number of grains or minims of each ingredient given at one dose corresponds approximately to the number of cubic centimeters or grams of each prescribed. Thus, the 2 grams of quinin will represent 2 grains to the teaspoonful; the 5 c.c. of tincture of nux vomica will give 5 minims to the dose and the 10 c.c. of tincture of hyoscyamus, and the 15 c.c. of comp. tincture of cardamom will indicate 10 and 15 minims of the respective tinctures to each dose.

In a 4-ounce mixture, with a teaspoonful at a dose, the amount of each ingredient contained in the mixture as prescribed in cubic centimeters or grams should be double its dose in minims or grains, so that the foregoing prescription would be written as follows:

℞. Quininæ bisulph. 4
Tinct. nucis vomicæ 10
Tinct. hyoscyami 20
Tinct. card. comp. 30
Tinct. gent. comp. q. s. ad 124

M. Sig.: One teaspoonful in water after each meal.

Following the same rule of proportions, if a 4-ounce mixture is ordered with directions to take two teaspoonfuls at a dose, then the amounts should remain the same as when 2 ounces are prescribed with one teaspoonful at a dose; it would remain unchanged when the patient received an 8-ounce mixture, with a tablespoonful at a dose. But, on the other hand, an 8-ounce mixture, with a teaspoonful at a dose, should contain four times the number of cubic centimeters or grams as there are minims or grains desired in each dose.

In writing for capsules, the same proportions must be observed as in the liquid form.

Cracked Nipples.

The following is suggested by the *Montreal Medical* in treatment of cracked nipples:

℞. Gutta percha ..... gr. xx
Spts. chloroformi q. s. to dissolve.
M. Sig.: Apply after each nursing; or:

The following formulæ are very frequently employed in healing fissures of the nipples:

℞. Tinct. benzoini comp. ..... m. xv 1
Olei olivæ ..... ʒii 7|50
Lani ..... ʒvi 22|50
M. Sig.: Apply after each nursing, or:

℞. Ichthyol ..... ʒi 3|75
Ol. eucalypti ..... m. v |30
Lani ..... ʒv 18|75
M. Sig.: Apply locally after nursing and wash before nursing again.

Throat Symptoms in Scarlatina.

M. G. Price, as noted in *Med. Standard,* recommends capsicum in the throat symptoms of scarlatina, especially in granular and relaxed, enfeebled conditions of the pharynx. The following is used by him as a gargle and administered internally:

℞. Tinct. capsici ..... ʒi 3|75
Potass. chloratis ..... ʒiii 11|25
Glycerini ..... ℥ii 60
Acidi hydrochlor. dil. ..... ʒiii 11|25
Aquæ q. s. ad ..... ℥xii 360
M. Sig.: Use as a gargle four or five times daily.

The following is beneficial as a gargle or spray:

℞. Sodii chloridi ..... gr. v |30
Sodii boratis ..... gr. v |30
Ol. eucalypti ..... m. 3/50 |0036
Ol. gaultheriæ ..... m. 3/100 |0018
Menthol ..... m. 3/50 |0036
Thymol ..... m. 3/50 |0036
Aquæ q. s. ad ..... ℥iv 120
M. Sig.: Use as a spray.

Aspirin in Rheumatism.

Coverly, in *Ther. Gaz.,* reports favorably on the use of aspirin in rheumatic affections. This preparation is a salicylic acid derivative, being a combination of acetyl with salicylic acid. It does not irritate the stomach because it is but slightly decomposed there; the alkaline fluids of the intestine, however, liberate the salicylic constituent, which is then taken into the circulation. Aspirin has also been recommended in neuralgias of tabes dorsalis and in the pain of cancer of internal viscera.

Diabetes in Children.

The following, according to *Le Prog. Médical,* are of service in the treatment of diabetes in children:

℞. Antipyrini ..... ʒss 1|90
Glycerini ..... ʒvi 22|50
Aquæ q. s. ad ..... ℥iv 120
M. Sig.: One to four teaspoonfuls in twenty-four hours; or:

℞. Strych. sulph. ..... gr. 1/140 |00046
Sodii arsenatis ..... gr. 1/70 |00093
Codeinæ ..... gr. 1/7 |0093
Quininæ valer. ..... gr. 5/7 |0465
Ext. valerian q. s.
M. Ft. pilula No. i. Sig.: One to six such pills, according to age or case.

Pruritus.

Dr. M. B. Hartzwell, in *Ther. Gazette,* states that itching is one of the most common and at the same time annoying symptoms of many diseases of the skin. He relates some of the causes, such as coffee, tobacco and drug habits; or jaundice from obstruction, nephritis, diabetes mellitus, etc. He states that internal remedies, however, are less numerous and less useful than local treatment; and that whatever internal remedies are used local remedies can not be well dispensed with. In mild cases of pruritus, inunctions with petrolatum, oleum amygdalæ, or unguentum aquæ rosæ, will often suffice, or bathing the parts in water as hot as can well be borne will in a large proportion of the cases prove effective. But no local remedy, according to his statement, is so generally useful as carbolic acid used either in the form of an ointment or a lotion. The following lotion is recommended by him as a splendid application in all forms of itching:

℞. Acidi carbolici ..... ʒss 1|90
Glycerini ..... ʒii 7|50
Aq. camphoræ q. s. ad ..... ℥iv 120
M. Sig.: To be mopped, not rubbed, upon the affected parts every three hours.

In treating small areas of pruritus, such as pruritus ani, he advises the following paste:

℞. Acidi carbol. ..... gr. x-xv |66-1
Pulv amyli
Bismuthi subnit, āā ..... ʒii 7|50
Petrolati ..... ℥ss 15
M. Sig.: Apply locally two or three times daily; or:

℞. Acidi carbol. ..... gr. x |66
Pulv. camphoræ ..... gr. xv 1
Pulv. amyli
Bismuthi subnit, āā ..... ʒii 7|50
Petrolati ..... ℥ss 15
M. Sig.: To be applied locally when the inflammation is of moderate severity.

He warns against the use of carbolic acid ointment when large areas of skin are involved, suggesting the use of lotions instead.

He regards menthol as next in rank to carbolic acid as an antipruritic. He employs it in many cases of pruritus ani and pruritus vulvæ. He prescribes it in the form of a paste or an ointment, as it is not very soluble in water and alcoholic lotions are irritable. The following is recommended:

℞. Menthol ..... gr. viii |50
Pulv. amyli
Pulv. zinci oxidi, āā ..... ʒiss 5|60
Ung. aq. rosæ ..... ʒv 18|75
M. Sig.: Apply locally. The above paste is of use as a soothing and cooling ointment in the dry and less inflammatory varieties of eczema. He also states that the strength of menthol should rarely exceed 10 grains to the ounce.

The pain to the eyes which it causes when applied to the face makes its use there unpleasant. Resorcin, in his opinion, while not so useful in itching, renders good service in the moist forms of eczema when applied as a lotion. Its power to relieve itching is increased considerably by the addition of a half of one per cent. of sodium chlorid as follows:

℞. Resorcini ..... gr. xv-ʒss 1-2
Sodii chloridi ..... gr. xv 1
Glycerini ..... ʒii 7|50
Liq. calcis q. s. ad ..... ℥iv 120
M. Sig.: Apply locally.

He especially recommends thymol in senile pruritus. It may be employed in the form of a lotion in the strength of one-half grain to the ounce, either alone or in the following combination:

℞. Thymol ..... gr. viii |50
Liq. potassæ ..... ℥i 30
Glycerini ..... ʒiii 11|25
Aq. q. s. ad. ..... ℥viii 480
M. Sig.: To be used locally two or three times a day.

In the itching of lichen planus the following is recommended:

℞. Hydrarg. bichloridi ..... gr. ss-v |03-30
Acidi carbol. ..... gr. xx 1|33
Ung. zinci oxidi ..... ℥i 30
M. Sig.: Apply locally.

In the rebellious cases of pruritus ani and pruritus vulvæ, which are the most annoying of all the itching diseases of the skin, he recommends the following:

℞. Argenti nitratis ..... gr. x-lx |66-3.75
Aq. destil. q. s. ad ..... ℥i 30
M. Sig.: Apply locally with a camel's hair brush every second day.

He sometimes prefers spirits of nitrous ether or tincture of benzoin compound similarly applied.

Medicolegal.

Not an Expert on Effect of Electricity.—The Court of Civil Appeals of Texas says, in the case of Wehner vs. Lagerfelt, that an "expert," as the word imports, is one having had experience. Here a physician of 35 years' practice was called to testify with regard to the effect of a shock of electricity on the human system. He said that he had read the best authorities on the subject, and knew what the authorities said and claimed to be the result of electricity upon the human system. But at the same time he said he was not an expert, and, to be very frank, did not feel qualified to give an opinion; that he did not know what would be the probable result of a shock from electricity, such as was complained of in this case, from actual experience, because he had no experience in treating such cases, though, from reading the best authorities on the subject, he knew what they said about the matter. He testified to everything he knew about the effect of the electric shock upon the child that had received it, and the court holds that there was no error in refusing to permit anything more to be proved by him. It compliments him on his candor, and says that of all others he was best qualified to know whether he was an expert on the subject concerning which his opinion was sought to be given, namely, that a shock to the human system from electricity, such as had been received in this case, would leave no permanent injury or bad results, and that there would be no tissue change on account of the shock. When a witness states he knows nothing about the subject of inquiry, and that he is not qualified to give an opinion, he should not be permitted to express any; for, in order to say something concerning a matter, the witness should know something. While an expert may testify to an opinion of his own derived from books, for one to do so he must be an expert, and have an opinion of his own upon the subject of inquiry. Books of science are not admissible in evidence to prove the opinions contained therein. If they are not, how can one who knows their contents, but has formed no opinion of his own upon the subject under consideration, be allowed to testify to what the books say? The books themselves would be the best evidence, and they are no evidence at all.

Communications to Physicians About Accidents.—In the personal injury case of Griebel vs. the Brooklyn Heights Railroad Company, the second appellate division of the Supreme Court of New York says that if the law-making power desires to extend the privilege of secrecy to all statements of every kind made by an injured person to his medical attendant, it is very easy to say so in plain and unmistakable language. Up to the present time, however, the New York legislature has refused to go so far as that. It has limited the privilege to information necessary to enable the physician or surgeon to act in the capacity of physician or surgeon; and when, in any case, it is perfectly plain that the information given is not of this character, there is no reason why the courts should be sedulous to create a protection which the legislature has not seen fit to bestow. It is easy, of course, to imagine cases, and any judge who has had much experience in the trial of negligence suits can recall many, where a disclosure by the injured person of the manner in which the accident occurred might well be deemed necessary to the furtherance of proper surgical or medical treatment. These remarks, of course, do not apply to such cases, but only to those cases in which there is absolutely nothing to indicate that the information disclosed by the patient, and sought to be laid before the jury, could have any possible bearing upon the professional conduct or action of the medical man to whom the disclosure was made. Moreover, the court holds that where it is the duty of the house surgeon of a hospital to find out from the patient how the accident occurred in order to comply with the rules of the institution, then the information given by the patient on that subject may be deemed privileged.

Mistake Furnishing Deadly Drug Gross Negligence.—The Court of Appeals of Kentucky holds, in the case of Smith's Administratrix vs. Middleton, that to put in charge of a drug business one with authority to dispense such poisonous and dangerous drugs as morphin, where such one gave such a deadly drug to one calling for calomel, placing it in a box labeled, "Calomel, ¼ grain," without notice of the true nature of the drug furnished, was of itself such evidence of that degree of gross negligence that would warrant a jury in finding punitive damages against such wrongdoer. It declares that it can not say that one holding himself out as competent to handle such drugs, and who does so, having rightful access to them, and relied upon by those dealing with him to exercise that high degree of caution and care called for by the peculiarly dangerous nature of this business, can be heard to say that his mistakes by which he furnishes a customer the most deadly of drugs for those comparatively harmless is not, in and of itself, gross negligence, and that of an aggravated form. In a business so hazardous, having to do so directly and frequently with the health and lives of so great a number of people, the highest degree of care and prudence for the safety of those dealing with such dealer is required; and that degree of care exacted of such dealer will be required, also, of each servant intrusted by him with the conduct of his calling. Nor does the court think that it ought to affect the case against the dealer in the least, however careful and attentive the clerk was ordinarily, if on the particular occasion in question he was negligent or grossly negligent.

Pointing Out Physical Signs of Injuries.—The second appellate division of the Supreme Court of New York holds that there was no error, in the personal injury case of Perry vs. the Metropolitan Street Railway Company, in permitting a physician to exhibit the bared body of the party suing to the jury, and to point out thereon physical signs of the injuries alleged to have been sustained. The reason it gives is that such physical exhibition was necessary to a demonstration of the deformity testified to by the physician, and tended to make the description of the injury more intelligible to the jury. It says further that there is a manifest distinction between an exhibition of a deformed body by way of a more intelligent and satisfactory understanding of the injury (and its effects where the extent and character of the injury are challenged), and the exhibition of a dead and severed part of the body, where the injury is unchallenged, and when the purpose of the show is to prove a matter of minor importance fully capable of proof by evidence which has no tendency to influence or to prejudice the jury.

Cross-Examination from Medical Authorities.—In the cross-examination of certain medical experts, in the personal injury case of Clukey vs. the Seattle Electric Company, the experts were asked if such authorities did not lay down certain rules, the attorney reading the language of the rule from the author's work. It was contended that this was an infraction of the rule of evidence against the admission of medical authorities. But the Supreme Court of Washington does not think the rule of law was announced to meet the practice of the kind complained of. It says that these questions were propounded upon cross-examination for the purpose of testing the knowledge of the experts. It would have been competent for the attorney to have stated supposititious cases to the experts. He could properly have stated the rule from memory, asking the experts if such an author did not lay down such a rule. It seems there could be no tenable objection to his reading the rule to the experts. In fact, it is a more exact method, and less liable to make a wrong impression on the mind of the juror, than to cross-examine from memory.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record (N. Y.), February 22.

1 *Gonorrheal Infection of the Prostate. John Van der Poel.
2 *An Eight-Years' Experience in the Radical Cure of Movable Retroversions of the Uterus by Alexander's Operation. LeRoy Broun.
3 *Intermittent Claudication (Intermittent Limping) Due to Obliterating Arteritis. Charles L. Dana.
4 Unilateral Right-sided venous Thrombosis, Associated with Cardiac Disease, Autopsy. John Winters Brannan.

5 *The Management of Critical Cases of Ruptured Extra-uterine Pregnancy, with the Report of a Case of Combined Intra- and Extra-uterine Pregnancy. J. W. Elliot.
6 *Preliminary Note on the Prevention of Nausea and Vomiting Following Ether Anesthesia. Ralph J. Hess.

Medical News (N. Y.), February 22.

7 Some Notes on the British Congress on Tuberculosis. E. G. Janeway.
8 *The Relation between Bovine and Human Tuberculosis. Theobald Smith.
9 *A Plea for an Accepted Nomenclature with Reference to the Classification of Pulmonary Tuberculosis. J. Edward Stubbert.
10 *Some Notes on the Prophylactic Screen in the Treatment of Tuberculous Conditions of the Larynx and Pharynx. Stephen W. Wells.
11 *The Pathology and Etiology of Prostatic Hypertrophy: Suprapubic Drainage and Myomectomy Considered as Methods of Treatment and Cure. Augustus C. Bernays.

Boston Medical and Surgical Journal, February 20.

12 The Significance, Pathological and Clinical, of Abdominal Pain. (To be concluded.) Maurice H. Richardson.
13 *The Treatment of Eclampsia by the Method of Prof. W. Stroganoff. F. S. Newell.
14 *Surgery of the Gall-Bladder and Ducts. (Concluded.) John W. Keefe.
15 On the Value of Modern Methods of Diagnosis and Treatment of Gastro-intestinal Diseases. Richard F. Chase.

Philadelphia Medical Journal, February 22.

16 *On the Relationship between Human and Bovine Tuberculosis. J. G. Adami.
17 Some Points Relating to Renal Calculus. William Bennett.
18 The Progress of Knowledge Concerning Venom and Antivenene. A Synoptical Review of the Literature of the Past Fifteen Years. (Continued.) Joseph McFarland.
19 Orthopedic Cases. Recovery from Pott's Disease Without Deformity, etc. James K. Young.
20 *Surgery of the Spine. (Concluded.) Samuel Lloyd.

American Medicine (Philadelphia), February 22.

21 *The Etiology of Yellow Fever—A Supplemental Note. Walter Reed and James Carroll.
22 *Observations Concerning the Possible Infectiousness of Meat and Milk from Tuberculous Animals. Ernest N. Hutchinson.
23 *An Outline of the Care of the Acutely Insane. Arthur McGugan.
24 *The Indications for Perineal Section in Stricture. G. Frank Lydston.
25 Report of a Case of Pernicious Anemia. G. E. Tyler and C. E. Cooper.
26 Measurements of Chattanooga School-Children. Arthur MacDonald.
27 The Private Medical College. John Madden.

New York Medical Journal, February 22.

28 *A Critical Review of Some of the Recent Literature of Tuberculosis. Jonathan Wright.
29 *General Anesthesia and Its Administration in Throat Surgery. M. L. Maduro.
30 Twenty-three Consecutive Cases of Appendicitis Treated by Operation, with Recovery. William C. Wood.
31 *On the Identification of the Cardiac Neuroses, with Special Remarks on the Nomenclature. James K. Crook.
32 *Practical Pharmacy for the Physician. Edward T. Hargrave.
33 *The "Poultice Method" of Healing Cutaneous and Subcutaneous Abscess Cavities. M. B. Hutchins.
34 The Management of the Tendency of the Upper Fragment to Tilt Forward in Fractures of the Upper Third of the Femur. Russell A. Hibbs.
35 Cretinism. Walter S. Mills.

St. Louis Medical Review, February 22.

36 Prostatectomy: Presentation of Six Operated Cases, with Remarks upon the Technique of the Operation. J. P. Bryson.

Cincinnati Lancet-Clinic, February 22.

37 Gonorrhea, with a Few of Its Complications and Their Treatment. Earl Harlan.
38 *Some of the Uses of Benzoate of Guaiacol, with Illustrative Cases. Samuel E. Earp.

Medical Fortnightly (St. Louis), February 10.

39 Prophylaxis and Treatment of Scarlet Fever. Newton M. Otis.
40 The Symptoms and Diagnosis of Scarlatina. Henry G. Ohls.

Virginia Medical Semi-Monthly (Richmond), February 17.

41 Oculist's Relation to the General Practitioner. A. D. McConachie.
42 Early Diagnosis and Treatment of Hip Disease. A. R. Shands.
43 Choledochotomy. I. S. Stone.
44 Eosolate of Silver for Specific Urethritis; Also for Gonorrheal Conjunctivitis. J. W. P. Smithwick.
45 A Brief Note on the Treatment of Rheumatism by Aspirin. George H. Thomas.
46 The Medical Jurisprudence of Toxicology. N. E. Aronstam and Louis J. Rosenberg.
47 The Value of Sulphate of Quinin in Treatment of Malarial Fevers. Alex. L. Hodgdon.
48 *The Pathology and Etiology of Prostatic Hypertrophy, Suprapubic Drainage and Myomectomy of the Prostate as Methods of Treatment and Cure. Augustus C. Bernays.
49 Technique of X-Ray Therapy. Robert Kienboeck.
50 *Transmission of Consumption. Louis H. Behrens.
51 A Case of Acute Syphilitic Insanity. Sidney I. Schwab.
52 Abdominal Tumors. (Continued.) Jesse S. Myer.

American Practitioner and News (Louisville, Ky.), January.

53 A Résumé of the Surgical Treatment of Tuberculosis of the Peritoneum, Intestines and Genito-urinary Organs. William H. Wathen.

Northwestern Lancet (Minneapolis), February 15.

54 Intestinal Fistulæ. A. W. Abbott.
55 Introductory Lecture on Surgery. James H. Dunn.
56 Symptoms and Treatment of Coal-Gas Asphyxiation. Carl J. Lund.
57 The Alfred Nobel Prizes. G. W. Dahlquist.

Journal of Nervous and Mental Diseases (Nyack, N. Y.), February.

58 *A Case of Myasthenia Gravis. Edwin A. Down.
59 *Report of a Case of Exceedingly Rapid and Very Slow Respiration with Pauses in Respiration Varying from Twenty Seconds to Two Minutes in Duration in a Patient Suffering from Tubercular Meningitis, Syphilitic Peri-arteritis of the Pons and Medulla and from Hysteria. J. T. Eskridge.

Woman's Medical Journal (Toledo, Ohio), January.

60 Puerperal Eclampsia. Frances S. Konrad.
61 Cancer. F. E. Goodsell.
62 The Doctor as an Ethical Leader. Margaret T. Shutt.
63 The Woman Physician in the Country. Jessie T. Shane.

Medical Age (Detroit, Mich.), February 10.

64 *The Influence of Injuries upon the Production of Nervous Diseases. T. W. Nuzum.
65 The Smallpox Epidemic in Alma, Mich.; Is It Smallpox? No. I. N. Brainerd.
66 Cuprol—A New Remedy for the Treatment of Conjunctival Inflammations. Dr. Von Sicherer.

Denver Medical Times, February.

67 *Retinal Lesions of Chronic Interstitial Nephritis. Edward Jackson.
68 Criminal Abortion. E. Stuver.
69 *The Function of the Appendix. E. P. Hershey.
70 Dr. J. T. Eskridge, His Extra-Professional Character. W. P. Munn.
71 Parkhill—The Teacher of Medicine. Robert Levy.
72 The Emergency Treatment of Dysmenorrhea. D. W. Van Gilder.

Kansas City Medical Record, February.

73 Pleurisy. H. Jerard.
74 Conjunctivitis. A. C. Graves.
75 Some of the Evils of Uric Acid. E. L. Chambliss.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), February.

76 *Colloid Degeneration of the Skin. Charles J. White.
77 Vegetating Dermatitis Developing During the Course of Infantile Eczema. Grove W. Wende and Herman K. Degroat
78 *Vaccinia Generalisata, with Report of a Case. M. L. Heidingsfeld.

Journal of the Association of Military Surgeons (Carlisle, Pa.), February.

79 Résumé of the History of the Medical Department of the United States Army, from 1777 to the Beginning of the Spanish-American War. John Van Rensselaer Hoff.
80 The Sanitary Service of the English Army. John Stewart Kulp.
81 Emergency Herniotomy with Secondary Enterostomy and Occlusion of a Portion of the Ileum. John H. Hewitt.
82 Multiple Shot Wounds of the Hand and Forearm. F. W. F. Wieber.
83 The Militia Medical Officer and His Papers. Charles C. Foster.
84 The Mahan Board in Action. Dudley N. Carpenter.

New Yorker Medicinische Monatsschrift, January.

85 *Ueber Parametritis Posterior. L. A. Ewald.
86 Behandlung des Abdominaltyphus. G. Mannheimer.

Indiana Medical Journal (Indianapolis), February.

87 Recent Advances in Psychiatry and Their Relation to Internal Medicine. Stewart Paton.
88 Acute Ascending Paralysis Following Typhoid Fever. G. C. Schaeffer.
89 Abdominal Hysterectomy for Multiple Fibroma with a Five-Month Gravid Uterus. George R. Green.
90 The Significance of Heredity in Insanity and Its Influence in Prognosis. Max A. Bahr.
91 A Consideration of Smallpox. Nelson D. Brayton.
92 Tetanus Following Vaccination. Walter N. Sharp.

Chicago Medical Recorder, February 15.

93 *The High Retraction Ring as a Contraindication to Version. Rudolph W. Holmes.
94 The Diagnosis of Pericarditis. Arthur R. Edwards.
95 *Posterior Urethral Reinfection from the Bladder. Louis E. Schmidt.
96 Kroenlein's Operation for Exposure of the Posterior Orbital Space, Without Removal of the Eye. E. F. Snydacker.
97 Exophthalmic Goiter. Edward F. Wells.
98 A Case of Lipomatous Perinephritis, Following Chronic Suppurative Pyelitis; Nephrectomy; Recovery; Demonstration of Specimen. Svenning Dahl.

Atlanta Journal-Record of Medicine, February.

99 Difficulties in the Management of the Social Evil. George R. White.
100 Objects of the Organization. R. R. Kime.
101 Society, Parturition, and Posterity. Ralph M. Thomson.
102 Negro Traits. E. G. Ferguson.

Medical Herald (St. Joseph, Mo.), February.

103 On the Use of Gartner's Tonometer. LeRoy Crummer.
104 Clinical Examination of the Blood. L. H. Warner.
105 How to Prescribe. A. Herring.

American Journal of Obstetrics (N. Y.), February.

106 *Fibromyomatous Tumors of the Vagina. Richard R. Smith.
107 *Significance of Fever During the Puerperium. John F. Moran.
108 Six Cesarean Sections. Edward P. Davis.
109 Report of Three Cases of Cesarean Section, One Complicated by Pyosalpinx. Stricker Coles.
110 A Case of Cesarean Section. Richard C. Norris.
111 Pelvic Lesions in Relation to Their Distinctive Effects upon Mental Disturbances. A. T. Hobbs.
112 *A Case of Non-Surgical Premature Menopause. Josephine Walter.
113 On the Etiology, Histology, and Usual Course of Ectopic Gestation. Samuel W. Bandler.
114 A Case of Myosarcoma of the Uterus. Mary Putnam Jacobi and Martha Wollstein.
115 Use of Adhesive Straps for the Prevention of Laceration of the Perineum in Forceps Delivery. George H. Noble.
116 A Few Unusual Conditions in Gynecological Practice. J. M. Baldy.
117 Criminal Abortion. Edward A. Balloch.
118 The Half-hitch Suture: A New Suture for Use in Anterior Colporrhaphy. Charles P. Noble.
119 A New Method of Tamponing the Uterus for Postpartum. Rudolph W. Holmes.

Bulletin of the Cleveland General Hospital, April, 1901 (received Feb. 11, 1902).

120 A Study of the Nervous Complications and Sequelæ of Pneumonia. Charles J. Aldrich.
121 Ovarian Pregnancy: Is It an Explanation of Ovarian Hematomata? N. Stone Scott.

Therapeutic Monthly (Philadelphia), January.

122 Whooping Cough and Its Modern Treatment. Theodor Zaugger.
123 *Some Points in the Treatment of Locomotor Ataxia. John K. Mitchell.
124 The Indifferent Compounds of Iron. Virgil Coblentz.
125 Symptomatic Anemia—Its Diagnosis and Treatment (with Concentrated Nourishment), with Reference Also to Special Blood Technique. Thomas J. Yarrow.
126 Static Electricity in the Diagnosis and Treatment of Hysteric Affections. G. Betton Massey.
127 An Investigation into the Presence of Infective Material in Dwellings Occupied by Consumptive Persons. Harold Coates.
128 The Treatment of Appendicitis; A Plea for Fewer Laparotomies. L. W. Atlee.

Proceedings of the New York Pathological Society, October and November, 1901.

129 A Case of Glanders in the Human Subject. Warren Coleman and James Ewing.
130 A Case of Idiopathic Acute Diffuse Phlegmonous Gastritis. O. H. Schultze.
131 Observations on the Technique of Frozen Sections. F. C. Wood.
132 Preliminary Communication of Experiments upon the Feeding and Inoculating of Calves with Human Tuberculous Material. W. H. Park.
133 The Production of Coma in Monkeys from Intravenous Infusions of Beta-Oxybutyric Acid. C. A. Herter.
134 Intramedullary Degenerations of the Central Nervous System Secondary to Brain Tumor. M. G. Schlapp.
135 A Simple Apparatus for the Anaërobic Cultivation of Bacteria. Edward K. Dunham.
136 A Case of Miescherschen Schlauche in the Heart of an Elk. Harlow Brooks.
137 Postmortem Changes in the Pancreas Simulating Fat Necrosis; Adenocarcinoma of the Kidney. O. H. Schultze.
138 A Case of Ruptured Abdominal Aneurysm Simulating Hemorrhagic Pancreatitis. L. A. Conner.
139 A Case of Pernicious Malarial Fever. L. T. Lewald.
140 Specimen of Hour-Glass Contraction of the Stomach. L. T. Lewald.
141 A Case of Glanders in the Human Subject. N. B. Potter.

St. Louis Courier of Medicine, February.

142 Preparation of Patients for, and Their Treatment after Laparotomy. Frederick Holme Wiggin.
143 *True Torticollis. Phil Hoffman.
144 The Successful Treatment of Endometritis and Ulceration by the Use of the Intra-uterine Medicator. Samuel L. Kistler.
145 Complete Transposition of Viscera: A Report of Three Cases. W. C. Mardoff.

Pacific Medical Journal (San Francisco), February.

146 Nervous Gastric Diseases. Alfred W. Perry.
147 Lessons from Psychic Quackery. Ernest Hall.
148 A Few Comments upon Rohleder's New Work on the Sexual Instinct and the Sexual Life. V. G. Veckl.

Texas Medical Journal (Austin), February.

149 Aspiration in Knee-Joint Effusion After Traumatism. R. Menger.
150 Dr. Winfield Ayres' Experience with Mercurol in the Treatment of Syphilis. G. Frank Lydston.

New England Medical Monthly (Danbury, Conn.), February.

151 Autobiography of the Late J. Milner Fothergill, M.D., London, England. (To be continued.)
152 The Relational Use of Antiseptics. L. H. Warner.
153 Uric Acid Diathesis. J. McD. Massle.
154 Treatment of Pulmonary Tuberculosis by Carbonic Acid. Hugo Weber.
155 Notes on the Treatment of Cough. Henry Herman.
156 A Thought About Diphtheria. James A. Hopkins.
157 Argentamine in Ocular Therapy. A. Darier.
158 The Value of Gude's Peptomangan in the Treatment of Anemia. Hugo Summa.
159 Beta-Eucain as an Anesthetic. John Moir.
160 The Successful Treatment of Endometritis and Ulceration by the Use of the Intra-uterine Medicator. Samuel L. Kistler.
161 Formalin in Skin Diseases. Heinrich Loeb.

Medical Summary (Philadelphia), February.

162 The Successful Treatment of Endometritis and Ulceration by the Use of the Intra-uterine Medicator. Samuel L. Kistler.
163 Pruritus and Eczema of the Anus and Rectum. George J. Monroe.
164 Induction-galvani-faradism. Wm. A. Armstrong.
165 The Difficulties of Treating Enuresis in Children. M. McCreary.
166 Practical Therapeutics. Robert C. Keuner.

---

1. **Gonorrheal Prostatitis.**—The frequency, symptoms and diagnosis of this condition are discussed by Van der Poel. He insists on the importance of the prophylactic treatment to prevent gonorrheal inflammation reaching the posterior urethra by instituting treatment in the first 24 to 48 hours. He seems to have faith in protargol as a remedy. The prophylaxis, however, is not always effective, and when this occurs irrigations alone are not sufficient, but massage of the organ must be practiced. He believes in digital massage and describes the treatment by cold and heat. The earlier the cases are seen and treated the less the chance for extension to the epididymis. In the lighter form of gonorrheal prostatitis the prognosis is good, but severe parenchymatous inflammations may lead to serious consequences and are apt to be of long duration. When the abscess occurs, the point of rupture or involvement of neighboring tissues determines the danger of the case.

2. **The Alexander Operation.**—Broun describes his method of performing the Alexander operation in such detail that a full abstract can not be given here. He states that he has followed up with care all the 230 cases operated on at the Woman's Hospital up to January, 1900, as also those which have occurred in his own private practice and finds but one in which the uterus has resumed its backward position. He prefers, for the attachment of the ligaments, to use the black-silk ligature, thoroughly boiled and left in the water until used. An important part of the operation is the preservation of the nerve, which is sometimes caught in the cicatrix after it is severed, producing pain. He notices the complication of hernia following operation and thinks it is due to faulty details of operation either at the external or internal abdominal ring.

3. **Intermittent Claudication.**—Dana describes a case and reviews briefly the literature. His summary is given as follows: "There is a group of symptoms characterized by intermittent or temporary attacks of paralysis, usually of one leg, accompanied with pain, parasthesia, stiffness, and vasomotor disturbances, and absence of pulsation of one or both foot arteries. It is chronic in course and may lead to gangrene, or symptoms resembling erythromelalgia or Raymond's disease. It affects oftenest one leg, but may attack both, and may affect the arm. It occurs in middle-aged people of neurotic temperament, is due to, or associated with, exposure, alcoholism, gout, diabetes, excessive use of tobacco, and syphilis. It is due to arterial sclerosis, causing obliteration of the smaller arteries, also to disease such as aneurysm of the large trunks. The trouble has been called painful paralysis, intermittent claudication, intermittent limping, and, perhaps most appropriately, intermittent muscular paralysis, due to arterial sclerosis. The diagnostic points are the absence of the foot pulse and the symptoms above enumerated."

5. **Extra-Uterine Pregnancy.**—From the observation of 20 cases, all of which recovered, and from cases seen in consultation, Elliot favors a conservative method of waiting until reaction from the shock before operating. Hemorrhage after rupture has a tendency to stop and recur, and probably clot and thus prevent further recurrence. Moreover, the blood is not wholly lost to the patient, but is more or less re-absorbed by the peritoneum. It requires the best surgical judgment to know the right moment for operation and it is always safer to wait than to operate in doubtful cases. When the operation

is to be done it should be done quickly and without excessive handling. Elliot usually scoops out enough clotted blood to find the uterus. He then quickly passes a ligature around the uterine end of the affected tube, which sometimes stops active bleeding, and is a useful handle to pull the tube into view. He next passes a ligature around the other end of the tube and removes the tube from between the ligatures. He never tries to wash out the abdominal cavity or to clean out the clots, because the blood in the abdomen is just what the patient needs, while the manipulation required to remove it takes time and produces shock. He usually closes the abdomen without drainage. He reports a case of combined intra- and extra-uterine pregnancy, calling attention to special points of interest in the case.

6. **Ether Anesthesia.**—Hess attributes vomiting in ether anesthesia to the excretion of ether by the mucous membrane of the stomach, where it acts as a gastric irritant, subsequently causing gastritis. He gives the results of some experiments on animals demonstrating this fact. To prevent the irritant effect of ether on the stomach requires simply the dilution of the ether as it is excreted. A glass of water drunk at the commencement of anesthesia serves to hold in solution considerable ether. Limiting the amount of ether used and the strength of the vapor is always an important factor. This will help to prevent excess of secretion of mucus in the larynx and bronchi, which, when swallowed, adds to the gastric irritability.

8. **Bovine and Human Tuberculosis.**—Smith considers the clinical evidence in favor of the inter-transmission of bovine and human tuberculosis to be comparatively weak, that inoculation experiments are not valid as regards the probability of contagion, and that inoculation does not under all circumstances correspond to natural infection. He describes the morphologic differences between bovine and human varieties. His provisional conclusions deduced from the biologic facts of various types of tubercle bacteria are given as follows: 1. There is no evidence to show that bovine tubercle bacilli may indiscriminately infect the human subject. 2. There is some evidence that bovine bacilli have been isolated from human beings, that the successful transfer is uncommon and that it depends on certain conditions which need careful clinical and pathological study. 3. The evidence that such transmission takes place must be based on the isolation of tubercle bacilli having the characters of the bovine variety. The attitude which these conclusions would lead us to assume toward bovine tuberculosis, at least for the present, does not differ appreciably from that now generally maintained. Periodical rigid inspection of dairy-herds, looking toward the elimination of all animals with suspicious disease of the udder or tending toward emaciation, should be maintained. Beyond this sanitarians can not well go, but every effort should be made to encourage publicly by suitable official recognition those who use the tuberculin test in purifying dairy-herds. Bovine tuberculosis is at best an agricultural calamity and its widespread diffusion and frightful ravages should arouse even the most conservative to bring about by individual effort rather than with the help of the public purse the rehabilitation of the dairy-cow. [See also ¶16 below.]

9. **Tuberculosis.**—Stubbert's article is a plea for a more standard classification of the different stages or conditions of tuberculosis, giving comparative statements from different authorities in regard to the meaning of the terms: pre-bacillary, incipient, moderately advanced, far advanced, improved, arrested, partially cured and cured.

10. **The Prophylactic Screen.**—Wells recommends the use of a screen by the laryngologist in examining tuberculous patients and illustrates his apparatus.

11.—See also ¶48 below.

13. **Eclampsia.**—Stroganoff's method of treating eclampsia by the administration of oxygen during convulsions, the use of morphia and chloral for their control, cardiac stimulants when the heart action weakens, prompt delivery when convulsions do not yield to treatment, a milk diet and the avoidance of all depressing influences, has been tested in the Boston City Hospital, and Newell reports the results as follows: 1. In postpartum eclampsia the use of morphia and chloral in combination seems to have a distinctly beneficial action in controlling the convulsions. 2. In antepartum eclampsia the treatment is less efficient than in the postpartum form, but the course of the disease seems to be altered for the better in the majority of the cases. 3. Although the treatment has not given as good results in our cases as in those reported by Stroganoff, a further trial is indicated, since our results have not been any worse than under any other method of treatment which has been tried, and further experience may disclose errors in the application of the treatment which may be remedied to good effect. At any rate, a method of treatment which has proved so efficient in the hands of its originator should not be abandoned until it has had a more thorough trial than we have been able to give this one as yet.

14. **Surgery of the Gall-Bladder and Ducts.**—The first part of this article, which appeared in the preceding issue, is largely a critical summary of the literature of the subject. In the present one he mentions points of diagnosis, question of heredity, previous illness, character of pain, fever, percussion, etc. He thinks early operation will be more frequently resorted to as the medical practitioner becomes more familiar with the correct diagnosis of the disease of the biliary passages. The article concludes with a report of eight cases and a bibliography.

16. **Bovine and Human Tuberculosis.**—Adami summarizes his conclusions, in substance, as follows: 1. Bovine tuberculosis is easily conveyed from cattle to cattle. 2. Human tuberculosis is transmissible to cattle. Pure cultures of these bacilli rarely cause infection. Mixtures of tubercle bacilli with other micro-organisms (as in sputum) appear to be more infectious. The difficulty in inducing artificial tuberculosis favors the idea that natural infection of cattle with human tubercle bacilli must be of singularly rare occurrence. 3. Swine appear to be fairly easily infected with both human and bovine tubercle bacilli and when infected with the former these gain an increased virulence for guinea-pigs and rabbits. But while through the use of infected milk these animals become frequently infected from cattle, conditions favoring the reverse process are rare. For practical purposes, this mode of infection may be neglected. 4. If this be so, it should be possible to eradicate bovine tuberculosis in a region in which human tuberculosis continues to be widespread. 5. Human tuberculosis in the majority of cases is conveyed from man to man by inhalation; more rarely it is conveyed through the alimentary tract, still more rarely through the genital tract, through surface wounds, and from the mother to the fetus during intrauterine life. 6. Everything points to the fact that in the main the bacilli causing infection in man are derived from previous cases of the disease in man. 7. By sojourn in the human body and passage from man to man the human tubercle bacilli have acquired properties differing from those acquired by bacilli which have passed through cattle: their shape differs, the rate of growth and the appearance of the growths outside the body are different; their virulence toward the animals of the laboratory is also different. 8. These differences are not, however, sufficiently marked or constant enough to permit us to conclude that we are dealing with distinct species. 9. Bovine tuberculosis can be transmitted to man through wounds or the digestive tract. 10. By passage through cattle the tubercle bacillus gains increased virulence for cattle, rabbits and guinea-pigs, but lessened virulence for man. 11. Save in the very rare cases of wound infection, there is a significant lack of evidence that bovine tubercle bacilli infect adult human beings. 12. Infants and those of early age are liable to be infected by the tubercle bacilli of bovine origin and this through the agency of milk. 13. Even with children a consideration of the great frequency of bovine tuberculosis in certain regions and of the absence of any record of tuberculosis affecting those supplied from a given "milk round," leads to the conclusion that the bovine bacilli have not heightened virulence. 14. The few positive records we possess of direct transmission of tuberculosis from cattle to man through the agency of the milk indi-

cate that infection is brought about only by the employment of milk of cattle which are very extensively diseased, more especially of those suffering from udder disease. 15. Animals showing physical signs of tuberculosis, and, above all, those exhibiting udder tuberculosis, should therefore be condemned and their milk not be used for food. 16. Where there is tuberculosis in a herd, Bang's method should be employed, the animals reacting to tuberculin being separated from the healthy ones; the milk from the reacting animal, for whatever purpose used, should be Pasteurized so as effectively to destroy the tubercle bacilli.

20. **Surgery of the Spine.**—This is the conclusion of an article which reviews the performance of surgery for various conditions, such as tumors, hemorrhage, spina bifida and fractures. The subjects of Pott's disease and tumors are then taken up, and the author finishes with some remarks in regard to spinal anesthesia. While he considers the method still *sub judice* and not unattended with danger, he points out its advantages. No contra-indication to its use in the areas in which it is applicable has as yet developed, save those pertaining to the mental state of the patient and purely esthetic consideration. Of the latter the operator must be the judge and choose between general anesthesia and subarachnoid lumbar puncture, with due regard to the patient's own ideas so as not to interfere with his psychic morale. The whole article is a critical summary of the general facts in regard to surgery of the spine.

21. **Yellow Fever.**—Reed and Carroll, in this supplementary note, review and detail some of their experiments with the blood of yellow fever cases, both in its unheated and partially defibrinated condition, which partially defibrinated blood heated for ten minutes at a temperature of 55 C., and with the dilute serum which had been filtered through a Berkefeld filter. The object was to ascertain, if possible, whether the blood of a yellow fever patient contained specific micro-organisms as minute as are apparently those of the foot and mouth disease of cattle and certain acute infectious diseases. Test experiments with unheated and partially defibrinated blood produced mild attacks of yellow fever. The partially defibrinated and heated blood gave negative results, while filtered and defibrinated serum also produced in two cases unmistakable attacks. In one case the result was negative. They tested the filter by attempting to pass cultures and staphylococci through it and proved that it was incapable of delivering the ordinary bacilli. He thinks this matter of extreme interest and importance as bearing on the theories that yellow fever might be due to a toxin of considerable potency, or that the specific agent of yellow fever is of such minute size as to pass readily through the pores of the Berkefeld filter. Against the view that a toxin is present in the serum filtrate, the innocuousness of heated blood shown in three cases is important. Though certain bacteria are destroyed at this temperature, we know of no bacterial toxin that is rendered inert by such a low degree of heat continued for so short a time. As a further test they observed the effect that would follow the transference to a third individual of the blood drawn from one of the patients whose attack had been caused by the injection of serum filtrate. If the inoculation of that small quantity were followed by an attack of yellow fever in the third individual evidence would point in the strongest way to the presence of a specific agent of the disease in the blood, since we can hardly believe that the toxin that had undergone so great a dilution in the body of the second individual would still be capable of producing the disease. Experiments showed that yellow fever can be thus produced, and taking into account all the facts in the case they therefore hold that the specific agent of yellow fever passes through the filter.

22. **Tuberculosis Infection.**—Hutchinson finds that animals in cattle ranges are not free from tuberculosis and insists on the importance of tuberculin examination of dairy animals and the withdrawal of tuberculous meat and milk from use by human consumers.

23. **Treatment of Insanity.**—The points especially mentioned by McGugan as of importance in the treatment of insanity are rest and exercise, massage in connection with the rest cure, care as to diet, hydrotherapy for sedative, tonic and eliminative purposes, surgery (gynecologic) in suitable cases where abnormality exists, electrotherapy in depressed states, the use of hynotics and motor depressants in certain cases, sedatives and general tonics. For instance, in a recent case coming to the hospital the first thing is a bath; the patient is put to bed in a quiet room; general and physical examination for diagnostic purposes are made with great care and psychologic analysis carried on over an indefinite period. If this is not sufficient in excited cases, sulfonal, combined with bromid or hyoscin, is administered. In the depressed type the prolonged tepid bath is prescribed, followed by a light superficial massage; simple enemas are given every second day for two or three weeks; the static spark is applied to the spine and the crown breeze to the head; rest for the first few days is ordered, followed by gradually increasing the exercise. He says that out of 319 acute cases admitted during three years, 108 were subsequently diagnosed incurable and transferred to the different wards of the asylum. Of all the 211 remaining, 104 were discharged restored, 44 improved, 13 died and 50 still remain under treatment.

24. **Perineal Section in Stricture.**—Lydston maintains that perineal section is often advisable, especially in traumatic strictures even if not extensive, and in those complicated by fistulas or severe cystitis. Deep stricture complicated by retention of the urine should be, as a rule, treated conservatively—that is, temporized with at first—the ultimate treatment being decided later. But in some instances, as in hospital practice and in patients coming from a distance, immediate perineal section is the safest procedure. The same is true where the patient does not have access to skilled attention during the after-care of the case. Impermeable stricture is exceptional, but not so infrequent as some would have us believe and perineal section in such cases without a guide may be necessary. Experience has taught Lydston that under these circumstances where the urethra can not be found in the perineum, except by tedious and extensive dissection, it is far better to make a suprapubic cystotomy and perform retrograde catheterization. The surgeon who has had but little experience with perineal resection, called on to operate in such cases, had far better enter the bladder from above and combine the perineal and suprapubic cystotomy.

28. **Tuberculosis.**—Wright goes over some of the recent points in the literature in regard to tuberculosis, calling attention to the importance of individual resistance and holding that the present state of our knowledge does not warrant isolation or inconvenient regulations affecting patients. The idea of the extirpation of the tubercle bacillus, he thinks, is a little too ideal and he quotes Grawitz to this effect. Other points mentioned are the question of human and bovine tuberculosis with their virulence in different cases, the pleomorphic nature of the germ as shown by Heuppe, and the danger that bacilli resembling the tubercle bacillus will lead to errors in diagnosis. At present there is no room for dogmatic assertions in regard to the condition.

29. **Anesthesia in Throat Surgery.**—From an observation of the various ways of administering nitrous oxid as a preliminary to ether, Maduro concludes that it should be carefully ascertained that the valves of the gas apparatus fit accurately, so that there may be a rapid exit of atmospheric air from the lungs. A certain amount of re-breathing of nitrous oxid should be allowed at the end of its inhalation, in order that a longer gas and a shorter ether anesthesia may be obtained. The transition to ether should be accompanied by a rather free admixture of air through the various inlets in the apparatus without removing its face-piece. Lastly, the head of the patient should be well drawn back, and forward pressure made on the jaws, at the time of the transition to ether, so that the airway may be increased to its utmost. Maduro amplifies on these recommendations, giving reasons for each. The actual time necessary for all the details and until the patient is ready for the operation should average about five minutes. As regards

other anesthetics, he would give chloroform a very limited field. Its tendency to cause laryngeal closure in conditions of obstructed breathing through disease must be given some thought, and the danger of pushing it should be remembered. The same is true to a greater or less extent of mixtures containing chloroform; ethyl chlorid acts disadvantageously in these cases, and ethyl bromid is too evanescent and far from safe.

31. **Cardiac Neuroses.**—Crook's article goes over the nomenclature of cardiac neuroses. Palpitation, tachycardia, neurasthenia cordis, arrhythmia and angina pectoris may be regarded as distinct separate conditions. Bradycardia itself is largely a secondary condition, not, as in tachycardia, the principal symptom group in the disease. Arrhythmia and tremor cordis are really not diseases, but symptoms. He considers it not altogether correct to call Graves' disease a cardiac neurosis. True angina pectoris is always accompanied with organic disease and is no more a neurosis than is atheroma or endocarditis. Pseudo-angina is indisputably a neurosis. The recognition of true angina, he says, should not be difficult. No other condition presents the same complex of symptoms—sudden irradiating pain, squeezing, tightening, constriction, overwhelming fear of immediate death. From pseudo-angina it is distinguished by its occurrence almost invariably in males past the meridian of life and by its greater severity. Huchard's aphorisms, while not infallible, are important: Every angina produced by effort is a true angina; every angina which occurs spontaneously without effort is a false angina; but an angina occurring at night, though independent of effort, is a true angina. The absence of all signs or symptoms of organic disease of the heart creates a presumption in favor of pseudo-angina.

32. **Practical Pharmacy for the Physician.**—The question as to how practitioners are to acquire a practical knowledge of pharmacy can only be answered in general. Hargrave suggests to those who write prescriptions: 1. Study the properties of drugs and preparations used whenever an opportunity occurs. 2. Carefully inspect every prescription written when filled by a competent pharmacist. 3. Study the subject of incompatibility. To those who dispense their own drugs he suggests: 1. Study the subjects of extemporaneous pharmacy and incompatibility in any text-book on pharmacy. 2. Note the appearance, odor, etc., of all drugs and preparations handled, and avoid the indiscriminate mixing of drugs without regard for their properties. 3. Be careful, accurate and neat in every manipulation.

33. **The Poultice Method in Abscess Cavities.**—The method here discussed was first described in the Atlanta *Journal-Record of Medicine* for April, 1900. Hutchins suggests applying over the opening of the abscess a poultice of flaxseed meal, made with 3 per cent. carbolic instead of plain water. A thin cloth or gauze layer can be put next to the opening. The 3 per cent. of carbolic acid really becomes about 1 per cent. in the mixture and is hence very weakly germicidal. Absolutely nothing is put in the abscess cavity; it is simply emptied of pus by pressure—through a small opening—if not already open. The poultices are changed as often as cleanliness or their getting dry requires. The wet poultice affords constant drainage and absorbs the discharge. There is no premature union of the mouth of the cavity, no introduction of foreign substances, no reinfection in dressing and the saving of 75 to 80 per cent. in the time of healing. The small incision may be used instead of the free and long one. He reports a number of cases which he thinks show the superiority of this method over the usual one.

38. **Benzoate of Guaiacol.**—Earp finds this substance one of the best methods of using guaiacol, being comparatively tasteless and odorless, doing away with the annoying eructations and the gastro-intestinal irritation. He uses from 3 to 6 grains dry in capsules, four times a day, with gradual slight increase in dose if deemed advisable. In phthisis he finds four favorable results, partial subsidence of cough, diminished expectoration, enhanced appetite and increase in flesh. In some cases these results were very pronounced. He has also found that certain catarrhal conditions of the intestines and irritable states of the bladder are sometimes relieved during the administration of this drug.

48. **Prostatic Hypertrophy.**—The subject of prostatic hypertrophy is gone over at some length by Bernays, who sums up his conclusions in the following: 1. In old cases of hypertrophied prostate, palliative measures are sometimes preferable to radical measures. 2. Drainage of the bladder by the suprapubic route is preferable to perineal drainage in cases of cystitis, because the suprapubic method gives the sphincter apparatus more complete rest than the perineal buttonhole or fistula. 3. In cases of hypertrophy in which the patient's health has not been injured by chronic cystitis or nephropyelitis, the dangers of myomectomy or perineal prostatectomy are minimal, and in these cases a radical and satisfactory functional result can be achieved by myomectomy. 4. Bottini's operation must be regarded as a palliative measure, intended to enable the patient to evacuate his bladder more completely than before. It will probably have a very limited usefulness and will be crowded out of practice as the technique of myomectomy or perineal prostatectomy is perfected. 5. Bottini's operation is a dangerous operation and must not be undertaken unless most careful measurements have been made. It is often followed by extravasation of urine into the perineum, and the perineal section must be done in order to save the patient's life as soon as swelling of the perineum is noticed. 6. Myomectomy done through a perineal incision is the operation which promises the best results, and is the operation of choice. It is applicable to the greatest number of cases in which permanent cure may be expected, the kidney being physiologically sufficient and unimpaired. The greatest dangers associated with prostatectomy are produced by injuring or removing parts of the capsule of the organ. Myomectomy must be done without this dangerous manipulation. As long as the capsule is left intact there is but little hemorrhage, and the danger of infiltration of urine and sepsis is reduced to a minimum.

50. **Transmission of Consumption.**—Behrens, reviewing the evidence in regard to the transmission between men and animals, concludes that human sputa are predominant in the transmission of tuberculosis; that hereditary consumption is rare and that predisposition is inherited; that immunity is rendered to off-spring born during the tubercular disease of the parent is far from being proven; that milk, meat, cheese, butter, etc., derived from tuberculous animals, can produce tuberculosis in the human being is his belief. He thinks that more stringent rules regarding expectoration, isolation, hygiene and sanitation should be enforced, and as a result consumption would belong to that class of diseases such as scurvy and smallpox, often heard of but seldom seen.

58. **Myasthenia Gravis.**—Down reports a case in detail and discusses the diagnosis, symptoms and etiology. He finds nothing that can be properly considered a cause. Thus far no satisfactory treatment has been discovered. He advises prolonged rest, nourishing food, attention to the excretions and brief periods of exercise.

59. **Respiration in Tubercular Meningitis.**—The case reported by Eskridge is that of a woman whose respiration varied during her illness from 8 to 138, but usually was rapid. He discusses the hysteric element in the case and its probable organic pathology involving the respiratory centers. He thinks in this case that the subordinate centers of respiration, the cutaneous, optic and auditory nerves, those of the lungs, cord and cerebrum, were practically held in abeyance by the predominating centers of respiration in the medulla, which were directly irritated by a lesion in the medulla. He thinks the influence of the blood on the centers of respiration was overpowered. He says, in conclusion, that in a case of hysteria we may perceive the veil that obscures or the cloak that hides the symptoms of organic disease, or grave disorders of functions in some important organ. Respiration, which is more rapid while the patient is asleep, is strong if not positive evidence of organic disease of the brain in the region of the respiratory centers.

64. **Traumatic Neuroses.**—Nuzum concludes from both clinical and experimental investigations that slight injuries

may produce spinal neuroses, but that sprains are often mistaken for severe injuries and that the majority of cases against great corporations are either feigned or exaggerated. Traumatic hysteria is very intractable to treatment and death may occur without any physical lesions being found either before death or at the postmortem. Injury may be the exciting, not the remote, cause of locomotor ataxia, but epilepsy, apoplexy, and paralysis agitans may be caused directly and wholly by a traumatism. Generally, however, the prognosis is one of ultimate recovery. In traumatic nervous injury the more serious symptoms of organic nervous disease are present. From experiments on rabbits he comes to the following conclusions: 1. Concussion of the spine, causing loss of function for a variable length of time with physical lesion, is readily produced by a blow directly on the back. 2. The degree of concussion depends upon the force of the blow, and may be of momentary duration or last for days or weeks. 3. A blow on the back of the neck may prove immediately fatal without producing any visible injury. 4. It is difficult, if not impossible, to produce concussion of the spine by a blow upon the nates. 5. Rabbits that were subjected to repeated experiments did not show such marked nervous phenomena as they did the first time. 6. The microscope shows a tigrolysis and pyenosis of the tigroid of a considerable number of the ganglion cells of the motor roots, in cases that have suffered from concussion of the spine.

67.—See abstract in The Journal, xxxvii, p. 852.

69.—Ibid.

76. **Colloid Degeneration of the Skin.**—White's article is largely a critical review of the literature in regard to this condition, which has been mentioned and described by Unna, and which consists in the breaking down of the fibrous tissue and the combination of collagen and elacin and the further disintegration into the homogenous mass known as colloid. A case is described with microscopic characteristics.

78. **Vaccinia Generalisata.**—After reporting a case, Heidingsfeld discusses the possible methods of its origin. He disbelieves in the inoculation theory in this case and says that in all probability there are two separate types of eruption in these cases, one due to direct inoculation or misdirected virus, of shorter duration, persisting until vaccine immunity establishes itself, and characterized by lesions of the vaccine pustule; and another the result of systemic intoxication of variable duration, with lesions atypical to the vaccine pustule, both as regards course and appearance. Both require special idiosyncrasy on the part of the patient and have nothing in common with localized complications like erysipelas and eczema.

85. **Parametritis Posterior.**—The affection thus designated by Schultze consists in an inflammatory affection of the recto-uterine muscles, springing from the wall of the uterus. Ewald reports cases and discusses the nature of the affection. His conclusions are: 1. The parametritis posterior of Schultze and the paraproctitis of Freund (also called parametritis atrophicans) are one and the same disease, in fact a disorder of the connective tissue and not of the peritoneum. 2. Parametritis posterior is commonly combined with inflammatory processes in the peritoneum and disease of the tube and ovaries. When retroflexion also exists ventrofixation is indicated and is to be preferred to other methods of treatment.

93. **The High Retraction Ring.**—The existence of the high retraction ring as a contra-indication to version is treated of by Holmes, who describes the mechanism, diagnosis and therapeutic considerations. The object of his paper is to call attention to the importance of this condition in the mechanism of abnormal labor and its prohibition of a certain obstetric operation, rather than to go into the minutiæ of anatomic details or operative technique. He thinks obstetricians should endeavor to detect this as a routine practice, and as the question of version arises it should be determined before extreme distension of the lower segment begins. Usually the high retraction ring follows the more or less prolonged escape of liquor amnii. With intact membranes at the moment of beginning the version the hazard of rupture is greatly reduced, for the version may be carried out before the uterus has had time to retract. When in doubt as to the advisability of performing version it is perfectly permissible to prepare for the operation, to pass the hand into the lower segment very cautiously, and if it is thin and the ring high one can with propriety remove the hand and proceed to another method of delivery.

95. **Urethral Reinfection from the Bladder.**—The acute relapses in chronic urethral disease include a peculiar type first noticed by Harrison, which can be proven to be due to reinfection from the bladder. The preliminary symptoms are cystitis following some indiscretion of diet or other cause. The patients are taken suddenly ill, sometimes with a chill, then a fever, and in the course of two or three days a urethral discharge makes its appearance, which is usually never copious, varying somewhat in color and consistency, with typical signs and symptoms of posterior specific urethritis. Cystoscopically we find the trigonum to be the seat of chronic inflammation and the posterior border of the internal urethral orifice is swollen. The epithelial cells are edematous, and in cases usually called urethro-cystitis the entire posterior urethra is similarly affected, but in cases where the urethra has not yet become affected there is a sharp line of demarcation. The practical deductions which he makes from the facts are that every case of apparently cured chronic posterior urethritis, if doubt exists, should be cystoscoped in order to recognize any latent bladder disease. If such is present it should be treated accordingly. If necessary the entire granulating surface of the trigonum can be thoroughly curetted in order to obtain a permanent cure.

106. **Vaginal Fibromyomata.**—From an extended study of the subject with reported cases, Smith summarizes as follows: Fibroma (myoma and fibromyoma) of the vagina is a rare disease. It occurs most frequently in women between 30 and 40, but has been observed at ages ranging from 20 to 70. The cases observed in infants are open to some doubt as to diagnosis. It apparently occurs independently of civil condition. No proof can be deduced to show that it affects fertility. It may obstruct labor when large. When the growth is small it rarely affects coitus, and may not do so even though the growth be large. There is some evidence that in certain cases menstruation may be increased. The tumors, when small, rarely produce symptoms of consequence; when large they may prove to be the source of considerable suffering and even danger. The symptoms, when present, are pain, hemorrhage, discharge, obstruction to bladder and rarely to bowel. No exact division of the case into fibroma, myoma and fibromyoma can as yet be made. The term fibromyoma will probably cover most of them, but pure fibroids have been observed. Pure fibromyomata may also exist. The tumors grow from anterior or posterior wall in proportion of about 2 to 1. They may be sessile or polypous. They vary greatly in size and are usually single. They are, as a rule, very slow of growth and prone to edema, necrosis and ulceration. The treatment is essentially surgical.

107. **Puerperal Fever.**—For a number of years Moran has been making examinations of the relative morbidity of cases examined and not examined internally during the labor with and without rubber gloves. No prophylactic douche was used in either class. Of 317 cases admitted at the Columbia Hospital between July 1, 1899, and Sept. 30, 1900, 180 were examined during and after labor and 138 were not examined. Of those who were examined, 40, or 22 per cent., had a rise of temperature above 100. Of those not examined there were 26, or 19 per cent. A careful clinical and bacteriologic examination revealed in those 40 cases conditions accounting for the temperature, such as sapremia, mastitis and gonorrhea, in a much larger proportion than in those not examined. From Oct. 1, 1900, to May 30, 1901, 237 cases were treated in which rubber gloves were used; 193 cases were examined and 40 not examined. Of those that were examined 43, or 20.7 per cent., had a rise of temperature above 100; of those not examined 7, or 17.5 per cent., had a rise above normal. It appears that the morbidity is dependent on the various general as well as septic infections; that the latter are doubled in number in cases examined over those not examined, and the percentage lower in those cases where gloves were used. He suggests the following

measures during the puerperium: 1. Careful observance of aseptic technique on the part of the physician and nurse, at all times regarding the parturient tract as a surgical wound. 2. Restricting or avoiding internal examinations and cultivating external diagnosis. Where internal examinations are made care should be exercised to separate the labia, so that the examining finger will avoid contact, as far as possible, with the vulva. 3. A thorough knowledge of the mechanism and conduct of labor, with due appreciation of timely interference. 4. Refraining from haste or violence in expulsion of the placenta. 5. Avoiding early rupture of the membranes. Every case of delivery should be regarded as septic until positively excluded by a most careful and painstaking examination.

112. **Non-Surgical Premature Menopause.**—In the case reported by Walter the menses stopped in a young woman, aged 23, after a severe nervous shock. She suffered for a time from bronchitis and cystitis (?). She had severe headache, was very nervous, had characteristic vasomotor disturbances and suffered from hysteric attacks. All efforts to re-establish the function failed in spite of general and local treatment. She still suffers from certain symptoms, though she has not been ill in bed save for some slight illness for about nineteen years. The most irritating symptoms are frequent urination and suddenly appearing diarrhea. There is now complete atrophy of the uterus, ovaries and tubes. The uterus is only about one inch in length, small and flattened antero-posteriorly. The external organs are only slightly atrophied. The mammary glands are round and full. Her general appearance is that of a woman much younger. Her form is graceful and plump, but not at all stout; general disposition is happy and rather cheerful. She has lost slightly in weight, but has had no symptoms pointing to tuberculosis. The author reviews the literature of similar cases and reports several from it. He says the aim of his paper is to point out that: "1. Premature menopause can occur without any previous or subsequent disease. 2. Premature menopanse is not necessarily preceded by any change in generative organs. 3. Any changes found in these organs are probably post-menopastic, or due to disease, not all related to the menopause. 4. Premature as well as normal menopause is due chiefly to atrophy, inhibition, or disease of a local menstrual ganglion and nerve plexus, rather than disease or atrophy of generative organs."

123. **Locomotor Ataxia.**—Mitchell discusses the treatment of this condition and remarks that it is hard to judge whether a certain treatment is doing good or not. In almost all cases, certainly in all in the secondary or moderately ataxic stage, rest is of vital importance. Improvement by re-education of impaired motor faculties is one which he leaves to be taken up at some future time. It should not be begun before at least a month's rest in bed with massage. He emphasizes the immense value of this latter measure which can well take the place of general exercise in the maintenance of health. For gastric crises he believes in stomach lavage, which has relieved cases in his hands. The use of firm bandaging with a flannel roller for tabetic pains in those limbs has given great relief in some cases. He has found faradism as efficient as galvanism for this purpose, and would put it first among the three forms of electricity to be employed in such cases.

143. **True Torticollis.**—There is but one variety of wryneck, according to Hoffman, in which treatment is directed purely to the deformity and which deserves to be spoken of as a distinct affection. In all others the torticollis is simply an incident. This variety is usually present at birth or soon after, and is due to permanent shortening of the sterno-mastoid muscle and to the other cervical structures accommodating themselves to the malposition. This he calls true torticollis. No theory that has been advanced to explain its occurrence has been directly proven; probably the most plausible are abnormal pressure *in utero* and the arrest of muscle development from obscure, perhaps central, origin. The right side is most frequently involved, according to most observers. There is usually more or less fibrous degeneration in the muscle, but in time the other muscles of the side become shorter and even the cervical vertebræ are distorted by unequal pressure. There are also curvatures of the dorsal and lumbar spine and facial and cranial asymmetry in nearly every instance. When of slight degree and seen very early daily manual correction by the mother or nurse will suffice. Mechanical appliances are generally disappointing. As regards operation it is manifestly impossible to cut everything that offers resistance to the correction of the deformity; therefore, division of the sterno-mastoid and forcible stretching of the other tissues are resorted to. He favors subcutaneous tenotomy for this condition and gives illustrative cases thus operated upon. He calls attention to the danger of cutting the jugular vein and the possibility of wounding the common carotid artery. After operation the head is fixed in an over-corrected position by plaster dressing and allowed to remain several weeks, and the post-operative treatment continued many weeks or even months. Usually the sterno-mastoid recovers its function and can be converted into a useful organ if the cut end can find a point of attachment. This usually occurs by new material growing into the gap, but he records an observation where the muscle, though retaining its function, had apparently not united with the lower piece, but had become attached by its free end to the fascia higher up, and from which new attachment it exerted a pull upon the head.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), February 15.

1 Felt Hat Making: Its Processes and Hygiene. Charles Porter.
2 *Typhoid Fever in South Africa: Its Cause and Prevention. George Turner.
3 *Air-borne Typhoid. R. H. Quill.
4 So-called "Remittent" or "Pretoria" Fever. Wentworth Tyndale.
5 The Prevention of Enteric Fever in Armies. George D. N. Leake.
6 The Disinfection of New Clothes. Charles A. Cameron.
7 On Diphtheria Antitoxin Eruptions. Arthur Stanley.
8 Treatment of Chronic Eczema. Aldred Eddowes.

The Lancet (London), February 15.

9 *The General Pathology of Tumors. Charles P. White.
10 On Cleft Palate. W. Arbuthnot Lane.
11 *A Note on the Methods of Conducting Hemolytic Experiments. G. F. Petrie.
12 *On Hemolysis Produced by Certain Bacteria. Aldo Castellani.
13 *The Medicinal Use of the Pressor Substance of the Pituitary Body. F. Golla.

Journal of Tropical Medicine (London), February 1.

14 *The Part Played by the Fleas of Rats and Mice in the Transmission of Bubonic Plague. Bruno Galli-Valerio.
15 Additional Notes on Malarial Fever in St. Lucia; An Analysis of 230 Cases. St. George Gray.
16 Spirillum Fever (Relapsing or Famine Fever). Cuthbert Christy.
17 Malarial Fever as Met with in the Great Lake Region of Central Africa. Albert R. Cook.

Annales de Dermatologie (Paris), January.

18 *Congenital Ichthyosiform Erythroderma with Hyperepidermotrophy. L. Brocq (Paris).—"Erythrodermie Congénitale Ichthyosiforme avec hyperépidermotrophie."
19 Recurring Bullous Ulcer of the Leg. Du Castel (Paris).—"Ulcère bulleux récidivant des membres inférieurs."
20 *Improved Technique for Radiotherapy. Oudin.—"Considérations sur la radiothérapie."
21 *Exact Measures in Radiotherapy. Béclère.—"Les mesures exactes en radiothérapie."

Bulletin de l'Academie de Med. (Paris), February 4.

22 Two Local Analgesics Almost Completely Non-toxic. A. Darier. (Paris).—"Deux analgésiques locaux presque exempts de toxicité."

Bulletin de la Soc. Med. des Hop. de Paris, February 6.

23 Nutritive Disorders in Syphilis. E. Gaucher and O. Crouzon (Paris).—"Des troubles de la nutrition dans la syphilis."

Presse Medicale (Paris), February 8 to 15.

24 Diagnosis of Smallpox. H. Roger (Paris).—"Diagnostic de la variole."
25 Comparison of Thyroid, Iodin and Iodid Treatment. Briquet (Armentières).—"La thyroidothérapie et les traitements iodé et ioduré."
26 Questions in Obstetrics in Case of Pelvic Deformity. Paul Bar (Paris).—"Une question obstétricale dans le cas de viciation pelvienne."

Progres Medical (Paris), February 8.

27 Clinical Exploration of the Auricles. E. Barié (Paris).—"L'exploration clinique des oreillettes."

Berliner Klin. Wochenschrift, January 27 and February 3.

28 *Prognosis of Operation for Glaucoma. F. Mendel.—"Zur Prognose der Glaucom-Operation."
29 Three Unusual Attempts at Suicide. M. Edel.—"Ueber bemerkenswerthe Selbstbeschädigungsversuche."
30 *Sanatorium and Tuberculin Treatment. Weicker.—"Ueber Heilstätten und Tuberculin-Behandlung."

31 *Symptomatology and Treatment of Chronic Distension of the Lung with Air. F. Riegel.—"Zur Symptomatologie und Therapie der chronischen Lungenblähung (Vagusneurose)."
32 *Tympanites and Phantom Tumors. S. Talma (Utrecht).—"Zur Kenntniss der Tympanitis."
33 History of the Lid Closing Reaction of the Pupil. Meyerhof (Breslau).—"Zur Geschichte der Lidschlussreaction der Pupille."
34 *An Artificial Esophagus. S. Spiegel (Vienna).—"Ein künstlicher Oesophagus."
35 *Embolism of the Lungs After Laparotomies. A. Oppenheim (Berlin).—"Lungenembolien nach chir. Eingriffen, mit besonderer Berücksichtigung der nach Operationen am Proc. Verm. beobachteten."
36 *Present Status of Tuberculin Treatment. J. Petruschky (Danzig).—"Der gegenwärtige Stand der Tuberculinbehandlung."
37 *Detachment of the Retina in Nephritis of Pregnancy. J. Heilbron.—"Ueber Netzhautablösung bei Schwangerschaftsnephritis."

Centralblatt f. Bakteriologie (Jena), January 18.

38 *Bacteriolytic Action of Nucleases, etc., as Cause of Immunity. R. Emmerich, O. Löw and A. Korschun.—"Die bakteriolytische Wirkung der Nucleasen und Nucleasen-Immunproteidine als Ursache der nat. und künst. Immunität."
39 *Tests of the Bacillus Pathogenic for Rats. B. Issatschenko (St. Petersburg).—"Untersuchungen mit dem für Ratten pathogenen Bacillus."
40 Two New Nematoid Worms. V. Linstow (Göttingen).—"Zwei neue Nematoden aus Metapoceros Cornutus."

January 24.

41 Virulent Diphtheria Bacilli in Cases of Simple Rhinitis. R. O. Neumann (Kiel).—"Virulente Diphtheriebacillen bei einfacher Rhinitis."
42 *Study of the Production of Toxins, with special regard to the Culture Media. A. Zinno (Naples).—"Beitrag zum Studien der Entstehung der Toxine mit bes. Berücksichtigung neuer Kulturböden mit starker Erzeugung von Toxinen."
43 Study of Distoma. T. Odhner (Upsala).—"Mitteilungen zur Kenntniss der Distomen."
44 *Differentiation of the Typhoid and Colon Bacilli with Neutral Red. A. Wolff (Berlin).—"Die Ergebnisse der Neutralrotmethods zur Unterscheidung von Bact. typhi und Coli."

Centralblatt f. Chirurgie (Leipsic), February 8.

45 *Suprapubic Cystoscopy. P. Kraske.—"Ueber suprapubische Kystoscopie."

Centralblatt f. Gynaekologie (Leipsic), January 25.

46 Principles of Cancer Statistics. G. Winter (Königsberg).—"Ueber die Principien der Carcinomstatistik."
47 *Rupture of the Uterus in Cicatrices. H. Peham (Vienna).—"Ueber Uterusrupturen in Narben."
48 Vesicular Mole Accompanying Bilateral Ovarian Cystomata. Baumgart (Giessen).—"Blasenmole bei beiderseitigen Ovarialkystomen."
49 Self-Holding Abdominal Retractor. W. Stoeckel (Bonn).—"Ein sich selbst haltendes Bauchspeculum."

February 1.

50 Polypous Cystoma of the Mucous Glands in the Labium Minus. Agnes Bluhm (Berlin).—"Ein weiterer Beitrag zur Kenntniss der polypösen Schleimdrüsenkystome des Labium minus." (Third Case.)
51 Three Cases of Cesarean Section in Eclampsia. H. Loewenstein (Frankfort-on-Oder).—"Drei Fälle von Kaiserschnitt bei Eklampsie."
52 Three Cases of Cesarean Section according to Fritsch. D. Jurowski (Warsaw).—"Beiträge zur Kasuistik des Kaiserschnitt nach Fritsch."

Centralblatt f. Inn. Medicin (Leipsic), January 4.

53 Staining the Urinary Sediment with Sodium Alizarin-sulphonate. R. Knapp.—"Beitrag z. Färbung des Harnsediments mit alazarinsulfonalsaurem Natron."
54 *Congenital Alkaptonuria. A. E. Garrod.—"Ein Beitrag z. Kenntniss der kongenitalen Alkaptonurie."
55 Stukowenkow's Quantitative Test for Mercury in Urine. B. Bardach.—"Ueber Stukowenkow's Methode der quant. Quecksilberbestimmung im Harn."

February 1.

56 *Early Diagnosis of Typhoid Bacilli. R. Polacco and E. Gemelli (Milan).—"Neuere Untersuchungen über frühzeitige Typhusdiagnose."

Deutsche Med. Wochenschrift (Leipsic), January 6.

57 *Toxic Effects of Sulphite of Soda Used as a Meat Preservative. H. Kionka (Jena).—"Die Giftwirkungen des als 'Präservesalz' zur Fleischconservirung verwandten schwefligsauren Natrons."
58 *Myelogenous Leukemia. H. Hirschfeld and E. Tobias (Berlin).—"Zur Kenntniss der myelogenen Leukämie."
59 Diagnosis of Tertiary Syphilis of Pharynx. Levinger (Munich).—"Beitrag zur Diagnose der tertiären Syphilis der Pharynx."
60 Etiologic Importance of Trauma. F. Ritter (Oldenburg).—"Zur ätiologischen Bedeutung des Trauma."
61 *Atropin Treatment of Ileus. A. Weber (Alsfeld).—"Die Atropinbehandlung des Ileus."
62 Wingen's Effective Method of Testing the Daylight in Schools. H. Cohn (Breslau).—"Ueber die neue Wingen'sche Methode das Tageslicht in Schulen zu prüfen."

Muenchener Med. Wochenschrift, February 11.

63 Pulmonary Phthisis in Infancy. A. Qurin (Tübingen).—"Beitrag z. Kenntniss der Lungenphthise im Säuglingsalter (mit Kasuistik)."
64 Study of the Mast-Cells. L. Michaelis (Berlin).—"Ueber Mastzellen."
65 Mast-Cells in Exudates. A. Wolff (Berlin).—"Ueber Mastzellen in Exsudaten."
66 A Rare Deformity of the Biliary Passages. H. Kehr (Halberstadt).—"Eine seltene Anomalie der Gallengänge."
67 Larynx Tube for Chloroform Narcosis Without a Mask. E. Schlechtendahl (Barmen).—"Chloroformnarkose ohne Maske mittelst Kehlkopfkanüle."
68 Moritz's Method of Outlining the Heart and Its Value for the General Practitioner. C. Handwerck (Munich).—"Ueber die Bestimmung des Herzumrisses nach Moritz."
69 Subcutaneous Injuries of the Kidneys. O. Edlefsen.—"Beitrag z. Lehre von den subkutanen Nierenverletzungen" (Concluded from preceding number.)

Virchow's Archiv (Berlin), clxvii, 1, 1902.

70 To My Friends. Rudolph Virchow.—"Zur Erinnerung. Blätter des Dankes für meine Freunde."
71 *Traction Diverticulum in the Esophagus. H. Ribbert.—"Zur Kenntniss der Tractions-divertikel des Oesophagus."
72 Study of Four Cases of Abdominal Cysts. E. Hedinger.—"Casuistische Beitraege zur Kenntniss der Abdominal-Cysten."
73 *Study of Ten Cases of Idiopathic Cutaneous Sarcoma. L. Philippson.—"Ueber das Sarcoma idiopathicum cutis Kaposi."
74 Boue Focus in Cervix of Fetal Uterus. R. Meyer.—"Knochenherd in der Cervix eines foetalen Uterus."
75 *Two Cases of Necrotic Inflammation of the Esophagus and Stomach in Scarlet Fever. E. Fraenkel.—"Ueber nekrotisierende Entzündung der Speiseröhre u. d. Magens im Verlauf des Scharlach und über sogen. acute infectiöse Phlegmone des Rachens."
76 Etiology of Pulmonary Tuberculosis. M. Saenger.—"Zur Aetiologie des Lungentuberculose."
77 Retroperitoneal Hernia. A. Bingel. "Ueber Hernia retroperitonæalis duodenojejunalis (Treitzii)."
78 Granules in the Lymphocytes. L. Michaelis.—"Ueber Granula in Lymphocyten."
79 Inflammation of Serous Membranes. R. Heinz.—"Weitere Studien über die Entzündung seröser Häute."

Wiener Klin. Rundschau, February 2.

80 *Treatment of Spastic Aphonia. L. Wicherek.—"Casuistischer Beitrag zur Aphonia spastica."
81 *Mental Development of Cretinous Child Treated with Thyroid Extract. T. Heller.—"Ueber die geist. Entwicklung eines mit Thyreoidine behandelten cretinösen Kindes."

Wiener Klin. Wochenschrift, February 6.

82 *Fate of the Diphtheria Bacillus in Alimentary Canal. J. Süsswein.—"Das Schicksal der Diphtheriebacillen im Verdauungscanale."
83 Non-Transmission of Hydrophobia to Fetus. A. Krokiewicz. "Beitrag zur Lehre von der Lyssa humana."

Grece Medicale (Syra, Greece), January.

84 *Experiences with Hydrophobia. P. S. Pampoukis (Athens).—"Quelques observations et expériences sur la rage."
85 *Alcoholism in Greece. Vaphas and J. Foustanos (Athens and Syra).—"L'usage des boissons alcooliques en Grèce et ses effets."

Tidsskrift f. d. Norske Laegeforen (Christiania), February 1.

86 Rare Forms of Keratitis. F. Tillier (Fredriksstad).—"Nogle sjeldnere former af keratit."
87 Non-Parasitic Sycosis of the Beard Cured by Roentgen Treatment. S. A. Heyerdahl (Christiania).—"Sycosis non parasitaria barbæ helbredet med roentgenstraaler."

Brazil Medico (Rio de Janeiro), January 8 to 22.

88 *Infantile Gastro-Intestinal Affections. Z. Meirelles.—"Do vomito nas creanças."
89 *Success of Antiplague vaccination at Campos. Jorge Pinto (Rio de Janeiro).—"A vaccinia anti-pestosa. Uma licçao dos factos."

Gazzetta Degli Ospedali (Milan), February 2 and 9.

90 Rigidity of the Spine with Kernig's Sign. U. B. Solimei (Modena).—"Sopra un caso di rigidità vertebrale con presenza dei sintoma di Kernig, nonchè di una speciale contrattura muscolare."
91 The Cerebrospinal Syndrome in Lead Poisoning. G. Bazzicalupo (Naples).—"La sindrome cerebro-spinale nel saturnismo (paralisi progressiva saturnina)."

---

2 and 3. **Typhoid Fever.**—Turner, as medical officer of health of the Transvaal, argues against the air-borne theory of typhoid. He does not deny its possibility, but thinks that it is not usual or even frequent. As regards flies, he holds a similar opinion. He gives his observations to show that the typhoid in South Africa is almost entirely due to polluted water. The filters sent out for the troops, he claims, were not used or quickly got out of order and the soldiers continually violated hygienic laws in drinking from filthy water-holes and other polluted supplies. Quill, the army medical officer of Ceylon, takes the opposite view, and gives data that were obtained by him in a large camp formed at Diyatalawa in Ceylon for Boer prisoners of war. Here they are kept under discipline and all possibilities of water-borne typhoid guarded against so that this cause of the disorder can be excluded. He maintains that the infection there was air-borne, resulting from emanations from specifically infected latrines, infected dust, or bacilli-laden flies.

9. **General Pathology of Tumors.**—In these two lectures White reviews the subject of tumors. He thinks the classification based on embryology is unsatisfactory and gives the following classification based on their histologic types: 1. A class of organ tumors, or organomata, in which we can recognize distinct organs or parts of organs, not arranged, however, to form a body or part of a body, such as dermoids and teratomata. 2. We have a class of tissue tumors or histiomata in which we can recognize distinct tissues, but not arranged among themselves so as to form organs. This includes the connective tissue tumors (desmomata), lymphoid tissue tumors (lymphomata), muscle tumors (myomata), nerve tissue tumors (neuromata), and epithelial tissue tumors (epitheliomata), not including here, however, the malignant types, but rather the adenomas and endothelial growths. 3. We have cystomata or cell tumors, including: *a*, tumors of indifferent cells (blastomata); *b*, two kinds of tumors of the connective tissue cells, also the lymphoid tissue cells and the muscle cells (sarcomata); *c*, the types of epithelial cells (carcinomata). From this classification we arrive at a definition of tumor. It is a mass of cells, tissues or organs, resembling those normally present in the body, but arranged atypically. It grows at the expense of the body without subserving any useful purpose therein. With this scheme of classification we can conclude: 1. That every kind of tissue in the body has it representative tissue tumor. 2. Every kind of cell, with the exception of nerve cells, has its representative cell tumor. Cell tumors of nerve cells have not been described, but muscle cells are represented by myosarcoma, cartilage cells by chondro-sarcoma, and the different kinds of epithelial cells by the different kinds of carcinoma, etc. 3. Tumor formation is not an isolated process, but must be considered in its relation with other closely allied processes. The life history of tumors is next taken up. He does not support Cohnheim in recognizing them as originating in rudiments composed of embryonic cells, though that may be the case at times. They may take origin directly from the normal tissues or in the tissues of pre-existing tumors, or inflammatory products, and it is not necessary to suppose that the rudiment consisted of the same kind of tissue as that of which tumors are composed. The common factor in tumor formation is not to be found in the rudiment from which the tumor originates. Tumors grow mainly, even entirely, by centrifugal growth, that is, by proliferation of their own cells, but it is possible for the areas of origin to be extended by continuity. Centrifugal growth may be either central or peripheral. If the growth is central the growth will be definitely encapsulated; if peripheral the capsule will be more or less indistinct and the tumor will be infiltrating. The views that have been held as regards teratomata are several, but the author does not accept the parthenogenesis theory, or at least considers it unsatisfactory. The growth of tissue tumors takes place exactly as in normal tissues. As regards epithelial histiomata, White considers the connective tissue altogether secondary in importance to the epithelium in the growth. The growth of the cell tumors differs from that of the tissue tumors in that the growing portions consist of cells more or less loosely held together, but not forming definite tissues. These readily penetrate into the interstices of surrounding tissues. Any formed tissues which may be present in cytomata are of secondary, not primary, formation. In most cases tumors continue to increase in size, but may be limited by a change in structure such as ossification or calcification. Occasionally these tumors may decrease in size or disappear, even in the malignant forms, as has been shown by Sir Wm. H. Bennett. White thinks there is no evidence for the belief that cells of tumors are incapable of functionating. The sebaceous glands of a dermoid secrete sebum, the cells of adenoma or carcinoma of the intestine secrete mucin, and adenomata of the breast sometimes contain a milky fluid. Perhaps the most remarkable physiologic characteristic of tumor cells is the property they have of storing enormous quantities of glycogen, in which they exceed all the normal cells of the body. The question of the presence of glycogen in tumors is briefly considered; its origin and disposal are yet to be worked out. The pathologic changes to which tumors are subject are the same as those to which a normal tissue is liable; various retrogressive processes, mucoid and fatty changes and calcification, necrosis, inflammation, etc. It will be seen that the histiomata and cytomata correspond respectively to simple and malignant types of a clinical classification. According to White the difference between a simple and malignant tumor is to be found in the manner in which it grows. In cell tumors the cells form no definite tissues. Tissue tumors, on the other hand, are primary in their formation from the first. He thinks the clinical features of malignant disease are very imperfectly treated in text-books. There seems to be no account taken of the temperature, and the urine and the blood have not received the attention they deserve. We need much more information on these points, especially as regards the excretion of nitrogen. In the second lecture he reviews certain theories as to the causation of tumors, first describing the cell structure and cell division and remarking that the centrosome and its associated achromatic substance or archoplasm have been strangely neglected by pathologists, notwithstanding they form such an important part of the cell. In malignant growths we find a deviation from the typical form of mitosis—asymmetrical mitosis, multipolar mitosis and amitosis or direct division. The endogenous formation of cells used to be thought a common event in carcinoma, though it has been more recently doubted. Personally, White has no doubt that it does occur. The causes of tumor growth are divided by him into extrinsic and intrinsic factors. Among the former he mentions irritants as important, and we must consider the possibility of the existence of a special extrinsic factor such as animal or vegetable parasite. This parasitic theory of carcinoma is quite extensively reviewed, but he concludes that it will not explain the production and growth of the primary tumor, nor the different species and the manner in which they breed true. We do not find a carcinoma giving rise to a secondary sarcoma process as might be expected were Gaylord and Plimmer's views correct. He doubts whether it will explain the metastases. It will not explain the frequency of malignant disease in certain organs or the rarity of it in certain others or why children possess such an immunity. He thinks we are justified in saying that malignant growths are not to be explained on the assumption of special extrinsic causal factors. The intrinsic causes are next considered and the question of the diminution of physiologic resistance is first mentioned. Ribbert's theory of tissue tension as restraining tissues from overstepping their natural bounds in normal conditions or the theory that ascribes the origin of tumors to loss of nervous control, neither of which are entirely satisfactory, are noticed, though the author believes that that of Ribbert is the most satisfactory one yet considered. He does not agree with Ribbert in assigning so great a part to connective tissue in tumor causation, though the difficulty of deciding the point is very great, as it is rare that one has a chance to examine a carcinoma at a sufficiently early stage. As regards nervous tissue, there is no proof, he says, that the loss of normal control can give rise to tumor formation, but there is, moreover, sufficient evidence that it does not necessarily do so, for example, in skin grafting. Beatson's suggestion that carcinoma of the breast is due in some way or other to ovarian influence has no basis other than that certain cases seem to improve when the ovaries are removed. This is not sufficient to form any groundwork for the theory of the origin of carcinoma, since the removal of the ovaries causes profound alterations in the metabolism of the body at large. In conclusion, he reviews Adami's theory, which agrees to a certain extent with Ribbert's that the initiation of a tumor is due to the alteration of the tissue tension, but also admits the action of prolonged stimulation if at the same time the cells are in some way or other prevented from performing their specific function. He criticises this theory in several points—its ignoring of the centrosome, etc., and the fact that it does not explain the penetration of epithelial cells into the surrounding tissues, which constitutes the essential lesion in carcinomas.

11. **Hemolytic Experiments.**—Petrie suggests certain methods and cautions in regard to hemolytic experiments, and summarizes the steps briefly as follows: "1. Use absolutely

fresh unclotted blood. 2. Prepare in test-tubes of equal size known percentages of the hemolysin in isotonic oxalate solution. 3. Add to each of the tubes exactly the same amount of blood and mix well. 4. Incubate tubes for the same length of time at 37 C. 5. Centrifugalize till all the corpuscles settle at the bottom of the tube, forming a sharp line of demarcation between the blood and the supernatant liquid. 6. In every experiment have control tubes containing isotonic salt solution alone. 7. In doubtful cases examine microscopically."

12. **Bacterial Hemolysin.**—Castellani describes his method of repeating experiments of E. and P. Levi to determine whether hemolysis was produced by the typhoid bacillus and in the main he has followed the methods of Neisser and Wechsberg. He tabulates his results and finds that the typhoid bacillus is capable of forming a hemolysin which produces a complete solution of erythrocytes in dog's blood, and the maximum amount of this is found in cultures about two weeks old. The dysentery bacillus gave equally positive results, thus presenting a new point of resemblance to typhoid bacillus. The colon bacillus did not exhibit any marked hemolytic properties, though he says he has only tested two races, and it is possible that other strains may have different properties. He has been successful in obtaining an anti-hemolysin for typhoid bacillus. For the purpose, a rabbit was treated with a filtered typhoid culture which contained active hemolysins. The serum of the rabbit developed anti-hemolytic properties 10 days after the injection of the typhoid culture, and on the addition of 0.05 c.c. of the serum of the treated rabbit to the amount of typhoid hemolysin capable of producing complete hemolysis of 1/20 of a c.c. of dog's blood, the solution of the dog's erythrocytes was inhibited. The serum of a normal rabbit used as a control did not exhibit any anti-hemolytic properties.

13. **The Pressor Substance of the Pituitary Body.**—Schaefer and Vincent have demonstrated the existence of two substances in the infundibular part of the pituitary gland, one producing a rise and the other a fall of blood pressure. They distinguish them as the pressor and depressor substances, the former being soluble in salt solution and insoluble in alcohol and ether, while the depressor substance was soluble in all three. These active substances are not destroyed by boiling. The pressor substance was found to produce its action on the heart and the peripheral arteries; its action is prolonged, and during its period of action a second dose is inactive or nearly so. Schaefer and Magnus find that this pressor substance, unlike suprarenal extract, produces no diminution in the form of the kidney when injected intravenously. The injection is followed by a diminution in the size of the spleen, intestines and extremities with an increase in the volume of the kidneys and a prolonged and pronounced diuresis which, however, lasts for a shorter period than the change in volume of the kidney. The medicinal use of the pituitary body has been rather uncertain, though a certain amount of results has been reported by various authors. A consideration of the physiological properties of the pressor substance of Schaefer and Vincent led Golla to try its effects on the human subject. He says: "Its slowing action on the heart beat, unlike that of digitalis, appears to be due to a prolongation of the systole rather than of the diastole. The pressor substance would appear to act exclusively on the sarcoplasm. I have been unable to obtain any marked effect on the muscles of the amphibia rich in the rapidly contracting anisotropic elements such as the gastrocnemius. For clinical purposes the pressor substance purified by repeated washing of the alcoholic precipitate with ether obtained from 80 grains of the dried infundibulum was dissolved in 30 minims of normal saline. I found on injecting three minims of this solution into the mucous membrane of the lower jaw that a definite local vaso-constriction results; the mucous membrane remained blanched for about three-quarters of an hour for a considerable area round the point of injection. On injecting five minims subcutaneously into my right forearm there was a perceptible pallor of the finger nails for a few minutes. The pulse rate fell from 95 to 84, and the wave was appreciably fuller. A subcutaneous injection was next made on a patient suffering from advanced Addison's disease under the care of Dr. H. D. Rolleston. The blood pressure in the radial artery before injection was found to be 120 millimeters of mercury by means of the Hill and Barnard sphygmometer. The pulse-rate was 100. Eight minims of the saline extract were injected subcutaneously into the forearm. Two seconds after the injection the patient complained of a sudden spasmodic contraction of the muscles of the arm and fingers. On feeling the pulse at the radial immediately after injection I was alarmed to find that it almost disappeared for a few seconds. That this symptom was due to the local muscular spasm with which it was coincident is confirmed by the fact that the arterial pulse in the left radial was found to be full and vigorous; 12 minutes after the injection the arterial pressure was found to be 150 millimeters of mercury and the pulse rate was 85. Previous to injection the patient had complained of feeling uncomfortably hot and a couple of minutes afterward he spontaneously remarked that all the heat seemed to have gone inside. Two hours after the injection the pulse rate was 89 and the pulse itself was much stronger and fuller. The patient still complained of feeling cold at the extremities. Three hours after injection the pulse rate was 95 and the blood pressure 135 millimeters of mercury. There were some pain and localized swelling at the site of the injection. There was marked diuresis during the twenty-four hours succeeding the injection; the urine was acid with a specific gravity of 1010. There was no glycosuria, an effect frequently noticed after suprarenal injection. I have taken considerable quantities of the pressor substance by the mouth, but have never been able to record any results, although the substance is unaltered by peptic digestion and is dialysable. The pressor substance would appear to be proteid in nature. It is precipitated from salt solution by trichloracetic acid, gives biuret, xanthroproteic and Millon's reactions. It is not precipitated by saturation with a neutral salt, it is unaffected by peptic, but decomposed by prolonged tryptic digestion. The iodin found in the pituitary is not apparently in combination with the pressor substance. Its cardiac, vascular, and diuretic action would indicate that it may prove to be of service in cases of heart disease."

14. **Bubonic Plague.**—Galli-Valerio takes up the statement of Simond that the transmission of plague is largely due to infected fleas from rats and has investigated the subject thoroughly, studying the different species of fleas found on rats and their tendency to bite man. It appears that one species, the P. serraticeps, which has been gathered off rats, may bite man, but this must be very rare as only one observer has ever obtained it from the rat. He applies to the theory, however, evidence that he has gained from other sources, such as the facts that neither the German Commission nor Mr. Schotelius in India, and during the epidemics at Oporto, Glasgow or Naples, has evidence to prove the transmission of plague to man by fleas been found. He says also the facility with which it is possible to arrest an epidemic of plague where hygienic conditions are good and isolation properly carried out speaks against this theory. If Simond's hypothesis were correct, one might almost fold one's arms in consequence of the difficulty of preventing the diffusion of infected fleas. It requires to be demonstrated, not only that fleas pass from rats and mice to man, but from rat to rat. The question can only be solved by conveying to the body of human beings rat and mice fleas that have lived on plague rats. If the experiment is considered necessary he places himself at the disposal of the committee to undergo it.

18. **Congenital Ichthyosiform Erythroderma.**—Brocq describes a number of cases of this affection. It differs from ordinary ichthyosis by the distinctness of the erythroderma, by the rapid growth of the hair and nails, and by the localization of the lesions which affect principally the bends of the joints, exactly the reverse of the maximum localizations of true ichthyosis.

20 and 21. **Improved Technique for Radiotherapy.**—Oudin points out that the aim of radiotherapy should be to apply the therapeutic rays in as intense and brief a form as possible.

The light should be gauged to a certain standard. He recommends a current of 4 amperes, 15 volts, interrupted twenty times in a second. The tube should be placed with the anticathode 10 cm. from the skin, which brings the glass within 4. to 6 cm. The tube should be "soft," corresponding to a 5 cm. parallel or equivalent spark for a superficial, and an 8 cm. spark for a deep lesion. The first sitting should be for one minute, progressively lengthening the sitting by thirty seconds each day. The treatment must be suspended at the slightest symptom of erythema or disturbance, and postponed until the symptoms have entirely vanished. When it is resumed, the sitting should be three minutes shorter than the last before the erythema developed, and should never be allowed to reach this length again, in case of a superficial lesion, and only regain it very gradually in treating a deep lesion, suspending it again at the slightest symptoms of the reappearance of the erythema. The penetration of the rays should be determined so as to have them always of the same force. This can be accomplished by using Villard's osmo-regulator, Benoist's radiochromometer and Béclère's spark measure or spintermeter, or their equivalents. The osmo-regulator controls the vacuum in the tube, and thus the penetrating power of the rays emitted by the tube can be increased or diminished at will. The electric resistance of the tube can be determined by measuring the length of the spark with the spintermeter, and brought to a certain standard by the osmo-regulator. The radiochromometer determines the kind of rays that are being emitted by the tube, by their power of penetration. It consists of a thin disc of silver set in the middle of a dozen flat rings made of aluminum of progressively increasing thickness, all numbered. The aluminum ring through which the rays pass with a penetrating power exactly equal to that with which they pass through the central silver disc, is the measure of the penetrating power of the rays. The little instrument is mounted like an opera glass with a fluorescent screen instead of lenses. The operator can tell by a glance through it the exact degree of the penetrating power of the rays from the tube. Static electricity has proved most effective in Oudin's experience. The latest researches have confirmed the fact that the therapeutic and injurious effects of the *x*-rays are due exclusively to the *x*-rays themselves and not to the electricity.

28. **Prognosis of Operation for Glaucoma.**—Mendel reports from Hirschberg's ophthalmic clinic that during the last seven years 234 patients have been treated for glaucoma and 258 eyes operated on. Of this number 83 were men, 144 women and 7 children. No operation was performed in 15 cases. The best results were attained by iridectomy in acute inflammatory glaucoma: 82.2 per cent. comparatively or completely cured, and 77.1 per cent. in chronic inflammatory glaucoma. It also improved or at least prevented further injury to the sight in the cases of simple hypertension. The results confirm on the whole those obtained in the previous 569 operations for glaucoma. Iridectomy has maintained its supremacy during the twenty-five years' experience in the clinic, but not to the complete exclusion of other operations. The second eye was never operated on until the first had recovered completely from the intervention. Enucleation was required in 31 cases during the last seven years on account of pain. Haab has recently published similar statistics showing 77 per cent. comparative or complete cures in acute inflammatory glaucoma, and 71 per cent. in simple glaucoma, with 40 per cent. cured under treatment with myotics.

30. **Sanatorium and Tuberculin Treatment in Tuberculosis.**—Weicker claims that the results of sanatorium treatment ought not to be called permanent cures but merely "postponing the fatal termination." The average thirteen weeks' course in a sanatorium is altogether inadequate and consequently adjuvant measures should be continued after dismissal. He thinks experience has shown that tuberculin administered in repeated courses, as a supplement to the sanatorium, offers brilliant prospects of cure of otherwise doomed cases. [See below.]

31. **Symptoms and Treatment of Chronic Distension of the Lungs.**—For years Riegel has been using atropin in subcutaneous injections to arrest and cure neuroses of the vagus. It is especially effective in asthma from this cause.

32. **Tympanites and Phantom Tumors.**—Talma has observed several cases of tympanites occurring each side of the contracted recti muscles. In a recent case this partial tympanites simulated an abdominal tumor, as the upper abdominal muscles were relaxed while there was partial contraction of the transverse muscles and at the same time pronounced contraction of the diaphragm. This combination presented the aspect of an abdominal tumor. There were no stigmata of hysteria, but the patient was evidently a hysteric. The tumor persisted during a supposed sleep, which was probably feigned. It subsided spontaneously during narcosis. Talma also witnessed the development of a typical, hysteric general tympanites in a physician with tendencies to hysteria, whose attention had been attracted to his abdomen by the unusually severe borborygmus of one of his patients. Laxness of the abdominal muscles with contraction of the diaphragm is the cause of the general tympanites.

34. **An Artificial Esophagus.**—Trendelenburg has suggested that the patient should chew each mouthful and then eject it into the funnel-shaped opening of the tube entering the gastric fistula. Spiegel has devised an artificial esophagus on Trendelenburg's principle. The distal end of the tube entering the gastric fistula is inserted in a fistula made for the purpose in the esophagus just above the stricture. The patient masticates and swallows each mouthful normally. It passes down the throat into the upper end of the esophagus, and thence through the artificial tube esophagus into the stomach. Fluids and soft foods are thus ingested without difficulty, but solid food requires some imitation of the natural peristaltic movements to force it along. This is accomplished by a contrivance attached to the tube by which a small ball can be rolled along it. He has also constructed a clockwork device which automatically imitates the peristalsis. The artificial esophagus is worn under the clothing, and is taken out of the esophagus fistula at night and replaced by a stopper to keep it from closing. It is illustrated in the original article, and is to be tried at von Mosetig's clinic.

35. **Embolism of the Lungs After Laparotomies, Especially in Cases of Appendicitis.**—Oppenheim has witnessed five cases of embolism of the lungs after surgical intervention on account of appendicitis. One case was fatal. Acute appendicitis is frequently accompanied by more or less diffuse peritonitis. The toxins generated in the course of the peritonitis affect the heart injuriously, and it also suffers from the forcing up of the diaphragm by inflammatory processes below. The thorax is unable to expand normally in consequence, and this interferes with the heart action. The quantity of blood received from the veins and forced into the arteries is reduced. These conditions favor the development of thrombi. By the time surgical intervention is indicated for the appendicitic abscess, the patient has already well-developed thrombi and is ripe for embolism. Many cases are on record in which this complication of an appendicitic abscess was noted, even in the absence of any operation. It may develop without previous inciting cause, but it usually follows some unusual or rapid muscular effort. In order to reduce the possible dangers from this cause, all patients requiring a laparotomy are moved without effort on their part, and the results have confirmed the advantages of the measure. A square of sail cloth is slipped under the patient on the operating table. A strong frame is then placed over him and the sail cloth sheet is buttoned to the frame. The patient thus lies in a kind of hammock and is lifted by the frame and carried to his bed where the sheet is unbuttoned and may be left under him, ready to carry him back to the table when the dressings are to be changed. Before any laparotomy the condition of the heart and pulse should be investigated. Oppenheim suggests that the moral effect of a laparotomy under local anesthesia may be as injurious to a subject with a weak heart as general narcosis. This assumption is sustained by the experience of Mikuliez and Gottstein, who

report that lung affections seem to occur with the same frequency after local as after general anesthesia.

36. **Present Status of Tuberculin Treatment.**—The combination of several courses of tuberculin treatment with treatment at a sanatorium has accomplished in Weicker's and Petruschky's experience, results far surpassing those achieved by any other method. It cures cases in which either alone would have proved ineffective. Goetsch has attained good results with a single protracted course of tuberculin treatment requiring from six weeks to twenty-seven months as described in The Journal of July 13, p. 151. Recovery from tuberculosis is a slow process. Few persons can spare the time and money requisite for such a course, but the combination of an ambulant course of tuberculin, then sanatorium treatment for a few weeks, followed by resumption of ambulant tuberculin treatment, is within the reach of almost every one. The results are even better than those reported by Goetsch, which have marked an epoch in the treatment of tuberculosis. Petruschky thinks that thousands of lives have been sacrificed in the last ten years, which might have been saved if the reaction from the first enthusiasm in regard to tuberculin had not been so exaggerated. We know now how to avoid excessive reaction and how to keep the doses of tuberculin below the fever-producing point. By combining it with sanatorium treatment to strengthen the patient, the cures from the latter will be increased from the present figures of 44.4 per cent., in the first lung stage, to 90 and 100 per cent.; and in the second stage, from 16.7 per cent. to 40 and 50 per cent. Spengler, Turban and Goetsch have long combined the sanatorium and tuberculin treatment, and Petruschky's innovation consists in the idea of frequent repetition of courses of treatment—the "Etappen-idea," that is, treatment in stages. He proclaims that early diagnosis by means of tuberculin should be promoted in every way.

37. **Detachment of the Retina in Nephritis of Pregnancy.**—Helbron has collected twenty-one cases and has observed another of this complication of nephritis. The retina soon became attached again, but vision was not always restored to normal. On account of the danger of loss of eyesight, the pregnancy should be interrupted as soon as possible, he asserts, when this complication occurs.

38. **Bacteriolytic Action of Nucleases as Factor in Immunity.**—Later researches have fully confirmed the previous assertions of Emmerich and Löw in regard to the bacteriolytic action of the enzyme, pyocyanase, derived from the bacillus pyocyaneus. A minute quantity is able to kill in a few seconds millions of diphtheria, cholera, plague and typhoid bacilli, and streptococci. The enzyme of the pyocyaneus is therefore heteroform, while that of other bacteria is homoform. The bacteriolytic enzymes become transformed into highly molecular albuminoid compounds—the "Immunproteidines"—in the blood, and artificial immunity is based on the bactericidal action of the enzymes.

39. **Tests of the Bacillus Pathogenic for Rats.**—Issatschenko now proclaims that the bacillus he has been cultivating since 1898, originally derived from gray rats, is not pathogenic for horses, oxen, pigs, dogs, cats, fowls or sheep, even when fed to the animals in large amounts. On the other hand, it killed 431 out of 443 rats to whom it was fed. Tests throughout Russia with bouillon cultures sent for trial were successful in 70.1 per cent.

42. **Production of Remarkably Virulent Bacterial Toxins with Selected Culture Media.**—A series of tests and experiments are described by Zinno which show that the nature of the culture medium is the most important factor in the development of bacterial toxins. He found digested brain substance most remarkable in this respect and ordinary brain substance next. The proportions in case of tetanus toxin were 12,000,000 and 7,000,000 to 1,800,000 in ordinary bouillon with serum. In the case of diphtheria toxin, they were respectively 180,000 and 150,000 to 15,000. By selection of the medium in this way it is possible to obtain toxins much more virulent than has hitherto been supposed possible. His experiments seem to demonstrate that diphtheria toxin is derived from albuminoid molecules already present in the culture material, and that it is not a genuine product of synthesis.

44. **Differentiation of the Typhoid and Colon Bacilli by Neutral Red.**—The agar culture medium is tinted with a solution of neutral red before it is sown with the suspected material. The cultures of coli reduce the stain, while nothing of the kind occurs in the typhoid cultures. Wolff confirms that this method of differentiation is always reliable, and enables the typhoid bacillus to be easily isolated from the feces. It has a single disadvantage, namely, that the differential diagnosis can not be made directly from the plate.

45. **Suprapubic Cystoscopy.**—The fistula consecutive to a suprapubic cystotomy was utilized by Kraske for visually inspecting the bladder, inserting the cystoscope through the fistula after first dilating it with laminaria. In another case a permanent canula was inserted in the opening made by puncture to relieve the retention in a patient with hypertrophied prostate, and the cystoscope was introduced in the same way. It was impossible to introduce the cystoscope through the natural routes in either case. The oversight of the bladder afforded by this method of cystoscopy was so surprisingly extensive and complete, that he suggests its adoption as a routine technique in cases impossible to inspect by the ordinary methods. It is especially advantageous in case of hypertrophied prostate as it allows the entire mechanism of the obstacle to be examined in detail. Without the knowledge thus afforded, it is impossible to perform the Bottini operation in a rational manner. All intravesical operations can be performed with greater facility when illuminated by this suprapubic cystoscopy. It can be done by dilating the opening a few days after puncture and then introducing the cystoscope, or the puncture can be made with a trocar large enough to admit the latter. The simplest method, however, is to use a cystoscope made for the purpose with a trocar tip, so that it can be pushed directly into the bladder. The optical part can be drawn out and the empty shell serve for the irrigation of the bladder if desired. Kraske illustrates a puncture-cystoscope made on this plan.

47. **Rupture of the Uterus in Cicatrices.**—Peham reports three cases from Chrobak's clinic of rupture of the uterus occurring in women who had had a rupture during previous deliveries. Even the cicatrix from a Cesarean operation is liable to rupture during a subsequent birth. The greater frequency of rupture in pluriparæ is probably due to the further laceration of cicatrices left from preceding childbirths. The pregnancy should be interrupted in women who have suffered from an extensive rupture in a previous delivery, especially when it was treated by tamponing and draining alone. He advises removing the uterus as a routine measure when laparotomy has to be performed on account of a ruptured uterus unless the organ can be solidly sutured.

54. **Congenital Alkaptonuria.**—Garrod reports 11 cases of alkaptonuria which occurred in four families. The parents were first cousins in three of the families, but there was no consanguinity in the other. Each family had more than one child thus affected. Meyer observed a case where the parents were closely related. These facts suggest that the alkaptonuria is a chemical deviation from the normal standard, analogous to the more common anatomic malformations. In the case of one infant, the dark stains appeared on the diaper for the first time fifty-three hours after birth, not until the child had taken the mother's milk.

56. **Early Diagnosis of the Typhoid Bacilli.**—Polacco and Gemelli found typhoid bacilli regularly in the roseola on fifty patients in the early stages of typhoid fever. The bacilli are so scanty that they require a liquid medium for further growth. "Vaccinostyle Marechal" was used for the culture medium and the differentiation of the culture was possible in twelve to sixteen hours. [See editorial on p. 586 of The Journal, March 1.]

57. **Toxic Effects of Sulphite of Soda Used as a Meat Preservative.**—Kionka reports the results of a study of the

toxic effects of "Präservesalz," a product used within the last fifteen years by German butchers for meat (especially minced meat) preservation. It consists mainly of an impure sulphite of soda with sodium sulphate and sometimes a proportion of common salt. In former communications he had maintained the toxic action of sodium sulphite, but his conclusions had been disputed, hence this later investigation. While the animals employed (dogs) showed no special symptoms during the 65 to 67 days of feeding with from 2/3 to a gram of sulphite of soda or from a little less than 1/2 gram of "Präservesalz" to 7 grams, excepting in the case of two pregnant females who aborted, the experiments revealed serious lesions, vascular obstructions, hemorrhage, inflammations in the heart, lungs, kidneys and elsewhere. The findings, he holds, confirm his earlier observations, viz., that the continued ingestion of sulphite of soda even in the usual quantity employed as a meat preservative, causes in dogs a serious intoxication of the blood, producing vascular clogging, hemorrhages and inflammatory degenerative changes in the vital organs, which are to be considered as the result of this action on the blood. The abortion in the two pregnant animals is noteworthy as corresponding with the long known fact of the bad effects of the sodium and magnesium sulphites on pregnant women. There are few other positive facts known in regard to the action of these salts on the human species, but the above is significant as showing the analogy between man and dogs in this respect. Kionka therefore maintains that it is necessary to forbid the use of the sulphite salts for preservation of foodstuffs.

58. **Myelogenous Leukemia.**—Two cases of this disease with clinical histories and blood examinations are reported by Hirschfeld and Tobias. In one the history extends to the post-mortem, the other passed out of observation after about six months of treatment. The blood findings showed very wide variations in the relative proportions of the different types of leucocytes, especially in the great and small mononuclear cells, the eosinophiles and the mast-cells, while the polynuclear neutrophiles showed the least variation. This polymorphism was much more marked in the second case than in the first. In both, the mast-cells and the smaller mononuclears were absent in some of the examinations. There were also irregularities in the granular contents of the cells, in their staining reactions, etc. In some of the polynuclear cells there was an absolutely granular free protoplasm; some of the granules of the myelocytes and eosinophiles took on with the triacid stain a decidedly bluish tinge. There were variations also in the form and granular contents of the mast-cells, some of the latter possessing granules with other color affinities besides those of the regular mast-cell granules. The second case reported suffered from tuberculosis as well as from leukemia, a combination which, though rare, has been observed by a number of authorities. The tuberculosis may be imposed upon the leukemia or the latter may call out into activity an existing latent condition. The authors investigated in these cases for proof of Löwit's statement as to the presence of protozoa in leukemic blood. They found bodies similar to those he describes, but not in all the forms, and there were color differences also, which they suggest may be due to the different reagent, Merck's thionin instead of Thalheim's used by Löwit. They do not regard these as of parasitic nature; inoculation experiments were not favorable to this view, producing neither leukemia nor reproducing the alleged parasites.

61. **Atropin Treatment of Ileus.**—Weber concludes from a study of the cases in the literature and his own experience, that previous treatment with opium is the explanation of the inefficacy of small doses of atropin in the treatment of ileus, and also of the tolerance for large doses. Thirty-nine cases have been reported treated with atropin, and only four failed to respond to the injection. Atropin therefore is decidedly to be preferred to morphin. According to experience, if the patient has already taken opium, a subcutaneous injection of .005 atropin can be administered with confidence that in nearly every case the ileus will be relieved in ten to twelve hours. If the symptoms of ileus still persist, the dose can then be repeated unless symptoms of intoxication develop. If this amount, .01 atropin, prove ineffectual in the course of twenty-four hours, the surgeon must be summoned. But if the patient is not already under the influence of opium, the first dose should not be more than .002, followed if necessary by .005 twelve hours later. Atropin treatment is not contra-indicated in any ileus. Even in cases of incarceration which require surgical intervention, the atropin relieves the pain and after the operation induces a copious, harmless stool. Ileus appearing after an abdominal operation should be treated with atropin and not with opium. The atropin may possibly release impacted feces in cases of large scrotal hernia in elderly patients. Atropin should be given a trial in perityphlitis. Any toxic symptoms that develop can be controlled by an injection of morphin. The stomach and intestines should be rinsed out in every case of ileus.

71. **Traction Diverticulum in the Esophagus.**—Ribberts has collected forty specimens of traction diverticulum. He attributes it to some congenital tendency or defective development. An inflammatory process may develop along the lymphatics near the esophagus and the tip of the diverticulum may become involved in the process with consecutive contractions and adhesions. These enlarge the pocket and result in the typical malformation.

73. **Idiopathic Cutaneous Sarcoma.**—Philippson presents the results of study of ten cases of Kaposi's idiopathic sarcoma of the skin. It demonstrates that some virus penetrating into the skin from without induces at its entering point a proliferation of spindle cells or blood or lymph angiomata. After it has remained located at this point for a time, it penetrates into the circulation and reaches the skin again by the way of embolism. This time the hands and face are principally affected. It spreads thence gradually towards the center by the lymph route, affecting the arms, legs and trunk. Occasionally acute embolic exacerbations are observed, and new foci and finally internal metastases develop. The local action of the virus is limited, and the proliferations atrophy in time. The acute irruption of the virus into the circulation causes hemorrhages from the veins. In its general course the affection has some analogy to syphilis. It testifies to the fact that cellular neoformation can be induced by an external stimulus. This has hitherto been accepted only for hyperplastic proliferation.

75. **Necrotic Inflammation of the Esophagus and Stomach in Scarlet Fever.**—Fraenkel states that the necrosis in the two observations he describes was the direct effect of the streptococci which had colonized in the lymphatic canaliculi in the wall of the esophagus and stomach. In one the stomach alone was affected. The process is both erysipelatous and phlegmonous in its characteristics. It is both anatomically and etiologically identical with laryngeal erysipelas, and the same treatment is required as for analogous affections of the skin and subcutaneous tissue, that is, incision of the edematous mucosa.

80. **Treatment of Spastic Aphonia.**—In the case described by Wicherek, the patient was a healthy young soldier who had been unable to utter a sound for eight months after a scuffle with a comrade who had slapped him in the face and choked him. The traumatism was slight and exclusion of other causes suggested the possibility of hysteria, although no stigmata could be discovered. Faradization of the throat muscles, systematic exercises in speaking and chloroform narcosis all proved ineffectual. The mucosa of the pharynx and larynx was then swabbed with a 20 per cent. solution of cocain, while the tongue was pulled out and held. The patient was then instructed to utter the vowel sound of A, repeating it after another person. After great effort he was able to accomplish this, and repeat it until he could say it fluently. Other vowel sounds were then taught him in the same way, while he put his fingers on the larynx of the person instructing him. Short words and sentences were then tried. At the end of an hour of this exercise he was so exhausted that he had to go to bed. It was repeated again every day, and by the fourth, his aphonia had been entirely conquered.

81. **Mental Development of Cretinous Child Under Thyroid Treatment.**—Heller states that he has never seen in the literature the announcement that thyroid treatment has been systematically employed in schools for mentally deficient children to transform untrainable into trainable subjects. He thinks that the combination of thyroid with pedagogic treatment promises better results than hitherto attained, and describes a case in detail to illustrate the unexpected advantages derived from this combination in treatment of a supposed hopeless cretin and idiot.

92. **Fate of Diphtheria Bacillus in Alimentary Canal.**—Süsswein states that the records of the St. Anna Children's Hospital at Vienna show that diphtheria of the stomach was noticed four times in 146 diphtheria cadavers in six months of 1893, that is, before the introduction of serum treatment. During all the years since there has been only one case known of diphtheric lesions of the stomach. This was a child moribund when first seen. He has recently undertaken to solve the question of the fate of the diphtheria bacillus in the alimentary canal. He examined 8 cadavers and found diphtheria bacilli in the stomach in 4, but it was impossible to grow cultures from more than 2, and in these cases the bacilli displayed an attenuated vitality. He never found them in the intestines. Researches on the bactericidal power of the acids in gastric juice showed that diphtheria bacilli were killed in an hour when the gastric juice contained even as little as .04 per cent., of uncombined hydrochloric acid, .08 per cent. of lactic acid and .054 per cent. of hydrochloric acid in combination. This is the first time, he adds, that the demonstration of an antiseptic power by hydrochloric acid in combination has been offered. Gastric juice from 5 diphtheria patients proved to possess sufficient parasitic action to kill the bacilli although it contained much less acid than normal juice, and no hydrochloric acid not in combination could be discovered. A hemorrhagic erosion in the gastric mucosa would afford favorable conditions for the propagation of bacteria, but they are destroyed by the gastric juice except in the rare cases of total or partial lack of acid. Bauer and Deutsch have established that the secretion of gastric juice is more active after injection of antidiphtheria serum, which explains the lesser frequency of diphtheria of the stomach since serum treatment was inaugurated.

84. **Experiences with Hydrophobia.**—In Pampoukis' experience as superintendent of the Athens Pasteur Institute, he found the incubation was less than a month in 63.4 per cent. of 52 animals which had died from natural rabies; two months in 26.9 per cent., and still longer in 9.6 per cent. The disease first manifested itself during the first month in 8 per cent. of 51 persons who died from hydrophobia; in 54 per cent. during the second month; in 24 per cent. during the third month, and in the fourth month or later, in 14 per cent. The incubation lasted six to seven months in 5 subjects and twelve months in 2. It was shortest in persons bit in the face by a wolf, being from fourteen to thirty-one days in these cases.

85. **Alcoholism in Greece.**—Notwithstanding the widespread consumption of wines in Greece, alcoholism is practically unknown. This is explained by Foustanos as due to the purity of the wine. It is made exclusively from grapes and thus contains the most harmless form of alcohol. The ancient Greeks had no word in their language to express alcoholism, which testifies to the fact that it was also unknown among them.

88. **Infantile Gastro-Intestinal Affections.**—Meirelles proclaims that the diagnosis of gastro-intestinal affections should be based on the chemical reaction of the saliva, stomach contents or stools, and not on the clinical conceptions of gastritis, enteritis and diarrhea. Infantile gastro-intestinal disturbances are rarely idiopathic. Fully 90 per cent. are due to the contents rather than to the alimentary canal itself. He determines the acidity or alkalinity of the saliva, vomit or stools with litmus paper, and treats the disturbances by merely neutralizing the excess of either acid or alkali. He has been treating infants for nine years on these principles, with invariable success. It is a scientific method, and sweeps away at one stroke all the confusion of gastritis, colitis and all other terms which express in reality merely the results of excessively acid or excessively alkaline conditions. He has found a 2 per cent. solution of lactic acid effectual in restoring abnormally alkaline conditions to normal, while in case of a very acid reaction, he administers every hour a teaspoonful of a mixture consisting of 60 gm. of fluid magnesia; 2 gm. of sodium bicarbonate, and 1.5 gm. of sodium salicylate. He suppresses milk for twelve hours and keeps the child on water in severe cases. The alkaline mixture is given before and after taking well alkalinized milk. Boas has pointed out that the albuminoids are well digested in a hyperacid medium, while the carbohydrates and fats are imperfectly digested. The neutralization is supplemented, of course, by calomel and other measures as indicated by the individual case. In case of stomatitis or other lesions of the mouth, an excessively acid saliva maintains them. The mouth should be disinfected, but not with boric acid, as this directly adds to the acidity and aggravates the lesion. A good mouth wash in such acid cases is 6 parts each of sodium salicylate and borax in 200 parts of water. When the vomit or stools or both give an alkaline reaction, he administers a teaspoonful of a 2 per cent. solution of lactic acid every ten or fifteen minutes. He adds to his communication the case-report of an adult treated on these principles, with prompt cure of the gastro-intestinal affection.

89. **Success of Antiplague Vaccination at Campos.**—Pinto is the official chief of the health department of the state of Rio, and this article reports the results of the preventive antiplague vaccination undertaken at Campos during the recent widespread epidemic of plague there. He states that the vaccine was obtained from Terni's Institute at Messina or from the national vaccine bureau, and 1803 persons were vaccinated, all at their homes. One exhibited symptoms of the disease immediately after the vaccination, the other thirty-two days afterward. Of the total number, therefore, only one contracted the plague after being vaccinated, with the exception of the one who was already under the influence of the disease as above mentioned. The one plague patient had the disease lightly. The plague seems to be of a mild character in Brazil, and consequently it is possible that the vaccination had better chances for success owing to some climatic or racial lack of predisposition on the part of the inhabitants. In one district a person was encountered who refused to be vaccinated, and he was the only one who contracted the plague. Many of the vaccinated persons lived or were in contact with plague patients, and nearly all were of the poorer classes, the very ones most predisposed to acquire the disease. Pinto concludes that the facts of the "brilliant, magnificent, amazing effect of the vaccine" in his experience speak louder than words in its favor.

Queries and Minor Notes.

EHRLICH'S TRIACID STAIN.

Madison, Ind., Feb. 3, 1902.

To the Editor:—Will you kindly publish the formula for making Ehrlich's triacid solution test for mucus? W. A. M.

Ans.—The Ehrlich triacid stain is made up as follows:

Saturated aqueous solution of orange G	120 parts
Acid fuchsin	80 parts
Methyl-green	100 parts
Distilled water	300 parts
Absolute alcohol	180 parts
Glycerin	50 parts

Never shake the solution. Pipet from the top what is needed for use.

New Patents.

Patents of interest to physicians, February 4 and 11:

692,497. Making acetyl-cellulose. Maximilian C. L. Althausse, Billwarder-an-der-Bille, near Hamburg, Germany.

692,503. Reversible bandage case. Samuel Bottomley, Providence, R. I.

692,251. Dummy lung-tester. Edmund and U. S. DeMoulin, Greenville, Ill.

692,437. Hydrochlorid of cinnamyl-quinin, and making same. Gotthold Fuchs, Biebrich, Germany.

692,303. Wrinkle-removing device. Julia E. Kendall, Boston, Mass.

692,703. Rubber glove. Jacob Pfeiffer, Jr., Akron, Ohio.

692,704. Rubber glove. Jacob Pfeiffer, Akron, Ohio.

692,360. Artificial limb. James F. Rowley, Chicago.
692,798. Tip for atomizers and nebulizers. Cyrus J. Seltzer, Philadelphia.
692,485. Atomizer and nebulizer. Cyrus J. Seltzer, Philadelphia.
692,552. Combined atomizer and nebulizer. Cyrus J. Seltzer, Philadelphia.
692,721. Atomizer. Cyrus J. Seltzer, Philadelphia.
692,722. Atomizer. Cyrus J. Seltzer, Philadelphia.
692,375. Nozzle. Charles A. Snider, Jersey City, N. J.
692,554. Chair for therapeutic purposes. Johann J. Stanger, Ulm, Germany.
692,803. Stump-socket for artificial limbs. Leo Stumpf, Covina, Cal.
692,556. Artificial eardrum. Anton von Suchorzynski and M. Kohl, Breslau, Germany.
35,655. Design, massage roller. Charles J. Bailey, Newton, Mass.
693,345. Vaginal speculum. Albert J. Bearer, New Kensington, Pa.
693,138. Preparing and inclosing surgical ligatures. Robert W. Johnson, New Brunswick, N. J.
693,861. Tray-support for physicians' tables. Wm. H. Kersey, Indianapolis.
693,140. Mouth mirror. Wm. E. Knight, Ostrander, Ohio.
693,156. Pharmaceutic implement. Marz F. Rochester, Ingleside, Md.
692,920. Fountain syringe holder. Gustav Schirmer, Chicago.
693,358. Vaginal irrigator. Henricus W. Westlake, Los Angeles, Cal.
35,714. Design, blank for specula. Charles J. Pilling, Lansdown, Pa.
35,715. Design, blank for speculum blades. Charles J. Pilling, Lansdown, Pa.
35,716. Design, blank for speculum blades. Charles J. Pilling, Lansdown, Pa.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., February 13 to 19, 1902, inclusive:

Henry P. Birmingham, major and surgeon, U. S. A., member of an army retiring board at Fort Leavenworth, Kan.

Jerome S. Chaffee, lieutenant and asst.-surgeon, U. S. A., on the completion of the course of instruction at the Army Medical School, Washington, D. C., to report for duty at the General Hospital, Fort Bayard, N. M., to relieve Lieutenant Louis T. Hess, asst.-surgeon, U. S. A.

Marshall M. Cloud, lieutenant and asst.-surgeon, U. S. A., to report in person to the president of the Army retiring board convened at Fort Leavenworth, Kan., for examination by the board.

Clyde S. Ford, lieutenant and asst.-surgeon, U. S. A., leave of absence extended fourteen days.

Charles E. Freeman, contract surgeon, now at San Francisco, Cal., to report for transportation to Manila, P. I., for assignment in the Division of the Philippines.

Joseph N. Henry, major and surgeon, Vols., now at Philadelphia, Pa., on leave of absence, will proceed on the expiration of his leave to Fort Slocum, N. Y., to accompany recruits via San Francisco, Cal., to Manila, P. I., where on arrival he will report for assignment in the Division of the Philippines.

Louis T. Hess, lieutenant, asst.-surgeon, U. S. A., on being relieved from duty at the General Hospital, Fort Bayard, N. M., to proceed to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Carl R. Hexamer, captain and asst.-surgeon, Vols., now at San Francisco, Cal., is honorably discharged from the service of the United States, to take effect Feb. 28, 1902.

Allen D. McLean, captain and asst.-surgeon, Vols., having tendered his resignation, is honorably discharged from the service of the United States, to take effect Feb. 17, 1902.

Ernest E. Roberts, contract surgeon, now at Las Cerillos, N. M., to the Division of the Philippines, via San Francisco, Cal.

Paul Shillock, major, surgeon, U. S. A., member of an army retiring board at Fort Leavenworth, Kan.

Sanford H. Wadhams, lieutenant and asst.-surgeon, U. S. A., from Columbus Barracks, Ohio, to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Llewellyn P. Williamson, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to duty at Columbus Barracks, Ohio.

Marlborough C. Wyeth, major and surgeon, U. S. A., leave of absence for one month granted on his arrival in the United States.

Appointments, Promotions, Retirements, Etc.,

recorded in the Adjutant-General's Office between Jan. 15 and Feb. 15, 1902:

U. S. Army, Promotions.—To be assistant surgeons general, with rank of colonel, Jan. 1, 1902: Lieut.-Col. Benjamin F. Pope, deputy surgeon-general, and Lieut.-Col. James P. Kimball, deputy surgeon-general. To be deputy surgeons-general, with rank from Jan. 1, 1902: Major John Van R. Hoff, surgeon, and Major George W. Adair, surgeon. To be surgeons with the rank of major: Captain Ogden Rafferty, asst.-surgeon, Dec. 9, 1901, Captain James D. Glennan, asst.-surgeon, Jan. 1, 1902, and Captain Alfred E. Bradley, asst.-surgeon, Jan. 1, 1902.

Died.—Colonel Benjamin F. Pope, assistant surgeon-general, Feb. 14, 1902, at Manila, P. I.

U. S. Volunteers, Appointments.—To be surgeons, with the rank of major: Captain William D. Shelby, asst.-surgeon, Vols., and Captain Lewis T. Griffith, asst.-surgeon, Vols. To be asst.-surgeons, with rank of captain: Thurston Smith, of Indiana, contract surgeon; Hyman M. Cohen, of Maryland, contract surgeon, and Harold L. Coffin, of Maine, contract surgeon.

Honorably Discharged.—Captain Frank D. Pease, asst.-surgeon; Captain Frank A. E. Disney, asst.-surgeon, and Captain John T. H. Slayter, asst.-surgeon.

Commission Vacated by New Appointment.—By Major James D. Glennan, surgeon, U. S. A., his commission as major and surgeon, U. S. Vols., Jan. 1, 1902.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Feb. 20, 1902.

Surgeon J. J. Kinyoun, granted leave of absence for two months and three days from February 16.

P. A. Surgeon M. J. Rosenau, detailed to represent the service at meeting of the New York Academy of Medicine, to be held at New York City, February 20.

P. A. Surgeon E. K. Sprague, to proceed to Port Huron, Mich., for special temporary duty.

Asst.-Surgeon C. E. Decker, granted extension of leave of absence for fifteen days from February 15, on account of sickness.

A. A. Surgeon J. A. Moncure, granted leave of absence for 30 days from February 15.

A. A. Surgeon B. Y. Harris, granted leave of absence for fifteen days from February 15.

A. A. Surgeon S. H. Hodgson granted leave of absence for thirty days from March 1.

A. A. Surgeon W. R. Hunter, granted leave of absence for two weeks from February 1.

Senior Pharmacist F. H. Peck, relieved from duty at St. Louis, Mo., and directed to proceed to Evansville, Ind., and report to medical officer in command for duty and assignment to quarters.

Junior Pharmacist C. W. Stephenson, upon being relieved from duty at Evansville, Ind., to proceed to St. Louis, Mo., and report to medical officer in command for duty and assignment to quarters.

RESIGNATION.

Surgeon J. J. Kinyonn resigned to take effect April 19, 1902.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Feb. 21, 1902.

SMALLPOX—UNITED STATES.

California: Eureka, Jan. 27, 1 case imported; Humboldt County, Jan. 27, 5 cases in lumber camps; Los Angeles, Feb. 1-8, 3 cases; Sacramento, Feb. 1-8, 1 case; San Diego, Feb. 1-8, 1 case; San Francisco, Feb. 1-8, 4 cases.

Colorado: Denver, Dec. 28-Feb. 8, 12 cases.

Illinois: Belleville, Feb. 8-15, 2 cases.

Indiana: Evansville, Feb. 8-15, 5 cases.

Iowa: Clinton, Feb. 8-15, 1 case.

Kentucky: Covington, Feb. 8-15, 11 cases; Lexington, Feb. 8-15, 2 cases.

Louisiana: New Orleans, Feb. 8-15, 1 case.

Maine: Portland, Feb. 1-15, 6 cases.

Maryland: Baltimore, Feb. 8-15, 1 case.

Massachusetts: Boston, Feb. 8-15, 38 cases, 6 deaths; Cambridge, Feb. 8-15, 5 cases, 1 death; Everett, Feb. 8-15, 3 cases; Malden, Feb. 8-15, 1 death; Medford, Feb. 8-15, 1 case; New Bedford, Feb. 8-15, 1 case; Somerville, Feb. 8-15, 1 case; Taunton, Feb. 8-15, 3 cases; Weymouth, Feb. 1-8, 1 case.

Michigan: Bay City, Feb. 8-15, 3 cases; Detroit, Feb. 8-15, 5 cases; Grand Rapids, Jan. 29-Feb. 15, 3 cases; Ludington, Feb. 8-16, 2 cases; Winona, Feb. 1-8, 1 case.

Nebraska: Omaha, Feb. 8-15, 46 cases, 1 death; South Omaha, Feb. 1-17, 61 cases.

New Hampshire: Nashua, Feb. 8-15, 2 cases.

New Jersey: Camden, Feb. 8-15, 3 cases, 1 death; Jersey City, Feb. 8-16, 22 cases; Newark, Feb. 8-15, 20 cases, 7 deaths.

New York: Binghampton, Feb. 8-15, 9 cases; Mount Vernon City, Feb. 18, 1 case; New York, Feb. 8-15, 58 cases, 14 deaths.

Ohio: Cincinnati, Feb. 7-14, 13 cases; Cleveland, Feb. 8-15, 1 case; Hamilton, Feb. 8-15, 5 cases; Youngstown, Feb. 1-8, 3 deaths.

Pennsylvania: Allentown, Feb. 1-8, 1 case; Norristown, Feb. 8-15, 2 cases, 2 deaths; Philadelphia, Feb. 8-15, 74 cases, 19 deaths; Pittsburg, Feb. 12, 1 case; Reading, Feb. 10-17, 2 cases; Scranton, Feb. 1-15, 2 cases; Williamsport, Feb. 8-16, 5 cases.

Rhode Island: Providence, Feb. 8-15, 1 case, 1 death.

South Carolina: Charleston, Feb. 8-15, 3 cases.

Tennessee: Feb. 8-15, Memphis, 12 cases; Nashville, 1 case.

Texas: Houston, Feb. 1-15, 24 cases, 1 death.

Washington: Spokane, Feb. 1-8, 20 cases; Tacoma, Feb. 1-8, 4 cases.

Wisconsin: Fond du Lac, Feb. 8-15, 2 cases; Green Bay, Feb. 9-16, 16 cases, 1 death.

SMALLPOX—FOREIGN.

Austria: Prague, Jan. 18-25, 15 cases.

Belgium: Ghent, Jan. 25-Feb. 1, 2 deaths.

Canada: Winnipeg, Feb. 1-8, 4 cases.

Colombia: Cartagena, Jan. 27-Feb. 2, 3 deaths; Panama, Feb. 1-10, 50 cases.

France: Paris, Jan. 18-Feb. 1, 11 deaths.

Great Britain: Dundee, Jan. 25-Feb. 1, 1 case; Glasgow, Jan. 31-Feb. 7, 13 cases, 1 death; Liverpool, Jan. 25-Feb. 1, 3 cases; London, Jan. 18-Feb. 1, 2006 cases, 90 deaths.

India: Bombay, Jan. 7-14, 1 death; Calcutta, Jan. 4-11, 3 deaths; Karachi, Jan. 5-12, 13 cases, 1 death; Madras, Dec. 28-Feb. 3, 2 deaths.

Italy: Naples, Jan. 25-Feb. 1, 5 cases.

Mexico: City of Mexico, Jan. 26-Feb. 2, 1 case.

YELLOW FEVER.

Mexico: Vera Cruz, Feb. 1-8, 4 cases, 4 deaths.

CHOLERA.

India:: Bombay, Jan. 7-14, 1 death; Calcutta, Jan. 4-11, 31 deaths; Madras, Dec. 28-Jan. 3, 4 deaths.

PLAGUE.

China: Hongkong, Dec. 28-Jan. 11, 1 case, 1 death.

India: Bombay, Jan. 7-14, 250 deaths; Calcutta, Jan. 4-11, 36 deaths; Karachi, Jan. 5-12, 24 cases, 23 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, MARCH 15, 1902. No. 11.

Address.

MEDICAL EDUCATION.*

JOHN B. DEAVER, M.D.
PHILADELPHIA.

The choice of a subject to present on this occasion can not help but be a matter of considerable anxiety. When I received the invitation from my distinguished friend, your, yes, our, eminent Murphy, to speak to you, two thoughts were most prominent in my mind: First, one of pleasure at the honor bestowed upon me in being invited to journey so far to address an audience composed of many of the leaders in the American medical profession—which the majestic distances of this great country have prevented me from knowing personally as well as I know them by the luster of their names and achievements. The second thought that instantly followed was the difficulty of choosing a subject which would prove of sufficient interest and value to merit your kind invitation.

After reflection, it seemed clear to me that on an occasion like this no subject could be more suitable than that of Medical Education. A subject that will never become trite so long as the human race endures, for as one by one the great reaper, Time, mows down with his scythe the medical profession of to-day, it can leave no better legacy to posterity than the proper preparation of those who are to spring up to take its place.

There is one fact that makes this subject of the greatest difficulty. The fact that we are all medical students from the day we first enter the halls of our particular alma mater until, in the fulness of time, we must turn over our incomplete tasks to those who are to follow us. In this arises the greatest difficulty in arranging a course of study and deciding how far it should go before the student is fitted to advance from his medical school to the broader and higher school of a practitioner of medicine.

It is not in the province of this paper to discuss the theoretical question of a complete medical education. Indeed, the allotted span of life is too short for any of us to ever hope to explore the whole broad field open to us; but our aim is only to outline some of the principles, applicable to proper instruction in the first school of medicine which will enable its graduates to enter the higher school, fitted, both to advance the most rapidly and more important, with the greatest benefit to humanity, whose health and safety it is our noble mission to promote. The aim of a medical school should be to turn out men well grounded in the fundamentals of medicine, who are ready to take up any of the many branches of the profession, into which their varying talents may lead them, and, above all, make them safe, conservative physicians with confidence in their groundwork, and enthusiasm to follow this forward and fill out their knowledge in the broader school to limits bounded only by the years Providence vouchsafes them.

In the halls of my particular alma mater hangs the portrait of Gibson, one of the master minds in the history of American surgery, and one of whom the Philadelphia profession may well be proud. Under his portrait are written these words, "Principles, Principles, Principles," and it were well that these words were engraven on the minds of all teachers of medicine. For it is only by the ingrounding of the principles of medicine that the young physician can judge between the false and the true, that he is sure to meet with in after-life.

The course of study in a medical school should be well balanced and proportionate, and this aim should be kept in mind. The time given is too short to fit a man to become a specialist, but is only sufficient for a groundwork that will permit him to follow his bent, either in post-graduate schools, or in that larger and greater school of personal experience in the daily routine of practice.

Even a rapid review of the curricula of the various medical schools will show that in most this balance is not maintained. Some devote too much time to laboratory methods, some to surgery and anatomy, and in others the preference is given to internal medicine. This unevenness is usually due to the domination of one branch of the faculty over the others, and suggests the remedy of each department asking for only the necessary time for the groundwork principles of their branch, and not that necessary for the instruction of future specialists. A college course should be practical; for instance, in some schools nearly as much time is given to instruction in chemistry as is given to anatomy, and yet the graduate is hardly able to examine a specimen of urine for albumin with certainty and dispatch. In every school of medicine, as in other lines of higher education, a well-organized body of alumni should be actively engaged in shaping the destinies and policies of their alma mater. Who is better prepared to know the actual needs and medical attainments which are necessary to the well-being of the young idea in medicine, and the needs of the ailing community, than he, who of long experience at the bedside and operating table has learned the many difficulties which the physician must overcome in treating disease; aye, he must do more than treat disease, he must treat the individual. If the time demanded is too long, let each course be cut down in proportion; but the

* Address at Formal Opening of the Mercy Hospital Operating Amphitheater Under the Auspices of the Chicago Medical Society and the Northwestern University, Feb. 12, 1902.

pruning must be most judiciously done in those branches in which all medicine centers, anatomy, physiology and pathology.

Clinical and didactic teaching each have their place. Were it possible, the ideal method would be a presentation clinically, in a logical order, of all the varieties and stages of disease, but this is manifestly impossible, and didactic teaching must always fill up the gaps left by clinical teaching, and be useful in reducing the lessons learned clinically to a systematic and rememberable classification. Thus both kinds of teaching have their place; but there is little doubt that a lesson learned at the bedside, or operating table, is more real and applicable to the student than a lesson learned from a didactic lecture.

In this regard we may speak of the value of encouraging students to attend clinics outside of their particular college hospital. No one man has a monopoly of medical skill and much valuable information may be learned by the student, both of methods of thought and technique, outside of the walls of his alma mater.

A spirit of commercialism is one of the greatest enemies of a medical school. A large production at a cheap rate may be a good enough aim for a business house, but this spirit is fatal to a medical school. Too many schools seem to take pride in their large enrolment of students, forgetting that at the same time the teachers and clinical material are entirely inadequate for the proper instruction of so large a body of men. Salaries are in many cases insufficient. It is not reasonable to suppose that a man able to make a large income in practice will be willing to give up the best part of his time to a teaching position that pays him practically nothing. The primary object in selecting medical teachers should be the fitness of the individual for the position and not his price. A man of broad general education, with a large experience in the subject which he is to impart to the student, and who is recognized as an authority, with the ability to impart this knowledge, is the type of man who should fill the professional chair; not he who is possessed of influence or affluence sufficient to warrant an acceptance of a small or totally inadequate compensation.

In the great commercial organizations of to-day it is merit and fitness which is the accepted standard for leaders. Men who have demonstrated their peculiar ability in certain lines are chosen to lead; men who, of their own worth, command and receive yearly salaries that would be handsome endowments for any medical school or college. Why is it, therefore, that the men who are teaching those who will have the health of the community in the hollow of their hands, are compelled to accept a paltry pittance in return for the ability which is, as a matter of necessity and human limitation, a work of a lifetime to acquire? Can any one of you call to mind a physician or surgeon who has, from the practice of his profession alone, accumulated a fortune to compare with those of a thousand leaders in commercial life?

The inadequacy of salaries has in it one of two dangers: Either the chair is held by a man who holds his position only at its value as a means of advertisement for his practice, and who, therefore, as his practice increases, is compelled to give less and less time to it, until too often the only benefit the student receives from his occupancy is the luster of his name. Or, the chairs are held by men who have not attained that high plane of excellence, which I feel is so essential in those who are to be leaders of men and who by virtue of their position are shaping the destinies of future generations. Either of these two alternatives is greatly to be deplored.

Nothing is of greater importance to the body politic than the proper instruction of those who are to have the care of the health of the community on their shoulders. The idea is preposterous that those to whom this instruction is intrusted should be men of mediocrity, either failures, or those whose measure of the value of the position lies in its value as an advertisement.

There is not, and never has been, a higher calling than that of a teacher, and a teacher of medicine is one of the highest in this calling. The dignity of the calling is seriously debased by its being occupied by men who, in order to obtain even a respectable livelihood, must make their high position subservient to their practice.

Many states and individuals have been liberal in their donation to this work, and surely nothing is more deserving of aid, and no charity will better repay posterity than one that assists in medical education or medical research.

This problem of education is a great and interesting one, and although it is still not entirely solved, yet in this regard we have many causes for congratulation on account of advances made and a fresh interest excited, not only among the medical profession but also among the laity.

The very occasion upon which we are gathered together, the opening of this beautiful amphitheater, shows the spirit in which education should be held. Beautiful as it is it is none too beautiful for the high purpose for which it is designed. The day of straight-backed, uncomfortable benches, foul smelling, badly ventilated amphitheaters has gone for good, and in its place has come such a room as it is our pleasure and delight to occupy this evening. A regard for health and comfort and artistic beauty coupled with a strict regard for the preserving laws of asepsis are here most faithfully carried out, independent of expense, time and trouble, and I venture to prophesy that the work that will be performed here by my illustrious colleagues will not be surpased by any in this great home of modern surgery, the United States of America.

But, allow me to return to a consideration of those principles that are the rock upon which the enduring edifice of medical education must be reared. They are three, as I have already said: anatomy, physiology and pathology. With a thorough practical working knowledge of this triumvirate all knowledge of medicine is possible of attainment.

Where is the surgeon who does not, each day of his life, call to his aid his knowledge of anatomy and pathology, or the physician who is not constantly in need of a knowledge of physiology and pathology in making the simplest diagnosis, or in performing the simplest operation of surgery.

It seems to me that there is a pressing necessity for a pathology that can not be learned in the laboratory, which for the want of a better name I will call living clinical pathology. I refer to the kind of information which is obtained by the study of pathologic processes in the living body, and particularly that which is alone seen at the operating table. I have but to remind you of the appearance of a diseased vermiform appendix immediately before it is amputated, and the markedly different appearance which it presents the instant it occupies the bottle waiting for its reception. Or, the appearance of the intestines before and after the libera-

tion of an obstruction. Those of us who are granted the privilege of this view of nature's work in diseased states, frequently occupy positions varying materially from those of our brothers who make their observations upon the shell of the individual, fortunate or unfortunate as the case may be, from whom the God-like principle, life, has departed.

What manner of a man is it who is so lost to conscience that he would dare to remove a goiter or mass of lymphatic glands from the neck; or a gallstone from the common duct; or a vermiform appendix from a confining wall; a carcinomatous uterus from the pelvis; or set a broken thigh, without an accurate knowledge of the anatomic relations of the involved area; or, in the case of the physician who would venture a diagnosis of phthisis pulmonalis; gastric carcinoma or ulcer; brain tumor, or in fact derangement of any organ of the body, unless he knew the normal function of that organ from which he could draw logical and scientific comparisons and deductions.

I say again, and with all the emphasis at my command, who is better prepared to teach these principles of medicine than the man who has acquired the knowledge by years of experience and has the ability to impart them? Teachers are born, not made; although it may transpire that many years go by before the fact dawns on the minds of the community, or that he is discovered by a small circle of friends and admirers who are possessed of sufficient acumen to recognize the inherent talent of an otherwise obscure leader.

It is this knowledge of men that marks the great educators who are thus fitted for occupancy of the highest seats in the institutions of higher education. It is not buildings or money, however necessary they may be, which mark the standard of an educational institution, but the man at the head and the corps of associated educators over whom it is his function to preside, and whose efforts towards advancement in knowledge he shall foster and guide, that make the only solid ground for reputation.

Among the pioneers of those who have done most for the advancement of medical education stands the name of one of the members of the Chicago profession. I refer to Dr. N. S. Davis, who as long ago as 1839 began a series of articles asking for improvement in our medical schools. Almost the first in the field, his conscientious and able efforts were finally crystallized into the American Medical Association.

Thus we see from its very inception the primary object of this great bond of unity between the most widely separated members of the American profession was the advancement of Medical Education. That its purpose has been productive of valuable results, there can be no question; and Dr. Davis has been able to see results worthy of the greatest congratulation in the advancement of the medical schools of the country.

Contrast this beautiful, modern, aseptic amphitheater with the dirty operating rooms of fifty years ago! Contrast this well-equipped hospital, where the poorest of patients may receive care that is in no way second to that received by the richest man in his palatial residence, with the hospitals known to our fathers! Contrast the medical course, of thirteen to sixteen weeks, of fifty years ago with out present medical course, and we certainly see the best causes for congratulation and wonder at the magnitude of the changes in only half a century!

Kingsley in "Westward Ho" drew attention to the fact that the tide of immigration was ever toward the westward, and it would seem that medicine is following in the track of the westward tendency in the United States. It was not many years ago when the East held the palm of medical education; but to-day we of the East must bow to the progress of our Western brothers, whose achievements speak so loudly and who, with no uncertain voice or faltering hand, have taken a place in the front ranks of medical attainment, and have raised the banner of Æsculapius to the virgin winds of the great West.

Original Articles.

CASE OF BROWN-SEQUARD'S PARALYSIS,

FROM STAB IN THE CERVICAL REGION, WITH COMPLETE HEMIPLEGIA, CROSSED MONOPLEGIA AND CROSSED TOTAL HEMIANESTHESIA.

ARTHUR R. EDWARDS, M.D.

Professor of Principles and Practice of Medicine and Clinical Medicine, Northwestern University Medical School (Chicago Medical College); Attending Physician to Cook County, Wesley, St. Luke's, Mercy and Provident Hospitals; Consulting Physician to St. Anthony's Hospital, Etc.

CHICAGO.

I am indebted for the full, accurate and careful history to Dr. Tiecken, lately senior of the Cook County Hospital resident staff.

The patient was admitted July 10, 1900, after having been stabbed twice in the neck by an Italian compatriot during an argument. He fell, lost consciousness and remembered nothing till his arrival at the hospital in an ambulance.

Previous history: No previous injury nor illness.

Family history is negative.

Personal history: Patient admitted a venereal sore, not followed, however, by secondaries, but denied gonorrhea, although some slight urethral discharge was noted. Smoked and drank moderately.

Examination.—Middle-aged, male, of short stature, well nourished, florid complexion and anxious expression; mind was usually clear but at times slightly delirious. Head and scalp were negative. There was no evidence of violence, no edema. Skull was negative; no evidence of fracture; no tenderness.

Neck: One inch to the right of the median line posteriorly there was a wound about three-quarters of an inch long closed by silk sutures, but not sealed; below the mastoid process on the right side another small wound was seen about one-half inch in length, apparently inflicted by a sharp pointed instrument, directed from behind forward and a little upward. Free hemorrhage occurred from both wounds. They were sealed after thorough cleansing with a cotton-collodion dressing. No other evidence of injury was found around head or neck and dry dressings were applied and the patient put to bed.

Face: No evidence of injury found. Eyes: No evidence of injury to the external eye. Pupils reacted to light and accommodation; were regular in outline, but the right was larger than the left. There was no paralysis of any ocular muscles; no ptosis or sinking of either eyeball. Ears: No evidence of injury to either the external or middle ear. No hemorrhage from either ear. Function not disturbed. Nose: No injury to external nares. No evidence of fracture nor contusion. Mouth: No evidence of injury; lips move equally; no paralysis. Tongue: Clean, movable in all directions. Readily protruded without lateral deviation; palate moved normally; fauces normal; uvula in median line; no difficulty in articulation nor deglutition. Larynx: There was no evidence of paralysis; both cords moved equally. Chest was large, well-formed and symmetrical; expansion of lungs very slight but equal in ordinary respiration; mensuration gave no difference in capacity or size; the respiration was mostly abdom-

inal in character, and irregular in rhythm. Palpation, percussion and auscultation negative. Respiratory sounds feeble and distant, although vesicular.

Abdomen: Large and slightly protuberant; inspection showed normal movement on respiration; on palpation nothing abnormal was found; liver just palpable below the costal arch; spleen not palpable; no tenderness nor rigidity found, except over the distended bladder. Cardio-vascular system: Apex beat was in the fifth interspace just below the left nipple; percussion, negative; auscultation, negative; arteries were somewhat sclerotic; veins negative. Genitalia: Slight phimosis with long prepuce. There was no external evidence of venereal disease, although patient recounted a genital sore two years ago. On passing finger along beneath urethra with gentle compression, a small amount of somewhat turbid secretion could be squeezed out, although patient denied any recent infection. No stricture was found; scrotum and testicles negative. Rectum: There were no hemorrhoids, no stricture, no prostatic enlargement.

Extremities: On admission some slight movement was noted in the right upper, and free movement was present in the right lower extremity. The left upper extremity was slightly rigid, but no motion was perceptible. Patient could not move it when asked, and said he could not move the fingers. No power was present in either of the upper extremities, and when patient was asked to squeeze the hand, he was unable to do so. The left lower extremity was completely paralyzed and rigid and no motion could be elicited by voluntary effort of patient. When tickling the sole of either foot involuntary muscular twitchings were noticed. On flexing the left lower extremity the patient complained of pain, but the limb could be rotated in every direction without great discomfort.

Articulations: There was no evidence of disease or injury to any of the joints. When pressure was applied to the spine, pain was elicited in the cervical region, especially marked in the region of the fourth and fifth spinous processes, at which site the punctured wound was located. On flexing the head on the shoulders and on rotating it from side to side, pain was also experienced.

Muscles: Myoidema fairly well marked, and when the biceps pectoralis major or triceps were struck or pinched, slight reaction was noticed, and this followed by muscular twitching (most marked in pectoral group). Muscle sense could not be elicited, as it was impossible to make patient thoroughly understand what was meant. Bones: There was no evidence of injury, no tenderness, no deformity. The Nervous System: Save for some occasional slight delirium, considerable excitement and loss of memory the psychical functions were normal, the patient answering questions intelligently. The special senses were in no wise disturbed.

Sensation: Tactile sensation was lost upon the right side, especially in the arm and leg; while upon the trunk the anesthesia did not quite reach the median line. On the face and upper neck no change was noted. Analgesia was absolute upon the right side, as was temperature perception of both heat and cold. On the side of the hemiplegia there was no particularly marked hyperesthesia, save for pain on movement of the arm and leg and extreme sensitiveness of the soles of the feet, tickling of which caused the patient to cry out. The hyperesthetic zone, which often surmounts the bilateral anesthesia, could not be demonstrated. There was no anesthesia of any variety upon the left side, save for small, totally anesthetic, irregular patches over the left shoulder both before and behind it. Regarding muscle sensibility we can make no positive statement, since the patient failed to understand the test.

Reflexes: The corneal reflexes were active. The cremasteric, abdominal and mammillary reflexes were abolished on both sides. The right knee-jerk was normal, while the left was much exaggerated. The left patellar reflex disappeared in twelve hours and did not return for two weeks. The reflexes in the left arm were certainly exaggerated.

On admission to the hospital, July 7, 1900, the temperature was 99 F., the pulse 90 and the respiration 24. Retention of urine existed with negative uranalysis. For four days constipation was absolute, when magnesium sulphate finally produced four bowel movements, after which involuntary evacuations of the urine and stools were constant for eighteen days. In three days after the left knee-jerk appeared, it was pronounced and a few days later was distinctly exaggerated. The patient was somewhat noisy and slept but little, whereupon chloral and sodium bromid were administered. Five days after admission he complained of headache and pain in the neck. The abdomen became painful and somewhat distended and the temperature rose to 102.6, and 103.4 was registered on July 16, 1900, six days after entrance. The dressings were removed and redness and edema were noticed about the larger wound. On opening it, after antiseptic precautions, a small amount of bloody fluid exuded. The parts were cleaned and a grooved director introduced without force along the wound tract, passing without resistance to a distance of 4.5 cm. when about 4 c.c. of a clear fluid gushed away. The wound was then dressed and the temperature fell to normal. Seventeen days after entrance some motion appeared in the right arm, but movement in the left arm and leg was possible only by movement of the shoulder and pelvis.

The patient's condition regarding the motor and sensory findings was as follows: In June, 1901, nearly a year after the injury, the hyperesthesia on the left side had disappeared, while the anesthesia on the right side was but little altered, tactile sensation now being fairly normal. The left-sided deep reflexes were exaggerated and the limbs more or less spastic and yet but little if any atrophy was present.

The case was clearly a Brown-Séquard paralysis, as discovered by Séquard and Turck simultaneously in 1850. According to Brown-Séquard's original proposition, on the side of the cervical section occur: 1. Paralysis of voluntary motion, muscle sensibility and vasomotor fibers. 2. Hyperesthesia of trunk and limbs, to touch, pain, heat, cold, etc. 3. Vasomotor paralysis of face and eyes (higher temperature, narrow pupils, moderate contracture of certain facial muscles). On the contra-lateral side: 4. Anesthesia for all varieties of sensation, except muscle sensibility.

I. Regarding the symptoms in detail, exact hemisection of the cervical cord produces a spinal hemiplegia on the side of the section, but, in clinical injuries as well as in experimental section, the trauma is rarely either wholly complete or strictly unilateral. In our case, the crossed paralysis of the arm is suggestive. Of speculative interest are the following possibilities, invoked in explanation of this crossed paralysis: 1. It is quite possible that the point of the knife, plunged into the left half of the cord, may have been given a downward twist at the end of the stroke so that the point injured the anterior portion of the right half of the cord. 2. The local left-sided injury probably accompanied by hemorrhage, since hematomyelia is prone to occur in the lower cervical region, could have produced indirect pressure, in which action hemorrhage may be reinforced by lymph stasis. I consider this mechanism somewhat improbable in that the crossed paresis has never disappeared, since Cushing, Kahler, Schmaus and Enderlen, describing symptoms *par distance* produced by hemorrhage, lymph stasis and swelling, conclude that more or less complete recovery is common. 3. It is likely that the hemisection was associated with secondary myelitis, the late temperature, superficial thoracic breathing, condition of the reflexes, bladder and rectal functions indicating an expansion of the original lesion by hemorrhage or inflammation. 4. The spinal hemiplegia on the side of section is explained by the general non-decussation in the spine of the motor tracts which have already crossed in the medulla. In some cases a decussation of the uncrossed pyramidal tracts may occur

in the cord lower down than the usual crossing point in the medulla, as is known through Flechsig.[9] Thus we can conceive of a spinal hemiplegia with contra-lateral monoplegia, due entirely to unilateral lesion. In this instance myelitis is, however, the better explanation. Déjerine and Thomas,[27] as well as Russel, Mallus and Sherrington, have spoken of a third pyramidal tract, the "homolateral pyramidal" tract, which may explain restitution of the motor function, and Edinger also mentions a "reserve" innervation by which decussation of motor fibers occurs lower than the pyramidal decussation in the medulla. Gowers[2] speaks of loss of power[3] on the contra-lateral side due to bilateral injury or to damage of non-decussating or redecussating fibers. The clinical type is most characteristic when the lesion is located in the mid-dorsal region, but in cervical section, or pathologic foci, paresis of the arm with paralysis of the leg is more usual, because the cervical motor tracts are, so to speak, less compact than they are in the lower cord. Hence paralysis is limited more frequently to a group of muscles than to the entire upper extremity. "Conversely, paralysis of the leg may be incomplete while the arm paralysis is complete, owing to the escape of fibers for the leg which cross lower down in the cord." (Gowers.)

The paralysis gradually decreases in some instances (Cushing's case) with surprising rapidity, and if the anterior cells are intact it gradually becomes simple weakness. The motor functions are restored more readily than the sensory, the reverse being true of the peripheral nerves. There is an inactivity atrophy of the muscles without abolition of faradic irritability and without reaction of degeneration. The paralysis may be spastic instead of flaccid (Vix,[15] Mann[24]). A facial paralysis was noted in a questionable case reported by Lanzoni. Respiration is rarely affected, imperfect movement of the chest never having occurred according to v. Leyden and Goldscheider,[1] although in one instance paralysis of half of the diaphragm occurred, and in three cases the abdominal muscles were paretic. Involvement of the thoracic and abdominal muscles is usually indicative of a bilateral lesion. Swelling and edema in the paralyzed members have been observed by Glaezer,[38] and swelling with pain in all the joints on the paralyzed side was observed before death by Allessandrini, masses of coagulated blood being found in the joints at autopsy. Viguès, Joffroy and Soloman[11] have observed synovitis in the knee-joint on the paralyzed side and acute decubitus, referable to anterior root section.

II. *The Deep reflexes* are absent according to Glaezer,[38] while Erb,[11] Schultz,[40] Revillout[41] found them exaggerated on the side of lesion. Inhibition of the reflexes occurs not only from the brain but also, according to Sternberg from the cord itself. Bastian,[46] in four cases of total transverse lesion of the lower cervical and upper dorsal cord, observed abolition of the tendon reflexes, where shock was eliminated. Bruns[29] examined anatomically a similar case where the lumbar spine was intact. As yet we have no wholly satisfactory explanation for such cases. Bastian and Jackson suggest that the lumbar centers are independent of the cerebellum. Von Leyden and Goldscheider[1] propose inhibition from lasting irritation. Bowlby found no tendon reflexes in eleven cases of complete destruction of the cord, while in three incomplete traumata they were increased. Gerhardt suggests that the brusqueness of the trauma may have some bearing, since the reflexes were preserved in his case of gradual total destruction of the cord by compression. Cushing[45] in a case of spinal gunshot wound and hematomyelia describes disappearance of the deep reflexes on the side of injury after four days and gradual reappearance as the paralysis decreased. Cushing remarks upon the dearth of references upon this sequence of reflex activity (ref. 46 to 50 inclusive) and quotes Kocher's case in which the weakened reflexes disappeared on the seventh day to return on the eleventh and were greatly exaggerated on the fourteenth. In our case the patellar reflex on the side of injury was first exaggerated, then, after twelve hours, disappeared for 14 days to finally return and remain exaggerated. In Cushing's case, the lesion was not strictly unilateral, there being more than the usual anesthetic zone on the side of paralysis, a temporary paralysis of the opposite arm, involvement of the bladder and rectum, bilateral intercostal and abdominal paralysis, etc. The skin reflexes are abolished or decreased on the side of paralysis and on the opposite anesthetic side they have been variously described as normal, weak, absent or increased.

III. Hyperesthesia, observed by Fodera in 1823 and Schoeps in 1827, occurs on the paralyzed side and also as a zone above the anesthetic areas near the level of the lesion. If the lesion be cervical both the anesthetic and hyperesthetic areas above are not zonular but irregular in contour. The same is observed in lumbar lesions. Hyperesthesia has been referred to the wound itself or to paralysis of inhibition. Irritation is not causal of anesthesia and hyperesthesia, according to Gowers, since both have endured twenty years or more. Gowers suggests that they "are due to an altered action of the cerebral centers on the opposite side of the brain." Hyperesthesia concerns tactile pain, heat and cold sensations and its absence infers incomplete section (Kocher). Kocher[13] observed such over-sensitiveness that mere movement caused the greatest pain. Hyperesthesia may, according to the same observer, develop later from secondary myelitis. Hyperesthesia was not found by Ferrier, Marshall and Bottazzi in experimental hemisection. It usually disappears rapidly, though its occasional protracted duration has been noted (v. s.). According to the investigation of Woroschiloff, W. Koch, and Martin, the fibers whose section results in hemianesthesia, lie in the lateral tract near the cerebellar and pyramidal tracts.

IV. The zonular anesthesia on the side of injury and motor paralysis is susceptible of ready explanation since the lesion involves not only sensory fibers which, we may say, are about to decussate to the other side and produce the crossed hemianesthesia, but also implicates sensory fibers from the contralateral side which may be said to have just decussated to the side of section.

V. *Muscle Sensation:* Abolition of muscle sense on the side of lesion is fully in accord with the conceptions of Erb, Bernhardt, Brown-Séquard, Fieber, Lanzoni and Allessandrini regarding the uncrossed course of muscle sense fibers. In Vix's case, with the preservation of locality sense, there was loss of pressure sense. Ataxia, observed by Bottazzi, Herhold[23] and Kocher, may be explained by abolition of the muscle sense (Leyden). Bottazzi[19] and Marshall[18] decided that the muscle sense was abolished in animals on the side of section, while Turner[17] and Ferrier[20] observed its loss on the side opposite to the lesion. The muscle sense fibers, and probably also those of pressure sense, run in the cord without decussation and most likely in the posterior tracts, i. e., in Burdach's column tending to enter

Goll's column higher up in the cord (Edinger, von Leyden and Goldscheider, Mott and Kocher). The column of Clarke, Gower's fasciculus and the lateral cerebellar tract are also suggested as likely paths for the muscle sense. Brown-Séquard's assertion that muscle sense is preserved on the side opposite to the lesion has been corroborated by Sachs, Freud, etc.

VI. *Vasomotor paralysis* on the intact side has been noted by Erb and Allessandrini, but the vasomotor symptoms usually lie on the side of section. The vasomotor fibers course in the antero-lateral columns, enter the anterior gray matter and leave by the anterior roots. Of vasomotor symptoms only relative narrowing of the left pupil was observed in our case.

VII. *Contralateral Hemianesthesia:* Brown-Séquard's doctrine regarding sensory spinal decussation was widely opposed and he finally abandoned his original conception and explained contra-lateral hemianesthesia as an irritative inhibition on the sensory paths, advancing as proof the following facts: 1, that section of the posterior roots of the upper dorsal region produce hyperesthesia of the limb on the same and anesthesia on the opposite side; 2, that a contra-lateral anesthesia produced by cervical hemisection can be converted into hyperesthesia by a second dorsal hemisection, while the hyperesthesia on the same side becomes anesthesia; and 3, that the anesthesia disappears when the corresponding sciatic nerve is moderately stretched. Brown-Séquard held to the clinical type of hemisection despite his altered conception of its etiology. Many physiologists maintain that the sensory fibers do not decussate within the cord; nevertheless clinical evidence in favor of decussation is very convincing. According to Gowers, "unilateral lesions of the cord cause loss of sensibility in all its forms on the side opposite to the lesion, proving beyond all doubt the decussation in the cord of the nerves of pain, touch and temperature. The paths of pain and touch sensation do not seem to be near together. Sensibility to pain has been lost in almost all the recorded cases, but that to touch is only two-thirds. The facts suggest secondly that the two paths for tactile sensibility are nearer together than are the two paths for common sensibility." "In no case of chiefly unilateral lesion has sensibility to pain been lost on both sides, whereas in two recorded cases sensibility to pain was lost on the side opposite to the lesion while that to touch was lost on both sides. Both these conclusions harmonize with the suggestion of experiment, that painful sensations are conducted in the antero-lateral column, those of touch in the posterior column."[2 3]

"Sensation is affected on the opposite side, but not quite up to the level of the lesion, because the decussation of the sensory tract is not immediate, but occurs somewhat above the entrance of the nerve."

"The upper level may vary for different forms of sensibility, in consequence probably of the level of crossing (in relation to entrance) being different for the several paths."

"A lesion in one side of the lumbar enlargement often affects sensation on the same side as motion, because it damages the sensory path before it has crossed. Experiments with animals often give uncertain results."

"Sensibility to pain is almost invariably impaired. The temperature sense is usually affected with that for pain. In only 2 of 20 carefully recorded cases was the sense of temperature normal and that of pain impaired, and in neither of these cases was the sensibility to pain actually lost. On the other hand, in one-third of the cases, tactile sensibility was unaffected, and in about one-tenth it was impaired on both sides."

In Turner's[17] analysis, pressure (tactile) sensation was preserved on the paralyzed side in all the cases, though Mott refers to reduction of the same in certain cases, and in the majority of cases hyperesthesia (hyperalgesia) was found on the paralyzed side, and on the opposite side anesthesia for all qualities of sensation existed. Partial anesthesia has also been described, e. g., normal tactile sensation with incomplete analgesia reduction in tactile sensitiveness with analgesia and thermo-anesthesia or reduction in pressure or pain perception with thermo-anesthesia (v. Leyden and Goldscheider[1]). Fieber observed three times that heat sensation remained normal while electro-sensibility was lost. Regarding the opopsite-sided anesthesia, Kocher describes it as complete or incomplete, as simple reduction in pain perception, usually with thermo-anesthesia. The anesthesia gradually regresses, and pain sensation may return before tactile sensation, which latter may anticipate the return of temperature sensation. Heat perception may return before cold is recognized (Kocher and Rosenthal[25]). Crossed anesthesia was absent in the experimental observations of Schiff, Mott, Bottazzi and Marshall, who found sensation reduced on the side of injury. The original statement that crossed hemianesthesia is complete has no universal application. Müller[4] observed in a case of solitary tubercle of the cord no complete crossed hemianesthesia but a selective hemianesthesia, hemianalgesia and hemithermoanesthesia. Mann[24] reviewed the literature of 102 cases of spinal hemiplegia with a view of ascertaining whether partial crossed anesthesia occurred in spinal mono- or hemi-plegia, with the result earlier observed by Gowers and Oppenheim that, after rejecting 50 imperfectly reported cases, 31 cases presented complete anesthesia, while 21 cases exhibited the syringomyelic sensory dissociation, i. e., analgesia and thermo-anesthesia. He found no instance in which pain sensation was preserved, while the tactile sensation was disturbed. According to Mann's conception, there are probably not wholly distinct paths for each species of sensation and tactile sensation is possibly the fundamental or coarser element in all kinds of sensation, and hence it may persist when the finer sensations, differing from tactile less in quality than degree, have disappeared. Grasset,[28] in speaking of *dissociation syringomyélique des sensibilitiés,* asserts: 1, that syringomyelia may exist without sensory dissociation, and 2, that dissociation occurs in other diseases, e. g., neuritis and myelitis (Gombault, Lantereaux and Reboul), hysteria (Charcot), sciatica (Ziehl), lepra (Leloir, Jacoby, Babinski, Thibierge), tabes (Parmentier), hematomyelia (Minor), sclerosis multiplex (Freund), spinal syphilis (Brissaud, Hanot, Déjerine, Thomas, Prat, Cestan, Mennier), intramedullary tumor (Gendrin), or meningeal tumors (Charcot, Gindrac, Oré), multiple tumors (Bruns,[29] Schlesinger), with the Brown-Séquard syndrome (Max Lachr, Müller, Charcot, Gombault, Gowers, Beevor, Steele and Williamson), spinal compression (Van Gehuchten), complete transverse spinal lesion (Minor[30]), Edsall in Pott's disease, trauma of cord (James H. Lloyd), spinal concussion (Reynes[51]), etc.

Brissaud[35 6] and Raymond[56] speak of incomplete dissociated anesthesia. From the foregoing citations the inference is drawn that conduction of temperature sensation is closely associated with that of pain percep-

tion. In the contra-lateral dissociated (syringomyelic) hemianesthesia, Kocher considers that the tactile sensation tracts do not course with the other sensory fibers nor with the pyramidal motor fibers.

Non-decussating sensory fibers may be found in: 1, the posterior columns; 2, in Clarke's columns, and from its cells to the cerebellar and Gowers' fasciculi, and 3, in the "Grenzgebiet" (Endinger), the posterior mesial portion of the lateral tract. This last-named tract is concerned with tactile sensation (though perhaps not with the finer sense of locality), as demonstrated by the experiments of Koch, Woroschiloff, and Martinotti in which hyperesthesia follows their section. The question is as yet undecided whether finer touch sensations as localized pressure sense are conducted in the posterior column near the tracts of muscle sense. An isolated conduction of simple tactile sensation in the posterior columns seems improbable to Kocher and is likely confined to the lateral column. Kocher concludes that tactile and pain sensations are conducted in the lateral column, but in no unilateral manner, and that many of the fibers of the posterior root sooner or later cross through the anterior commissure to the other side of the cord, conducting the bulk of the sensory fibers and certainly those of pain and temperature sense. Analgesia, often observed as the single contra-lateral sensory variation in (partial) hemisection, has been produced in animals by Holzinger[26] by section of the lateral tracts and by section of the posterior half of the cord to a point a little anterior to the pyramidal tract. The later experiments of Brown-Séquard (q. v.) must perhaps be explained by a double collateral crossing of the sensory fibers.

Priapism, vesical and rectal disturbance may be wholly absent or occur transitorily, possibly as evidence (Kocher, Cushing), of some injury to both sides of the cord. Delirium does not explain the bladder and rectal disturbance in our case since they outlived the delirium.

Radiate pains, observed by Vix, Berndt and Albanese, and spastic paralysis seem to Kocher to indicate an incomplete lesion, favoring the production of irritative symptoms. In one instance spasticity and partial loss of power occurred on one side with formication and anesthesia on the opposite side. In another instance, contractions occurred as paralysis decreased while radiating pains followed the hyperesthesia.

Prognosis.—In clinical and experimental cases, almost complete restitution to normal is possible (Vix,[15] Kocher[13]), and it is not due to re-establishment of conduction in the severed tracts, since ascending and descending degeneration occurs, nor to simple cord contusion (Schrader[16]), but rather to assumption of the functions of the divided fibers by the uninjured side of the cord (Kocher). The immediate prognosis of hematomyelia is usually good (Cushing) while J. K. Mitchell warns against an absolutely favorable late prognosis, since tardy sclerotic changes may result even when immediate recovery seems perfect. The prognosis of Brown-Séquard's paralysis necessarily varies according to the etiology of the syndrome, e. g., syphilis, tumors, sclerosis, myelitis, tuberculosis or trauma, hematomyelia, fracture, luxation, etc.

GENERAL CONCLUSIONS.

1. The lack of correspondence between hemispinal section in certain lower animals and in man is probably due to different anatomico-physiologic conditions.

2. The Brown-Séquard clinical syndrome undoubtedly exists, although less an entity than a symptom and exists despite some physiologic evidence to the contrary.

3. Variations from the original type occur from the character of the numerous etiologic factors and from the frequency with which experimental and clinical lesions affect more or less than one exact half of the cord.

PARTICULAR OBSERVATIONS.

4. No primary elevation of temperature from cervical injury was observed, the secondary elevation being probably due to subsequent myelitis.

5. Few vasomotor symptoms were observed.

6. The Brown-Séquard paralysis was typical in the sense of the original description since the contra-lateral anesthesia was not dissociated but total, i. e., "for all varieties of sensation."

7. It was atypical in the bilateral lesion, the crossed and persistent monoplegia, the shallow respiration and bladder and rectal disturbance.

8. The failure of the right side to assume the functions of the severed right half of the cord seems to indicate a bilateral lesion.

9. Again, notwithstanding the bilateral involvement, the homolateral anesthesia was slight, arguing for involvement of the left side chiefly.

10. According to Kocher, spasticity speaks for incomplete lesion favoring irritation, yet the persistence and fulness of the symptoms in this case speak against partial lesion.

11. The zone (or plaque, in case of cervical section) of surmounting hyperesthesia was lacking, possibly explained by the mental state (?).

12. The condition of the deep reflexes on the side of lesion is somewhat unique in this case. The left knee-jerk was first exaggerated, then in twelve hours disappeared, was absent for fourteen days, and in three days after reappearance became much exaggerated, whereas the arm reflexes from first to last were exaggerated.

13. An interesting, though perhaps wholly accidental, connection existed between the absence of the knee-jerk and the presence of involuntary evacuations, which ceased about the time the patellar reflex returned.

14. The evacuation by the grooved director of what was probably cerebrospinal fluid is interesting and especially the direct subsidence of the fever, delirium, etc. Unfortunately, a bacteriologic examination was prevented by the sudden gushing out of the fluid in this species of spinal puncture.

15. While the clarity of the fluid did not speak against intramedullary hemorrhage (hemato-myelia), still the fever, the persistence of the symptoms and possibly the evacuations of the fluid seem to me to indicate an acute secondary (meningeo) myelitis.

16. The prognostic lesson from our case is obvious. While at first the outlook was no worse than, e. g., in Cushing's case of probable hemato-myelia, and while general observation warrants a relatively favorable prospect, yet recapitulation of the clinical course, the delirium, pain in the head and neck with the fever probably indicated the late myelitis with its usual prognostic inferences.

BIBLIOGRAPHY.

1. Leyden and Goldscheider: Spec. Path. u. Ther., Nothnagel, Bd. x, 1 Theil, p. 42 et seq., and p. 101, et seq.
2. Gowers: Nervous Diseases. vol. i, p. 197.
3. Gowers: Clinical Soc. Trans., vol. xi, 1878, p. 24.
4. Müller: Beiträge zur path. Anat. und Phys. der Rücken. Leipzig, 1871. Virchow's Jahresber., 1871, Bd. 1, p. 152.
5. Gilbert: Arch. de Neurologie, 1882, p. 275.
6. Brissaud: Progrès Méd., 1897, No. 29.
7. Schmidt: Pepper's Syst. Med., vol. v, p. 1165.
8. Brown-Séquard: Lancet, Nov. 7, 21; Dec. 12, 26, 1868.

9. Flechsig: Die Leitungsbahne in Gehirn u. Rücken., p. 273.
10. Köbner: Deut. Arch. für Klin. Med., Bd. 19 (collection of 50 cases).
11. Erb: Ziemssen's Handbuch, xi, 2, p. 656 (with literature).
12. Brown-Séquard: Compt. rend. Hebd. de séances de la Soc. de Biol., 1886, No. 29.
13. Kocher: Mitth. aus d' Grenzgeb. der Med. u. Chir., Bd. 1, H. 4, p. 520 et seq.
14. Enderlen: (67 cases) Deut. Zeitschr. f. Chir., Bd. 40, S. 201.
15. Vix: Korrespbl. d. Arzbl. Vereins im Rheinl., 1874.
16. Schrader: Deutsche Med. Zbg., 1885, No. 76.
17. Turner: Brain, 1891, xiv, p. 496.
18. Horsley: Proceedings of the Royal Soc., vol. lvii.
19. Fano: Archiv. Ital. de Biologie. T. 24.
20. Ferrier: Brain, April, 1884.
21. Brown-Séquard: Journal de Physiologie, T. T. 1858, and Archiv de Physiol., 1868.
22. Bezold: Zeitschr. f. Wissensch. Zoologie, Bd. 11.
23. Herhold: Deut. Med. Woch., 1894, No. 1.
24. Mann: Deut. Med. Woch., April, 1894; and Deut. Zeitschr. f. Nervenh., Band x, H. 1 u. 2.
25. Rosenthal: K. k. Gesellschaft f. Aerzte, Dez., 1885.
26. Holzinger: Neurol. Centralbl., No. 18, 1894.
27. Déjérine and Thomas: Semaine Méd., Feb. 12, 1896.
28. Grasset: La Dissociation dite Syringomyélique des Sensibilitiés, Montpellier, 1899.
29. Bruns: Arch. f. Psychiatrie, Bd. xxviii.
30. Minor: Neurolog. Centralbl., 1898.
31. Marinesco: Semaine Méd., 1898, p. 153.
32. Fischer: Deut. Zeitschr. f. Chir. xx, S. 411.
33. Rosenthal: Ueber neurere günstig. Formen von Hemiläsionen des Rückenmarks, Wiener Med. Presse, 1887, No. 8.
34. Pearce Bailey: N. Y. Med. Jour., March 9, 1895.
35. Brissaud: Leçons sur les Mad. nerv., 1895, Paris.
36. Hoffmann: Deut. Arch. f. Klin. Med., Bd. 38, p. 587.
37. Beck: Virchow's Archiv, Bd. 75, S. 237, and Bd. 83, S. 301.
38. Glätzer: Berlin. Klin. Wochenschr., 1877, No. 45.
39. Litwinow: Centralbl. f. Nervenh., 1878, S. 117.
40. Schulz: Ibid., 1880.
41. Revillout: Gaz. des Hop., 1880, No. 74.
42. Sourier: Ibid., 1880, p. 219.
43. Homén: Fortschritte d. Med., 1885, No. 9.
44. Kettle: Centralbl. f. Nervenh., 1879, p. 342.
45. Cushing: Amer. Jour. Med. Sci., June, 1898, p. 654.
46. H. C. Bastian: Med. Chir. Trans., London, 1890, lxxiii, p. 151.
47. E. S. Reynolds: Brain, 1895, xviii, p. 148.
48. H. W. Page: Lancet, London, Feb. 8, 1896, p. 339.
49. Wm. Thoburn: Contribution Surgery of Spinal Cord, Case 15, p. 45.
50. Ferrier: Brain, 1894, xvii, p. 14.
51. Reynes: Gaz. des Hop., Paris, March 28, 1895.
52. Woods: Amer. Jour. Med. Sci., July, 1900, p. 40.
53. Starr: Brain, 1894 (caries).
54. Russel: Lancet, 1883 (syphilis).
55. Pauly: Lyon Méd. Jour., 1896.
56. Raymond: Lecons sur les Malad. Nerv., 1896, xvii.
57. Brousse and Ardin-Delteil: Case of Early Syphilis. Révue de Méd., Sept. 10, 1900.

DERMATOMYCOSES IN THEIR RELATION TO ALLEN'S IODIN TEST.

JACOB SOBEL, M.D.

DERMATOLOGICAL ASSISTANT AT THE GOOD SAMARITAN DISPENSARY, NEW YORK CITY.

Parasitic diseases of the skin may be classified into: 1, those in which the definite etiologic factor has been isolated and identified (microsporon furfur of tinea versicolor, the trichophyton of tinea tonsurans and circinata, and the achorion Schoenleinii of favus), and 2, those in which *no absolute* proof has been given of the constant presence of vegetable micro-organisms, and yet which in appearance, clinical course, reaction to antiparasiticides, and other circumstances, seem to be of parasitic nature (pityriasis rosea, eczema marginatum, mycotic eczema, etc.).

In this paper it is my purpose to deal only with the following conditions: pityriasis versicolor, pityriasis rosea, tinea circinata (localized and disseminated), eczema marginatum and mycotic eczema, and endeavor to show that while in most cases these admit of ready diagnosis there are times when differentiation from other important conditions must be made. No one test in my experience for the determination of the parasitic nature of these affections, apart from the actual demonstration of the fungus, has served me so well as the one which forms the subject of this paper.

Pityriasis versicolor, or chromophytosis, is a condition which, as a rule, is within the diagnostic abilities of all and yet there are some points about it that are often overlooked. Almost without exception text-books state that this disease affects the covered parts of the body and leaves the parts exposed to light—face, neck, and more particularly the palms—perfectly free. This statement is certainly not true, as I have had ample opportunity of convincing myself, more especially since the iodin test was brought to my notice by Dr. Charles W. Allen, of New York City.

This test consists in applying to the diseased areas, or to suspected ones, a solution of iodin, preferably Lugol's solution (iodi, 5; potass. iodidi, 10; aquæ, 100). In the diseased regions an intense dark-brown or deep mahogany discoloration takes place at once, which shows itself in marked contrast to the surrounding healthy tissue, which latter stains a very light-yellowish color. If the lesions are small and punctate, as they are at the onset of the disease, the discoloration will appear as such; if diffuse and confluent there will be a large darkened patch. The intensity of the reaction, i. e., the depth of its color, will depend upon the stage and severity of the disease; at the very outset, or in the retrogressive stage when the infection is slight, the stain will appear lighter than in the more active stages of the disease, though far more intense than in the normal skin.

It is thus seen that not only is the test of value for the recognition of small, faint and suspected areas of disease, but that it also gives us information as to its course.

With the aid of this test I have time and again been able to demonstrate the existence of lesions on the neck, at the angle of the jaw, on the chin, on the forehead, and on the side of the face up to the roots of the hair. In some instances the lesions were so faint as to be hardly perceptible to the naked eye, and yet an application of Lugol's solution brought them into relief.

In applying the test it is well to make a cotton swab tightly twisted on the end of a tooth-pick, applicator, or match, and then to rub in the Lugol's solution over any given area; in this way the contrast between the darkened patches and the healthy skin is more clearly brought out.

In subjects with hypertrichosis of the chest and abdomen, lesions of tinea versicolor, perhaps more so than in any other affection, are easily overlooked; under such circumstances Lugol's solution is of great service in making distinctly visible many otherwise imperceptible lesions. Some patients present themselves just after a bath with a pale-pink eruption which proves very puzzling. The application of Lugol's solution not only stains these areas but corroborates the diagnosis of tinea versicolor by the general configuration of the patches.

Gottheil has reported a unique case of palmar chromophytosis, thus disproving the former ideas as to the non-involvement of this part. Only recently[1] the same author has published a most exceptional case of pityriasis versicolor of the face alone in a young colored man.

It is commonly known that recurrences, if I might use that term, are quite frequent in this affection, being caused by the failure to eradicate the disease in its entirety. Yet, there are instances in which, so far as the human eye can determine, the disease has been eradicated, or controlled, and still relapses occur. How are we to explain these cases?

1. Recurrences are due to the overlooking, and consequent non-treatment, of a region which Dr. Allen has repeatedly shown to be one of the main causes of re-infection, namely, the suprapubic region. In men, as well as in women, small faint patches of the disease are

1. Medical Record, April 27, 1901.

hidden in this region and are never treated because never suspected. In these cases the application of Lugol's solution renders the diagnosis doubly sure; for pale and hidden lesions at once become visible and lead the way to a proper eradication of the disease. As long as any vestige of the disease remains, so long will recurrences take place. Lesions in the suprapubic region appear at times to itch more than in other parts; this gives rise to scratching, and the subsequent conveyance to other regions, and to auto-inoculation. I do not say that the suprapubic region is affected in every case, but the number is sufficiently large to warrant attention. With Dr. Allen, and in my own experience, I have seen instances in which a history of numerous outbreaks was given, and where thorough treatment of the aforesaid region brought the disease to a standstill.

2. Recurrences are due to lack of proper treatment. It is the custom of most physicians to look very lightly upon the treatment of this condition, to give merely exfoliating medicaments of green soap, hyposulphite of soda, sulphur, etc., and to rely upon these, with an occasional bath, to control and cure the affection. This, however, is insufficient. In studying the development of the disease it will be seen that the incipient patches have their origin about the hair follicles and, in some cases, appear to extend into them. The origin of the patches being "perifollicular, or perhaps intrafollicular," penetrating agents, such as B-naphthol, resorcin, chrysarobin, etc., must be combined with desquamating ones in order to obtain the best and most permanent results.

3. A third and most important cause of recurrences is the improper care of the underwear during and after the course of the disease. So abundant are the spores in any given scraping that it is safe to assume that many of them cling to the underclothing, which, if not changed frequently and not properly and thoroughly boiled upon removal, will again inoculate the skin. If possible the underclothing should be changed daily during the course of treatment and re-used only after appropriate disinfection.

With this disease few conditions can be confounded; only three are worthy of note—chloasma and lentigo, syphilis, and dirt. It seems strange that dirt should be considered, and yet I have seen mistakes made both ways, as it were. I remember very well a case of pityriasis nigra shown by Dr. Allen before the New York Dermatological Society, in which "at first glance almost all the gentlemen present were disinclined to attribute to the disease any great share in producing the appearances." In fact, when seen at the dispensary, I myself first thought of a dirty neck. After the thorough use of soap and water the condition remained unchanged until "vigorous treatment with chrysarobin" freed him from the affection. Not only was the case unusual on account of its dark color, but there were patches of the disease extending on the right side of the face to the malar bone and on the left side to the roots of the hair. There were also several spots in the suprapubic region.

On the other hand, I have seen areas of dirt distributed on the neck, strongly suggestive of tinea versicolor; these responded very kindly to soap and water, but not to the iodin test.

Chloasma and lentigo are of course in and not on the skin; that is, they are pigmentations of the mucous and not the horny layer; they are not scaly and do not respond to the test. The fact that chloasma is more common on the face is not of positive value, since it has been shown that patches of chromophytosis are occasionally found in that locality.

Some writers have stated that syphilitic macules may be confounded with the disease. Not only is their color different, but they are not scaly nor elevated, nor do they respond to Lugol's solution. The presence of the microsporon furfur under the microscope is proof positive and easy of demonstration. In spite of all this I have known the conditions to be confounded.

In a number of instances I have observed tinea versicolor and a macular syphilid in the same patient. In these cases it is interesting to see how Lugol's solution selects, as it were, the parasitic areas and leaves the syphilitic ones faintly tinged at best.

As in a previous paper[2] on a similar subject, I would conclude:

1. The old theory that only hidden parts are affected is no longer tenable.

2. Allen's iodin test is of marked value, not only for classroom demonstration and for bringing into relief pale and hidden lesions, but also for differentiating parasitic, or seemingly parasitic, skin affections from those of a non-parasitic nature.

3. Recurrences are in the main due to the overlooking and non-treatment of the suprapubic region and to the use of desquamating agents to the exclusion of penetrating ones. Both must be combined if a cure is desired.

I have dealt somewhat at length with this condition, because it is a type of disease which best demonstrates the application of the test.

At this point I might say that in none of the conditions generally accepted as non-parasitic has the test been proved positive. Thus, I have applied it to seborrheal eczema, scaly syphilids, simple eczema, dermatitis, the desquamations of scarlet fever, measles, and other conditions of a desquamative nature; while the cast-off epithelium in these cases will take up the Lugol solution faintly, a little more I might say than perfectly normal skin or an erythematous patch, there is no deep mahogany or dark brown discoloration; that is, there is no positive reaction.

There have been a few rare cases of non-parasitic nature in which the application of Lugol's solution was followed by a suspiciously-looking mahogany discoloration. Within a few minutes, however, this wore off, thus differentiating it from the stain of parasitic diseases, which remains for a very much longer period of time.

Pityriasis rosea, or pityriasis maculata et circinata, is a condition which occurs more frequently than is generally supposed; it is usually either entirely overlooked or else diagnosticated as something else. Contrary to the opinion of Crocker and Stephen Mackenzie, it is in my experience far more frequent in adults than in children, and this despite the fact that the material at my disposal embraces a very large number of the latter. It does occur in children, however, and within the past three years I have seen in all perhaps a dozen cases under 10 years of age; lately I observed an instance in a child of fourteen months.

It has been, and still is, a mooted question as to the exact etiology of the disease. The Vienna school is outspoken in its belief that it is parasitic in its nature; in fact, that it is but a form of disseminated ringworm, and hence the term *herpes tonsurans maculosus et squamosus*. They claim that many are not convinced of its mycotic nature on account of the great difficulty in finding the spores during the first few days of the dis-

2. Philadelphia Medical Journal, June 1, 1901.

ease. Basin considers it arthritic and Vidal claims to have found a *microsporon anomoeon*. I have heard Lassar state that the disease was due to a fungus generally found in new underclothing that had not been washed before wearing.

For my own part, I must confess that my search for mycelia and spores in this condition has not been productive of any results, and yet I have no hesitancy in stating my personal belief that the disease is parasitic, so markedly does it take up Lugol's solution.

In a few instances I have been able to obtain a history of the "mother patch," "primitive patch" or "herald patch," appearing on the limb a short time after wearing new stockings. A certain number of adults stated that it appeared after taking a bath; in these cases the probability of improper drying, and a favorable soil for the development of fungi, might be considered. In many instances patches were found on the face, an occurrence far more frequent than is generally supposed. There were months when no cases were observed and others when groups would appear. During the latter part of March and the early April of 1901 as many cases were observed as during the entire previous four months. Many of the patients complained of neither local nor general disturbances; in others there was intense itching and, in some children, a febrile movement, with headache, malaise, and coated tongue. One case was combined with purpura, but no connection between the two diseases could be traced. The advocates of the arthritic theory might advance this combination in favor of their views.

To all appearances the disease is not contagious; we have, however, noted the affection in one instance of a man and wife.

Should you apply Lugol's solution to these irregular or circular patches, with chamois-like wrinkled centers, the deep mahogany or dark brown discoloration appears. Here also the more recent and more active lesions take up the stain more deeply than the older and declining ones, thus giving us a guide to the course of the disease.

The diseases most frequently confounded with the condition are: (*a*) syphilis, (*b*) disseminated ringworm, and (*c*) eczema.

The uninitiated when brought face to face with pityriasis rosea almost invariably diagnose macular syphilid, more especially when there is no itching, when a number of the lesions are in the erythematous stage, and when they follow the course of the ribs as they so often do in pityriasis rosea, as well as in syphilis. Leaving aside all other differential aids—the history, presence of the primary lesion or its scar, adenopathy, alopecia, mucous patches, color, absence of scaling—the application of Lugol's solution and the obtaining of a deep mahogany discoloration would make me strongly suspicious of pityriasis rosea. Never in a macular syphilid has the test made by me been positive.

Syphilis, of course, offers no protection against the disease, so that a combination as reported by Allen[3] must be remembered. In this particular case—and I have seen it in others—the rosy patches were stained dark brown by Lugol's solution and the syphilitic roseola a faint yellow.

Eczema is frequently diagnosticated for pityriasis rosea. I have seen the error mainly committed in children, perhaps because we are most of us accustomed to associate the disease with adult life. In children it has been my experience that pityriasis rosea in many instances is atypical in appearance, lacking for the most part the circular or elliptical form of patches with rose-colored border and wrinkled centers, and presenting more irregularly sized and shaped scaly areas. Here and there a typical patch will be seen, an important point in the diagnosis. In all of these cases Lugol's solution stains the lesion deep mahogany, or very dark brown, while in simple eczema a faint discoloration is seen at the best.

In adults, seborrheal eczema sometimes is a stumbling block in diagnosis. This affection, however, is in most instances associated with seborrhea of the head and face, involves, as a rule, the sternal and interscapular regions, presents more elevated, more greasy and more palpable lesions, has a darker border and thicker scales, and does not stain mahogany with Lugol's solution. Furthermore, this disease does not disappear spontaneously.

It is from disseminated ringworm that differentiation is so often necessary and so difficult, all the more so since the test is of no value here. In both conditions the reaction is positive, ringworm being positively and pityriasis rosea very probably of parasitic origin. The test then has its limitations, in so far as it can not differentiate one parasitic cutaneous disease from the other; it excites when positive a very marked suspicion of the parasitic nature of the disease under diagnosis. In fact, when any cutaneous lesion responds to this test it is to my mind strong presumptive evidence that it is parasitic, and is treated on that basis. This is, of course, an inference drawn from its action in diseases positively known as parasitic.

In differentiating pityriasis rosea from disseminated ringworm we must then look to other aids than the iodin test. If we find the tricophyton the diagnosis is of course assured. In its absence, however—and the detection of the fungus in disseminated ringworm is not always a simple matter—a history of other cases in the family must be sought. Contagion is common in ringworm and very uncommon, if it occurs at all, in pityriasis rosea. Pityriasis rosea occurs more suddenly, involves a greater portion of the body in a shorter space of time, is more irregular in shape and its border is not so marked, and never papular or papulo-vesicular.

The ordinary ringworm of the body, tinea circinata, as found on the face, neck, hands, etc., need not engage much of our attention. Suffice it, that this responds to Lugol's solution; the raised border, whether papulo-vesicular or crusty, appears deep mahogany, at times almost black, in marked contrast to the faintly tinged center. After successful treatment one can follow almost daily the diminution in intensity of the stain, until finally, at the time of cure, no reaction takes place.

Diagnosis of ringworm is usually a simple matter, but there is one condition with which I have seen it confounded; I refer to the circular form of contagious impetigo—impetigo circinata. There are some few cases of this condition in which the lesions closely resemble tinea circinata; they have a circular form, a raised edge, a healed center, and there may be a history of other cases in the family; they are differentiated by the fact that the edge is more friable and crustaceous, that there usually exist other lesions of contagious impetigo in association with pediculosis capitis, that the trichophyton is not found and that they do not take up Lugol's solution.

Eczema marginatum or trichophytosis cruris occurs where opposing skin surfaces are kept in contact for a long time, and is seen most frequently on the inner

3. Medical Record, Oct. 22, 1898.

surface of the thigh, buttocks, peri-anal region, axilla, and under surfaces of the breasts in women. When associated with the sharply defined border diagnosis is simple and is rendered more so by the fact that the edge stains mahogany with Lugol's. In other cases, especially on the thigh, there is no distinct border, but more of an irregular, broken line, with outlying patches of various shapes and sizes. It is in these doubtful instances that a response to Lugol's shows the similarity of this process to the ordinary eczema marginatum.

Though Kaposi, Köbner and Pick have demonstrated the presence of fungi in the epidermic scales, it is no easy matter to find the trichophyton, and for me the main guide in doubtful instances has been the appearance of a deep mahogany stain upon the application of Lugol's solution. Apart from being an aid to diagnosis the solution is an excellent method of treatment. As the condition improves the areas take up the color more faintly and finally not at all.

In mycotic eczema, which by its very name signifies a parasitic origin, this test appears to advantage. Despite the fact that absolute proof of its parasitic nature is wanting, in its configuration, obstinacy and response to Lugol, it follows the truly parasitic diseases so closely that it is safe to assume that subsequent observation will place it under that category.

In conclusion let me state that:

1. For teachers who give classroom demonstration, Allen's iodin test will serve to bring into greater prominence visible parasitic lesions and into view pale, hidden, and sometimes invisible ones.

2. A positive reaction to Lugol's solution in the form of a deep mahogany or dark brown discoloration is strong presumptive evidence that the lesion is parasitic. In the absence of absolute proof of the parasitic nature it is of the greatest aid and in the presence of a parasitic skin lesion, it serves to make assurance doubly sure.

3. It is not of service in differentiating one parasitic disease from the other; this must be accomplished by other clinical and microscopical data.

1828 Madison Avenue.

THE ORIGIN OF CARCINOMA OF THE STOMACH FROM CHRONIC ROUND ULCER OF THE STOMACH.

G. FUETTERER, M.D.
Professor Diseases of Stomach and Liver, Chicago Poliklinik.
CHICAGO.

Since I had seen a very instructive case of combination of carcinoma of the stomach and chronic round ulcer, in November, 1893, it has always seemed to me that the stomach is the organ most suited for the study of the origin and development of carcinoma.

The case referred to was observed clinically from 1893 to 1895, when the patient died, and the postmortem examination revealed, in the pyloric region, a large ulcer, the lower edge of which was carcinomatous, while the mucous membrane and the upper edge showed no carcinomatous degeneration whatsoever. The difference between the condition of the two edges of the ulcer was too striking to be ignored, and caused me to give further thought to the matter. It then occurred to me that only mechanical influences could explain the different conditions of the two edges of the ulcer. The mechanical factors coming here into play are, the irritation caused by the food and the contractions of the stomach, which force the food into certain directions. It can be easily understood that the qualities of friction caused by the two factors named must have been very different on the upper and the lower margin of the ulcer, as the food would slip easily over the former, while on being forced toward the pylorus, hard rubbing of the lower margin would be caused by the contents of the stomach. Hard particles of food, such as crusts of bread and crisply fried meat on passing the precipice formed by the lower edge of the ulcer, must necessarily cause considerable irritation.

If our observations in this case as to the localization of the carcinoma are not merely accidental, if it can be shown that similar conditions are the rule, rather than the exception, then we are forced to admit that the mechanical factor is indeed one of the most prominent, if not the most prominent cause of carcinoma. It will, however, require much study to state with exactness which part of the margin of ulcers in different parts of the stomach are those most exposed to friction, as the different forms and sizes of ulcers, their localization, adhesions and dilatation of the organ and misplacements of the same, will have to be carefully considered in each individual case. In the pyloric region conditions are very simple, and we may take it for granted that as a rule the lower margin of the ulcer, which is on the pyloric side of the same, is most exposed to mechanical irritation, and should, therefore, as a rule, show the beginning of carcinoma; while the upper margin becomes involved very much later.

I shall now report the observations I have made since the year 1895, and shall also review the cases of combination of carcinoma and ulcer of the stomach found in literature, in reference to the question before us. In doing this, I shall only consider cases in which an operation or postmortem examination have shown that combination of carcinoma and chronic round ulcer of the stomach really existed. Some of the cases which I found in literature are a little doubtful, but the source of error is so small that I do not intend to eliminate them. It may be mentioned that my own cases came from my own clinical material and from a very limited postmortem practice, which allows the conclusion that carcinoma and ulcer of the stomach occur together much oftener than even those are willing to admit who, like Zenker, have long ceased to believe in the rarity of this condition.

It must be taken into consideration, furthermore, that all over the world comparatively few cases are examined postmortem, and because of this the frequency of the condition is not revealed. Clinically, we can not help but believe that the development of carcinoma very often follows in the wake of an ulcer, even though the material for observation is not large.

I shall now bring, as the first case, one of adeno-carcinoma of the stomach, which had developed from a very small, typical ulcer, measuring only one centimeter in diameter. Up to the observation of this case, I had always supposed that carcinoma developed only from larger ulcers and such as had existed for a long time. Therefore, whenever I had had occasion to diagnose a fresh ulcer of the stomach, I had made a good prognosis, not only as to a prompt healing, but also as to more remote consequences. This case has taught me to be very careful and to consider the possibility of the development of carcinoma in every ulcer as a danger not to be ignored. I now make two prognoses for round ulcer of the stomach: The immediate prognosis refers to the healing of the ulcer, the disappearing of the symptoms—

particularly the pains—the danger of hemorrhages and perforations; the more remote or late prognosis considers stenosis of the pylorus, consecutive dilatations of the stomach, etc., but particularly the very frequent complication with carcinoma. *The early prognosis of the round ulcer of the stomach is fairly good, the late prognosis is quite bad.*

CASE 1.—Mrs. G., 59 years of age, came from a healthy family, but a brother died at the age of 42 years, of carcinoma of the stomach. The patient herself, at the age of 23, had dull pains in the epigastrium, which commenced with vomiting, that occurred several times daily, and lasted three months. Every year similar attacks occurred, which lasted for two or three months; the last one continued, with interruptions, from June, 1899, up to the time of death of the patient, on Oct. 19, 1899. While the very anemic patient had been under my care in the summer of 1899, she was given the rest treatment, with the usual dieting, as is prescribed in cases of ulcer of the stomach. Her pains disappeared entirely, and after four weeks' treatment she was allowed to go home, being free from all symptoms. A month later, pains of a dull, gnawing character developed, becoming very intense and lasting as the case advanced. The patient became more anemic, and, as she had to be kept under the influence of morphin continually, operation was advised in the belief that a carcinoma was developing from the supposed ulcer. The operation was performed by Dr. Malcolm L. Harris, who removed a round piece of the wall of the stomach, having a diameter of 4 centimeters from the region of the lesser curvature, a little upward from its middle portion. On the outside of the dissected piece, inflammatory thickenings were found, which included a lymphatic gland of hemorrhagic condition. The very weak patient died after two days. The postmortem examination showed that the stomach wound had closed, there was no leakage and no infection. It should be mentioned that a large renal calculus was found in the pelvis of the left kidney.

Description of the Resected Piece of the Wall of the Stomach.—Observation of the inner surface of the resected piece showed in its center a circular defect, with a diameter of one centimeter a *very* small typical round ulcer surrounded by mucous membrane in a condition of chronic catarrh, and on one side, involving about one-third of the edge, two small, whitish nodules which together had a diameter of 1.2 centimeters, and which, as later microscopic examination revealed, represented an adeno-carcinoma. The illustration (Fig. 1) only shows one-half of the resected piece, as the other half was imbedded, stained and examined microscopically. Later, the half shown in the illustration was used for microscopic examination, so that all parts of the ulcer and the small growth have been well examined. Microscopically it was shown that the small, round defect was really a true open ulcer that had no tendency whatever to heal. The mucous membrane was strongly and uniformly infiltrated with round cells from which resulted a broadening of the intertubular spaces. The glands of the mucous membrane were much elongated, more or less tortuous, and their lumina, at the upper end, were dilated. Very high cylindric epithelial cells lined the glands, and their nuclei were rich in chromatin. The small growth itself showed similar changes of the intertubular tissues and also of the glands, only much more exaggerated. The glands were more tortuous, like corkscrews, their middle and deeper portions more dilated and lined by a high, cylindric epithelium, the nuclei of which were also very rich in chromatin. Towards the muscularis mucosæ, the interglandular, cellular infiltration increased, the position of the glandular tubulæ became more and more irregular, and here also dilatations of the glands and much branching of the tubules were found. Some of the tubules appeared filled with epithelial cells, and they penetrated the muscularis mucosæ, growing into the submucosa and even into the muscularis, surrounded by an irregularly distributed round-cell infiltration. The lymphatic gland, which was found on the outside of the dissected piece, showed a hemorrhagic condition all through, but no metastases. The stomach itself, which was removed postmortem, showed the changes of chronic gastritis and a thickening of the muscularis along the suture; further ulcers or scars were not found.

This case is interesting for different reasons: 1. Because such a small ulcer was found complicated with carcinoma. 2. Because we can not very well say that this ulcer was a product of the carcinoma, as it still showed all the characteristics of the typical round ulcer of the stomach, and as the new formation had only involved a small part of its edge. 3. Clinically, this case is of very great importance, as it shows that the disappearing of the symptoms of ulcer of the stomach during a rest cure, will not permit of our concluding positively that the ulcer has healed. It will be remembered from the history that all the symptoms had disappeared during the rest cure, and yet we have found that the ulcer showed no visible tendency to heal, even microscopically. It is impossible to say in this case that the part of the margin of the ulcer on which the carcinoma developed was also the part where friction of food was greatest.

CASE 2.—This case I have not observed clinically, and no history is at my disposal. As the illustration shows, there is a large, and but slightly elevated tumor mass, which involves almost the whole circumference of the stomach. This is a carcinoma, in the center of which (Fig. 2) we see clearly the quite well-defined edges of a typical round ulcer of the stomach, the whole margin of which is involved and from here the growth has spread quite evenly in all directions. The carcinoma is surrounded by perfectly smooth, glossy mucous membrane which shows the extremely developed effects of a chronic, atrophic gastritis. This case also shows the development of carcinoma from an ulcer, but it has no bearing on the principal question which interests us, and I may say here that we have little cause to expect much in this respect from the small typical round ulcers, as we will but very seldom find the carcinoma so early that it only involves a part of the edge, the rest becoming involved rather rapidly. However, these cases must be recorded and also carefully studied.

CASE 3.—Mr. S., 62 years of age, comes from a healthy family and has always been healthy. His habits have been good, but he has always had a great fondness for sweet pastry. At the age of 30, he suffered from dyspeptic symptoms, lost flesh, became very anemic, and after this he always complained of great sensitiveness of the stomach. About three years before his death he felt badly for some time, as pains in the stomach occurred after meals, which were of a very trying character. Occasional fainting spells set in and the patient lost steadily in weight. About a year before his death, the patient had a hemorrhage from the stomach a few moments after I had stated the presence of free hydrochloric acid in the gastric juice. Then came several hemorrhages from the stomach, and after much pain the patient died on Nov. 14, 1895, at the age of 64.

At the postmortem examination a large irregular ulcer was found in the pyloric region, the longest axis of which was at right angles to the long axis of the stomach. The basis of the ulcer penetrated deeply, in a diagonal direction, into the walls of the stomach, and was here overlapped by a precipice formed by the inner parts of the walls of the stomach along the lower margin. This margin was very much thickened and elevated above the rest of the mucous membrane; it narrowed the pylorus, and was carcinomatous all through. One of the lateral margins of the ulcer (the left one in Fig. 3)

was also carcinomatous and had become ulcerated, while the right one, and the greater part of the upper, had not yet become involved. As Fig. 4 shows, there were a number of metastases in the liver.

If this case does not represent an exception, then it shows very plainly, indeed, that the formation of carcinoma, occurring from an ulcer in the pyloric region, develops from the parts which form the lower margin and which overlap the lower cavity of the ulcer; that means, from those parts which are exposed to the greatest friction by the food.

Case 4.—Mr. X., 45 years of age, was ailing for about one and a half years, suffering from symptoms of an ulcer of the stomach, such as dyspeptic symptoms, severe pains after meals, anemia, and emaciation; as the pains became more intense, and more constant, the patient commenced to lose in weight more rapidly. He vomited considerably and at last could retain nothing, and died very suddenly, after an attack of intense pain in the region of the stomach.

The postmortem examination of the stomach revealed a chronic gastritis and a long, slit-shaped, deep ulcer (Fig. 5) just in front of the pylorus, with its longest axis at right angles to the longitudinal axis of the stomach. The ulcer deeply undermines the lower margin which overlaps to form a precipice, as in the previous case. This lower margin, as well as the right one, are carcinomatous, while the upper margin is free from carcinoma. The pylorus is filled with carcinomatous masses which have completely obstructed it, and at the basis of the ulcer a small opening is found which is due to a rupture of those parts. This case shows just as clearly as does Case 3 what I intend to prove.

Case 5.—Mr. X., 72 years old, comes from a healthy family, but one brother died of carcinoma. The patient was always healthy and could eat and drink what he pleased without experiencing discomfort from the stomach. About eighteen months before his death, he drank some cold beer, which caused him to vomit and brought on such pains in the stomach that he could not take any food for a whole day. He recovered from this, but at times would vomit, particularly when he was warm and drank cold beer. He never vomited blood. From this time, although feeling well, he continued to lose in weight and soon meat caused him to vomit. About a year before his death, the patient commenced to suffer a great deal; the pains which up to this time had only come on after the drinking of something cold, now occurred between meals and at night. Five or six months before his death, he commenced to vomit blood, and the vomiting of food became more and more frequent, until one night, after an attack of pain in the stomach, death occurred, under similar circumstances to those in Case 4.

At the postmortem examination a large ulcer was found in the pyloric region, reaching into the pylorus (Fig. 6). The ulcer was not deep, and, therefore, the lower margin did not overlap as much as in Cases 3 and 4. Carcinoma had developed from the lower pyloric edge and from one side-margin, while the upper edge of the ulcer was unaffected. The pylorus had become completely obstructed by carcinomatous masses and rupture of the basis of the ulcer had occurred here, as in Case 4. This case also is well adapted to prove our contention.

Case 6 was observed by Dr. H. J. Haiselden. The patient, a man of 41 years, had had disturbances of the stomach, with a burning sensation for about eleven and a half years. After he had been sick for three months, a physician diagnosed a gastritis. There were periods when the disturbances would cease, but they would return shortly, and a half year ago intense vomiting began, although the patient could sometimes eat raw eggs and other food and retain it. On Feb. 7, 1901, the patient was admitted to the hospital, vomited a brownish liquid and died soon afterward.

The postmortem examination of the stomach revealed a shallow ulcer which reached from the pyloric region into the pylorus to the duodenum, and from the sides of which a carcinoma had developed in the pylorus, while the upper margin presented no carcinomatous involvement (Fig. 7). Considerable thickening of the mucous membrane from chronic gastritis was present. In this case the lateral margins of the ulcer in the pylorus have been those most exposed to friction. When the pyloric ostium is narrowed by thickenings, its walls being rigid from chronic gastritis, hypertrophy of the muscularis, etc., carcinoma may sometimes develop here without an ulcer being present. I have seen many of these very shallow ulcers in the pylorus and believe that carcinomata develop from them. In such cases all traces of the superficial ulceration are soon lost and the real mode of origin of the carcinoma is then not suspected.

As it is necessary, in order to prove the origin of carcinoma from ulcer of the stomach, not only to consider the pathologic findings, but also the clinical course of the two diseases, I shall bring now, in addition to my own cases here reported, a number of short extracts from such cases, to be found in the literature. This will enable the reader to form his own conception of the clinical varieties of the conditions in question, which is better than if he confines himself to my own, probably too well outlined clinical picture. From the great number of cases of combined ulcer and carcinoma of the stomach, or rather, carcinoma developing from ulcer of the stomach, which I have observed clinically, I have only reported those in which either an operation or a postmortem examination and a thorough microscopic study have revealed the exact nature of the conditions found. It is not to be expected, nor is it advisable, that I should require a microscopic diagnosis in the cases cited in literature, for, while microscopic reports are desirable, their absence would compel me to eliminate nearly all the references. I shall, therefore, bring only such cases from the literature in which the genuineness of the reported findings is guaranteed by the name of the author, and the clinical history is borne out by the pathologic findings, either at operations or postmortem. It is not only my intention thus to report cases, but also to give the opinions of men whose statements are worthy of consideration.

Dittrich[1] described eight cases of ulcer of the stomach, complicated with carcinoma.

Case 1.—Woman 50 years of age, with hardening of the pyloric portion and a medullary carcinoma in its mucous membrane, on the posterior wall of the stomach; near the lesser curvature were several deep cicatrices from ulcers. (Case not sufficiently well described.)

Case 2.—Man 50 years of age, fruit-vendor. Medullary carcinoma of the pylorus and a deep stellate scar from an ulcer near the lesser curvature, on the posterior wall of the stomach. (Case not well enough described.)

Case 3.—Woman 70 years of age, medullary carcinoma in the middle part of the stomach. Several star-shaped scars from ulcers. (Not very well described.)

Case 4.—Woman of 35 years. Carcinoma of the liver and the peritoneum; a medullary carcinoma of the glands of the abdomen and in the mucous membrane of the stomach, in which deep, stellate scars are found. (Not adequately described.)

Case 5.—Woman 55 years old. Great shrinking of the stomach, caused by many scars from ulcers. Medullary carcinoma of the cardia. (Not well enough described.)

Case 6.—Woman 75 years of age. Medullary carcinoma

reaching from the duodenum into the pylorus, on the posterior wall of the stomach; near the lesser curvature, an ulcer with fibrous edges; at its basis, the pancreas. (Not well enough described.)

While it is probable that in these six cases of Dittrich carcinoma has developed from ulcer, this does not fully develop from his description. The next two cases are better.

CASE 7.—Man of 46 years, with round ulcer of the stomach the size of a silver dollar. At the basis of the ulcer, the pancreas, and developing from the edges of the ulcer, a carcinoma.

CASE 8.—Woman of 54 years. Hardening of the pylorus and medullary carcinoma of its mucous membrane. Stenosis of the pylorus. On the posterior wall of the stomach, near the lesser curvature, a round ulcer the size of a silver dollar. At the basis of the ulcer, the pancreas, and at its upper margin, a medullary carcinoma.

After observing these eight cases Dittrich comes to the rather strange conclusion that no particular connection exists between the ulcer and the carcinoma, believing that the simultaneous development of both is purely accidental, and he considers this proven by the location of the carcinoma at the ulcer margins, without involvement of the bases of the ulcer. Carcinoma always develops from the edges and only secondarily involves the basis of those ulcers.

We will add another one of Dittrich's cases:

CASE 9.—Man 50 years of age. Scirrhus and medullary carcinoma of the pyloric region. In front of the carcinomatous part, surrounded by perfectly healthy mucous membrane, a deep cicatrized ulcer. (This case seems to be similar to my cases, Nos. 3, 4 and 5.

Hughes[2] describes a case in which, without a doubt, carcinoma has developed from ulcer of the stomach, and as the clinical history, which dates from the year 1844, is very clear and characteristic, it shall be reported:

"Mary Ann Ramsey, 43 years of age, a widow, was admitted to Allison's wards in the Royal Infirmary, on August 25, 1844. She reports that her menstruation had ceased to come two years ago, and that she has been ailing since. For ten years she has had pains in the stomach after meals, off and on, and after the cessation of the menses these pains have become more intense and more constant in character. In October she was treated in the Infirmary for her stomach trouble, and at the time of her leaving the hospital she was free from pains. Three months after her dismissal, her pains returned, accompanied by sour belching and transitory diarrheas, which symptoms continued. Blood vomiting did not occur."

"Postmortem Findings.—The stomach was much dilated and filled with semi-liquid masses. The pylorus much narrowed by a carcinomatous new formation, so that it was hardly possible to introduce the fourth finger. Reaching from the pylorus, an ulcer was found on the posterior wall of the stomach, two inches in diameter which had led to the formation of adhesions between the wall of the stomach and the pancreas. The margins of the ulcer were elevated almost an inch above the surface of the mucosa; they were of soft consistence, breaking down under the touch of the finger and forming a dirty, whitish mass. The basis of the ulcer was formed by the muscularis, etc."

Hughes has also made a microscopic examination, and he says concerning it: "The tumor mass consisted of a fibrous matrix, the meshes of which were filled with numerous cancer cells and free cells." But, after these observations and this description, Hughes says: "This case is extraordinarily interesting in many ways, and, according to my opinion, it brings a strong proof of the spontaneous healing of carcinoma in an organ." It is to be deplored that Hughes came to such wrong conclusions after his careful clinical and anatomical examinations.

H. Lebert[3] describes the following cases:

CASE 1.—Carcinoma of the heart, the pleura, the peritoneum, the lymphatic glands. The stomach is large and ulcerated, with scirrhus of the pylorus; at the lesser curvature is an old, simple chronic ulcer of the stomach, adherent to the pancreas, and at its basis are small, carcinomatous nodules—there are none at the edges of the ulcer.

If Lebert had made a careful microscopic examination of the edges of the ulcer he would have found carcinoma there.

CASE 2.—Carcinoma of the pylorus, with slight stenosis. Above it is an ulcerous depression, the walls of which are adherent to the liver, which shows no cancerous elements. A simple ulcer.

CASE 3.—On the anterior wall of the pyloric region, a carcinoma of the size of a pigeon's egg, and slight stenosis. In the middle of the lesser curvature, a stellate, pigmented scar, from a simple ulcer.

CASE 4.—Man of 35 years. Has had pain in the stomach for six years. Signs of ulcer, and later, signs of carcinoma. Postmortem examination reveals perforative peritonitis. The stomach occupies a slanting position and the pyloric portion is considerably lower than normal. In the anterior wall of the stomach, 2 cm. from the pylorus, a large round ulcer of seven cm. diameter, bulging upward, is found. On the anterior wall, near the lesser curvature, the basis of the ulcer is very hard, and covered with warty excrescences, which measure up to 1.5 cm. in thickness. The ulcer is adherent to the head of the pancreas and the examination shows carcinomatous elements. The muscularis is thickened to some distance. In this case, a simple ulcer must have existed for years, and become carcinomatous later.

CASE 5.—Carcinoma of the stomach, in the region of the pylorus. At the larger curvature a simple, not hardened and not infiltrated ulcer, with a perforation into a space closed by adhesions outside of the stomach.

CASE 6.—This man of 46 years has had symptoms of chronic ulcer of the stomach for six years. After a marked improvement, it had recurred six months before his death and gradually all symptoms of a deeper carcinomatous affection developed. At the postmortem examination, carcinomatous nodules were found in the liver and in the pyloric portion a large shallow ulcer, which appeared healed and cicatrized, but at its margin there was thickening and at its basis, firm infiltration, both of which on microscopic section were found to consist of carcinoma cells. In this case, without doubt the long-existing, simple ulcer, has become the site of a carcinomatous infiltration, from which have originated metastases of the liver.

CASE 7.—In this case, which is similar to the preceding one, the stomach adhered to the liver, and at the place of such adhesions there was an ulcer of the stomach at the lesser curvature, which was of the size of a dollar and in which an artery had become eroded; in consequence, two pieces of coagulated blood were found in the stomach. The basis of the ulcer was smooth, somewhat hardened and its edges showed walled hardening, while two secondary carcinomatous nodules were found in the mucous membrane near by. All the anatomical characters indicated secondary carcinomatous affection of the margin of an ulcer.

CASE 8.—The stomach shows a scar from a chronic ulcer at the lesser curvature, and touching the scar, a carcinoma at the lesser curvature.

Brinton[4] reports the following case which he observed in April, 1857:

The patient, a woman of 41 years, married, had, in the course of twenty years, suffered from pains and disturbance of the stomach. At the age of 41, intense pains in the epigastrium appeared and there was vomiting after meals, the latter becoming more and more frequent and troublesome. The patient was admitted to the Royal Free Hospital where she found relief and where she improved, after dieting for some time. After

THE ORIGIN OF CARCINOMA OF THE STOMACH FROM CHRONIC ROUND ULCER OF THE STOMACH.

G. FUETTERER, M.D.

Fig. 1. — Adenocarcinoma of the stomach, originating from a very small typical round ulcer. (Fütterer's Case 2.) Natural size. The resected piece was cut in two and we see only one-half of the ulcer and a little more than one-half of the adenocarcinoma, which appears in form of two grayish nodules at the lower edge of the ulcer.

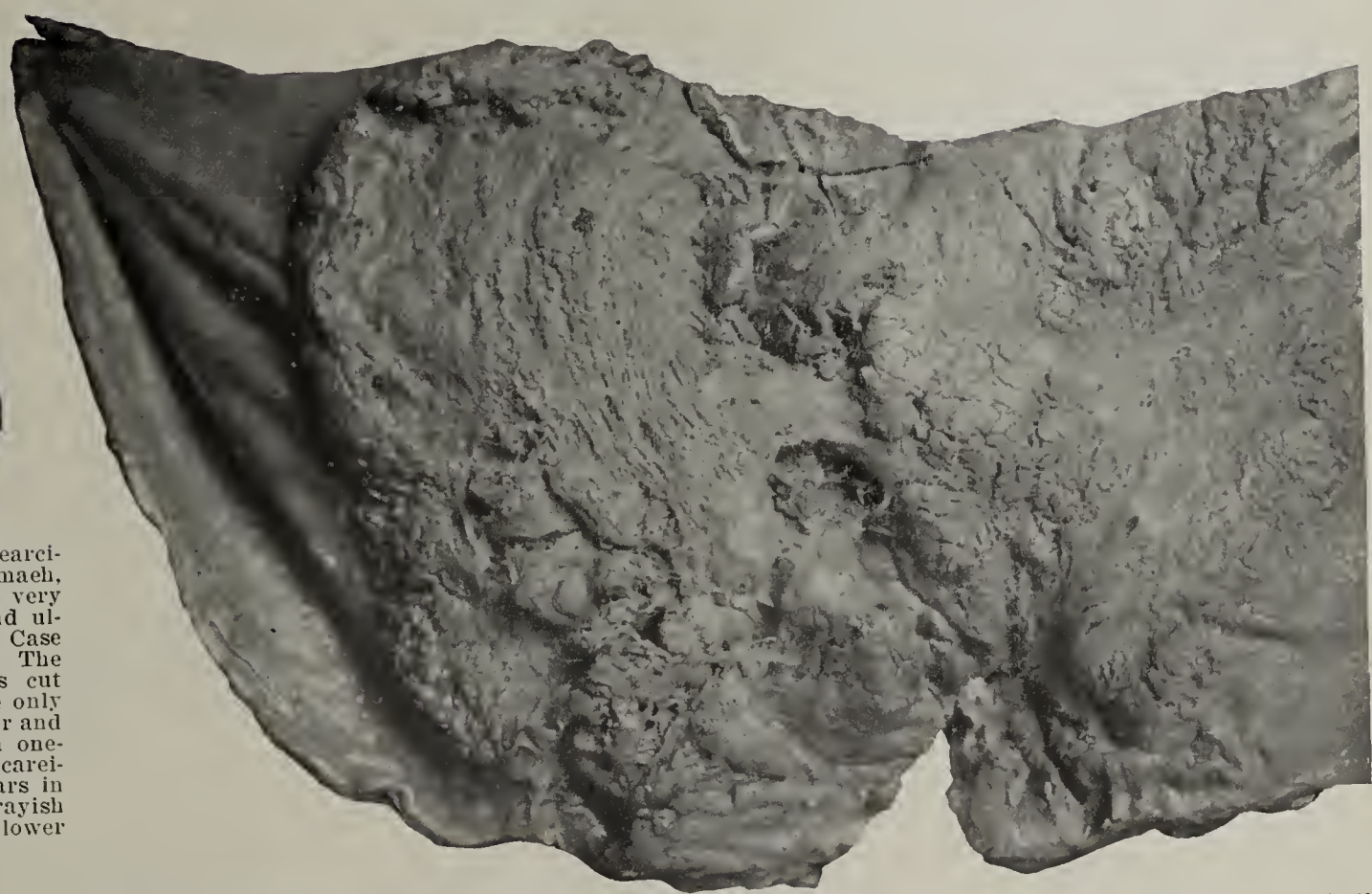


Fig 2.—In the center a well outlined round ulcer and spreading from here in all directions a shallow carcinomatous growth. (Fütterer's Case 2.)

Fig. 3.—Stomach and piece of duodenum opened. In the pyloric region a large and deep chronic ulcer, the lower or pyloric carcinomatous edge stands out firmly infiltrated while the left edge shows carcinomatous ulceration. The upper and right margins are as yet almost free from carcinomatous changes. (Fütterer's Case 3.)

AMERICAN MEDICAL ASSOCIATION PRESS. 1902.

Fig. 4.—Cut surface of liver with six whitish metastatic nodules. (Fütterer's Case 3.)

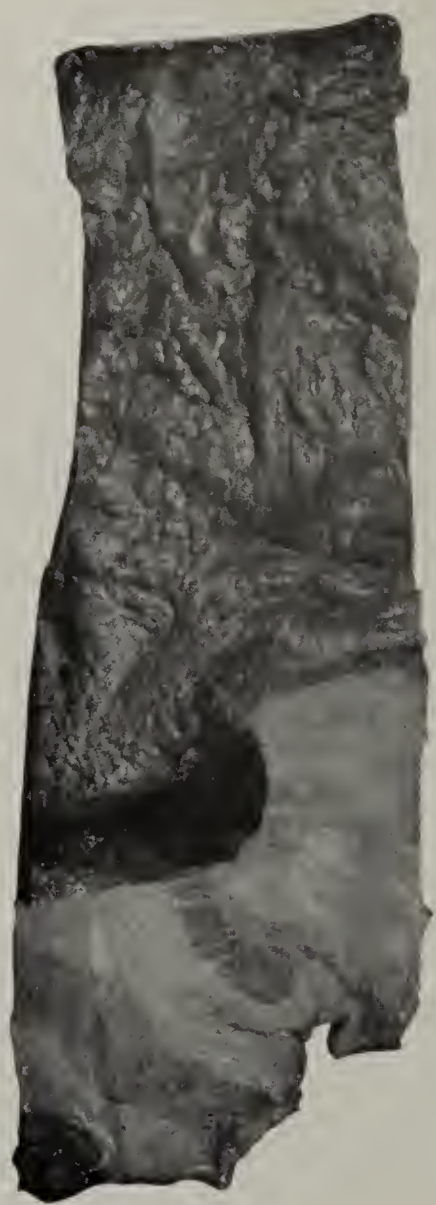


Fig. 5.—Stomach opened. Chronic gastritis. Deep chronic ulcer in the pyloric region; from the lower and right margins has developed a whitish carcinomatous mass that obstructs the pylorus. (Fütterer's Case 4.)

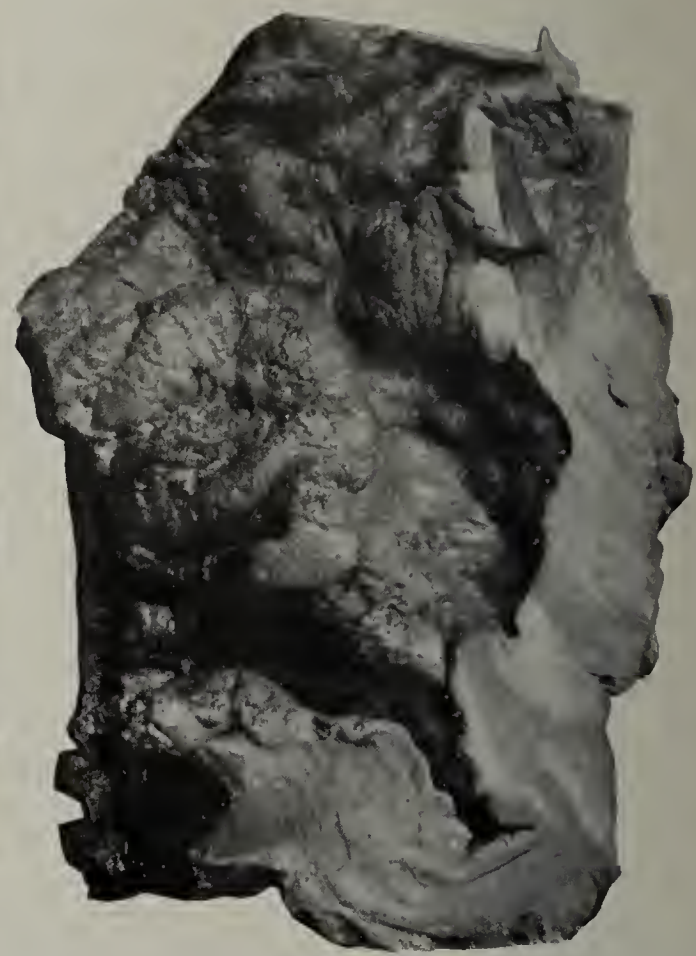


Fig. 6.—Large ulcer in the pyloric region from the pyloric and lower edge of which has developed a whitish carcinomatous mass that obstructs the pylorus. (Fütterer's Case 5.)

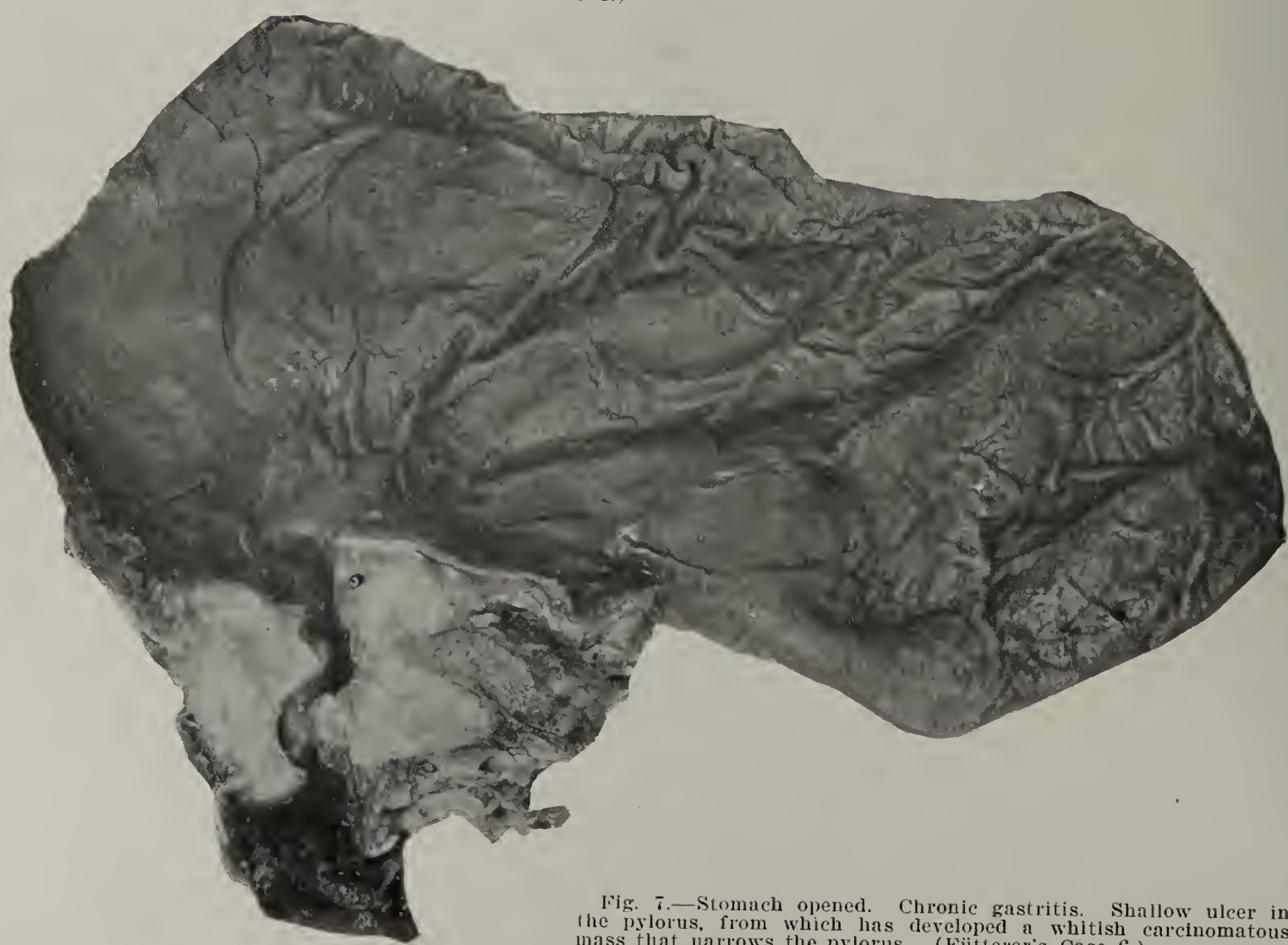


Fig. 7.—Stomach opened. Chronic gastritis. Shallow ulcer in the pylorus, from which has developed a whitish carcinomatous mass that narrows the pylorus. (Fütterer's Case 6.)

Fig. 8.—Stomach opened. Chronic gastritis. Typical chronic round ulcer of the stomach.

Fig. 9.—Microscopical section from the edge of a typical round ulcer of the stomach, showing the upward bending of the muscularis as described by Hauser.

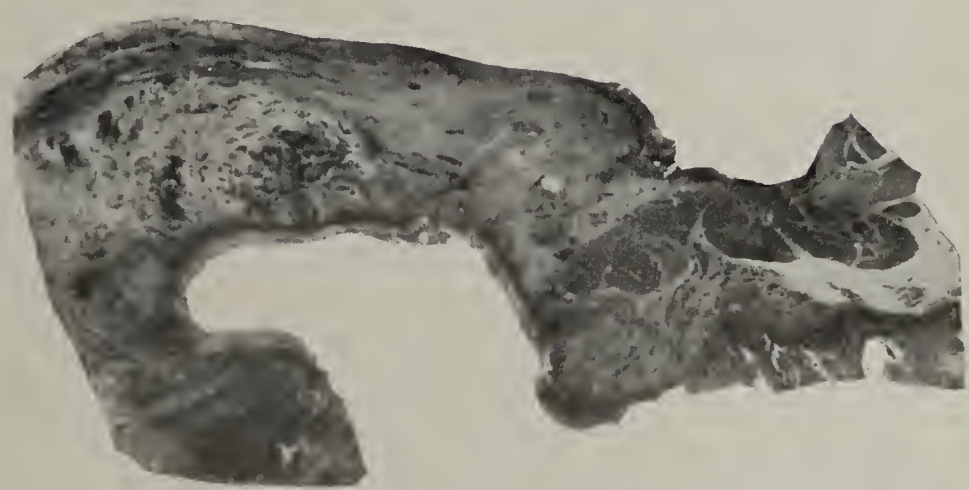


Fig. 10.—Profile of the specimen represented on Fig. 5. Typical "fishhook-form" of the ulcer, with carcinoma, as described by Fütterer.

Fig. 11.—Typical chronic gastric ulcer produced in a rabbit, with great thickening of the mucosa, mainly on one edge, but also some on the other. Adhesions between stomach and liver.

a little the pains returned, she became emaciated and died within a few days.

At the postmortem examination, in the middle third of the stomach a large ulcer was found, which had neither affected the cardiac portion nor the pyloric portion of the stomach. It had caused such a contraction of the middle part of the stomach as to change this to a small tube into which the thumb could hardly be introduced. There were adhesions with the liver and the abdominal coverings, but particularly at the place of contraction were found carcinomatous masses, measuring up to one-half inch in thickness. "It was one of those cases in which an ulcer of the stomach had undergone carcinomatous changes. The carcinoma had developed from the edge of the ulcer and had then grown into its basis." In another place Brinton says: "As the ulcer of the stomach has no properties which protect against carcinoma, we must not be surprised to find its scars even in stomachs which later become affected by the more deadly malady. Open ulcers and carcinomata are not seldom found together, and we must suppose that in such cases the carcinoma has been added to the ulcer and not the ulcer to the carcinoma. According to my knowledge, it has not been proven by authentic observations that an ulcerated stomach has become affected with carcinoma without the ulcer itself becoming affected—at least its edges or its basis." *From this it is seen that Brinton had a remarkably clear and correct conception of the conditions in question.*

The histories and postmortem findings so far reported surely speak plainly for the origin of some cancers of the stomach from gastric ulcer, and the following authors, Rokitansky, Liston, Waldeyer, Leube, Zenker and Potain have expressed themselves to the same effect.

Rokitansky[5] (1849): "There are cases in which we can see plainly that a carcinoma has developed from an ulcer of the stomach." This is the first plain, clear and positive statement of its kind that I have found in literature.

Liston[6] says: "The fact that a carcinoma can develop from a simple ulcer of the stomach seems already to have been well proven."

Waldeyer[7] (1872): "I do not hesitate to say that a simple ulcer may, in the course of time, be changed to a carcinoma, if the epithelial elements, instead of undergoing degeneration, take part in the process of proliferation on the edges of the ulcer."

Leube[8] (1874) rightly considers the observations of carcinoma with chronic round ulcer of the stomach not only interesting from the anatomic and pathologic standpoints, but also in reference to its etiology.

Zenker[9] (1882), who demonstrated a specimen in the Nürnberger Aerzteverein, expressed the opinion that a carcinoma had developed secondarily from an old chronic ulcer of the stomach. This specimen was then described thoroughly by Hauser in his well-known monograph.

Potain[10] (1883) also says that the carcinoma of the stomach has a great tendency to develop from old scars.

All the clinical and pathological observations and the opinions which we have so far cited are of great importance. But the question whether it is really true that carcinoma comes secondarily to an ulcer of the stomach, or whether the ulcer or the scar are a product of the carcinoma, can not be finally decided from these considerations. Hauser[11] in his excellent monograph which appeared in 1883, under the title, "The Chronic Gastric Ulcer, Its Mode of Cicatrization and Its Relations to the Development of Carcinoma of the Stomach," has thrown more light upon this subject. Hauser studied and described the above-mentioned case of Zenker and also a carcinoma of the stomach which had been resected by Heinecke, and he observed peculiar conditions of the muscularis which he rightly considered to be characteristic of an ulcer of the stomach. He says: "Closely above the edge of the ulcer, we see muscularis going upward in a diagonal direction towards the mucous membrane, and to become connected with the muscularis mucosa which here is interwoven with a great deal of connective tissue. In this way the muscularis becomes thoroughly separated from the basis of the ulcer, which here consists only of a thick layer of connective tissue, and the line of separation is here, as the muscularis is turned upward, formed by the lower parts of the muscularis." Again he says: "In a primary carcinoma of the stomach which has become ulcerated, we will never find such a sharp division between the muscularis and the other tissues at the basis of the ulcer; and this line will never be formed by the lower zone of a muscularis that has been turned upward."

It is not hard to convince ourselves of the correctness of Hauser's views, and I give here two illustrations of which the first shows the muscularis in a simple gastric ulcer (Fig. 9), and the second in gastric ulcer with carcinomatous changes (Fig. 10). The second illustration shows the profile of the ulcer, on which we can observe the upward bend of the muscularis toward the mucosa, very satisfactorily. *But it shows something also, which I consider of no less importance. That is a typical fish-hook shape.* From my observations, I have concluded that we may safely take it for granted that an ulcer found together with carcinoma of the stomach, has been a typical ulcer, when this fish-hook form is found. I think we must differentiate between very shallow, irregularly formed ulcers, typical round ulcers, and rather multiform ulcers of the stomach, which often are very deep, for it is surely not right to call a thing round which is not round, and we do that if we call all ulcers of the stomach round ulcers. We can not say that the larger ulcers have a very characteristic form, for, although they are called "ear-shaped" it often requires a very great deal of imagination to discover the similarity between the form of such an ulcer and an ear. While the forms as seen from the surface are so variable and have nothing characteristic, I wish to state that the profile shows forms which are far more constant. The formation of the fish-hook-shaped profile underlie the same laws as those which determine the progress of the ulcer into the deeper layers of the stomach walls and this guarantees the constancy of its occurrence. In the smaller or more superficial ulcers no typical fish-hook form can be expected, and it is then that the condition of the muscularis, as described by Hauser, gives valuable information.

After Hauser's observations bearing on the relation of the muscularis to the basis of the ulcer, and after my own observations concerning a characteristic profile —the fish-hook shape—it may be taken as proven that carcinomata do develop secondarily from ulcers of the stomach. Since the publication of Hauser's monograph in 1883, the following cases have been reported:

Hanot[12] observed a case in a woman 42 years of age; a carcinoma had developed from the edges of an ulcer, which was located in the pyloric region.

Thiersch[13] saw a carcinoma at the basis of an ulcer.

Rosenheim[14] reported three cases:

Case 1.—Woman, 42 years of age, suffered for ten years from attacks of gastritis. For nine months she had constant nausea, a feeling of pressure in the epigastrium and sensitiveness to pressure; black vomit. Postmortem findings: Carcinoma in the pyloric region, which had developed from an ulcer.

CASE 2.—Woman, 58 years of age. Insufficiency of the mitral valve for twenty years. Six months ago, pains in the epigastrium developed, which became more violent as time advanced, and which weakened the patient very much. Later, there was black vomit. The pains and vomiting continued up to the death of the patient, a year after the appearance of the first symptoms. As emaciation had progressed during the last months of her life, a tumor could be felt under the left costal arch. The postmortem examination revealed a scirrhus which had developed from an ulcer.

CASE 3.—Woman, 64 years of age, had suffered from stomach trouble for three months. The stools were tar-colored and the patient often vomited bile. Postmortem findings: Near the pylorus an ulcer with eaten edges, which were carcinomatous. Only a small part of the margin was not involved by carcinoma, and this was the pyloric margin.

Krukenberg[15] describes a case in which a glandular carcinoma had developed from the margin of a cicatrizing ulcer.

Goodhart[16] reports the postmortem findings in a man 32 years of age, consisting of a glandular carcinoma near the pylorus with a long excavation that makes it appear probable that the primary affection had been an ulcer of the stomach.

Häberlin[17] reports fourteen cases in which carcinomata have developed from ulcers of the stomach, but I have only selected four of them:

CASE 1.—Man of 30 years, had suffered from stomach trouble for three years. He vomited almost daily, but never blood, and the postmortem examination showed a deep ulcer of the pylorus surrounded by nodular growth.

CASE 2.—Woman of 39 years, admitted on Oct. 21, 1886. Six years before, at the age of 33, she was very anemic, and during the last six months before her death emaciation developed. There were pains in the stomach, vomiting, but no blood. Died on Dec. 19, 1896. Postmortem examination revealed carcinoma which had developed from gastric ulcer.

CASE 3.—Man of 66 years, admitted on Sept. 29, 1885, had suffered from pains in the stomach since about his 26th year. Frequent vomiting and emaciation. Died on Oct. 16, 1885. Postmortem examination showed carcinoma and ulcers at the pylorus.

CASE 4.—Woman of 51 years, admitted on Oct. 5, 1886. Complained of gastric pains and vomiting; no hemorrhage; emaciated. She died on Dec. 15, 1886. Postmortem findings: Carcinoma and ulcer.

Koch[18] reports the case of a woman of 36 years in whom an ulcer was diagnosed, but a suspicion of carcinoma was entertained, because of rapid emaciation, unsuccessful ulcer treatment and the presence of large quantities of lactic acid. Postmortem examination showed the development of a carcinoma from a scar in the pyloric region.

Gravenhorst[19] saw a case of carcinoma that had developed from ulcer of the stomach, without causing any clinical symptoms.

Maillefert:[20] In his third case cicatrizing ulcers had produced an hour-glass shape of the stomach which was surrounded by carcinomatous masses.

Hemmeter and Ames:[21] Man of 56 years who had been under observation for two years and at first showed plain symptoms of ulcer of the stomach. Postmortem examination: Near the pylorus an ulcer, and a carcinoma had developed from the pyloric margin of the ulcer.

Hickman:[22] Woman, 29 years of age, had had gastric pains before she was admitted to the hospital. Postmortem examination: Dilatation of the stomach. In the pyloric region, at the lesser curvature, was a scar one and one-half inches in diameter, and nearer the pylorus a carcinoma.

To facilitate references, we shall now bring the cases already mentioned, and others, in the form of a table.

LIST OF CASES FOUND IN THE LITERATURE, IN WHICH CARCINOMA HAS DEVELOPED FROM CHRONIC ULCERS OF THE STOMACH.

No.	Reported by	Sex.	Age.	Localization of the ulcer.	Localization of the carcinoma.
1	Dittrich . .	F.	50	Posterior wall near lesser curvature.	Pyloric portion.
2	" . .	M.	50	Deep stellate scar on posterior wall near lesser curvature.	" "
3	" . .	F.	70	Middle of posterior wall. . . .	Middle of posterior wall
4	" . .	F.	35	"In the usual place" (pylorus?	Not given.
5	" . .	F.	55	Numerous scars from ulcers . .	Cardiac region.
6	" . .	F.	75	Posterior wall near lesser curvature.	Reaching from the duodenum into the pylorus.
7	" . .	M.	46	Ulcer showed the pancreas at its basis.	Edges of the ulcer.
8	" . .	F.	54	Posterior wall with pancreas at its basis.	Upper edge of the ulcer.
9	" . .	F.	50	Pyloric region	Lower margin of the ulcer.
10	Hughes. . .	F.	43	Pyloric region, posterior wall..	Lower margin of the ulcer.
11	Brinton. . .	F.	41	Middle of the stomach, hour-glass contraction.	At the contracted portion.
12	Lebert . . .	.	.	At lesser curvature.	Base of ulcer and pylorus.
13	" . . .	. .	.	Above the carcinoma.	Pylorus.
14	" . . .	. .	.	Middle of the lesser curvature.	Anterior wall of pyloric region.
15	" . . .	M.	35	Anterior wall, 2 cm. from pylorus.	Upper margin of the ulcer.
16	" . . .	. .	.	Near the pylorus and the larger curvature.	Pylorus.
17	" . . .	M.	46	Pyloric portion.	Edge and base of ulcer.
18	" . . .	. .	.	Lesser curvature.	Edge of ulcer.
19	" . .	.	.	Scar at the lesser curvature.. .	Edge of scar.
20	Hauser . . .	M.	69	Pyloric region	Edges all around the ulcer.
21	Hanot . . .	F.	42	Pylorus.	Edge of ulcer.
22	Thiersch....	M.	26	Pyloric region	Pylorus.
23	Rosenheim..	F.	42	" "	"
24	" . .	F.	58	" "	"
25	" . .	F.	64	" "	Edges of the ulcer.
26	Krukenberg.	. .	.	. . . . .	Edges of the ulcer.
27	Goodhart . .	M.	32	Pyloric region	Pyloric region, the thickening being greater near the pylorus.
28	Haberlin . .	M.	30	Pylorus.	Pylorus.
29	" . .	F.	39	Pyloric region	"
30	" . .	M.	56	Pylorus	"
31	" . .	F.	51	Pyloric region	Pyloric region.
32	Tapret . . .	F.	40	Pylorus.	Edge of ulcer.
33	Eisenlohr. .	M.	49	Pylorus	Lower edge of the ulcer.
34	Koch.	F.	36	Pyloric region	Edges of ulcer.
35	Westphal.. .	M.	48	In the carcinomatous mass . .	Lesser curvature near the cardia.
36	Gravenhorst	M.	43	. . . . .	. . . . .
37	Pitt.	M.	57	Pyloric region	Lower edge of the ulcer.
38	Maillefert. .	M.	24	" "	Pylorus.
39	" .	M.	47	. . . . .	Edge of one of the ulcers.
40	Packard . .	.	.	Pyloric region	Edges of ulcer.
41	Biach. . . .	M.	48	" "	Edges and basis of ulcer.
42	Hayem. . . .	M.	56	" "	At ulcer.
43	Dieulafoy. .	M.	.	Pyloric region and lesser curvature.	Upper margins of ulcer.
44	Hemmeter and Ames..	M.	56	Pylorus..	Lower edge of the ulcer.
45	Hickman. .	F.	29	Pyloric region	Pyloric margin of the ulcer.
46	Billings. . .	M.	28	" "	. . . . .
47	Fütterer . .	F.	59	Near the lesser curvature, between cardiac region and middle of stomach.	Edge of the ulcer.
48	" . .	. .	.	Larger curvature.	In middle of stomach.
49	" . .	M.	64	Pyloric region	Edges and surrounding parts of the ulcer.
50	" . .	M.	45	" "	Pyloric edge of the ulcer.
51	" . .	M.	72	" "	As above.
52	" . .	M.	41	" "	As above.

Many of these cases have been incompletely described, sometimes sex and age have been omitted or the localization of ulcers and carcinoma and their exact relations to each other have been but vaguely referred to. I am convinced that a more accurate description would give us a deeper insight into the relations existing between carcinoma and ulcer of the stomach, and I also believe that good illustrations would be valuable and would often make up for deficiencies in description. A thor-

ough observation and description of cases would soon show that our standpoint in the matter is well taken. Of course, the number of cases thus found will be but small as compared with cases that are clinically observed, where no operation is performed and no postmortem or no microscopical examination has been made to put the stamp of correctness on the clinician's opinion. Our table contains fifty-two cases—females nineteen, males twenty-four, sex not given, nine. The age ranges from 26 to 75 years—in the females from 29 to 75, in the males from 26 to 72. In 10 cases the age was not given. The localization of the ulcer is not given in forty-five cases; pyloric region in thirty-seven cases; lesser curvature in nine cases; larger curvature in one case, the middle of an hour-glass shaped stomach in 2 cases. The following authors mention the development from the edges of the ulcer: Dittrich, Cases 7, 8, and 9. Hughes and Brinton note the development of carcinoma from the scar of an hour-glass shaped stomach. Lebert, Cases 4, 6, 7, and 8; Hauser, Hanot, Rosenheim, Case 3; Krukenberg, Goodhart, Tapret, Eisenlohr, Koch, Pitt, Maillefert, Packard, Biach, Hayen, Dieulafoy, Hemmeter and Ames, Hickman, Fütterer and Billings. The localization of carcinoma at the lower pyloric edge of ulcers was noted by Dittrich, Case 9; Hughes, Goodhart, Eisenlohr, Pitt, Hemmeter and Ames, Hickman and Fütterer, Cases 3, 4, and 5; but not one of these authors, with the exception of the last, has considered the importance of this fact, or has tried to explain it, while we consider it of the highest importance in explaining the etiology of carcinoma in general.

CONCLUSIONS.

After what has been said, we would emphasize the following points:

1. If a carcinoma develops from a chronic ulcer of the stomach, then this development occurs from those parts of the edges of the ulcer which are most exposed to mechanical irritation by the contents of the stomach.

2. In the pyloric region, it is the lower pyloric margin of the ulcer which is most exposed to mechanical irritation and from which carcinoma develops. But other parts of the edges may be the ones involved when dilatations and adhesions have changed the position of the organ.

3. Development of carcinoma from ulcers of the stomach in the pyloric region occurs with great frequency, while such a development occurs less often in other parts of the stomach.

4. If what has been said under our third conclusion is correct, then we must in all cases in which an ulcer of the stomach or its scar narrows the pylorus, recommend early a gastro-enterostomy, to prevent the development of carcinoma. If a gastro-enterostomy has been made, then the mechanical irritation of the ulcer in the pyloric region by food is reduced, and the severe friction necessary to produce a carcinoma will probably not occur.

5. A patient suffering from the consequences of a stenosis of the pylorus, particularly if this is caused by ulcers and scars, should, if a gastro-enterostomy is not performed, be advised to eat slowly and little at a time, and to be particularly careful about carbohydrates and especially hard crusts of bread; they should avoid crisply fried, or other coarse food, and they should, as much as possible, confine themselves to liquid or semi-liquid foods. A good deal of fatty food should be recommended.

6. Elderly people in particular, who have but few or no teeth and a saliva which is insufficient in quantity and quality must be most carefully advised as to their diet, and to such cases taka-diastase should be administered.

7. From the fact that carcinoma does not develop from the large ulcers alone, but may be developed from the very smallest, the prognosis of ulcer of the stomach is bad. Our aim, therefore, should be to prevent the formation of ulcers, rather than to heal them after they are formed, and this may be done, at least to a certain extent, by the energetic treatment of all cases of chlorosis and secondary anemia that come under our observation.

8. After reviewing the literature, we are now in a position to say that no one before us has laid stress on the fact that carcinoma of the stomach, which develops from an ulcer, originates from certain parts of their edges, and that this, while of importance in itself, will prove to be of great value when it is sufficiently considered in reference to the etiology of carcinoma in general.

My experimental work on the stomachs of animals has furnished sufficient corroborating facts, inasmuch as proliferation of the elements of the mucous membrane of the stomach occurred on edges of ulcers which had been produced by experiment. The histological qualities of such proliferations were those of an adeno-carcinoma, as described in our Case 1, and, while I do not wish to state that I have produced a malignant growth with all its inherent peculiarities and sequelæ, such as, for instance, metastasis and cachexia, I do wish to give it as my opinion that histologically there was adeno-carcinoma, and that I fully believe that further work in this direction will lead to the production of a true carcinoma by our method. The last cut represents such an ulcer in the stomach of a rabbit, and it is easy to notice the difference in the condition of the mucous membrane at the upper and the lower edge of the ulcer. For a more detailed description of the finer histological changes, I must refer the reader to my monograph, which has already been mentioned.

34 Washington St.

Erratum.—In figure No. 1, for "nodules at the *lower* edge of the ulcer" read "nodules at the *upper* edge of the ulcer."

BIBLIOGRAPHY.

1. Dittrich: Prager Vierteljahrschr., 1848, Bd. 1, p. 1.
2. Hughes: On Cancerous and Cancroid Growths, Edinburgh, 1849.
3. Lebert: Die Krankheiten des Magens, Tübingen, 1878.
4. Brinton: Transact. Path. Soc., London, 1858.
5. Rokitansky: Lehrb. d. Path. Anat., Bd. iii, 1849.
6. Liston.
7. Waldeyer: Virch. Arch., Bd. 55, p. 117, 1872.
8. Leube: von Ziemssen's Handb. d. Spec. Path. u. Ther., 1874.
9. Zenker: Ges. Nürnberger Aerzte, 1882.
10. Potain: Gaz. des Hop., Paris, 1882.
11. Hauser: Das Chron. Magengeschwür, etc., Leipzig, 1883.
12. Hanot: Arch. Gen. de Med., 1884.
13. Thiersch: Münchener Med. Woch., 1886, No. 13.
14. Rosenheim: Zeitschr. f. Klin. Med., Bd. 17.
15. Krukenberg: Cited from Rosenheim, Zeitschr. f. Klin. Med., Bd. 17.
16. Goodhart: Transact. London Path. Soc., 1889, Bd. 40, p. 78.
17. Häberlin: Deutsch. Arch. f. Klin. Med., 1889, No. 44.
18. Koch: St. Petersburger Med. Woch., 1893, No. 43.
19. Gravenhorst: Dissertation, Kiel, 1893.
20. Maillefert: Dissertation, Greifswald, 1896.
21. Hemmeter and Ames: Medical Record, New York, Sept. 11, 1897.
22. Hickman: Transact. Path. Soc., London, 1899, v. 50, p. 109.
23. Billings: American Medicine, 1901.
24. Fütterer: Ueber die Aetiologie des Carcinoms, etc., Wiesbaden, 1901.

The Zambaco Prize.—The French Society of Dermatology announces that the Zambaco prize of 800 francs will be awarded in 1903 for the best work on any subject in dermatology or syphilography received before Nov. 30, 1902. Articles should be sent to the secretary, Dr. Hallopeau, 91, Boul. Malesherbes, Paris. Author's name must not appear on the article but accompany it in a sealed envelope.

PNEUMATIC DIFFERENTIATION IN THE TREATMENT OF ORGANIC DISEASE OF THE HEART.*

CHARLES E. QUIMBY, A.M., M.D.
NEW YORK CITY.

It is the purpose of this paper to present a physical demonstration of the value of pneumatic differentiation in the treatment of organic cardiac disease, and to adduce clinical evidence in proof of the accuracy of such demonstration. The propositions on which this treatment is based were definitely formulated before any clinical application was made. Such application was begun with absolute confidence as to the character of the results, but, it must be confessed, without the least suspicion of their extent. The clinical evidence presented is derived from nine years' use of the cabinet in the treatment of, essentially, all forms of organic cardio-vascular disease. The proposed physical demonstration requires:

I. Consideration of the physics of the circulation and its relation to tissue nutrition as the basis of functional activity.

II. Determination of the dynamic and nutritive disturbances involved in pathic conditions, and the possibilities of their modification.

III. Presentation of the physics of pneumatic differentiation and its action, as applied to the circulation, in modifying pathic conditions.

VASCULAR PHYSICS.

I. It is a physiological axiom that the function of the heart and vessels is, primarily, purely mechanical, and consists in the propulsion of blood in a given direction and appropriate quantity. This object is attained by the development of a permanent arterial tension, and alternating differential tensions in adjacent vascular cavities, the lower tension being always on the side of the direction of the blood current. Vascular tension is thus seen to be, from the standpoint of pure physics, the sole factor determining the circulation *per se,* and the point at which all disturbances of that circulation will be first manifest.

Were the sole effect of vascular tension that of blood propulsion, and the conditions under which this propulsion takes place constant, we might affirm that the absolute degree of tension was of no importance so long as the established differential tension ratios were maintained. But when we consider the mechanism concerned in the production and maintenance of these varying blood tensions, and their relation to nutritive interchange, it immediately becomes apparent that disturbances in tension ratios are pathic largely by very reason of their effect upon absolute tension. There is no longer any question as to the effect of persistent increased blood tension upon the vascular mechanism. Nor can it be denied that even minor grades of fixed increase are essentially pathic; for, although they may be attended by complete compensatory hypertrophy of the circulatory organs for a prolonged period, sooner or later the powers of nutritive repair fall below even this slight increased demand and circulatory failure results. But when the increased tension is itself the result, and compensatory of some cardiac lesion, it and its consequent compensatory hypertrophy react, each to increase the other, thus hastening the progress toward the point where compensation fails; so that such increased tension becomes self-destructive through those very changes which it calls forth for its own maintenance.

Hence, so far as relates to the circulatory mechanism, we have this as our first proposition:

1. The maintenance of the circulation and the preservation of the vascular mechanism demands not only the continuance of differential blood tensions and their rhythmical alternation, but also the restriction of the absolute degree of such tensions below an established limit.

Turning to the relation of absolute tension to nutritive interchange, since pneumatic differentiation, as will be shown later, lowers absolute tension while increasing tension ratios and thus develops increased quantitative flow, we have to consider only the effect of such modification of circulation. While twenty years ago much stress was laid upon the dependence of nutrition on vascular tension, recent investigations have seemed to show that the highest nutritive activity is determined by the quantitative blood supply rather than the tension.

2. However, as a clinical answer will be given later so far as bears upon the subject in hand, suffice to say here as a justified conditional proposition, that if full

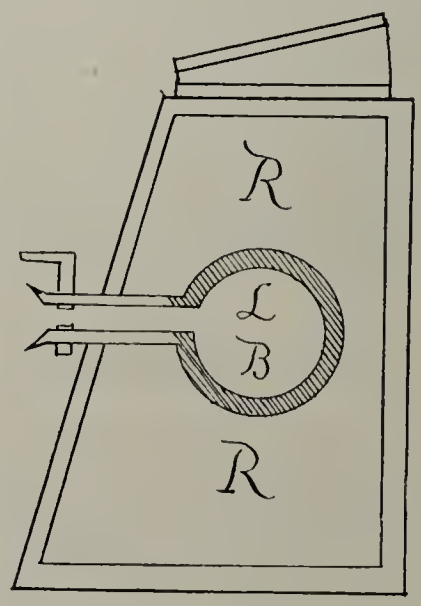


Fig. 1

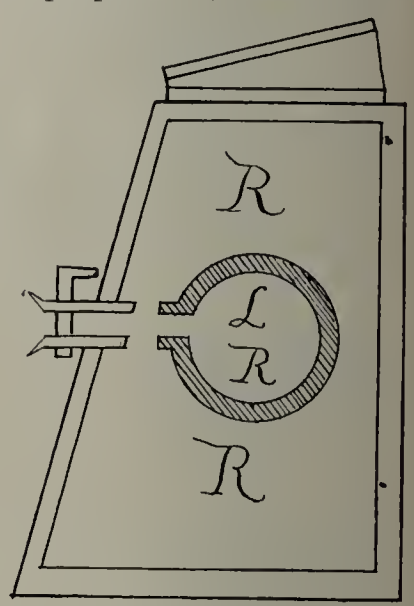


Fig. 2

nutrition can be maintained through increased blood flow under lowered tension, such a condition must afford relief to the vascular mechanism and, hence, tend to prolong its period of functional activity.

From these two propositions we deduce our first therapeutic premise: that any agent which maintains tissue nutrition and functional power, and lowers vascular tension, thereby relieving cardio-vascular strain, is, in character, an ideal therapeutic measure in organic cardiac disease.

DYNAMIC AND NUTRITIVE DISTURBANCES OF CARDIAC DISEASE.

II. The primary and only directly dependent result of essentially every cardiac lesion is a change in the absolute degree of blood tension and in tension ratios. This change consists of a decrease of tension in the systemic vessels and increased tension in some cardiac cavity. The result of the former is lessened blood flow, diminished tissue nutrition, and consequent arterial contraction to restore blood pressure and current. In response to the latter, which is now augmented by the reflex rise in arterial tension, there is developed a compensatory hypertrophy of the propulsive mechanism, which involves thereafter a persistent excess of force expenditure. So long as this hypertrophy and expenditure keep pace with the demands of increasing tension there is, physi-

* Read before the New York State Medical Association, October 23, 1901.

cally speaking, full compensation. But hypertrophy and tension react to increase each other and thus hasten the passage into degeneration with lessening propulsive force, decreasing arterial tension, and failing systemic nutrition, i. e., death.

It is thus seen that every cardiac lesion excites, solely through vascular tension, reactionary changes, which are compensatory and conservative only within certain limits, beyond which they become destructive, and that the seriousness of any given lesion will be measured, 1, by the absolute amount of increased tension produced; 2, by the capacity for hypertrophy in the tissues called upon to supply compensation, and 3, by the character of the lesion itself, whether fixed or progressive. Each of

Fig 3.—A. Bellows. B. Glass front. C. Stopcock for breathing tube. D. Stopcock for restoring atmospheric pressure in cabinet after treatment. E. Mercurial gauge.

these factors has its special bearing on the possibilities of relief, but the indications for an ideal treatment are precisely the same from all. For, since in every case it is the increased tension which excites all the secondary changes, and its tendencies for evil are compensated only by organic hypertrophy, the duration of any given case will be determined by the ratio between the increased tension and nutritive metabolism in the compensating tissues. Hence, the indications in cardiac disease are to decrease vascular tension and increase cardiac nutrition. From this we have our previous therapeutic premise made more specific, thus: Only such agents as decrease vascular tension and coincidently maintain or increase nutrition throughout the entire system are ideal therapeutic measures in organic cardiac disease.

Recurring from this to the physics of the circulation, and noting the fact that the blood current, upon which depends nutrition, is maintained only by rhythmical alternations in the tension ratios between adjacent vascular cavities, it is evident that any agent which fulfills the requirements of an ideal therapeutic measure, must not only lower vascular tension, but also develop those alternations of tension required to maintain the circulation.

PNEUMATIC DIFFERENTIATION.

III. Upon this basis we turn to the physics of pneumatic differentiation and its application to organic cardiac disease. To appreciate clearly the action of pneumatic differentiation, as applied to the circulation, it is imperative that one keep constantly in mind that fixed term of blood tension which counterbalances atmospheric pressure; for it is upon its power to render dynamic this force that the whole treatment rests. When, for instance, we speak of aortic pressure as so many millimeters of mercury, the absolute tension of the blood is that amount plus barometric pressure at the moment. It is in this commonly ignored term, called reserve tension, that we find the positive force which the pneumatic treatment develops.

Fig. 4.—Interior view of cabinet, showing ozone generator through glass front.

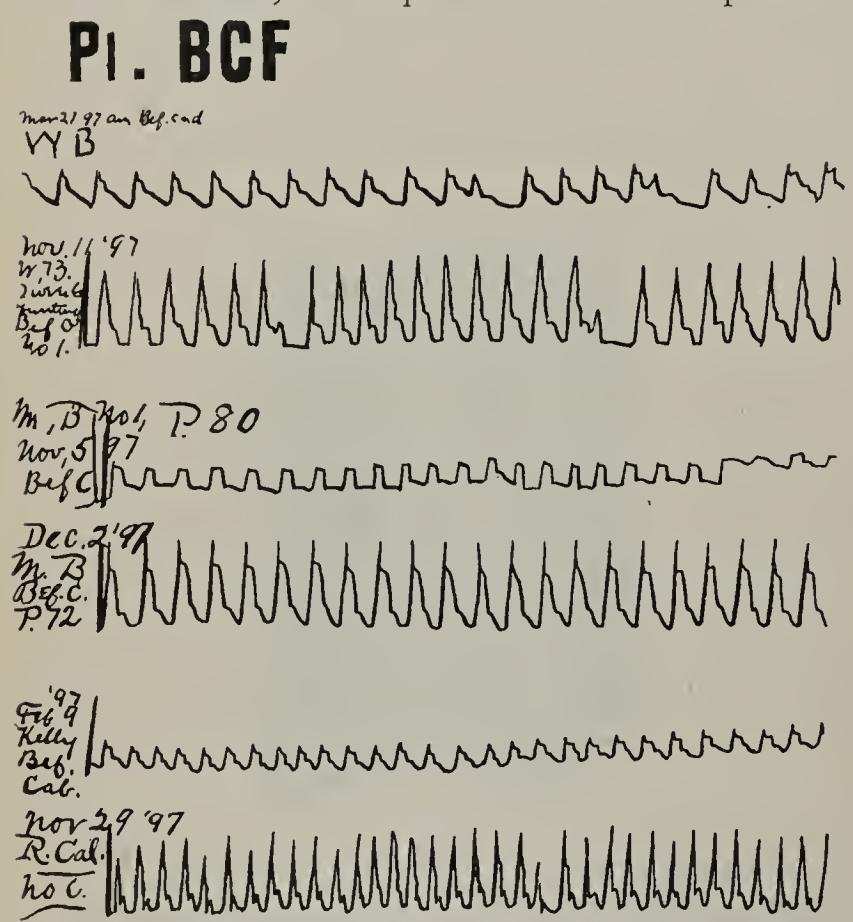
Failure to recognize the potency of this force and its relations to the circulation led to illogical use and condemnation of the cabinet years ago, and still prevents acceptance of the imperative deductions as to its therapeutic value in both pulmonary and cardiac disease.

The apparatus employed in the application of pneumatic differentiation consists of a cabinet, which can be closed practically air-tight, of sufficient size to contain one person. On the top is a bellows by which the contained air can be rarefied or compressed at will. In one side is a stop-cock, through which and an attached tube, the patient's lungs may be instantly connected with or shut off from the outside air, thus instantly changing the pressure upon the pulmonary surfaces and within the thorax from barometric to that of the air within the cabinet. The use of this apparatus in the application of pneumatic differentiation, by which term is meant a differential atmospheric pressure on the cutaneous and pulmonary surfaces, and the physics of its action in modifying the circulation will best be shown by following a patient through the process of treatment.

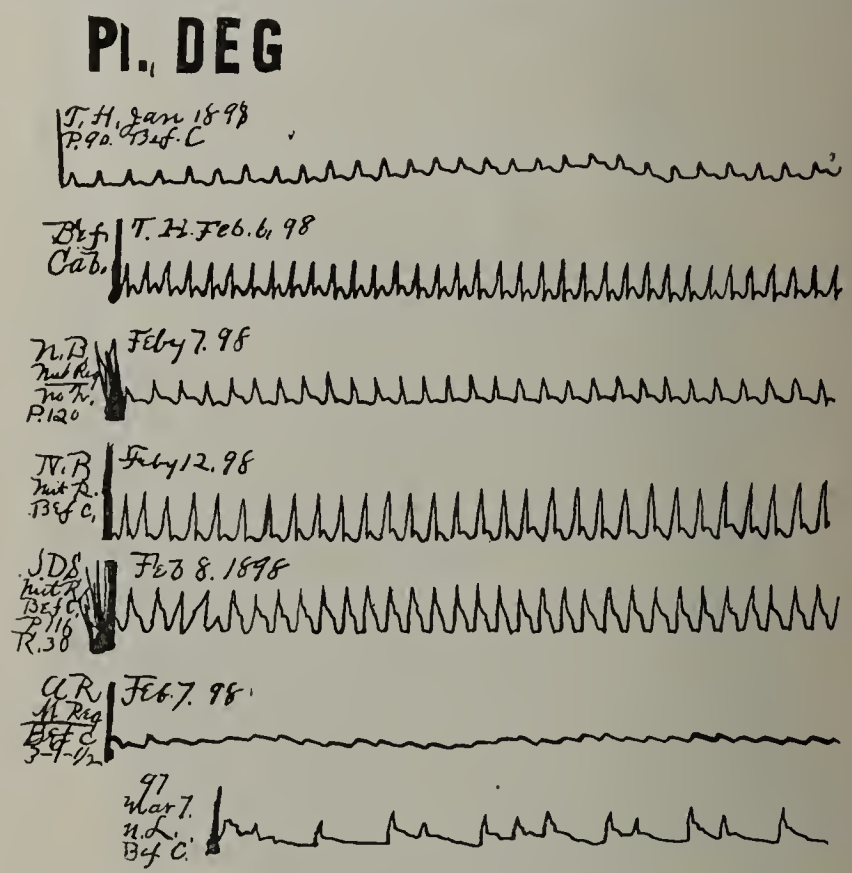
Reference may be made to Figs. 1 and 2, in which concentric circles represent the systemic and pulmonic

circulations and the shaded interspace the thoracic wall. In Fig. 1 the lung is connected with the outside air and under barometric pressure (LB). In Fig. 2, with the cock closed and the connection broken, both the lung and cutaneous surface are under diminished pressure (LR).

Given a patient in the cabinet, a rarefaction of the contained air is produced of, we will say for convenience, two inches of mercury. The pressure upon the entire cutaneous and pulmonary surfaces is thereby reduced one pound to the square inch and an equivalent amount of reserve tension made dynamic (Fig. 2). As a result the general blood pressure is instantly lowered, giving relief to the left ventricle, and the blood is drawn into the dilated surface and underlying vessels, the action being precisely that of sudden elevation of altitude. Under its continuance there is developed a capillary and arteriole hyperemia, which, by reason of their weaker walls and lack of anatomic support, is most marked in the pulmonary vessels. Thus, through anatomic conditions, atmospheric rarefaction produces



relative pneumatic differentiation between the cutaneous and pulmonary surfaces in favor of the latter, whereby the blood is drawn from the systemic into the pulmonary vessels under lowered tension. With the circulation thus at the point of mild pulmonary hyperemia, the patient takes the breathing tube in his mouth, when, as the cock is opened, barometric pressure is instantly restored to the pulmonary and thoracic circulation, which, be it noted, includes the cardiac cavities, and the pneumatic differentiation, now made absolute, is as quickly shifted in favor of the systemic circulation (Fig. 1). The tension ratio between the two circulations is increased, yet with the high tension factor in the thorax only that of barometric pressure. The entire systemic circulation is virtually under the influence of a huge cup. The result is obvious; the blood is drawn from the lungs through the left heart and arteries into the dilated capillaries, the point at which nutritive interchange takes place, almost without aid from the ventricle, and thence flows freely into the veins, which, as the differentiation is maintained, become distended by an excess of low-tension blood. These changes occur while the patient takes a slow, deep inspiration with, possibly, two or three seconds holding the breath at the end. During this time the left ventricle is, practically, relieved of all work, and, with the pulmonary circulation under only barometric pressure, there is no impediment to the passage of blood from the right to the left heart or strain of the right ventricle. Thus, under lowered tension, the previous localized hyperemia is transferred, through a hastened circulation, from the lungs to the systemic veins. But, before this venous hyperemia reaches the point of slowing the circulation, the valve is closed, the tube dropped from the patient's mouth and instantly the differential pressure is shifted in favor of the lungs again (Fig. 2). Now, with the previous differential ratio augmented by the developed tension of the venous hyperemia, the right ventricle obtains corresponding relief from work as the veins empty themselves through the right heart into the depleted pulmonary vessels until that circulation is again at the point of mild hyperemia, the condition from which we started, and the patient is ready for a repetition of the process. It is thus made evident that pneumatic differentiation, in



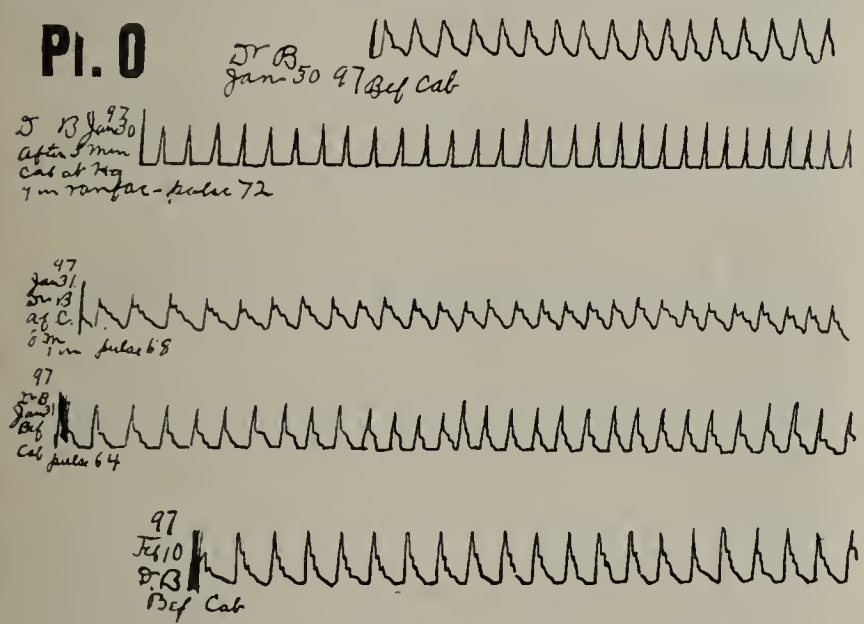
its application, develops rhythmical alternations of the tension ratio between the pulmonic and systemic circulations, and thereby produces a quickened and augmented blood flow under lowered vascular tension.

What, then, are the relations of this process to the pathic results of the several cardiac lesions?

1. Aortic Obstruction: In this case, while the pathic increase of tension in the ventricle is due to an unalterable condition, the total of ventricular strain is the sum of valvular obstruction and arterial tension. This latter term, which tends to increase with the obstruction, can be diminished by pneumatic differentiation with coincident increase of circulation. The treatment is, therefore, applicable to this lesion. Its power to afford relief will vary with the ratio between tension and obstruction and must be measured by clinical results. Statements bearing upon that point, here as elsewhere, are, therefore, given upon personal authority and not as part of the scientific demonstration. Upon this basis we say that, in all, save the most severe, cases of non-progressive aortic obstruction, and in the progressive cases of old age, arterial tension is the dominant term and can usu-

ally be reduced to such a degree as more than to counterbalance the obstruction, and hence to cause absolute reduction of ventricular strain below the normal, and thus give definite rest to the heart during the period of treatment. Even when there is ventricular failure and low arterial tension the compression of the thoracic organs acts to support the ventricular walls and affords very appreciable relief.

2. Aortic Insufficiency (Regurgitation): It is in this lesion where the destructive results are invariably progressive, even when the valvular insufficiency is constant, that pneumatic differentiation finds its most perfect application. For the first pathic increase of tension in the ventricle, and the consequent eccentric ventricular hypertrophy, which reacts to increase still further arterial tension, depend directly upon arterial tension, the force over which pneumatic differentiation has the most perfect control. Later, when, from failing circulation, a lowered nutrition excites arterial contraction and a still further destructive rise of tension, similarly pneumatic differentiation, by increasing blood flow and nutritive supply, does away with the necessity for high tension and thus makes the low tension which it produces for the relief of cardiac strain compatible with full systemic nutrition. The physics of its application should be evident. During inspiration (Fig. 1), corresponding to six or eight heartbeats, the pulmonary circulation and heart walls are supported by barometric pressure: the systemic circulation is cupped one pound



to the inch, arterial tension lowered, the regurgitant force and current thus diminished, the ventricle allowed to empty itself completely and recover its tonicity, while the blood is hurried through the capillary circulation into the veins. During expiration (Fig. 2) this surplus of blood is drawn into the lungs ready for another circle.

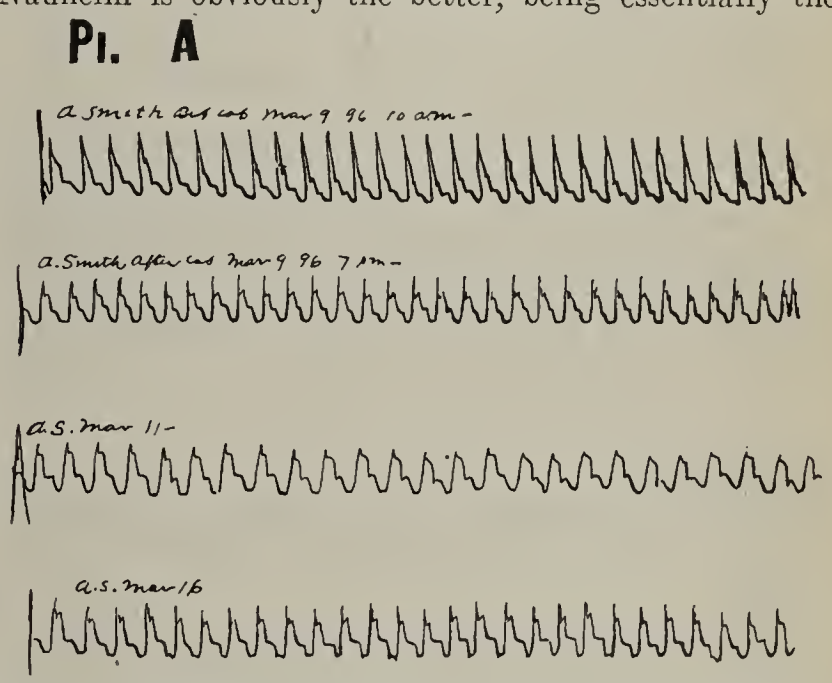
The clinical results are, first, immediate relief of all sensations of distress and the substitution of a sense of rest and refreshment—I have seen a patient's condition change from that of distinct angina to complete relief within five minutes—and second, rapid amelioration and often permanent disappearance of all subjective symptoms with corresponding decrease in the objective signs.

3. Mitral Insufficiency: The amount of reflux and consequent pathic tension is directly dependent on arterial tension. The application of the treatment is, therefore, the same as in aortic lesions. But, as compensation is here from the right heart through the pulmonary vessels, the possibilities of permanent relief are not as great as in aortic insufficiency. Clinical experience confirms this, for while the immediate relief is often quite as pronounced as in aortic lesions, it is seldom as prolonged.

4. Mitral Obstruction: It must suffice now to say that the form of treatment described above is not applicable to this lesion. Time also compels us to reserve discussion of its relations to the varied forms of cardiac dilatation and muscular weakness for a later paper.

In comparing this method of treatment with accepted therapeutic measures we find but two sets of agents which require consideration: 1, the drugs represented by nitroglycerin, and 2, those measures which dilate the capillaries through reflex demand for widespread tissue repair. While the first class act more powerfully to reduce arterial tension, and thereby afford very great relief from cardiac strain, they do not tend to hasten circulation, save in so far as the heart gains propulsive power through decreased opposition. Indeed, the increased frequency of the pulse under their influence shows that their effect is rather to slow the circulation, and this often makes impossible their persistent use. These drugs, therefore, fulfill but one of the requirements of an ideal treatment, and in so doing oppose the other.

The second class is covered, essentially, by the Oertel and Nauheim treatments, in each of which diffuse capillary dilatation is secured through reflex demand for increased nutrition and tissue repair. Of the two the Nauheim is obviously the better, being essentially the



Oertel treatment plus the baths. Yet even the Nauheim treatment does not claim to lower arterial tension, but, while offering relief to the heart through reduction of capillary obstruction, at the same time calls for a responsive increased force expenditure. Indeed, Schott states that "it is considered a serious symptom when, in any case undergoing balneologic and exercise treatment, the blood pressure is lowered, and that when the tonometric figure is as low as 65 or 60 mm. of mercury, therapy is of little avail and the bath and exercise both contraindicated." Still further, as showing the direct power of this treatment to influence the circulation, Heinemann, an ardent advocate, says, "that the patient who is being given the Nauheim treatment, and who leaves the bath in the forenoon to encounter later in the day the varied forms of life's mental annoyances, can never hope to receive much or permanent benefit. Freedom from mental irritation during the period of treatment and for a period after treatment is a *sine qua non* to its success."

In comparison with the foregoing, what does pneumatic differentiation accomplish? In cases with high

tension, representing the stage of attempted compensation, it reduces arterial tension, the basic factor of evil in all cardiac disease; it relieves cardiac strain and affords opportunity for tissue repair and recovery of muscular tone; and it simultaneously increases general systemic nutrition through augmented blood flow. When, on the other hand, low tension indicates failing compensation, it again through similarly increased nutrition restores functional power to the vascular mechanism whereby compensation is renewed and arterial tension brought back to the point of maintaining the circulation.

From the above presentation of applied pneumatic differentiation and previously deduced therapeutic propositions, we state, as our final conclusion which was to be demonstrated, that, from the standpoint of applied physics, pneumatic differentiation represents the nearest approach to an ideal treatment for organic cardiac disease of all measures at present available.

To what extent does clinical evidence support the accuracy of this conclusion? In reply we offer, first, sphygmographic tracings, and second, clinical histories, requesting that, for brevity, we be allowed to present them together without regard to logical sequence.

Plate BCF is presented in proof that sphygmographic tracings are of absolutely no value as an index of any specific cardiac lesion, but may be made accurate records of relative variations in arterial tension for the time during which they are made, which, by comparison, may prove permanent changes in vascular tension. Of these tracings the last, which is as typical as any one of aortic regurgitation, is the only one which was not from such a case. In the first, third and fifth there is not the least hint of such a lesion.

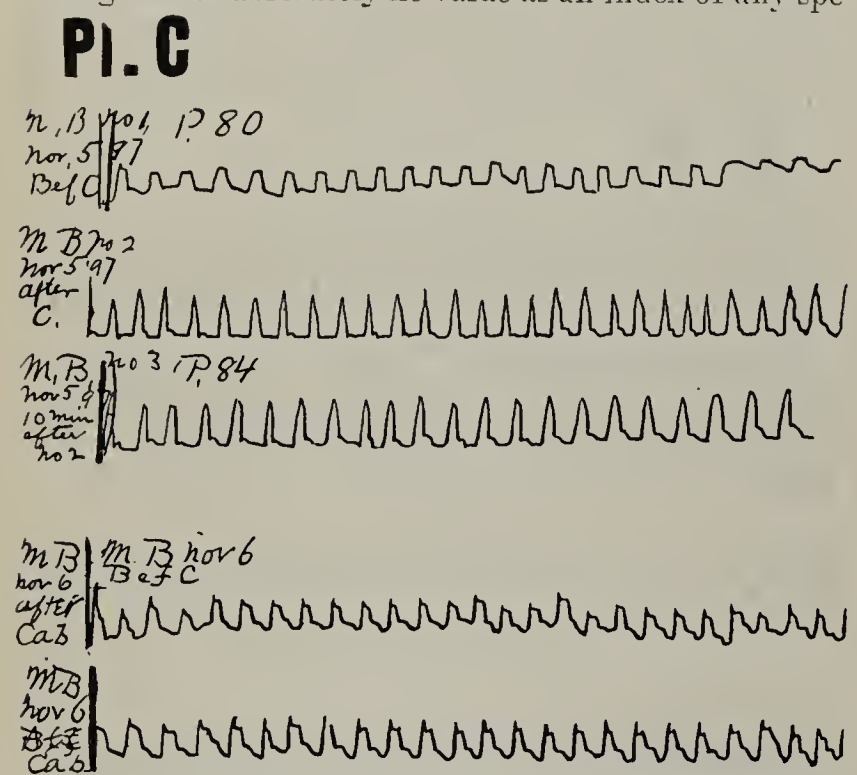
Plate DEG, all tracings from cases of mitral regurgitation, is further proof to the same effect.

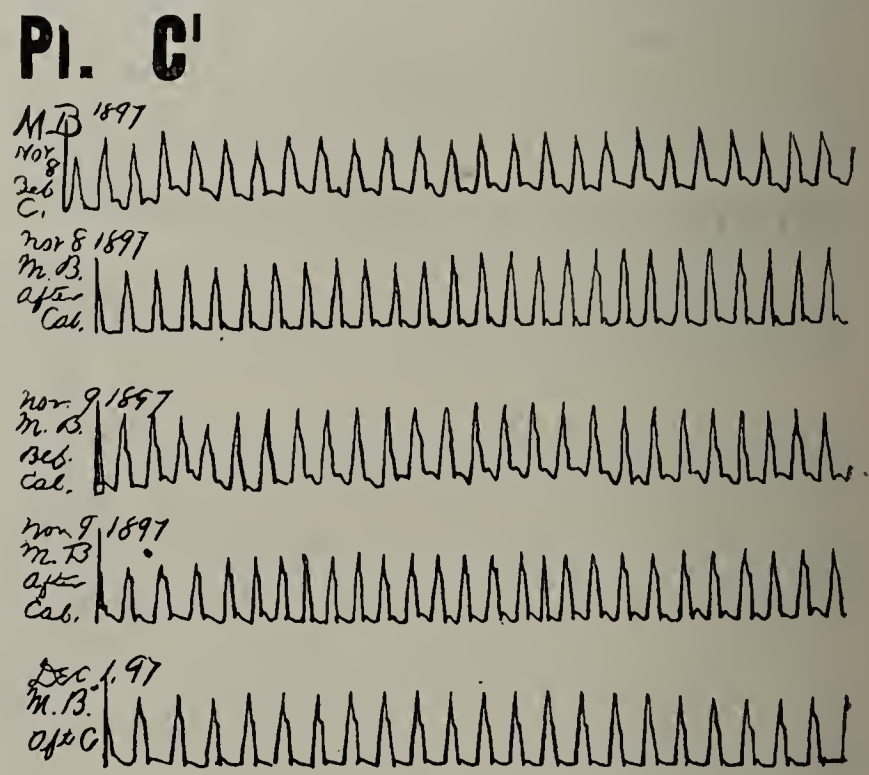
Plate O shows the immediate effect of pneumatic differentiation on arterial tension pure and simple. The tracings are from a hopeless case of chronic Bright's disease, with arterial fibrosis and cardiac hypertrophy passing into failure. The second tracing, taken just after five minutes' treatment at only one inch rarefaction, shows practical obliteration of constant arterial tension and is in marked contrast with the first, taken just before treatment. The third and fourth afford a similar comparison for the second day's treatment, while the fifth, taken before treatment ten days later, compared with the first, shows that a certain degree of relief is given even in the hopeless conditions. This case is cited just because it presents the worst possible conditions for affecting arterial tension, and the results are, therefore, all the more conclusive.

CASE A.—Male, 38, coachman; was first seen at college clinic early in October, 1895. He has all the symptoms and physical signs of extensive aortic disease; double aortic murmur is heard anywhere on the chest and in the arteries; he has excessive eccentric hypertrophy and commencing dilatation; arterial and capillary pulsation in the extreme; he suffers severely and almost constantly from angina, which was developed acutely by the excitement of appearing before the class; he has not been able to work even in driving for over a year; he sleeps only in erect position and thus but little and interruptedly on account of angina, from which he obtains only partial and temporary relief by large doses (1/25 to 1/12 minim) of nitroglycerin repeated every hour or oftener.

Patient was given ten minutes' cabinet treatment twice a day for a week and then twenty minutes daily. He was suffering from angina on first entering the cabinet; this was greatly relieved the first day; after three days' treatment he slept prone nearly the whole night, and at the end of a week gave up nitroglycerin, except one or two doses the last part of the night. At the end of the second week he disappeared, to turn up again in March, 1896, with this report. At the end of his two weeks' treatment in 1895 he had secured work in the preparations for the horse show, where he had worked that week and the week of the show from early morning until late at night. He then went to Kentucky in charge of a carload of horses, and there got work on a stock farm. In about a month his angina returned, and he took to drink for relief; was soon obliged to quit work, and later returned to New York. His pulse when treatment was resumed (March 9, 1896), is shown in the first tracing, Plate A.

At this time his heart was so weak, his angina so nearly constant and so quickly excited by the slightest change in circulation, that even the treatment tended to develop it. During the first day, therefore, he was kept at the office all day and given four treatments of from five to ten minutes each. The effect is shown in the second tracing taken in the evening. The improvement is obvious, but his statements as to the subjective relief were even more decided. On the 10th and 11th he received three treatments of ten minutes each. The result of these three days' treatment is shown in the third tracing, which is near normal. His angina had entirely disappeared and he felt well. The fourth tracing, taken on the 16th, shows a retrograde change, due to whisky,

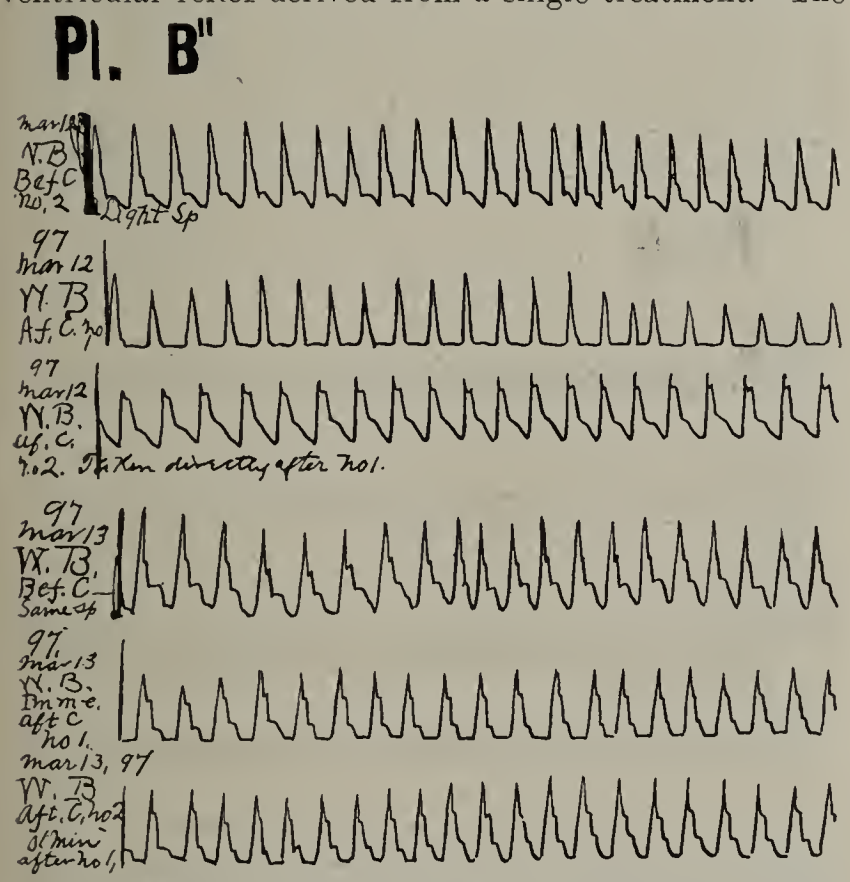




and thereafter he came for treatment only at irregular intervals, drinking heavily in the meantime.

Case C.—Male, 40, laborer. As this case was taken solely for purposes of demonstration we beg to condense the history to a simple statement of diagnosis, which was aortic regurgitation, moderate arterial fibrosis, cardiac hypertrophy, and chronic Bright's disease. The patient was fairly comfortable so long as he remained quiet in the hospital, but suffered from dyspnea and thoracic oppression upon any marked exertion.

Turning to the tracings (Plate C) for the results of treatment, it seems difficult to imagine more conclusive proof of the power of pneumatic differentiation to reduce arterial tension and so augment tissue nutrition as to do away with the necessity for its recurrence. The first tracing was taken before any treatment whatsoever, and is typical of an extreme degree of high tension backed by a not over-strong heart. The second, taken directly after fifteen minutes' treatment, shows the same immediate effect upon arterial tension as was seen in Plate O, while the third, taken ten minutes later, shows, in comparison with the first, the extent of arterial and ventricular relief derived from a single treatment. The

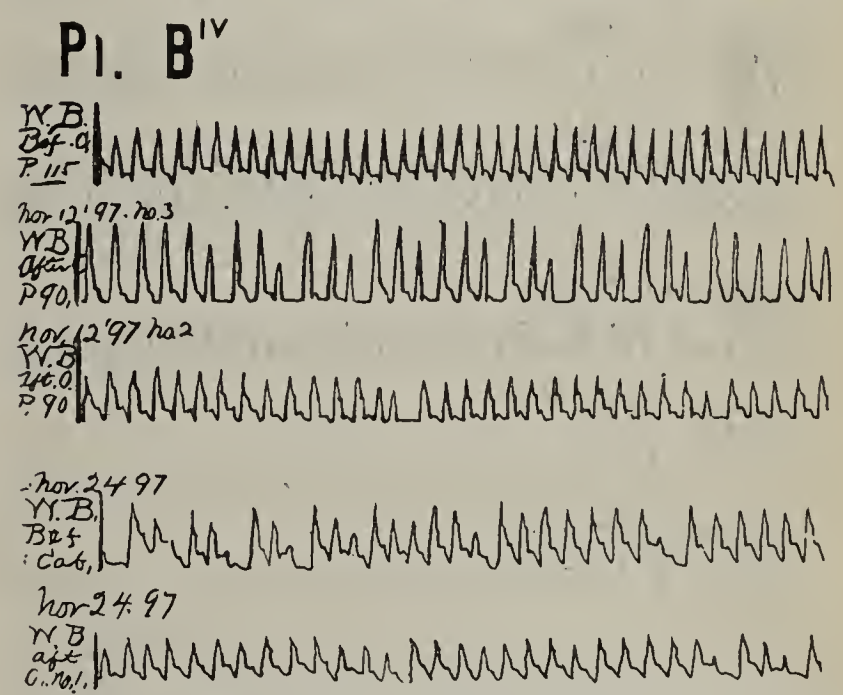


fourth, taken the next day before treatment, indicates, by comparison with the first, the persistence of that relief. It is seen that while the tension has returned in part, it has not reached its previous degree. The last, taken after treatment this day, shows how at times the treatment apparently has but little immediate effect upon tension while affording marked relief to subjective symptoms.

That the effect was there in this case, at least, appears from Plate C[1], of which the first pair were taken before and after treatment on the fourth, the second pair on the fifth, and the last on the twenty-fifth day from the beginning of treatment. For the first week treatment was given daily, afterwards three times a week.

This plate shows the practical permanency of the effect on tension, and, with the statement that soon afterwards the patient insisted on leaving the hospital and going to work, affords unanswerable proof of the power of pneumatic differentiation to control the circulation.

Case B.—Male, 36; lawyer; single. Seven years ago, in 1885, he suffered from a most severe attack of endocarditis and aortitis. Such recovery as he made was gained only after nine months' absolute rest, most of the time in bed, and left him with an extensive aortic insufficiency but poorly compensated. On returning to town he attempted to continue his profession by limiting himself to office work, but the interruptions, at times of several months' duration, incident to recurring attacks of acute dilatation, soon forced him to relinquish even that. He retired to the country where, largely by accident, he became interested in what has proven an immense enterprise. This he was able to carry in its earlier stages because the work could be made to await his ability to do it. As the demands on his strength increased and became more imperative, however, the attacks of heart failure returned with increasing frequency and severity until, just as he was preparing to give up, he was prostrated by an unusually severe attack, and I was first called to attend him. This was seven years after his first attack, during which time he had been constantly under medical supervison. He presented all the symptoms and signs of extreme acute dilatation following aortic insufficiency. The pulse was intermittent, irregular and uneven to an extreme degree. The heart gave loud double aortic and systolic mitral murmurs. He could not lie down and even in the erect position angina was severe and persistent, while the throbbing in his head was even worse. He had learned by sad experience that digitalis only increased the former as did nitroglycerin the latter. My mental prognosis was death at any moment. At the end of about two weeks, however, under aconite, morphia and quinin, he was able to walk about his room without exciting serious increase



of cardiac irregularity. A few days later, Dec. 23, 1892, he received his first treatment by pneumatic differentiation. This was given daily for the first two months or so and then daily when he happened to be in town, which varied from two days to two weeks at a time, with intervals of from a day to a month at a time, during which he had no treatment. To summarize results and the history of the past nine years: Before the end of January, 1893, i. e., within less than six weeks, he resumed his business, which he has continued until the present moment, despite constantly increasing burdens, with but a single relapse. For three years he took practically no vacation, but in the spring of 1896, after a winter of unusual business strain, he asked permission to take a rest by a trip abroad, to which hesitating consent was given. Although the voyage was smooth he suffered, contrary to his habit, from seasickness. By the time he reached London he felt the warning headache and called a physician, who at once put him to bed.

On recovery he consulted, at my request, Dr. A. Ernest Sanson. By permission I quote from letters of Dr. Sanson and the attending physician, Dr. Edwards. The latter says: "Mr. B. came under my care on April 26. He had a very threatening attack of heart failure, with intermittent systole at frequent intervals, often every third or fourth beat. Obvious

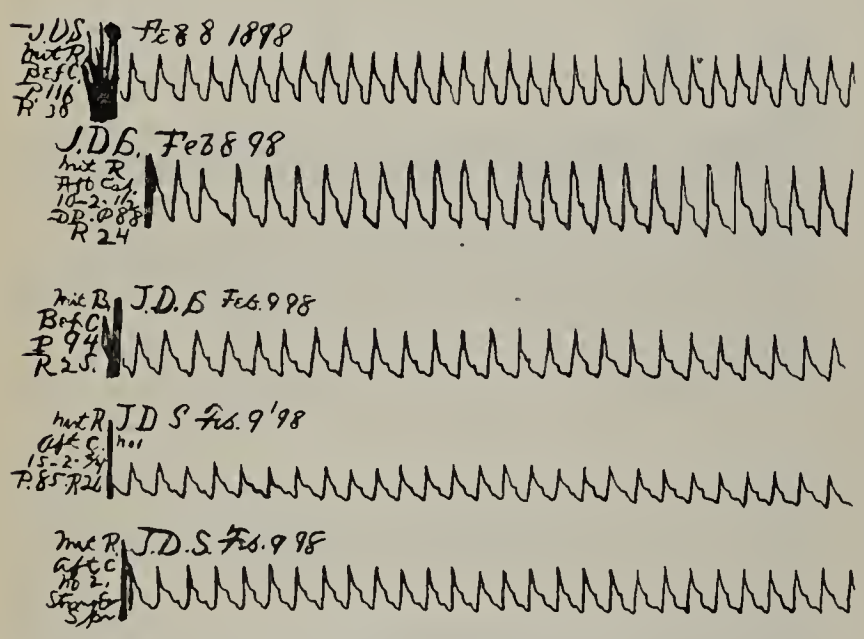
evidence of aortic and mitral disease with constant regurgitation at the mitral, and regurgitation at all kinds of pressure on the aortic valves. He has, of course, a heart which is permanently infirm and will at all times be gravely worsened by anxiety, worry or overwork."

Dr. Sanson says: "May 19, 1896. I have to-day examined your patient. . . . I find evidence of hypertrophied left ventricle, some dilatation and hypertrophy of the right chambers, a fusiform dilatation of aorta and abundant signs of obstruction and incompetency at the aortic valve orifice." And later: "February 27, 1898. I can only say that Mr. B. presented the signs of very grave aortic valve disease with consecutive changes in the heart so that the left ventricle had dilated to the production of the systolic murmur of mitral incompetency."

The patient reached home the last of May. Within a week he resumed his business and by the end of September both his systolic murmurs had disappeared, not to return since.

Turning to the tracings in this case, which, unfortunately, were not begun until 1897, Plate B² gives two instructive sets of three each. In each set the first tracing is taken just before, the second just after treatment, and the third ten minutes later. The first set is an excellent illustration of immediate tension reduction, shown in the second tracing, and of strong heart reaction in taking up the circulation at a higher tension, as evi-

Pl. E



denced by the third tracing in comparison with the first. The second set shows less immediate effect from the treatment, yet even here the development of a recoil wave and the elevation of the arterial notch are clearly seen.

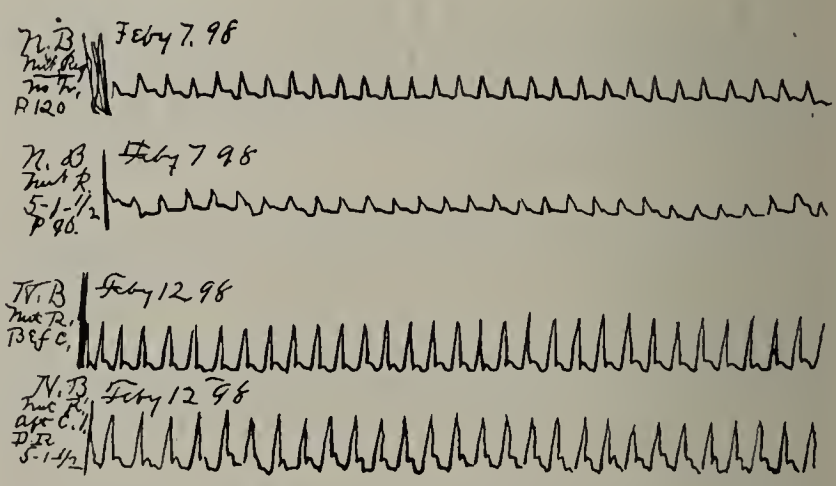
Further illustration of immediate tension reduction is given in the first set of Plate B⁴. Here the first tracing shows a very different condition of arterial tension before treatment, bordering on that of mitral regurgitation, and indicates relative arterial contraction and a weak or tired heart action. The immediate effect of treatment, shown in the second tracing, was to dilate the arteries, reducing arterial tension, whereby the systolic wave is accentuated and the unevenness of the ventricular force made apparent in the irregularity of the systolic wave. The full effect of treatment appears in the third, where the heart has again taken up the circulation. The recoil wave, entirely wanting in the first, now shows the firmness with which the ventricle completes the systole, and the arterial wave, carried higher with more uniform curve, shows, as does the lower systolic wave, the restoration of normal tension with a ventricle capable of meeting it.

The last two tracings give an instance of low tension and uneven systole before treatment with recovery of ventricular force manifest in the first tracing after coming from the cabinet, which means in most cases about five minutes.

The extent of the relief given the heart by twenty minutes' treatment, as manifested in restoration of functional power so plainly shown in these and other tracings, can be no greater surprise to others than it was to myself at first. It is made more believable when we recall that the heart muscle secures its nutrition during the brief periods of diastolic relaxation, and that in pneumatic differentiation both the systolic strain and diastolic stretching, the prime cause of dilatation, are entirely removed.

This patient has taken no drug for his heart during the past nine years, save that on a few occasions, when called upon to make a public address or plead a case before government officials, he has used small prophylactic doses of strophanthus or cactus, unless iron be considered a drug. The effect of pneumatic differentiation on the assimilation of iron, in this case alone, affords conclusive proof of the claims as to its influence on systemic nutrition. During the first seven years of his illness repeated attempts to take iron in daily doses of nine grains of Blaud's pill invariably resulted within two or three weeks in such severe headache as to compel their abandonment. Some three or four weeks after beginning treatment by pneumatic differentiation he started with the same amount (9 grains) daily, increas-

Pl. G



ing to 45 grains per day within two weeks. That amount he has taken for months at a time ever since. During the first few years he never omitted it for more than a week or two, and in all the nine years he has had but one recurrence of the headache, when he had taken this amount for some two months without any cabinet treatment.

We have already explained why the relief can not be as permanent in mitral regurgitation as in the aortic lesion. It is often, however, quite as immediate and decided and as gratefully appreciated by the right as the left ventricle.

CASE E.—Male, 35; uncomplicated mitral regurgitation of rheumatic origin. The tracings in this case (Plate E), by themselves neither suggest cardiac disease nor indicate any particular effect from the treatment. But the pulse rate of 116 and respiration of 30 on the first, tell the story of pulmonary oppression in a way that emphasizes the pulse of 88 and respiration of 24 on the second, a reduction of 28 in the pulse and 6 in respiration, as evidence of what pneumatic differentiation can do for mitral incompetency. Moreover, this reduction with its commensurate subjective relief, was not only maintained until the next treatment, although the patient came from a distance, but was slightly increased by subsequent treatment so that at the end of a month the patient

was considering the resumption of his business as a grocer, when a severe attack of acute rheumatism withdrew him from observation.

Case G.—Male, 54, had also simple mitral incompetency, although for several years it had been called chronic bronchitis. This patient had suffered for many years from a slowly progressive dyspnea, yet was surprised to learn that he had any heart trouble.

In Case E the tracings show as perfect compensation as is possible with this lesion; but in Plate G the first pair indicate most plainly the stage of force failure, slowing circulation and secondary arterial contraction. The effect of the first treatment is apparent in the second tracing of the first pair only by a slight improvement in the arterial wave, but the reduction of pulse rate from 120 to 96 by this single treatment is quite as striking as in Case E.

Of the second pair, taken five days later, the first compared with the first of the other pair, measures the permanent results gained in this time, unquestionably through improved nutrition, while the second gives evidence in the arterial wave of a slight immediate effect upon tension.

To our mind these tracings from Cases E and G afford conclusive proof of the claims as to the effect of pneumatic differentiation in augmenting blood flow, and the relation of such increase to tissue nutrition and reflex arterial tension.

In summary, therefore, we claim to have shown:

1. From the physical standpoint, (a) that any agent which decreases vascular tension and coincidently maintains or increases nutrition throughout the entire system, and only such an agent, is an ideal therapeutic measure in organic cardiac disease; (b) that pneumatic differentiation lowers vascular tension, increases blood flow, and coincidently increases nutrition; (c) that it is applicable to the pathic conditions of valvular lesions.

2. Clinical results prove the accuracy of the foregoing propositions and establish the power of this measure to neutralize the injurious effects of organic cardiac disease more quickly, fully and permanently than can any other known agent.

ACUTE INTESTINAL OBSTRUCTION.

REPORT OF A RARE CASE OF PROBABLE SYPHILITIC ORIGIN.

CLARENCE L. WHEATON, M.D.

Formerly Assistant to the Clinic Diseases of Women, Chicago Policlinic; Formerly Attending Physician to the Out-door Free Dispensary, St. Joseph's Hospital, Chicago, and Clinical Associate in Gynecology, Denver College of Medicine.

DENVER, COLO.

No graver condition to which the human subject occasionally falls a victim will ever confront the practitioner of medicine than acute intestinal obstruction. His resources, medical and surgical, will be taxed to their utmost. Should it be the reduction of an invagination, the untwisting of a volvulus, severing adhesive bands, intestinal resection and end-to-end anastomosis, enteroplasty or enterotomy, in fact resorting to any surgical procedure for the relief of the existing condition, the high mortality from all these essentially capital operations renders this subject one well worthy of our consideration.

The usual causes of obstruction in the alimentary canal, while familiar to us all, may with propriety be recalled, as follows: Impaction of fecal matter, foreign bodies in the canal, intussusception, volvulus, constriction by bands usually following a peritonitis, openings in the omentum or mesentery through which the intestine falls and becomes constricted, diverticula, neoplasms, stricture and hernia. Grund, Saurel, Soepp and Wyeth have reported cases of obstruction due to lumbricoid worms.

Obstruction due to fecal impaction usually gives the history of a tumor mass slowly appearing; on palpation the mass is freely movable and can be molded between the fingers, the cecum and colon are the usual sites of involvement; in this form of obstruction, the sigmoid flexure follows next in frequency. Obstruction of this type is not usually followed by morbid signs indicative of a serious condition—the vomiting, pain and tenderness on pressure. The accompanying shock so frequently seen in obstruction due to other causes is here usually absent, and if present at all in cases of an extreme degree it is usually one of the last symptoms to appear. This type of obstruction, as would naturally be supposed, is the most amenable to treatment and consequently the least dangerous.

Foreign bodies found in the intestinal tract excluding enteroliths, although they may be the nucleus for enterolith formation, usually gain entrance through the stomach. Dennis quotes the following facts from 51 autopsies: In 33 there was evidence that there had been or that there was a fistula established between the gall-bladder and the duodenum of sufficient size to allow the passage of the stone. In 3 cases the common bile duct had been dilated sufficiently large to admit a finger, there being no fistula present. In one case reported there was a gall-bladder stomach fistula, and in one a gall-bladder colon fistula.

The exact location of the impacted calculus has been determined in 83 cases, showing the lower ileum involved 50 times and the jejunum 13 times.

Intussusception or the telescoping of one portion of the bowel into another is usually met with in infancy.

Holt reported 385 cases under three years of age, 28 under four months, 113 between four and six months, 71 between seven and nine months, 18 between ten and twelve months, 32 between one and two years, 96 between two and ten years. Three-fourths of all the cases reported occurred in children during the first two years of life.

Bands of cicatricial tissue following an acute or chronic peritonitis are at times predisposing if not active etiologic factors in obstruction.

Hernia excepted, obstruction by cords and bands is the most frequent of all types; 35 per cent. of Leichtenstern's cases were of this type. Malignant growths, while they ultimately result in acute obstruction, are the most frequent cause of the so-called chronic type of obstruction. Columnar-celled carcinoma is pathologically the type of cancer met with; sarcoma, while uncommon, has been found in the small intestine.

Bessel Hagen reported a case of primary sarcoma involving the jejunum. Jalland reported a case of sarcoma of the small intestine; Modling collected 14 cases. Cancerous strictures are frequently situated at the sigmoid flexure, next in frequency at the ileo-cecal valve and rarely at the splenic and hepatic flexures.

Leichtenstern, in 1134 hospital cases excluding hernia and malignant diseases, has shown that one death in every three, or 500 cases, is due to intestinal obstruction in some form. Fagge in 4000 autopsies reports 54 deaths from intestinal obstruction.

True intestinal concretions, according to Leichtenstern, occur in less than 2 per cent. of cases; in 1153 cases of obstruction he found 41 caused by gallstones. Courvoisier reported 131 cases of obstruction from this

cause, Trever 30, and Wisnig 50. Dennis reported 149 cases of intestinal obstruction due to gallstones and enteroliths, of which 133 were the former and 16 the latter.

In the pre-anesthetic days the mortality in operation for the relief of intestinal obstruction is quoted at 75 per cent.; since the days of anesthesia Senn quotes the mortality at 58 per cent.

Curtis reported 328 cases operated since 1873 with a mortality of 68 per cent.; 101 cases were operated with the patient moribund. In 45 of Curtis' cases there was excision and suture with a mortality of 86 per cent.; in 190 cases in which the constriction was merely relieved he reported a mortality of 57 per cent.

The treatment, except in some cases of intussusception and of fecal impaction, is purely surgical and needs no discussion here.

From the somewhat extensive perusal of the literature I am unable to find any reports of cases similar to the one herewith presented, which occurred recently in my practice. The unexpected complication and the non-malignant nature of the growth found at the sigmoid flexure make the case one of interest.

I was called in consultation with Dr. W. L. Keller, of the Army, to see Mrs. H., aged 31. She compained of pain and tenderness over entire abdomen; menstruation was profuse and irregular; nausea and vomiting present to a slight degree; temperature at time of first examination was 99, pulse small and with little tension.

On inspection the face presented a somewhat drawn and anxious expression; abdomen was slightly distended and tympanitic. On palpation a tumor mass the size of a child's head could be easily outlined, at a point corresponding to the fundus of the uterus. Vaginal examination revealed the presence of a mass occupying the pelvic outlet and well down in the vagina. Diagnosis: myomata of uterus. The patient was referred to hospital for operation, and Dr. W. A. Jayne, of Denver, was called in consultation. After 24 hours in the hospital the patient said that her bowels had not moved for six days, and that previous to this time her evacuations had been scanty. There was no previous history of diarrhea; cathartics were freely resorted to in our efforts to move the bowels. Thirty-six hours after entrance to the hospital the abdomen became markedly distended and tympanitic; colicy pain and tenderness existed over entire abdomen; nausea and vomiting now became a prominent symptom and the vomiting so pronounced that everything taken into stomach was rejected. Repeated high enemas failed to move bowels.

The diagnosis of complete obstruction was made and the patient operated on by Dr. Jayne and myself. Median abdominal incision was made. The intestines were enormously distended with gas, and only after numerous punctures to eliminate the gas could they be manipulated. A thin serous fluid escaped from the peritoneal cavity, the walls of the intestines were acutely inflamed and there was every evidence of a beginning peritonitis. The myoma of the uterus was plainly visible. At the site of the sigmoid there was a mass about 3¼x2 inches, which involved the gut and produced complete occlusion of its lumen.

The tumor was with difficulty resected, owing to the extensive adhesions to surrounding structures. End-to-end anastomosis performed by means of Murphy's button; the abdomen was then closed in the usual manner. Forty-eight hours after operation the patient died; postmortem examination revealed the presence of a leak at the site of button.

The pathological examination of specimen as given by Dr. Wilder, pathologist to St. Luke's Hospital, is as follows: Sections made from the tumor of sigmoid flexure, which was submitted for examination, show the growth to consist entirely of a mass of rather dense fibrous tissue containing a few blood vessels. The latter having well developed walls. I find no evidence of either tubercle or of malignant changes.

MODIFIED TREATMENT OF TYPHOID FEVER.

T. B. GREENLEY, M.D.
MEADOW LAWN, KY.

The treatment of typhoid fever might be termed a hackneyed subject, but as it is a prevalent disease in many sections of the country, and there seems to be no settled mode of treatment, I regarded myself at liberty to try something new in its management. As it is usually a protracted disease, anything that we can use safely in its treatment, by which its extent can be shortened, I regard as legitimate.

Some say: Treat the patient instead of the disease, while others say: Watch and treat symptoms as they arise; others again contend that diet is the main thing in its control. I am of the opinion that we must, to some extent, pay attention to all these considerations, and at the same time not neglect the mind and pleasant surroundings.

As far as I am individually concerned, I have had but few cases of the disease coming under my control for several years. The plan of treatment I have recently adopted, as it pertains to therapeutics, has been confined to only some three cases of recent occurrence. The first and third of these cases were very short in duration, only continuing eight days from the time I first saw them. The third patient had been complaining about a week, and his father, thinking he had malaria, had given him quinin and laxatives. The second case was of longer duration, partly due to neglect in the way of nursing as well as diet. When called to see this patient I found him alone in his room, and had to get some of the neighbors to attend him and give the medicine. He had poor attention during his illness.

In these cases, when the fever was above 102 F., I increased the quantity of medicine, say one grain each of quinin and acetanilid, but did not shorten the intervals; but when the patient was asleep and resting quietly, I prolonged the intervals of giving the medicine. I regard rest, quietude and sleep of great advantage in the treatment of typhoid fever. This is why I dislike the Woodbridge plan of frequent doses.

Should the temperature resist antipyretic effects of the medicine I have the surface sponged with tepid water, which is quite soothing to the patient and keeps the skin in good condition. It is more convenient and more pleasant than the cold bath.

It has been a rule with me for many years, in the treatment of typhoid fever, to administer small doses of turpentine in cases troubled with tympanites. It not only relieves the tension of the bowels by expelling the gas, but acts as an antiseptic. I have had little trouble with diarrhea in this disease for years, and entertain the opinion that turpentine acts as a preventive. Another benefit we may derive from the use of turpentine is its prophylactic action against hemorrhage, either from the nose or bowels.

I am greatly in favor of milk, given as patients call for it, but in some cases it may be necessary to urge them to take it. I also allow them to have oatmeal mush, with sugar and cream, several times a day. Now and then we find a patient who dislikes sweet milk, but prefers buttermilk, freshly churned. I find no objections to the latter, as it contains the same elements as the sweet milk that has been skimmed; they both contain the fat and muscle-making principles, namely, hydrocarbon and casein. Should sweet milk curd on the stomach, a little soda or lime water will prevent it.

Milk may, by way of change, be alternated with soups of different kinds. It is very essential, in the

convalescent stage of the disease, to watch the patient, both as to diet and muscular over-exertion. I have lost some three patients from imprudence in these particulars after they were dismissed.

One reason why I think quinin a proper remedy in the present type of typhoid fever is the fact that it occurs during the malarial season of the year. When I commenced the practice of medicine in 1845, and up to 1875 I only met with winter and spring typhoid, and did not think it necessary to give quinin. The first case of summer or fall typhoid I ever saw was in the fall of 1875, when I had an introduction to it of six cases at the same house. They fortunately all recovered. The old-time winter typhoid was generally attended with symptomatic eruption. We also expected a week or ten days of what is called the nervous stage.

In the fall and summer typhoid fever, we usually find the pulse much slower than it was in the old winter typhoid, as well as in remittent fever. This is one of the distinctive characteristics of identity between the summer or fall typhoid and the latter disease.

My reason for the use of acetanilid with quinin is that it has a soothing and quieting effect and prevents the possible irritating effects of the latter on the nervous system. It also, to some extent, acts as an antipyretic. I have not observed any depressing effects of acetanilid on the heart. It is always well to increase or diminish the dose according to amount of temperature.

MEDICATION OF THE RESPIRATORY TRACT BY ANTISEPTIC NEBULÆ.

HOMER M. THOMAS, A.M., M.D.
CHICAGO.

The antiseptic value of nebulæ in the treatment of diseases of the respiratory tract is well recognized by the profession. How to administer them in sufficient strength and quantity to control respiratory septic processes has been the problem. If administered by the stomach in suitable strength and quantity to sufficiently saturate the lungs, as a rule the stomach and lower alimentary tract is so irritated that digestive functions are greatly deranged, hence Nature's method of controlling these processes by vital resistance is much impaired; if introduced directly into the lungs by a parenchymatous injection, so much irritation is produced that an exudate is thrown out which occludes the finer air passages and prevents the introduction of the medicaments; therefore, the normal method of reaching these septic processes is by combining in a respirable form antiseptic nebulæ.

There are many mechanical methods for the introduction of antiseptic nebulæ into the respiratory passages. These vary from the single hand-bulb nebulizer on up to the elaborate mechanisms found in the efficiently equipped offices of the modern medical men. The problem in this form of treatment has been to provide an efficient mechanism for home treatment by patients. For, with the thorough measures of treatment instituted in our offices to be supplemented by the patient's home use of remedies under the guidance of the physician is to reach the most effective results from this form of treatment.

In this connection I may state that I have found a new device, Benson's Home Nebulizer, very satisfactory for the individual use of patients. The accompanying cut makes any extended description unnecessary. This apparatus is compact, portable, inexpensive, and of considerable capacity for complete lung inflation. Its practically steady current of compressed air is filtered and antisepticized before performing its nebulizing duties proper.

As to the formulæ valuable for use in antiseptic nebulæ, the experience of the physician as to the specific case must necessarily be determined largely by his own judgment.

My personal preference has been in favor of simpler rather than complex mixtures. I seldom combine more than one antiseptic in a given mixture. The best vehicle with which to combine an antiseptic is the commercial preparations of the liquid hydrocarbons. In a 4-ounce mixture of oleum petrolati I frequently add 30 drops of the chemically pure oil of wintergreen, for use in cases of slight catarrhal bronchitis. Merck's oil of cloves in the proportion of 40 drops to 4 ounces of the vehicle is very useful in cases of subacute bronchitis. One of the most delightful as well as soothing nebulæ consists of the imported chemically pure oil of pine needles in the proportion of 50 drops to 4 ounces of the vehicle where there exists acute catarrhal coryza of the respiratory tract.

The above will readily suggest to the physician the general scope and character of the large number of remedial agencies from which to choose. Formulæ containing cocain muriate with gum camphor will do much toward allaying the discomfort in tonsillitis. Mixtures can be made up containing iodin crystals, beechwood creosote and oil of tar for laryngeal and pulmonary tuberculosis, and so on through the wide range of efficient antiseptics at our command. I believe the chances of successfully coping with respiratory disease are greatly enhanced by general adoption of the inhalation method.

Trauma in the Etiology of Infectious Cerebral Affections.—Ehrnrooth of Helsingfors had occasion to treat two cases of infectious brain affections which developed consecutive to a contusion of the skull, without solution of continuity. He produced a similar contusion on the skulls of 167 rabbits, and inoculated 90 with streptococci, 16 with staphylococci and 11 with pneumococci. More than 63 per cent. of those inoculated with the pneumococci, 56 of those inoculated with staphylococci and 54 per cent. of those inoculated with streptococci died with evidences of an infectious process in the brain. Of the 50 animals infected, but without trauma, only 9 showed traces of an infectious process in the brain. The contusion therefore must have afforded a favorable place for the colonization of the bacteria in the blood, even in the absence of any lesion of the skin or meninges.—*Nord. Med. Ark.*, February 6, 1902.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, MARCH 15, 1902.

SYMPTOMATOLOGY OF LESIONS OF THE PREFRONTAL LOBE.

The diagnosis of tumor of the brain may be easy or difficult, in accordance with the situation and the mode of growth of the neoplasm. The difficulties are greatest when it is situated in the so-called silent or latent areas of the brain, but invasion even of these often gives rise, as increasing experience is showing, to characteristic symptoms, whose significance we are only beginning to appreciate. This is particularly true of the prefrontal lobe, lesions of which, while usually unattended with motor manifestations, give rise to peculiar mental disturbances. These consist in loss of self-control and a subsequent change in character, with errors in judgment and reasoning. There is inability to fix the attention, to follow a continuous train of thought or to conduct intellectual processes. Sometimes also the gait is staggering, like that of cerebellar disease.

A case illustrating the localizing value of the symptom-complex under consideration and in which operation was successfully undertaken by reason of the correctness of the diagnosis is recorded by Drs. William Elder and Alex Miles.[1] The patient was a man, 47 years old, who five months before the coming under observation began to suffer from pain, at first in the back of the head, but soon afterward referred to the left frontal region, where it subsequently remained localized. Early in the illness the left side of the forehead and face became swollen to such an extent as to close the left eye and during the continuance of this swelling the pain in the head was lessened. After about four weeks, while the patient was taking some medicine, probably potassium iodid, the swelling began to disappear gradually. Vomiting of cerebral type—without relation to food or other apparent cause—took place occasionally.

In the further progress of the case the patient became depressed, refused to leave his bed and would not speak to his wife. He sometimes refused to take food, although his appetite appeared to be normal. His memory became impaired, especially for recent events. He became unduly emotional and wept on slight provocation. He seemed to lose all sense of decency and shame, exposing his person unduly and needlessly. He suffered from incontinence of urine and later also from rectal incontinence, not apparently because of weakness of the sphincters, but from a loss of the sense of propriety. At times he failed to recognize his surroundings. There was now marked pain in the left frontal region and a swelling appeared over the left frontal eminence.

On admission to the hospital the man was found to be sleepy, dull and apathetic, and he could be roused only with difficulty by pricking or shaking or a sharp question. When awakened, he yawned frequently. Hearing seemed to be normal. Responses to questions were correctly expressed, but were made more slowly than normal. The patient was unable to sustain his attention for any length of time. Lack of judgment was a marked feature of the mental condition. There was no aphasia, but a slight degree of dysarthria. There was slight paresis of the lower part of the right side of the face and the right upper extremity. The plantar and patellar reflexes were preserved, but not exaggerated, although there was ankle clonus. The man walked without difficulty, and co-ordination appeared preserved, although the wife stated that he staggered on suddenly getting up out of bed, but he did not complain of giddiness. There was for a time no pain in the left frontal region unless the skull were percussed, but later tenderness on pressure was appreciable over the small round swelling in this situation, which evidently arose from the bone and was soft at the center. In the right frontal region was a small depressed cicatrix resulting from an abscess that had been opened three years previously and had followed a blow in that situation four years earlier. Examination of the blood disclosed a slight reduction in the number of red corpuscles and in the percentage of hemoglobin, but no increase in the number of leucocytes. The left eye had been disorganized by smallpox and vision in it was completely wanting. In the right eye vision was still good, and the pupil was slightly contracted, although it reacted to light. On ophthalmoscopic examination the fundus of this eye exhibited some blurring of the edges of the disc, with some dilatation of the veins. No history of syphilis could be obtained, although the wife had had three miscarriages and had borne four living children.

The condition of the patient grew progressively worse, despite active treatment with mercury and iodin. The presence of a new growth being suspected, operation was undertaken. A small area of caries was found on the surface of the left frontal eminence, which was separated from the scalp by cheesy débris. On introducing a finger, after removal of a disc of bone and incising the dura mater, a firm nodular mass was detected occupying the tip of the frontal lobe. This proved to be a definitely circumscribed tumor, with a thin covering of cortex. It was easily shelled out, without causing hemorrhage, and the cavity left was immediately filled by bulging brain-tissue. The wound was closed and the patient progressed to speedy recovery. The growth presented the histologic structure of a syphiloma.

This case is an admirable illustration of the precision in diagnosis that can be attained by careful study of

1. Lancet, February 8, p. 363.

symptoms and history and of the successful results that can be accomplished by prompt and intelligent surgical intervention. The number of cases in which a like result has been obtained is not large, principally because even when a new-growth is correctly diagnosed and located it is often so situated as to be insusceptible of removal.

ARSENIC AS A NORMAL CONSTITUENT OF TISSUES.

Gautier's discovery that minute quantities of arsenic can be detected in perfectly normal tissues of human beings who have not taken arsenic knowingly, has attracted much attention, especially because of the short time that had elapsed since Baumann's discovery of iodin in the thyroid. The interesting deductions that Gautier made, also did much to arrest attention. Briefly, Gautier's[1] results were as follows: By using 100 grams or more of the substance to be tested minute quantities of arsenic could be detected in many tissues. The thyroid gland contained the most, about 0.75 milligram per 100 grams. Next to that came the mammary gland, with 0.13 mg. The brain contains variable quantities, usually more than the thymus, which in turn contains more than the skin and its appendages in which traces are constant. A great many other tissues that were examined showed no arsenic, among which was the hypophysis, strangely enough considering its relation to the thyroid. This arsenic seemed to exist along with iodin in the nucleo-proteid of the thyroid; perhaps substituted for phosphorus in this proteid.

There is so little arsenic in the tissues that it is not of medicolegal importance, especially since it could not be found in the large organs that generally are examined. Even if decomposition should cause the arsenic of the thyroid and skin to be dispersed throughout the body the amount would still be too small to be detected.

But most interesting of all Gautier's results, was the finding of a considerable amount of arsenic in menstrual blood. An average of 0.28 mg. of arsenic was found per kilogram of blood, from five healthy women. Gautier points to the fact that the total amount of arsenic eliminated in this way corresponds quite closely to the amount he found in the normal thyroid. This led to an examination of menstrual blood by Bourcet for iodin, which he found present in the proportion of 0.90 mg. per kilogram, whereas normal blood contains but .025 mg. The evident relation between the thyroid and sexual functions being well known, Gautier considers these findings as corroborative of his assumption of a relation between iodin proteid and arsenic proteid. The great loss of arsenic that thus occurs monthly led him into remarkable channels of speculation. He had found no arsenic in the ordinary excretions, although it was obviously being ingested both in proteid foods and also in certain vegetables which have been shown to contain this element. Therefore, he concluded that the normal channel of elimination was by the desquamation of the superficial epidermis and the loss of dermal appendages. By a characteristically Gallic flitting into comparative anatomy, physiology and psychology he arrives at these striking conclusions: Arsenic nucleo-proteid ordinarily goes to supply material and stimulus for growth of the skin and its appendages. In the female during menstruation it is diverted to the organs of generation where it provides for the development of fetal tissues if impregnation has occurred, or else is cast off in the menstrual blood. It is because of this disposal of the arsenic that in the female the hair ceases to be produced after puberty. The male not losing his arsenic in this way continues to grow hair, and removes his arsenic by cutting the hair, shaving, and desquamating! He cites instances among lower animals in which the hair or feathers or corresponding dermal growths increase until the season of rut, then the arsenic being diverted to the generative organs the nourishment of these appendages is lowered and they are cast off, or molted.

In fact, Gautier's train of logic is so pleasing, his comparisons so apt, that it is with a feeling akin to regret that one learns that Cerny,[2] who has repeated part of Gautier's work, has failed to corroborate it completely. Cerny found only most minute traces of arsenic, at most .01 mg. per kilogram, in the thyroid, and that not constantly. Furthermore, he found almost as much in the liver, where Gautier did not find any. He states that the presence of these minimal amounts of arsenic is not surprising, in view of the wide distribution of arsenic in nature, and the general use of arsenic in the industries. He concludes that the amount of arsenic is too small and too inconstant to play any physiologic rôle, and is at a loss to explain the differences between his results and those of the French observer.

ETIOLOGY OF CARCINOMA.

Fuetterer deals interestingly, in an original article in this issue, with one phase of the cancer question, namely, the frequency with which benign ulcers of the stomach are transformed into carcinomata. Moreover, he believes that such change may take place in small and recent ulcers as well as in large chronic ones, and cites instances. Furthermore, he thinks that the degenerative changes first occur in the edges of the ulcer, rather than at its base. There is no doubt, as he says, that the constant irritation to which gastric ulcers are exposed, especially those near the pylorus, strongly predisposes them to undergo malignant degeneration. This is an important statement, and is undoubtedly true; since, according to the best authorities, practically three-fourths of all gastric ulcers are at or near the pylorus, occupying the constricted segment of the stomach rather than its expanded portion, or larger segment. So careful a man as Hauser estimated that 6 per cent. of gastric ulcers ultimately became carcinomata, and many others have taken a far more pessi-

1 Comptes Rendus, Académie des Sciences, Tome 129, 130, 131.

2. Zeit. f. Physiol. Chemie, 1902, xxxiv, 408.

mistic view of the possibilities; Doyen, for instance. Even the optimistic Leube maintains that if medical treatment of gastric ulcer has failed after four or five weeks' trial, it is not likely to be successful. Kocher agrees with this opinion, and therefore rightly insists, from the surgeon's standpoint, that such cases should be promptly operated on. Chronicity, especially in those past 40, is to be looked upon with suspicion, for it may indicate incipient carcinoma. Now, that gastric ulcer is generally regarded as a disease that may be operable on account of adhesions, hemorrhage, perforation, cancerous change, etc., more accurate information concerning it will soon be forthcoming. There can, however, be little doubt that the stomach is sharing in the gain made by carcinoma in its encroachments upon all organs and portions of the body. It has fortunately been shown by Mayo Robson, William Mayo, W. W. Keen, and others, that the stomach is very tolerant of operative interference, and is an especially inviting field to surgeons. The cases reported and collected by Fuetterer call attention to this fact, perhaps the most important one in connection with gastric ulcer, that chronicity or failure to heal promptly, under suitable medical treatment, should be met by consultation with a modern surgeon fully alive to the possibilities of judicious surgery. Partial gastrectomy is a comparatively safe procedure, as was shown by Rodman, who collected all such cases operated on prior to 1900 and reported them in a paper read before the American Surgical Association at Washington. Eighty-five per cent. of pylorectomies, partial gastrectomies or excisions recovered fully. If we exclude cases operated on prior to the past decennium—before the perfection of aseptic technique—the mortality is materially lessened.

That gastric ulcers not infrequently undergo malignancy, is additional evidence in support of the theory of mechanical irritation, so largely adopted by authors as the chief etiological factor in producing carcinoma. It will be found that throughout the gastro-intestinal tract that points of constriction, irritation or both, as the lips, tongue, esophagus, cardia, pylorus, ileocecal valve, appendix and rectum, most frequently suffer from carcinomata. Such is also true of the external parts and organs, as the mammary gland, penis, serotum of chimney sweeps, and arms of workers in paraffin. Such a cause may, it is true, only pave the way and prepare the soil for a germ which comes later, and finds tissues with their normal physiological resistance diminished, as is maintained by the adherents to the germ theory of carcinoma. There is much in the life history of carcinoma, its encroachments racial and geographic, its persistence in certain districts, localities, even certain houses, to strongly suggest a probable germ as its cause. Attractive as the theory of the parasitic origin of cancer is, it can not be said in fairness that a majority of authors or careful observers accept such teaching. The work of Gaylord and others, though commendable, is not conclusive.

While fully agreeing with Fuetterer and others who maintain that gastric ulcers undergo malignant transformation in a certain if not a large percentage of cases, still it is easy to be mistaken, and, therefore, one can not always conclude that a condition of malignancy exists because there are found adhesions, enlarged lymphatic glands, etc., at the time of operation. So good a man as Bidwell twice made such a mistake; thinking his cases cancerous he performed gastro-enterostomy as a palliative procedure and was surprised to find that both cases recovered fully and abidingly, the enlarged glands being evidently inflammatory in character. A large percentage of the cases of gastric ulcer thus far excised presented a condition closely resembling malignant disease. In separating adhesions, for instance, such surgeons as Billroth, Hofmeister, Klausner and Krogius have torn into the stomach, so great were the difficulties.

SOME INTERESTING QUESTIONS IN MALARIA.

The problems of malaria are not yet all solved by the recent advances in our knowledge regarding it. We know the parasite and in a general way its life history, and more important still we know how it is introduced into the human organism and how to avoid it. There are still, however, the puzzling facts of immunity and other questions that require solution. A suggestive article[1] has recently appeared from the pen of Dr. A. F. A. King, who it will be remembered was one of the earliest advocates of the theory of the agency of the mosquito in the transmission of malaria. In this recent paper he adduces facts that seem to him to indicate that the growth of the plasmodium in the blood is influenced by light. Among these are the infrequency of malarial paroxysms in the night hours, the relative immunity of the dark-skinned races, the favoring influence of bright sunny weather as opposed to cloudy weather on the occurrence of the attacks, the popular notion that shade prevents the attacks, and the fact that red light stimulates amebic growth, and that light transmitted through the blood must necessarily be red. The therapeutic suggestions, based on these ideas, are the keeping malarial patients in the dark, or deprived of red light; the use of white clothing with opaque black or purple linings, in the tropics, and the employment of drugs that darken the blood or lessen its translucency. If the rays from the violet end of the spectrum inhibit the growth and propagation of the malarial parasite, the use of Prussian blue (an old remedy) and more lately of methylene blue is explainable. Dr. King suggests that the fluorescent action of quinin intensifying the violet may explain its hitherto enigmatical specific action in malaria. Another vegetable product having this property is esculin and this has also been successfully employed as an antiperiodic. The paper is ingenious and suggestive rather than conclusive, but it deserves a place in the literature of malaria. Possibly the line of investigation it points out may be a profitable one and may add something of value to our knowledge of the pathologic conditions of malaria as well as to the resources for their prevention.

1. Am. Jour. Med. Sciences, February, 1902, p. 221.

DANGER OF INFECTION FROM CIGAR-CLIPPERS.

In these days of general microbiphobia, new perils to health and life are constantly unfolding themselves before our troubled visions. Some of these as given out are without question exaggerated and comparatively negligible; others, however, are worthy of some attention. The dangers from certain methods sometimes employed by cigar-makers were recognized long ago, even before the popular fear of germs had been aroused. The latest danger from this source is indicated, according to the newspapers, in a warning of the Chicago Board of Health, which pronounces the "mechanical cigar-clippers" in general use where cigars are sold a menace to the health of the community. It is a common practice for a smoker to moisten the tip of his cigar with saliva before inserting it into the clipping machine; he thus leaves whatever pathogenic germs his mouth can convey to infect the next comer. A continual series of such procedures can, it is easily imagined, make these little conveniences excessively dangerous disease-promoters. The most obvious and serious peril would, of course, be from venereal disease. A saloon frequenter with his mouth well supplied with mucous patches could be readily conceived to be a very effective disseminator of his disease, and without doubt some of the cases of extra-genital syphilis have originated in this way. There is a still further danger to be considered; the infected clippings are not thrown away or destroyed, but serve, at least in many cases, to meet the demand for tobacco in some other form, as cigaret or snuff material, which are other agents for spreading infection. Our pleasant vices are our scourges often enough, and it would be well that the malign possibilities of even the comparatively innocent habit of tobacco indulgence should be known and so far as possible avoided. If smokers would only employ their own clippers, even the primitive ones furnished by nature, they would escape at least one possible peril of the present day.

OCULAR DEFECTS AND HEADACHE.

Ophthalmologists probably sometimes magnify the effects produced by ocular errors of refraction, but it is certainly true that such refractive defects are responsible for a large proportion of headaches and for other reflex disturbances. In a recent article[1] George S. Hall of California states that very many of the neurasthenics who go across the continent in search of health have errors of refraction, which are the largest factor in their breakdowns, and he finds that a pair of spectacles often does what the climate will not for such persons. He also insists upon the deleterious effects of such defective eyes upon the general health of tuberculous patients. In opening the discussion upon headaches and their treatment at the 67th annual meeting of the British Medical Association, Lauder Brunton[2] said: "In all cases of headache the first thing to do is to examine the the teeth and see if any are decayed; next the eyes and see if there be any abnormality in them. The most common cause of headache is certainly some abnormality in the eyes." He considers two factors to be active in the production of headache: 1, a general condition with disordered or imperfect nutrition; 2, a local condition. The former condition renders the person liable to pain, the latter determines the location of the pain, and this determining factor is most often decayed teeth or defective eyes. In neurasthenic patients the general conditions are such that headaches may result from errors of refraction which in health would have caused no trouble. Such a headache, once established, may in itself further disturb the nervous equilibrium of the patient. In this class of cases the good effects of properly adjusted glasses, by relieving the patient of a disagreeable symptom, may be very great. This "ocular headache" must not be confused with the "neurasthenic headache," which is possibly toxic in origin and continues after every source of peripheral irritation has been removed. Neurasthenic headache is very intractable to treatment by drugs and a suitable climatic condition is of much value in bringing about a cure. In tuberculous patients ocular headaches may have a bad influence upon the general condition. The pain and discomfort bring about a depressed mental condition and there follows loss of appetite and indisposition to go out of doors with resulting bad effect upon the general health. A routine examination of the eyes of all neurasthenic patients is to be recommended, and in cases of chronic disease where ocular defects may be the cause of headache and other disturbances which have an unfavorable influence upon the patients, the possibility of learning something by the examination of the eyes which may be of value should not be forgotten.

1. The Ophthalmic Record, January, 1902, 27.
2. British Medical Journal, Nov. 4, 1899, 1241.

HOSPITALS FOR THE INSANE.

As the gloom of ignorance surrounding the nature of insanity has been gradually dissipated by the light of accumulating knowledge, more rational methods of treatment have found their way into practice. Insanity is no longer looked upon as a supernatural visitation, from which there is no escape and for which there is no preventive or remedy, but rather as a morbid state comparable to other disordered conditions of the body, having similar underlying causes and therefore amenable to analogous therapeutic measures. It is this modern scientific view that is responsible for the improvements in the treatment of the insane witnessed during the latter half of the century just ended. No longer is it deemed necessary to incarcerate such a patient and condemn him to a life of hopeless isolation and inactivity. Far more is to be gained, as a constantly increasing experience teaches, by placing him amid congenial surroundings, with only such restraint as to protect him from harm; by ministering to his wants in the same way as those of one ill from any other disease are attended to; and so soon as he is convalescent, by encouraging him to take such exercise and engage in such pursuits as are likely to contribute most to his well-being and increase his usefulness. In the same spirit the designation "Hospital for the Insane" has gradually replaced that of "Asylum," and a step further in progress in this direction has been taken by the board of trustees of the Butler Hospital at Providence, R. I., who, upon the suggestion of their far-seeing phy-

sician and superintendent, Dr. G. Alden Blumer, have decided to eliminate wholly from their official title the words "for the insane." As is properly pointed out in the last report of the hospital just issued, although the institution is devoted to the treatment of one special form of disease, this is not so distinct from other forms, either in etiology or in symptomatology, as is ordinarily believed. The institution aims to be truly a hospital and not merely a place of confinement or detention for irresponsible persons. There still exists among many people a notion that there is attached to those who are so unfortunate as to suffer from insanity some stigma that is accentuated by residence and treatment in a hospital, just as there lingers in some remote quarters a prejudice toward hospitals in general. The enlightened action of the trustees of the Butler Hospital can not be too highly commended and is deserving of general imitation. This would go far to correct the false views that exist in this connection and would give an impetus to the institutional treatment of cases of the kind at the earliest possible moment, for it must be admitted that, while in the abstract, there may be reasons why it would be desirable to conduct the treatment at home, few families can provide the facilities and the resources that are at command in a well equipped hospital.

Medical News.

ILLINOIS.

Dr. Shepard Promoted.—Dr. John L. Shepard, of Illinois, acting assistant surgeon, U. S. Army, has been made first lieutenant and assistant surgeon in the regular establishment.

Jacksonville Physicians Deplore Fenger's Death.—At a recent meeting of the Jacksonville Physicians' Club the following resolution was passed: Resolved, That, in the death of Dr. Christian Fenger, of Chicago, the medical profession has lost a member whom it delighted to honor; one whose work, like his life, was confined to no one land or tongue, but was as cosmopolitan as the fraternity he honored with his name; a great surgeon, pathologist and teacher; one of whom it might fittingly be written: *Doctores docuit.*

Disagreement in Marshall Case.—It looks as if Dr. James A. Marshall were to be made a political scapegoat. After a long trial, the board of managers of the Illinois State Reformatory, Pontiac, has passed the following resolutions:

WHEREAS, The board of managers of the Illinois State Reformatory as now constituted is unable to agree on a verdict in the matter of the investigation of the charges against Dr. James A. Marshall, and

WHEREAS, There is a vacancy existing on said board; therefore, be it

Resolved, That the president of said board be authorized to cite the said Dr. Marshall to a new hearing, and further

Resolved, That it is the desire of the board that the governor fill said vacancy.

Chicago.

Prevalence of Pneumonia.—Laboratory examinations show increasing numbers of the pneumococcus, and there is reason to apprehend another increase of this disease.

The Hospital of the Holy Family of Nazareth has given a trust deed to secure a loan of $50,000 for five years. The building is nearing completion and will have cost, when completed, about $400,000.

Honor for Dr. Murphy.—The Laetare medal, the highest honor in the gift of the University of Notre Dame and perhaps the most highly-prized honor that can be attained by a Catholic layman in America, has been conferred this year on Dr. John B. Murphy, of Chicago, in recognition of his merit as a Christian gentleman and his great work in medical science.

Hospital for Women.—The lay press announces that at a meeting of the alumnæ of the Northwestern University Woman's Medical School, it was decided to establish a hospital to perpetuate the memory of the school. The new hospital will be entirely under the management of alumnæ of the school. It is stated that no man can enter this hospital except as guest, janitor or patient. Among those who are taking an active part in the planning of the new hospital are Drs. Sarah Hackett Stevenson, Eliza H. Root, Effa V. Davis and Mary J. Kearsley.

Last Week's Mortality.—Last week's death rate, says the Health Department Bulletin, fell to nearly the normal for the season of the year. The 514 deaths recorded—120 fewer than during the previous week—furnish an annual rate of 14.72 per 1000, instead of 18.15 of the week ended March 1. This is a decrease of 18.8 per cent. and is only 4 per cent. higher than that of the corresponding week of last year. Except diphtheria, all the principal causes of death show a marked reduction. There is a 12.5 per cent. increase of diphtheria mortality since February 1 over the January mortality this year, and the commissioner is making increased effort to secure the prompt and more general use of the diphtheria antitoxin on this account.

MARYLAND.

Vital Statistics.—For the week ended March 8 the deaths in Baltimore were only 192 against 230 the previous week. Pneumonia caused 21 and consumption 23 deaths. The births were 356, the disproportion being accounted for by the fact that most physicians report births only at the end of the month.

For Cambridge Hospitals.—A delegation of citizens from Dorchester and other counties of the eastern shore is asking for the Cambridge Hospital an appropriation of $4000 a year, and also an additional appropriation of $5000 to be used in conjunction with a similar amount which has been agreed on by the County Commissioners, for the construction of a new building.

Appropriations for Medical Colleges.—A bill has been introduced in the legislature appropriating $15,000 annually for two years to be equally divided between the Baltimore Medical College, the University of Maryland and the College of Physicians and Surgeons. The Board of State Aid and Charities has strongly advised against such appropriations, and a fight over it is in prospect.

Baltimore.

Personals.—Dr. William Lee Howard will go abroad in May and spend most of the summer in Portugal.——Dr. Frank W. Smith has resigned as resident physician of the Hebrew Hospital and will enter in practice in Highlandtown, a water suburb of Baltimore.——Dr. Edward M. Schindel has been unanimously nominated for a third term for mayor of Hagerstown by the Democratic city convention.——Dr. Robert H. Goldsmith, president of the Alumni Association of the University of Maryland, celebrated, on March 9, the semi-centennial of his graduation in medicine.

Frick Library.—The Report of the Frick Library of the medical and chirurgical faculty shows 1936 volumes in the collection. A large proportion of these are standard works and important recent monographs on medicine and the allied specialties. Particular care has been taken to keep up to date the section on urinary diseases in which Dr. Charles Frick was so greatly interested. The special collection of works on biography and on the history of medicine has been much appreciated; 243 volumes were added during the year; 100 volumes of rare old books were purchased by Dr. Osler in Amsterdam and Edinburgh and presented to the library. There were 3771 readers in the room, and 1898 volumes were borrowed for home use. A case has been purchased to hold the books which were in the personal library of Dr. Frick, and this has been placed below his memorial tablet. Subscriptions were received as follows during the year: Mr. W. F. Frick, $500; Dr. William Osler, $200; Mr. Frank Frick, $50.

MISSOURI.

Crossland Banquet.—A banquet is to be given Dr. John R. A. Crossland, St. Joseph, who will soon leave for Liberia.

Physicians Dined.—The St. Louis Medical Society entertained Drs. William T. Corlett of Cleveland and Dr. Alembert W. Brayton of Indianapolis at dinner, March 1. After dinner these gentlemen addressed the Society on "Smallpox."

Gregory Testimonial Banquet.—Arrangements are being rapidly completed for the Gregory banquet to be held in St. Louis on April 17. Governor Dockery, of Missouri, who is a physician and a student of Dr. Gregory, will preside over the banquet. Every indication points to a large attendance.

Central Medical College, St. Joseph, held its commencement exercises, March 1, graduating a class of ten, including two

women. The faculty address was delivered by Dr. W. L. Kenney; the address to the graduates by Hon. Benjamin J. Casteel, and the degrees were conferred by Dr. Moritz F. Weymann.

NEW YORK.

Fifty Years in Suffern.—Dr. A. S. Zabriskie, on March 5, completed his fiftieth year as a practicing physician in Suffern. Dr. Zabriskie is 82 years old.

The John Hodge Memorial Hospital, erected in Lockport by the widow at a cost of $10,000, has been formally turned over to the Home of the Friendless Association.

The District Nurses of Buffalo have received authority from the Health Commissioners and Common Council to act gratuitously as sanitary inspectors. As they visit the poorer districts much good is expected to be derived from their observations.

The annual meeting of the Erie County Medical Association was held March 10. Dr. De Lancey Rochester, the retiring president, delivered an address, and Dr. Allen Jones read a paper on the "Differential Diagnosis Between Dilated Gall-Bladder and Floating Kidney."

Investigations of Charges.—Charges of high death rate in infants under 2 years of age were made against the St. Mary's Infant Asylum of Buffalo by Dr. Julius Pohlman. Mr. George Lewis, as legal representative of the sisters, having invited the Buffalo Academy of Medicine, the Charity Organization Society and the Department of Health to appoint an investigation committee, the Academy has accordingly appointed Dr. Henry R. Hopkins, president of the State Medical Society; Dr. Ernest Wende, Dr. William Warren Potter, president State Board of Medical Examiners, Dr. Thomas F. Dwyer and Dr. Francis E. Fronczak as such committee. The committee is to report its findings as soon as possible.

State Hospital Managers Retained.—Governor Odell indicated clearly by some appointments he made, March 6, his intention to retain in the service of the state as many as possible of the former managers of the state hospitals for the insane, who were legislated out of office by a recent act. The appointments were those of members of the boards of visitation for the Utica State Hospital, the Hudson River State Hospital and the Binghamton State Hospital. Five persons were appointed as members of a board of visitation for each one of the three hospitals named. Thus fifteen appointments were made, and only one of these new appointments was that of a person not hitherto a manager.

New York City.

Private Smallpox Hospitals.—Commissioner Lederle has already received two offers of $50,000 toward building private smallpox hospitals.

To Reduce Mortgage.—The Medical Society of Kings County is making strenuous efforts to reduce the mortgage of $33,000 on its new building. Contributions of $3250 have already been received.

Dr. Knapp a Septuagenarian.—Dr. Herman Knapp will celebrate his 70th birthday, March 17, and in 1904 his fiftieth anniversary as a medical practitioner. He was professor of ophthalmology at Heidelberg from 1864 to 1868. Since 1868 he has practiced his profession in New York City.

Success of Consumption Hospital.—Pleased with the success of the new tuberculosis division of the Metropolitan Hospital, the Commissioner of the Department of Public Charities has asked the Board of Estimate and Apportionment for $40,000, with which to equip four other buildings as pavilions for the reception of phthisis patients, and for $48,000 annually to maintain them.

Medical Societies Agree.—Dr. E. Eliot Harris, chairman of the Committee on Legislation of the New York State Medical Association, denies that Senator McCabe's Compulsory Vaccination bill is a source of dissension among the local and state medical societies, and says that the amendment proposed by the State Commissioner of Health modifies the drastic measures of the original bill, which inflicts three severe penalties for nonconformance with its provisions, and all the medical societies favor the amendment.

OHIO.

Ashtabula General Hospital has been incorporated at Ashtabula, with a capital stock of $10,000.

To Rebuild Hospital.—A bill is before the legislature to issue $1,000,000 in bonds to be used for the purpose of rebuilding the Cincinnati Hospital.

Personal.—Dr. Arthur F. Shepherd, Toledo, formerly of the staff of the Toledo State Hospital, has been appointed superintendent of the Dayton State Hospital.——Dr. Oliver P. Coe, Cincinnati, has been appointed resident physician to the Cincinnati Hospital at a recent meeting of the Board of Trustees, vice Dr. Walter Greiss, resigned.

Dr. Drake's Picture Presented.—At the meeting of the Marion County Medical Society, March 4, Dr. Russell C. Bowdish, the only surviving member of the organization of the Society in 1850, presented the Society with a life-size crayon picture of Dr. Daniel Drake, a pioneer physician of Cincinnati, who died in 1852. Dr. Drake wrote a work on "The Diseases of the Ohio Valley in the Northwest Territory," and contributed other works and papers on the prevailing diseases of the Queen City at an early day, and was among the early physicians in the organization of the Ohio Medical College and the Ohio State Medical Society.

Severe Requirements Reduce Classes.—The strictness of the medical laws in the State of Ohio has caused so great a decrease in attendance that combinations of various colleges are freely discussed. It is asserted that the coming fall will see the amalgamation of the Cincinnati College of Medicine and Surgery with the Miami Medical College, also of Cincinnati; as well as the Cleveland College of Physicians and Surgeons, controlled by the Ohio Wesleyan University of Delaware, Ohio, with the Medical Department of the Western Reserve University. It is needless to state that such combinations would be productive of the greatest good, not only in increasing teaching facilities but in raising the standard of medical education in the West.

The Osteopathy Bill.—The Cincinnati Academy of Medicine at its regular meeting of Feb. 3, 1902, took the following action:

The Academy of Medicine of Cincinnati urge most strongly upon the members of the Senate and General Assembly from Hamilton County to use their influence to defeat the osteopathic bill recently introduced and known as House Bill No. 170. This bill seeks to create a separate state board for the examination of those who desire to practice osteopathy, and has gone to the Judiciary Committee after two readings.

All physicians, no matter what school of medicine they desire to practice, must now secure their license from the Ohio State Board of Medical Examination and Registration. The law provides that those desiring to practice osteopathy shall only be examined on anatomy, physiology, chemistry and physical diagnosis—a list of subjects much less extensive than that in the bill presented. Osteopathy, according to its advocates, is based upon a knowledge of normal anatomy and the phenomena of disease, and they only claim special methods of cure. The present osteopathic bill, while it demands certain conditions and a period of study covering four courses of five months each, authorizes the osteopathic board to be created to dispense with these in their judgment, thus leaving them entirely free to act as they choose. The state is likely, therefore, to suffer an influx of ignorant and unqualified men, who will be free to treat disease of all kinds, for, in spite of their pretensions, we know that the osteopaths accept for treatment such diseases as cancer of the breast, goiter, eczema and rheumatism. We would call the attention of the delegation to the recent decision of the Supreme Court, State of Ohio vs. Gravett, in which osteopathy is defined as being the practice of medicine, and therefore coming under the supervision of the present law, the clause applying to them being only declared void because it specified four years' study being required before examination, while this period was not specified in that portion applying to other practitioners. In fact, the present state board required at that time that all colleges to be considered "in good standing" must have a full four-year course, and this was as equally binding as if specified in the law itself. The simple elision of the four-year clause will give the osteopaths full rights under the law to practice in Ohio provided they can pass the limited examination required of them. The creation of a separate examining board would, we feel, be a gross outrage upon the physicians of the state. [Signed] N. P. Dandridge, president; S. E. Cone, secretary.

PENNSYLVANIA.

Philadelphia.

Refuses to Endorse Municipal Hospital.—By a decisive vote the Philadelphia County Medical Society has refused to "endorse the administration of the Municipal Hospital during the present epidemic of smallpox."

Typhoid fever is somewhat prevalent in the city, 107 new cases having been reported during the last week. There is considerable fear of an epidemic owing to the filthy condition of the water due to recent freshets.

Expectoration in Public Places.—The Woman's Sanitary League of Pennsylvania, at a recent session appointed a committee of the members to wait on the secretary of the State Board of Health with the idea of securing state action on the matter.

Spring Medical School.—The medical department of the University of Pennsylvania proposes to establish a spring school of medicine for post-graduates. Courses will be provided in nearly all branches, including chemistry, anatomy,

physiology, bacteriology and pathology. It is said that the medical faculty will take a prominent part in the instruction.

Immunity.—The James C. Wilson Medical Society and many of its friends were addressed on March 7, by Dr. William H. Welch of Johns Hopkins University, Baltimore. The address upon "Immunity" was marked by simplicity and clearness. The speaker avowed great faith in the Pasteur methods employed in combating rabies and anthrax, and believes there is practical value in the active immunity used against the plague. Serum therapy in its present state, he believes, is practically valuable in only three conditions, namely, tetanus, diphtheria and snake-bite. A reception was afterwards held at the University Club in honor of Dr. Welch.

TENNESSEE.

Dr. John L. D. Walker, Chattanooga, has been convicted of infanticide and sentenced to imprisonment in the penitentiary for ten years. He has been released on bonds pending a new trial.

Sanatorium on Lookout Mountain.—Dr. Howard J. Reynolds, Nashville, is about to locate a large sanatorium for the treatment of tuberculosis, on Lookout Mountain or Missionary Ridge, Chattanooga.

Meharry Medical College Commencement.—The medical department of Walden University, Nashville, held its twenty-sixth annual graduating exercises, February 26. The graduating class numbered 56.

The Memphis controversy has been settled by the Medical Society of the State of Tennessee, which has notified the original organization now known as the "Memphis and Shelby County Medical Society," that it would be recognized by the State Society as the county organization.

St. Thomas' Hospital, Nashville, was formally opened January 29. More than $200,000 has been expended on its erection and equipment. The new part of the hospital contains 100 rooms, which are being furnished by Societies and individuals. The hospital is conducted by the Sisters of Mercy.

WISCONSIN.

People's Hospital, Milwaukee.—The new non-sectarian hospital to be erected on a site already selected by Rabbi Caro, is to be the People's Hospital. This is according to a suggestion made by Abraham Slimmer, who has offered to give $25,000 toward the building of the institution. Mr. Slimmer greatly desires that Milwaukee shall take a hand in the building of the institution. It is estimated that a new building and site will cost from $75,000 to $100,000.

Milwaukee Medical College Changes.—The capital stock of the college has been increased from $100,000 to $150,000 and extensive improvements are contemplated, including an addition to the hospital. Dr. Joseph H. Wallis succeeds Dr. Henry F. Kortebein as lecturer on surgery; Dr. William Becker succeeds to the chair of nervous and mental diseases resigned by Dr. William F. Wegge, and Dr. H. V. Wuerdemann will take entire charge of the eye and ear department.

Personal.—Dr. Harry Greenberg, Milwaukee, who recently returned from Europe, has been made a contract surgeon in the army and ordered to Manila.——Dr. William F. Wegge, professor of nervous and mental diseases, and Dr. Henry F. Kortebein, instructor in surgery at the Milwaukee Medical College, have resigned.——Dr. Fred C. Kovats, Milwaukee, has been selected as interne at the Emergency Hospital.——Dr. B. L. Stinson, Milwaukee, has located at Hale's Corners.——Dr. George Smieding, Jefferson, has moved to Racine.——Dr. J. Willis Rockwell, Melrose, has located in Lancaster.——Dr. Donald J. O'Connor, physician of the state reformatory at Green Bay, has resigned and Dr. J. Percy S. Lenfestey, Depere, has been appointed to fill the vacancy; Dr. O'Connor has located in Escanaba, Mich.——Dr. Leo Breitzmann, Neenah, has located in Marinette.——Dr. C. I. Ide, who has been in charge of the Emergency Hospital, Milwaukee, for several months, will leave for Los Angeles, March 1.——Dr. Charles Ramally, North Bend, has moved to Melrose.——Dr. Joseph E. Harris,, Reedsburg, who has just returned from a year's study in Vienna, will locate in Seattle, Wash.

GENERAL.

Enno Sander Prize.—The time limit for submitting the essays on "The Most Practicable Organization for the United States Army in Active Service," in competition for the Enno Sander prize, has been extended to March 31, 1902.

Contract Surgeons Entitled to Salute.—Contract surgeons in the Philippines are now entitled to receive a salute, according to a recent circular issued by Gen. Chaffee, as the status of contract surgeons, contract dental surgeons and veterinarians of the artillery and cavalry, is assimilated to that of commissioned officers, they are entitled to the salute prescribed for commissioned officers in the Army Regulations.

Smallpox.

Ontario: Dr. Hodgetts, the provincial medical officer stationed at Sudbury, reports several cases of smallpox that have recently arrived at that place from the lumber camps. He says the mild weather is having the effect of making the camps break up early. The danger, Dr. Hodgetts says, of the disease spreading during the next month, should be observed by the local boards of health. He recommends that all the local boards keep under surveillance all men returning from the lumber camps. The smallpox report for the month of February shows that 707 cases were reported, with one death.

Quebec: The Quebec Board of Health has just been invested by order in Council with full powers in regard to sanitary regulations for camps, mines, etc. The board, acting on the order, has divided the province into ten districts, with an inspector for each. The powers thus granted by the board had been sought for some time without success, but the increased spread of smallpox seems to have stirred the government to action.

Chicago: Not one of the 16 new cases of smallpox discovered last week had ever been vaccinated. All but two of these were colored people—thirteen of whom were taken from one lodging house. From the nature of their occupations—waiters in hotels, restaurants and barber shops, porters, attendants on bowling alleys and other avocations bringing them into personal contact with numbers of people—the exposure has been unusually widespread.

Buffalo: More cases of smallpox have been reported in a hitherto unaffected portion of the city, but the health authorities have traced the source from the Polish district where the majority of cases have occurred.

Philadelphia: The number of smallpox cases continues to decrease each week; the new cases reported for the week ended March 8 are 47.

Wisconsin: At a special meeting of the Manitowoc Board of Health it was decided that the city would provide free vaccination to all those desiring it, and special efforts would be made to have all vaccinated. The city is to pay 25 cents each, and furnish the vaccine. It is estimated that this will cost the city over $2000.

Indiana: A smallpox epidemic prevails in the southwestern part of the state which is known as the "pocket" of Indiana. There are 17 cases at Rockport, 15 at Birdseye and a number of cases of the disease at Evansville, Princeton and other towns. The disease prevails in an extremely mild form, however.

Arkansas: Smallpox is said to be raging throughout Mississippi County. Up to February 18, over 100 deaths had occurred; none of the victims had a vaccination scar, so far as could be learned by the local physicians. A proclamation was issued March 4, by the governor declaring smallpox epidemic in Perry County and naming the following board, upon the recommendation of President G. M. D. Cantrell of the State Board of Health: T. E. Holmes, J. P. McKinnis, J. N. Harris, Dr. J. W. Ryan, Jr., Dr. J. M. Mathews.

Kansas: During February 421 cases of smallpox in the state with no deaths were reported. The number of cases reported is much smaller than during the same period of last year in which 1335 cases occurred with 10 deaths.

Michigan: Smallpox was reported as being present in 153 places in the state during the last week.

Nebraska: At the meeting of the State Board of Health March 6, a report showing the number of cases of smallpox in the state during the month was made out. In the counties reporting, 764 cases are found, 189 of which are in Douglas County.

Tennessee: The secretary of the State Board of Health states that the smallpox situation in Tennessee is the best of any of the Southern States. It has been a hard fight for four years and now that the disease is becoming general all over the country this work is beginning to tell locally. There is far less of the disease than there was a year ago and there is nothing in the Tennessee situation to cause any alarm. The safe condition is due to the fact that the people of the state are well vaccinated. Between 60 and 75 per cent. of the entire population of the state has thus been made immune.

District of Columbia: Five new cases of smallpox developed during last week.

CANADA.

Grosse Isle Quarantine Station.—New buildings have recently been erected at the above quarantine station at a cost of $60,000.

General Protestant Hospital, Ottawa.—The 51st annual report of this institution has just been put in circulation. The total number of patients under treatment last year was 1400. Of these 702 were pay patients. In the outdoor departments 2163 patients were attended to.

Obituaries.—The death of Dr. James McLaren took place at his residence, Deer Park, North Toronto, on the morning of March 7. Deceased was born in 1824. He was graduated in Arts from Queen's College, Kingston, about 1850. He continued his college life in the medical faculty under Dr. Rolph, in the old Toronto School of Medicine, receiving his M.B. degree in 1853.——Dr. George W. Jackes, of Eglington, another suburb to the north of Toronto, died on the morning of March 7, of apoplexy. Deceased was in his 51st year, and had practiced in the same village for over twenty-five years.

Vaccination Debated in the Quebec Legislature.—A bill is before the Quebec legislature to amend the health laws of the province by curtailing the powers of the Provincial Board of Health in county municipalities and permitting municipal councils to take control of health matters. The promotor of the bill complains of the manner in which vaccination was controlled by the Board of Health, which he considers altogether too arbitrary. In face of the fact that smallpox is threatening to become generally epidemic throughout the province this legislator wishes to tie the hands of the Board of Health. The bill was referred to the Committee on Legislation, where Quebec people may well pray it may be lost.

Congress of French Physicians of America.—A very largely representative gathering of French-Canadian medical men was held the other evening at Laval University, Montreal, at which it was unanimously agree to hold a congress of the French physicians of America, at the city of Quebec, during the month of June, the occasion being the celebration of the golden jubilee of Laval University of Quebec. Dr. Brochu, of Quebec, was elected president, and three vice-presidents were appointed: Dr. E. P. Lachapelle, to represent the city of Montreal and province of Quebec; Dr. C. Provost, to represent the province of Ontario; Dr. Archambault, of Cohoes, N. Y., to represent the United States. Two general secretaries were appointed: Dr. A. Simard of Quebec, and Dr. Lesage of Montreal.

Medical Matriculation by Act of Parliament.—A discussion took place one afternoon last week in the Quebec legislature upon a bill introduced by a member thereof to permit medical students who commenced study prior to 1899 and who omitted to pass their preliminary examination to dispense with it. It appears that in 1898 a similar measure was passed for the benefit of those who had commenced their studies prior to 1896. This established a precedent for other students lacking a classical education to run the same risk, thinking that the legislature would see them through. The Hon. Mr. Flynn, leader of the opposition, ridiculed the measure, stating that if this sort of thing were to continue, classical education for entrance to the professions had better be abolished. Hon. Dr. Guerin moved the six months' hoist, which was adopted by a vote of 45 to 15.

Toronto Clinical Society.—At the regular meeting of the Toronto Clinical Society Dr. Herbert A. Bruce reported a case of typhoid fever with perforation, operation followed by recovery, with a subsequent subphrenic abscess, operation and recovery. This is the first successful case reported in Canada of perforation in typhoid fever operated on with recovery. The patient was a young medical practitioner, aged 28, practicing in a western Ontario town. Whilst in the performance of his duties last summer he contracted typhoid fever. The case went on in the usual way until along in the third week the patient was seized in the middle of one night with excruciating pains in the right iliac fossa. His physician was summoned but being absent in the country a fellow practitioner was despatched in his place. The pains were quieted with a hypodermic of morphin and on the following day his regular attendant arrived and diagnosed a perforation of the bowel. For this diagnosis he held out against three other practitioners and Dr. Bruce was summoned from Toronto. The diagnosis of perforation was confirmed by Dr. Bruce and an operation at once undertaken. This was some eighteen hours after the perforation was supposed to have occurred. The patient recovered nicely, until some time after Dr. Bruce was again summoned to his bedside and then a diagnosis was made of subphrenic abscess. This was operated on and two and a half quarts of pus were evacuated. The patient very nearly collapsed after this operation, but finally rallied and was present at the meeting of the Clinical Society along with his attending confrère.

FOREIGN.

Egyptian Medical Congress.—The 1st Egyptian Medical Congress will be held December 19 to 23, 1903, instead of December 10 to 14.

Death of Julius Wolff.—Professor and privy councillor Wolff owes his renown to his achievements in surgery and orthopedics. He was appointed director of the orthopedic surgical clinic at Berlin in 1884, and was in his 67th year at the time of his death, February 17.

Skoda's Pupils.—The Vienna University is preparing a memorial Festschrift in honor of the centennial celebration of the birthday of Josef Skoda. The committee in charge appeal to all who were at any time students under him to look up all their note books, etc., with records of the master. The committee beg for the loan of all such material, guaranteeing its safe return. The appeal is signed by Nothnagel, Schrötter, Benedikt, von Töply and Neuburger.

State Boards of Registration.

Washington State Examination.—The State Board of Medical Examiners held its semi-annual examination at Tacoma on January 7 and 8. The standard requirements for those having practiced ten years or over is a general average of 70 per cent.; those having practiced less than ten years are required to obtain an average of 75 per cent. The number of candidates was 60, of whom 42 were successful.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
		PASSED.		
1	H.	Chicago Hom. Med. Coll	1895	84
2	R.	Rush Medical College	1898	89
27	R.	Rush Medical College	1898	78
22	R.	Rush Medical College	1886	77
58	R.	Rush Medical College	1890	85
3	R.	Northwestern University, Chicago	1891	78
6	R.	Northwestern University, Chicago	1883	75
13	R.	Northwestern University, Chicago	1900	89
5	R.	University of Kansas	1896	79
8	R.	Wisconsin Coll. of Phys and Surg	1898	82
11	R.	College of Phys. and Surg., Chicago	1901	82
17	R.	College of Phys. and Surg., Chicago	1901	83
15	R.	American Med. Miss. Coll., Chicago	1899	76
19	H.	New York Homeopathic	1891	75
20	R.	Univ. of Minnesota (McGill, 1895)	1894	88
23	R.	University of Minnesota	1899	85
24	R.	University of Minnesota	1897	79
28	R.	University of Minnesota	1899	82
44	R.	University of Minnesota	1898	82
21	R.	Iowa State University	1883	79
25	R.	Tennessee Medical College	1901	84
26	R.	Western Reserve Univ., Cincinnati	1900	84
29	R.	Manitoba Medical College	1899	80
30	R.	Tokio University, Japan	1894	77
31	R.	Harvard University	1888	90
32	R.	University of Michigan	1901	83
33	R.	Medical College of Ohio	1889	73
32	R.	University of Michigan	1901	83
35	R.	University of Michigan	1886	77
36	R.	University of Michigan	1900	75
59	R.	University of Michigan	1886	79
34	R.	Athens Medical College		82
39	R.	Jefferson Medical College	1891	83
40	R.	McGill University, Montreal	1900	88
41	R.	Woman's Medical College, Chicago	1891	75
42	R.	University of Pennsylvania	1900	86
43	R.	Trinity Medical College, Toronto	1897	91
45	R.	Kentucky Medical College	1900	78
47	R.	Cooper Medical College	1899	80
48	R.	University of Oregon	1901	76
54	R.	Iowa College of Phys. and Surg	1889	83
55	R.	Bellevue Hosp. Med. Coll., New York	1878	86
60	R.	University of Vermont	1882	75
		FAILED.		
4	H.	Chicago Hom. Med. College	1901	73
56	H.	Chicago Hom. Med. College	1885	63
7	E.	Eclectic Med. Institute, Cincinnati	1882	53
12	E.	Eclectic Med. Institute, Cincinnati, (Louisville Med. Coll., 1876)	1871	46
9	R.	Keokuk Medical Coll. of Phys. and Surg., Iowa	1897	71
10	R.	Cleveland Medical College	1883	63
14	R.	Milwaukee Medical College	1897	56
16	R.	Jefferson Medical College	1871	61
38	R.	Jefferson Medical College	1876	66
18	R.	Coll. of Phys. and Surg., Chicago	1889	64
37	R.	Coll. of Phys. and Surg., Chicago	1901	67
46	R.	University of Louisville	1901	67
49	R.	Detroit College of Medicine	1897	71
53	R.	Detroit College of Medicine	1886	67
50	R.	Rush Medical College, Chicago	1897	67
51	R.	University of Copenhagen	1901	70
52	P.-M.	Physio-Medical College	1893	60
57	H.	Hahnemann Med. Coll., Philadelphia	1901	73

Correspondence.

Decapsulation of Kidney for Chronic Bright's Disease.

HOT SPRINGS, ARK., March 4, 1902.

To the Editor:—Since reading the admirable article of Dr. Geo. H. Edebohls, on decapsulation of the kidneys for chronic Bright's disease (*Medical Record*, Dec. 21, 1901, and THE JOURNAL, Jan. 4, 1902, p. 62), I am impressed with its far-reaching possibilities. It opens up a vast field of work in the cure of otherwise hopeless cases. Why could not this same procedure be resorted to in cirrhosis of the liver before the stage of atrophy sets in? Decapsulation of the upper surface of this organ would certainly take away a very great obstacle to the speedy formation of many large blood vessels for anastomotic duty. True, we have this anastomosis in a certain degree when we remove the epithelium by means of our friction with gauze sponges; but it is easy to see the vast difference between the small vessels which would penetrate this capsule and the very free circulation which would ensue if this membrane is partially removed.

Hence I would urge: 1, that the operation of Talma for ascites be performed while the liver is large and swollen with inflammatory products, and before the period of organization and consequent contraction, the stage of atrophy, sets in; and 2, that in addition to the omental and abdominal wall anastomosis that the capsule of the superior surface of the liver be resected, instead of being simply rubbed with gauze.

This could very easily be carried out by making an additional incision along the edge of the ribs when the surface of the liver could be easily reached. Such additional incision will not materially augment the dangers of the operation, and we quickly provide means whereby the inflammatory material may be absorbed and removed. Yours truly,

JAMES T. JELKS, M.D.

Membership in County and National Societies.

SAN DIEGO, CAL., Feb. 28, 1902.

To the Editor:—In THE JOURNAL of February 22, page 525, is a communication suggesting to the effect that a clause in the by-laws affecting membership in the Association be so drawn as to except from its operation those members who for any reason have not maintained membership in the county society and do not desire to re-enter it. It seems to me that such a clause would be objectionable, distinctly retrograde and impolitic. It is one of the avowed objects, in fact the chief object, of the re-organization to effect a more thorough and perfect organization of the profession generally, and the county society is, by the proposed scheme of reorganization, to be the unit. I submit that it would be, to say the least, impolitic to create a class who might remain members of the Association and yet not be members of the local society; it would be a bad precedent. It should be no hardship for any member of the Association to become a member of his county society; indeed, I deem it his duty to the profession generally, and to himself especially, to be an active member of his county society, which will, by the way, be just what the local profession make it.

A physician in practice, if he is young and inexperienced, should be an active member that he may learn and benefit by such membership; if he is learned and experienced it is his duty to attend and instruct those who are or have been less favored than he; indeed, they ought to have the right to require such service at his hands. If it be required of a new member of the Association that he be a member and maintain membership and standing in his county society, surely an old member ought not to object to the application of the rule himself, "equal rights to all, special privilege to none." While it may not be germane to the subject at this time, I wish to state that it is my belief that no more effective way of raising the standard of ethical practice can be devised than that a rule should prevail that no license to practice should be issued except that the applicant be a member of the county society and in good standing, and that he should, in order to retain his license, *retain his membership and standing.*

WILLIAM M. CUMMINGS, M.D.

Deaths and Obituaries.

Christian Fenger.

Christian Fenger was born, Nov. 3, 1840, in Copenhagen, Denmark. Following in the footsteps of his uncle, Professor Emil Fenger, he decided to study medicine. While still a student, war broke out between Denmark and Germany, and he served as surgeon throughout that campaign. In 1867 he received his diploma. For two years he was assistant to Wilhelm Mayer in his ear clinic, and during 1868 and 1869, an interne in the Friedrich's Hospital, Copenhagen. When war was declared between France and Germany Dr. Fenger became surgeon in the Red Cross ambulance corps and served in that capacity during the war with the French army. He then studied in Vienna under Professor Billroth, returned in the winter of 1871 to Denmark and was prosector at the Copenhagen City Hospital from 1871 to 1874. In 1874 he presented and defended a thesis on "Carcinoma of the Stomach; Its Anatomy, Development and Extension," which gained for him the position of lecturer at the university. Late in 1874 he was made extraordinary professor of pathological anatomy. In 1875 he went to Egypt, was made a member of the Conseil Militaire and surgeon-in-charge of the Khalifa quarter of Cairo. Two years later he came to America and settled in Chicago. In 1878 he was appointed to the attending staff of Cook County Hospital, and in 1880 was made curator of the Rush Medical College museum. In 1887 he was elected professor of clinical surgery at the College of Physicians and Surgeons; nine years later he was made professor of clinical surgery at the Chicago Medical College, and in 1899 he was appointed to the same chair in Rush Medical College. During the last twenty-five years he has been surgeon to Cook County, Presbyterian, Mercy, Tabitha Norwegian, Passavant Memorial, Lutheran, German, and German-American Hospitals.

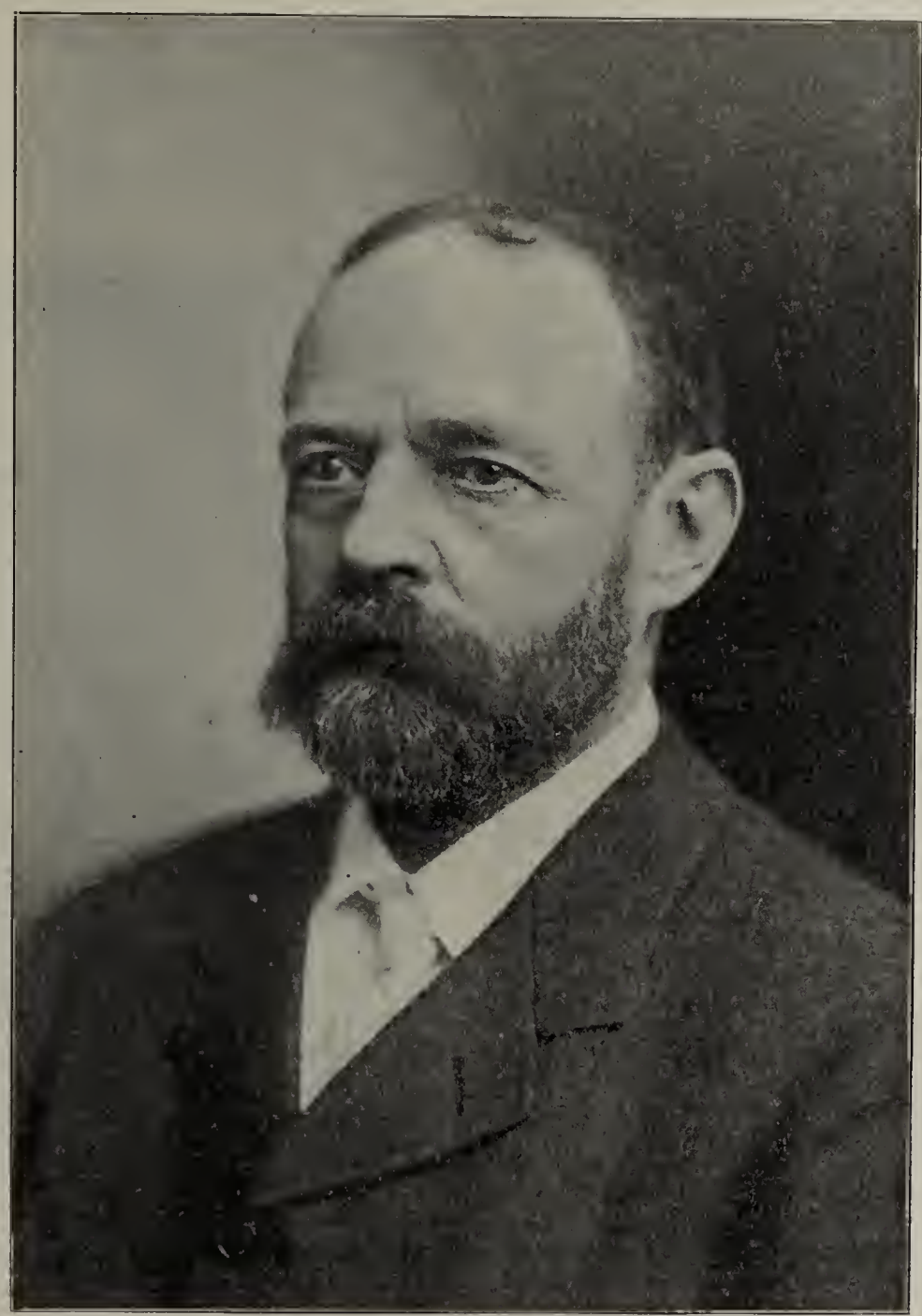
He died at 9:45 p. m., March 7, 1902, at his home in Chicago, after an illness of one week. The cause of his death was croupous pneumonia. True to his principles that he had so often taught, he requested, when he knew that he might die, that a postmortem examination be made. This request was complied with. In addition to the pneumonia, which involved the upper and middle lobes of the right lung, there were found an obliterating, healed tubercular pleuritis with calcareous bronchial glands, and three gallstones in the gall-bladder. A few months before his death, Dr. Fenger had had a slight attack of what he himself recognized as gallstone colic.

The funeral services were held at the New England Congregational Church, of which Dr. Fenger had for ten years been a member, the pastor, Rev. W. Douglas Mackenzie officiating. The interment was at Rosehill Cemetery.

The active pall-bearers, selected from Dr. Fenger's personal assistants, were Drs. Ludvig Hektoen, William E. Morgan, Samuel C. Stanton, James B. Herrick, M. L. Harris, A. Holmboe, C. Doepfner and Andreas Frick. The honorary pall-bearers, representing the University of Chicago, the medical colleges, medical societies and hospitals, were as follows: University of Chicago, President William R. Harper; Rush Medical College, affiliated with the University of Chicago, Drs. N. Senn and Frank Billings; Northwestern University Medical School, Dr. N. S. Davis, Jr.; College of Physicians and Surgeons, Dr. William E. Quine; Chicago Policlinic, Dr. Fernand Henrotin; Chicago Medical Society, Dr. N. S. Davis, Sr.; German Medical Society, Dr. Gustav Fütterer; Scandinavian Medical Society, Dr. N. Johnsen; Chicago Gynecological Society, Dr. Lester Frankenthal; Chicago Surgical Society, Dr. John B. Murphy; Chicago Pathological Society, Dr. Frank B. Earle; Medico-legal Society, Dr. W. L. Baum; Chicago Academy of Medicine, Dr. Harold N. Moyer; Journal of the American Medical Association, Dr. E. Fletcher Ingals; Presbyterian Hospital, Dr. Arthur D. Bevan; Passavant Memorial Hospital, Dr. H. B. Favill; Evanston Hospital, Dr. John Ridlon; German Hospital, Dr. J. H. Hoelscher; German-American Hospital, Dr. John Fisher; Tabitha Norwegian Hospital, Dr. B. Meyer; Cook County Hospital, Dr. Arthur R. Edwards and Dr. Frank S. Johnson.

Christian Fenger was generally recognized as one of the greatest surgeons of America, and his reputation was international. His contributions to medical literature were numerous, more than eighty articles being credited to him. When one remembers that he had made thousands of autopsies in Europe and in Chicago, that he was an expert microscopist, having had training in Arnold's laboratory, that he made it a practice to examine histologically and bacteriologically the specimens he obtained at his operations or at autopsies on his patients who

died, one understands why these articles are always based upon a sound and scientific pathological foundation, and are not solely the so-called "practical" articles. Experimental work upon the lower animals and the cadaver was frequently employed to prove his points. At the time of his death he was engaged in experimental work upon the kidney, in a knowledge of the surgical affections of which organ he has been declared, by a competent judge, to stand next to Simon and James Israel. These contributions were valuable also because he kept careful records of the cases used as the basis of his articles and because he made an exhaustive study of all similar recorded cases and of all literature bearing upon the subject in hand. His style was clear, shorn of unnecessary verbiage and characterized by an orderliness and system that were sometimes a surprise to those who heard him speak or read, and found it difficult to understand his somewhat hesitating and not fluent speech. But after all, the chief value of these contributions consists in the fact that this knowledge, pathological, clinical and bibliographical, was all carefully worked over and analyzed by that wonderfully logical mind, so that his reasoning seemed faultless and his conclusions inevitable. So careful was he in his observations, so impartially judicial in his decisions that one hesitated long before disputing any conclusions he had reached. That there was aught but absolute honesty in his work was never hinted at, even in the whispered and gossiping confidences of idle talk.



Christian Fenger

His work as a writer is solid, and will stand the closest criticism. Much of it is for all time. There is nothing that he has written, at least nothing with which we are familiar, that does not contain something of value, valuable at least for the time at which it was produced; some common error is corrected, some old truth presented in a new light, or some new discovery given to the medical world. Among the more important of his writings may be mentioned: "Nerve-stretching"; "Total extirpation of the uterus through the vagina"; "Hyperplastic salpingitis"; "Operation for the relief of valve formation and stricture of the ureter in hydro- or pyo-nephrosis"; "Basal hernias of the brain"; "Conservative treatment of sacculated kidneys; cystonephrosis"; "Stones in the common duct and their surgical treatment; with remarks on the ball-valve action of floating choledochus stones"; "Diseases of the ureter."

As a speaker he lacked fluency. His hesitating speech made it at first difficult to follow him. Yet he never lacked an audience at clinic, ward operation or at discussion in a medical society. And it is true that, to a certain extent, one could judge of the caliber of a man by finding out that man's estimate of Dr. Fenger as a speaker or clinical teacher. The best men listened respectfully as to a master; the poor or mediocre man became impatient, criticised, and was happy in his ignorance.

As an operator Dr. Fenger was painstaking and thorough. He was never a rapid workman. His operations on tubercular glands of the neck or carcinoma of the breast were lessons in thoroughness that often made other surgeons who flattered themselves that they had been careful in the removal of all diseased tissues, blush with shame as they thought of their own comparatively hasty and careless work. He thoughtfully considered every step of the operation. He always knew exactly where he was and with what anatomic structure he was dealing. He left nothing to chance. If in doubt as to the nature of a growth he stopped in his operation and examined microscopically; he often had books and drawings at his side during an operation to be consulted if need be; he ligated vessels that other surgeons would have let alone, trusting they would not bleed; he drained where others did not; he was almost finical about asepsis. This attention to the minutiæ, this extraordinary carefulness and thoroughness were well known to physicians and to patients, and gave the laity and the profession unusual confidence in him as a man who could be trusted to do the right thing and only the right thing on the operating table. And this same thoroughness explained his wonderfully successful results. He was a fearless operator but absolutely without a taint of recklessness. No surgical procedure was too formidable to be undertaken if justifiable. But no love of applause, no large fee, no morbid curiosity to see what could be done, tempted him to subject a human being to a procedure that he regarded as unjustifiable. He was a most conservative surgeon, erring oftener perhaps on the side of conservatism than of radicalism. One of his latest works is against the indiscriminate treatment of peritoneal tuberculosis by surgical measures.

His wonderful knowledge of pathology and morbid anatomy, his extreme caution in forming his opinion until all known means of information had been exhausted and his philosophical and logical modes of thinking made his advice in matters of diagnosis in great demand, and his decision was generally regarded as final and his judgment generally found to be correct. Yet he was most ready to acknowledge his limitations and often confessed his ignorance. "God only knows, and He will not tell," he often said when a case baffled all diagnostic or prognostic skill. He had the courage to acknowledge his mistakes of judgment or of technique as only a great man is capable of doing.

To the medical world in general the death of Christian Fenger means the loss of one of its great surgeons. To those who have lived in Chicago and the Northwest and have come within the circle of his immediate influence the loss is keenly felt as a personal one, and the place that he leaves vacant can never be filled by another. The death of no physician in the Northwest will be so sincerely mourned by so many physicians as that of Dr. Fenger.

But what was the mysterious charm by which he drew all

toward him? What was there in this quiet, modest, plain man, of simple tastes, of faltering speech that attracted all who came near him? It is always difficult to analyze a man's character and tabulate his qualities. The personal element really defies analysis. But it would seem as though the trait of character that made Dr. Fenger strong was his impersonation of truth. He was its very embodiment. His looks spoke of sterling integrity, his manner was unassuming, yet one of earnestness and sincerity. Whether one watched his careful, painstaking operation; whether one listened to his lectures or discussions where he slowly, but with irresistible logic made his meaning plain; whether one read his articles, clearly written, systematic and thorough, or whether one watched him step by step unraveling the intricacies of a perplexing case; wherever and whenever one saw or heard him there was the same impression created that here was a man who was aiming to seek out truth for truth's sake, and this is the essence of science. Fenger was the incarnation of the scientific spirit in surgery. Men about him saw this, they felt it; he imparted this spirit to them. Herein lay one of the elements that made him strong and a man of influence. Coming to Chicago as he did, twenty-five years ago, at a time when the new light of modern pathology had not yet broken upon the Northwest, he began his mission of imparting the truths of this recreated science. Against much opposition, in spite of many drawbacks, he fought his way. Others began to see the light that he had seen and were eager to learn of him. To hospital internes, to medical students, to doctors, to any one who showed a desire to learn and a willingness to study, he was glad to talk of things surgical and pathological. He sacrificed leisure and pleasure that he might help them.

The value of this work is incalculable, and only appreciated by those who know the conditions existing twenty-five years ago and the difficulties he encountered in his endeavors to spread the new knowledge. This is really Fenger's great work. He is revered as the father of scientific surgery in the Northwest, and with Senn in experimental work aroused this section of the country so that now there has grown up a group of well-known younger men who freely acknowledge that the right impetus to study was given them by this remarkable man. When the intellectual history of Chicago comes to be written, high among the great names will be that of Christian Fenger.

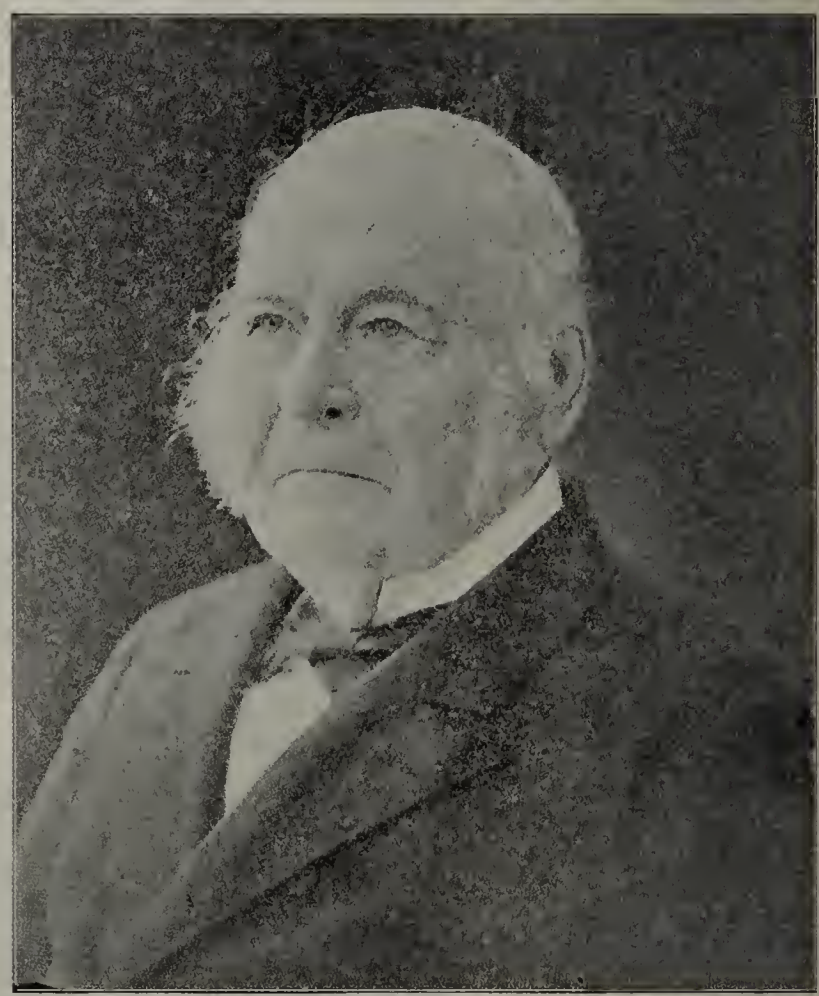
The casual observer sometimes thought him rough in his manner, unsympathetic, one who delighted in the use of the knife and whose finer sensibilities had been blunted. But nothing could be farther from the truth. He was as pure-hearted as a child, even child-like in his simplicity in many respects. He had the finest of fiber in his make-up. He loved flowers, beautiful scenery and children, and was not ashamed to show it. He was an unusually fine art critic and a lover of fine pictures. He himself had an ability to sketch with crayon or pencil that was of great help to him as a teacher. He was a linguist with a working knowledge of some seven or eight languages; he was a man of culture and refinement; he was incapable of a mean act; he had the soul of honor; he was a gentleman in the truest sense of the word. He was lovable and loving to a degree seldom granted to man. It is not meet to refer here to his domestic relations. But the grief-stricken wife and the two children who survive him know, as no one else can know, the depths of that great, true heart, and will always cherish the memory of a love and devotion such as are rarely seen.

It is a cause for congratulation that Dr. Fenger's friends and admirers let him and the world know of the esteem and love in which he was held. His colleagues among the Scandinavian colony in Chicago looked up to him as their honored leader, were proud of him and at every meeting of their medical society, whether he were present or not, drank the health of Christian Fenger. At the time of his death he was the president of the Chicago Medical Society, and for the second time of the Chicago Surgical Society. On Nov. 3, 1900, the medical profession of the country gave him a dinner, the occasion being the sixtieth anniversary of his birth. Over 500 physicians attended. This honor was deeply appreciated by Dr. Fenger. But no testimonial, no office of honor, was a more eloquent tribute to this man's character than the gathering at the funeral services. It is doubtful if so great a number of physicians have ever before come together in Chicago for such a purpose. The sad faces of his colleagues, and the tear-dimmed eyes of the long line of men and women, many of them his old patients and evidently from the poorer walks of life, as they took a last look at this beloved physician, spoke more than any uttered word.

It seemed as though he had several years of usefulness and happiness before him. But perhaps it is best that he should be cut down in the midst of his active work, with his mind still strong and vigorous, his eye undimmed, his hand steady, rather than that ruthless old age should rob him of any of those attributes with which we link his name. His work was in reality done. His monument is already erected in his medical writings, in the group of men whom he influenced and aroused to a higher scientific life, in the elevation of medical thought in the Northwest, in the example of an untiring devotion to truth, in the love that is left in the hearts of all who knew him.

Dr. Edward Mott Moore.

Dr. Moore graduated from the University of Pennsylvania in 1838. After a service as interne in Philadelphia, he went to Rochester, N. Y., and practiced there, filling the chair of surgery at Vermont Medical College, Woodstock, from 1842 to 1854, and thereafter at Berkshire Medical College, Pittsfield, Mass., and Starling Medical College, Columbus, Ohio. From 1858 to 1883 he was professor of surgery at Buffalo Medical College. He was a member of the American Medical Association, and its president in 1890; one of the founders of the New York State Medical Society, and its president in 1874; one of the founders of the American Surgical Association, over which he presided for one term, and president of the State Board of



EDWARD MOTT MOORE.

Health from its organization until 1855. He was a delegate to the International Medical Congress at Copenhagen in 1894, and for many years was president of the board of trustees of the University of Rochester. He died March 3 at his home in Rochester, from bronchitis, aged 88. Various medical and lay organizations of Rochester met and took action on Dr. Moore's death. The Rochester Academy of Medicine, at a meeting held March 5, took the following action:

We have heard with deep regret of the death, on March 3, 1902, of Edward Mott Moore, M.D., LL.D., the first Honorary Fellow of this Academy. It seems but a short time since Dr. Moore's acceptance of his election as Honorary Fellow was read to us. This was probably the last scientific organization which he honored by his membership. Many present will remember the occasion upon which he addressed the Academy upon the subject of "Fractures of the Clavicle," and will recall with pleasure his urbanity and grace, and the clearness which marked his statements. His mind seemed undimmed, and we hoped that he might be spared for many years to the city and to the profession which he loved so well. His death removes the oldest and ablest physician identified with the history of Rochester. Those of us have been fortunate who have been honored with his acquaintance and have come under his influence. Dr. Moore's life has been an inspiring illustration of high conceptions of the science of medicine and the humanities of life which should ever attach to its practice.

It was further Resolved, That the foregoing memorial be engrossed on the minutes of the Academy; that a copy thereof be

sent to the family of the deceased; and that such action be transmitted to The Journal of the American Medical Association. [Signed] J. W. Whitbeck, William S. Ely, Edward W. Mulligan, T. A. O'Hare, G. W. Goler, Committee.

The Monroe County Medical Society, at a special meeting held March 4, adopted the following minute:

Dr. Edward Mott Moore, for many years a member of this Society and once its president, died in this city March 3, 1902, in his 88th year. For seventy-two years Dr. Moore had been a resident of Rochester. After an excellent preliminary education, general and technical, he studied medicine and graduated at the University of Pennsylvania in 1838. In 1841 he began his work as lecturer, which was carried on for many years in medical colleges in Woodstock, Vt.; Pittsfield, Mass.; Cleveland and Buffalo.

During this time he was actively engaged in the study and practice of his profession. As a surgeon he was widely known and had a vast experience. His career embraced many of the wonderful achievements in medical science with which we are all familiar.

He performed major operations before the introduction of anesthesia in 1846. He was hospitable to new ideas, kept in touch with all real progress in his profession, and was closely associated with important discoveries and improved methods. He was the head of the staff of St. Mary's Hospital in this city from the founding of that institution.

Dr. Moore was a man of strong intellectual gifts—a clear vision, sane judgment, equitable temper, absolute self-control. He loved the society of the young, sympathized with the bright and ambitious student and was generous with his advice and help. His mind was essentially scientific and practical, therefore it followed necessarily that he was one of the first to accept the doctrines of Darwin and Spencer, and to interest himself in biological studies.

Dr. Moore was an advocate of independence in politics, of every civic reform. His influence for good in our city was constant, quiet, effective. His later years he devoted exclusively to the development of our system of park, working with wonderful prevision for the remote future and not merely the immediate present. That work gave him the distinction of being the father of the parks. His plans, if carried out, will more and more serve to keep alive his memory.

We have lost the oldest and the wisest of our medical friends. He had passed far beyond the four-score limit, yet only his physical strength had abated. He was still our trusted counselor and our stanch friend. We revered him only the more as time went on. We are grateful for the benefits that we enjoyed in this long and intimate relation of friendship, and shall continue under his influence, though he is withdrawn from our sight.

We adopt as our own expression the inscription of a memorial in St. Paul's cathedral, London, to an English physician: "Eminently distinguished for science. Beloved for the simplicity of his manners and the benevolence of his heart. Respected for his inflexible integrity. In all the relations of his professional life he was sagacious, cordial, diligent and humane."

We tender to his family, particularly to the sons who are our fellow members, our heartfelt appreciation and sympathy.

The Rochester Chamber of Commerce adopted the following minute:

The Rochester Chamber of Commerce records its high appreciation of the memory of Edward Mott Moore, who, modest in greatness, lived a long, useful and conspicuous life in Rochester.

He honored his city by eminent talents devoted to the alleviation of human suffering.

With far-seeing wisdom, he served his fellow citizens and future generations by securing to their use great gifts of nature within the municipal boundaries, and they are now his lasting monument.

Francis W. Lewis, M.D. Jefferson Medical College, Philadelphia, died from pneumonia, March 2, at his home in Philadelphia, aged 76. Ever since the founding of the Children's Hospital he has been identified with its interests, and was for many years president of its board. He was public spirited, serving upon the boards of the Academy of Fine Arts, the Library Company of Philadelphia, and the Zoölogical Society for many years. He was a member of the College of Physicians and other learned societies, and was also a member of leading social clubs.

William S. Crawford, M.D. Washington University, St. Louis, 1870, a leading practitioner and country physician of Jo. Daviess County, Ill., died from apoplexy at his home in Galena, February 28, after an illness of five days, aged 54. He was a native of Galena; a son of Dr. John S. Crawford, one of the early settlers of that city; studied in the Western Reserve University, Cleveland, and Rush Medical College, Chicago, finally graduating at St. Louis Medical College. He practiced with his father until the death of the latter.

Edwin Sinnett, M.D. Medical College of Ohio, 1850, was a life member of the Ohio State Medical Society, and army surgeon during the last two years of the Civil war. Though modest and retiring, he took an active part in Grand Army and in civic life. He served his town at some time in his career in all its offices, and his state in the upper house of the General Assembly through two terms. He died at his home in Granville, Ohio, February 22, in his 75th year.

John C. Nicholson, M.D. Jefferson Medical College, 1855, one of the oldest surgeons of Alabama, died at his home in Mount Meigs, March 3, aged 73, after a lingering illness. He was a member of Montgomery County and Alabama State Medical Societies and was prominent in agricultural organizations. He served through the Civil war, was once a member of the state legislature and rendered public service in many ways.

Hugh L. Cheney, M.D. Medical College of Ohio, Cincinnati, 1847, a pioneer resident and practitioner of Franklin County, Ohio, died at his residence in Columbus, February 26, aged 82. He had been prevented from the practice of his profession for about twenty years by ill health, and was totally blind for a long time.

William C. Spearman, M.D. Louisville (Ky.) Medical College, 1885, died of appendicitis at his home, Texarkana, Ark., February 21, aged 48. He was a member of the American Medical Association and the Arkansas Medical Society, and had been a member of the State Board of Health for 5 years.

Benjamin F. Kitchen, M.D. Medical College of Ohio, Cincinnati, 1871, formerly a representative in the state legislature from Jackson County, and at the time of his death the oldest practitioner in the county, died suddenly from heart disease at his home in Wellston, February 25, aged 67.

Morris W. Townsend, M.D. Jefferson Medical College, 1853, president of the Genesee County Medical Society, member of the New York State and American Medical Associations, died at his home in Bergen, N. Y., February 26, of cardiac hypertrophy, aged 75.

David C. Galbraith, M.D. Medical College of Ohio, Cincinnati, 1865, an old practitioner of Franklin, Pa., who served during the Civil war as surgeon under General Butler, died at Brunswick, Ga., where he had gone in the attempt to regain his health, February 28.

Herkimer B. Miner, M.D. College of Physicians and Surgeons of the Western District of New York, Fairfield, 1834, for more than fifty years a practitioner in West Mendon and Honeoye Falls, N. Y., died at his home in the latter place, March 2, aged 96.

E. Newlin Williams, M.D. University of Pennsylvania, 1898, died from cold and exposure, about February 8, in the White Mountains, near Glenclif, N. H., aged 28. His home was in Philadelphia, and he was on his way to inspect some wooded property.

Henry Ayres Hyland, M.D. Baltimore University, 1892, a well-known physician of Northeast Baltimore, and for a time demonstrator of anatomy at the University of Maryland, died at his home in Baltimore, February 26, from pneumonia, aged 47.

Richard Ferguson, M.D. University College of Medicine, Richmond, Va., 1897, formerly of Richmond, Va., was found dead in his house in Columbia, S. C., March 6. Death was due to chloroform, which it is suposed he inhaled to induce sleep.

Ervin A. Tucker, M.D. College of Physicians and Surgeons, New York, 1889, teacher of obstetrics and gynecology in Columbia University, attendant at Sloane Maternity Hospital, died at his home in New York City, March 3, of pneumonia.

Joseph W. Winslow, M.D. Berkshire Medical College, Pittsfield, Mass., 1845, for over fifty years a physician in Easthampton and Enfield, Mass., died, February 24, at his home in the latter place, aged 83, from a paralytic shock.

Rudolph R. Menard, M.D. Laval University, Quebec, 1897, a young physician of Biddeford, Me., was thrown from his carriage, February 15, and died at his apartments, February 20, without having regained consciousness, aged 29.

William E. Bibb, M.D. Jefferson Medical College, Philadelphia, 1848, a prominent physician of Albemarle County, Va., where he had practiced for fifty-four years, died at his residence near Free Union, February 28, aged 76.

William B. Hanes, M.D. Detroit (Mich.) College of Medicine, 1901, house physician at Harper Hospital, Detroit, died, March 3, from septicemia, contracted while performing an autopsy. He was 25 years of age.

Albigence W. Kingsley, M.D. Castleton (Vt.) Medical College, a practicing dentist in Elizabeth, N. J., for nearly fifty years, died at his winter home in Maitland, Fla., March 3, from angina pectoris, aged 86.

Sherman J. Hadley, M.D. Omaha (Neb.) Medical College, 1888, who practiced in Arlington, Neb., but was obliged, on account of his health, to go to Hot Springs, S. Dak., died in that place, March 1, aged 66.

Seth M. Benepe, M.D. Bellevue Hospital Medical College, New York, 1866, died at his home in Sebastopol, Sonoma County, Cal., February 20, seventeen months after a cerebral hemorrhage, aged 54.

Fred Lynn, M.D. Western Reserve Medical College, Cleveland, a practitioner of Cortland, Ohio, who went to Mexico six months ago for his health, died there, February 22, from consumption, aged 25.

William M. Madison, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1876, an old practitioner of Farmington, Mo., died from pneumonia at his home in that place, February 24, aged 55.

William D. Kearns, M.D. New York University, 1857, one of the best-known practitioners of Pittsburg, where he had practiced for 44 years, died from pneumonia at his home, February 24, aged 71.

Wellington Carleton, M.D. Detroit (Mich.) Medical College, 1871, one of the best-known practitioners of Ogle County, Ill., died at his home in Rochelle, March 2, from pneumonia, aged 60.

Theodore Turnbull, M.D. University of Maryland School of Medicine, Baltimore, 1881, a physician of Monticello, Fla., died at Baltimore after an operation, February 24, aged 41.

Francis H. Russell, M.D. Bellevue Hospital Medical College, New York, 1871, died, February 24, of paralysis of the throat, aged 54, at his home in Farmington, Me.

H. W. Sparks, M.D. Louisville (Ky.) Medical College, 1890, of Denton and Ashland, Ky., died at the former place, February 26, of pneumonia, at about 38 years of age.

William R. Neblett, M.D. University of Nashville, Tenn., 1867, died, February 27, aged 66, at his home in Chattanooga, where he had retired because of ill health.

Benjamin F. McCuistion, M.D. Kentucky School of Medicine, Louisville, 1890, was shot and killed by A. W. McComas at Paris, Texas, February 28.

Joseph A. Booth, M.D. College of Physicians and Surgeons, New York, 1882, died from heart disease at his residence in New York City, February 26, aged 62.

Conrad Mund, M.D. College of Physicians and Surgeons, New York, was drowned while sailing in Great South Bay, March 2. He was 28 years old.

Orrin M. Bailey, M.D. Western Reserve University, 1874, an old practitioner of Greensburg, Ohio, died from cancer at Warren, Ohio, February 24.

John K. Scribner, M.D. Jefferson Medical College, 1894, formerly of Pittsburg, died at Finleyville, Pa., March 2, aged 32, after a long sickness.

Charles H. Newell, M.D. College of Physicians and Surgeons, Chicago, 1900, died at Lynch, Neb., February 20, of pneumonia, aged 26.

Theodore H. Parks, M.D. College of Physicians and Surgeons, New York, 1860, died at his home, Ilwaco, Wash., February 28.

Robert Tabney Ball, M.D. College of Physicians and Surgeons, Baltimore, 1881, died at his home in Baltimore, February 25.

William T. Akins, M.D. Medical College of Fort Wayne, Ind., 1878, died March 6, at his home in Chicago, aged 61.

Married.

JOHN C. ANDERSON, M.D., Omaha, to Miss Myrtle Boyes, of Seward, Neb., March 3.

WILLIS M. METZLER, M.D., to Miss Lola A. Cross, both of Vanlue, Ohio, February 23.

W. E. STEWART, M.D., to Miss Dolores E. Sharp, both of Stratton, Neb., February 20.

THOMAS W. O'REILLY, M.D., St. Louis, Mo., to Miss Blanche Hay, of Saginaw, Mich., March 5.

BENJAMIN D. OSBORNE, M.D., Waldo, Ohio, to Miss Stella Gast, of Prospect, Ohio, February 27.

HENRY H. MITCHELL, M.D., Muldoon, Texas, to Miss Eula Ragsdale, of Wharton, Texas, February 19.

ALFRED HENRY EASTERLING, M.D., Athens, Texas, to Miss Margaret Mitchell Wofford, of Cuero, Texas, February 19.

IRVING R. SCHOONMAKER, M.D., Hallstead, Pa., to Miss Edith Daniels, of Scranton, Pa., at Binghamton, N. Y., February 27.

CHARLES WILLIAM HARGENS, M.D., Hot Springs, S.D., to Mrs. Richard H. Hunt, of New York, at South Bend, Ind., February 19.

Association News.

Report of the Committee on Transportation.

WASHINGTON, D. C., March 8, 1902.

The Committee of the American Medical Association on Transportation, reports that the rates for railroad transportation to the Saratoga meeting are being arranged for in the various railroad associations, and special prominence has been given to the disapproval of the medical profession of the methods of the Western Association in exacting the annoying fifty-cent execution fee which was perpetrated upon the members attending the St. Paul meeting. Assurances have been given that this will not occur at the Saratoga meeting, and at this writing the Trunk Lines have offered a fare and a third on the certificate plan for the round trip. Your Committee is urging a one-fare rate for the round trip with a 30-day-extension time limit and the privilege of a diverse route returning. Dr. Swan, of the local railroad committee at Saratoga, N. Y., is taking an active interest in the matter of rates, and is coöperating with the Committee of the Association. The combined efforts of the Committees are directed towards securing a one-fare rate for the round trip. Progress in this direction will be announced from time to time in THE JOURNAL.

H. L. E. JOHNSON, Chairman.

Societies.

COMING MEETINGS.

Medical Association of the Missouri Valley, Lincoln, Neb., March 20, 1902.

American Association of Pathologists and Bacteriologists, Cleveland, O., March 28-29, 1902.

Medical Association of the District of Columbia, Washington, April 1, 1902.

Tri-State Medical Society of Iowa, Illinois and Missouri, Chicago, April 3-4, 1902.

Tennessee State Medical Society, Memphis, April 8, 1902.

Florida Medical Association, Tampa, April 9, 1902.

Western Ophthalmological and Oto-Laryngological Association, Chicago, April 10-12, 1902.

Medical Association of the State of Alabama, Birmingham, April 15, 1902.

Medical Society of the State of California, San Francisco, April 15-17, 1902.

Medical Association of Georgia, Savannah, April 16, 1902.

Mississippi State Medical Association, Jackson, April 16, 1902.

South Carolina Medical Association, Spartanburg, April 16-17, 1902.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 22, 1902.

Association of American Physicians, Washington, D. C., April 29-30, 1902.

American Association of Genito-Urinary Surgeons, Atlantic City, N. J., April 30, 1902.

Delaware State Medical Society.—This Society will change the date of its annual meeting so as not to conflict with that of the American Medical Association.

Manchester (N. H.) Medical Association.—The fifth annual banquet of the Association was held February 26. Dr. John M. Gile, Hanover, was the guest of honor and delivered an address on "Intestinal Obstruction."

Alton (Ill.) Medical Society.—This Society has elected the following officers: Dr. Titus P. Yerkes, Upper Alton, president; Dr. Frank Worden, North Alton, vice-president; Dr. George E. Wilkinson, Alton, secretary; Dr. Charles Davis, Alton, recording secretary, and Dr. Waldo Fisher, Alton, treasurer.

Putnam County (Tenn.) Medical Society.—At the meeting of this Society in Cookeville, March 3, the following officers were elected: Dr. Samuel Denton, Buffalo Valley, president; Drs. J. B. S. Martin and H. R. Ragland, Cookeville, vice-presidents; Dr. John T. Moore, Algood, secretary, and Dr. Claude P. Martin, Cookeville, treasurer.

Cincinnati Academy of Medicine.—At a meeting of the Academy, March 3, the following officers were elected for the ensuing year: Dr. Asa B. Isham, president; Drs. Brooks F. Beebe and Ellen F. McCarthy, vice-presidents; Dr. Stephen E. Cone, secretary; Dr. Arch I. Carson, librarian; Dr. Magnus A. Tate, treasurer; Drs. Byron A. Stanton, James F. Heady, and N. Pendleton Dandridge, trustees.

PHILADELPHIA OBSTETRICAL SOCIETY.

Regular Meeting, held Feb. 6, 1902.

Recurrence of Shoulder Presentation.

Dr. Frank C. Hammond read a paper entitled "Shoulder Presentation Occurring Twice in the Same Patient." The woman, aged 35, was first seen in consultation in her fifth labor, previous labors having been normal. The position of the fetus was right dorso-anterior, the fetus being dead with the right arm prolapsed. Podalic version was done, under chloroform anesthesia, the after-coming head being readily delivered by the Viet-Smellie method. The patient made an uninterrupted recovery. Just about one year after the above-mentioned labor, Dr. Hammond examined the same patient and found her near the end of her sixth pregnancy, with the child in the right occipito-anterior position, vertex presentation. Ten days later he was again summoned to the patient, then in labor. The attending physician stated that, during a strong uterine contraction, the amniotic sac had ruptured with a resultant prolapse of a flexed arm and the funis. The right elbow was found presenting, and the prolapsed cord beating feebly. Pulsations ceased while preparation was being made for delivery. Podalic version was again accomplished, but the after-coming head was arrested at the superior strait and resisted efforts at delivery by several methods. The head was finally delivered by the high application of forceps, the latter being easily done. The etiological factors were a pendulous abdomen, relaxed uterine walls, and a comparatively small fetus in both instances.

Dr. Charles A. Barnes discussed the paper, citing two cases of shoulder presentation which he had recently treated by podalic version.

Genital Malformations.

Dr. E. E. Montgomery's paper with the above title referred to cases that had come under his personal observation. One was a young woman, aged 23, who came to him in December, 1899, to determine the advisability of undergoing an operation for the construction of a vagina. Examination revealed no trace of vaginal structure. As the patient was engaged to be married, the writer decided to undertake the construction of a vagina. This was done by transverse incision and blunt dissection between the bladder and rectum. A cavity was thus constructed 2½ inches in depth. This cavity was lined partially by flaps formed through splitting of the labia minora, and partially by skin flaps two inches long, one from each thigh. The cavity was then packed with iodoform gauze which was not removed for nearly a week. The grafts all held, and at the end of two weeks a glass vaginal plug was substituted for the gauze.

In January, 1902, the patient came to the author suffering with appendicitis and the appendix was removed. Since the patient had suffered much from menstrual molimina request had been made that the ovaries also be removed. The right ovary was found connected with a very tortuous tube which arose from the cornu of the uterus. The latter was about one and a half inches long with a rounded fundus. The left ovary and tube were found well to the left side of the pelvis, springing from a rudimentary cornu a scant inch in length. Both ovaries and tubes were removed. The two uteri were only connected by a slightly thickened band. The structures appeared to have developed from widely separated Müllerian ducts which had in no part coalesced. Their lower portions had become obliterated without the vagina and cervix being developed. The vagina, which had been constructed two years previous, seemed of good size externally, and was found to be a scant two inches in length, although the vaginal plug had not been worn for over a year.

Dr. Montgomery cited another case, an unmarried woman, who suffered intensely with dysmenorrhea and was discovered to have a double vagina with a cervix in each. Abdominal incision disclosed a bicornate uterus united at the cervix, but with two separate cervical canals. The right cornu contained several myomata, one of which projected by a teat-like process into the internal os—undoubtedly the cause of the severe dysmenorrhea. The other horn also contained myomata.

The speaker last summer operated upon the wife of a physician for a large myomatous growth. She had borne two children at term. While doing hysterectomy by the abdominal route, in separating the vagina from the cervix, the operator cut into a sac, at first thought to be the bladder. On close observation this cavity was found to communicate with the uterine cavity by a separate os. Here had been a uterus biseptus, one side of which communicated with a blind vaginal pouch. The uterine septum had been destroyed during pregnancy. Later, this blind pouch became several times its former size and formed a distinctly fluctuating tumor. This was incised and evacuated by the vagina. The partition between the sac and the normal vagina was cut away and the mucous surfaces united, with satisfactory result. The writer once examined a patient in which a peculiar bridle hung between the labia extending from the anterior to the posterior vaginal wall. This was the remnant of a vaginal septum, the superior portion of which had been destroyed by her labor. Recently, in dilating the uterus of a young woman, the bougie passed over to the left side, and the curet passed over what seemed to be a growth as a tortuous canal. Upon opening the abdomen, a bicornate uterus was disclosed. In this case the cornua had a common cervix and cervical canal. These cases, the speaker asserted, present some of the difficulties of accurate diagnosis, and are sometimes instructive from the standpoint of therapeusis. The paper was discussed by Dr. F. Hurst Maier.

Rectal Cancer.

Dr. Wilmer Krusen read a paper entitled "A Case of Cancer of the Rectum Operated upon by Murphy's Method."

Out of 7878 cases of carcinoma collected by Williams from London hospitals, 499 had their initial seat in the large intestines, 401 of these involving the rectum. The case operated upon was Mrs. P. M., aged 68. Patient was a well-preserved woman for her age, but entered the hospital complaining of extreme constipation with great weakness and loss of appetite. Within the last two years she had had several hemorrhages from the rectum. Defecation was very painful at times. On examination, an annular stricture was found with an ulcerating mass on the rectal wall, about three centimeters above the external sphincter, and a diagnosis of carcinoma was made.

Operation was done as follows: An incision was made vertically in the middle line through the posterior vaginal wall down to the rectum. The posterior vaginal wall was dissected laterally from its attachments, and the anterior rectal wall exposed. It was not necessary to invade the peritoneal cavity. The rectum was divided transversely above the growth and the proximal end of the rectum was grasped with four forceps which controlled all bleeding and indicated the lumen of the bowel. The involved portion of the rectum was then excised just above the external sphincter, which was uninjured. The bowel was then drawn down and sutured with fine chromicized catgut through the anal opening to the narrow collar of healthy tissue which remained around the anal orifice. A large rubber drainage tube was introduced into the rectum. The vaginal incision was then closed very much as in performing a Hegar's perineorrhaphy. Convalescence was uneventful and at the time of writing there has been no recurrence of the disease.

By permission of Dr. E. E. Montgomery, the writer reported a second case similar to the first, with the exception that a semilunar incision was made posterior to the anus down to the rectum, and that the sphincter was cut through anteriorly. The former served for drainage after operation; the ends of the sphincter were united by sutures of catgut. The paper closed by an enumeration of the advantages of the operation as summarized by Murphy in his original paper. The paper was discussed by Dr. Montgomery.

At the business meeting of the Society, a resolution was adopted to the effect that abstracts of papers read before the Society should be given to various medical journals; and that the authors of papers should be free to publish them, with the discussion, in whatever journal they may see fit.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Feb. 17, 1902.

President, Dr. Parker Syms, in the Chair.

Management of Normal Labor.

DR. BERNARD COHEN, Buffalo, opened the Symposium on Obstetrics with the above-mentioned paper, and laid special stress on the importance of medical supervision throughout pregnancy, and of pelvic examinations prior to confinement. The urine should be examined once a month up to the eighth month, and then weekly, the quantity of urea and indican excreted being included in this examination. The physician's hands should be scrubbed with green soap and immersed in a 2-per-cent. solution of lysol prior to making a vaginal examination, and the instruments should not only be made sterile but so placed as to keep them sterile. He favored the moderate use of anesthesia during labor. The patient should be kept in bed for 12 days and should not be allowed to go around the house until the third week.

Use and Abuse of the Forceps.

DR. EDWARD A. AYERS read this paper, claiming that about 1 case in 25 is benefited by the proper application of the forceps. An indication for their use, to which there was hardly an exception, was a slowing and weakening of the uterine contractions and a decided rise in the pulse rate. The traction should not only be intermittent but the blades should be relaxed after each traction. In expert hands the ordinary forceps would give 90 per cent. of the traction in the axis of the inlet, but in difficult cases it was important to secure the other 10 per cent., and hence in these the Tarnier axis traction forceps should be employed. The use of Reynolds' traction rods and similar makeshift applications to the ordinary forceps lacked the efficiency of the true axis traction instrument and were not without danger. It was easy to show that when the thighs are flexed the tension on the outer portion of the perineum is increased, and hence the practical suggestion to extend the patient's limbs when the head reaches the vulva.

Diagnosis and Treatment of Puerperal Sepsis.

DR. FREDERICK HOLME WIGGIN commented upon the fact that although it had long been known that puerperal fever was another name for wound infection, the mortality in every-day private obstetric practice was as high as fifty years ago. If the pulse of the puerperal woman rose above 90 and the temperature above 100.5 F., and remained so for twenty-four hours, it was the duty of the physician to at once search carefully for the cause. If not on the alert, the presence of a general peritonitis might be the first thing to attract the physician's attention. It usually occurred between the third and seventh day. Malaria and typhoid fever could be excluded by examination of the blood, and the nature of the puerperal infection determined by bacteriological investigation. The birth canal should be inspected for evidence of infection, and the practitioner should not hesitate to explore the uterus if it seemed necessary, and treat this cavity promptly and energetically, for, if this were done, the septic process could usually be controlled. Retained secundines should be removed, the cavity cleansed by the use of hydrogen peroxid and then Monsell's solution applied. If pyemia occurred, it was possible that life might be saved by an abdominal section. In advanced cases of puerperal sepsis our main reliance should be on an abundance of nourishing and easily assimilable food and the free use of copious hot saline infusions.

Venesection and Transfusion in Puerperal Eclampsia.

DR. ROBERT ABRAHAMS said that he had been led to adopt the treatment indicated by the title of his paper by the remarkable effect noted in an apparently desperate case of puerperal eclampsia, resulting from the occurrence of a profuse postpartum hemorrhage. His usual practice was to remove about 20 ounces of blood by venesection, and then immediately inject high up into the colon about three quarts of hot saline solution. Four cases were cited as examples of what could be accomplished by this means. The rationale of this treatment was that it removed considerable toxic material, relieved the intense cerebral congestion, induced free sweating and urination, and, by causing thirst, encouraged the patient to drink water freely, and so still further stimulated the emunctories. This combination of venesection and saline infusion was comparatively new, although venesection alone had long been a recognized mode of treating eclampsia. If the patient were on the verge of serious collapse it was better to introduce the saline infusion directly into a vein.

DR. RALPH WALDO said that he had never seen a case of puerperal sepsis in which he was willing to do a hysterectomy. His treatment of hospital cases consisted in thorough exploration of the uterus if the os were patulous, and the use of the dull curette.

DR. WILLIAM R. PRYOR also expressed his disapproval of hysterectomy as a surgical procedure in cases of puerperal sepsis. Curettage of the septic uterus had a mortality of 20 per cent., but curettage of the putrid uterus was a comparatively safe and simple procedure. His own method of treating puerperal sepsis consisted in isolating the infected uterus by a packing of 5 per cent. iodoform gauze, after curettage, and then counteracting the resulting iodism by the use of saline infusions.

DR. GEORGE TUCKER HARRISON paid a glowing tribute to the memory of Semmelweiss, to whom modern obstetrics owed so much. The cases of sapremia would recover almost without treatment, but the more virulent forms of puerperal sepsis were not readily controlled by any known treatment.

DR. S. MARX characterized cases of sapremia as those having a high temperature, a low pulse and a foul uterine discharge. Undoubtedly there was in such cases a positive indication for curettage, but it was utter folly to use any form of curette in cases in which there was no reason to believe there was in the uterus any material demanding removal. While his experience with Marmorek's antistreptococcus serum had been most disheartening, he had more recently secured some decidedly encouraging results from serum freshly prepared in this country. He had occasionally employed in cases of eclampsia the method advocated by Dr. Abrahams. Where it was indicated, there was usually also need to empty the uterus; hence, it was convenient to allow the bleeding to take place from the uterine sinuses instead of resorting to venesection. He had known very severe attacks of eclampsia to occur while the patient was so thoroughly under the influence of veratrum viride that the pulse was down to 60.

DR. L. ZWISOHN, speaking of the necessity for accuracy in diagnosis in cases of puerperal sepsis, called renewed attention to a symptom that he had found occasionally useful—a peculiar luster of the eye.

DR. BERNHARD COHEN was disposed to attribute a good deal of the puerperal sepsis to the fact that obstetricians were so poorly paid for their services that they could not make use of their best efforts. He believed that the average obstetric fee throughout this country was less than $10. The general practitioner was compelled to attend obstetric cases in the course of his daily routine, and hence it was not uncommon for him to go from scarlet fever or other infectious or septic cases directly to the lying-in chamber.

DR. E. A. AYERS thought one of the great causes of puerperal sepsis was the length of time of the exposure to infection, which was certainly vastly greater than in the operations of general surgery. He condemned the prevalent practice of resorting to chloroform in every case of puerperal eclampsia, often just when the patient most needed oxygen. He recommended the use of anticonvulsives and such measures as would stimulate the processes of elimination. Where the brain was threatened by the enormous intracranial pressure, venesection was certainly indicated, but there were many other cases of puerperal eclampsia in which Dr. Abrahams' method of treatment was inapplicable.

DR. WIGGIN, in closing, said that he felt that Dr. Pryor's method of treatment was irrational, for, although iodin acted on the products of bacilli it was not itself directly bactericidal; and the only benefit from opening the cul-de-sac and packing with gauze was that it caused the formation of adhesions.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Treatment of Stye (Hordeolum).

Dr. Casey A. Wood, in *Med. Standard,* states that styes are more often seen in young people and are the sign of a general disturbance of health. In many cases they are the symptoms of eye strain, resulting from an error in refraction. In the earlier stages before pus has formed he advises pulling out the eyelash which runs through the stye and touching the swelling with pure carbolic acid or tincture of iodin. Otherwise the stye should be opened and contents evacuated. Warm fomentations or hot stupes may be applied to relieve the pain and promote suppuration, and in a day or two a mild mercuric ointment should be rubbed over the diseased part. The following is recommended by him:

℞. Hydrarg. oxidi flav. .....gr. ii | 13
Vaselini puri .....ʒi 30 |

M. Sig.: Apply locally once or twice daily and rub in well.

Styes very frequently arise in anemic subjects and chlorotic girls. In such cases he recommends proper diet and fresh air, and the following as a tonic:

℞. Tinct. ferri chloridi |
Acidi phosphorici dil. |
Tinct. rhei, āā .....ʒi 3 | 75
Quininæ sulph. .....gr. iii | 19
Liq. strych. .....℥ss 15 |
Syr. simplicis, q. s. ad.....℥viii 248 |

M. Sig.: One teaspoonful three times a day in water.

Blepharitis Marginalis.

In cases of blepharitis marginalis, which involve the borders of the lids and is eczematous in nature, he recommends the removal of the crusts; in order to do this sometimes the eye lash has to be removed also, which will prevent the reformation of the crust. Otherwise, the crusts may be soaked with the following solution, and easily removed:

℞. Sodii carbonatis .....ʒss 1 | 90
Aq. destil. q. s. ad.....℥iii 93 |

M. Sig.: Apply locally to the crusts.

After the removal of all the scabs, an ointment similar to the following should be applied and thoroughly rubbed into the edges of the lids:

℞. Hydrarg. oxid. flavi. .....gr. ii | 13
Ung. aquæ rosæ .....ʒi 30 |

M. Sig.: Apply locally and rub in well at bedtime.

The following solution containing boric acid should be applied several times during the day:

℞. Acidi borici |
Sodii biboratis, āā .....gr. xv 1 |
Aq. rosæ .....ʒii 7 | 50
Aq. destil. q. s. ad.....℥i 31 |

M. Sig.: Apply locally several times a day.

Turpentine as an Antiseptic.

According to the *Med. Record,* glycerinated turpentine may be used with success as an antiseptic in the treatment of wounds. Dr. Kossobudsk fills a sterilized bottle with glycerin and adds a small quantity of turpentine. This should be well shaken and allowed to stand for two days; then he adds a small quantity of a 5 per cent. solution of hydrogen dioxid; it is then ready for use. As an antiseptic it checks excessive secretion when applied to wounds, relieves pain and swelling, and promotes the healing process. This action is thought to be due probably to the oxygen liberated and partly to the properties of the turpentine.

Gastro-enteric Infection of Infants.

Zahorsky, according to the *Med. Standard,* commences treatment with a dose of castor oil or mild chlorid of mercury, and in severe cases he orders colonic flushings. He also advises the exclusion of a milk diet, giving water only for a few hours. Later he recommends starchy gruels, egg albumin and veal or mutton broth. He does not place so much reliance in gastro-intestinal antiseptics, stating, however, that they may inhibit bacterial growth. He regards bismuth as the best drug, which may be combined with other antiseptics as follows:

℞. Bismuthi subnit. .....gr. lxxx 5 |
Bismuthi salicylatis .....gr. xx 1 | 33
Syr. rhei arom. .....ʒii 16 |
Aq. q. s. ad.....ʒii 62 |

M. Sig.: Take one teaspoonful every three hours.

Sometimes he combines resorcin with the bismuth as follows:

℞. Resorcin .....gr. xx 1 | 33
Bismuthi subnit. .....gr. lx 3 | 75
Syr. zingiberis .....ʒss 15 |
Aq. q. s. ad. .....ʒii 62 |

M. Sig.: One teaspoonful every two or three hours; or:

℞. Creosoti .....m. iv | 25
Bismuthi subnit. .....ʒi 3 | 75
Syrupi acaciæ .....ʒi 31 |
Aq. menth. pip. q. s. ad.....ʒii 62 |

M. Sig.: One teaspoonful every three hours; or:

℞. Guaiacol carb. .....gr. x | 66
Bismuthi subcarb. .....gr. xl 2 | 66
Pulv. arom. .....gr. i | 06

M. Ft. chart. No. x. Sig.: One every three hours.

The nutrition should receive the proper attention. Starvation may be proper for two or three days, but later food, consisting of proteids and carbohydrates, must be supplied.

The Uses of a Combination of Camphor and Menthol.

L. S. Somers, in *Merck's Archives,* recommends the combination of camphor and menthol in different strengths in liquid petrolatum as a local stimulant to the nasal mucous membrane. He recommends the following combinations in nasal and pharyngeal disorders by dropping them into the nose with a pipette:

℞. Camphor-menthol .....m. x | 66
Olei eucalypti .....m. x | 66
Olei petrolati q. s. ad.....ʒiv 120 |

M. Sig.: A few drops into each naris when there is local congestion of the nasal mucous membrane; or use as spray; or:

℞. Olei eucalypti .....ʒii 3 | 75
Olei cassiæ .....m. xl 2 | 66
Olei gauitheriæ .....m. xl 2 | 66
Camphor-menthol .....m. xl 2 | 66
Olei petrolati q. s. ad.....ʒiv 120 |

M. Sig.: Use as a spray to stimulate the mucous membrane in case of chronic pharyngitis associated with dryness of the membrane.

In cases of subacute and chronic rhinitis, before there is permanent tissue change, he recommends the following:

℞. Cocainæ hydrochlor. .....gr. ii | 13
Olei cassiæ .....m. x | 66
Camphor-menthol .....m. xv 1 |
Olei petrolati .....ʒii 60 |

M. Sig.: Use as a spray two or three times a day.

Treatment of Acute Gastralgia.

According to Short, as noted in the *Ther. Gazette,* gastralgia is essentially a condition in which the patient should be treated and not the disease. The functional activity of the stomach is not at fault, so that helps to digestion in the way of pepsin, etc., are of no benefit. A complete change, with alteration of of occupation and freedom from worry, will often stop the attacks. If this is impossible, the best thing to do is to give the stomach complete rest. This should be done by keeping the patient in bed and feeding him either by the rectum, or if orally, by giving as little as possible. He recommends active purging early in the trouble. For the attacks themselves morphin or cocain may be given in a draught. Sharp counter-irritation over the stomach by blistering is often very useful, just as in other forms of neuralgia. He recommends in some cases the application of the faradic current to the epigastric

region for a few minutes at a time to relieve the pain. Increase the current gradually until actual pain is produced if no inflammatory condition is present.

Hemorrhage of the Bowels in Typhoid Fever.

A. Thomson, of Adrian, Mich., in *Merck's Archives*, recommends a tablet containing gr. 3/4 of plumbi acetas and gr. 1/4 of pulverized opium, which should be given every half hour, or oftener if the case is urgent. Bismuth subnitrate or the subgallate is of great value as an antiseptic and aid in quieting the bowels. The bowels should not be evacuated for forty-eight or seventy-two hours, after which time an enema may be carefully administered. In cases of violent peristalsis and diarrhea hypodermic injections of morphin may be resorted to. Sometimes tannin, lead acetate and bismuth subnitrate in combination are quite effective. The application of the ice-coil to the abdomen is of great service in relieving the hyperemia and reducing the temperature. Astringent enemas are of no avail as they do not reach the location of the trouble. Castor oil is a safe cathartic and has proved very safe in his hands as a cathartic in this condition.

Medicolegal.

Care Required of Oculist as Physician—Expert Fees.—The Supreme Court of Louisiana says, in the malpractice case of Stern vs. Lanng, that the rule is well settled that the oculist who treats a patient must exercise in that regard the care and skill usually exercised by oculists in good standing. He may be rendered liable for his gross mistakes. This was an action against a reputable oculist of large experience to recover damages for the alleged unskilful and negligent manner in which he, as a physician, performed the duty he had assumed. In other words, it was for personal injuries alleged to have been sustained by reason of negligence and want of skill on his part in the method he followed in removing a tumor below the left eye. But it was not shown by a preponderance of testimony that he, through want of skill or negligence, committed a mistake for which he could be held pecuniarily liable. Experts testified that he followed the established practice, and it was not shown that he committed a gross error, the proximate cause of the injury of which complaint was made. Wherefore, on the ground that the law and the evidence was in his favor, the Supreme Court affirms a judgment which he obtained below. It says that the result of the treatment is not all that is necessary to a recovery of damages. It must be made evident that there was negligence or want of skill. Because there was intense pain felt by the patient after an incision, it says that it did not necessarily follow that it was owing to the negligence or unskilfulness of the physician. It remains that one who is suffering while undergoing a surgical operation is not always the best judge of the cause of the pain he feels. With reference to the complaint of the patient that the physician sought to lull his anxiety (which was natural) about his eye by telling him to be patient and let nature act, and in time it would be all right, the court does not think there was anything in this for which the physician could be held liable. Objection was made to three witnesses summoned by the physician being allowed $25 each, as experts, and the fees taxed as costs. Louisiana Act. No. 19 of 1884 provides for compensation to be fixed by the court where the testimony requires special study and experience, and the amount of compensation is in great part left to the judge. And, in upholding the allowance in this case, the Supreme Court says that the number of expert witnesses was not excessive, in view of the importance of the issues. It takes it as well settled that it is within the court's power to determine the amount of the compensation; also to restrain the litigant, and keep him within proper bounds, who summons or attempts to summon uselessly a number of expert witnesses.

Medical Services for Infant—Charging Wrong Person.—The Supreme Court of Mississippi says that in the case of Williams vs. Bonner the former was called as surgeon and physician by J. L. Bonner to attend upon his minor daughter, Ruby Bonner, who lived with him, some 10 miles in the country. Ruby was involuntarily shot by her own hand, was seriously wounded, and her life despaired of. The doctor's bill for $107.50 was agreed to be reasonable. He charged the account when made simply to J. L. Bonner, who declined to pay it, and was admittedly insolvent. But J. L. Bonner was the guardian of Ruby, who had a small estate in his hands, and the Doctor brought this suit, in chancery, against him as guardian. The defenses were: 1, that the Doctor having charged the account at first to J. L. Bonner individually was precluded from recovering the same of him as guardian; 2, it was said that Bonner could not, as guardian, contract to pay any sum of money, so as to encroach upon the capital of the estate of the minor in his hands, and therefore a suit could not lie against him as guardian under the circumstances of this case. The decision was against the Doctor in the lower court. But that is reversed by the Supreme Court. The latter says that it regards it as a matter of small moment that the account was first charged against Bonner individually. When all the facts and circumstances relating to the matter and to the persons connected with them were made known to the Doctor, he was then at liberty to charge his account as right and justice dictated. Continuing, the Supreme Court says that the doctrine relating to the duties of a trustee at common law (and in this category the guardian stands to his ward) requires him, when the life of the beneficiary is put in competition with the expenditure of his property, to sacrifice the latter, if need be, for the former. That medical services are necessaries to an infant may not, upon the authorities, be questioned; and that an infant himself (there being no other to do so) might call in a surgeon, and bind his estate for a reasonable fee, can not be denied, and what an infant himself might do, this court thinks a guardian could do for him. The general rule undoubtedly is that a guardian may not ordinarily exceed the income of the ward in his maintenance and education, without a previous order of court therefor. But there are exceptions to the rule, and in a case where the court, if it had foreseen the event, would have made an allowance therefor, though exceeding the income of the estate, there the guardian, of his own authority, and without previous authorization, may make the necessary expenditure. Assuredly, adds the court, this case, not to be anticipated by human wisdom or foresight, in which the despair of life of the ward called for aid from the principal of her own estate, and which aid none other would render, was one of the cases covered by the exceptions.

Liability for Spread of Smallpox by Escaped Patient.—The Supreme Court of Texas takes up the consideration of the case of the Missouri, Kansas & Texas Railway Company of Texas vs. Wood, accepting it as settled that the company's local surgeon had been duly authorized to take charge of an employe who had the smallpox. This being so, the principal question before it was whether the negligence of such surgeon in employing an incompetent nurse or attendant for the patient, and the negligence of such attendant in permitting him to escape while delirious, rendered the company liable for the damages sustained by a party by reason of the smallpox being communicated to him and his family by such patient. Counsel for the company argued that the quarantine of the patient was a public duty, which the city might have taken in hand without liability for the acts of its officers, drawing therefrom the conclusion that for performing the same acts the company was entitled to the same immunity. But the Supreme Court says that the company did not represent the State of Texas, and was not entitled to the immunity from liability which is accorded to the state. Then, the proposition was urged that the company owed no duty to the party claiming damages, and that therefore there was no liability at his suit for the patient's escape. But the court holds that this case belongs to the class where the duties are intended to benefit the individuals composing the public, because whatever affects the health of the community necessarily affects the individual members thereof; and that, when the duty to prevent the spread of a contagious disease rests upon a private corporation or person, an obligation arises in favor of each member of the commun-

ity, and a right of action exists in favor of him who suffers from its breach. And it holds that whenever the duty of restraining another arises, and the power of control over him exists, liability will follow upon a failure to perform the duty. If the company had undertaken to keep a horse known to be affected with a contagious disease at the same place and by the same means, and the horse had been permitted, through the negligence of the attendant, to escape, and had communicated the disease to a horse, the property of the party asking damages in this case, there would have been no doubt of the company's liability for the damages. If there was a sound reason for denying to him as great security for his wife and children against the diseased man as would have been accorded to him in favor of his beasts against a diseased horse, the court says that it had not been suggested by counsel, and that it was unable to discover any tenable basis for the distinction. The amount of diligence which was required of the company depended upon the character of the disease and the danger of communicating it to others. In the end, the court says that the object of placing this patient in a tent and supplying a nurse and guard for him was not alone to care for and to provide for him, but also to protect the public against infection by contact; and when the railway company undertook to treat him for the disease, and to care for him at the place designated by the mayor of the city, it assumed the duty of using ordinary care to prevent the patient from exposing himself in delirium, or from being exposed otherwise, so as to communicate the disease to other persons; and, having failed, through the negligence of its employes, to use such care, and by reason of its negligence the patient having escaped and communicated the disease to this other party's family, the company was liable for the damage caused thereby. Hence, the question propounded was answered in the affirmative.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record (N. Y.), March 1.

1 *Some Varieties, Complications, and Sequelæ of Smallpox as Noted in the Norfolk Epidemic of 1898-1899. Lemuel C. Shepherd.
2 *Follicular Tonsillitis. Robert C. Brown.
3 A Case of Presenile or Angiosclerotic Gangrene Precipitated by Influenza. Theodore B. Barringer, Jr.
4 Discoveries in Pathology. Mary D. Jones.
5 Report of Five Cases of Ulcer of the Esophagus, Diagnosed as Pulmonary Tuberculosis. Mark I. Knapp.

Medical News (N. Y.), March 1.

6 *Suturing the Head of the Humerus to the Acromion in Old Subcoracoid Dislocation. Carl Beck.
7 Diphtheria; with Special Reference to the Symptoms and Treatment. Lawrence T. Royster.
8 *Acute Pelvic Suppuration; Its Conservative Treatment. John O. Polak.
9 *Ventrofixation: A Suggestion. Victor C. Pedersen.
10 *A Case of Leukemia, Preceded by Mucosanguinolent Colitis and Physiologic Leucocytosis. G. W. McCaskey.

American Medicine (Philadelphia), March 1.

11 *Remarks on the Diagnosis of Pancreatic Disease. William S. Thayer.
12 A Case of Very Persistent Laryngeal Stenosis. J. P. Crozer Griffith.
13 *The Treatment of Acute General Peritonitis. Eugene A. Smith.
14 A Preliminary Statement of the Alkalinity of the Blood in Infections and the Infusion of Salts Derived from Horse's Blood-ash as a Therapeutic Measure. A. Emil Schmitt.
15 Respiratory Gymnastics; Empyema and Atelectasis; Lung Reflex; The Heart in Diseases of the Lungs. Albert Abrams.
16 *Suggestions to Anesthetizers. Frank E. Simpson.
17 *Some Remarks on the Use of Adrenalin as an Addition to Solutions for Local Anesthesia. Charles A. Elsberg.

New York Medical Journal, March 1.

18 Cholelithiasis, Cholecystitis and Cholangitis. William H. Thomson.
19 *Some Notes on the Early Diagnosis and Treatment of Pulmonary Tuberculosis. J. Edward Stubbert.
20 A Bougie Removed from the Abdominal Cavity; Ruptured Umbilical Hernia. Joseph T. Johnson.
21 Traumatic Rupture of the Gall-bladder without Injury of the Liver; 64 Ounces of Bile in the Abdominal Cavity; Recovery. DeForest Willard.
22 *The Value of the Eosinophile Count in the Differential Diagnosis of Human Blood. Orrin S. Wightman.

Boston Medical and Surgical Journal, February 27.

23 *Five Maine "Murders." Addison S. Thayer.
24 *The Significance, Pathological and Clinical, of Abdominal Pain. (Concluded.) Maurice H. Richardson.
25 *Some Points of Value in the Diagnosis of Disease of the Abdominal Organs. Henry Jackson.
26 Acute Perforation of a Malignant Ulcer of the Pylorus Resembling a Case of Acute Appendicitis. E. A. Codman.
27 Bronchopneumonia in Epidemic Form. William W. McKibben.

Philadelphia Medical Journal, March 1.

28 *Two Cases of Adiposis Dolorosa; One in a Man, Complicated by Epilepsy; Another in a Woman, Presenting also Circinate Retinitis. F. X. Dercum.
29 A Case of Ascites, Due to Hepatic Cirrhosis, Treated by Transplanting the Omentum between the Peritoneum and Abdominal Wall. W. J. Roe and Geo. W. Spencer.
30 The Progress of Knowledge Concerning Venom and Antivenene, a Synoptical Review of the Literature of the Past 15 Years. (Continued.) Joseph McFarland.
31 *The Recognition and Training of Mental Defectives. Martin W. Barr.
32 *A Further Report on Cases of Tuberculosis Treated by Intravenous Injections of Sodium Cinnamate. Alfred Manu.
33 *The Ice-pack and Its Definite Therapeutic Advantages Over Other Methods. Lester L. Roos.

St. Louis Medical Review, February 22.

34 *Prostatectomy; Presentation of Six Operated Cases, with Remarks upon the Technique of the Operation. J. P. Bryson.

March 1.

35 Report of a Case of Hydrocephalus (Possibly Acquired) with Postmortem. Louis Rassieur. With Pathologic Features of the Case. Carl Fisch.

Cincinnati Lancet-Clinic, March 1.

36 Forceps. Magnus A. Tate.
37 Rest and Recreation by a Busy Physician. Geo. J. Monroe.

Pediatrics (N. Y.), February 15.

38 *Artificial Infant Feeding. Samuel A. Visanska.
39 *The Eye Defects which May Cause Apparent Mental Dulness and Deficiency in Children. Charles S. Bull.
40 Epidemic Cerebrospinal Meningitis; Meningeal Hemorrhage; Intussusception; Diaphragmatic Hernia. Isaac Abt.

Annals of Gynecology and Pediatry (Boston), February.

41 *Management of Fibromyomata Complicated by Pregnancy. Miles F. Porter.
42 *Myomectomy; Its Place in the Treatment of Fibromyoma of the Uterus. O. Beverly Campbell.

Iowa Medical Journal (Des Moines), February 15.

43 The Mental Condition of Assassins of Public Men. Richard Dewey.
44 Syphilis. M. E. Silver.
45 Myoma of Broad Ligament. Kate S. Harpel.
46 Present Status of the Question of Tuberculosis. Eli Grimes.
47 Sarcoma of Femur. D. D. Cohen.

American Practitioner and News (Louisville), February 1.

48 *Management and Treatment of Typhoid Fever. W. F. Boggess.
49 Clinical Memoranda of a Few Rectal Cases. John B. Enright.

Peoria Medical Journal, January.

50 Gallstones; Pathognomonic Symptoms of Recurrent, Partial or Complete Impaction of Bile Ducts; Operative Treatment. Otis Johnston.
51 Treatment of Syphilis. J. C. Paine.

Hot Springs Medical Journal, February.

52 *Sterilized Vellum for Preventing Adhesions After Laparotomy. Charles H. Cargile.
53 *Typical Forms of Pneumonia Complicating La Grippe. Claiborn Watkins.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), December, 1901.

54 The Light Cure in Lupus. William F. Breakey.
55 A Study in Obstetrics. James E. Davis.
56 Conservative Treatment of Emergency Surgical Cases. Frank B. Walker.
57 Some Practical Thoughts Regarding Affections of the Ear. Emil Amberg.
58 The Restriction of Scarlet Fever. Guy L. Kiefer.
59 Why Does One Take Cold? Alexander Stewart.

Archives of Pediatrics (N. Y.), February.

60 *A Contribution to the Symptomatology of Cretinism and Other Forms of Idiocy. Henry Koplik and Jacob Lichtenstein.
61 *An Account of a Mild Epidemic of Uncertain Nature in Children. Rowland G. Freeman.
62 Multiple Arthritis in a Child 2 Years Old Suffering from Gonorrheal Vulvo-vaginitis. Geo. N. Acker.
63 *Hare-lip. B. K. Rachford.
64 General Subcutaneous Emphysema Complicating Pneumonia. Samuel Pierson and Walter L. Carr.
65 Cough in Influenza Simulating Whooping Cough. Alfred Friedlander.

Medical Bulletin (Philadelphia), February.

66 One Thousand Ophthalmic Operations. (Continued.) L. Webster Fox.

67 Association of Hysteria with Insanity. F. Savary Pearce.
68 The Modern Treatment of Rheumatism. F. Sontag.

Mississippi Medical Record (Vicksburg), February.

69 Prophylaxis and Treatment of Sexual Perversions—A Plea for More Rational Methods in Sexual Education. E. F. Howard.
70 Remarkable Loss of Weight in Hemophilia. M. F. Coomes.

Alabama Medical Journal (Birmingham), February.

71 Malarial Toxemia as a Cure of Puerperal Convulsions; with Report of Two Cases. E. O. Williamson.
72 The Conservative Surgical Treatment of Appendicitis. W. E. Fitch.
73 Some Uses of Static Electricity. J. B. Goodwin.

University of Pennsylvania Medical Bulletin (Philadelphia), February.

74 Snake Venom in Relation to Hemolysis, Bacteriolysis and Toxicity. Simon Flexner and Hideyo Noguchi.
75 *A Case of Complete Absence of the Visual System in an Adult. William G. Spiller.
76 A Case of Tuberculosis of the Skin Following Accidental Inoculation with Bovine Tubercle Bacillus. Mazyck P. Ravenel.
77 An Extensive Case of Vitiligo. Henry Norris.

Medical and Surgical Monitor (Indianapolis), February 15.

78 Description of a Set of Mastoid Gouges. Geo. F. Keiper.
79 A Report of Three Abdominal Operations. Hannah M. Graham.
80 Injury to the Cranial Bones before Closure of Fontanelles Causing Epilepsy; Recovery After Operation. William B. Fletcher.
81 A Study in the Evolution and Psychology of Sex. (Continued.) N. E. Aronstam.
82 Epithelial Carcinoma—Treated by the X-Ray. Lilliau A. Crockett.

Medical Examiner and Practitioner (N. Y.), February.

83 Modern Life Insurance—Does Its Medical Selection Reflect the Scientific Advance of the Past Century? Charles L. Greene.
84 Hernia in Relation to Life Insurance. W. B. DeGarmo.
85 Hernia Considered from the Point of View of Insurance Against Accidents. Y. Coert.
86 The Environment of the Medical Examiner. A. C. Cotton.
87 Albuminuria Considered from the View of Life Insurance. B. J. Stokvis.

Annals of Surgery (Philadelphia), February.

88 *The Technics of Nephropexy. George M. Edebohls.
89 Note on the Distribution of the Branches of the Internal Iliac Artery and the Zones of Exsanguination Resulting from Its Deligation. Byron Robinson.
90 *Ligation of the Abdominal Aorta for Aneurysm. Robert T. Morris.
91 The Symptomatology, Diagnosis and Treatment of Carcinoma of the Cecum, with a Report of Two Cases. Charles Greene Cumston, and Albert Vanderveer.
92 Elbow Fractures in Children. Frederic J. Cotton.

The Post-Graduate (N. Y.), February.

93 Otorrhea in Children. Max Toeplitz.
94 Clinical Lectures. Seneca D. Powell.
95 Notes from the Clinics. Dr. Caille, William B. DeGarmo, Samuel G. Gaut, and D. B. St. John Roosa.

Providence Medical Journal, January.

96 Epidermoid Carcinoma; with Some Reference to Its Treatment by the Cancer Quacks. Walter Lee Munro.
97 Some Phases of Epilepsy and the Epileptic Constitution. George F. Keene.
98 Notes from the Providence Lying-in Hospital for the Month of October, 1901. Halsey DeWolf.
99 Methods Proposed for the Restriction of Tuberculosis in Providence. C. V. Chapin.

Western Medical Review (Lincoln, Neb.), February 15.

100 *Hemochromatic Bodies in Pernicious Anemia. William K. Yeakel.
101 Treatment of Acute Otitis Media by the General Practitioner. F. S. Owen.
102 *The Misleading Significance of Ovarian Pain. C. Lester Hall.
103 *Treatment of Irreducible Backward Dislocation of the Astragalus by Opening the Joint and Repositing the Same. W. Jepson.
104 Dynamic Medication. L. A. Merriam.
105 Observations in Europe. John P. Lord.
106 The Diagnostic Value of the Gastric Functional Signs. Alfred O. Peterson.

Canadian Practitioner and Review (Toronto), February.

107 Smallpox and Vaccination. (To be continued.) John Caven.
108 A Résumé of Facts Relating to the Digestive Organs in the Infant. C. S. McKee.

Journal of Medicine and Science (Portland, Maine), February.

109 *An Operation for Ventrosuspension of the Uterus and Ovaries. W. L. Cousins.
110 Some Phases of Quackery. P. J. Noyes.
111 Some Unsolved Problems in Tenement-house Life. S. A. Knopf.
112 A Practical Method of Controlling Nasal and Uterine Hemorrhages. E. Gard Edwards.

Occidental Medical Times (San Francisco), February.

113 Simulation of Insanity. (Concluded.) A. W. Hoisholt.
114 Erythema Following Injection of Antidiptheric Serum. Frank P. Gray.
115 On Some Forms of Conjunctivitis, Chiefly Etiologically. C. S. G. Nagel.
116 New Surgical Points on Appendicitis. J. Coplin Stinson.
117 Camphoroxol and Menthoxol in Suppuration of the Middle Ear. A. E. Phelan.
118 Hygiene and Treatment of Tuberculosis. T. B. Holmes.
119 Is Astigmatism Like Myopia, Ever Progressive? George C. Pardee.

Fort Wayne Medical Journal-Magazine, January.

120 *Formaldehyde in the Treatment of Germicidal Diseases. H. C. Howard.

Mobile Medical and Surgical Journal, February.

121 Insanity. E. D. Bondurant.
122 Diseases of the Maxillary Sinus with Report of Sarcoma. A. A. Greene.
123 Ectopic Pregnancy—Report of a Case. W. H. Sledge.
124 Adrenalin. R. F. Harper.
125 Treatment of Acute and Chronic Gonorrhea of the Male Urethra. W. R. Jackson.
126 Lacerations of the Perineum. J. B. Killebrew.

Detroit Medical Journal, February.

127 Pathologic Conditions Impairing the Singing Voice. Francis X. Spranger, Jr.
128 The Value of Abdominal Palpation in the Diagnosis of Diseases of the Stomach and Intestines. Charles D. Aaron.
129 Vaccination and Chicken-pox. E. S. Sherrill.
130 The Medical Treatment of Gallstones. E. S. Sherrill.
131 Electro-therapeutics. Orville W. Owen.

Southern Medical Journal (La Grange, N. C.), February.

132 In Memoriam: Dr. Charles J. O'Hagan. Thomas M. Riddick.
133 *Treatment of Diphtheria. R. A. Patterson.
134 Paralysis; A Report of Cases. M. B. King.

Southern California Practitioner (Los Angeles), February.

135 A Plea for the More Careful Removal of Foreign Bodies from the External Auditory Canal. Thomas J. McCoy.
136 Report of Two Cases of Cataract with the Usual Complications. Geo. S. Hull.
137 Symptoms of Eye Strain. W. S. Fowler.
138 Reduction of Nasal Obstruction with London Paste. A. C. Rogers.

Texas Medical News (Austin), February.

139 Neurasthenia. J. K. Brown.
140 Some Interesting Cases in Surgery. T. J. Bennett.
141 Obstetric Forceps; History, Indications and Uses. O. H. Radkey.
142 Intra-peritoneal Retro-uterine Hematoma—Report of a Case. H. A. Barr.
143 Acute Lobar Pneumonia. D. M. Cooke.

Charlotte Medical Journal, February.

144 Diseases of the Ovaries. W. Gill Wylie.
145 Some Amusing Instances of Nasal Reflex. Arthur G. Hobbs.
146 A Case of Emergency Surgery in the Country. H. W. Lewis.
147 Some Duties of the Physician with Regard to Two Important Factors of Heredity and Environment. I. A. McSwain.
148 Penetrating Wounds of the Eyeball. B. R. Kennon.
149 Does It Pay to Give Cod-liver Oil in Consumption? H. Y. Ostrander.
150 Thyroiditis. F. R. Millard.
151 Modern Methods of Treating Syphilis. Eugene C. Hay.

---

1. **Smallpox.**—Shepherd describes certain varieties observed and gives observations from the recent epidemic of smallpox. A few of these may be mentioned. In some cases there was a picture of corymbose or confluent patch type of the disease, and in some other cases the eruption toward the close of its development became surrounded by red and very much indurated bases; the solid parts of the pocks remained, and were much raised above the surface of the integument; they continued to grow until they formed papular excrescences resembling warts, which were hard to reduce. He suggests the tubercular diathesis in these cases. The most frequent complications were eye affections; conjunctivitis in about ten per cent. In a few cases there was marked ptyalism in the beginning of the vesicular stage, which continued into the late scabbing stage. In others there were enlarged submaxillary and sublingual glands. Secondary infections seem to attack certain cases, aggravating the cutaneous lesion and prolonging convalescence. In the two cases in which the disease occurred the second time the individuals claimed to have had smallpox in childhood and showed pits in evidence. They both had well-marked, though discrete, cases in the second infection.

2. **Follicular Tonsillitis.**—In this article Brown describes follicular tonsillitis and remarks that it is one of the most satisfactory diseases to treat. He finds the best results from the use of salicylate of soda and gives coal-tar products to relieve headache and pain. The points which he has endeavored

to present are summed up as follows: 1. That follicular tonsillitis is not caused by a single microbe, but that many well-known micro-organisms are capable of causing it. 2. That the symptoms of tonsillitis are partly caused by an exaggeration of its function. 3. That under the stimulus of infection the lymph corpuscles in the adenoid structure of the tonsil produce an antitoxin that is antagonistic to invading germs. 4. That the characteristic symptom is an exudate having no texture and non-adherent. 5. That the presence of the Klebs-Loeffler bacillus is not positive evidence that the disease is not a simple follicular tonsillitis. 6. Lastly, that there seems to be some relation between follicular tonsillitis and the infectious diseases which is not yet properly understood; that whatever the function of the tonsil, it seems in disease to endeavor by its activity to assist nature in eliminating infection. He says that many cases diagnosed as diphtheria are really follicular tonsillitis. He thinks that antitoxin has been given ten times in follicular tonsillitis where it has been given once in diphtheria. This does not mean that he depreciates antitoxin, which he considers the supreme remedy in diphtheria.

6. **Suturing the Head of the Humerus to the Acromion.**—In a case of old shoulder dislocation which had resisted numerous attempts at reduction, a nearly semilunar incision was made by Beck, beginning at the acromion and running over the intertubercular sulcus and extending vertically alongside the anterior surface of the arm, exposing both the joint and the acromion. After careful dissection of the adhesions the humerus was successfully rotated into the glenoid cavity, but there was a pronounced tendency to forward displacement which could not be overcome by additional exposure. He therefore fastened the head of the humerus in the cavity by sutures to the acromion after having drilled a hole through the acromion as well as through the head of the humerus. The latter was found to be very soft; a skiagraph taken two weeks later showed the joint in a good condition; good results seemed to have been secured. It seems to him that this procedure is far superior to resection of the head of the humerus, as advised by many surgeons, no force being required, and by it laceration of muscles, blood vessels and nerves is easily avoided.

8. **Acute Pelvic Suppuration.**—The conservative treatment of pelvic suppuration is the subject of Polak's article. The statements and claims he gives are summarized as follows: 1. Early diagnosis in pelvic suppuration is imperative. 2. When the diagnosis is made, operate. 3. The vaginal operation is the one of choice. 4. When it is done early with strict asepsis it is curative and may preserve the function of the woman's organs. 5. It improves the patient's condition, makes subsequent operation easy, prevents rather than causes adhesions. 6. It may be used for diagnosis in obscure cases without shock or injury to the patient (if aseptically performed). Finally, this operation may be applied to every acute suppurative condition within the pelvis.

9. **Ventrofixation.**—Pedersen suggests an operation on the principle of McBurney's intramuscular method of suturing the abdomen in appendectomy and remarks that the procedure has probably not been described in medical literature. The details as given by him are as follows: 1, exposure of the sheath of the rectus through a median cutaneous incision two or three inches long; 2, strong retraction of the skin to one or the other side; 3, opening the sheath of the rectus about three-quarters of an inch from the median line; 4, liberal loosening of the rectus from its sheath and retraction of it as far outward as possible; 5, opening of the peritoneal cavity; 6, loosening of the peritoneum behind the linea alba; 7, search for large vessels at this point; 8, passage of the sutures as follows: The median edge of the peritoneal wound is seized with forceps and the needle is introduced half an inch away from the middle line; it is next carried through the uterus, emerging beyond the median line on the opposite side; it is then passed forward through the peritoneum, previously loosened as described, and then through the linea alba sufficiently deep to secure a firm hold; the two ends are then seized in an artery clamp; the other suture is passed in the same way and both are tied, so that the knot is extraperitoneal; 9, suture of the peritoneum; 10, restoration of the rectus to its sheath; 11, ordinary layer sutures close the rest of the wound. The result of this operation is that the uterus is suspended in the median line, as in Kelly's original operation, while the scar is lateral to the point of fixation and is itself protected by the healthy rectus muscle, being "staggered." In closing the sheath of the rectus mattress sutures were used, so arranged that they did not pull on a single bundle, but on many bundles of fibers. This was accomplished by passing the needle near the edge on the right side of the wound and emerging quite far from the edge on the left side. Then on the left side it again pierced the fascia near the edge and emerged on the right side far from the edge. When these stitches were tied this arrangement gave perfectly uniform apposition and the advantage of there not being any likelihood of their cutting through at the least strain. Another detail which seemed very advantageous in two cases operated on was the insertion of a retention catheter into the bladder before the uterus was suspended. By this it was possible to inject six to ten ounces of sterile salt solution and indicate the best place for fixing the uterus with the bladder full. This enables one to avoid pressure of the uterus on the bladder for the first few months it is hoped, and in neither of his cases has the patient suffered from this cause.

10. **Leukemia.**—After reporting a case of leukemia, McCaskey notes certain points of interest, the most important one being the preceding existence of chronic colitis of long standing associated perhaps the greater part of the time with catarrhal disease of the small intestine. This, taken in connection with physiologic leucocytosis definitely recognized before the appearance of myelocytes, raises a very interesting question of etiology. The relationship of chronic colitis and leukemia is of interest. He does not consider it evidence as to the possible infectious nature of leukemia, though it is strongly suggestive. Just what is required beyond the toxic action or malnutrition of intestinal origin is not easy to say. It may be spoken of, he says, as a general vulnerability—a peculiar tendency to take on degenerative changes of embryonic type—on the part of the tissue under consideration. If this is unsatisfactory as an explanation it is not more so than the explanation given for the effects of family predisposition in tuberculosis.

11. **Pancreatic Disease.**—In answer to the questions: What criteria do we possess for recognizing gross anatomical changes in the pancreas? What means have we for appreciating disturbances of function of the pancreas? What are the diagnostic features of the more important changes in the pancreas? Thayer goes over the data in our possession and remarks: "In conclusion, it may be said that while we possess as yet no diagnostic symptom of pancreatic disease, unless indeed further observation should confirm the possibility of the demonstration in acute pancreatitis, of the fat-splitting ferment in the urine, yet clinical and pathologic experience have taught us certain combinations of symptoms which justify a diagnosis in various forms of pancreatic disease. Acute pancreatitis should be recognized in many instances. The importance of an early recognition of those cases which go on to extensive necrosis and to suppurative parapancreatitis is easily appreciable. Chronic interstitial pancreatitis is to be suspected under the following conditions: 1. Instances in which glycosuria develops in an individual with chronic cholelithiasis. 2. In cases of glycosuria in association with cirrhosis of the liver. 3. In glycosuria in the course of hemochromatosis. 4. In glycosuria following attacks suggestive of pancreatic colic. Pancreatic lithiasis is recognizable only when calculi are found in the stools. Cysts of the pancreas are usually to be recognized on account of their location. Primary cancer of the pancreas is often latent. The presence of obstructive jaundice with distended gall-bladder and rapidly developing cachexia, in association with little or no hepatic enlargement, is suggestive of this affection. Fatty stools—in the absence of diarrhea or jaundice—together with indications of interference with the digestion of albuminoids, are valuable confirmatory evidence of deficiency or absence of the pancreatic secretion."

13. **Peritonitis.**—Smith's article is in effect a plea for operative treatment of peritonitis; he thinks the high mortality in

operative cases has been due to late operations. He believes in the use of flushing with saline solution and drainage. He says that in these cases the abdominal incision should be left as open as is consistent with retaining the abdominal contents. Silkworm gut sutures to the peritoneum approximating the upper and lower edges of the incision are best, and gauze compresses may be tucked loosely into the gaping wound to hold back the intestines until adhesions have formed. The dressing can be secured with adhesive strips and a many-tailed bandage. After the conclusion of the operative work he dilates the anal sphincter to make the later escape of the flatus as easy as possible. His post-operative treatment consists in the use of strychnia hypodermically in severe cases, rectal flushing with salt solution, morphin to relieve pain, stimulants, and whisky given as soon as it can be borne by the stomach. After the fourth or fifth day calomel may be given in hourly half-grain doses with sodium bicarbonate, Rochelle salts or compound jalap powder as a laxative, followed by turpentine and glycerin enema if required. Nourishment by the mouth is absolutely forbidden for three to six days after operation, and he begins it cautiously with meat broths, withholding milk until the second week in convalescence. The point he specially wishes to emphasize is the surgical procedure, which he thinks we should follow, in view of the fact that acute general peritonitis, as a rule, proves to be fatal when neither irrigation or drainage is employed.

16. **Suggestions to Anesthetizers.**—The following is a recapitulation of Simpson's suggestions in this article: 1. Give the patient your undivided attention. 2. Give the anesthetic slowly. 3. Keep the patient's lower jaw forward. 4. Give the anesthetic most cautiously (especially chloroform) when the stage of unconsciousness is at hand. 5. During deep anesthesia watch particularly the respiration, but also the pulse, eye and color. 6. The rolling of the eyeballs from side to side is the first and most easily observed indication of returning consciousness.

17. **Adrenalin in Anesthetic Solutions.**—From experiments, Elsberg is convinced that the addition of adrenalin chlorid in proportion of 1 to 5000 to 1 to 20,000 solution for local anesthesia has a distinct value in minor operative surgery in that it almost entirely does away with the oozing of blood from the wound. As adrenalin is a cardiac stimulant, he says it has the additional advantage that it will counteract the depressing effect of the eucain or cocain; because it keeps the local blood vessels firmly contracted for a number of hours, it will prevent the congestion, and hence the pain which is so apt to follow after the anesthetic effects have worn off.

19. **Early Diagnosis of Pulmonary Tuberculosis.**—The importance of the physician informing the patient as to his condition is the first point noted by Stubbert, who maintains that inasmuch as the patient should co-operate in the treatment this has an important bearing on the outcome. He considers the predisposing factors—the heredity, scrofulosis, defective or insufficient food associated with imperfect ventilation, grief, overwork, frequently recurring catarrh, damp localities, race, shape of the chest, traumatism, former pulmonic or pleuritic disease, chronic catarrhal troubles. Vital capacity, as defined by H. P. Loomis, when found below the normal standard, is a strong predisposing factor. Gradual loss of weight and increased activity of heart action should always lead to a chest examination. Other early symptoms he mentions are a slight hacking cough with or without sputum (first eliminating laryngeal or pharyngeal causes), slight night sweats, slight evening rise of temperature, loss of appetite, weight, hoarseness, tired feeling in the afternoon, blood spitting and even small hemorrhages. A rapid pulse accompanying some of the above-mentioned symptoms, always over 100 or 110, should lead us to suspect tuberculosis. The physical signs should be looked for carefully. Slight flattening of the supra- and infra-clavicular regions with prominent clavicle may be present. Expansion is a rather indefinite symptom. It is well to observe posteriorly as well as anteriorly, but he thinks that chest expansion should not be relied upon, for consolidation may occur before it is prominent. Percussion signs are not always distinct. In most cases, however, we will get a slightly high-pitched percussion note in the infra-clavicular space and increase of vocal resonance with prolonged expiration. If we have with this a bronchovesicular rather than a bronchial breathing we should suspect tuberculosis. Occasionally we find a cog-wheel respiration, but not as a rule in the early stages. The râles in the early stage are rarely heard. As many of the incipient cases present no expectoration whatever, and if sputum exists bacilli may be absent, bacterial examination of the sputum loses much of its value as a negative factor. If there should be a slight expectoration with bacilli we need go no further before making the diagnosis, but finding none in the sputum is no reliable guide. The tuberculin test he has not found to fill our expectations as a diagnostic test, for it fails in some cases and reactions occur in some syphilitic cases. Examination of the larynx may or may not give us definite information; a slight anemic condition is what may be expected. The blood examination, according to the Loomis Sanatorium experience, shows that pure tubercular disease has very little effect on the blood and that the diplococcus lanceolatus associated with the tubercle bacilli was the primary cause of severe anemia in sixty cases. In tubercular diarrhea it is the drain on the body albuminoids and not the tuberculosis which is the cause of the severe chloranemia. Any slight rise in temperature has not the slightest effect on the hemoglobin. The temperature we get in mixed infection drains the red blood corpuscles of their vitality and lowers their number. In mixed infection with cavity and moist râles and secondary anemia with leucocytosis 75 cases showed the polymorphonuclear cells increased at the expense of the leucocytes, the latter being of the large variety. But when the moist râles disappear and the cavity dries up, the leucocytes disappear. The blood of pulmonary hemorrhages does not show any nucleated red cells. The perfectly normal blood, accompanied by loss of weight and other rational symptoms, should not negatively effect the diagnosis of tuberculosis. The Roentgen rays are mentioned as a valuable test, and he gives special details as to their findings and method. A more or less restricted action of the diaphragm is noticed as an invaluable indication of incipient phthisis. As regards treatment, he remarks that the upper air-passages should always be looked into, as lesions of more or less severity generally exist there. The anemia should be corrected. Hydrotherapy is a valuable factor in the treatment, and exposure to parallel rays from a powerful arc light, followed by static electricity in the form of negative insulation, appears in many instances to improve the nutrition and increase the hemoglobin. Hot-air inhalations and cold sprays are valuable, and there seems to be evidence that the anti-tuberculin serum has some value. Especial attention should be paid to the diet and the condition of the stomach should be looked after, as gastritis and dilatation are common in these cases. He thinks that siphon irrigation and sometimes the Einhorn method of faradization is often imperatively demanded. He suggests that the injudicious use of drugs is often damaging in this particular regard.

22. **The Eosinophile Count.**—Noticing a statement in one of the medical journals that human blood could be differentiated from the blood of animals by the relatively high percentage of eosinophile cells, Wightman has investigated the subject and comes to the following conclusions: 1. That in this series examined eosinophilia may occur in higher percentage in animal's blood than in human blood. 2. That the physical condition of the animal whose blood is to be compared may play an important part in the increase or decrease of eosinophiles present. 3. That in the specimens examined the polymorphonuclear counts were low and the lymphocytes high, exactly contrary to conditions present in normal human blood. 4. That the eosinophile count is not a constant or trustworthy factor in diagnosis, but, on the other hand, is very unreliable and unsatisfactory; and, finally, 5. As a comparative test the eosinophile count is a negative quantity.

23. **Five Maine Murders.**—Thayer's histories of the cases here noticed and analysis of the facts of criminal medical jurisprudence in Maine show that the plea of insanity has very little effect in that state. Insanity there has never been

a cloak for homicide. Within the last tweny-five years there have been at least five cases of homicide in which the doer of the act has been insane before and after he did it, and there is at least a high degree of probability that tne act itself was the product of his insanity. Nevertheless, these men have been convicted. These convictions are to be attributed in part to the explicit, lucid, archaic, and rigorous rulings of the courts. The practical working is that in Maine the "only proper legal criterion is to concede irresponsibility only to idiots and maniacs." He thinks the realization of these facts on the part of the courts, the prosecuting officials and the public, together with increasingly accurate knowledge of the nature of mental disease, must inevitably lead to verdicts more just, scientific and humane.

24. **Abdominal Pain.**—Richardson's article is finished in this issue. His conclusions are as fonows: When a patient has been siezed with sudden severe abdominal pain, 1. The pain should not be masked by opiates before the surgeon has an opportunity to see the case. 2. The previous history, accompanying symptoms and physical signs must be carefully considered. 3. Careful examination of the thorax and abdomen in all cases of pain should never be omitted. 4. When hemorrhage is suspected, the abdomen should always be explored. If the patient is in collapse and the pulse apparently too weak to allow the patient to undergo exploration, preliminary infusion of salt solution should be made into the veins or under the skin. 5. When the pain is excruciating and the abdomen shows signs of infection, exploration should be made at the earliest possible moment. 6. The seat of the initial pain, as described by the patient and his friends, is a good guide to the incision when, from other symptoms, the surgeon is in doubt. 7. The history and signs other than pain must be relied upon for exact or reasonably positive diagnosis. 8. When some of the rarer abdominal lesions are suspected, exploration should nevertheless be made. Such an exploration may be useless, but if resorted to as a routine procedure in all cases, the greatest possible number of lives would be saved. 9. When there is the least question, the genuineness of the pain should be tested as thoroughly as possible. 10. The pain of an atypical typhoid, of a pleurisy, of a pneumonia, must be guarded against. When typhoid is prevalent in a community the greatest care must be taken lest the surgeon be misled by the pain of such a case. 11. The observer must be on his guard lest he confuse the pain of simple functional disturbances with that of organic disease; he must rely upon the accessory signs of the organic lesion. 12. When in grave doubt as to the significance of pain and other symptoms, the benefit of the doubt should be given the patient by surgical exploration. 13. Finally, when no exploration is regarded as justifiable, pain should be controlled by morphia, by hypnotics, or, if necessary, by general anesthesia. With very few exceptions, however—chiefly cases of renal and biliary colic—the pain that demands general anesthesia demands operation.

25. **Diagnosis of Abdominal Disease.**—The first special point of value to which Jackson calls attention is pain. Nothing is less reliable, but every attack of pain must receive our most careful attention, though it may not be a symptom of serious import. Nausea and vomiting are of the greatest importance and should be carefully considered in the history of any abdominal case. It is rare to find any acute disturbance of the peritoneum without their occurrence. On the other hand these disturbances are not so common in colic or abdominal disturbances from other causes. Another point of value in the history is the occurrence of constipation, obstinate in character, in a patient who has not previously suffered from this symptom. Among the physical symptoms the general appearance may be of much importance. The bright mental condition is in strong contrast to the hebetude seen in many febrile conditions, the pinched and anxious facies, the absence of, or the limited excursion of diaphragmatic respiration and the bending of the knees to relieve extra abdominal pressure. Exploration should be made if there is any suspicion of tumor. A pulsation transmitted to the abdominal wall at or below the umbilicus is always suspicious of tumors interfering with the aorta. We should always look also for peristaltic contraction of the bowel in the diagnosis of intestinal obstruction. When present it is a sign of much importance. It is not usually difficult to make a diagnosis of excessive fat in the abdominal wall, but mistakes are possible and the simplest method of determining is to take up within the two hands as much as possible, which must be subcutaneous. Tenderness must be sharply distinguished from pain and is of paramount importance. When spasm is added the surgeon must have strong evidence to the contrary to justify him that there is no acute local inflammation. In many cases of appendicitis the evidence of tenderness and spasm at McBurney's point clinches the diagnosis. There is one place in the epigastrium, just below the xiphoid cartilage, where there is always tenderness or a little discomfort, and this should be remembered. Spasm is of even greater importance than tenderness, and the absence of these two symptoms in cases of colic or abdominal pain are most reassuring that the trouble is not dependent upon any inflammatory process. In children it is always the best plan to have the mother or nurse press fairly hard in various parts of the abdomen, and especially over the appendix, to determine whether there is tenderness. We must remember that hard masses of feces may simulate tumors and are often retained in the intestine, though the patient may have had many small loose dejections. A simple diagnostic method of much value in determining between small pleural effusions and enlargement of the liver, or some inflammatory process between the liver and the diaphragm, subdiaphragmatic abscess, is to determine accurately by percussion the upper line of dulness in the chest wall. Then let the patient take a full inspiration and hold the breath. Continue a light regular percussion while the patient inhales and note carefully whether there is any change in the percussion note during the full inspiration. If the dulness is due to fluid in the pleural sac there will be but little change in the upper area of dulness, whereas, if the mass be beneath the diaphragm, good pulmonary resonance will be found at the point previously dull as the expanded lung will extend downward over the subdiaphragmatic mass. This method will usually demonstrate the presence of an enlarged liver, or the rare and always obscure condition of acute suppuration between the liver and diaphragm. He does not think this method is in common use, though it is of much value. The sign which to his mind is of greatest importance in the diagnosis of intestinal obstruction, is the significance of an empty rectum as suggestive of intestinal obstruction, when there has been no movement of the bowels for several days. Of course, its value is greatly increased if, as is usually the case, cathartics and enemata have been given previously without satisfactory results. He has invariably made, since his attention was first called to this sign, rectal examination in cases of suggested bowel obstruction. The finding of blood is of great importance in corroborating the suspicion caused by the discovery that the rectum is free from feces. In consultation he often finds that no rectal examination has been made. An examination of the blood may give us important evidence from the existence of leucocytes in acute inflammatory conditions. Exceptions may occur, but not often; for instance, in severe acute septicemia in a class of cases in which rise of temperature is not found. Cases of this kind, to judge by the pulse and the general symptoms, are evidently very ill, so that the absence of leucocytosis can not lead to error if we only remember that in such cases leucocytosis may not exist. Other cases where it does not occur are rare exceptions. The blood count is of much value in the differential diagnosis of two diseases with similar symptomatology in the early stages, namely, typhoid fever and appendicitis. In the former the leucocytes are diminished, in the latter they are generally increased. Of course, the Widal reaction is of importance, and the blood count is of much value in the elimination of malaria when chills of doubtful etiology are present, but the malarial organism, if present, determines the diagnosis.

28. **Adiposis Dolorosa.**—Dercum reports two cases, one in a male and one in a female. In each case the family and personal history seemed to throw little light upon the cause. There is no mention made in the histories as to alcoholic ex-

cesses. In the man's case there was epilepsy as has been noted in one of the other cases out of the 25 that have been previously reported.

31. **Mental Defectives.**—Barr's paper emphasizes the importance of the institutional treatment for defective children. The evils of home treatment are the impossibility of cure and the evils of atavism; for, the transmission of inherited taint is certain in this class of defectives and they therefore need permanent sequestration. The public notion that asylums and training schools for this class of cases are curative is repudiated by him; there is no cure for that which is not diseased, but was originally absent. What is absent can not be replaced.

32. **Sodium Cinnamate in Tuberculosis.**—Mann reports a number of cases treated by Landerer's sodium cinnamate with benefit. He uses also in most cases strychnia, iron and other general tonics, and holds with Landerer that the process may be summed up by saying that the treatment substitutes an active, aseptic inflammation for an inactive one and the result is rapid cicatrization.

33. **Ice-Pack.**—Roos' rule for employing the ice-pack in cases of typhoid or other febrile diseases where hydrotherapy is employed is to use the thermometer frequently. If the temperature goes above 102.2 he employs the ice-pack. If the urine is negative, with no trace of renal disorder, he gives a little spiritus frumenti before and after the attack, otherwise plain hot milk is used. The mattress is covered with a couple of blankets, on top of which is placed a piece of rubber sheeting covered by another blanket. A sheet and blanket soaked in water at 70 are laid at the side of the bed, and the patient is rolled into them without exposure. A half hour later another sheet and blanket at 60 is substituted, care being taken not to expose the body during the change. At the expiration of another half hour the first sheet and blanket soaked in water at 50 are applied. At this time the axillary spaces, the arms and legs from the middle of the femur down are covered with cracked ice, packed outside the sheets. The operation is once more repeated at a temperature of 40; the entire duration of the pack being two hours. The effect is that of a sedative and general stimulant, sleep follows and the pulse is improved. This method avoids the sudden shock and rough handling of the Brand method and the consequent risk of producing perforation in cases of typhoid ulceration. He thinks no matter how much the Brand method has been valued in the past it will soon be obsolete as this method is learned and adopted by the profession.

34. **Prostatectomy.**—The method advocated by Bryson is not to open the bladder from above, nor to open the peritoneum, but to enucleate from below. The high incision through the abdominal wall into the bladder is withheld to the later stage of the operation, if it is required at all. The enucleation from below also permits a complete prostatectomy and avoids incision of the vesico-urethral isthmus, which is the most serious source of both operative and post-operative hemorrhage. The prostatic substance is entered from the urethral and not from the capsular side. If a small puncture with a blunt instrument is made just behind the ring at the apex of the gland, which requires incision as the bistoury is pushed along the groove of the staff, the finger can be pushed into the small opening, entering the prostatic tissue. The urethra slips backward longitudinally, giving room to work. The entrance is made, not on the floor, but to one or the other side of the median line, always toward the lower lateral segment and a little behind the apex. The excochleating finger is now swept around the outer portion of the overgrowth, out toward the capsule, and back toward the base, care being taken not to tear the urethra by too much force. Care should also be exercised not to tear away too much of the sides and the upper part of the urethral wall. The procedure can be repeated on both sides in the same way. In taking away the middle lobe, if this be found necessary, we may have to tear away a part of the floor of the urethra, leaving a tongue or flap of mucous membrane which we must avoid doubling back into the bladder in the introduction of the drainage tube, subsequently. The little removal of the urethral floor has not done, in his experience, any special damage, but we must be very careful not to remove any of the roof of the canal and as little of the sides as possible. The drainage tube being introduced through an intact sphincter vesicæ, hemorrhage is completely controlled by packing around it or by irrigation with hot boric acid solution. The tube should be hard so as not to be collapsed by the packing. It is important to leave the capsule of the prostate intact. In his own work the mortality has been reduced from 25 to a little over 6 per cent. The advantages are summed up in: Avoidance of epicystotomy with its attendant evils and dangers; avoidance of opening the prostatic capsule and interference with the vesico-prostatic capsule and plexus; excochleation of the overgrowths from the urethral side. Avoidance of incising the vesical outlet; adoption of the prevesical incision for the purpose of bringing the structures within reach of the finger working in the perineal wound; adequacy of drainage; efficiency of hemostasis, both operative and post-operative.

38. **Artificial Infant Feeding.**—Visanska calls attention to the difference between human and cow's milk and remarks that he has adopted Professor Seibert's method of feeding babies according to weight and not according to age, and gives his reasons for the same. If a child three months old weighs 18 pounds, as it may, while the normal weight for such age is only 12 pounds, and the latter weight is taken as a guide, some five or six pounds of the child will not be properly nourished. He advocates the use of Seibert's formula (*Archives of Pediatrics*, July, 1894), and believes in the filtration of milk through a layer of absorbent cotton as devised by that authority. He gives a chart of his own device for feeding the infant and thinks it has certain advantages. The preparations on the market, he claims, produce an unhealthy growth and are not reliable. Food can be insufficient for the child in two ways, either by too limited amount or by lack of elements essential to nutrition or given in a form not adapted to the feeble digestive powers of infancy.

39. **Eye Defects in Children.**—The eye defects which may cause apparent mental dulness and deficiency in children are reviewed by Bull, who gives them in the order of their frequency. The first is hypermetropia, which makes the patient incapable of sustained accommodative effort for near objects for any length of time, producing pain, headache and incapacity of the child for ordinary close work. The next most frequent is astigmatism which is often the cause of the unjust charge of dulness. This may lead in neurotic children to various apparently irrelevant reflexes and even epileptiform attacks. The third refractive error and the most distressing one is myopia. The mental evolution of the child suffering from recognized or defective myopia is instructive—unable to see what his companions see and jeered at for his failure, he becomes introspective and perhaps perverted in his tastes. Muscular anomalies may also give rise to some difficulties. The effects of squint are also usually associated with some refractive error. Other special defects, which rarely occur, such as congenital cataract lens dislocation, lack of pigment, coloboma and aniridia, are mentioned; in conclusion, he calls attention to an important and altogether interesting defect which has nothing to do with the eye as an organ of vision, but rather with the visual centers in the brain, viz., congenital word-blindness, of which cases have been reported by Hinshelwood and Nettleship. In these, changes have been found in the left supramarginal convolution and angular gyrus. It should not follow because this has been little noticed heretofore that it is necessarily rare. It may be moderately frequent. Its importance from an educational standpoint is obvious. If the case is curable the remedy will probably be found in methodical instruction in reading begun at as early an age as possible. If it is irremediable the sooner this is ascertained the better.

41.—See abstract in THE JOURNAL of January 4, p. 53.

42.—Ibid.

48. **Typhoid Fever.**—The treatment of typhoid fever here recommended by Boggess consists first of all in diet. He thinks more patients are lost by underfeeding than by overfeeding. The old idea that milk is the sheet anchor must be discarded. He believes it a bad food, but he does believe in buttermilk, and he would give his patients four to eight eggs

in one form or another daily with a quart of buttermilk and good nutritive soups. The diet can be enlarged by various custards, fruit jellies and gelatins. He gives through the disease salol, bismuth subgallate, Beta naphthol, urotropin and occasionally ichthyol, piperin and eucalyptol, with small doses of calomel. He has no fear of the use of laxatives in typhoid and never hesitates at any stage of the disease to give broken doses of calomel, Seidlitz powder, citrate of magnesia or Rochelle salts, preferably in lemon-water. The Brand treatment, while excellent, is not always practicable. He thinks we have to rely sometimes on unintelligent cold sponging or the scientific application of the cold pack. Hot packs he finds in certain cases give as good or better results and are more pleasant to the patient. He has no hesitation in using some of the antipyretics, such as phenacetin, phenalgin and acetanilid, and he insists on the patients taking all the sterile water they want. For hemorrhage he would prescribe absolute quiet and rest, withdrawing all food for from ten to twenty-four hours, hypodermic injections of morphin, cold to the abdominal surfaces, salt solution and ice water enemata. Cardiac asthenia demands alcohol, strychnia, citrate of caffein in full doses and absolute quiet.

52. **Sterilized Vellum for Prevention of Adhesions After Laparotomy.**—Cargile has employed a very delicate vellum prepared from serous membrane to interpose between surfaces prone to adhesion after laparotomy. It is used sterilized, adapts itself closely to the surfaces and is soon absorbed. So far as he has learned he has seen no mention of a similar use of this substance.

53. **Grippal Pneumonia.**—Watkins briefly describes the types of pneumonia complicating la grippe and summarizes that the typical grippal pneumonia differs from the ordinary form: 1. By the slow insidious invasion. 2. By the predominance of bronchitis. 3. The rather low, often remittent temperature. 4. The tendency to heart failure and cyanosis. 5. The frequent absence of rusty sputum. 6. Absence of critical defervescence and strong tendency to delayed resolution. 7. A tendency to wander from one lobe to another and thus involve the apex. 8. Decided fatality and infectiousness to a curiously limited degree. He advises for these cases heart tonics, the early use of stimulants, alcohol, carbonate of ammonia instead of the usual cough mixture expectorants; codein and heroin in elixir terpin hydrate for cough, caution in the use of morphin and no antipyretics of a depressing character.

60. **Cretinism.**—Koplik calls attention to a special stigma of cretins, as he has observed it, viz., the enlarged or prominent antithenar eminence and over the situation of the os pisiformis. This is present in all the cretins he has examined, but he has found it also in other degenerates. He has observed it in children not over three months of age; therefore, it can not, he thinks, be credited to an abnormal use of the hands in creeping. Besides cretins he has found it in hydrocephalic idiots and dwarfs.

61. **Malaria.**—The mild epidemic in the Foundling Hospital, described by Freeman of uncertain nature, seems to resemble prodromic malaria more closely than anything else. This diagnosis was confirmed by one typical case of malarial seizure accompanied by the presence of the plasmodium in the blood, and by the fact that all the 82 children affected recovered promptly with the use of quinin. There were pools of stagnant water adjacent to the room in which these children were during the day, but the conditions were hardly sufficient to account for the malarial attack.

63. **Hare-Lip.**—Ratchford reports a rather strange history of a family in which there were born four girls with hare-lips and cleft palates and three boys without any trace of this peculiarity. A curious fact was that the mother during pregnancy was able to foretell the sex of the children and whether or not they were to be thus deformed, at least that was her belief, and it seems to have been borne out by the facts. Whether her mental condition of depression under this conviction had anything to do with it, of course, is worthy of thought. There was a bad family history of tuberculosis on both sides, but no history of hare-lip. The mother had a high arched palate.

75. **Visual Centers.**—Spiller reports the case of an idiot in which the eyeballs were lacking and in whom the autopsy showed no optic foramina, no trace of optic nerves, chiasm or optic tracts, no sign of external geniculate body, small occipital lobes, the cuneus very small with short calcarine fissure and defective development in optic thalamus and optic radiations. The conclusions which he deduces from this interesting case are given as follows: 1. The chief primary optic center is the external geniculate body. 2. The pulvinar of the optic thalamus is also an important primary optic center. 3. The anterior colliculus of the quadrigeminal body in man has an unimportant relation to the vision. 4. The hypothalamic body, the habenula and the internal geniculate body probably are not parts of the visual system. 5. The cortex of the calcarine fissure may contain nearly the normal number of cell bodies, even though the visual system may be undeveloped. 6. The nerves to the ocular muscles and their nuclei may be developed, even though the visual system is absent. 7. Congenital spastic paraplegia may be the result of deficient formation as regards number or size of the neurons of the central motor system, even though such a deficiency may be difficult to detect by the microscope."

88. **The Technics of Nephropexy.**—Edebohls has personally examined fifty-five kidneys which he had anchored from one to eight years previously, with an average of more than three years since the intervention. Fifty were found solidly anchored; in five the attachments had stretched more or less, or the kidney had followed the movements of the lax abdominal wall, but none had become detached from anchorage. He remarks that his publications on the relations of movable kidney and appendicitis in 1895 attracted little attention at the time, but experience is confirming their correctness, and several surgeons now follow his practice of lumbar appendicectomy and right nephropexy at the same sitting when a movable kidney requires anchoring. He opens the peritoneum to the outer side of the ascending colon and follows the longitudinal bundles downward to the cecum where they join at the root of the appendix. The latter is delivered into the lumbar wound, and either inverted entire or else amputated and the stump treated by inversion without ligation. He has failed only four times in the fifty-six cases in which he has attempted lumbar appendicectomy, either from inability to find the appendix or to deliver it far enough into the wound. In these cases he supplemented the nephropexy by abdominal appendicectomy. The conviction is also gaining ground that there exists an intimate association between movable right kidney on the one hand, and cholecystitis, cholelithiasis and their sequelæ on the other. In a recent series of four nephropexies, for example, he found gallstones in two and chronic cholecystitis in the others. He therefore regards direct exploration of the appendix, gall-bladder and gall-ducts through the lumbar incision as one of the most important steps of the intervention. He has sometimes deliberately opened the peritoneum when not required for appendicectomy, for the sole purpose of making this exploration, but in certain cases he has been able to palpate the gall-bladder, gall ducts and under surface of the liver through the peritoneum without entering. His experience now includes 261 nephropexies done in 193 operations on 186 patients. All but three were women. The mortality in 846 nephropexies on record is between 1.5 and 2 per cent. His mortality was 1.55 per cent. in 193 operations. He used ether, alone or preceded by nitrous oxid, in all but four of the nephropexies. One of the latter patients was operated on under spinal cocainization and painlessly, the intervention including at one sitting right nephropexy, lumbar appendicectomy, curettage of the uterus and inguinal shortening of the round ligaments. He keeps his patients on their backs for three weeks. Acute nephritis occurred in two patients, but was attributed to the ether by the physician in one instance, and recovery was complete in six and eight weeks. Slight albuminuria and blood cells were noted in ten cases—no more than occasionally follow mere palpation of the kidney. After the latter is delivered through the incision which is carried from rib to ilium along the outer border of the erector spinæ, the whole of the fatty capsule is removed, and the kidney is then returned temporarily to its place, while the

other abdominal viscera are explored and operated on as required, after which the peritoneum is sutured. The kidney is then delivered again. The process is facilitated by moving the patient up or down on the air bolster which is placed under the abdomen. The capsule proper is then incised on the convex border and detached to a line midway between the external and internal borders of the kidney. The loose portion is then turned back like the lapel of a coat over the still attached half. Four fixation sutures are passed through both, just below and parallel with the line of junction and the long axis of the kidney, each suture enclosing 2 to 3 cm. of the capsule. The kidney is then replaced and the sutures are brought out perpendicularly through the rear wall of the abdomen. The denuded kidney is thus brought against the denuded quadratus in apposition throughout the entire length of the latter, from rib to ilium. The article is illustrated with eleven fine cuts.

90. **Ligation of Abdominal Aorta for Aneurysm.**—Morris reports the 14th case in which the abdominal aorta has been ligated. All the patients have died, but in the four cases done since antiseptic methods have prevailed, Keen's patient lived for forty-eight and Tillaux's for twenty-nine days, while Milton's died the day after operation, from anemia and shock, and death occurred in this latest case from septicemia the third day. Morris ligated the artery temporarily with a soft rubber catheter held by long clamp forceps. The patient was a colored woman, 24 years of age, with a history of aortic disease dating back four months, accompanied by much epigastric pain and vomiting. The ligature was applied about two inches below the aneurysm, one and one-half above the bifurcation of the aorta. The operation could be done in fifteen minutes, but required thirty in this case. Nine hours after operation the balance between the vital signs was restored and the patient's legs became warm. Numbness and pain in the legs required morphin. Twenty-two hours after the ligation the pulsation in the aneurysm suddenly began to diminish, and the aorta decreased so rapidly in size that in about three hours the aneurysm had apparently disappeared and the ligature was removed—twenty-seven hours after it had been applied. The pulse became rapid and irregular at first, but soon subsided to 60 with the beat regular. The pulsation in both femorals showed that circulation in the extremities was restored, with sensation and sphincter control. Patient was quiet and comfortable, but symptoms of septicemia developed and were rapidly fatal. The portions of the bowel which had lain in contact with the steel forceps had gangrened, with resulting infection of a serous collection in the vicinity. The patient was in no condition to resist it on account of weakness from lack of nourishment and ulcerative gummatous nodules found in left kidney. The case demonstrates that an aneurysm of the aorta can be made to fill with clots in this way, and that circulation may be re-established by removal of the ligature. The evidence tends to prove that the operation may be successfully accomplished in the near future. Morris appends the summaries of the thirteen other cases on record.

100. **Hemochromatic Bodies in Pernicious Anemia.**—Incited by the statement of Adami, in THE JOURNAL of Dec. 23, 1899, that the condition of hemochromatosis is doubtless of bacterial origin, Yeakel investigated the tissues from several cases of pernicious anemia and has found just what was described by Adami, "irregular clumps of stumpy ovoids," minute "diplococcoids," some of the isolated ones showing "a fine halo about them." These pigmented bodies are not all diplococcoids; some seem merely to be fragmental particles. In the other cases the same hemorrhoidal bodies were found in the tissues, the liver, pancreas, spleen and to some extent the kidneys. He made cultures from the different organs of the body, as he states in the discussion following, in two of the cases, and found almost pure cultures of colon bacilli. This bears out fully Adami's view that the colon bacilli is the cause of this condition in pernicious anemia, though Yeakel does not consider it alone conclusive.

102. **Ovarian Pain.**—Hall maintains that what is called ovarian pain is largely due to the uterus and that in many cases where the ovaries have been removed the pain experienced is reflex or sympathetic from inflamed endometrium and stenosed cervix.

103. **Astragalus Dislocation.**—Jepson reports a case in which the astragalus was not only in part comminuted, but rotated on its lateral axis, so that the surface for articulation with the tibio-fibular arch pointed toward the os calcis, and the fractured end pointed toward the tendo Achillis. Nevertheless, with considerable trouble and the severing of a number of tendons, thus running the risk of affecting the vitality of the bone, the dislocation was reduced and good results obtained. He summarizes as follows: 1. My own experience and the results of recorded cases lead me to believe that it will rarely be possible with our present knowledge and technique to bring about a reduction of a backward dislocation of the astragalus without opening the joint and bringing about a reposition of the bone by direct manipulation. 2. With our present command of aseptic surgery, I see no reason why this should not be undertaken in all cases uncomplicated by severe infection, with good prospects of securing a nearly perfect result. 3. Removal of the astragalus should be reserved for cases where the bone is completely separated from its ligamentous attachments, consequently having no adequate source of blood supply. 4. Amputation should be resorted to only in cases where the dislocation is compound and infected to a degree impossible of removal, and the patient's life jeopardized by the septic intoxication or infection.

109. **Ventrosuspension of the Uterus.**—Cousins performs an operation which he thinks is new to the profession or not yet described and which is briefly as follows: "An incision is made in the median line just above the symphysis, about an inch and a half long, or of sufficient length to admit two fingers, that the uterus may be brought up into the wound for inspection, and at the same time any adhesions present may be broken up. After having gotten the uterus and its adnexa freed and perfectly movable, I dissect away from the skin and the subcutaneous fat down to the fascia of the rectus muscle, pushing it back from the edge of the incision for about an inch and a half. I then take a sharp pair of forceps and introduce them about an inch and a quarter from the edge of the median incision, on a line with the lower angle of the abdominal incision. The forceps are then pushed through the fascia muscle and the peritoneum into the abdominal cavity. The next step of the operation is to grasp the round ligament about an inch and a half away from its uterine attachments and draw it up through the punctured wound made by the forceps through and above the external fascia of the rectus muscle. It is sutured there with catgut sutures. This procedure is repeated on the opposite side and the abdominal wound is closed with through-and-through silkworm gut sutures and a running catgut suture for the fascia of the rectus muscle." The uterus thus suspended has a space between it and the abdominal peritoneum. The outer extremity of the round ligament is put on a stretch which thus lifts the broad ligament forward and upward and suspends the ovaries. It has certain advantages, he thinks, over the Kelly operation, and though he has performed it only three times the results have been always good. It is less inconvenient to the patient, as she is allowed to be up in fourteen days and leave the hospital in two and one-half weeks.

120. **Formaldehyd.**—Howard finds formaldehyd inhalations almost a specific in scarlet fever and measles. He places a generating lamp in the room. If the gas causes irritation to the eyes and throat a little aromatic spirits of ammonia will control it, and sometimes increase the action. The room should be thoroughly ventilated several times a day and the gas regulated to suit the feelings of the patient, though they may require sometimes more than the healthy person would consider comfortable. He would also fumigate other children in the family for an hour morning and evening for a few days to prevent other cases. He also advises the inhalation use of formaldehyd in tuberculous cases. The formula which he uses is given as follows:

℞.	Formalin	ʒii	7|50
	Chloroform	ʒi	3|75
	Alcohol	℥iss	45|
	Oil rose geranium	gtt. xx	1|25

This is used from a light glass inhaler or a large mouth vial, in his tuberculous cases. In debilitated patients he uses small doses of strychnia. If the bladder becomes irritated by too large or long continued doses, suspension for a time with strychnia and the use of diuretics relieves the condition.

133. **Treatment of Diphtheria.**—The treatment of diphtheria recommended by Patterson consists in the use of muriatic acid with potassium chlorate according to the following formula:

R.	Potassium chlorate	℥i	3|75
	Dilute muriatic acid	ʒii	7|50
	Muriated tinct. iron	ʒiii	11|25
	Distilled water	℥xii	360|

The details of treatment are significant. As soon as the patient is seen, do not delay for the action of a cathartic or other medicine, but combat it at once by the administration of two tablespoonfuls every hour for adults, and proportionately less for children, of the above mixture. Administer it once or twice at night, with tonic doses of quinin thrice daily. He advocates mopping of the throat with a mixture of extract of pinus canadensis and phrenic acid, 10 to 15 drops, repeating it after each dose, and taking care not to wound the tender membrane. He reports that with this treatment, suggested by Dr. E. S. Gaillard, he has had remarkable success.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), February 22.

1 The Reorganization of the Army Medical Service. C. B. Ball.
2 *The Treatment of Chronic Malarial Fever by Subcutaneous Injections of Quinin Bihydrobromate. G. B. Ferguson.
3 *Should Milk Be Boiled? W. B. Ransom.
4 *Remarks on the Relation of Human and Bovine Tuberculosis. C. H. Cattle.
5 General Hospitals and Pulmonary Consumption. Alexander Robertson.
6 *The Origin of the Modern Treatment of Pulmonary Consumption. A. T. Tucker Wise.
7 Hydrogen Peroxid in the Treatment of Lupus Vulgaris and Tuberculous Abscess. Charles H. Gunson.
8 *On the Effects of Forced Feeding in Cases of Pulmonary Tuberculosis and in Normal Individuals. Noel D. Bardswell, Francis W. Goodbody and John E. Chapman.

The Lancet (London), February 22.

9 *The General Pathology of Tumors. Charles P. White.
10 *The Hospital Ships of the Metropolitan Asylums Board and the Dissemination of Smallpox. John C. Thresh.
11 On Cleft Palate. (Concluded.) W. Arbuthnot Lane.
12 *Burns from Celluloid. Alexander Ogston.
13 Tetanus Following Revaccination on the Leg: Recovery After Prolonged Administration of Chloral Hydrate. William Dindlay and John W. Findlay.
14 Notes of 15 Cases of Operation for Internal Derangement of the Knee-joint. J. M. Cotterill.
15 Rheumatism as a Cause of Epistaxis in Children. Sydney Phillips.

Journal of Tropical Medicine (London), February 15.

16 Sleeping Sickness in Uganda. Patrick Manson.
17 *Hemorrhagic Pancreatitis in Acute Malaria. W. G. Ross and C. W. Daniels.
18 Marginal Ulceration of the Gums Occurring Among Natives of East Central Africa. Neil Macvicar.
19 Malarial Fever as Met with in the Great Lake Region of Central Africa. (Continued.) Albert R. Cook.

Annales de l'Institut Pasteur (Paris), January.

20 *Study of the Trypanosoma of the Tsetse Fly Disease. A. Laveran and F. Mesnil (Paris).—"Recherches morph. et exp. sur le trypanosome de la maladie de la mouche tsétsé."
21 *Study of Cattle Plague. Filtration of the Virus. Nicolle and Adil-Bey.—"Etudes sur la peste bovine. Expériences sur la filtration du virus."
22 Fermented Milk as Food—The Leben of Egypt. E. Rist (Paris) and J. Khoury (Montpellier).—"Etudes sur un lait fermenté comestible. Le Leben d'Egypte."
23 *Special Rôle of Carbohydrates in Utilization of Insoluble Salts in the Organism. L. Vaudin.—"Sur un rôle particulier des hydrates de carbone dans l'utilisation des sels insolubles par l'organisme."
24 Normal Serum in Pneumo-enteritis. S. Saltykow.—"Sérum normal dans la pneumo-entérite."

Bulletin de l'Acad. de Med. (Paris), February 11.

25 Very Powerful Specific Treatment of Malarial Fevers. A. Gautier.—"Sur un traitement spécifique très puissant des fièvres paludéennes."
26 *Chloroform Anesthesia in Heart Disease. H. Huchard (Paris).—"Le chloroforme chez les cardiaques."
27 *Potato in the Treatment of Diabetes Mellitus. A. Mossé.—"La cure de pommes de terre dans les diabètes sucrés."

Bulletin Medical (Paris), January 25 to February 5.

28 Traumatic Detachment of the Epiphyses. Kirmisson (Paris).—"Sur les décollements épiphysaires traumatiques."
29 Clinical and Practical Index of the French Climatic Resorts. A. Vidal (Grasse), Baréty (Nice), and Herard de Bessé (Beaulieu).—"Index clinique et pratique des principales stations climatériques françaises."
30 *Expectation During the Period of Dilatation in Deformed Pelves. Piuard (Paris).—"De l'expectation pendant la période de dilatation dans les bassins limites."

Gazette Hebd. de Med. et de Chir. (Paris), January 23 to February 6.

31 *Two Cases of Vesicular Mole with Severe Vomiting. Pinatelle (Lyons).—"Deux cas de môle hydatiforme avec vomissements graves."
32 Paralysis in Lead Poisoning. Debove (Paris).—"Les paralysies saturnines."
33 Review of Recent Thèses at Paris, Nancy and Toulouse.—"Revue des Thèses, 1901-1902.
34 Record of Operations at the Pitié in 1901. Terrier (Paris).—"Statistique des opérations faites a l'hôpital de la Pitié, 1901."

Gazette des Hop. (Paris), January 25 to February 4.

35 The Kidney in Tuberculosis. E. Guihal (Paris).—"Le rein des tuberculeux. Etude clinique."
36 Traumatic Rupture of Spleen and Recovery After Tardy Splenectomy. Coville (Orleans).—"Rupture traum. de la rate avec hémorrhagie lente. Splénectomie tardive. Guérison."
37 Lavage of the Intestines in Children. L. Babonneix (Paris).—"Les lavages de l'intestin chez l'enfant."
38 Cysts of the Vagina. G. Marion (Paris).—"Les kystes du vagin."
39 *Treatment of Surgical Tuberculosis with the High Frequency Current. L. Imbert (Montpellier).—"Note sur le traitement des tub. chir. par les courants de haute fréquence."
40 *Primary Cutaneous Actinomycosis of the Face. L. Pourpre (Val de Grace).—"De l'actinomycose cutanée primitive de la face."
41 *Recurring Traumatic Leg Ulcer Cured by Stretching the Sciatic Nerve and Partial Resection of the Saphena. Thévenot (Lyons).—"Elongation du sciatique poplité ext. et resection partielle du saphène ext. pour un ulcère traum. récidivant de la jambe droite à forme névralgique. Guérison."

Revue de Chirurgie (Paris), February.

42 *Resection of the Internal Pudic Nerve in Vaginismus and Pruritus of the Vulva. E. Tavel (Berne).—"Résection du nerf honteux interne dans le vaginisme et le prurit de la vulve."
43 *Gastrostomy. F. Terrier and A. Gosset (Paris).—"Note sur la gastrostomie."
44 *Cicatricial Stenosis of the Pylorus Consecutive to Ingestion of Caustics. Quénu and J. Petit (Paris).—Des sténoses cicatricielles du pylore consécutives à l'ingestion de liquides caustiques."
45 *Clinical Diagnosis by Means of Cytology, Cryoscopy and Hematolysis in Surgical Effusions. C. Juillard (Geneva).—"De l'utilisation clinique de la cytologie, la cryoscopie et l'hématolyse dans les épanchements de quelques séreuses chir. (Séreuses vaginale, articulaires, sac herniaire.)"

Revue Mens. des Mal de l'Enfance (Paris), January.

46 Riga's Disease: Cachectic Aphtha. E. Audard (Paris).—"La maladie de Riga."
47 Congenital Stridor. Rocaz.—"Note sur deux cas de stridor congénital."
48 *Treatment of Whooping Cough by Formol. Lamallerée (Varennes).—"La coqueluche et son traitement par le formol."

Semaine Medicale (Paris), February 5 and 12.

49 Smallpox in England During the Last Fifty Years. A. Gubb (London).—"La variole en Angleterre depuis un demi-siècle et les enseignements qu'on peut en tirer."
50 *Phlebitis in the Course of Secondary Manifestations of Syphilis. Oettinger (Paris).—"De la phlébite au cours des accidents secondaires de la syphilis."
51 Ocular Affection Caused by Manipulation of Podophyllin. Rocca-Sera (Paris).—"Une affection particulière des yeux provoquée par la manipulation du podophyllin."

Centralblatt f. Chir. (Leipsic), February 15 and 22.

52 McGraw's Method of Gastro-enterostomy Combined with Enterostomy with Aid of an Elastic Ligature. Willy Meyer (New York).—"Gastroenterostomie kombinirt mit Enterostomie, ausgeführt mit Hilfe der elastischen Ligatur."
53 Parasitic Origin of Carcinoma and Sarcoma. M. Schuller.—"Zur parasitären Entstehung von Krebs und Sarkom."

Centralblatt f. d. Grenzgebiete (Jena), February 17.

54 *Late Publications on Prophylaxis and Treatment of Puerperal Sepsis. A. Bass (Vienna).—"Neueres über die Prophylaxe und Therapie der puerperalen Sepsis." (Concluded from Nos. 1 and 2.)

Deutsche Med. Wochenschrift (Leipsic), February 13.

55 In Honor of Franz König's 70th Birthday. O. Hildebrand (Basle).—"Zum siebenzigsten Geburtstage Franz König's."
56 *Treatment of Peritonitis Due to Spontaneous Rupture of Gall-Bladder Containing Stones. Fritz König (Altona).—"Ueber die durch Spontanruptur der steinhaltigen Gallenblase in die freie Bauchhöhle bedingte Peritonitis und ihre Behandlung."
57 *Death Under Chloroform from Paralysis of the Heart. L. Laqueur (Strassburg).—"Ueber Chloroformtod durch Herzlähmung."

58 *Infection and Auto-Infection. A. Wassermann (Berlin).—"Infektion und Autoinfektion."

February 20.

59 In Honor of Adolf Kussmaul's 80th Birthday. Ch. Bäumier (Freiburg, i. B.).—"Adolf Kussmaul."
60 *Renal Colic, Renal Hemorrhage and Nephritis. H. Senator (Berlin).—"Nierenkolik, Nierenblutung und Nephritis."
61 *Tetanus Germs in Gelatin. E. Levy and H. Bruns (Strassburg).—"Ueber den Gehalt der käuflichen Gelatine an Tetanuskeimen."
62 *Clinical Utilization of Agglutination of Tubercle Bacilli. E. Rumpf (Friedrichsheim) and L. Guinard (Lyons).—"Ueber die Agglutination der Tuberkelbazillen und die Verwerthung dieser Agglutination."
63 Substitution of Paralyzed Quadriceps Femoris by Flexor Muscles of the Leg. F. Krause (Berlin).—"Ersatz des gelähmten Quadriceps femoris durch die Flexoren des Unterschenkels. (Concluded from No. 7.)
64 Treatment of Hemorrhoids by Arsonvalization. L. Stembo (Wilna).—"Ueber Behandlung der Hämorrhoiden mittels Arsonvalisation."

Fortschritte der Medicin (Berlin), January 1 to 22.

65 Hemolytic Properties of Serous Fluids. H. Strauss and W. Wolff (Berlin).—"Ueber das haemolytische Verhalten seröser Flüssigkeiten."
66 Roentgen Treatment of Skin Diseases; Collective Review. A. Gassmann (Leukerbad-Wallis).—"Die Behandlung der Hautkrankheiten mittelst Roentgenstrahlen."
67 *Simple Method of Preserving Specimens for Microscopic Clinical Diagnosis. R. Rohnstein (Berlin).—"Eine einfache Conservirungsmethode."
68 Forman and Its Efficacy in Catarrhal Affections. H. Suchannek (Zurich).—"Ueber Forman."
69 Progress in Treatment of Malignant Disease of the Uterus; Collective Review. G. Bamberg (Berlin).—"Fortschritte in der Behandlung des Uteruskrebses."

Monatshefte f. Prakt. Derm. (Hamburg), January 1 and 15.

70 Hereditary Keratoma. R. Bergh (Copenhagen).—"Fall von Keratoma hereditarium."
71 Plasma Cells. A. Pappenheim.—"Nachträgliches zur Plasmazellenfrage."
72 Mercurial Treatment of Tabes. M. Bockhart (Wiesbaden).—"Ueber die Merkurialbehandlung der Tabeskranken."
73 *Treatment of Nocturnal Enuresis and Pollutions. M. Porosz (Budapest).—"Bettnässen—Schlafpollutionen. Analogie."

Muenchener Med. Wochenschrift, February 18.

74 *Hypophrenic Pains and Neuroses of the Celiac Plexus. F. A. Hoffmann (Leipsic).—"Ueber hypophrenische Schmerzen und Neurose des Plexus Coeliacus."
75 *New Test of Lungs for Forensic Cases. Placzek (Berlin).—"Eine neue Lungenprobe."
76 Treatment of Phimosis. F. Wenzel (Bonn).—"Zur Behandlung der Phimose."
77 In Honor of Adolf Kussmaul's 80th Birthday. L. Edinger.
78 Comparative Study of Coagulation of Casein by Rennet and Lactoserum. P. T. Müller (Graz).—"Vergleichende Studien über die Gerinnung des Caseins durch Lab und Laktoserum."
79 *Dietetic Treatment of Stomach and Intestinal Affections. A. Schmidt (Bonn).—"Beitraege z. Diätotherapie bei Magen- und Darmkrankheiten." (Concluded from No. 6.)
80 *Statistical Study of the Consequences of Lues. M. Matthes (Jena).—"Statistische Untersuchungen über die Folgen der Lues." (Concluded from No. 6.)

Schmidt's Jahrbuecher (Leipsic), January.

81 Achievements in Physiology in 1900. R. Tigerstedt (Helsingfors).—"Bericht über die Leistungen in der Physiologie im Jahre 1900."
82 Recent Works on Tabes. P. J. Möbius (Leipsic).—"Neuere Beobachtungen über die Tabes."

Wiener Klin. Wochenschrift, February 13.

83 *Study of Eclampsia Cases. J. v. Braitenberg (Innsbruck).—"Beitrag zur Casuistik der Eklampsie."
84 Action of Urotropin in Typhoid Bacteriuria. E. Fuchs (Prague).—"Zur Wirkung des Urotropins bei Typhus-bacteriurie."

El Siglo Medico (Madrid), January 2 to February 2.

85 Measles and the Phases of the Moon. De Agreda (San Roman).—"Influencia de las fases lunares en una epidemia sarampionosa."
85½ Treatment of Congenital Phimosis. C. Negreto (Madrid).—"Algo sobre el fimosis congénito."
86 *Brown-Séquard's Injections in Treatment of Atrophy of Optic Disc. B. Castresana (Madrid).—"De las inyecciones de Brown-Séquard como tratamiento de la atrofia papilar."
87 Gastric Ulcer Due to Disturbances in Circulation. A. M. Perujo (Madrid).—"Algunas consideraciones sobre la ulcera del estomago."
88 *Tolerance of Strychnin. B. G. Alvarez (Madrid).—"Nota util al estudio de la estricnina."
89 Glycosuria and Diabetes. J. Calvo y Martin (Madrid).—"Apuntes acerca de la glucosuria y la diabetes."

Gazzetta Med. di Roma, January.

90 Success of Feristolo in Treatment of Pulmonary Tuberculosis. E. Secreti (Rome).—"Resultati terap. dei Feristolo nella tuberculosis polmonare."

---

2. **Quinin Bihydrobromate in Malaria.**—Ferguson has met with a number of cases in which quinin taken by the mouth seemed inefficient, and he has experimented with various salts of quinin for hypodermic use and finally hit upon bihydrobromate or acid hydrobromate of quinin, which dissolves readily in six parts of pure water. It is a perfectly stable salt, more reliable, he thinks, than any other, and probably more unirritating. He uses it usually by injecting 3 gr. of the drug dissolved in 20 minims of pure warm water under the skin of the upper arm, thigh, abdomen, or elsewhere, on alternate days. He keeps a syringe solely for this purpose, disinfects the syringe and the patient's skin with a strong carbolic lotion and carefully disinfects his own hands, besides carefully sterilizing the needle in the flame. He thinks it well to boil the solution every time it is used. With these precautions, he considers there need be no fear of tetanus even in the tropics. He thinks that very few or no patients with malaria can resist six doses of 3 gr. each of quinin bihydrobromate. Some of his patients have been cured in three doses; none of them required more than six injections.

3. **The Boiling of Milk.**—Ransom maintains the importance of boiling milk or sterilizing it for infant food. He says there is no sound evidence to show that milk raised to the boiling point, that is 110 C., or 233 F., or to a temperature of boiling water for ten minutes or a quarter of an hour, suffers any diminution of its nutritive qualities. Neither is it probable that if consumed within twenty-four hours after heating that it will cause infantile scurvy. The same is true of Pasteurized milk heated to 80 or 85 C. None of these methods render the milk absolutely sterile, but they do kill most pathogenic microbes such as those of tuberculosis, cholera, diphtheria and typhoid, and if the milk be drunk within twelve hours of heating, few or no spores will have developed. Pasteurization, he thinks, is less effective than boiling. In times of epidemic summer diarrhea the heating should be prolonged for at least half an hour and the milk drunk within a few hours, or subjected again to the process as the spores of the bacillus sporogenes enteritidis are very resistant. Under all circumstances milk, raw or sterilized, should be drunk as fresh as possible to diminish the liability to nutritional diseases. But it is his belief that infants who live wholly or mainly on milk, as at present supplied, should never be exposed to the dangers lurking in the raw milk.

4. **Human and Bovine Tuberculosis.**—After reviewing the evidences Cattle concludes that we can not as yet deny the possibility of infection by milk, but enough has been said, he thinks, to show that the assumption that the frequency of tuberculosis in early life is chiefly due to tuberculous milk is in one direction too narrow, and in another erroneous. The exclusive milk theory will cause us to ignore the greater incidence of tuberculosis on the lungs than on the bowels of young children, and it fails also to take account of the other sources of infection. There is no doubt that certain infantile diseases like measles, whooping cough, bronchitis, bronchopneumonia, etc., are powerful predisposing causes to tuberculosis mortality. They leave behind them constitutional weakness, respiratory catarrh, and often intestinal catarrh as well, and the widely disseminated bacilli of human tuberculosis gain a footing, attaching themselves to the most suitable organs, in the majority of cases the lungs and their related glands; in other cases to the intestines, ear or neck glands. Milk may be responsible for some cases, but the fact that thoracic tuberculosis is so common at an early age suggests the conclusion that human bacilli, inhaled or swallowed, mixed with the bodily secretions or with food, is the cause of chest trouble in one case and abdominal in another. The bulk of evidence tends to show that milk is not highly infective when diluted with the milk of healthy cows, and that some persons show a much higher degree of susceptibility than others.

6. **The Open-Air Treatment of Consumption.**—Wise brings forward evidence to show that the open-air treatment of consumption was carried out by Bodington in England in 1835, in spite of much opposition and with great success. He claims for him the origin of this method.

8. **Forced Feeding in Tuberculosis.**—In the conclusion of their report the committee summarize as follows: "1. That

since very large diet gave worse results than those of more moderate amount, the indiscriminate stuffing of all tuberculous patients should be replaced by systematic dieting. The diets as regards amounts and constitution should be determined in each case after due consideration has been given to the respective conditions as regards: *a*, the activity and extent of disease; *b*, amount below weight; *c*, digestive capability; and *d*, to some extent, personal dietetic likes and dislikes. 2. That in view of the bad effects which overfeeding gave rise to in the normal individuals, great care should be taken in the selection of a diet for patients who, as the result of treatment, have reached or passed their highest known weights. When this regain of weight is associated with arrested disease, the original diet found suitable for a person very considerably underweight and with active lesions, should be reconstructed more upon the lines of what would be suitable for the same person in perfect health. The observations were not sufficiently extended to allow of conclusions being drawn as to which diets gave the best results as regards the condition of the lungs; but subsequent sanatorium experience of two of us with the advantage of being able to carefully observe the course of pulmonary lesions in patients upon weighted diets, leads us to think that the lungs do not improve any more rapidly upon forced feeding than upon generous diets. Further, there is no doubt that anorexia, dyspeptic symptoms, and vomiting are much more frequently met with when working with very large diets than when more moderate amounts of food are given." They append tables of the diet and metabolism, which are of interest.

9. **Tumors.**—The third lecture by White considers the causation of tumors, the conditions of stable and unstable equilibrium, extrinsic and intrinsic causes, etc. He sums up his conclusions in the following: "1. Tumors are to be classified on a histological basis. The best mode of effecting this is to make use of the threefold basis of cells, tissues, and organs. 2. The rudiment from which a tumor springs may consist (*a*) of the structures normally present at the point of origin; (*b*) of an embryonic collection of cells such as is described by Cohnheim; or (*c*) of tissues of new formation, the result either of an inflammatory condition or of previous tumor formation. 3. Extrinsic factors play a part in tumor causation, but are not the determining factors—that is, the occurrence or non-occurrence of a tumor does not depend on extrinsic factors. In particular, the parasite theory is shown not to stand a critical investigation. 4. The determining factor in tumor causation is to be found in the intrinsic factors. 5. This determining factor consists in the existence of a condition of unstable equilibrium between the intercellular forces, so that proliferation once started is progressive and is not limited by the resistance of the surrounding tissues. 6. The causes of this instability are many and various and may be either intrinsic or extrinsic. 7. Proliferation having started, the cells acquire the habit of growth—that is, the power of independent proliferation which enables them to proliferate in parts of the body in which the condition of equilibrium is stable. 8. Tumors grow by the proliferation of their own cells. 9. Tumors do not invariably continue to increase without limit. Under certain circumstances they may cease to grow, and may diminish in size or even disappear completely. 10. Tumor formation is not to be regarded as an isolated process but is to be considered as one of a group of progressive processes with which it is closely allied. Still less must one form of tumor, such as carcinoma, be considered apart from the others." White remarks in regard to the treatment, suggesting that the removal of the extrinsic factors such as irritation, etc., should be attended to, and makes a further suggestion based on the excessive glycogen secretion of malignant tumors. The origin of this substance in tumors has not been investigated so fully, but probably the same two sources, carbohydrates and proteids of the body, are available as in diabetes. An examination of the quantity of nitrogen excreted in the urine should be of assistance in determining this point, but he has not learned of any systematic investigation in this direction. The urine in malignant disease has not received the attention that it deserves. The presence of wasting and cachexia would seem to show that the proteids of the body are broken up, and it is very likely that glycogen arises, in part at least, from the destruction of proteid matter. If this is true we can not expect much from the carbohydrate-free diet since the body proteids would still remain as a source of glycogen. It is well known that malignant disease is very rarely met with in association with diabetes, and we know also that in acute diabetes wounds heal with great difficulty. The explanation of this is probably that the glycogen which is necessary for the proliferation of the cell is continuously being removed from the body as glucose. It is permissible then to think that by setting up an artificial glycosuria we could remove the glycogen as fast as it is formed and so prevent it being available for supplying the energy necessary for the proliferation of the tumor. Such glycosuria may be set up by giving certain drugs such as phloridzin. This is a point worthy of investigation by therapeutists, but White does not expect much from such a treatment, because the drug would remove the glycogen from the normal tissues as well as from the abnormal, and it would be of little use to hinder the progress of a tumor if the surrounding tissues could not take advantage of the occasion by reacting and absorbing it. Much depends, therefore, on the question whether the abnormal or normal tissues would yield up their glycogen more readily. To facilitate the possibility of malignant disease progressing to spontaneous cure, as sometimes has been observed, measures should be taken which will raise the enfeebled resistance of the body; thus arsenic, which has a tonic action, has been found to be of some benefit. Coley's fluid probably acts in the same way, though Butlin finds that the benefit from it is only temporary. Hygienic treatment, of course, should be regarded. In conclusion, he would urge that the investigation of the pathology of malignant disease should not be left too much to bacteriologists. There is a great field for work in the study of clinical characters of malignant disease such as temperature, urine and cachexia phenomena. There is too much tendency at the present to regard micro-organisms as everything in the cause of disease and to neglect the personal or intrinsic factors.

10. **Smallpox.**—Thresh uses the prevalence of smallpox in a small hamlet opposite the smallpox hulks in the Thames river as evidence of the air-borne theory of smallpox. There has been no communication of late years between the ships and the community, and yet the disease occurs. He thinks it possible that the infection may be carried by the air two or three miles. Of course, there is the possibility of infected sewage into the river from ships, but there is no proof of it. He thinks, however, this sewage should be treated in some way before being allowed to flow into the Thames.

12. **The Danger of Celluloid.**—Burns from celluloid are not uncommon. Ogston has collected a number of cases which he briefly reports. He has investigated the subject experimentally to see what the effect of various degrees of heat have on celluloid articles and the especial point of ignition. Celluloid is capable of being ignited at a very low temperature when exposed to radiating heat and surrounded by substances of varying conductivity. He sums up his results in the following conclusions: "1. It is evident that celluloid articles of uncertain composition and dangerously explosive quality are everywhere sold and are in constant use, and that conditions in which they may ignite in varying circumstances can not be fully inferred from experiments regarding their ignition point made in a physical laboratory. 2. Badly manufactured celluloid ignites at variable temperature, too low for it to be safely used. 3. It also follows, I consider, that restrictions should be imposed upon the sale of all such articles which do not sustain, without ignition, a temperature equal to that sustained by well-manufactured celluloid. 4. It is worthy of consideration whether all celluloid articles of personal wear and such others as might give rise to fires ought not to be compelled to have the word "ignitable" conspicuously imprinted upon them. 5. If the suggestion of the writer in *The Lancet* to render celluloid incombustible by the addition of some chemical should be practicable it would be the best solution of the difficulty, and such

an addition ought to be made compulsory by legislative enactment."

17. **Hemorrhagic Pancreatitis in Malaria.**—Ross and Daniels report a case in which a man died with acute symptoms which did not indicate a malarial source, but the postmortem showed hemorrhagic pancreatitis, together with extensive necrotic and other changes in the stomach and intestines, with a great accumulation of the malarial parasites in the pancreas and in the capillaries of the stomach and intestines; very few were found in the spleen, liver and kidneys. There was also bacterial infection of the stomach and intestines to a large extent. The malarial parasites probably had remained latent and had increased rapidly in the intestines and pancreas, until finally they produced sufficient damage to the mucosa to allow other micro-organisms present to invade it. Pain was not a noticeable symptom at any time during the disease.

20. **Study of the Trypanosoma of Tsetse Fly Disease.**—Laveran and Mesnil ascribe to the trypanosomata, the *surra* of India, the *dourine* of Hungary, Spain and Africa, the *mal de caderas* of certain portions of South America and possibly also of the United States, and the tsetse fly disease. The measures which have proved effective against one will probably prevent the others.

21. **Study of Cattle Plague. Filtration of Virus.**—Nicolle and Adil-Bey have become convinced by their studies on the invisible germ of cattle plague—which passes readily through a thin Berkefeld filter—that it lives inside the leucocytes. They relate certain peculiarities, which are only to be explained by this assumption, which may aid in the study of other unknown parasites.

23. **Special Role of Carbohydrates in Utilization of Insoluble Salts in the Organism.**—Vaudin's tests demonstrated that the saliva alone, without admixture of gastric juice, is able to form maltose and dissolve a certain proportion of the insoluble salts. About 300 gm. of salted bread were chewed by some young people and ejected into a vessel and mixed with water. In two hours maltose had been formed in the proportion of 73.15 gm. to the liter, and .98 gm. of the insoluble salts was dissolved in the fluid.

26. **Chloroform Anesthesia in Heart Disease.**—Huchard maintains that accidents from chloroform anesthesia are no more frequent in persons with lesions of the heart or aorta than in cases of other affections. A cardiac or aortic affection is, therefore, no contra-indication to chloroform under the following conditions, namely: 1, that it is not in the acute stage of an infectious process; 2, that the organ affected is not too much degenerated; 3, that it is not in the asystolic or dyspneic stage nor exhibits symptoms of adhesion of the pericardium. In case of cardiac or aortic disease, the chloroform should be administered in small, progressive and continuous doses until the lid reflex is diminished. The entire suppression of this reflex is too close to the sudden dilatation of the pupil, which is often the precursor of respiratory or cardiac syncope. Chloroform well made and well administered does not kill, Sédillot used to say, and the maxim still holds good.

27. **Potato in the Treatment of Diabetes Mellitus.**—Mossé's further experience has confirmed his previous assertions—mentioned in THE JOURNAL of January 11, p. 137—in regard to the great value of potatoes as a substitute for bread in diabetes and its complications. Ingestion of 2.2 to 3.3 lb. of potato for several successive days will usually reduce the thirst and the amount of sugar in the urine, while there is a general improvement in the different elements which make up the urologic syndrome, as well as in the general health. This effect has been attained in 23 out of 24 cases in which 2.5 to 3 times as much potato as bread formed the daily diet. The potatoes can be cooked in any way, but when baked and with butter they are usually relished most. During the spring and early summer they can be incorporated in the bread. This makes a more appetizing bread than the usual substitutes for wheat flour. Mossé attributes the effect of the potato régime to the alkalies they contain in a vitalized form. The urine loses much of its acidity and the general effect seems to be similar to that of a course of alkaline waters.

30. **Expectant Treatment During Period of Dilatation in Deformed Pelves.**—Pinard distinguishes between a primipara with a normal cervix and a multipara whose cervix is infiltrated with cicatricial tissue, in determining the proper procedure and the limits of expectant treatment. He applies the term *bassin limite* to a pelvis which has not permitted the normal accommodation of the pelvis during the pregnancy, but which may sometimes allow the passage of the fetal head.

31. **Vesicular Mole with Severe Vomiting.**—Pinatelle states that in one case the mole developed without symptoms until uncontrollable vomiting suddenly set in, requiring therapeutic abortion at the third month. In the other case there was a history of recurring metrorrhagia with cessation of fetal pulse and growth the fourth month, followed by grave vomiting. The case took a favorable turn and patient recovered. The abdomen ceased to increase in size, but débris of placenta and fragments of a mole were expelled at term. No fetus was found. Vesicular mole was accompanied by uncontrollable vomiting in 15 per cent. of the cases on record.

39. **Treatment of Surgical Tuberculosis by the High Frequency Current.**—Imbert reports three cases treated by this form of electricity with marked benefit in all, and one completely cured. The rapid and progressive improvement of the functional symptoms was most remarkable. One patient had a tubercular arthro-synovitis of the right wrist. He was a waiter, aged 34, and was able to resume work in two months. Forty seances, ten minutes each, with a current of 400 to 500 milliamperes, were given in the course of five months. The second case was a tubercular adenopathy of the neck, and the third, a tubercular diaphysitis of the right arm. The favorable results justify the application of this treatment to muscular atrophy consecutive to tubercular bone and joint lesions in general.

40. **Primary Cutaneous Actinomycosis of the Face.**—Pourpre has collected 10 cases of this form of actinomycosis in which the parasite was found. All the subjects recovered except one whose lung became involved.

41. **Cure of Leg Ulcer by Nerve Stretching and Vein Resection.**—Thévenot recommends this procedure as the operation of election for ulcers which are kept up by nerve or vein lesions, irrespective of the primal origin of the ulcer. In the case described, he stretched the external popliteal sciatic nerve, made a partial resection of the external saphena, and curetted the ulcer, resulting in the cure of an absolutely rebellious, recurring traumatic ulcer on the right leg, with neuralgic features.

42. **Resection of the Internal Pudic Nerve.**—Tavel finds but one case in which this operation was performed for vaginismus and is surprised that it has not more often been put into use. After giving the description furnished by Professor Strasser of the anatomic conditions, he reports two cases in which the operation was done for vaginismus and pruritus with success. He makes his incision midway between the tuberosity of the ischium and the anus parallel with the median line of the body, and bisected midway by the intra-ischiatic line. The incision is made to extend through the skin and the subcutaneous fatty tissue at the right, outside and behind the internal face of the ischium, to avoid injuring the inferior hemorrhoidal nerve. Following the fascia which covers the internal obturator, we will feel the pudic artery beating under the finger. It is not generally necessary to follow the nerve to the small sciatic notch, the branches which are to be resected are collected around the artery. The internal fascia of Alcock's canal once open, the nerves are isolated from the artery and accompanying veins. The motor branches are determined by slight irritation with a blunt instrument and observing the contraction. Those fibers which do not cause muscular contraction are sensory and their distribution is easily determined. Tavel advises resection simply of the labial, vestibular, or superficial perineal branches according to the extent of hyperesthesia and in some

cases it may be well to take also the clitoridian nerve. Post-operative treatment does not include drainage. In his cases recovery occurred without the least reaction.

43. **Gastrostomy.**—Terrier and Gosset describe their method of performing gastrostomy. It consists in vertical and left lateral laparotomy, dividing the fibers of the left rectus and drawing out the cone of the gastric coats, making three planes of sutures: a double plane which unites the sero-muscular coat to the posterior and anterior sheaths of the rectus and a superficial plane to unite the mucosa to the skin. The opening into the stomach is as small as possible so as to form a mucous cushion as an obturator which will plug up the opening. The muscle coats after the resection and the two parts of the rectus muscle play the part of a sphincter.

44. **Cicatricial Stenosis of the Pylorus.**—In this concluding chapter of their article Quenu and Petit describe the treatment at length. They find in reviewing the published cases that dilatation of the pylorus was performed in three cases, with one death and two failures. The operation is not satisfactory. Resection of the pylorus had four good results in four cases. Pyloroplasty gave a mortality of 21.7 per cent., five deaths in 23 operations. Gastro-enterostomy gave 5 successes in 7 operations, or a mortality of 28.8 per cent. It will appear from a superficial view of these results that pyloric resection was the operation of choice, but the cases are too few. Three of the patients operated on by pyloroplasty died of pulmonary tuberculosis, 5, 6 and 8 months after the operation. At the autopsy it was found that the pylorus was of normal diameter in these cases. The patient operated on by Bardeleben, on the other hand, remained cured for two years after the operation. Of the other cases we have little information except that three patients had some gastric trouble after the operation. One of these had a return of the vomiting and committed suicide. The autopsy showed an ulceration of the small curvature of the stomach. Of the five patients cured by gastro-enterostomy, four had been under observation for five or six months, but there has been apparent complete recovery and absence of any gastric phenomena. Hartmann's patient died of tuberculosis two years and a half after his operation, without the least stomach disorder. From the facts the authors are inclined to give the preference to gastro-enterostomy as the operation for stenosis of the pylorus following cicatricial contraction from caustics, etc., as giving less chances of relapse or ulceration. In a small number of cases gastro-enterostomy may be contraindicated, as when the stomach has been contracted to a mere channel between the esophagus and pylorus. In such a patient, Hartmann performed a duodenostomy. Such operation may be required if to the pyloric contraction is added a cardiac stenosis, but it is probable that the predominance of esophageal symptoms will lead the surgeon to first make a gastrostomy. Then, if it is impossible to feed the patient because the stomach rejects its contents, indicating a stenosis of the pylorus, gastro-enterostomy may be performed.

45. **The Clinical Use of Cytology, Cryoscopy and Hematolysis in Certain Surgical Serous Effusions.**—Juillard has investigated the utility of cytologic examinations for clinical purposes in articular and serotal effusions and hernial sacs. He finds that a cytologic study has a certain clinical value, but we must take account of the clinical pictures, the secondary irritations and the external application of medicinal appliances. It often happens that two effusions of the same origin have a different cytologic formula according as the occurrence of their evolution and their degree of acuteness varies. The existence of a general infectious disease and local lesions may exercise an influence on the cellular contents of the effusion. The intensity of the different stages of the morbid processes appears to be characterized in order from the slighter to the more severe by the presence in the effusion of, 1, endothelial cells; 2, lymphocytes; 3, polynuclear cells. The presence of eosinophiles is of no special importance, but they are met in diseases of infectious origin. The following conditions are characterized by the cellular contents consisting exclusively or mainly of endothelial cells or by the absence of any figured elements: effusions of slow evolution; effusions of purely mechanical origin, as simple syphilitic chronic hydrocele; hydrocele symptomatic of slow syphilitic lesions of the testicle; mechanical hydrocele in case of generalized perineal edema; of tubercular arthritis of slow evolution; mechanical hydrarthroses; traumatic hemarthrosis and prerotulian hygroma, and certain effusions in the hernial sac of recent date. The following are characterized by cellular contents composed exclusively or mainly of lymphocytes: the infectious effusions, subacute or chronic; certain traumatic effusions; tubercular hydrocele; hydrocele following moderate trauma; chronic hydrohematocele: encysted hydrocele of the cord associated with general infectious disease; certain recent effusions of the hernial sac; tubercular arthritis; tubercular synovitis with riziform granules; relapsing hydrarthroses; chronic traumatic hydrarthrosis and gonorrheal hydrarthrosis without fever. Polynuclear predominence characterizes acute effusions; chronic effusions in acute exacerbations; chronic effusions affected by severe traumatism; acute gonorrheal hydrocele; hernial effusions of many days' duration; acute rheumatic arthritis; certain prepatellar hygromas; chronic effusions which have been punctured, and old tubercular arthrites. Sometimes transition forms can be observed between any of these types. Effused contents in the sac of strangulated hernia contain endothelial cells and lymphocytes in recent cases, polynuclear cells in cases of several days' duration and where the intestinal lesions are advanced. Cryoscopy does not seem to give any very useful indications for diagnosis and hematolysis. The examination of the hemolytic power of effusions of the vaginal serosa is not of practical value. In hernial sac effusions it shows the presence of lysins which seem to increase as the morbid phenomena progress. As regard intra-articular effusions there may be hemolysins where the case is clearly infectious, and especially when it is acute. In cases of traumatic hemarthrosis and of hemorrhagic prepatellar hygroma, the hematolytic power of the effused liquids is in inverse ratio to the time between the examination and the beginning of the morbid symptoms.

48. **Treatment of Whooping Cough by Formol.**—Lamallerée has a pastille of paraform evaporated over an alcohol lamp every two hours in the room, which the child is not allowed to leave. In 20 cases treated in this way, the vomiting and paroxysms ceased in twenty-four to seventy-two hours in all but 2 of the children. In the others the cure was complete in eight days, with no treatment after the first seventy-two hours.

50. **Phlebitis in the Course of the Secondary Manifestations of Syphilis.**—Oettinger points out the superficial localization and multiplicity, the absence of embolism or any serious complications and the recovery under specific treatment, as distinguishing phlebitis occurring in the secondary stage of syphilis. It is very rare in comparison to the specific arterial lesions. The first symptoms soon subside, but a long interval elapses before the vein resumes its normal elasticity. Recurrence has been observed in several cases.

54. **Recent Publications on Prophylaxis and Treatment of Puerperal Sepsis.**—Bass reviews the literary output on this subject in 1897, 1898 and 1899, a total of 397 articles and monographs. In regard to serum treatment, he observes that the indispensable requisite for successful treatment with anti-streptococcus serum is the presence of streptococci, and it should not be given until they have been found. No evil results seem to have attended its use. Only 5 cases of exanthem are mentioned in a total of 134 cases treated with the serum. Credé's colloid silver treatment has also proved harmless and the results reported encourage a trial in severe cases. Courtney and Zoy are the only writers who recommend nuclein acid. Both claim that excellent results follow its use, on account of the hyperleucocytosis which it induces. The cases treated by extirpation of the infected uterus are not conclusive as to the benefits of the procedure. When the infection has spread beyond the uterus, it is ineffectual to arrest its ravages, and when it is restricted to the organ, the patient might have recovered without the operation.

56. **Treatment of Peritonitis Due to Spontaneous Rupture of Gall Bladder Containing Stones.**—König opposes the idea that a normal gall-bladder can burst from pressure of accumulated stones. In the cases on record the walls have always been found thickened and enlarged at some points and shrunken, thin and easily torn at others, with decubitus in many instances. Cholecystectomy is the simplest and most rapid method of treatment and the results he describes in a recent case, a woman of 70, confirmed its advantages. If the rupture occurs without preceding acute and severe inflammation in the gall-bladder, the infection of the peritoneum is mild. The perforation of a decubitus lets a few non-virulent bacteria into the peritoneum, and the resulting peritonitis is at first slight and very slowly progressive. If the abdominal cavity is cleaned and the gall-bladder removed, the peritoneum will take care of the small amount of infected bile left in it. But on the other hand, when the peritonitis has progressed into a severe form, or a preceding attack of gallstone colic suggests virulent infection, the abdominal wound should be left open after the extirpation of the gall-bladder. Perforation of the gall-bladder is accompanied by symptoms indicating rupture of a viscus. The symptoms of peritonitis do not appear until later. Tenderness is most pronounced at the points where the gallstones rest on the serosa and add a mechanical factor to the irritation and induce a tendency to vomit. Diagnosis is difficult in the cases which have never exhibited any preceding symptoms of the lithiasis, as in the one he describes. An important aid in differentiating is the subsidence of the vomiting when the patient reclines quietly, while the peritonitic symptoms persist. In his and Hochenegg's case, the diagnosis was obscured by a distended loop of intestine adherent at the point where the tenderness was most marked, merely a coincidence in each case.

57. **Death Under Chloroform from Paralysis of the Heart.**—Laqueur adds another to the 12 cases of sudden death under chloroform from paralysis of the heart which Kundrat collected in 1895. Heusler witnessed a similar fatality under ether. Nordmann has collected 4 cases of the sudden death of robust young persons during a cold bath, and the sudden death of a Berlin colleague's child after a single preventive injection of antidiphtheria serum probably belongs in the same category, as also Pott's case of sudden death of a child on the introduction of the tongue spatula. All the subjects were apparently healthy children or young persons, but all had one feature in common, a very large, persisting thymus, with actual hyperplasia in some. The spleen and tonsils were also unusually large in most of the cases. Enlargement of the follicles at the base of the tongue is constant in such persons.

58. **Infection and Auto-Infection.**—Wassermann reviews the results of recent researches in regard to the protecting powers of the organism against infection. The bactericidal action of fresh normal serum is due to its two constituents, the between-body and the complement, and when one or the other is deficient, the bactericidal power diminishes. Ehrlich has recently demonstrated that after excluding the liver in animals by intoxicating them with phosphorus, certain complements vanish from the serum. He has thus established that chronic affections of internal organs are liable to deprive the organism of these important protecting substances. Metalnikof has also recently demonstrated that the complements vanish in the course of chronic suppuration. Von Dungern's observation has shown that certain cells in the organism are able to bind these complements and annul their action. He found that dead tissue possessed this property to a notable degree. These findings suggest an explanation for the readiness with which patients under similar conditions yield to infection. It has likewise been established lately that the protecting and curing substances which are elaborated in the course of certain self-limited infections are formed in the bone marrow, and that the germs causing the infection, or their products, have to reach the bone marrow before the protecting substances can be elaborated. This has been most thoroughly studied in typhoid fever. The germs which find their way into the bone marrow may linger there for years after recovery, their proliferation checked by the natural protecting powers of the serum. But if the normal circulation is interrupted by any cause, traumatic or otherwise, and the serum loses some of its protecting power, then the germs commence to proliferate and inflammatory processes are liable to develop in the marrow or periosteum. The passage of isolated germs into the blood and thus into the bone marrow, occurs more frequently than generally supposed, and is probably the essential factor in the elaboration of the protecting substances in the marrow.

60. **Renal Colic, Renal Hemorrhage and Nephritis.**—Senator does not agree with Israel in his assertions that renal colic can be caused by congestive tension or inflammation of the kidney except in rare cases. Neither is hematuria to be ascribed to this cause. Consequently, incising the kidney is not the proper method of treating renal colic or renal hemorrhage. The colic is caused by adhesions between the kidney and neighboring parts, and the resulting displacements of the organ are probably the cause of the hemorrhage. Talma pointed out some years ago that slight displacements of the kidney which cause no disturbance in healthy persons, induce nervous renal colic in persons with hypersensitive abdominal ganglia. Senator bases his statements on Israel's own cases, pointing out that in his 14 patients there was no congestion nor tension in 11, and yet the patients were cured after the intervention—incision of the kidney—in all probability from the detaching of adhesions. Even when a focus of inflammation is discovered in the kidney it is not necessarily the source of the colic and bleeding, which are the effect of other causes, except in cases of complete anuria by retention, painfully distending the organ. Israel's 14 cases include a number with pyelitis, gonorrhea, cystitis and movable kidney, suggesting the certainty of adhesions, while other writers have expressly noticed the presence of adhesions in their cases.

61. **Tetanus Germs in Gelatin.**—Levy and Bruns dissolved 2 to 3 gm. of ordinary commercial gelatin in 100 c.c. of bouillon and kept it for eight to ten days at 99 F. They then inoculated mice with .3 to .4 c.c. of the filtrate. All of the animals developed typical, fatal tetanus in two or three days. Inoculation of .2 c.c. caused a chronic tetanus of the hind leg nearest the point of the injection. Guinea-pigs also succumbed in two to four days after inoculation with 2 to 5 c.c. of the filtrate. These results were obtained constantly with four out of the six specimens of gelatin used in the tests. Further research showed that exposure to steam for eight minutes was not sufficient to sterilize the gelatin in all the tests. The results indicated that different tetanus germs have a varying susceptibility to high temperatures. The problem is still undecided as to which element in the gelatin is responsible for the hemostatic action, and whether this element would be injured by a temperature sufficiently high to actually destroy all the tetanus germs. Research in this line is needed.

62. **Clinical Utilization of Agglutination of Tubercle Bacilli.**—Rumpf has been testing the exact condition of the resisting powers of the organism in the struggle with tuberculosis, by means of the agglutinating reaction. Koch believes that the agglutinating property and the protective substances in the body parallel each other, and that the former is therefore the index of the latter. In his communication translated in THE JOURNAL of December 21, p. 1710, he states that it is possible to promote the elaboration of the protective substances by repeated injections of tubercle bacilli dust, and that the progress accomplished can be estimated by the agglutinating reaction. Rumpf found the test positive in 84 per cent. of 107 patients in various stages of tuberculosis, in 17 patients with a one-fifth dilution and in 73 with a one-tenth or still weaker dilution. He made comparative tests with Arloing's and with Koch's method of agglutinating and found the results parallel in many cases. The agglutinating reaction was marked, even without artificial stimulation, during the first period of the patients' stay in the sanatorium, showing the general benefit derived. Six patients who had been injected with old tuberculin three

times for diagnostic purposes, showed marked agglutinating power and 5 others were treated according to Koch's directions with repeated injections of the bacillus emulsion or "new tuberculin." The agglutinating property was very much enhanced in all of them and in one it reached the strength of 1 to 100, even after only three injections of comparatively small doses (.0025, .005 and .01). These were all patients in the second or third stages, in which it is more difficult to obtain the reaction. The interval is still too short to determine the permanent benefit derived from this application of Koch's method. No harm nor ill effects of any kind were noticed. The details of the agglutinating reaction in the 107 cases are tabulated.

67. **Simple Method of Preserving Specimens for Microscopic Clinical Diagnosis.**—Rohnstein states that this method has been in use at Senator's clinic for three years, and has given constant satisfaction. The specimens must be in a natural condition, neither stained nor dried. All fluid is strained out of feces, sputum or matters derived from the stomach, and the solid matters left are mixed with the preserving fluid, which is a mixture of 20 parts formol and 125 of glycerin in 200 of distilled water. If urine is to be examined, it is set aside to settle, and the fluid is siphoned off the sediment. It is then mixed with a corresponding amount of water and set aside for another twelve to twenty-four hours to settle again. This fluid is again siphoned off, and the same quantity of the preserving fluid is added. By this means all the albumin in the urine is removed in the supernatant fluid. A few crystals of thymol are added to the urine to prevent cloudiness from bacterial action. The material can be kept in this preserving fluid for years without losing its natural appearance. Specimens that have been thus preserved for three years are not altered and are ready for microscopic examination at any time, just as when fresh.

73. **Treatment of Nocturnal Enuresis and Pollutions.**—Porosz is convinced that both are due to defective development or deficient function of the prostate, unless a central origin is unmistakably apparent. He consequently treats them by Faradization of the prostate through the rectum and reports excellent results.

74. **Hypophrenic Pains and Neuroses of the Celiac Plexus.**—Hoffman ascribes certain subdiaphragmatic pains to a neurosis of the celiac plexus. They are characterized by their location in the upper portion of the abdomen, whence they radiate into the lower portion, but not to the genitalia nor into the legs. They also radiate backward into the sacral and gluteal regions, but not upward. When these pains are accompanied by scybalæ and polyuria, the combination forms a syndrome which justifies the assumption of a neurosis of the celiac plexus.

75. **New Test of Lungs for Forensic Cases.**—Placzek notes that the pressure in the cavity containing the lungs is zero in the fetus, while after air has once entered the lungs it is never entirely evacuated, and the manometer shows negative pressure. It is therefore possible to determine with the manometer whether an infant was born alive or not, by the amount of negative pressure in the lung cavity. The floating test and the eye will supplement the findings of the manometer and determine whether respiration was partial or complete.

79. **Dietetic Treatment of Stomach and Intestinal Affections.**—Among the points emphasized by Schmidt are the necessity that food entering a diseased intestine should be in minute particles and should make the least possible demands on its chemical digestive functions. He advises reducing the tendency of milk to putrefy by the addition of salicylic acid in the proportion of .25 to .5 gm. to the liter. This precaution has proved very effectual in his experience in treating gastric and intestinal affections. This successful attempt to disinfect the food suggests that other experiments in the same line might give fine results. An antiseptic diet seems to be particularly advisable in case of achylia, but the same result may sometimes be accomplished by administering hydrochloric acid.

80. **Statistical Study of the Consequences of Lues.**—Matthés has undertaken to record the morbidity of the syphilitics whom he has had occasion to treat since 1875. He intends to report on them every five years. He states that tabes occurred in about 1 per cent. of 698 certain cases of lues, and paralysis in 1.1 per cent. The mortality is higher than the average; most of the deaths occurred from intercurrent tuberculosis. His experience disproves the generally accepted belief that syphilis acquired late in life has an unusually severe course. About 75 per cent. of the survivors have living children, but in 35.6 per cent. births had been preceded by abortions and the death of nurslings.

83. **Study of Eclampsia Cases.**—Braitenberg states that he has had occasion to observe 46 cases of eclampsia in the last fourteen years, a proportion of 5.47 per cent. of the total number of births. Only 12 cases occurred in parturients who arrived at the clinic after labor had commenced. The others were all in persons who had been for some time in the institution, the maximum eight weeks. These cases in the clinic occurred sometimes in groups, once coinciding with an epidemic of influenza. The 6 cases in multiparæ were all extremely mild, with merely a single eclamptic attack, except in one case of carbolic poisoning. Nearly 33 per cent. of the patients had an abnormally small pelvis. Albuminuria was pronounced in all but 4 of the patients. The eclampsia developed during the pregnancy in 4, with an average of 10 attacks, and 25 per cent. mortality; during delivery in 24 per cent., with an average of 3.5 attacks and mortality of 12.5 per cent.; during the puerperium in 18, with only 2.1 attacks and no mortality. In the 18 cases in which delivery was artificially accomplished there were no further attacks in 50 per cent. In 2 of the fatal cases, marked cerebral apoplexy was found at the autopsy, so pronounced in one case that it may have been the primary affection and might have developed without the pregnancy, on the basis of old endocarditis and atheromatosis. In one case the fetus was extracted by Cesarean section immediately after death. The heart beat had not been perceptible six hours before and the fetus was in extreme rigor mortis.

86. **Brown-Sequard Injections in Treatment of Atrophy of Optic Disc.**—Castresana has been making a systematic test of this method of treating both gray and white atrophy. Vision was not restored to normal in any case, but all were much improved. One patient could count fingers at half a meter after twenty injections and at one meter after twenty more. The improvement subsided after the injections were suspended, and he proposes to resume them every two or three months in order to maintain the benefit derived.

88. **Tolerance of Strychnin.**—Alvarez prescribed spartein sulphate in a daily dose of 4 cg. for a patient with ataxia cardiaca. The druggist gave her strychnin sulphate, and the patient took 2 cg. morning and night. Instead of causing contractions, the strychnin induced an actual ataxia. The languor was so extreme that she could neither walk nor stand without support for four to six hours after each dose. The tetanizing effect was restricted to a severe and painful trismus. The symptoms subsided after suspension of the drug.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A System of Physiologic Therapeutics. A Practical Exposition of the Methods, Other Than Drug-giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic. In Eleven Octavo Volumes. American, English, German and French Authors. Volume VI, Dietotherapy and Food in Health. By Nathan S. Davis, Jr., A.M., M.D., Professor of the Principles and Practice of Medicine in Northwestern University Medical School. Cloth. Pp. 372. Price, for the set complete, $27.50 net. P. Blakiston's Son & Co. 1901.

Recherches Cliniques et Therapeutiques sur L'Epilepsie, L'Hysterie, et L'Idiotie. Compte-rendu du Service des Enfants

Idiots, Epileptiques et Arriérés de Bicêtre Pendant L'Année 1900. Par Bourneville avec in collaboration de MM. Crouzon, Dionis de Séjour, Izard, Laurens, Paul-Boncour, Philippe et Oberthur. Volume XXI. Avec 19 figures dans le texte et XI planches. Paris: Progrès Médical. 1901.

THE ACCESSORY SINUSES OF THE NOSE. Their Surgical Anatomy and the Diagnosis and Treatment of Their Inflammatory Affections. By A. Logan Turner, M.D. (Edin.), F.R.C.S. Ed., Surgeon for Diseases of the Ear and Throat, Deaconess Hospital, Edinburgh. With 40 Plates and 81 Figures. Cloth. Pp. 211. Price, $4.00. New York: Longmans, Green & Co. 1902.

A POCKET CYCLOPEDIA OF MEDICINE AND SURGERY, Based upon "A Cyclopedia of Practical Medicine and Surgery." Edited by George M. Gould, A.M., M.D., Editor of American Medicine, and Walter L. Pyle, A.M., M.D., Assistant Surgeon Wills Eye Hospital, Philadelphia. Leather. Price, $1.00. Philadelphia: P. Blakiston's Son & Co. 1902.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA. The State Board of Health Organized 1847—Session 1897. Selma, April 20-23, 1897. Cloth. Pp. 450. Montgomery, Ala.: Brown Printing Co. 1897.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Fifteenth Session, held at Niagara Falls, June 11, 12 and 13, 1901. Volume XIV. Cloth. Pp. 369. Philadelphia: Published by the Association. 1901.

ON DISORDERS OF ASSIMILATION, DIGESTION, ETC. By Sir Lauder Brunton, M.D., D.Sc., LL.D. (Edin. and Aberd.), F.R.S., F.R.C.P. Cloth. Pp. 495. Price, $4.00. London and New York: Macmillan & Co., Ltd. 1901.

VALID OBJECTIONS TO SO-CALLED CHRISTIAN SCIENCE. By Rev. Andrew F. Underhill, Rector of St. John's Church, Yonkers, N. Y. Paper. Pp. 49. New York: Edwin S. Gorham. 1902.

ANIMAL EXPERIMENTATION. A Series of Statements Indicating Its Value to Biological and Medical Science. Paper. Pp. 177. Price, $1.00. Boston: Little, Brown & Co. 1902.

PHOTOGRAPHIC ATLAS OF THE DISEASES OF THE SKIN. By George Henry Fox, A.M., M.D. Part VIII. Price, $1.50 each. Philadelphia and London: J. B. Lippincott Co. 1901.

THE KEW COWL TESTS. Preface by Perry Fairfax Nursey, C.E., Post President of the Society of Engineers. Paper. Pp. 43. London: Hickson, Ward & Co. 1902.

ELEVENTH ANNUAL REPORT OF THE STATE BOARD OF MEDICAL EXAMINERS of New Jersey, 1901. Paper. Pp. 46. Trenton, N. J.: MacCrellish & Quigley. 1902.

MENTAL GROWTH AND CONTROL. By Nathan Oppenheim, M.D. Cloth. Pp. 295. Price, $1.00. New York: The Macmillan Co. 1902.

CONTRIBUTIONS FROM THE WILLIAM PEPPER LABORATORY OF CLINICAL MEDICINE. (Reprints.) No. 2. Paper. Philadelphia. 1901.

REPORT OF THE KENSINGTON HOSPITAL FOR WOMEN. From Oct. 8, 1900, to Oct. 14, 1901. Paper. Pp. 29.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Feb. 20 to 26, 1902, inclusive:

Edward B. Bailey, contract surgeon, now at Demopolis, Ala., to the Division of the Philippines, via San Francisco, Cal.

E. B. Barnett, contract surgeon, leave of absence extended one month, on the expiration of which he will report to the chief surgeon, Department of Cuba, for annulment of contract.

Joseph T. Clarke, captain and asst.-surgeon, U. S. A., leave of absence for twenty days granted.

William H. Corbusier, major and surgeon, U. S. A., member of a board at Governor's Island, N. Y., for the examination of officers for promotion.

Oscar F. Davis, contract surgeon, now at Bloomington, Ind., to duty at Fort DeSoto, Fla.

Mills Dennis, contract surgeon, now at Temple, Tex., to the Division of the Philippines, via San Francisco, Cal.

Robert C. Eve, contract surgeon, former orders amended to relieve him from duty at Fort Sam Houston, Tex., and to proceed to his home at Augusta, Ga., for annulment of contract.

Edward T. Gibson, contract surgeon, from Fort Harrison, Mont., to San Francisco, Cal., for duty as transport surgeon on the transport *Meade*.

Frank D. Pease, contract surgeon, from Fort Mackenzie, Wyo., to duty at Fort Harrison, Mont.

Elias H. Porter, contract surgeon, former orders so amended as to direct him to proceed to San Francisco, Cal., from Fort Hancock, N. J., instead of from Louisa, Ky.

Milton Vaughan, captain and asst.-surgeon, Vols., leave of absence for two months granted.

Clarence A. Warwick, contract surgeon, now at Keokuk, Iowa, to the Division of the Philippines, via San Francisco, Cal.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 1, 1902:

Medical Inspector D. N. Bertolette, detached from the *Brooklyn* and ordered to the *New York*.

Surgeon G. T. Hibbett, detached from the Cavite Naval Station and ordered to the *Brooklyn*.

Surgeon J. E. Gardner, detached from the *New York* and ordered to the Naval Hospital, Cavite, P. I.

Asst.-Surgeon J. J. Snyder, ordered to Port Royal Naval Station for temporary duty with recruiting party.

Asst.-Surgeon B. L. Wright, when discharged from treatment at Naval Hospital, New York, ordered home and granted sick leave for three months.

Surgeon L. W. Spratling, ordered to Buffalo, N. Y., for duty at the Naval and Marine Recruiting Rendezvous.

Surgeon H. L. Law, retired, detached from duty at the Naval and Marine Recruiting Rendezvous, Buffalo, N. Y., and ordered home.

Asst.-Surgeon W. H. Ulsh, reported at the Naval Hospital, Mare Island, Cal.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Feb. 27, 1902::

Surgeon T. B. Perry, granted leave of absence for seven days from Feb. 12, 1902.

P. A. Surgeon A. R. Thomas, relieved from duty at Glasgow, Scotland, and directed to proceed to London, England, for duty in the office of the U. S. Consul-General.

Senior Pharmacist, A. M. Roehrig, granted leave of absence for six days from Feb. 5, 1902.

Junior Pharmacist Frank Siedenburg, granted leave of absence for three days from Feb. 19, 1902.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Feb. 28, 1902:

SMALLPOX—UNITED STATES.

Alabama: Birmingham, Jan 1-31, 5 cases.

Alaska: Hooniah, Jan. 29, 8 cases.

California: Sacramento, Feb. 8-15, 1 case; San Francisco, Feb. 9-16, 20 cases.

Colorado: Denver, Feb. 8-15, 5 cases.

Illinois: Feb. 15-22, Belleville, 2 cases; Chicago, 5 cases; Danville, 7 cases; Galesburg, 2 cases.

Indiana: Elkhart, Feb. 1-15, 20 cases; Evansville, Feb. 15-22, 14 cases; Indianapolis, Feb. 8-15, 8 cases.

Iowa: Clinton, Feb. 15-23, 1 case.

Kentucky: Covington, Feb. 16-23, 6 cases.

Louisiana: New Orleans, Feb. 15-22, 2 cases.

Maine: Feb. 15, Durham, 5 cases; Freeport, 1 case; Portland, 2 cases.

Maryland: Baltimore, Feb. 15-22, 3 cases.

Massachusetts: Boston, Feb. 15-22, 19 cases, 4 deaths; Cambridge, Feb. 15-22, 4 cases; Everett, Feb. 14-21, 1 case; New Bedford, Feb. 14-21, 3 cases; Newburyport, Feb. 15-22, 1 case; Quincy, Feb. 15-22, 2 cases; Waltham, Feb. 15-22, 1 case.

Michigan: Feb. 15-22, Detroit, 5 cases; Ludington, 7 cases.

Minnesota: Minneapolis, Feb. 8-22, 48 cases.

Montana: Butte, Feb. 9-16, 4 cases.

Nebraska: Omaha, Feb. 15-22, 45 cases.

New Hampshire: Nashua, Feb. 15-22, 1 case.

New Jersey: Feb. 15-22, Camden, 3 cases; Jersey City, 23 cases; Newark, 29 cases, 5 deaths.

New York: Binghamton, Feb. 15-22, 2 cases; New York, Feb. 15-22, 55 cases, 13 deaths; Yonkers, Feb. 14-21, 1 case.

Ohio: Cincinnati, Feb. 14-21, 19 cases; Hamilton, Feb. 15-22, 1 case; Middletown, Feb. 8-15, 1 case; Youngstown, Feb. 8-15, 1 case.

Pennsylvania: Allegheny, Feb. 15-22, 2 cases; Lebanon, Feb. 15-22, 1 death; Philadelphia, Feb. 15-22, 63 cases, 15 deaths; Pittsburg, Feb. 15-22, 1 case; Reading, Feb. 17-24, 1 case; Steelton, Feb. 15-22, 1 case.

South Carolina: Charleston, Feb. 15-22, 4 cases.

Tennessee: Memphis, Feb. 15-22, 6 cases.

Texas: Fort Worth, Jan. 1-31, 8 cases; Houston, Feb. 15-22, 12 cases.

Vermont: Burlington, Feb. 15-22, 17 cases.

Washington: Spokane, Feb. 8-15, 25 cases; Tacoma, Feb. 8-16, 8 cases.

Wisconsin: Green Bay, Feb. 16-23, 9 cases; Milwaukee, Feb. 16-22, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Jan. 25-Feb. 8, 12 cases.

Belgium: Antwerp, Jan. 25-Feb. 8, 16 cases, 3 deaths.

Brazil: Bahia, Jan. 10-25, 2 cases, 1 death.

Canada: Halifax, Feb. 15-22, 1 case; Victoria, Jan. 4-11, 1 case.

Colombia: Cartagena, Feb. 3-9, 2 deaths; Panama, Feb. 10-17, 50 cases, 10 deaths.

France: Nantes, Jan. 1-31, 2 cases; Paris, Feb. 1-8, 3 deaths.

Great Britain: Birmingham, Feb. 1-8, 1 case; Glasgow, Feb. 7-14, 6 cases, 1 death; Liverpool, Feb. 1-15, 26 cases; London, Feb. 1-8, 1102 cases, 82 deaths; Plymouth, Feb. 8-15, 1 case, 1 death.

India: Bombay, Jan. 14-28, 9 deaths; Karachi, Jan. 12-19, 10 cases, 3 deaths; Madras, Jan. 17-24, 2 deaths.

Italy: Naples, Feb. 1-8, 11 cases; Palermo, Jan. 25-Feb. 1, 1 death.

Malta: Feb. 1-8, 2 cases.

Russia: Moscow, Jan. 18-Feb. 1, 32 cases, 12 deaths; Odessa, Jan. 25-Feb. 8, 11 cases, 3 deaths; St. Petersburg, Jan. 25-Feb. 1, 13 cases, 4 deaths.

Straits Settlements: Singapore, Jan. 4-11, 1 case.

Uruguay: Montevideo, Jan. 4-11, 65 cases, 6 deaths.

YELLOW FEVER.

Mexico: Vera Cruz, Feb. 8-15, 2 cases, 2 deaths.

CHOLERA.

India: Bombay, Jan. 14-20, 7 deaths; Madras, Jan. 11-24, 3 deaths.

Straits Settlements: Singapore, Dec. 28-Jan. 11, 4 deaths.

PLAGUE.

India: Bombay, Jan. 14-28, 643 deaths; Karachi, Jan. 12-19, 26 cases, 25 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, MARCH 22, 1902. No. 12.

Original Articles.

THE PROSTATE.

JOHN B. MURPHY, A.M., M.D.

Professor of Surgery, Northwestern University, Chicago Post-Graduate School and Hospital, and Chicago Clinical School.

CHICAGO.

In the very recent literature the surgery of the prostate has been given a much deserved prominence. The patient and long suffering of those with prostatic trouble is unnecessary to mention as an incentive to active investigation in this particular field. We believe that the recent procedures have been sufficiently tried to justify their regular performance, and that they give us reasonable assurance of safety to the patient and permanency of relief. It appears to us that it is now a matter of improvement of technic in the operations and a dissemination among the general profession of the importance of the early performance of operative procedures that is most needed. Before citing cases the author takes the liberty of considering the anatomy and physiology of the prostate, as well as the etiology and pathology of prostatic hypertrophy.

ANATOMY.

The prostate is a glandular and muscular body situated in front of the bladder, entirely behind the triangular ligament or deep perineal fascia—See Fig. 1 from Toldt—immediately anterior to and in close contact with the rectum, and completely surrounds the prostatic urethra. It is tunneled by the prostatic urethra, the urethra occupying the second anterior fifth of the space, from before backward.

Five-sixths of the bulk of the normal prostate is behind the posterior level of the urethra—See Figs. 2 and 3. Its greatest fixation is by its attachment to the posterior layer of the triangular ligament. When the ligament is divided therefore, and the prostate freed from it, it permits of considerable latitude of motion. On the anterior surface it is rather loosely attached to the urethra; on the posterior surface it is firmly fixed to the urethra; the mucous lining of its glands and of the ejaculatory ducts and prostatic sinuses are continuations of the mucosa of the urethra—See Fig. 4—so that it is not possible to remove the entire prostate without removing the prostatic portion of the urethra at the verumontanum—See Fig. 2 from Toldt. It is possible to remove the lateral and posterior lobes of a hypertrophied prostate, allowing its isthmus to remain, and retain the anterior portion of the urethra and three-fourths of its circumference—See Fig. 5 from Toldt. The anterior urethra is crescent-shaped, its convexity forward; the posterior surface of the urethra vaults forward into this crescent, the elevation being made up of the caliculus, utriculus, ductus ejaculatorii and the connective tissue surrounding them—See Fig. 5—and the middle lobe behind as shown in Fig. 6.

The middle lobe, in the normal anatomical condition, is a small, bullet-shaped, tongue-like projection from the base of the prostate, posterior to the urethra. It is not a lobe, when compared with the lateral lobes; it is merely a projection in the direction of the bladder from the posterior commissure, between the lateral lobes; and when the lateral lobes and posterior commissure are removed, it is practically detached except from the mucosa, as shown in Case 7.

The gland is surrounded by a distinct capsule—Fig. 5—which is smooth over the lateral lobes, but is depressed into the gland and divided into layers around the vessels in the median line. This vascular area runs parallel with the urethra and directly in the center line. Capsular divisions, therefore, in the removal of the gland should be made over the lateral lobes and parallel with the line of the urethra, that this vascular area may not be invaded until the lateral lobes are decapsulated and prepared for extirpation, and the hemorrhage thus avoided. The seminal vesicles recede from the prostate—See Figs. 3 and 4—along the posterior wall of the bladder and are closely attached to it.

The vesico-rectal peritoneum is a long distance from the base of the prostate, and in subcapsular enucleation its integrity is not in danger of being disturbed.

The arterial supply of the prostate is from the inferior vesical and middle hemorrhoidal arteries. These are subdivided at the inner margin of the capsule into small arterioles, and when the true capsule is peeled off they give rise to little hemorrhage. The veins which form a plexus in the capsule empty into the vesico-prostatic plexus.

The lymphatic supply is meager; the vessels accompany the veinous plexus, and finally end in the internal iliac nodes. The nerves of the prostate are branches of the hypogastric plexus.

In its minute structure the organ is made up of a stroma of connective tissue, smooth muscular fibers and glandular tissue—See Fig. 5. The muscle fibers constitute about one-half of the entire mass of the gland—See Fig. 5—and are continuous with the muscle fibers of the bladder wall above; below they are mingled with a small amount of voluntary muscular tissue derived from the transverse perineal muscles.—(F. H. Gerish.)

The glands are of the branched or tubular variety. They secrete a milky fluid, which at the moment of ejaculation is added to the seminal fluid, and appears to play an important rôle in the motility of the sperma-

tozoa, as without the addition to this fluid, in some of the lower animals, fecundity can not take place.

While in its normal anatomical position the prostate stands in front of the bladder and surrounds the urethra —See Fig. 2—in its hypertrophied condition it has an entirely different relation to the bladder. It normally extends backward onto the bladder only to the sphincter vesicæ internus—See Fig. 7, which shows bladder wall with prostate removed. In its pathologic or hypertrophied condition it encapsulates the neck of the bladder in a cuff-like manner, extending many inches upward on its wall, and often protrudes into the vesical cavity, carrying on its surface the muscularis and mucosa vesicæ; occasionally a pedunculated lobe may be extended through the muscularis and only retain the mucous covering; this, however, rarely occurs except from the posterior lobe. In the normal anatomical condition, the muscular fibers of the prostate are continuous with the muscular fibers of the apex of the bladder wall, but as the prostate enlarges it extends cone-shaped and upward on and around the neck of the bladder, and its muscle fibers in the upper part appear to be distinctly

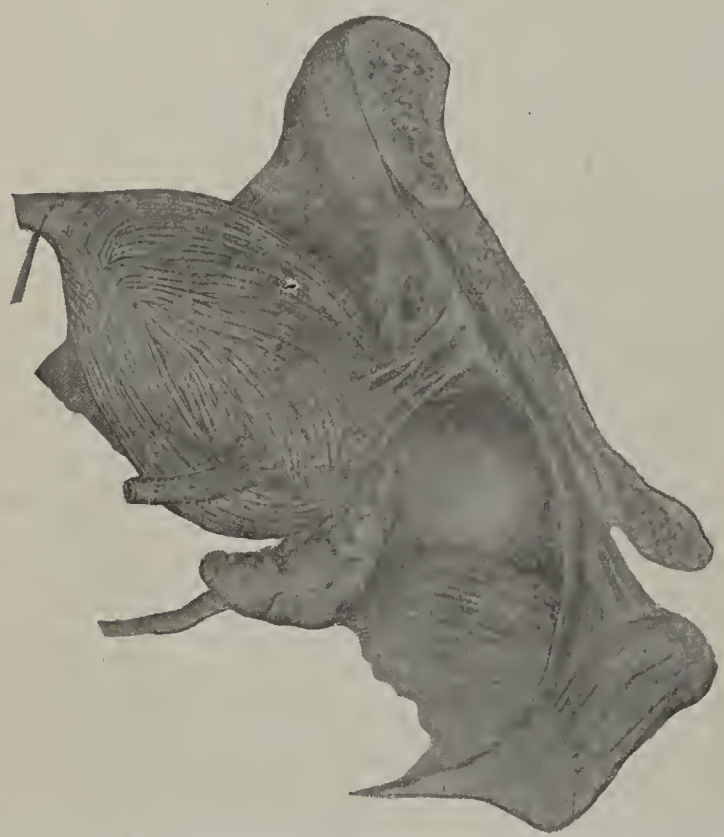


Figure 1 shows the relation of the prostate to the deep perineal fascia, the rectum, the bladder, the seminal vesicles and ureters.

separate, or at least easily separated from the muscle fibers of the bladder. This anatomic relation gives distinct assistance and guidance as to the best method of removal or separation of the prostate from the bladder wall, i. e., at the extreme apex of the bladder it would be difficult to distinguish between the prostatic and bladder muscular fibers, while, if the base of the prostate be exposed, the prostate can be shelled from the bladder wall, from above downward, with ease and with comparative safety to the integrity of the bladder wall, i. e., if we look upon the prostate as a cuff, closely attached at its apex to the bladder wall, and loosely attached at its base, we can see how its lateral lobes can be scrolled or rolled forward with ease, with the assistance of hook retractors, until it reaches the apex attachment, as shown in Fig. 8.

PHYSIOLOGY.

"At the cervix of the bladder the circular layer of muscular fibers is strengthened, and has been supposed to act as a sphincter, with regard to the urethral orifice; it is called 'sphincter vesicæ internus' (at point *a*, Fig. 7). Around the urethra just outside the bladder is a circular layer of striated muscle, which is frequently designated as the external sphincter, or sphincter urethræ."—Am. Text-Book Phys., 1896.

Figure 2.

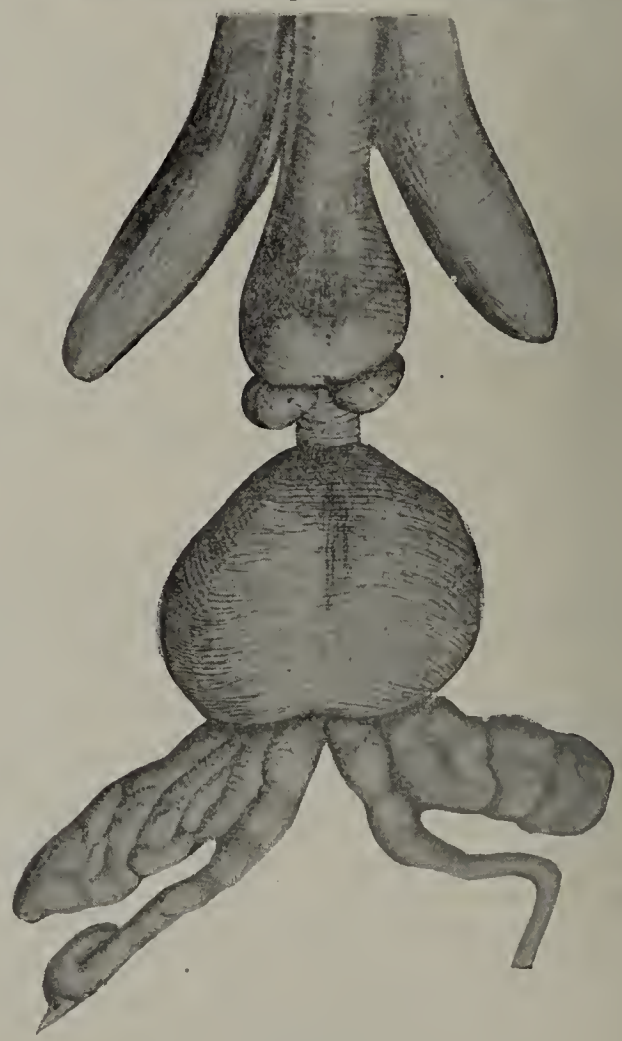


Figure 3.

Figures 2 and 3 show the relation of the prostate to the prostatic and membranous urethra, as well as the relations to the bladder wall and the seminal vesicles.

When the urine accumulates in the bladder, to prevent its escape the elasticity of the parts, aided by the

tonic contraction of the internal sphincter, suffice. This function of the circular layer of fibers, which composes the internal sphincter, is disputed by some observers. That this sphincter controls, absolutely, the flow of urine, I have demonstrated conclusively on three of my cases after the prostate was removed, and the posterior prostatic urethra entirely removed with it. It was necessary in these cases to introduce a forceps or a catheter to allow the urine to escape from the bladder when the operation was complete, showing that the sphincter vesicæ internus has complete control of the urine, without the aid of the sphincter urethræ, notwithstanding the statements of so many authorities to the contrary. "When the accumulation in the bladder becomes greater the external sphincter is brought into action."—Am. Text-Book Phys., 1896. This we have been unable to observe, as the extensive operation interferes with this sphincter. If the desire to urinate is strong, the external sphincter is undoubtedly controlled by voluntary effort, but whether or not in mature filling

Figure 4 shows the relation of the urethral mucosa to the ejaculatory duct and prostatic sinuses, and the relation of the prostatic substance to the prostatic urethra.

of the bladder it is brought into play by involuntary reflex, is not definitely determined. Emptying the bladder may be prevented, if desirable, when it is filled, by voluntary contraction of the sphincter urethræ. According to Goltz, the voluntary control of the process of micturition is limited to the action of the external sphincter and the abdominal muscles. The contraction of the bladder is purely an unconscious reflex, taking place through a lumbar center.

"Careful dissection fails[1] to show any thickening of muscle around the commencement of the urethra sufficient to constitute a sphincter; the absence of such a sphincter has been especially emphasized by Griffiths, and can be easily verified by dissection. There are, however, around the urethra, collections of unstriated and striated muscle, which by their contraction close this canal and check the urinary flow. Thus, the first part of the urethra is surrounded by a muscular coat, consisting of inner longitudinal fibers and an outer, thicker, circular layer continuous with the inner and middle layer of the bladder. There is also a sheet of striped muscle which surrounds the greater part of the urethra, and extends from the level of the entrance of the vasa deferentia into the urethra to within a couple of inches of the urinary meatus. In man, the first part of this muscle is represented by a few transverse fibers on the ventral surface of the lower half of the prostate gland, and is known here as the external sphincter of Henle. Around the membranous portion of the urethra the sheet is termed the constrictor urethra, and around the penile portion, the accelerator urinæ."

"The mechanism of closure of the bladder has been the subject of much discussion. Retention of urine has been variously ascribed to the elastic resistance of the tissues at the neck of the bladder, or to the contraction of the internal sphincter, or to the external sphincter of Henle. Heidenhain and Colberg proved that the elasticity at the neck is not the only factor in closing the vesico-urethral orifice, as the bladder of the dead subject will not stand the same pressure as the living without leakage through the vesico-urethral orifice. If the lumbar spinal cord be disturbed, the condition in favor of the living animal is abolished, showing that it depends

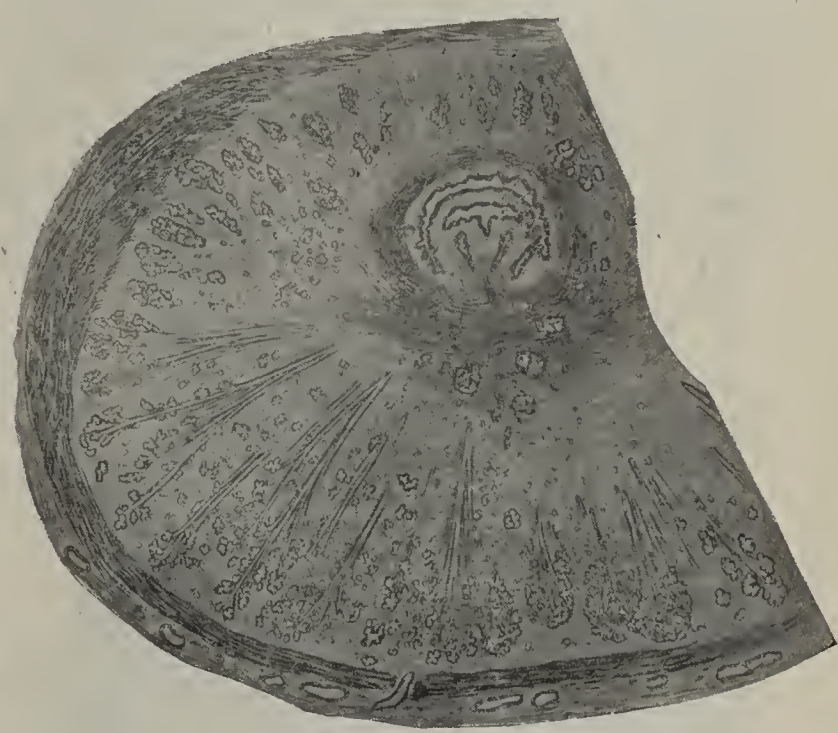


Figure 5 shows the horseshoe shape of the prostatic urethra. Also the elevation of the floor of the urethra into the crescentic anterior wall which covers four-fifths of the entire circumference of the urethra. The fibers of the prostate extend into the verum montanum.

on the existence of a tonic contraction, under the influence of this part of the cord. There is no doubt that the greater part of the resistance offered to the outflow of urine is occasioned at the vesico-urethral orifice, only a small part being offered by the urethra itself. Thus, in surgical operations, the urethra may be incised up to the neck of the bladder without the escape of urine; and in the cat the urethra between the neck of the bladder and the prostate gland may be divided completely without any of the urine escaping. Reyfisch has excised the prostate in dogs without producing incontinence. Experiments show that the resistance to the outflow of urine is situated at the neck of the bladder, and must be due either to the tonic contraction of the circular fibers at this point, or to the elastic retraction of this orifice, aided perhaps by the position of the mucous membrane along the whole length of the urethra." Great care must, therefore, be exercised in any operation on

the neck of the bladder, not to interfere with the zone of control in the act of micturition.

Not only is the sexual function diminished or lost by the removal of the prostate, but it is materially interfered with by prostatotomy, as in the Bottini operation. Guiteras[2] says: "The patients are not *always* incapacitated for sexual life by the Bottini operation." From our observation it would appear that the prostate

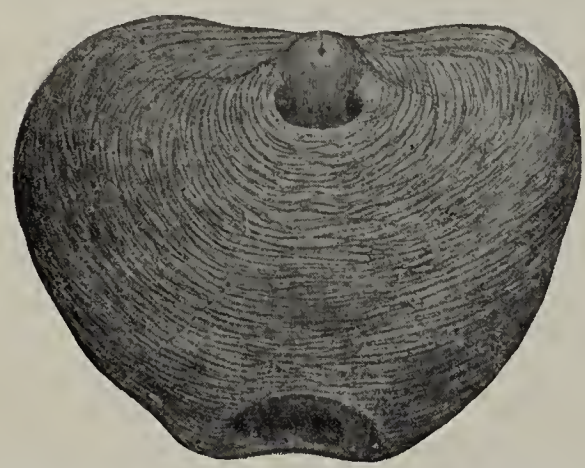


Figure 6 shows the tit-like projection of the middle lobe into the floor of the urethra.

gland is placed over the neck of the bladder as a secondary muscular development. Its greatest bulk is made up of muscular tissue. It has situated within it a small glandular structure; the urinary control is entirely independent of the prostate, as was shown in my cases; for, if the prostate was removed, the urine did not escape, except in cases where the bladder wall had been torn in liberating or detaching the enlarged prostatic lobe. It is rather an accessory to the sexual function

Figure 7 shows the muscle fibers of the bladder and the sphincter vesicæ internus, (*a*) with the prostate removed.

than to the urinary apparatus. G. Buckston Browne[3] believes that the prostate has no especial urinary function, whatever. W. H. Howell[4] says: "By careful experiments upon white rats Steinach has shown that the removal of the seminal vesicles and prostate gland, while not diminishing the sexual passion and the ability to perform the sexual act, including the actual discharge of spermatozoa, prevents entirely the fertilization of the ova. Removal of the seminal vesicles, alone, remarkably weakens the fertilizing power of the semen. The secretions of these accessory glands are essential to the mo-

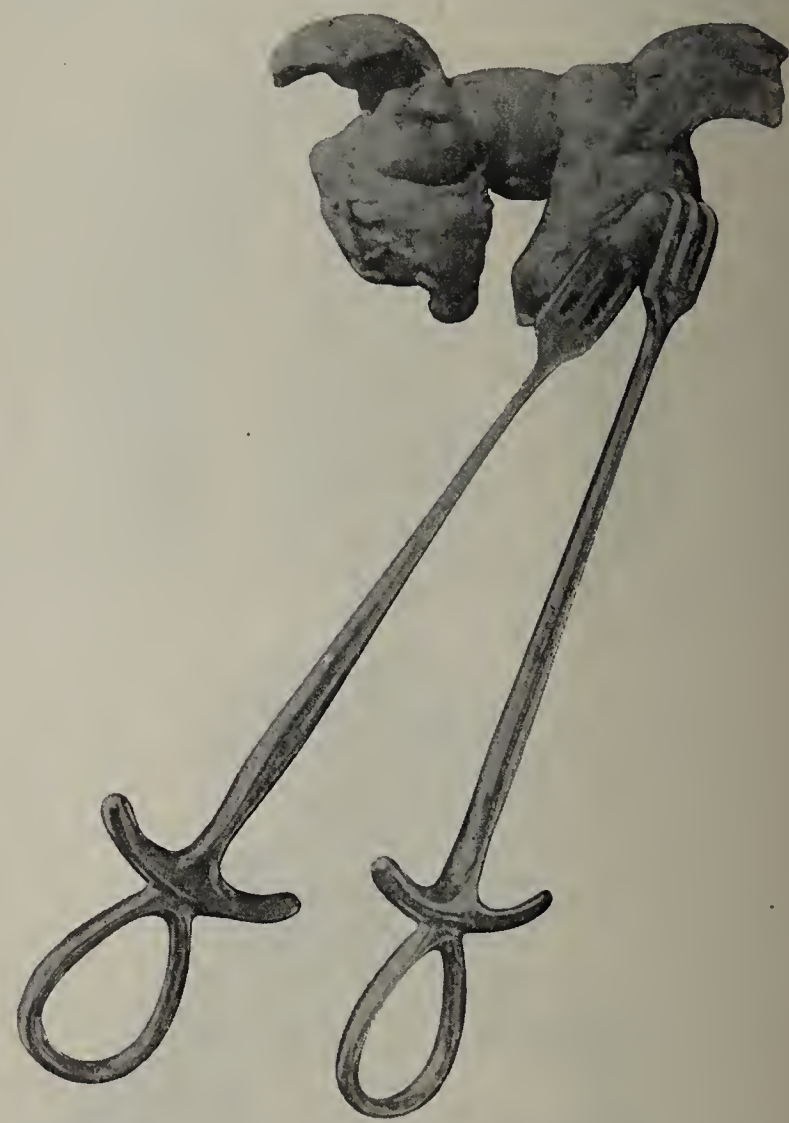


Figure 8 shows the hook retractors as applied to the prostate.

bility of the spermatozoa, and they may have other important functions." The function of the prostate is to contribute the prostatic fluid to the semen; the specific use of this fluid is not known.

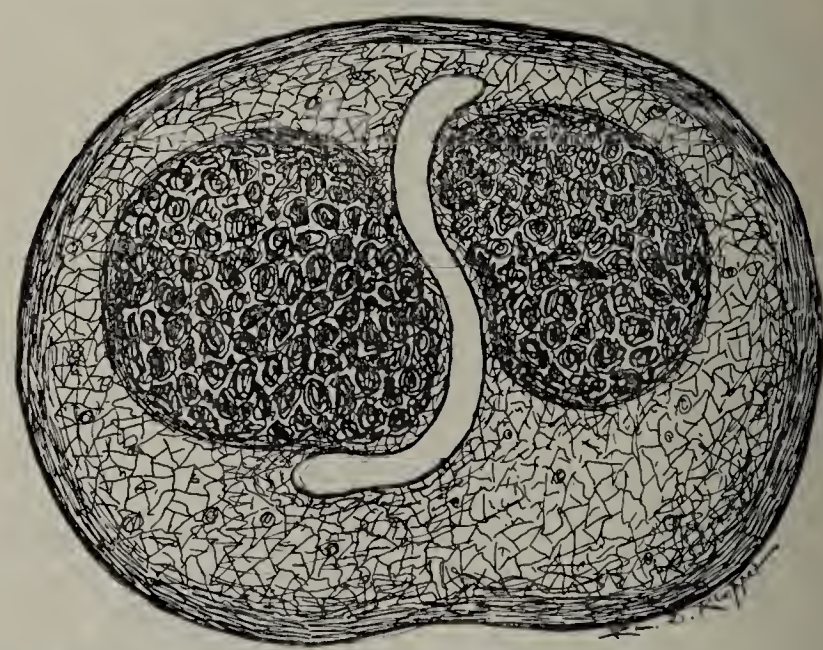


Figure 9 shows changes in the shape of urethra produced by the myomata. (Transverse section.)

ETIOLOGY.

Browne believes that we have no reliable data on which to base a theory of the prostatic enlargement. However, he says, when asked how to avoid the malady: "I would suggest plain living, exercise on foot, very moderate worship at the shrine of Venus after 50 years of age."

The age at which prostatic enlargement begins is variously estimated. L. Bolton Bangs[5] believes that it

begins a considerable time before the 50th year, and that the earliest manifestations of prostatic hypertrophy are not generally recognized. Prostatic hypertrophy is extremely rare in Japan, India and China,[6] while in Turkey it is of comparatively frequent occurrence.

Schultze[7] states that enlargement of the prostate is rarely found in the negro, although he describes one in which the middle lobe, obtained by autopsy, measured 5 by 7 centimeters, and microscopic examination showed a marked hyperplasia.

We do not believe that excessive sexual indulgence plays any more part in enlargement of the prostate than in the production of fibroma of the uterus; and it is well known that, proportionately, fibromata of the uterus

Figure 10.

are more common in the unmarried than in married women. Then again, it is markedly absent in such races and nationalities as the Japanese, Chinese, Negro and Indian.

Our exact knowledge of the etiology of enlargement of the prostate may be summed up by saying that we know nothing definite about it.

PATHOLOGY.

The benign neoplasms and enlargements of the prostate resemble very closely in their histology, in their mode of development and in their relations to the organ itself, the non-malignant neoplasms of the uterus. First, they are myomata, fibromata and combinations of these two, principally the combinations, and not infrequently there is a general hypertrophy of the entire gland without any distinct tumor formation, resembling closely the soft, flabby subinvoluted uterus—See Fig. 12, Case 3. The enlargements are many times completely incapsulated, as shown in Figs. 18 and 19, Case 7. In a great majority, however, they are closely connected with the prostatic tissue itself—See Fig. 18, Case 7—just the same as in the intramural fibroid there is always an enlargement and hypertrophy of the uterine tissue associated with the myoma—See right lobe, Case 7, Fig. 18. In the lateral lobes the tumors are most frequently intramural, as seen in Fig. 19, Case 7, next submucous. In the middle lobe they are often pedunculated, rarely intramural and practically never subcapsular.

Wishard[6] draws particular attention to the mechanical character of the obstruction in hypertrophy of the prostate, and to the direction which the enlarged body takes,

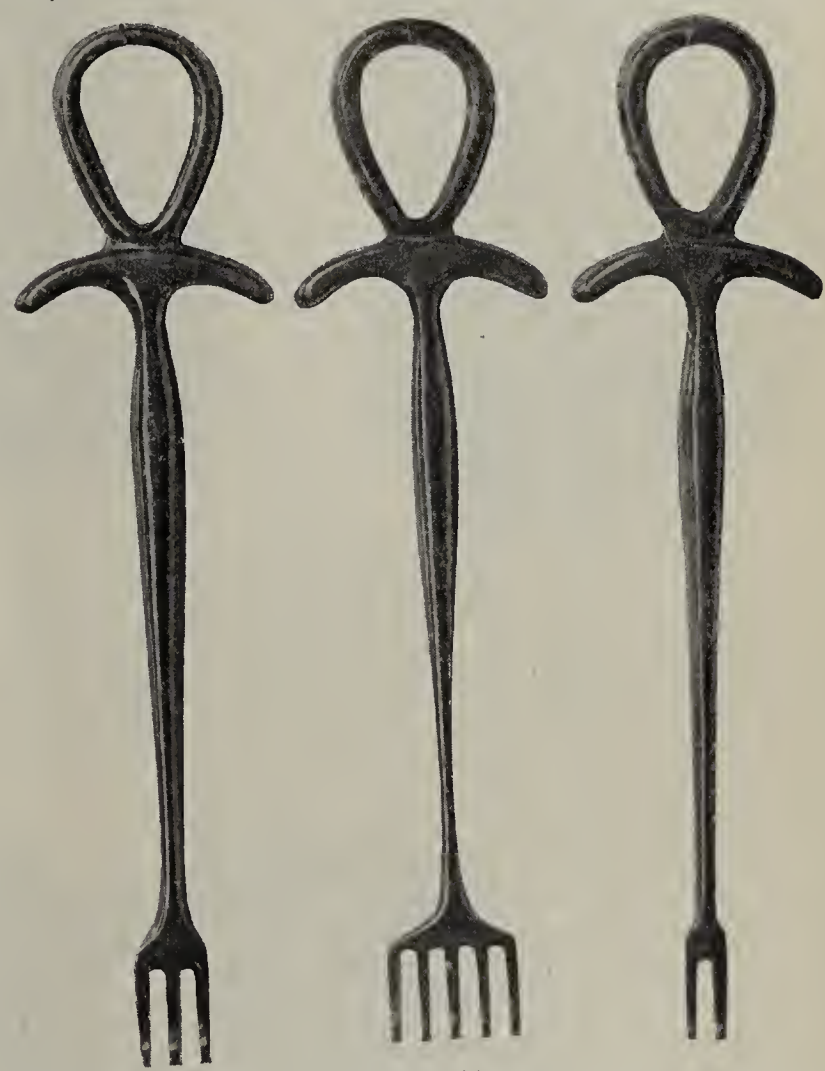


Figure 11.

Figures 10 and 11 show the traction hooks used for drawing down the prostate.

i. e., towards the bladder, in the direction of the urethra or in the direction of the rectum, as the case may be; the size in one direction bears no particular relation to its size in the opposite direction. It interferes more or less with the urinary function, depending upon the direction of the pressure whether it be upon the urethra, bladder or rectum.

MEDICAL TREATMENT.

James R. Hayden[8] strongly favors a conservative palliative treatment, and claims that while it does not cure, it at least prepares the patient better for the operation. His treatment consists of strict dieting, assisted by urotropin in full doses, to render the urine alkaline (sodium phosphate would accomplish this much better), and the administration of hyoscyamus, kava kava, triticum repens and uvi ursa, associated with daily rectal injections

of hot saline solutions and sitz baths. However, when operation is resorted to, he favors prostatectomy, either by suprapubic or perineal route.

The development of forceful and scientific procedures in the treatment of prostatic lesions has scarcely kept pace with the development of operative procedures in other fields of surgery. It has, however, though tardily, developed on the same lines with its analogous organ in the female, the uterus. Surgery of the prostate gland is now rapidly taking definite form on rational mechanic, anatomic and histologic bases.

Figure 12 shows the gland removed from Case 3. Natural size.

During the last quarter of the century the sufferer presented a lamentable picture. Usually a man of great energy, strong mentality, physically robust, indefatigable in his labors, and by these had gained a competence whereby he could spend his declining days in comfort prostate; by this he is deprived of his sleep, and the pursuit of pleasure were it not for his suffers intensely from pain, and sees no ray of hope for relief from his prostatic enlargement or its unpleasant sequences except in the grave. This picture may not fit the few, but it does fit the many, who suffer to a pathologic degree from prostatic enlargement.

Temporary catheterization is resorted to for the relief of urinary retention, which comes on after some undue exposure, acute illness, traumatism or what not, which produces a temporary retention. This should be accomplished with all aseptic precautions, with the greatest gentleness in mechanical manipulation; it can always be accomplished where there is an absence of stricture of the urethra anterior to the prostate. There is no such condition as prostatic stricture. The urethra is always patent in its prostatic portion, and the obstruction offered to the passage of the catheter is the obstruction due to deformity, pockets, prostatic sinuses and compression of the urethra by encroachments on its lumen from various directions by the enlargements or neoplasms in the prostate itself as shown in schematic drawing, Fig. 9. All of these occur on the posterior and lateral portions of the urethra; the anterior portion offers no obstruction. The ideal course of the catheter, therefore, is along the anterior wall of the urethra. It is only a question of proper manipulation and an estimation of the directions of the canal for the successful accomplishment of temporary catheterization. In this, force must play no part. It should and can always be accomplished by those of skill and experience, in primary urinary retention, and the patient is, therefore, never forced to an immediate operation on his prostate under these circumstances, because he is then often in an unfavorable condition for operative procedure. The soft rubber, with or without the lead stilet, and the coudee catheter, preferably of large size, are the best instruments to use. In these primary retentions the bladder may be completely emptied.

Continued or chronic retention presents to the surgeon many distinctly different, as well as dangerous, phases. Under these circumstances the bladder is often enormously enlarged; its veins are compressed, its walls anemic from pressure; its arteries are frequently dilated, and advanced pelvic or peripheral renal changes may have taken place. Because of this protracted compression of the combined urinary surfaces, care must be exercised that this pressure is not too suddenly relieved, i. e., that the bladder is not completely emptied; otherwise we have found by experience that there is an immediate congestion of the urinary surfaces, often followed by hemorrhage, frequently by shock, chills, fever and death. A chronic sufferer from vesical distension should never have his bladder completely emptied in a primary catheterization.

PROSTATOTOMY (BOTTINI).

Dr. Ramon Guiteras[9] may be said at present to favor prostatectomy, but he admits that a large portion of the cases are in such condition that no radical operation is justified; the Bottini operation in his hands has afforded this class of patients great relief. He has made a thorough investigation[10] of the Bottini method and comes to the following conclusions: "It is difficult to conceive why an operation consisting simply in burning linear sears into the sides and floor of the prostate gland and followed by the casting off of sloughs, should cause such a reduction of the urinary obstruction, and such a contraction of the gland; clinical evidence, however, supports the truth of this statement." Incontinence is rare after prostatectomy (Bottini). The cure of incontinence is not due to increased strength in the vesical sphincters, but to relief of the over-distended

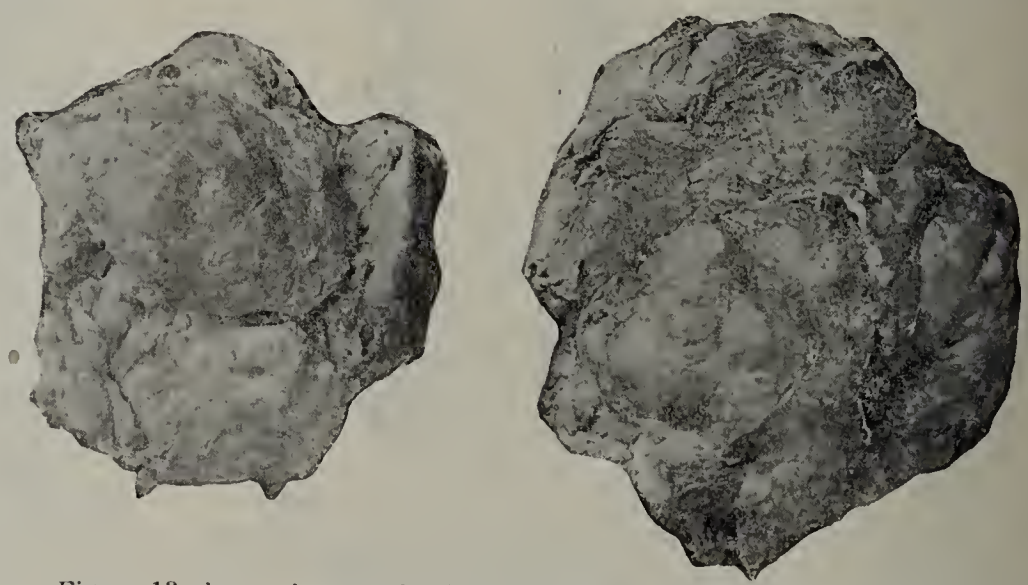


Figure 13 shows photograph of prostate from Case 2, reduced one-half.

bladder, as the pre-operative incontinence in the sufferer is due to over-distension rather than lack of sphincteric tone.

There can be no doubt there is an immediate relief of the urinary retention and its most distressing sequences by the Bottini operation in properly selected cases.

Dr. Hugh H. Young's experience with the Bottini operation covers 40 cases.[11] Six were lost sight of; 34 operations were performed on 31 patients, three patients having each two operations; the ages of these patients averaged very high, eighteen being over 67 years; of

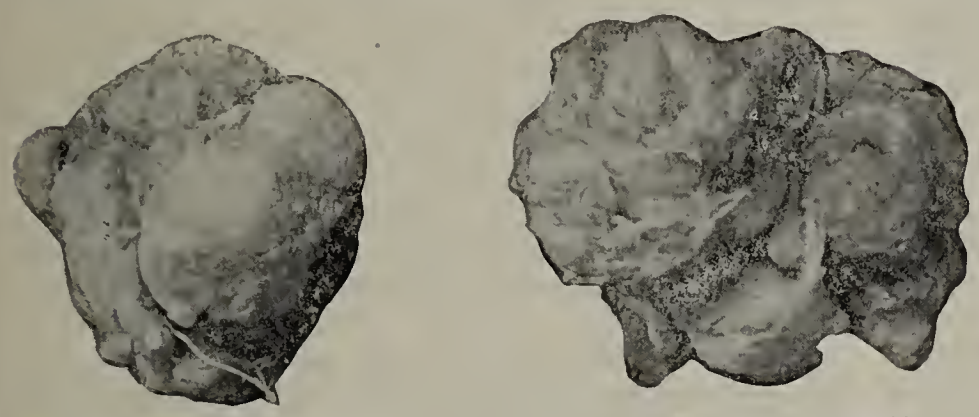


Figure 14 shows photograph of prostate from Case 4, reduced one-half.

fifteen over 70 years of age, all are alive and well; three of the 31 died, two of these four and five weeks after the operation, from uremia; one from sepsis from a peri-prostatic abscess due to a 4.5 centimeter incision puncturing the capsule. In all there was an immediate relief of the urinary retention. Of 20 cases which were operated on a sufficient length of time to admit of deductions as to the result, 17 were cured, two improved and one unimproved. Of the 8 others, the conditions were good up to the present time. All dispensed with the use of the catheter.

Dr. Bangs,[12] in commenting on his results with the Bottini operation, says 60 per cent. of the subjects threw

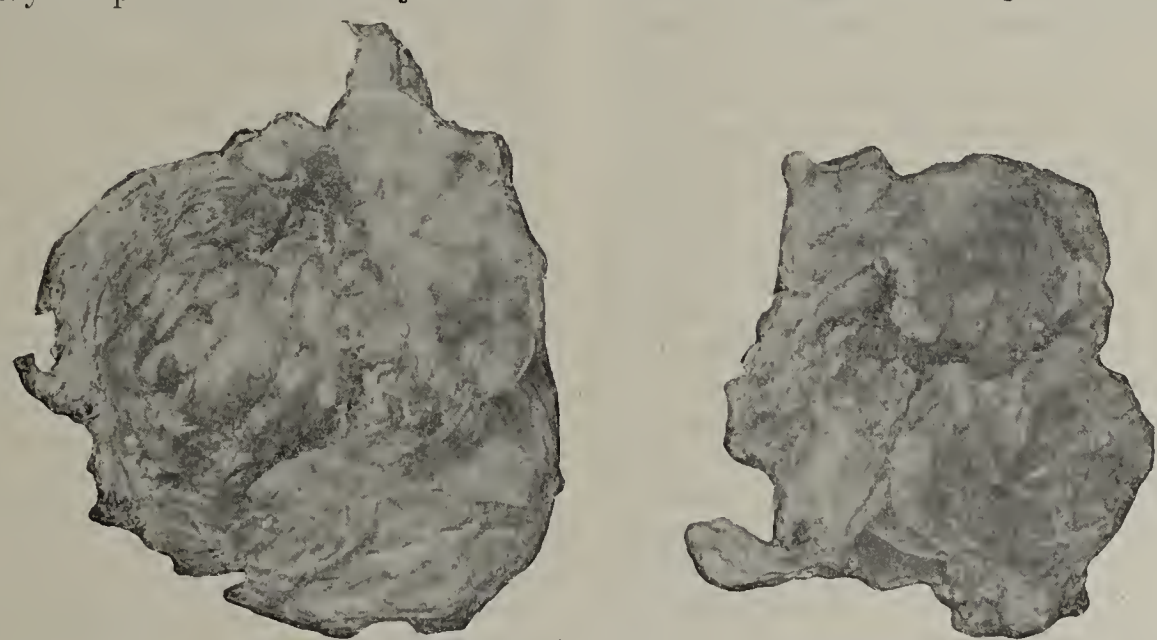


Figure 15 shows prostate from Case 5, natural size.

away the catheter; about 20 per cent. have an increased amount of spontaneous urination; and 20 per cent. received little or no benefit. He secures special advantages by the use of his solid tip metal catheter after the Bottini operation. In the 40 cases he reports, there were three deaths directly attributable to the operation. Two of these were from sepsis and one from shock. Notwithstanding these apparently favorable results,[13] he pronounces the operation a serious one, and not to be lightly undertaken; that the danger is in proportion to the severity and extent of the operative procedure; that the symptoms immediately following the Bottini operation are, frequent urination, with considerable pain; hemorrhage, either primary or secondary (in about one-third of the cases); fever in 30 per cent. and chills in 20 per cent.; and that the post-operative period, in which these symptoms are present, continues for from two to three weeks. Incontinence, an annoying symptom, was present in 6 per cent.; 9 per cent. were operated on twice, and 2 per cent. of these were not benefited by the secondary operation; in 20 per cent. there was no benefit. Guiteras[14] collected 753 prostatotomies; 622 were cured (85.5 per cent.); 44 died (5.8 per cent.); 87 were failures (11.5 per cent.). Dr. J. W. S. Gouley[5] concludes that the Bottini operation has no advantages over the Mercier operation, which he introduced in this country in 1878, and has performed fifteen times. He believes that the operation of prostatectomy is the one indicated where the prostate is enlarged, whether soft or hard. Dr. S. Alexander[5] considers that the technique of the prostatectomy bearing his name is a most dangerous and difficult one, and he is disposed to discuss its failures rather than its successes. He considers the Bottini operation favorable in selected cases, and wishes to impress upon its adherents that the obstruction in prostatic enlargement is not intra-vesical, and, therefore, could not be observed with the cystoscope or searcher. Willy Meyer[5] believes that the width as well as the depth of the incision in the Bottini operation is important. He uses permanent Mercier catheter after the operation, and keeps the urine loaded with antiseptics. He considers that prostatectomy is the more surgical procedure, and that the after-treatment is much less difficult and arduous than after the Bottini operation. He also considers the soft prostate difficult to cure by prostatectomy.

The destruction of the prostate was accomplished by me a few times at the Alexian Brothers' Hospital by means of thermo-cautery through the suprapubic route with a vaginal rubber speculum inserted into the bladder, but the average results were such as not to encourage me in continuing the work, and I have abandoned it for perineal prostatectomy.

(To be continued.)

Influenza is epidemic in various parts of Great Britain, the House of Commons furnishing center of infection.

PROLONGED INTUBATION.*

EDWIN ROSENTHAL, M.D.
PHILADELPHIA.

On the evening of May 23, 1888, I was one of several hundred who listened to Joseph O'Dwyer, in the Hall of the College of Physicians, Philadelphia, in a lecture before the Philadelphia County Medical Society. In the proceedings of the society I find the following note:

"Before reading his paper, Dr. O'Dwyer exhibited tubes with a metallic attachment to replace the epiglottis in swallowing, one of them being so arranged with a spring that the finger might be introduced behind it, as an extractor. In order to illustrate through how *small* a space [the italics are mine] breathing can occur, he exhibited a specimen from a case in which there had been no choking of voice or other sign of laryngeal involvement. Many fear that the tube will slip through the trachea. A tube was exhibited in situ in a 3-year-old larynx, showing that this accident can not occur if the proper size tube for the age be employed."

I quote so fully from the originator of this operation for it seemed to me that when O'Dwyer matured his matchless set of instruments he considered every condition that might arise, and thus in a measure gave a remedy.

The progress of intubation from an experimental procedure to an exact operation may be divided into three stages. 1. The introduction, where the master lectured to the student, exhibited his materials and asked for a trial. 2. In which the operation underwent the test of many investigators. Its merits and demerits were studied, the good retained, the bad dropped, and every part of the operation—from the instruments, tubes, gag, introducer, extractor, or even the silk necessary to be used—was carefully tested, and the final judgment appeared with the discovery of the serum treatment. This second period, which may be termed the transitory period, embraced the years intervening from the time that O'Dwyer presented his operation until its acceptance by the profession as an exact and independent operation, and ended when intubation, spoken of as a primary operation to tracheotomy, ceased to be considered. The third stage began with the advent of antitoxin, and, as the operation was so thoroughly studied in the transition period, those familiar with the operation were ready to investigate those minute details which before had failed by reason of the generally fatal course of this type of the disease.

Before the serum period, intubation at its best was only an "expectant procedure," and the details of its technique was mostly an invention. We can show no greater example of the value of the serum treatment than to exhibit the statistical records of this operation. For, where before the serum period we described our results by the percentage of recoveries, we now record our results in the percentage of deaths. To the antitoxin is also due the very many discoveries made in the progress and sequelæ of diphtheria, and most conspicuously in the "laryngeal type," and especially those most serious cases requiring intubation.

We have thus been enabled to study more fully the value of this procedure, and we have found that we are not only liable to relieve the impending suffocation—the most urgent symptom—thus using it simply symptomatically, but we have, as we progressively watched and studied our various cases, found that the operation of intubation has assumed a new standing for the relief of such cases; and where before we looked upon the operation simply as an expectant one we now place it among our certain remedial methods, most reliable, and of exact and certain promise. Indeed, so certain has an enlarged and accurate clinical experience impressed us, that what we before looked upon as an expectant method, the recovery being the exception, we now look upon as a specific method, a death being the exception.

Studying intubation, various authors have taken up the different difficulties formerly met. Some have studied the injuries resulting both in intubation, as well as extubation; others the methods. Various instruments and devices have been presented to expedite either the intubation or the extubation, with no injury to the patient. Some have attempted improvement either in the tubes, or the various instruments necessary to the operation.

But the most important and valuable work of the many investigators, to my mind, was the study of the technique of the operation. In other words, not so much the method of the operation, but its object, i. e., the study of the time required for the tube to do its work to cure the patient, and the time required for the tube to remain in the larynx in a simple or normal case of diphtheria of the larynx.

In this work I can claim some originality, and the result of my labors was presented to the J. Aitken Meigs Medical Association, in Philadelphia, as well as to the Medical Society of the State of Pennsylvania. I was not alone in this line of investigation, for Johann v. Bokay, Budapest, was doing the same work, and presented his results at the same time. These papers, printed in Europe, have been translated and widely circulated and have given to others an incentive for the same methods of study. They have also resulted in a certain rule of practice and have given us an appreciation of what may be considered a normal case of intubation.

RULES TO FOLLOW IN NORMAL CASES.

A collective study of the time consumed for a tube to do its work in patients cured of diphtheria of the larynx has shown us surprising results as an example of the influence of the antitoxin treatment. Before the antitoxin period it was an impossible question to say how long a tube should remain in the larynx. We had certain rules, given by O'Dwyer himself, and these briefly were as follows: An attempt to remove the tube from the larynx should be only after seven days, and even then we should always be ready for prompt reintubation should the case require it.

This rule was universally followed, and never questioned until the investigations of Bokay and others proved that the antitoxin had reduced this period, and a collective study has reduced the period to five days. So that this is now a very good rule in practice: in a normal case of laryngeal diphtheria make the first attempt at extubation after a period of five days, or, to be more exact, after 120 hours

If, however, the case requires a reintubation at once, or even a week later, it may be assumed to be abnormal. It should come under the category of prolonged intubations, for then it will be impossible to prognosticate correctly the time when the tube may be left entirely from the larynx.

* Read at the Fifty-second Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee of the Section: H. E. Tuley, Edwin Rosenthal and Samuel W. Kelley.

THE TYPE OF THE DISEASE AS A FACTOR.

Before the antitoxin period it was my common practice to make a first attempt at extubation only after seven days; and a frequent reinsertion was almost always expected. Hence, I could never predict in any given case when I would finally remove the tube, or when the case was better. It was the rarest incident for a patient to be relieved in less than a week. This was done never by my hands, always in such instances by expectoration, when the relief of the stenosis proved that the tube was no longer required.

It was then a very common occurrence for me to see a tube worn two or three weeks, while a longer period than this was never considered by me to be anything extraordinary.

If, after the throat was clean and free from the specific bacilli, the patient was unable to exist without a tube, I would then consider the case one of prolonged intubation, and the case would linger for weeks, or perhaps months. Dr. William M. Welch, of the Philadelphia Municipal Hospital, records a case of three months. Finally, a cure or death, or the operation of tracheotomy would change the character of the case.

From this very brief and concise summary of what may be now termed ancient history of the pre-antitoxin period of the evolution of intubation, one can quickly conclude that the knowledge of the value and the practice of the method was in a truly chaotic and rather uncertain condition. With the specific character of the antitoxin, was opened a way to consider the causes that lead to prolonged intubation, and when such incidental cases appeared the opportunity was taken by all to investigate the reasons thereof.

CAUSES OF PROLONGED INTUBATION.

First, I reject injuries as a cause. A careful and expert intubator must never, or should never record injuries as a reason. This can be left to the novice or to the clumsy or careless.

Injuries should be considered a specific study, and as they result always in a tracheotomy, should come under this category. Bokay, who has made special investigations, gives their treatment as tracheotomy; and as an injury, both in intubation or extubation needs very prompt treatment, I would not consider the treatment of the result, by intubation, of such injuries as a true case of prolonged intubation, even if the tube will be required a long period.

I would divide the causes of prolonged intubation into three, namely, 1, the type of the disease as a factor; 2, the result of the disease, or its sequel, as a factor, and 3, the result of the operation, the wearing of a tube as a factor.

The Type of the Disease as a Factor.—The natural cause of prolonged intubation in the disease may receive a specific name—chronic laryngeal diphtheria, or chronic croup. This as a cause for the prolonged presence of the tube in the larynx has very recently been noted. Before the Section on Laryngology, at Columbus, Ohio, I read a paper on this subject. In all my cases antitoxin was used, and hence they were treated specifically for the diphtheria. The croup persisted, even after the absence of the Klebs-Loeffler bacilli was proved bacteriologically.

The presence of the streptococci was considered as the cause, and the cases, being treated with the antistreptococcic serum, were cured. In these cases, two in number, the duration of the intubation was into the third week. My method of treatment will be related in concluding this paper. Investigating this particular subject since then, I found that others had made the same observation as to the disease. F. Egidi (*Due Casi di Crup Chronico*) divides this class of cases into three: First, those prolonged by tracheotomy; second, those prolonged by treatment without an operation, and third, those prolonged by intubation. Egidi, whose study of intubation before and after the antitoxin era is so well known, has even gone so far as to invent certain instruments essentially useful for such cases as these. At the second reunion of the Italian Society of Laryngologists, Rhinologists and Otologists, he presented a paper (*Stenoses laryngees et leur traitement*) on laryngeal stenoses, and divided them into three categories: 1. Chronic stenoses (*les stenoses chroniques*). 2. Acute stenoses (*les stenoses aigues*). 3. Traumatic stenoses (*les stenoses ayant une cause externe*). He thus proved his familiarity with the varieties calling for accurate treatment and the need of the various instruments that he devised.

Those familiar with the treatment of croup by intubation have noted a primary as well as a secondary type: The first, where the disease begins in the larynx; the last, where it is a continuation of the disease from a nasal or faucial type. The latter may be taken as the type which may give rise to such cases as prolonged intubation. Where it exists with, and is a complication of, other types of diphtheria and requires intubation its history may be the same as any normal case. But when it comes after all the first symptoms have disappeared and can be classed as a reinfection, even if its appearance is a day or a week after the disappearance of the first symptoms, and even if these first symptoms were laryngeal and required intubation, the case belongs to that category of "chronic croup" requiring the same prompt treatment, the same reintubation and the same collateral treatment, but should then be classed as a case of prolonged intubation and with the abnormal cases.

The Result of the Disease, or Its Sequelæ, as a Factor.—By far the greatest or most frequent cause for prolonged intubation may be placed to the sequelæ of the disease. Paralysis of the vocal cords appear the most frequent. As Augustus Caillie ("The Modern Management of Diphtheria and Croup Cases") succinctly says: "Secondary stenosis after intubation due to abduction paralysis has been reported, but lacks confirmation." But so many cases have been recorded to which this cause has been given, cited by Engelmann, Fischer, Waxham and others, on this side of the Atlantic, and by Bokay, Trumpp, Egidi, Galatti, Massei, Escat and others in Europe, that its presence can be no longer a question. If the fact of the treatment, with recovery, of such a condition being the cause of chronic stenosis requiring the prolonged presence of the tube will be considered, I think I am right in speaking of this sequel as the most frequent.

With paralysis of the vocal cords being a sequel, and a cause for wearing of the tube, the other effects may be said to be the result rather of the paralysis than a pure and simple disease. However, the presence of the tube frequently gives rise to irritations. If, therefore, its presence be permitted to too great an extent this irritation results in other conditions which are of themselves abnormal.

The Result of the Operation, the Wearing of the Tube, as a Factor.—A familiar subject of intubation,

now so thoroughly investigated, is the injuries resulting from the presence of the tube. The irritation set up by the tube results in an inflammation, which in its turn results in edema or suppuration. Some authors claim that such results are chiefly due to traumatism—laceration produced by efforts in intubation or even extubation. Lacerations may be produced in the former by using too much force in an irregular attempt; in the latter, by missing the opening of the tube, by the lips of the extracting instrument, and dilating the blades and withdrawing, the larynx is injured. Waxham. in Sajous' Annual and Cyclopedia of Medicine, has so thoroughly described all these lesions that I can do no better than quote it.

"A number of causes have been enumerated as rendering necessary the long-continued use of the tube. Principal among them may be mentioned the formation of diphtheritic exudate or its long persistence in the larynx and trachea; edema of the tissues; ulceration of the cricoid cartilage and consequent collapse of the thyroid cartilage ; cicatricial contractions and exuberant granulations following ulcerations and abduction paralysis. In some of these lesions, the lesion is due to a too tightly-fitting tube, to leaving the tube in too long, to poorly-constructed instruments, and some to injuries resulting from unskilful operations."

I can not say from personal experience that the injuries thus enumerated are very frequent. That they occur, or have been noted and recorded, is sufficient evidence for a constant prophylaxis.

The most frequent condition met with and one that the most painstaking efforts can not prevent is edema. This I have seen often enough. To speak more at length. Edema of the larynx results from various causes besides the presence of the tube. I have been frequently convinced that edema necessitating intubation in cases that were first benign, or requiring prolonged intubation, in cases intubated and pursuing a normal course, has resulted from the improper uses made of local remedies. For instance, using the strongest peroxid of hydrogen, either with a mop, or a syringe, or an atomizer. The irritation set up by the too copious use of this medicament, I am sure, has been the cause of more harm than good. I can speak thus plainly because I am so faithful in the use of this drug. I never intubate without first cleansing the mouth and throat, as well as my tube with it. But, where I formerly used peroxid of hydrogen of the greatest strength I could obtain, I now use it in the opposite way, as weak as I can. Again, where I employed it hourly in an atomizer to cleanse the tube, I now use it only when I intubate or extubate. Other medicaments may be as harmful, but not being so generally known and used have not received the prominence the peroxid has. The Germans are right when they record using the simplest local remedies, like boric acid, or the like. Since I have rejected the constant use of local measures (using them only when indicated, and then the weakest), cases of prolonged intubation or those requiring the tube have grown less.

To summarize briefly the instances that require the prolonged use of the tube, I would begin with chronic croup, paralysis, and edema. Our aim is to end the intubation as quickly as possible. If other conditions exist, besides these mentioned, the intubation should become a tracheotomy, for the longer the tube acts as an irritation, I fear, the worse the results.

REPORT OF CASES.

CASE 1.—A case before the antitoxin period. Mary S., aged 4 years, 10 months, living in the country. Patient of Dr. Anderson, of Paschalville. This child's home was isolated. The nearest neighbor was probably a quarter of a mile. This case was referred to me by Dr. Orville Horwitz. I dwell on the surroundings so that the method of treatment may be understood. The case was intubated with a No. 4 tube. I chose this rather large tube because the distance to my home was over 10 miles, and I did not wish that the child should expel the tube by coughing. On the eighth day I extubated in the usual way, but after an hour reintubated. After one week I again extubated, but had to intubate more promptly. The third time, the extubation and reintubation was performed as quickly as possible; not a moment was lost; the child did not breathe alone during the interval. The fourth and fifth extubation and reintubation were repetitions, and I began to think this child could not exist without the tube. Her general condition was good. During the interval of my visits the child was permitted to do much as she liked. It was the time when croup was considered one disease, and diphtheria another. On one of my visits I had to wait until the father went to the fields and brought the patient. This case taught me many things, and the one that I have adhered to: never to interfere too much with the peculiar idiosyncrasy of my patient. I permit them to fix themselves—after each intubation—in a way that gives most comfort. I have had as a result a fair average of recoveries, and never any in which dorsal decubitus results. This child was extubated and reintubated by myself seven times, when it occurred to me to use a smaller tube. I thus began, and under a tonic treatment, in which strychnia in rather large dose at that time (1/128th grain—0.0005 was frequently given three or four times daily), and in the eighth week I was able to relinquish the case.

Other cases, not as long as this, were frequently met with, and if I went into the third week I though it nothing extraordinary.

Now, the change after the serum began to influence our methods, note the second case:

CASE 2.—William Henry W., aged 1 year and 6 months. American birth; patient of Dr. L. F. Taubel, of Philadelphia. Intubated with a No. 1 tube; and 1000 units antitoxin given with it; the general mercurial method of treatment.

With this case, I employed the services of advanced medical students. This child had been sick one week previous with a faucial diphtheria, for which the doctor had administered 1000 units antitoxin. This case then can be termed a "reinfection" and the result of a too small dose of the antitoxin, in an overwhelmingly infected child. As this patient had received 2000 units I felt, that after the third day all membranes should have disappeared; so on the fourth day of the intubation I extubated. I left the tube out one and a half hours, and reinserted, as there was need. The next day, I again extubated, but found I was again too early. On the sixth day I extubated and found the child could exist without the tube. The time required was 6 days and 16½ hours. In this case, had a sufficient amount of antitoxin been used in the first instance there would not have been the secondary laryngeal involvement, and intubation. This was a simple normal intubation.

CASE 3.—Lillie R., aged 5 years; female, of American birth and parentage. A patient of Dr. Augustus Kappes, of Philadelphia. Seen in consultation on the fourth day of its illness. Administered 2000 units of antitoxin at once, and intubated. On the sixth day the tube was withdrawn. Indications perfect, and the tube was not reinserted. Seven days thereafter, I was with the Doctor in another case—a male child aged 3, intubated, and tube withdrawn on the fifth day, cured—when Dr. Kappes told me of the beginning difficulty in breathing of the first case. As it was in the neighborhood I visited the case, and at once intubated again. There was the greatest need, as the child was almost in extremis. In this family were two other children. all girls, and older by a few years. In the one was a beginning tonsillar diphtheria; in the other a very pronounced faucial. almost malignant? Was this case reinfected by the older sister? I injected 2000 units again, and in one week withdrew the tube, and it was no longer required.

Case 4.—William S., twin, aged 1 year, 4 months. The other had died of diphtheria. Patient of Dr. Lawrence Wolff, of this city. I had no further work to do, simply to intubate. This child was of Italian parentage, and I have noted that a larger tube is sometimes required in these cases, larger than the average. I began with a No. 1 tube. After 5 days the child, in vomiting, expelled the tube. I reinserted, and as promptly expelled. I did this for a period of five days, when I used No. 2. After four days this was expelled, the child requiring further intubation, and the danger of expelling the tube when I was not to be had, prompted me to use a No. 3 tube. This I used for one week, when I began with a smaller tube, and so on until no longer required. This case required a tube thirty-five days. Of the method of treatment I had no knowledge, but it appeared to me that the child was so toxic that it required so much time for it to recover.

Case 5.—A male child aged 5 years, in the practice of Dr. Moore, Bridgeton, N. J. This case was reported in the *Medical News* by the Doctor, and was essentially one of chronic croup. The interest in this case was the enormous (to us then) amount of antitoxin given during the course of the disease, over 22,000 units. The result was a recovery. This child eventually expelled the tube by coughing, and the croupy symptoms were manifested. He did not require the tube as long as the difficulty lasted.

Case 6.—The last case I wish to record has already been placed on record, in *American Medicine*, No. 5, May, 1901. Herbert D., aged 2 years and 7 months, was treated by an insufficient amount of antitoxin, was reinfected on the seventh day with laryngeal symptoms, which three days later required intubation. The interest in this case consists in the fact that the cause of the prolonged intubation was found to be paralysis of the vocal cord, and hence treated therefor. The case required the presence of the tube thirty-six days, and the whole course of the child's illness from the beginning to the cure was forty-nine days. The case received 1000 units antitoxin as a beginning dose. The case was a tonsillar diphtheria. The result was a disappearance of all visual traces of the disease on the fifth day. The laryngeal symptoms were supposed to be catarrhal, simply because antitoxin had been given, and the toxin of the diphtheria supposed to have been nullified. The course of the disease, however, disproved this, and that the child suffered from paralysis, showed that the infection was profound, and the sequel a result.

The clinical history of the intubation was as follows: After the time (five days) had elapsed, when the membranes disappear (from three to five days) extubation was attempted. The result showing a disappearance of all stenotic symptoms. After thirty-six hours significant signs manifested the fact that at times suffocation seemed imminent; whilst, after a while, when the child was quiet, the breathing appeared natural. When the child was roused, as when crying or attempts at crying, a flap would be heard, as if a membrane was loosened, and then began the picture of membranous croup, ready for a tube. I intubated readily, and having used a larger tube than the age of the child required at the primary intubation, by reason of the normal size being too small, and giving no relief, I used the same sized tube. The large size of the tube, and the irritation caused thereby, gave me some trouble. I had edema, and at one time the tube was fixed by the swelling. However, I used but the gentlest local applications, until I could readily extubate, when I began the treatment for the prolonged intubation and the paralysis. The latter I treated with strychnia. Beginning at 1/100th of a grain (.00065) four times daily, until I reached 1/40th of a grain (.0015) four times a day. The intubation I treated thus: Until all edema and irritation had disappeared, I persisted with the large tube that I had begun with. After this I used the next size. This was expelled by coughing twice and reinserted. After the fourth day I used the smallest size. This proved what O'Dwyer had demonstrated in 1888, that a human being can breathe through a very small opening, if necessity compelled such a procedure. I think I am correct in the assertion made at the beginning of this paper, that O'Dwyer gave us a remedy for all the accidents that might arise as a result of the tube. Surely this is a result of his work.

This paper would be incomplete if a detailed record of cases of prolonged intubation not ending as I described were not added.

While I have given my personal experience in the six cases thus described, I wish to give the experience of others, notably Dr. William M. Welch, of the Municipal Hospital, of Philadelphia. Inasmuch as I erroneously quoted Dr. Welch in a former paper on this subject, giving eleven months as a period, which should have been eleven weeks (See *American Medicine*, No. 5), and further, as I also listened to Dr. Welch's discussion of my paper, "Reduced Period in Intubation by the Antitoxin," read before the Medical Society of the State of Pennsylvania, May 21, 1896 (See Proceedings for that year), in which discussion Dr. Welch expressed views opposed to the author, I take this means of acknowledging that Dr. Welch was right in every respect, and that his discussion on this occasion is of such value that I feel a description of his cases would add materially to the value of this paper.

Case 7.—The record of this case, and the one following was sent to me by Dr. Richard Reese, resident physician at the Municipal Hospital, and in charge of the diphtheria wards, in which capacity he is the intubator. For this reason his reports are more valuable.

Mary McG., aged 6 years. Admitted to the Municipal Hospital, May 3, 1900. Showed marked symptoms of laryngeal stenosis. Physical examination failed to show evidence of diphtheria in the fauces. The nares were dirty, but showed no distinct evidence of diphtheric involvement. The cervical glands were, however, distinctly enlarged. She had developed an eruption of measles twelve days previous to admission, and the laryngeal symptoms had been present for two days. Two successive cultures failed to show the specific bacilli, but a brother who was admitted at the same time showed clinical evidence of diphtheria, and cultures proved positive. This case unfortunately died.

The laryngeal stenosis required intubation on the following morning, the third day. Six days after intubation, on the ninth day of the disease, the first attempt at extubation was made, with failure, for reintubation was performed ten minutes after. Four days after (thirteenth day of the disease) extubation was again attempted, and the tube remained out for twenty-five minutes. Extubation and reintubation were performed at intervals of four days, three times, making it the twenty-fifth day, when the tube was permitted to remain longer, from six to ten days, with no better result. When extubated the child presented all the symptoms of laryngeal stenosis, marked dyspnea, repressions, sub-clavicular and sternal. Clammy perspiration, etc., till finally after forty-two days of this (June 15, 1900) the patient was finally extubated. Yet while the respirations were not entirely free, the patient was able to get a sufficient amount of air, without the need of the tube. Her general condition had improved greatly for about two weeks, the child was up, dressed and played with others, when the respiration became again noisy, and the stenosis progressively more marked, and relief was demanded. Recourse was had to intubation, but every attempt to do so failed. Dr Reese attempted the intubation not only with the natural or normal tube, but with the smaller sizes, even to the infant size, and failed. As the case became more and more urgent for relief the Doctor performed a low tracheotomy. A slow recovery followed. The patient remaining in the hospital for ten months more.

Following the operation of tracheotomy, the patient became accustomed to these tubes, learned to speak and appeared comfortable. Even after the tracheotomy, attempts at intubation were made, but invariably failed. After the tracheotomy, cultures were again made, and the returns showed positive evidence of diphtheria.

CASE 8.—James L., an Italian, aged 4 years, admitted to the Municipal Hospital on Nov. 13, 1900. Examination showed no visual trace of exudate. The nares appeared irritated, the cervical glands were normal. There was, however, a diphtheric exudate on the upper and lower conjunctivæ of the left eye. In this case, intubation was performed at the home of the patient by Dr. Reese before taking the child to the ambulance for removal. A positive proof of the urgency of the case. The temperature on admission was 104.2, which fell gradually to normal on the sixth day, when extubation was first performed.

In this case cultures were positive both from the throat as well as the affected eye. Whilst the child was croupy but two days prior to admission, investigation proved that it was ill some five or six days before. Hence the first extubation was performed on the eleventh day of the disease. The tube was left out one hour, when it was reinserted. While the tube was out, the respiration was very much labored, but not enough to require the promptest intubation.

Four days afterwards extubation with reintubation in twenty-five minutes. Three days afterwards he was only able to breathe forty minutes, when intubation was again required. After four days the tube was coughed up. Reinserted, when again expectorated in twenty minutes. Dr. Reese then used a next size larger tube. This tube remained for two days, when it was coughed up, and it was necessary to reinsert at once after each coughing expectoration. The longest time he could do without the tube was twenty minutes.

On December 20, or after the thirty-seventh day of intubation, he began to cough up this large tube, when a still larger tube (i. e., for 8-9 years) was inserted. This was done with some difficulty, owing to the length of the tube, but the caliber of the larynx seemed sufficiently large as it did not fit too tightly. He continued to wear this tube until February 17, ninety-six days from the first intubation. Dr. Reese further reports to me: "We tried, of course, at intervals of from three to seven days to extubate, but with no more success, although at several of the later extubations the patient was able to breathe without the tube for an hour, and once, with some difficulty, over night." After wearing the tube for the time stated, it was removed one morning and the child breathed so well that reintubation was not necessary, and it was hoped and even thought that the difficulty had been overcome. For some days the patient did very well, breathing seemed easy, and unless one listened closely, the breath sounds were not audible. He continued doing well for nearly two weeks, when stenosis returned gradually but progressively, until sixteen days after the last extubation, when intubation was again required (the 117th day). This time the tube remained seven days, but again on performing extubation, it was necessary to reintubate in forty-five minutes. The tube was finally removed in seventeen days. The duration of this case (excepting the days when the tube was from the larynx) was 124 days.

Dr. Reese adds a very significant point: When the intubation was required after the lengthy extubation he could only use the normal size (i. e., four to five years) where before an extraordinary large tube had been used. Even this normal-sized tube appeared too large, and had to be inserted with some little force. "A permanent stenosis seemed to be coming on" and may possibly explain the case preceding this. Eighteen days after the last extubation, or on the 159th day of the disease, the stenosis had again become so marked that operative relief was urgently demanded. Intubation was again tried, but, as in the preceding case, it was not possible to insert an intubation tube. The larynx was almost completely closed, and as the child's condition demanded immediate relief, a tracheotomy was performed. This operation was done on April 15 last. The child has done well ever since, although, from that time until the present, he has passed through an attack of measles and chicken-pox.

As an appendix to Dr. Reese's report of this case: "It might be of interest for you to know, that during a greater part of the time that the child was wearing the tube, he was physically able to be up and dressed, and played about the wards of the hospital, as he is doing now. Not having been discharged, as I wished to see what might be done in the way of dilating the larynx."

METHOD OF TREATMENT.

It is always best in treating diseases to prevent, and in diphtheria of the larynx our endeavor should always be to prevent the disease progressing so far as to necessitate intubation. For this purpose we have the antitoxin. If the serum be used early enough and in sufficient quantities we can cure even before a symptom so marked as stenosis becomes manifested. If, however, we are called when the tube is required and then find that an insufficient amount of antitoxin had been used we must, after the operation, administer more; or our cases may be changed from the normal to the abnormal, that is, from a simple intubation that may require five to seven days, to a prolonged one, when it will be impossible to prognose a future. As the consensus of opinion points to the method of treatment as one cause, we must endeavor to remedy this.

Next to the insufficiency of antitoxin as a cause, stands local treatment. The use of too strong local applications are certainly to be deplored and we must advise to use the utmost care. While it may be our purpose to keep the parts as clean as possible, we must use the gentlest means: Boric acid in water, soda bicarbonate with carbolic acid in a suitable mixture, as in the nasal or catarrhal affections; or, if we wish to use the peroxid of hydrogen, we must dilute it sufficiently. There never should be used the so-called solvents of diphtheric membranes made up by chemists who have never seen a case of diphtheria, and know less. The crime of asserting that certain remedies are useful or specific is a cruel one and should receive condemnation of all. How much harm has been caused? How little or no good? I have received monographs that tell of the specific virtues of certain remedies in this disease that are worse than criminal. I would not urge too much conservatism; for the sin of omission is often as bad as that of commission. But I would urge the necessity of a common-sense method of applying local measures in intubation, and I feel by such a course prolonged intubations can be, in a measure, averted and the cases progress in a normal way.

As for those cases of diphtheria in which the tube is retained and we are still treating, I think the opinion of all is the same: The frequent extubation with reintubation, by progressively smaller tubes, until the case no longer requires them. If, as in the cases of Dr. Welch, reported by Dr. Reese, this method of treatment does not avail, tracheotomy, as performed by them, is the only recourse; and it is the common practice of all so to do. Still, the question of Dr. Reese is a very pertinent one, the dilatation of the contracted parts.

Egidi has reported some devices in dilating the larynx by a double tracheotomy tube. This may be useful for contractions low down, but for those high up in the larynx some other invention is required. Dr. Reese, whose opportunities are greater than many of us, has promised to give this his earnest thought. I should be the one who would apply such procedure, but until we have such means and the method of using the tubes fails, tracheotomy is the only remedy.

The medical treatment is strychnia. Naturally, in this we must be guided by the cause. If used, it should be used fearlessly.

SUMMARY.

Intubation of the larynx has taken the place of tracheotomy in the treatment of diphtheria.

It is now used to a greater extent than ever before.

Those best versed in its use should define certain rules of practice, and these should be sufficiently plain for a novice to follow. The rule that I would lay down is: The tubes should be clean; if metal, they should be regilded; if rubber, a new one should be provided for each case; if the tubes are smooth, clean and correctly applied, the greatest part of the operation is attained, and that is, a clean, smooth surface, undefiled, which can remain in the larynx a week, or even two, and do no harm.

Hence, if the intubation be prolonged, the reason will be in the type of the disease, and no fault of the operator.

DISCUSSION.

Dr. B. R. Shurly, Detroit—During the last five years I have performed 261 intubations, using antitoxin, with a mortality of 60, the first hundred representing a mortality of 31, the second hundred a mortality of 20, and the last thirty operations giving 2 fatalities. Both of these patients had pneumonia at the time of operation. As these cases were scattered over a period of five years, we can readily see the remarkable encouragement offered by intubation in laryngeal diphtheria. According to the observations that I have been able to make, it would seem that prolonged intubations should be considered to be those in which the tube is retained over the sixth day. It has been my practice to remove the tube on the fourth day, and sometimes on the second day. I have had only eight cases of prolonged intubation—in other words, those in which it has been necessary to reintubate. It seems to me, therefore, that under a sufficient dosage of antitoxin, at least 3000 units, the tube may be safely removed on the fourth day. Under these circumstances intubation will not be required a second time except in a comparatively small number. In the eight reintubations already alluded to the tube was retained from six to twenty-three days. In the period of five years there have been over a dozen of these cases, and all have recovered except one. This patient died very suddenly on the thirteenth day, evidently from occlusion of the tube. As all of these cases were seen in private practice, they received absolutely no care farther than the administration of the antitoxin and the intubation. The great majority of these cases occurred among the pauper population and the work has been done under the greatest difficulties. I would say that the tube should be removed on the fourth day in a normal case.

In considering the causes of prolonged intubation I would make the same classification as that described in the paper. The most important cause, to my mind, is traumatism. A number of cases met with have come to me from the hands of other operators, and they have presented extensive traumatism, sometimes a band of cicatricial tissue being found at the entrance of the larynx. A second important cause is an ill-fitting tube. The plated tubes should be avoided because any defect in the plating will lead to calcareous deposits upon the tubes, and these must cause further injury to the delicate lining membrane of the larynx.

Dr. S. J. K. Golden, Chicago—I have used the suprarenal extract in doses of 2 grains every three hours, and although all but one of the cases was not very bad, I found that the edema of the larynx disappeared, and the tube was coughed up or would be pulled out by the child. It is my practice to leave a piece of silk attached to the tube.

Dr. I. A. Abt, Chicago—It seems to me that the sooner the tube can be taken out, the better. The practice formerly in vogue in Wiederhofer's clinic was to remove the tube every morning, and I believe it is a useful plan. I think it is an excellent practice to remove the tube during the first twenty-four hours. If the dose of antitoxin has been sufficiently large, and it should be made so, the tube can and should be removed early. I think in Chicago many of us remove the tube after twenty-four hours.

If one reads text-books and listens to his colleagues he rarely hears of difficulties met with by experienced intubators. It is true that rupture of the larynx may occur, and also pushing down of the membrane, but there are also cases of impossible intubation. Dr. E. Fletcher Ingals has reported several such, as has also Ranke of Munich, and others. Last winter I presented to the Chicago Medical Society a case in which I had endeavored to introduce the smallest tube, the child being between eleven and twelve months old. I found that I could introduce the tube into the larynx, but that if I placed my finger on top of the tube the successful completion of the operation was impossible without the employment of unjustifiable force. I, therefore, desisted from these attempts and performed tracheotomy. The child died in twenty-four hours, and the autopsy was done within a very few moments after death. I found it still impossible to introduce the tube in the larynx of the dead child. From my experience in this case I maintain that there are occasional cases in which it is impossible to insert a tube into the larynx.

Dr. Louis Burckhardt, Indianapolis—The idea of performing intubation in the country and leaving the case in unskilled hands is a serious matter. I used to remove the tube after twenty-four hours, and sometimes I introduced it three or four times a day and observed very few bad results from pressure. If, as the essayist assures us, the tube can stay for six or seven days without doing any injury, it is a great practical advantage. The idea advanced by the gentleman from Chicago regarding the use of adrenalin seemed to me useful; however, it would seem to me that the local use would be better than its internal administration. Under the influence of decreased circulation the swelling of the mucous membrane will be reduced, and in some cases it might even be possible in this way to get along without intubation.

Dr. E. Rosenthal, closing—I use metal tubes, but always have them regilded after each use of them. The cost is only about 75 cents. I have this done every time I use the tube, even though it is several times in the same case. I have used hard-rubber tubes, but have been unfortunate with them, finding that they are subject to the formation of calcareous deposits also.

AN OPERATION FOR SPINA BIFIDA, WITH REPORT OF A SUCCESSFUL CASE.*

LEONARD FREEMAN, M.D.

DENVER, COLO.

A spina bifida is a hernia of the membranes surrounding the spinal cord through a congenital opening in the posterior aspect of the spine. Very rarely there is also a defect in the bodies of the vertebræ. The sac is always filled with cerebrospinal fluid, and often contains nerves from the cauda equina, or a portion of the cord itself. The sac is usually covered by integument, but this is frequently so thin as to be translucent. The opening may be so small that it will scarcely admit the finest probe, or it may extend from the foramen magnum to the sacrum. Extensive deficiencies are, however, very rare. The tumor is usually located in the lumbo-sacral region, although it may appear at any point along the spine. It may be large or small, pedunculated or sessile.

A meningocele is a hernia of the membranes containing fluid only; a meningo-myelocele contains also a portion of the cord or its nerves; and a syringomyelia consists of the dilated cord with fluid in its central cavity. The last named variety is rare, and perhaps incurable, the other forms being usually encountered.

Clubfoot, hydrocephalus, vesical exstrophy and various paretic and paralytic conditions of the lower extremities, bowels and bladder are occasionally met with.

Although spina bifida is not a common affection, it appears sufficiently often to deserve careful attention.

* Read before the Rocky Mountain Interstate Medical Association, Denver, Colo., Sept. 4, 1901.

about once in from 800 to 1000 births, constituting about one-sixth of all congenital deformities. Rarely a spontaneous cure takes place through gradual closure of the opening, but in nearly all untreated cases rapid growth occurs, resulting in rupture followed by meningitis and death.

Many procedures have been employed for the cure of spina bifida, the principal being: Simple pressure, by means of flexible collodion or an elastic bandage; aspiration followed by pressure; insertion of setons; injection of irritating fluids, such as tincture of iodin, alcohol, etc.; clamping or ligating the neck of the sac, subcutaneously or not; and lastly, the open operation, in which the sac is surrounded by elliptical incisions and partially or completely removed according to the nature and arrangement of its contents.

After the edges of the abbreviated sac have been stitched together with catgut the operation may be completed in one of several ways:

1. The skin and subjacent soft parts are united over the opening by means of deep sutures.

2. The defect is covered by fascia and tendons, or by periosteal flaps obtained from the bony surfaces on either side.

3. Portions of bone may be chiseled from the sides of the opening and united in the center line.

4. A fragment of bone with a pedicle of muscle is obtained from the iliac crest or an adjacent rib and swung over the opening.

5. Bone or cartilage from a rabbit or other animal is utilized.

6. Very recently it has been suggested to spring a celluloid plate into the spinal defect.

As to the choice of methods, aspiration and compression are very unreliable, and their employment should be limited to tumors of small size and slow growth, with a covering of comparatively normal skin. They may also be temporarily used to prevent rupture when waiting for the patient to gain in strength or age, with the idea of doing a radical operation later on.

Injection of irritating fluids, although uncertain, has been much used and is often effective, at least temporarily. The method carries with it considerable risk, especially when the aperture into the spinal canal is large. It is asserted that hydrocephalus is peculiarly liable to supervene from the resulting irritation. Its greatest usefulness is in pure meningoceles with small openings or with pedicles which can be compressed during the injection.

Setons, or continuous drainage, should never be used. There is too little likelihood of cure and too much danger of infection. Clamping or ligating the neck of a pedunculated tumor is almost certain to give rise to sloughing and infection leading to fatal meningitis.

There remains the open method of operating, which, under the modern aseptic regime, is preferable to any other. When carefully done it is, perhaps, no more dangerous to life than most of the older procedures, while it offers a better prospect of permanent cure. It permits inspection of the contents of the sac, thus avoiding injury to the cord or its nerves, and it renders possible a solid closure of the opening. In other words, spina bifida should be treated like any other hernia, the possibility of doing this with comparative safety resting upon rigid asepsis. It was thought to be impossible a few years ago. Bardeleben, for instance, in 1867, says of the operation: "It is too dangerous in comparison with its advantages, and should be completely discarded."

In estimating the comparative advantages of the various open operations, we must consider not only the ultimate results, but the age and resisting powers of the patient. In the majority of instances we have to deal with very young and feeble babies, who will not tolerate prolonged anesthesia or extensive manipulations. Owing to this and to the minuteness and delicacy of the structures, it is often impossible to procure bone or periosteal flaps, or to do complicated plastic operations of any kind. Hence, until recently, the most practical procedure has consisted in removing the sac, stitching its remnants over the cord, and uniting the soft parts and skin above. Although this has given fairly good immediate results, it does not guard sufficiently against relapse, especially when the opening is large and the child inclined to cry.

The transplantation of bone from an animal is theoretically attractive, but it is troublesome, to say the least, and exposes the patient to considerable risk of infection. A celluloid plate is not readily cut to a size that can easily be "sprung into the opening," as has been suggested, and if it is not accurately adjusted it may slip or turn partially on edge and thus irritate or compress the nerve structures beneath.

In operating on a case of spina bifida not long ago it occurred to me to employ fine silver wire in closing the aperture in the vertebral column, and I found it admirably suited to the purpose. After placing the nerve structures and remnants of the sac within the canal, a continuous over-and-over suture was readily and rapidly inserted, from one side of the opening to the other, through the periosteum and ligaments, and occasionally through the bone itself, the stitches being close enough together to form a firm covering for the cord, incapable of displacement by any subsequent movement or straining on the part of the child.

Silver wire is always at hand and readily sterilized, and it adapts itself to any form or size of opening. That it can remain permanently in the tissues without causing disturbance has been abundantly demonstrated by the innumerable instances in which it has been used in wiring bones and suturing other subcutaneous structures.

I have elsewhere expressed the opinion that it is unnecessary to suture the spinal membranes in the majority of instances. I have followed out this idea in a number of cases without cause for regret. It applies to operations for spina bifida as well as to other procedures. The remnants of the sac fold into a mass which plugs the opening and is held in place by the covering of wire, and adhesions soon take place which render sutures superfluous. A certain amount of danger of catgut infection is thus avoided, and considerable valuable time saved.

Dr. H. O. Marey insists on the value of the Trendelenburg position, asserting that gravity will materially assist in the prevention of the escape of the cerebrospinal fluid. This seems to be open to question, to say the least. The fluid is contained in a rigid tube, closed everywhere except at its lower end, just as if it were within a pipette with a finger over the upper opening. The only way it can run out is by depression of a fontanelle, which can not displace a great quantity, or by the entrance of blood into the cranio-spinal cavity to take the place of the fluid. In the Trendelenburg position the flow of blood into the skull would be greatly facilitated, and I am inclined to believe that the loss of cerebrospinal fluid would perhaps be greater in this position than in any other. The loss of fluid, however,

probably much more strongly influenced by the size the aperture between the subdural space of the cord ıd that of the brain, and by crying, choking or strain-ıg under the anesthetic, than it is by any particular ɔsition.

I herewith append a brief report of a case upon which successfully operated according to the method outlined ɔove.

Baby H., 7 weeks old, healthy, well developed, and without formity other than spina bifida. A translucent tumor the ze of a goose-egg existed in the lumbo-sacral region. The ssile sac, not larger than the end of a thumb at birth, had eadily increased in size until the integument had become anslucent and as thin as tissue paper, threatening rupture any time; in fact, a slight leakage had already taken place. Under choloroform, in August, 1901, an elliptical incision as carried around the tumor near its base, and the sac, which as intimately adherent to the attenuated skin, was opened once. The elongated conus was freed from its central ttachment to the sac and replaced, together with some nerve laments, within the opening, which just admitted the point a finger. The sac was then cut away near its base, the neck eed from its attachments to the edge of the cavity and stuffed ıto the opening onto the cord. The aperture was then whipped ver as described above with No. 27 silver wire, the soft parts nd skin being brought together with deep silkworm-gut su-ıres. The wound was sealed with collodion and supported as ell as possible with a compress and bandage. The further rogress of the case was uneventful and led to satisfactory re-ɔvery. In spite of primary union taking place there was some ise in temperature, as has frequently been noticed by others.

Although the immediate result was everything that ould be desired, the ultimate fate of the child is yet to e determined. That the tumor itself will recur is xtremely unlikely, but it is a fact that many such cases nally succumb to hydrocephalus.

ASE OF THOMAS P. BODEN, THE CONSUMPTIVE IRISH IMMIGRANT.

ITS MEDICAL, SOCIOLOGICAL, INTERNATIONAL AND HUMANITARIAN ASPECT.

S. A. KNOPF, M.D.
NEW YORK CITY.

If Mr. Francis Tracy Tobin, the counsel for Thomas P. Boden, the Irish immigrant now detained by the im-nigration authorities because he is consumptive, should ucceed in bringing this case before the Supreme Court f the United States, this, the highest tribunal of our ountry, will have to decide a most momentous question. The issue involved not only affects the few consumptive mmigrants who may arrive at our ports, but it affects he several million American citizens suffering from ɔulmonary tuberculosis.

On the strength of a declaration of the surgeon-eneral of the Marine-Hospital Service that pulmonary uberculosis is a dangerous contagious disease, the super-ntendent of immigration issued last June an order that n future immigrants with tuberculosis of the lungs must e debarred from all ports of the United States regard-ess of boards of special inquiry, which heretofore had ised their discretion in the matter. Formerly the board f special inquiry at this port, after receiving the report f a case of tuberculosis from the chief of the medical livision of the immigration service of New York, could xercise discretion as to the admission of the person, nd there have been instances in which a child ill of the lisease has been permitted to land with its parents; but ıenceforth no one with consumption will be admitted to he country. This rule applies to alien passengers in the first and second cabins as well as to those in the steerage.

Is this declaration issued by the surgeon-general of the Marine Hospital Service, and strengthened by the authority of the Treasury Department, based on scientific observation? Is this opinion shared by other great authorities on the question of tuberculosis and the medical profession of the United States in general?

Ever since the discovery of the tubercle bacillus it has been demonstrated by clinical and bacteriological experiments all over the civilized world that the germ alone is the direct cause of the disease, and without its presence tuberculosis can not be conveyed. The bacilli are usually contained in the expectoration, more rarely in other secretions, very rarely in the muscular or osseous tissue. Thus the contact *per se* of a consumptive individual does not transmit the disease, and pulmonary tuberculosis is not a contagious but only a communicable malady. The destruction of tuberculous expectoration and other secretions, also of tuberculous food substances, suffices to do away with all danger of infection and transmission. Therefore, there is no scientific basis on which to classify pulmonary tuberculosis among the dangerously contagious diseases, and it is contrary to the results of experience and experiments of all who have studied the question thoroughly.

Now, what have the great European and American medical authorities to say on this subject? Koch, the discoverer of the tubercle bacillus, says in this connection in his recent London address, which I quote verbally, since it was delivered in English: "A consumptive who coughs out tubercle bacilli is not necessarily a source of infection on that account so long as he takes care that his sputum is properly removed and rendered innocuous." Professor Herman M. Biggs, whose splendid work in the prevention of tuberculosis has been most highly commented on by Koch in the same address, declares in the circular issued by him through the New York Health Department: "If the matter coughed up be properly destroyed a person suffering from consumption may frequently not only do his usual work without giving the disease to others, but may also thus improve his own condition and his chances of getting well." This circular has served as a model to many health boards in this country and abroad. Concerning the action of the Treasury Department in regard to tuberculous immigrants—not paupers—Dr. Briggs pronounced it unscientific, unwise, unnecessary and inhumane. Dr. T. Mitchell Prudden, professor of pathology and bacteriology at the College of Physicians and Surgeons, declares distinctly that pulmonary tuberculosis is a communicable and not a contagious disease.

For the United States government to declare pulmonary tuberculosis to be a dangerously contagious disease, in spite of the opinions of these great authorities, stamps several millions of American citizens suffering from consumption with a stigma wholly undeserved. That the general profession is in thorough accord with the opinion expressed by Professors Prudden and Briggs may be gleaned from editorials which appeared in three of the leading American medical journals. Dr. Frank P. Foster of the *N. Y. Medical Journal* says in an editorial of June 22: "It is our conviction that the United States Bureau of Immigration, if it has really determined upon the course of indiscriminately excluding consumptive immigrants from the country, as has been announced, has been ill-advised. . . . What the people need to be taught—and they have already partly

learned the lesson—is, not that pulmonary tuberculosis is a monster to be fled from, but that it is a danger that can be effectively overcome. Even if this were not true, it remains a fact that the policy of selfishness and inhumanity, pursued to the end, rarely if ever proves to be for the general welfare of those who follow it." Dr. George M. Gould, in *American Medicine,* of November 30, says in the leading editorial entitled "The Deportation of Consumptive Immigrants": "We think professional and lay opinion will not justify the exclusion of tuberculous immigrants on the simple ground that the disease is 'contagious' or 'communicable.' It is only so in such a low degree that the severe measure of exclusion for this reason alone seems unjustifiable." Dr. George H. Simmons, editor of The Journal A. M. A., in criticising the indiscriminate exclusion, says: "Even hopeless consumptives may sometimes bring some good," and cites Robert Louis Stevenson as an example.

The government decision to classify pulmonary tuberculosis as a dangerously contagious disease has only been in operation a few months, but it has already had its consequences by increasing the fear of people to associate with consumptives. Healthy employes have been discharged because some one of their near relatives with whom they were living were reported to their employer to be suffering from consumption. I have learned of numerous similar cases and very recently two came under my personal observation. A sewing woman who had been employed frequently by a wealthy family mentioned incidentally that her sister was being treated for tuberculosis of the lungs, but was getting along very nicely. The result was that the poor woman was discharged and never employed again by the same family. A similar case happened within this week with a poor washwoman. How much suffering and hardship may thus be daily created only those who come in contact with the poor consumptives can appreciate. All physicians will approve of earnest and intelligent measures to prevent the spread of tuberculosis, but to exaggerate the danger by declaring consumption, which is a chronic, preventable, curable and only a communicable affliction, to be a dangerously contagious malady, we only create another disease in the minds of the people which may justly be called phthisiophobia.

By excluding pauper immigrants, whether tuberculous or not, the immigration authorities do their duty, and every loyal American citizen must approve of it; but by excluding consumptive aliens of means, or at least such who can give evidence that they will not become a burden to the community, we may subject ourselves to retaliatory measures on the part of other governments and wealthy American pulmonary invalids may no longer be allowed to enjoy the hospitality of foreign health resorts. Thus this case has an international as well as a national aspect.

Concerning the humanitarian view of the case I have to add but little to the expression of Professor Briggs and Drs. Foster and Simmons. Since the ruling of the Secretary of the Treasury that pulmonary tuberculosis is a dangerous contagious disease within the meaning of the statute, all certified cases of tuberculosis are returned without discrimination. Parents may thus be separated from their children, brother from brother, sister from sister, friend from friend, because of a law founded on an unscientific basis, contrary to all sociological interests of our own country, derogatory to our interests and in our relation to other countries, contrary to the American spirit of justice and humanity.

Have those who by this decision stamped every American consumptive as one afflicted with a dangerous contagious disease ever thought how really few families there are who have not at least one, more or less near, relative or friend who is a consumptive? Tuberculosis is the most frequent of all diseases and it is most prevalent in its pulmonary form. It is a disease of the young and the old, the poor and the rich, the East and the West, the North and the South.

May the wise judges of the Supreme Court, who it is to be hoped will soon be called to consider this matter, view it in all its aspects and decide it in the light of our present knowledge which makes the consumptive not a hopelessly ill individual, afflicted with a dangerously contagious disease, whose contact we have to fear, but which declares him only suffering from a communicable and at the same time easily preventable, and in many instances very curable disease.

THE USE OF TROPA-COCAIN IN SPINAL ANESTHESIA.*

WILLIAM P. ILLING, M.D.
LITTLE ROCK, ARK.

At the last meeting of the Arkansas State Medical Society I read a paper on my experience with spinal anesthesia and reported 23 cases in full. In that paper I gave the technique and method of preparation in detail, and will not now consume your time by their repetition.

Since last May I have had a varied experience with spinal anesthesia, having used the method on 80 different occasions. These comprise six obstetrical cases, of which three were instrumental deliveries—four multiparæ and two primiparæ. Two of these suffered from lacerated perineum—one a primipara, the other a multipara. In these six cases twenty minims of a 2 per cent. solution of cocain hydrochlorate was injected. These cases did not differ from any of the others on which I had used this method, the anesthesia appearing in the usual length of time and lasting one hour and ten minutes in the shortest case and one hour and forty minute in the longest.

Twenty-five other cases were for the following operations, namely: perineal abscess, two gunshot wound of the foot and shattered bone removed, one; hemorrhoids, six; curettage, nine; lacerated perineum, two; lacerated cervix, two; dilatation of urethral stricture, one; amputation of foot, one; removal of portion of necrosed tibia, one. In these cases I used cocain hydrochlorate in the usual manner.

The largest amount of cocain hydrochlorate used in any case was twenty minims of a 2 per cent. solution, or 2/5 grain, producing anesthesia lasting one hour and fifty-six minutes; the smallest amount used was ten minims of a 2 per cent. solution, or 1/5 grain, producing anesthesia lasting only twenty-three minutes.

I will now confine myself to the 49 cases in which I used tropa-cocain and to which this paper refers.

In my first paper I mentioned that H. Schwartz of Leipsie reported, March 2, 1901, having used tropa-cocain in sixteen serious operations, with none of the toxic effects usually observed in the use of cocain hydrochlorate. Dr. Willy Meyer[1] of New York reports having used tropa-cocain on three different occasions with all the satisfaction that could be desired from an ideal

* Read before the Northwest Arkansas Medical Society, at Fayetteville, Ark., Dec. 3, 1901.

1. Medical News, April 13, 1901.

nesthetic. These flattering reports stimulated me to try t. Many of my cases were patients of prominent surgeons in the city and all were at the Pulaski County Hospital. Among the operations were: three laparotomies, three amputations of legs, one amputation of high, two amputations of toes, ten curettings, one resection of necrosed rib, one variocele, three excisions f indurated inguinal glands, six dilatations of strictures f urethra, one fistula in ano, five hemorrhoids, three aecerated cervix, four openings of deep abscesses, three urettings of old indolent ulcers, one hernia, two lacerted perineums;; total, forty-nine.

In 1891, Geisel discovered tropa-cocain in Javanese oca leaves, after which it was more closely studied by Liebermann, later Willstatter discovered a way of preparing it from tropin, a fractional product of atropin and hyoscyamin. It is now universally prepared by the decomposition of atropin and hyoscyamin, and occurs in colorless needles readily soluble in water.

It admits of thorough sterilization by boiling, a virtue which is widely proclaimed for it; yet when it is boiled from fifteen to twenty minutes it is my opinion that the anesthesia lasts only one-half as long as when it is prepared by heating the cocain solution in an autoclave or water bath which is brought to 176 Fahrenheit for fifteen minutes, then allowed to cool three hours. This procedure is repeated four or five times, having the cocain solution in a glass-stoppered bottle. This method is a little slow but it insures a thoroughly sterile solution. (I have repeatedly boiled the solution and find it about one-half the strength it was before boiling.) Tropa-cocain is less than half as toxic as cocain hydrochlorate, the relation between toxicity and dose is more constant with tropa-cocain, and therefore the unexpected toxic effects are much less liable to be met with.

Recovery from its effect is much more rapid. Upon the nerve centers it acts by first stimulating, then paralyzing from the brain down in decreasing degrees, but it prevents complete paralysis of the spinal cord or respiratory centers. I think its action is a little slower than cocain hydrochlorate. I find in using cocain hydrochlorate the anesthesia usually appears in from four to ten minutes, while with tropa-cocain it seldom appears earlier than ten minutes. After trying eucain B., cocain hydrochlorate and tropa-cocain repeatedly, I believe that tropa-cocain is far superior for spinal anesthesia—in fact I believe it can in many cases replace cocain hydrochlorate.

After an injection of tropa-cocain there is usually no complaint of thirst, heat, vomiting, pallor, nausea, perspiration; no marked increase or decrease in the pulse; no facial expression of anxiety; no marked increase or decrease in respiration; no dyspnea; but I have noticed relaxation of the sphincters, with involuntary evacuation of feces, in two of my cases, which occurred while the patients were on the table; in one the bowels continued to move after being returned to bed. Tuffier recommends plugging the bowels with a tampon to avoid this inconvenience. In one of my cases the patient complained of the motion in his bowels, which caused him great inconvenience. Fowler also calls attention to the vigorous peristalsis of the bowels. I have as yet noticed no idiosyncrasy for the drug.

Schwarz reports using five-sixths of a grain at one injection with complete anesthesia lasting two hours, but Meyer reports shorter periods of anesthesia in his cases and the use of one and one-half grains at two injections, fifteen minutes apart, in the same person, which is to my knowledge the largest amount ever injected. Yet this amount did not produce any more severe symptoms than are sometimes witnessed with an injection of twenty minims of a 2 per cent. solution of cocain hydrochlorate.

The largest amount I have ever used is one grain—in one case in a rectal operation, and in another in curetting a large ulcerated surface. It produced anesthesia lasting three hours and eight minutes in one, and one hour in the other. The difference in the length of anesthesia is, in my opinion, due to the fact that the solution lasting only one hour had been boiled; and the other lasting a little over three hours had only been heated to 176 F. in a water bath. It is my belief that to obtain perfect anesthesia we can safely count on one-sixth of a grain of tropa-cocain to produce anesthesia fifteen minutes, and sometimes even longer.

I have given a hypodermic injection of one-fiftieth of a grain of nitro-glycerin immediately before the spinal injection, and have used the sodium-chlorid in combination with the tropa-cocain as used by Meyer; but my experience with it has not been very gratifying, the patient invariably complaining of the intense headache after its use. I now use hyoscin hypodermically about ten minutes before the spinal injection, and leave out the sodium chlorid. My method of preparing the solution is to allow one grain of tropa-cocain for every dram of water; and always prepare a little more than is needed. Thus every ten minims of the solution contains one-sixth of a grain of the drug.

I predict a very useful field for spinal cocainization in surgery, and from my experience I do not hesitate to urge its use with as much confidence of success as I do chloroform or ether. I do not think it will ever be successfully used in abdominal surgery, on account of the tendency to vomit and intestinal peristalsis; neither am I favorably impressed with its use in obstetrics. However, in obstetrics, I could not be emphatic since my experience extends only to ten cases.

OUR HOSPITALS.*

H. D. NILES, M.D.

GYNECOLOGIST TO THE HOLY CROSS HOSPITAL.
SALT LAKE CITY, UTAH.

The evolution of the hospital—including the growth and development of hospital work—has, in recent years, been so rapid and so far-reaching that comparatively few people in or out of the profession realize that these institutions have already become one of the most potential factors in progressive medicine, and that the time is not far distant when they may exercise an influence over the destiny of medicine greater than all others combined.

Originally intended by their benevolent founders simply as temporary homes where the sick poor might secure proper medical care and nursing, the peculiar advantages of hospital appliances, methods and nursing soon became favorably known to all classes; good men early became identified with the enterprise; medical students sought these places for clinical instruction; people of means contributed to their support and the hospital enterprise continued to grow in prosperity and usefulness.

Hospital boards and the general public, who have been content to measure this prosperity and usefulness by the number of patients treated, the lives saved, and suf-

* Read before the Western Surgical and Gynecological Association, Chicago, Dec. 17 and 18, 1901.

ferings mitigated in a given period, are well satisfied with the results and see no occasion for changes in methods or purpose. Such an estimate is manifestly inadequate, since the largest and best part of a hospital's good work can not be thus computed or even comprehended by the non-professional mind.

Even the profession as a whole, each member of which employs in his daily practice, methods of diagnosis, means of treatment, operative procedures, bacteriologic and microscopic data, and statistical information derived directly from the hospital, is prone to underestimate the power the hospital possesses as a promoter of medical progress or the good it accomplishes in the cultivation of a spirit of scientific investigation and in furthering the efforts of good men to advance medicine. It has been said, and I think truly, that if we as physicians should forget all the knowledge gained by the past fifty years of hospital achievements, medicine would be set back at least a quarter of a century, while to eliminate the hospital's influence upon progressive medicine for the next fifty years and depend upon individual work alone would mean the return of empiricism.

The general practitioner who is, has been, and I trust always will be, regarded the highest type of physician, and who comes into contact with the largest proportion of human sickness and suffering, must now confess his dependence upon his hospital colleagues, or fail in doing his full duty to his patients. It is preposterous for any one individual to claim to be able to attend to a large practice, keep himself in touch with the best thoughts in general medicine, surgery, and the several specialties, and perfect himself in bacteriology, microscopy, hematology, *x*-ray work, pathology, and certain unusual operative procedures, and at the same time conduct the laboratory work incidental to such a practice.

He might, if quite frank, confess further that it is from his association with these workers in their special fields, his acquaintance with their methods and lines of thought, and the original researches and discoveries made in their laboratories, that he receives a large part of his practical knowledge and skill and his greatest inspiration to advance in his professional studies and work.

This is distinctly an age when great combinations of special forces rule the world, control all its enterprises, and govern the destinies of every undertaking of any magnitude. In medicine there is to-day a greater need for an exhibition of this same progressive spirit of the times than ever before. We must *combine* our special forces if we are to meet the necessities of the new existing conditions. For now as never before, it is apparent that our next great advances are to come from and will be dependent upon those researches, experiments, investigations and studies that can be prosecuted only where an abundance of clinical material and painstaking laboratory work are associated; where the clinician and operator can be in the closest touch with the bacteriologist, microscopist and pathologist; where the practical conclusions of the experienced man may be fairly compared with the theoretical deductions of the recent graduate; where the views of the skilled specialist and the general physician and surgeon are broadened by frequent consultations; where trained assistants and needed equipments are provided and it is possible to have accurate records kept and reliable statistics compiled. This combination is essential to our future progress as well as to our present efficiency, and can be provided only in our hospitals and through the labors o such hospital workers as are willing to concentrate thei thoughts and limit their efforts to a narrow part of th great field of medicine, and leave to the general practi tioner and family physician the wider and more practi cal application of the sum of their united labors.

It is very evident to the minds of medical men famil iar with the situation that the methods and manage ment that have served our hospitals so well when thei purpose was limited to the care of the sick within thei walls will not suffice if our hospitals are to meet ou present needs and fulfill their possibilities as a grea system of scientific institutions distributed throughou this country, where not only the favored few but th whole profession with all the sick intrusted to thei care may feel the results and participate in the benefits It is not enough that our hospital authorities provid and equip rooms where a promiscuous assemblage o physicians may be permitted to occupy their leisur moments trying to sustain the scientific reputation o their institution by unsystematic and irregular work.

We need to be as methodic, discriminating and earn est in our efforts to establish and maintain a truly scien tific institution as those who control and direct ou other institutions of learning. Our needs are some what similar and quite as great; and it is fair to pre sume that if much the same methods were applied wit equal judgment the results would be as satisfactory.

Viewed from this standpoint, the staff would also b the faculty; the departments would be transformed int definite and distinct realities, each presided over by member of the staff, who would be a specialist. Th positions would be filled by men selected less on accoun of their personal popularity and more because of thei proficiency in particular lines and devotion to certai branches. The size of the hospital staff would be re duced to conform to its actual needs as a scientific insti tution, for upon its standing as such, more than th bulky size of its staff, the hospital would depend for following. The staff perfectly adjusted to the hospi tal's requirements would bring a harmony of action, unity of purpose, and a general effectiveness not con spicuous in the large unwieldy staffs of to-day.

So long as a hospital measures its own usefulness b the number of patients treated, the standing of eac member of the staff will be estimated largely by th size of his personal following; and the commercia spirit will rule both the institution and the individua to the exclusion or great detriment of scientific work It so happens that many hospital men are engaged i special lines of study and investigation that preven their attracting or attending many patients; yet th immediate and remote results of their work may be o the utmost importance to progressive medicine. Thes men deserve and should receive every encouragement and it is manifestly unfair that their positions, incom or professional standing should be dependent upon th number of patients they bring to the hospital. One o the effects of introducing the educational feature int our hospitals would be a more equable adjustment o credit and remuneration, so that the laboratory worke as well as the operator would be fairly appreciated an compensated.

Our hospital statistics are already quite an importan factor in medical literature, but with the scientific spiri prevailing over the commercial, the records of the wor and achievements of these institutions might, and

elieve would, exercise an influence upon medical ought greater than all others combined.

But the fixing of a new purpose upon an old institution under the control of kind and well-meaning iends, who are content with the old aims and distful of the new, will require something more than ollege methods or college training. The medical profession can not reasonably expect to have much of a oice in this or any other reform measure until they evolutionize their present business policy and methods.

The prevailing ideas deprive them of not only the roper recognition and the adequate pecuniary recompense, but of the legitimate influence that justly belongs the faithful and effective work of a learned profession. or this unfortunate state of affairs we can blame only ur own defective business foresight and tact, since for ears we have been educating and drilling the people think lightly of our work, our comfort and our spirations.

In the most prosperous country in the world, where e public is abundantly able to bear all its burdens, ven to caring for its sick poor, the members of the edical profession, in and out of the hospital, have at ll times, with and without provocation, held themselves p as shining targets for the impecunious, the meanpirited and the unscrupulous to practice their imposions upon. They have sought out and assumed unnecessary responsibilities and cares without pay or reward. Vhen in need of public or legislative aid they have tuitively and invariably attached themselves to the ide of the minority. Individually and collectively they ave rarely missed an opportunity to demonstrate their usiness incapacity. For many years the business methds of the profession have apparently served but one seful purpose, viz., as an example for the youth of ur country to shun; and it is a significant fact that he only organization to-day that has thought well nough of these methods to adopt them is the Salvation rmy.

Is not the physician who gives $25,000 worth of his ervices to the hospital entitled to the same consideraion as the rich benevolent layman who donates his 25,000 in cash? Should not the ten physicians who hus contribute $250,000 receive the same recognition hat is accorded the multi-millionaire whose gift of a uarter of a million costs him no real sacrifice of time r enjoyment? Fairly estimated, do not our services ustly entitle us to a voice in all professional questions n and out of the hospital, second to none, even to that f those benevolent individuals, charitable organizations r religious societies that founded these institutions?

If we are ever to secure this voice—and we need it ow—we must formulate and adopt a business code hat shall not only meet the highest requirements of he ethics of the profession but at the same time comnand the respect and win the confidence and support of his twentieth century public.

It must be admitted that a very considerable majorty of the profession is not in close sympathy with ur hospitals at present, and not a few are disposed to egard these institutions as the abiding place of a avored few where the outside physician may contribute nuch and get little in return. Awaiting a fair and micable adjustment of these differences, imaginary nd real, and the securing of the cordial coöperation f the united profession, all these physicians and their atients are deprived of available hospital advantages, f which they are in the greatest need, and our hospitals are denied the very support most essential to their greatest success. In deciding such cases—and they should be decided—the common interests of the many should outweigh the individual interest of the few, and each of us should be willing to make any reasonable sacrifice or concession in the interests of our profession, our patients and our institutions.

Time will not permit our dwelling upon the many obstacles that threaten to retard the advance of our hospitals to the exalted position they can and should occupy, but among the most important questions that call for solution may be mentioned:

1. How shall the financial and professional relations between our hospital men and our general practitioners be adjusted so that *all* may be interested in the welfare and participate in the benefits of specialized hospital work?

2. Is there any good reason why our hospital men and hospital authorities—sheltered as they are behind a strong combination—should be exempt from the application of the same "Code of Medical Ethics" that governs the conduct of the profession generally?

3. Is the general practitioner to have any place in the hospital of the future?

4. Is the specialist of the future to have any place out of the hospital?

5. Do we not need more hospitals and fewer colleges; better doctors and fewer graduates?

6. In the present state of our knowledge, when the life and health of our patients so often depend upon special knowledge and skill or nursing, is any physician justified in assuming the responsibilities of a general practice except he be in touch with some hospital or hospital worker?

7. In view of the important relations our hospitals are destined to hold with progressive medicine, is it not about time the professional mind began to dominate in the control of these institutions?

These are a few of the many questions that are suggested to the minds of all who thoughtfully consider the hospital work of the past and present and are led to appreciate the marvelous possibilities of the future.

The object of this paper is not to volunteer instruction, but to arouse, if possible, a more active interest in an institution that promises with our aid to become one of the most influential elements in the medical world—its labors, its literature, its thought, its discoveries and its advances.

"How are our hospitals to meet the needs of modern medicine?" is, to my mind, the most important question before the profession to-day. I am quite aware that its satisfactory solution will not be the work of a day, nor of a single individual, nor of any clique or society of physicians; but I do believe that the medical profession as a whole, if united and determined, can decide upon and dictate an answer that should render the achievements of this twentieth century the most memorable in the history of medicine.

Spontaneous Evacuation of Cyst in Pancreas.—Monin describes in the *Lyon Méd.* of September 15, the case of a woman of 28 who had passed through three pregnancies in spite of the existence of a large cyst which had developed ten years before, and was supposed to be in the mesentery. Eighteen months after the last childbirth, diarrhea suddenly appeared and the tumor rapidly diminished in size until it had completely disappeared. The retrospective diagnosis indicated a cyst in the pancreas which had finally emptied itself spontaneously into the intestines.

A NEW METHOD OF DEALING WITH BOWEL PERFORATIONS COMMUNICATING WITH PELVIC ABSCESSES.*

THOMAS W. HUNTINGTON, M.D.
Professor of Surgery in the Medical Department of the University of California.
SAN FRANCISCO, CAL.

The problem of dealing with old bowel perforations in the presence of purulent collections in the pelvic area is fraught with many perplexities. I refer particularly to the fistulous communications between the bowel and tubal or tubo-ovarian abscess sacs. Such lesions present a twofold aspect: 1, as regards the immediate risk to the patient's life from general septic peritonitis; 2, as to the likelihood of establishing a permanent fecal fistula with its external outlet through Douglas' pouch or through the abdominal wound.

In this class of cases the visceral peritoneum, for several centimeters on either side of the perforation, has usually become thickened by a deposit of plastic material and has virtually lost its identity as a serous membrane. Immediate closure of a bowel perforation with such an environment by any of the suture methods, has in the majority of cases proven disappointing. The intestinal coats are so altered as to insure, in a majority of instances, reopening of the perforation before many hours have elapsed. On the other hand, experience has taught that a bowel resection at such a time is a most formidable if not hopeless undertaking. Two disastrous experiences in the past deeply impressed me with the necessity of devising a more rational method of dealing with such lesions.

It is a matter of general experience that a fecal fistula, where the bowel opening is closely approximated to the parietal peritoneum in the floor of an abdominal wound, tends to spontaneous closure without subsequent embarrassment. This idea is amply borne out by observing a large number of fecal fistulæ associated with appendicular abscesses, which, as a rule, close without operative interference. This consideration has led me to what I believe to be a safe and surgical plan of procedure in such an emergency.

The following case admirably illustrates the plan which I had outlined and which will be definitely detailed below.

Mrs. H., age 35, has suffered for the past five or six years from pelvic cellulitis, with occasional acute attacks. These have become more and more frequent. For the past year she has suffered constantly. I saw her in consultation about Sept. 20, 1901. At that time she had become greatly emaciated; skin was dry and markedly pigmented; tongue was dry and furred. Temperature ranged from 99.5 degrees to 102; pulse 106. Bowels were constipated. Menstruation was irregular and painful.

Physical Examination: The abdomen was flat; the abdominal muscles on left side were rigid. A tumor was perceptible above the pelvic brim over the sigmoid flexure, irregular in outline and excessively tender under pressure. Slight tenderness existed over right tube and ovary. Uterus was fixed. Neither ovary nor tube could be outlined per vaginam.

Provisional Diagnosis: Left pyosalpinx with probable destruction of corresponding ovary. Laparotomy was advised and the operation was proceeded with on Sept. 22, 1901.

On median line incision, the right tube and ovary were found to be the seat of inflammatory trouble and were removed. On the left side a tubo-ovarian abscess was located high up in the pelvis. To the abscess wall the sigmoid flexure was firmly adherent for a distance of four or five inches.

Patient was placed in Trendelenburg's position. Abdominal contents were carefully isolated by gauze pads. The adherent colon was then carefully dissected from the abscess sac. During this procedure it was found that a communicating track existed between the abscess and the bowel. This had been temporarily closed, but as the bowel was separated there appeared an old perforation of the colon about one centimeter in diameter. At this juncture the abscess wall collapsed and pus escaped freely into the pelvic cavity. This was removed by careful sponging. The bowel perforation was temporarily closed by a purse-string suture. The abscess sac was dissected out and removed. Pelvic drainage was secured by vaginal route.

The ends of the suture used in closing the bowel perforation had been left uncut. To these I attached a small sponge pad for the purpose of identification. This was dropped into the pelvic cavity, and the median line incision closed. An anterior colostomy incision was then made over the sigmoid. Through this the buried sponge was recovered and the bowel perforation was drawn up into view. The bowel was then carefully sutured to the parietal peritoneum, thereby completing a formal colostomy. The median incision was sealed and a loose dressing applied to the lateral opening. Time of entire procedure was two hours. Time of second step was twenty-five minutes. Reaction was fairly prompt, and at the end of the third day the patient's condition was excellent. Median line incision healed without interruption. All fecal matter passed by artificial opening subsequent to operation. I had hoped that this would not be permanent, but owing to the sagging of the colon above the colostomy a spur was formed, closing the lumen of the bowel below the artificial opening. Temperature fell to the normal point: her appetite was regained and her general condition improved rapidly.

On October 23 her condition was such as to warrant an attempt at closure of the artificial opening. An elliptical incision was made encircling the artificial anus, the peritoneum being opened throughout. Through this the colon was drawn out and exposed for a distance of three inches above and below the perforation. About four inches of the colon was resected. An end-to-end anastomosis was accomplished by the Connell suture method. The abdominal wound was then closed by through-and-through sutures.

Time of operation was one hour and thirty minutes. The wound healed without incident. Rectal feeding was resorted to during the first three days, after which time liquid food was administered by the mouth. Bowels moved voluntarily on the fifth day and the patient left the hospital in perfect condition on the fourteenth day.

So far as I know the procedure in this case has never heretofore been suggested. While immediate closure of a bowel perforation in cases similar to the foregoing has within my knowledge and experience been occasionally accomplished, such fortunate result has not been the rule. While I have had no opportunity of carrying this investigation further, I am strongly of the opinion that the general plan pursued in this case

* Read before the California Academy of Medicine, December 24, 1901.

ill prove of value in dealing with a considerable number of complications involving fecal fistula. It was my original intention to have left the provisional purse-string suture undisturbed, thus placing the closed orifice of the perforation in the floor of the colostomy wound, with the hope that the patency of the colon lumen would have been re-established and rapid repair have been accomplished. During the manipulation, however, the provisional suture was torn out and an artificial anus was established at once.

Incidentally, I wish to express my high appreciation of the work done by F. Gregory Connell, bearing upon the matter of intestinal suture as described by him. (The Journal A. M. A., Oct. 12, 1901.) I have thus far employed the Connell method in two cases with the utmost satisfaction. Its technique when once fully understood is simple and its various steps can be completed with a fair degree of rapidity. So far as safety is concerned, I believe it is capable of demonstration that the placing of the knot within the lumen of the bowel is a most important consideration.

406 Sutter Street.

A CASE ILLUSTRATING PLASTIC SURGERY OF THE EYELIDS.

CASSIUS D. WESCOTT, M.D.

Assistant Professor of Ophthalmology at Rush Medical College; Assistant Ophthalmologist to the Presbyterian Hospital, etc.

CHICAGO.

During my service at the Presbyterian Hospital in the summer of 1900, Miss Sarah McB., aged 38, presented

Fig. 1.—August 6. After first operation on cheek.

herself for the correction of deformities of the eyelids resulting from burns, which she had received six months before by falling into a grate fire in a fainting fit. As shown in photograph No. 1, the soft parts had suffered severely on both sides of her face, a portion of the right wing of the nose had been lost, and there was complete ectropion of the upper lid of the right eye and almost complete eversion of the lower lid of the left eye. The brow just over the nose was so deeply burned that a portion of the external surface of the frontal bone had necrosed and come away during the dressing of the burns. The new skin which had formed in this region and over the right eye was extremely thin and poorly nourished, and the ciliary border of the lid was tightly

Fig. 2.—September. One month after operation for restoration of upper lid of the right eye.

drawn up and firmly adherent to the periosteum. In the left cheek was a very thick keloid scar, which sent an arm to the lower lid of the left eye, dragging it down and out and away from the globe. The cornea of the right eye was constantly exposed to dust and the danger of trauma and only an excessive flow of tears, which kept the epithelium moist and washed away the dust, saved it from inflammation, ulceration and the usual sequelæ.

As there was a broken-down and suppurating area over the right brow, it was not deemed advisable to begin work there, and the first operation consisted in the removal of the large scar of the left cheek and the restoration of the lower lid of the left eye to its normal position, by a free dissection and crowding up of the entire cheek. This was done July 6 and the immediate result was quite perfect; but, as so often occurs in plastic surgery in all parts of the body, a portion of our flap sloughed near the outer end of the lid and the final result was an ectropion almost as complete as there was in the beginning. The condition of the patient's heart and kidneys did not permit of another anesthesia until August 15, when I made a free dissection of the upper lid of the right eye, stitching it to the lower lid and bringing down a large flap from the forehead, with pedicle on the temple, to cover the extensive surface exposed. After this flap from the brow was carefully stitched in place, the area from which it was taken was filled in with Thiersch grafts, as shown in photograph No. 2, which was taken one month later. Healing after this operation was very satisfactory, and on October 6

the left lower lid was restored to its normal position by making a large V-shaped incision below and to the outer side and converting this V into a Y by freely dissecting and crowding the flap up, thus forcing the free edge of the lid into its proper position. Healing was slow, but the ultimate result has been good. Both eyes are closed during sleep and photograph No. 3 shows the patient's appearance one year after the operation on the right eye.

When all tenderness had disappeared from the scars, the patient was referred to Mr. Hugo Ad. Oldenborg for massage, and there is good reason to believe that his careful and systematic treatment was of great assistance in obtaining the excellent final result.

I am also indebted to Dr. A. I. Bouffleur for his valuable assistance in my operations, and for undertaking the repair of the nose; the appearance of which he improved very much.

31 Washington Street.

Fig. 3.—September, 1901. One year after last operation.

THE X-RAY IN DETERMINING THE LIMITS OF THE FRONTAL SINUS.

JOHN HAROLD PHILIP, M.D.

SAN FRANCISCO.

In the June number of the *Laryngoscope* I note the following from the pen of Dr. Jonathan Wright: "I have lately seen the frontal bone perforated and the dura mater wounded with disastrous results in a case in which the frontal sinus was lacking on that side."

Dr. Howard A. Lothrop, of Harvard University, after carefully examining 250 frontal sinuses, from dissecting room material, concluded that there was no external landmark defining the superior limit of the sinus; that the external angular process of the frontal bone was not often the limit of the sinus laterally; that in the majority of cases the septum (between the sinuses) deviated to one side or the other within a range of five millimeters or even more, notwithstanding its frequent median position inferiorly; that the plane of the septum was roughly antero-posterior, passing between the anterior and posterior surfaces, but occasionally it might so deviate that one sinus would lie partly overlapping the other, even to an extent of 2 centimeters; that there were no absolutely certain guides by which the degree of development of the frontal sinus in the adult could be determined before attempting to expose it.

Previous to entering a frontal sinus some months since I secured three frontal bones and attempted to explore with my drill that sinus corresponding to the one on which I was to operate. I was amazed to find that No. 1 had almost no sinus on the left side; that the sinus on the left side of No. 2 extended not more than 3 millimeters beyond the median line and that there was no septum; there was no communication with the left nasal cavity. No. 3 seemed normal. One can not well overestimate the surgical importance of such anatomical anomalies, whose frequency is unquestioned.

As an aid to determining, previous to operation, the limitations of the frontal sinuses I suggest the *x*-ray.

The radiograph illustrating this article was taken for me by Mr. Cox of the San Francisco Polyclinic. Length of exposure was eight minutes; distance of tube from plate, 20 inches; plate over-developed and the print was sun-printed and overtoned. My patient's head lay obliquely on the plate and the affected sinus lay undermost. This explains the position of the canula, its tip extending apparently beyond the posterior wall of the sinus. For cosmetic reasons I entered the sinus from within the nasal cavity. (My patient was a young woman of 24.) Wishing to be certain that my canula was not in an anterior ethmoidal cell, I had a radio-

raph taken, when to my surprise I saw clearly defined he limits of my sinus.

Incidentally it may be of interest to note that the ntrum on the left side served apparently as a reservoir for the pus coming from the corresponding frontal inus and anterior ethmoidal cells. I removed the nterior one-third of the middle turbinate and irrigated he antrum through the ostium maxillare. After a few ays' treatment the fluid used for irrigation was reurned almost clear in the morning, but rather cloudy n the afternoon, although only one-third as much time had elapsed between the washings. I plugged with gauze the natural opening into the antrum and was rewarded by getting no evidence whatever of pus as long as it remained there. This proves, it would seem, that he antrum in question was not the seat of an inflammaory process. It only ceased discharging pus when it no onger gravitated into it from the anterior ethmoidal cells and frontal sinus, by way of the infundibulum. The right antrum was also involved; it was entered through the alveolar process and a tube left in for drainage.

Clinical Report.

TWO UNCOMMON CASES OF NASAL TUMORS.

RICHMOND McKINNEY, M.D.

Laryngologist to East End Dispensary, and to Presbyterian Hospital.

MEMPHIS, TENN.

CYST OF INFERIOR BONY TURBINAL.

Alice S., of Grenada, Miss., colored, aged approximately between 30 and 35 years, a stout, apparently healthy woman, consulted me on Nov. 16, 1901, with the following history: She had had a fulness in the right nostril for some time, the exact date of its beginning being indefinite, but perhaps could be traced back several months. The condition occasioned no pain, only inconvenience. The growth in her nose had been incised on two different occasions, but according to her statement nothing other than a little blood followed each of these incisions. Examination revealed an enlargement of the anterior end of the inferior turbinated body. This growth was sessile and practically completely occluded the naris. On pressure with a probe, the swelling proved to be edematous. Under cocain anesthesia the tumor was incised, and a thin, sero-purulent discharge, about a teaspoonful in quantity, followed the incision. The probe revealed that the bone underlying this cyst was uncovered and excavated, the interior of this cavity being roughened, showing that degeneration was going on. The cavity of the cyst was freely curetted, leaving a smooth bony surface. After curetting, a cautery point was passed freely around the inside of the cyst. Recovery was uninterrupted, and, although instructed to report a return of the growth, I have since heard nothing from the patient.

The literature of cysts of the nose is strangely lacking, yet this may be owing to the fact that they are considered conditions of some rarity. Still, I believe that simple retention cysts, not involving the bony framework of the nose, are much more frequent than is generally supposed; but cysts of the bony structure are no doubt very occasional in occurrence.

The origin of bony cysts of the nose is one of the many moot points in medicine, and I can add no theory to the many already advanced in accounting for the absorptive or necrosing process which produces these cavities in the nasal bones. Whether it be due to a "rarefying ostitis," a "necrosing ethmoiditis," as described by Woakes, or to one of the numerous other processes as suggested by various investigators, must remain as yet unsettled.

In my case a question might be raised as to whether the process began within the bone and by an outward extending necrosis destroyed the periosteum overlying the spot of beginning degeneration and distended the mucous membrane at the site of degeneration, or whether it began as a retention cyst of the mucous membrane and by an erosive process produced bony exfoliation at the base of the cyst. I am inclined to believe that the former was the course taken by the disease.

The majority of the cases of nasal cyst that have so far been reported have been located on the anterior end of the middle or inferior turbinated body, and most of the reported cases have occurred in females.

CYSTIC FIBROMA IN A BOY 12 YEARS OF AGE.

Ulysses C., of Eudora, Miss., aged 12 years, was referred to me by Dr. A. L. Emerson, Eudora. The boy had the following history: His nose has been stopped up on the right side for an indefinite period, and he suffers from profuse and frequent nose-bleed from this side. He has occasional attacks of tonsillitis, and his head and ears hurt a good deal. Examination disclosed a reddish, polypoid tumor, about the size of a hazelnut, pedunculated and apparently springing from about the junction of the cribriform plate of the ethmoid with the anterior cartilaginous septum. The tumor was seized with a slender dressing forceps and twisted loose from its attachment. During the process of removal, the growth burst and discharged a dark, grumous, foul-smelling material, and hemorrhage was very free. After removal of the tumor, its site of implantation, which proved to be the cribriform plate, was cauterized with the electrocautery. Investigation of the histologic structure of the growth showed it to be a fibroma.

Nasal polyps of any kind are rarely seen at such an early age, Moure having found that in 10,520 cases of nasal polypi only five occurred in children; also the character and site or origin of this growth were such as to excite my interest. There was no question of the fibromatous structure of the tumor, although there was, as almost invariably is the case, some myxomatous tissue to be found in the sections examined, but hardly enough to warrant calling the growth a myxofibroma. It is claimed by some observers that nasal polyps are always edematous fibromata, and Jonathan Wright states that true myxomata are never found within the nasal chambers. Certainly the mucous polyps that I have from time to time removed in other patients have presented no such fibromatous structure formation as the case that I have just reported. Fibromata are, as in my case, usually found singly, which is hardly ever the case with myxomata. Another feature of interest in this case was the site of implantation of the pedicle, which was found to be the cribriform plate of the ethmoid, a most unusual source of origin of these growths, which commonly spring from the naso-pharynx or posterior end of the middle turbinate. This fact led me to seek for some traces of necrosing ethmoiditis which might account for the etiology of the tumor, but I could find no further indication of bony degeneration.

Still another uncommon feature of this growth was that it was pedunculated, as they are in most instances observed to be sessile, with a broad base.

Lyceum Building.

Unbreakable Glass.—The *Journal d'Hygiène* of February 25 publishes a description of the unbreakable glass made by compressing ordinary devitrified glass, and its advantages for clinics, hospitals, etc. It makes the best material for floors, wall coverings, ceilings, etc., as it is not affected by the copious use of water and disinfectants nor by the most powerful acids, nor by freezing. It is used extensively at Reverdin's polyclinic at Geneva and in establishments where acids are employed in manufacturing. Recent tests at the French Laboratory of Bridges and Highways proved that a force of 2023 kilograms to the square centimeter was required to crush it, while granite can be crushed with 650 kilograms. Tests with a rapidly revolving grindstone showed that it resisted wear better than Saint Raphael porphyry and other extremely durable stones. It also surpassed other materials used in floors and pavements in its resistance to weights falling on it.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, MARCH 22, 1902.

FERMENTS IN PATHOLOGY.

While the chemical constitution and physical properties of ferments as yet remain obscure, their importance in various biological processes is being disclosed with increasing emphasis by continued investigation. There is no sharp line of division between the nature of physiological and pathological processes and fermentations; recent investigations show that ferments may exercise just as important activities in pathology as in physiology. From the standpoint of physiology we may divide ferments into two great groups, as suggested by Jacoby in a recent review of the significance of ferments in pathology:[1] 1, the ferments in the secretions, which prepare the food for absorption, and 2, the intracellular ferments, which preside over the oxidizing and other cellular functions. Referring to digestive ferments, Jacoby cites the observations of Pawlow, showing the close dependence of the secretion of the gastric juice upon so-called reflex nervous influences, as corroborative of the old clinical experience that digestive and nervous disturbances are closely associated. Pawlow showed that stimulation of the appetite and other means may cause secretion of gastric juice without the presence of even a trace of food in the stomach. The inference that grave digestive disturbances may exist without any anatomical changes in the walls of the stomach lies near at hand; and the therapeutist immediately thinks of measures that may remove nervous disorders, the exact nature of which are not now clearly understood. If he chooses, the physician may cite the foregoing as an example of the anticipation by clinical observation of discoveries by more exact and more satisfactory scientific methods.

The self-digestion of tissues, or autolysis, shown by Salkowsky to depend on an intracellular ferment which is widely spread in the organism and to which more extended reference was made in these columns recently,[2] is claimed by Jacoby to be markedly increased in the liver of dogs in phosphorus poisoning and he suggests that the rapid and excessive destruction of hepatic parenchyma in acute yellow atrophy of the liver may depend upon a similar increase of a fermentative process that normally is held in rigid check. Among other and probably less obscure instances of tissue self-digestion may be mentioned the softening which occurs in purely chemical suppuration, such, for instance, as Leber studied after inserting metallic copper in the anterior chamber of the eye of rabbits; the liquefaction of sterile, necrotic tissue, and of the huge solid exudations that form in the lungs in typical croupous or lobar pneumonia. Müller and Simon have shown that in the latter instance it concerns a genuine autolysis. When we recall that a lung may be freed in a few days from a mass of exudate, weighing several hundred grams, and this largely by absorption rather than by expectoration, we obtain some idea of the power in this case for good of the autolytic ferment or ferments. Whether the self-digestion or pneumonic resolution is due to increased activity of the ferments normally present or to immigration of ferments from other sources has not been determined. Leucocytes are generally thought to contain digestive ferments and they may play an important rôle in the lung in resolution.

The discovery in animal tissues by v. Fürth and Schneider of tyrosinase, an oxidizing ferment that produces pigments somewhat similar to the melanin of melanotic tumors,[3] has awakened the hope that possibly in this direction may be found the much-needed explanation of the production of melanin pigment in these tumors, often in such quantities as to lead to melanemia and melanuria. Should this hope be realized, it would become an exceedingly interesting and important problem to determine the exact relationship between the ferment and the multiplication of the tumor cells, but speculations of this kind, tempting as it is to indulge in them, are not yet warranted.

The reversibility of ferments—demonstrated by Hill in the case of maltase; by Kastle and Loevenhart for lipase, the fat-splitting ferment; and quickly suggested as probably true for other ferments also—has been applied by H. G. Wells[4] in an interesting manner to the explanation of various pathologic processes, more particularly those in which disturbances of the normal metabolism of fat are at work. These necessarily fragmentary references to the rapidly accumulating knowledge concerning ferment actions may serve to indicate the new light in which various pathologic processes appear when studied from the side of the forces at work in them. No doubt this branch of experimental pathology in the future will add also to our means of combat and control of diseases.

1. Centralbl. f. Path., Jan. 2, 1902, xiii, 2-8.
2. THE JOURNAL A. M. A., Dec. 7, 1901, 1536.
3. THE JOURNAL A. M. A., Dec. 14, 1901, 1612.
4. THE JOURNAL A. M. A., Jan. 25, 1902, 220.

POISONING IN HISTORY.

Every now and then there is a revival of stories of the famous poisoners of history. We are told of wonderful drugs that accomplished their fell purposes with timeliness and dispatch, yet without leaving any undesirable trace behind them by which the possessors of the secret might be rendered amenable to the law. An article on "Champion Poisoners" in the current number

of a popular magazine[1] is a fair sample of these quasi-historical collections of marvelous facts. There is the story of the wonderful poison rings found at Pompeii, whose touch to food or drink, it is fabled, was sufficient to cause death. The artistic poisoning methods are dwelt on most. There is the preparation of arsenic—tasteless, colorless, odorless—that might be smeared on one side of a knife with which a peach was cut, the poisoned half being given to the victim while the murderer could eat the other half with impunity. Then we are told the story of the drinking cup that turned wine into venom, and last of all the looking glass with the magical but at times accommodating power of killing anyone who looked into it. This last is too much for the veracious essayist, who says that modern science has denied the possibility of any such murderous influence, though of course modern science is very skeptical and has spoiled many a good story.

It may be said, however, that most of the stories of wonderful secret poisons are quite as incredible as that of the magical mirror: Poisons whose action could be timed to a nicety; poisons whose evil influence would be exerted not immediately, but after months or even years; poisons that left no trace; all these are popular traditions but with no substantiation in veridical history. Long ago Cicero said: *omne ignotum pro magnifico,* "what is unknown is always held to be great"; the maxim is especially true of the legends of poisoners and their occult powers, as they are found in traditional folklore. Fear embroidered all manner of details on the actual facts in cases of unexplained death. It was to the interest of those who pretended to deal in poisons, especially for criminal purposes, to magnify the wonder-working qualities of their remedies. Their credulous customers could make no public reclaimer if the drugs failed to accomplish their purpose. Like the vendors of the wonderful drugs that in our day are sold so commonly to produce abortion or enlarge the bust, the presumed poisoners of former generations had little to fear from legal prosecution if their recipes proved unavailing. Accidental coincidence probably at times intervened to confirm the poisoners' hopes as it does in our own day to give a reputation for efficiency to patent medicines. It is not improbable that the supposed poisons of medieval times were, as a rule, as harmless in their effects as the vaunted abortifacients that cure all female irregularities, or, for that matter, any of the other patent medicines of our twentieth century.

The detailed knowledge of toxicology required in many of the stories of wonderful poisons was not possessed and could not be obtained in former times. The ancients knew hemlock, opium, arsenic, aconite and mandrake, but scarcely more. All of these poisons are rather easily recognized in their effects and none of them are easily taken in any considerable quantity without their taste or odor being suspected. It requires long and careful animal experimentation with exact preparations and not with crude drugs to determine the slow effects of poisoning. This is the sort of knowledge they could not have had in former times. It is improbable that any great secrets were lost. Modern pharmacal research has tried all the usual substances that the ancients knew or even mentioned casually and we are thoroughly aware of their properties. There are among them no drugs that would kill in the minute quantities often supposed to be administered in the old stories. There are no tasteless powders that could be shaken on victuals like a pinch of salt, and yet surely cause death. Such stories are like the fairy tales, for advertising purposes, of the remedy that put in coffee cures the tobacco or the drink habit, without the victim's knowledge.

There are many things besides poisoning which explain the sudden and unaccountable deaths of great people in history. Our modern appendicitis furnishes from one point of view a typical case of poisoning. The victim, usually strong and healthy, is taken a few hours after a meal with a severe pain in the abdomen, and dies in twenty-four to forty-eight hours. In women there is the added possibility of fatal extra-uterine pregnancy and there are many other pathologic conditions that could well masquerade as poisoning cases. The death of Germanicus, hinted at by Tacitus as due to poison at the hands of Tiberius, who was jealous of his success in arms, seems really to have been due to an acute exacerbation of an old tubercular process relighted up by the disappointment of losing his command. There seems good reason to think that some time when history is rewritten from the standpoint of the trained pathologist we shall hear much less of poisoning cases in history that we do at present.

1. Cosmopolitan Magazine, February, 1902.

FORMALIN IN TUBERCULOSIS.

In the report of the meetings of the British Congress on Tuberculosis,[1] held in London in July, 1901, Maguire of London detailed the results of over 100 cases treated by him by means of intravenous injections of formalin as well as of numerous cases treated by other observers. Cases treated in the early stage all showed disappearance of physical signs and of bacilli. In cases with cavities the signs of active disease disappeared and the bacilli also. In a recent note,[2] Maguire states that the treatment by intravenous injections of formalin is on trial, and as yet its results do not warrant any authoritative opinion, still less any positive statements as to its being a "cure for consumption."

Fischer and Ticken[3] have made some observations which appear to have direct bearing upon the use of formalin in the treatment of human tuberculosis. Their experiments had to do with 24 guinea-pigs which had been inoculated with tubercle bacilli by the intraperi-

1. British Medical Journal, Aug. 3, 1901, 319.
2. British Medical Journal, Feb. 15, 1902, 428.
3. Transactions of the Chicago Pathological Society, Feb. 10, 1902, 61.

toneal injection of a suspension of a culture from sputum. The animals were divided into four groups of six each, being grouped together according to weight. The heaviest one of each group was reserved as a control. The other animals received intraperitoneal injections of dilute solutions of formalin (8 c.c. of 1 to 1000) at intervals of one or two days. The control animals, which received no injections of formalin, lived longer and fared better than those which were treated. At the postmortem examination, the animals which had received injections of tubercle bacilli followed by those of formalin solutions, always presented the same picture. The changes were most severe in the lungs and liver, which organs were often nothing but masses of friable caseated material. There was extensive involvement of the entire system of lymphatic glands. Histologically there were the usual appearances of tuberculosis together with such degenerative effects as had been previously shown by Fischer to accompany the injection of formalin. In the animals which had received injections of formalin the tuberculous foci were diffuse, seemed to break down more rapidly and were not accompanied by as marked an inflammatory reaction as was the case in the tuberculous animals not injected with formalin. The experiments show conclusively that in guinea-pigs the intraperitoneal injection of dilute formalin has an unfavorable action upon the tubercular process. The authors conclude that the development of miliary tubercles in spots that were actually bathed in dilute formalin lead them to believe that it takes a much stronger solution of formalin to bring about the destruction of tubercle bacilli than is commensurate with life.

In view of these facts it does not seem at all probable that small amounts of formalin injected into tuberculous patients can have any deleterious influence upon the tubercle bacilli. It would seem that tuberculous patients had been subjected to the action of enough antiseptics, poisons, etc., with apparent improvement for a time, to have shown that other factors than the remedy are very largely responsible for the results. Before resorting to the injection of active chemical agents into the tissues and blood of this unfortunate class of patients, it would be advisable to first demonstrate in experimental animals that very definite benefit could reasonably be expected to follow.

TETANUS AFTER VACCINATION.

The recent accidents of tetanus after vaccination in Camden, N. J., amounting as they did almost to a limited epidemic, have left some questions rather unsatisfactorily answered. We can be reasonably certain that the vaccine lymph itself was free from germs and therefore innocent to that extent and also that there must have been an unusually general dissemination of the tetanus infection. But just why so many subjects of vaccination should thus suffer, when other traumatisms were only rarely affected, is a question that disturbs the laity and helps the antivaccination cause. It is not a pleasant suggestion that the organism, or whatever it is, of vaccine is a specially favorable adjuvant to the toxic action of Nicolaier's bacillus, but nevertheless that is one of the possible inferences to be drawn from these recent occurrences. A rather interesting and suggestive paper on post-vaccination tetanus is contributed by Drs. W. and J. W. Findlay[1] in which they report a case in a woman and review the available literature. The authors conclude that in this case the source of infection was in the patient's skin, that its presence there —the vaccination having been made on the leg—was favored by the long skirts worn, which can hardly fail to favor infection when sweeping along our city pavements with the dusty covering of powdered soil, horse dung, etc. This seems probable enough, but they go on to say that the peculiar method of production and treatment of the vaccination wound would also favor the development of the infection. A surgical operation could probably have been performed with impunity on the same leg without any additional antiseptic precautions, "for the clean incision of the surgeon's knife militates against the very conditions which the vaccinator's lancet offers." Then, the sealing up of the wound furnishes the conditions required for an anaërobic germ to do its dirty work, and they also suggest that the vaccine itself may supply the accessory conditions required by the tetanus bacillus for the development of its toxin and the infection of the system.

It is a noteworthy fact that out of ten cases found in the literature by the authors, six and possibly seven were from the United States, and two others from Cuba, only one having been reported from Great Britain. This does not include the late Camden epidemic or other cases recently reported in this country; in regard to the Camden epidemic, which is mentioned in an addendum, the Drs. Findlay do not accept the conclusions of the local board of health as to the atmospheric infection. They ask: "Is it sound reasoning to conclude that because one of the many injured and wounded persons developed tetanus during the same period that several cases of tetanus were occurring after vaccination, that the tetanus germs must have been in the air? Of course, the tetanus germs were in the air—they are always there more or less—but is not the logical conclusion to be derived from these facts what we have already stated—viz., that the vaccination wound offers special facilities for growth to the tetanus bacillus? If atmospheric and telluric conditions alone were to blame, vaccination would not have claimed cases while injuries claimed but one case." In their own case the wound was throughout protected from the air, the scab was not even removed until after the tetanus had developed.

The legitimate deduction from all this is that we should not confine our attention too exclusively to any one cause. Air infection, skin infection, and every

1. London Lancet, Feb. 22, 1902, p. 506.

ther possible source of germs or toxins should be con-
dered and vaccination be conducted under as careful
sepsis as a capital operation. The occurrence of such
n epidemic, so to speak, as that at Camden shows what
ne possibilities of the concentration of tetanus germs
nay be, though the rarity of such is consoling. Millions
ave been vaccinated every year and yet the cases of
etanus following, so far as known in medical literature,
ould almost be counted on the ten fingers up to the
ast year. The danger is infinitesimal; but the fact
hat it exists should insure all reasonable precautions
gainst it. It may be also true, as suggested above, that
ve err sometimes in a too rigid sealing up of vaccination
esions and thus favor elaboration of the toxins of
possibly existing anaërobic germs.

DR. CHRISTIAN FENGER.

The death of Dr. Christian Fenger, which was noticed
n our last week's issue, is a distinct loss to the profes-
sion and to medical science. There are few if any med-
cal men who have come to this country from abroad
who have earned a higher place in the estimation of
their native-born colleagues. This was due not only
to his rare scientific ability, but also to his personal
qualities of unswerving honesty and truthfulness in all
matters and his thoroughly ethical traits, professionally
and otherwise. His personality was an attractive one;
though brusque sometimes in manner he was always
a gentleman, and his good qualities grew upon one on
acquaintance. No man had warmer friends or fewer
enemies. Of his scientific work it is hardly necessary
to speak here; what he has done for scientific medicine
in Chicago was reviewed editorially in the pages of The
Journal in connection with the testimonial presented
him by the profession a little over a year ago. We
can only repeat what was then said, that "for years he
has been the recognized type of the scientific surgeon
and teacher." Modest and never assertive, all he said
carried authority, the more so since all recognized that
he himself would be the first to detect and acknowledge
an error. His work lives after him and his record is
a lasting and enviable one.

ENGLISH VIEW OF DEATH FROM BOXING.

The verdict of an English coroner's jury of "death
by misadventure," in the case of a man killed in a fist
fight, is commended by the London *Lancet*. It says:
"It is for the pistol, the knife, and the attack by an or-
ganized gang as modes of settling quarrels between men
or boys that the criminal law should be set in motion."
This is giving a decidedly local color to a medicolegal
opinion, and the dictum is about as justifiable as those in
favor of dueling or lynch law. The fist may be very
easily a fatal weapon, and those who are ready to use
it on little provocation should not feel absolved from
the full responsibility for whatever result may occur.
The fist is supposed to be the natural British weapon
for righting personal wrongs and has, therefore, a pre-
judice in its favor, which is, we think, indicated in the
words of the editorial quoted. It is also the weapon of
the common bully and the most unchivalrous one of all,
for it exaggerates the efficiency of mere brute strength.
The only thing that can be said in its favor is that it is
less surely deadly than most other weapons, but it can
be deadly enough as has been time and again demon-
strated. A duel with British fists, it is safe to say, is
far more risky than the average French duel with
swords, as regards injury and probably but little less so
as regards life. The coroner's verdict may have been
influenced by the special facts in the case, that the vic-
tim was the aggressor, etc., but the general condonation
of murder by fisticuffs, in our esteemed contemporary,
seems to us altogether without excuse.

THE ABSENCE OF THE FRONTAL SINUS.

The article in this issue by Dr. Philip on the use of
"The X-ray in Determining the Limits of the Frontal
Sinus" is a contribution to a subject that apparently
needs more elucidation. The possibility of there being
no frontal sinus at all in the adult seems not to have
been always duly emphasized, as witness two recent arti-
cles in a leading medical journal that discuss operations
in this region. In one of the two its occasional absence
on one side is merely mentioned, in the other this possi-
bility seems to have been entirely neglected. In 240
European crania Logan Turner[1] found one or both
sinuses absent in 41, or 17 per cent., and both were
absent in 18 of these, or 7.5 per cent., of the whole num-
ber. The great majority of these instances were in
British skulls, but a still larger proportion of these
anomalies is indicated in certain other races, notably
the Australians, in 30 per cent. of whom both sinuses
were wanting. The clinical importance of the condi-
tion and the desirability of any means whereby a more
accurate knowledge of their existence can be obtained,
are obvious. It is not always possible to accurately
diagnose the affections of the region, or perhaps one
would better say that mistakes in diagnosis are possible.
Such a mistake would be all the more unfortunate if
it led to an operation for opening a cavity that did not
exist with the risk of wounding the dura or injuring the
brain. Yet this appears to be possible in an appreciable
percentage of cases.

PROPOSED INSPECTION OF SURGICAL OPERATIONS BY THE LAITY.

A New York legislator has introduced a bill requir-
ing that in any operation on a woman in any hospital,
medical college or elsewhere there must be in attend-
ance three of her nearest relatives, who must remain
with her until she is returned to bed. There must be
absolutely no exposure other than is necessary for the
operation, and the attendance of the relatives, it may
be presumed, is to enable them to make any protests
or criticisms they may feel called upon to utter if any
detail of the operation shocks their sensibilities; it
would be interesting to see how such a law would work.
There are a number of embarrassing contingencies prob-
able as regards its execution; the attendance of relatives
will in many cases be difficult to secure, and the question
arises whether the operation will have to be suspended

1. The Accessory Sinuses of the Nose, New York, 1902, p. 77.

in case one of them should lose his or her nerve and have to retire; the interference of a hysterical relative is another possibility to be considered. On the whole, it looks as if the enforcement of such a law would work badly for the patient and lead to serious suffering and even sacrifice of life. In fact, the law would of necessity have to be disregarded as soon as passed and would be one of the useless and ridiculous encumbrances on the statute books, but with the possibility of its being utilized for blackmail and annoyance. Its introduction is probably a bit of political shyster practice, but, in any event, the record of the New York legislature in regard to medical humbugs is fortunately such that it is hardly likely to become a law.

THE HOSPITAL QUESTION.

In this issue we publish a contribution discussing one of the leading questions of the day, but one that has not duly occupied the attention of the medical profession, viz., the relation of hospitals and hospital workers and administrators to the general practitioner. The hospital movement, as we may call it, is a fact to be met and the question is: Are we influencing its adjustment to the best interests of all as we should or are we allowing it to follow its own haphazard way? The subjects of inquiry suggested by Dr. Niles are pertinent ones and of special interest as regards the future of our profession. The so-called hospitals of the present, as of the past, include not only the public but the private institutions and the relation of each of these to general medical practice is a special problem of itself. The abuse of public charities in the one and the too frequent exclusive use for private emolument of the other are matters that will naturally suggest themselves and the ethics of hospital practice generally. Hospital positions are often sought by physicians and surgeons not exactly for their health, as the saying is, but as an indirect and sometimes a direct commercial advantage. The ever-pervasive commercial spirit of the day prevails to a greater or less extent in these institutions under the mantle of charity and science. The medical profession outside of hospital staffs is too often a sufferer from this cause. This is only one feature of the case to be considered, but to amplify upon all the points suggested by Dr. Niles would require more space than can be given. The ideal hospitals of the future will give all the advantages without the drawbacks of the present system; they will be open to the profession generally, while affording special scope for those whose acquirements make their services in demand for particular lines of work. Their multiplication under such conditions will be a distinct advantage to the public and the profession.

THE NEW SWEDISH PHARMACOPEIA.—After seven years of toil, the committee in charge of the revision of the pharmacopeia in Sweden completed its task and the new edition was ready January 1, 1902. It is entirely in Swedish except that the Latin names of the drugs are appended. It contains a department devoted to veterinarian drugs, and tables of maximum doses not only for man but for various domestic animals.

Medical News.

CONNECTICUT.

Change in Medical Course.—Yale Medical School has announced that the first year's studies can hereafter be arranged to be taken in the academic department, the second, third and fourth years being spent in the medical school proper.

To Restrict Consumption.—The Bridgeport Medical Association has voted to appoint a committee of five to confer with Health Officer Hill for the purpose of drafting an ordinance to be presented to the common council to restrict the spreading of consumption.

Dr. Lindsley's Semi-Centenary.—A complimentary banquet was tendered, February 20, to Dr. Charles A. Lindsley, New Haven, secretary of the State Board of Health, and emeritus professor of principles and practice of medicine in Yale Medical School, on the occasion of the fiftieth anniversary of his entrance to practice in New Haven. Dr. William H. Carmall acted as toastmaster.

Indebtedness Wiped Out.—Early in February the officials of the Hartford hospital appealed for funds to pay the debts of the institution, amounting to $74,800. Before the end of the month the entire amount had been subscribed, with $90 to spare, and in addition $5000 has been added to the permanent fund. J. P. Morgan contributed $25,000, subject to the raising of the remainder within a stated time.

Mortality Reports.—By reports received, there were 1124 deaths during the month of February. This was 48 less than in January, and 257 less than in February of last year, and 76 less than the average number of deaths in February for the five years preceding. The death rate was 14.9 for the large towns, for the small towns 14.6, and for the whole state 14.8. The deaths reported from infectious diseases were 194, being 17.2 per cent. of the total mortality.

DISTRICT OF COLUMBIA.

Health of the District.—The report of the health officer for the week ended March 8, shows the total number of deaths to have been 106, of which number 96 were white and 37 colored; 132 births were reported, of which 76 were white and 56 colored, 65 male and 67 female. At the close of the week there were 11 cases of smallpox, 16 of diphtheria, 35 of scarlet fever, and 33 cases of typhoid fever under treatment. Typhoid fever is now being reported to the health department in accordance with the recent law approved February 4. With the view of lessening the transmission of tuberculosis in the District, the health officer has issued a very excellent monograph on the subject, which is being distributed free to the physicians and public. It goes thoroughly into the cause and nature of the disease, methods of transmission, disinfection and hygiene of the malady.

Medical Practice Act Sustained.—The Attorney for the District has sent the following reply to a physician of Virginia who desired to practice medicine in the District of Columbia without taking the necessary examination: He says the Secretary of the Board of Medical Supervisors has correctly followed the law in declining the requests. "It appears that the State of Virginia does not issue licenses to practice medicine to licentiates of the District of Columbia upon the conditions specified in the act of Congress. It therefore follows that licentiates of the State of Virginia are not entitled to practice medicine in the District until the license is issued by the Board of Medical Supervisors. It is requested in this case that a temporary license shall be issued pending the examination of the Board. I am of the opinion that the law does not authorize this, and that, therefore, the Board is without authority to issue a tempory license."

Local Sanitary Laws.—The local laws of the district governing contagious and infectious diseases and vaccination are quite efficient and satisfactory and fortunately give sufficient authority to the Commissioner and health officer to enforce the same. The present management of contagious diseases in the District has been brought to a high standard of efficiency and effectiveness by the present health officer, Dr. W. C. Woodward. The following sections of the laws are of interest:

Authority of Commissioners: Sec. 5. That whenever it comes to the knowledge of said health officer, either by the certificate hereinbefore provided for or otherwise, that any person in said District is suffering from any contagious disease said health officer shall cause one or more suitable placards or warning signs to be placed at once in a conspicuous position or positions upon, at or near the front entrance or entrances to the premises in which such person is, so that the same can be distinctly seen by passers-

y; said placards or signs shall contain, printed thereon in large letters, the name of the disease from which said person is suffering, and in small letters a statement of the law in reference to entrance to and exit from such house, and in reference to interfering with such placard or warning sign; if such premises be a hospital, asylum, hotel or apartment house said placard or warning signs may, in the discretion of said health officer, be placed in a conspicuous position within said premises, at such place or places as said health officer may determine, said placards or warning signs shall be displayed as aforesaid until such premises and the contents thereof are disinfected to the satisfaction of the said health officer, as certified by him, and for such time thereafter as may be necessary to demonstrate the freedom of occupants of said premises from contagious disease, namely in the case of cholera and yellow fever, 5 days; typhus fever, 21 days; smallpox, 16 days; the plague, 14 days; the glanders, 21 days: Provided, that in addition or in lieu of the placards or warning signs provided for above, said health officer may station a watchman or watchmen at such building or premises for the purpose of securing compliance with the provisions of this act.

Provision for Quarantine: Sec. 10. That no person in said District suffering from any contagious disease, or residing either permanently or temporarily in any building where there is such disease (or, if such building be a hospital, asylum, hotel or apartment house in the apartments where there is such a disease) shall leave such building or apartment, except with a written permit from said health officer, and then only in accordance with the terms of said permit; or with a certificate from said health officer certifying that such person can leave said building or apartments without danger to public health.

Sec. 21. That whenever any person in said District is an inmate of any premises occupied by three or more families, or of any tenement house, boarding house, lodging house, hotel or apartment house, and is suffering from any contagious disease, and can not in the opinion of said health officer, be properly isolated in such premises, tenement house, lodging house, hotel or apartment house, said person shall be removed as expeditiously as possible under direction of said health officer, to the public hospital or to such other place, satisfactory to said health officer, provided by and at the expense of said person, his parents or guardians; if such person can not, in the opinion of said health officer, be removed as aforesaid without endangering his life, said health officer may cause such persons in the vicinity to be removed as are in danger of contracting the disease. Any person suffering from any contagious disease, and requiring to be treated at public expense, may, at the discretion of said health officer, be removed to the public hospital for treatment.

For Vaccination: Sec. 23. That every person in said District having been exposed to the infection of smallpox (including varioloid) shall be at once successfully vaccinated, or vaccinated a sufficient number of times to make it evident that successful vaccination is impossible.

Sec. 24. That it shall be the duty of every person in said District to be successfully vaccinated a sufficient number of times to make it evident that successful vaccination is impossible, whenever the Commissioners of said District shall, by proclamation, declare such action on the part of every person, within a reasonable time, to be stated in said proclamation, necessary for public health. Provided, That this section shall not apply to persons who prove to the satisfaction of said health officer that they have been successfully vaccinated, or repeatedly vaccinated, as aforesaid, within five years from the date of said proclamation, or that they have had smallpox or varioloid.

Sec. 25. That the Commissioners of said District be, and they are hereby, authorized and empowered whenever said District is, in their judgment, threatened or afflicted with any contagious disease to cause house-to-house inspections to be made, to require, especially, the cleansing and disinfection of premises, or parts of premises, to provide accommodations for such persons as may be threatened by or afflicted with any of the diseases aforesaid, to provide gratuitous vaccination and distribution of disinfectants and to do or cause to be done such other acts not contrary to law as may be necessary in their judgment, to prevent the introduction or spread in said District of any disease aforesaid.

GEORGIA.

Dr. Long's Memory Honored.—Georgia has chosen Dr. Crawford W. Long, one of the reputed discoverers of anesthesia, as one of the two subjects for statutes in Statuary Hall in the Capitol at Washington.

Commencement of Medical College of Georgia.—Lectures at this institution closed March 12, and on the following day the final examinations commenced. The commencement exercises will be held at the Opera House, Augusta, April 1. Chancellor Walter B. Hill of the State University will present the diplomas, and Dr. Theodore E. Oertel will deliver the address to the graduating class.

Change in Editor.—Dr. William E. Fitch, founder, and for many years editor and business manager of the *Georgia Journal of Medicine and Surgery*, Savannah, has sold his interest in the publication to his former associate and co-editor, Dr. St. Joseph B. Graham, who becomes editor and sole proprietor. Dr. Fitch will devote his entire attention to the practice of his profession in Savannah.

Personal.—Dr. Robert C. Eve, Augusta, assistant surgeon in the army, has left for his post of duty in the Philippines.——Dr. H. C. Wood, Irwinton, has located in Dublin.——Dr. Eugene Foster, Augusta, has been elected president of the local board of health.——Dr. Hunter P. Cooper, Atlanta, has been appointed division surgeon of the Nashville, Chattanooga and St. Louis Railway, with headquarters at Atlanta, vice Dr. William P. Nicolson.

ILLINOIS.

More Patients at Bartonville.—The Board of Asylum Commissioners has completed arrangements to receive 300 more patients at the Illinois Hospital for the Incurable Insane at Bartonville, near Peoria.

Fifty Years of Practice.—Dr. David Ellis, Augusta, who was graduated from the University of Louisville in 1852, has been in active practice in Augusta for half a century. He is now 76 years old and enjoys good health.

St. Anthony's Hospital Staff.—At the annual meeting of the medical and surgical staff of St. Anthony's Hospital, Rock Island, Dr. George L. Eyster was elected president; Dr. Joseph R. Hollowbush, vice-president, and Dr. St. Elmo M. Sala, secretary-treasurer.

Chicago.

Dr. John R. Neely, medical director of the county institutions at Dunning, has gone east for a trip of ten days to inspect state institutions.

Dr. Fenger's Estate.—The will of Dr. Fenger, probated, March 18, provides for the disposition of an estate of $110,000, of which $100,000 is personal property. Mrs. Fenger is made executrix without bonds.

Special Train to the Meeting of the American Medical Association at Saratoga Springs.—The Chicago Medical Society has arranged with the Lake Shore and Michigan Southern Railway for a special train to Saratoga Springs, N. Y., to the annual meeting, June 10 to 13.

Personal.—Dr. Henry F. Lewis has gone abroad for the summer.——Dr. Alfred Helton has secured an interneship at St. Mark's Hospital, Salt Lake City, Utah.——Dr. Albert G. Huizinga, employed as disinfector and fumigator by the Department of Health, has resigned.——Dr. George W. Boice has located in Rushville.

Translated into Spanish.—Dr. N. Senn's book on the Spanish-American war, most of the matter of which appeared in The Journal, has been translated into Spanish by Dr. Juan Redondo of Madrid, a surgeon of high rank. The illustrations which appeared in the original volume have not been incorporated in the Spanish edition.

New Hospital Opened.—Formal opening exercises at the new St. Mary's of Nazareth Hospital, Leavitt Street, near Division, were held March 16. The hospital is a five-story fireproof building and occupies an entire block. The building will be in charge of the Sisters of the Holy Family of Nazareth, and the medical staff of ten physicians will be in charge of Dr. A. J. Ochsner.

Communicable Diseases of Children.—The contagious diseases of childhood continue to be unusually prevalent; scarlet fever especially is endemic in many parts of the city, and, together with measles and whooping cough, is of a severe type, with a high mortality rate. There were 29 deaths from the four principal communicable diseases of the young reported to the Department of Health, last week, as against only 14 in the corresponding week of last year.

The Week's Mortality.—Although there were forty more deaths from all causes reported last week than during the week previous and 11 more than in the corresponding week of 1901, the rate is still well within the average March figure. During the twenty years, 1882-1901 inclusive, the average rate was 18.40—the month being ninth in the mortality scale, November having the lowest and July the highest average death rate. Last week's rate was 15.86 per 1000 per annum.

In Memory of Dr. Fenger.—The Elgin Physicians' Club held a special meeting, March 8, forwarded a telegram of condolence to Mrs. Fenger and voted to draft a set of resolutions to be presented to Dr. Fenger's family.——The Chicago Medical Society met March 12, but immediately adjourned.——The following resolutions were adopted by the Medical Staff of the Evanston Hospital on the death of Dr. Christian Fenger:

The members of the staff of the Evanston Hospital hereby express and record, the sense of their loss in the death of their colleague, Dr. Christian Fenger, who has passed from faithful service to well-earned rest.

Resolved, That, in the death of Dr. Fenger, the hospital loses one of its ablest counselors and most brilliant surgeons. For his distinguished services in pathology and surgical science he was knighted by an appreciative king, and honored by the profession of two continents.

The works of our eminent associate are his grandest memorial, and their influence the fittest benediction. We do not attempt to measure the ennobling effect of such a life, nor fathom the far-reaching power of such enlightened service as his to mankind, but would simply offer this expression of his worth, that, as a testimonial, it may be entered upon the minutes of the Evanston Hospital Association, and extended to his family as a mark of our sympathy and esteem.

INDIANA.

Kokomo City Hospital.—The Kokomo City Hospital Association was incorporated March 10 with a capital stock of $15,000.

Endowment for Epworth Hospital.—The family of the late Hon. Clem Studebaker have offered an endowment fund to Epworth Hospital, South Bend, provided the institution first be freed from its present indebtedness of $50,000.

Hammond Hospital Staff.—The medical staff of St. Margaret's Hospital, Hammond, has re-elected the following officers: Dr. James T. Clark, president; Dr. Cyrus W. Campbell, vice-president, and Dr. H. Edgar Sharrer, secretary.

Doctors Win Suit.—The suit of Mrs. Julia Varnes, Tipton, against Drs. George H. F. House, Indianapolis, and J. K. Bates, Broad Ripple, for malpractice, was decided in favor of the defendants, by a Hamilton County jury, March 6.

Diverticulum for Appendix.—In the Whitley Circuit Court, March 6, Edward Zumbrum was given damages of $1500 in his suit for $5000 against Drs. James W. Squires, Churubusco, and Nathan B. Moore, Merriam. The plaintiff charged that the defendants operated on him "for appendicitis and, instead of removing the vermiform appendix, they cut off the diverticulum, which is a growth on the intestine similar to the appendix."

Diseases.—The monthly reports to the State Board of Health show that smallpox was the most prevalent disease in February, and pneumonia the second most prevalent. Pneumonia was fifth in January, bronchitis being second that month. The order of disease prevalence in February was: Smallpox, pneumonia, bronchitis, influenza, rheumatism, tonsillitis, pleuritis, measles, scarlet fever, diarrhea, typhoid fever, diphtheria, erysipelas, whooping cough, puerperal fever, cerebrospinal meningitis cholera morbus and cholera infantum.

Deaths.—The February deaths numbered 2874, rate per 1000, 14.8. In the same month last year there were 3350 deaths, rate per 1000, 17.3. This was therefore, in this comparison, a reduction of 476 in the number of deaths and 2.5 in the rate; 14.6 per cent., or 395, of the total deaths were infants under one year of age and 29.3 per cent., or 792, were 65 and over. Pneumonia heads the list with 512 deaths, and other important causes of death come in the following order: Consumption 337, violence 119, diphtheria 26, cerebrospinal meningitis 21, scarlet fever 19, diarrheal diseases 13, whooping cough 12.

KENTUCKY.

Dr. Stone's Estate.—The estate of the late Dr. Barton W. Stone, Louisville, is valued at nearly $35,000.

Accidents.—Dr. William T. Durrett, Louisville, slipped and fell, March 6, breaking his right leg below the knee.——Dr. James M. Young, Bloomfield, fell on the ice and fractured his hip.

Pest-house Dynamited.—Unknown persons evinced their disapproval of the construction of a smallpox isolation hospital near Burgin, by blowing the building to pieces with dynamite, March 9.

Dr. Thomas P. Satterwhite, Louisville, has been elected President of the Board of Commissioners of the Central Lunatic Asylum at Lakeland for the eighth successive time. Dr. Satterwhite was one of the advocates of the Carroll law recently defeated in the legislature, which provided for the placing of the asylums under a central board of control.

Milk Adulteration Laws.—Dr. Allen, Louisville, will endeavor to enforce the laws regarding the adulteration of milk, beginning with March 15. His department is now equipped with complete chemical and bacteriological outfits, with competent men in charge of these departments, and the profession expect much good to result from his efforts. Adulterated milk is defined as that containing more than 88 per cent. of water or fluids; containing less than 12 per cent. of milk solids; less than 3 per cent. of fat or having a specific gravity of less than 1020; milk drawn from animals within ten days before or ten days after parturition; milk drawn from animals fed on distillery waste; from cows kept in a crowded condition; milk from which any part of the cream has been drawn. Cream sold as such shall contain 20 per cent. of butter fat.

MARYLAND.

Baltimore.

Half a Century.—Dr. Robert H. Goldsmith, Baltimore, celebrated the fiftieth anniversary of his graduation from the University of Maryland School of Medicine, March 9.

Fraternity Banquet.—The fourth annual banquet of Alpha Chapter, Phi Chi Southern Medical Fraternity, was held, March 11, at the Eutaw House, Dr. Wm. P. Martin being toastmaster.

Forfeits Bail.—Dr. William B. Hawkins, indicted on the charge of committing manslaughter by performing a criminal operation, failed to appear in the Criminal Court, March 15, and his bail of $2500 was forfeited.

Baltimore Deaths.—For the week ended March 15 there were only 175 deaths, against 214 last year, being a general death rate of 14.44—for the whites only 13.90 per 1000. Among the causes were consumption 23, pneumonia 16, smallpox 2, scarlet fever 1.

Post-Graduate Course.—The College of Physicians and Surgeons, Baltimore, announces a series of post-graduate courses to be held from April 28 to June 9, designed for practitioners of medicine who desire to spend a short time in advanced clinical and laboratory study, and keep in touch with the progress of the day. The course provides for classes in medicine, surgery, and medical and surgical specialties, and laboratory courses in clinical medicine, pathology, bacteriology and pharmacology.

Personal.—The Board of Charities and Correction have appointed Dr. W. H. Smith resident physician at Bayview Asylum, and Dr. Irving J. Spear resident physician for the insane department, vice Drs. N. G. Kierle, Jr., and Lindsay Peters, who have completed their year of service.——Dr. George L. Staley, aged 79, was knocked down on the street by a wagon, March 15, and badly bruised.——Surgeon P. E. McDonald, U. S. N., has been detached from the U. S. Naval Academy and ordered to report for duty on the cruiser *Olympia*.——Dr. Harry C. Jones, of the Department of Chemistry, Johns Hopkins University, has just published "The Elements of Physical Chemistry," the first comprehensive text-book of physical chemistry in the English language.——The Health Commissioner has appointed seven additional vaccine physicians to assist temporarily in the work. They are Drs. J. N. Fenton, Page Edmonds, Albert J. Underhill, James L. Hooper, Alexander McKee, James E. Heard, and I. R. Page.

MICHIGAN.

Hospital Burned.—The hospital of the Great Northern Protective Association, Cheboygan, has been destroyed by fire, the loss amounting to about $3000.

Medical Inspection of Schools.—The Health Officer of Detroit has commenced the daily medical inspection of schools, with a staff of thirty physicians.

Borgess Hospital, Kalamazoo.—The enlarged Borgess Hospital at Kalamazoo will be opened by the Sisters of St. Joseph some time this month. The new $50,000 addition is almost completed.

New Medical Society.—It is proposed to form an ophthalmological, otological and laryngological society composed of physicians of Michigan and adjacent parts. The project is endorsed by Drs. Emil Amberg, Eugene Smith, Preston M. Hickey and Ernest L. Shurley. A meeting was held recently at the Hotel Cadillac, Detroit, to consider the organization of such a society.

Prevalence of Disease.—For the month of February, compared with the preceding month, meningitis was more prevalent; and typhoid fever and diphtheria were less prevalent. For the month of February, compared with the average for February in the 10 years, 1892-1901, scarlet fever, measles and smallpox were more than usually prevalent; and consumption, erysipelas, remittent fever, and diphtheria less than usually prevalent.

Mortality in Michigan.—There were 2665 deaths returned to the Department of State for February, a decrease of 160 from the number returned for the preceding month. As February is a shorter month than January, the death rate, on the contrary, showed an increase from 13.5 to 14.0 per 1000 population. There were 422 deaths of infants under 1 year; 150 deaths of children aged 1 to 4 years, and 897 deaths of elderly persons over 65 years. Important causes of deaths were as follows: Pneumonia, 369; tuberculosis of lungs, 173; typhoid fever, 38; diphtheria, 38; scarlet fever, 20; measles, 16; whooping cough, 18; meningitis, 45; influenza, 78; cancer, 114; accidents and violence, 100.

NEW JERSEY.

Atlantic City Hospital Improvements.—On March 5 the children's ward and maternity ward, recently added to the Atlantic City Hospital, were opened for the reception of patients.

State Tuberculosis Sanatorium.—The legislature has before it a bill providing for the creation of a state sanatorium for consumptives. The bill has the sanction of the Medical Society of New Jersey.

The Mosquito Must Go.—The New Jersey assembly, after a long debate, has passed the mosquito exterminating bill by a vote of 48 to 9. The bill appropriates $10,000 to the state experiment station for the purpose of making a scientific investigation of the habits, origin, and breeding places of the mosquito and their relation to malarial and other diseases. The money is to be expended by the state entomologist.

Personal.—Dr. W. S. Patterson has resigned as junior resident physician at the Atlantic City Hospital, and has gone to Philadelphia, where he will be an interne at the Blockley Hospital.——Dr. Herbert L. Cooper, Vineland, has moved to Newfield.——Dr. Girard J. Van Schott, Passaic, has inherited an estate in Holland, valued at $130,000.——Dr. Henry B. Diverty has been made physician to the Woodbury Board of Health.——Dr. Daniel Strock, Camden, has recovered from the immediate effects of septicemia.

NEW YORK.

Memorial Meeting for Dr. Townsend.—The Genesee County Medical Association held an adjourned meeting at Batavia, March 10, which took the form of a memorial to its late president, Dr. Morris W. Townsend, Bergen.

Canandaigua Hospital.—Mrs. F. F. Thompson, whose proposed gift toward the establishment of a hospital in Canandaigua was noticed in The Journal two weeks ago, has purchased the McKechnie mansion in the heart of the village, with grounds of six acres, for $22,500, as a site for the hospital.

Dr. Moore's Memorial.—The following bodies have adopted resolutions in tribute to the memory of Dr. Edward Mott Moore: The Rochester Academy of Science, the Executive Committee of the University of Rochester, the Rochester Practitioners' Society, the Rochester Athenæum and Mechanics' Institute, the Rochester Public Health Association, the Rochester Pathological Society, Buffalo Academy of Medicine, and the Faculty of the Medical Department of the University of Buffalo.

New York City.

French Hospital Benefits.—By the performance of "Le Cid" at the Metropolitan Opera House, March 4, for the benefit of the building fund of the new French Hospital, $5000 was added to the fund.

New Home for the Ophthalmic Institute.—The New York Ophthalmic and Aural Institute, under the charge of Dr. Herman Knapp, is to move from its old quarters in East Twelfth Street to a new edifice on Central Park West and 64th Street.

Minturn Hospital Annex.—Mrs. Andrew Carnegie has expressed her willingness to give $60,000 to build an annex to the Minturn Hospital, in New York, to be used for smallpox patients. The authorities of the institution will consider the plan. The building was intended for diphtheria and scarlet fever cases only.

Contagious Diseases Hospital for the Bronx.—The senate has passed the bill authorizing the establishment of a hospital in the Borough of the Bronx, which may be used not only for emergency cases but for the reception of smallpox patients. As no opposition to the bill has developed, it is confidently expected that the bill will pass the assembly.

New Home for Incurable Consumptives.—The House of Rest for Consumptives, after various vicissitudes during the past ten years, has at last purchased for $75,325 a fine plot of 27 lots, situated at Inwood-on-the-Hudson, at an elevation of 160 feet above the river. A double mansion now on the place will be quickly altered at a cost of $10,000 to meet the requirements of the institution, which is conveniently accessible by railroad from the heart of the city. The endowment fund now amounts to $450,000.

Hospital Accommodations for Consumptives.—Commissioner of Charities Folks has asked the Board of Estimate and Apportionment for $40,000 to alter and equip the four buildings on Blackwell's Island recently vacated by the Manhattan State Hospital for the Insane. A large part of this sum is to be expended in building glass structures so that the patients can receive an abundance of sun and fresh air. It is estimated that 500 patients can be maintained here at a cost to the city of only $18,000 a year.

Vital Force Discredited.—A recent item called attention to the arrest of a "Doctor" Armstrong, whose peculiar methods of treating by "vital force" had led to his arrest on charges of immorality. The so-called "doctor" turns out to be a "Rev." and an "LL.D.," and from the testimony it seems as though his vital force was easily turned aside by such impedimenta as clothing, for the ladies were treated with nothing on but a night-gown or were completely disrobed. The court very naturally sent this healer to jail for six months.

OHIO.

Fire at Speers Hospital.—A fire broke out at the Speers Hospital, Dayton, March 9, which occasioned considerable alarm, but was extinguished by prompt action of the fire department, with slight loss.

Dr. Loving's Loving Cup.—Professional friends of Dr. Starling Loving, Columbus, recently presented him with a loving cup, as a mark of the esteem in which he was held by them. Dr. Darlington J. Snyder acted as master of ceremonies and Dr. Florus F. Lawrence made the presentation speech.

Nu Sigma Nu Fraternity.—The twelfth annual convention of the Nu Sigma Nu Fraternity was held in Cincinnati, March 14 and 15. About two hundred physicians were in attendance, the guests of Theta chapter. Dr. James Tyson, Philadelphia, was elected honorary president for the ensuing year. The next convention will be held in New York City.

Cincinnati Hospital Interneship.—The competitive examination for internes to the Cincinnati Hospital resulted as follows: Drs. Max Dryfoos, J. E. Stemler, Moses Salzer, L. C. Hayne, A. O. Zwick, Medical College of Ohio; C. W. Manss and D. W. Bedinger, Miami Medical College; J. H. Shroeder, Cincinnati College of Medicine and Surgery. Drs. S. G. Zinke and H. L. Bowles, both of the Ohio College, were appointed alternates.

Personal.—Dr. John C. Reeve, Jr., Dayton, has left for a trip around the world and will be absent several months.——Dr. Walter A. Griess, receiving physician to the Cincinnati Hospital for the past five years, has resigned, the resignation to take effect the first of April. Dr. Griess will spend several years in Europe before entering private practice.——Dr. Herschel A. Russ, Hillsboro, has been appointed major-surgeon in the Ohio National Guard and assigned to the First Infantry.——Dr. Orin L. Kramer, New Salem, has opened an office in Hebron.——Dr. M. H. Koehler, Newark, is about to locate in Jacksontown; Dr. William L. Jackson of that place having moved to Zanesville.

PENNSYLVANIA.

A Divided Victory.—The trial of a Meadville osteopath for practicing medicine without a license resulted disastrously for both sides. After twenty-four hours' deliberation, the jury was equally divided, but finally acquitted the defendant, dividing the costs of the suit between him and the Meadville Board of Health which made the complaint.

Portrait of Founder Presented.—D. T. Watson, Pittsburg, has presented the University of Pennsylvania with a copy of the portrait of John Morgan, by Angelica Kauffman. John Morgan was not only the founder of the Medical Department of the University, but a member of the first class to be graduated in the college and to receive the degree of Bachelor of Arts.

A Correction.—A correspondent notifies us that the News note in the last issue which stated that the Philadelphia County Medical Society had refused to endorse the administration of the Municipal Hospital is incorrect. At the meeting referred to objection was raised to the consideration of two resolutions, and as unanimous consent is required for action on business matters at scientific meetings, no vote was taken on the resolutions.

Surgeons for the Guard.—The following appointments to the medical department of the National Guard were announced, March 7: Dr. Alfred G. Wood, Philadelphia, to be surgeon, with the rank of major, assigned to Third Regiment; Dr. John C. Hirst, Philadelphia, to be assistant surgeon, with rank of first lieutenant, assigned to Third Regiment; Dr. John L. Brubaker, Altoona, to be assistant surgeon, with rank of first lieutenant, assigned to the Sheridan Troop, and Dr. Edwin A. Nicodemus, Bowmansdale, to be assistant surgeon, with rank of first lieutenant, assigned to Governor's Troop.

Philadelphia.

Free Hospital for Poor Consumptives.—At the recent annual meeting of the Free Hospital for Poor Consumptives, Dr.

L. F. Flick reported that out of 76 patients so far admitted to the sanatorium at White Haven 15 have been practically cured. Only favorable cases are sent to White Haven.

Samaritan Hospital.—Ground was recently broken for additions to the Samaritan Hospital. One building 50x50 feet, one story and basement in height, is for offices and reception room. Adjoining there is to be a three-story and basement structure, 42x85 feet, occupied by wards, baths, nurses' rooms and diet kitchen.

Wills Eye Hospital, under the care of the Board of Directors of City Trusts, is said in the annual report of the president of the board to be in immediate need of money. He states that the hospital equipment is antiquated, its buildings dingy, and the new buildings unfinished. The income from the Wills estate is not sufficient for running expenses.

Visiting Nurses Society.—At the recent 16th annual meeting all the old officers were re-elected; Mrs. Henry C. Lea is president, Miss Lucy Davis corresponding secretary. Two new branches have been opened within the past year, making four branches besides the central office. The Society is doing much to give the poor and those of moderate means skilful nursing.

The Pediatric Society.—At the last meeting of this Society Dr. John Lovett Morse, instructor in the diseases of children in the Harvard Medical College, delivered an address upon "Some Diseases of the Kidneys and Bladder in Infancy." A reception was afterwards given to Dr. Morse at the Aldine. On the same day, Dr. Morse delivered a lecture at Jefferson Medical College.

The State Board of Health has passed resolutions requiring cuspidors in railway trains, and an effort is being made to secure legislation providing a penalty for non-observance of the rule. The resolution provides that a cuspidor shall be placed at each end of the day coaches, and one furnished for each seat of the smoking cars; further, that thorough cleansing and disinfection of the vessels shall be done at the end of each run. It is thought by many that the habit of spitting should be done away with and not encouraged by conveniences.

RHODE ISLAND.

Hospital Bequest.—By the death of John A. Holt, Woonsocket Hospital receives the income from one-third of 100 shares of preferred stock of the United States Rubber Company.

Compulsory Vaccination.—Both houses of the assembly have passed an act providing for vaccination of children and revaccination of adults, and prescribing penalties for violation of this law.

New Wing to Newport Hospital.—Mrs. Cornelius Vanderbilt has accepted plans for a new wing to Newport Hospital which she will have erected in memory of her late husband. The building will cost about $250,000.

State Sanatorium for Consumptives.—There has been introduced in the general assembly a bill authorizing the appointment of a board of five persons to have control of a state sanatorium for consumptives, and appropriating $100,000 to inaugurate the project.

GENERAL.

Smallpox.

United States: According to the health reports at Washington the number of cases throughout the country amounted last week to over 22,000.

Arkansas: Dr. George M. D. Cantrell, president of the State Board of Health, gave out the following statement: We do not know how many counties in the state have smallpox and we have no means of knowing except as reports may be made to the Board from time to time and requests made for the appointment of county boards. These requests are complied with in a perfunctory manner and there our power ends. We have no funds to work with, not even to pay for postage stamps, so what can we do? A year ago I went to Magazine to inspect the smallpox situation and lost considerable time. I have not yet received a cent for even the expenses of the trip, and some time ago I told Governor Davis I would make no more trips and pay my own expenses.

California: The health officer of Sacramento County reports 25 cases of smallpox in the county, all light and all quarantined.

Connecticut: The State Board of Health announces that during 1901, 78 cases of smallpox were reported in the state. These were distributed through 15 towns. During the year 1902 up to the present date, there have been reported 47 cases, making a total of 125 cases during the last 14½ months. Of the 125 cases thus far only 8 have proved fatal, being a death rate of between 6 and 7 per cent. only. The cases of the present year have occurred in 14 different towns. The 125 cases have been distributed among 24 different towns in the state. The remaining 144 towns are equally liable to the disease. Every new invasion of this disease is an occasion of much fright and anxiety, and always of very extraordinary expense. The method of preventing an invasion of smallpox is so simple that it is truly astonishing that an intelligent community neglects it. It is simply doing before the disease appears exactly what they all do immediately after its appearance. That is—vaccinate. Vaccinating is one hundred times cheaper than quarantining. An epidemic of smallpox has never occurred in a well vaccinated community. Vaccination should be performed in infancy, a re-vaccination at the age of 12 or 14 and subsequent vaccinations whenever an individual is exposed, or as in the present instance when an epidemic is prevailing.

District of Columbia: Referring to the matter of efficacy of vaccination in lessening the number of cases of smallpox in a community, the health officers state in reference to the 19 cases of smallpox reported since January 1, that 17 of the patients had never been vaccinated, one was never successfully vaccinated and one was successfully vaccinated nineteen years previous to the present attack of the disease.

Illinois: The Chicago Department of Health reports that among the six new cases of smallpox discovered during the week—none ever vaccinated—one was a cook in a large hotel. He worked in the kitchen for eight days while broken out with the disease. While there has been an increase of 162 per cent. in the total number of smallpox cases reported for the whole country since February 8, over the number reported during the corresponding period last year, there has been a reduction of a little more than 40 per cent. in the Chicago territory in which the active campaign by the railroad companies and health authorities is being carried on.

Indiana: There were 758 cases of smallpox reported in 36 counties and 3 deaths. In the corresponding month last year there were 165 cases in 15 counties and 2 deaths. The increase in deaths from smallpox was 50 per cent. and the increase in cases 176 per cent. The area of infection increased 140 per cent. The smallpox deaths occurred one each in Cass, Pulaski and Shelby counties.

Kansas: Dr. W. B. Swan, secretary of the State Board of Health, on March 12, issued his report for February on smallpox. During the month he was notified of 421 cases of the disease in the state, but no deaths resulted. In February, 1901, there were 1335 cases and 10 deaths.

Louisiana: In New Orleans during February there were 9 cases of smallpox, with no deaths.

Maryland: At the monthly meeting of the State Board of Health, March 12, it was stated that there were but 4 cases of smallpox in Maryland outside of Baltimore, and that they are widely separated. Four smallpox convalescents were discharged from quarantine March 15; 5 patients are left, 3 being convalescents.

Michigan: Reports to the State Board of Health show that smallpox was reported at 140 places last week. No death occurred from the disease during the month.

Nebraska: An Associated Press telegram states that: "Following a meeting of the State Board of Health at which it was announced that there were 764 smallpox cases in the state, the secretary of the board was ordered to communicate with the federal authorities as to the best means of stamping out the disease. It was decided to telegraph the Army and Navy Hospital Marine Corps to send a special messenger to Nebraska and the message will go to Washington some time during the day."

New York City: For the past few weeks there have been between 50 and 60 new cases of smallpox, which is higher than for the same period last year. Thus, in January of the present year there were 83 cases as against 59 for the same month of 1901, and 120 in February, 1902, as against 95 for that month in 1901. There have been over 400 cases of smallpox in this city since last August, and at present there are 160 cases in the hospital, a larger number than at any other time this year. On the other hand, the health department have been vaccinating about 34,000 persons a week during the past four weeks, 200 vaccinators being at work.

North Dakota: Dr. Henry H. Healy, Michigan, president of the State Board of Health, states that 186 cases of smallpox have been reported in North Dakota during the two weeks ending March 8.

Washington: Dr. Walter F. Morrison, Spokane, physician of Spokane County, reports 76 cases of smallpox during February.

Public Health Bills in Congress.—An extensive correspondence has been going on for some time between the Committee of the American Medical Association on National Legislation, consisting of Drs. H. L. E. Johnson, Washington, D. C.; William H. Welch, Baltimore, and William L. Rodman, of Philadelphia, with Dr. Edmond Souchon, president of the State Board of Health of Louisiana and the other state health officers throughout the country, and a number of other prominent members of the American Medical Association in relation to the Spooner Health Bill, the Perkins and Hepburn Marine Hospital Bill, the Ray Health Bills now pending in the National Congress. The correspondence culminated in the calling of a conference of state health officers by Dr. Edmond Souchon, which met at Washington City on the 12th and 13th inst. Among those present were Dr. Edmond Souchon, president of the Louisiana Board; Dr. James Evans, secretary of the South Carolina Board; Dr. A. H. Doty, quarantine officer, New York port; Dr. U. O. B. Wingate, secretary board of Wisconsin; Dr. William H. Welch, president, Maryland State Board; Dr. H. M. Bracken, secretary Minnesota Board; Dr. Henry D. Holton, secretary Vermont Board; Dr. Nowber, secretary Delaware Board; Dr. Green of Charleston; Dr. Cooper of Delaware; Dr. J. F. Durgin, quarantine officer, Boston port; Dr. McAllister of Missouri; Dr. T. G. Simmons, president South Carolina Board; Dr. Lewis, New York Board; Dr. Heller, Pennsylvania Board; Dr. W. H. Sanders, state health officer of Alabama; Dr. W. D. Goodman of Mobile; Surgeon-General Wyman, Marine-Hospital Service, and Dr. H. L. E. Johnson, Washington, D. C., representing the American Medical Association. The above-mentioned bills and their provisions were thoroughly discussed, and the conference decided by a favorable vote of all present except one, to recommend the passage of the Hepburn Bill, with a slight modification to Section 7. The following was adopted, and a committee of three members consisting of Dr. H. M. Bracken of Minnesota, Dr. Edmond Souchon of Louisiana, and Dr. Wm. H. Welch of Maryland, were appointed, together with Surgeon-General Wyman and Dr. H. L. E. Johnson, to appear before the Committee of the House and Senate and urge the adoption of the bill recommended as modified. The Committee appeared before the Committee of the House on Interstate and Foreign Commerce on the 13th inst., individually addressed the Committee on the subject and presented the matter agreed upon by the Conference as follows:

Washington, D. C., March 13, 1902.

Hon. W. P. Hepburn, Chairman of the Committee on Interstate and Foreign Commerce, House of Representatives.

Sir:—The President and Executive Officers of State Boards of Health and Port Quarantine Officers called to conference by Dr. Edmond Souchon, of New Orleans, met at the Metropolitan Hotel, Wednesday, March 12, to discuss the bills now before Congress bearing upon the creation of a National Health Service, namely, the Ray Bill (H. R. 10,595) and the Hepburn Bill (H. R. 7189).

Twenty medical men were present, representing all sections of the country. By request, Surgeon-General Wyman, of the Marine-Hospital Service, and Dr. H. L. E. Johnson, Chairman of the Legislative Committee of the American Medical Association, were also present.

After thorough discussion of the bills, a committee of five was appointed to consider the points discussed and report to the afternoon session of the conference. This committee made its report at 5 p. m., recommending but slight change in the Hepburn Bill (H. R. 7189). The only change that was suggested in this bill was based upon the wish of the physicians in conference to have the privilege of asking for a conference with the National Health Authorities at Washington, when in their judgment such conference would seem desirable. The changes are embodied in section 7 of said bill, a copy of which section, as amended, is herewith submitted.

Sec. 7. "That when in the opinion of the Surgeon-General of the United States Health Service the interests of the public health would be promoted by a conference with the State or Territorial boards of health authorities, the District of Columbia included, or on the application of five state boards of health or quarantine officers, the Surgeon-General of the United States Health Service is authorized to invite representatives of state boards of health and quarantine officers to send delegates, not more than one from each state or territory and District of Columbia, to said conference, and when thus convened said delegates shall be entitled to reimbursement for their necessary expenses of travel and of maintenances not exceeding five days at the place of conference in accordance with such regulations as may be made by the Secretary of the Treasury."

With these changes the Hepburn Bill (H. R. 7189) was indorsed by the conference, and a committee of three was appointed to present these facts to your honorable committee, it being considered unnecessary to take up the time of your Committee with the hearing of a larger number of men.

We are indebted much to Surgeon-General Wyman for advice and consultation in bringing about this harmonious feeling, and we submit our report with the hope that the Hepburn Bill may soon become a law. The necessity of a National Health Body has long been recognized, and it has been sorely needed. Such bodies already exist in the countries bordering upon the United States, namely, Canada to the North, and Mexico to the South.

Respectfully submitted. H. M. Bracken, Minnesota; Edmond Souchon, Louisiana; William H. Welch, Maryland.

On motion these resolutions were transmitted to the Chairman of the Committee on National Legislation with the request that they be approved by that Committee and the annual conference with the State Societies which meets in June, and that they urge before Congress the passage of the bill as amended.

The same Committee had a conference with Senator John G. Spooner, a member of the Committee on Public Health and National Quarantine of the Senate, and discussed the amendments proposed by the Conference, and urged its passage as amended. After a full discussion, Senator Spooner suggested the following verbal changes in the substitute for Section 7 of the Perkins Bill as modified by the Conference as follows:

"Sec. 7. That when in the opinion of the Surgeon-General of the United States Health Service the interests of the Public Health would be promoted by a conference with the State or Territorial Boards of Health or health authorities, the District of Columbia included, he may, or on the application of five state boards of health or quarantine officers, the Surgeon-General of the United States Health Service shall invite representatives of state boards of health and quarantine officers to send delegates, not more than one from each state or territory and District of Columbia, to said conference."

The Committee, including the Surgeon-General of the Marine-Hospital Service, Dr. Wyman, and the Chairman of the Committee on National Legislation of the American Medical Association, Dr. H. L. E. Johnson, approved of the recommendation of Senator Spooner and presented the following to be used by him in connection with their original recommendation when the matter is taken up for consideration by the House and Senate Committees:

Washington, D. C., March 13, 1902.

Hon. John G. Spooner, United States Senate.

Sir:—We, the representatives in the Committee of the Conference of State Health Officers, approve of the suggestions offered by you and set forth in the enclosed modified Section 7 of Senate Bill 2162, known as the Perkins Bill, and in so doing feel that we are expressing the views of the conference.

Respectfully, H. M. Bracken, Minnesota; Edmond Souchon, Louisiana; William H. Welch, Maryland.

CANADA.

Sir William MacDonald, Montreal, has donated $10,000 for the purpose of erecting a new day nursery building in that city.

Vaccination and Smallpox in Montreal.—Dr. Laberge, the medical health officer of Montreal, has reported to the health committee of that city that since last November 335 cases of smallpox had been reported in the city, the average varying from two to four cases per day. The report also showed that from January 15 to February 28, 24,233 people had been vaccinated.

Smallpox and Vaccination at Toronto University.—The student body of Toronto University has been considerably exercised during the past week owing to the fact that smallpox had gained a hold on a fourth-year science man. President Loudon, on hearing of the facts, immediately communicated with the city medical health officer, Dr. Charles Sheard, and also with the Provincial Secretary of the Board of Health. The case was at once removed to the Isolation Hospital and then a general vaccination of the entire student body of the several departments of the University was undertaken.

New Civic Hospital for Montreal.—At last Montreal is to have a new Contagious Diseases Hospital. The proposal passed through the City Council almost unanimously last week. It is to be built on Fletcher's Field, will be for the care of patients suffering from infectious diseases other than smallpox, and will cost $50,000. The old smallpox hospital will remain for that class of patients. Although the Catholic body, headed by Archbishop Bruchesi, made strong representations to Council for a separate institution, the Council voted that only one hospital was desirable. The Archbishop states he will not accept a non-sectarian hospital for his people.

Ontario Medical Council Affairs.—The special committee of the Ontario Legislature appointed to consider the amendment to the Ontario medical act with regard to eliminating from the Ontario Medical Council the Homeopathic and College representation has been received and adopted by the House. According to this report it is proposed to submit, probably early in the fall, questions to the medical practitioners of Ontario which would afford definite information upon points which have long been in dispute, namely, the constitution and representation in the Council. If there should appear much desire for a change, the Government will then act in the matter. In the meantime the report proposes that the physicians who have refused to pay their annual assessments to the Council shall have votes as well as those who have paid them.

The Victorian Order of Nurses.—During the past week the Board of Governors of the Victorian Order of Nurses held their annual meeting at Ottawa. The principal feature in connection with the work of the order during the past year was the success which attended the efforts put forth in connection with the Lady Minto Cottage Hospital Fund, the sum of $25,000 having been raised almost entirely by the efforts of Lady Minto alone. From this sum $6000 has been paid out on hospitals in the Canadian Northwest Territories, and $8000 more has been allotted for similar purposes. New branches of the order were opened at Pictou, N. S., and Dauphin, Man.; at the former place a wing of the Marine Hospital is now supplied with nursing service by the Victorian Order. The financial report stated that there had been some falling off in the endowment fund to yield $2500 annually.

Tuberculosis in Quebec Province.—The Government of the Province of Quebec has been requested by a member of the local legislature to produce all papers and correspondence received during the past year regarding tuberculosis and its treatment. This will be provocative of serious discussion in the House, and an endeavor will be made to obtain from the Government assistance for the establishment of sanatoria for the treatment of consumptives. The Province of Quebec already possesses a sanatorium, but it does not derive any financial assistance from the Province. This is the Laurentian Sanatorium situated at St. Agathe des Monts, not far from Montreal, which is directed by Dr. Arthur J. Richer. Dr. Paul E. Prevost, recorder of vital statistics for the Province, has prepared a report which shows that in 1897 3079 persons died in that Province from Tuberculosis; in 1898, 2876; in 1899, 3085; in 1900, 3015. The figures show that the death-rate from tuberculosis is three times that of any other disease, except infantile diarrhea. In Montreal alone in 1900 there were 791 deaths from consumption.

Dominion Registration.—Dr. Thomas G. Roddick, M.P., received the applause of both sides of the House of Commons on the conclusion of his address before that body on the occasion of the second reading of his bill to provide for a Dominion Medical Council. Objection was raised by one of the members from the Province of Quebec as to the constitutionality of the measure, some one also stating that the Medical Faculty of Laval University was quietly antagonistic to the measure. The medical profession throughout Canada, however, are practically a unit in the matter, but they are fearful that the premier, Sir Wilfred Laurier, may place his veto on the bill on account of this mooted constitutionality. Owing to the fact that Dr. Roddick wished his bill to be referred to a special committee of the House, Sir Wilfred did not oppose its second reading. The constitution of the proposed Dominion Council, as now set down by its promoter, will number 39 members, as follows: Eight from the Province of Quebec, Laval University being given an additional member; 9 from Ontario; Nova Scotia and Manitoba 4 each; New Brunswick, British Columbia and the Northwest Territories, 3 each; Prince Edward Island, 2; the Homeopathic body, 3. The medical population in the Northwest Territories has grown in the past year from 110 to 211.

Correspondence.

The Journal Abstracts.

DAYTON, OHIO, March 4, 1902.

To the Editor:—Anent your editorial on "abstracts" in issue of March 1, p. 587, permit me to say that to this member of the profession they are an *extremely* valuable addition. While the papers of the Association and the original communications may or may not strike my fancy, the abstracts always contain something of interest to me. Do not give up the abstracts. Respectfully, WILFRED TAYLOR, M.D.

Medical Lectures to the Laity.

MACON, GA., March 16, 1902.

To the Editor:—I am impressed with what you have had to say in THE JOURNAL, March 1, page 556, about the propriety of medical societies having an authorized medical instructor of the people. I think the profession needs to enlighten the public and they would be glad to hear the truth from such a source. Yours very truly,

M. M. STAPLER, M.D.

Creosote in Pneumonia.

FT. WORTH, TEX., March 15. 1902.

To the Editor:—In order to prepare a statistical table showing the results of the treatment of pneumonia with creosote or creosote carbonate, I ask the aid of the profession. I request every physician who has given the treatment a trial to kindly send me, on a postal card, during April, 1902, the number of cases treated and number of deaths; state whether of record or an approximation.

Please answer yes or no to the following questions: 1. Do you believe creosote ever aborts pneumonia? 2. Do you believe the majority of cases are mitigated by it? 3. Have you found cases which, having plenty of time, were entirely uninfluenced by it?

To every one favoring me with a report, I will mail a copy of the condensed reports. I. L. VAN ZANDT, M.D.

Book Review Criticised.

PHILADELPHIA, PA., March 1, 1902.

To the Editor:—The review of my book, "Studies of the Internal Anatomy of the Face," in your issue of January 18, reminds me of the story of a boy who was being paddled by his father for some supposed dereliction. In spite of the fact that the punishment was vigorously applied, the boy kept laughing. The old man, astonished and angry that the thrashing failed to produce its usual effect, yelled out: "What are you laughing about, you young jackanapes?" "I'm laughing at you, Dad: you're dead wrong this time. You're licking the wrong boy. I didn't do it!"

Two statements are attributed to me in this review for which no foundation can be found in the book. The first of these is in the second paragraph, which says: "The illustrations are reminders to the student of anatomy that as the author remarks 'owing to the degeneracy of the face and jaws it is possible, though doubtful, that in a thousand bones two or three should be found which exactly correspond with the typical bones so pictured.'" Observe that the so-called quotation is introduced by the phrase, "as the author remarks." The author made no such remarks. Here is what he did say: "There is, doubtless, a typical or typal form for each bone, but it is not often found in nature. If we were to photograph a thousand temporal bones for example, and make a composite of the entire number, the composite would properly be accepted as figuring the typal temporal. It is possible, though doubtful, that in a thousand bones two or three could be found which exactly corresponded with the typal bone so pictured."

There is not a word about "degeneracy;" no attempt is made to ascribe a cause for the condition referred to. There was no thought of "degeneracy" in connection with the matter, nor is there anywhere in the context any justification for lugging it in. The misquotation in your review seems to me to be a wilful perversion of facts, for what purpose I can not conceive.

The second misrepresentation of what I said is in the last sentence but one of the article: "His views as to the predominance of the cerebellum as a cause of prognathism would appear antiquated to modern anatomists." I said nothing of this kind. What I did say was that a large cerebellum and the prehensile dentition of the savage were found together, but I had no thought of suggesting the one as the cause of the other.

Legitimate criticism of the book was invited when it was sent for review. It was the right and duty of the reviewer to point out its faults. But I submit that the perversion of plain statements, the setting up of a man of straw—for the building of whom no material is to be found in the book—for the fleeting happiness of demolishing him, is not legitimate criticism. I can only account for it on the supposition that your reviewer has the "degeneracy" fad in virulent form.

Yours truly, M. H. CRYER, M.D.

The Will of the People, Not of an Oligarchy.

BOSTON, MASS., March 13, 1902.

To the Editor:—Prof. William T. Sedgwick, Boston, in an address published in a recent number of THE JOURNAL "confesses with sorrow" the lack of success of efforts to prevent the study of "temperance physiology" as now required in the public schools of this country.

He first offers in defense of his opposition the fact that Horace Mann, in 1842, did not include temperance physiology in his essay on "The study of Physiology in the Schools," but he omits to add the significant accompanying fact of history, namely, that the recommendations of Horace Mann's essay that "physiology should be taught in the schools," aroused in Massachusetts such a storm of bitter opposition from the doctors and men of official science, that the existence of the Massachusetts State Board of Education and its secretary, Horace Mann, were saved by only a hair's breadth from being entirely legislated out of office. But time has vindicated Horace Mann's recommendations while his opponents are forgotten.

Sixty years have passed, and Massachusetts, as well as every state, and the National Congress have made physiology and hygiene, which latter includes the nature and effects of alcoholic drinks and other narcotics, a mandatory public school study. Prof. Sedgwick is now objecting, not to this study, he says, but to the legal specifications which have made it a success. First, he objects to its being taught "to all pupils." He does not tell when or by what class of pupils he would have it omitted. In our country "all pupils" of to-day are destined to be the sovereign people of to-morrow. Hence, looked at from the standpoint of the state, it can not afford that one single pupil should not receive the utmost instruction on this subject needed to fit that pupil for a future sovereignty of intelligent sobriety.

From the standpoint of the individual, we ask, from whose child shall this educational method for the prevention of intemperance be withheld? Shall it be from the children of the poor, the rich, the foreign born, or the home born? We are answered by the command of the greatest of all Teachers that the supreme message for the prevention of evil and the establishment of right should be given "to every creature" in "all the world." That inclusive command and precedent not only justifies all pupils getting this education, but implies neglect of duty if it is excluded from any.

If Prof. Sedgwick's objection is to the requirement of the study through specified grades as his reference to the Illinois law implies, we answer: The formation of right habits is the object sought. The child's habits are rapidly formed, new ones each year as it proceeds through the first primary to the high school. It is therefore self-evident progressive instruction which will guide in the formation of right habits should be given especially during the primary, grammar and first year of the high school in order to keep pace with and guide the child's development. The boy, or girl, who leaves school at any point in the school course with as much knowledge as he can comprehend of the laws of health, including those which warn against the use of alcoholic drinks and other narcotics, has thereby a most valuable equipment for the battle of life.

The diffusion of this knowledge in our country is now as universal as the schools. It does not, we grant, add to the value of brewing stocks, but evidence is not lacking that it is proving of great value to the human stock in the increase of health due to better knowledge of sanitary laws, consequent lengthening of life, increased sobriety of the American workman, which sobriety is acknowledged to be one cause of the commercial supremacy of this country in the markets of the world, etc.

Prof. Sedgwick says he was "shocked," "much disturbed to find that an author had actually felt bound to weave in a lesson on alcohol with his discussion of the physiology of muscle, of nerve, of digestion, of vision, and each of several other sections of the subject."

Why should not the deleterious effects of alcohol on muscles be taught in connection with the study of the physiology and hygiene of the muscles? Prof. E. Destrée, University of Brussels, by actual experimentation proved that the "total work product obtained (from the muscles) with the use of alcohol is less than that obtained without it." Our boys and girls need to know that fact. Why should not the fallacy of the idea that alcohol is an aid to digestion be pointed out in connection with the hygiene of digestion, when Prof. Chittenden distinctly says of his experiments: "The results obtained suggest a tendency toward prolongation of the period during which the meat remains in the stomach when alcohol fluids are present." Why is not the treatment of the physiology and hygiene of the nerves the proper place for pointing out the effect of alcohol upon them when H. J. Berkeley, M.D., of Johns Hopkins University, reported as a result of the experiments he performed for the Committee of Fifty that alcohol "possesses the quality of destroying the protoplasm of the nerve cells and annulling its functions." Why not in teaching the care of the eyes mention the danger from the use of alcohol when the senior surgeon of the New York Ophthalmic Hospital says: "The respectable moderate drinker who never takes too much or oversteps the boundary line of decency but goes round half full all the time exposes himself to the risk of losing his eyesight, which in this case is incurable."

To Prof. Sedgwick's complaint that some laws require text-books on this subject for pupils' use and specify the amount of temperance matter they shall contain, etc., we reply: The tendency of careless, unsympathetic school boards to fail in providing well graded text-books on this subject, books that contain the matter the law requires taught as one source of information for pupils sufficiently advanced to use text-books on other subjects, induced the National Congress and many states to legally require that such text-books shall be provided. This requirement has led to the preparation of a valuable school literature by men of acknowledged scientific standing and to the revision of nearly all the imperfect books. Why should Prof. Sedgwick complain? No one has proved these books inaccurate, nor that their use in the schools has not contributed to individual and public good. The old unrevised, ungraded, and therefore unindorsed books contain such teaching as the following, for children in primary grades: "the tendon of Achilles is the tendon of the gastrocnemius and soleus muscle," a statement as clear as mud to the primary child. The people want better books for their children and hence have so legislated that better books are produced.

Prof. Sedgwick further charges me with being a follower of the teachings of Sir Benjamin Ward Richardson (whom he calls an "able but erratic physician"), and with being "the creator of this astonishing movement" for temperance education. I happened to have had enough previous study in chemistry to enable me to appreciate the reports of his experimental work on alcohol and no one has proved his findings inaccurate. Although I never saw Dr. Richardson, he taught me much which I have tried to pass on.

As to being the "creator" of this movement, while I do not deny nor apologize for having tried to serve my country through helping to get this education for its children, I hasten to say that without the aid of the hundreds of thousands of consecrated women in the Woman's Christian Temperance Union, the organized motherhood of this and other lands, whom it is my fortune to represent in this matter, without the coöperation of the good men in this and other countries, in the National Congress, state legislatures and parliaments, every state in the United States would not now have a temperance education law nor would the movement have become, as Prof. Sedgwick admits, world-wide.

Prof. Sedgwick, in referring to Commissioner Harris' connection with the Advisory Board of this Department, says: "As to the propriety of the Commissioner's connection with this movement I make no comment." The Advisory Board of this department consists of eleven members, six of them physicians, three of whom are professors in medical colleges, three men eminent in education and two in ethics. The committee from this Advisory Board whose duty it is to examine and pass on text-books consists of five of the physicians mentioned above, one of the educators, two representatives of ethics, and the Superintendent of Scientific Temperance Instruction of the World's and National Woman's Christian Temperance Union. Dr. Harris, the National Commissioner of Education, and Dr. Barrows, President of Oberlin College, members of the Advisory Board, are not on its text-book committee. Hence, there is no occasion for Prof. Sedgwick's subtle reference to Dr. Harris' position on this Board. The American people will feel it just and right that their national commissioner of edu-

cation should be an adviser of a department of education which has been legally adopted by the whole people.

If Prof. Sedgwick had only quoted the whole preamble and recommendations passed by the National Superintendents of Schools in Chicago last year, the readers of THE JOURNAL would have seen that their action was positively on the side of temperance instruction and not mere "guarded paragraphs" as he claimed. They repudiate Prof. Atwater's teachings of the year before as to alcohol being a food, and put themselves squarely on record on the whole subject as the following paragraphs from their report not quoted by Prof. Sedgwick shows:

The department of superintendence agrees cordially with the special advocates of the temperance cause in holding that everything which public instruction can do in the battle against intemperance ought to be done, and that both physiology and hygiene should be so taught as to leave in the minds of children and youths as adequate and proper knowledge of the effects of alcoholic drinks, stimulants, and narcotics on the human system.

Since the last meeting of this department there has been considerable discussion of the question as to whether alcohol under any conditions is properly to be defined as an article of food. Medical authorities are quoted in support of both sides of this question, but no authority has been found to maintain that alcohol is a food in the ordinary sense of that term. The question of the supposed food value of alcohol is a technical one for medical experts to determine, and not one which needs to concern the man and woman who are engaged in the work of public instruction of children and youth. For them it is enough to know that its use as a beverage is injurious, and that all authorities agree in deprecating the formation of the drinking habit and in commending all practicable efforts through public instruction to promote the cause of temperance.

Prof. Sedgwick appears to have some fears that a writer who desires to publish an elementary text-book on physiology and hygiene, before he can obtain a publisher or a market, may have to secure the indorsement of Mrs. Mary H. Hunt, etc. Anybody can write a text-book on this subject as far as the Scientific Department of the Woman's Christian Temperance Union is concerned, but the mothers in any community have a perfect right to oppose their children studying that book, if, in their judgment, it fails to teach the whole truth against the most destructive of human habits. They have a right through organization to secure and protect this form of education for their children, and to appoint one of their number to act with them in searcing for truth, and, aided by men of science, to refuse indorsement to books that do not contain the truth. I make no apology for its being my fortune to have been thus officially appointed, and woe is me if in this I fail in aught of my utmost duty, for history will show that organized motherhood in securing and protecting this education for all the children of this nation, has prevented the greatest peril to our government of the people, namely, the lack of capacity for self-government resulting from the use of alcoholic drinks and other narcotics.

As to the publisher's part in this connection, I would say: The publisher is a business man who knows that his success depends upon his supplies meeting the demands of the market. If the condition prevails which Prof. Sedgwick describes, it is good evidence that publishers have found that the American people do not want their children to study what the publishers themselves call "rum books" and that the indorsement of this department is a guarantee to the public that the books bearing that indorsement are not of that character but instead contain the truths the people want taught their children. Therefore, the writer who wishes to put a "rum book" on the market must find publishers who will ignore the law of supply and demand; or, he must persuade the people to allow their children to be sacrificed to the Moloch of intemperance either for his personal gain or to avoid shocking the sensibilities of scientific gentlemen who see no place in physiology and hygiene for warning against that disobedience of hygienic law which causes, as Gladstone said, more havoc to the human race than war, pestilence and famine.

No man has ever yet been able to present a reasonable argument for opposing the temperance education movement. The brewers and distillers, of course, can not imagine any other than a financial motive that could induce the devotion and labor that has brought this movement to its present position in this country and the world. Hence they charge, and have from the first, that it is a "book job." In the absence of reasonable objection other opponents reiterate this liquor dealers' charge. Prof. Sedgwick falls into line with them when he attempts to support his objection with a quotation from a letter written, he says, by a representative of a publishing house which charges that "financial benefit" is the motive of the temperance physiology movement. On reading that, I at once wrote Prof. Sedgwick asking for the name of his informant and whether that informant had submitted any evidence in support of his statement. Prof. Sedgwick replied that he did not feel at liberty to give the name of his informant who, he says, "did not submit any evidence bearing upon his opinion." In other words, Prof. Sedgwick makes this accusation public without examining the evidence for the same and without knowing so far as he reports whether any such evidence existed. If the man who made this charge is reliable, why should he be unwilling that Prof. Sedgwick should mention his name? As to the intimation of a mercenary motive, I state that neither I, nor my Advisory Board, nor the constituency we represent, are one penny richer for the sale of any text-book on this subject bearing our indorsement. Resort to such charges is evidence of conscious poverty of argument against this movement. As to the promoters of temperance education in the public schools being a "self-constituted oligarchy," as Prof. Sedgwick says, we reply:

The Superintendent and Advisory Board of the Department of Scientific Temperance Instruction in Schools and Colleges are elected by the World's and National Woman's Christian Temperance Union to take charge of the work of that society for the study of temperance physiology in schools. Thus this department has for its constituency the largest organization of women in the world, who are banded together to secure as one of their objects, the protection of this special education for their children. Hence, to call the work of this department that of a "self-constituted oligarchy," as Prof. Sedgwick does, shows utter misapprehension of facts. "A self-constituted oligarchy," i. e., "power exercised by a few" who are self-appointed, could not write its ideas embodied in law on the Federal statute books and those of all the states of this great republic. The laws requiring this study and whatever is necessary to its being taught represent the 75,000,000 American people who have decided that their children shall have this special education. It is simply futile to try to belittle this movement by efforts to make it appear as anything less than a national one which is rapidly becoming world-wide.

MARY H. HUNT.

World and National Superintendent of the Department of Scientific Temperance Instruction of the Woman's Christian Temperance Union.

Married.

JOHN R. GROH, M.D., Lebanon, Pa., to Miss Annie Behney, of Fredericksburg, Pa.

JOHN B. UNDERWOOD, M.D., St. James, Mo., to Miss Nora B. Bibb, of Elsberry, Mo., March 5.

THOMAS A. KILLIP, M.D., Rochester, N. Y., to Miss Louisa Barnes, of Dunkirk, N. Y., March 6.

DAVID F. WEEKS, M.D., Trenton, N. J., to Miss Maude A. Clampitt, of Oak Lane, Philadelphia, March 12.

Deaths and Obituaries.

Arthur Titus, M.D. Cincinnati College of Medicine and Surgery, 1865, a prominent member of the profession in Portsmouth, Ohio, died recently. The Hempstead Academy passed the following resolutions of respect and sorrow, at its meeting, March 10:

WHEREAS, This Society learns with sincere sorrow of the death of our fellow laborer, Dr. Arthur Titus, we desire to express our testimony and sympathy in this occasion; therefore, be it

Resolved, That Dr. Arthur Titus was the highest type of the general practitioner, with a cheerful disposition, a strong decided character and a scientific mind, which was best displayed at the bedside of the sick. Ethical in all his intercourse with his fellow practitioners; present whenever possible at our society meetings and ever willing to extend his aid and counsel to his associates in medicine and surgery, a patriot that devoted three years of his life as surgeon during the Civil war.

Resolved, That we extend to the bereaved wife and family our great sympathy; and that we will so far as possible attend his funeral in a body, and that a copy of these resolutions be given to his family. [Signed] M. S. Pixley, M.D., P. J. Kline, M.D., S. S. Halderman, M.D., Committee.

Lawrence Ashton, M.D. New York University, 1885, one of the leading physicians of Northern Texas, and a member of the American Medical Association, died at his home in Dallas, March 6, after a brief illness, aged 57. He was a private student of the late Prof. A. L. Loomis of New York. During his residence in Texas he was an active worker in the State Medical Association; he was a member of the legislative committee two years ago, and was an earnest advocate of the present law governing the practice of medicine. He was at the time of his death president of the faculty of the Dallas Medical College, medical department of Trinity University and professor of practice of medicine.

Thomas A. Keables, M.D. University of Georgetown, Washington, D. C., 1872, formerly of Wilmington, Del., but of late years a member of the medical staff of the Veterans' Home, Napa, Cal., died at that place, March 4, from chronic Bright's disease after a long illness, aged 58. He served throughout the Civil war, and represented Mono, Alpine and Inyo counties in the thirty-second session of the California legislature.

Arthur T. Muzzy, M.D. College of Physicians and Surgeons, New York, 1879, a specialist on the eye and ear, assistant surgeon at the New York Eye and Ear Infirmary, a member of the Board of Managers of Christ Hospital in Jersey City, and consulting physician for the eye and ear at Isabella Heimath Home for Aged Couples, died from heart disease at the Presbyterian Hospital, New York City, March 4, aged 50.

A. Philo Drake, M.D. Western Reserve University, Cleveland, 1850, a veteran of the Civil war, one of the best-known physicians of Barry County, Michigan, where he had practiced for more than half a century, and a member of the American Medical Association, died at his home in Hastings, very suddenly, March 10, aged 74.

Andrew J. Bowers, M.D. Miami Medical College, Cincinnati, 1854, president of the Dearborn County Medical Society, a member of the State Medical Society, for two terms a member of the legislature, and for nearly half a century a practitioner at Moores Hill, Ind., died at his home, March 6, from pneumonia, aged 76.

Andrew B. Chapin, M.D. University of Michigan, Ann Arbor, 1861, a practitioner of Mt. Clemens, and for two years mayor of that city; a surgeon throughout the Civil war, and at one time a member of the faculty of the Detroit College of Medicine, died at his home, March 9, from paralysis, aged 64.

James W. Hines, M.D. University of Virginia, Charlottesville, 1861, during the Civil war a surgeon in the Confederate service, but for the last 22 years a practitioner of Le Mars, Iowa, died at his home in that city, March 9, from cancer of the stomach, after an illness of eight weeks, aged 65.

Joseph Ilowiecki, M.D. University of Erlangen, Germany, 1882, who came to Detroit, Mich., in 1888, and was a prominent figure in Polish social and political circles in that city, died from heart disease, February 22, after an illness of more than a year at Skallierzyce, near Posen, Poland.

Louis B. Tuckerman, M.D. Long Island College Hospital, Brooklyn, N. Y., 1877, a prominent physician of Cleveland, Ohio, and a member of the American Medical Association, died at his home, March 5, after an illness of six weeks, from an intestinal complication, aged 54.

Charles O. Carpenter, M.D. Berkshire Medical College, Pittsfield, Mass., 1860, a veteran both of the Navy and Army in the Civil war and a well-known practitioner of Holyoke, Mass., died from pneumonia, at his home in that city, March 7, after an illness of six days, aged 63.

John H. Morton, M.D. Marion-Sims College of Medicine, St. Louis, Mo., 1897, a practitioner of Courtland, Cal., was drowned while on his way to make a professional call, March 2. He was a member of the American Medical Association.

A. Lee Barron, M.D. Memphis Hospital Medical College, Memphis, Tenn., 1898, a physician of Sweetwater, Ala., was shot and instantly killed in a quarrel over family affairs, at Sweetwater, March 7. He was about 30 years old.

Charles D. Hill, M.D. Medical School of Maine, Brunswick, 1880, a member of the American Medical Association, and a physician and surgeon of high standing, died at his home in Bethel, Maine, from typhoid fever, March 7, aged 47.

William W. Collins, M.D. University of Michigan, 1852, for 38 years a physician of Albion, Mich., and at one time president of the State Medical Society, died at his home, March 7, from paralysis, after an illness of six years, aged 77.

Jarvis E. Smith, M.D. College of Physicians and Surgeons, New York, 1854, a leading practitioner of Wayne County, N. Y., died at his home in Clyde, March 9, from abdominal cancer, after an illness of several months, aged 73.

Hunter St. John, M.D. College of Physicians and Surgeons, New York, 1886, who had recently moved from Minneapolis, Minn., to Pittsburg, Pa., died in the West Penn Hospital in that city, March 2, from heart disease.

George M. Saul, M.D. Cooper Medical College, San Francisco, a native of Petaluma, Cal., but who recently settled in Hawaii, died at the hospital in Honolulu, February 17, from typhoid fever, aged 26.

N. A. Lancaster, M.D. Medical College of Virginia, Richmond, 1898, a planter and practitioner of the Palmyra neighborhood, La., was drowned by the capsizing of the steamer Providence, March 12.

Joseph P. Kelley, M.D. Bellevue Hospital Medical College, New York, 1888, who had practiced since his graduation in Providence, R. I., died at the Rhode Island Hospital in that city, March 6, aged 37.

Alpheus H. Julian, M.D. Medical College of Indiana, Indianapolis, 1879, a well-known physician of Janesville, Cal., died from pleuro-pneumonia at the Alameda Sanatorium, February 22, aged 49.

James McLaren, M.D. Medical Department of Victoria College (Rolph's School), Toronto, a veteran medical practitioner of Ontario, died at Deer Park, a suburb of Toronto, March 7, aged 78.

William H. Chapman, M.D. University of Alabama, Mobile, 1873, a prominent physician of Geneva, Ala., died at his home in that place, March 5, from paralysis after a prolonged illness.

Thomas Cave, M.D. Washington University, St. Louis, 1872, an esteemed physician of Antwerp, Ohio, died at St. Louis, where he had gone to be operated on for cancer, March 6.

William H. Presby, M.D. Dartmouth Medical College, Hanover, N. H., 1887, a practitioner of Salem, N. H., died February 27, after a long illness, from paralysis, aged 45.

Joseph T. Kirkpatrick, M.D. Jefferson Medical College, 1877, an influential citizen and popular practitioner of Tunnel Hill, Ga., died at his home in that place, March 1.

Andrew C. Rankin, M.D. Starling Medical College, Columbus, Ohio, 1852, a retired physician of Chicago, died at his home after a surgical operation, March 5, aged 75.

Charles Blank, M.D. University of Munich, Germany, 1845, who had practiced medicine at the same address in St. Louis, for fifty years, died at his home, March 9, aged 80.

Samuel S. Rogers, M.D. University of Pennsylvania, 1849, an eminent physician of Western Pennsylvania, died at his residence in Millsboro, February 28.

W. F. Ball, M.D., an old practitioner of Mantua Station, Portage County, Ohio, died at his home in Darrowville, near Akron, March 1, aged 65.

George W. Jackes, M.D. Toronto University, 1888, died suddenly at his home in Eglinton, Toronto, March 7, from apoplexy, aged 51.

John Storrs Hall, M.D. Milwaukee Medical College, 1897, died at his home in Ripon, Wis., March 4, from pneumonia, aged 31.

William E. Brickhouse, M.D. University of Pennsylvania, 1851, died recently at his home in Belle Haven, Va.

Alf. H. Blackman, M.D. Barnes Medical College, St. Louis, 1900, died at his home in Junction, Ark., March 4.

Elias Smith, M.D. University of Michigan, 1866, died at Whitmore Lake, Mich., March 6.

Book Notices.

Mosquito Brigades and How to Organize Them. By Ronald Ross, F.R.C.S., D.P.H., F.R.S., Walter Meyers Lecturer in Tropical Medicine. Cloth. Pp. 100. Price, $1.05. New York: Longmans, Green & Co. 1902.

This little volume is the result of most recent researches and discoveries in regard to the dissemination of some of the most important diseases that afflict mankind, especially in the warm or tropical climates. It is a book that ought to have a wide territorial circulation and one that should be read by every medical colonist and public health officer in a country where malaria exists. The author speaks with positiveness, and as an investigator he has earned the right to have his opinions respected. The author commends American methods in Cuba

as compared with the slow and comparatively inefficient methods of the English colonial authorities. It must be remembered, however, that what has been done there has been done under military government and the ordinary machinery of the law was somewhat in a condition of suspended activity, the more rapid military methods taking its place. There is no doubt, however, that sanitary organization and service is yet largely a matter of the future and that much requires to be done to bring about a better state of things, not only in British possessions, which are particularly criticised, but also in our own country and everywhere where the enforcement of sanitary measures depend on civil and political authorities. The book is a timely and valuable one.

CHEMICAL PATHOLOGY IN ITS RELATION TO PRACTICAL MEDICINE. By C. A. Herter, M.D., Professor of Pathological Chemistry in the University and Bellevue Medical College, New York. In one 12mo volume of 454 pages. Cloth, net, $1.75. Philadelphia and New York: Lea Brothers & Co.

This work consists in a series of lectures delivered at the University and Bellevue Hospital Medical School during the sessions of 1899, 1900 and 1901. They give a very favorable impression of the thoroughness of the course, though the author modestly says that he has only aimed to sketch the leading characters of the pathologic and physiologic processes, without describing them fully or systematically. The student who has absorbed the instruction here given ought to be thoroughly competent, so far as these particular subjects are concerned, to enter upon the practice of medicine. Each chapter concludes with a brief enumeration of the leading articles on the subject, which will be useful to the student for reference, accompanied, besides the titles, by some short abstracts of the articles enumerated. The book is excellently indexed and is throughout a valuable text-book on its special subject.

MUNICIPAL ENGINEERING AND SANITATION. By M. N. Baker, Ph.B., C.E., Associate Editor of *Engineering News*. Cloth. Pp. 317. Price, $1.25. New York: The Macmillan Co. 1902.

The need of a work of this kind brought up to date is obvious. Its intent is to furnish information, as the author says, to that large and rapidly growing class of persons who as officials and citizens are trying to improve municipal conditions. Every citizen should have some idea of the subjects here considered; for some of them come directly under his eye in almost every phase of civic life. If some of the ideas here advanced were generally adopted our cities, both large and small, would be very much more desirable places of residence than they are. The author's sensible opinion in regard to municipal extension, for example, could be very profitably read by the citizens of some of our municipalities within the last few years. We consider the work not strictly a medical one, but one for general reading and would be glad to bespeak for it a wide circulation.

Association News.

February Meeting of the Board of Trustees.

Pursuant to a resolution adopted by the Board of Trustees at the June meeting directing the Secretary of the Board to publish in THE JOURNAL, for the information of the members of the Association, a synopsis of the business transacted at each meeting, the following is respectfully submitted:

The Board of Trustees met in regular meeting Feb. 21-22, 1902, at Chicago, with the President, Dr Happel, in the Chair, Dr. Johnson, Secretary. All members of the Board were present except Dr. Rodman, who was absent on account of illness.

The minutes of the previous meeting were presented and approved. The Treasurer, Dr. Newman, presented his annual report together with the report of the Public Auditor, which showed the finances of the Association to be in excellent condition, and the circulation of THE JOURNAL increasing. The report will be read at the Saratoga meeting before the House of Delegates.

Several accounts were presented to the Trustees for approval which were incurred in connection with the personal office of some of the officers of Sections. These were disallowed, and the Secretary directed to notify the Chairmen and Secretaries of the various Sections that they must pay their own expenses, and that the Association will not be responsible for such expenses; further, that where specific appropriations are made, that amount shall not be exceeded.

In connection with THE JOURNAL office, it was found necessary, in consequence of the increased work, to purchase an automatic feeder and folder, also another printing press, the necessity for which being clearly demonstrated to the Board of Trustees. Considerable time and discussion was given to the matter of advertising in THE JOURNAL, and it was decided that advertisements of external remedies should be rigidly scrutinized, and that all such should be subjected to the same rule governing the admission to space in THE JOURNAL which applies to the publication of internal remedies, and further, that no advertisement of proprietary remedies shall be advertised in THE JOURNAL if such remedies are advertised in the lay press. Several firms who had made application for space in THE JOURNAL were notified by the direction of the Board that their advertisements would not be accepted unless they positively agreed to abide by the regulations of the Trustees. The editor was instructed to continue his individual efforts and carefully edit all advertisements before permitting them to appear in THE JOURNAL. A vote of thanks of the Board was tendered to the editor, Dr. George H. Simmons, for his faithful and efficient services and successful conduct of THE JOURNAL and the office of Secretary of the American Medical Association during the past and previous years.

In consequence of the present overcrowded condition of the printing office of THE JOURNAL, and a notification from the owners of the building that a considerable advance would be demanded on the present rental, the Board considered it imperative in the interests of THE JOURNAL and the American Medical Association to provide more space for the printing plant and offices. The following preamble and resolution was adopted:

WHEREAS, The present building rented by the Association for the publication and business of THE JOURNAL is wholly inadequate in space on account of the increased business demands, and whereas, no more space can be obtained in the building at present occupied, it was moved and carried, that the property located on the northeast corner of Indiana Street and Dearborn Avenue, in the City of Chicago, measuring 80 by 100 feet, be purchased for the use of THE JOURNAL and the other business of the American Medical Association.

The matter of securing the new site for THE JOURNAL had been carefully studied and investigated since the early fall by each member of the Board of Trustees, particular attention and investigation being carried on during this time by the resident trustee, Dr. Ingals, who has been untiring in his efforts in behalf of the interests of the Association. At a comparative additional outlay, it was decided at the earliest possible moment to remodel a portion of the property and transfer THE JOURNAL plant. Every detail with respect to title in the building and legal transfer to the Association was discussed and arranged for. All these matters will be fully set forth in the annual report of the Board of Trustees at the Saratoga meeting.

The Transportation Committee reported progress, and that their special aim was to secure a one-fare rate for the round trip with a time extension and the abolition of the annoying 50-cent fee which was inflicted upon the members of the Association at the St. Paul meeting. The annual report of the Board of Trustees was read and approved and ordered to be presented at the next meeting of the Association.

The propriety and advisability of the American Medical Association adopting a designating flag to be known as the flag of the American Medical Association, which shall fly over the headquarters of the American Medical Association at their annual meetings, was discussed, and the Secretary of the Board was requested to bring the matter up before the Association at the next meeting. After considering a number of minor matters and details, the Board adjourned to meet with the Association at Saratoga.

H. L. E. JOHNSON, M.D.,
Secretary Board of Trustees.

Societies.

COMING MEETINGS.

American Association of Pathologists and Bacteriologists, Cleveland, O., March 28-29, 1902.
Medical Association of the District of Columbia, Washington, April 1, 1902.
Tri-State Medical Society of Iowa, Illinois and Missouri, Chicago, April 3-4, 1902.
Tennessee State Medical Society, Memphis, April 8, 1902.
Florida Medical Association, Tampa, April 9, 1902.
Western Ophthalmological and Oto-Laryngological Association Chicago, April 10-12, 1902.
Medical Association of the State of Alabama, Birmingham, April 15, 1902.
Medical Society of the State of California, San Francisco, April 15-17, 1902.
Medical Association of Georgia, Savannah, April 16, 1902.
Mississippi State Medical Association, Jackson, April 16, 1902.
South Carolina Medical Association, Spartanburg, April 16-17, 1902.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 22, 1902.
Association of American Physicians, Washington, D. C., April 29-30, 1902.
American Association of Genito-Urinary Surgeons, Atlantic City, N. J., April 30, 1902.
International Association of Railway Surgeons, St. Louis, Mo., April 30 and May 1 and 2, 1902.
American Gastro-Enterological Association, Washington, D. C., May 2, 1902.
Nebraska State Medical Society, Omaha, May 6-8, 1902.
Texas State Medical Association, Dallas, May 6-9, 1902.
Kansas Medical Society, Lawrence, May 7-9, 1902.
American Therapeutic Society, New York City, May 13, 1902.
Utah State Medical Society, Salt Lake City, May 13-14, 1902.
New Mexico Medical Society, Albuquerque, May 14, 1902.
Oklahoma Territory Medical Association, Oklahoma City, May 14, 1902.
Arkansas Medical Society, Little Rock, May 14-16, 1902.
New Hampshire Medical Society, Concord, May 15-16, 1902.

Hennepin County (Minn.) Medical Society.—The first annual banquet of this Society was held in Minneapolis, March 3. Dr. Henry L. Staples was toastmaster and Drs. James B. Herrick and A. J. Ochsner of Chicago were the guests of honor.

Somerville (Mass.) Medical Society.—The annual election of officers and banquet of this Society were held, March 6. Dr. George A. Miles was re-elected president; Dr. Frederick G. Smith elected vice-president, and Dr. Arthur R. Perry, secretary and treasurer.

Hardeman County (Tenn.) Medical Association.—The physicians of Hardeman County met at Bolivar, March 5, and organized a county medical association, with Dr. John P. Douglass, president; Dr. Hugh W. Tate, vice-president, and Dr. Robert W. Tate, secretary, all of Bolivar.

Tri-State Medical Society of Iowa, Illinois and Missouri.—The tenth annual meeting of this Society will be held at Chicago, April 3 and 4, under the presidency of Dr. John C. Murphy, St. Louis. Dr. William B. LaForce, Ottumwa, is secretary, and Dr. Emil Ries, Chicago, chairman of the Committee of Arrangements.

Floyd County (Ind.) Medical Society.—This Society held its annual meeting at New Albany, March 6, at which Dr. Francis A. Mitchell was elected president; Dr. Edwin L. Sigmond, vice-president, and Dr. Charles P. Cook, secretary and treasurer, all of New Albany. The Society resolved to give a banquet to the members of the Country Practitioners' Society at the large room in St. Edwards' Hospital set apart for the use of the physicians. The banquet will be given May 3, and the Society has appropriated $100 to meet the expenses of the entertainment.

American Association of Urologists.—This Association was organized, February 22, essentially for the purpose of further development of the study of the urinary organs and their diseases. Gynecologists who embrace renal and vesical surgery in their work are among the founders, as there are several gentlemen who devote themselves to the microscopy and chemistry of the urine, as well as a number of practitioners interested in the study of the kidney from a medical standpoint. The Association consists of active, corresponding and honorary members, and is in great measure modeled upon the plan of the Société Française d'Urologie, modified to suit American circumstances and conditions. Thus, whenever possible, the branch associations will hold their meetings on the same evenings as does the parent association in New York—the first Wednesday in each month. The work of the Association is principally clinical, for the demonstration of new methods of the technique of examination and treatment. The annual meeting of the Association will be held on the last day and the day following the annual meeting of the American Medical Association. The officers of the Association are: Dr. Ramón Guiteras, New York, president; Dr. William K. Otis, New York, vice-president; Dr. John Vanderpoel, New York, treasurer; Dr. Ferdinand C. Valentine, New York, secretary, and Dr. Austin D. Mabie, New York, assistant secretary.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Feb. 26, 1902.

The President, Dr. T. H. Fenton, in the Chair.

Symposium on Cholecystitis.

Dr. J. McFarland, in a paper on "Pathology of Cholecystitis," stated that the gall-bladder may be congenitally absent without special disadvantage. The routes of infection of the bladder are through the blood vessels or lymphatics or from the intestine. The most common is the latter, through the duct. The bile becomes viscid and ropy, the duct perhaps becoming partially or wholly occluded. The gall-bladder is distended and swollen, ulceration, abscess formation and perforation sometimes resulting. Recovery or chronicity may occur, if the latter the bladder will be found fibrous and contracted. One great cause of cholecystitis is cholelithiasis. The cause of the latter is not definitely known. Epithelial cells or bacteria perhaps serve as nuclei for the deposit of the bile salts.

Dr. Joseph Sailer read a paper on "Etiology and Diagnosis of Cholecystitis." The healthy gall-bladder is uninfected. The bile is not bactericidal, but does not supply much food for bacteria. The most favorable disease for the development of cholecystitis is typhoid fever. Quotations from several investigators were given to substantiate the latter view. In six cases with a history of typhoid fever, the author had found the typhoid germ present in the gall-bladder, and in one case cultures were grown from bile three months after it had been obtained from an autopsy. The typhoid bacillus had been found in gall-stones. Diagnosis is sometimes difficult and may escape attention. In appendicitis, laparotomy has taken the place of autopsy. Cholecystitis is, however, comparatively rare. If catarrhal jaundice be present the symptoms may be plain. The speaker cited the local symptoms, the conditions to be sought for by physical examination and recounted the general symptoms. Of the later are chill, fever of a hectic type simulating malaria, prostration and delirium. There may be an antecedent history of typhoid fever. The speaker referred to a case seen by him and Dr. Musser. The patient, a woman of 50, jaundiced, stools clay colored, anemic, had an elastic palpable mass below the ribs on the right side. Patient experienced a sensation of a sudden giving way in the abdomen. At the autopsy, three days later, the peritoneal cavity was stained with bile, and the gall-bladder was found with a small tear in the fundus. The common duct had a ball valve obstruction.

Dr. J. Chalmers Da Costa discussed the subject of "Surgical Diagnosis and Treatment of Cholecystitis." He said that the causes may be one or many genus, the character of the lesion depending upon the virulence of the infection and the resistance of the tissues. Chronic cholecystitis is usually without jaundice and the attacks may not be distinguished from gall-stones. The speaker recently operated upon a case supposed to be one of the latter. Curettage of the mucous membrane and maintenance of drainage for a time effected a cure. In another case gall-stones were found in the feces, but operation showed that the bladder had emptied itself of stones. Jaundice is rare in cases free from stones. The passage of plugs of mucus may simulate that of stones, but is less severe, and there is absence of tenderness over the gall-bladder. Some cases where doubt exists demand incision and drainage for a week or more. Croupous cholecystitis is rare, and the symptoms are identical with those of gall-stones. Simple empyema, acute, phlegmonous, suppurative and cholangitis with perforation are various forms of the affection.

The latter strongly simulates acute appendicitis, and in each, surgical interference is life-saving. An enlarged gall-bladder may be mistaken for a movable kidney. The directions given by Henry Morris were cited: "The gall-bladder is commonly a

movable abdominal tumor; attacks of jaundice probably occur; the bladder is palpated at the edge of the liver, the presence of stones at times giving the sensation of hardness; the bladder is movable only in a circle and not downward toward the pelvis. The kidney tends to stay in the loin when put there." The greatest care will sometimes fail to distinguish cholecystitis from appendicitis.

DR. S. SOLIS-COHEN, in a paper on "Medical Treatment of Cholecystitis," said that there is no one medical treatment. There is often difficulty in diagnosis. I have never seen a case of isolated cholecystitis. There are always other associated inflammations of the stomach or intestines. For the gastro-duodenal catarrh, lavage is useful. Calomel, sodium phospate or sulphate is often useful. Rest, regulation of the diet, mild laxatives and mercurials are common and are good measures. Sodium succinate, first recommended to me by Dr. Ellwood Wilson, 5 grains four or five times daily, I have often found excellent. Bile preparations are sometimes used with apparently good results. Foreign physicians rely much upon the spa treatment. The artificial salts of alkaline waters are easily prepared. Hydrotherapeutic measures and massage stimulate increased bile secretion and bodily functions and prevent complications.

DR. J. C. WILSON said in discussion: There are two states of inflammation, one a result of stones, the other independent of stones. The conditions may overlap. The conditions can, at times, scarcely be clinically differentiated. In my own experience I have recognized three common conditions, catarrhal cholecystitis, and thickening with or without adhesions accompanied with contractions. The first form I have recognized as a complication of enteric fever in a considerable proportion of the relapses of the latter. It is very frequent in enteric fever, recovery usually being prompt. Whether the disease is or is not accompanied by jaundice or stones, in cases of repeated colic, early surgical operation should be done.

DR. JOHN H. MUSSER believes that all forms of cholecystitis are infective, very frequently associated with stones. Contrary to the common experience, he has found, in the Philadelphia Hospital, more men than women affected with gall-stones. The speaker had seen three cases of cholecystitis associated with typhoid fever, and had perhaps overlooked many not suggested by local signs. Pneumococcus infection of the gall-bladder occurs conjointly with infection of the lungs. There is greater difficulty in distinguishing cholecystitis from pancreatitis than from any other disease. The etiology and the physical signs posteriorly are strong factors in diagnosis. A case of pancreatitis operated upon recently had effusion into the lesser peritoneal cavity.

DR. ERNEST LAPLACE holds that each case is one to itself according to what special germ causes the infection. Future work should be in the direction of finding the specific cause in each case. It is only about the gall-bladder and vermiform appendix that the methods of preantiseptic surgery exist. The day is not far distant when a frank attack of gall-stone colic will lead to operation.

DR. G. G. DAVIS said that in cholecystitis we should expect to find an enlargement of a sausage-like shape extending directly downward with tenderness at McBurney's point, but dulness reaching to the liver's edge. The surgical treatment now is where that of appendicitis was a few years ago. The profession is yet to be taught the seriousness of these affections. Usually there is greater danger in adopting a conservative course. In jaundice, hemorrhage being a great danger only a mild operation providing for drainage should be done.

DR. JUDSON DALAND called attention to the fact that stones often exist without symptoms; also to the danger of hemorrhage and to the failure of wounds to heal where jaundice is present.

DR. JOHN B. DEAVER believes that the surgeon should early claim these cases, and believes in the propriety of early operation, as much so as early operation in appendicitis. In operating he rarely leaves a gall-bladder. He thinks that no one can differentiate cholecystitis from appendicitis in every case.

DR. WM. E. HUGHES holds that if there is a history of gall-stones the case should be referred to a surgeon. If, however, the case be one of simple cystitis it is not a surgical disease. He has treated several of the latter cases and all have recovered. The fact was pointed out that pleurisy or congestion of the right lower lobe of the liver may be mistaken for cholecystitis.

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting, Held Feb. 20, 1902.

Vice-President, Dr. Charles L. Dana, in the Chair.

Symposium on Vaccination.

Although this evening's discussion was styled a symposium on vaccination, it was rather a discussion on vaccine. It was opened with an introductory paper by Dr. Alonzo Blauvelt, Chief Inspector of the Division of Contagious Diseases of the Health Department, who described "The Action Taken by the Health Department on Report of a Case of Smallpox." He said that immediately upon receipt of the notification, a diagnostician of the department and a policeman proceeded to the address given and if the case was thought to be one of smallpox the patient was conveyed to the Riverside Hospital in a coupé or ambulance used specially for this work. Instructions were left at the house for the disinfector and the health department vaccinator offered vaccination to all in the house. The children in the house were not allowed to attend school for three weeks, but the adults attended to their occupations as usual.

DR. M. J. ROSENAU, Director of the Hygienic Laboratory of the Marine-Hospital Service, read a paper upon "Dry Points Versus Glycerinated Virus from a Bacteriological Standpoint." He said that diluted glycerin was a favorable culture medium for bacteria, and in greater concentration it was not a true bactericide, killing bacteria only by a very slow process of dehydration. Moreover, glycerin gradually destroys the potency of vaccine. Dr. Rosenau then described a series of bacteriological experiments undertaken with a view to instituting scientific comparisons between glycerinated vaccine virus and dry vaccine points as regards the number of bacteria present. The material for the investigation consisted of 92 samples of vaccine obtained in the open market, representing the products of eight manufacturers. The 41 dry points gave an average of 4807 colonies per point and the 51 samples of glycerinated virus gave an average of 2865 colonies per tube. The figures presented were remarkable in that they showed an enormous number of bacteria in the glycerinated virus as compared with the dry points. The author endeavored to explain this result partly by the great variations in the quantity of vaccine contained in the samples of glycerinated lymph and also by the supposition that many of the makers of glycerinated virus placed their products on the market while yet too "green." He added that much of the contamination observed was unnecessary and was probably the result of the over-confidence in glycerin as a preservative. This investigation seemed to Dr. Rosenau as pointing clearly to the desirability of government control of vaccine production.

DR. F. S. FIELDER presented a carefully prepared report of tests that he had made to compare the value of the dry point with that of glycerinated vaccine virus. The glycerinated virus manufactured by the New York City health department was used in the tests and this was compared with ivory points made by eight different private manufacturers and with dry points prepared by the health department. The last mentioned were divided into lots: those points charged with serum exuding after having curetted away the pulp used in the manufacture of glycerinated virus and those charged with the serum obtained after simply removing the top of the vesicle. It was stated that no great difference was observed in the action of these two lots of dry points. Of the health department dry points 25 per cent. were successful, while 60 per cent. of the insertions made with the dry points of private manufacturers proved successful. On the other hand, nearly 93 per cent. of the insertions made with the glycerinated virus were

successful. Severer constitutional symptoms were observed with the glycerinated virus, but this the author attributed to the use of "green" virus in all the experiments. Very few eruptions were noticed and these were mild, ephemeral and chiefly of an urticarial type. It was also noted that 78 per cent. of the cases successfully vaccinated with the health department dry points healed promptly and 8.8 per cent. healed slowly, while of those done with the glycerinated virus, 66 per cent. healed promptly and 17.2 per cent. slowly. The speaker said that he was not prepared to state how long the dry points would retain their potency, but he had ascertained that the glycerinated virus of the health department would yield 100 per cent. of successes after having been kept for nearly eight months.

Dr. John H. Huddleston read a paper upon "Tetanus and Vaccine Virus." By bacteriological experiments on the feces of twenty-five calves fed on hay he had demonstrated the presence of tetanus germs in only two instances. His experiments also showed that glycerin exerted a distinctly inhibitory influence on the tetanus germs and that cultural tests were more delicate than animal inoculations in detecting the presence of tetanus. His conclusions were as follows: 1, The feces of calves fed on hay may contain tetanus germs; 2, these germs do not develop with glycerinated virus; 3, any form of vaccine virus—dry points or tubes of glycerinated virus—may be infected with tetanus and may convey it, but no form of vaccine increases the amount; 4, cultural tests for the presence of tetanus germs are somewhat more delicate than animal tests; 5, inoculation by scarification is not a favorable method of introducing tetanus; 6, it is probable that the greatest precaution against the production of infected vaccine virus lies in the maximum of cleanliness observed in a vaccine laboratory.

Dr. Frank P. Foster said that it was evident from the remarkable figures presented by Dr. Rosenau that there is a good deal of glycerinated vaccine on the market which does not possess the properties which should belong to good virus of this form. It was also evident that the dry points used by Dr. Fielder were very poor. Dr. Foster said that his experience in the past in the manufacture of vaccine had taught him that better virus was obtained from calves of six or eight months than from younger calves. Good dry points should certainly retain their potency for seven or eight months—indeed, if not merely dried but desiccated, it might be preserved much longer. If the term "pulp" was used to designate the whitish pulpy layer found beneath the epidermal portion of the pock, he would say that he had always been of the opinion that this was abnormal and should not be used for the manufacture of vaccine, inasmuch as it was made up of the necrosed tips of the papillæ of the derma.

Dr. J. J. Kinyoun, of the U. S. Marine-Hospital Service, said that from experiments that he had made in the laboratory on methods of collecting lymph, he had found that the first part was quite rich in vaccinal material and the last portion comparatively weak. This might explain some of the differences in potency observed in dry points of different manufacture. It had been found very difficult to preserve the glycerinated virus for any length of time in the Philippines, so that it became necessary to use the lymph while still green. As a result, there were very many sore arms.

Dr. Huddleston said that the great variations observed in the number of bacteria found by Dr. Rosenau in glycerinated virus was to be explained in part by the fact that it was practically impossible to make a thoroughly homogeneous vaccine emulsion, so that some samples would contain more vaccine particles, and perhaps more bacteria, than others. There must be some solid matter in all good vaccine, for, it had been shown that if the virus were passed through a filter which would remove all solid particles, the filtrate was wholly inert. The white pasty matter referred to by Dr. Foster was curetted out and used in the manufacture of glycerinated virus. Both dry points and glycerinated lymph had been known to retain their potency for two years or more, but while this was interesting from a scientific point of view, it did not indicate at all the practical life of the vaccine. He was of the opinion that there was a decided difference in the quality of the vaccine obtained from the cow and from the calf, because the curetting could hardly be done so thoroughly in the older animal.

Dr. Rosenau said that it should not be forgotten that all dry vaccine points are not manufactured in the same way. Some manufacturers charge the points with the serum exuding from the old cross-hatch scarifications, while others mix the lymph with glycerin, set it aside for some weeks and then mix it with normal blood serum and allow it to dry on the bone points. As vaccinia was an epithelial infection, the glycerinated pulp, containing as it does the epithelial layer, should contain the maximum of vaccinal bodies.

CHICAGO NEUROLOGICAL SOCIETY.

Regular Meeting, held March 6, 1902.

President, Dr. Daniel R. Brower, in the Chair.

Hysteria.

Dr. Elbert Wing reported the case of Miss H., aged 15, who complained of a constant ache in all of the teeth of the upper jaw, accompanied by tenderness, both the aching and tenderness being greatest on the right side. The pain is described as a dull, heavy ache, rather than sharp or lancinating, varies somewhat in severity and is present all of her waking hours. The tenderness is not great and not uniform in all of the teeth. The pain is influenced somewhat by cold, but not at all by heat. It is not increased by the acts of talking or eating. In May, 1901, the patient had an attack similar to this, in which the teeth of the lower jaw were involved. It began in a few of the teeth on the left side. Her dentist, drilled into these, destroyed the pulps and filled the root canals. This did not stop the pain and finally the affected teeth were extracted. This treatment, with variations, ran the circuit of the lower jaw, until all of its teeth were extracted and a plate of artificial teeth put in. About six weeks after the teeth were all extracted, the pain, diminishing gradually, ceased. Six weeks later, the pain began in the teeth of the right side of the upper jaw and had continued until this examination was made, Dec. 21, 1901. The dentist did not excavate or extract the upper teeth.

Three years ago the patient had what she described as "soreness in her scalp," which was not relieved until her hair was cut short. Then she had some trouble with her eyes, not inflammatory, in which she says she almost lost her sight. Later she had attacks of spasms. She says that one doctor stuck pins in her and said that there was nothing the matter with her. She has had no other illness and menstruation is fully established, regular and normal in every way. Patient's father has had "nervous trouble," is now well, and the family history is otherwise negative.

Examination shows a young woman, 5 feet 8 inches tall, large in proportion, in excellent general nutrition and full mammary development. Appetite good; no symptoms of indigestion; bowels act normally and sleep is good, except when disturbed by the pain in the teeth. Loss of sleep from this cause, she says, is considerable. Patient's appearance is that of excellent health. When alone with the examiner, the patient's manner was quiet and free from peculiarity, except lounging in her chair, but when her dentist, who seemed familiarly acquainted, was present, her manner was petulant and capricious. The thoracic and abdominal organs were normal.

Voluntary motor power was normal and symmetric. Tests for touch and pain were made with a camel's hair brush and common pins. Sensation to touch was slightly less throughout the left side. On this side there were areas of moderate size of diminished sensation over the upper half of the chest, the hypochondriac region, the outer and middle third of the thigh and two places on the leg. There was absence of pain to the prick of a pin over and just above the left breast and there was diminished pain sense in the areas partially anesthetic to touch and slight anesthesia over left scapula. Epigastric reflex was slightly less on left side; abdominal walls were symmetric; elbow-jerks were absent; knee-jerks present and fairly symmetric. The pupils react normally and vesical and

rectal control reported normal. There was moderate tenderness in the upper teeth, more pronounced on the right side, and some in the upper branch of the fifth nerve of the right side. There was no other tenderness. Physical examination was not carried further. The patient was referred to her home physician with the diagnosis of hysteria and the usual suggestions outlined for treatment.

DR. SYDNEY KUH recalled the case of a girl who presented herself at Czerny's clinic in Heidelberg, with the statement that she had swallowed a pin. She had considerable pain; her stomach was opened and a pin was found in the wall of the stomach. Patient returned subsequently two or three times, wanting to undergo another operation. The suspicion of the surgeon was aroused; he refused to operate a second time, as he was firmly convinced there were no more pins in the stomach. Dr. Kuh also detailed a case of hysteric deception which occurred in the practice of a country doctor. A girl claimed that she had swallowed a snake; that she could feel it moving about in the abdomen and insisted that something be done for its removal. Little attention was paid to her until one day they found her in front of the house apparently very ill. She had vomited and in the vomit there was a snake-like body, which turned out to be the gut of some animal.

DR. DANIEL R. BROWER mentioned a case which occurred in the practice of Dr. Fitch many years ago. It was stated that the woman's urinary secretion had been entirely suppressed, and that she was secreting urine by the gastric mucous membrane. He was called in consultation in this case. Dr. Fitch had the contents of the woman's stomach examined a number of times and always found urine present. Dr. Brower suggested that she be put to bed and some responsible person directed to watch her. This was done and it was found that the woman would urinate and then swallow the urine.

DR. LODOR mentioned a patient who had some of her teeth extracted on account of a supposedly distressing condition of them. She exhibited the usual stigmata of hysteria. She was referred to him with the recommendation that the dental nerve be trephined for excessive pain; but on examination he found nothing wrong with the patient's mouth and said the case was purely hysterical.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Local Treatment of Leucorrhea.

The following is recommended by Lutand, to be used locally in treatment of leucorrhea:

℞. Pot. chloratis ..... ʒiss 45
Tinct. opii ..... ʒi 31
Aq. picis liq. ..... O. ii 596
M. Sig.: One-half a glass to be used in a quart of water as a douche night and morning.

Thrombosis of Femoral Vein in Typhoid Fever.

J. M. Anders, in *Med. News*, recommends the following ointment to be applied along the course of vessels:

℞. Unguenti ichthyol (10 per cent.)
Adipis lanæ hydrosi, āā ..... ʒii 7 50
Ung. belladonnæ ..... ʒss 15
M. Sig.: Apply locally three or four times a day over the course of the vein.

The Treatment of Fever.

Ernest Jendrassik, in *Ther. Month.*, states that cold bathing in fevers, by abstracting a certain number of calories which immediately have to be replaced, causes overwork of the system, exaggerated combustion, which means a considerable loss of substance and rapid return of the fever; in many ways it resembles the old-fashioned bleeding. According to his statement it is sedative, refreshing, tonic and hygienic, but not antipyretic.

He regards phenacetin as the best in high fevers, especially in children, but occasionally it will have to be replaced by antipyrin. One to one and a half drams should be given at one dose. The action will last about six hours, and when the temperature begins to rise again the dose should be repeated and thus four doses may have to be given in the twenty-four hours. He believes that insufficient dosage is responsible for the lack of results of the employment of these agents.

[If the author is correctly quoted he certainly is advising practitioners to tread upon dangerous ground in giving a dram and a half of phenacetin at one dose.]

Treatment of Influenza.

The following formulæ are noted in *New York Med. Jour.*, in the treatment of the different organs involved in influenza:

To disinfect the ears:

℞. Hydrarg. chloridi corros. ..... gr. i .06
Alcoholis ..... ʒiss 5 60
Aq. destil. ..... ʒii 62
Glycerin ..... ʒiv 124
M. Sig.: Instill a few drops into the ear three times a day.

For the nose:

℞. Menthol ..... gr. iii .20
Olei petrolati ..... ʒss 16
M. Sig.: Instill a few drops into the nose three times daily.

For the throat:

℞. Alcoholis ..... ʒss 16
Resorcin ..... gr. x .66
Salol ..... gr. viiss .50
Aq. q. s. ad ..... O. ss 248
M. Sig.: To be used frequently as a gargle; or:

℞. Acidi salicylici ..... gr. v .30
Spts. menthæ pip. q. s. ad solutionem.
Aquæ q. s. ad ..... O. ss 248
M. Sig.: As a gargle.

To disinfect the room:

℞. Acidi carbol.
Acidi salicylici, āā ..... gr. lxxv 5
Menthol ..... gr. xxx 2
Alcohol ..... ʒviii 248
Tinct. eucalypti ..... ʒi 3 75
M. Two to four tablespoonfuls in 16 ounces of water, to be evaporated in the room.

Enlarged Spleen in Chronic Malaria.

Lyon, in *Le Prog. Médical*, recommends the following local and general treatment of enlarged spleen in malaria:

℞. Iodoformi ..... gr. xlv 3
Ext. belladonnæ ..... ʒi 3 75
Ol. menth. pip. ..... gtt. xx 1 33
Adipis lanæ ..... ʒii 60
M. Ft. Ung. Sig.: Apply locally twice a day with friction.

For the general condition the following:

℞. Acidi arsenosi ..... gr. 1/100 .0006
Iodoformi ..... gr. i .06
Ferri et potass. tart. ..... gr. i .06
Ext. belladonnæ ..... gr. ss .03
Quininæ sulph. ..... gr. 1/3 .02
Ext. nucis vom. ..... gr. 1/6 .01
Ext. valerianæ ..... gr. i .06
M. Ft. pil. No. i. Sig.: Take two such pills at noon and two at night before meals.

Diarrhea in Tuberculosis.

According to the *Pac. Med. Jour.*, the following is of great service in checking the diarrhea in tuberculosis:

℞. Ichthoformi ..... gr. v .33
Tannalbin
Bismuthi subgal., āā ..... gr. x .66
Codeinæ sulph. ..... gr. 1/4 .015
Olei menth. pip. ..... m. 1/4 .015
M. Ft. chartula No. i. Sig.: One such powder every two to six hours.

Chalazion (Retention Cyst).

In the treatment of a cyst of the lid where the Meibomian gland is occluded, which may also be caused by errors of refrac-

tion, he recommends that the tumor be evacuated from the conjunctival surface of the lid, first anesthetizing the parts with the following:

℞. Cocainæ hydrochlor. .....gr. xviii 1|20
Acidi borici .....gr. x |66
Aq. destil. q. s. ad.....ʒi 31|

M. Sig.: Use as a local anesthetic.

To Diminish Severity of Convulsion in Epilepsy.

The following is recommended by Yeo to lessen the frequency and severity of the convulsions in epilepsy:

℞. Morphinæ sulphatis .....gr. iss |09
Tinct. veratri viridis .....ʒss 15|
Aquæ q. s. ad.....ʒss 15|

M. Sig.: Inject 20 minims hypodermically during or before a convulsion.

The following containing sodium borate is sometimes of service in treatment of epilepsy:

℞. Sodii boratis .....ʒiii 11|25
Glycerini .....ʒi 31|
Aquæ q. s. ad.....ʒiii 93|

M. Ft. mistura (dissolve the sodium borate in warm glycerin). A teaspoonful to a dessertspoonful three times a day.

Chronic Emphysematous Bronchitis in Children.

The following is frequently used, according to *Amer. Med.*, in treatment of the above form of bronchitis in children:

℞. Arseni iodidi .....gr. ivss |29
Aq. destil. .....ʒiss 46|50

M. Sig.: Begin with 5 drops in water, wine, or milk twice a day after meals, to be increased morning and evening until 10 to 20 drops have been added, according to the age and tolerance of the patient. The maximum dose should be retained for one month and then gradually decreased until 5 drops are taken.

Sodium Persulphate in Tetanus.

Gelibert, as stated in *Can. Pract. and Rev.*, gives account of numerous experiments with injections of sodium persulphate in tetanus. It was found that injections in animals of poisonous doses of tetanus toxin were antidoted if followed at once by a subcutaneous injection of sodium persulphate. The fresh and pure salt was used. These results were not obtained if some minutes elapsed between the injections. The use of the soda preparation, however, has an invariably favorable action on the tetanic contractions. The author gives the history of two cases of tetanus developing in children which were treated by the soda injections and recovery occurred in each instance, although the cases were serious. He injected 10 cubic centimeters of a 5 per cent. solution three or four times daily.

[The experiments as carried out by him on animals, showing that the antidote must be given within a few minutes after the introduction of the tetanus toxin, would certainly not prove its efficiency in counteracting tetanus in man, for the reason that the period of seven to fifteen days may elapse before tetanus, following an injury, develops.]

Otorrhea.

The following has been used with success in treatment of otorrhea:

℞. Ferri perchloridi .....ʒss 1|90
Alcoholis
Aq. destil. āā.....ʒi 3|90

M. Sig.: Three or four drops to be instilled into the external auditory canal two or three times a day.

Medicolegal.

Liability for Refusal of Admission to Hospital.—The Court of Appeals of Kentucky says, in Illinois Central Railroad Company vs. Gheen, that it appeared that each employe on a certain division of the road, who was employed as much as four days in a month, contributed to the maintenance and support of a hospital. The sum payable was fixed according to the wages earned per month, the amount payable being withheld by the paymaster and turned into the hospital fund held by the company's treasurer. The hospital association was not incorporated, but it had a board of directors who were such, save two, by reason of the official position with the road. The surgeon in charge was practically appointed by the company's chief surgeon. The men who contributed the monthly assessment to pay the hospital expenses had, in fact, no voice in the management or control of the hospital, save and except that of giving certificates of admission thereto to subordinate employes when sick or injured. These facts, the court holds, would have authorized the peremptory instruction of the jury in this case that if the employe who instituted this action had been engaged more than four days he was entitled to admission into the hospital, and if he was refused permission to enter, or certificate entitling him to transportation and entrance to the hospital, and was injured by such refusal, he was entitled to recover damages. But where he was employed in one county, and in that county refused by his foreman a certificate entitling him to admission into the hospital, the road running through that county and there being a chief officer and agent of the company, to-wit, a division superintendent, resident therein, the court holds that the cause of action accrued wholly in that county, giving the Circuit Court thereof jurisdiction of the cause, although the hospital was in another county. Then, it says that the general and universal rule of law in regard to damages is that every person must do all that can reasonably be done to render the damage for any act or omission as light as possible. Under this rule, this employe, when he was refused admission to the hospital, if such was the case, was bound to keep the consequent injury and damage as light as possible. To do so, he should have employed medical and surgical attention to cure his hand, or, at least, to arrest other or further injury. For such services and attention, or the cost thereof, the company, if liable at all, would be required to pay. But the proof was that he failed to use all means to prevent further injury to himself, contenting himself to accept the services and treatment of the company's local surgeon, who seemed to have pursued the same treatment given at the hospital. Yet, if that surgeon was unable, for any reason, to give him proper and necessary treatment to his wounds, it was his duty to procure elsewhere such attention. If he failed to do so, he could not charge the company with the consequent loss, suffering, or injury he received by his own failure to procure medical and surgical attention. But he could recover the reasonable cost of such medical and surgical attention that would have equaled that which he would have received at the hospital if he had been admitted. He was entitled, if at all, to the skilled surgical attention he would have received at the hospital, including board, transportation, and such accommodations and charges that the hospital would furnish its patients. If the company refused to furnish such, and was bound to do so, he could and should have sought such attention elsewhere, and for the reasonable cost thereof the company would be liable. The hospital was to furnish medical and surgical attention, and to nurse and care for the patient who was admitted therein. If the company was liable under the proof, its liability was for failure to furnish these things, and the damage for such failure was the reasonable cost at which such care and attention, board, and medical and surgical skill could have been obtained, as well as cost of transportation to the nearest suitable place where such attention could be had.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record (N. Y.), March 8.

1 *The Treatment of Malignant Growths by the X-Ray, with a Provisional Report on Cases under Treatment. William J. Morton.
2 *Regarding the Infectious Agent of Yellow Fever; a Reply to Dr. Souchon. Alvah H. Doty.
3 *Pneumonia in the Light of Modern Research. Stephen S. Burt.
4 *Diabetic Coma; Symptoms, Pathology and Treatment. Abraham Mayer.

5 *A New Test for Albumin. Flora C. Fuhs.
6 A Severe Case of Diphtheria, Involving the Pharynx, Larynx, Trachea, Bronchi and Probably the Esophagus and Stomach. J. D. MacPherson.
7 Hypertrophic and Atrophic Cirrhosis of the Liver. John A. Mitchell.
8 Report of a Successful Case of Gastrostomy in an Infant. John T. Howell.

New York Medical Journal, March 8.

9 Nevus Verrucosus Associated with Certain Anomalies of Pigment. H. Taylor.
10 *Again the Rectal Valve and Obstipation. Thomas C. Martin.
11 The Care of Incurable Cases of Chronic Pulmonary Tuberculosis. Henry L. Shively.
12 *The Civilized Indian, His Physical Characteristics and Some of His Diseases. A. D. Lake.
13 The Sideroscope. Thomas R. Pooley.
14 *The Severing of the Vasa Deferentia and Its Relation to the Neuropsychopathic Constitution. H. C. Sharp.
15 On Gonorrheal Arthritis. A. Herzfeld.
16 The Treatment of Habitual Constipation. W. L. Callaway.
17 A Case of Acute Anterior Poliomyelitis; Recovery. David Davidson.

Philadelphia Medical Journal, March 8.

18 *A Study of the Cases of Accidental X-Ray Burns Hitherto Recorded. (To be concluded.) E. A. Codman.
19 *An Outbreak of Chicken-pox Among Children Convalescent from Smallpox, with Remarks upon the Relationship of These Two Diseases. J. F. Schamberg.
20 Microchemical Reactions of Tube Casts. W. M. L. Coplin.
21 *The Identification of the Colon Bacillus by Reactions Produced in Culture Media Containing Neutral Red—Observations on Reactions of Other Bacteria on the Same Media. Randle C. Rosenberger.
22 Intestinal Obstruction Caused by Cicatricial Band Compressing the Ileum. John G. Sheldon.
23 *The Progress of Knowledge Concerning Venom and Antivenene; a Synoptical Review of the Literature of the Past Fifteen Years. (Continued.) Joseph McFarland.

American Medicine (Philadelphia), March 8.

24 *Concerning the Hypnotic Action of Apomorphin Hydrochlorate in Alcoholism. Warren Coleman and John M. Polk.
25 Clinical Report of Two Cases of Osteosarcoma of the Inferior Maxillary Treated by Incisions; Report of the Condition of the Patients After One Year. Hermann B. Gessner.
26 *Proteosuria. H. O. Mosenthal and William J. Gies.
27 Tubercular Pericarditis with Effusion; Repeated Tappings; Bacilli in the Exudate; Recovery. Florence R. Sabin.
28 *Sprue or Psilosis in Manila. William E. Musgrave.
29 Old Compound Depressed Fracture of Frontal Bone Involving the Frontal Sinuses. (To be concluded.) G. Childs MacDonald.
30 The Responsibility of the General Practitioner in Diseases of the Nose and Throat. Justus Sinexon.
31 The Dangers to the Public Health and Morals, Especially to Young Persons, from Quackery as Promulgated by Public Advertisements. Will B. Davis.

Cincinnati Lancet-Clinic, March 8.

32 *The Treatment of Infected Wounds of the Hand. Horace J. Whitacre.
33 Hygeia, or the Goddess of Health. Brose S. Horne.

St. Louis Medical Review, March 8.

34 Umbilical Hernia; Mayo's Operation—A Clinical Lecture. N. B. Carson.

Medical News (N. Y.), March 8.

35 *The Craig Colony Prize Essay—Serotherapy in Epilepsy. Carlo Ceni.
36 *One Way to Fight Contagion. Charles V. Chapin.
37 A New Cystoscope for the Simultaneous Catheterization of Both Ureters and for Double Current Irrigation of the Bladder. Frederic Bierhoff.
38 Congenital Dextrocardia. Wm. Edgar Darnall.
39 Somnolence and Loss of Memory Resulting from Cholesteatoma of the Middle Ear. Francis R. Packard.
40 *Urticaria of the Upper Respiratory Tract. Lewis S. Somers.

Boston Medical and Surgical Journal, March 6.

41 *A Case of Severe and Threatening Hematuria from Movable Kidney, with a Discussion of the Causation of This Condition. Arthur T. Cabot.
42 Report of Two Cases Operated on for Deformity of the Nose. J. Payson Clark.
43 *Contribution to the Study of Spinal Fracture, with Special Reference to the Question of Operative Interference. G. L. Walton.
44 Adenocarcinoma of Liver; Perforation of Stomach; Death; Autopsy. Charles S. Walker.
45 Epidemic Pneumonia at West Townsend, Mass. R. S. Ely.

Northwestern Lancet (Minneapolis), March 1.

46 The Time to Operate in Appendicitis, with Discussion. J. Warren Little.
47 Ante-partum Diagnosis. Soren P. Rees.
48 Hay-Fever: A Reply. Floyd S. Muckey.

Medical Fortnightly (St. Louis), February 25.

49 The Treatment of Pernicious Vomiting of Pregnancy. Everett J. Brown.
50 Hygienic and Medicinal Treatment of the Pernicious Vomiting of Pregnancy. Arthur H. Flickwir.
51 Vaccination. John W. Hairgrove.
52 *The Necessity of, and Indications for, the Bed Treatment of the Insane. Frank P. Norbury.

Virginia Medical Semi-Monthly (Richmond), February 21.

53 Emmenagogues, Their Indications and Uses. J. Wesley Bovée.
54 Prophylaxis and Treatment of Puerperal Sepsis. Edward McGuire.
55 The Clinician and the Hematologist. B. M. Randolph, Jr.
56 Treatment of Fracture of the Humerus without the Use of Coaptation Splints. C. F. Rinker.
57 Sporadic Trichiniasis, with Report of a Case. R. M. Slaughter.
58 Abnormally Small Meatus Urinarius; Important Bearing in Genito-urinary Diseases; Operation. W. H. Prioleau.

Pennsylvania Medical Journal (Pittsburg), February.

59 *Address—Torsion of Arteries. J. W. MacFarlane.
60 *Some Respiratory Conditions Dependent upon Gout and Obesity. J. M. Anders.
61 *A Medical Examination as a Prerequisite to Marriage. J. C. Bateson.
62 Operative Treatment of Bladder Descent and Sacculation. George E. Shoemaker.
63 *Surgery in Its Relation to Neurasthenia. G. D. Nutt.
64 Tuberculosis of the Rectum. William M. Beach.
65 Some Rare Complications of Appendicitis. Ernest LaPlace.
66 Case of Ascites, Due to Hepatic Cirrhosis, Treated by Transplanting the Omentum between the Peritoneum and Abdominal Wall; Result with Autopsy Eight Months Later and Exhibition of Abdominal Viscera Showing Specimen and Horseshoe Kidney. W. J. Roe and Geo. W. Spencer.

Clinical Review (Chicago), March.

67 Trigeminal Neuralgia. Truman W. Brophy.
68 Treatment of Goiter. Joseph M. Patton.
69 Genital Prolapse. G. Frederick Shimonek.
70 Some Observations upon Appendicitis with Report of Some Unusual Cases. J. E. Allaben.
71 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Annals of Ophthalmology (St. Louis), January.

72 *On Trachomatous Spots in the Malay. L. Steiner.
73 *Amblyopia from Carbon Bisulphid Poisoning. F. C. Heath.
74 An Unusual Form of Superficial Punctate Keratitis. Wm. Campbell Posey.
75 *Residual Sensations as a Test for Diplopia or Heterophoria. Wm. R. Broughton.
76 Opacities of the Vitreous and Amenorrhea. R. Bylsma.
77 A Report of a Case of Dermoid Cyst of the Iris Not Preceded by Trauma. Albert C. Snell.

Buffalo Medical Journal, March.

78 Remarks on Sepsis and Its Treatment. James E. King.
79 What Shall Be Done with the Professional Midwife? Maurice J. Lewi.
80 Report of the Committee on Hygiene. Henry Reed Hopkins.

Bulletin of the Johns Hopkins Hospital (Baltimore), February-March.

81 *On a Simple Method of Preparing Epinephrin and Its Compounds. John J. Abel.
82 *A New Combined Electro-cautery Incisor for the Bottini Operation for Prostatic Obstruction. Hugh H. Young.
83 *The Distribution of Anopheles in the Vicinity of Baltimore. Leonard K. Hirshberg and Gustavus C. Dohme.
84 A New Method for the Demonstration of the Framework of the Organs. Joseph Marshall Flint.

Richmond Journal of Practice, January.

85 Cholecystostomy—A Clinical Lecture. Hugh M. Taylor.
86 The Diagnosis and Treatment of Puerperal Sepsis. Edward McGuire.

Brooklyn Medical Journal, March.

87 A Case of Partly Formed Lithopedion. George McNaughton.
88 Suspension and Fixation for Uterus Displacements. John C. MacEvitt.
89 Hydrotherapy: Its Present Status. John A. Shields.
90 *The Bacteriologic Element in the Etiology in Acute Catarrhal Conjunctivitis. P. Chalmers Jameson.
91 *Surgery of the Posterior Fossa, with Report of a Few Cases. Calvin F. Barber.
92 Nervous Dyspepsia. H. W. Lincoln.
93 General Pathology of Syphilis. Henry H. Morton.
94 The Physiologic Actions of Cinchona. Walter Bryan.
95 Influence of Ocular Defects on the Nervous System. J. W. Ingalls.

American Journal of Surgery and Gynecology (St. Louis), February.

96 Fibroma of the Abdominal Muscularis—Septate Uterus and Double Vagina. C. E. Ruth.
97 The Cure of Insanity by Surgical Removal of Sources of Nerve Irritation and Toxemia, with Special Reference to the Mouth. Ernest Hall.
98 The Treatment of Severe Burns. Allan Staples.
99 Surgical and Medical Epigrams. Lucien Lofton.
100 Some Observations on Cases of Tuberculosis of the Kidney Treated Surgically. Beverly MacMonagle.
101 Gastroptosis. Alexander McPhedran.

Journal of Tuberculosis (Asheville, N. C.), January.

102 *The Development of Tuberculosis in the Individual, with Some Remarks on the Tubercle Bacillus and Certain Allied Forms of Bacilli. H. Edwin Lewis.
103 *The Treatment of Tuberculosis at Home. Charles F. MaGahan.
104 What Should Be the Attitude of the Medical Profession Toward the Public and the Individual Suffering from Tuberculosis? William A. Dickey.
105 Tuberculosis and Childhood—A Résumé. William Jacobsohn.

Dominion Medical Monthly (Toronto), February.

106 Vomiting of Pregnancy. Walter McKeown.

St. Paul Medical Monthly, March.

107 *Renal Tension. Warren A. Dennis.
108 The Treatment of Chronic Suppuration of the Middle Ear and Mastoid Antrum. Cornelius Williams.
109 *The Sanatorium Treatment of Tuberculosis. H. Longstreet Taylor.
110 *Tuberculosis. Charles L. Greene.
111 On Sewage Disposal. George L. Wilson.
112 Water Supply. J. J. Flather.
113 Appendicitis. R. C. Dugan.
114 Median Nerve Palsy. Haldor Sneve.

Ophthalmic Record (Chicago), February.

115 A New Use of Prisms in Heterophoria. F. Park Lewis.
116 Operative Aphakia in Malignant Myopia. Charles H. Beard.
117 A Secure Advancement Operation Performed with the Aid of a New Tendon Tucker. Frank C. Todd.
118 Relapsing Traumatic Bullous Keratitis, with Cases. G. E. de Schweinitz.
119 Ocular Paralysis. M. F. Weymann.
120 The "Crossed Cylinder" in the Determination of the Refraction. E. C. Ellett.
121 An Unusual Result in a Case of Iritis. E. J. Gardiner.

Albany Medical Annals, March.

122 *Psychiatry in the Twentieth Century. Henry M. Hurd.
123 *The Treatment of Interstitial Nephritis. Douglas C. Moriarta.
124 What Shall Be Done with the Professional Midwife? Maurice J. Lewi.

Proceedings of the Pathological Society of Philadelphia, December, 1901.

125 Address, Pathological Society of Philadelphia. Frederick A. Packard.
126 A Contribution Concerning Creatinin Excretion. David L. Edsall.
127 Injuries of the Brain. William S. Wadsworth.
128 Secondary Carcinoma of the Lung (Hematogenous Infection). W. M. L. Coplin.
129 Abscess (Chronic) of Liver, Recrudescence Due to Secondary Infection(?); Thrombosis of Hepatic Vein and Vena Cava; Extensive Necrosis of Liver; Hemorrhagic Infarction(?). W. M. L. Coplin and L. H. Prince.
130 Cancer Thrombus in Branch of Hepatic Vein, with Infiltration of Wall. W. M. L. Coplin and L. H. Prince.
131 Fatty Cirrhosis in the Liver of a Dog. W. M. L. Coplin and L. H. Prince.

Providence Medical Journal, March.

132 *The Nature and Diagnosis of Glaucoma. F. T. Rogers.
133 *Treatment of Pneumonia. Edmund D. Chesebro.
134 The Early History of Medicine in Rhode Island. Donald Churchill.
135 A Case of Sunburn with Fatal Termination. Frank E. Burdick.
136 Report of a Case of Puerperal Eclampsia. Herbert T. Terry.

Canadian Journal of Medicine and Surgery (Toronto), March.

137 The Operative Treatment of Chronic Bright's Disease. A. Primrose.
138 Pulmonary Tuberculosis; Its Treatment and Prevention. A. P. Procter.
139 Treatment of Tubercular Affections of Bones and Joints. Clarence L. Starr.

Therapeutic Gazette (Detroit, Mich.), February 15.

140 Some Unsolved Problems in Medicine and Surgery. William B. Coley.
141 The Shock of Intra-abdominal Operations: Its Etiology, Prophylaxis and Treatment. Lewis S. McMurtry.
142 The Treatment of Itching. M. B. Hartzell.
143 *The Use of Anti-diphtheric Serum in the Treatment of Sepsis. D. Montgomery Paton.
144 *The Drug Habit and Its Cure without Pain. M. K. Lott.
145 An Unusual Case of Retention of Urine. Charles E. Ziegler.

Vermont Medical Monthly (Burlington), February 25.

146 Thoughts on Surgery. John B. Wheeler.
147 A Study of Idiopathic or Progressive Pernicious Anemia, with Clinical and Postmortem Reports of a Highly Interesting Case. Walter D. Berry.
148 Tuberculosis and Its Therapy. C. C. Carroll.
149 Vaccination. F. E. Clark.

Medical Times and Register (Philadelphia), February.

150 The Feeding of an Incubator Baby. Charles W. Townsend.
151 Sulphonal, Aspirin, Hedonal and Lycetol as Anti-arthritics. W. R. D. Blackwood.
152 Smallpox Cures. E. H. Judkins.
153 Impotence, Varicocele, Hydrocele and Other Genito-urethral Disorders. W. H. Walling.
154 The Treatment of Pulmonary Tuberculosis by Carbonic Acid. Hugo Weber.

The Medicus (Frederick, Md.), February.

155 *Observations on Seven Years' Use of Creosote in Pneumonia. J. L. Van Zandt.
156 *Some Remarks on Infections. H. P. Hamilton.
157 The Duty of the Medical Profession in the Prevention of Tuberculosis. J. F. MacDonald.

Chicago Clinic, February.

158 Prevalent Mistakes in Regard to Diseases of the Stomach. Jerome H. Salisbury.
159 The Significance of High Temperature in the Toxemias of Young Children. (To be continued.) Marcus P. Hatfield.

Medical Standard (Chicago), March.

160 A Medical Clinic. Frank Billings.
161 Pain and Its Indications. Edward C. Hill.
162 The Diagnosis of Adenoids. James M. Brown.
163 Treatment of Typhoid Fever. J. T. Moore.
164 Fractures of the Sternum, Scapula and Clavicle. Hime P. Heineck.

Nashville Journal of Medicine and Surgery, February.

165 Perforating Intestinal Typhoid Ulcer. Richard Douglas.

Southern Practitioner (Nashville, Tenn.), March.

166 Etiology of Malarial Fever. D. B. Blake.
167 Treatment of Pneumonia. M. Beshoar.
168 Some Obstinate Bladder Cases. George W. Hopkins.

---

1. **X-Ray Treatment of Malignant Growths.**—The following are the conclusions of Morton's article: What is accomplished by the *x*-ray? 1. Relief from excruciating pain and constant suffering, often immediately. 2. Reduction in the size of the new growth. 3. Establishment of the process of repair. 4. Removal of the odor, if present. 5. Cessation of the discharge. 6. Softening and disappearance of lymphatic nodes. 7. Disappearance even of lymphatic enlargements not directly submitted to treatment and often at some distance. 8. Removal of the cachetic color and appearance of the skin. 9. Improvement in the general health. 10. Cure, up to date, of a certain number of malignant growths.

2. **Yellow Fever.**—Doty replies to Souchon's article, which appeared in the *Medical Record* of December 28, and claims that nothing has effectually proven yellow fever to be transmitted by personal contagion, clothing or bedding, or proven that the mosquito is not the medium of infection in yellow fever. He quotes from the records of 1798 and 1806 in support of his point of view and reviews the facts deduced by Souchon and others which are interpreted by them as showing the need of quarantine. He is satisfied that we have reasonably conclusive evidence that yellow fever is not communicated by fomites.

3. **Pneumonia.**—The increasing mortality of pneumonia is noticed by Burt, who suggests as prophylactic measures, aside from disinfection of pneumonia expectoration, avoidance of undue exposure to the weather, ill ventilated assemblages, reasonable attention to sanitation, temperance in eating and drinking, daily bathing to insure healthy action of the skin and regular exercise in the open air with special reference to complete respiration. There is nothing better, he says, to purify the blood and thus fortify the system against infection than systematic deep breathing out of doors while briskly walking or engaged in horseback riding. Frequent changes of underclothing are also desirable. Lobar pneumonia, he says, is universal in diffusion, infectious in nature, unsurpassed in frequency and fatality. The mortality can be reduced, if it can not be eradicated, only by incessant sanitary promulgations.

4. **Diabetic Coma.**—Mayer describes the symptoms of diabetic coma, its causes, diagnosis and pathology, holding that—of the various hypotheses that have been advanced—only two seem to be tenable, namely, that of acidosis or acid intoxication and that of specific toxemia, as taught by Klemperer and von Noorden. One is really a continuation of the other. He notices the theories which might suggest treatment, the experiments of Schwarz with glyconic acid, and remarks that another rational method would be the introduction in the system of a sufficient quantity of ammonia to unite with the various acids found in the condition of acidosis, so that when neutralized the acid intoxication will be reduced, the alkalinity of the blood kept at its normal and the disintegration of proteids prevented. He believes he has accomplished the same results as Schwarz in averting coma by the administration of very large doses of urotropin, and reports a case. The patient was given as much as 20 to 60 grains daily for a considerable period, together with bicarbonate of soda. His reason for using urotropin is that it is a chemical combination of ammonia and formaldehyde, which in the presence of acid splits up into its component parts. This separation takes place in the kidneys, the ammonia being absorbed by the kidneys themselves, thus entering the circulation and neutralizing any acids, while the formaldehyde passes out with the urine. The patient died of asthenia, but coma was apparently averted.

5. **New Test for Albumin.**—The test here described by Fuhs consists in mixing equal volumes of urine and the emul-

sion of equal parts of carbolic acid and glycerin. This makes a perfectly transparent and highly refractive liquid, with normal urine, but if albumin is present, produces a white turbidity, which remains in spite of agitation and does not precipitate. The test is very sensitive, showing the presence of 0.1 per cent. of albumin in the urine, the degree of turbidity corresponding to the amount of albumin contained.

10. **Rectal Valves.**—Martin's article is a reply to one by Bodenhamer appearing in the *New York Medical Journal* for December 28, which was briefly noticed in THE JOURNAL of January 11, p. 130. He reports and illustrates cases which demonstrate, he thinks, the existence of rectal valves and their effects in producing constipation. Congenital valvular obstipation is, he thinks, not uncommon, though he has met with but comparatively few cases in adults. It may be more frequent in early life, children gradually growing out of it with the growth of the rectum, but one skilled in proctoscopy can tell the patient after examination whether or not he as a child suffered from difficult defecation.

12. **The Civilized Indian.**—The condition of the New York Indians on the reservation of Cattaraugus is described by Lake, who finds that they have seriously degenerated under civilization both physically and mentally.

14. **Vasectomy.**—Sharp recommends the performance of vasectomy in hereditary degenerates liable to propagate their defects. He has performed it on 42 patients and claims that it does not impair the sexual power, but improves the physical and mental condition. The method he has adopted lately is the English one which selects the scrotal region as the site. Grasping the vas between the thumb and index finger, make a longitudinal incision about three-eighths of an inch long and sever the vas. This ends the operation and the scrotal wound is not closed. He believes the authority should be given to render every male sterile who passes as an inmate, the portals of the almshouse, insane asylum, institute for feeble-minded, reformatory or prison.

18. **X-Ray Burns.**—Codman reviews the literature of accidental *x*-ray burns and discusses the pathology, classification, etc. The total number of cases which he has been able to find reported is less than 200 and he asks how many exposures this represents. He assumes that these statistics would be drawn from over 1,000,000 exposures and therefore only about 1 case in 5000 has been injured and less than one-half of these seriously. If we make doubly sure by assuming five times as many as reported, we find that only one case in 1000 has been injured. Again, if we include the past year taking only the cases in account that we find, there are 1 or 2 in 200,000. This evidently makes the case harder for the operator if a burn should occur. The largest number reported in any one year since 1897 is 23, and this probably includes a number of cases occurring in earlier years. Only one was reported in 1901. The actual cause of the burn is not known. Most writers agree that it is not heat, nor the brush discharge, nor the photographically active *x*-ray itself, but some form of energy radiating from the platinum terminal with the *x*-ray and probably closely related to it and to ultra-violet light. X-ray injuries are classed by the author in five divisions. The first he calls skiagrapher's dermatitis, occurring usually in workers with the *x*-ray and due to repeated short exposures. These cases are usually mild, but may go on to ulceration and gangrene. The skin generally remains chapped and rough, the wrinkles are obliterated by the swelling and the nails are affected. In the worst form the skin is entirely destroyed and the tendons and joints are involved. The next three classes occur accidentally in patients who are exposed once or several times at short intervals for skiagraphy and may be directly compared to burns of the first, second and third degree. The fifth group includes cases where some internal lesion is attributed to the *x*-ray, but the author does not find any reason to believe in its existence. Codman agrees with the balance of opinion which attributes these results to a primary action on the trophic nerves of the blood vessels and skin. The slowness of their appearance, the progressive character and failure to react to stimulating treatment bear out this view. The severe lesions are atrophic ulcers rather than burns. Of the cases where the character of the lesion is recorded, 167 in number, 53 were skiagrapher's dermatitis, 14 were of the first degree, 29 of the second, and 71 were of the third. As regards the machine used, where the kind of apparatus was recorded, 11 were due to static machine, 3 severe; 11 were due to the Tesla coils, 5 severe; 40 were caused by forms of induction coil, of which 18 were severe. It is probable that coils may have been used much more than static machines or Tesla apparatus, and he notices the general impression among experts that the static machine is the least dangerous; but this shows that it certainly is not free from danger. In only 16 cases were the spark length and other data recorded. The spark length varied from 4 to 12 inches. In many cases the quality of the primary current is noted, but since the tube is actuated by a secondary current the figures have little value, *a priori*. However, the greater the amperage of the secondary current, the greater the chances of danger provided the voltage also is considerable. The quality of the tube is usually reported as soft and soft tubes are supposed to have more therapeutic influence. It is probable that the distance from the skin and the time of exposure have more influence than this factor. The maximum recorded distance from the tube to the skin in cases of injury was 50 cm. (statement of the patient), the minimum recorded distance from the tube to the skin 1 cm. The maximum recorded time of exposure of skin is 20 hours (in 10 exposures), the minimum recorded time 5 minutes; other data are not given. There is probably considerable inaccuracy in these figures, and Codman makes calculations showing the standard of comparison to represent the total exposure in a given case expressing the total time and distance. This is based on the simple law of radiation of light or other energy. From this he reduces all to a uniform figure, giving the formula, time divided by twice the distance equals the equivalent exposure in minutes at one inch distance. Taking the recorded cases he finds that the minimum exposure producing injury was equal to .05 of a minute at a distance of one inch. According to the formula given it would require 5 minutes exposure to produce the same injury at ten inches distance and nearly one-half hour at 24. The idiosyncrasy of the patient is, of course, to be considered a factor which can not be calculated or controlled. He adopts, making the calculations from all the facts, as a standard therapeutic exposure, 10 minutes at six inches, which is equal to .28 at one inch.

19. **Chicken-Pox.**—The views of Hebra, Kaposi and others as to the identity of chicken-pox with variola are mentioned by Schamberg, who then reports an epidemic of chicken-pox occurring in children who were just recovering from a variola outbreak. The only relationship he maintains that exists between chicken-pox and smallpox is the occasional strong resemblance, neither exerting any immunity against the other.

21. **Colon Bacillus.**—The conclusions of Rosenberger are given as follows: 1. That, while not affording a specific reaction in the case of the bacillus coli communis, neutral red agar should be classed as a valuable differentiating medium. 2. The typhoid bacillus, while it does not cause a fading of the color of the medium, never gives rise to the fluorescence noticed in some cultures of the bacillus coli communis. 3. Further, the test medium should not be depended upon as the only differentiating one in the examination of water, as several very common bacteria found in water give the same reaction.

23. **Venom and Antivenene.**—McFarland's article is continued, and in this issue consists mainly of a review of the literature.

24. **Apomorphin in Alcoholism.**—The author's attention was called to the use of apomorphin in alcoholism by an article by Dr. Douglas in the *New York Medical Journal*, and they give a review of reports of its similar use in the literature and the statements as regards the hypnotic action of the drug. They report the results of experiments made in the Bellevue Hospital with the use of this drug, having employed it in about 300 cases both of acute and chronic alcoholism and delirium tremens. They find that it is a decided hypnotic and sums up their conclusions thus: 1. To obtain a hypnotic action with apomorphin it should be given hypodermically. 2. The dose can not be fixed. It is best to begin with a small

dose—1/30 gr. or less—and to repeat this or give a slightly larger dose within a short time. Further doses should not be given after vomiting occurs, until several hours have passed. 3. Doses repeated in two or three hours have but little beneficial effect. 4. The administration of apomorphin should not be repeated in patients who are weak. 5. The duration of the hypnotic action is only a few hours and when the patient awakes his condition is practically unchanged, except in "ordinary drunks." 6. The best results are obtained from apomorphin when it is followed in two or three hours by some recognized hypnotic, as bromid, chloral or paraldehyde. 7. Solutions of apomorphin are unstable, and should be freshly made for use. Old solutions should never be used. 8. Apomorphin may be employed as a hypnotic in selected cases of alcoholism. We obtained the best results in "ordinary drunks" and in cases verging on delirium tremens. But in some of these cases the drug has no effect whatever. 9. The administration of apomorphin to patients in delirium tremens is, in our experience, without beneficial result, and may even be attended with danger from its depressing action."

26. **Proteosuria.**—Among the proteid products occurring in the urine under various conditions are proteoses, which seem to be chemically identical with those formed normally in the gastro-intestinal tract during the digestion of albuminous matter. Mosenthal and Gies have investigated the statement of Freund in regard to the method of detection of peptone in the urine and feces and point out that he has given a rather wide signification to the term peptone and seems to have had proteoses in mind. His method is a simple one, consisting in acidifying 10 c.c. of urine with acetic acid and then treating with 20 per cent. neutral or basic lead acetate. The milky mixture is then boiled thoroughly and the precipitate filtered off. The filtrate is then treated with potassium hydroxid as long as lead hydroxid continues to form. The mixture is then boiled again for a minute or two. The filtrate, it is claimed, is entirely free from urobilin and contains a little more than 90 per cent. of the proteose originally present in the urine. This may finally be detected with the biuret reaction. From numerous experiments to test the validity of this method, examining not only urine and feces, but normal urine treated with Witte's peptone, gelatins, various diuretics, albumin, ox blood, gastro-intestinal mucus, etc., positive results were obtained though they should not occur in the normal excretions. The results show, they think, that Freund's method is not a differential process and can not be safely applied to the urine or feces as a peptone test. They show that the peptones, proteoses and gelatins may each give positive results with it in the urine and feces and that sero mucus in the urine might also affect the final reaction.

28. **Sprue or Psilosis.**—Musgrave has studied this condition in soldiers coming from tropical countries and remarks on the failure to notice it in medical literature. It consists in an inflamed, eroded condition of the tongue and mucous membrane of the mouth, associated with flatulent dyspepsia, pale, copious and generally loose, frothy, fermenting stools, wasting anemia and irregular alterations of exacerbation and quiescence and a tendency to relapse. It follows prolonged residence by whites in the tropics. The disease in the alimentary canal and mouth regions consists of superficial erosions and ulcerations and may extend to the esophagus. In at least 13 of the 16 cases which came under Musgrave's care it existed as a complication or symptom of other diseases. The cases are reported in detail. In the majority, amebic dysentery was the underlying condition. (The article is to be concluded.)

32. **Wounds of the Hand.**—Whitacre reviews the various conditions following wounds of the hand and their treatment. First he speaks of simple felon occurring on the fingers or palm of the hand and insists on the importance of free incision under local anesthesia with the ethyl chlorid spray. He urges absolute cleanliness in the after-treatment and advises the use of antiseptic salts such as a one per cent. solution of aluminum acetate, the use of continuous hot baths, free drainage and wet dressings. A somewhat similar treatment follows acute diffuse cellulitis infection. He calls attention to the importance of treating every kind of wound of the hand with the possibility of such infections in view. He describes the symptoms, but the details of the article are too elaborate to be fully mentioned here. In conclusion he mentions dog bites and insists on the importance of ascertaining the condition of the dog and if it proves rabid, following up with specific treatment as carried out in the Pasteur institutes of New York and Chicago. For preventive cauterization against infections he recommends 10 per cent. solution of chlorid of zinc, as its action goes deeper in the tissues than that of any other agent.

35. **Serotherapy in Epilepsy.**—This article by Ceni, which took the Craig Colony prize, covers the subject of serum injections in this condition. Starting with the autotoxic theory Ceni was led to consider the blood serum of epileptics as having therapeutic possibilities. He tried first to study the effects of small doses of epileptic serum injected into other epileptics, but no results worthy of mention were obtained. He then attempted to see if progressive doses of the same serum would render an epileptic more resistant to the dangers or action of poisons circulating within him. He made his first experiments upon animals and found that they suffered no permanent deleterious effects, but increased steadily in weight. He then tried it on patients using both their own serum and that of other patients, maintaining the most thorough asepsis and reports in this installment of his article 8 cases out of 10 thus treated. They have been under observation during a period varying from one to two years and all presented the severest form of idiopathic epilepsy, both as to number and intensity of motor crises and as to the presence of psychic or sensorial phenomena. He obtains his serum from the patient, carefully ascertaining his condition beforehand to avoid transmitting disease; divides the serum into small bottles holding 10 c.c. each, adding only some camphor. To insure preservation he has long used fractional sterilization, which at low temperature has no influence on the action of the serum. He always begins with 3 to 5 c.c. and increases gradually up to 10 or 20 c.c. in thirty or forty days. The patient reacts violently to the first injection, however small, and this progressive method is therefore necessary. During the first month he injects into the glutei at intervals of a few days, in increasing doses, a quantity of 40 or 50 c.c. During the following months, after the adjusting period is passes, he carries the total dose to 80 or 100 c.c., especially when the patient begins to improve. In these cases he continues the injections until he thinks the maximum dose has been obtained which is inferred when there is no longer any reaction to the doses. Of the eight cases reported in this paper improvement occurred in nearly all and in two cases there seemed to be a practical cure.

36. **School Hygiene.**—Chapin suggests various measures in school hygiene and in the way of instructing children in cleanliness and avoidance of everything that will produce disease. He says children should be taught: Not to spit; it is rarely necessary. To spit on a slate, floor or sidewalk is an abomination. Not to put the fingers into the mouth. Not to pick the nose. Not to wet the finger with saliva in turning the leaves of books. Not to put pencils into the mouth or moisten them with the lips. Not to put money into the mouth. Not to put pins into the mouth. Not to put anything into the mouth except food and drink. Not to swap apple cores, candy, chewing gum, half-eaten food, whistles, bean blowers or anything that is habitually put in the mouth. Teach the children to wash the hands and face often. See that they keep them clean. If a child is coming down with a communicable disease it is reasonable to believe that there is less chance of infecting persons and things if the hands and face are washed clean and not daubed with the secretions of the nose and mouth. Teach the children to turn the face aside when coughing and sneezing, if they are facing another person. Children should be taught that their bodies are their own private possessions, that personal cleanliness is a duty, that the mouth is for eating and speaking and should not be used as a pocket and the lips should not take the place of fingers."

40. **Urticaria of the Upper Respiratory Tract.**—The condition described in Somer's paper seems to be much the same as has been reported by various authorities as the faucial and pharyngeal manifestations of angioneurotic edema.

41. **Hematuria for Movable Kidney.**—In the case reported by Cabot there was a hematuria with symptoms which seemed to indicate that it was due to dragging on a movable kidney; it was apparently mitigated by a change of position, which relieved the dragging. The patient was finally cured by operation. He has studied the literature to find similar cases and finds but one which corresponds exactly in its description. It is plain, he says, that a kidney with short vessels will be quick to feel the effect of a downward pull. With a kidney lying unusually high, it is conceivable that this pull might produce considerable obstruction to the circulation before the organ came down low enough to be regarded as a movable kidney. Cases of hematuria are occasionally reported in which no cause can be discovered and in which cutting down upon the kidney and splitting the capsule effects a cure. He asks if some of these may not be instances of congestion from the unrecognized downward drag, which has been corrected by the adhesions following the incision into the kidney.

43. **Spinal Fracture.**—The following are the conclusions of Walton's article: 1. There are no symptoms which establish (otherwise than through their persistence) irremediable crush of the cord. 2. While total relaxed paralysis, anesthesia of abrupt demarcation, total loss of reflexes, retention, priapism and tympanites, if persistent, point to complete and incurable transverse lesion, the onset of such symptoms does not preclude a certain degree at least of restoration of function. 3. The prognosis without operation is grave. 4. While the results of operation are not brilliant, they are sufficiently encouraging to warrant us in making the practice more general. 5. In most cases it will be wise to operate within a few days of the injury; but a delay of some hours is advisable, partly on account of shock and partly to eliminate the diagnosis of simple distortion. 6. We have no infallible guide to the extent of the lesion. The operation, at the worst, does not materially endanger life nor affect unfavorable the course of the case, and may, at least, reveal the lesion and lessen the pain; it may sometimes save a patient from death or from helpless invalidism of the most distressing character. Instead of selecting the occasional case for operation, we should rather select the occasional case in which it is contra-indicated (the patient with great displacement of vertebræ, the patient with high and rising temperature, the patient plainly moribund, the patient still under profound shock). 7. The dura should be opened freely; it need not be sutured; drainage is not necessary.

52.—See abstract in THE JOURNAL, xxxvii, p. 934.

59. **Torsion of Arteries.**—The subject of MacFarlane's address is arterial torsion after hemorrhage, and he advocates it as expedient and effective. It will not absolutely prevent secondary hemorrhage, but it is, he believes, as effective as ligation, and in the Western Pennsylvania Hospital it is considered the best method for arresting hemorrhage. The rule is to perform torsion in all cases when not contra-indicated; oozing veins are treated in the same way. In most cases of amputation there were no ligatures or sutures except those of the flaps. Amputations contiguous to tissues that have undergone changes in chronic inflammation are mentioned with the probability that torsion will not suffice, but MarFarlane is rather inclined to believe in its efficiency even in these cases. He reports from the records of Dr. Murdoch showing a number of cases in which it has been used. In his own last term of service, in 17 cases there were 13 with 15 amputations of either the leg or thigh, one being a double amputation and another a second amputation in senile gangrene with atheromatous arteries. This last case died, being the only fatality. In all these cases hemorrhage was arrested by torsion, with the exception of the nutrient artery of the bone, which was plugged.

60. **Gout and Obesity.**—Anders calls attention to certin complications of these conditions such as a hyperemic type of bronchitis with troublesome cough, and frequently copious, mucoid expectoration, which he finds especially in the anemic variety, associated with the phlegmatic temperament. Dyspnea is common in this type also, although it is not so frequent if the patient be plethoric. The bronchitis of anemic obesity runs a slow and often irregular course, unless the underlying causative condition is relieved. Closely connected with this variety of bronchitis and to some extent dependent upon it is asthma, the attacks usually occurring at night after hours of sleep, as they do from other causes, such as gastric disturbance. Its cause seems to be associated with the gouty diathesis and hepatic inadequacy. His own observation and experience lead him to think that the severe paroxysmal dyspnea seen in obesity is, in many cases, not a true asthma; and the attacks are often relieved by assuming the erect posture. Genuine asthma may occur, though less often than supposed. The question of the relation of asthma to polysarcia is somewhat obscure. His own tentative conclusions are: 1, that asthma occurs in about 5 per cent. of the cases of obesity; 2, that it only occurs in extreme polysarcia; 3, that a gouty state or history is found in most cases in which true asthma is secondary to obesity; 4, that about one-half of the cases are curable by overcoming the causative condition." The dry, chronic bronchitis of Laennec is recognized by most writers as a distinct variety of bronchitis due to the gouty state and is to be regarded as part of the general fibroid process in some cases. In conclusion he calls special attention to the form associated with hepatic and renal inadequacy and a highly acid urine; a type of lithemic bronchitis characterized by dry irritating cough with slight expectoration and no specially peculiar physical signs. Exacerbation may occur at any season of the year, depending upon fluctuations in the uricacidemia. The principal thing in the treatment of these cases is to recognize the cause and treat the lithemic state.

61. **Medical Examination in Marriage.**—Bateson maintains that a person should consider his health as a matter of entailment; that heredity should always be considered in marriage, hence the duty of everyone to consider the possibility of transmission of his own physical defects. It is evident that medical examination as an essential preliminary to marriage would be a great aid in preventing the production of defective human beings.

63. **Surgery in Neurasthenia.**—The various conditions of disease capable of surgical relief are noticed by Nutt, who wishes to emphasize the following points: 1. That there are many pathologic lesions of various organs, which, by nagging and goading the nerve centers, will sooner or later cause various neurotic disturbances called neurasthenia. This result often overshadows the original lesion which causes it. In order to fully appreciate and detect these reflex disturbances as we meet them in general practice, we must have more intimate knowledge of the abnormal conditions of all the organs. 3. That by restoring or correcting these diseased or displaced organs, the nervous symptoms will often promptly disappear. 4. That in another large class of neurotic patients with organic lesions, an important part of the treatment is to remove these lesions, in connection with the medical treatment necessary to restore the nerve function itself. 5. That knowing the effect of various diseased organs and anatomical lesions on the nerve centers, their early correction or repair would save years of invalidism and mental suffering to a large number of patients.

72. **Trachoma.**—Steiner describes, occurring in Malays, certain diffuse brown colorations with interspersed darker places extending from the cornea over the conjunctiva, and regular round black spots like ink, from the size of a pinhead to that of a pea, produced by trachoma. They have no pathologic importance, but if he followed the practice of some oculists in Europe of removing black spots from the conjunctiva to prevent the production of malignant tumors he would have to operate on about one in every ten Malay patients. Similar patches appear in other colored races. He has seen them in the Chinese and in one full-blooded Arabian.

73. **Carbon Bisulphid Poisoning.**—Heath reports a case

which he thinks is the second one in this country and describes the symptoms: headache, vertigo, irritable temper, nausea, ringing in the ears, replaced later by insomnia, low spirits, anesthesia and weakness. In advanced cases mental debility is observed. The eye symptoms may appear in the first stage, but the complaint of fogginess is most pronounced in the latter stage. The central visual acuity may be reduced to counting fingers at three meters or seeing only large type. There is generally pallor of the optic disc on its temporal half, though the fundus may be normal. The question whether it is a retrobulbar or axial neuritis or a lesion elsewhere is of interest, but he does not express a positive opinion. The prognosis is favorable and recovery rapid if only the early symptoms are experienced, but if mental and muscular weakness occur, permanent injury may be produced.

75. **Residual Sensations.**—Broughton criticises C. F. Cooke's test for diplopia with residual sensations and the measure of ocular muscle imbalance. Cooke's theory is that when one eye is closed, with relaxation of the levator palpebræ muscle, there is less tendency to fusion of images and the closed eye assumes its natural position more readily than when simply shielded by a screen. If the eye tends to deviate from its fellow there will be transient diplopia on opening and a second image of a candle-flame or a luminous point will be seen to merge quickly into the image seen by the other eye. Broughton has found this test very unreliable. The pressure exerted on the globe by the eyelids in the natural effort of closing one eye without the other is enough, in his opinion, to produce deviation in the axis of vision observed. He thinks such a statement as that of Cooke's is misleading and the article should not be passed without criticism.

81. **Epinephrin.**—Abel describes the method of producing this material and its behavior under different re-agents. He finds that the blood-pressure reducing constituent of the suprarenal gland can be isolated by his method in the formation of a basic, minutely crystalline though unstable compound which agrees in some of its properties with the substance he has called epinephrin while it fails to exhibit certain other qualities equally fundamental and characteristic. Mineral acids, however, easily convert this substance into one which is physiologically active and also gives all the characteristic reactions of epinephrin. Highly soluble and apparently stable salts of therapeutic and chemical importance are therefore easily made. Further analyses will soon be given showing the changes that take place under the influence of acids, how these new compounds agree with those of the former series described by the author and how far the substances isolated by zinc processes agree in composition with those similar and probably identical compounds contained in the material analyzed by Aldrich and Takamine.

82. **Bottini's Operation.**—Young describes a new instrument which differs from the Freudenberg apparatus by having interchangeable blades and other alterations such as the shape of the handle and beak. He thinks these are decided advantages, and reports a number of cases showing the working of this instrument. He calls attention to the special local examination which should be made with the catheter, finger and cystoscope to locate and diagnose the exact condition in the prostate and emphasizes the importance of employing the Bottini operation in accordance with the character of the prostatic obstruction as thus ascertained.

83. **The Anopheles of Baltimore.**—Hirshberg and Dohme give results of their investigation on waters and regions around Baltimore with special reference to the destruction of malaria-bearing mosquitoes. They find that two species breed there, one in the higher regions, the other in the lower and salty marshes. The distribution is such that they conclude the extirpation of the mosquito is an impossibility and the prophylaxis of malaria will have to be confined to the careful screening of doors and windows and the protection by screens of persons already infected from mosquito malaria. The disease should also be reported to the board of health to enable them to take precautions.

90. **Bacteriology of Conjunctivitis.**—From a study of the subject, Jameson concludes: "1. That the etiology is probably not primarily bacteriologic. 2. That acute and more often chronic hyperemia of the conjunctiva is probably the exciting cause. 3. That the condition resulting from this vesicular derangement is a change in the fluid constituent of the conjunctival sac by the outpouring of sanguineous exudate from its impaired vessels. 4. That this in turn gives to organisms already existant in the sac, principally the staphylococcus epidermis albus, a suitable nidus for rapid propagation. The normal equilibrium being immediately overthrown, diminished resistance, epithelial abrasion, altered secretion, and impaired irrigation antagonize and overpower the attributes the organ possesses of maintaining the sac in health."

91. **Brain Surgery.**—Barber reports several cases in which he opened the posterior cranial fossa in apparent tubercular disease with good results. In another case of ruptured cyst, in which drainage was instituted, the patient did not recover, although the symptoms were for a while somewhat relieved. He calls attention to the advantage of drainage in this most inferior portion of the cranium over puncture through the fontanels and direct drainage in the lateral ventricles. The natural position of the head in operation on the hind brain is all that is to be desired. It is possible that in tubercular cases the mere exposure of the diseased parts to the air may be of value, as in peritonitis. While his results have not been brilliant, still he has prolonged life and made it more durable.

12. **Tuberculosis.**—Lewis has studied the action of sputum inoculations in different stages in guinea-pigs and believes that the tubercle bacilli found in the late stage of pulmonary tuberculosis are more virulent than those found at the onset, though as yet he has not accumulated sufficient evidence to positively establish this point. He thinks the tubercle bacillus is evolutionary in character and that this evolution is evidenced by certain variations and gradations in a morphology and virulence modified by the chemic or biochemic conditions of different environments. We do not as yet know enough about the vital resistance or immunity. The cure of tuberculosis is as far in the distance as ever. He emphasizes the fact that development of tuberculosis in the individual is the result of coincidence not in one but in several conditions, viz.: 1. A potent tubercular infection depending for its potency on a certain degree of virulence. 2. A certain negative chemic or histologic condition of the lymph nodes, resulting from hereditary tendencies or from circumstances of environment, which fail to arrest or inhibit the growth and systemic ingress of potent tubercle bacilli. 3. A retrograde metamorphosis of structural cells in some part of the body, more particularly in the lung, from trophic, traumatic or toxic influence which favors the local growth of the invading germ. Thus a particularly large amount of a specific virulent tubercular infection might overcome resistant conditions and on the other hand, a weakened lymphatic system would be more vulnerable to a non-potent infection.

103. **Home Treatment of Tuberculosis.**—McGahan admits that the sanatorium furnishes the best results; but for the majority of patients who have to be treated at home he recommends certain rules. He suggests keeping the patient as much as possible out of doors, if necessary building a tent in the back yard or putting the bed on a balcony or roof. The disease should be recognized early to protect other members of the family and the patient's sleeping quarters must be isolated. The habit of kissing should be prohibited. The patient should rinse out his mouth with an antiseptic solution every day. All the necessary precautions for the protection of sputum should be carried out. Ventilation of the apartments in which the patient lives is emphasized and he should not be afraid of night air. Use a room with a fireplace instead of a stove. Proper feeding is as important as ventilation, and McGahan would give the patient as much nourishment as he can assimilate. It is well to give some hot drink in the morning on wakening, before getting out of bed, such as a glass of hot milk,

cocoa or beef tea. This loosens the mucus and strengthens the patient. If the digestion permits it is wise to give three meals a day and also some light food between the meals and upon going to bed. But one should not overtax the digestive organs. He strives to have the patient take daily from one and a half to two gallons of milk and at least four eggs, cooked in any way except fried. Roast beef, beef steak, mutton, lamb, turkey or chicken with vegetables should be given with enough variety to tempt the appetite. Plain pudding or fruit may be allowed for dessert, but the eating of pastry should be discouraged. Alcohol is to be used only when the patient needs stimulation. While there is fever it is well to keep him in the reclining position, as in a reclining chair, but when the fever ceases exercise should be encouraged, especially to expand the chest, but fatigue must be avoided. There is no specific drug. Tonics may be used and he finds the best results from iron, strychnia, codein and arsenic. Cod-liver oil and malt are foods and when properly administered can be taken by any patient. The gastric function should be watched. Each form of tuberculosis must be treated according to the symptoms. Cough needs no treatment unless it disturbs the rest; in this case codein and heroin have served the best purpose. When the patient has had no fever for six months, cough has ceased and the tubercle bacilli are lacking in the sputum, we may consider him cured, but the patient should afterward live in good air, have plenty of it day and night and, if possible, follow an occupation that will keep him out of doors. In any case he should be watchful in regard to his health.

107. **Renal Tension.**—In this paper Dennis takes up the view of Reginald Harrison on the effects of renal tension and reports cases. He believes that attention should be directed to this element in the pathology of the kidney and the importance of considering the possibility of rendering surgical relief where medicine seems to fail.

109. **Tuberculosis.**—The advantages of the sanatorium treatment of tuberculosis are enumerated by Taylor and the corresponding difficulties of carrying on the same treatment at home. Co-operation and example of other patients and close medical supervision overcome the patient's prejudice and make him do what is best for himself.

110. **Tuberculosis.**—Greene believes that we should have a national board of health, with a cabinet officer at its head, to direct a national crusade against such diseases as tuberculosis. We should disseminate information in regard to this infection; insist on regulation, enforcement of laws against spitting in public conveyances and walks; demand frequent and thorough disinfection of sleeping cars, hotel apartments and public buildings, and the most rigid inspection of all meats and dairy products. There should also be provided sanatorium hospitals for the consumptive poor and societies should be formed for the enforcement of sanitary regulations and dissemination of information along the lines suggested.

122. **Psychiatry in the Twentieth Century.**—The conditions and treatment of the insane at the present time are reviewed by Hurd and historic facts referred to. He calls attention to the importance of the study of the pathology of the condition, the ineffectiveness of medical treatment, the need of better clinical studies, proper management and location of hospitals, special training for those who care for lunatics, the assumption of this care by the state, attention to the different classes of patients and doing away with the political management of insane hospitals. The last mentioned he calls one of the greatest evils of the day. As regards prophylaxis of insanity, he considers especially the injudicious use of alcohol and thinks we should have some efficient measures for controlling this evil. The importance of heredity should also be insisted upon and the public instructed accordingly so that the propagation of insanity may be checked.

123. **Interstitial Nephritis.**—Moriarta insists on the importance of hygiene, proper climate, a regular quiet outdoor life, regulated diet, and avoidance of uric-acid producing substances. A milk diet is admirable in cases of chronic uremia. He sees no objection to a limited amount of tea and coffee when the kidneys are secreting a proper amount of fluids and solids; a light animal diet with vegetables and cereals is permissible. The amount of animal food depends upon each individual's condition. Alcoholic beverages may be in some cases a very grateful and necessary stimulant, but malt liquors are objectionable. A light wine with only a small percentage of alcohol is best. The secretion of urine should be carefully watched, and all these matters should be observed continuously. A few drugs, such as iodid of potassium, bichlorid of mercury or calomel in small continuous doses and tincture of muriate of iron, associated with the proper prophylactic measures are useful in these conditions of chronic nephritis before organic changes become marked. The cause of the condition should be considered, whether of syphilitic, gouty or metallic origin, and the treatment directed accordingly. When exacerbation occurs with mild uremic symptoms, the patient should go at once to bed and the bowels should be relieved by some saline cathartic, preceded or not by calomel as may be determined. While ventilation is necessary, chilling is to be avoided. A light diet should be at once instituted and a quantity of water given at regular intervals; hot water is best and ice water should be avoided. Cream of tartar water is useful when the secretion of urine is scanty and vapor baths are also serviceable. The condition of the heart and vessels should be ascertained, and when the attack does not clear up, urinary secretion keeps down and edema appears, we must act quickly; cardiac stimulants and drastic purgatives are of use. Elimination by the skin must be utilized as quickly as possible. If convulsions occur, chloroform should be inhaled, morphia given hypodermically and chloral by the rectum. If the right side of the heart is engorged, he believes a little blood-letting from the arm may be of use. The successful treatment of this condition requires that one should be familiar with the physiologic action of the remedies, in addition to the thorough appreciation of the pathological condition of the patient.

132. **Glaucoma.**—The lack of diagnosis of this condition and misdirected treatment and consequences are specially noticed by Rogers, who cautions against the indiscriminate use of atropin in eye diseases. He reports cases and says: "Always think of glaucoma when you look at an inflamed eye and then no mistake will be made." Mydriatics act badly by crowding the iris into the filtration angle and tend to block it, this increases the ocular tension and they may even thus produce glaucoma by their action.

133. **Pneumonia.**—The important features of the treatment of pneumonia are summarized by Chesebro as follows: "1. Place the patient under the most favorable hygienic conditions with special reference to ventilation. 2. Carefully regulate the diet, guarding against constipation and insisting upon the liberal use of pure, cool water. 3. Early in the course of the disease employ counter-irritants, particularly in the broncho-pneumonia of children. 4. Relieve distressing cough by inhalations and if necessary by the use of opium or its derivatives. 5. Relieve pleuritic pain by the intermittent use of hot or ice poultices or by the subcutaneous use of morphia. 6. Reduce temperature, if necessary, by bathing. 7. Stimulate heart with strychnin and in selected cases with alcohol, digitalis and normal salt solution. It is possible that venesection, which may be followed immediately by the injection of normal salt solution, is indicated in certain cases of engorged right heart and if boldly done may be instrumental in saving life. 8. Employ large and frequently repeated doses of antipneumococcic serum in desperate cases, particularly in those with a tendency to extension of the inflammatory process."

143. **Antidiphtheric Serum in Sepsis.**—Paton recommends the use of this drug by the mouth in cases of sepsis. He reviews the authorities to some extent to show the action of the gastric secretions upon antitoxin. He has given over 8,000,000 units of diphtheria antitoxin by the mouth during eight and one half years and claims that it proves the value of the method. The form in which he gives it is to add carmin 8 gr. to the ounce to the British pharmacopeia solution of tragacanth. The formula then runs:

Diphtheria antitoxin, 3000 units;
Mucilag. tragacanth. carmin, q. s.;
Aqua, q. s. ad f℥iiss.

The dose usually given is half an ounce and varies from night and morning to every six hours, the latter only in exceptionally severe cases. For erysipelas half an ounce every eight hours is usually effectual. For acute peritonitis or appendicitis repeat the above dose in two hours, again four hours later and then in eight hours more. This usually does all that is required. Abscess when formed usually requires operation, but the use of antitoxin may relieve the constitutional symptoms and if employed in time may abort the abscess. For children the same dose may be given, but for small children one-half the dose is effective. In about one per cent. of the cases a little kidney irritation or skin eruption may be seen; both are only transitory.

144. **The Drug Habit.**—The method employed by Lott is the use of hyoscin in free doses. In the opium habit he gives nothing to move the bowels, for as soon as the opium is out of the system a bilious diarrhea sets in. The patient should have had his customary dose of opium an hour or so before beginning the treatment. Lott gives the patient about 1/100 of a grain of hyoscin hydrobromate and 1/20 of a grain of strychnia nitrate and repeats with 1/200 of a grain of hyoscin every thirty to forty-five minutes until he finds the amount that will affect the patient. When the dose is determined, it is administered about once an hour for forty-eight hours, never leaving the patient for a minute. In case of alcohol habit he begins with a purge of calomel and if the patient is not using morphia also he could be given a dose of that drug to quiet him at the beginning or during treatment. At the end of forty-eight hours' treatment with hyoscin the patient is allowed to come from under the remedy and will usually say he does not want any of his accustomed drink. Then Lott gives doses of pilocarpin, 1/8 gr. usually reinforced with strychnin nitrate, 1/20 of a grain every two to four hours. The mouth that has been so dry under the hyoscin begins to be wet and saliva abundant. The urine which has been scanty and high colored becomes abundant and clear and skin elimination is active. If the pilocarpin acts too freely a small dose of atropin 1/150 gr. will check it. The diarrhea, which is by this time annoying, is best controlled by doses of bismuth subgallate and the fluid extract of coto bark, 30 to 40 drops, four to six times a day. If the patient goes to sleep and sleeps from two to twenty-four hours he does not discontinue the hyoscin. The heart and respiration are carefully watched. When the patient comes out of his sleep he will probably be flighty, but will be easily managed. The after-treatment consists in building up the health, appetite, digestion and assimilation and regulating sleep. He reports cases to show that hyoscin can be utilized in this way with safety, giving the details of each dose.

155. **Creosote in Pneumonia.**—Van Zandt has been using carbonate of creasote since 1890 and has lost but one case; in this the drug was absolutely ineffective. He has seen one or two other instances where this drug has failed, but, as a rule, he thinks, a large percentage of pneumonia cases are shortened or aborted, almost all the rest are mitigated, while only a very small percentage are not at all affected by the remedy. He does not think calomel or guaiacol a proper substitute. He has been giving it in doses of 7.5 to 10 grains or minims every three hours. He never uses expectorants or nauseants, ordinarily only the carbonate of creasote without other medication. Occasionally strychnia with an anodyne in the beginning of painful cases is indicated.

156. **Infections.**—The conclusions of Hamilton's paper are as follows: "1. It is through the lymph channels, and not the blood vessels proper, that we get septicemia after pyogenic infection. 2. Where we have so-called pyemia or septic emboli lodged in other portions of the body, it always comes from the blood vessels after a certain amount of trauma. 3. A tubercular abscess is almost always distant from the site of infection and situated in the lymph nodes on the proximal side from the site of invasion. 4. Tubercular septicemia always comes from the involved blood vessels and not through the lymph channels. 5. A typhoid infection differs in no respect from a pyogenic infection, except as it is altered by the structures involved. 6. The initial lesion of typhoid fever is sure to be in the bowel from the character of the lesion found in the gut. 7. Death from typhoid fever almost always comes either from typhoid septicemia or from perforation. 8. Septicemia from typhoid fever is more liable to occur than septicemia in a simple abscess, owing to the histologic structures involved and a milder form of infection, causing thereby less infiltration of leucocytes. 9. The site of infection with malaria is in the capillaries and its ravages are in the blood vessels; later symptoms are produced by the irritation of the germs on the capillary wall. 10. The pathological changes in smallpox are in the blood at first, and then transferred to the tissues, where the same pathological changes take place that we find in any pyogenic suppuration."

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

The Lancet (London), March 1.

1 The Anatomy, Physiology and Pathology of the Imperfectly Descended Testis. W. McAdam Eccles.
2 *Certain Diseases of the Blood Vessels. A. Pearce Gould.
3 *Gray Hair and Emotional States: An Anthropologic Note. Robert Jones.
4 *A Note on Hypostatic Albuminuria of Splenic Origin. H. D. Rolleston.
5 Removal of a Sarcomatous Tumor from the Tail of the Pancreas of a Child 4 Years and 8 Months Old. John D. Malcolm.
6 *General Remarks on Asylum Dysentery and Its Treatment by Injections of Permanganate of Potash. P. W. MacDonald.

British Medical Journal (London), March 1.

7 *Feeding in Gastric Ulcer. Lauder Brunton.
8 Medical Diagnosis and Modern Discoveries. John Adam.
9 Remarks on Congenital Cysts of the Tongue. John Ward Cousins.
10 Anatomy, Physiology, and Pathology of the Imperfectly Descended Testis. W. McAdam Eccles.
11 *A New Method of Dealing with the Peritoneum in Operating for Radical Cure of Umbilical and Inguinal or Femoral Hernia. W. F. Brook.
12 Rupture of the Jejunum from Direct Violence without External Bruising. J. Lockhart Livingston.

Indian Medical Gazette (Calcutta), February.

13 Pre-service Surgeons. (Continued.) D. G. Crawford.
14 A Further Note on the Occurrence of Typhoid Fever in the Natives of India. George Lamb.
15 Notes on an Outbreak of Surra with Observations on the Trypanosoma. E. D. G. Grieg.
16 The Thyroid Gland and Puerperal Convulsions. M. Sinnatamby.
17 Weights of Human Viscera (in Natives of Bengal). W. J. Buchanan and F. J. Daly.

Hospitalstidende (Copenhagen), January 1 to 22.

18 *Operative Treatment of Non-Tubercular Chronic Nephritis. T. Rovsing (Copenhagen).—"Om operativ Behandlung ved kroniske Nefriter (Tuberkulose undtaget)."
19 Comparison between Dissemination of Human and Bovine Tuberculosis. H. Roerdam.—"Udbredelsen af Kvaegtuberkulosen i Forhold til Tuberkulosen blandt Menneskene."

January 29 and February 5.

20 Determination of the Outlines of the Stomach. A. Blad (Copenhagen).—"Om Ridsauskultation og Transsonans saerligt med Hensyn af Ventrikulens Graensen."
21 Gonococcus Cystitis. P. Haslund.—"Om gonokokkisk Cystitis."

February 12.

22 The Insane Asylums in Denmark. H. Fehr (Viborg).—"Vore Sindssygeanstalter."

Bulletin de l'Acad. de Med. (Paris), February 18.

23 *Chloroform Anesthesia in Case of Heart Disease. General Discussion.

Presse Medicale (Paris), February 12 to 22.

24 Unity of Human and Bovine Tuberculosis. S. Arloing (Lyons).—"Unité de la tuberculose humaine et bovine."
25 Non-Contagiousness of Alopecia Areata. E. de Lavarenne (Paris).—"La question de la pelade."
26 Lead Poisoning from Manufacture of Artificial Pearls. E. Gaucher (Paris).—"Une nouvelle cause d'intoxication saturnine. La fabrication des fausses perles."
27 Study of the Pathogenesis of Bronzed Diabetes. Rabé (Paris).—"Pathogénie du diabète bronzé."

Nord Med. (Lille), February 15.

28 Night Cries in Hip and Pott's Disease. S. Veras (St. Pol-sur-Mer).—"Des cris nocturnes dans la coxalgie et le mal de Pott."

Revue de Medecine (Paris), February.

29 System in the Clinic. R. Lépine (Lyons).—"De la méthode en clinique."
30 *Pathogenic Unity of Dysentery; Serotherapy. T. Moreul and Rieux.—"Unité pathogénique de la dysenterie; Sérothérapie."

31 *Otitic Origin of Asymmetry of the Facial Expression. Lannois and Pautet.—"De l'asymétrie de la mimique faciale."
32 Pneumo-typhoid Fever. Busquet (Alger).—"Contribution à l'étude de la pneumo-typhoide."
33 Malarial Polyneuritis. C. Mathis Naval Surgeon.—"Trois cas de polyneurites palustres."

Progres Medical (Paris), February 22.

34 *Arthritic Pseudo-Tuberculosis. H. Grasset (Paris).—"Difficulté du diagnostic entre la tub. pulm. au début et certaines localisations arthritiques."

Semaine Medicale (Paris), February 19.

35 *Strict Milk Diet for Adults. R. Lépine (Lyons).—"Le régime lacté chez l'adulte."

Allg. Med. Ctl.-Zeitung (Berlin), February 22 and 26.

36 Application of Heat in Therapeutics. Especially Fango. M. Silber.—"Zur therapeutischen Verwendung der Wärme, mit bes. Berücksichtigung der Fango-Behandlung."

Centralblatt f. Chirurgie (Leipsic), March 1.

37 *History of Gelatin as a Hemostatic. Y. Miwa (Japan).—"Zur Geschichte der Gelatine als Hämostaticum."
38 *Proposed Operative Treatment of Sciatica. R. von Baracz (Lemberg).—"Ein Vorschlag zur op. Behandlung der Ischias."

Deutsche Med. Wochenschrift (Berlin and Leipsic), February 27.

39 *Renal Colic, Renal Hemorrhage and Nephritis. J. Israel (Berlin).—"Nierenkolik, Nierenblutung und Nephritis."
40 *Albuminuria Induced by Massage in Nephritis. E. Ekgren (Stockholm).—"Der Albumingehalt des Harns der Nephritiker unter dem Einfluss der Massage."
41 *Pruritus Vulvæ. L. Seeligmann (Hamburg).—"Zur Aetiologie und Therapie des Pruritus Vulvæ."

Mitteilungen a. d. Grenzgebieten (Jena), ix, 3.

42 *Surgical Treatment of Lung Disease. H. Quincke (Kiel).—"Ueber die chir. Behandlung der Lungenkrankheiten."
43 *Ibid. Garré (Königsberg i. P.).
44 *Operative Treatment of Gangrene of the Lungs. H. Lenhartz (Eppendorf).—"Zur op. Behandlung des Lungenbrandes."
45 Rare Forms of Atrophy of the Bones and Osteomalacia. W. Anschütz (Breslau).—"Ueber einige seltene Formen der Knochenatrophie und der Osteomalacie."
46 Study of a Thiry Fistula on Man. Nagano (Breslau).—"Beobachtungen an einer Thiryschen Fistel beim Menschen."
47 *Attempts to Disinfect the Small Intestine in Man. L. von Mieczowski (Breslau).—"Desinfektionsversuche am menschlichen Dünndarm."
48 Defect in the Trapezius Cause of Congenital Elevation of Scapula. W. Kausch (Breslau).—"Cuculiarisdefekt als Ursache des cong. Hochstandes der Scapula."

Muenchener Med. Wochenschrift, February 25.

49 Avoidable Complications of Appendicitis. A. J. Ochsner (Chicago).—"Vermeidbare Appendicitiskomplikationen."
50 Experimental Study of Etiology of Thrombosis of the Sinuses. A. Doerr (Munich).—"Ein exp. Beitrag zur Aetiologie der Sinusthrombose."
51 *Tumors. Disselhorst.—"Histogenetisches und Verleichendes ueber Geschwülste."
52 Positive Typhoid Agglutinating Test in Puerperal Fever. F. Lommel (Jena).—"Ein Fehldiagnose auf Grund der Gruber-Widal'schen Reaktion bei Puerperalfieber."
53 *Ambulant Treatment of Tubercular Joint Disease of the Legs. Wagner (Kreuznach).—"Zur amb. Behandlung der tub. Gelenkerkrankungen der unteren Extremitäten."
54 *Position of Patient in Operating on Biliary Passages. F. Berndt. (Stralsund).—"Zur Lagerung des Patienten bei Op. an den Gallengängen."

Therapeutische Monatshefte (Berlin), February.

56 *Ergotin as a Prophylactic and Specific in Puerperal Fever. Solt (Nitau, Livland).—"Ergotin als Prophylacticum und Specificum beim Wochenbettfieber."
57 "Mumme" in Infant Feeding. J. Reichelt (Vienna).—"Ernährungsversuche im Säuglingsalter mit Mumme."
58 Bromocol in Epilepsy. Reich and Ehrcke (Berlin).—"Bromocoll."
59 Essential Principle of the Suprarenals. H. Singer (Elberfeld).—"Die Nebennieren und ihr wirksames Princip." (Concluded from No. 1.)
60 Nosoparasitism and Orthoparasitism. O. Liebreich (Berlin).—"Ueber Nosoparasitismus und ueber Orthoparasitismus."

Wiener Klin. Rundschau, February 9 to 23.

61 Treatment of Articular Rheumatism with Acetopyrin. G. Spuller (Vienna).—"Ein Beitrag z. Acetopyrin-Medication bei Gelenksrheumatismus."
62 *Study of Disinfecting Soaps. C. Tonzig (Padua).—"Beitrag z. Studium der sog. desinficirenden Seifen mit bes. Berücksichtigung der Creolin-Seifen."
63 *Carbolic Treatment of Septic Processes. Chiumsky (Cracow).—"Ueber die Carbolbehandlung der inficirten Wunden und der septischen Processe."
64 *Radical Operation of Hypertrophied Prostate. E. Roth (Budapesth).—"Die Radicaloperation der Prostatahypertrophie."

Wiener Klin. Wochenschrift, February 20.

65 *Phlegmon Around Hernia. G. Lottheissen (Innsbruck).—"Ueber perihernlöse Phlegmone."
66 *Experiences in regard to Osteoplastic Trephining of the Skull on account of Brain Tumors. K. Gussenbauer (Vienna).—"Erfahrungen ueber die osteoplastische Schädeltrepanation wegen Hirngeschwülsten."
67 *Thiosinamin in the Treatment of Cicatricial Stenosis of the Esophagus. L. Teleky (Vienna).—"Beitraege z. Mech. und med. (Thiosinamin) Behandlung der narbigen Speiseröhrenverengerungen."

Janus (Amsterdam), February.

68 *A German Precursor of Harvey. R. Landau (Nuremberg).—"Ein deutscher Vorläufer Harvey's."
69 *Was Cleopatra of Egypt a Physician? S. G. Zervos (Athens).—"War Cleopatra von Aegypten eine Aerztin?"

Rivista di Pat. Nerv. e Ment. (Florence), January.

70 Resistance of the Blood Corpuscles in the Aged Insane. G. Obici (Padua).—"Richerche comp. sulla resistenza globulare nei vecchi alienati e nei vecchi normali."
71 *Softening of the Brain Around Certain Tumors. G. B. Pellizi (Sassari).—"Fatti clin. ed ist. in rapporto al rammollimenti che circondano certi tumori cerebrali."

Nordiskt Med. Arkiv (Stockholm), xxxiv, ii, 4.

72 *Serotherapy. E. von Behring (Marburg).—"Die Serumtherapie in der Heilkunde und Heilkunst."
73 Evolution of Fatty Degeneration. J. Fibiger (Copenhagen).—"Ueber die Entwickelung der fettigen Degeneration."
74 *Pathology of the Sympathetic Nerve. M. Buch (Willmanstrand, Finnland).—"Zur Pathologie des Sympathicus. Die Neuralgie des Sympathicus." (Concluded from No. 3.)
75 *Acute and Chronic Forms of Malignant Endocarditis. K. Thue (Christiania).—"Akute und chronische Formen von maligner Endokarditis."
76 *Sedimentation Process for Study of Sputum. U. Quensel (Stockholm).—"Ein neues Sedimentirverfahren zur Untersuchung von Sputum."

---

2. **Varicose Veins.**—The motif of Gould's lectures is that the varicose veins are more in the nature of superabundant development of venous tissue than the result of yielding of veins to excessive intravenous pressure. The following facts lead him to reject the obstruction theory: 1. The age at which varices are first noticed, before the individual growth is complete. The general condition of the patient, who is usually in robust health. The conspicuous absence in cases of varix of the usual symptoms and consequences of venous obstruction. The edema, induration and impairment of function are usually absent and the result of excision of varicose veins and also of the ligature of the main vein would be the most irrational procedure if obstruction were the cause; it would only cause further obstruction to the venous return, and yet there is no clinical fact better tested than the success of both these measures. The influence of pregnancy is also another point in favor of the angeioma theory. Varicose veins often never trouble until pregnancy occurs, and while they may be caused by pressure from the pregnant uterus, it is to be remembered that, entirely apart from any pressure effects, pregnancy produces in some women quite remarkable vasomotor disturbances that are not necessarily the result of pressure of the enlarged uterus. The sex-incidence of varix is another point. There is no reason why man should be more liable than woman. On the obstruction theory we should expect to find the greatest sufferers among women, but the reverse is the case; leaving entirely out of the question varicocele, the number of men exceeds women by the proportion of three males to two females in his own statistics. Before saying why varicose veins are venous overgrowths, he thinks it is well to ask if there is any evidence that the growth of the veins of highly specialized structure ever occurs in the adolescent or adult life, and he reports cases which seem to him to indicate this possibility; that is, the occasional development in the adult of what may be classed as venous angeioma. Admitting the possibility of such development, what evidence is there to support the view that varix is a form of this venous angeioma? 1. In the first place, he says we occasionally meet with cases in which we have a combination of undoubted venous nevus and varix, and he notices instances. 2. The capricious irregular distribution of varices. Sometimes it is the whole saphena from the groin to the instep that is enlarged, the tributaries being intact; then it is a small section of the vein. The extreme irregularity and variation in the seat or extent of the affection seem to mark it out as overgrowth of the venous tissue, errors of development often showing such occurrence. Again, the early age at which varices develop is another interesting fact and their heredity is a recognized factor. The striking innocuousness of varicose veins is also in favor of this view. They persist quite unaltered for many years and certainly are much less troublesome in the latter than in the earlier years of early adult life. This fact is, he holds, more compatible with the view that they are exaggerations of a normal physiologic

structure rather than the result of pathologic processes. The last point he makes is the minute structure of varicose veins. It is often said that the walls of the varix, which may be very thick, are almost entirely of fibrous tissue, but that has not been his experience. There is usually also with the growth of the tissue a failure of the valve apparatus which has much to do with the production of the condition. The public have a very exaggerated notion of the gravity of varicose veins. He believes their effect on the nutrition of the part is very small and what is called varicose ulcer often occurs in perfection in limbs without significant varix. Its cause must be sought for elsewhere. The most frequent ill-effect is a sense of fulness of the whole part due to aching of the vein, caused by prolonged standing or walking, more frequently in hot climates. This is the only frequent ill-effect. Rarely we find a thrombosis in the varix, or still more rarely the vein bursts or is ulcerated into and causes hemorrhage. Where varicose veins do not trouble the patient he need not trouble himself about them, but in a young woman with large varices it is wise to have them treated before marriage and pregnancy. Young people of either sex ought to have them treated before going to live in a hot climate. He has employed of late the Trendelenburg operation in the treatment of these conditions. It has the advantage of being a simple procedure, rarely requiring more than five minutes. Gas and oxygen are often the only anesthetics needed. The saphena vein can readily be found by remembering that it lies a finger breadth to the inner side of the common femoral artery, the pulsation of which can be easily felt in the groin. He prefers to expose the vein by oblique incision from one and a half to two inches long, parallel with the fold of the groin and having its center over the vein. It is found between the two layers of the superficial fascia; it is cleared and a double ligature is placed on it, one thread being tied as high up as possible, the other about two inches lower down, the intervening portion of the vein is cut out. The wound is closed by a few points of suture and sealed by collodion dressing. The patient usually gets up on the eighth day and can leave the hospital two days later. He thinks it a simple and safe proceeding and one that is very useful in nearly all cases of varix, and frequently leads to shrinking or even disappearance of varices and exerts a strong influence in preventing thrombosis. Its good effects are most pronounced where regurgitations into superficial veins are most marked. "Its superiority to excision of varices is greatest in cases of widely distributed and numerous varicose veins, for it exerts its influence upon all the veins emptying into the saphena trunks. It is therefore useful in those widely distributed, even general, varicosities of the lower limbs for which excision is inapplicable. To ensure success the vein or veins must be obliterated quite at their junction with the deep veins. The fact that this operation has such a marked effect upon the course of varix is a strong proof of the important part that valvular defect plays in the history of cases of varicose veins."

3. **Premature Whitening of Hair.**—After reporting a case in which the hair turned white in four or five weeks in a paranoiac, Jones discusses the condition and gives statistics as to his observations in regard to the color of the hair in patients at the Claybury Asylum, and correlates the different types with different emotional conditions. He found light-haired persons were fond of amusement, while the dark-haired ones took more kindly to religious services. He thinks that whatever explanation is offered for the sudden blanching of the hair, which undoubtedly occasionally occurs, the close physiologic connection between the cerebrospinal axis and the skin, which have a common genealogy, must be borne in mind.

4. **Splenic Albuminuria.**—Rolleston has observed cases of splenic enlargement in which rest in bed or the recumbent position produced temporary albuminuria, which disappeared on resuming the erect position. He explains it on Falkenheim's suggestion that in the recumbent position the spleen presses on the left renal vein interfering with the return of venous blood from the kidney and this gives rise to albuminuria. It does not depend, however, on the size of the spleen, for it may be absent when the spleen is very large and was present in two or three of his cases where the spleen was relatively small. It is possible that its occurrence or absence may depend on some condition such as elongation in the condition of the suspensory peritoneal ligaments of the spleen which thus determine or prevent direct pressure on the left renal vein, though anatomic evidence of this is wanting. It is also conceivable that the appearance of albuminuria is dependent on the underlying want of vitality or nutrition of the kidney, which, though not sufficient to induce albuminuria under ordinary conditions, causes it easily when chronic venous engorgement is superadded. In one of his patients albuminuria disappeared from the night urine after the patient had been some time in the hospital and had improved under treatment, and again after a slight attack of influenza the albuminuria reappeared. This hypostatic albuminuria is the reverse of what usually occurs in cyclic albuminuria, but it is possible there may be some cases of cyclic albuminuria in which the albuminuria appears when the patient is lying down and disappears when he is up. He has not, however, met with such a case, but its possibility is suggested by Edel's recent observation that a weak pulse and appearance of albuminuria in the urine in cyclic albuminuria are related and that regular muscular exertion, stopping short of fatigue and strengthening the heart's action, causes the urine to become free from albumin, lighter in color and more copious.

6. **Asylum Dysentery.**—Asylum dysentery, or colitis, which of late years has become a source of much anxiety to British asylum physicians, though not a new thing, has been recently treated by MacDonald by the injection of permanganate of potash. As soon as the case was diagnosed the lower bowel was washed out night and morning with a weak solution, 2 or 4 grains to the pint. The treatment rarely had to be prolonged beyond the third day and even the severer cases recovered. The drug appears to act in its double capacity as a disinfectant and styptic. Milk was not always a satisfactory diet. Mixtures of specially prepared beef tea and specially prepared rice with a liberal allowance of Port wine were largely used. He thinks the results of this method are worthy of being called to the attention of the profession.

7. **Feeding in Gastric Ulcer.**—In this clinical lecture Brunton notices the effects of different food substances on gastric ulcer, particularly the mechanical effects. He says: Supposing we had an ulcer of the back of the hand we would not be likely to treat it with sandpaper or vinegar and pepper instead of water. We should, therefore, avoid food containing hard seeds, small bones, vegetables containing cellulose which act as a brush, stringy meat, or anything that is hard and likely to block the pylorus. Increase of gastric acidity should always be avoided. The longer material stays in the stomach the more acid it is likely to become; hence, we should not feed too much at a time. While milk is an excellent food, yet it may be a stringy food, as he says, when given in large quantities. He mentions a case where a felt-like substance was produced in the stomach in this way. Mixture with lime-water will prevent its too rapid coagulation and its bad effect. There are many substances also that gastric juices alone affect very little, unless they are thoroughly masticated. By careful mastication we can prevent many of the troubles arising from irritating food in the stomach. We can not, however, depend too much on the patient's teeth. Recapitulating, he says: "In cases of gastric ulcer you begin by giving the patient rest in bed, with feeding by the rectum for a few days, then careful feeding by the mouth, while you still continue rectal feeding. The first food given is generally milk in small quantity, a tablespoonful of milk with a tablespoonful of lime-water every two hours. Gradually diminish the lime-water at the same time that you increase the proportion of milk, as the patient will bear it for several days more. Then you may try the effect of custard, which is very mild and non-irritating. Then you may give the patient pounded fish, and perhaps pounded chicken next day. You may give at the same time some chocolate, which I find is very well borne, and makes a great change in the patient's diet, which is otherwise very monotonous and tasteless. Then you will give some of the various foods, etc." In using starch it is important to

mix it up thoroughly and avoid lumps; this can be done by putting it in a little cold water first. The digestion of bread depends largely upon its subdivision and this is one advantage of stale bread, which powders instead of kneading up into a putty-like mass.

11. **Hernia.**—Brook describes a method of dealing with umbilical hernia to avoid the liability to recurrence met with in the ordinary operation where several lines of suture are placed directly over the other, thus making a weakest point which is liable to cause recurrence. He has adopted the following method in two cases of large pendulous irreducible and painful umbilical hernia in enormously stout women. "A long elliptical piece of skin, its long axis in the mid-line, is dissected off the tumor, care being taken to avoid buttonholing the sac where adherent to the skin. The sac is then isolated as far as the edges of the ring and opened by a transverse incision. The contents having been treated in the usual way, the peritoneum is detached all round and well within the ring, especially around the upper segment where the separation is extended at least 2.5 in. beyond the ring border. The two halves of the sac are then shaped into two flaps, each of which is a little wider, and about two inches longer than the diameter of the ring. The shape and size of the sac or accidental buttonholing may render it necessary to make these flaps right and left instead of upper and lower. In that case the sac will have been opened vertically instead of transversely. This was done in the first case. Through the free edge of each flap running sutures of fishing gut are now passed at intervals of 1½ in. or in the case of the upper which is destined to lie within the abdomen at shorter intervals. The ends of each suture are for the time being clamped together with pressure forceps. The two ends of the central suture of the upper flap are mounted on a large semi-circular perineum needle. The point of this, protected by the left forefinger, is carried through the ring and thrust from within out through the whole thickness of the belly wall at a point in the middle line about 2½ in. below the ring. The needle is withdrawn and the two ends again secured by a clamp on the surface. This is repeated with each suture of the upper flap, so that the row of double-ended sutures emerging from the skin forms about two-thirds of a circle whose center is a little below that of the ring. The sutures are now pulled up, care being taken that no overriding bowel is caught between the tightened edge and the parietal peritoneum, and the ends tied firmly together over a piece of lead wire bent to the required shape. The lower flap is now treated in the same way except that the needle with the successive sutures instead of being introduced into the abdominal cavity is made to penetrate the abdominal wall from the space around the upper segment of the ring which has already been prepared by more extensive separation of peritoneum at this point. These sutures are pulled up and secured in the same way as the others and the ring is closed by one or more rows of buried sutures." The result of this procedure is that the weak spot in the abdominal wall is backed by two thicknesses of peritoneum stretched straight and taut across it like a drumhead. He does not claim that this will remove all chances of recurrence, but he thinks it will diminish them. Two cases are not sufficient to draw conclusions from, but he hopes the evidence of its value will be provided by others. It has occurred to him that the same principle might be applied to inguinal and femoral hernia and he has since used it in four cases of the former and two of the latter. The following description of the operation applies to the inguinal variety: "The sac having been isolated from the cord, is cut across immediately above the part which it is intended to leave in the scrotum. A running silk suture is passed across it just above the point of section. The two ends of the suture are threaded on an aneurysm needle. The latter is introduced into the abdominal cavity through the sac, its point being kept in contact with the inner aspect of the wall till it reaches a point 1½ to 2 in. above and internal to the internal ring. Here a little pressure causes it to present beneath the skin. A small incision, one half to three-fourths of an inch in length, through skin and subcutaneous tissue exposes the point closely invested with a little process of peritoneum, together with which it has been readily forced through muscles and aponeuroses. The peritoneum is nicked with the point of a knife, and the small hole slightly stretched with a sinus forceps, and aneurysm needle pushed through. The suture ends are now disengaged, the needle withdrawn, and by traction on the suture the sac is inverted and pulled well through. This is now twisted through one or two turns, the little process of parietal peritoneum pushed back with fine sinus forceps to its proper level, and the sac cut off and the stump fixed by one or two buried sutures. The other structures concerned in the hernia are dealt with by whatever method is preferred; personally, I adopt Bassini's where it is necessary to close them." This procedure does away with the necessity of slitting up the external oblique fascia roofing in the canal. This is a distinct gain where the canal has not been too unduly stretched or where there is no necessity for approximating the conjoined tendon to Poupart's ligament. The chief objections that may be urged are, that without exposing the site of the internal ring it is impossible to so thoroughly detach the neck of the sac from the transversalis fascia as to permit its being drawn sufficiently away from the position of the internal ring. In practice, however, the looseness of these attachments is surprising, allowing, as they do, complete and easy inversion of the sac. It may be objected that perforation of the peritoneum by the inverted sac may result in another weak spot. If, however, the perforation is situated in the muscular part of the wall (that is, through the rectus) and is made as small as possible, and chiefly by stretching rather than cutting, and is pushed well back after the sac has been drawn out so as to leave no funnel-shaped depression, he thinks this objection is more theoretical than practical. The same description suffices and the same arguments hold in case of femoral hernia, the sac being brought out above Poupart's ligament and 1½ in. outside the femoral ring.

18. **Operative Treatment of Non-Tubercular Chronic Nephritis.**—Rovsing has operated on nine aseptic and eight infectious cases of chronic nephritis. He is convinced that whenever there is pain, it is due to compression or stretching of the true capsule of the kidney. He agrees with Lennander that the renal parenchyma has no sensory nerves. This fact was demonstrated by study of kidneys sutured in the wound and also by his ability to operate on the renal parenchyma without narcosis. The capsule, on the other hand, is provided with sensory nerves from the lumbar and dorsal nerves. When it is compressed or stretched, it occasions a constant pain in the lumbar region, very different from the so-called kidney colic, which is in reality ureter colic and is always due to an obstacle preventing the free passage of the urine. Tumefaction and tension of the parenchyma may induce pain by stretching the capsule. The results of his 17 operations harmonize with these views, as in every instance as soon as the pressure was relieved, either by incising the kidney or evacuating an accumulation of pus or fluid, or detaching adhesions, the patients were relieved from their pains. One of his aseptic cases was a diffuse parenchymatous nephritis with intolerable pain in the upper portion of the kidney, palpable tumefaction, and a hematoma between the parenchyma and the capsule. The pains were relieved by mere evacuation of the hematoma. In another case a bilateral chronic glomerular nephritis had lasted for eight years, dating from a typhoid fever. The operation disclosed a perinephritic accumulation between the fatty and the true capsule. Acupuncture and excision of a small portion of the kidney tissue banished the pain. The albuminuria also ceased temporarily but returned later. The third patient was operated on for a suspected melanosarcoma as the cause of the hematuria from the left kidney noted by the cystoscope. The patient died the second day and both kidneys were found affected with diffuse hemorrhagic nephritis. Cystoscopy therefore may lead to a mistaken diagnosis, as in this case. It also shows that surgical intervention is dangerous in such cases, as, instead of arresting the hemorrhage, it is liable to induce violent hematuria, anemia and uremia. The results do not encourage intervention in any case of bilateral nephritis, even when restricted to merely incising the kidney. The fourth

patient was relieved of violent attacks of pain in the upper kidney region, by detaching a number of thick, fibrous adhesions. The kidney showed evidences of chronic nephritis from compression, suggested also by the preceding tedious hematuria. The kidney was incised and the intervention cured both the pains and the hematuria. In four other patients the interstitial nephritis and fibrous perinephritis observed evidently resulted from a uric or oxalic acid diathesis. The cases described in the literature as "nephralgia" or "hematuric nephralgia" probably belong in this category. His patients all suffered from paroxysmal attacks of pain in the kidney region. Hematuria usually accompanied these attacks, macroscopic or only to be detected with the microscope, which sometimes also revealed crystals of urates or oxalates. Under treatment of the uric or oxalic acid diathesis with mineral water or alkalies, the hematuria and the crystals may vanish, but the attacks of pain persist, thus demonstrating that they are not connected with the passage of crystals or sand. The operation will disclose adhesions between the capsule and the surrounding tissues and detachment of these will relieve the pain and cure both pain and hematuria. In one case of pains and hematuria a partial hydronephrosis was found in the upper portion of the kidney, due to compression by a cord-like vessel which ran across the rear surface of the kidney. All the disturbances ceased after this cord had been divided. Study of the eight infections cases shows that the clinical and anatomic picture may be identical with that presented by the aseptic forms. It is therefore necessary to make a bacteriologic examination of the urine even when there are no symptoms but pure hematuria or nephritic albuminuria. Nephrolysis alone is sufficient in case of aseptic nephritis, with or without perinephritis. It puts an end completely to the pains and affords favorable conditions for the restoration to normal of the organ affected. Incision is unmistakably indicated in certain cases to open and drain a suppurating or congested region. Incision of the kidney seems to affect hematuria favorably when it is due to attenuated infection from the colon bacillus, while it is liable to prove dangerous in violent and virulent infections. In a case of the latter kind due to the staphylococcus aureus, he had to remove the kidney fourteen days later on account of excessive hemorrhage. His experience shows that chronic, infectious nephritis may be unilateral; also, that it may be restricted to a certain portion of the kidney; also, that a partial infectious nephritis may occur simultaneously in both kidneys. Infectious nephritis may resemble in every respect, clinically and anatomically, the familiar types of large white kidney, contracted kidney, etc.

23. **Chloroform in Heart Disease.**—In the discussion which followed Huchard's communication, reviewed in this department last week, the physicians and surgeons who took part agreed with the speaker that there is no more danger from chloroform in case of a compensated mitral defect than with the heart intact. Bucquoy ascribes death under chloroform to reflex action on the centers of respiration and circulation. The heart has little primarily to do with it. The majority of cases have occurred in subjects with sound hearts. Lucas-Championnière administers the anesthetic on this principle, starting with a few whiffs of ethyl bromid to deaden the reflexes. As soon as the mucosa feels numb, chloroform is substituted. Le Dentu remarked that Huchard's conclusions represent the average opinion of most surgeons nearly everywhere now, as it has been tentatively established of late. But he considers the prognosis of the anesthesia a little aggravated on the whole by the possibility of surprises during the anesthesia or of accidents later, which careful investigation will sometimes trace to alterations in the parenchyma of the heart. He urges closer study of the deaths that occur a few hours or days after the anesthesia, believing that they are due to the heart in many instances. He observed that cases of unsuspected heart disease are actual traps for the surgeon. He quoted Finney's experience in 142 narcoses on subjects with heart disease. He found that it was well borne in cases of valvular affections, while myocarditis required especial surveillance. Bucquoy and others called attention to the greater tendency to syncope and sudden death in cases of lesions of the aortic orifice.

30. **Pathogenic Unity of Dysentery.**—Moreul and Rieux found the bacterium isolated by Roger, in every case of dysentery, mild or severe, nostras or exotic, and always in much larger numbers than the associated bacteria. It resembles the colon bacillus, but does not produce indol from albuminoids. It has a specific agglutinating power and the serum of a horse immunized against it acquired bactericidal and antitoxic properties against it and its toxins. They have not yet applied the serum on man, but anticipate favorable results from its local application in a high intestinal injection. They appeal to persons living in localities where dysentery is endemic to cultivate and study this specific germ of dysentery.

31. **Otitic Origin of Asymmetry in Facial Expression.**—Lannois and Pautet noticed that in their experience unilateral slight facial paresis could always be traced to some lesion of the facial nerve from inflammation of the middle ear, sometimes long past and forgotten and sometimes recent.

34. **Difficulty of Differentiating Between Incipient Pulmonary Tuberculosis and Certain Localizations of Arthritis.**—Grasset is convinced that many cases of tuberculosis in the early stages supposed to be cured by sanatorium treatment were in reality merely the pseudo-tuberculosis which he describes. The arthritic diathesis generates auto-intoxication, and this in turn may induce a proliferation of tissue, especially of connective tissue, at points naturally weak or temporarily injured by the morbid products. The infiltration of connective tissue may happen to locate in the apex; the lung tissue becomes solidified and false membranes form on the pleura. This is particularly liable to occur, Grasset thinks, when some cutaneous manifestation of the arthritism has been cured too rapidly by external maneuvers or has suddenly healed. The pulmonary lesion simulates all the signs of incipient tuberculosis, and there is in addition, in many cases, a pain in the supraclavicular fossa during efforts at defecation. A concomitant bronchitis may still further obscure the diagnosis and the sputa even may be blood streaked, especially in young girls. Tuberculin would decide the question, but he considers this too dangerous a procedure for general use. He has witnessed very grave accidents from its use. More than this, he adds, every toxin in subcutaneous injection causes a congestion at the points of weakened resistance and may thus add to the signs in the lungs. The personal and hereditary history is most important for the diagnosis and the urine is always more acid in neuro-arthritic subjects than in those predisposed to tuberculosis. Arthritis may be due to an excess of assimilation or to insufficiency of disassimilation. In the subjects predisposed to tuberculosis, on the other hand, the assimilation is defective and disassimilation is excessive. Consequently, the treatment adapted to one class is directly injurious in the other.

35. **Strict Milk Diet for Adults.**—Lépine remarks that the physician can make his patients take on or lose flesh and can strengthen or debilitate them on a milk diet. This is possible when the composition of the milk is known. The dynamic value of the milk should be determined, bearing in mind that 1 gm. of proteids produces about 9 calories; 1 gm. of fats more than 3, and 1 gm. of sugar or starch about 4. The chief advantage of the milk diet is that it does not stimulate nor excite the mucosa of the digestive organs. It is therefore especially valuable in certain diarrheas and dysenteries. In liver affections milk is also useful, but it should be skimmed and diluted with an alkaline water in case of icterus. If preferred sweetened in such cases, glucose, or some other carbohydrate is preferable to cane sugar on account of the levulose formed from the latter.

37. **History of Gelatin as a Hemostatic.**—Miwa quotes the works of a Chinese physician dating from 204 to 219 A. D., in which gelatin is recommended as a hemostatic for all kinds of hemorrhage. It has been in use ever since for this purpose in China and for a thousand years in Japan. It was applied in an aqueous solution or as a powder, usually combined with other substances. It also enjoyed a reputation as a regenerator of the blood.

38. **Proposed Operative Treatment of Sciatica.**—Baracz has been studying Fajersztajn's "crossed sciatic sign." When the leg is flexed, the hip can also be flexed without pain in cases of sciatica, but if the leg be held straight, flexing the thigh is very painful. He called attention to the fact that flexing the sound thigh with the leg straight on the sound side, causes the same pain on the affected side. Pulling on the sound nerve draws on the diseased nerve and induces the pain, especially in case of adhesions at or near the emerging points of either or both sciatic nerves. Such adhesions are liable to form after inflammatory processes, and Baracz thinks that it may be possible to cure certain obstinate cases of sciatica by attacking the emerging point itself, instead of the nerve farther down. He therefore proposes as an improvement over the usual method of stretching the sciatic nerve, to expose it at its emerging point, detach all the adhesions found in or near the foramen, and stretch the nerve or not, as deemed advisable.

39. **Renal Colic, Renal Hemorrhage and Nephritis.**—Israel replies to Senator's article on this subject, of which an abstract was published in this department last week, that his intervention, incision or splitting the kidney, was successful in all but 2 out of his 11 surviving patients. Six have been permanently delivered from their pains and hemorrhages. In the seventh case they vanished completely on the side affected, but have since recurred on the other side, showing that the affection must have been bilateral. In 2 other cases the pains were banished for twelve and eighteen months, but then returned. The intervention was thus able to free 9 out of 11 persons after the failure of every known medical measure. On the other hand, 3 out of the 14 operated on have died. When we are able to diagnose with certainty beforehand and exclude severe bilateral nephritis, the intervention—limited to mere incision—will be so insignificant that the possible danger will be minimal and the advantages to be gained far outweigh it. The traumatic irritation from the incision may have a favorable influence in accelerating the retrogression of a chronic inflammatory process in the same way as we inject an irritating substance into a chronic synovitis. He found evidences of an inflammatory process in 85.4 per cent. of his 14 and 2 later observed cases, although the microscope was required for its verification in a few. He thinks that time and experience have amply confirmed his assertion that certain cases of renal colic and hemorrhage are the consequences of chronic inflammatory processes in the kidney and that these processes can be induced to heal by incision of the organ. He noted adhesions between the renal capsules and adjoining parts only in a few of his cases and observes that such adhesions do not cause pains unless they fasten the kidney in an abnormal position and thus hinder the outflow. Formation of adhesions is one of the aims of nephropexy. [In the general discussion of the subject in the Society for Internal Medicine, reported in the same number of the *Wochenschrift*, Klemperer, Casper and Zondek cited numerous cases bearing on the points discussed. The latter thinks that an angioneurotic origin for the hemorrhage should not be advanced until the entire kidney and ureter down to the bladder have been thoroughly examined for hidden calculi. Senator reiterated that incision of the kidney is an important progress as a means of diagnosis, but is never indicated as a therapeutic measure except in cases of threatening anuria, whether the latter be the result of some palpable obstacle to the flow of urine or the consequence of violent inflammation and swelling of the renal pelvis.—ED.]

40. **Albuminuria Induced by Massage in Nephritis.**—Ekgren reports tests which demonstrate that the albuminuria increased very much in patients with nephritis under the influence of general massage. The elimination of albumin through the kidneys is more or less of an irritation for the organ, and consequently general massage should be ordered very cautiously in cases of nephritis. He found, also, that gymnastic exercises of the legs and arms had a somewhat similar effect in increasing the albuminuria, equally marked when the exercises were restricted to the arms alone. The body seemed to become accustomed to the effect of the massage in time.

41. **Etiology and Treatment of Pruritus Vulvae.**—Seeligmann has been able to isolate and cultivate a diplococcus from all his cases of pruritus vulvæ during the last ten years. It resembles the gonococcus, but takes the Gram stain and differs also in its method of growth. He found that 10 per cent. guaiacol vasogen killed the cultures of the diplococcus in five minutes, which confirmed the almost invariable success of this salve in his clinical experience. He has the vasogen applied on cotton at night, repeated for several evenings if necessary, and has thus succeeded in curing many cases of secondary and primary true pruritus. If the 10 per cent. strength of the guaiacol vasogen is not sufficient, he uses a 15 or 20 per cent., but avoids this when possible, as it is liable to irritate. If the pruritus returns later, one or two applications of the vasogen will usually dispel it.

42. **Surgical Treatment of Lung Disease.**—Quincke proclaims that non-tubercular pus pockets in the lungs should be operated on early and not be allowed to pass into the chronic stage. The duration of the lesion is more important than the presence or absence of putridity, which is merely a secondary symptom that may appear and disappear. An abscess that forms around a foreign body is almost invariably putrid, and its removal is urgent even without a definite diagnosis. (See THE JOURNAL of December 28, 1901.) In most of the cases on record the foreign body was not found at the time of the intervention, and was expelled or coughed up later. In case of tuberculosis, nothing is accomplished by merely opening up the cavity. Such an abscess has no chance of healing unless the walls of the thorax over it are rendered flexible by resection of a portion of a rib. The walls of the abscess, disseminated with tubercles, have not sufficient vitality for any task beyond that of elimination and encapsulation of the focus. These processes can be materially promoted by relieving the tension, which relatively immobilizes the lung beneath. The favorable effect of such relief from participation in the movements of breathing is shown in cases of compression of a tubercular lung by a pleural effusion or pneumothorax, which sometimes arrests the disease process. It is possible that the improvement which often follows a pregnancy or a rest cure may be due to the more superficial breathing. Evacuation of the pus is of far less importance for the healing of a tubercular focus than the immobilization of the part. Bier and C. Spengler have reported great improvement after resection of the rib, without entering the focus. The latter has a patient permanently cured for twelve years by this procedure. He has performed it a number of times and resects at least 20 to 25 cm. of the rib, close to the spine. He attributes his success in great part to concomitant measures, especially inhalation of a substance to keep the air passages sterile. In the diagnosis of a tubercular lesion, the location and size of the cavity are of less moment than to determine whether it is circumscribed, unilateral or restricted to the upper lobe alone. In the latter case immobilization of the lung by thoracoplasty may lead to the encapsulating and healing of the tubercular focus.

43. **Surgical Treatment of Lung Disease.**—In case of a single, circumscribed focus in the lung, with fair general condition, Garré opens it up widely and drains or tampons if there are evidences of stagnating secretions and febrile septic manifestations. He opens up extensively and resects the infiltrated portion of the lung tissue with ample thoracoplasty in the rare cases of isolated cavities and tubercular foci in the lower lobe. He advocates mobilization of the thorax wall and pleura in case of a single established cavity in the apex. It can be accomplished by resection of the first three ribs without opening the pleura, or by resection of the second rib with pleurotomy and detachment of the adherent apex, or by an artificial pneumothorax, according to Murphy. About 96 cases of actinomycosis have been operated on according to the records, and 87 per cent. have been cured; 122 cases of gangrene of the lungs with 66 per cent. cured. Only 20 to 25 per cent. recover under internal treatment. In 57 cases of bronchiectasia, 46 were cured. In 34 cases of a tubercular focus the cavity was drained, but without much effect on the course of the disease. He urges

that operative intervention should be performed in case of bronchiectasia before the transition into the chronic stage. Only 25 per cent. of the echinococcus cysts treated by puncture alone recovered, while 90 per cent. of 79 cases treated by incision and evacuation were cured. The large proportion of recoveries in these various interventions demonstrates that pneumotomy in itself is not a dangerous operation. There are about 400 on record and 300 of the patients were cured from their ills.

44. **Operative Treatment of Gangrene of the Lungs.**—Lenhartz reports 23 cases of gangrene of the lung treated by resection of ribs and pneumotomy. There has been complete and permanent recovery in 11; 3 have died since from tuberculosis, 3 from sepsis and 1 from general debility. He operates in two sittings, as it is impossible to suture the pleura, and union has to be accomplished by vigorous compression. He warns against exploratory puncture. It entailed empyema in at least one of his cases.

47. **Attempts to Disinfect the Small Intestine in Man.**—Mieczowski utilized the opportunity afforded by several intestinal fistulæ at Mikulicz's clinic to study the action of various disinfectants. He found that the pure juice of the small intestine had no bactericidal action. Of various disinfectants ingested per os, menthol displayed a weak disinfecting power when it reached the intestine. Itrol and bismuth proved entirely negative. The one test with tannopin showed that the bacteria were reduced from 160,000 to 21,000 in twenty-four hours and to 16,000 in forty-eight.

51. **Histogenetic and Comparative Study of Malignant Tumors.**—Among the facts cited by Disselhorst is that in 262 cases Fröhner never noted carcinoma in dogs under 2 years of age. About 87 per cent. were more than 5 and 54 per cent. more than 7 years old. Malignant tumors are not rare in herbivorous animals. They have been found in dogs as 4.7 per cent. of all diseases; in cattle in 2 per cent., and in horses in 1.3 per cent. Sarcomata predominate in horses and cattle, carcinomata in dogs. In the latter, carcinomata form clinically 40 and anatomically 52 per cent. of all tumors; in horses sarcomata form clinically 21 and anatomically 47 per cent. of all tumors, and the proportion in cattle is respectively 27 and 37, while for carcinomata it is only 2.7 and 8 per cent. These figures are based on 86,113 horses, 85,537 dogs and 4972 cattle, treated at the Berlin, Munich and Dresden veterinary colleges. An interesting fact noted was that the percentage of malignant tumors among horses at Berlin was only .9, while at Munich it was 2.1 and at Dresden 2.5 per cent.

53. **Ambulant Treatment of Tubercular Joint Disease of the Legs.**—Wagner considers Hessing's glue bandage under the fixation apparatus the ideal combination for ambulant treatment of joint affections of tubercular origin. He follows Hessing's instructions as proclaimed in his recent work "Der Kriegsapparat." One of the principal advantages of this combination is that the apparatus can be removed and the patient take salt baths while the limb is still immobilized in the glue bandage.

54. **Position of Patient in Operating on Biliary Passages.**—Berndt places a hard bolster, 12 to 15 cm. in diameter, under the back of his patient in the dorsal decubitus, beneath the last thoracic and the first lumbar vertebræ. This enlarges the field of operation in a most surprising manner in all interventions on the biliary passages.

56. **Ergotin as a Prophylactic and Specific in Puerperal Fever.**—Solt points out that as the uterus contracts under the influence of ergotin, the walls become thicker, harder, the lumen of the vessels is partially or entirely closed and the surface becomes drier. This change offers far less favorable conditions for bacterial invasion than when the walls are soft and moist and all the blood and lymph vessels are gaping. Micro-organisms find it more difficult to penetrate the walls of the uterus and pass into the general circulation, and a rampart is thus interposed between a focus in the uterus and the rest of the organism, and between a focus in the vagina, rectum or perineum and the uterus. Hager recommends ergotin as a means of forestalling absorption of purulent matters and Solt makes a routine practice of administering it in every affection inducing inflammation and suppuration, in cases of infected wounds, phlegmons, etc., with pyemic and septicemic symptoms. He gives ergotin instead of alcohol, and the stimulating effect is so pronounced that the patients ask for it. He recommends it internally before all operations on feeble patients, on account of its tonic properties. He has administered it in 30 cases of puerperal fever in the last seven years, and never lost a patient except one from an intercurrent dysentery. When the birth is proceeding normally, he gives two or three powders a day of .6 ergot until six have been taken, and has never known puerperal fever to develop after this prophylactic measure. In case of uterine hemorrhage, he supplements it by rectal injections of cool salt solution, with one teaspoonful of salt to the liter, or fresh milk with half the amount of salt. The uterus seems to contract with exceptional vigor under the influence of the milk injections. Rectal injections have more effect on the uterus than vaginal. After an operation, when the pulse or temperature is suspicious, he administers ten to twenty drops three times a day of a mixture of 5 gm. each of ergotin and distilled water, in 15 gm. of tincturæ amaræ. Another formula is 5 gm. ergotin to 20 of aq. menthæ pip. This is equivalent to about .1 to .18 of extract of ergot to the dose. He has witnessed chronic headaches vanish under systematic treatment with ergot. It has also proved effective as an adjuvant to the bromids in epilepsy, and has relieved the cough in recent laryngeal catarrh better than narcotics.

62. **Disinfecting Soaps.**—Tonzig's tests in regard to the disinfecting power of medicated soaps have convinced him that the only benefit to be derived from them is the pecuniary profits for the manufacturers. He devoted his attention mostly to the creolin soaps and found that the disinfecting power of the creolin was neutralized in its combination with the soap.

63. **Carbolic Treatment of Septic Processes.**—Chlumsky thinks that Phelps' method of applying pure carbolic acid to infected wounds and septic processes is rather too heroic. He calls attention to his somewhat similar but less dangerous practice of pouring into the wound a mixture of equal parts of pure carbolic acid and camphor. The oily fluid is not wiped off and is merely covered with gauze and oiled silk. It does not corrode when poured on the hand, and he has never observed any symptoms of intoxication, although he has used it extensively in more than fifty cases of erysipelas and infected wounds. He is convinced that the erysipelas yields much more rapidly under this than with any other treatment he has ever tried. It has proved equally effective in reducing the temperature in cases of infected wounds. The carbolic odor is masked by that of the camphor.

64. **Radical Operation of Hypertrophied Prostate.**—Roth reports twelve cases of hypertrophied prostate operated on by Bottini's method, with 9 patients cured, one improved, one unaffected and one death. The only contra-indications he admits are affections of the renal parenchyma in an advanced stage, and cachexia. He has operated in mild cases of nephritis without aggravation of the renal process. His patients were between 52 and 76 years of age. He advocates early intervention without waiting for complications to develop by wasting time on palliative measures.

65. **Phlegmon Around Hernia.**—Lottheissen adds three cases to the two reported by Nicoladoni in which a phlegmon developed around and outside of an old, easily reduced hernia. The patients were between 40 and 74, three men and two women. Suddenly, for some reason, the hernia became irreducible and symptoms of inflammation developed. The symptoms differ from those observed when the appendix is included in the hernia, as in the latter case the syndrome is more that of incarceration. The treatment can be only the incision of the perihernious phlegmon. It is perhaps wiser to postpone the incision of the sac to a second operation. As there are no symptoms of incarceration, delay is possible. When the phlegmon is healed the hernia should be cured in order to prevent recurrence of the trouble. One of Nicoladoni's patients

had a recurrence of the phlegmon, probably from a repetition of the same cause.

66. **Osteoplastic Trephining of the Skull on Account of Brain Tumors.**—Gussenbauer reports ten cases from his clinic and seven in private practice in which he attempted to remove a brain tumor by trephining. The wound healed by primary union in every case, and only one death could be ascribed to the operation. This was due to after-hemorrhage induced by excessive restlessness of the patient. Another patient died ten days later from pneumonia. In every case the headache was relieved and choked disc subsided temporarily or permanently, thus improving the sight unless amaurosis was complete. The motor and sensory disturbances in the face and limbs were also partially relieved. Contralateral paralysis frequently appeared after the operation, but was always transient except when due to extensive removal of the cortical motor regions. He uses the Gigli wire saw and the chisel, cutting the bone slanting. His experiences are described in detail. They harmonize in general with those of others, confirming the difficulty of curing the patient by the removal of a brain tumor, even in cases in which localized symptoms indicate a focus in the motor region of the central convolutions. Well-marked focal symptoms indicate that the region in question is diseased, but not necessarily the existence of a tumor in the strictest sense of the word. Focal symptoms in the motor zone of the central convolutions may prove to be merely the effects at a distance of a deep-seated tumor, as in one case he describes. In one of his cases there was recurrence of a gliosarcoma in three years. The two cases of tumors in the cerebellum in which the diagnosis was confirmed postmortem, had none of the symptoms imputed to such tumors. Gussenbauer consequently refrained from opening the cerebellum. Eight of the patients are still living. Comparative improvement is noted in several. Relief from the headache was the only result in one case. A good effect was attained in one syphilitic patient. The blindness returned after temporary relief in two or three and there has been a discharge of cerebrospinal fluid from the nose in several. None of the patients can be called fully restored. The article is concluded from the two preceding numbers.

67. **Thiosinamin in the Treatment of Cicatricial Stenosis of the Esophagus.**—Teleky is assistant in A. Fraenkel's Allg. Poliklinik, and reports a number of cases of cicatricial stenosis of the esophagus the result of drinking a caustic. When they were absolutely impermeable, von Hebra injected a solution of thiosinamin, which has a marked effect in softening cicatricial tissue by favoring the flow of lymph. The results were surprisingly satisfactory in some cases, although not in others, and study of the details shows that the drug has a marked softening effect on old cicatricial tissue. Recent cicatrices are loosened at first and then swell. Newly formed cicatricial tissue breaks up completely under its influence. This was shown most conclusively in one case in which a healed gastric fistula became loosened and the stomach wall separated from the abdomen under the influence of the thiosinamin which was being administered to render the stenosis of the esophagus permeable. The result was fatal to the patient. In comparatively recent cicatricial stenosis, the effect at first was marked improvement, but this was soon followed by a swelling of the parts and consequent aggravation of the preceding condition. In two cases in which the cicatricial tissue was several years old, the patients were permanently relieved from their previous ills and could eat and swallow with ease, the esophagus becoming permeable for a 21 sound. Hebra has distinctly warned against the application of this drug in all cases of partially healed tubercular or other foci. He has witnessed cases in which the cicatricial encapsulation was loosened and the process fanned into a flame by its administration. He also points out that its action in driving the lymph through the tissues favors metastasis of malignant tumors. It also has an unfavorable effect on all inflammatory processes for the same reason, especially those in the eye. Old cicatricial tissue in the eye, on the other hand, has been loosened and vision much improved in a number of cases in his experience. It merely loosens the tissue and renders it elastic, so that mechanical stretching, previously impossible, can then be accomplished. Active movements of a joint after the cicatricial tissue has been loosened accomplish this purpose, as does also the passage of food in the esophagus and progressive sounding.

68. **A German Precursor of Harvey.**—Landau attributes the discovery of the circulation of the blood to Helvicus Dietericus, a prominent German physician who died in 1655. In 1622 he suggested the possibility of the circulation of the blood as he observed it in dogs, to his teacher, Caspar Hofmann, but the latter ridiculed the idea, and Dietericus did not insist.

69. **Was Cleopatra of Egypt a Physician?**—Zervos has unearthed old documents to prove that Cleopatra was the author of several works on medical subjects. They show a thorough understanding of the theme, he remarks, rare powers of observation and enviable conciseness of statement. Her "De Morbis Mulierum" includes good descriptions of "phlegmons of the uterus," displacements, etc. She observes that hemorrhoids are rare in women, but processes resembling them are frequent in the cervix. She lived at the time the Alexandria school was at the zenith of its fame and may have taken a medical course there. It only required six months. She killed herself, according to Galen, in the most scientific manner by having the asp's poison poured into a wound in her arm. She also embalmed Antony's body with a dexterity showing great anatomical knowledge. Zervos refers also to several Latin works dating from 1586, 1597 and 1612, which quote from her writings.

71. **Softening of the Brain Around Certain Tumors.**—Pellizi describes the clinical and postmortem observation of a tumor in the frontal lobe surrounded by extensive softening. The vessels seemed to be normal in the vicinity of the tumor and the softening was too extensive to be due solely to compression by the tumor. He attributes it to the pressure of the cerebrospinal fluid which was under very high tension. The white brain matter was not able to resist the pressure and gradually became compressed, softened and destroyed.

72. **Serum Therapy.**—This is the address delivered by Behring as the recipient of one of the Nobel prizes. The main points were mentioned in THE JOURNAL of January 4, p. 45.

74. **Neuralgia of the Sympathetic.**—Buch examines the patient in the dorsal decubitus when he surmises hyperesthesia of the sympathetic nerve. The abdominal aortic and superior and inferior hypogastric plexuses are particularly valuable for this purpose, as they can be compressed against the spine and are thus easily irritated, while the resulting pain can not be ascribed to any organ. In the physiologic condition the sympathetic is not sensitive, but when it is irritated the pain resembles somewhat labor pains, or dull colic, accompanied sometimes by other pains which have the character of surface pains, smarting, burning or cutting, etc. There are frequently pulsating pains and girdle sensations. Pyrosis may be sometimes induced by pressure on the hyperalgesic lumbar sympathetic. The radiating pains in stenocardia, gastralgia and enteralgia and many of the morbid sensations of neurasthenic and hysteric patients are due to hyperesthesia of the sympathetic. When pressure on the sympathetic reproduces the spontaneous attack, the diagnosis is certain. The cases are especially interesting in which the entire symptom-complex accompanying a gastralgia, for instance, can be reproduced by irritating the sympathetic. It is sometimes possible to abolish temporarily or permanently the entire syndrome by a single subcutaneous injection of antipyrin. Neuralgic symptoms involving the spinal nerves and headache from radiation of pain from the cervical sympathetic are among the most common manifestations of hyperesthesia of the sympathetic.

75. **Acute and Chronic Forms of Malignant Endocarditis.**—Thue attributes not only the fulminating but the insidious chronic cases of malignant endocarditis to pyemia. The infectious agent in the blood is therefore the necessary factor in all the various forms. He describes 5 acute cases in detail, including two that occurred in the course of a severe pneumonia, the pneumococci being numerous in the blood. The others were due to the streptococcus. He also describes 4 cases of the chronic form which show that there is no longer cause

for a sharp distinction between benign and malignant endocarditis, between the ulcerative and the verrucous—all are merely various phases of the same process. The chronic cases ran a course of four and one-half to eighteen months, fever alternating with long afebrile periods. The temperature curve was irregular even when within normal limits. Auscultation showed that the affection was unmistakably progressive. Frémissement was noted in one case. One patient had a history of articular rheumatism, and one of endarteritis with atheromatous degeneration. The joints were not affected in any of the cases, but in two there was an acute hemorrhagic nephritis with hemorrhagic pemphigus and herpes. In the other patients there were no symptoms on the part of the kidneys or skin, but one exhibited a hemorrhagic pleuritis, becoming later purely serous, with a hemorrhagic infarct in the lung. All the patients presented an extremely anemic aspect. No cultures could be derived from the blood during life in either of the cases, but the staphylococcus aibus was found numerous in the endocarditic processes in one and an indeterminate bacterium in the other two cases in which autopsy was permitted. Three of the patients were men between 21 and 50, the fourth a boy of 9.

76. **Sedimentation Process for Study of Sputum.**—Quensel adds to the sputum to be examined an equal quantity of a fluid composed of equal parts of 25 per cent. formalin and of 95 per cent. alcohol. The vessel should be of the capacity of about 200 c.c. The mixture is then concentrated in a centrifuge or shaken vigorously for a minute or two and set aside to settle in a conical glass. The sediment is then ready to stain. He uses anilin gentian-violet, decolorizing with hydrochloric acid and alcohol. The elastic fibers can be differentiated in addition by supplementing the above with Weigert's stain in which the specimen is left for twenty to thirty minutes and then decolorized as before, and restained with auramin.

Queries and Minor Notes.

DUCTLESS GLANDS.

Binghamton, N. Y., March 14, 1902.

To the Editor:—Please give briefly the latest accepted views or teachings of the physiology of the thyroid, thymus, spleen and suprarenal glands; also what diseases or marked changes may be ascribed to a change in their functions. M. H. J.

Ans.—The thyroid is a ductless gland, secreting, by way of the lymphatics, a complex proteid containing iodin, to which the name thyro-iodin has been given. Administration of the thyro-iodin or the fresh gland causes a decline in body weight and toxic symptoms, such as tachycardia, vertigo and glycosuria. Degeneration, absence or extirpation of the thyroid causes cretinism and myxedema.

The *suprarenal* is another ductless gland with an internal secretion, the active principle of which has been isolated and called epinephrin by Abel, and adrenalin by Takamine. It stimulates the muscle-fibers of the arteries and heart. Applied locally to the mucous membrane of the nostril or eye, for instance, it causes a temporary contraction of the blood vessels and pallor. Removal of these bodies from animals is followed by death. Change in the suprarenals would accordingly interfere with the tonicity of the vascular system.

The *splenic* functions appear to be the following: 1. The development of white blood corpuscles; also red blood corpuscles during and shortly after fetal life. 2. Storing up of some proteid food to be introduced later into the blood. 3. From the presence of uric acid, xanthin, hypoxanthin and leucin, it is probably engaged in other nitrogenous metabolism.

The *thymus* diminishes after the second year, until scarcely a vestige remains. It is supposed to be a source of colorless corpuscles, and possibly colored corpuscles, in early life. From the presence of xanthin, hypoxanthin, leucin and other nitrogenous compounds, it may have other functions similar to those of the spleen.

THE AUTOMOBILE.

Chicago, March 11, 1902.

To the Editor:—Last year, at this season, there appeared in The Journal several communications relative to the practicability of the automobile for physicians' use. There was considerable diversity of opinion regarding the best motive power; some claimed electricity, others gasoline and steam. No doubt the past year's experience of those using automobiles would prove valuable. As an intending purchaser, I would appreciate the information any reader may be able to give, particularly with reference to the method of propulsion. Yours respectfully, D. C.

New Patents.

Patents of interest to physicians, etc., Feb. 18 and 25.

693,487. Stethoscope. Robert C. M. Bowles, Boston, Mass.

693,637. Filler for capsules, wafers, etc. Arthur E. Brethour, Ottawa, Can.

693,587. Insufflator. Eugenia C. Campbell, San Francisco, Cal.

693,795. Respiratory apparatus. Erich Giersberg, Berlin, Germany.

693,606. Hernial truss. Andrew Hunter, San Francisco, Cal.

693,554. Scarificator for surgical use. Lewis G. Langstaff, Brooklyn, N. Y.

35,749. Design, surgical rubber pad. Wm. P. Richards, Union City, Tenn.

694,102. Preparing alimentary extracts. Edward C. L. Kressel, London, Eng.

694,325. Artificial leg. John A. Peer, Philadelphia, Pa.

694,041. Sanitary shield for telephone transmitters. Jean B. Tauveron, New York City.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The American Year-Book of Medicine and Surgery. Being a Yearly Digest of Scientific Progress and Authoritative Opinion in All Branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-Books of the Leading American and Foreign Authors and Investigators. Collected and arranged with Critical Editorial Comments. Under the General Editorial Charge of George M. Gould, M.D., Medicine and Surgery. Cloth. Pp. 715 and 684 respectively. Price, $3.00. Philadelphia and London: W. B. Saunders & Co. 1902.

Handbook of Bacteriological Diagnosis for Practitioners, Including Instructions for the Clinical Examination of the Blood. By W. D'Este Emery, M.D., B.Sc. Lond., Lecturer on Pathology and Bacteriology in the University of Birmingham. Cloth. Pp. 215. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1902.

Toxicology. The Nature, Effects and Detection of Poisons with the Diagnosis and Treatment of Poisoning. By Cassius M. Riley, M.D., Professor of Chemistry and Toxicology in Barnes Medical College, St. Louis, Mo. Cloth. Pp. 121. Price, $1.50. St. Louis: Lewis S. Matthews & Co.

Nursing, General, Medical and Surgical. With Appendix on Sick-room Cookery. By Wilfred J. Hadley, M.D., F.R.C.P., F.R.C.S., Physician and Pathologist to the London Hospital. Cloth. Pp. 326. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1902.

The Elements of Physical Chemistry. By Harry C. Jones, Associate Professor of Physical Chemistry in the Johns Hopkins University. Cloth. Pp. 565. Price, $4.00. New York: The Macmillan Co. 1902.

Annual Report of the New York State Reformatory at Elmira for the Fiscal Year Ending Sept. 30, 1901. Twenty-sixth Year-book. Illustrated. Paper. Pp. 106. Elmira: Summary Press. 1901.

Transactions of the Luzerne County (Pa.) Medical Society, for the Year Ending Dec. 31, 1901. Vol. IX. Paper. Pp. 204. Wilkesbarre, Pa.: E. B. Yordy Co. 1902.

Report of the Trustees of the Newberry Library for the Year 1901. Paper. Pp. 26. Chicago. 1902.

Syphilis: A Symposium. Cloth. Pp. 122. Price, $1.00. New York: E. B. Treat & Co. 1902.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Feb. 27 to March 5, 1902, inclusive:

Everett A. Anderson, contract surgeon, from Devil's Lake, N. D., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

James K. Ashburn, contract surgeon, from the General Hospital, Presidio of San Francisco, Cal., to duty at Fort Grant, Ariz.

David Baker, lieutenant and asst.-surgeon, U. S. A., member of an examining board at Fort Leavenworth, Kan., vice Lieutenant Herbert M. Smith, relieved.

William B. Banister, major and surgeon, U. S. A., to duty as attending surgeon, Washington, D. C.; leave of absence for one month granted.

Walter K. Beatty, contract surgeon, from Fort Grant, Ariz., to San Francisco, Cal., for duty at the General Hospital, Presidio of San Francisco.

Henry P. Birmingham, major and surgeon, U. S. A., member of an examining board at Fort Leavenworth, Kan., vice Major Charles Richard, surgeon, relieved.

Edward C. Carter, major and surgeon, U. S. A., from duty as attending surgeon, Washington, D. C., to San Francisco, Cal., en route for assignment in the Division of the Philippines; leave of absence for one month granted, to take effect April 1, 1902, with permission to apply for an extension of one month.

R. King Cole, contract surgeon, from Dallas, Tex., to the Division of the Philippines.

Waller H. Dade, captain and asst.-surgeon, Vols., leave of absence for one month granted.

Euclid B. Frick, captain and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

James H. Hallwood, contract surgeon, from the General Hospital, Presidio of San Francisco, Cal., to duty at Fort Leavenworth, Kan.

John Van R. Hoff, lieutenant-colonel and deputy surgeon-general, member of a board at Washington, D. C., to consider the whole subject of the uniform and equipment of officers and men.

Merritte W. Ireland, captain and asst.-surgeon, U. S. A., on his arrival at San Francisco, Cal., to proceed to St. Louis, Mo., for duty as attending surgeon and examiner of recruits in that city.

Frank R. Keefer, captain, asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

Clarence J. Manly, lieutenant and asst.-surgeon, U. S. A., on his arrival at San Francisco, Cal., to proceed to Fort Caswell, N. C., for duty at that post.

James H. McCall, contract surgeon, now at Washington, D. C., to proceed to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Frank E. McDermott, contract dental surgeon, now at Webster, Mass., to proceed to Omaha, Neb., for duty at Fort Crook, Neb.

John D. Millikin, contract dental surgeon, now at San Francisco, Cal., to report for transportation to the Division of the Philippines, where he will be assigned to duty.

Charles E. Morrow, lieutenant and asst.-surgeon, U. S. A., former orders so amended as to direct him to report in person to the commanding general, Department of California, for assignment to duty as surgeon on the transport *Hancock*.

Edward L. Munson, captain and asst.-surgeon, U. S. A., detailed a member of the board of officers to examine candidates for admission to the Medical Corps of the Army, vice Captain F. P. Reynolds, asst.-surgeon, U. S. A., relieved.

Bonaparte P. Norvell, contract surgeon, from St. Louis, Mo., to the Division of the Philippines.

Joseph R. Parke, contract surgeon, from Philadelphia, Pa., to the Division of the Philippines.

William W. Quinton, captain and asst.-surgeon, U. S. A., from Fort Ethan Allen, Vt., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Thomas U. Raymond, captain and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

Robert L. Richards, contract surgeon, now at San Francisco, Cal., to report for transportation to Manila, P. I., and assignment in the Division of the Philippines.

Joseph J. Shafer, contract surgeon, from Washington, D. C., to the Division of the Philippines.

Erwin I. Shores, contract surgeon, on being relieved by Lieutenant C. J. Manly, asst.-surgeon, U. S. A., to proceed from Fort Caswell, N. C., to West Bridgewater, Mass., for annulment of contract.

William H. Spiller, contract surgeon, from the transport *Hancock* to New York City, for annulment of contract.

William J. S. Stewart, contract surgeon, now at San Francisco, Cal., to report in person to the Surgeon-General of the Army for instructions.

Jerome B. Thomas, captain and asst.-surgeon, Vols., having tendered his resignation, is hereby honorably discharged from the service of the United States, to take effect Feb. 27, 1902.

Walter D. Webb, lieutenant and asst.-surgeon, U. S. A., former orders directing him to proceed to Fort Totten, N. Y., so amended as to direct him to proceed to Fort Hamilton, N. Y., for duty.

Marlborough C. Wyeth, major and surgeon, U. S. A., former orders so amended as to require him to report for duty at Fort Ethan Allen, Vt.

The following named lieutenants, asst.-surgeons, U. S. A., upon the completion of the course of instruction at the Army Medical School, Washington, D. C., will proceed to San Francisco, Cal., and report, not later than April 15, 1902, to the commanding general, Department of California, for transportation to the Philippine Islands, for assignment in the Division of the Philippines: Conrad E. Koerper, Robert U. Patterson, Roderic P. O'Connor, Roger Brooke, Jr., Verge E. Sweazey, Matthew A. DeLaney, Paul S. Halloran, Robert Smart, William R. Eastman and Perry L. Boyer. The following will report in like manner, not later than April 28, 1902: Charles C. Geer, Ernest L. Ruffner, George P. Heard, Arthur M. Line, Kent Nelson, Lloyd LeRoy Krebs, William P. Woodall, Charles A. Ragan, George W. Jean, James F. Hall, Raymond F. Metcalfe, and James M. Phalen.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending March 8:

P. A. Surgeon D. N. Carpenter, detached from the *Illinois*, ordered home and granted sick leave for one month.

Dr. W. E. Griffin, appointed asst.-surgeon from Feb. 20, 1902.

P. A. Surgeon H. D. Wilson, ordered to accompany a detachment of Marines, March 8, to the Asiatic Station.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended March 6, 1902:

Surgeon H. W. Sawtelle, leave of absence for seven days from Feb. 27, 1902, under paragraph 179 of the regulations.

Surgeon T. B. Perry, granted leave of absence for twenty-three days from February 28.

Asst.-Surgeon Taliaferro Clark, directed to report to chairman of board of examiners at Washington, D. C., for examination to determine his fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon Hill Hastings, directed to report to chairman of board of examiners at San Francisco, Cal., for examination to determine his fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon C. H. Lavinder, directed to report to chairman of board of examiners at Washington, D. C., for examination to determine his fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon John McMullen, directed to report to chairman of board of examiners at Washington, D. C., for examination to determine his fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon S. B. Grubbs, directed to report to chairman of board of examiners at Washington, D. C., for examination to determine his fitness for promotion to the grade of passed assistant-surgeon.

Asst.-Surgeon F. J. Thornbury, relieved from duty at Port Townsend, Wash., and directed to proceed to Honolulu, H. I., and report to the medical officer in command for duty.

BOARDS CONVENED.

Board convened to meet at Washington, D. C., March 17, 1902, for the purpose of examining assistant surgeons to determine their fitness for promotion to the grade of passed assistant-surgeon. Detail for the board: Surgeon L. L. Williams, chairman; Surgeon R. M. Woodward; P. A. Surgeon H. D. Geddings, recorder.

Board convened to meet at San Francisco, Cal., March 24, 1902, for the purpose of examining Asst.-Surgeon Hill Hastings, to determine his fitness for promotion to the grade of passed assistant-surgeon. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; P. A. Surgeon H. S. Cumming; Asst.-Surgeon C. W. Vogel, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 8, 1902:

SMALLPOX—UNITED STATES.

Arizona: Naco, Feb. 23, 12 cases.

Arkansas: Mississippi County, Feb. 18, 100 deaths.

California: Los Angeles, Feb. 15-22, 6 cases; San Francisco, Feb. 16-23, 18 cases.

Colorado: Denver, Feb. 15-22, 5 cases.

Illinois: Chicago, Feb. 22-March 1, 2 cases; Danville, Feb. 22-March 1, 8 cases; Galesburg, Feb. 15-March 1, 4 cases.

Indiana: Evansville, Feb. 22-March 1, 8 cases; Michigan City, Feb. 17-March 3, 1 case; Indianapolis, Feb. 15-22, 7 cases; Terre Haute, Jan. 11-March 1, 12 cases.

Iowa: Clinton, Feb. 22-March 1, 2 cases.

Kentucky: Covington, Feb. 23-March 2, 6 cases; Lexington, Feb. 15-22, 3 cases.

Louisiana: New Orleans, Feb. 15-March 1, 2 cases.

Maine: Durham, Feb. 15-19, 12 cases; Freeport, Feb. 19, 1 case; Portland, Feb. 8-March 1, 9 cases; Sanford, Feb. 19, 1 case.

Maryland: Baltimore, Feb. 22-March 1, 2 cases.

Massachusetts: Boston, Feb. 22-March 1, 40 cases, 5 deaths; Cambridge, Feb. 22-March 1, 9 cases; Everett, Feb. 22-March 1, 1 case, 1 death; Haverhill, Feb. 23-March 1, 1 case; Holyoke, Feb. 22-March 1, 9 cases; Malden, Feb. 22-March 1, 1 case; Newburyport, Feb. 22-March 1, 1 case; North Adams, Feb. 22-March 1, 1 case; Quincy, Feb. 22-March 1, 1 death; Somerville, Feb. 15-March 1, 6 cases; Waltham, Feb. 22-March 1, 1 case; Weymouth, Feb. 15-March 1, 3 cases.

Michigan: Detroit, Feb. 22-March 1, 2 cases; Grand Rapids, Feb. 22-March 1, 2 cases; Ludington, Feb. 22-March 1, 6 cases.

Missouri: Hannibal, Feb. 1-28, 6 cases.

Montana: Butte, Feb. 16-23, 6 cases.

Nebraska: Omaha, Feb. 22-March 1, 55 cases.

New Jersey: Camden, Feb. 22-March 1, 5 cases, 1 death; Jersey City, Feb. 23-March 2, 19 cases; Plainfield, Feb. 22-March 1, 1 case, 1 death; Newark, Feb. 22-March 1, 24 cases, 2 deaths.

New York: Binghampton, Feb. 23-March 2, 10 cases, 1 death; New York, Feb. 22-March 1, 56 cases, 11 deaths.

Ohio: Cincinnati, Feb. 22-28, 7 cases; Toledo, Feb. 22-March 1, 1 case.

Pennsylvania: Allegheny, Feb. 22-March 1, 8 cases; Philadelphia, Feb. 22-March 1, 62 cases, 17 deaths; Pittsburg, Feb. 22-March 1, 6 cases; Scranton, Feb. 15-22, 1 case.

Rhode Island: Providence, Feb. 22-March 1, 4 cases, 1 death; Warwick, Feb. 22-March 1, 4 cases.

South Carolina: Charleston, Feb. 22-March 1, 2 cases; Greenville, Feb. 15-22, 3 cases.

Tennessee: Memphis, Feb. 22-March 1, 24 cases; Nashville, Feb. 22-March 1, 1 case.

Texas: Houston, Feb. 22-March 1, 32 cases.

Utah: Salt Lake City, Feb. 8-22, 2 cases.

Vermont: Burlington, Feb. 15-22, 17 cases.

Washington: Spokane, Feb. 15-22, 26 cases; Tacoma, Feb. 16-23, 14 cases.

Wisconsin: Fond du Lac, Feb. 22-March 1, 6 cases; Green Bay, Feb. 23-March 2, 10 cases; Milwaukee, Feb. 22-March 1, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Feb. 8-15, 10 cases.

Colombia: Cartagena, Feb. 15, 3 deaths; Panama, Feb. 17-24, 50 cases, 10 deaths.

France: Paris, Feb. 8-15, 3 deaths.

Great Britain: Cardiff, Feb. 1-8, 1 case; Dublin, Feb. 8-15, 3 cases; Dundee, Feb. 8-15, 4 cases; London, Feb. 8-15, 1185 cases, 64 deaths.

India: Bombay, Jan. 27-Feb. 4, 3 deaths; Calcutta, Jan. 11-Feb. 1, 3 deaths; Karachi, Jan. 19-Feb. 2, 34 cases, 8 deaths; Madras, Jan. 25-31, 1 death.

Italy: Rome, Dec. 27-Jan. 4, 2 deaths.

Mexico: Mexico, Feb. 8-16, 1 death.

Russia: Moscow, Feb. 1-8, 20 cases, 6 deaths; Odessa, Feb. 8-15, 1 case, 3 deaths; St. Petersburg, Feb. 1-15, 14 cases, 3 deaths.

Uruguay: Montevideo, Jan. 11-18, 65 cases, 5 deaths.

YELLOW FEVER.

Mexico: Vera Cruz, Feb. 15-22, 1 case, 1 death.

West Indies: Curacao, Feb. 1-8, 1 case, 1 death.

CHOLERA.

India: Bombay, Jan. 27-Feb. 4, 1 death; Calcutta, Jan. 11-Feb. 1, 159 deaths; Madras, Jan. 25-31, 1 death.

PLAGUE—UNITED STATES.

California: San Francisco, Feb. 22, 1 case, 1 death.

PLAGUE—INSULAR.

Hawaii: Honolulu, Feb. 18, 3 deaths.

PLAGUE—FOREIGN.

China: Hongkong, Jan. 11-18, 1 death; Shultung, Jan. 18, increasing; Young Koong, Jan. 18, 60 deaths.

India: Bombay, Jan. 27-Feb. 4, 538 deaths; Calcutta, Jan. 11-Feb. 1, 193 deaths; Karachi, Jan. 19-Feb. 2, 107 cases, 90 deaths; Madras, Jan. 25-31, 1 death.

Russia: Batoum, Feb. 5, 1 case.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, MARCH 29, 1902. No. 13.

Original Articles.

THE USE OF THE GALL-BLADDER TO RESTORE A PROLAPSED LIVER.*

A. F. JONAS, M.D.

OMAHA, NEB.

Conditions concerning a descent or displacement of the abdominal organs have all too often escaped notice and are not sufficiently considered in the management and treatment of the disturbed secretory and digestive functions. That every organ should occupy its normal location to perform its proper function is self-evident; and that any deviation from the normal position is at the expense of its real office, is easily understood. Our attention to-day will be directed to one organ, the liver. That this organ is sometimes displaced downward to a considerable degree will be shown by the two following cases. That there is usually modified function and a well-defined clinical picture belonging to this change of position will also be shown.

Case 1.—Mrs. S., aged 41, housewife, entered St. Joseph's Hospital, June, 1896. She had for three years suffered from paroxysms of severe pain located in the right hepatic region. These pains, always sudden in onset, sometimes subsided in the course of one or two hours, but occasionally continued until relieved by opiates. Whether they were relieved spontaneously or by anodynes, they were always succeeded by nausea and an aversion for food lasting from two days to a week. During the intervals, she had a dragging pain in the right hypochondriac region. A year previously she had had a moderate degree of jaundice. Otherwise her history was negative.

Status præsens: On examination, she was found apparently older than her real age, fairly well nourished. Her abdomen was distended, tympanitic, the abdominal walls were pendulous, soft and flabby, covered with numerous striæ, the result of child-bearing. On palpation, pain on pressure was elicited over the region of the gall-bladder, but no enlargement of that viscus could be made out. A movable lump was found between the right costal arch and the iliac crest, which proved to be the right kidney. The diagnosis was biliary calculi in the gall-bladder and movable right kidney. Cholecystotomy and nephrorrhaphy were recommended and agreed to by the patient.

Operation: After the usual preliminary preparations, a vertical incision was made, beginning at a point over the median end of the ninth rib and extending downward four inches. On entering the abdominal cavity, the lower margin of the liver was three finger-breadths below the costal arch. The liver could very easily be elevated to its normal position, but it descended very slowly when pressure upwards was released. In appearance it was normal. The gall-bladder was easily found and several calculi could be felt through its walls. The displaced and movable kidney could be made out. The liver could be held in place by little effort, particularly when an ordinary amount of traction was made on the gall-bladder, so the question presented itself, why not use the gall-bladder as a suspensory ligament? Accordingly, it was sutured in the uppermost part of the wound, snugly against the costal arch, the sutures passing through the gall-bladder wall, the parietal peritoneum and muscles. Before closing the peritoneal cavity, an exploration was made for the movable kidney, but it had receded to its normal position and could not be displaced. The peritoneum was then closed, the remaining wound sutured in the usual way save to allow for opening the bladder. This was done and seven calculi were removed. A long drainage tube was introduced and the wound was then dressed by an antiseptic hygroscopic pad. The drainage tube was removed in one week. The wound closed at the end of four weeks. The patient was directed to wear a snugly fitting abdominal band. Subsequently, several examinations were made. On percussion, the liver had remained in its normal position and the dragging pain had disappeared. No displacement of the kidney could be made out although she assumed several positions, straining in various ways. It was evident that the descended kidney was dependent on the descent of the liver. Unfortunately, in this case, it was not ascertained whether there was associated a downward displacement of the stomach and colon.

The foregoing experience has been the means of a more thorough examination, particularly as to the position of the liver and other abdominal viscera, in all our cases of affections involving the gall tracts. It is a fault to which we must all plead guilty more or less, that of ascribing all symptoms in a given case to the chief pathological factor and overlooking other deviations from the normal equally as important and often contributing a large share to the symptomatology. Prolapsed abdominal viscera are frequently observed and their rectification in only a few instances has been solved. Occasionally only one organ may have descended, often more than one, as in the foregoing case. Such a state of affairs is further illustrated in the following instance:

Case 2.—M. A., aged 65, farmer, gave the following history: He had always been well, except for the diseases incident to childhood and an old right femoral hernia, until three years ago, when he had a sudden attack of severe pain in the right hypochondriac region, which was designated gallstone colic and which subsided in an hour after the hypodermic administration of morphin. There was no jaundice with that attack. The pain has recurred at irregular intervals to the present time. It has always occurred in the same locality and often was most excruciating, being invariably associated with more or less tenderness on pressure along the border of the right costal arch. Nausea and vomiting were often present during and after an attack. During the last year, he began to experience a dragging feeling in the right hepatic region during the periods of intermission. His hernia had become irreducible and exceedingly painful, which was the cause of his seeking the hospital. He was admitted to the M. E. Hospital in January, 1899, and we found the following conditions.

* Read before the Western Surgical and Gynecological Association, at Chicago, Dec. 18-19, 1901.

Status præsens: He was sparely built, of medium height and appeared much older than his actual age. He appeared intensely jaundiced. His pulse was 80, temperature 99. His abdomen was distended. He had a right interstitial femoral hernia. A sensitive, rounded, hen-egg sized swelling could be felt about four inches below the costal arch. On percussion, the hepatic dulness began at the lower margin of the seventh rib and extended downward fully three inches below the costal margin. On palpation, the lower margin of the liver could be plainly felt at the lower boundary of dulness. The stomach was then distended with air through a stomach tube; its lower curvature reached to the umbilicus, but it did not seem dilated. The diagnosis was irreducible interstitial femoral hernia, biliary calculi in the gall-bladder and common duct, with a prolapsed liver. An immediate operation for the hernia and subsequent surgical intervention for the cure of the biliary obstruction was readily consented to on the part of the patient.

Operation: On account of his enfeebled condition, it was considered inadvisable to do more than to immediately relieve the incarcerated hernia. The hernial tumor had increased in size until, in its upward and outward direction, it reached to the iliac spine. Toward its median direction, it extended to the pubic spine. Through a long oblique incision the hernial sac was easily enucleated and its contents were readily reduced after the hernial opening had been enlarged. The neck of the sac was transfixed with catgut and the sac was cut away. The margins of the hernial opening were approximated with silver sutures and the skin with a subcuticular silkworm gut. The healing process was uneventful. Two weeks later the second operation was undertaken.

On opening the abdomen by a vertical incision, the liver was seen to extend about three inches below the costal margin. The distended gall-bladder appeared below the hepatic border. The liver was easily pushed upward to its normal position. The right index finger was introduced into the foramen of Winslow. A calculus was found to be lodged in the common bile duct. This calculus, in its duct, was raised forward, it was easily laid bare and after the introduction of four sutures in the duct wall, the calculus was removed through a longitudinal incision. The wound was then closed by tying the previously applied sutures. The gall-bladder was then fastened in the uppermost part of the wound, snugly against the costal arch. After placing a rubber drain, with one end reaching to the common duct over the line of sutures, the other end projecting from the lower end of the abdominal wound, the peritoneum was closed, allowing the gall-bladder fundus to project at its point of attachment. The gall-bladder was opened and four calculi were removed. A rubber drain was placed in the bladder and the abdominal parietes were approximated between the two drains. The healing process was uneventful, the lower drain being removed in five days, the upper one in ten days. The liver had retained its normal location, as was indicated by the normally located area of dulness. The stomach was apparently in its normal location, as was shown by air inflation through a tube. He was discharged, wearing a snugly fitting abdominal band. The liver has remained in its normal position, as has been ascertained by a recent examination and by a disappearance of all discomfort.

As we review the foregoing cases several propositions present themselves for consideration: 1. What is the cause of hepatoptosis? 2. Does the liver descend alone or are other abdominal organs involved? 3. Is the gall-bladder, as utilized in the preceding cases, an efficient support?

In this connection we will exclude such displacements as are brought about by neoplasms or by conditions that augment the size of the organ permanently. It is intended that our discussions will be limited to displacements where the liver itself is free from histological changes and where its modified function is dependent on the descent of the organ.

Let us at the outset have a clear understanding of the normal supports of the organ. "We find that the normal position of the liver is dependent chiefly on its intimate connection with the vena cava inferior. This great vessel, passing upward to the heart, is closely adherent to the back wall of the abdomen, is deeply lodged for some inches of its upper portion in the substance of the liver and receives from this viscus the few great and many small hepatic veins. The support afforded by the underlying hollow viscera—the stomach and bowels—is not to be ignored. Usually these are occupied to a considerable extent by gas and thus act as a sort of air cushion upon which their bulky associate can repose. The fibrous cord, which results from the atrophy of the umbilical vein of intrauterine life and is known as the round ligament of the liver, does its share in holding up the organ. Its upper part is firmly fastened in the umbilical fissure, from the front end of which it passes down, close to the anterior abdominal wall, enclosed in the free edge of the falciform ligament and terminates at the navel, with the cicatricial tissue of which its free end is fused. Finally, there are four ligaments formed by folds of peritoneum: the superior, formed by the serous tunic; the suspensory, because the liver seems to hang from it; the broad and the falciform."—Gerrish.

"The force by which the liver is retained within the arching dome of the diaphragm is a considerable one. Luschka compares the intimate contact of the two curved arches of the diaphragm and liver to a great ball and socket joint, held together by atmospheric pressure. The path that the liver must describe when it descends from its normal position is the same it took when it rose from its fetal situation. In its descent the liver goes through a peculiar axis rotation. The direction of this rotation is toward the anterior and inner portion of the abdomen. The duodenum, pylorus and hepatic flexure of the colon, will, of necessity, for anatomical reasons, have to descend with it. The posterior lower edge of the liver rises during this axial rotation and becomes superimposed on the upper end of the kidney; if there has been a predisposition to abnormal motility or loose attachment of the kidney, it will become completely dislocated."[1] The abdominal muscles are also important factors in maintaining the normal position of the liver as well as the other abdominal contents.

It is clear that we must consider these several factors: 1, the intimate contact of the two arched surfaces between the liver and diaphragm; 2, the suspensory ligaments; 3, the intimate relations between the vena cava inferior and the liver; 4, the hollow viscera; 5, the abdominal walls.

The suspensory ligaments of the liver are not adequate in themselves to support the organ. Nor can the hollow viscera be depended upon; nor the attraction between the well-fitting surfaces of the liver and diaphragm; nor the round ligament; nor the attachment to the vena cava; nor the abdominal walls. It is evident that each one and all of these supports are necessary. Any defect in one or more of them invites a displacement. Should, for example, the abdominal walls lose their tenacity by prolonged over-distension due to constipation, or by repeated pregnancies, the abdominal viscera must, of necessity, become displaced, gradually involving, to a greater or less degree, the entire abdominal contents, followed eventually by an elongation of the hepatic ligaments.

According to Glenard, the hepatic flexure of the colon

1. Hemmeter, Diseases of the Stomach, p. 705.

descends, followed by a displacement of the transverse colon, to a point where it is connected with the pyloric end of the stomach by the gastro-colic ligament; the colon becomes kinked and fecal stagnation results. When the colon has descended, the remaining viscera follow. The stomach, liver and kidneys descend in their turn. Accordingly, we have a secondary hepatic displacement, dependent primarily on a descent of the hollow viscera.

A primary displacement of the liver may be brought about, first by a trauma, forcibly displacing the organ downwards and injuring its ligamentous supports; second, by a prolonged increase in weight of the liver, due to venous or biliary obstruction.

Confining our observations to the cases herein detailed, we found several conditions common to both. The abdominal walls were relaxed. There was more or less gaseous distension. The bowels were more or less constipated. All these conditions favor enteroptosis. While in our first case we failed to establish displacements aside from the liver and kidneys simply because of lack of sufficient examination, yet gastroptosis and enteroptosis must have been present, because it is inconceivable that a liver could be so prolapsed as that was without crowding down organs located beneath it. In our second case we established the existence of a prolapsed stomach and intestines; there existed a biliary obstruction due to a location of a calculus in the common duct, producing almost complete biliary obstruction. As a consequence the weight of the liver was increased, a condition which, no doubt, contributed to its descent.

Now the query arises, Did the biliary calculi play a rôle as an etiological factor in the prolapsus, or did they play only an incidental rôle? Did the prolapsus cause the formation of the calculi? These are questions that are not included in the scope of this paper and do not concern us at this time.

Confining ourselves to our main propositions, our last one can be briefly answered. In both our cases the liver has remained in its normal position, as has been ascertained by recent examinations. The area of liver dulness has remained normal, and the dragging sensation in the right side, complained of by both patients, has disappeared.

The use of the gall-bladder to suspend the descended liver appears practical. But to make it effective the abdominal walls should be assisted for a considerable period by an abdominal band. If the relaxed abdominal walls are not assisted to overcome the enteroptosis, the gall-bladder attachment would, no doubt, become elongated or entirely detached, favoring recurrence. In attaching the gall-bladder as we did, we simply lifted the outer edge of the liver upward and outward so as to overcome the rotation downward and inward. In conclusion we may say:

1. The cause of hepatoptosis consists in a modification of one or more of its normal supports, or in an increase in the size and weight of the liver.

2. It is impossible for the liver to descend without producing a descent of the hollow abdominal viscera.

3. The utilization of the gall-bladder as a suspensory ligament, to maintain and hold in its normal position a prolapsed liver, together with certain other abdominal organs, seems practical.

Phototherapy in Spain.—The Queen Regent has appropriated 10,000 pesetas for an Institute of Phototherapy at Madrid.

END-TO-END APPROXIMATION OF THE BROAD LIGAMENTS AND OTHER POINTS OF TECHNIQUE IN ABDOMINAL HYSTERO-MYOMECTOMY.

E. C. DUDLEY, A.M., M.D.

CHICAGO.

Abdominal hystero-myomectomy may be, supravaginal, in which the tumor, corpus uteri and supravaginal portion of the cervix are removed, or, complete, in which the tumor and entire uterus are removed. The two operations will be considered separately.

SUPRAVAGINAL HYSTERO-MYOMECTOMY.

The usual operation is to secure the ovarian and uterine arteries by means of strong catgut ligatures and after the removal of the tumor, corpus uteri and supravaginal portion of the cervix, to close the uterine stump by means of a continuous suture running from side to side and then to close the wound in the broad ligaments by means of another continuous suture also running in the same direction (Fig. 1). This method is open to the following objections: 1. The severed broad ligaments retract to the sides of the pelvis where they can no longer give adequate support to the bladder, vagina and the rectum, and where they consequently permit

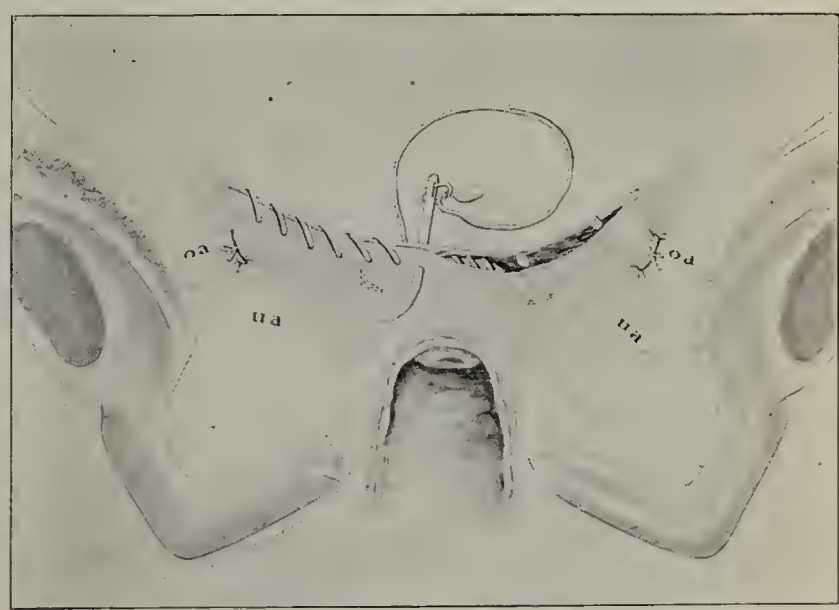


Fig. 1.—*Supravaginal hystero-myomectomy.* The ovarian and uterine arteries have been secured by means of strong catgut ligatures; the uterine stump has been closed by a continuous suture running from side to side and the wound in the broad ligaments is being whipped together by a continuous catgut suture running in the same direction. The ligatures on the uterine arteries are covered in by peritoneum; those on the ovarian arteries are not so covered.

exaggerated descent of the pelvic floor with disabling and permanent cystocele and rectocele. 2. The rectum and bladder are brought into close relations with only a thin wall between them so that the possibility of infection from one to the other is increased. 3. In many cases the bladder is drawn over the uterine stump in order to cover it and this may give rise to mechanical irritation of the bladder. The author has attempted to overcome the difficulties above mentioned by closing the uterine stump in the antero-posterior direction and the broad ligaments in the same direction by end-to-end approximation. This method will be set forth under the following description of technique:

Technique of Supravaginal Hystero-myomectomy.—The steps of the operation are these:

A. Abdominal incision.

B. Delivery of the tumor through the abdominal wound.

C. Ligature of the ovarian and uterine arteries and

removal of the tumor together with the corpus and supravaginal portion of the cervix uteri.

D. Toilet of the peritoneum.

E. Closure of the abdominal wound.

A. In case of a large tumor the abdominal incision should be made nearer the umbilicus than the pubes, to avoid the bladder, which by the growth of the tumor is not infrequently drawn up out of the pelvis. The incision, first exploratory—that is, large enough to admit one or two fingers—may, if the operation is to continue, be sufficiently enlarged to permit the delivery of the tumor.

B. The delivery of the tumor through the abdominal wound is sometimes made by pressure on the abdominal walls around the incision, so as to squeeze it out as one would squeeze pus out after opening an abscess. Usually, however, the tumor is delivered by traction with the hands or with heavy vulsellum forceps. In many cases the tumor is so firmly fixed in the pelvis that it can not be brought through the abdominal wound until

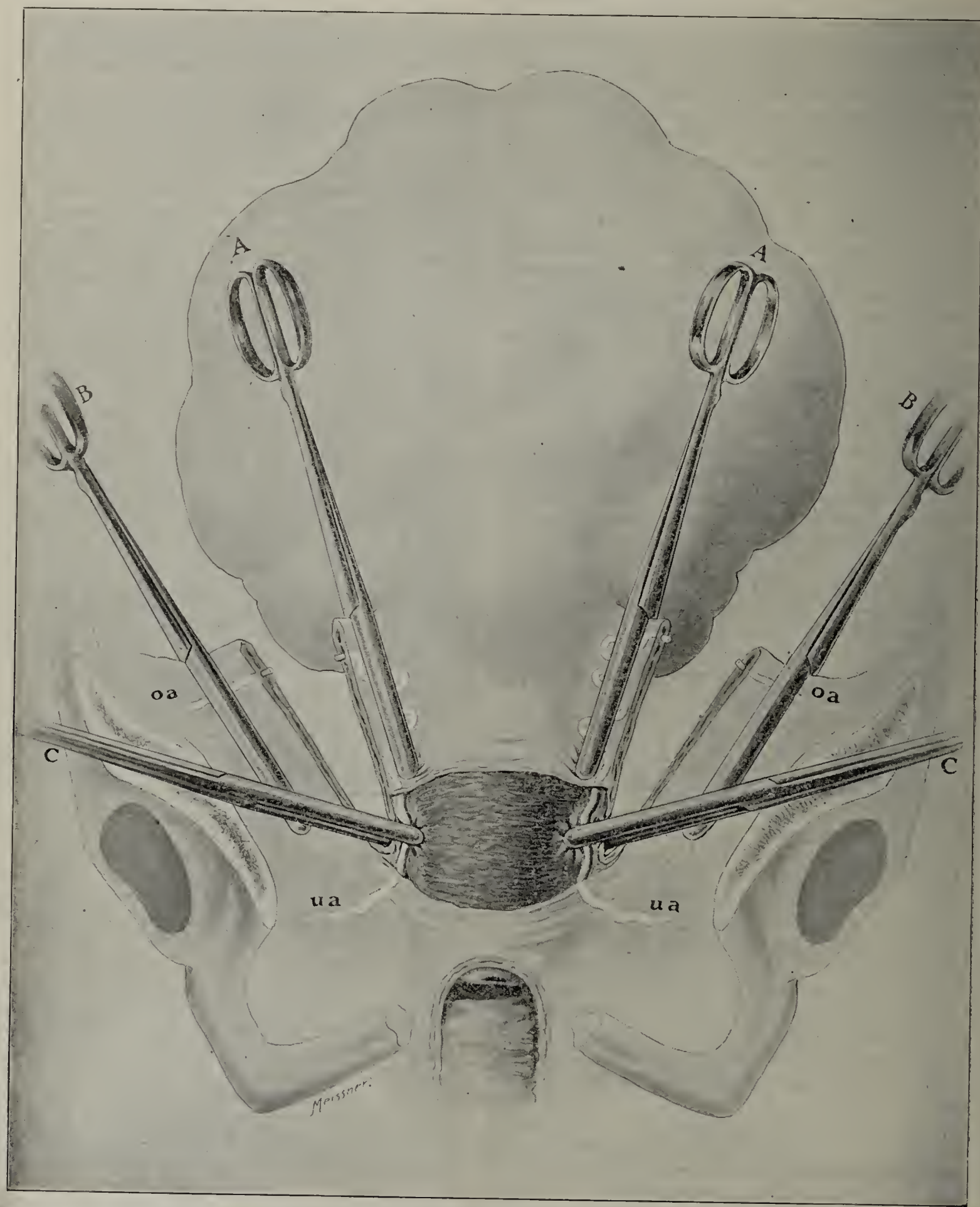


Fig. 2.—*Supravaginal hystero-myomectomy.* Forceps B B clamp the ovarian artery as it passes inward through the broad ligament toward the uterus. Forceps A A clamp the ligament close to the uterus and prevent reflex hemorrhage from the utero-ovarian anastomosis at the uterine end of the broad ligament. On either side the broad ligament has been divided by means of scissors between forceps A and B. The peritoneal investment of the uterus all around the cervix has been divided just above the level of the bladder attachment. The circumuterine peritoneum together with the attached bladder has been stripped down toward the vaginal portion of the cervix to the region of the uterine arteries. The uterine arteries have been clamped by means of forceps C C.

after some of the ligatures have been placed around the arteries and the mass partially severed from the broad ligaments. If the abdominal incision has been very long, and the intestines are much inclined to protrude through the wound, they may, as soon as the tumor has been brought through, be held back by large flat gauze pads, or by suture of the upper part of the wound. It is clearly important to prevent protrusion of the intestines and thereby to lessen exposure of the peritoneum.

C. In a majority of all cases of hystero-myomectomy, whether complete or incomplete, the operation may be facilitated by the use of long-bladed forceps to secure temporary hemostasis of the uterine and ovarian arteries while the mass is being removed. This use of the forceps will enable the operator to get the tumor rapidly out of the way and to complete the operation with great speed and during the operation to avoid hemorrhage.

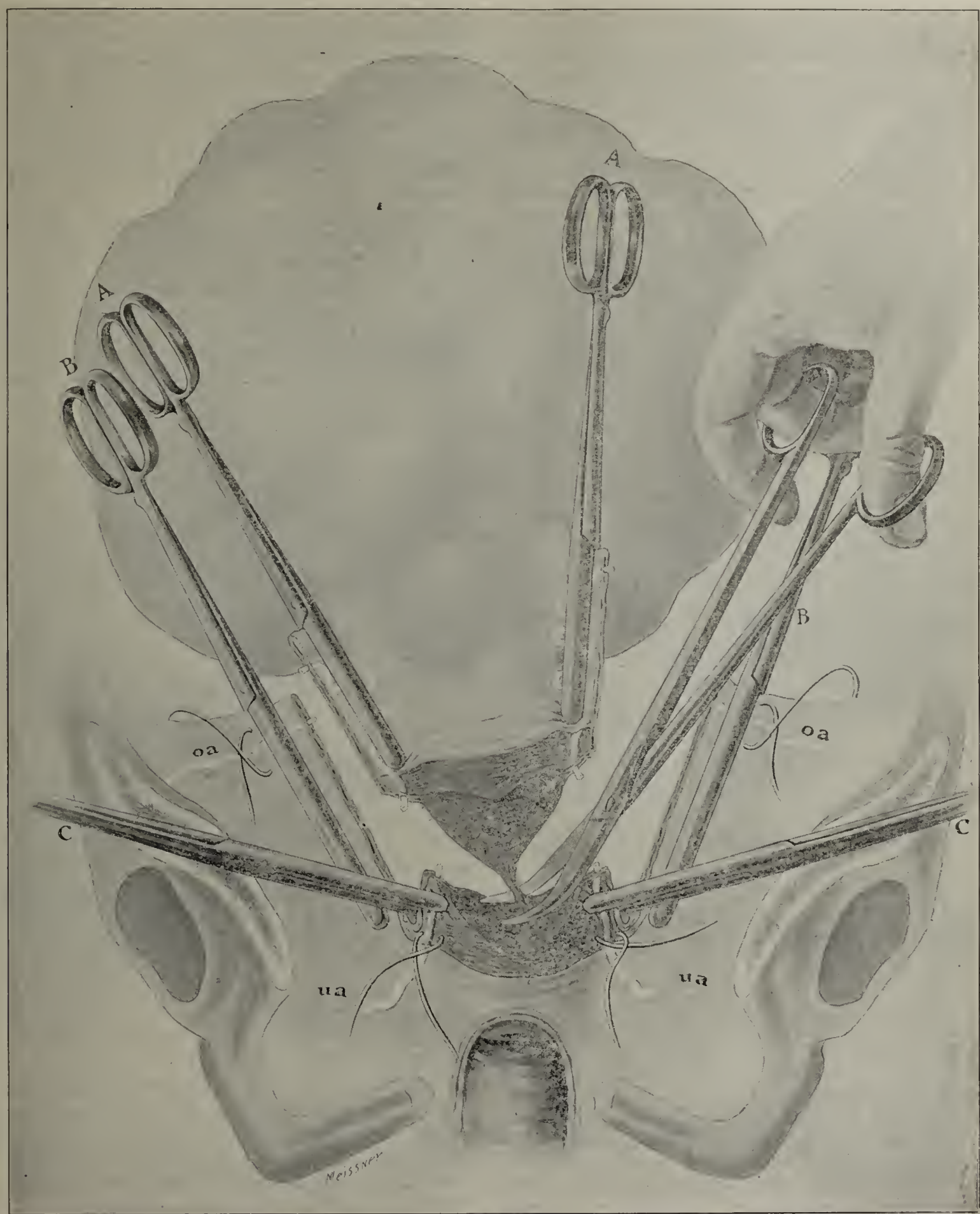


Fig. 3.—*Supravaginal hystero-myomectomy.* Forceps A A, B B and C C in place as shown in Fig. 2; ligatures for permanent hemostasis of the uterine and ovarian arteries in place, but not tied. Uterus being removed by scissors in such a way that the uterine stump may be sutured in a line from before backward instead of from side to side.

Figures 2 and 3 show the forceps in place, AA and BB securing the ovarian and CC securing the uterine arteries. The steps of this part of the operation are shown in Figs. 2 to 5 and are:

1. Clamp the arteries as shown in the diagrams: for-

ceps BB shut off the ovarian artery as it passes inward through the broad ligament toward the uterus; forceps AA prevent reflex hemorrhage from the utero-ovarian anastomosis at the uterine end of the broad ligament.

2. Divide the broad ligaments by means of scissors.

3. Divide the peritoneal investment of the uterus all around the cervix just above the bladder attachment; this is best done by lightly cutting around the uterus with a scalpel or pointed scissors.

4. Strip the circumuterine peritoneum together with the attached bladder down toward the vaginal portion of the cervix to the region of the uterine arteries. While stripping off the bladder its relations may be recognized by a sound in that viscus.

5. Clamp the uterine arteries by means of forceps or ligature them at once; in applying the ligatures, care is necessary to avoid the ureters which sometimes run very close to the uterus. Some operators take the precaution to have a catheter in each ureter as a guide during the operation.

6. Remove the tumor and all the uterus except the vaginal portion of the cervix by a wedge-shaped incision so directed that the uterine stump may be sutured in a

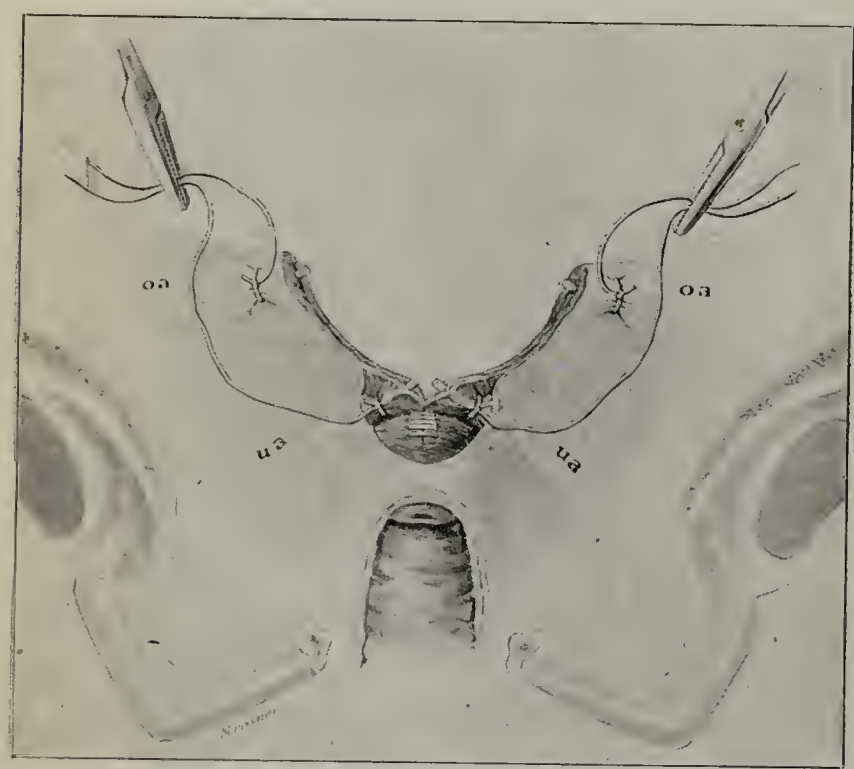


Fig. 4.—*Supravaginal hystero-myomectomy.* Ovarian arteries o a, o a, and uterine arteries u a, u a, secured by the ligatures which were shown in place, but not tied in Fig. 3. One free end of each of these ligatures is cut short and the others are held in pressure forceps. Uterine stump closed by continuous suture in antero-posterior direction.

line from before backward, not from side to side (Fig. 3).

7. Place permanent ligatures on the ovarian and uterine arteries and remove the pressure forceps. It is important that the forceps be loosened by an assistant while the ligatures are being drawn tight, because if tied before the forceps are removed dangerous hemorrhage may result. The uterine arteries are located sometimes by sight, sometimes by touch and are accordingly secured by ligature, isolated or *en masse*. In some cases the tumor so fills the pelvis that the forceps for want of room can not be applied. Then, a rubber ligature having been thrown around the cervix for temporary hemostasis, the tumor may be enucleated and the size of the mass so reduced that the forceps may be applied. As the incision is carried down through the broad ligament on each side, additional forceps, if needed to control hemorrhage, may be used until the entire mass—tumor, corpus uteri, and supravaginal portion of the cervix—has been removed, then permanent ligatures on the ovarian and uterine arteries may be substituted for the forceps.

D. The toilet of the peritoneum consists of the following steps: 1, ligature of any bleeding points; 2, cauterization of the cervical canal with 95 per cent. carbolic acid; this may be applied on a probe or grooved director; sponges and instruments used in connection with the cervical canal should for reasons of asepsis not be used elsewhere; 3, closure of the cervical canal by suture and covering of all exposed surfaces with peritoneum (the author's method of uniting the cervical stump by a line of union in the antero-posterior direction and of bringing together the broad ligaments by end-to-end approximation is set forth in Figures 3 to 8; 4, drainage if required.

In supravaginal hystero-myomectomy drainage is usually not required; i. e., if drainage is indicated it would generally be wise to remove the entire uterus, but if drainage is required it is best made with a continuous strip of gauze passed from above downward through a free opening posterior to the cervix into the vagina; this opening should be enlarged by splitting the posterior wall of the cervix, and if necessary also the anterior wall. A gauze drain should usually be removed through the vagina about two days after the operation and the

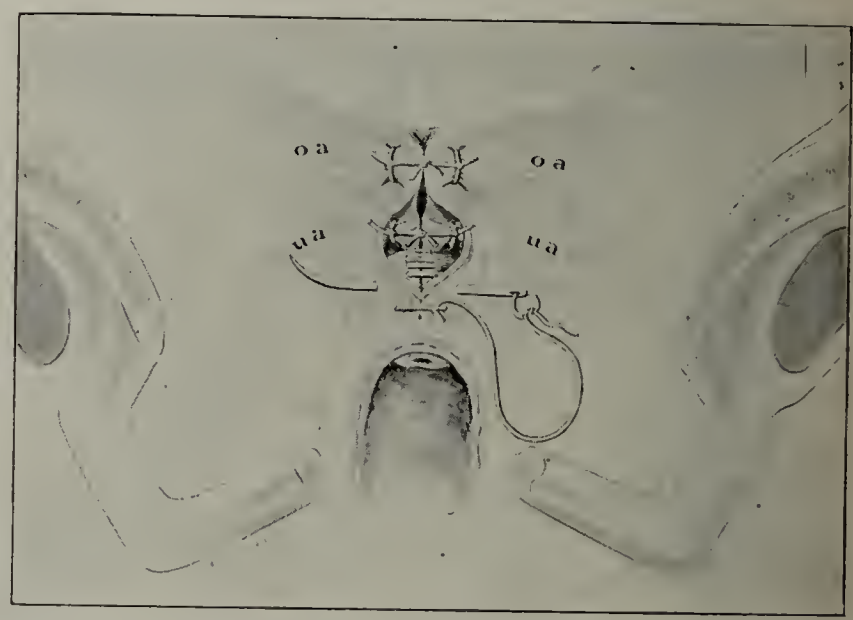


Fig. 6.—*Supravaginal hystero-myomectomy.* o a, o a, ovarian arteries; u a, u a, uterine arteries; the cut ends of the two broad ligaments are brought together—end-to-end approximation—by tying the catgut ligatures which are shown in the grasp of pressure forceps, Fig. 4. The tying of these ligatures brings the broad ligaments into position for final end-to-end union by a continuous suture. The needle here shows the beginning of this suture.

removal of it followed by gentle douches of 0.5 per cent. lysol in sterile water.

E. The abdominal wound should be closed in the usual manner without drain.

COMPLETE ABDOMINAL HYSTERO-MYOMECTOMY.

The removal of the entire myomatous uterus is indicated; first, when the cervix uteri is septic or otherwise so diseased as to render the presence of any part of it unsafe; second, when on account of extensive traumatism or suppuration vaginal drainage is required. In addition to the above indications there is a certain legitimate latitude of choice so that the bias of the operator may be in the direction of complete hysterectomy.

The abdominal incision, the delivery of tumor, the clamping and ligature of the arteries, the division of the broad ligaments and the closure of the wounds, both pelvic and abdominal, are substantially the same as al-

ready described for supravaginal hystero-myomectomy. The following description of complete hysterectomy contains, however, certain peculiarities in technique:

Excision of the Uterus.—When the cervix is accessible through the vagina the first incisions may be made as for vaginal hysterectomy, the bladder and the rectum being stripped away from the cervix, sometimes as far as the peritoneal cavity. The broad ligaments may be separated through the vagina and tied off as high as practicable. In some cases the uterine arteries may be reached and ligatured. The vagina having been temporarily packed with a continuous strip of gauze, the final removal of the uterus through the abdomen will be found easy in consequence of the vaginal detachment. The removal of the uterus is performed as already described for supravaginal hysterectomy; the uterine arteries are usually clamped and tied a little further from the uterus. This necessitates the greatest care not to include the ureters, which cross the arteries near the uterus. The broad ligaments and circumuterine structures are then divided by means of strong scissors, as shown in the illustrations; in making the incisions for this purpose close to the uterus, no harm is done if, on either side, a small portion of the lateral walls of the cervix be left behind. The bladder is stripped away from the cervix as far toward the vagina as practicable and the peritoneum of the posterior wall of the uterus is stripped or dissected off in the same way.

If the vaginal incisions have previously extended into the pelvic cavity, the final removal of the uterus will be easy. If the incisions have not extended so far, the removal will not be difficult; but if no vaginal incisions have been made, the operator may in some cases find it quite tedious, if not difficult, to work his way down into the vagina. The attempt has occasionally resulted in opening the rectum, bladder, or ureter. This difficulty may largely be overcome by a simple device as follows:

The bladder having been stripped off the cervix as far down as possible toward the vagina, the uterus is drawn by means of vulsellum forceps well up through the abdominal wound. This traction exposes the anterior wall of the cervix, which is now freely divided with sharp scissors by a longitudinal incision and the cervical canal thereby laid open (Fig. 9). One blade of the scissors is now passed directly down through the external os to the vagina, and the entire anterior cervical wall is thus divided in a longitudinal direction. The finger now readily passes to the vagina, and serves as a guide for the rapid removal of the uterus by a circular incision around the cervix at the utero-vaginal attachment. In some cases it is convenient to reserve the ligaturing of the uterine arteries to this part of the operation. Small bleeding vessels are tied or twisted. If drainage is not required the wound should be closed complete both on the vaginal and the peritoneal side. This may be done by lines of union from side to side as shown in Figs. 10 and 11.

Fig. 12 shows the wound closed by end-to-end approximation of the broad ligaments. If this method is employed the same sutures that unite that part of the

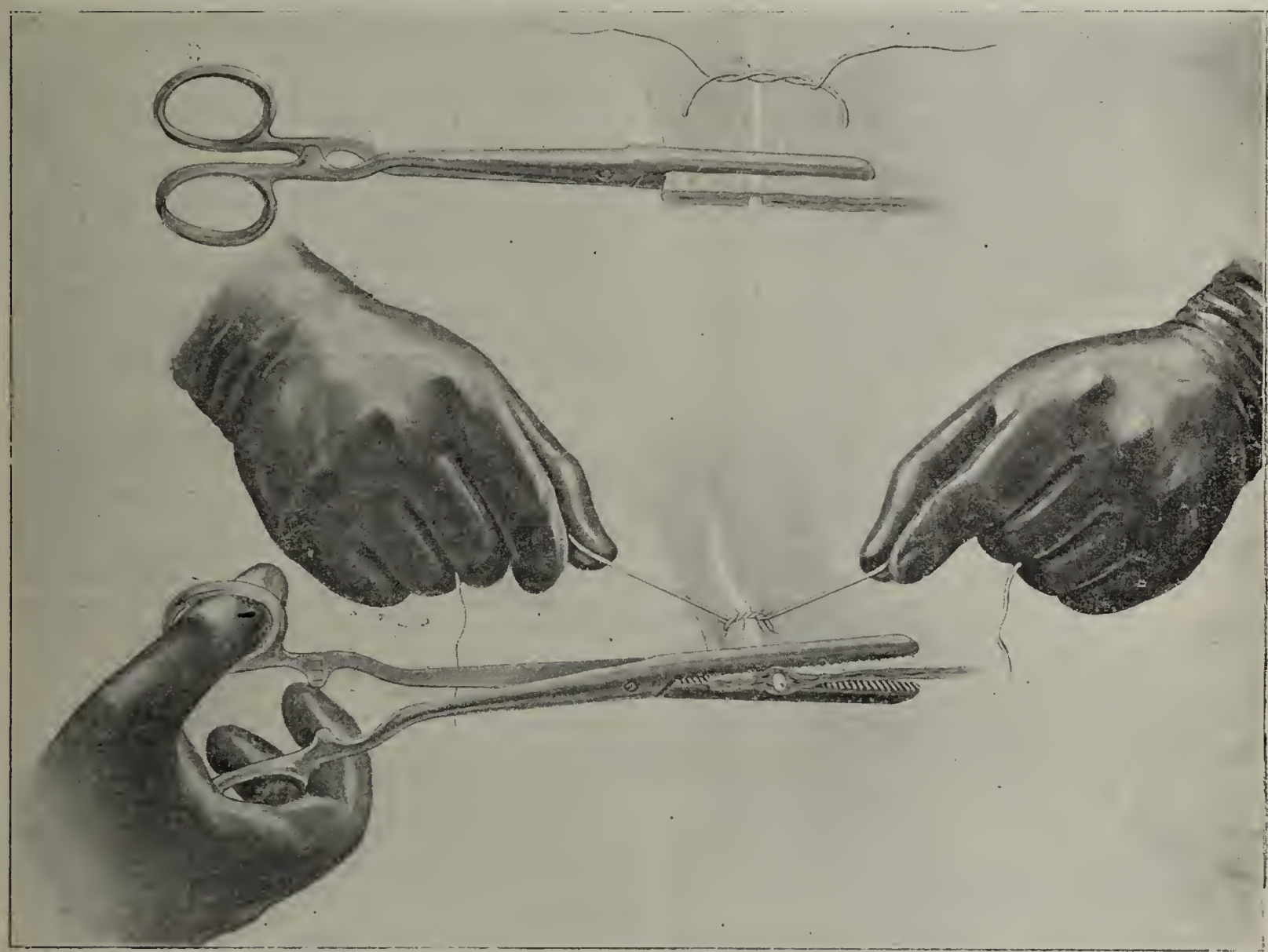


Fig. 5.—*Supravaginal hystero-myomectomy.* A ligature *en masse* surrounding an artery in the broad ligament is being drawn tight and tied; while the operator is tightening the ligature, the assistant is removing the forceps. If the ligature is drawn tight before the forceps are removed the artery will not be sufficiently compressed and hemorrhage may result.

broad ligaments nearest to the vaginal wound should also catch up the upper cut end of the vagina so as to draw it into the space from which the cervix has been excised and unite it to the broad ligament stumps at the point where the ligatures surround the uterine arteries; this serves to draw the vagina strongly upward and to cover the exposed surfaces between the vagina and broad ligaments.

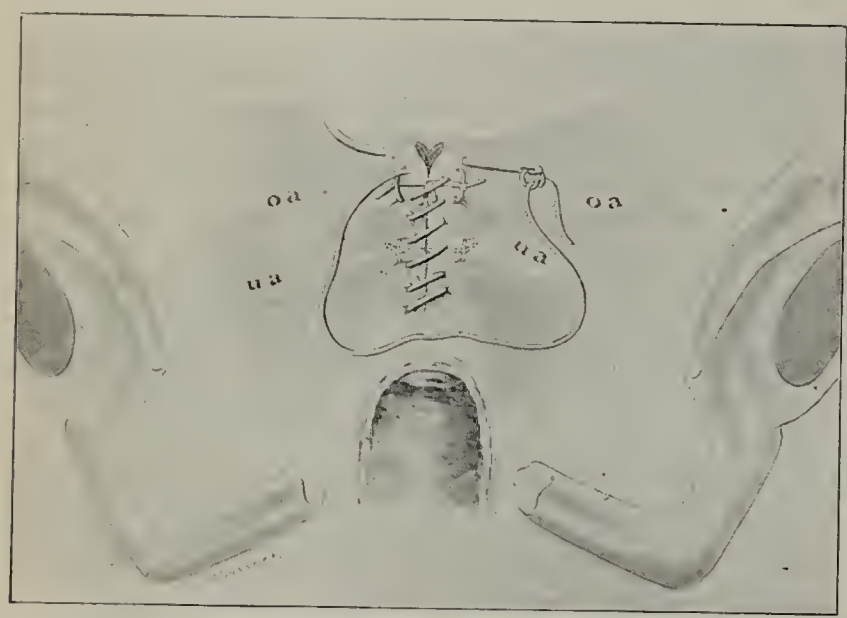


Fig. 7.—*Supravaginal hystero-myomectomy.* o a, o a, Ovarian arteries; u a, u a, uterine arteries; the continuous suture for end-to-end approximation of the broad ligaments nearly complete.

Upon completion of the operation the vagina should b packed with gauze from the vaginal wound to the vulva, and a large gauze dressing placed over the vulva to absorb the drainage fluid and held there by a T-bandage, which should be changed often to keep it dry; the vaginal gauze is removed in about three days and vaginal douches of 0.5 per cent. lysol are then given twice a day.

If drainage of the pelvic cavity is required, it should be vaginal, and the vaginal wound should be left

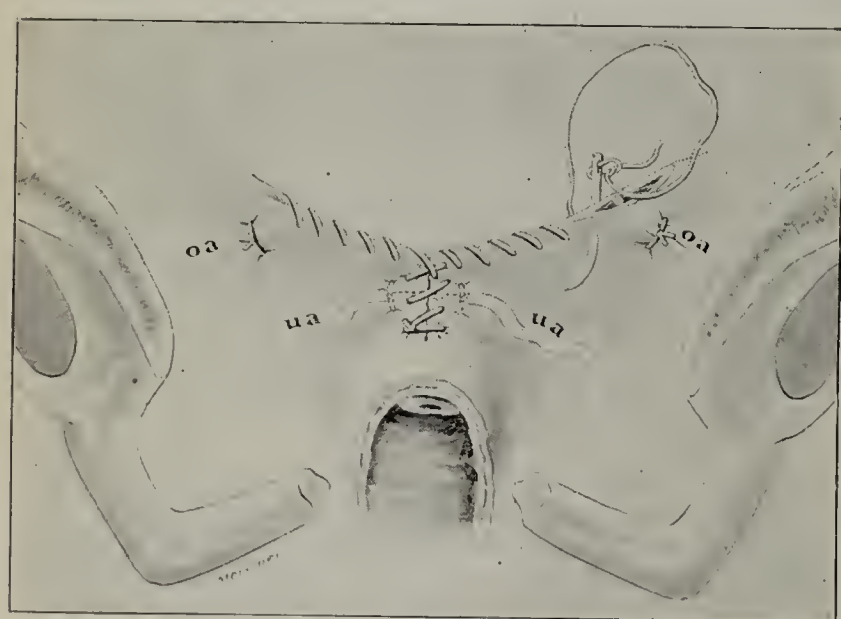


Fig. 8.—*Supravaginal hystero-myomectomy.* o a, o a, Ovarian arteries; u a, u a, uterine arteries. In the case represented by this figure the broad ligaments are too short for complete end-to-end approximation. The end-to-end approximation is therefore carried only part way, but the ligament and the remainder of the closure is accomplished by a line of union running from side to side. The running suture is nearly complete.

open or partly open for that purpose. The drain is introduced as follows: the end of a long strip of gauze, double thick and two inches wide, is passed from the pelvis through the vaginal wound to the vulva; the gauze is then lightly packed from below upward so as to fill the vagina and the vaginal wound, and to cover all surfaces in the pelvis left exposed by the operation. The dressing over the vulva which receives the capillary drainage from the gauze should be kept dry by frequent changing. The gauze drain, being a continuous strip, may easily be removed by the vagina in two or three days.

In hystero-myomectomy the ovaries, if normal or

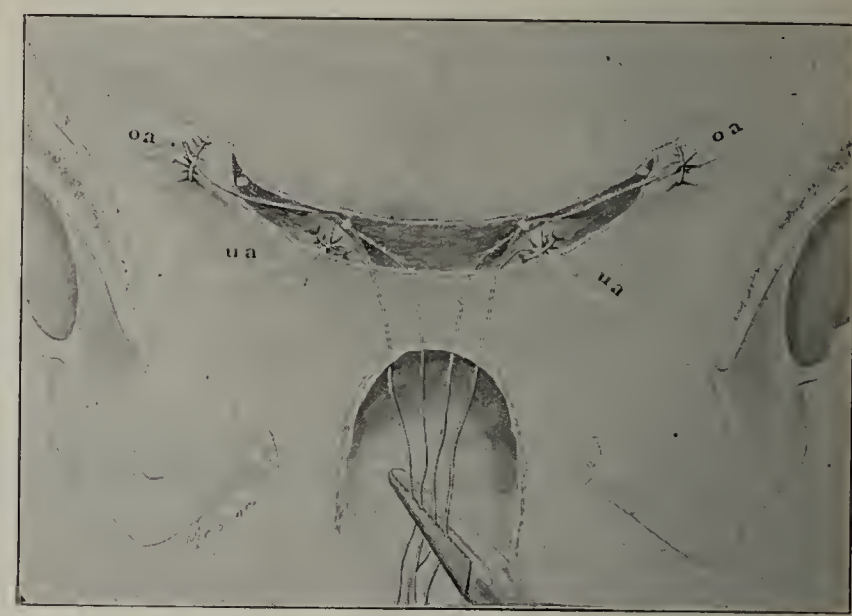


Fig. 10.—*Complete abdominal hystero-myomectomy;* entire uterus and tumor removed; long ends of catgut ligatures on ovarian and uterine arteries have been drawn down through the vagina to the vulva by a pressure forceps passed from the vagina through the vaginal wound, and then withdrawn with the ligatures in its grasp.

nearly normal, should be preserved. Catgut ligatures and sutures are used throughout. The ligatured part should receive nutrition by collateral circulation and all ligatures should be so introduced as not to deprive the ligatured tissues of circulation and nutrition. The proper method of applying the ligatures to the ovarian arteries as they pass through the broad ligament and to the uterine arteries as they reach the sides of the uterus is shown in the accompanying illustration.

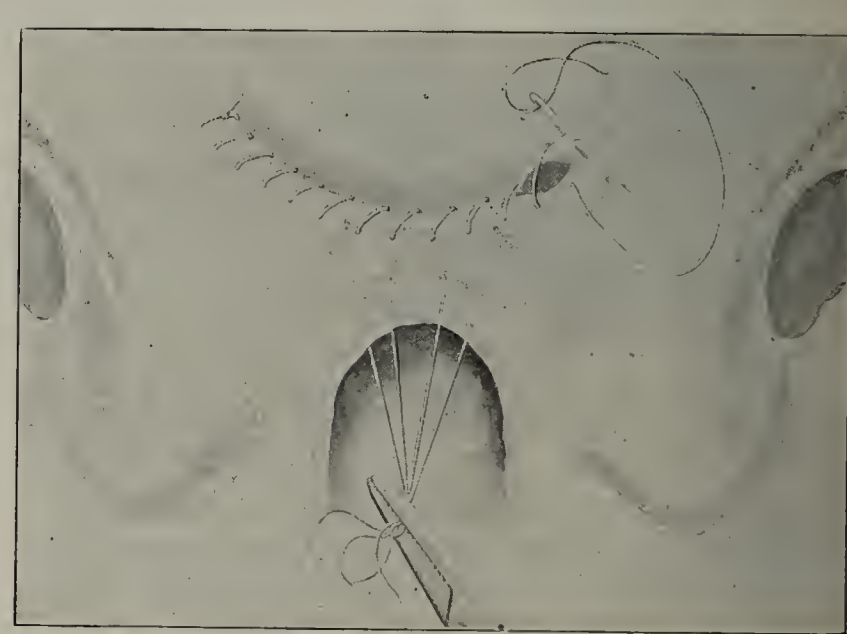


Fig. 11.—*Complete abdominal hystero-myomectomy.* While the ligatured masses which contain the ovarian and uterine arteries are being held down into the vaginal wound by pressure forceps in the hands of an assistant, the operator is uniting by a continuous suture the peritoneal margins of the vaginal wound in such a way as to make the entire traumatism extraperitoneal. This suture may include and fix the ligatured masses and hold them below the line of union; it should also catch up and hold the upper cut end of the vagina in contact with the lower edge of the broad ligament.

Advantages of End-to-End Approximation of the Broad Ligaments in Hystero-Myomectomy.—1. The broad ligaments, when approximated by this method, take the place, in an anatomical sense, of the ex-

eised uterus and form a pouch posteriorly that corresponds to the cul-de-sac of Douglas and anteriorly a depression that answers for the utero-vesical pouch.

2. The broad ligaments, if brought together end to end, give support to the rectum, vagina, bladder and other parts of the pelvic floor and in so doing prevent the descent of those parts—a descent which so commonly results from hysterectomies as ordinarily performed.

3. The broad ligaments when brought together by end-to-end approximation, are interposed between the bladder and rectum and thus prevent the intimate union of these two viscera—a union that would leave a very thin wall between them through which infection might pass from one to the other.

4. The operation is more quickly and easily performed by this method than by that of side-to-side union of the ligaments.

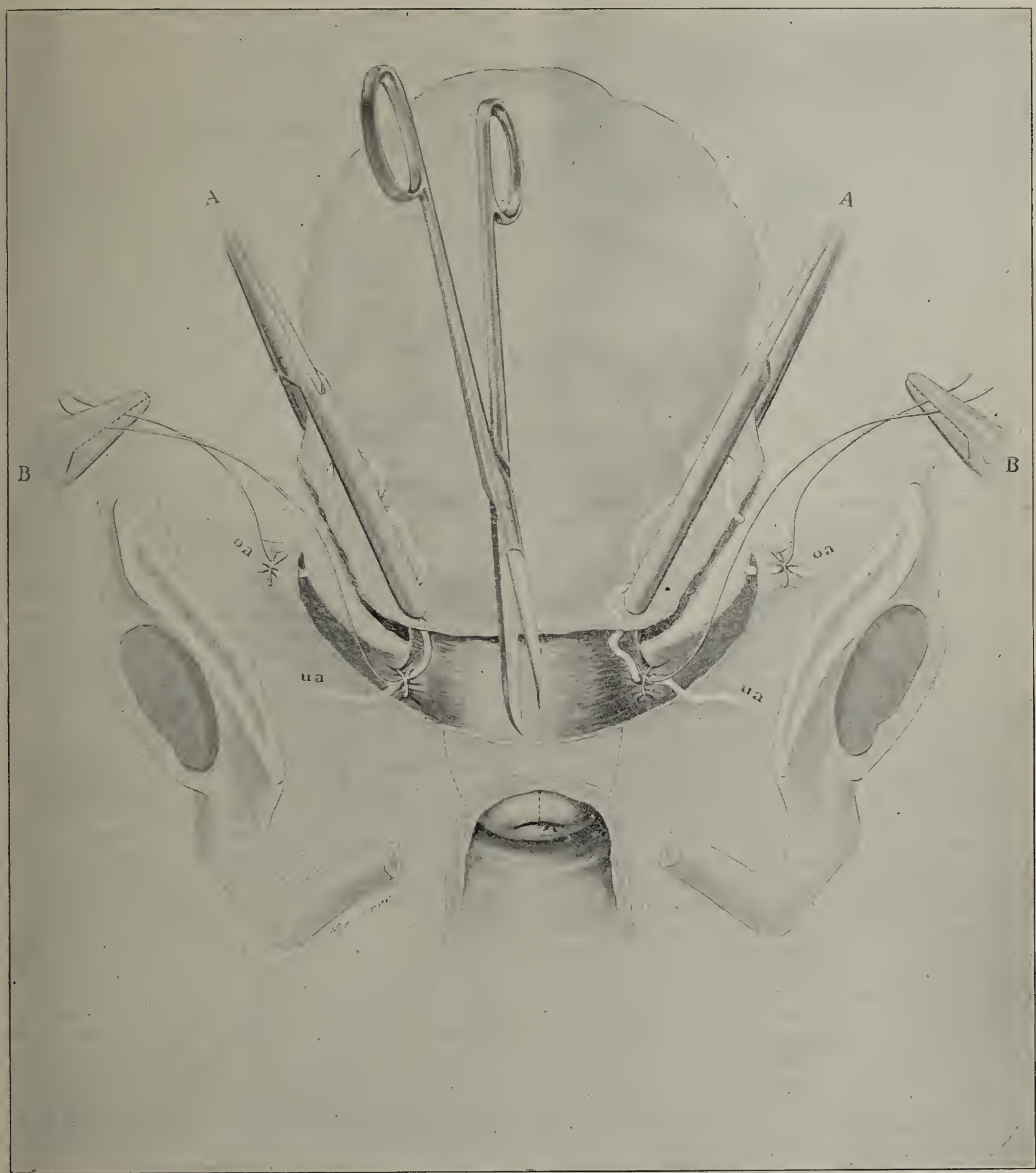


Fig. 9.—*Complete abdominal hystero-myomectomy.* The broad ligaments have been divided on either side of the uterus to the region of the uterine arteries; the circumuterine peritoneum has been divided by a circular incision around the cervix and together with the attached bladder stripped down toward the vaginal portion of the cervix. All clamps which were used to secure the uterine and ovarian arteries except those next to the uterus, A A, have been removed and permanent ligatures have been placed upon the ovarian and uterine arteries, o a, o a, and u a, u a. The anterior wall of the cervix is being split longitudinally by cutting through it with scissors from the pelvic cavity to the vagina. This is to facilitate the excision of the uterus as described in the text. The long ends of the ligatures on the ovarian and uterine arteries are held out of the way by means of forceps B B.

I have united the ligaments by end-to-end approximation often enough to be convinced of the feasibility and utility of the operation.

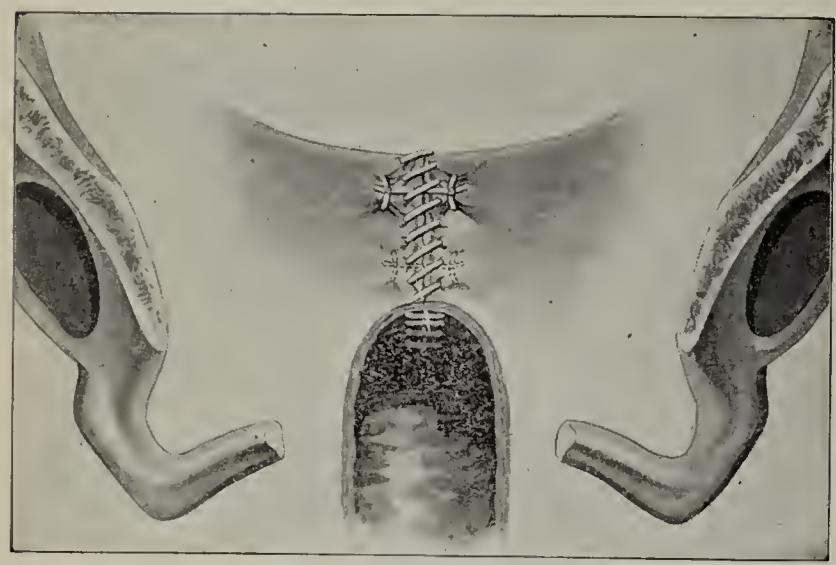


Fig. 12.—*Complete abdominal hystero-myomectomy.* The broad ligaments are brought together from side to side and united by end-to-end approximation. The upper extremity of the vagina is also closed by suture introduced from side to side so as to fasten it to the lower part of the broad ligament wound at the point where the ligatured uterine arteries are approximated.

ANEMIAS SECONDARY TO GASTRO-INTESTINAL DISEASE, WITH REPORT OF TWO CASES.*

G. W. McCASKEY, A.M., M.D.

Professor of Clinical Medicine and Nervous Diseases, Fort Wayne College of Medicine.

FORT WAYNE, IND.

The complex relationship and function of the blood stamps it as a tissue unique in the animal economy. As the common carrier of the body, it is compelled to transport every molecule which passes to and from the tissues, into and out of the organism. It is thus subjected to widely varying influences of both a physiologic and pathologic character to an extent equaled by no other tissue in the body. It is able to maintain the integrity of its function and a distinct autonomy by what may not inaptly be termed its own inherent elasticity of structure. Its cellular elements may be reduced in number under pathologic conditions to 25 per cent. or less of its physiologic standard, and yet perfect recovery be possible. Their most important chemical constituent—hemoglobin—may be reduced in each individual cell to a similar degree, with the same possibilities of restoration to a condition of perfect health.

Among the most important factors influencing the function and structure of the blood may be mentioned the digestive organs with their widely varying conditions of health and disease. The integrity of the blood, as of every other organ of the body, is, of course, obviously dependent upon the function of the digestive organs. The theory that numerous blood diseases, and especially the anemias, are frequently the direct or indirect result of morbid conditions of these organs has been formulated many times in diverse forms, and substantiated by a large amount of clinical evidence. Facts of an experimental character, bearing upon these questions, are exceedingly difficult to procure for many reasons, a few of which I will endeavor to point out. In the first place everything indicates the search for a specific organism, the metabolic products of which would produce anemia with the same constancy that the organisms of diphtheria, syphilis, etc., produce their characteristic results, will be quite as futile in the future as it has been in the past. The conclusion seems at present justifiable that such hematolytic effects as may result from bacterial processes are to a large extent the common result of varied and indifferent toxins, using this term in its broadest sense, although some may, of course, be more active in this direction than others. The results will further depend upon the vulnerability of the blood itself as well as the blood-making organs, to the morbific influences of varied character under discussion. This vulnerability will not only vary widely in different individuals, but in the same individual at different times. In this respect it constitutes no exceptional phenomenon in pathology. That the etiologic factors of disease may be active or otherwise, according to that unknown and undefinable factor which we are pleased to term the resistive power of the organism, is a fact so well known as to scarcely need mention. Thus it happens under many conditions that a cause which has been existent for years will suddenly, owing to some change in environment or internal conditions, produce results of a most striking character. That such phenomena occur in the blood is a fact which has been abundantly illustrated in my own clinical observation, and is in fact shown by the cases which will be later reported. With regard more especially to the action on the blood of poisons formed in the gastro-intestinal canal, there are many conditions by which they may be modified aside from the vulnerability of the blood itself. The epithelium of the intestinal canal, and the entire structure of the liver, stand as important intermediate laboratories between the gastro-intestinal contents and the blood. The ordinary peptones of digestion, for instance, are toxic if introduced into the blood, but are so modified by the epithelial structures above referred to, and by the liver, as to lose their toxic properties and be assimilable by the organism. The observations of Kottnitz[1] on gastro-intestinal mucosa in cases of leukemia sustain this proposition.

So far as the direct actions of poisons on the blood are concerned, clinical observations of an explicit and demonstrable character are not entirely lacking. Ehrlich, for instance, says explicitly that the resistance of the blood cells as tested by the action of dilute salt solution and electric discharges from Leyden jars, etc., is increased after many intoxications. The degree of virulence which will be manifested by gastro-intestinal toxins when they find their way into the circulating fluid will be obviously dependent, 1, upon the degree of virulence of the micro-organism itself which for the same species varies greatly at different times, and 2, upon the integrity and functional activity of the defensive mechanism above referred to which nature has placed as a barrier for the protection of the blood and, of course, all the organs which it supplies. It may thus happen that the colon bacillus, which is constantly present in health in the large intestine, may under modified conditions become exceedingly virulent and its action upon the blood and other tissues suddenly become of a severely toxic character. Such a change has, in fact, been experimentally demonstrated to take place with this particular organism. Finally, I wish to call attention to a fact that I do not remember seeing emphasized, viz., that some agents, such as potassium chlorate, which produces a leucocytosis, also produces destructive changes upon the erythrocytes in the circulating fluid.

* Presented to the Mississippi Valley Medical Association, at Put-in-Bay, Lake Erie, Sept. 13, 1901.

1. Ewing: Pathology of the Blood, 1901, p. 201.

I have found moderate leucocytosis in a large proportion of the cases of intestinal toxemia wherever the reaction to the organism was sufficiently strong to produce it, and I believe that there is good reason for assuming a hemolytic action upon the erythrocytes under many, if not most of the conditions which produce a leucocytosis. Of course this does not exclude the possible hematolytic action of certain toxins such as those of tuberculosis, which do not produce a leucocytosis.[2]

In this connection, the recent experimental and clinical observations of White and Pepper[3] on the granular degeneration of the erythrocytes produced by lead are exceedingly suggestive as to possibilities of chemical poisons acting on the erythrocytes. I have frequently observed the granular changes which they describe, but have regarded them as artefacts, due possibly to errors in technique, although that technique was apparently uniform. It seems reasonably certain that there are other structural changes in the erythrocytes which are not demonstrable by present methods of research, produced by a variety of chemical agents circulating in the blood. The resistive power of the red cell to different dilutions of normal saline solutions, as well as its varied resistance to other destructive agents—such as a shock from a Leyden jar, etc.—can only be due to variations in the construction of the cell, the nature of which can not at present be determined. The recent studies of Ehrlich and Morgenroth, an excellent summary of which has recently appeared in Meltzer's[4] article, also point to the same conclusion. The hemolytic actions of certain alien serums is a remarkable phenomenon, and points to the probability of there being many chemical agents which may find their way into the blood, as factors in lowering the resistive power of the red cells, and leading to premature senescence and decay.

The following cases are briefly outlined as furnishing clinical evidence in supporting the views already set forth:

Case 1.—I. D. M., a patient of Dr. Wright of Convoy, Ohio, consulted me June 11, 1901, complaining of extreme weakness, loss of appetite, pain in the back, palpitation of the heart, dyspepsia, and disturbance of the stomach function.

The stomach symptoms were of long duration, his health having been somewhat impaired in this respect for a number of years. Three months before my examination he began to run down in strength until within a few weeks the exhaustion had become extreme. It was progressive up to the time of his visit to my office.

The blood examination showed 1,500,000 red cells, 4300 white, 30 per cent. of hemoglobin.

Examination of the urine gave the following result: Total quantity per 24 hours, 950 c.c.; specific gravity, 1022; total solids, 25.63; urea, 2 per cent. or 19 grams. Indican and skatol were both present in moderate amounts; no albumin or sugar.

Stomach examination, Ewald test breakfast, removed in one hour, gave the following results:

Total quantity, 20 c.c.; no free HCl; total acidity, 85. Lactic acid was present in considerable quantities. Starch digestion was good; biuret reaction faint. The fasting stomach contained large quantities of cellular debris. There was also severe colitis, evidently chronic in character.

Physical examination revealed a somewhat large and indurated liver; heart normal in size, but with a mitral systolic bruit.

Examination of the dried and stained blood films showed the red cells to be of normal size with very few normoblasts and no megaloblasts. There was a very severe poikilocytosis, the cells assuming different sizes and shapes. Measurement of less than 100 cells gave less than the normal average, about 6.5 microns.

The case was regarded as one of secondary anemia, probably resulting from disease of the digestive tract, and treatment instituted accordingly. He was placed upon Fowler's solution, with bitter tonics, and a 5-grain dose of double citrate of iron and quinin three times a day. This was not materially different from previous treatment. In addition he was given local stomach treatment every day, consisting of lavage, pneumatic gymnastics according to the method of Turck, and electricity. He was also given colon lavage for the colitis, with general hydrotherapeutic measures, particularly in the form of hot and cold douches.

Improvement was manifested in a week, and the red cell count and the hemoglobin showed progressive improvement from this time on until August 7, less than two months from my first examination, when the red cells numbered 5,000,000 and the hemoglobin 100 per cent. The patient's general condition was also very good, and he was discharged cured, with the exception of the gastritis, which was greatly improved, but not well.

Case 2.—A. B. M., referred by Dr. S. E. Mentzer, Monroeville, Ind. Farmer, aged 31, complains of stomach and bowel trouble of about 5 years' duration. Health always good until that time. He once had an attack of bloody flux, and since then has had occasional bloody stools. After a couple of years he began to have stomach symptoms, and for the last two years his health has been in bad condition. Shortly after eating he has abdominal distress, followed by thin, watery movements mixed with particles of unchanged food. He has lost 40 pounds in weight. His limbs were covered with purpuric spots in varying grades of intensity, some deep purple and others much faded, from the size of a silver dollar up to the size of one's hand. For two weeks before examination he has had extreme dyspnea on slight exertion.

Physical examination shows enlarged spleen, liver and heart with systolic bruit, most marked over the apex. Blood examination showed 1,700,000 red cells, hemoglobin about 25 per cent. Examination of the urine; total quantity, 250 c.c.; specific gravity, 1030; total solids, 24.36; urea, 4 per cent. or 14 grams; skatol and phenol in abundance, but no indican and no albumin or sugar.

A somewhat similar line of treatment, modified with special reference to the altered pathological conditions of the intestines, was instituted. The patient was unable to leave his room in the hospital, the exhaustion was so extreme.

Improvement was very slow in appearance in this case, although an increase in the red blood cells and hemoglobin was manifested after a week or ten days. After this time improvement was progressive, and in three and one-half months from the time of treatment he was discharged with the anemia cured, the red cell count having reached 5,000,000 and the hemoglobin 100 per cent. The chronic gastro-intestinal disease was much improved, and the general physical condition very satisfactory, the patient being able to do light work on his farm. He is still continuing treatment for the gastro-enteritis under the care of his family physician.

So far as one can judge the histo-chemical pathology of the blood, these cases were certainly secondary anemias, and whatever view may be taken of the precise pathological processes involved, the previous history of the cases, and the therapeutic test appear to establish the etiologic roll of the gastro-intestinal disease. This is the practical clinical fact, and, in attempting its explanation we may freely admit the debatable character

2. Clinically, leucocytosis is commonly found in phthisis, but it is due to a mixed infection.
3. American Jour. Med. Sciences, September, 1901.
4. New York Medical Record, Aug. 3, 1901.

of the ground upon which we stand. Indeed, it seems to me that to insist upon any single factor as playing an exclusive rôle is to take too narrow a view of the situation. We should, for instance, recognize, 1, the importance of the varying grades of subnutrition encountered; 2, the chemical factor, the precise nature of which can not usually be determined, but the existence of which, as a factor in morbid hemogenesis, is substantiated by a mass of clinical and experimental evidence, quite conclusive in character, and includes, in its broader relations, not only the products of digestion unmodified by the physiologic functions of entero-hepatic structures and bacterial ptomains, but the leucomains of normal or morbid metabolism, and the products of bacterial growth on all mucous surfaces or parenchymatous structures; and last, but perhaps not least, because of its greater permanence, that intangible something, the expression of a hereditary or acquired vice, which determines what has been called the vulnerability of the tissue or organ. Such, it appears to me, is the broad view which clinical medicine should take of these cases, and in calling attention to the rôle of gastro-enteric disease, with a report of a couple of selected cases, I would especially emphasize the importance of not losing sight of the other factors to which attention has been called.

407 W. Main Street.

THE ANATOMIC FACTOR IN THE PRODUCTION OF BALDNESS.

GEORGE ELLIOTT, M.D.
ASSISTANT DEMONSTRATOR OF ANATOMY, TRINITY MEDICAL COLLEGE.
TORONTO.

Cunningham, in opening his chapter on the dissection of the scalp, says: "Strictly speaking, the term 'scalp' should be restricted to the soft parts which cover the vault of the cranium above the level of the temporal ridges and the superior curved line of the occipital bone"; whilst Treves states it is convenient to consider the term "scalp" as limited to the structures formed by the union of the first three layers, viz., the skin, the subcutaneous fatty tissue or superficial fascia, and the occipito-frontalis muscle and its epicranial aponeurosis.

How strikingly does the scalp area of Cunningham correspond with the area of baldness as seen in most individuals the subjects of this condition! But still more precisely and accurately does the area of baldness correspond to the area of the epicranial aponeurosis, a structure in which there are no muscular fibers nor yet any underlying muscular fibers between it and the bone. That the production of baldness has an anatomic factor, I propose now to discuss more in detail.

The skin of the scalp is intimately connected with the underlying epicranial aponeurosis by the superficial fascia. In fact these two structures are so firmly attached by dense fibrous bands that it is a difficult undertaking for a dissector to essay their separation. Among these meshes lie the fatty tissue, the nerves and the vascular structures before they break up to supply the skin. Similar superficial fascia is found in the palms of the hands and the soles of the feet; and it may be significant to note that of the three regions of the body supplied with this dense superficial fascia, the overlying skin in the two latter is altogether destitute of hairs, whilst the third, the scalp area, very often becomes similarly destitute in later life.

Any one who takes the trouble to examine and observe closely must be struck by the fact that baldness occurs on the top of the head and rarely if ever extends below the temporal ridges latterly, or even down to the superior curved lines of the occipital bone posteriorly. It will be noticed also that baldness extends lower in the middle line behind than it does an inch or so on either side of the middle line posteriorly. This, of course, corresponds to the fact that there are no muscular fibers in the middle of the occipito-frontalis muscle at its attachment to, or rather origin from, the external occipital protuberance and the adjacent parts of the superior curved lines.

The skin of the scalp, therefore, overlying the epicranial aponeurosis, has no underlying muscles to exercise it, and has only to depend upon the action of the occipito-frontalis muscle to which it is closely adherent, and only moves when that muscle is put into action; and how often that muscle is moved in twenty-four hours, I leave any one to conjecture. In no other region of the body is there such an extensive area of skin which does not receive adequate exercise either through underlying or adjacent muscles.

The skin of the area of baldness is abundantly supplied with blood; the scalp is very vascular. There is nothing anatomic or mechanical to interfere with or retard the arterial supply, unless it be the proverbial constriction of the hat assumed by the male portion of the population. As far as this acts upon the arterial trunks, it is infinitesimal, but upon the return flow in the lymphatics and veins the hat has its influence.

The lymphatics and veins drain the area of baldness in five different directions. On either side of the middle line anteriorly, there is a lymphatic stream down the forehead past the nose and over the face to the submaxillary glands. Latterly these vessels lead to the lymphatic parotid glands; posteriorly, into the post-auricular and suboccipital glands. The fifth is along the path of the emissary veins through the parietal foramina when present in the parietal bones, into the superior longitudinal sinus. I have recently taken the trouble to examine a number of parietal bones. In a great many of these the parietal foramen, which when present is generally situated about an inch or so anterior to the posterior superior angle on either side of the sagittal suture, was absent altogether; and it was in the smaller and thinner bones that it was present. It would be, perhaps, an interesting point to know whether this parietal foramen with its emissary vein, were more constant in women than in men, as its presence must add materially to the draining facilities of this region.

Whilst the skin of this area of baldness and consequently the hair follicles may have a good nourishing supply directed towards them, the functions of the hair papillæ may be stunted by the slow return flow through the veins and lymphatics. What is there to accelerate that flow? Nothing but the inactivity of the epicranial aponeurosis, and, perhaps, to a slight extent, gravity. There is no active muscular exercise in the part whatever, to hurry along the waste products and the deoxygenized blood in the vessels. These structures being superficial and more compressible than the arteries, their compression by the rim of the hat will further retard their flow. In their passage outwards from the center of the dome, the rate of flow is dependent entirely on the gradual fall, that is, to gravity. When they approach the borders of the dome, however, the fall is precipitate. Here, also, the influence of underlying muscular structures comes into play. One can easily demonstrate this by placing the hand on the back of the head and noting the extent of skin exercised in the nodding

and turning movements of the neck. So on the sides. The temporal regions have their skin abundantly exercised through the action of the temporal muscles. Very often a tuft of hair remains for a long time over the forehead when the falling-out process is advanced to a great degree behind it. That may be due to the part being well drained on the border of the dome, which is also to some extent exercised by the anterior muscular fibers of the occipito-frontalis muscle, which fibers extend well up to the hair line in front.

Baldness does not prevail in the female sex to anything like the extent it does in the male. Very few women become bald even in far-advanced life. This is generally put down to the fact that they give more attention to their hair, dressing and combing it night and morning; and their light headgear. The scalp in them is well exercised by the combing, plaiting and throwing from side to side, movements which impart a good deal of exercise to the scalp. Women suffer from dandruff equally with men. If dandruff be the prime cause of baldness in men, why are its destructive effects not equally seen in women? Men comb and brush their hair in a minute, probably once, or twice or thrice daily. There is no exercise to the scalp in these maneuvers of a minute's duration. During the hours of sleep the dorsal or either lateral decubitus is assumed. This may have a slight effect in hastening onward the return flow from the roots of the hairs in the bald area. In the expressions of surprise, etc., when the anterior fibers of the occipito-frontalis produces wrinkling of the skin of the forehead, the exercise to the skin is beneficial to the hair over the forehead. But how often are these expressions depicted on the human countenance?—especially as age advances, and more control is exercised over the muscles of expression. If there be no anatomic factor in the production of baldness, how is it that dermatologists order massage in the treatment of calvities and the falling-out process? How is it that when the scalp has become bound down and absorption of the fat in the superficial fascia has taken place that no measure of relief can avail? Simply because the hide-bound skin can not be exercised. In scleroderma, even, the hair frequently falls out in the part affected. Massage is the substitution for exercise, and its object is to get rid of the choking and damming back in the veins and lymphatics.

The foregoing being correct, the way to treatment is pointed out. Prevention through massage-exercise is nine points in the law of treatment. This should be begun in early life, at the time when the youth is gradually developing into the more sober man, when his occipito-frontalis muscle has become more and more subordinated to his will. Massage should be performed the same way as in other regions, first freeing the vessels farthest from the seat of trouble and gradually approaching the center. It should be done at night as well as in the morning, particularly at night, as gravity has little or comparatively little chance through the day. If the scalps of men received as much exercise as the scalps of women, there should be on the vaults of their craniums a luxuriant growth of hair. The American Indian is said by Holder never to grow bald. The reason lies in their comparatively long hair. The close-cropped Indian of the Reserve is not wholly exempt.

129 John Street.

The plague in India caused 12,675 deaths in the week ending February 15, and 15,165 in the previous week.

OCULAR LESIONS ASSOCIATED WITH CONSTITUTIONAL DIATHESIS.

H. ISAAC JONES, M.D., L.R.C.P.E.
SAN FRANCISCO, CAL.

In calling your attention to this subject the writer does not desire to create the impression that he has anything purely original to offer, but to call your attention to the fact that the human body is too much of an entity for any one system to be exclusively deranged, while others remain healthy; actions and reactions are the two great rules of organic life. Functional waves of reflex influences are always sweeping to and fro through the body and peripheral irritations of every kind, and every phase of organic disturbances may excite a reflex that will influence the actions and perhaps the nutrition of the eye and its appendages.

Sir Thomas Watson said: "We find in the eye more satisfactory and plain illustrations of the general facts and doctrines of pathology than in any other single organ of the body; certain changes in the eye are known to accompany certain diseases of the brain and spinal cord, and also certain lesions of organs more remote, which are also the expression of general and constitutional disease."

In reflex neurosis it is very difficult to tell from what part of the organism proceeds the hidden mischief, so that unless an oculist is well versed in every branch of medicine, his field of investigations will be limited. The association of ocular lesion with constitutional diseases is determined by anatomical connections, partly by histological peculiarities of the texture severally involved, but chiefly by their embryological origin and relationship. As you are aware, nearly all the tissues of the body are represented in the eye and its appendages, and are liable to all the pathological changes which affect like tissues in the body; therefore our thoughts should not be centralized on the eye itself to the exclusion of other consideration, for the ocular notation may be only a sign and symptom of the changes that are produced in the animal economy. For instance, the eye lesion in diabetes and Bright's disease is more diagnostic than prognostic.

Tweedy, in his paper on "Constitutional Diseases of the Eye in the Light of Embryology," points out many highly suggestive and interesting facts in this connection. The embryological origin of the various structures of the eye from the layers of the blastoderm is represented schematically. He thus shows that there is a histological and physiological relationship between the epiblastic elements of the eye and the epiblastic tissues of the rest of the body, and between the mesoblastic tissues of the eye and all other mesoblastic tissues. He further states: "The pathological relationship is none the less intimate and exact. The cutaneous eruptions of strumous children; the eczemas, herpes, impetigos, etc., are concomitants of the phlyctenulæ of the epithelial layers of the cornea. In ophthalmic herpes the corneal change is likewise epiblastic. Syphilis, on the other hand, is a disease of mesoblastic texture, and ocular syphilitic affections are found to be of the mesoblastic origin. The notched, pegged and stunted teeth of inherited syphilis are not faults of the epiblastic enamel, but of the mesoblastic dental papillæ. Though epiblastic portions of the eye may become secondarily involved, the lesion begins in the mesoblastic structures. These and other analogies are valuable not only for diagnostic purposes, but also for therapeutic uses. Certain drugs have a special

affinity for particular tissue-element, and this fact may be utilized in prescriptions."

I had the honor of reading a paper before this section in 1894, on the associations of optic atrophy with locomotor ataxia. That a certain portion of the spinal cord exercises a direct influence on the eye has been beyond a doubt established by experiments of modern physiologists. We see in asthenopia, due to vasomotor paresis affecting the retinal vessels, this condition is reflex and mostly dependent upon disorders of the pelvic or genital organs. The aching sensations are apt to be more constant and less relieved by rest than in pain from errors of refraction. The ophthalmoscope will disclose a turgid condition of the retinal vessels. The third root of the lenticular ganglion is a slender filament derived from the cavernous plexus of the sympathetic, and one of the branches of the ganglion is a small filament which penetrates the optic nerve along with the arteria centralis retinæ, to supply the walls of the retinal vessels. The path, therefore, from the pelvic plexus of the sympathetic is an almost straight road, and disturbance in the circulations of the pelvic organs produces a wave of vessel dilations which travel over this path. Such cases can not look fixedly for any length of time at any object, near or remote, without exciting severe pain in or about the eye.

Again, in disease of the eye in connection with pregnancy, it can not be a matter of surprise that in some instances the effect of this general disturbance should be felt in the organ of sense, and therefore in the eyes, which respond so readily to any disorder of the vascular or of the nervous system. Unless the symptoms are very prominent they are not complained of by the patients. If they do, it is put down by the family physician to general indisposition or disorder of the digestive organs, and especially the liver.

Hysterical patients, in their psychological condition, may present almost any symptom of disease without the existence of any lesion to which such symptom could be referred. We see spasmodic action of the external muscles of the eyeball in neurotic subjects. Young ophthalmic surgeons perform tenotomy as a cure for all the ills that nerves are heir to; in fact, the external muscles of these hysterical patients are, in a large proportion, not better balanced than their minds.

Lithemia.—Lithemia is another cause of eye trouble. You all have seen Hutchinson's "hot eye." Mr. Hutchinson has illustrated in his works the connections of certain diseases of the eye with gout, also gout with destructive form of iritis. Intermission is characteristic of ocular gout. Of the poisonous waste products, those of the uric acid type are the most prolific in producing constitutional disturbances, acting directly as irritants and indirectly on the nervous system, causing tenderness and pain of the ciliary regions, troubles of accommodations which no glass will correct, and often called spasms of the accommodations, and floating spots in the vitreous. These symptoms disappear when attention is paid to the systemic trouble, administration of salicylates and lithia salts.

Gastric.—To the stomach and the alimentary canal is due the origin of the phlyctenular ophthalmia of children caused by ptomains from the mal-digested articles of food and from their absorption into the system, producing other eye troubles of an intermittent character.

Teeth.—The mutual relationship between the teeth and the eyes are more intimate than is commonly supposed, no doubt due to the anatomical connection through the ganglionic filament of the first branch of the fifth nerve to the lenticular ganglion, which is in connection with the third nerve by its short root. We often see conjunctivitis, neuralgia and lachrymation due to some pathological trouble in the teeth, the reflex trouble disappearing as soon as the dental trouble is corrected.

Ear.—How often we find ophthalmic patients to be at the same time laboring under some affection of the ears. For example, in children with scrofulous ophthalmiæ, there is often chronic inflammation of the drumhead, with discharge from the ears; example of connections of disease of the ears with disease of the eye is the supervention in cases of keratitis or kerato-iritis from congenital syphilitic taint. Numerous ocular manifestations of influenza or la grippe are reported by various observers.

Nose.—The lachrymal passages which maintain a communication between the conjunctival space and the nasal cavity are the seat of some of the most troublesome affections of the eyes. Decker, in a study of the etiology of herpes cornea, states that the fact that a hypertrophic catarrh of the nose co-existed, and that the recurrent attacks of keratitis were preceded by an acute exacerbation of the nasal trouble, which grew less intense after appropriate treatment of the nasal mucous membrane. . With us on the Pacific coast, where catarrh is prevalent, patients complain of burning and smarting of the eyes; the conjunctiva is inflamed. By appropriate treatment to the nasal trouble the eye symptoms disappear.

In conclusion, I would say that in all ocular troubles, remove the cause, whatever it may be, syphilis, rheumatism or other debilitating and lowering dyscrasia. We must remember that it is not only our province to gain knowledge wholly from a single organ and direct treatment to the same, but we must study the general condition of our patient and see if we can not find a cause for the local change.

THE PROSTATE.

JOHN B. MURPHY, A.M., M.D.

Professor of Surgery, Northwestern University, Chicago Post-Graduate School and Hospital, and Chicago Clinical School.

CHICAGO.

(Concluded from page 749.)

PROSTATECTOMY.

It is very gratifying to note the advances that have been made by the medical profession in the operative treatment of prostatic enlargement in very recent times. Even so modern a man as Sir Henry Thompson said that he did not believe it was possible to operate on a case of enlarged prostate and have a result that would permit him to discontinue his catheter and still be able to empty his bladder and retain his urine; now we know that these results are of daily occurrence.

The indications for prostatectomy are: 1, prostatic enlargement to a pathologic degree, i. e., sufficient to prevent urination or cause large residual retention; 2. painful and frequent urination; 3, cure for catheter life; 4, cure for secondary cystitis; 5, for the relief of pressure on the rectum; 6, it should be the operation of election where the patient is in condition to withstand the operative procedure and the local general conditions are favorable. The operation should not be considered nor used as a last resort. Local or spinal anesthesia should be preferred in selected cases.

Suprapubic Prostatectomy.—Dr. William T. Belfield of Chicago deserves the honor of being the first to follow a deliberate plan for the removal of the middle lobe through a suprapubic incision. This was not an acci-

dent, as suggested by Mr. G. Buckston Browne, but was a deliberately planned and executed operation, as was well known to many of the Chicago profession at that time; the honor is incontrovertibly his; while Dittle's operation was not deliberately planned and executed, but was done in an emergency. Mr. A. F. McGill laid down more definite indications and lines of procedure three years after Belfield's original work, although we believe it can be said that McGill had no knowledge of the Chicago surgeon's technic at the time he performed his first operation.

The suprapubic route was the one uniformly followed in my ten years' service at the Alexian Brothers' Hospital. Either enucleation or cauterization was accomplished through a suprapubic opening, by the aid of curved scissors, Kocher dissector, volsella forceps and the index finger. The middle lobe was readily and easily enucleated, but the enucleation of the lateral lobes through the suprapubic route was always a difficult, bloody, dark and unsatisfactory procedure, though many times very gratifying in its relief to the patient. In this technic there is practically no danger of opening the peritoneum, as the base of the prostate is situated fully half of the length of the bladder below the most dependent portion of the vesico-rectal folds, and is very movable at that point. There is danger, however, of lacerating the rectum.

Dr. Charles H. Mayo favors the suprapubic enucleation of very large middle and lateral lobes, and believes that the technic is more simple and the results more favorable by this procedure, using suprapubic, or suprapubic and perineal, drainage, according to individual indications.

Proust[15] describes an elaborate technic for a subtotal prostatectomy with subsequent suture of the pedicles. The vasa deferentia and the slit in the urethra are also sutured, while a catheter is left in place. The suturing of the vasa deferentia or seminal vesicles would seem to us a difficult task. Mr. P. F. Freyer,[16] commenting on injury to the seminal vesicles, considers that it is a matter of little importance what becomes of the ducts and pays no attention to them. In speaking of hemorrhage, he claims in suprapubic operations that when the gland is enucleated from the capsule there is little hemorrhage.

Dr. Ramon Guiteras[14] collected 153 prostatectomies, by various methods. Of these 110 recovered, 72.3 per cent.; 25 died, 16.4 per cent.; 17 were failures, 11.2 per cent.; and he concludes that the results in those that recover from prostatectomy are better and more permanent than those following prostatotomy. He believes, however, that great care and judgment must be used in the selection of cases, and submits the general rule that "the large glands are favorable for enucleation and the small ones are best treated by prostatotomy; and if the kidney be diseased, either medically or surgically, the Bottini should be resorted to."

Eugene Fuller[17] favors the suprapubic route for the large prostates, and believes that the operation of enucleation can be performed cleaner and safer in that way; but, where the bladder wall is hypertrophied, he considers it much easier and safer to use the perineal operation.

From the 15 cases of suprapubic prostatectomy reported by Dr. Hugh H. Young,[11] there were two deaths, neither of which, however, can justly be attributed to the operation. The ultimate results from the suprapubic operation were very favorable. In this number he classes 11 as "complete enucleation of the prostate." (I believe, however, he means enucleation of the lateral and posterior lobes and not a complete prostatectomy.) Ten of the 15 were classed as cures and two still suffer from cystitis.

Dr. Floyd W. McRae[11] strongly favors the suprapubic operation, and reports three successful cases. He considers there are special advantages in his ingenious "parachute" drainage method. One of his operations was on a case previously treated by the Bottini plan.

Mr. Harold L. Barnard[18] thinks that the success following enucleation of the prostate for adenomatous hypertrophy, which he considers the most suitable type, is not equaled by any other method of treatment, although he prefers the suprapubic method.

Dr. William N. Wishard[6] strongly favors the suprapubic Belfield-McGill operation, as modified by Fuller and Alexander. He believes it is the most direct means of attack, and gives the best results, as expressed in the following: "If the suprapubic operation has been thoroughly done, and the obstruction all removed, the patients afterwards are assured of more perfect function than by any other method." He thus expresses himself concerning the perineal operation: "The operation may be regarded as limited to drainage operations and to small pedunculated growths, and to the division of collar-shaped enlargements of small size."

Perineal Prostatectomy.—Dr. Syms[19] prefers the perineal route, because it appears to him most direct. He believes[20] that the median perineal incision should be made and considers that he derived great advantage from his prostatic retractor in the twelve cases in which he used it. He favors the removal of the left lobe first, the middle lobe second and the right lobe last, and the use of a steel sound every third day after the operation. He forcibly advocates the early operation. He operated on 9 cases; all recovered; in 8 there was complete restoration of function.

Dr. J. W. S. Gouley[20] favors the perineal route. The retractor of Gouley[21] appears to have many advantages, although I have not used it, as the hooks are so much more readily applied.

Dr. John A. Wyeth[22] believes the perineal operation the one of choice. Dr. Alexander agrees in this view but makes the suprapubic incision so that he may force the prostate into the perineum. This is not necessary where the hooks are used, and the capsule and deep perineal fascia properly divided. Most of Dr. Alexander's patients were out of bed in five or six days. No aged patient, after any operation, should be allowed to lie flat on his back. He should be placed in a sitting position immediately, should occupy the recumbent position at night and should be out of bed as early as the fourth or fifth day.

Dr. Alexander Hugh Ferguson[11] reported six cases at the Atlanta meeting, in which he removed the prostate by morcellement. He claims advantages for this method, and has a prostatic forceps so constructed as to "bite" out fragments of the prostate without danger of injury to the surrounding parts; he also has an intravesical depressor which he believes adds much to the ease with which the operation is performed. His six patients made good recoveries. He also calls them complete prostatectomies while I believe he means lateral and posterior prostatectomy, allowing the portion of the prostate known as the "isthmus" anterior to the urethra to remain.

Dr. James Bell[23] beautifully illustrates with a case, a type of prostatic enlargement in which the Bottini

operation would have served no purpose, and in which a prostatectomy produced an ideal result.

Dr. Charles Whallen[24] favors spinal anesthesia for prostatectomy.

By the perineal operation the wall of the bladder should not be divided nor torn, but the posterior wall of the prostatic urethra should be removed. The urethra should never be opened primarily, and the prostate should never be shelled away from the bladder from before backwards, but always from behind forward, dividing the isthmus as the prostate rolls off from the bladder. To favor this I have used, with the ordinary deep lateral retractors and Sims speculum as a posterior retractor, the hooks shown in Figs. 10 and 11. The hooks are utilized, 1, to draw the prostate into the field and retain it there; 2, to evert the prostate while it is being detached from above downward from the bladder wall.

It is entirely unnecessary in the operation of prostatectomy to remove the whole anatomical structure, as is claimed by Freyer,[18] as the anterior portion of the prostate, or isthmus, never shows any material encroachment and never produces urinary obstruction. It can, however, be as easily removed, if the entire enucleation be desirable, by the perineal route as by the suprapubic, if the hook retractors be used as in the drawing. The

Figure 16,
from Case 7, shows lobes attached to each other. Reduced one-half.

hemorrhage is very much less by the perineal than by the suprapubic route.

CASE 1.—Mr. E. W. W., aged 55; occupation, financier; was referred by Drs. Henry Hooper and Archibald MacLaren. He was admitted to Mercy Hospital May 16, 1901, and operated on May 18, 1901. He was discharged June 26, 1901. Family history was negative.

Personal history: He has had specific urethritis; stricture followed; cured.

Present illness: Three years ago he began to suffer from increased nocturnal micturition, not associated with pain. This continued increasing in frequency and rest at night was much disturbed; then the frequency of urination in daytime became markedly increased. Finally, about two years ago, the catheter was first resorted to, which was used only every second or third day in the beginning. The vesical irritation, however, became greater and the quantity of pus in the urine increased until daily vesical lavage was resorted to by the attending physician, the catheter being used several times a day for the relief of urinary retention. A portion of the urine could be voided by strained efforts, leaving about three ounces of residual urine. These symptoms continued up to time patient was admitted to the hospital; he was entirely incapacitated for work.

Examination: Urine examined shows a trace of albumin, some blood and a large amount of pus. Urea, 1.8 per cent.; sp. gravity, 1024. With difficulty a sound was introduced into the bladder. Prostate was very much enlarged; left lobe largest, median lobe pressed markedly backward. Patient is emaciated and very neurotic.

Operation: Usual preparations; saline cathartic and enema. 1. Lithotomy position. 2. Ferguson's prostate staff introduced into bladder. 3. Fuller's semilunar incision in perineum, through perineal tissues up to membranous urethra, extending laterally to rami and from lower margin of scrotum in center to level of anus at external ends. 4. With finger in rectum, tissues between urethra and rectum were incised sufficiently to bring prostate well into view and free it entirely from rectum. 5. Prostate was pressed well downward and forward by means of staff in bladder. Capsule of right lobe was divided parallel to urethra and shelled off; right lobe grasped with volsella and carefully drawn down and dissected until the dissecting finger passed over the base, and then the prostate was liberated from bladder, from base to apex of lobe, and amputated. 6. Left lobe was treated likewise; a small rent was made in the prostatic urethra during the dissection. 7. Two small median lobes were then shelled out. 8. Tube placed in bladder through perineal opening, and soft rubber catheter inserted through penis; cavity packed with gauze. 9. One side and apex of incision sutured with silkworm gut. 10. Hemorrhage was slight. 11. Dressings and bandage.

Patient returned from operating room, pulse 82, complained of some smarting pain; was placed in a semi-sitting position, 40 degrees.

May 19: Pulse was 96, temperature 99.6. Patient rested fairly well during night; no hemorrhage to speak of. May 20: Pulse 90, temperature 100; rested fairly well. Good drainage through both catheter and perineal tube.

May 28: Pulse 88; temperature normal since May 20. Urine passed through tube 715 c.c., alkaline, sp. gravity 1015, cloudy; few hyaline casts, round, oval and spindle cells. Numerous red blood corpuscles. Pus cells numerous; bacteria present. May 29: Pulse 88, temperature 98.2. Tube became obstructed and catheter also; latter was removed.

June 1: Pulse 98, temperature 100. Considerable pain in lumbar region. Tube removed and permanent catheter inserted. Patient has a mild pleuritic friction sound. June 4: Pulse 86, temperature 98.6. June 7: Pulse 80, temperature 98.6.

June 9: First voluntary urination through urethra; the day following practically all urine passed through this channel; full control, and painless. Patient is doing well; sitting up. June 17: Pulse 76, temperature 98.6. Patient is sitting up daily; 1320 c.c. urine voided in last 24 hours. Perineal wound healed. June 23: Pulse 78, temperature 98.6; patient went for a drive; feeling well. Amount of urine collected in 24 hours, 1375 c.c.

June 26: Pulse and temperature normal. Patient was discharged feeling well; has good control over bladder; urinates every two to four hours in daytime, but is not disturbed at night; no residual urine. Urine: sp. gravity 1005; urea .9 per cent.; no albumin; granular renal cells; few pus corpuscles. Not the slightest pain in urination.

February 4, 1902: Patient has perfect urinary control; can sleep the entire night without urinating. He says his urinary apparatus feels like it did when he was a boy.

CASE 2.—Mr. J. S., married, aged 54, merchant, was sick seven years; diagnosis of prostatic hypertrophy.

He was admitted to Mercy Hospital July 3, 1901, and operated on July 13.

Family history: Father died of tumor in throat in 1861. Personal history: Patient was born in Germany, but lived 44 years in America. General health was always good; appetite good, bowels regular.

Past illnesses: He had an infection in arm when 16 years old, and has running sore at present as result of same; chronic dysentery in 1865.

Present illness: For past seven years patient has been troubled with painful urination and inability to empty bladder. For past five years there were times when patient could urinate quite freely, but cold or exposure would make it extremely difficult. Two years ago he began catheter life, continuing it for thirteen months. He then received some electric treatment and dispensed with the catheter, although urination

was very difficult and painful. Early this spring the symptoms increased in severity. He resorted again to the catheter, passing considerable pure blood at times. Patient states that as far back as seventeen years his bladder has been weak, and he did not have proper power of expulsion; has suffered extremely in an effort to abandon the catheter, using it but once in three weeks. The prostate is very much enlarged and almost fills the pelvis.

July 12: Chemical examination reveals a trace of albumin. Microscopic examination shows pus in quantity. Residual urine 3½ ounces.

July 13: Operation after usual preparations. 1. Lithotomy position. 2. Ferguson sound introduced into bladder and held in position throughout operation. 3. Y-shaped incision as in Case 1. through perineal structures until prostate was reached. 4. Posterior broad Sims and narrow lateral retractors inserted; wound held wide open. 5. Circular incision through capsule of right lobe, which was shelled out from above downward by blunt dissection with the finger, the isthmus divided with scissors, and removed en masse. Same procedure for left lobe. 6. Middle lobe removed with scissors; posterior portion of prostatic urethra removed with gland. The bladder retained the urine and a large rubber tube was inserted into it through the perineum. Wound packed with gauze; tube secured to tissues with silkworm gut; permanent catheter inserted through penis into bladder. There was considerable hemorrhage from the left side, which was controlled by a 6-inch hemostatic, which remained for twenty-four hours.

Patient returned from operating room in good condition; pulse 104, temperature 97.4; strychnia sulph. and spts. amm. arom. were the only medication. See Fig. 13, Case 2.

July 15: Temperature 100.8, pulse 90, sixty hours after operation, then normal until July 26. Occasionally an infusion of triticum with cathartics sufficient to keep bowels open, and general diet. July 23: Perineal drain removed. July 25: Catheter removed. August 1: Temperature 102, pulse 120; patient in great pain, caused by a mild epididymitis.

August 3: Temperature dropped to 99.2, pulse to 100. Patient passed some urine through urethra. Aug. 9: Passing all urine through urethra and can hold it as long as two hours. Perineal wound closed. Aug. 12: Tempt. 99, pulse 100. Night sweats. Amount of urine, 700 c.c. Sp. gravity, 1017; urea 2 per cent.; trace albumin. Some squamous epithelium; some pus cells. Testicle still painful and somewhat swollen. Aug. 18: Tempt. normal, pulse 80.

August 22: Patient is discharged, with full control of urine and practically no pain in urination; Dr. R. H. Foster of Le Mars, Ia., reports as follows, Jan. 30, 1902: "The muscular fibers of the bladder have completely regained their lost tone, and he can propel the stream to a normal distance. The frequency of micturition, especially at night, has disappeared to such an extent that during the past three months he has not had any call to get up at night except while suffering from the orchitic attack, which I mentioned to you in my former letter. The power of retention has returned to a normal condition; also the lumen of the stream, which is remarkably full in volume and is neither flattened, forked or twisted."

Case 3.—Mr. A. J., aged 67, merchant, was sick 2 years. He was admitted to Mercy Hospital Aug. 24, 1901, with diagnosis of prostatic hypertrophy and cystic calculi. Family history is negative. Personal history: Suffered severely from constipation. Past illnesses: He had malaria in 1860, and sciatica at intervals for past ten years.

Present illness: Began two years ago with frequent desire to urinate and vesical tenesmus; burning in perineum, hypogastrium and glans penis, which was relieved on urinating. Patient has been compelled to use catheter at intervals for past nine months. Three months ago a few drops of blood appeared at the end of urination. In the past few weeks patient has suffered severely from vesical spasm, which was not relieved by emptying the bladder. The prostate is very much enlarged. Stone detected.

August 24: Reaction of urine acid; sp. gravity 1013, small amount albumin; urea 1.4 per cent. Microscopic; epithelium, a few squamous cells; many red blood cells; pus in quantity. Residual urine 10 drams.

August 25: Operation, following usual preparations. 1. Lithotomy position. 2. Ordinary steel sound introduced into bladder and kept there. 3. Incision as in previous cases. 4. Prostate exposed and rectum entirely freed. Right lobe of prostate brought into view; capsule incised parallel with urethra and right lobe enucleated, drawn down with volsella forceps and removed. Left lobe with portion of urethra then removed; middle lobe was easily enucleated. 5. Forceps introduced into bladder and stone removed without difficulty. 6. Rubber catheter introduced through urethra into bladder and secured. Large rubber tube introduced into bladder through perineum and perineal wound packed with subiodid bismuth gauze, to suppress the oozing. 7. Deep sutures of catgut to bring structures into apposition. 8. Interrupted silkworm gut sutures for partial closure of incision. 9. Dressings. See Fig. 12.

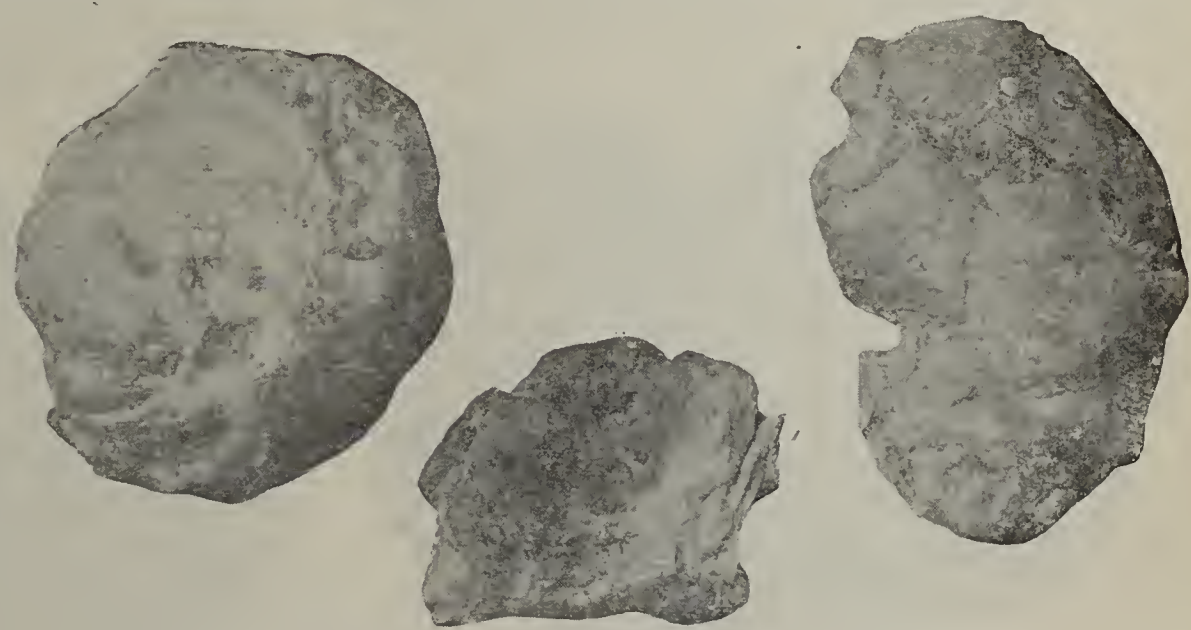


Figure 17, from Case 7, shows the lobes separated. Reduced one-half.

Patient returned from operating room in good condition. After nausea had ceased he was put on urotropin, 7 grains, t.i.d.; liquid diet.

August 27: Patient rested well; pulse 102, tempt. 101. Wound dressed; some oozing; bladder irrigated with solution of boric acid. Aug. 28: Pulse 80, tempt. 100; patient had some pain; wound dressed. Urine in bottle 720 c.c. Considerable urine lost on dressings. Aug. 29: Drainage free; patient easy; 900 c.c. urine. Aug. 30: Pulse 88; tempt. 98.8. Urine 1000 c.c. through tube.

August 31: Pulse 88, tempt. 99; patient delirious short time Amount of urine 2000 c.c.; reaction acid; sp. gravity 1015; turbid; urea 2.4 per cent.; albumin in quantity. Small squamous epithelial cells; few red blood corpuscles. Considerable pus; bacteria present.

September 1: Pulse 84, temperature 98.8. Patient rational; suffering pain and stinging sensation. Sept 4: Wound looks healthy. Pulse 80, temperature 99.6. Sept. 10: Pulse 78, temperature 98. Perineal sutures removed. Sept. 12: Pulse 70, temperature 100; perineal wound closing rapidly and looks healthy. Sept. 14: Patient had chill. Pulse 88, temperature 102. Syphon attached to catheter.

September 15: Pulse 80, temperature 98.8. Right testicle swollen, tender and painful; left epididymis indurated, which accounts for chill yesterday. Applications of ice. Scrotum suspended. Sept. 16: Pulse 78, temperature 99. Urotropin, grains 5, t.i.d. Swelling in testicle reduced. Urine examination: Sp. gravity 1015, clear; urea 2.2 per cent; numerous pus cells, otherwise normal. Sept. 22: Pulse 78, temperature

100; patient rested well. Urine ceased to pass through perineal wound, allowed up daily. Nov. 7: Pulse 72, temperature 99; some pain but has control of urine. An abscess formed in perineum which required drainage.

CASE 4.—Mr. W. S. M., aged 58, married, farmer, was sick 8 years. He was admitted to Mercy Hospital Nov. 4, 1901.

Family history: Father died of rheumatism and heart complications at the age of 49 years. Mother died of Bright's disease at the age of 68. One sister died of throat and lung trouble, probably tubercular.

Personal history: Always moderate user of whiskey. Beer always seemed to aggravate present trouble. About nine years ago began to get up to urinate at night, but for last three or four years has been getting up three or four times; would pass small amount of urine each time. During first few years of the trouble urine showed heavy brick-red deposit on standing, but of late years has been clearer, with more offensive odor. Past sickness: Has had a right side inguinal hernia since 21 years of age; has had hemorrhoids for many years, but they have been worse since present trouble began, due to constant straining on urination.

Present illness: Patient was thrown from a horse and fell astride a ridge of dirt in the road, eight years ago. There was considerable tenderness in the perineal region after this injury. Skin was not broken, but parts were bruised. He was put to bed; had chills and fever for next twenty-four hours. He only remained in bed for a day or so and passed his urine,

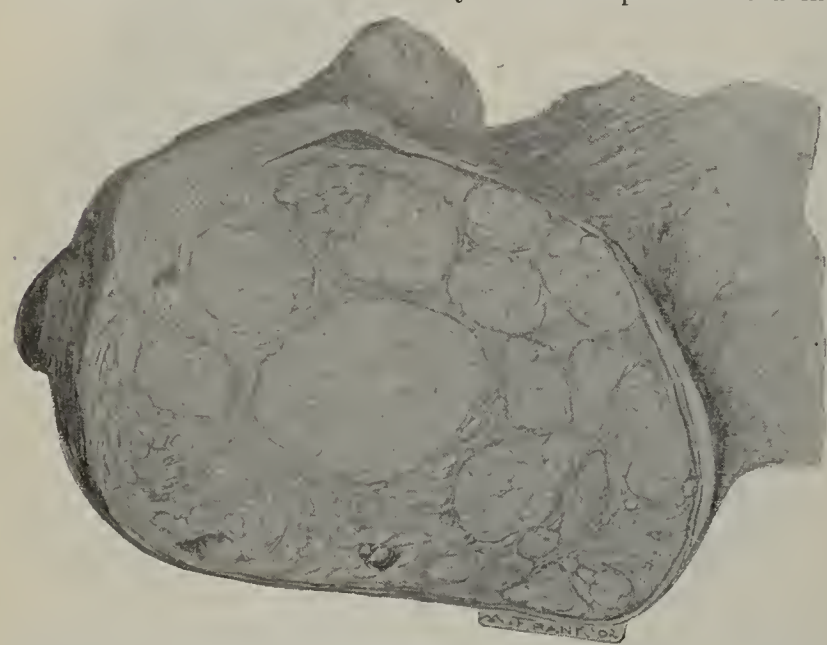


Figure 18 shows transverse section of right lobe from Case 7, illustrating the numerous small myomata in the upper portion and the hyperplasia in the lower.

at the time, with effort. There was no blood in urine, nor in stools. Since that time he has been troubled almost constantly with bladder trouble. There has been vesical tenesmus when on feet; if in bed he can hold urine longer. Patient can start flow of urine without much pain, but at the end of the act there is a dull burning and a dribbling for some time. When trying to hold urine any length of time there is a sudden loss of half an ounce or so before he can control it. For a long time patient has had a cutting pain in end of penis when through urinating. The straining at the end of urination brings down a small tumor mass in the rectum not unlike a hemorrhoid. All of above symptoms have been getting worse for past four or five months. He was catheterized but once, and that last summer, by a home physician, to see if there was retention of urine. He never has had any chills or fever since injury, eight years ago. Patient has never been confined to bed, but has never been able to work; for, as soon as he walks or rides, he has the desire to urinate, with the pain following. State of nutrition good; appetite good; bowels constipated. Examination: Prostate enlarged to second degree; stone detected behind the prostate.

November 6, 1901: The patient was prepared for operation in the usual manner: A sound revealed size of stone in the bladder; the prostate was very much enlarged. Technic same as in previous cases, except the staff was dispensed with after the capsule was exposed, and the prostate drawn forward with the hooks shown in Fig. 8. The hooks were found of great assistance, as they permitted an easy separation of the base of the prostate from the bladder, and rendered the staff needless. The stone was extracted after the removal of middle lobe. See Fig. 14.

November 6: Nothing to record but an intermittent pulse, which quickly responded to strychnia. The highest temperature and pulse rate were 101.4 and 104 respectively. Nov. 7: Patient rested well; complained of some pain in bladder. Average temperature and pulse same as previous day. Nov. 10: Patient resting well. Temperature 99.6, pulse 89; urine 600 c.c. through tube. Nov. 11: Temperature 98.8, pulse 93; wound dressed with dry dressing; saline catharties. Urine 690 c.c.

November 12: Temperature 100.8; pulse 99. Patient resting well; packing removed; no pus; catheter irrigation; all drainage found free; scrotum somewhat edematous; left testicle enlarged and tender; right slightly enlarged.

November 13: Temperature 101.5, pulse 97. Bladder irrigated. Perineal drain removed Nov. 14: Temperature 99, pulse 82. Drainage free; urine 900 c.c. Nov. 15: Temperature 98.6, pulse 83; resting. Urine 100 c.c. through catheter. Nov. 16: Temperature 98.9, pulse 81; patient perfectly easy; urine 2160 c.c. Nov. 17: Temperature 99, pulse 76. Resting. Catheter removed.

November 20: All urine passed through urethra. Perineal wound practically closed. Dec. 4: No vesical pain; he can hold urine four to six hours, and does not have to get up at night. Microscope reveals small number of pus corpuscles in urine.

Figure 19, drawing from cut surface of middle lobe of prostate from Case 7, showing about the same histologic structure as the lateral lobe with distinct loosely attached capsule.

CASE 5.—Mr. P. T., aged 62, retired farmer, was sick 4 years and admitted to Mercy Hospital Dec. 2, 1901.

Personal history and previous illnesses: Usual diseases of childhood. Malaria many years ago. La grippe seven years ago, since which general health has not been as good as before, though fair. Appetite is good. Bowels somewhat constipated for past four years. No bladder nor kidney symptoms previous to present trouble. Venereal history is negative.

Present trouble: About four years ago patient began to have frequent urination; four times nightly, latterly eight or ten times; small amount of urine passed each time; total amount of urine passed was probably normal. Was treated by irrigation of bladder and local applications of electricity. Took diuretic tablets. About three years ago was unable to urinate and had catheter passed, but has not needed catheterization since until ten weeks ago, when he catheterized himself and has done so several times since that time. For past ten weeks he has irrigated his own bladder daily or oftener with boric acid in boiled water. About eight weeks ago he caught cold and had two quite severe chills followed by temperature of 103 to 104 lasting a day or two, and was confined to bed a week or more. Two days ago patient had slight chill and temperature of 100. Patient complains of no severe pain, but has had some discomfort about perineum and pain running into penis, aggravated by walking, standing and sitting. He has less discomfort when he drinks much water;

has burning pain on urination, especially when passing small amounts of concentrated urine; has noticed brick-dust sediment in urine at intervals; has not noticed pus.

December 3: Pulse 84, temperature 98.8; 250 c.c. urine during night. Bladder irrigated with 1 per cent. sulpho-carbolate sodium in 1 to 4000 sol. formalin. Uranalysis: sp. gravity 1016; urine turbid; urea 2.4 per cent. Phosphates increased; indican present; no casts or albumin; many pus cells.

December 10: Bladder has been irrigated daily since admitted. Tonics and diuretics administered, also urotropin. The prostate extends backward, pressing the rectum, and the lobes seem to fill the pelvis to the rami on either side. A stone was detected.

December 11: Operation: 1. Ether anesthesia; lithotomy position. 2. Inverted Y-incision in perineum from posterior fold of scrotum to the rami, on a level with anus. 3. With finger in rectum, the perineum was divided on either side of the corpus cavernosum until the prostate was reached and then the central septum was divided. Beak lateral retractors and Sims posterior retractor were used to expose the field of operation. 4. Capsule of gland incised parallel with urethra and separated from gland by blunt dissection, with finger and Kocher dissector. 5. Right lobe is grasped with small hook retractor and drawn down and out, and then grasped with second hook retractor and rolled forward and separated from the bladder down to the isthmus, where it was divided; left lobe treated in like manner. Middle lobe removed, with small portion of posterior prostatic urethra. Anterior isthmus not disturbed. The stone was then removed with a lithotomy forceps. 6. Rubber drainage tube passed into bladder through perineal opening; this was surrounded with bismuth subiodid gauze as a packing. 7. Wound closed except on left side with silkworm gut; left side left open for passage of tube and gauze. 8. Dressings and bandages.

Patient returned from operating room and was placed on back rest at angle of 30 degrees. Pulse was 78, low tension; temperature 97.4. He rested quietly and comfortably. Syphon and bottle were attached to drainage tube in perineum. Photograph of prostate, Fig. 15, Case 5.

December 12: He rested very well; pulse 96; temperature 99.4. He drinks considerable water. Dec. 13: Pulse 88, temperature 99. Patient is drowsy and comfortable. Dec. 14: Pulse 82, temperature 99.2; quite comfortable; free drainage.

December 15: Pulse is 84, temperature 98.4. Patient quite comfortable. Dressings changed three times; some of the packing removed. He voided 1530 c.c. urine through tube, and slept well. Dec. 16: Pulse 88, temperature 98.8. He voided 900 c.c. urine through tube. Slept ten hours; feels quite comfortable. Dec. 17: Pulse 88, temperature 99; 1200 c.c. urine through tube. Slept ten hours. Dec. 19: Pulse 80, temperature 99; 1500 c.c. urine through tube. Perineal tube and packing removed. Slept ten hours.

December 22: Pulse and temperature were normal since 19th. Catheter passed through penis. Passes small portion of urine through urethra. Wound in excellent condition. January 1: Catheter with stylet passed. He passes urine by both perineum and urethra. Jan. 5: Wound is healing rapidly. No urine passes through perineum. He is up and walking around room. Patient feels quite well; has control of urine. Jan. 18: All urine passes per urethram; full control. Patient is discharged feeling quite well; can sleep all night without urinating. Urine acid, sp. gravity 1014; trace of albumin; some pus corpuscles.

Case 6.—Mr. L. D. R., aged 70, widower. Father died at 88 of strangulated hernia. Mother died at 66 of cancer(?). Two brothers died of prostatic disease, with complications, aged 77 and 82. One brother died of pneumonia at 77. Four brothers living and in good health, aged 60, 64, 73 and 77. Three sisters died of female diseases, ages 50, 52 and 53. He has three sisters living and in good health, ages 60, 68 and 75. He came under observation of Dr. F. A. Turner, Sandwich, Ill., September, 1901, with symptoms of prostatic inflammation, which continued for several days until there was a free discharge of pus from rectum, when the symptoms subsided. He did not see him again until Nov. 11, 1901, when present attack began with severe pains in the prostate and a constant desire to pass water, being able to void but small quantities of turbid urine which contained considerable pus. On November 14 complete retention came on, and, notwithstanding the fact that a large amount of pus was discharged from rectum on night of 14th, the retention continued complete until the 22d, the date of the operation. He was catheterized every three or four hours. Amount of residual urine not obtained.

Operation was made December 20. Technic was same as in previous operations. Abscess was found in left lobe. Both lateral lobes were very much enlarged. Lateral and middle lobes were removed.

Post-operative history (kindly furnished me by Dr. Turner): During first six days after operation pulse varied between 114 and 99; temperature between 99 and 97.6; 1/30 gr. strychnia was given hypodermically every four hours. Liquid diet given every two or three hours. Bowels tympanitic and greatly distended during this period, for which he was given tinct. menth. pip. and asafetida, each 1 oz., in 3 pints of water through colon tube, with good results; this was repeated as required.

Bladder was irrigated daily through the drainage tube and the iodoform packing was removed on the sixth day. From the sixth to fourteenth day pulse and temperature were normal. Pus discharged freely from the tube, which was removed on the fourteenth day. Daily irrigation was continued and a fresh piece of iodoform gauze was inserted after each washing. Eight hours after the tube was removed (fourteenth day) he urinated per urethram. Strychnia was given per mouth up to the 20th, when it was stopped.

On December 20 urine passes through urethra and the bottom of the wound is apparently healed. The external portion of the wound is still kept open with a small piece of iodoform gauze. Urine is still turbid; contains pus and is ammoniacal; sp. gravity 1010. During the first week following operation there was a double epididymitis, which was relieved by elevating the scrotum and applying hot fomentations. Dec. 24: Patient is sitting up now and taking solid food. Jan. 5, 1902: Since last letter there has been a free discharge of pus from perineum.

January 16: "The wound in perineum has completely closed. He has control of his urine, which is clear and free from pus. He is not disturbed at night, and has fully recovered. I discharged him Jan. 14, cured."—Turner.

Case 7.—Mr. C. G., aged 52, laborer, single, was admitted to Cook County Hospital Dec. 7, 1901.

Previous history: States he was perfectly well up to four days ago.

Present illness: Four days ago began having a dull pain in abdomen, which gradually increased until he was compelled to quit work and go to bed early in evening; could not sleep that night; next morning vomited three or four times. He has had no appetite since then and "has not been able to keep anything in stomach." About the time he began vomiting he commenced having trouble in urinating; would have desire to urinate, but could evacuate only a very small amount, after severe straining. This desire to urinate would come on a dozen times daily, always with same result. Says he never had previous urinary trouble of any kind. Denies all strictures, gonorrhea, etc. Bowels have not moved for four days. There is no pain in penis; no cough; no pain in chest; no headache or epistaxis.

On closer questioning admits gonorrhea several times and says he has had a stricture. Statements seem unreliable. Denies syphilitic infection. Denies all previous illness. He was hard drinker for thirty years; smokes to excess now. Friends of patient say that recently he has been having "flighty" spells. Patient, himself, says he is "silly" at times and has been since his parents died, thirty-five or forty years ago.

Examination shows man past middle age; poorly nourished; in no apparent pain; indifferent to surroundings; mentality poor, so that little dependence can be placed upon his statements. Pupils equal, but retract slowly to light. Teeth covered with sordes; breath foul. Chest: heart and lungs negative. Tumor mass extending from pelvis above umbilicus, half way to ensiform; appearance that of seven months' preg-

nancy; uniform dulness over this mass; no fluctuation obtainable; surface smooth; auscultation negative; tumor disappeared after catheterization. No stricture; slight urethral discharge, in which are gonococci. A very much enlarged prostate, sensitive to pressure but not fluctuating. Has all the external manifestations of an intense cryptogenic infection. Patellar reflex is increased; ulnar reflex diminished.

December 7: Catheterized 11 a. m.; 64 oz. urine obtained; 5 p. m. 58 oz., 11:30 p. m. 52 oz. Dec. 8: Catheterized noon, 45 oz. urine. Temperature 98.4, pulse 68. Dec. 9: Catheterized, 32 oz. urine obtained. Permanent catheter put in. Urinalysis: Sp. gravity 1018; reaction acid; no albumin or sugar. Leucocytes numerous; granular and hyaline casts of large size. Dec. 10: 38 oz. of urine removed. Permanent catheter removed.

December 12: Gonococci found in smear from urethral dressings. Nothing of consequence to note up to date of operation. Patient was repeatedly catheterized and was kept on general diet with frequent saline cathartics. Temperature and pulse ranged near normal, but presented all the time a low, typhoid condition, apparently from some hidden sepsis.

Operation was performed December 20. 1. Lithotomy position. 2. Semilunar incision from one ramus of ischium to the other. 3. Skin reflected from apex of incision down almost to rectum, leaving triangular denuded space. 4. Fascia divided in median line down to urethra and prostate, which are located by sound held firmly in urethra. 5. Rectum separated from urethra by blunt dissection and held down by Sims speculum. 6. Right lobe of prostate dissected free, capsule peeled back and sharp hook fastened into prostate; traction and blunt dissection used simultaneously, additional hooks taking fresh holds as the lobe rotated outward; separated from isthmus with scissors. 7. Left lobe excised in same manner, each being about the size of a duck's egg. See Fig. 8. 8. Middle lobe, size of walnut, easily shelled out, tearing posterior urethra, escape of urine. 9. Rubber tube put through this opening into bladder, packed around with gauze, and skin partly closed with silkworm gut sutures. 10. Dressings and bandages.

Case 7 (*a*).—Right lobe shows hypertrophied prostatic tissue firmly attached to the myoma, also the feeble attachment of the middle to the lateral lobe.

December 20: Patient returned from operation with pulse irregular and weak; respiration shallow—sighing. Skin warm and dry—cyanosed. Temperature 101, pulse 98. Strych. sulph. grain 1/30, twice daily. Figs. 16, 17, 18 and 19.

December 21: Patient rested fairly well during night. Liquid diet. Pulse 98, temperature 99. Pot. acet. grains 10; urotropin grains 5, twice daily. Dec. 22: Patient slept most of night. Temperature 100.4, pulse 104. Dec. 23: Patient resting well; pulse 98, temperature 99.4. Dec. 24: Patient slept fairly well during night. Pulse 96, temperature 99.4. Dec. 25: Pulse 96, temperature 99. Dec. 26: Pulse 100, temperature 101. Dec. 27: Patient slept only at intervals during night. Temperature 101, pulse 100. Dec. 28: Temperature 101, pulse 102. Perineal drain removed. Dec. 29: Slept but little during night. Refused medicine. Temperature 100.4, pulse 100. Dec. 30: Did not sleep during night. Temperature 100.4, pulse 100.

December 31: Slept fairly well during night. Temperature 99, pulse 88. Strych. sulph., grain 1/30. Pot acet., grains 10; urotropin grains 5, twice daily; light diet. Catheter passed through urethra; bladder empty. Jan. 1, 1902: Patient slept fairly well during night. Temperature 99.4 pulse 98. January 2: Rested fairly well during night. Podophyllin et calomel, each gr. ½. Temperature 99, pulse 98. Light diet. Jan. 3: Temperature 98.8, pulse 88. Jan. 4: Slept at intervals only. Temperature 98, pulse 96. Jan 6: Permanent catheter. Jan. 10: Catheter removed; perineal wound almost healed and urine passed through urethra. General condition about the same as before the operation. All vesical symptoms disappeared.

CASE 8.—Mr. H. H., aged 66, wood-worker, was admitted to Mercy Hospital Dec. 16, 1901. Family history is negative. Personal history: Patient has always enjoyed good health until present illness, with the exception of a month's illness with bowel trouble twenty years ago. Patient's work has not been especially heavy, but it has been often in unheated rooms. Drinks wine and beer occasionally. Venereal infection denied. Constipation since onset of present trouble.

Present illness: Ten or fifteen years ago patient began to have frequent urination, passing only small amount each time. Some discomfort and a feeling that the bladder was not empty often followed urination. This condition was intermittent; was less common in summer than in winter, and was aggravated by exposure and by constipation. This continued, gradually becoming more annoying last summer. It was characterized by more discomfort than ever, and increased frequency of urination. Three weeks ago patient passed some blood, clotted and fresh, with his urine; was unable to pass water for a week thereafter, and catheterized himself from that time until now. The blood has disappeared, and he can not empty his bladder without catheter, there being about five ounces of residual urine. He urinates every two or three hours during the day and rises many times during the course of the night.

December 17: Urinary examination shows sp. gravity 1017; urea 1.5 per cent.; few flat and round cells, considerable mucus; pulse 72, temperature 98.4. Dec. 19: Urine in 24 hours 1500 c.c., reaction acid, sp. gravity 1020; turbid, urea 1.3 per cent.; faint trace of albumin; few squamous cells and pus in quantity. Prostate very much enlarged, particularly on left side.

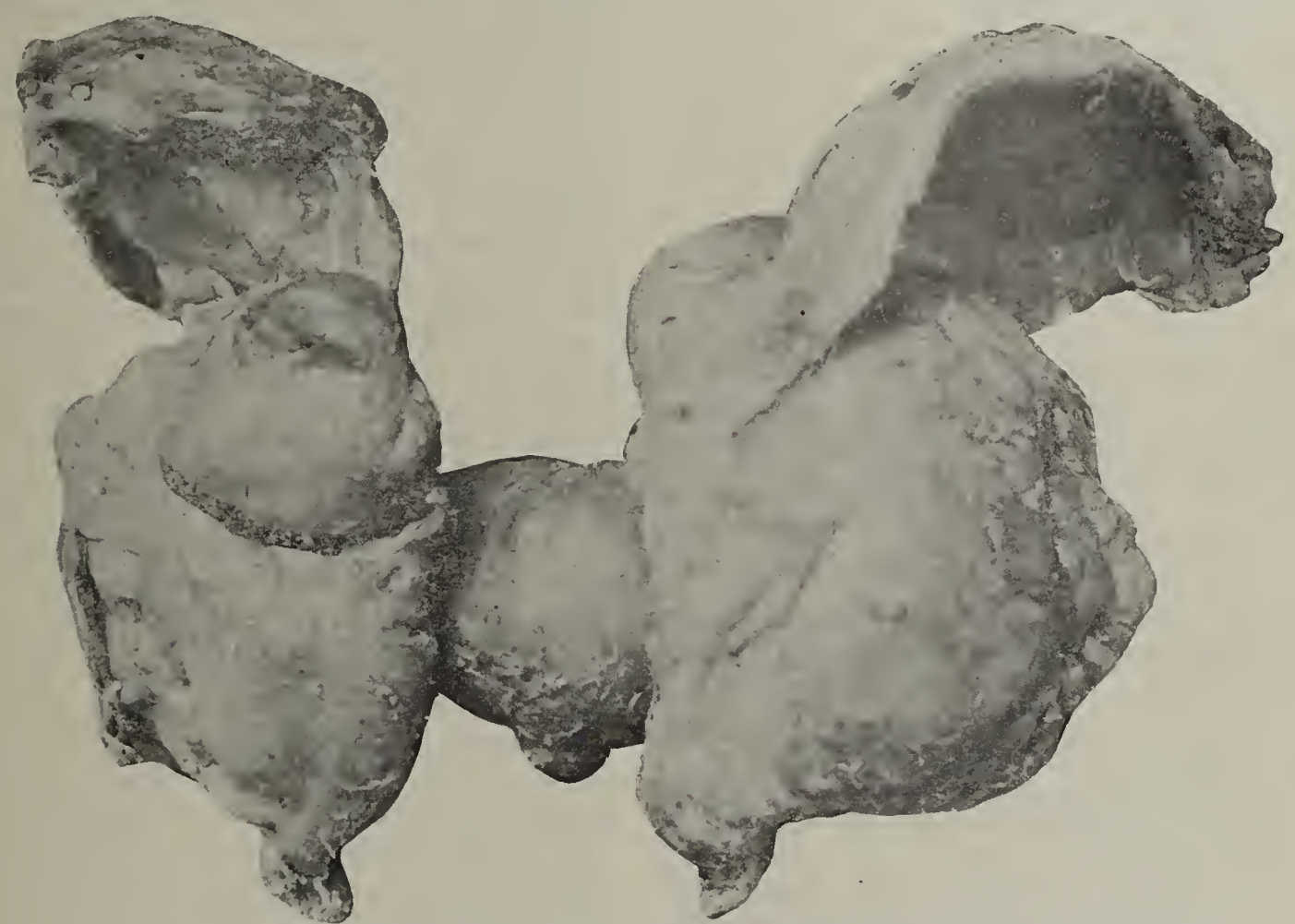
Operation on January 8; usual preparations; ether; lithotomy position. 1. Inverted Y-incision in perineum from junction of posterior fold of scrotum back to the rami at a level with the anus. 2. Rectum pushed back away from prostate with finger and deep retractors used to expose field of operation. 3. Capsule of gland incised parallel with urethra and separated from gland by finger and blunt dissection. 4. Right lobe grasped with small hook retractor and drawn down and out and then grasped with second hook retractor; rolled out from behind forward and separated from the bladder with the finger, and isthmus divided. Left lobe was treated in like manner. Middle lobe was shelled out and removed, with posterior wall of prostatic urethra; isthmus not disturbed. 5. Rubber drainage tube passed through perineum into bladder. Soft catheter passed into bladder through urethra. Strips of bismuth subiodid gauze packed around perineal rubber drainage tube. One hemostatic was allowed to remain. 6. Wound closed except on left side by silkworm gut. Left side

left open for passage of drainage and gauze. Catheter sutured to penis with silkworm gut. 7. Dressings and bandage. There was a moderate amount of hemorrhage. Patient returned from operating room warm and in fine condition. Back rest was placed under patient at angle of 30 degrees. Pulse 78, temperature 97; slight nausea, free perspiration. Prostate about same size and shape as Case 5, Fig. 15.

January 9: Considerable discharge of urine, some blood. Pulse 88, temperature 99.2. Tubes arranged from catheter and drainage tube to bottle. A portion of the packing was removed. Jan. 11: Pulse 80, temperature 98.4; tube and most of packing removed. Patient is resting comfortably.

January 14: Pulse is 80, temperature 99. Pulse and temperature have remained near normal since 11th. Perineal drainage tube and remainder of packing removed. Wound looks healthy. Urine passed voluntarily, principally by perineum. Patient comfortable, sitting up in bed most of the time.

January 16: Pulse 78, temperature 98.6. Urine passes through perineum. Patient rests well and feels comfortable. Jan. 21: Pulse and temperature normal; 270 c.c. urine in bottle. Wound clean and healthy. Jan. 23: Pulse and temperature normal.



Case 7 (b).—Left lobe, shows enormous hypertrophy of prostatic tissue around a small myoma.

Catheter removed; some urine followed through urethra; most of it passes through perineal wound. Patient sleeps well and feels comfortable. Jan. 28: Patient gaining control of urine; most of urine passes through perineum, but quantity through urethra increasing. Jan. 31: Patient can hold urine several minutes after desire to void is felt. Most of urine passes through urethra; small amount through perineal wound. Patient walking about and very comfortable.

February 4: Patient has walked to dressing room. Wound is closing; very little urine passing through it. Control of urine increases daily. Feb. 7: For past three days urine has been very well controlled; almost the entire amount passed through urethra. Occasionally a small amount is forced through perineal wound. Patient feels fine. Feb. 8: A few leucocytes are in urine; acid in reaction. He passes all urine through urethra and has good control.

CONCLUSIONS.

1. From the clinical reports and experience, it seems evident that in extreme cases prostatotomy is the operation of election.

2. It appears evident that in the hands of safe, far-seeing, informed practitioners, few cases will now be allowed to progress to this extreme condition before radical means are resorted to for permanent relief. The practice of to-day should be timely practice.

3. Continued use of the catheter is a menace to life, not to mention its discomfort, no matter how favorable the conditions for its performance. The patients all, sooner or later, suffer from cystitis and its sequelæ.

4. Prostatectomy gives the best permanent result, and is fraught with very little more danger than prostatotomy.

5. Suprapubic prostatectomy should be limited to exceptional cases of enormous intra-vesical enlargements of the prostate. It appears to us to endanger the sphincteric control more than the perineal operation. It is more sanguinary and the work is more difficult and distant from the operator.

6. The perineal is the most direct and least bloody route. It admits of a very large opening, and permits the prostate to be drawn quite into the open before it is attacked. It gives the greatest security against injury to the bladder wall and least liability to disturbance of the internal sphincter. It endangers the rectum least and affords the best drainage.

7. It can be best performed through a Y-shaped incision, with a Sims speculum for a posterior retractor. The prostate is drawn out easily with sharp hook retractors, and best separated from the bladder from behind forward. The operation should never be performed in the dark, i. e., through a small incision.

8. It should always be an intracapsular enucleation en masse, allowing the anterior isthmus to remain. The hemostasis may be secured with forceps or a packing of subiodid of bismuth (not iodoform) gauze. The permanent catheter should not be introduced until the perineal drain is removed.

9. The patient should be kept in a semi-sitting position for seventy-two hours after the operation, and

should be out of bed by the fifth day. He should drink large quantities of water from the onset.

10. Anesthetic is sub judice. Phosphate of sodium should be administeerd to keep the urine acid; and urotropin as an antiseptic. The personal equation must never be lost sight of in operating these cases, and attention to every small detail of the patient's general condition is necessary for the best results.

[I am indebted to Dr. E. F. Brandt, interne of Mercy Hospital, for the excellent photographs.]

BIBLIOGRAPHY.

1. E. A. Schaefer, Text-Book of Physiology, 1900.
2. Medical Record, Dec. 1, 1901.
3. Lancet, 1901.
4. Am. Text-Book of Physiology, 1896.
5. Med. Rec., March 9, 1901.
6. Wishard, N. Y. Med. Journal, Aug. 17, 1901.
7. Med. Rec., Dec. 21, 1901.
8. Med. Rec., March 23, 1901.
9. Medical News, June 15, 1901.
10. Medical Record, Dec. 28, 1901.
11. Medical Record, Nov. 30, 1901.
12. Medical Record, Aug. 3, 1901.
13. Med. Rec., March 2, 1901.
14. JOURNAL A. M. A., Nov. 2, 1901.
15. La Presse Médicale, Oct. 16, 1901.
16. Brit. Med. Journal, July 2, 1901.
17. Medical Record, Nov. 24, 1901.
18. London Lancet, Nov. 9, 1901.
19. Med. Rec., July 6, 1901.
20. Med. Rec., Nov. 2, 1901.
21. Med. Rec., Nov. 9, 1901.
22. Med. News, Nov. 2, 1901.
23. Med. Rec., May 18, 1901.
24. Phil. Med. Jour., Nov. 2, 1901.

CASE OF TYPHOID FEVER

COMPLICATED BY A THROMBO-PHLEBITIS OF THE LONG SAPHENOUS VEIN, A SEVERE HEMORRHAGE FROM THE BOWEL, INFECTION OF THE CLOT, WITH RECOVERY.

GEO. C. ARMSTRONG, M.D.
CAMBRIDGE, NEB.

A young man, aged 20, of spare build, was seen in the writer's office Aug. 21, 1901. He complained of severe frontal headache, dizziness, ringing in the ears, pains in the eyes, loss of appetite, gurgling in the abdomen, backache, diarrhea, exhaustion and nose-bleed. The tongue was thickly coated, spleen and liver enlarged, gurgling and tenderness in the right iliac fossa, and some cough. Pulse was 72, temperature 102.5.

The patient was given a laxative, sent home to bed, and a sample of urine was ordered for examination. The following day he was seen at his home; temperature was 104, pulse 82 in the evening; urine showed the diazo-reaction of Ehrlich and a diagnosis of typhoid fever was made. Systematic cold sponging was practiced every three hours, a milk and beef juice diet was ordered, at the same time an intestinal antiseptic was continually given. At no time during the treatment was the temperature above 103, pulse ranging between 75 and 85. At the end of the fourth week the appetite became better and some diarrhea which was present all through the sickness, ceased, and convalescence became apparently established. Stimulants in the form of whisky and strychnia were given the patient as there was an altered first heart tone and a systolic murmur heard at the apex.

On September 17 the patient complained of pain in the left calf, which extended upwards along the inner surface of the thigh into the groin. The left testicle was also painful. The upper thigh was some swollen, and the long saphenous vein could be distinctly palpated from a little above the ankle to the middle of the thigh. There was no swelling of the limb below the knee. The spermatic vein presented the same condition as that of the limb; the testicle was not apparently affected. Coincidently with the formation of the thrombus, the temperature arose to 105.2, pulse 116.

The limb was enveloped in cotton and a roller bandage applied, and the testicle was supported. Four days after the onset of the phlebitis the temperature was 100.5, pulse 90; some pain existed in upper limb and along the spermatic vein.

In the afternoon of the same day he felt a fulness in the abdomen, saw various colors, was nauseated, sleepy and thirsty, was short of breath and desired to evacuate his bowels. He immediately passed into the bedpan, with much force, two liters of dark blood.

The hips were elevated, morphin and ergotin given hypodermically, ice to the abdomen and perfect quiet ordered. His condition was now one of acute anemia and normal salt solution was injected, a new rubber fountain syringe and an ordinary aspirating needle, which was sterilized by boiling in soda solution, being used. One liter was given under the skin on each side, the needle being inserted a little above and external to the nipple. The effects of the salt solution was quickly noticed, and in six hours the patient passed a full 16 ounces of urine and felt much better. The bowels moved spontaneously the third day after the hemorrhage. The temperature and pulse gradually fell, when one week from the day of his hemorrhage he had a pronounced chill, lasting 40 minutes; temperature 105.5, pulse 135. Profuse perspiration followed. The pain in the limb which had by this time nearly ceased, now became much worse, and varied in severity according as the temperature arose or fell, being worse as the temperature went up.

One week from the day of his first chill, a second came on, lasting as long and was as severe as the first, followed by the most exhaustive sweats; temperature and pulse arose as high as before. The temperature and pulse oscillated as before for ten days, when he had a third chill lasting not quite so long as the first two; sweats again followed. After each chill with rise of temperature the skin presented all over the trunk, especially on the lower abdomen and back, a fine pinhead pustular eruption, which gave the patient much annoyance on account of the itching and smarting. Frequent turning of the patient with bathing and rubbing with alcohol to prevent decubitus was practiced.

Iron, quinin and strychnia were given to help correct the anemia as well as a tonic and stimulant, with a liberal allowance of predigested milk, ice cream and broths, and finally the patient began rapidly to improve; the appetite returned, the temperature and pulse oscillating for one week, and finally became normal and frequently subnormal, when in nine weeks from his initial visit to the office, the patient was sitting up most of the time. He now feels entirely well, having worn a bandage for five weeks after beginning to walk, to help counteract the swelling. The distressing intestinal catarrh, from which he suffered previous to his sickness and which resisted all lines of treatment, is now entirely cured.

The case is interesting from the facts that an apparently moderate attack of typhoid fever is no criterion from which to deduce a prognosis; this case demonstrated beyond a reasonable doubt the value of the salt solution that was used to correct the acute anemia.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, MARCH 29, 1902.

THE PROPER ADJUSTMENT OF REST AND EXERCISE IN THE TREATMENT OF TUBERCULOSIS.

Whether or not we shall ever come into possession of a specific remedy for tuberculosis is a matter for the future to decide. That spontaneous recovery from this disease not rarely occurs is a matter of common observation, so that it must be admitted that under certain favoring conditions the invaded body is capable of generating antitoxic substances that aid in bringing about the result desired. As to the position that tuberculin occupies in this connection there is some doubt. In the hands of those who have used this preparation most faithfully and continuously and, therefore, it is to be assumed, most intelligently, the results have been most gratifying, but tuberculin is a powerful agent and it has shown its capability for evil as well as for good. In the absence, therefore, of a remedy possessing specific curative properties and susceptible of safe general employment, the clinician is forced to depend upon those natural resources by means of which the resistance of the organism to the activities of the tubercle bacillus is increased. The problem, it has been learned, is essentially one of nutrition, and the main factors in its solution are a proper adjustment of air, sunshine, food, rest and exercise. The principles underlying the application of the last two factors have been recently discussed in a practical manner by Dr. Naegelsbach.[1] Here, as elsewhere, there has been a tendency to go to extremes, while, as usual, the correct position is an intermediate one. The question must be decided in accordance with the conditions present in the individual case.

As a matter of course, when the disease is progressive the patient should, as soon as possible, be withdrawn from physical and mental activity and placed under conditions most favorable for rest. If the temperature is but slightly elevated, the patient may occupy the recumbent posture in the open air. Those patients also should be kept in bed who, despite a normal maximum temperature, exhibit in the morning or repeatedly temperatures of collapse, with evidences of advanced lesions and great asthenia. If the temperature, previously normal, rises gradually or suddenly the patient should be put to bed. If in the course of a period of such rest it be found that the patient can lie upon a reclining chair without elevation of temperature he may gradually be brought into the open air. It is necessary, however, that there should be also absence of chills, sweats, marked prostration and exhaustion and increased cough, of recent inflammatory changes in the lungs and other organs and of loss of weight. In cases of softening with intermittent or remittent fever and normal or approximately normal morning temperature the most rapid results, in accordance with the course of the morbid process, are brought about by rest in bed. Care is necessary on account of the danger of hemorrhage. Transitory slight elevation of temperature is naturally of less significance than elevation persisting for hours.

When the temperature declines regularly in the evening a few tenths from 98.5 or 99 F. the patient may be permitted to remain out of bed until after the evening meal. If the evening temperature remains unchanged or even rises, complete rest in bed in the afternoon should be enjoined. When the temperature is slightly inverted, rest in bed should be continued for a longer time in the morning. In cases in which there is slight elevation of temperature in the absence of evidence of active disease, as, for instance, in patients with old pleurisy or chronic bronchitis or large old cavities, rest on a reclining chair will suffice. Patients with large cavities must exercise greater care than those with so-called apical catarrh; as must also those in whom active lesions are present, especially if attended with many moist râles, as well as bleeders, whether from peculiarity in the local process or from hemophilia. In the presence of hemorrhage to greater degree than blood-streaked sputum, rest in bed should be observed, as a rule, although occasionally the bleeding ceases after the patient gets up and moves about carefully. Beginning pleuritis also demands caution. Rest-treatment will be especially indicated in the case of debilitated, anemic, chlorotic and neurasthenic individuals.

When the patient is permitted to walk he should stop before he becomes tired, should avoid the occurrence of perspiration, should set no limit to his walk so that if possible he makes ascents while fresh. The time for the walk and its length should be determined for the individual case. A patient who has become wholly apyretic may tentatively walk for a quarter of an hour at about 8:30, 11:30 and 4:30, and in the course of a week or two the time may be increased to an hour—that is, three hours a day. Patients with extensive lesions and with fresh cavities should advance more slowly. Greatly emaciated patients who exhibit little tendency to increase in weight should walk but little. Rest should be taken in the intervals of walking and for 20 or 30 minutes before meals. In cases of bronchiectasis, walking up gentle grades is of value to facilitate expectoration. Such walking in moderate degree regulates and strengthens the action of the heart in all cases and frequently ameliorates bronchitis, while strain on the heart does the reverse. Walking should, of course, be interdicted whenever it induces elevation of temperature. In cases in which the morbid process has terminated or in which there is no evidence of secretion careful respiratory gymnastics may be practiced with advantage if the

1. Berliner Klinische Wochenschrift, Feb. 24, 1902, p. 163.

breathing be not full and if pleural adhesions are present. Other forms of physical exercise and eventually some agreeable occupation may be cautiously indulged in as improvement progresses. So far as possible the patient should be spared emotional disturbances such as may result from the responsibilities and activities of domestic life. In the presence of fever even the visits of friends should be interdicted. A certain amount of mental stimulation and recreation is, however, to be generally encouraged.

FAMILY PERIODIC PARALYSIS AND ALLIED NEUROSES.

The close study of cases of disease which have at first appeared to be identical has often led to a separation of the original clinical entity into two or more distinct diseases each having its own peculiarities. Since Bretonneau wrote his classical memoirs on diphtheria this disease has been recognized as one entirely separate from other pseudo-membranous inflammations of the throat, and with the aid of modern bacteriologic methods the differentiation of the various forms of angina upon an etiologic basis has been carried still further. Exhaustive study has always been fruitful in the separation of diseases which were previously confused. On the other hand, the thorough study of individual clinical diseases has often resulted in the discovery that what had appeared to be entirely different conditions may have much in common and may even be different phases of the same general disease. This is exemplified in a group of paroxysmal neuroses of which migraine and epilepsy are the more common members, and family periodic paralysis the unusual one. In a recent report of the first case of family periodic paralysis observed in England, Singer[1] has again directed attention to this peculiar and rare disease. Although cases had been previously reported in Germany, Taylor,[2] in 1898, was the first American writer to treat the subject in a thorough manner. He collected all the cases that had been described earlier, which with his own made a total of 53; of these, 16 have detailed records. A striking feature of the disease is heredity, 35 of the 53 cases collected by Taylor having occurred in 3 families. It has been followed through five generations and is transmitted through both the male and female lines. The clinical manifestations occur in distinct paroxysms at irregular intervals between which the patient is apparently in perfect health. The attack most often comes on during the night, the patient waking in the morning with inability to move. The voluntary muscles are involved almost exclusively and in varying degrees. The paralyzed muscles are flaccid and do not respond to electric stimulation and the reflexes are lost. There is no impairment of the mental faculties and sensation remains normal. The duration of the attack is usually from six to seventy-two hours, after which time the paralysis gradually disappears and the reflexes and electric excitability return. The paroxysms have usually first occurred at about puberty and have gradually disappeared between the ages of forty and fifty.

Since Taylor wrote upon the subject, cases have been reported in America by Mitchell[3] of Philadelphia, Putnam[4] of Boston, and Crafts[5] of Minneapolis. Various theories have been advanced to account for the symptoms. A toxic substance which causes the disease has not been proven to exist, although sought for in the urine and feces. Putnam advances the idea that "the symptoms are probably due to the morbid over-action of an influence which, though hitherto but little recognized, probably plays an important part in all the operations of our lives, and which has been designated as "inhibition." Meltzer[6] defines inhibition as a temporary diminution or abolition of a vital activity brought about by an external or internal stimulus. According to this theory all irritable tissues of the living body respond to a stimulus with a specific activity, as well as with an inhibition of this activity, the actual effect of a stimulus being always only a resultant of the two opposing factors. This theory still leaves the particular stimulus uncertain and it may be a toxic substance or something else. Family periodic paralysis, epilepsy and migraine are so similar in many of their characteristics that writers have repeatedly noted it. The hereditary tendency to the paroxysms is very marked in migraine and family periodic paralysis and, according to some, also in epilepsy.

In none have any abnormal anatomical changes in the nervous system been constantly found. The resemblance of the symptoms to those due to certain poisons has led to the construction of theories of intoxication, but nothing definite is known regarding the poisons supposed to operate in these cases. The explanation by means of imaginary "periodic discharges of nerve-force" or by "nerve storms" brings us no nearer to the conditions and activities provoking the storms. Since the members of this group of paroxysmal neuroses are so similar in many ways, a comparative study may be of value in helping to clear up some points in connection with each.

1. Brain, xxiv, 1901, 257.
2. Journal of Nervous and Mental Diseases, September and October, 1898, 637 and 719.
3. Amer. Jour. Med. Sciences, November, 1899, 513.
4. Ibid., February, 1900, 160.
5. Amer. Jour. Med. Sci., June, 1900, 651.
6. N. Y. Med. Journal, May 13-27, 1899.

THE NATURE OF THE CELLS IN PIGMENTED MOLES.

Pigmented moles in various parts of the body not infrequently become the starting-point of melanotic tumors, often of exceedingly great malignancy and widespread metastasis. In 1871 Durante, in Italy, first advanced the view that the cells composing nevi are epithelial in origin and not mesodermal as held by Rokitansky and Virchow, and upon this basis he brought forward a theory of the origin of tumors in a matrix of embryonal cells, a theory which Cohnheim proposed quite independently three years later. More recently Unna, ignorant at the time of Durante's views, strongly advocated the genesis of nevi in epithelium, and since then, especially

recently, much has been written on both sides of this question. The followers of Durante and Unna refer to the melanotic tumors arising in moles as melano-carcinomata or as nevo-carcinomata, whereas others continue to speak of them as melano-sarcomata.

Recently, Abesser[1] in Orth's laboratory in Göttingen, and Larass.[2] working in Lubarsch's laboratory in Posen, have published the results of investigations concerning the origin and genetic significance of the cell masses in cutaneous nevi. Both reach conclusions positively in favor of Unna's views. They derive the round and oval nevus cells as well as the branching pigment cells from the epidermis from which they are separated by a peculiar transformation with softening and loss of the epithelial fibrillation. According to Abesser, the nevus cells at first may be connected with one another and with adjacent typical epithelial cells by fine protoplasmic bridges. The cells thus separated are not regarded as changed into connective tissue cells but as retaining their epithelial character, the process being regarded as a species of metaplasia. Later, connective tissue and elastic elements grow in among the cell heaps from the surrounding tissue. In spite of the convincingness of the appearances described by these investigators, especially Abesser, and regarded by them as fully demonstrating the origin of the nevus cells in the epidermis, the unquestionably sarcomatous behavior and general biology of the malignant tumors springing from nevi may be urged with considerable force as strongly suggesting that pigmented moles may take their origin from aberrant mesodermal cells misplaced into the lower layers of the epidermis whence they may break loose and again enter the cutis. In view of the fact that the malignant tumors arising in nevi clinically and anatomically resemble sarcoma rather than carcinoma, especially as we know it when arising in the epidermis, the peculiar morphologic appearances in moles should not be accepted as necessarily decisive. The problem is still worthy of further study, especially by means of serial sections of nevi in the newborn and at a time when they are in process of formation.

While the question whether the melanotic tumors arising in pigment moles are melano-carcinomata or melano-sarcomata may be regarded as a purely academic one of little or no real practical significance—the arguments for and against that way of looking at things need not be discussed now—the significance of moles as the starting-point of rapidly malignant and usually pigmented tumors can not be too strongly emphasized. The slightest sign of growth in a pigmented mole should lead to prompt and thorough removal. False conservatism in case of moles upon the face, for instance, and crude efforts at removal by means of strings and pastes have been followed more than once by rapid growth and fatal generalization. There lurks in the cells of pigmented moles a hidden potency for malignant growth that can not receive too much attention.

1. Virchow's Archiv, 1901, clxvi, 40-66.
2. Inaugural Dissertation, Leipzig, 1901.

THE RELATION OF ARSENIC TO ALCOHOLIC NEURITIS AND BERI-BERI.

During the last half of 1900, there occurred in England a most remarkable epidemic of peripheral neuritis which was referred to at the time in The Journal.[1] The cases were limited to persons who drank beer and were first considered to be instances of alcoholic neuritis. The presence of certain symptoms not observed in the usual cases of peripheral neuritis due to alcohol, especially pigmentations and keratosis of the skin, running of the eyes and nose, pain, redness and swelling of the soles of the feet and often also of the palms of the hands, led Reynolds of Manchester to suspect that arsenic might be the cause of the disease. The beer of the district was submitted to chemical examination and found to contain arsenic, usually in considerable quantity. The source of the arsenic in the beer was traced to the sugars used in brewing. The sugars were prepared from cane sugar and starch by the action of sulphuric acid, which, when crude, often contains arsenic. After Reynold's extensive experience with these cases he is inclined to suspect that arsenic is a factor in the production of many cases which have passed as "alcoholic neuritis." In the arsenical cases, the poison is found in the urine, the hair and the skin. It is not unlikely that the combined action of alcohol and arsenic may, as has been suggested, be more liable to cause neuritis than either alone.

Some of those who observed the epidemic in England called attention to the marked resemblance between arsenical neuritis and beri-beri. So strong was the likeness that some medical men in Chester held to the diagnosis of beri-beri even after arsenic had been found in the beer consumed by the patients. The absence of skin lesions in cases of beri-beri is usually considered sufficient to differentiate them from those of arsenical neuritis. It is possible, however, that skin eruptions and pigmentation may have been overlooked in dark-skinned races. Some epidemics of beri-beri on shipboard and in institutions may have been instances of arsenical poisoning from contaminated food or drink. Some observations made by Ross in connection with beri-beri, while they do not show conclusively that arsenic is the essential cause of the disease, at least suggest such a possibility. In August, 1901, a patient came under the observation of Ross[2] in which there was a peripheral neuritis so similar to beri-beri and to arsenical neuritis that the diagnosis was reserved. The hair of the patient was found to contain a considerable quantity of arsenic. The source of the arsenic could not be traced to beer but it might have been contained in the canned food which the patient had eaten largely, either in glucose, in preservatives or in the tin lining of cans.

More recently Ross[3] reports the results of the chemical examination of hair from 21 cases of beri-beri, 20

1. Journal A. M. A., Dec. 15, 1900, 1587; Dec. 22, 1900, 1641; Jan. 26, 1901, 268; Feb. 9, 1901, 392.
2. British Medical Journal, Oct. 5, 1901, 979.
3. Ibid., Feb. 8, 1902, 329.

of which specimens came from Penang, a known beri-beri locality. In 6 of the specimens of hair arsenic was found. Ross does not claim to have shown that arsenic is necessarily the cause of the disease but leaves the question open for the present. He notes that arsenic was found in recent cases and suggests that the distance from the scalp at which the hair was cut may influence the findings. It will be interesting to follow the results of further investigation in connection with these diseases, which are so nearly alike in most clinical peculiarities.

CREDULITY AND MEDICINE.

In his interesting address on "Belief and Credulity,"[1] Professor Jastrow of the University of Wisconsin has occasion to refer to credulity as applied to medical and kindred matters. Naturally, some of his most striking illustrations are from other fields than medicine, but in order to complete the collection of the types of credulity which he desires to illustrate he refers to Eddyism as a system of interpretation of facts which though "startling and contradictory to ordinary experience, gains widespread credence, and that in spite of pronounced inconsistency with verifiable observation and common sense." He then goes on to say:

"Even in this field of intellectual effort the land of the free and the home of the brave has contributed an article worthy to compete with the foreign product. Eagle-like, this system spreads its wings and soars free from the bonds of sense or earth-bound realities, free from human logic and the errors of mortal mind, free from the material impediments which the Author of Nature has inconsiderately set in our paths, free to make things so by thinking them so, free to set method and learning and experience at naught. And surely it calls for braveness of no common order to resist the seductive appeals of eye and ear, to sail steadily on heedless of the calls of the sirens of rationality, convinced at the outset that things can not be as they are. . . . . It is not necessary in this connection to recount the beliefs of this system; it is sufficient to point out that when thousands of intelligent persons give practical adherence to, and enroll themselves under the banner of one who teaches that a bunion would be an adequate cause of insanity if only we held the same belief about the bunion as we do about congestion of the brain; that smallpox is contagious by reason of the same agencies as make weeping or yawning contagious; that fear may be reflected in the body as fractured bones, just as shame is seen rising to the cheek; that anatomy and physiology and hygiene are the husbandmen of sickness and disease, while the reading of a text-book of christian science is equally effective in producing health; or that when a healthy horse takes cold without his blanket, it is on account of the poor creature's knowledge of physiology—then such persons can hardly complain if they are cited as instances of modern credulity."

Professor Jastrow is well aware that this extreme instance of departure from rationality is not an isolated example of the boundless credulity of mankind in matters medical, and he refers to Oliver Wendell Holmes' "Homeopathy and Its Kindred Delusions," as an interesting study of some of the various forms that this credulity has taken. The address is a stimulus to intellectual virtue and right belief, and it is especially valuable because the author calls attention so directly to credulousness as illustrated by subjects connected with medicine.

1. Educational Review, January, 1902.

ENDOWMENT OF MEDICAL EDUCATION.

The enlargement and endowment of the Harvard Medical School seems like the opening of a new day in medical education. The gift of $1,000,000 for new buildings by Mr. Pierpont Morgan was quickly followed by another from Mr. Rockefeller of a like sum conditional only upon the raising of about three-quarters of a million by the college from other sources. Now, this condition has been more than met by the contributions of the alumni and the donation by Mrs. Collis P. Huntington of $250,000 for a pathological laboratory to be erected as a memorial of her late husband. A few more such benefactions judiciously distributed throughout the country will go far to furnish the opportunity, so far as material resources are concerned, to put this country well in the front in the advancement of medical science. Harvard will now be judged by her opportunities; if she fails to take the lead it will be to her discredit. A fortunate circumstance is that Mr. Rockefeller's donation is available for general endowment purposes instead of being specially for new buildings like the Morgan gift. Tying up funds in brick and mortar is sometimes a favorite practice of donors and trustees, but an absolute hindrance to the scientific usefulness of the gift. It is here as elsewhere "the man behind the gun" who wins, and endowment of medical research is more important than the mere housing of it, showy and effective as the latter may be in some ways. A building is a perpetual charge; an income-producing investment is the reverse and available for whatever needs may develop. We need endowment funds for our medical colleges all the more to free them from the commercial tendencies that have afflicted them in the past and still exist to a certain extent. A really high-class institution can not depend upon the income of the lecture fees. It is to be hoped that the better endowment of medical instruction now started in this country will soon have its effects in raising and maintaining the medical standards.

DISINFECTION AND HEALTH DEPARTMENTS.

In cities of considerable size we have learned to depend very largely upon the public department of health for the disinfection of houses after cases of contagious diseases. While this is often convenient and, in the case of people who are in very moderate circumstances, almost essential, it has some decidedly objectionable features. The men who do this work in health departments are usually appointed for other reasons than their special ability to do the required work. Many physicians have observed infection of healthy persons who have returned to houses which were supposed to have been disinfected by health department employes. The proper disinfection of a house after any of the contagious diseases requires the services of a conscientious man who possesses some technical training and a good deal of com-

mon sense. To hang a sheet in a room and spray some formalin upon it is not thorough disinfection, although it may be as much as a department of health can afford to do. When people are able to pay for proper disinfection, it should be done in a most complete manner. In large cities there is work enough of this kind to furnish a profitable business for some well-qualified men who could be depended upon, and recommended, by the medical profession to families who request that their homes be disinfected. There is no more reason why a public department of health should furnish free disinfection of houses for people who can afford to have it done than that health department laboratories should make gratuitous examinations of blood for diagnostic purposes in cases where the patient could pay. There is a tendency to impose too much upon public health departments and to secure from them the performance of work which should be done by qualified private individuals who are properly paid for it.

THE FUTURE WOMAN.

In his "Descent of Man," Darwin suggested the probability that such natural weapons as horns and tusks, when present in both sexes of an animal species, were originally only possessed by the male and their possession by the female was a later acquirement; in other words, the female gradually usurped the offensive and defensive appendages of the male. Darwin's inference has lacked paleontologic proof until lately. In a recent paper,[1] Dr. C. I. Forsyth-Major has taken up the question from this point of view, considers the evolution as shown in fossil remains of the deer, giraffe, bovine and porcine families—all possessing these appendages—and comes to the conclusion that Darwin was about right. The subjection of the female, so far as it was dependent upon her not bearing arms according to the fashion of her kind, therefore came largely to an end. Major applies this fact to our own species, and concludes his paper, as quoted by *Science,* with the following: "In our own species the modern aspirations of women are to all appearances incipient signs of the same natural law. Physical and mental character of man, originally acquired in the struggle of the males, are apparently being slowly transferred to women. They only require time for their full evolution." We can now see what we are coming to; the new woman is all right in the natural order of things and has bovine and cervine, etc., precedents in her favor. In a few more geological periods the descent of man from his pinnacle of physical superiority may be complete. Perhaps it may be some comfort to appreciate the fact that when the paleontologic evidence is being looked up in the case of man and when the female Jeffries and Fitzsimmonses are holding the belt, those of us who now object to the coming order will be out of the ring and fossils in dead earnest.

1. Geological Magazine, December 4, vol. viii, 1901, referred to in Science, Feb. 28, 1902.

Turpentine in Infectious Diseases.—M. Nasaroff observed very favorable results from the administration of turpentine in 70 cases of erysipelas, 18 of parotitis, 6 of scarlet fever, smallpox and suppurating affections of the uterus. He gave fifteen drops in milk two or three times a day.—*Voenno-Med. Journal,* September, 1901.

Medical News.

CALIFORNIA.

New Hospital for San Diego.—The supervisors of San Diego County have passed a resolution to proceed with the preliminaries for the erection of a county hospital on a lot owned by the county on University Heights, San Diego.

Chico Physicians Revolt.—The municipal license imposed on physicians at Chico is causing trouble. The physicians of the city, instead of meekly turning over $5 to the city marshal on his quarterly visits, have made up a purse and propose to resist the collection of what they consider an unjust tax.

Lane Memorial.—Memorial services for the late Dr. Levi Cooper Lane, of San Francisco, were held in Lane Hall, Cooper Medical College, March 9. Dr. Henry Gibbons, Jr., presided and presented the tribute from the trustees; W. D. Blake, of the class of 1902, spoke for the undergraduates; Dr. Charles N. Ellinwood, on behalf of the faculty, alluded to the sense of great personal loss felt by Dr. Lane's associates; and Dr. Edward R. Taylor, vice-president of the college, spoke of the courage with which Dr. Lane faced and overcame difficulties in the mastery of his profession.

DISTRICT OF COLUMBIA.

Few Applicants for Medical Military Glory.—On April 7, the examination of applicants to fill 64 vacancies in the army medical department will be begun. Only 54 applications for examination have been received.

Dr. Godding's Portrait.—A handsome oil painting of the late Dr. William W. Godding, for twenty years superintendent of the Government Hospital for the Insane, has been finished and will be hung in the assembly hall of the administration building of the institution.

The Columbian University has just completed plans and let contracts for the erection of a new hospital building and a new medical and dental school on H Street, N. W., between 13th and 14th. The buildings will be colonial in style. The hospital has a frontage of 60 feet, and the medical school building, 50 by 144 feet, will be five stories high.

ILLINOIS.

For Million's Money.—Suit has been entered in the Circuit Court of Sangamon County to set aside the will of the late Dr. John L. Million, whose estate exceeded $100,000 in value. The estate was left in trust for the benefit of the widow and her two sons. It is claimed that Dr. Million's mind had become affected from the use of strong medicines and narcotics before the testament was drawn.

Chicago.

An Accredited College.—The Royal College of Physicians of London and Royal College of Surgeons have placed on their limited list of accredited colleges, the Northwestern University Medical School (Chicago Medical College).

Smallpox Among Negroes.—The Commissioner of Health reports that with only 1.75 per cent. of the total population of the city, the colored contingent has furnished nearly 80 per cent. of the last group of smallpox cases. Between March 4 and March 22 there were 34 cases discovered, 7 white and 27 colored.

The City's Mortality.—During the week ended March 22, 537 deaths occurred, a reduction of 17 deaths from those of the previous week, but an increase of 72 as compared with the corresponding week of 1901. The death-rate per 1000 per annum was 15.38. The principal causes of death were: Pneumonia, 88; consumption, 59; heart diseases, 52, and bronchitis, 34.

X-Ray Diagnosis.—The autopsy on the late Dr. Christian Fenger confirmed a diagnosis made by a skiagraph last fall. At that time Dr. Fenger had an attack of colic, which he thought might be due to gallstones, and a skiagraph taken by W. C. Fuchs showed small dark shadows in the region of the gall-bladder. At the autopsy, three gallstones were found in the viscus.

"Pink Eye" is Influenza.—The so-called "pink eye" which has been increasing in prevalence for some weeks is only another manifestation of the grip or influenza bacillus. The Department of Health advises that every case of "pink eye" be at once subjected to a bacteriologic examination for the influenza bacillus; if this be found in the secretions the indication for treatment is obvious, and a cure may be effected within forty-eight hours. These examinations are made in the laboratory

for physicians without charge and the results are telephoned without delay.

IOWA.

To Regulate Barbers, Osteopaths and Opticians.—Three new state boards are contemplated in pending bills—to control and regulate barbering, osteopathy and optometry. The bill for a board to issue certificates to osteopaths provides that they shall receive certificates, not as medical practitioners, but as osteopaths.

Waterloo Emergency Hospital.—Drs. Daniel W. Crouse, Reuben A. Dunkelberg, Thomas U. McManus, William B. Small, Lafayette W. Case, Elmer E. Dunkelberg, Henry W. Brown, Fred W. Keehl, have incorporated the Waterloo Emergency Hospital Association with a capital stock of $20,000.

Dr. Hill Resigns.—Dr. Gershom B. Hill, who has been superintendent of the Iowa Hospital for the Insane, Independence, since 1881, and who, for seven years prior to that time, was assistant physician in the institution, has notified the Board of Control of State Institutions that he will not be a candidate for re-election. He expects to locate in Des Moines and to practice medicine as a specialist in insanity.

Reciprocity.—The bill introduced by Dr. Emmert, of Atlantic, for granting of certificates to practice medicine and surgery in the State of Iowa without examination has been up in regular order and passed. It grants a certificate to practice medicine and surgery in the state without an examination where a certificate can be shown that such permission has been given in other states; that is, where the applicant comes from a state which grants a like favor.

KENTUCKY.

Cornerstone Laid.—The cornerstone of the new $80,000 German Deaconess Home and Hospital, Covington, was laid, March 16, with appropriate ceremonies.

Alumni Meeting.—Beginning March 25 and continuing for two days, the Alumni Association of the Louisville Medical College held its annual meeting. The arrangements were in charge of Drs. A. O. Pfingst, Aug. Schachner and Irvin Abell of the faculty of the college. Among the out-of-town members in attendance were Drs. J. A. Burroughs, of Asheville, N. C.; R. C. McChord, Lebanon; Arch Dixon, Henderson, and J. A. Harris, of New Albany, Ind. Dr. J. W. Fowler acted as toastmaster at the annual banquet at the Galt House.

Stringent Vaccination Order.—The Bowling Green Board of Health has issued an order requiring all persons who have not been vaccinated within three years to submit to vaccination within five days. Each person, man, woman and child, must be vaccinated at three places, on the arm or body, and shall be revaccinated until the operation is successful. The alleged smallpox patients have been removed to the pesthouse. City Health Officer T. B. Wright has been instructed to visit the schools and see that the order of the board is complied with.

Recent Legislation.—The governor has signed two bills of interest to the profession, which were passed by the late legislature. One is an act to regulate the practice of barbering, the registering and licensing of persons to carry on such practice, to insure the better education of such practitioners, to insure better sanitary precautions in barber shops and to prevent the spread of disease in the state of Kentucky. The other bill is an act to establish and maintain free public libraries in cities of the first class; this enables Louisville to avail itself of the offer of Carnegie of $250,000 for a building to be used for library purposes. The profession is a unit in its endeavor to have the mayor appoint a member of the medical profession one of the twelve trustees of the library in order to establish a good medical library as one of its departments.

MARYLAND.

Art Loan Exhibit for Hospital.—An art loan exhibit was held for the benefit of the Frederick City Hospital Association.

Baltimore Mortality.—The death rate continues low, only 188 deaths being reported in the week ended March 22, against 245 for the same week last year. Of the causes of death consumption claimed 21, pneumonia 16, and cancer 7.

New Hospital at Annapolis.—As a result of the recent visit of the Surgeon General of the Navy, the old naval hospital on the government farm at Annapolis is to be remodeled and made into a hospital for mariners and sailors. The building originally cost, with land, $200,000, and was erected when Admiral Porter was Superintendent of the Naval Academy. It has been long in disuse and used as a storage warehouse. It is built in the shape of an anchor, and has a frontage of 260 feet. It is charmingly situated with a beautiful view of the bay, Annapolis City and the surrounding country, and the situation is very healthful.

Personal.—Dr. George French Owens, a physician of Upper Marlboro, Prince George's County, has received an appointment as assistant surgeon, U. S. Army, and has been ordered to the Philippines. He is a graduate of the University of Maryland. ——Drs. Bernard A. Goodman and W. A. Davis, Baltimore, have resigned positions as health warden and have been succeeded by Dr. Thomas Sudler.——Dr. H. J. Berkley had his eyeball removed, March 16, for an injury received from a piece of steel flying into his eye while working on an instrument. Two other members of the Johns Hopkins Medical School have each lost an eye previously, namely, Dr. J. J. Abell, from an explosion in his pharmacological laboratory, and Dr. Miller, from infection while operating on a pus tube.

MISSOURI.

St. Louis Not Responsible.—Circuit Judge Fisher decided, March 17, that the city was not responsible for damages in the death of the thirteen children who died some time ago from tetanus caused by the administering of antitoxin procured from the Board of Health.

The Gregory Banquet.—Cards are out announcing that the St. Louis Medical Society will give a testimonial banquet to Elisha Hall Gregory, M.D., LL.D., to commemorate his fiftieth anniversary as a teacher of medicine. It will be held at the Planters' Hotel, St. Louis, April 17.

Change of Asylum Control.—On March 12, the change of management in State Insane Asylum No. 1, Fulton, became operative. Dr. James W. Smith, Pleasant Hill, assumed his duties as superintendent, with Drs. Zachary T. Martin, William M. Bayliss, and J. Frank Harris, assistants.

Ensworth College Commencement.—A class of 14 was graduated from Ensworth Medical College, St. Joseph, March 17. Dr. P. I. Leonard presided as master of ceremonies; the faculty address was by Dr. Charles G. Geiger. An address was delivered by Dr. William G. Moore, St. Louis, and the degrees were conferred by Dr. T. H. Doyle.

NEBRASKA.

Medics vs. Dents.—For two hours on March 20 a fierce fight was waged at Omaha between 300 medical and dental students. More than 100 were injured, two seriously.

License Revoked.—The State Board of Health has revoked the license given to Dr. E. B. Oliver in August last, on the ground that he was an itinerant physician and that some of his practices were unprofessional.

Methodist Hospital at Omaha.—The lay press announces that work will be commenced on a Methodist Hospital at Omaha, 432 by 250 feet, and with accommodations for 150 patients. The hospital is to cost $225,000.

The Smallpox Situation.—A correspondent summarizes the smallpox situation in the state and the deficiencies of state laws regarding sanitation. During the winter of 1901-2, there were more than a thousand cases of smallpox in Omaha and South Omaha; 250 cases were present at one time in the two cities. These cities, Lincoln and the Indian agencies have suffered greatly. South Omaha has been particularly negligent with reference to the matter for the reason that the cases were mild. Omaha has been honored with a visit from the representative of the United States Marine-Hospital Service, Dr. C. P. Wertenbaker. To its shame be it said the State of Nebraska has absolutely no laws with reference to any duties or any powers of the State Board of Health from a sanitary standpoint. Their only duties, as prescribed by law, are as a license-granting body. Past legislatures have uniformly been niggardly and have never thought it necessary to furnish means in the direction of human sanitation, although they have given generously for hog sanitation. This year the Board has a small sum and, in spite of absence of law, is using it in the proper manner. The situation has been so bad throughout the state that Dr. Wertenbaker has been sent here. In order to become most thoroughly acquainted with the real situation, he became, for the time, an aide to the governor.

NEW YORK.

Oswego Hospital.—It is announced that $12,000 has already been subscribed for the new hospital at Oswego.

M. W. Townsend Operating Room.—The Genesee County Medical Association, at its meeting in memory of Dr. M. W.

Townsend, deceased, requested the directors of the Batavia Hospital Association to name the operating room at that institution the M. W. Townsend Operating Room.

Hospital Bill a Law.—The Governor has signed the Hanford hospital bill which provides that in counties that do not contain a hospital, and that adjoin counties of another state that do contain hospitals, contracts may be made between the municipality in the one county and the hospital authorities in the other for hospital treatment, etc. The bill further legalizes the acts of village boards in appropriating moneys for said purpose in the past and provides that they must be paid.

Commission on Prophylaxis.—A bill has been introduced into the assembly providing for a commissioner to inquire into the history, nature and pathology of vaccination, the history, nature and pathology of smallpox from the time of Sydenham to the present time; the value of vaccination as a prophylactic against smallpox; the history, nature and pathology of antitoxin and other serums alleged to be prophylactic against diphtheria, hydrophobia, phthisis and other diseases; whether there is any danger of the bubonic plague or other severe epidemics visiting the United States and the State of New York, and if so, what measures should be taken to avert any and what alteration in regard to the matters above mentioned should be made in the existing law. The commission is to be called the Commission on Prophylaxis, and will consist of five members appointed by the governor.

New York City.

Personal.—The President of the United States of Venezuela has conferred the high class "Decoration of the Bust of the Liberator Bolivar" on Dr. Emil Heuel.——Dr. Gustavo Tosti, vice-consul of Italy, was graduated from Long Island College Hospital in 1901 and passed the state examination last month.

Hospital in Statu Quo.—The Board of Directors of the Memorial Hospital for Women and Children, Brooklyn, has voted by a large majority to continue the hospital on the plans on which it was organized; to maintain it as a hospital for the treatment and care of women and children, and has accepted the resignation of Mrs. John H. Burtis, who had been president for many years.

Skene Memorial Window.—In the new St. Paul's Protestant Episcopal Church, Flatbush, there has been placed a beautiful art window to the memory of the late Dr. Alexander J. C. Skene. The window was designed by Julius Hansleiter. It has been placed directly over the altar, occupying a space 14 by 19 feet. The subject is "The Great Physician." Beneath is the sentence, "Come unto Me all ye that labor and are heavy laden and I will give you rest." In a separate panel is this inscription: "To the Glory of God and in Loving Memory of Alex. J. C. Skene, M.D., LL.D."

Staten Island Physician Censured.—The Health Board has censured a Staten Island physician for failure to report a case of smallpox which came to his attention last January, and with the announcement of this official action it was intimated that the names of two, and possibly three, other physicians who are under suspicion for the same dereliction of duty would also be published. The failure on the part of doctors to report cases is due either to carelessness or a desire to show some special favor to a patient—more frequently the latter. A doctor has no right to exercise discretion in these questions of the public welfare.

Want Ward's Island as It Was.—At a largely-attended meeting of the New York County Medical Association, March 17, the following resolutions were unanimously passed:

To His Excellency the Governor of New York:

Whereas, Lunacy Bill No. 368, recently passed by the Legislature, has abolished the positions of the two medical superintendents at Ward's Island, New York, it has placed two officers under one head, thus putting over four thousand insane patients under one management; and

Whereas, The supplemental bill amending Bill No. 368 is now before the Legislature, restoring these positions, so that the divisions of the hospital as they formerly existed—one for men and one for women—may be maintained,

Resolved, That the New York County Medical Association heartily indorses this amendment and advocates its immediate passage.

On March 20, the New York Academy of Medicine unanimously adopted the following resolutions, which were presented by Dr. J. D. Bryant:

Whereas, Lunacy Bill No. 368, recently passed by the Legislature, places about 4000 insane patients of Ward's Island under the medical supervision of a single superintendent, and

Whereas, In the opinion of the New York Academy of Medicine the magnitude of such a burden as that is far too great to be wisely and safely borne by a single head, be it therefore

Resolved, That the Fellows of the New York Academy of Medicine do hereby respectfully register their objection to such a course of action, and earnestly petition his honor, the Governor of the State, that not less than two superintendents be placed in charge of said patients.

Resolved, That a copy of this resolution be forwarded by the Secretary of the Academy to the Governor at Albany.

NORTH CAROLINA.

Medical College to Open.—The Medical Department of the North Carolina University at Raleigh will open in September. Medical students who have taken the first two years' studies at the university will be able to graduate after two years' study in the medical college, according to press notices.

Attempted Poisoning.—The entire family of Dr. David T. Tayloe, Washington, president of the State Medical Society, was poisoned, March 17, by arsenic. Prompt medical care averted serious results. Dr. Tayloe's negro driver was arrested on the charge of attempted poisoning, was taken from jail and lynched by "parties unknown."

Aldermen Approve College.—The board of aldermen of Raleigh has adopted the following resolutions providing for a free dispensary for medical students:

Whereas, The college can not succeed without proper medical facilities and hospital managements, therefore be it

Resolved, By the board of aldermen of the City of Raleigh that a free dispensary be established at the Rex Hospital building, where the city physician be required to attend outdoor charity patients of the city instead of as at present in his own office.

Resolved, That the students of the University of North Carolina Medical College be allowed the privilege of visiting the dispensary and of being instructed in the methods of examining patients under the supervision of the city physician.

OHIO.

Memorial to Dr. Emily Hill.—The Wood County Medical Association, at its recent meeting at Bowling Green, passed resolutions in memory of Dr. Emily Hill, the only woman in the association, who died, February 7.

Cocain Bill Passed.—The House has passed the bill prohibiting the sale of cocain except on the prescription of a physician. It is to be labeled "poison," and the names of the purchaser and the person for whom it is purchased are to be recorded by the selling druggist.

For the Care of Indigent Crippled Children.—A bill looking toward the state providing for indigent, crippled and deformed children has been introduced before the legislature by Senator Warner, of Cuyahoga. It provides for the appointment by the governor of a board of five to serve without compensation. This board shall have the power to contract with hospitals, institutions or organized bodies for the care and treatment of indigent, crippled or deformed children, or those suffering from disease likely to result in deformity. The bill carries an appropriation of $10,000 for each of the next two years to defray the expenses for such care of this class of children.

A Non-Compromising Compromise.—A so-called compromise has been effected between the State Medical Board, representing the physicians of the state, and the osteopaths. The latter will not insist upon a separate board for the examination of the candidates for the practice of osteopathy, but, instead, an amendment to the present state medical law has been agreed upon by which the State Medical Board will appoint three osteopaths to examine applicants for degrees in that school. The examination will be in the principles and practice of osteopathy. The State Board of Medical Examination and Registration will examine all candidates recommended by the osteopathic committee of three in anatomy, physiology, chemistry, and physical diagnosis, as provided by the present statute. This so-called compromise is really a complete victory for the physicians of the state.

PENNSYLVANIA.

Philadelphia.

Bequests.—The following bequests have recently been announced: Justice B. Crandall, Ocean View, N. J., to the Women's Hospital, Philadelphia, $5000; Benjamin Brooke, to the House of Refuge, $10,000, the income to be devoted to Christmas dinners, etc.

Polyclinic Change.—Dr. J. Alison Scott has been elected professor of clinical medicine and therapeutics at the Philadelphia Polyclinic to fill the chair recently resigned by Dr. Solomon Solis-Cohen. Dr. Scott is instructor in clinical medicine at the University of Pennsylvania and physician to the Pennsylvania Hospital.

Bazaars for Hospitals.—The board of managers of Jefferson Maternity Hospital lately held a bazaar which netted about $1000 for the institution. A similar function was recently given for a fund to build a sun-parlor for the medical

ward of the University of Pennsylvania, as a result of which about the same amount was realized.

Decrease in Typhoid and Smallpox.—New cases of both typhoid fever and smallpox show a marked decrease. Of the latter there were only 35 new cases for the week ended March 22, as against 53 for the previous week; 219 cases are still under treatment at the Municipal Hospital. The sum of $225,000 has been appropriated by councils for expenses incurred in the suppression of the smallpox epidemic. It is estimated that more than $80,000 will be required to pay the vaccine physicians.

The New Jefferson Hospital.—The proposed new Jefferson Medical College Hospital is soon to be under way. Plans and specifications have been accepted. An appropriation of $50,000 was made by the last Pennsylvania legislature for the enterprise, on condition that the work on the building should be begun not later than June 1. It is assured that the condition will be fulfilled. Hon. William Potter, chairman of the Board of Trustees, has recently donated $50,000, to which is added a bequest of $65,000 from the J. Alfred Kay estate.

GENERAL.

Cholera in Manila.—On March 22, there were reported at Manila, P. I., 16 cases of cholera and 15 deaths; March 23, there were 5 additional cases and 5 deaths reported. On March 24, up to noon, there had been a total of 26 cases and 21 deaths; at noon of the 25th there were 49 cases and 39 deaths.

Mortality Rate of Manila.—In its population of 250,000, Manila had, during the month of December, 858 deaths and 406 births. The annual death rate per 1000 was 40.43; this high rate was due to the Filipino mortality, 51.42 per 1000. The rate among the American and European whites was only 13.96 per 1000. The greatest mortality during the month was from infantile convulsions, which amounted to 255. The maximum temperature was 85; minimum, 68.6, and mean, 70 F.

Vaccination Against Plague in Manila.—The Manila Health Department is vaccinating, with the Shiga serum, all the Filipinos and Chinos of the city and such whites as desire it. The first large batch (200) was inoculated February 14, and it is expected that 100,000 will be so treated within the subsequent three months. Not a case of bubonic plague had occurred during the year up to leaving of the last mail, February 20. In the preparation of the smallpox virus eleven young water buffaloes are used.

Health of Havana.—As Major W. C. Gorgas, chief sanitary officer for Havana, will give way to a Cuban official on May 20, he sums up the work of the American health authorities in the following interesting statement:

The Army took charge of the Health Department of Havana when deaths were occurring at the rate of 21,252 per year. It gives it up with deaths occurring at the rate of 5720 per year. It took charge with smallpox endemic for years. It gives it up with not a single case having occurred in the city for over eighteen months. It took charge with yellow fever endemic for two centuries, the relentless foe of every foreigner who came within Havana's borders—which he could not escape, and from whose attack he well knew that every fourth man must die. It found Havana feared as a thing unclean by all her neighbors of the United States, and quarantined against as too dangerous to touch, or even to come near anything that she had touched, to the untold financial loss of both Havana and the United States. It leaves, after careful study of the question of yellow fever by its officers, undeterred by personal risk—for several of the investigators have died of the disease, contracted at their work. It has established the fact that yellow fever is only transmitted by a certain species of mosquito, a discovery that in its power for saving human life, is only excelled by Jenner's great discovery, and as time goes on, it will stand in the same class as that great boon to mankind.

Medals of Honor.—During the operations of our Army in Cuba, the Philippines and China, the commanders in the field reported numerous incidents of individual and unusual bravery, in recognition of which they recommended that medals of honor be given. Gen. MacArthur was president of a board of Army officers appointed to review the large number of recommendations received and to report these cases most deserving of recognition. On the report of this board 33 medals of honor have been awarded, 10 to officers, and 23 to enlisted men. Among the officers receiving these medals is Lieut. George W. Mathews, Assistant Surgeon, U. S. Army, formerly captain and assistant surgeon, 36th Volunteer Infantry, for most distinguished gallantry in action near Labao, Luzon, P. I., Oct. 29, 1899, in attending wounded under a severe fire of the enemy and seizing a carbine and beating off an attack upon wounded officers and men under his charge. The *Army and Navy Register*, in commenting on this, says:

It is an interesting fact recalled by the awarding of a medal of honor to Lieut. George W. Mathews, of the medical department, that 5 of the 110 medals which are now held by Army officers were conferred upon officers of the medical department. This is rather surprising when it is reflected that medical officers are noncombatants and are not usually found on the firing line. Their position is supposed to be where there is difficulty for an officer to distinguish himself by the sort of valor which gains a medal of honor. The list of medical officers who win that distinction is steadily growing year by year.

CANADA.

Canadian Medical Association.—This Association will hold its annual meeting this year in Montreal on September 16, 17 and 18, under the presidency of Dr. Francis J. Shepherd of that city, Dr. George Elliott of Toronto being the general secretary. Professor Osler will deliver the address in medicine and Dr. John Stewart of Halifax, N. S., the address in surgery.

The Southern Medical Association of Manitoba.—This Association met at Brandon on February 26, nearly sixty physicians of the province being present. The following officers were elected; President, Dr. L. M. More, Brandon; secretary, Dr. Little, Alexander; executive council, Dr. Poole, of Neepawa, Dr. Goodwin of Elkhorn, Dr. Thompson of Douglas, and Drs. Macdonald and McDiarmid of Brandon.

Ontario Medical Association.—The next annual meeting of the Ontario Medical Association will be held in Toronto on June 4 and 5, under the presidency of Dr. N. A. Powell, of that city, Dr. Harold C. Parsons being the general secretary. Dr. J. T. Fotheringham has been appointed by the president as chairman of the Committee on Papers and Business. It is understood that the program will present several new and interesting features.

Blackmailer Pleads Guilty.—The attempt to extort $200 from two Toronto practitioners by means of threats on the part of a man who had summoned both physicians to attend his wife and child respectively, did not work out as smoothly as the would-be blackmailer anticipated. After putting up a rather poor defense in the Sessions, the case finally terminated rather suddenly by the offender pleading guilty to the charge. Sentence will be pronounced during the week.

Combined Arts and Medical Course at Toronto University.—The Senate of Toronto University has recently passed a statute under the terms of which it will be possible hereafter for a candidate to secure the degree of B.A. at the end of his fourth year and M.B. at the end of his sixth year. Anatomy will be an optional study in the third and fourth years; and in this way a student at the end of his fourth year in arts will be enabled to proceed directly to his third year in medicine.

Dr. Roddick's Bill Before the Special Committee.—On March 20 the select committee appointed by the House of Commons to consider the terms of Dr. Roddick's bill to provide for a Dominion Medical Council, discussed the measure. Owing to the bill being considered in some quarters to infringe on provincial autonomy, Dr. Roddick explained that this law could not come into force in any province until said province had passed legislation putting it in force. The committee is to further consider the measure the present week.

Personal.—Dr. Harvey McKnaught, Trinity, 1897, is visiting at his home in Toronto.——Dr. Richard Carney has been appointed city physician to Windsor, Ont., while Dr. J. A. Ashbaugh has been appointed medical health officer of the same place.——Dr. Harry J. Watson, Trinity Medical College, 1896, has been with the American Army in the Philippines for the past year. His superior officers have recommended him for distinguished service in the presence of the enemy. Dr. Watson practiced previously at Ottumwa, Iowa.

Obituaries.—Dr. A. Dixon Wagner died at Cornwall on February 13 at the age of 53 years. He was a graduate of McGill University.——Dr. Theodule Boldue, ex-house surgeon of the Notre Dame Hospital, Montreal, and who had just commenced practice in that city, died suddenly from heart disease on the afternoon of March 20, aged 26.——Dr. F. H. Thompson, of Seattle, Wash., died recently of typhoid fever. He was a son of a prominent citizen of Toronto and a graduate of Trinity Medical College. He was one of the officers of the coast and geodetic survey steamer *Patterson*, and had spent the last two years in Alaska, in the parts adjacent to Cape Nome and Sitka.

FOREIGN.

Death of Medical Explorer.—The African explorer, Dr. Emil Holub, died recently in his 56th year from malaria.

Cholera Among Pilgrims.—It is officially stated that over 1100 deaths have occurred this month in Mecca and Medina in Arabia.

The second meeting of the International Conference for the Prophylaxis of Syphilis and the Venereal Diseases will be held in Brussels, Belgium, Sept. 15 to 20, 1902.

Compulsory Vaccination in France.—A new law has been passed in France requiring vaccination against smallpox compulsory in the first year of a child's life, revaccination at 11, and again ten years later.

Prizes for Future International Medical Congresses.—After paying all the expenses of the last international medical congress, a surplus of about 40,000 francs is left. The committee expect to apply this sum as an endowment of a triennial prize to be awarded at future congresses.

Prussian Appropriations for Medical Research.—The Prussian government appropriates, for the present year, 53,000 marks for a cancer laboratory and ward, 10,000 marks to the committee on cancer research, and 20,000 marks for the study of means of prevention and early diagnosis of typhoid fever.

Title for Soxhlet.—The Bavarian crown has conferred a title of nobility on Prof. Franz Soxhlet, of the technical school at Munich and director of the agricultural experimental station. He is now chevalier of the Order of Merit of the Bavarian Crown, in token of appreciation of his contributions to milk hygiene, etc.

Foreign Physicians in Brazil.—Consul Kenneday writes from Para, Brazil, that a statute in that country provides that all physicians and dentists of foreign extraction who desire to practice their profession in any part of the country must first pass an examination at the medical colleges of Bahia and Rio de Janeiro. The law is to be more rigidly enforced in the future.

Death of Kaposi.—Vienna has lost the professor of dermatology and syphilis, Moritz Kaposi, who died the 6th inst. His name is familiar to physicians the world around. He was in his 65th year and had long suffered from a cardiac affection entailing distressing attacks of asthma, in one of which he succumbed. The twenty-fifth anniversary of his professorship was celebrated two years ago by an ovation from his numerous pupils and friends.

XIVth International Medical Congress.—The 14th International Congress of Medicine will take place at Madrid, Spain, April 23 to 30, 1903. The work will be divided among 16 sections. Intending essayists should send their articles, accompanied by a short résumé, before Jan. 1, 1903. Articles arriving after that date must be presented after the discussion on the subject has taken place. The official languages of the Congress in all the *séances* will be Spanish, French, English and German. In order to facilitate the work and meet the expenses, a special circular states, physicians who desire to inscribe their names should do so immediately, at the same time sending 30 pesetas (23 to 25 francs) to the secretary-general, Dr. Angel Fernandez-Caro, Madrid, who will send the necessary blank forms for presentation of communications and inscription.

Suit for Damages Against Duehrssen.—Prof. A. Duehrssen found it necessary to remove the uterus as the last resort in operating on a woman almost 45 years old, who had been referred to him by her physician for the relief of sterility. She had suffered from abdominal disturbances for some time and gave her age as 42. He found the rectum adherent to the uterus, and in detaching the adhesions serious hemorrhage followed, which he tried in vain to control by suturing the uterus and ligating the vessels. The discovery of a suspicious tumor supplemented the hemorrhage in indicating extirpation of the organ. An intestinal fistula developed later and the patient sued him for unnecessarily removing the uterus and the consecutive fistula. Most of the experts agreed that he should have consulted with the patient beforehand and obtained her consent to the operation. The "Staatsanwalt" fixed the amount of damages as 300 marks, but the judge acquitted the plaintiff, on the grounds that the patient's assertions had been contradictory in one or two points; that the fact that she had been referred to him by her physician constituted consent to an operation on her part, and further that there could be no question of malpractice as Duehrssen is the acknowledged authority in such cases.

LONDON LETTER.

Extraordinary Action Against a Physician by a Patient for Induction of the Morphin Habit.

The perils of medical practice and the fact that doctors in the discharge of their duty are liable to be the victims of unfounded and vexatious actions is well known in this country. But seldom has such a flagrant example been furnished as the following: A nurse, the proprietor of a nursing home, brought an action against a London practitioner, Dr. Law, for damages on the alleged grounds that he had administered morphin, cocain and other drugs to her, given her opportunities of administering the drugs to herself "to such an extent that she lost her reason and very nearly her life." It appeared that she suffered from spasmodic asthma, for which the doctor administered morphin hypodermically when other remedies failed, and that she acquired a taste for the drug and indulged in it to her detriment, and became a morphinomaniac. For the defense it was shown that the morphin treatment was adopted after consultation with Dr. Mitchell Bruce and other eminent physicians; Sir Douglas Powell and Dr. Theodore Williams bore witness that the treatment was correct. It was also proved that only the pharmacopeial dose of morphia had been given by the doctor. On hearing the latter evidence the jury stopped the case and brought in a verdict in his favor, adding that the case should never have been brought into court. The judge fully concurred in the verdict and expressed his indignation at those who had advised plaintiff's counsel. It has been observed by an eminent judge that nurses' knowledge of medicine induces them to bring actions against physicians. Another example of this fact was given not very long ago. Dr. Cullingworth, the well-known gynecologist, performed ovariotomy on a nurse who afterwards brought an action against him on the grounds that she had not given her consent to such a radical operation. It was clearly shown that she had given permission to him to do what he thought necessary and that the operation was requisite. She lost her case, but for a long time persecuted the Doctor by raising all sorts of legal points and endeavoring to obtain a new trial. In recognition of the hardship a subscription list was opened to defray his legal expenses and the profession subscribed a large sum.

The Smallpox Epidemic in London.

The epidemic still continues to progress. On March 1, there were 1309 cases in hospital against 1102, 1185 and 1321 at the end of the preceding three weeks; 379 new cases were admitted during the week against 287, 390 and 502 in the three preceding weeks. Cases of failure to diagnose the disease continue to occur with consequent dissemination. Thus the medical officer of health for Stepney reports that on investigating an outbreak in a family he learned that the father had been unwell three weeks previously and had been treated for a fortnight by a doctor who diagnosed influenza. At the time of the medical officer's visit the patient had returned to his employment of dairyman. Five other cases subsequently occurred in the house.

The Midwife Bill. Second Reading Carried.

The bill to regulate the practice of midwives which was "talked out" in the House of Commons last year has passed its second reading in spite of considerable professional opposition. As has been explained in The Journal it is proposed to register midwives who alone will be allowed to call themselves such and to attend women in labor for gain. In order to be registered a woman must undergo a course of training and pass an examination. At present any woman, however ignorant and dirty, can call herself a midwife and attend cases of labor and carry puerperal fever from case to case. This is the only country in Europe in which the practice of midwives is not regulated. But since 1878 attempts have been made to legislate on the subject. The bill has been supported by the Royal College of Physicians, the Obstetrical Society and General Medical Council; but it is strongly opposed by the rank and file (by 95 per cent. it is estimated) and by the medical press. The reasons given are that the bill creates a "new order of practitioners" who can in the course of their short training acquire only a very rudimentary knowledge of midwifery and in whom recognition by the state will cause the public to impose unfounded confidence. Thus it is maintained that the bill is fraught with danger to the puerperal woman. The answer to this is that about two-thirds of the labors in the country are attended by midwives, usually because the patients can not pay for the services of a physician. The question is not one of a well-trained doctor or an imperfectly-trained midwife but of a midwife who has received some training or one who has received none.

Port Sanitation—Great Destruction of Rats.

Dr. Williams, medical health officer for the port of London, states that from Nov. 24 to Dec. 31, 1901, 2917 vessels were inspected. Six cases of plague were reported and 13 cases of typhoid fever dealt with. The war of extermination against

rats continues to be vigorously carried out, 10,164 having been destroyed since the last report. In a subsequent report for the month of January, 1902, it is stated that 7626 rats have been destroyed, bringing the total up to 100,000. In one large steamer no fewer than 1000 rats were found after fumigation.

Losses in the South African War.

An official statement just issued shows that the casualties from the beginning of the war to the end of February were 89,195, which includes, however, 68,701 men sent home as invalids, the majority of whom have recovered and resumed duty. The actual reduction of the military forces through the war is 25,962, which is made up as follows: Killed in action, 5445; died of wounds, 1903; died in captivity, 102; died of disease, 12,334; accidental deaths, 639; invalids sent home who have died, 479; invalids who have left the service unfit, 4988; missing and prisoners, 72. During last month the figures were: killed, 171; wounded, 463; missing, 18; died of disease, 525; accidental deaths, 41; invalided home, 2367; total, 3585. The 528 deaths from disease compares with 536 in January, 351 in December, 236 in November, and 136 in October.

Correspondence.

Philadelphia Municipal Hospital.

PHILADELPHIA, March 18, 1902.

To the Editor:—I was sorry to see in the issue of THE JOURNAL for March 15, under "Pennsylvania Notes," a manifestly untrue statement as to the action of the Philadelphia County Medical Society respecting the administration of the Municipal Hospital. This news item conveys an entirely wrong impression, as from my own knowledge, a vast majority of the members of the Society most cordially endorse and commend the splendid work accomplished in this Hospital, with its inadequate facilities. The facts are these: No business can be introduced at the scientific meetings of the Society, except by unanimous consent. As one member objected, I was obliged to rule against the admission of resolutions commendatory to the management of the hospital during the present epidemic of smallpox. Your correspondent must have taken his quoted sentence from the public prints, as no such language as that used by him appeared in the wording of the resolutions referred to.

Very truly yours, THOMAS H. FENTON,
President of the County Medical Society.

Displaced Heart.

BLOOMINGTON, ILL., Feb. 6, 1902.

To the Editor:—On November 27, 1901, G. W. H., late private in the Illinois Cavalry, came before the Board of U. S. Examining Surgeons at Bloomington, Ill., for examination for an increase of pension. He was born in Illinois, and has always lived in this state, except when he was in the Union Army from 1861 to 1864. He is 58 years old, weighs 150 pounds, and is 5 feet and 7¾ inches high; he has blue eyes, gray hair, light complexion, and is by occupation a carpenter. He complained of chronic rheumatism, disease of the digestive organs, abdominal hernia, injury to back, fracture of both bones of left leg, and debility from old age.

The apex impulse of the heart was evident on inspection and palpation in the fifth intercostal space one inch to the left of the right nipple line. The area of cardiac dulness was normal; the rhythm was regular; the action and sounds were normal, with no dilatation or hypertrophy. The only thing peculiar or unnatural was its anomalous position. This soldier was examined by the board about three years ago, at which time the malposition of the heart was first discovered.

In this case the apex of the heart is transposed to the right side and the base to the left side. The natural situation is simply reversed. The structure and function of the heart are normal. The arterial side is toward the left and the venous toward the right side.

In more than forty years as a student and practitioner of medicine I have never read or heard of a case similar to this. On account of its rarity I report it, thinking that it may be of interest to the profession. JOHN LITTLE, M.D.,
Sec. Board of U. S. Examining Surgeons.

Married.

SOLOMON S. LEE, M.D., to Miss Irene Childs, both of Calumet, Mich., March 11.

ROSCOE M. WOOD, M.D., Saline, Mich., to Miss Mattie Blaess of Lodi, Mich., March 12.

OSCAR M. GILBERT, M.D., to Miss Agnes Kirkbridge, both of Boulder, Colo., March 26.

E. ZEIGLER BOWER, M.D., to Miss Mary McMahon, both of North Scranton, Pa., March 14.

EDMUND F. BURTON, M.D., to Mrs. Alberta N. Hall, both of Oak Park, Ill., at Tucson, Ariz.

JESSE A. PRINGLE, M.D., Bagley, Iowa, to Miss Gertrude Swann of Lovilia, Iowa, March 19.

HUMBERT MEREDITH, M.D., Petroleum, Ky., to Miss Effie Wootten of Lafayette, Tenn., March 11.

JOHN J. REYCRAFT, M.D., Petoskey, Mich., to Miss Metta J. Cornell, of South Bend., Ind., March 19.

EDWARD GUION, M.D., Atlantic City, N. J., to Miss Sarah Edie Fleming of Yonkers, N. Y., March 18.

HENRY V. BERGHALL, M.D., Manistee, Mich., to Miss Margaret Evelyn Herron, at Elmwood Farm, Pumptown, near Metuchen, N. J., March 15.

Deaths and Obituaries.

Henry M. Skillman, M.D. Transylvania University, Lexington, Ky., 1847, expired suddenly, from heart failure, while ministering to a patient at his office in Lexington, March 21, aged 78. He was one of the best-known and best-beloved physicians in Kentucky, and his loss comes as a personal one to a large number of the profession of Kentucky. He was born in Lexington, Sept. 4, 1824. He studied in the literary department of Transylvania University, from which he withdrew at the end of his junior year in order to prepare for the study of medicine. He spent a year in the drug store of his brother and then entered the medical department of Transylvania, from which he graduated in 1847. On graduating he was made demonstrator of anatomy, and later was called to the chair of physiology and pathological anatomy. He held this position until the buildings were burned during the Civil war. He was contract surgeon for the government for two years during the war. In 1869 Dr. Skillman was elected president of the Kentucky State Medical Society, and there have been very few meetings since then that he has missed. He was a member of the American Medical Association for about forty years, and was the first president of the Lexington and Fayette County Medical Society.

George M. Warner, M.D. Louisville (Ky.) Medical College, 1880, died suddenly at his residence in Louisville from angina pectoris, March 16, aged 44. He was born in Louisville, received his education in the public schools and graduated from the Male High School in the early 70's. For about two years after his graduation he was connected with the Louisville *Courier-Journal* as a reporter, but then entered on a course of study in the Louisville Medical College. For the five years after graduation he was lecturer on materia medica and therapeutics, and in 1885 was elected professor of these branches, which position he held up to the time of his death. He has been for ten years president of the Alumni Association of the Louisville Medical College, and since 1892 had been visiting physician to the Louisville City Hospital. From 1894 to 1899 he was editor of the Louisville *Medical Monthly*. He was a member of the American Medical Association. In 1886 Dr. Warner married Miss Hood, a daughter of the Confederate general, J. B. Hood; his widow and two children survive him.

Russell B. Freeman, M.D. College of Physicians and Surgeons, Baltimore, 1892, died at St. Anthony's Hospital in Denver, March 12, from appendicitis, after an illness of 10 days, aged 41. He was instructor in clinical medicine, Gross Medical College, and a member of the American Medical Association, Colorado State Medical Society, Denver and Arapahoe Medical Society, Rocky Mountain Inter-State Medical Society and Denver Clinical and Pathological Society. Resolutions on the death of Dr. Freeman have been sent to his family by the Denver and Arapahoe Medical Society, the staff of St. Anthony's, and of St. Joseph's hospitals.

Dr. W. W. Johnston.

William Waring Johnston was born in Washington, D. C., in 1843, and died suddenly, March 21, 1902, at Atlantic City, N. J., where he had gone for rest and recuperation after a slight illness. He studied medicine in the University of Pennsylvania, graduated in 1865, and served as interne in Bellevue Hospital for one year. Later, he studied at Edinburgh and Paris, and, on the death of his father, Dr. William Poynton Johnston, professor of obstetrics in the Columbian University, he became professor of the theory and practice of medicine in the same institution. He has been president of the old Clinical Pathological Society, Medical Society of the District of Columbia, Medical Association of the District of Columbia, and the Washington Obstetrical and Gynecological Society, likewise, member of the American Medical Association, the Association of American Physicians, American Climatological Society and the Anthropological Society. He was consulting or attending physician of the Children's, Garfield Memorial, University, Providence, the Asylum, United States and Emergency Hospitals, Central Dispensary and Woman's Clinic. The faculty of the Medical Department of the Columbian University and the Medical Board of the University Hospital, at a special meeting, adopted and placed on record a suitable memorial. He was the attending physician to the late James G. Blaine, and was called in consultation in the case of President McKinley.

WILLIAM WARING JOHNSTON.

John R. Timberlake, M.D. Kentucky School of Medicine, Louisville, 1857, died of paralysis at his residence in Louisville, March 16. On March 6 Dr. Timberlake had a stroke of apoplexy which was followed by a second on the day of his death. He located in Pewee Valley, where he practiced for nearly thirty years. In 1888 he went to Louisville with the intention of retiring from active practice, but he did more work there than before. He was married in 1869 and five children survive him.

Jonathan Woodward Goodell, M.D. Berkshire Medical College, Pittsfield, Mass., 1856, one of the oldest practitioners of Lynn, Mass., died at his home in that place, March 12, from abscess of the liver, after an illness of four weeks, aged 71. At his funeral delegations were present from the Massachusetts Medical Society, the Essex South Medical Association, and the Lynn Medical Fraternity.

Albert R. Leeds, Ph.D. College of New Jersey, 1878, professor of chemistry in Stevens' Institute, Jersey City, member of the State Board of Health and chairman of its council of analysts, an authority on food and water analysis and member of many scientific bodies, died from cancer of the stomach, March 13, at his home in Germantown, Pa., aged 58.

John H. Christian, M.D. Medical College of Virginia, Richmond, 1867, who served in the Civil war in Mosby's command, and at the close of the war studied medicine and settled for practice in Baltimore, died, March 13, from diabetes at the Virginia Hospital, Richmond, aged 55. He was a member of the American Medical Association.

Charles G. Massie, M.D. Medical College of Virginia, Richmond, 1860, an old and prominent physician of Goochland County, Va., and a veteran of the Civil war, throughout which he served on the Confederate side, died from paralysis at his home near Perkinsville, Va., March 12, after an illness of four days, aged 65.

David F. Brown, M.D. Washington University, St. Louis, 1873, a prominent physician of Dresden, Mo., one of the largest landowners in Pettis County, and a member of the board of managers of State Lunatic Asylum, No. 3, at Nevada, Mo., died at his home in Dresden, March 15, from pneumonia, aged 56.

Lorenzo S. Keene, M.D. New York University, 1846, formerly a practitioner and surgeon of the Lake Shore and Michigan Southern Railway at Laporte, Ind., but of late years retired from practice and residing in DeLand, Fla., died from pneumonia at his home in that place, March 18.

Marc Livingston, M.D. Cooper Medical College, San Francisco, 1875, a specialist on diseases of the throat and lungs, and in 1882 and 1883 coroner of San Francisco, died at his home in that city, March 14, after an illness of nearly five years, from paralysis, aged 44.

George G. Williams, M.D. Long Island College Hospital, Brooklyn, N. Y., 1876, one of the oldest practitioners in Hillsdale County, Mich., died at his home in Jonesville, March 16, from cancer of the stomach, after an illness of three months, aged 52.

Benjamin F. Sutton, M.D. University of Vermont, Burlington, 1860, a prominent physician and citizen of Addison County, Vt., died at his home in Middlebury, Vt., from pneumonia, March 11, after an illness of one week, aged 66.

J. Baxter Upham, M.D. Harvard Medical School, Boston, 1848, who served through the Civil war as a major-surgeon on General Burnside's staff, died from acute indigestion, at his home in New York City, March 17, aged 82.

Mauricio W. Gillmer, M.D. Jefferson Medical College, 1881, a native of Brazil, South America, where his father was American minister, died at his home in Philadelphia, March 17, aged 41. He had retired from practice in 1892.

William Fontaine Lippitt, M.D. Jefferson Medical College, Philadelphia, 1853, who had practiced in Charlestown, W. Va., for more than forty years, died at his home in that place after a prolonged illness, March 11, aged 70.

Cornelius E. Satterfield, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878, a physician of Omaha, Neb., died, March 11, from paralysis after a lingering illness, at Cook's Hospital, Fairmont, W. Va.

Leroy Swank, M.D. Rush Medical College, Chicago, 1885, a physician of Warren County, Ind., and secretary of the County Board of Health, died at his residence in Williamsport from pulmonary tuberculosis, March 17.

Leonidas H. Eaton, M.D. Rush Medical College, Chicago, 1874, died at his home in Oshkosh, Wis., March 16, from diabetes and heart disease, after an illness of four years, aged 52. He was city physician in 1882.

John J. Clark, M.D. University of California, San Francisco, 1869, a practitioner of San Francisco since 1877, at one time city physician, died at his home in San Francisco from paralysis, March 10, aged 58.

Edward Newton Beale, M.D. Berkshire Medical College, Pittsfield, Mass., 1864, for more than thirty years a physician of Rensselaer County, N. Y., died at his home in Schaghticoke, N. Y., March 16, aged 66.

Joseph J. Fortier, M.D. Ecole de Médecine et de Chirurgie, Montreal, Quebec, 1860, a physician of West Superior, Wis., died suddenly at his home in that place, March 17, from apoplexy, aged 62.

John W. Hill, M.D. University of Pennsylvania, Philadelphia, 1853, one of the oldest and most prominent physicians of Edgefield County, S. C., died suddenly at his home in Edgefield, March 13.

James Murphy, M.D. State University of Iowa, Iowa City, 1888, a young physician of Iowa City, died at his home in that city from typhoid fever, after a short illness, March 12, aged 37 years.

Albert A. Becherer, M.D. Marion-Sims Medical College, St. Louis, 1901, senior physician at the Female Hospital, St. Louis, died from septicemia at his rooms in that institution, March 8, aged 27.

James R. Lyons, M.D. Tulane University, New Orleans, La., 1882, a retired physician of Bagwell, Red River County, Texas, and a member of the twelfth legislature, died March 7.

Alfred F. Fletcher, M.D. Queen's Medical College, Melbourne, Australia, 1864, died at his home in Eau Claire, Wis., March 14, suddenly from heart disease, aged 57.

George H. Lane, M.D. Marion-Sims Conege of Medicine, St. Louis, 1895, died at his home in East St. Louis, Ill., March 18, from pneumonia, aged 28.

Anson A. Gibbs, M.D. University of Vermont, Burlington, a retired physician of Hemlock, N. Y., died from paralysis at his home, March 16, aged 71.

Allen T. Corliss, M.D. Rush Medical College, 1894, a practitioner of Logansville, Wis., died at that place, March 19.

E. L. Thorp, M.D. Keokuk (Iowa) Medical College, 1877, died at his home in Shell Rock, Iowa, March 10.

Book Notices.

OIDIOMYCOSIS (BLASTOMYCOSIS) OF THE SKIN AND ITS FUNGI. By Howard T. Ricketts, Fellow in Cutaneous Pathology in Rush Medical College. Paper. Reprinted from *Journal of Medical Research*, Vol. VI, No. 3.

The conclusions of this monograph have been given already in THE JOURNAL of January 18, p. 204. In its reprinted form it makes a handsome volume of over 180 pages, elegantly illustrated. It is a noteworthy contribution to dermatologic literature.

AN INTRODUCTION TO THE BACTERIOLOGICAL EXAMINATION OF WATER. By W. H. Horrocks, M.B., B.Sc., Lond., Assistant Professor of Military Hygiene in the Army Medical School, Netley. Cloth. Pp. 300. Price, $3.68 net. Philadelphia: P. Blakiston's Son & Co. 1901.

This volume, which is intended to be a concise and readily understandable manual of methods of bacteriologic examination of water, divides water bacteria into three classes: Those which are found only in pure water, those which are common in sewage and hardly met with in pure water, those which are specially pathogenic to human beings. The preparation of water plates, collection of water for bacteriologic examination, the natural history of the organisms, the relation of quantitative analysis to the question of pollution, etc., are noticed and the different species described, especial attention being given to those of importance. The subject is a difficult one in some respects, the water bacteria being minute and often pleomorphic; yet, so far as we have observed, the author has handled his subject well.

CLINIQUE DES MALADIES DU SYSTÈME NERVEUX, HOSPICE DE LA SALPÊTRIERE (1897-1898, 1898-1899). Cinquième and Quatrième Serie. Paper. Pp. 606 and 678, respectively. Price, 70 francs. Paris: Octave Doin. 1900 and 1901.

These two volumes are the latest of the series publishing Professor Raynaud's didactic lectures at the Salpêtrière. As in the earlier issues of this series they are not exactly parts of a systematic text-book on nervous disorders, but rather a succession of clinical lectures on various conditions published as they were delivered, but with numerous schematic and other illustrations. They do not form a treatise, but are instead a series of monographic studies of special subjects, and as such have a particular value.

Among the subjects included in the two volumes may be mentioned polio-encephalitis superior, various disorders attendant on or complicating tabes—such as ophthalmoplegia, muscular atrophy, etc.—affections of the conus terminalis, juvenile general paralysis, myxedema, partial epilepsy, cortical sensory centers, multiple sclerosis, etc. All of these are handled in a masterly way and the volumes form a valuable contribution to neurologic literature. As usual with French writers the style is lucid and the illustrations are a valuable adjunct to the text. They can hardly be spared from the working library of the neurologic specialist.

Association News.

The Third Annual Conference of the Committee on National Legislation.

The Committee on National Legislation has sent to the delegates from the several State Medical Societies, the following call for the third annual conference to meet in Washington, D. C., April 10 and 11. Special attention is hereby called to the fact that this is the annual meeting and conference of the Committee on National Legislation, and must not be mistaken for a meeting of the Committee created by the new By-Laws of the Association, and known as the Committee on Medical Legislation, which is to meet with the Association at Saratoga in June next. Very truly yours, H. L. E. JOHNSON.

WASHINGTON, D. C., March 17, 1902.

Dear Doctor:—The Committee of the American Medical Association on National Legislation hereby requests you, as the delegate from your State Society, to meet this committee in annual conference at the Arlington Hotel, Washington, D. C., April 10-11, 1902, at 9 a. m. In the event of your inability to attend, please forward this notice promptly to your alternate. You should arrange early with Mr. Bennett, proprietor of the Arlington, for your accommodations. Street cars will take you direct from both depots to the hotel, obviating extortionate cab fare. Delegates are requested to present to the conference any matter, local or national, of interest to their State Society. The following will be submitted by this committee for your consideration, viz.:

Reports of Committees of the Second Annual Conference:

1. Committee on "Uniform legislation on basis of uniform medical education": Drs. Emil Amberg, Dudley S. Reynolds, John B. Roberts.
2. Committee on "State medical organization": Drs. C. R. Shinault, W. P. Goff, L. B. Tuckerman, H. M. Bracken, Charles E. Quimby.
3. Committee on special Congressional Bills, last session: S. 4171, Quarantine Bill; H. R. 13423, Codification Postal Laws; Dr. L. B. Tuckerman.
4. Committee on Reorganization Bill: Dr. G. M. Sternberg.
5. National Committee ad interim. Annual report; Committee on National Legislation: Drs. H. L. E. Johnson, Wm. H. Welch, W. L. Rodman.

NEW BUSINESS.

6. Official action of conference of State Health Officers at Washington, D. C., March 12-13, 1902, and their recommendations to Congress, and the third annual conference, in connection with pending National Health bills, viz.: Perkins Bill S. 2162, To increase the efficiency and change the name of the United States Marine Hospital; Hepburn Bill H. R. 7189, duplicate of Perkins Bill; Spooner Bill S. 2417, Relating to quarantine and public health; Ray Bill H. R. 10,595, To establish a board of public health and for other purposes.
7. Bills and Acts: Gallinger Bill, S. 189, For the further prevention of cruelty to animals in the District of Columbia; Nelson Bill, S. 569 (now an act of Senate with report 82), To establish the department of commerce and labor; Hay Bill H. R. 1952, To define the duties of the medical department of the Army of the U. S.; Kern Bill H. R. 7650, To re-establish the Army canteen; Proctor Bill S. 2172, To provide for the payment of medical expenses of sick officers and enlisted men of the Army while absent from duty with leave or furlough.
8. Communication from Dr. John J. Riley, U. S. Army, Manila, P. I., with proposed amendment to Sec. 18, of Act 4300, approved Feb. 2, 1901, bearing the endorsement of the Legislative Committee of the medical officers of the U. S. Army at Manila.
9. Reports of delegates (State Societies).
10. Miscellaneous.

Please acknowledge the receipt of this and notify me promptly whether you or your alternate will attend the conferences.

Very truly yours, H. L. E. JOHNSON, M.D.,
Chairman Committee on National Legislation.

Societies.

COMING MEETINGS.

American Association of Pathologists and Bacteriologists, Cleveland, O., March 28-29, 1902.

Medical Association of the District of Columbia, Washington, April 1, 1902.

Tri-State Medical Society of Iowa, Illinois and Missouri, Chicago, April 3-4, 1902.

Tennessee State Medical Society, Memphis, April 8, 1902.

Florida Medical Association, Tampa, April 9, 1902.

Western Ophthalmological and Oto-Laryngological Association, Chicago, April 10-12, 1902.

Medical Association of the State of Alabama, Birmingham, April 15, 1902.

Medical Society of the State of California, San Francisco, April 15-17, 1902.

Medical Association of Georgia, Savannah, April 16, 1902.

Mississippi State Medical Association, Jackson, April 16, 1902.
South Carolina Medical Association, Spartanburg, April 16-17, 1902.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 22, 1902.
Association of American Physicians, Washington, D. C., April 29-30, 1902.
American Association of Genito-Urinary Surgeons, Atlantic City, N. J., April 30, 1902.
International Association of Railway Surgeons, St. Louis, Mo., April 30 and May 1 and 2, 1902.
American Gastro-Enterological Association, Washington, D. C., May 2, 1902.
Nebraska State Medical Society, Omaha, May 6-8, 1902.
Texas State Medical Association, Dallas, May 6-9, 1902.
Kansas Medical Society, Lawrence, May 7-9, 1902.
American Therapeutic Society, New York City, May 13, 1902.
Utah State Medical Society, Salt Lake City, May 13-14, 1902.
New Mexico Medical Society, Albuquerque, May 14, 1902.
Oklahoma Territory Medical Association, Oklahoma City, May 14, 1902.
Arkansas Medical Society, Little Rock, May 14-16, 1902.
New Hampshire Medical Society, Concord, May 15-16, 1902.

Panhandle (Texas) Medical Association.—This Association met at Quanah, March 12, and re-elected Dr. David R. Fly, Amarillo, president, and Dr. T. H. Carroll, Clarendon, secretary.

Louisville (Ky.) Clinical Society.—The regular meeting of the Louisville Clinical Society was held, March 11. Dr. M. K. Allen, health officer, read a paper on "Diphtheria," in which he gave the statistics of a severe epidemic in Louisville last year.

Chattanooga (Tenn.) Medical Society.—At the annual meeting of this Society, March 7, Dr. Benjamin F. Travis was elected president; Dr. Charles S. Durand, vice-president, and Dr. Joseph W. Johnson, secretary, and Dr. Samuel T. Rucker, treasurer.

West Chicago Medical Society.—This Society gave its first annual banquet, March 6. Dr. Emil D. St. Cyr acted as toastmaster, and those who responded were Drs. David Birkhoff, O. Martin Steffenson, Edward H. Lee, Benjamin H. Breakstone and Gustavus M. Blech.

Page County (Iowa) Medical Society.—Physicians of Page County met at Shenandoah, February 25, and organized a county medical society, electing Dr. Tilford L. Putnam, Shenandoah, president; Dr. Sellard, Clarinda, secretary, and Dr. Clark, Shambaugh, treasurer.

Practitioners' Club (Louisville, Ky.).—The annual meeting of this Society was held, March 11, the election of officers resulting as follows: President, Dr. James E. Guest; vice-president, Dr. Frank T. Fort; secretary and treasurer, Dr. Hugh R. Manning; historian, Dr. John J. Moren. A banquet was served at the conclusion of the business session.

New Medical Society at Columbus.—A meeting of Columbus physicians took place, March 18, under the chairmanship of Dr. Christopher P. Linhart. The following officers were elected: Dr. David N. Kinsman, president; Drs. John C. Bishop and Frank S. Rarey, vice-presidents; Dr. Charles S. Means, secretary, and Dr. Sherman Leach, treasurer.

St. Clair County (Ill.) Medical Society.—The following officers were elected at the annual meeting of this Society, held at East St. Louis, March 6: Dr. Henry C. Fairbrother, East St. Louis, president; Dr. Charles W. Lillie, East St. Louis, recording secretary; Dr. Adolph E. Hansing, East St. Louis, treasurer, and Dr. Buenavandura H. Portuondo, Belleville, corresponding secretary.

San Joaquin Valley (Cal.) Medical Society.—This Society held its thirteenth semi-annual session at Fresno, March 11, electing officers for the next term as follows: First vice-president, Dr. John B. Rosson, Tulare; second vice-president, Dr. Claeburne W. Evans, Modesto; third vice-president, Dr. A. B. Cowan, Fresno; secretary, Dr. W. S. Fowler, Bakersfield; assistant secretary, Dr. Dwight H. Trowbridge, Fresno, and treasurer, Dr. Thomas M. Hayden, Fresno. A committee was appointed to confer with the other local societies and with the committee of the state society on reorganization to better affiliate with the American Medical Association.

Saratoga County (N. Y.) Medical Association.—The semi-annual meeting of this Association was held at Ballston Spa, March 11. Eleven new members were elected. The topic selected for discussion was "Puerperal Sepsis," Dr. Dudley R. Kathan, Corinth, taking up the etiology and prophylaxis; Dr. Walter C. Crombie, Mechanicsville, the symptoms and diagnosis, and Dr. George Hudson, Stillwater, complications, their diagnosis and treatment. Dr. Frank A. Palmer, Mechanicsville, was elected president; Dr. Henry J. Allen, Corinth, vice-president; Dr. James F. Sweetman, Jr., Ballston Spa, secretary, and Dr. William E. Swan, Saratoga Springs, treasurer.

NEW YORK ACADEMY OF MEDICINE—SECTION ON PEDIATRICS.

Stated Meeting, held Feb. 13, 1902.

Dr. Rowland G. Freeman, in the Chair.

Acquired Syphilis in a Girl of Eight Years.

Dr. Sara Weltkakels presented a girl aged 8, with a macular syphilid on the body, and a general and marked adenopathy. The initial lesion was upon the clitoris.

Stomatitis Due to Vincent's Bacillus.

Dr. Henry Heiman exhibited two children having an ulcero-membranous stomatitis characterized by the presence of Vincent's bacillus and the spirillum of Miller. He said that the bacillus could be readily demonstrated by a smear stained with carbol-fuchsin.

Dr. E. Libman contended that it had not yet been proved that these bacilli were characteristic of any particular disease, and that these organisms seemed to be associated with destruction of tissue. Their presence would not necessarily exclude syphilis, though it might rule out diphtheria.

Pathology of Adenoids and Tonsils.

Dr. A. J. Lartigau took up in this paper some of the more important practical points in connection with the pathology, dwelling more particularly on tubercular infection of the tonsil. It was, he said, a very common secondary lesion in connection with pulmonary tuberculosis with cavity formation. Primary tuberculosis of the tonsil was rare.

Operative Treatment of Adenoids and Enlarged Tonsils.

Dr. W. K. Simpson advocated the surgical removal of all adenoids and enlarged tonsils when of sufficient size to give rise to symptoms. The presence of adenoids was often the cause of repeated attacks of coryza, spasmodic croup and bronchitis, and was almost the sole cause of middle ear deafness in suppurative otitis media. The vault of the pharynx should always be explored with the finger before operating. Whether to use the curette or the forceps was a matter of individual opinion. Personally, he was in favor of the forceps because they bring away a larger piece and enable the operator to see how much has been removed, but for small children the curette was probably the safer instrument. The forceps should be strong and rather large, with a sufficiently extensive cutting surface and a shield to protect the uvula and posterior border of the soft palate from injury. The Gradle forceps, as modified by Concannon, could be confidently recommended. The child should be held upright with a mouth-gag to keep the mouth open. The forceps are introduced closed; then opened widely and pressed well upward and behind, and the mass seized and the forceps withdrawn. The operator should not neglect to again introduce the finger in order to ascertain if any has been left behind. Of the various curettes, some modification of the Gottstein was usually employed. Recurrences of adenoids occurred in only a small proportion of cases. For the performance of tonsillotomy, Dr. Simpson favored the use either of Ermold's simplification of the Mathieu tonsillotome or of the very simple, strong and efficient tonsillotome of Mackenzie. On introducing the instrument, pressure should be constantly made with the finger outward upon the shaft, while at the same time the assistant by external pressure pushes the tonsil into the ring of the instrument. Hemorrhage need give no cause for anxiety, for it is a very rare complication of tonsillotomy in children, and could usually be controlled by the application of peroxid of hydrogen or of a solution of suprarenal extract. Adrenalin rendered particularly valuable service in the removal of tonsils from older children and adults, but it should be remembered that there was some tendency to secondary hemorrhage after its use. Irrigation, spraying and the insufflation of powders were usually to be avoided after these operations, if only because they caused undue motion of the throat. Cracked ice may be swallowed at short intervals, or ice may be applied to the throat externally. The patient should remain in the house and keep quiet for several days, and during this time the diet should be light, and care should be taken not to eat bread-crusts, dry crackers or pieces of meat. The speaker said that while an anesthetic seemed essential to a

careful and thorough removal of adenoids, he was not in favor of employing anesthesia for a tonsillotomy, principally because the gagging of the patient materially assisted the operator in bringing the tonsil into view.

Recent Contributions on the Constitutio Lymphatica.

DR. JAMES EWING said that, clinically, children of this type often died very suddenly and unexpectedly, and during life they presented certain important signs, viz., 1, general lymphatic hyperplasia; 2, persistence of the thymus; 3, hyperplasia of the aorta and sometimes of the heart; 4, evidences of rachitis; 5, evidences of retarded development of various organs; 6, enlargement of the thyroid, and 7, general neurotic tendencies. Recent observations had called attention to the presence of an atrophic stage of the lymphatic diathesis, and the relation of the latter to the various types of lymphatic tuberculosis certainly demanded more careful study. In cases of constitutio lymphatica, nervous symptoms were present throughout the course of the disease, and laryngismus stridulus occurred almost exclusively among these subjects. Dr. Ewing laid special stress upon the great danger of giving chloroform to children afflicted with constitutio lymphatica, and asserted that there was reason for believing that chloroform was rarely, if ever, fatal except in this class of persons.

Surgical Treatment of Enlarged Lymph Nodes.

DR. CHARLES N. DOWD presented a paper on this subject. He favored the surgical removal of tubercular lymph nodes as soon as the diagnosis was made. The incisions could be so arranged that the operation scars would be less disfiguring than those left after abscess formation. Of his own operative cases, 23 had been apparently cured and 47 improved.

DR. A. JACOBI said that while of course all agreed as to the propriety of removing adenoids when large, there was room for an honest difference of opinion in cases in which the adenoids were so small as not to cause snoring. He personally did not believe in operating in the latter class, for, a large experience had taught him that by simply irrigating the parts twice daily with saline solution or with a solution of boric acid, all need for an operation would disappear. He had discovered that it was the habit of nasal specialists to neglect all after-treatment after removal of adenoids, and to this would he ascribe the occurrence of relapses. In operating upon adenoids he did not use an anesthetic, because in order to control the masseter muscles the anesthesia must be pushed to a dangerous degree. The mother or assistant should hold the child, and the head of the little patient should be buried between the thighs of the operator. With a curette the operation could be completed in a minute, and anesthesia was unnecessary and inadvisable.

DR. FRANCIS J. QUINLAN took issue with Dr. Jacobi regarding the treatment of the milder cases of adenoids. The nasal irrigations recommended by Dr. Jacobi were dangerous because of the liability of forcing secretions into the middle ear; moreover, it seemed to him that these irrigations were absolutely useless, for they only served to force the secretions back to whence they came, i. e., the rhinopharynx. The occurrence was no indication of nasal obstruction, as it might be due to the dropping back of the tongue or to vibration of the soft palate.

DR. HENRY D. CHAPIN narrated a case in confirmation of the position taken by Dr. Jacobi that the mild cases of adenoids would recover without operation under simple irrigations.

DR. W. K. SIMPSON objected to such treatment on the ground that many cases, seemingly mild at first, became formidable later by the development of an otitis media.

DENVER AND ARAPAHOE MEDICAL SOCIETY.

Regular Meeting, Held Feb. 11, 1902.

Dr. Edward Jackson, in the Chair.

Bronchial Obstruction in Phthisis.

DR. J. N. HALL said that bronchial obstruction by enlarged bronchial glands must be much more frequent clinically than it is assumed to be.

CASE 1.—Male, 34 years, had left pulmonary tuberculosis for six years, suffered for last three months from dyspnea and cyanosis on slight exertion. Chest retracted on inspiration. Over the left lung diminished respiratory murmur and vocal fremitus, marked inspiratory crooning. These signs persisted for about three weeks and gradually disappeared without notable increase in expectoration. There were no signs of aneurysm nor of intrathoracic tumor.

CASE 2.—Male, aged 20, had old anchylosis of right hip. Cough since 11 years of age, when he had an attack of pneumonia. Dulness was over right apex. Respiratory murmur and vocal fremitus decreased, marked inspiratory dyspnea, harsh inspiration; left pupil slightly larger than right. Patient was treated like one with acutely enlarged scrofulous glands in the neck with large doses of iodid of iron. In a few days the cyanosis and dyspnea had disappeared.

The subsidence of all symptoms of dyspnea and cyanosis in the above two cases is explained by the removal of pressure from the enlarged glands upon the bronchi, in the first case by suppurative process and in the second by absorption.

Rheumatic Creaking in Shoulder Joint in Phthisis.

DR. J. N. HALL reported two cases in one of which a superficial examination may have led to an erroneous diagnosis of pulmonary tuberculosis, while in the other the creaking was associated with this disease.

Iliac Vein Thrombosis After Typhoid.

DR. J. N. HALL reported the above condition in a man of 37 years, who fifteen years ago had typhoid fever. His left leg remained slightly enlarged. From the left groin two veins each as large as a lead pencil ran transversely to the right side. The great size of the collateral vessels leads him to think that the venom path to the vena cava inferior was antrally cut off by upward extension of crural thrombosis. In another case a similar condition exists in the right leg.

Embolism of the Bifurcation of the Aorta.

DRS. W. E. SHOTWELL and J. N. HALL reported the following case: Male, 30 years of age. Valvular heart disease for years. Was suddenly awakened with terrible pain in the legs, which become blue and cold, no pulsation in femoral arteries. Heart enlarged, loud apex systolic murmur. Dyspnea, pulse 120. It is obvious that an instantaneous obstruction of the crural circulation had occurred at the time of his sudden pain. Patient died about thirty-six hours after the attack. Both legs were black, almost gangrenous, for some hours before the fatal result.

A New Canula for Paracenthesis.

DR. JOHN S. MILLER, in presenting to the Society his ingenious invention, said:

The frequent occlusion of the canula by intestine or omentum in the operation of tapping in ascites has suggested this device. Various maneuvers are resorted to, such as changing the patient's position, or the dangerous one of introducing a probe through the canula, generally without success.

This device is simply an addition to the ordinary trocar and canula. The instrument is a smaller but longer canula introduced into that already in position in case there is a cessation of flow. It is blunt and provided with two fenestra. In the latter are two springs which expand and push or hold aside the obstruction on emerging from the original canula, and which are so firmly soldered as to afford no danger of breaking off in the abdominal cavity. Dr. Miller filled the abdominal cavity of a cadaver very tensely with water and had the intestines moderately inflated, thus imitating as nearly as possible the conditions in life. The cadaver was also placed in the position ordinarily used in tapping the abdomen. All efforts by various manipulations failed to catch the bowel or omentum. As a further and practical verification of the absolute safety of this instrument, he has used it over one hundred times, and in all this experience has never encountered any untoward features. With this instrument it is possible to withdraw at least 30 per cent. more fluid than with the ordinary trocar. The fluid runs off very slowly as compared with the flow of the larger trocar, owing to its smaller caliber. The inside canula is not introduced until the flow ceases from the obstruction floating against the mouth of the primary canula. This instrument can be made to fit any canula above caliber 16 French.

Therapeutics.

Gastric Ulcer.

Professor Robin of Paris, as noted in *Ther. Gazette*, gives the following in the treatment of gastric ulcer: For the relief from the pain which usually comes on after the ingestion of food or due to the excessive secretion of hydrochloric acid, the following is recommended:

℞.	Picrotoxin		
	Morphinæ hydrochlor., āā	gr. i	06
	Atropinæ sulph.	gr. 1/5	012
	Ergotin	m. xx	1 30
	Aq. laurocerasi	ʒiii	11 25

M. Sig.: Four or five drops before each meal in water.

The foregoing mixture dulls the sensitiveness of the stomach toward the irritating contact of the milk or solid food. According to the author the pain is not always relieved by such prophylactic treatment; in such cases a powder should be prescribed which will neutralize the excess of acid which may cause the pain. For this purpose he recommends the following:

℞.	Lactose	gr. xx	1 30
	Magnesiæ (calcined)	gr. xxx	2 00
	Bismuthi subnit.		
	Cretæ preparatæ, āā	gr. x	66
	Codeinæ	gr. 1/10	006
	Sodii bicarb.	gr. xx	1 30

M. Ft. Chart. No. i. Sig.: One such to be taken in a little water to relieve the pain.

In case the above does not relieve the pain, the following preparation containing cocain may be prescribed:

℞.	Cocainæ hydrochlor.		
	Codeinæ, āā	gr. i	06
	Spts. chloroformi	ʒii	7 50
	Aquæ calcis	℥viii	240

M. Sig.: One tablespoonful to be taken occasionally for the relief of pain.

He regards external applications of service in relieving pain and recommends the following liniment for local application:

℞.	Linimenti belladonnæ	℥iss	45
	Ext. opii		
	Ext. belladonnæ		
	Ext. hyoscyami, āā	ʒss	1 90
	Spts. chloroformi	ʒii	7 50

M. Ft. linimentum. Sig.: To be applied to the epigastric region.

He states that the application of a liniment in this form often proves effective in relieving the distress of the patient when internal treatment has proved ineffective.

For the vomiting, he recommends the above prescription containing picrotoxin and the application of a small blister to the epigastrium. If these fail a powder containing two grains of pulverized opium may be given or an inhalation of oxygen gas. In some cases the only means by which vomiting can be checked is to return to the rest cure. In the treatment of constipation, which is a very frequent complication, laxatives and enemata of warm water should be given. He advises the administration of oleum ricini, or the following:

℞.	Hydrarg. chloridi mitis	gr. vi	39
	Pulv. jalapæ	gr. vi	39
	Magnesiæ (calcined)	gr. xv	1 00

M. Ft. cachet No. i. Sig.: At one dose.

Or the following may be given:

℞.	Pulv. aloes	ʒss	1 90
	Resinæ scammonii		
	Pulv. jalapæ, āā	gr. xv	1
	Ext. hyoscyami		
	Ext. belladonnæ, āā	gr. iii	20
	Saponis, q. s.		

M. Ft. pilulæ No. L. Sig.: One or two to be taken at bedtime.

For the diarrhea which infrequently accompanies ulcer of the stomach, Dr. Robin recommends pulverized euonymi radix in doses of thirty grains, infused in a little water and taken after meals. This may be repeated several times in the twenty-four hours if necessary, as it is non-toxic.

When hemorrhages occur, which naturally accompany gastric ulcer, the patient must be placed on his back, instructed to remain absolutely quiet and apply ice to the epigastric region. Subcutaneously, a solution of ergotin may be injected hypodermically, and gelatin may be administered in the same fashion in the following form:

℞.	Gelatin	ʒi	3 75
	Sodii chloridi	gr. xx	1 30
	Aq. destil.	℥vi	180

M. Sig.: Inject six drams subcutaneously.

Internally the following should be prescribed:

℞.	Ergotin	ʒi	3 75
	Acidi gallici	gr. x	66
	Syrupi terebinthinæ	℥i	30
	Aquæ onethi (dill-water)	℥iv	120

M. Sig.: One teaspoonful every hour.

Alternating with the foregoing the following may be given:

℞.	Calcii chloridi	ʒi	3 75
	Ext. opii	gr. i	06
	Syrupi simplicis	℥i	30
	Aquæ	℥iv	120

M. Sig.: One tablespoonful every hour.

The chlorid of calcium is said to have the property of increasing the coagulability of the blood. In case the hemorrhage should recur the patient must be placed upon the absolute rest cure for a period of nine days at least. In case of syncope following hemorrhage he recommends injections of ether or the normal saline solution. He states that the mortality when treated medicinally is about 9 per cent., while it is 20 per cent. in cases operated on. However, certain complications as perforation, etc., require surgery.

Gonorrheal Vaginitis.

Merck's Archives recommends the following in the treatment of gonorrheal vaginitis:

℞.	Hydrastin hydrochloratis	gr. xv	1
	Aquæ q. s. ad. to dissolve.		
	Adipis lanæ hydrosi	ʒiv	15 00
	Copaibæ	ʒi	3 75
	Petrolati	ʒiv	15 00

M. Sig.: Saturate absorbent cotton and pack the vagina night and morning after irrigating.

The following may be employed for irrigation:

℞.	Potassii permanganatis	℥ii	60

Sig.: One-half teaspoonful in two quarts of warm water as a vaginal douche morning and night.

Or the following may be substituted as a douche:

℞.	Pulv. aluminis		
	Pulv. acidi borici, āā	℥iv	120

M. Sig.: Two teaspoonfuls to the quart of water as a douche for children; four teaspoonfuls to the quart for adults. Use as a douche night and morning.

Where a more astringent wash is desired the following will be of service:

℞.	Acidi borici	℥iv	120
	Acidi tannici	℥ii	60

M. Sig.: Three teaspoonfuls to the quart of water as a douche twice a day.

As a vaginal antiseptic in the form of suppositories the following is recommended:

℞.	Ichthyol	ʒi	3 75
	Iodoformi	ʒi	3 75
	Acidi tannici	ʒss	1 90
	Adipis lanæ hydrosi	ʒi	3 75
	Olei theobromæ q. s. ad.		

M. Fiant suppos. No. vi. Incorporate the ichthyol in the wool fat and mix with cocoa butter and iodoform, then add the tannic acid. Sig.: Insert one suppository twice daily after a warm antiseptic boric acid solution.

Intestinal Toxemia.

The *Indian Med. Rec.*, in an article on intestinal toxemia, regards it as a primary source of much disease, due to the absorption of gases and fluids from the intestinal canal, causing the destruction of the red corpuscles, and irritation of the

nervous system. The symptoms are headache, cardiac irregularities, insomnia, etc. The indications are to remove the poisonous material by frequent colonic flushings. For this purpose large enemas of normal saline solution may be employed.

Supplementing this treatment medicines acting on the liver and small intestine should be given in order to produce a sufficient flow of bile. The diet must be carefully guarded. Fresh fruit juices, nourishing broths, rice and cereals thoroughly cooked, baked apples and bananas, broiled beef pulp and asparagus seem to agree in the majority of cases.

Medicolegal.

Waiver of Privilege When Several Physicians Are Employed.—Section 836 of the New York Code of Civil Procedure, in effect, provides that the information acquired by a physician while attending a patient may be disclosed only when the provisions of Section 834 on the subject "are expressly waived upon the trial * * * by the patient." The United States Circuit Court of Appeals, Second Circuit, holds, with regard to this, in Metropolitan Street Railway Company vs. Jacobi, that it is not at liberty to depart from the construction placed upon the statute by the state court of last resort. Hence, it holds that the testimony of a physician who had been employed professionally by the latter-named party was properly excluded, when it was sought to elicit from him information received by him while attending such party in a professional capacity, the waiver claimed consisting in the fact that the party had called upon the trial as witnesses in his behalf three physicians who had attended him professionally, and who had given testimony in respect to the nature and extent of the injuries which were the subject of the action. But it says that if their testimony, or the testimony of any of them, had been in respect to information obtained at the same consultation or occasion at which the first-mentioned physician was present, the party would have waived the privilege to insist that such physician should remain silent, according to the construction given to the code provisions by the highest court of the state.

Burden of Proof in Malpractice Case.—The Supreme Court of Georgia holds, in Georgia Northern Railway Company vs. Ingram, that in an action for damages alleged to have been caused by the malpractice of a surgeon, the burden is on the party suing to show a want of due care, skill, or diligence, and also that the injury resulted from the want of such care, skill or diligence. Indeed, it says that, so far as it is informed, the authorities are uniform to this effect. Nor does it consider that the rule as to the burden of proof was changed by the fact that the surgeon who was alleged in this case to have been neglectful and unskilful in his treatment of the party who brought the action (Ingram) was not himself sued, but the action was brought against the railway company, under the allegation of the party that the company had contracted with him and other employes that, for 50 cents per month, it would furnish a skilled surgeon to attend him in case of sickness or accident. The testimony of this party and his witnesses was that the surgeon appointed by the company was called on Saturday and dressed his wound, saying there was no danger of losing the leg. He did not return until Tuesday or Wednesday. After that he sent his brother to dress the wound. This brother washed the wound in water so hot as to give the patient great pain, and then bound it so tightly with bandages as to cause excessive pain and suffering. The patient suffered greatly for two days, when the surgeon returned, and upon examining the wound, said it was in bad condition. On Saturday he amputated the limb, saying that his brother had bound it up too tight, though this last was denied by the surgeon. Under these circumstances, the court holds that the party failed to carry the burden of proof imposed upon him by the rule stated, and that the evidence did not authorize a verdict in his favor. Even if it be considered that it was negligence on the part of the surgeon to send his brother to dress the wound, who used on it very hot water, and bandaged it so tightly as to cause the patient great pain, as testified, the court says that the evidence utterly failed to show that the necessity for the amputation was caused thereby. Nothing was shown in the evidence as to who the surgeon's brother was, whether he was a physician, or whether he had any skill or experience in dressing wounds. True, the petition alleged that this brother was merely a young medical student; but the company's answer denied this, and the evidence failed to show it. So far as could be told from the brief of evidence, he might have been an expert surgeon. But however this might be, the court does not think the party sustained the burden of proof upon him by showing a want of due care, skill, or diligence, and also that from such want of care, skill, or diligence resulted the necessity for the amputation of his leg; in consequence of which it reverses a judgment rendered in his favor.

Expert Testimony—Want of License—Malpractice Damages.—The Supreme Court of New Hampshire holds, in the malpractice case of Challis vs. Lake, that, to discredit the testimony of the party sued, who claimed and testified that he had had much experience in the practice of medicine, and was an ordinarily skilful physician, it was within the legitimate range of cross-examination, at least, to prove by his admission on the witness stand that he did not have a license, obtained after an examination as to his medical knowledge, to practice medicine when he had charge of the case in question, as required by law. That fact, if unexplained, would afford ground for the argument that his testimony as to his qualifications was entitled to little weight. The evident purpose of the statute was to prevent incompetent persons from practicing medicine and imposing upon the credulity of their unsuspecting patients. The expert testimony of a physician who has not complied with the statute and obtained a license might not be entitled to as much weight as it would otherwise receive, and the degree of credibility attached to it by the jury would often depend very much upon the reason he might assign for his noncompliance with the statute. If he honestly believed that for some reason he was exempted from a compliance with the statutory provisions, the fact that he did not have a license might have little weight upon the question of the soundness of his expert testimony. But the admissibility of the evidence on cross-examination, in disparagement of his credibility as a witness, could not be doubted. The question of the validity of the statute was immaterial. Whether it was void or not, it was competent for the jury to consider the unexplained omission of the witness to obtain a license, upon the question of the reliability of his testimony. Such a reason for his omission as that he was unable to pass the required examination, or that he failed on some ground to satisfy the regent and the board of examiners that he was entitled to a license or registration as a physician, if true or if believed by the jury, would have the same logical and legal effect in disparagement of his direct testimony, whether the statute were constitutional or not. That two nurses were not allowed to testify how the treatment of the party sued in cases of the kind in question differed from that of other physicians, the court holds, was not error. While they had nursed in cases where he had charge and in cases where other physicians attended, it says that the proposed testimony may have been excluded on the ground of remoteness, there being nothing in the case indicating that such was not the fact. Whether it might not have been properly excluded on other grounds, it says that it was unnecessary to decide. Loss or injury directly and naturally resulting from the fault or negligence of the party sued in his treatment of the case, the court holds, was the legitimate measure of the damages recoverable. His liability was not confined merely to damages for injuries which an ordinary man might have expected would follow from the negligence proved, but included damages for such injuries as were the direct and natural result thereof, as disclosed by the evidence. As the jury was instructed, this would include payment for all loss of time and for suffering that was caused by the fault of the party sued, but not for the loss of time and the suffering which were the result of the patient's confinement, it being a confinement case.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, March 15.

1 The Medical History of Dr. Samuel Johnson. Francis R. Packard.
2 *Address, Medical Society of the State of New York. Henry L. Elsner.
3 *Uric Acid: Its Sources and Effects. James Tyson.
4 Chancroid of the Eyelid. Matthias L. Foster.
5 *Trifacial Neuralgia and Its Treatment. Henry T. Barber.
6 A Case of Ankylostomiasis (Uncinariasis) Occurring in a Sailor. Joseph B. Greene.

Medical Record (N. Y.), March 15.

7 *Specific Medication. Andrew H. Smith.
8 Melancholia Simplex and Melancholia Transitoria Simplex. Ralph L. Parsons.
9 A Few Remarks on Disease of the Skin, with Relation to General and Special Therapy. S. Sherwell.
10 A Case of Otitic Brain Abscess and the Lessons which it Obviously Teaches. Robert Lewis, Jr.
11 Apparent Cure of Malignant Ulcer of Breast After Oöphorectomy. Wm. H. Simmons.

Boston Medical and Surgical Journal, March 13.

12 *Alcohol in Therapeutics, the Value of Alcohol as a Therapeutic Agent in Medicine. Henry F. Hewes.
13 *A Clinical Estimate of Alcohol as a Therapeutic Agent. F. C. Shattuck.
14 *The Therapeutic Value of Alcohol. E. N. Whittier.
15 *The Influence of Alcohol on the Human Organism. Eldridge G. Cutler.
16 *Practical Experience with Hydrotherapy. J. J. Putnam and G. W. Fitz.

Philadelphia Medical Journal, March 15.

17 *Medical Education. John B. Deaver.
18 *The Report on a Case of Obliterative Pericarditis with Hepatic Enlargement and Ascites. Edward W. Becker.
19 *Cerebral Apoplexy. Edward D. Fisher.
20 Hepatic Insufficiency. H. Richardson.
21 *The Progress of Knowledge Concerning Venom and Antivenene, a Synoptical Review of the Literature of the Past Fifteen Years. (Continued.) Joseph McFarland.
22 *A Study of the Cases of Accidental X-Ray Burns Hitherto Recorded. (Concluded.) E. A. Codman.

Medical News (N. Y.), March 15.

23 The Medical Department of Tulane University of Louisiana.
24 *The Craig Colony Prize Essay—Serotherapy in Epilepsy. (Concluded.) Carlo Ceni.
25 Acute Influenzal Nephritis in Childhood. B. K. Rachford.
26 A New Method of Locating Foreign Bodies by Means of the X-Ray. Lewis G. Cole.
27 *The Rate of Growth of Epithelium of Ulcers: Observation of 100 Cases at the Vanderbilt Clinic, N. Y. Sigmund Deutsch.

American Medicine (Philadelphia), March 15.

28 *The Use of Borax and Boric Acid as Food Preservatives. Victor C. Vaughan and William H. Veenboer.
29 *The Examination of the Blood in Relation to Surgery of Scientific but Often of No Practical Value and May Misguide the Surgeon. J. M. Baldy.
30 *Sprue or Psilosis in Manila. (Concluded.) William E. Musgrave.
31 *The Value of the Urea Estimation. E. B. Behrend.
32 Pemphigus, with a Report of a Case of Pemphigus Foliaceus Involving the Mucous Membrane of the Respiratory Tract. Witten B. Russ.
33 Modern Treatment of Drug Habituation. Frank R. Searles.
34 *The Diagnostic Importance of a Digital Examination in Diseases of the Rectum. Herman A. Brav.

Cincinnati Lancet-Clinic, March 15.

35 Diarrhea—Diagnosis and Treatment. George J. Monroe.
36 A Hernia-tic Family. J. F. Baldwin.

Medical Age (Detroit, Mich.), February 25.

37 The Physician as a Business Man. J. Howe Adams.
38 Report of a Case of Fracture of the Internal Table with Laceration and Contusion of the Temporal and Sphenoidal Lobes. Wm. G. Stearns.
39 *Cholecystotomy—Some Experiments with the Biliary Flow. Angus McLean.

Pediatrics (N. Y.), March 1.

40 Scarlet Fever. W. W. Robertson.
41 A Case of Spina Bifida. F. C. Wilson.
42 Anomalies of the Prepuce in the New-Born. Wm. J. Greanelle.

American Practitioner and News (Louisville, Ky.), February 15.

43 Surgery of the Urinary Bladder. John R. Wathen.
44 Notes on Venereal Disease. C. C. Mapes.
45 Report of a Case of Cancer of the Stomach. William A. Jenkins.
46 Cholelithiasis. Carl Weidner.

Medicine (Detroit, Mich.), March.

47 Etiology of Carcinoma and Auto-Implantation of Carcinoma Cells of the Stomach and into the Lung. Gustav Fütterer.
48 Diagnosis and Treatment of Laryngeal Tuberculosis. P. S. Donnellan.
49 Some Points Concerning the More Modern Conception of Diseases of the Heart. J. B. Herrick.
50 *Some Observations on the Efficiency of Nargol in Ophthalmologic Practice. Leigh E. Schwarz.
51 Primary Sarcoma of the Iris. Albert B. Hale.
52 A Fatal Case of Head-tetanus Following Eye Injury. C. P. Pinckard.
53 Diagnosis and Treatment of Cancer of the Rectum. Geo. G. Ross.
54 Tympanitic Abdomen with Fluid. W. Ramsay Smith.

International Medical Magazine (N. Y.), February.

55 Neurastheuia: Its Etiology, Symptomatology and Treatment. A. D. Rockwell.
56 The Drug Treatment of Neurasthenia. D. R. Brower.
57 The Educational Management of the Neurasthenic. Edward B. Angell.
58 Hydrotherapy in Neurasthenia. Simon Baruch.
59 Treatment of Neurasthenia. Wharton Sinkler.
60 Relations and Distinctions of Hysteria, Neurasthenia and Hypochondriasis. Samuel Wolfe.
61 The Sanatorium Treatment of Neurasthenia. Curran Pope.
62 Neurasthenia and Hysteria in Diseases of the Nose, Throat and Ear. E. B. Gleason.
63 The Value of Massage in Neurasthenia and the Best Method of Applying it in that Disease. G. Savary Pearce.

American Journal of the Medical Sciences (Philadelphia), March.

64 *The Medical and Surgical Aspects of Gangrene of the Lung. Frederick A. Packard and Robert G. Le Conte.
65 Scarlatinous Empyema of the Auterior Superior Squamomastoid Cells. Charles H. Burnett.
66 Empyema of the Frontal Sinus: Some Observations on Its Treatment. George L. Richards.
67 The Diagnosis of Lateut Frontal Sinusitis. George E. Shambaugh.
68 Causes of Salpingitis Other than Gonorrheal. John B. Deaver and Edward K. Moore.
69 An Experimental Investigation of Puerperal Pyemia. F. W. Gaertner.
70 *Report of a Case of Hemianesthesia of Over 8 Years' Duration, Resulting from Destruction of the Carrefour Sensitif and Lenticular Nucleus Without Direct Implication of the Optic Thalamus. F. X. Dercum and William G. Spiller.
71 *The Importance of Proper Dietary Regimen in the Treatment of Chronic Heart Affections and au Attempt to Formulate Some Rules Therefor. H. Holway.
72 *A Contribution to the Study of Primary Sarcoma of the Tail of the Pancreas. M. S. Kakels.
73 *The Clinical Significance of a Chronic Urethral Discharge. H. M. Christian.
74 *The Sanitary Measures to Be Adopted After Floods. George A. Soper.
75 Report of a Case of Dermoid Cyst of the Mouth; Critical Review of the Literature. Charles G. Cumstou.

Bulletin of the American Academy of Medicine (Easton, Pa.), February.

76 *Reciprocity in Medical Licensure from the Standpoint of the Physician Who Changes His Residence. Edward Jackson.
77 *Is the Demand for Reciprocity Based upon Fact or Fancy? Charles McIntire.
78 *The Desirability of Reciprocity in Medical Licensure. J. N. Hall.
79 Away with Reciprocity. Charles McIntire.

Illinois Medical Journal (Springfield), March.

80 The Function of the Tonsils, with a Few Suggestions Regarding the Differential Diagnosis of Tonsillary Affections. R. C. Matheny.
81 The Operative Treatment of Saddle-Nose with Two Illustrative Cases. Emanuel J. Senn.
82 The Medical Aspects of Appendicitis. W. E. Gillelaud.

Canada Lancet (Toronto), February.

83 *On a Case of Enlargement of the Middle Lobe of the Thyroid. J. G. Adami.
84 *Foreign Bodies in the Vermiform Appendix—New Surgical Points. J. Coplin Stinson.

Woman's Medical Journal (Toledo, Ohio), February.

85 Smallpox and Vaccination. Ellen Heise.
86 Report of Case of Imperforate Hymen. Jessie F. Shane.
87 Pathology of the Placenta, Its Effects upon the Fetus. Amelia Gnekow.
88 Dietetic Treatment of Chlorosis. Ella Mead.

Louisville Monthly Journal of Medicine and Surgery, March.

89 *The Time for Operation in Appendicitis. A. M. Cartledge.
90 *How, Where and When to Amputate. Ap Morgan Vance.
91 Pernicious Vomiting in Pregnancy. John G. Cecil.
92 X-Rays in the Treatment of Cases of Lupus and Epithelioma. James B. Kinnaird.

Medical Summary (Philadelphia), March.

93 Sulphate of Quinin. George J. Monroe.
94 Heroin—Salophen—Asprin. Wm. R. D. Blackwood.
95 Suffocative Catarrh. M. G. Price.
96 About Asthma, Alkaloids and Other Things. Geo. W. Candler.
97 Is Hydrophobia a Myth? Wm. A. Armstrong.
98 The Difficulties of Treating Enuresis in Children. (Concluded.) M. McCreary.
99 The Therapeutic and Prophylactic Importance of Fats in Tuberculosis. J. M. Cooper.

Maryland Medical Journal (Baltimore), March.

100 *The Care of Consumptives in State and Private Sanatoria in Massachusetts. Vincent Y. Bowditch.
101 Laennec. William S. Thayer.

Transactions of Chicago Pathological Society, January 13 and February 10.

102 The Absorption and Incrustation of Elastic Fibers in Giant Cells. Ludvig Hektoen.
103 Cholestrin Crystal Giant Cells. E. R. Le Count.
104 Demonstration of Microscopic Specimen of Spongifying of the Labyrinth. J. Holinger.
105 The Effect of Formalin upon Tuberculous Guinea-Pigs. Martin H. Fischer.
106 An Unusual Bacterial Grouping. Mary Hefferan.
107 Demonstration of Specimens from a Case of Death from an Adrenal Tumor. E. R. Le Count.

Pacific Medical Journal (San Francisco), March.

108 Dr. Wm. Lee Howard on "The Perverts." R. W. Shuffeldt.
109 The Newest Physiology of Digestion in Relation to Treatment. Alfred W. Perry.
110 Recurrent Gastritis—Gastro-enterostomy. Ernest Hall.
111 The Efficacy of Antidiphtheric Serum—A Few Plain Facts from My Note-Book. E. A. Crain.

Medical Mirror (St. Louis), January.

112 *Pleurisy, Errors in Diagnosis and Treatment. William H. Porter.
113 *The Treatment of Bronchitis and Coughs in General. I. N. Love.
114 The Treatment of Amenorrhea with Reports of Cases. Milton P. Creel.
115 Notes from New York Post-Graduate Clinic (Hernia). Dr. De Garmo.
116 Buffalo Lithia Water. Robert H. Patton.

Merck's Archives (N. Y.), February.

117 Should We Use Heart Stimulants in Acute Diseases? Ferdinand Schreiman.
118 Ichthyol in Tuberculosis. Charles F. Spangler.

Medical Review of Reviews (N. Y.), February 25.

119 *Eye-Strain, Its Consequences and Treatment; The Report of a Few Interesting Cases. James J. Mills.

Toledo Medical and Surgical Reporter (Toledo, Ohio), March.

120 Indications for Gastro-enterostomy and Its Technique. Theodore A. McGraw.
121 Pruritus Ani. Edwin Nichols.
122 How to Make the Clove Hitch. J. T. Woods.

Fort Wayne Medical Journal-Magazine, February.

123 Insanity as It Concerns the General Practitioner. D. L. Miller.
124 Alcohol in Carbolic Acid Poisoning. A. C. McDonald.
125 *Angioneurotic Edema: Report of a Case. Horatio Chisholm.

New Orleans Medical and Surgical Journal, March.

126 *A Suggestion in the Technique of Suprapubic Lithotomy. Charles Chassaignac.
127 *Some Surgical Cases Treated with a Simple and Very Effective Antiseptic Dressing. E. L. Sharpe.
128 Dislocation of Lens into Anterior Chamber in High Myopia—Recovery After Removal with Scoop. Drs. Bruus and Robin.

Medical Dial (Minneapolis), March 1.

129 The Problem of a Safe and Adequate Water-Supply for the Twin Cities. Leo M. Crafts.

Memphis Medical Monthly, March.

130 *Extra-Genital Chancres, with Illustrations and Report of Cases. M. Goltman.
131 The Kidney as a Pathologic Factor. G. W. Penn.
132 The Bacteriology of Typhoid Fever. William Krauss.
133 Typhoid Fever. B. G. Henning.
134 Diagnosis and Treatment of Diphtheria. John P. Bates.
135 Preparation of the Patient for Surgical Operation; Anesthesia and the Prevention of Shock. Stephen E. Rice.

Medical Times (N. Y.), March.

136 Urinary Fever. George L. Harbour.
137 Puerperal Septicemia. E. M. Pond.

---

2. See abstract in THE JOURNAL of Feb. 8, p. 412.

3. **Uric Acid.**—The origin of uric acid and its action in the system are noticed by Tyson, who finds that it is one of the end-products of animal metabolism just as much as urea, but not an intermediate product as was at one time supposed. It is remotely derived from the food ingested. This also is analogous to urea. He goes over the pathologic significance of uric acid and finds that its defective elimination in gout is probably due to some functional or organic defect of the kidneys, that its harmfulness is limited to the formation of concretions, and ascribes to the alloxuric bases the harmful phenomena of the so-called uric acid lesions. The so-called uric acid lesion exists in the excess of the sum of uric acid and the alloxuric bases and this is due to perversion of nuclein metabolism, which may be brought about by excessive or deficient oxygenation, the former producing both uric acid and alloxuric bases, and the latter an excess of alloxuric bases only. A large number of ills that are charged to uric acid are not thus caused, in the author's opinion. The so-called uric acid diathesis is probably hereditary, but is aggravated and produced by over-eating and especially by the use of alcohol. As regards treatment, abundance of alkaline or plain water between meals, the exclusion of proteid foods, to an extent sufficient to eliminate uric acid from the urine, accompanied by a liberal amount of outdoor exercise, is still the treatment of the uric-acid diathesis. In conclusion, he quotes Croftan's outline of the treatment, as published in THE JOURNAL A. M. A. in 1899.

5. **Trifacial Neuralgia.**—Barber reports a case of pure tic douloureux relieved by 1/10 mg. dose of aconitin given every four hours until the patient had taken ten granules, followed by iron and simple tonic. The conclusions he deduces are: "1. That aconitin does really seem to be a specific; and 2, that its action must be maintained by a restorative."

7. **Specific Medication.**—Smith argues for the use of specific medication, quoting the use of creosotal in pneumonia, which he considers one of the greatest life-saving discoveries of the century just ended. He also mentions the use of carbolic acid for la grippe and claims that its comparative innocuousness in some conditions has been shown by observations of his own some years ago. Other remedies are also mentioned.

12. **Alcohol as a Therapeutic Agent.**—Hewes, in a carefully written paper, maintains that alcohol is a narcotic or anesthetic and that its action on the nerve cells is directly poisonous. He finds that as a stimulant it is insufficient and in continued doses is not a tonic to nerves or muscles. As a narcotic it has a certain value, but whether it is a useful narcotic and, if useful, in what cases, must be determined by therapeutic experience. It is to this special influence of alcohol, he holds, that the majority of medicinal effects, variously interpreted as stimulative or tonic, are due, always excepting the momentary irritant action. As a stomachic he finds it of little value. It may stimulate the appetite by its pleasant taste and slight irritant action. As a food in health it can play no part. In pathologic conditions the matter may be different and there may be cases where no other food can be taken. In fever, oxidation is more active and this may account for the commonly reported observation that patients with fever can take more alcohol than people in health. This, however, is only a question of an immunity to the poison, not the loss of the poisonous action of the drug. His study of the pharmacology and experimental work upon alcohol proves to him that it is never a heart stimulant or dynamogenic for nerve and muscle, but always a depressant when used continuously. He would not say that it has no value as a therapeutic agent in medicine or that its medicinal use is irrational, but he thinks that careful observation has led to a gradual restriction of its use so that the quantity given per capita is less than one-half that employed twenty years ago and that it will be still further reduced.

13. Shattuck affirms that in his experience alcohol is of value in disease; that many people can take it in large doses without the ill effects noticed from it in health and that its use as a medicine in acute diseases involves very little risk of establishing a vicious habit. He says there is not sufficient proof of the uselessness of alcohol to warrant us in running contrary to the mass of evidence on which belief in its value rests.

14. Whittier follows the same line of thought as Shattuck.

15. Cutler holds that alcohol is no protective against infection, no antipyretic, no stomachic, and no analeptic and its action as a food is embarrassed by its poisonous quality. That it can favor the immunization process is denied. His article takes the extreme anti-alcohol view as regards its value as a food or a medicine.

16. **Hydrotherapy.**—Putnam and Fitz report the results of experiments to determine the physiologic effects of different kinds of baths. They describe their methods, including the use of a hot cabinet and a circular rain douche. The effect of the hot bath is a marked diminution in the blood pressure, sometimes amounting to as much as 20 mm. of mercury. The normal pressure is almost immediately regained on leaving the hot bath, owing to the reverse process of peripheral constriction

due to the chill of rapid evaporation of water from the surface of the body. The pulse rate is markedly changed. We must recognize that the baths exert a strong influence on the control of the heart's rapidity and force and of the vasomotor changes of the vessels. Further experiments will be required, however, to clear up all the physiologic effects of the various modifications of the bath, especially as regards temperature and blood pressure. The clinical conditions which were tested were neurasthenia, tabes and other spinal diseases, paralysis agitans and neuritis. In neurasthenics he thinks this form of treatment is usually of distinct service. The method has been the employment of one or another form of so-called tonic baths, varied to suit the individual case. The mental effects, he thinks, have had much to do with the action and seem to give a sense of stimulation of relaxation, aside from any action that may be called tonic. Benefit has also been obtained in tabetic cases, also in spastic paraplegia where heat and pressure have been relied upon rather than greater degrees of cold. One patient with neuritis improved, another did not, while those with paralysis agitans have been better so far as general nutrition and a sense of well-being are concerned, but here there was a moderate amount of real gain. He believes that the education in an institute gives the patients ideas how to treat themselves at home, but he protests against the over-use of stimulation by friction in such treatment.

17.—This article appeared in The Journal of March 15, p. 683.

18. **Obliterative Pericarditis.**—After reporting cases and reviewing the literature Becker comes to the following conclusions: 1. Pseudo-cirrhosis of the liver due to pericardial adhesions is a distinct entity. 2. In all cases of this condition at autopsy the pericardial sac has been found obliterated. 3. Autopsies have shown in all recorded cases that the ascites is due to passive congestion of the liver, causing a connective tissue formation with subsequent contraction and obstruction of the portal circulation, the result of obliterative pericarditis. 4. In all cases of enlarged liver with ascites without edema or enlarged spleen, a very careful examination should be made of the heart to determine whether the symptoms are not due to chronic pericarditis. 5. The presence of ascites with enlarged liver and systolic retraction of the precordium together with absent or later appearance of edema of ankles is of great diagnostic value in determining the presence of chronic pericarditis.

19. **Cerebral Apoplexy.**—Fisher calls attention to the importance of alcohol and syphilis in the etiology of cerebral apoplexy and notices the symptoms, giving special attention to certain unusual forms. Among these he notices cases occurring in elderly persons where temporary paralysis occurred, which he explains by a stasis in the cerebral circulation, resulting in edema or what was formerly called serous apoplexy and other cases where the symptoms exist and yet no cerebral lesion is found, which he credits to a similar pathology. Epileptic seizures occurring in elderly persons and in those who have been free users of alcohol or have had syphilis are also traceable to this special condition. Pain followed by hemiplegia in the paralyzed members he believes is entirely cerebral or psychical. There is no reason why there should be pain as far as the peripheral nerve supply is concerned. He considers the Babinski reflex of value and says the best method to induce it is to use a sharp needle, scratching it first under the first metatarsal joint, and, if not successful, using it on the external side of the sole of the foot. As regards treatment, he would in ordinary attacks of cerebral apoplexy use free purgation and absolute rest, and administration of no drugs unless collapse shows itself. If the pulse is full and bounding, bleed through the veins, that is, administer aconite, but never use the lancet. If there is evidence of collapse with feeble pulse, administer digitalis or even strychnia and whisky. Such cases are usually due to thrombosis or embolus. As a rule, however, he favors doing little but giving absolute rest and meeting special contingencies as they occur. The most important time for treatment is in the prodromal stage when, if we have made out the etiologic factor, the indications are manifest.

21. **Antivenene.**—McFarland's review of this subject is apparently concluded in this issue and seems to be about as thorough a review of the literature as has been published.

22. **X-Ray Burns.**—The following are the conclusions of Codman's article: 1. The frequency of *x*-ray injuries has been much exaggerated by the medical press owing to the wide publicity given to many early cases. 2. The writer has been able to collect somewhat less than 200 cases, less than half of which were serious, and about one-third of which occurred in *x*-ray workers. 3. Judging from the experience with these injuries in Boston, it is the writer's opinion that a fair proportion of the severe burns are included in this series, while the dermatitis of skiagraphers is less well represented. 4. At a maximum estimate it is safe to say that not 1 patient in 1000 has been injured in the past five years by an *x*-ray examination and in the past year not 1 in 10,000. 5. More than two-thirds of these injuries occurred in the first two years of the use of the *x*-ray. Only one mild case is reported as occurring in the current year, those cases in which the exposure has been made for therapeutic purposes being excluded. 6. The cause of *x*-ray injuries is not definitely known. It is some form of energy closely allied to the photographically active *x*-ray and radiates with it from the platinum terminal. 7. The primary injury is to the nerves controlling the nutrition of the skin. 8. There is no good evidence of injury to the deeper tissues without primary interference with skin. 9. The important factors which contribute to the production of *x*-ray burns are: the intensity of the current used to stimulate the tube; the quality of the tube; the distance and time of exposure; the idiosyncrasy of the patient. 10. The static machine is somewhat less likely to produce injury than other forms of apparatus. 11. From the data of the reported cases we can say that no burn has been produced by an exposure equal to or less than the equivalent of 5 minutes at 10 inches. 12. It is impossible from the data to say how intense an exposure must be to produce a burn, for a comparison of the cases shows that an inconstant factor or factors exist. 13. These inconstant factors are more likely to lie in the complex human organism than in the less complicated construction of the tube. 14. General experience has shown that soft tubes produce a more intense effect on the tissues than hard. 15. While we can not control these inconstant factors, therapeutic exposures will continue to be dangerous, and it is therefore important to record the exact conditions of the patient's local and constitutional idiosyncrasies, as well as those of the tube. 16. In cases of injury the time before the appearance of the first symptoms has varied from a few minutes to three weeks. Five cases have remained latent for over three weeks, two of these for five months. 17. It is impossible to predict the severity of the lesion from the time of its appearance after exposure. 18. The writer suggests 10 minutes at 6 inches from the platinum terminal, as a standard therapeutic exposure. This will make comparisons between the inconstant factors easier. 19. Unless signs of dermatitis appear within three weeks after the exposure, they are unlikely to appear at all. In one-third of the reported cases the appearance occurred within the first four days; in one-half the cases before the ninth day. 20. In the ordinary *x*-ray examination with fluoroscope or skiagraph, the operator takes the entire responsibility of injury; in exposures for therapeutic purposes the patient shares the responsibility.

24. **Serotherapy in Epilepsy.**—Ceni concludes his article in this issue, reporting his last two cases. His researches demonstrate to him that in epileptic blood there are two active principles of different nature and origin. "One of these principles circulates in a free state and is only endowed with toxic properties when injected into the organism of another epileptic. The toxic effects may be immediate and direct and may follow even small doses. The activity of this toxic principle is different in different individuals. The phenomena it determines are transitory in character. The other active principle circulates in the blood of epileptics, but only in a latent state. It is endowed with properties which have a stimulating power on the metabolic cells which are concerned with the elaboration of the epileptogenous toxic agents. These stimulating properties

appear only as remote consequences that take place as a result of repeated injections over a considerable period of time, with the blood serum of an epileptic into himself or into another. These stimulating principles can deeply modify nutrition and epileptic manifestations. Upon both they exert a slow progressive action which may be restoring and therapeutic or weakening and poisonous. Their diverse and opposite modes of action depend upon some peculiar organic condition of the individual injected and are practically unexplained. The organic condition of the patient in whom they are elaborated has no apparent influence on the different and opposite activities they may present. In the cases in which stimulating principles have restoring therapeutic properties, there always result a remarkable increase in body-weight and an improvement or total disappearance of disturbances of organic functions or of social life. The disturbances of psychic functions and the epileptic manifestations of whatever nature get much better or disappear entirely. The stability of these positive results is in a direct relation with the degree of physiologic reaction in the elements of nutrition. In the cases in which the said principles do not act favorably on metabolism, the serum injections are useless. If continued in the same manner as in the preceding cases, there results a diminution in weight and a getting worse of every disturbance of the organic or social life. The psychic functions become more impaired and the epileptic manifestations increase in number and intensity, sometimes to a marked degree."

27. **Growth of Epithelium of Ulcers.**—Deutsch reports the results of experiments made to ascertain the rapidity with which new epithelium will grow over ulcers or raw wounds and to deduce from the results obtained methods by which the varieties can be quickly healed. The following is the summary given: "The observation of these cases has shown that 1, the rate of the growth of epithelium is in direct proportion to the size of the ulcer; 2, in the majority of cases the average growth of epithelium is from 2 to 3.5 mm. per week; the range is 1.4 to 10.5 mm. (traumatic ulcers not included); 3, the time required to heal an ulcer is in no proportion to the duration of the ulcer; an ulcer of 4 months' standing does not heal quicker than one of 4 years' standing, other conditions being equal; 4, the rate of growth of epithelium in traumatic ulcers is extremely irregular; it is in no relation to the size or duration of the ulcer; the average growth per week is about 5 mm.; the range is from 1.4 to 8 mm."

28. **Meat Preservatives.**—Vaughan and Veenboer have tested the effects of borax on the system and have looked into the literature on the subject, coming to the following conclusions: "1. The use of borax or boric acid as a preservative in butter and cream in the quantities specified in the recommendations of the English Commission is justified both by practical results and by scientific experimentation. 2. The dusting of the surfaces of hams and bacon, which are to be transported long distances, with borax or boric acid, not exceeding 1.5 per cent. of the weight of the meat, is effective and not objectionable from a sanitary standpoint. 3. Meat thus dusted with borax or boric acid does not become slimy because the preservative thus used prevents the growth of aërobic, peptonizing micro-organisms."

29. **Blood Examinations.**—Baldy questions the reliability of blood examinations as indication for surgical practice. He says that the leucocyte count can not be relied upon even to indicate with any degree of accuracy inflammation, to say nothing of pus formation, and has collected cases to demonstrate this statement. Moreover, the possibility that change in the blood count may be due to some complication altogether apart from a surgical condition should not be neglected. Pneumonia, for instance, is too common a complication of typhoid to be overlooked when leucocytosis appears as an indication of perforation. He does not wish to decry the value of laboratory work, for it has developed many valuable facts, but we are still far from having any positive value or aid from leucocytosis in surgical diagnosis.

30. **Sprue or Psilosis.**—The article by Musgrave is continued, and he reports cases with pathologic findings, clinical features and serum reactions. The usual bacillus found was the colon bacillus, though in 2 of the 16 cases the bacillus dysenteriæ was also found. The latter is frequently difficult to find, although dysentery may be pronounced, in which it is the accepted etiologic factor. Streptococci were isolated in four cases and found in the stools in several others. Except the colon group, it is the pathogenic organism most commonly found. He concludes that sprue symptoms are nearly always found in the presence of other and well-known lesions, discoverable by careful clinical studies, aided by microscopic methods. Careful studies of these cases by modern methods may fail to indicate the additional etiologic factor. With our present knowledge it is more rational to consider sprue as a state or symptom-group (comparable to the typhoid state) occurring in the tropics in chronic diseases, especially those affecting the gastro-intestinal canal.

31. **Urea Estimation.**—Behrend advises attention to diet in cases of urea estimation. The patient should be put on a special diet, rigidly enforced. Ordinarily this is not attended to and the urea estimation is made from small samples of urine, and is comparatively valueless. The patient must also be kept in a state of rest. Where the urea secretion is found very high or low and persisting so, we know that it is abnormal and usually associated with grave symptoms. Difficulty is only experienced when the estimation runs between 20 to 40, and when some defect in nitrogenous metabolism is suspected. He believes that with attention to these points the method is as close an approximation to the more exact methods as time and training of the general practitioner will permit.

34. **Rectal Diseases.**—Brav insists on the importance of digital examination in rectal diseases, maintaining that by it we can detect all pathologic changes occurring there excepting internal hemorrhoids. The internal opening of the fistula can be felt as a small pit or slight depression in the mucous membrane, generally more or less circular in shape, except when it originates from a tear by a foreign body or a detachment of a polypoid growth. Impacted feces and anal fissure frequently cause intestinal neuralgia and cystic neuralgia, and only digital exploration can reveal the true state of the case. Submucous abscesses are also thus to be detected. In making digital examination it is advisable to introduce the finger at first only as far as the distal joint, and to examine every portion within reach, gradually going further. Pathologic conditions close to the anus have often been overlooked by passing the finger at once to its full extent. On account of the importance of reflex symptoms from this part digital examination is imperative.

39. **The Biliary Flow.**—In a patient on whom he had operated, McLean tested the biliary flow, its amount, periods, etc. The tube was kept in the gall-bladder for ten days and over three quarts of bile were drawn without the least bad effect apparent on the patient. The digestion was perfect, appetite good and stools natural. He finds that the greatest amount of bile passes into the gall-bladder during the quiescent period; "that the administration of calomel and podophyllin will increase the flow; that the first two hours after a meal only one dram was passed into the gall-bladder; that the specific gravity varied from 1010 to 1014; no difference was noticed after the calomel was administered, and it was highest after taking solid food; that the gall-bladder will contain only a small percentage of the bile secreted during the quiescent period and is not a necessary appendage; that bile flows more freely into the gall-bladder the further down the small intestines the food products pass; that the secretion of bile is continuous and the entire amount secreted is not necessary for perfect health."

50. **Nargol.**—This is one of the more recently produced organic silver preparations, a chemical combination of nucleinic acid and metallic silver. It is a non-irritating, non-coagulable and non-caustic substitute for silver. It contains 10 per cent. of metallic silver as compared with 63.5 per cent. in silver nitrate and 8.3 per cent. in protargol. Schwarz has used

it extensively and made clinical comparisons with protargol in some 200 cases, nargol being used in one eye and protargol in the other under as nearly the same conditions as possible. His general conclusions are as follows: "Nargol is relatively non-irritating, has considerable range as an astringent, as well as superior penetrating power, stability, and solubility, and is most efficient in 10 to 20 per cent. solutions, which should not be kept more than five weeks. The addition of a few drops of a one-per-cent. chloretone solution retards decomposition. In solutions of equal strength nargol is more stable and less irritating than protargol, and appears to be equally efficient."

64. **Gangrene of Lung.**—Packard and Le Conte's article contains a very elaborate description of a case, diagnosis and operation. Le Conte warns against opening a gangrenous cavity when adhesions of the pleural surfaces do not exist. The cavity should be emptied and examined to see if additional abscesses exist and these should be also looked after, but irrigation and curetting should be avoided. It should be wiped out simply with a gauze-guarded finger. The prognosis of these cases is almost always serious. The patient in this case finally succumbed to septicemia.

70. **Anesthesia.**—Dercum and Spiller's case of hemianesthesia of over eight years' duration seems to show in their opinion, "That organic hemianesthesia may be caused by a lesion in the *carrefour sensitif* and lenticular nucleus, without implication of the optic thalamus, except such as occurs from secondary degeneration. We emphasize the statement that in this case the inferior and external portions of the thalamus were intact. It seems to be the first case of the kind carefully studied in the literature. Whether or not the implication of the lenticular nucleus is necessary for the existence of organic hemianesthesia we can not determine by a study of our specimens. The integrity of almost the whole of the posterior limb of the internal capsule seems to indicate that the sensory fibers are located chiefly, if not entirely, in the area of the *carrefour sensitif*, or it may be that some sensory fibers pass through the lenticular nucleus. This view is in accord with the teaching of Edinger, inasmuch as he states that a portion of the sensory tract passes through the posterior third of the internal capsule and a portion through the lenticular nucleus. The lemniscus in its inter-olivary portion on the left side was one-fourth to one-fifth narrower than that on the right side and from this we conclude that the lemniscus on the left side had undergone retrograde atrophy. Some of its fibers, therefore, were probably cut in the lesion of the *carrefour sensitif* and lenticular nucleus."

71. **Diet in Chronic Heart Affections.**—Illoway shows that the stomach may exert an influence on the heart by the way of the vagus and mechanically by contiguity, and illustrates both of these actions by cases. The question of food, therefore, is of importance, and he says in regulating the diet for cardiopathics we must be guided by the well-established facts as to the nature of the various cardiac maladies and well-established facts of dietetics. In functional forms of heart disease all irritations of the stomach must be avoided. In organic conditions the mechanical influences also must be prevented. He therefore formulates certain rules: 1. All bulky and flatulent foods must be excluded, only foods that are readily and easily digestible allowed and all foods so cooked that their digestion is thereby facilitated. 2. All meals shall be small so that the stomach is not taxed too much nor greatly distended. The intervals between the meals must be so regulated that sufficient time is given the stomach to empty itself and to have an interval of rest before the next meal is taken. Diet tables are laid down by the author according to these rules.

72. **Sarcoma of the Pancreas.**—The difficulties of the anatomic conditions affecting the diagnosis of pancreatic disease are mentioned and a case reported by Kakels. In conclusion he says: The difficulties in the diagnosis of malignant pancreatic tumors are so numerous and great that we rarely find a case in literature where a correct diagnosis has been made before operation or necropsy. All or several of the symptoms (jaundice, ascites, pain, pressure symptoms, glycosuria, emaciation, etc.), together with the anamnesis, may lead to a probable diagnosis. Recognition in the living of the nature of the growth is almost impossible. Tumors of the pancreas are of greatest interest to surgeons, as it has been only of recent years that operations have been made for their removal. For surgical intervention the most important symptom is a palpable tumor. Cysts have been incised and their contents evacuated. Less frequently, however, have solid growths offered opportunities for surgical interference. Removal of solid tumors with a portion of the gland itself is exceedingly dangerous and rarely successful. Even if it were possible to extirpate the gland, aside from the insurmountable difficulties on account of the blood vessels and close proximity of the neighboring organs, the surgeon would not be justified, because, as Minkowski has shown, the entire removal of the gland is followed by rapid and fatal diabetes.

73. **Urethral Discharge.**—Christian discusses the different forms of urethral discharge, their appearance, microscopically and macroscopically, causes, etc., and gives a table showing the differences between true gleet, prostatorrhea and urethrorrhea.

74. **Sanitation After Floods.**—The sanitary conditions following extensive floods that have caused loss of life are noticed by Soper, who thinks the danger from decomposing animal and other matter is not so great as is usually supposed. The dangers of pestilence in these cases are not so much in the dead as in the living, among whom most insanitary conditions are likely to prevail. Sufferers from the flood should be aided and directed in their efforts to care for their own health. The causes of disease must be looked after, water supply and food inspected and damaged houses properly cleaned, aired and dried. Quicklime, chlorid of lime and carbolic acid will probably be the best agents, but bonfires should be made of all decomposing matter. He makes the special point that offensive or decomposing animal matter is not infectious and nausea is the most serious direct inconvenience to be caused by it.

76.—See abstract in The Journal, xxxvi, p. 1654.

77.—Ibid.

78.—Ibid.

83. **Thyroid Enlargement.**—Adami reports a case which is of interest on account of the rarity of the advanced condition of goiter enlargement affecting only the middle lobe and because of the symptoms to which it gave rise, viz., periodical attacks of dyspnea, which were mistaken for asthma and extended over eight years, and finally death from the same cause. The postmortem showed colloid or parenchymatous goiter of the middle lobe, the lateral lobes being atrophied and riding on the mass on either side above. He suggests that in districts where goiter is prevalent, as in the St. Lawrence Valley, periodical attacks of so-called asthma should be regarded as suspicious, the so-called cyanosis intensified by a certain amount of stridor should lead, in the absence of other explanation, to a careful examination of the lower portion of the neck.

84. **Foreign Bodies in the Appendix.**—From his study of the pathology, etc., of appendicitis, Stinson concludes that appendicitis is a surgical disease, the sooner operated upon the better. Early operation should give no mortality. In all appendicitis operations, the appendix should be removed unless irreparable damage is not done in the attempt. In local or general infection the abscess cavity or cavities should be thoroughly opened, all adhesions separated, all pus, shreds, etc., cleaned out, all inflammation of the pathologic omentum excised and all the infected portions of the abdomen thoroughly injected with hot water or hot saline solution and then dried with sponges. Fecal concretions are more apt to be present as the exciting cause of appendicitis than foreign bodies, though the latter are sometimes present. When, however, the appendix contains foreign bodies it is likely to be a pointed or a heavy body. Fecal concretions closely resemble some slight body like grape seeds or cherry stones, and a careful microscopic examination should be made to determine the exact nature. He believes operations such as those for appendicitis and other laparotomies can be as readily, safely and cheaply performed at the patient's home as elsewhere.

89. **Appendicitis.**—Cartledge believes in early operation, but if that is not possible, or the time is past, he thinks a patient living three days after the attack and not in hopeless general peritonitis has good prospects of recovery. We should be impressed with the idea that patients who die from acute appendicitis succumb, as a rule, within the first fifty hours of the disease. This paper was written because there are still general practitioners who believe that more cases of appendicitis recover without operation than with, and, second, because there are some surgeons who operate on every case of appendicitis seen, regardless of stage of disease or local or general conditions, excepting, of course, moribund cases. We take more risks in late operations than by the expectant plan. If the patient is still living and unoperated on at the end of three or four days, rest in bed, a light diet and administration of appropriate remedies will usually carry him over and the operation can be performed later. Cartledge long ago ceased to operate on general peritonitis cases; late operation is intended to prevent future attacks, early operation is intended to save the patient from the immediate attack. He rarely now operates on a condition of active adhesions and abscess. He would rather wait and take the chances of the adhesions melting down.

90. **Amputations.**—The method of amputation advocated by Vance is what he calls the modified circular antero-posterior flaps, for all operations. A few exceptions occur near the elbow and knee where some injury has so left the good tissue that to save the stump below the joint another method must necessarily be used. He describes the operation as follows: "An ordinary wide-bladed scalpel is held with handle at right angles to the axis of the limb and entered on the side, a little below the point of proposed bone section, cutting through skin and cellular tissue, parallel with the axis of the limb two inches, then across the limb in a slight curve, ending the incision opposite the starting-point. The ends of this incision represent the base of the anterior flap, which is dissected up. The posterior flap is made in the same way, but shorter, so that when they are brought together the line of closure will be back of bone or bones, as it may be. With the same small knife the muscles are divided circularly at right angles to the axis of the limb and on a vertical plane with proposed bone section, the flaps being held up by an assistant with two pairs of single-tooth forceps, care being taken not to incise the periosteum; with the same knife the interosseus space is divided half an inch below the point of proposed bone section and a long anterior periosteal flap is lifted, and held well up out of the way of the saw, which is introduced on a slant downward at an angle of 45 degrees, and the bone is divided for three-quarters of an inch and then re-entered vertically a little below the former point, both bones being completely divided. In this way the tibial crest is beveled before the limb is removed. Of course, when it is a thigh or arm amputation this is not called for. In a leg amputation the fibula is shortened three-fourths of an inch with the saw, slanting upward. It is my custom to use constant irrigation over the part while bones are being sawed to prevent possible heat necrosis. The vessels are carefully isolated and tied with plain catgut—No. 3 for femoral, No. 2 for tibial vessels. The nerves are drawn down and cut off square, three-quarters of an inch above the muscular section, the hemostatic bandage is removed, small vessels torsioned, oozing stopped by hot sponging with salt solution or by irrigation with same. The periosteal flap is sutured over the end of the bone by fine catgut. The flaps are accurately brought together by interrupted silkworm gut sutures, four or five being sufficient, then a continued fine suture of plain catgut closing perfectly the whole line of incision, except one-quarter inch at outer angle, where a short rubber drainage tube is introduced. A full aseptic dressing finishes the operation. At the end of 24 or 48 hours the drain is removed, and a second dressing applied, which is left on until the seventh day, when the silkworm gut sutures are removed and the stump is found firmly healed." The question as to where to amputate can be answered in a few words. The point of selection for the leg is 7 inches from the floor or 4 inches above the ankle joint. No operation between this point and the mid-metatarsal region is surgical unless it is perfectly evident that an artificial limb can not be obtained. In all operations between this point and 4 inches below the base of the patella the old rule of save all you can should be followed. The point of selection above the knee is 3 inches above the patella. All operations between the site of the last-mentioned tibial and the first femoral are unsurgical without reserve. Above this point of selection the old rule of conservatism should be followed, excepting in malignant disease, when it is a question whether to do disarticulation in the hip, or leave sufficient bone for an artificial limb, and as a rule he does the latter. The question when to amputate is a little harder to answer. In most cases it is easy, but occasionally, difficult. If the surgeon thinks that there is a chance that the result of conservatism would be inferior to an artificial limb he should amputate, especially if he thinks the effort to save the limb is attended with greater risks. The patient frequently decides the question for him, but often disastrously. The difficulty then arises in cases of chronic bone disease of the ankle and knee. The chances of getting good results in conservatism in these is in proportion to the age. All malignant disease of the bones, joints or other parts call for amputation, excepting some of the skin cancers, the rules being to get well above the proximal point. Amputations for convenience are often indicated, the patient being more comfortable without the useless limb and with an artificial one. Frequently patients are thus converted from helpless cripples into useful members of society. In amputations of the hand or arm the rule of save all you can is to be followed, especially in laboring men.

100. **Tuberculosis.**—Bowditch gives his experience in Massachusetts with the sanatorium treatment of tuberculosis, showing that even in that climate with the unfavorable conditions presumed to exist in the region where the disease originated, it has been arrested in a progressively increasing proportion of cases. Of the incipient cases discharged during the past year in 79 per cent. it was arrested. Relapses seemed comparatively rare. Patients from the sanatorium going home distribute the acquired notions in regard to the hygiene of this disease and he gives a striking instance of this where a man, whose recovery excited the interest of his neighbors, began a crusade against the unhygienic methods which he found. Before long there was scarcely a family in the street where he lived that were not following his instructions.

112. **Pleurisy.**—Porter reports several cases of pleurisy, with purulent effusion, that show the accuracy with which most cases can be recognized, especially if the aspirating needle is used, but also how at times it is almost impossible for the best-trained diagnostician to be absolutely certain. They also show that diagnostic errors may have possible fatal results, especially if the most scientific methods of treatment are not adopted early. They also demonstrate the good results following resection of the rib and cleansing of the pus cavity. Small valvular openings do not give the same good results.

113. **Bronchitis.**—Love does not accept unconditionally the germ theory of bronchitis, but holds that changes of diet, disturbed digestion, constipation, perverted secretions and exposure to cold produce conditions which may be particularly favorable to the entrance of these organisms. We must bear in mind that the cause in the majority of cases has been the chilling of the surface of the body, which disturbs the circulation and causes stasis in various parts of the body, especially in the bronchial mucous membrane. We must not ignore the general torpor of the glandular system. As a rule, after investigating the case thoroughly we can use a purgative to get rid of the irritating matter and accumulated ptomains. In further treatment he recommends the use of oil of turpentine on a lump of sugar given every two or three hours as one of the best stimulants of the glandular system. He would also use local applications of turpentine to the chest. The temperature should be watched, and if very high, cold baths are demanded. In children who can not expectorate, emetics will be required, as the secretion should be thrown off. He also advises stimula-

tion at proper times, giving one or two teaspoonfuls of whisky, glycerin, malt extract and honey. Another important step is the securing of rest, bearing in mind that we must not check secretion. To do this we must relieve the irritating cough. He has found heroin combined with ammonium hypophosphite, hyoscyamus, white pine bark, balsam, etc., excellent for this purpose. In making cough mixtures we should avoid syrups and we should not administer depressing remedies or those disturbing to the digestive tract. Sugar induces fermentation and disturbs digestion, which is against its use. We should also impress our patients with the importance of exercising their will power along with the medication to control cough.

119. **Eye Strain.**—Mills reports cases of headache due to eye strain relieved by operation. He thinks that headache from ocular defects are almost as frequently due to heterophoria as to refractive errors and that the former condition does not receive the attention it deserves. Imperfect equilibrium of the ocular muscles is not in most cases due to errors in refraction, though in the lowest degrees of the latter we find the highest degrees of the former, but before surgical procedure is adopted refractive errors, if they exist, should be relieved. Tenotomy should be employed only after a series of thorough and searching examinations.

125. **Angioneurotic Edema.**—Chisholm reports a case where the throat was involved and the conditions became alarming. Strychnin and nitroglycerin given hypodermically seemed to have no effect and he had resort to an atomizer with adrenal chlorid solution at full strength. In about two minutes the condition was markedly improved, respiration in five minutes becoming easy and natural. The eyelids and eyes were also affected and a drop or two was used there with pleasing effect. The patient was directed to swallow what remained in her mouth. The edema lessened very considerably over the body during the next two hours, itching was relieved and the face resumed its normal proportions, though there was still some slight traces of the tension that the parts had undergone. A slight return at night was relieved by the same treatment and another the next afternoon. This seems to have been the last return of the condition. The case seems worthy of notice on account of the usual unsatisfactory treatment in such cases.

126. **Suprapubic Lithotomy.**—The technique suggested by Chassaignac consists in the following principal features: "1. Introduction of stitches in a special manner to hold the bladder while it is incised and the calculus extracted. 2. Utilization of the same stitches in the closure of the bladder. 3. Formation of temporary drain by the collection of ends of catgut stitches. 4. Drainage by means of the Pezzer self-retaining catheter during the healing process." The details are given at length, but for lack of space can not be reproduced here. He thinks this method is of special advantage in cases where it is advisable to close the bladder completely, but it might be used on occasions where it may be thought best to close it only in part, using the two supporting threads as the limiting suture at each end.

127. **Antiseptic Dressing.**—The surgical dressing here recommended and described by Sharpe consists in a mixture of gum camphor and crystallized carbolic acid which, when triturated together, form a liquid having a pleasant camphoraceous odor. It is practically a local anesthetic and is, he says, the best all around antiseptic and aseptic dressing he has ever used. It is soluble in olive oil and for the after-dressings he generally used it in solution from 1 to 3 or 6 of olive oil. He finds this very soothing for burns, stimulates healthy granulation and is also a good local application in eczema, tetter, erysipelas, etc. It evaporates in the air, but the oil in the solution prevents this to some extent. He finds it of great value in ear inflammations; in short, there are few conditions of wounds in which it does not make good dressing. He makes no claims to the discovery of the compound; it is closely allied to a well-known proprietary remedy. His claims for it are that it is easily made, easily carried and a very effective antiseptic and aseptic dressing. It is not merely a surface remedy, but penetrates into the diseased tissue. In conclusion, he remarks that as camphor and carbolic acid make such a non-toxic compound, the question arises whether the camphor would not be an antidote to carbolic acid poisoning. He has never used the preparation internally, but thinks it may be of value in some conditions as an internal antiseptic.

130. **Extra-Genital Chancres.**—The subject of innocent syphilis is discussed by Goltman, who notices some of the statements of authorities in regard to the matter and describes the principal avenues of infection. He thinks that the total abolition of syphilis would be impossible, but the innocent acquirement of the disease may be avoided without doubt and offers the following suggestions to this end: "1. Physicians should give their syphilitic patients explicit hygienic instructions, which would be better printed in booklet form. In my opinion a physician neglects a positive moral obligation if he fails in this. This, in my judgment, is the keynote of all prophylaxis, since all cases come under the physician's care sooner or later. 2. The habit of promiscuous kissing should be inveighed against—four of my five cases have been infected in this way—and much care should be exercised in the selection of servants, particularly nurses. 3. Barber-shops should be governed by proper legislation embracing a knowledge of the rudiments of the science of contagion, asepsis and antisepsis. 4. Physicians and dentists would do well to make examinations with more care and to perform minor and other operations with more deliberation. 5. The hygiene of industrial life should also be regulated. This would have a tendency to lessen other diseases besides syphilis, and could readily be done by disseminating the proper literature."

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), March 8.

1 Two Cases of Spinal Cord Disease Consequent on Syphilis. T. R. Bradshaw.
2 *Anatomy, Physiology and Pathology of the Imperfectly Descended Testis. W. McAdam Eccles.
3 *The Influence of Phosphorus on Organic Substances in Pills. W. Harrison Martindale.
4 *Puerperal Insanity. Robert Jones.
5 A Case of Tumor of the Cerebral Cortex. H. Cecil Barlow.

The Lancet (London), March 8.

6 *The Results of Operation in 60 Cases of Malignant Disease of the Breast. A. Marmaduke Sheild.
7 The Blood Vessels of Mammals in Relation to Those of Man. F. G. Parsons.
8 *A Contribution to the Study of Intestinal Sand, with Notes on a Case in Which It Was Passed. Dyce Duckworth and Archibald E. Garrod.
9 Some Experiments to Determine the Actual Efficacy of Izal Oil as an Intestinal Disinfectant. M. H. Gordon.
10 Two Cases of Lupus Vulgaris Successfully Treated with Urea Pura and the X-Rays. Edward Swales.
11 Abdominal Hysterectomy for Cancer of the Uterus. Robert O'Callaghan and Henri Dardenne.
12 *Electric Shocks. F. B. Aspinall.

The Practitioner (London), March.

13 *The Health of the People. James Cantlie.
14 Some Illustrations of Graves' Disease. G. A. Gibson.
15 Gout: Observations on Its Pathology, Forms, and Treatment. Arthur P. Luff.
16 *On the Etiology of Pulmonary Tuberculosis. F. W. Burton Fanning.

Journal of Tropical Medicine (London), March 1.

17 *Note on the Supposed Transmission of Plague by Fleas and Relapsing Fever by Bedbugs. George H. F. Nuttall.
18 Two Notes on Malarial Fever in China. W. G. K. Barnes.
19 Malarial Fever as Met with in the Great Lake Region of Central Africa. (Continued.) Albert Ruskin Cook.

Intercolonial Medical Journal of Australasia (Melbourne), January 20.

20 Hospital Management in Relation to the Medical Profession. W. Moore.

Bulletin de l'Academie de Med. (Paris), February 25.

21 *Chloroform in Heart Disease.—Continuation of discussion.
22 *Sodium Methylarsinate or Arrhenal. A. Gautier (Paris).—"Sur le methylarsinate de sonde on arrhénal."

Bulletin Medical de Quebec, February.

23 *Placenta Previa. S. V. Vézina.—"Quatre cas de placenta previa."
24 Pathognomonic Signs in Practice. S. V. Vézina.—"Des signes pathognomoniques dans la pratique."

Bulletin Soc. Med. des Hop. de Paris, February 13 to 27.

25 *Association of Pupil Disturbances with Lesions of the Aorta. H. Vaquez.—"Syndrome de Babinski."

26 *Investigation of Lead in the Viscera in Lead Poisoning. P. E. Launois and G. Meilière.—"Recherche du plomb dans les viscères des saturnins."
27 Stenosis of the Superior Vena Cava. P. E. Launois.—"Rétrécissement de la veine cave supérieure."
28 *Ascending Neuritis in the Etiology of Syringomyelia. G. Guillain.—"La névrite ascendante dans l'étiologie de la syringomyélie."
29 *Explanation of Syphilitic Cephalalgia by Lumbar Puncture. Milian.—"La céphalée syph. éclairée par la ponction lombaire."
30 Case of Hydrocephalus from Obliteration of Aqueduct of Sylvius. Touche.—"Hydrocéphalie interne."
31 Sclerosis of the Lung with Traction to the Left. A. Chauffard.—"Sclérose du lobe supérieur du poumon gauche. Traction vers la gauche des gros vaisseaux de la base du coeur."
32 Acute Meningitis Rapidly Cured by Antisyphilitic Treatment; Lymphocytes Numerous in Cerebrospinal Fluid; No Traces of Syphilis. F. Widal and Le Sourd.—"Méningite aigue. Guérison par le traitement antisyph. malgré l'absence d'antécédents et de stigmates syph."

Bulletin de la Soc. de Pharmacie de Bordeaux, January.

33 Test for Antimony Associated with Arsenic. G. Denigés (Bordeaux).—"Détermination quant. et qual. de traces d'antimoine en présence de fortes proportions d'arsenic."

Bulletin de la Soc. d'Electrotherapie (Paris), January.

34 Electric Treatment of Sexual Impotency. A. Laquerrière.—"Traitement d'impuissance sex. par les hautes intensités voltaiques."

Revue Gen. d'Ophthalmologie (Paris), January.

35 Unilateral Facial and Ocular Paralysis. A. Péchin.—"Paralysie faciale et paralysie des mouvements associés de latéralité des globes oculaires du même côté."

La Parole (Paris), February.

36 Instruction in Pronunciation by the Sight. L'Abbé Rousselot (Paris).—"Enseignement de la pronunciation par la vue."
37 Intratympanic Surgery in Neuroses of Otitic Origin. G. Ferreri (Rome).—"La chirurgie intra-tympanique dans les névroses d'origine otique."
38 Study of Speech with an Artificial Larynx. L'Abbé Rousselot (Paris).—"La parole avec un larynx artificiel."

Presse Medicale (Paris), March 1.

39 *Radioscopic Examination of the Interlobar Pleuræ and the Diagnosis of Sclerosis. A. Béclère (Paris).—"L'examen radiosc. des pleures interlobaires et le diagnose de la sclérose de l'interlobe."

Progres Medical (Paris), March 1.

40 Melano-sarcoma of the Ciliary Body and Iris. E. Koenig (Paris).—"Melano-sarcome du corps ciliaire et de l'iris."
41 Sulphur Waters in Treatment of Syphilis. Ferras (Luchon).—"Traitement des syphilitiques aux Eaux Sulfureuses."
42 Nervous Children—The So-called Martyrs. Bourneville (Paris).—"Assistance des enfants nerveux: apropos des enfants martyrs."

Semaine Medicale (Paris), February 26.

43 Topography of the Lumbar Region with a View to Lumbar Puncture. E. Juvara (Jassy).—"Topographie de la région lombaire en vue de la ponction du canal rachidien."

Allg. Med. Central-Zeitg. (Berlin), March 1.

44 Keratomalacia. Schroen (Uettingen).—"Ein Fall von Keratomalacie."

Berliner Klin. Wochenschrift, February 17.

45 *Restoration of Defect in the Nostril. Fritz Koenig (Altona).—"Zur Deckung von Defecten der Nasenflügel."
46 Experiences in Surgery of the Biliary Passages. H. Scheuer (Berlin).—"Casuistisches zur Chir. der Gallenwege."
47 Restoration of Function by Implantation of Tendons. Reichardt (Magdeburg).—"Functionsherstellung durch Sehnenverpflanzung."
48 Surgical Removal of the Nail. Baumgärtner (Baden-Baden).—"Die chir. Entfernung des Nagels."
49 Experiences with Biliary Lithiasis in Medical Practice. G. Binder (Jena).—"Mitteilungen ueber die Gallensteinkrankheit aus der ärztlichen Praxis."
50 Fracture in the Upper Arm by Muscular Effort. Milbradt (Bernau).—"Eine Oberarmfraktur durch Muskelzug."

February 24.

51 Evacuation of the Sphenoidal Sinus for Nasal Polypi. A. A. G. Guye (Amsterdam).—"Vier Fälle von Ausräumung der Keilbeinhöhle bei recidivirenden Nasenpolypen."
52 "Landwehr's Rubber" in Diabetes Insipidus. K. von Alfthan (Helsingfors).—"Ueber das thierische Gummi Landwehr's bei Diabetes insipidus."
53 Rest and Exercise in Treatment of Phthisis. Naegelsbach (Schömberg-Neuenburg).—"Ruhe und Bewegung in der Phthiseotherapie."

Dermatologische Zeitschrift (Berlin), February.

54 *Brookes' Paste in Cutaneous Affections. Dreyer (Cologne).—"Die Verwendung der Brookes'chen Pasta bei infekt. und entz. Hautaffektionen."
55 Syphilis as a Legal Cause for Divorce. Helier.—"Ist die Syphilis des einen der Ehegatten ein Grund zur Trennung der Ehe?"

Deutsche Med. Wochenschrift, March 6.

56 *Cancer in the German Empire. Wutzdorff (Berlin).—"Ueber die Verbreitung der Krebskrankheiten im Deutschen Reiche."
57 Glycolysis. E. Bendix and A. Bickel (Göttingen).—"Kritischer Beitrag zur Lehre von der Glykolyse. II."
58 *Tonic Contraction of the Stomach. I. Boas. (Berlin).—"Ueber Magensteifung."
59 Cystic Tumor of Epiglottis; Function of Epiglottis. M. Senator (Frankfurt-am-Main.).—"Ein Fall von cyst. Tumor der Epiglottis. Funktion der Epiglottis beim Schluckakt."
60 *Paralysis of Organs of Sense After Pertussis. M. Rozsavolgyi (Budapest).—"Lähmung von Sinnesorganen nach Keuchhusten."
61 Modification of Jodko-Narkiewicz's Apparatus for Monodic Galvanization. L. Stembo.—"Ueber die monodischen Voltaströme."
62 Baccelli's Method of Treating Foot and Mouth Disease. H. Miessner (Berlin).—"Die Maul- und Klauen-seuche des Rindes und die Behandlung nach der Baccelli-schen Methode."

Wiener Klin. Rundschau, March 2.

63 Congenital Atresia of the Anterior Nares. J. Fein (Army Surgeon).—"Ein Fall von cong. vord. Atresie des Naseuloches."
64 *Modification of Biologic Blood Test. V. E. Mertens (Breslau).—"Die neuen biologischen Methoden des Menschenblutnachweises."

Wiener Klin. Wochenschrift, February 27.

65 *Fatal Hemorrhage After Tonsillotomy. N. Damianos (Vienna).—"Tödtliche Nachblutung nach Tonsillotomie. Bildung eines umschriebenen Gasabscesses nach subcutaner Gelatineinjection."
66 *Typhoid Bacilli in Sputa of Typhoid Patients. L. Jehle (Vienna).—"Ueber den Nachweis von Typhusbacillen im Sputum Typhuskranke."
67 Clinical Experience with Alboferin. K. Fuchs (Vienna).—"Klin. Erfahrungen ueber Alboferin."

Wiener Med. Wochenschrift, January 11 to 25.

68 *Bloodless Treatment of Muscular Torticollis. A. Lorenz.—"Unblutige Behandlung des muskulären Schiefhalses."
69 Alterations in the Nerve Centers from General Ethyl Chlorid Narcosis. R. Cantalupo.—"Ueber die durch die allg. Aethylchlorid Narkose verursachten feineren Veränderungen der nerv. Centren."
70 Psoriasis After Vaccination. E. Weinstein (Pribaj).—"Psoriasis nach Impfung."
71 Tremor from the Standpoint of Life Insurance. J. K. A. Wertheim (Amsterdam).—"Das Zittern vom Standpunkt der Lebensversicherung."

February 1, 8 and 15.

72 Chronic Ankylosing Inflammation of the Spine. L. Kedzior (Cracow).—"Zur chron. ankyl. Wirbelentzündung."
73 "Gland Fever" in Children. C. Hochsinger (Vienna).—"Das sog. Drüsenfieber der Kinder."
74 Vital Processes in the Human Epidermis. L. Merk (Graz).—"Ueber einige Lebensvorgänge in der menschl. Epidermis."
75 Ichthyol in Treatment of Venereal Catarrh. A. Kronfeld (Vienna).—"Zur Therapie des ven. Katarrhs."
76 New Method of Preserving Cadavers. A. Brosch (Vienna).—"Ein neues Leichen-Conservierungsverfahren."
77 *Kuhn's Peroral Intubation. Krug (Cassel).—"Die perorale Tubage nach Kuhn."

Gazzetta Degli Ospedali (Milan), February 13 to 23.

78 Mode of Action of Suprarenal Extract. I. Salvioli.—"Alcune ricerche intorno al modo di agire degli estratti acquosi di capsule soprarenali."
79 *Reaction to Tuberculin in Convalescents from Serofibrinous Pleuritis. D. Romani (Siena).—"La reazione alla tubercolina nei convalescenti di pleurite sierofibrinosa."
80 *Susceptibility of Insects to Tub. and Diphtheric Toxins. Centanni (Ferrara).—"Sensibilità degli insetti verso alcune tossine."
81 Cure of Intestinal Invagination by Spontaneous Evacuation of More Than a Yard of Small Intestine. E. Rebuschini.—"Un caso di invag. int. guarito mediante l'eliminazione spontanea di un lungo tratto d'intestino tenue."
82 Perforation of the Semilunar Valves. G. Vincenzo (Genoa).—"Lo stato reticolare delle valvole sigmoidi."
83 Study of Coxa Vara. P. L. Fiorani (Venice).—"Contributo allo studio de la Coxa vara."
84 Therapeutic Efficacy of Tenifuges. A. Borini (Turin).—"I tenifughi e loro valore terapeutico."

St. Petersburg Med. Wochenschrift, February 9 to 22.

85 *Treatment of Oriental Sore with Finsen's Phototherapy. O. v. Petersen (St. Petersburg).—"Ein Fall von Orientbeule mit Finsen'scher Phototherapie behandelt."

---

2. **Undescended Testis.**—In these lectures, which are concluded in this issue, Eccles goes over all the abnormal conditions of undescended testis, including accidents which may occur from this cause and the effects on the development of the individual. He also considers morbid growths and teratomata; the latter he thinks may be an attempt on the part of Nature to produce a descendant from germinal epithelium that has remained from the primary genital mass, but undifferentiated, and this abortive development being without the help of the union of cells of the two sexes, results in the formation of the heterogeneous mass of sebaceous matter, teeth, ossifying cartilage, bone, hairs, etc. He has been unable to trace a record of true dermoid cyst of an imperfectly descended testis in the human subject, but there are several reported in animals. It is conceivable that the

testis, especially the imperfectly descended one, may contain the same or similar cells to those which the ovary does, and from which this curious growth takes its origin. The various forms of hernia connected with these conditions are also discussed.

3. **Phosphorus.**—On the suggestion of Sir William R. Gowers, Martindale has investigated the effect of phosphorus on alkaloids and other substances in pills, and finds that in most instances, in substances which were employed—strychnin, morphin, quinin sulphate, nitroglycerin and zinc valerianate in combination—there is no interaction or decomposition of substances associated with phosphorus. In zinc valerianate there was evidence of combination, but he is inclined to believe it has taken place in the process of extraction.

4. **Puerperal Insanity.**—Jones' paper discusses the statistics as regards this condition in some 3500 female patients, in whom he finds insanity connected with pregnancy, the puerperal state or lactation, in 259 cases, or 7.4 per cent. of the whole. Of this 259, 21.62 per cent. were cases of insanity during pregnancy; 46.33 per cent. occurred during the puerperal period, and 32.43 per cent. were associated with lactation. He is not inclined to think that there is any special type associated with either pregnancy or lactation, but the puerperal cases present such a marked delirium with wildness and delusions of a hallucinatory character in which religious and erotic features are so prominent that he recognizes it as an almost distinct nosologic entity. The statistics are carefully made and tabulated—the relation with illegitimacy, the form of insanity, the rapidity of onset, etc. The suicidal impulses were commonest in lactation cases and rarest in the puerperal ones. Most of the cases had undergone severe bodily strain, having had the care, responsibility, and management of homes under peculiar difficulties. Hallucinations of hearing were about six times as frequent as any other form, and he finds that marked sexual excitement was more frequently met with in this form of insanity than any other. The larger proportion, 73 per cent., of the puerperal cases consisted of first attacks. The onset of the insanity was apt to be sudden. Heredity occurred in nearly 50 per cent., and fully that percentage in the puerperal cases, while in the pregnant cases it occurred in 82 per cent. Of insanity among pregnant women a large proportion, 26 per cent., occurred among unmarried women, while these were rare as cases of insanity of lactation. In the strictly puerperal period, 12 per cent. occurred in single women. He thinks that during pregnancy the disgrace of illegitimacy exerts a great influence on the production of the condition.

6. **Mammary Cancer.**—Sheild claims the origin of the thorough operation for malignant disease of the breast for England, though he admits that Halsted has the credit of forcing it upon the attention of the profession. The effect of removal of the ovaries for malignant cancer is considered by him as unsettled and as yet in its experimental stage. He would consider three years as rather a short period to calculate a cure. In 60 cases operated on the operation was most thorough; all but two included removal of the axillary lymphatic tissue and every scrap of fascia. Where the axillary glands were infected also a part of the pectoral was removed. The skin has always been freely removed, so that in some cases he was not able to co-apt it again after operation. The most striking general feature of his cases was the lack of local recurrences; if they did occur they would be only small or of a nodulous nature and easily removed. In 40 tabulated cases, 8 patients were well for five years, going on six, 4 for four years and upward, 7 for three years and upward and 11 for two years. In the cases that showed local return within two years a second and slight operation has given them a fresh period of freedom from the disease. In conclusion he says the following lessons seem to be inculcated from the faithful record of these 60 cases: "1. That the risk of removing cancer of the mammæ by extensive operation is small and should not amount to more than 1 or 2 per cent. Sepsis is preventable, and when it occurs it is a blameworthy error on the part of the surgeon. 2. That early and free removal gives prospect of years of freedom and in a good percentage of cases of good health and enjoyment of life. 3. That the cases which do badly are (1) soft, rapidly growing cancer in young and vascular women, and (2) cancers of long continuance before operation where the skin and cervical glands are widely infected. 4. That in certain cases visceral cancers and cancers in the liver co-exist with or rapidly follow operation, and the explanation of these is uncertain. 5. That the practice of early exploration by incision of small nodules and indurations in the breast is of the first importance and should be strongly urged upon the profession generally, especially upon those in general practice who so often see these cases in their early beginnings and on whom the great responsibility of prompt diagnosis falls. 6. No one should undertake an operation for mammary cancer unless he is capable, and has had sufficient operative experience, to remove thoroughly all lymphoid tissues from the axilla, the leaving of infected glands towards the apices of the axillary spaces being a common source of failure in the results of this operation. 7. The prognosis of mammary cancer is still dubious and sometimes instances arise which falsify ordinary experience. Bad cases have long freedom from return. Early cases show recurrence. But such do not invalidate the rule: Operate early, operate extensively."

8. **Intestinal Sand.**—This subject has apparently received little attention from the English-speaking profession, though considerable has been written on it by Continental writers. Duckworth and Garrod report cases, with examination of the material, including spectroscopic examination. They classify the varieties of intestinal sand into two groups: 1. False intestinal sand composed of vegetable remains that resist the action of digestive fluids and may or may not have acquired some incrustation of earthy salts. 2. True intestinal sand, which has no special vegetable basis, and owes its hardness and grittiness to inorganic material which it contains. The organic basis of this is of animal origin and the authors are inclined to think it originates in the intestines, chemical and clinical evidence both alike pointing in this direction. The nature of the pigments suggests the colon as the most likely seat for the formation and the anatomic structure of the large bowel may be looked upon as more favorable than that of the small intestine to the sojourn required for the deposition of the earthy salts of which the material is so largely composed.

12. **Electric Shocks.**—This paper, read before the Institute of Electrical Engineers by a layman, contains many interesting points. He discusses the following questions: 1. Is everyone equally susceptible to an electric shock? He holds there is no absolute proof as to this. His own opinion is that not only different people are differently affected, but the same persons under different conditions do not feel the same effects. 2. Is a person suffering from disease more likely to be fatally injured by an electric shock than a person in good health? He finds that apparently a low grade of intellect seems to favor insensibility to electricity. The brain does not so quickly react. He has also observed persons suffering from kidney disease to be specially sensitive. This seems to indicate that the resistance of the body may be altered by disease. As regards the question, whether the physiologic condition at the time shock is received make any difference, he quotes cases that seem to show that free perspiration seemed to shunt off the electricity, making the matter much less serious than would otherwise be the case. Also, drunken people seem to be less likely to fatal accidents, though the evidence is not very strong; similarly, people that are asleep. He arranged once for his assistant to give him a shock when he was in bed asleep, and though two witnesses guaranteed the assistant had done so, he felt nothing. In one case a man who was stationed to watch a cable carrying 5000 volts, went to sleep and fell upon it. He was most severely burned, but was not killed. Aspinall seems to think that the passage which the current takes through the body has an effect as regards fatality, and that the left side is more vulnerable than the right, and gives evidences. He believes the reason is that the valves of the heart on that side

are more easily damaged. The amount of contact and the effect of burning as having an influence on the fatality of the shock, is discussed. He thinks that a person could probably kill himself with a smaller voltage with large contact. Burns, he thinks, may have a good effect, increasing the resistance. In most of the cases he noticed the fatal effects were where the burns were slight. His opinion is that moistness of the skin reduces the chance of burning, as it insures better contact; if no burning takes place efforts to help the victim should be redoubled, when it is thought he has received a shock, though severe burning may occur after a sufficient current to kill has been received. He is also inclined to think that the fatal shock may not destroy consciousness and the person be able to speak before he succumbs; he reports a case indicating this. The peculiar cry which usually attends the severe electric shock is not absolutely invariable, as in one instance he did not observe it. As regards the effect of the alternating and direct currents he is rather inclined to think the direct current possibly a little more fatal. It will much more quickly break down any fault in conduction than the alternating current, but if otherwise the conditions are the same both currents will kill a man equally well. If death occurs from an electric shock both are equally dangerous; if death occurs from burns, the direct current is worse; while burns themselves are protections in his opinion, they may yet be severe enough to cause death. As regards the actual voltage required to cause death he would say that "at below 600 volts the conditions must be abnormally favorable; at below 1000 volts they must be favorable; and at above 1000 volts, the higher the pressure the more easy it is to get the conditions necessary to cause death." On the whole there is really not much more danger in one system than another; it is purely a question of voltage. He asks if medical men can not give us more certain methods of ascertaining whether a man is dead or not from an electric shock; the lack of this is unfortunate, and he inquires if anything more can be done to help people that have received shocks. He wants to know what it is that breaks down when the shock is received. Is it the lungs, the heart, the blood, or the brain? Electricity, in his opinion, acts somewhat as an anesthetic like chloroform, and he has seen two cases where death was expected, but where the men recovered from the head being lowered, thus flushing the brain with the blood as is done in cases of chloroform asphyxia. He asks: Should we adopt the same treatment before applying artificial respiration, namely, hold the body a few seconds head downward?

13. **The Health of the People.**—Cantlie discusses the sanitary condition of the British population, showing how the race is degenerating, under conditions of town life, with its bad air, lack of exercise, etc., its bad effect on children and young adults, and the diminished effect of the church in cities as compared with country. He discusses the physique of boys and girls. While he admits that the girls of the middle classes are improving, this is not true of the masses, and it is not even true of the boys of the middle class. The present system of dress and bringing up is damaging in the case of boys. He is inclined to conditionally endorse Kipling's criticism of English games. He believes they are carried over to adult age to an unreasonable extent. The remedies which he sees for the degenerative influences on young men are compulsory military service, which he believes would have a generally beneficial effect, and improving the condition of agricultural labor, thus making country life more attractive.

16. **The Etiology of Pulmonary Tuberculosis.**—Burton Fanning holds that consumption is communicated to individuals at different periods long before it has an outbreak, yet it forms a lodgment, lies latent in the system to be later aroused and developed. He thinks at least 40 or 50 per cent. of people carry in them germs of this disorder, which may break out, and that a large class of people, who are considered naturally delicate but free from organic disease, are really suffering from masked tuberculosis. He attributes considerable importance to heredity. In 54 per cent. of his own cases there is a family history of pulmonary tuberculosis. There are a number of conditions which tend to bring out this disorder, among them being influenza, malaria, dysentery and measles. A strikingly large number of his consumptive patients have been martyrs to migraine. A man with a tubercular focus ought not to take any liberties with his health or overstrain himself. In 10 per cent. of his cases the author attributes the occurrence of manifest tuberculosis to overfatigue, overindulgence in athletics, dancing, climbing and games. He does not touch upon the subject of overcrowding, close confinement or bad air, which are specially active in producing tuberculosis of the poor.

17. **Plague.**—Nuttall notices Galli-Valerio's article (in a previous abstract) in regard to the transmission of plague by fleas and refers to his own experiments as having the same bearing. He finds that the bacilli are largely digested by insects and therefore not likely to do so much harm, at least if transmission does not occur immediately. He has experimented not only with fleas but with flies and bedbugs and would suggest that experiments be tried on a suitable species of monkey. Bedbugs are easy insects to work with. They can be kept without food or water for several months and in this condition will bite immediately.

21. **Chloroform in Heart Disease.**—Guyon remarked that he had frequently had occasion to operate on subjects between 60 and 90 years of age, and once on a man of 91. Atheromatosis and heart affections are not rare at these ages, but the chloroform was perfectly tolerated. He even noted in a number of cases that the heart action seemed to have been permanently benefited, confirming Hare's experience. He has lost two patients under operation and in both the heart was in fatty degeneration, hence he warns against this condition, but affirms on the other hand, that chloroform can be administered to patients even when they are known to have exhibited symptoms of atheroma or angina pectoris. He thinks it is possible to avert syncope, even in extreme anemia, by the Trendelenburg position. He has had no fatalities since this was introduced. The pulse must be watched as carefully as the respiration, especially during the third stage of chloroform. Brouardel stated that he had served as medical expert in twenty-five cases of sudden death under chloroform. One was a child with an enlarged thymus and one a woman who succumbed to pulmonary embolism after reduction of a fracture of the femur. None had any evidences of a valvular defect, but in three the heart was loaded with fat, although the cardiac muscle was not altered. In one patient the heart was in actual fatty degeneration, but the patient died in reality from congestion of the lungs. The subjects were between 13 and 52 years of age, the 9 men all under 47. In 14 cases the operation had not commenced; in 3 it had just commenced, and in the case of fatty degeneration mentioned above, death occurred after a luxation of the femur had been reduced, a minute or two after cessation of the chloroform. Death was attributed by the surgeons in all these cases, except one, to a cardio-pulmonary syncope. Renal lesions were frequent in the various subjects. In one woman the kidney was enormous on one side and a mere calcareous lump, weighing 6 gm., on the other. He does not incriminate these renal lesions in the causation of the chloroform fatality. From the medico-legal standpoint, the latter can be compared only to the sudden deaths which occur from blows in the region of the larynx, sometimes very slight injuries. Brown-Séquard described these fatalities as "inhibition phenomena," irritation of the laryngeal region entailing abrupt arrest of respiration and circulation. In addition to traumatisms of this kind, so trifling that they leave no trace on the cadaver, the same accidents have been observed from mere excitation of the nasal, pharyngeal and laryngeal mucosa. He cited a case of sudden death during sneezing, and 2 cases during a mild catarrhal sore throat with no trace of edema. Both were young men, one a medical student. Any lively excitation of the superior laryngeal nerves, the terminal ramifications of the trigeminal, is liable therefore to induce the cardio-pulmonary syncope or death from inhibition. Sudden death just before or during a surgical operation was known before the discovery of chloroform. He quoted examples of such occurrences reported by Lisfranc, Desault, Simpson and others. The

use of anesthetics did not create a new kind of death from stoppage of heart and lung action. The danger is not exclusively in the administration of the anesthetic agent; it lies also in the innate or acquired susceptibility of the patient. The chloroform causes the explosion of this hitherto latent disposition. He does not believe that it is possible to detect this susceptibility beforehand as a general rule, but occasionally the antecedents may afford a hint. An emotion or excitement which would not affect a healthy person, assumes intense proportions in debilitated, cachectic subjects. The regions innervated by the terminal branches of the trigeminal, by the superior and inferior laryngeal nerves, are especially liable to induce this arrest of the respiration and circulation under the influence of sometimes merely slight stimuli or impressions. Anesthetics which act by penetration of their fumes into the pharynx and larynx, across these nerves, have a direct stimulating action on these peculiarly excitable regions and may arouse a heretofore unsuspected susceptibility. The mode of administration of anesthetics is therefore not the only factor to be invoked in case of an accident. The personality of the subject, his special susceptibility, are frequently the principal causes of death.

22. **Sodium Methylarsinate.**—Gautier's success with cacodylic medication inspired him to seek for a still more effective means of administering arsenic. He finds that the sodium methylarsinate (methylarsinate disodique), or arrhenal, is even more effective than the cacodylates, while it has the advantage that it can be administered by the mouth without by-effects, even from prolonged use, with intermissions every four or five days. It increases the appetite, restores the strength, raises the arterial tension and causes a marked increase in the number of red corpuscles and of the large mononuclear cells. He reports in this communication the results of its administration by himself and his colleagues in tuberculosis, chorea, uncontrollable vomiting, pernicious anemia, malaria and cutaneous affections. The average dose is 10 cg. a day. The name arrhenal is derived from the Greek term for arsenic.

23. **Placenta Previa.**—Vézina describes four cases of placenta previa and recommends his practice of first administering half a dram of fluid extract of ergot in such cases. Then, when dilatation is sufficient he practices version if necessary and extracts the fetus. He gives no anesthetic and relies exclusively on the ergot and tamponing, which supplement each other. The patients all recovered, with the death of one fetus.

25. **Association of Pupil Disturbances with Lesions of the Aorta.**—The pupil disturbances observed in case of a lesion of the aorta are attributed by Babinski not to a mechanical cause but to the action of the same poison in the system that is inducing the aortic affection. Vaquez reports three cases which confirm this view and demonstrate its importance in pathology. In one of his cases, the aortic valvular lesions and the loss of the pupil reflexes were the only signs of syphilitic infection. Their coincidence should always suggest the possibility of syphilis, and the pupils should always be examined in case of aortic lesions.

26. **Lead in the Viscera in Lead Poisoning.**—Launois has a special apparatus for reduction and electrolysis of the tissues to be examined. He found deposits of lead in the brain in 8 out of 10 cadavers examined, and only once in the spleen or lung.

28. **Ascending Neuritis in the Etiology of Syringomyelia.**—Guillain describes the case of a man of 50 who developed a large phlegmon in the palm consecutive to a trifling injury. As the phlegmon healed symptoms of ascending neuritis from the injured point became apparent and gradually progressed into pronounced syringomyelia, of which the patient is now a typical example, twenty years after his primary phlegmon. Marie, Eulenburg and Schlesinger have each described a similar case consecutive to a phlegmon on the hand or in the axilla. The infection evidently reached the spine by way of the nerves, which may also occur in case of tetanus and hydrophobia. It is possible that certain suppurations noted in the course of syringomyelia may be primary instead of a casual coincidence or secondary. Certain puzzling affections of the spinal cord, medulla and pons may be due to infectious or toxic agents arriving from the periphery by way of the nerves.

29. **Relief of Syphilitic Cephalalgia by Lumbar Puncture.**—This communication from Fournier's service describes the great benefit derived in several cases of syphilitic cephalalgia by lumbar puncture and withdrawal of a small amount of fluid. The results seem to indicate that the cephalalgia is in reality a meningitic symptom revealing hypertension of cerebrospinal fluid.

39. **Radioscopic Diagnosis of Sclerosis of the Interlobar Pleura.**—Béclère asserts that it is possible to diagnose the condition of the interlobar pleura by radioscopy. The latter is not complete until the thorax has been inspected from the front, from the back, from the side and obliquely, with the tube held in each of these positions at various heights from the top of the head to the inferior strait of the pelvis. He points out that a sheet of cardboard is permeable for the rays when inspected from the front or back, but that it casts a dense shadow when the edge alone is presented to the tube and the rays have to pass through its entire length. In the same way, the pleural partition that separates the upper lobe of the lung from the middle and lower lobes, casts no shadow unless the rays pass through its entire length and not even then unless in case of fibrous thickening, which is possible to be diagnosed with certainty.

45. **Restoration of Defect in Nostril.**—Koenig successfully substituted a missing portion of the nostril by a corresponding piece of tissue cut out of the upper portion of the ear. The patient was a girl and the defect in the ear could be easily concealed by the hair. It is seldom that the surgeon is able to supply a defect with such a perfect substitute as the flap in this case, almost identical in structure on both sides, and with the free edge apparently continuous with the edge of the intact nostril. In case the flap should show signs of necrosis, he has the other ear for another attempt.

54. **Brookes' Paste in Inflammatory and Infectious Cutaneous Affections.**—Dreyer attributes the great efficacy of this paste to the combination of the three important disinfectants, salicylic acid, ichthyol and mercury in the very soluble form of the oleate. The formula is as follows: Hydrargyr. oleinic. (5 per cent.), 28; zinc oxid and amyli, āā 7; vaselin alb., 14; ichthyol, 1 to 2; acid. salicyl., 1.2 to 1.8, and ol. lavand. qu. sat. He describes his experiences with it and mentions among other instances of its efficacy a case of gummatous ulceration of the ear which had persisted for several years, notwithstanding inunction treatment. It healed in two weeks under the paste and injections of mercury salicylate. The paste must be smeared over the spot and covered with cotton. It is not effective when applied on a rag. Inflamed hemorrhoids, sycosis, eczematous erosions, soft chancres, etc., afforded equally favorable results.

56. **Cancer in the German Empire.**—Wutzdorff gives numerous tables and charts showing the distribution of cancer in the different parts of the empire as compiled by the imperial council of health. They show that the number of cases of cancer has materially increased since 1892, the proportion of increase surpassing that of the population. The age of the subjects averages younger than in former years. Women are more frequently affected than men, but do not succumb to the cancer in as large a proportion. Cancer is most prevalent in the Lübeck and Hamburg districts and is increasing most rapidly in the latter and in Wurtemberg. The southern provinces of the empire are the least affected.

58. **Tonic Contraction of the Stomach.**—Boas describes a contraction of the anterior stomach wall similar to the phenomenon called "stiffening of the intestines" by Nothnagel (Darmsteifung). It is the early phase of Kussmaul's "peristaltic restlessness of the stomach." Boas has been studying this "stiffening of the stomach" for several years, and states that it is a comparatively frequent and in certain instances an extremely important diagnostic sign. It may be slight, restricted

to a small portion of the fundus, and palpable as merely exaggerated tonicity of the gastric musculature, subsiding after a a few seconds. These abortive contractions do not seem to be felt by the patient and are not associated with any perceptible noise. The contractions may occur more distinctly, and be palpated as a marked increase in the tonus, visible as a protuberance of a larger or smaller portion of the wall of the stomach, and terminating in a perceptible gurgle as the contents are forcibly expelled. These contractions are slightly painful. In other cases the contractions may be very vigorous, lifting up portions of the stomach above the level of the abdomen and lasting some time, terminating with a loud gurgling noise and causing more or less decided pain. In 5 cases of spasmodic contraction of the pylorus this stiffening of the stomach was a prominent symptom. It was also pronounced in cases of organic stenosis of the pylorus on a cicatricial or carcinomatous basis. He relates several case-reports as typical specimens of the phenomenon and proclaims that it can be accepted as the precursor of visible and palpable gastric tetany from impermeability of the pylorus. It is the first sign of some interference with the permeability of the pylorus, while it can still be overcome. When the obstacle becomes unsurmountable, the hitherto regular although exaggerated tonus becomes irregular and spasmodic. The tonus becomes tetany. The obstacle to the permeability of the pylorus may be purely functional or organic, either cicatricial or due to a neoplasm in or near the pylorus or to displacement. The stiffening is valuable as a differentiating measure against atony of the stomach and gastric myasthenia. It establishes the existence of some obstacle at the pylorus in cases in which all the symptoms indicate atony. When the diet is regulated and the stomach duly rinsed, it is almost impossible to detect this sign except when the stomach is full, at the height of digestion, that is, three or four hours after dinner. Rubbing the fundus with the hand dipped in cold water or after ether has been applied or after Faradization, are useful adjuvant factors in its production. The diagnosis is much facilitated by this sign of incipient stenosis of the pylorus. As internal treatment is rarely successful in such cases, it will stimulate the patient to accept surgical intervention at a time when otherwise the symptoms do not positively indicate it. Boas does not advocate operating for mere spastic stenosis of the pylorus, as internal treatment is preferable for the majority of such cases, along the lines of internal treatment of the so-called mechanical insufficiency of the first degree.

60. **Paralysis of the Organs of Sense After Pertussis.**—The child in the case described became blind, deaf and dumb in the course of a severe attack of whooping cough. The behavior of the pupil reflex in this and a case described by Alexander indicated that the disturbances were due to pathologic alteration of the nerve centers, probably from edema of the brain. There was no albuminuria. One of the three cases on record died, both of the others recovered.

64. **Modification of Biologic Blood Test.**—Mertens points out that the rabbits are injected in the peritoneum by the Hungarian, Uhlenhuth, and subcutaneously by the Germans, Wassermann and Schütze, to obtain prepared serum for the biologic serum differentiating test of blood. Experience has confirmed the great value and reliability of the test, but he finds that it can be simplified by making the injections into the veins of the animals. The serum thus prepared has proved 150 times as powerful in some of his experiments, while the diagnosis is possible in one hour instead of in twenty-four by the peritoneal method. The intravenous method is also preferable for the reason that bacteria in the fluid injected soon die in the animals' blood. The rabbits also tolerate intravenous injections much better and they can thus be repeated oftener. He mentions with approval Ziemke's method of extracting the blood stains with a concentrated solution of potassium cyanid. The extract is then shaken up with a few scraps of tartaric acid and tested constantly with red and blue litmus paper until a neutral reaction is almost reached. The resulting fluid is limpid when still slightly alkaline, but remains turbid as long as there is a trace of acid in excess. It is then diluted with water to a laky tint and is then ready for the serum test. A scrap from the stomach of a cadaver that had been buried ten years reacted positively to the test thus modified.

65. **Fatal Hemorrhage After Tonsillotomy.**—Damianos states that about 150 cases of severe hemorrhage after tonsillotomy are on record, only seven of which proved fatal. He had occasion recently to observe another fatal case, distinguished further by the formation of a gas abscess after a subcutaneous injection of gelatin. The patient was a young man with a tendency to hemophilia. When the tonsil was removed the incision passed through the plane of the outer capsule of the tonsil where the trunks of the tonsillar arteries pass before ramifying. The side wall of one of these arteries had been injured by the operation, and its intimate connection with the fibrous capsule impeded its contraction and retraction, thus interfering with hemostasis. He therefore warns against the complete ablation of the tonsil. It is entirely unnecessary to remove all of it, while the case described shows the dangers of such a procedure. In the partial removal of the tonsil only small ramifications of the tonsillar arteries can be injured, and the yielding structure of the remaining portion of the tonsil left allows of contraction and retraction. The hemorrhages followed the use of the knife, of the tonsillotome and even of the thermocautery. In some of the cases it occurred at once and in others appeared or recurred several days later. The hemorrhage ceased in a few cases as the patient fainted, and in others the fainting was artificially induced as a last resort by raising the patient to a sitting posture, with the same success. Hood noticed that the hemorrhage ceased as the patient vomited in one case, and he arrested the hemorrhage in another patient by administering an emetic. Others were successful in arresting the hemorrhage by applying an astringent. Hovell uses a paste of one part gallic and three parts tannic acid mixed with a little water and rubbed with the finger into the bleeding spot. Several report arrest of the hemorrhage under ergotin, others after cauterizing with the thermocautery. Panas advocates digital compression as the most effective measure, kept up possibly as long as two hours. The bleeding artery has been twisted or ligated in some cases and the carotid artery has been compressed or ligated in others. The last resort seems to be ligature of the external carotid or of the common carotid artery. About six cases have been treated by the latter method. Three of the seven fatal cases were after operations by charlatans. Another was a rebellious child whose screaming detached the thrombus which had arrested the bleeding at first. Another patient was a girl of 13 who made a sudden movement to stand up and retch during the operation on the second tonsil. The first had been successfully removed. The knife slipped and severed a small artery and vein in an incision .5 cm. deep beyond the tonsil. The death was ascribed to penetration of blood into the air passages, but the operator, Schuchardt, held to the opinion that the circumstances of the case justified the assumption of shock, as the patient fainted and died after gasping twice.

66. **Typhoid Bacilli in the Sputa in Typhoid Fever.**—Jehle examined the sputum from 23 cases of typhoid fever and cultures were made from the bronchial secretions in 15 cases that came to the autopsy. He found that the sputum had a marked hemorrhagic character in the cases complicated by pneumonic infiltration, and that it frequently contained typhoid bacilli alone or associated with other microbes, especially the influenza bacillus. He also succeeded in determining the presence of typhoid bacilli in the sputum in the cases of clinically and anatomically uncomplicated bronchitis. The importance of this last fact is apparent for the prophylaxis of typhoid fever. One of the cadavers displayed a recent hemorrhagic pneumonia while the typhoid lesions in the intestines had evidently been long healed. Typhoid bacilli were numerous in the sputa. In another, a fatal suppurative cholangitis had developed after two months of undisturbed convalescence from typhoid fever; pure cultures of typhoid bacilli were derived not only from the biliary abscess but from the lung juice in this case; also from

4 out of 5 cases of pronounced pneumonia and in 2 out of 6 cases of uncomplicated bronchitis in typhoid fever. The findings in one cadaver suggested that the typhoid hemorrhagic lobular pneumonia and pleuritis were the primary affections, as no lesions were discoverable in the intestines. The mesenteric glands, however, and the intestinal mucosa contained the bacilli in large numbers.

68. **Bloodless Treatment of Muscular Torticollis in Children.**—Lorenz describes the fine results attained by subcutaneous intentional rupture of the sterno-cleido-mastoid muscle to cure obstinate wry-neck in children. The subject lies with a hard cushion under the shoulders, the head and neck unsupported. The shoulder is drawn down at the same time and it is thus possible to tear the muscle by gradual dehiscence, followed by over-correction. Parents accept this operation much more readily than when the knife is used, and the dehiscent fibers heal under the intact skin with little if any cicatricial formation. The cure has been ideal and permanent in all his cases.

77. **Per-Oral Intubation.**—Krug reports twenty-two cases in which Kuhn's per-oral tube was applied, with success surpassing all anticipations. See The Journal of January 25, p. 284.

79. **Reaction to Tuberculin in Convalescents from Pleurisy.**—The tuberculin test proved positive in fourteen convalescents from serofibrinous pleurisy free from any clinical signs of tuberculosis. Romani thinks that the reaction must have been due to some small latent focus escaping all our means of research except the tuberculin test. He ascribes the pleurisy in such cases to infection from these latent foci. The germs pass by way of the lymph to the pleura and there set up inflammation that may remain limited to the pleura and not involve the primary focus, which remains latent. Every pleurisy which can not be traced to some other known process may be assumed to be secondary to a tubercular focus whether it is apparent or not.

80. **Susceptibility of Insects to Tuberculous and Diphtheric Toxins.**—Centanni noticed that the larvæ of house flies usually refused to feed on the flesh of animals that had been used for laboratory research, or if they did feed on it, they soon died. He therefore instituted experiments which proved that maggots and similar insects offer most interesting and demonstrative material for research on the action of bacteria and their toxins. He found, for instance, that the tubercle bacilli ingested by the maggots did not penetrate into the tissues, but evidently killed the insects by their toxins. If only a small quantity of bacteria were ingested, they were eliminated *en masse* without apparent injury to the maggot. After ingestion of a small amount of diphtheria bacilli on the other hand, the epithelium of the intestines shows specific alterations, but it seems to acquire a kind of immunity, as there is no further absorption and the bacteria and their toxins can remain in large quantities in the intestines without harm to the insect until their final expulsion. The simplicity of the construction and of the vital processes in insects renders them peculiarly instructive for such research.

85. **Treatment of Oriental Sore with Finsen's Phototherapy.**—Petersen remarks that an oriental sore is easily diagnosed when it is encountered in the places where it is endemic, but may prove puzzling when first observed at St. Petersburg for example. He has recently had two such cases. One was at first assumed to be a gummatous ulcer as the patient's statement that she had recently arrived from the Orient was unheeded. It healed in the course of four months under curetting and iodin. The second patient was an actress from Turkestan, and the ulcer involved the nose and part of the cheek. Under Finsen's phototherapy the lesion healed with the minimum of scar formation. The effect in this case was so striking and the treatment seems so rational in these evidently parasitic lesions, that Petersen and Finsen, with whom he corresponded on the subject, now recommend phototherapy as eminently adapted for the treatment of endemic oriental sores. The sun's rays can be utilized in the tropics without the expensive electric light apparatus.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Diseases of the Intestines. Their Special Pathology, Diagnosis, and Treatment. With Sections on Anatomy and Physiology, Microscopic and Chemic Examination of the Intestinal Contents, Secretions, Feces and Urine; Intestinal Bacteria and Parasites; Surgery of the Intestines; Dietetics; Diseases of the Rectum, etc. By John C. Hemmeter, M.D., Ph.D., Professor in the Medical Department of the University of Maryland. In Two Volumes. Vol. II: Appendicitis, Tuberculosis, Syphilis, Actinomycosis of Intestine, Occlusions, Contusions, Rupture, Enterorrhagia, Intestinal Surgery, Atrophy, Abnormalities of Form and Position, Thrombosis. Embolism, Amyloidosis, Neuroses of the Intestines, Intestinal Parasites, Diseases of Rectum. With Plates and Many Other Illustrations. Octavo. 675 Pages. Price, Vol. II, net, $5.00. Philadelphia: P. Blakiston's Son & Co. 1902.

Photographic Atlas of the Diseases of the Skin. A Series of Eighty Plates, Comprising More Than 100 Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York. Price, $1.50 each. Part IX. Paper. Philadelphia and London: J. B. Lippincott Co. 1901.

Diseases of Women: A Manual of Gynecology Designed Especially for the Use of Students and General Practitioners. By F. H. Davenport, A.B., M.D., Assistant Professor in Gynecology, Harvard Medical School. Fourth Edition, Revised and Enlarged, with 154 Illustrations. Cloth. Pp. 402. Price, $1.75. Philadelphia and New York: Lea Brothers & Co. 1902.

Obscure Diseases of the Urethra. By E. Hurry Fenwick, F.R.C.S. Eng., Surgeon to the London Hospital. With Special Chapters on Urethral Carcinoma and Calculus, by J. W. Thomson Walker, M.B. Edin., F.R.C.S. Eng. Cloth. Pp. 154. Price, $2.60 net. Philadelphia: P. Blakiston's Son & Co. 1902.

Compend of General Pathology. By Alfred Edward Thayer, M.D., Assistant Instructor in Gross Pathology, Cornell Medical College. Containing 78 Illustrations, Several of Which Are in Colors. Cloth. Pp. 321. Price, $0.80. Philadelphia: P. Blakiston's Son & Co. 1902.

Proceedings of the American Pharmaceutical Association at the 49th Annual Meeting, Held at St. Louis, Mo., September, 1901, also the Constitution, By-laws and Roll of Members. Cloth. Pp. 1028. Baltimore: Published by the American Pharmaceutical Association. 1901.

Report of the Vital Statistics of the City of Havana, Made to Brigadier General Leonard Wood, U. S. A., Military Governor, Year, 1901. By Major W. C. Gorgas, Surgeon, U. S. A., Chief Sanitary Officer. Paper. Havana: Avisador Commercial Printing Office.

Psychology, Normal and Morbid. By Charles A. Mercier, M.B., M.R.C.P., F.R.C.S., Lecturer on Insanity at the Westminster Hospital Medical School. Cloth. Pp. 518. Price, $5.00. London: The Macmillan Co. 1901.

Sixteenth Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. Vols. I and II. Paper. Pp. 1114. State Printer of Pennsylvania: Wm. Stanley Ray. 1901.

Human Embryology and Morphology. By Arthur Keith, M.D. (Aberd.), F.R.C.S. (Eng.), Lecturer on Anatomy, London Hospital Medical College. Illustrated. Pp. 324. Price, $4.50. London: Edward Arnold. 1902. New York: Longmans, Green & Co., Agts.

New Patents.

Patents of Interest to Physicians, etc., March 4 and 11:

694,599. Hernial truss. Robert Arnhold, Cleveland, Ohio.
694,630. Nebulizer. Herman Goltermann, New York City.
694,541. Vaginal syringe. Arthur R. Gordon, Toledo, Ohio.
694,751. Hernial truss. Datus E. Huffman, Minneapolis, Minn.
694,762. Protector-pad for corns. Samuel A. Level, Hot Springs, Ark.
694,666. Pump for atomizers. John Robertson, Cincinnati, Ohio.
694,813. Hypodermic syringe. Benjamin T. Winchester, Baltimore, Md.
695,270. Vaccine shield. George M. Beringer, Camden, N. J.
694,945. Manufacture of iodin preparations. Max Cohn, Berlin, Germany.
695,377. Hernial Truss. Joseph A. Corbett, Medford, Okla.
695,198. Insoluble casein and producing same. Henry V. Dunham, New York City.
694,971. Rectal instrument. Samuel L. Kistler, Los Angeles, Cal.
695,167. Combination liquid measure and sterilizer. J. C. F. McGriff, San Jose, Cal.
695,356. Medicine applicator. Burton A. Washburn, Wickliffe, Ky.
695,254. Pancreas preparation and producing same. Wilhelm Weber, Stolberg II, Germany.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 5 to 12, 1902, inclusive:

Frank C. Baker, lieutenant and asst.-surgeon, U. S. A., from duty in the Division of the Philippines, to take effect June 1, 1902, and

to report on arrival at San Francisco, Cal., to the Adjutant-General, U. S. A., Washington, D. C., for instructions.

Howard W. Beal, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., as Lieutenant Baker.

Jerome S. Chaffee, lieutenant and asst.-surgeon, U. S. A., former orders amended so as to direct him to report for duty at the Army and Navy General Hospital, Hot Springs, Ark., relieving Contract Surgeon William E. Musgrave.

August von Clossmau, contract surgeon, from duty as attending surgeon and examiner of recruits at St. Louis, Mo., to duty at Jefferson Barracks, Mo.

Louis W. Crampton, major and surgeon, U. S. A., leave of absence from A. G. O. extended six days.

Joseph J. Curry, captain and asst.-surgeon, Vols., now at Fort Bayard, N. M., is by reason of physical disability honorably discharged from the service of the United States, to take effect March 14, 1902.

Carl R. Darnall, captain and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., as Lieutenant Baker.

Edwin F. Garduer, major and surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., as Lieutenant Baker.

Harry M. Hallock, captain and asst.-surgeon, U. S. A., member of an Army retiring board at Manila, P. I., relieving Major Walter D. McCaw, surgeon, U. S. A.

Louis T. Hess, lieutenant and asst.-surgeon, U. S. A., previous orders of Feb. 19, 1902, revoked.

Alva R. Hull, contract surgeon, from Jefferson Barracks, Mo., to duty at Fort Logan, Colo.

Charles Lynch, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), member of an Army retiring board at Manila, P. I., relieving Major R. W. Johnson, surgeon, U. S. A.

Wharton B. McLaughlin, captain and asst.-surgeon, Vols., having tendered his resignation, is honorably discharged from the service of the United States.

William E. Musgrave, contract surgeon, on being relieved by Lieutenant Chaffee, asst.-surgeon, U. S. A., is granted leave of absence for one month, on the expiration of which he will proceed to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Thomas L. Rhoads, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., as Lieutenant Baker.

Edward P. Rockhill, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., as Lieutenant Baker.

Edward A. Romig, captain and asst.-surgeon, Vols., now at Big Rapids, Mich., to proceed to San Francisco, Cal., en route to the Division of the Philippines for assignment.

George A. Skinner, captain and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., as Lieutenant Baker.

John H. Stone, captain and asst.-surgeon, U. S. A., on his arrival in the United States to report for duty at Washington Barracks, D. C.

Henry S. Turrill, major and surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., as Lieutenant Baker.

William E. Vose, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., as Lieutenant Baker.

Egerton C. Wilson, contract surgeon, now at Owosso, Mich., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy, week ended March 15:

Surgeon L. W. Spratling, detached from the Naval Recruiting Station, Buffalo, N. Y., and ordered to the Naval Hospital, Portsmouth, N. H.

Surgeon O. D. Norton, ordered to the *Richmond* as relief of Surgeon E. H. Marsteller.

Surgeon E. H. Marsteller, detached from the *Richmond* and ordered to the *Lancaster*.

Surgeon E. S. Bogert, Jr., detached from the *Lancaster*, and ordered to Buffalo, N. Y., for duty at the Naval and Marine Recruiting Rendezvous.

P. A. Surgeon J. C. Pryor, detached from the Naval Hospital, Newport, R. I., and to hold himself in readiness for duty on the *Massachusetts*.

P. A. Surgeon B. R. Ward, detached from the *Constellation*, and ordered to the Navy Yard, Boston, Mass.

Asst.-Surgeon A. M. Fauntleroy, detached from the Naval Hospital, Portsmouth, N. H., and ordered to the *Illinois*.

Asst.-Surgeon P. E. McDonnold, detached from the Naval Academy, and ordered to the *Olympia*.

Asst.-Surgeon C. M. Oman, detached from the Naval Hospital, New York, and ordered to the *Constellation*.

Asst.-Surgeon W. E. Griffin, ordered to the Naval Hospital, Newport, R. I.

Asst.-Surgeon H. A. Dunn, detached from the *Frolic*, and ordered to duty with the Marine Brigade.

Asst.-Surgeon J. M. Brister, detached from duty with the Marine Brigade and ordered to the *Frolic*.

Asst.-Surgeon U. R. Webb, detached from the *Kentucky* and ordered to the Iris.

P. A. Surgeon E. V. Armstrong, detached from the *Olympia*, and ordered to Washington, D. C., and home to wait orders.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended March 13, 1902:

P. A. Surgeon J. B. Stoner, to proceed to Cape Charles Quarantine and assume temporary charge of the station during the absence on leave of Asst.-Surgeon C. W. Wille.

Asst.-Surgeon W. C. Hobdy, to proceed to Savannah Quarantine and assume temporary charge of the station during the absence on leave of A. A. Surgeon W. J. Linley.

Asst.-Surgeon W. C. Billings, to proceed to Ludington, Mich., for special temporary duty. Relieved from duty at Chicago, and directed to proceed to New York, and report to Surgeon G. W. Stoner for duty.

Asst.-Surgeon Dunlop Moore, relieved from duty at Honolulu, and directed to proceed to Yokohama, Japan, for duty in the office of the U. S. Consul-General.

Asst.-Surgeon C. W. Wille, granted leave of absence for ten days from March 21.

Asst.-Surgeon J. S. Boggess, to proceed to Delaware Breakwater, Del., and assume temporary charge of the station during the absence of Asst.-Surgeon C. H. Lavinder.

A. A. Surgeon H. S. Caminero, granted leave of absence for thirty days from March 5.

A. A. Surgeon J. S. Hough, relieved from duty at Yokohama, Japan, and directed to proceed to Hongkong, China, and report to Asst.-Surgeon J. W. Kerr for duty in the office of the U. S. Consul-General.

A. A. Surgeon W. J. Linley, granted leave of absence for nine days from March 15.

Junior Pharmacist J. E. Beck, upon being relieved by Junior Pharmacist G. A. Morris, to proceed to Mobile, Ala., and report to Medical Officer in Command for duty and assignment to quarters.

Junior Pharmacist G. A. Morris, relieved from duty at Havana, Cuba, and directed to proceed to Fort Stanton, N. M., and report to medical officer in command for duty and assignment to quarters, relieving Junior Pharmacist J. E. Beck.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 15, 1902:

SMALLPOX—UNITED STATES.

California: Sacramento, Feb. 22-March 1, 1 case; San Francisco, Feb. 23-March 2, 4 cases.

Colorado: Denver, Feb. 24-March 3, 4 cases.

District of Columbia: Washington, March 1-8, 3 cases.

Illinois: March 1-8, Belleville, 4 cases; Chicago, 19 cases.

Indiana: Crawfordsville, March 1-8, 17 cases; Evansville, 8 cases; Indianapolis, Feb. 22-March 8, 31 cases; Terre Haute, March 1-8, 1 case.

Iowa: Ottumwa, Feb. 1-March 1, 42 cases.

Kentucky: Covington, March 2-9, 9 cases; Lexington, March 1-8, 4 cases.

Maine: Portland, March 1-8, 9 cases, 1 death.

Massachusetts: March 1-8, Boston, 17 cases, 6 deaths; Cambridge, 4 cases, 1 death; Chicopee, 1 case; Lawrence, 3 cases, 1 death; Malden, 1 case; New Bedford, 1 case; Quincy, 1 death.

Michigan: March 1-8, Detroit, 3 cases; Ludington, 2 cases.

Minnesota: Minneapolis, Feb. 22-March 1, 16 cases; Winona, March 1-8, 4 cases.

Montana: Butte, Feb. 23-March 1, 2 cases, 1 death.

Nebraska: Omaha, March 1-8, 52 cases, 1 death.

New Jersey: Camden, March 1-8, 1 case; Harrison, March 2-9, 1 case; Hoboken, March 2-9, 2 cases; Jersey City, March 2-9, 46 cases, 1 death; Kearney, March 2-9, 3 cases; Newark, March 1-8, 22 cases, 3 deaths; Union, March 2-9, 1 case; West Hoboken, March 2-9, 3 cases.

New York: March 1-8, Binghamton, 1 death; New York, 60 cases, 10 deaths.

Ohio: Chillicothe, Feb. 22-March 1, 1 case; Cincinnati, Feb. 28-March 7, 15 cases.

Pennsylvania: Philadelphia, March 1-8, 47 cases, 11 deaths.

Rhode Island: Providence, March 1-8, 3 cases.

South Carolina: Charleston, March 1-8, 2 cases.

South Dakota: Sioux Falls, Feb. 22-March 8, 15 cases.

Tennessee: Memphis, March 1-8, 4 cases.

Texas: Houston, March 1-8, 12 cases.

Utah: Salt Lake City, Feb. 22-March 8, 6 cases.

Washington: Tacoma, Feb. 23-March 2, 5 cases.

Wisconsin: Green Bay, March 2-9, 11 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, Feb. 8-15, 4 cases, 3 deaths; Ghent, Feb. 1-22, 6 deaths.

Brazil: Rio de Janeiro, Jan. 18-Feb. 9, 33 deaths.

Canada: Halifax, Feb. 22-March 8, 3 cases; Quebec, Feb. 8-March 8, 121 cases, 2 deaths; Winnipeg, Feb. 15-March 1, 7 cases.

Colombia: Cartagena, Feb. 17-23, 1 death.

Cuba: Guantanamo, Feb. 27, 1 case.

England: Birmingham, Feb. 15-22, 1 case; Liverpool, Feb. 15-22, 14 cases; London, Feb. 8-15, 64 deaths; Manchester, Feb. 15-22, 1 case; Southampton, Feb. 15-22, 1 case.

France: Marseilles, Jan. 1-31, 1 death; Paris, Feb. 15-22, 3 deaths.

Gibraltar: Feb. 9-16, 1 case.

India: Bombay, Feb. 4-11, 11 deaths; Madras, Feb. 1-7, 2 deaths.

Italy: Baselice, Feb. 17, 176 cases; Naples, Feb. 8-22, 20 cases; Palermo, Feb. 1-22, 35 cases, 6 deaths.

Malta, Feb. 8-15, 1 case.

Mexico: Mexico, Feb. 23-March 2, 2 cases, 1 death.

Scotland: Glasgow, Feb. 15-28, 8 deaths.

YELLOW FEVER.

Brazil: Rio de Janeiro, Jan. 19-Feb. 9, 24 deaths.

Mexico: Vera Cruz, Feb. 22-March 1, 1 case.

CHOLERA.

China: Canton, March 6, increasing; 2 deaths among Europeans.

India: Bombay, Feb. 4-11, 4 deaths; Calcutta, Feb. 1-8, 50 deaths; Madras, Feb. 1-7, 4 deaths.

Straits Settlements: Singapore, Jan. 11-18, 5 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, Feb. 26-March 2, 3 deaths.

PLAGUE—FOREIGN.

Brazil: Rio de Janeiro, Jan. 18, 11 deaths.

China: Shui Tung, Jan. 23, 100 deaths.

India: Bombay, Feb. 4-11, 531 deaths; Calcutta, Feb. 1-8, 124 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, APRIL 5, 1902. No. 14.

Original Articles.

SOME POINTS IN THE MANAGEMENT OF THE NEURASTHENIC.*

JAMES H. McBRIDE, M.D.
FORMERLY PROFESSOR OF NEUROLOGY, CHICAGO POLICLINIC.
LOS ANGELES, CAL.

The term neurasthenia has not the wide application it had ten years ago. A more accurate clinical observation has narrowed its meaning, and in many cases that would formerly have been called neurasthenia, and which would have been treated as such, are now recognized as nervous features due to some bodily derangement not primarily nervous. Chronic disorder of internal organs may, and often does, predispose to neurasthenia and by interference with nutrition, by exhaustion, or by toxemic states, the resistive capacity of the nervous system is lowered so that it more easily succumbs to the ordinary stress of life.

There is, of course, stress in every life; every man, whether he drives a dray or runs a bank, is subject to stress of mind and body, and that which befalls the man of low capacity and rude life may be relatively to his strength and his outlook on the world as serious to him as that other and higher form of stress that daily tests the endurance and the mental integrity of the man of affairs. We find, therefore, that the business or professional man, the day laborer, the young woman stenographer or teacher, or those more unfortunate people who are rich and idle, may all be subjects of this disorder.

A larger proportion of cases of nerve failure have been charged to overwork than facts would seem to justify. Overwork strictly is probably a rare cause of nervous breakdown in men or women. In the healthy body tire comes to the rescue and the wear and tear of work is restored by rest. Nature has so arranged it that if we sleep and exercise sufficiently and eat wisely there is little danger of harm from any amount of work that we may do. The great majority of the people who break down from so-called overwork do not observe these simple rules of right living. Then there are the countless artificial conditions of life, with its multiplying complexities and its grinding cares, especially the unhygienic dress of woman, the lack of proper development in early life by which the physical perfection of thousands of young people is never achieved, so that they begin the adult stage of life dwarfed in their mental and physical capacity and poorly equipped for the struggle of existence; these have more to do with human pathology than work.

Much of the hard work of the strictly mental sort is necessarily associated with heavy responsibilities and attended with care, suspense, anxiety and the worries that, more than the severest toil, cut deep into life or strain endurance to the breaking point. Many neurasthenics were, in health, of the anxious-minded, intense, hurrying, worrying sort of people, and this indicates mental habits that are unfavorable to calmness and frictionless work.

In those who are born with delicate and unstable nervous systems the ordinary occupations of life are liable to develop these habits of worry and anxiety—artificial states of mental strain that are ultimately injurious, or even ruinous to health. One is tempted to lose faith in the conserving tendencies of nature when he sees people with unstable nervous systems and little endurance falling into the high-tension, anxious habits that exhaust the nervous energy and which tend to produce just those disorders that quieter and calmer methods would avoid, and which in the end would enable them to achieve vastly more. Their very tendencies are to self-destruction of a certain kind, and without the protection of a highly organized society and the skill of science they would be eliminated.

The possession of certain mental qualities in a high degree may render one more liable to brain exhaustion. I have known people who, though mentally and physically vigorous, became the subjects of brain exhaustion from the fact of their having an unusual ability for close mental application so profound and intense that they would go beyond their limits without knowing it. Some years ago I heard a gentleman, who was then and is now a professor in a university, deliver a lecture of an hour and a quarter. He spoke without notes and the talk was so systematic in arrangement, so compact of matter, so condensed and clear of statement, and showed such unusual powers of mental concentration that I afterwards remarked to him that his ability to apply his mind and hold his facts in consciousness was dangerous, as it involved a strain that one might easily be unconscious of and that might result in brain tire. Two years from that date he developed insomnia and inability to apply his mind and for eighteen months was unable to do any mental labor. These cases of pure brain tire are not so common as the more ordinary forms of neurasthenia, but the condition may develop in any one who has serious interests and great power of mental concentration. Every man has what may be called his breaking strain, and the wise man knows his limits and keeps well within them.

Many neurasthenics have one primary cause for their disorder that in a measure modifies the effects of even their environment, a cause that lies deeper than any individual life experience. That cause is found in an

* Read before the Wisconsin State Medical Society at Waukesha, Wisconsin, June 28, 1901.

inborn instability of nerve element, some organic defect in its essential structure which makes many men and women unequal to the strain of adverse conditions, sending one to the bed of a nervous invalid, another to the hospital for paralyzed and epileptic, another to the madhouse.

The neurasthenia that results from shock or traumatism, such as occurs in car or other accidents, is often associated with hysteria. It is not always easy to decide how much there is of actual injury in these cases, and how much of simulation. A pending suit for damages and frequent examination by physicians do not furnish them with the conditions that are the first requisite to recovery. Many of them need to be separated from friends and relatives and have some form of rest cure. Unquestionably injustice is sometimes done people who, though not having received an injury that has produced a gross lesion of the nervous system, have had as a result of the terrifying fright and violent shock from a railroad accident an injury to the nerve centers, which, though we may not be able to localize it, may at the same time be serious.

It is now a commonplace that many cases of neurasthenia are due primarily to derangements of the alimentary tract. Very much of the good of the milk diet in the rest cure is probably due to the fact that the stomach, which is in many of these cases primarily or chiefly at fault, is given a new and restful regimen, and that by this means a chronic functional incapacity is relieved.

Neurasthenia from over-excitement and dissipation occurs most commonly in those who, having wealth and leisure, waste their strength in frivolous interests or in irregular living; and of these the frivolous interests are probably the more frequently harmful. In the hygiene of life there is nothing that contributes more to health and happiness than serious interests—interests that are based upon pleasure in work and a healthy desire to be every day doing something worth while.

Not long ago I saw a lady of 40 who has a form of neurasthenia that is rather common among the well-to-do. Her father was a man of large means, though a periodic inebriate, who had never required work or responsibility of his children. His only son was once treated for brain exhaustion and is a man without occupation, who travels about the world for pleasure, though, as he says, for health. The sister to whom I refer had, as a girl, superior ability, a taste for serious reading and an indifference to society and gaiety. She was always indolent, ate heartily, exercised little, and did no work, and grew up thoroughly selfish and self-centered. At 30 she had trouble sleeping and some indefinite neurasthenic symptoms. These have increased until now she has insomnia, numerous morbid sensations in different parts of her body, a feeling of fulness of the head, frequent depression, a fear of open places, a dread of seeing people, and a fear of fainting if she chances to meet people on the street when alone. Her appetite and digestion seem perfect and her nutrition excellent. Much of her time is spent on the bed, with an occasional walk or ride, and either of these occasions as much discussion and preparation as a well person would devote to getting ready for a week's journey.

In this case there was probably a predisposition to nervous disorder; a purposeless life has done the rest. This woman is not a malingerer; she is a victim of idleness, high living and of weakened volition, and she will be fortunate, indeed, if she escapes insanity. To cure such a person involves the remaking of a character, and this, too, upon the foundation of a bad inheritance.

Many neurasthenics are hysteric in some degree, and this class needs strict seclusion and control. One recent writer speaks of neurasthenia as being synonymous with hysteria. This, it seems to me, is a wrong view to take. Because a case shows certain symptoms that are characteristic of hysteria, or that usually are associated with it, we are hardly justified in classing it as hysteria.

The cases of neurasthenia that have a pronounced hysteric element are, of course, much given to pretense and exaggeration. That a person is partially or chronically hysteric does not, however, justify us in considering the case a light one. We can no longer regard hysteria as in any sense a trivial disorder. In all its phases it is serious, for its more thorough study of late years has shown that it is, perhaps, largely and primarily an affection of the higher cerebral centers, those last evolved and unstable layers of nerve cells that in health are concerned in the higher brain functions. It has, therefore, a very definite pathologic basis; in it there is a dissolution of these higher brain centers to that degree that, though actual insanity may not exist, a lowering of the psychic functions takes place; there is an inferior order of consciousness, thought is less orderly, emotions less controlled, the moral sense perverted.

In all cases of neurasthenia there is the mental element which is always an important part of the disease, in some cases the most important part. It is shown in inability to fix the attention, the feeling of mental tire, the loss of interest, the weakening of volition, the impairment of memory, and other phenomena that are only too familiar. The general functional disorder of the nervous system which, with its endless train of symptoms, is always present and uppermost in the patient's consciousness, fixes the mind upon the body and tends to limit the patient's thoughts to a certain set of morbid sensations. The normal interests are dropped one by one; more and more the thoughts revolve about the sensations of the body until finally the attention is centered there. This hyper-consciousness of bodily ailments may become a true hypochondria, and many neurasthenics pass into this more pronounced morbid condition, while others become insane. These are among the cases of neurasthenia that to be cured need the moral discipline, the restful change and the limited and simple environment of seclusion.

Not all neurasthenics need to be completely secluded. Some may be treated in their own homes, having, if necessary, partial separation from the family. Others can be cured without any separation, though such cases are rare.

For those who have partial rest prescribed it is sufficient that they rise late in the morning, say not earlier than 9 o'clock, and that they lie down for two hours about the middle of the day and maintain absolute quiet. Late rising in the morning is advisable for all neurasthenics. Through imperfect nutrition, I suppose, and from absence of food during the night hours, neurasthenics feel badly on waking; they have that "morning tire" and "miserable feeling" that are so familiar to those who have seen much of them. They are better after taking breakfast, better still after noon, and unless there is some special cause for tire they are still better in the evening. Those patients who can be up for a short time, both in the forenoon and afternoon, are easily kept busy, for their meals and rests and walks, and the readings by the nurse fill in the time, so that they have little opportunity to think of self and review the ever-moving procession of their symptoms.

A certain proportion of neurasthenics need to be removed from home and have absolute seclusion and perfect rest. The moral effect of this is beneficial, and the quiet and rest and intelligently managed monotony give just the opportunity needed for repair of the exhausted nervous system. The details of rest and seclusion are too familiar to need restatement. The persons for whom it is adopted need to be carefully selected. I have seen it applied for two and three months to the lasting harm of patients who did not need it for a day.

As a rule, complete rest should be prescribed for those who show great debility, those especially who are emaciated and anemic; whereas those in whom nutrition is good will often do better on partial rest. There are certain cases of neurasthenia that are anemic and weak and yet corpulent and florid. Their outward show of vigor is deceptive and they sometimes need complete rest and seclusion. In other cases of this sort partial rest is sufficient.

Thirteen years ago I had as a patient a woman whose life had been a very trying one, and who was given to overeating and took little exercise. When I first saw her she had been confined to her bed for a year, with so-called neurasthenia, and to the house for a much longer period. She was short and quite corpulent, weighing 170 when she should have weighed 115 pounds. She was given partial rest and strict diet. When she began to exercise she could only walk about her room. This was gradually increased, and in four months she walked six and eight miles a day, and at the end of six months was in good health and weighed 125 pounds. During all these years she has continued her exercise and has remained in perfect health. In this case complete rest was not required and would have delayed rather than hastened the cure.

Having prescribed rest for a patient, one must be careful to see that it is not too prolonged, for if kept at rest too long the invalid habit may be aggravated rather than benefited. Many patients enjoy the seclusion and rest to such a degree that it may easily become a luxury to them; and though they may be temporarily better from the treatment they come to regard it as a pleasant resource in case of a breakdown and look upon a return to it as a well person might look forward to a trip to Europe. I have seen a number of persons who spoke with apparent pride of the frequency with which they had taken the rest cure, and some of them I am sure would have been far more benefited by walking, riding and golf.

In the management of the nervous invalid the personality of the nurse is of vital importance. The less experienced the physician with this class of cases the more important that an experienced nurse be had. Experience, however, will not alone serve, nor even great skill in ordinary nursing. The nurse, to successfully manage the neurasthenic, must possess those qualities that are only born to one; qualities that can not be talked into one in lectures, nor put into one's character through the poor medium of books. There are many trained nurses of large experience who can not compass the morbid and contradictory character, nor meet with success the caprices of the nervous invalid. No nurse should be put in charge of a neurasthenic who has not that quality of mind that enables her to understand that however much of exaggeration and shamming her patient shows, she is yet really a sick person; and for a nurse to abstract this conclusion from the morbidness and selfishness that lies before her is a thing that many nurses are unequal to. If a nurse has not this understanding of her patient, or has not an intelligent yet unindulgent sympathy for her, she falls far short of being the ideal nurse. She will not be as patient, she will not have the same interest, she will not be as quick to see the necessity for diversion nor so prompt to seize upon opportunities to supply it.

Frequent feeding is not applicable to all of these cases, even those that are kept in bed. A strictly milk diet does well with some, but most of them do better with some solid food. It is an important point in giving them food that each meal should be digested and the stomach be empty before the next is given. The stomach works under the law of periodicity, and this can not be ignored and the organ kept constantly busy, however light the work that is given it. Many of these patients can digest some meat and with great benefit to their nutrition, and this though there may be functional indigestion. In the evolution of the function of digestion the ability to digest proteids is first established, then starches, and lastly fats. In failure of digestion—that is, digestion of functional kind—the reverse process takes place, the ability of the stomach to digest fats fails first, then that of starches, and then proteids. The only thing in milk that really requires the full and active work of the digestive process is the proteid, for the sugar element is practically predigested, and the milk fat is already emulsified. By giving milk in functional indigestion we obtain these three classes of food, and yet demand of the stomach the performance of the one function that is least impaired, that of digestion of proteids. There are some neurasthenics in which there is serious functional indigestion, and yet tender meat can be digested with ease and benefit.

Recently I began treating a neurasthenic lady who had been living almost exclusively on liquid diet for six months and who during that time had not eaten any kind of meat. Her stomach was somewhat dilated and from long disuse the muscle fibers were probably greatly atrophied. After two weeks of intragastric faradization I had her eat a beefsteak at noon, and she had less trouble with it than she had previously had with milk.

In the various steps of the rest cure the time when exercise should be begun is a difficult matter to decide, and it is often a trying time both for the physician and the patient. Neurasthenics are generally people who have not been believers in exercise, and for the person who has been long bedridden with this trouble any unusual muscular movements start all the demons of morbid peripheral sensation. The flabby and wasted muscles, the feeble circulation, make voluntary movements irksome; the unused nerve fibers when compelled again to functionate give rise to various uncomfortable sensations that seem big in the patient's feeble and hyperesthetic consciousness and make her feel that it is impossible to go on. The physician must decide how much exercise the patient is to take and when, and there is nothing in the whole line of treatment about which he should give more careful directions. It can not be safely left to the patient, nor should the nurse be allowed to use her judgment. The patient needs to feel that the physician's judgment is what she is conforming to, and that he is taking an immediate and particular interest in what she is doing. Otherwise when she begins to exercise and suffers the intense discomfort that so many do she will give up discouraged and sink back into her old condition. Another important point is that the patient's strength must be carefuly gauged and her exercise added to every few days, never allowing her to

take less and at frequent intervals requiring that she take more.

It is proper here to refer to the feeling of tire from which so many patients suffer. In health the sense of bodily existence is the summing up in consciousness of the physiologic activities of different parts of the body. The physical sense of well-being is likewise the expression of the harmony of the organic processes; the life and work of all the myriad cells that compose the organs are echoed in the brain, and make up this one general sense of pleasurable existence. When our organic sensations are altered pathologically in one or many parts we get morbid impressions from those parts, and as a man thinks his body to be in the condition that he feels it to be, the number, persistence and strength of these impressions determine largely the degree of ill health; they may determine whether or not he shall be an invalid.

These abnormal bodily sensations of the neurasthenic, by persistently obtruding themselves in consciousness and causing the attention to be fixed upon them, finally induce a morbid mental element and later, the mind being withdrawn from other interests, owing to the limited and narrowing effects upon it of the ever-present disordered feelings, the patient can not forego the luxury of listening to the morbid reports that come up to the brain from the various organs.

The feeling of tire, which is really pathologic and which many neurasthenics have, adds to their mental suffering. Many patients, after a night's sleep, wake with headache, general discomfort and a feeling of mental and physical disability that makes any exertion seem difficult to them. At other times, or possibly when the patient's condition is really worse, there may be little or no sense of tire, even after exertion. Many neurasthenics have this "anesthesia of the sense of tire" to such a degree that they have no guide as to when they have exercised sufficiently. As the nervous system is irritably weak they get up a certain amount of fictitious excitement in everything they do and rush on until exhausted. It is very important, therefore, that the physician regulate the patient's exercise in kind and amount from day to day. It is important that the patient be not allowed to overdo, for this means a halt in recovery, and though it may be only temporary, it is serious for one whose will-power is weak, whose self-confidence is lost in timidity and with a disposition to consider any trifling failure an important matter.

The rule in regard to exercise is to avoid serious fatigue. We have here two things to deal with that must both be properly estimated, the actual weakness of the nervous system by which its limit of energy is soon reached, and that feeling of disability or want of strength which is the exaggerated expression of the nervous weakness. It is a most difficult thing to estimate the amount of the patient's real strength that can be depended upon from day to day, to know how much of the exhaustion that she feels is genuine, and how much of it, though real to her, is due to pathologic habit and how much of it she simulates.

Here appears the importance and the advantage of understanding the mental condition of the neurasthenic, for in addition to the physical gain the mental state of the patient is an important guide in judging of what the management is accomplishing. Every neurasthenic is morbid in feeling, and this means a lowered mental tone. The nerve centers, weakened from overstrain, poisoned by tissue waste, are hourly assailed by morbid impressions from the periphery until these come to occupy consciousness; they are also weakened in ability to appreciate normal impressions while they seem to become hypercsthetic to those that are abnormal. The bodily habits and mental life are adjusted to this morbid revelry of weak and disordered nerve centers, and the physician has to change all this by practically recreating normal functions and healthy habits. When from week to week a perceptible gain in ability to exercise has been made and the patient brought to see the gain, and having been established in it, then another addition may be made, and so on, step by step, toward health. The neurasthenic, like the learner everywhere, learns to do things and gets confidence only by doing them, and in this way she regains the lost habits that belong to health.

Outdoor walks should always be taken on the ground, never on pavements or verandas; the solid, unyielding character of a stone pavement is bad, and its evenness of surface is worse, for the same muscles are brought into action at every successive step, and the repetition, like the movement of running a sewing machine, is exhausting. The natural place to walk is on the ground. Man's ancestral habits are here, as elsewhere, strong upon him, and the spring and unevenness of the earth has in it the gift of health for the pedestrian. Walking on a pavement is tiring to a well person, and is quickly so to the invalid; and as the exhaustion from muscular movement is largely in the nerve cells, the nervous invalid should avoid all exercising in this way. Walking on the ground is stimulating to a certain degree; it is not only a good general tonic, but especially so to the heart.

Neurasthenics should not climb hills until they are far on the road to recovery, and even then should go about it cautiously. The heart muscle of the convalescent neurasthenic, like other muscles, is weak and needs to be gradually redeveloped before any strain can be put upon it. The person who, in climbing a hill or riding a bicycle, is out of breath, should understand that he is primarily out of heart; and in the recent invalid it is easy and dangerous to pass the limit of physiologic fatigue of the heart.

All walking, except where the patient is weak and only beginning, should be rapid, though, of course, being adjusted to the strength of the patient. Many patients only saunter, and there is, therefore, lack of interest in the exercise and some loss in the benefit from it. All walking that is done for exercise should be brisk. A brisk walk of a hundred yards is better than a saunter of five hundred yards. It requires that the attention be directed to what one is doing, so that there is not only the forgetfulness of self, but the tonic of healthy effort. Brisk walking stimulates the circulation in a way that careless walking does not; it forces the blood into unused channels and augments function. Such exercise has a therapeutic value which, if it could be concealed in a prescription written in Latin, might be the fortune of one who chose to utilize all its possibilities. Brisk walking does not mean haste. Emerson has been good enough to tell us that all haste is vulgar. It simply means the normal and reasonable speed that belongs to the healthful, interest-taking ways of doing things. The steady-going and speedy gait of the healthy, hopeful, self-confident person implies character, and has back of it the momentum of health and the unconscious energy of vigorous interest. I never knew an indolent person or an indifferent person to habitually walk briskly. The hypochondriac and the melancholiac saunter and shuffle; the cheerful, determined person steps off

as though there was pleasure in the effort and an object beyond it, and it is certainly an education in normal interest for the convalescent to thus healthfully strive for health.

A morning sponge bath is bracing to the nervous invalid, and relieves in a measure the feeling of weariness that they so generally have on waking. The bath should not be cold. The first baths should be only eight or ten degrees below the body temperature; and, later, as the patient grows accustomed to them, the temperature may be lowered to fifteen or twenty degrees below that of the body, provided it never is uncomfortable and never produces chilliness.

I indulge the eccentricity of being a disbeliever in morning cold tub baths.† There are certain vigorous people who, long accustomed to them, may continue the practice with benefit, but I do not advise people to begin it. To most people, at least delicate people, a cold bath is a shock, and for this reason may be depressing to the nervous system. Recently a maiden lady of 60, a particularly vigorous and active person, consulted me for various indefinite nervous symptoms of a functional kind. Investigation showed that for ten years she had been taking a full cold morning bath. She also said that when she felt a little languid in the afternoon, which she frequently did, she took an additional bath. She insisted that the bath stimulated her and braced her for the day. I explained to her that the stimulation was like the toper's morning nip, and that I thought her nervous trouble was due to her baths. She discontinued them with some reluctance and considerable skepticism. In four weeks her nervous symptoms had disappeared, and this without a dose of medicine or any change in her daily habits.

The temperature of a cold bath is relative to the vitality and reacting capacity of the person who takes it. A temperature of 78 will be as uncomfortable to one as a temperature of 60 to another. To specify, therefore, that a cold bath or a cool bath shall be of a certain temperature is not as definite as it seems, for what we need to measure is the vigor and resistive power of the patient, and this is as various as individuals.

There is but one safe procedure with all delicate people, and that is to have them begin with a bath very little below normal, and gradually reduce it from day to day, or rather from week to week. So far as neurasthenic women are concerned I think there are few who should take a sponge bath below 78. What most of them need is a stimulus, not a shock, and this is got with water that is very little below normal. The vigorous rubbing after the bath has a large share, I think, in the general benefit, not only because of the exercise it involves, but also by the stimulation of the circulation the nerve centers are benefited at a time in the day when in delicate persons their vigor always languishes. The stimulating effect of the morning bath is much increased by adding common salt or sea salt to the water.

Many an insanity is due to a neglected neurasthenia; many a neurasthenia is due to a neglect of minor disorders of body that originally were trivial. As there is a natural history of every case of insanity that reaches far back to antecedent conditions in the life history of the individual, so there is a natural history of neurasthenia that in most cases antedates by years the fully developed illness. The nervous breakdown in these cases is rarely as sudden as it seems; it is rarely as recent as it seems. Outside of those cases in which it is directly and strictly due to recent stress it is usually slow in development, and is due to habits of unwise living that have extended over years or a lifetime.

It is these habits that are to be corrected first by the influence of a healthy environment and the firm and steady pressure of a stronger will, and later by the persistent self-care and self-discipline of the patient.

This being the case there is no class of diseases in which it is so necessary that the physician have a method as in these cases, and this must be based on an instinctive knowledge of human nature and of the special perversions of it that neurasthenics show. It is a significant fact that Weir Mitchell, who first established a rational plan for the treatment of a certain class of neurasthenics, is the author of those beautiful essays called "Characteristics," which show a thorough knowledge of the ways and byways of the mind. It is just this knowledge that is here required, with patience to apply it in practice, and adapt it to the entangled but variable morbidness of the neurasthenic state that never exactly repeats itself in two people.

Because there is a certain amount of reduction of mental power and weakened volition, it is not necessary to consider these people hypochondriacs or hysterics. We see in the neurasthenic in an exaggerated and somewhat chronic form what we see as an after-effect of many acute illnesses. It is not so much the symptoms referable to the nervous system or their special grouping that gives neurasthenia its significance, but it is rather their continuance and persistence. The most serious thing in the history of neurasthenia is the tendency to chronicity, that is, its tendency to involve like a slow infection the individual life habits, so that we find in a given case healthy interests have waned, consciousness has set in certain abnormal ways, and the mental life has been adjusted to certain morbid habits that tend to a monotonous and devitalizing repetition. As nothing rises to consciousness in the neurasthenic mind but is the issue of morbidness, it is inevitable that the patient will be egoistic, self-centered. In the presence of the insistent and dominating diseased self the person is powerless even to attempt. To give these people abundant food and tonics and a luxurious rest and fat them up temporarily is not so difficult. To look at each patient, however, as a problem, not so much of cure as of both cure and character making, is the proper way and the only way, but the more difficult way. One must first thoroughly understand the mentality of his patient, he must supply himself the will power which the patient has temporarily lost, he must meet all moods with patience and every whim with gentle and unoffending firmness, allowing no halts in progress, conceding nothing to the patient's doubts and fears, and yet doing this with such diplomacy as not to excite dislike or antagonism.

In this view the physician's task is not an easy one. He has to pick his way through a labyrinth of morbid mental and physical phenomena, recognize exaggeration and pretense, estimate the value of this symptom and that one, and in the end make an impartial, accurate and just estimate of the case, and ultimately to plan, not for two or three months, but for a lifetime.

In these cases the first thing to be done is to provide a secluded and restful life, and then to introduce, unobtrusively, healthy interests, as increasing strength permits. An essential preliminary to bringing to the patient new interests is to forbid her to speak of her illness. That this is done with those who have the rest

† Since this paper was read, I have added the name "tub" in order to make my meaning clear. Hydrotherapy has an important place in the treatment of functional nervous disorders, but it should only be applied under the detailed directions of the physician.

cure hardly needs the saying, and with them its enforcement is easy. Those who have more liberty and who go about, need to have the rule made absolute and rigidly enforced. The patient should be forbidden to speak of her symptoms even to the physician or the nurse, once she has given her history fully. When her symptoms cease to be discussed, and she is not allowed to even refer to her illness, its hold on her consciousness inevitably weakens. As in health we have but half learned things we have not given expression to, and as expression doubles the value of knowledge, so in pathological conditions such as this the frequent repetition of these insistent symptoms fixes them in the mind. To the patient they are important and absorbing, and are overgrown with pampering and repetition, but they can not long survive unpitying neglect or firm repression.

The way for the neurasthenic to keep well when once she is cured is to live a simple but active, and if possible, outdoor life; such a life is restful of cares and curative of worries, a builder of endurance and creative of stamina. Man is an outdoor animal. He toils at desks and talks of ledgers and parlors and art galleries, but the endurance that brought him these was developed by rude ancestors, whose claim to kinship he would scorn and whose vitality he has inherited and squandered. He is what he is by reason of countless ages of direct and unprotected contact with nature, in comparison to which his erect spine, his civilization, his learning, his palaces, his neurasthenia and his hysteria are but affairs of yesterday. Man, therefore, is of nature and belongs to nature; and when he lives outdoors and works with his hands, and in quiet and unconscious ways joins in the silent and unhurrying life that goes on about him, he is in a measure returning to the life in which his body was fashioned and which furnishes the simplest and best nourishment that his body can have. These conditions, if rightly used, would prevent much of the invalidism that there is in the world; they would also cure much invalidism that has its origin in the monotony of care and worry, or in the exhaustion of hard and wearing toil, and that kind, too, that grows rank in the tapestried and cushioned parlors of the luxurious and idle.

It is under some such normal conditions as these I have indicated that the recovered neurasthenic is to live if the recovery is to be made not only complete but permanent. It is one thing, and relatively an easy thing, as I have said, to provide for a neurasthenic, rest, seclusion and frequent feeding, and in a few weeks have the patient fat, comfortable and in apparent health. My experience has been, however, that when the neurasthenic has been brought to this stage of recovery, she has but started on the road to health, and it is because the last half of the cure is not finished that so many of them relapse.

The crop of neurasthenics will never be reduced unless we use our authority and our influence as physicians to get those who recover to live as they ought; to get them to live simple, healthy and active outdoor lives; have them if possible cultivate a taste for nature and an interest in and fondness for plain and natural living, for this is a constant support to the nervous system, weak or strong, and the best defense against the bad effects of work indoors. I long ago decided that the treatment by which the neurasthenic woman could have her exhausted nervous system temporarily rested and braced up so that she would appear and feel normal was but a small part and the least important part of the cure. When this stage is reached and the patient, always a poor judge of her condition, begins to consider going home, the physician's duty of instructing her how to live begins. She is to distinctly understand that the attack through which she has passed may have permanently lowered the resistive capacity of her nervous system, and that if the old habits and conditions obtain the disease will surely return. By persuading women to live properly I have prevented many relapses; and I have the satisfaction of knowing that many of my patients have for years enjoyed better health by living up to a few simple rules than they ever enjoyed before.

Three and a half years ago I took charge of a neurasthenic young woman 23 years old. She had an older sister who was insane; her father died of Bright's disease and hemiplegia, and her mother of some obscure brain disease. She had been a moody emotional child, and was self-conscious, self-centered, jealous, anxious-minded, and with an inveterate habit of worrying; she was sleepless, subject to headache, of poor digestion, with morning tire, inability to exercise, more or less mental depression; she was timid, apprehensive and irritable, with occasionally a day of cheerfulness and a feeling of comfort and well-being. If this young woman had been put to bed for a few weeks she would have soon been apparently well; I could have sent her home as one of the miracles of the rest cure, and under the disguise of a certain amount of artificial fat and manufactured plumpness, and a deceptive and superficial vigor she would have advertised me to her friends and later would have returned to have the miracle repeated. She had been brought up in a parlor and in all her life had never known any object but self, nor any interests but those that were personal and trivial. She had been surrounded by numerous relatives who were by turns harshly critical and unwisely sympathetic; in consequence of these conditions she had early developed an unhealthy emotional nature while petty and vexatious interference by others had worn to shreds her delicate and unstable nervous system.

Her chief need seemed to be that of a normal life, healthy interests, healthy habits, and to be educated in self-control. For six months she lived quietly with a nurse, never seeing relatives and others only occasionally. She rested two or three hours a day; she had massage, light gymnastics and proper diet. Her exercise was gradually added to and persistent attempts were made to interest her in some outdoor sport or some branch of natural history that would make outdoor life attractive. After trying botany and geology and insects, I finally got her interested in birds, and at the end of eighteen months she was an expert in bird life, an amateur photographer, walking miles each day and climbing mountains, and without one physical ailment; she became normal in mind and body, and possessed of a vigor that few women can boast of. At the end of three and a half years she is still living an outdoor life, without any prospect that she will ever again become an object of pity to her friends, nor of pathologic interest to her physician.

This case is related not because the result is unusual but to show what can be accomplished with a person, who, from childhood, had never seen one normal day and who had also the misfortune of a bad inheritance. Yet out of this mass of mental and physical morbidness I developed a healthy person and created a normal character; I epitomized in eighteen months the discipline and experience that she should have had in childhood

and girlhood, and this was all done by the simple method of creating healthy interests that led to normal habits.

Every physician knows how large the number of people is who ought to be well and strong, who yet amble through an inefficient life of semi-invalidism, or who become pronounced neurasthenics, simply because they have never learned what they ought to do, and might easily do in order to maintain vigorous health. Very many of these people, most of them I think, can be essentially made over by the physician; even those who have reached middle life may adopt new habits of mind and body and enjoy a vigor of health that even in their younger days they had not known. I know from personal experience that it is quite possible for the physician to practically recreate a character and thus change the entire subsequent life history of an individual. This requires that the physician be something more than a mere purveyor of drugs; that he should have the larger view of his calling. His patients are thus not merely visitors at his office in whom he has a transient interest; they appear to him in their relation to society in the larger sense, each one a problem in right living. In a certain sense, therefore, he is responsible for their future; for not only is he, in this special class of cases at least, a mender of minds and bodies that have been broken in the stress of life, but if he sees clearly the social significance of his mission and values it properly he becomes what every physician ought to be, a maker of character.

MEDICAL EDUCATION AND THE STATE.

WALTER A. WELLS, M.D.
WASHINGTON, D. C.

As one of the significant indications of our country's intellectual growth might be cited the very general active interest which is being taken in the advancement of technical and professional education. Although not with equal pace with other branches of learning, great progress has been made likewise in the methods of teaching medicine. Twenty-five years ago the best medical colleges of which we could boast were satisfied to have the student attend but two courses of lectures, each of these less than four months' duration, with none or but very slight provision either for clinical or laboratory studies. The lectures were almost wholly didactic and confined to a few practical branches; the "fundamentals," as they are called, and the allied scientific branches were either neglected or at least but very superficially treated. To-day all first-class medical colleges have a four-year course of study. Each student is obliged to devote a specified number of hours to laboratory work in bacteriology, pathology, chemistry, pharmacology, and perhaps biology. Most important of all, he is brought during his senior years face to face with diseases in order that he may learn from actual observation how to diagnose and treat them.

VARIETY OF COLLEGES.

But these advances in medical education demanded in no small degree by the rapid evolutions of medical science, unfortunately do not apply to all schools alike. Many of them remain far in the rear of this standard, and some in their general methods of teaching are hardly in advance over those of twenty-five years ago. There still flourish—thanks to an indifference in public opinion which in a matter so deeply affecting the welfare may be called criminal—in different sections of the country a number of fake institutions, the so-called diploma mills, where education is nothing more than an empty pretense. All of these colleges, the worst as well as the best, are alike legalized by the state and granted the privilege of conferring the degree of M.D. In some states, in order to be permitted to practice medicine, it is only necessary to present the diploma of a "legally chartered medical school." As under this head come the diploma mills referred to, the frauds, or it may be the fools, the only classes of material which these mills turn out, are free to prey upon the public; and who can say what will be the consequences to the health and happiness of those who may come within the sphere of either the nefarious activity of the one, or the blundering practices of the other? Although people seldom inquire into the educational training through which their medical advisers have been, there are the best of reasons why they should do so, bearing in mind on the one hand how great are the possible differences of degree and thoroughness, and on the other the fallibility of human judgment as to the fitness of a physician to practice his profession. Only those who are themselves technically trained can rightly judge the degree of technical training in others. Many physicians have, because of their pleasing manner and address, their fine clothes and their stylish equipages, so imposed upon the public as to cause themselves to be regarded wonderfully wise physicians. It is manifestly unfair to those who have labored hard and conscientiously to earn their degrees from the higher-class schools, and it is likewise unsafe for the public who are incapable of discriminating, that such unequal preparation and fitness to practice a profession, should be similarly rated and recognized. As we shall see later on, many states in their laws regulating the practice of medicine have seen the injustice of the thing and have endeavored to rectify it, but influences brought to bear of a financial kind, joined to the ignorance and prejudices so generally prevailing in these matters, have conspired to prevent or at least retard progress. It is only through the medical profession that advance is made and every triumph achieved in the direction of a higher standard and more uniform grading of medical education, and to its honor be it said that none but the loftiest motives have actuated it in the pursuit of these ideals. If those who have consecrated their energies to this purpose can be said to have had any selfish motives at all, it is no less honorable one than to elevate the standing and dignity of the profession to which they belong, and to avoid as much as possible the opprobrium unjustly visited upon all because of the unworthiness of some. But if we admit this to be a selfish motive, there is another undeniably altruistic which I am sure is no less often the inspiration of the efforts to secure higher standard of education, viz., the wish to protect the community from the incalculable evils that ignorant and incompetent practitioners may inflict. Two ways have been pursued by those interested in accomplishing these ends: 1, the elevation of the standard of education; 2, the erection of legal barriers in the form of state laws which will prevent any but capable physicians from engaging in actual practice. For the promotion of the first-mentioned object associations of colleges have been organized, representing the various schools, homeopathic and eclectic, as well as the regular. The Association of American Medical Colleges, for example, which with its southern branch includes nearly all the regular schools, have now made it a condition of membership that there must be a four-year course of medical instruction, each course being of at least six months' duration, and no two of them be given during the same cal-

endar year. Nevertheless, as may be readily understood, the colleges in the association as well as without, may vary greatly in their curricula, methods of instruction, excellence of laboratory appointments, clinical facilities, etc.

In a report that was made of the condition of medical education in the United States at a meeting of the association referred to, June 5, 1899, at Columbus, Ohio, it was disclosed that most widely ranging disparities existed among the different medical colleges as to the total number of hours of college work and the number of hours required of each student of attendance upon clinic and in the number of clinical cases available. As to the number of hours of total work, while there were but twenty-six colleges which demanded over 4000 hours, there were seven which required between 3500 and 4000, and seven others between 3000 and 3500; eleven between 2500 and 3000; two were satisfied with from 2000 to 2500; and three did not require even 2000 hours of total attendance. As to the number of hours of clinical work, it was stated as the opinion of the committee, that 750 was the minimum which ought to be demanded. Four colleges were reported to give 1200 hours, but there were six others which offered less than 300 hours during the whole four years. The same inequality was found to obtain in the different colleges in the number of patients which they could command for the benefit of their students. While three of them had from 40,000 to 100,000 a year, there was another three which gave no evidence of being able to furnish a single case for the purposes of study.

AMERICAN AND EUROPEAN COLLEGES.

We have in this country, without doubt, a few medical schools which graduate men as scientifically trained and as fully equipped to practice medicine as any that are to be found in the world. But at the same time others exist, the worst that are to be found in the world. In European countries where the medical institutions are under governmental control, and are uniform in their requirements and curricula, the conditions which exist with us are unintelligible. They follow the rule of judging us from our most inferior output. Americans studying abroad have too frequent opportunity to observe with what contempt foreigners regard the medical institutions of our country.

It is no wonder, when their opinions have been formed from either their acquaintance with recent graduates of the diploma mills—always pretentious notwithstanding their ignorance of the rudimentary principles of anatomy—or with the practitioners who have succeeded in becoming rich from their practice, despite their incompetency and have gone abroad to make a vulgar display of their ignorance as well as their money.

Even some of the popular plays and novels, as remarked some years ago by Dr. Andrew D. White, Minister to Germany, have adopted this subject as a theme and have amused the German public by their representation of the American doctor parading a diploma which he has bought with his dollars.

Indeed, if we compare the institutions of our country with those of European countries merely with respect to the length of time the student is required to devote himself to the study of medicine, we find that even our best schools are somewhat behind. We have seen that the Association of American Medical Colleges requires a four-year course as a condition of membership. But in Germany the course of study covers a period of nine years, though in exceptional instances a student may get through in seven. In Switzerland it is six years, in Great Britain the minimum is five years; in Sweden, where the profession is held in particularly high esteem, the student must spend ten years with the faculty of medicine before getting his degree. In Austria, France and Italy the course is generally six or seven years.

While such is our estimate of the superior mental caliber of the American that we believe he can accomplish in four years as much as many foreigners can do in five or six, it is nevertheless true of the study of medicine in particular, that the length of time necessary to master it can not be much shortened even for the most brilliant geniuses. This is owing to the circumstance, in the first place, that it is almost wholly an empirical science, which, consisting of facts, observation and dogmatic statements, can not be known by intuition, but is only to be acquired by study and experience; in the second place, it is a progressive science, continually changing, growing and specializing, therefore demanding of its devotees much extra study to keep abreast with the new theories and new methods, which are constantly being proposed and inventions and discoveries constantly being made. But our schools, it is well known by those who have studied abroad, compare unfavorably with the foreign not only in the length of, but in the character of the course of studies. Owing to the advantage of having government support, their laboratories are magnificently appointed and furnished with scientific appliances, material, instruments of precision, etc., indispensable for teaching branches such as chemistry, physiology and histology. To cite an example, the Prussian government contributes yearly to the Berlin University of Medicine fifty thousand dollars exclusive of salaries.

The facilities for clinical instruction in the European countries are likewise greatly enhanced by reason of the fact that the state controls the hospitals as well as the universities, and makes one subserve the ends of the other. Thirdly, the professors and corps of instructors are not self-constituted, as in this country, but are selected by reason of their scientific attainments alone, and advanced step by step from a lower to a higher position in the faculty, whereby they become by experience better trained in the art of teaching their specialties, that is to say, they become not only expert physicians but trained teachers. Now, what is the truth with regard to the medical colleges of the United States? The chief and foremost cause of all other evils is the fact that they are mere private enterprises, organized and conducted in the interest of the stockholders and not of the students. A half-dozen or so of men, unpossessed of even the semblance of the facilities of teaching and without regard to the necessity of such institution, can establish a college of medicine and obtain from the state a charter conveying the privilege of granting the title of Doctor of Medicine. Such colleges must be from their nature mere business concerns, the object of which is, if not actual pecuniary gain, at least the advertisement or prestige which is thought to attach to those who style themselves and officiate as professors.

SUPERABUNDANCE OF MEDICAL COLLEGES.

The first bad result which we would expect to flow from such a system as this is the undue multiplication of colleges of medicine. Such is in fact the case. There are, according to the Government Bureau of Education, 151, according to the Association of American Medical

Colleges 170 schools of medicine in the United States. One-half of either number would more than suffice; indeed, if the number were proportioned to the population as in Germany (the country in which medical education is generally conceded to have attained the summit of organization), there would be but thirty colleges in the entire United States, or if, as in Austria, there would be but seventeen. We have, in fact, the largest number of medical colleges in proportion to the population of any country in the world, it being one to about every 440,000 inhabitants. Great Britain, which stands next, has one to about 2,400,000. In Germany it is one to 2,470,000; in Austria one to 5,150,000; in Russia one to 14,400,000.

The most recent statistics bearing on the subject appeared in the educational number of The Journal, Sept. 21, 1901. In a statement of the distribution of colleges according to population of cities it will be seen that there are ten medical colleges located in towns of less than 10,000 inhabitants, and twenty-four in towns between 10,000 and 50,000. In the report of the individual states it will be seen further, that many of the larger cities have colleges in the proportion of one to 25,000, 30,000 or 40,000 inhabitants. Louisville, Ky., for instance, with a population of less than 205,000, has eight medical schools, almost as many as there are in the whole country of Russia with its 129,000,000.

EDUCATIONAL DEFECTS.

The disadvantages of such an over-supply of institutions for medical instruction, distributing instead of concentrating their forces, is too obvious to need to be insisted upon. The number of patients in any given place that can be utilized for clinical demonstration and instruction is limited, and if they must be divided among two or more rival colleges located in the same town, the student will necessarily fail to obtain that comprehensive acquaintance with disease which is one of the indispensable factors in his education. Another tendency, which is the outgrowth of the commercial aspects of our medical colleges, is the admission of unqualified persons to the study of medicine. As the students are the source of income, it is to the interest and is therefore naturally the policy of the colleges to have as great a number as possible. Shortcomings must be overlooked and exceptions made in the qualifications for matriculation, or the rejected candidates will go elsewhere and help fill perhaps the coffers of some rival institution. We do not mean to say that is always or even generally true, but only one of the weak spots, a *locus minoris resistentiæ* of our system of medical education. Justice compels me to add that individuals do arise above these selfish considerations, and I could cite from my own knowledge an instance of a faculty completely submerging its own interest in that of the school and the students, the members thereof sacrificing year after year the financial profits to which each was entitled and contributing their own money as well as their time to the end that the standard of the school might be raised and the benefits to the students be increased. But such disinterestedness and magnanimity of spirit is unhappily not everywhere to be found and ought not to be depended upon; there is moreover something radically wrong in the fact that it should be necessary.

It is estimated that every student in the completion of his course of studies should cost a college not less than $175, such an amount being that expended by some of the best schools. But in the president's address before the Association of American Medical Colleges at Atlantic City last June, it was stated that there were colleges which were turning out doctors at the small cost of $15 to $30. There was one college which though it had 531 matriculates, produced the M.D.'s at an average rate of $27.73 per head. This college reported a net yearly income of $15,000 over all disbursements. This is an example of what is possible when the faculty does not happen to have the magnanimity of spirit, such as that exhibited in the instance above referred to.

It might seem strange to persons who have not gone to the root of the matter, that medical colleges having for their object instruction in the art of healing and alleviating human suffering—certainly a lofty and humane purpose—should be of all institutions of learning the least endowed. It is only in the past few months that our wealthy benefactors have turned their attention at all to this field. The report of the Government Bureau of Education for 1897 showed that while the 215 sectarian colleges and universities of the United States had together endowments amounting to $36,500,000, and the 114 non-sectarian ones over $67,000,000, that the whole amounts of endowments to medical colleges was the paltry sum of $648,262.

To compare the latter with the other professional schools, the discrimination against the medical school is still no less apparent, for in 1892, eighty-four theological schools reported endowments of $18,000,000, and seventy-one did not report the item. While of the 151 medical schools, 19 reported a total of only $906,072. Yet the medical students outnumber the theological by a ratio of three to one. We said that persons considering the ends of medical education and nothing else might think it strange that medical institutions were so meagerly endowed. But it were strange if it were otherwise. Who could be expected to contribute to the support of purely private business concerns, as most of our medical colleges are? One might as well, as Professor Bowditch once remarked, expect the public to endow cotton mills.

The fault here is the same one to which also must be attributed all the other defects in the present system of medical education, which is no other than that they are private institutions and not responsible to the state or any central head. Being independent organizations, they are in many cases without the advantages of university connections, and are thus deprived of that stimulus to high academic aims and purposes, always to be found in the university atmosphere. We may trace to the same vicious system also the fact that the professors and other instructors are not always thoroughly trained scientific men as they should be. They are apt to be more interested in their private practices than in their teaching, and so neglect the latter for the former. They are seldom, as in the European medical schools, teachers first and practitioners afterward, but almost invariably a reverse condition prevails; their primary interests are their private practices. Even when they are men of rare genius and extraordinary mental attainments, unless they happen to be by training, or by nature, especially adapted to the art of imparting knowledge, or if what is worse, though capable, they neglect this sphere of their activities for other interests, it is manifest that the school and the students must suffer.

MEDICAL PRACTICE ACTS.

But supposing some will say that all these deplorable things be true as to the condition of medical education in this country, and that it really is very defective and

much inferior to that of other countries and that many incompetent men are yearly graduated, have we not an efficient check and corrective in our system of state licensure to practice medicine? At the present time nearly every state has statutory restrictions in regard to the practice of medicine. Many of these states refuse to accept the diploma, though issued by a regularly chartered college, as sufficient grounds for admission to practice, but have imposed obligations in the form of examinations.

These state practice acts have no doubt shut out many unworthy candidates, have worked in general to the betterment of the profession, and assisted in some measure to elevate the standard of the schools. But when all the disadvantages and defects of the system as now operated are considered, it may be questioned whether the remedy is not as bad as the disease which it is intended to cure. There is no uniformity in the laws of the different states in this matter, but each acting independently of the other, has enacted what regulations it saw fit, and the result has been, there are as many kinds of medical practice acts as there are political divisions in the United States. In a few states all candidates are expected to pass an examination irrespective of the college they are graduated from, or any other circumstance which might be expected to modify the conditions. In other states only those need take the examination who are not graduates of colleges of a certain specified standard and have been possessed of certain specified qualifications before beginning the study of medicine; while still other states except from the examination graduates of their own schools. Certain states require nothing more than the presentation of a diploma from a regularly chartered medical college. while a few others have practically no restricting statutes. Even supposing two states to have, so far as the wording was concerned, in regard to the admission to the practice of medicine, laws that were precisely alike, what guarantee could be given that they would be similarly administered? Especially in the matter of examination there must be the widest diversity; the questions will be different and they would be marked according to different standards; one state board may employ catch questions, the other not; one give credit to style while the other considers only matter; one give an oral, the other only a written examination; one may require clinical and laboratory exercises and operations on the cadaver while the other board confines itself entirely to book knowledge. As an example of the different degrees of severity of state board examinations, the records show that New York and Montana boards reject on an average 30 to 33 per cent., whereas New Jersey, Pennsylvania and Alabama an average of but from 12 to 13 per cent. A uniform execution of the statutes, whatever they may be, is greatly complicated by reason of the differences which obtain in the constitution of the various boards. Provision must be made for the different so-called "schools" of medicine. The graduates of a homeopathic college would not submit to be examined by a board made up entirely of those belonging to the regular "school," nor *vice versa*. In some states we find separate boards, one for each school, while in other states they have mixed boards, made up from representatives from the regular, the homeopathic, the eclectic, or other schools, according to their distribution. These sectional differences in the profession are both a serious obstacle in the way of obtaining uniformity, and are besides the source of irreconcilable disagreements and dissensions.

But why is it we are inclined to lay so much stress on the fact that there is no uniformity in the laws of the states governing the right to practice medicine? What is the disadvantage already referred to which flows from this source? It is simply this: When one state enacts a law *sui generis* in its provisions and which ignores completely licenses to practice already granted by other states, it erects a Chinese wall against all physicians living elsewhere who might desire to change their residence to this state. The inconvenience, not to say injustice, of such a system is too obvious to be argued. There are hundreds of legitimate reasons which may make it to the interest of the physician to take up a residence in a new state. To the recent graduate, an examination in the various branches of medical science may not perhaps have great terrors, but for the practitioner of some years' standing it is like walking up to the pass of Thermopylæ. However wide may have been his experience, however astute he may be in the recognition of disease, or skilful in the application of remedies, or successful in effecting a cure, in ninety-nine cases out of a hundred he will fail to make a passing percentage in the ordinary examination held by the state board for admission to practice.

Of all the various kinds of state practice acts, that which has generally best satisfied the reformers is the one requiring an examination of all candidates. But examinations conducted under such circumstances as have been mentioned, must work great injustice, and though in the existing state of things it is probably a necessary evil, it is a system which ought to be condemned at the same time it is condoned, and be supplanted at the earliest possible day by one that is better. For though they may be conceded to contribute to the correction of some evils, they give rise to others almost as serious. They certainly operate to the disadvantage of a large number of physicians living in all parts of the country and work hardships in the most unmerited quarters. They discriminate against the practitioner in favor of the recent graduate, against skill and experience in favor of theory and speculation, against actual acquaintance with disease and in favor of book knowledge.

But the most flagrant evil resides not in the examination itself, but in the fact that each state and political division, as already remarked, has a method and standard of its own; and for this reason it can not accept the licenses of other political divisions nor in return have its accepted by them. The disadvantages of being without state reciprocity, which the unlike state laws have made so urgently necessary, has been long a thorn in the side of those interested in this subject. Much has been written and many plans have been suggested as remedies. Out of the boards of the different states has been organized a National Confederation of Medical Examining and Licensing Boards, which meets annually in affiliation with the American Medical Association, and the principal object for which it exists and meets, and the principal theme which at these meetings it discusses, is the way and means to bring about reciprocity or interstate endorsements between the different state boards in the matter of licenses to practice. But I feel compelled to say that it is my conviction that the end for which these earnest and enthusiastic gentlemen are striving is almost as illusive as the famed *ignis fatuus* and as far from realization as the dream of Alnaschar. How difficult, if not impossible, it is for any body of men with no authority to enforce their recommendations, to induce all the states to so alter

their statutes on any given subject that they shall conform to some universal standard, when that subject is one in regard to which the states have reserved the right to legislate for themselves, is evident from the fact that though a legal commission, appointed for the purpose of unifying state laws and holding annual conferences, has been in existence since 1892, the progress it has made is comparatively insignificant. The statutes of the different states relating to wills, marriage, divorce, insurance, insolvency, and deeds and other conveyances, though the special subject of this commission's endeavors, and though by reason of their unlikeness innumerable complications and inconveniences have resulted, still remain for the most part hopelessly irreconcilable. Some of its recommendations as to "law merchant" have been adopted by certain legislatures and it has without doubt attained a certain degree of success in the matter of negotiable notes and the rights and liabilities of those who handle them. But it must be remembered the latter appeal directly to the business interests of the community—which history shows to be always the strongest appeal that can be made—and secondly, those who have labored to secure these results are the lawyers, who, being legislators by training and profession, might be expected to be, as in fact they are, naturally more influential with legislative bodies than any other class of men. Medical men, for some reason which I shall not attempt to analyze, have less influence with the law than any other respectable organization in this country. It is a strange and pitiable truth, that mountebanks, charlatans and ignorant pretenders who are exploiting some new fad or senseless doctrine, have a readier entree at the doors of our legislative halls than have the intelligent and honorable regular members of the profession. Leaving out of consideration, however, all argument based on speculation or theorizing, and judging from results alone, the outlook for a practically operating reciprocity—that is, when every state will be satisfied to merely visé the license which any other state has already granted—is truly discouraging. Dr. W. W. Potter, one of the most active workers interested in this cause, recently said: "The only equitable basis upon which reciprocity can be established that appears both feasible and practicable, is that of equalization of standards of admission to the study and practice of medicine. This implies an equalization of the preliminary requirements of medical students and a uniformity of applying the tests, a uniform period of college training, including uniformity of methods of teaching, and finally an absolute similarity in the methods of conducting state examinations and granting licenses." This statement, by one of the most prominent exponents of the reciprocity idea, sounds very much like a virtual admission of its ultimate failure. Instead of the state boards elevating the schools to their own standard, it appears on the contrary, that improvement in the latter is a prerequisite condition to the success of the boards. Absolute similarity in the methods of conducting examinations must be, from what we have already seen of the organization, character and working of these boards, an impossibility.

EDUCATIONAL STANDARD.

We find ourselves then carried back to the proposition with which we started, viz., that to raise the standard of medical education and to advance generally the status of the medical profession, reform must begin in the medical schools. That they are badly in need of reform, I believe we have fully shown, and that under the present system it will be very slow in coming and can not be complete must be the natural inference. So long as the medical colleges continue to be conducted on a commercial basis, they can be expected only to advance with such degree of celerity as is consistent with their prosperity from a financial point of view, unless an enlightened and awakened public peradventure demand more. But, unfortunately, the ignorance and the apathy of the community in such matters is too widespread and too deeply rooted that much need be expected from this source. Admitting then that medical education in this country has become grounded upon such a system that it can not advance of itself, and that the state boards and the medical practice acts have fallen short of their promises, and it being evident further that the medical profession is powerless either through its press or its propagandists, to accomplish much in the same cause, and that not only does the general public not aid by making liberal endowments but even withholds its much-needed moral support, where shall we look but to the state to rectify the wrongs and supply the deficiencies? The bare suggestion of such a thing will be enough, I know, to cause to appear before the eyes of some the dread specter of paternalism; they will immediately object that the state can not properly concern itself in such a cause; that medical education is the education of only a limited class of citizens and does not directly benefit all taxpayers; and they will say that if the state support any education at all it must be only that of the most broadly generalized knowledge, such only as is needed to prepare the young as they grow up for the duties and privileges of citizenship. Far be it from me to urge the adoption of a policy that in the smallest measure transcends constitutional limits or that involves a departure from cherished republican principles and traditions. But it is not true that in the past our government has supported primary and secondary education alone and that it has refused aid to higher education and to specialized branches of science and technical studies. By grants of land and money Congress has contributed millions of dollars to colleges and universities for the latter purposes. According to the report of the Bureau of Education for 1897, there has been annually appropriated by the central government for instruction in mechanical arts and agriculture, a sum equal in 1897 to a capital invested at 4 per cent. of $26,400,000. In addition to this, it has created under the Hatch bill the so-called agricultural experimental stations in each state for promoting the study of agriculture, appropriating therefor a sum which capitalized at 4 per cent. would amount to $18,000,000. We take the ground (confident of its being a tenable one) that Congress can just as consistently contribute to institutions for the education of the physician, as to those for the education of the mechanic or the farmer, and we might add with far greater reason. There is truly no trade or profession in which the community is so vitally concerned as that of medicine. There is none, in fact, which exercises so wide and such a profound influence upon our national growth and development. Healthy men are necessary to a healthy state as the *corpus sanum* to the *mens sana;* and unless the physical well-being of its citizens is cared for, we may certainly expect national decay and degeneration to follow, if not eventually the utter dissolution of the very elements of the civic organism. This was understood as far back as the day of Lycurgus, and the wise legislator and statesman of the present era can not afford to ignore it.

NATIONAL AND STATE SUPERVISION.

There are some special reasons why the state ought to be interested in the education of those who practice the healing art that apply to no other calling, profession or class of citizens, however much it may contribute to our national greatness and glory. It is peculiar to the medical profession, owing to the immature development of the science upon which it rests, the great number of undemonstrated assertions and of unsolved problems of its practice, and of the absence of logical criteria by which to judge them, and of its being in consequence a profession of empirical methods and practices, that it is impossible for the laity to form any just idea as to the merits of those who follow it. In the case of any other of the occupations, we are able to judge directly from observation or from results, whether that which it furnishes is the same as that which it is represented to be or not. Every one may know sooner or later whether he has been deceived into buying unwholesome food, or a machine that will not run, but who can tell whether a certain disease which a physician has been called to treat would have gotten better or worse without his drugs? Any conclusion drawn from a single case is unreliable; the *post hoc ergo propter hoc* leads as often to false as correct deductions; and even though we could tell from results, think how serious may be the results! One may be willing to prove the pudding by tasting it, but no one could wish to go to sea in a vessel whose seaworthiness is in doubt. Some persons, as previously mentioned, are guided in their judgment of a physician by entirely extraneous circumstances, such as the extent of his clientele and his display of wealth, etc. If this were a fallacy to which only the ignorant and uninformed are liable, I should hardly mention it. But persons, otherwise very intelligent, are not altogether free from the same error and are hardly less often misled.

When it is considered that the physician is one in whose hands is placed our most precious heritage, our health, and that our life and happiness are at his mercy, it would be only natural if we were disposed to demand some guarantee of his capability. One may say that he is willing to assume the responsibility of his own judgment and that he asks no other guarantee. Nevertheless, it must be admitted, there are thousands who suffer because of malpractice, and moreover, there are occasions such as when residing temporarily in some strange town or place, or in the case of emergency, when the ordinary requisites to forming a safe judgment are lacking.

Another reason why the physician's education should be the concern of the state is that he is by implication, if not by legal enactment, in the pursuit of his vocation, an officer of the state. The community has come to look upon him as a public servant who is obliged to attend the sick, to relieve suffering, and at any loss to himself to attend contagious diseases, and give up his time and his services to the indigent sick or those who have been accidentally injured. That the profession has accepted this interpretation of their duty is evidenced by the hospitals, dispensaries, and other charitable institutions, to which it is a part of their faith to give their services without pay, for the benefit of the deserving poor. To understand to what degree the profession has taken upon itself the welfare of the community, read Paragraph 1, Article 1, of the Code of Ethics adopted by the American Medical Association, which is as follows:

As good citizens, it is the duty of physicians to be ever vigilant for the welfare of the community and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police, public hygiene, and legal medicine. It is their province to enlighten the public in regard to quarantine regulations, the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the medical police of towns, as drainage, ventilation, etc., and in regard to measures for the prevention of epidemic and contagious diseases, and when pestilence prevails it is their duty to face the danger and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives.

Perhaps someone will say that this lofty position which the medical profession has taken, while very laudable and creditable to the profession, the state can not take official cognizance of, because it has come about through no legislation, and if the physician be a guardian of the public health, etc., he is entirely a self-constituted one. In reply, it may be stated that there are numerous instances of the courts adjudging physicians just as though they were *de facto* officers of the state and responsible to it for acts which in other professions would be left to the individual inclination; and of their being punished not for some overt act of malpractice, but for carelessness and neglect in the practice of their profession. In other words, when once he has adopted the healing art as his life work, the physician is not permitted to remain even passive, but he must relieve the sick and attend the injured and go when called by anyone who may be suffering, whether it shall happen to be to his own interest or liking to do so or not.

Finally, it might be urged as a justification of the interference of the state in the matter of medical education, that it is called upon to do so in the interest of equalization of competition, one of the acknowledged administrative functions of government. The state, though it does not directly grant it, legalizes the title of M.D., and as we have just seen, it exacts of the practicing physician unusual obligations. Would it be more than just, therefore, did the state take such measures as were necessary to give specific meaning to the title, and see that only those should possess it who have earned it; that the man, in other words, who has fraudulently won the degree should not be placed on equal footing with him who has given up years of his life to a serious study of his profession. We hold it, therefore, to be the rightful business of the state, first in the interest of the community, and secondly, out of justice to the class concerned, to educate or at least take a part in the education of the physicians and surgeons of the country.

The United States has established and maintains schools in which are trained, at great expense to the government, soldiers who fight the enemies on land and sailors to contend with those on the sea, but not one cent has it ever contributed to the training and education of a class who have to contend with the omnipresent foe, in the shape of death and disease, far more destructive, because clandestinely and incessantly at work. But let us be more specific and consider how it would be possible to carry into effect any plan for the betterment of medical education by state interference.

It would be useless to have the different states undertake the control of medical education within their limits, for the lack of uniformity of which we have said so much, which is the bane of the present system, would in nowise be improved. Each state would prescribe a different curriculum just as at present each state has

different statutes regulating the practice of medicine. Yet the general government can not constitutionally undertake it. As is well understood, the general government has only such powers as have been delegated to it by the state and education is not one of such. This is one of the police regulations reserved by the several states as their own right, which, therefore, they jealously guard and are unwilling to surrender.

Without entering at all upon the question of the wisdom of such an arrangement, or attempting to decide between the conflicting interests of state and central government, we see no reason why the two might not enter into an agreement whereby the latter could attain its object without encroaching upon the rights of the former; why Congress could not appropriate a sufficient sum to be applied to medical education in each state, leaving to the states entire control thereof, and only stipulating as a condition, that a certain standard uniform throughout shall be maintained and (this is the important feature) that the graduate of the college should be allowed to practice without further examination in any part of the United States. Such appropriation might be applied to the state universities or to some other already existing college of medicine.

There have been for some years established throughout the United States so-called agricultural experimental stations, supported by the general government yet managed by the state. They have worked generally smoothly and have accomplished much good. We believe that a scheme of this kind applied to medical colleges would in a short time eradicate all the evils of our present system of medical education.

It would tend at the same time to advance the standard of the schools and to lessen their number and to render them uniform throughout the United States. As many of the states at present require all candidates to pass examinations, it is evident that those colleges whose graduates were entitled to practice in any state without undergoing these examinations, would have a great advantage over all others. The inferior institutions would necessarily go to the ground in a competition wherein they were so heavily handicapped. But there is no reason why the best class of schools should not continue to exist and thrive, even though they failed to obtain this particular state favor. Some are already so abundantly endowed and so well situated for giving clinical instruction, or have instructors and professors of such fame, that the students will be attracted thither in preference to the national college. Some would no doubt drift into the position of preparatory schools where the student can study more conveniently for a season or so, finishing only at that school which gives him the right to practice along with his diploma. But in order that it shall succeed in this capacity, it would have to model its curriculum after that of the state school, so that its students could enter the next class there without difficulty. Thus the state school would operate to bring about a uniformity in all schools, so that, sooner or later, we might have in the United States the same condition of things as at present exists in, for instance, Austria or Germany, where it is the custom for the student of medicine to divide his course of study among two or more schools in different parts of the country. It is possible, too, that under the system we suggest, certain institutions would become famous for certain special branches of medicine, as bacteriology or experimental medicine, and that some which are now giving a full course of study, would become postgraduate or polyclinic schools, to which students would resort who wished to get increased clinical experience or to devote themselves to some special department of medical science.

In the course of this paper we have seen fit to institute certain comparisons which were intended to show that although we had made certain gains, the condition of medical education was still many steps in the rear of that of the countries of Europe. As the day seems now to have come when we no longer think ourselves too mean to be measured by an international standard, it seems to me that this comparison ought to have some force.

We have heard a great deal of talk lately about our financial system and of our standard of money; and we heard it urged on one side that we should have a money system that could stand alone and get along without the help of other nations, and on the other side, that we must have a standard that was good the world over, that would be accepted by any nation under the sun. We come now to appeal to the medical profession and to the people at large (who in fact, after all, are they who are most vitally concerned) that they shall adopt as broad views upon the subject of health as upon that of wealth; and that they shall not think more of dollars than they do of doctors; that they shall never cease their efforts until we have a system of medical education and a standard equal to the best, and until the products of our institutions, stamped as they are with the seal of government authority, shall no longer be discredited and regarded as spurious coin abroad, but shall pass current in any, even the most enlightened countries of the world.

FURTHER REPORT OF A PREVIOUSLY RECORDED CASE OF BLASTOMYCOSIS OF THE SKIN; SYSTEMIC INFECTION WITH BLASTOMYCES; DEATH; AUTOPSY.*

JAMES W. WALKER, M.D.
Adjunct Professor of Medicine, College of Physicians and Surgeons.
WITH INTRODUCTORY NOTE BY THE ORIGINAL REPORTER.
FRANK HUGH MONTGOMERY, M.D.
Associate Professor of Dermatology, Rush Medical College.
CHICAGO.

INTRODUCTORY NOTE BY DR. MONTGOMERY.

I reported this case before the meeting of the American Dermatological Association in 1900[1] as a case of blastomycosis of the skin (blastomycetic dermatitis of Gilchrist), in which death finally occurred from miliary tuberculosis of the lungs and other organs. In explanation, I would state that I was away from Chicago during the last weeks of the man's illness and at the time of his death. My friend, the late Dr. D. D. Bishop, in whose charge I left the case, wrote me that the autopsy showed the man died of miliary tuberculosis. Up to this time the diagnosis of the cutaneous lesions had not been definitely determined, though they had been carefully studied both clinically and histologically by a number of competent observers. The case was now considered an unusual form of cutaneous tuberculosis followed by systemic infection. I gave Dr. Bishop the privilege of reporting the case in full, but unfortunately, Dr. Bishop himself died before completing the work.

In January, 1900, Dr. Hyde and I had several cases of cutaneous blastomycosis under observation, the clin-

* Read before the American Dermatological Association, Chicago, May 31, 1901.

1. Transactions for 1900; and Jour. Cut. and Gen. Urin. Dis., January, 1901.

ical features of which suggested to us this old case. On inspecting my old slides of the case, I found characteristic organisms present in such large numbers that it is difficult to understand how they escaped the observation of the several pathologists to whom the slides had been shown four or five years before. I attempted to find the hospital and postmortem records, but these records could not be found. Several workers in the laboratory, however, remembered the case very well and assured me verbally that there was no question that the man had died of tuberculosis. One of these men, who was particularly interested in the case, stated he knew positively that guinea-pigs inoculated with the tissue had died of generalized tuberculosis. As after carefully searching several hundred skin sections I had found four or five bacilli which morphologically and in staining properties were identical with tubercle bacilli, I did not hesitate to accept the postmortem findings as reported to me. These few bacilli were, as I reported, found in a small abscess communicating with the surface of the skin and were undoubtedly the result of secondary infection. Such infection could easily occur in a moist fungous surface which had been exposed to the air for many months. I was satisfied (as were also Dr. Hyde and others who had watched the case carefully) that this was a case of blastomycosis of the skin followed by secondary infection with tuberculosis.

Figure 1.

Figure 2.

After reporting the case, I learned that Dr. Walker had been associated with Dr. Bishop in working it up and had himself made the postmortem.* Dr. Walker's sections of lung tissue are full of typical blastomycetes, while diligent search on his part failed to discover tubercle bacilli. The evidence now presented by Dr. Walker shows conclusively that there was systemic infection with blastomycetes. There is no positive evidence obtainable of any tubercular infection aside from the few tubercle bacilli which I found in the cutaneous abscess. Moreover, the clinical history (see the previous report),[1] not only of the cutaneous affection but also of the early constitutional disturbance, and the manner in which metastases occurred were unlike those of tuberculosis.

This case is then of special interest because of its being the only case yet reported in which an undoubted cutaneous blastomycosis has been followed by systemic infection with blastomycetes. (In the Busse-Buschke case[2] the cutaneous lesions were accompanied, if not preceded, by symptoms of chronic pyemia). For seven years the disease was limited to a single area on the skin and the man's general health was unimpaired. About eight months before he died, he began to have attacks of chills and fever, lasting four and five days, followed by the appearance of subepidermic swellings, some of which developed characteristics identical with those of the original lesion. Dr. Hyde, who followed the case carefully, believes with me that these manifestations marked the beginning of systemic infection. It is highly improbable that the new lesions were due to auto-inoculation through the skin, for the following reasons: They were preceded always by a marked systemic disturbance; they were distinctly subepidermic, the skin remaining unbroken until after the swellings subsided; they showed no central point where the inflammation (always subacute in type) was more intense, or where there was any clinical evidence of suppuration or necrosis; and, finally, during most of this period the cutaneous lesions were kept covered with antiseptic dressings, reducing the danger of auto-inoculation through the skin to a minimum. (See original report[1] for details.)

The clinical histories of this case and of the one reported by Busse and Buschke,[2] together with the culture and inoculation experiments of Ophüls and Moffit,[3] suggest strongly a close relationship between, if not the identity of, cutaneous blastomycosis and the cases of protozoic dermatitis reported by Gilchrist, Rixford, and others.

DR. WALKER'S REPORT.

C. W. T., aged 33, carpenter, admitted to Cook County Hospital in August, 1894, and remained two weeks, and was again admitted in March, 1895. Father died, aged 64, of heart disease; mother at 36 of consumption. Two brothers living and in good health; one died at 36 of heart disease. Three sisters living and well; none dead. Patient has been married 10 years; has had 6 children, 4 of whom are living, and in excellent health. He is a large, well-proportioned man, and has always been unusually strong and vigorous. No evidence of disease other than that of the skin can be found. No history nor evidence of syphilis nor of tuberculosis obtainable. Seven years previous to his first coming to the hospital, while wearing

* I also learned that the photograph I published had been taken by Dr. Walker. I had several photographs of the man and on selecting one for publication failed to recognize it as the one sent to me four years before by Dr. Bishop.

2. Virchow's Archiv, 1895, cxl, 23, and Verhandlung der Deutsch. Dermatolog. Gesellschaft, 1899.
3. Philadelphia Medical Jour., 1900, v. 1471.

a new woolen shirt which irritated his skin, he scratched himself and caused bleeding. The resulting lesion became covered by a crust, which when removed would reform. It slowly increased to the size of a silver dollar, then remained stationary for three years, then increased again. Medicines internally and local applications have been tried without limit and without avail. Patient says the lesions are practically painless, but tingling and smarting are occasionally felt. About October, 1894, the process began under the right eye, and in January, 1895, on the left temple, and in each place has spread rapidly. Has been able to continue working until July, 1894.

Present condition, March 8, 1895: Patient is fairly well nourished, heart and lungs are negative, pulse, temperature and respiration normal. The extent and location of the cutaneous lesions are indicated by the photographs. They consist of a verrucous tissue of purplish color, elevated at the highest points about one-half an inch above the normal skin. The tissue is soft, friable and spongy and pus can be squeezed from beneath it in droplets. Surrounding it is a purplish-red zone, about one-half inch wide, of normal texture. Toward the left side of the lesion on the back are a few patches, dry, smooth, but irregular and pink, where a thick, firm, scar-like tissue has formed. Scattered over the back, without any regular arrangement, but mostly on the right side, are a dozen or more nodules to be felt in the skin as firm bodies, slightly projecting, red in color and shading off gradually, the largest being the size of a small pea. They are tender on pressure and not ulcerated.

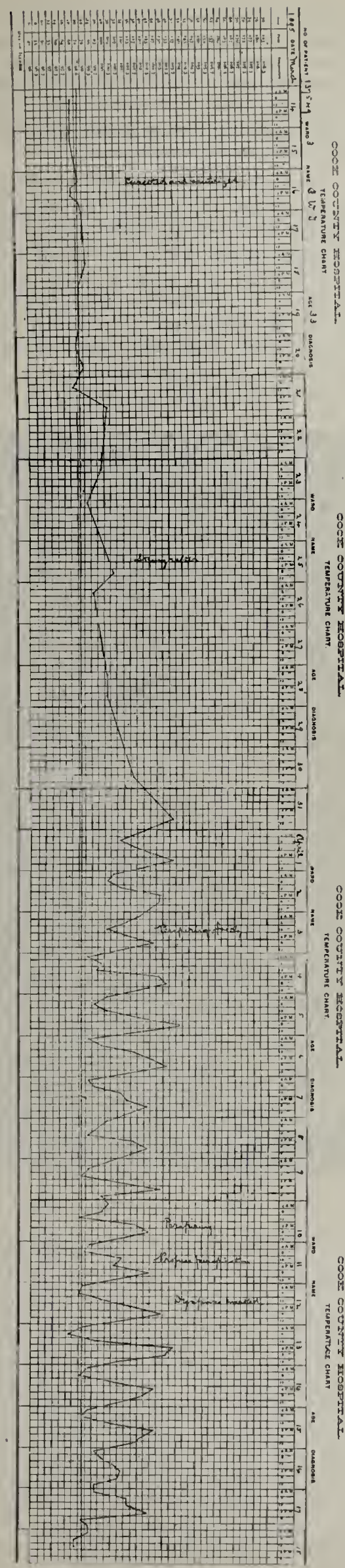
Operation: On March 16, eight days after admission to the hospital, under chloroform anesthesia, all the spongy tissue on each side of the face was curetted away and the base of each ulcer cauterized with the Pacquelin cautery. Wet boracic-acid dressings were then applied daily. Previous to the operation, the temperature was 98.6, pulse 72 and respiration 20. Nine days after the operation, the two areas presented clean granulating surfaces and were then covered with Thiersch's grafts, furnished by a friend of the patient. Up to this time the patient had shown no ill effects of the operation, but on the day of skin-grafting his evening temperature was 100.2, pulse 82, respiration 20. After this time, pulse, respiration and temperature were always above normal.

April 3, nine days after skin-grafting, eighteen after curetting: Union of grafts complete, dressings discarded. There is a row of new tubercles at the lower edge of the lesion on the right side of the face and one tubercle on the upper eyelid. Patient perspires profusely. Most of the spongy tissue on the back has disappeared, leaving large patches that have a smooth, red, moist surface. Margins are as before. There appears to be a slight dulness on percussion over the right upper lobe. No râles nor bronchophony. There have appeared a number of red papules, scattered over the back, firm and tender to touch. Urine negative.

April 8, twenty-three days after curetting: Each of the three smaller lesions on the back are now surrounded by a sharply-defined, narrow furrow, as though caused by pressure with the edge of the finger-nail. On the margin of the large lesion this phenomenon is seen only in places. Appetite continues to fail, emaciation is marked, temperature 102, pulse 120, respiration 36.

April 11: The papules on the back are breaking down. The periphery of each is marked by the gutter-like line above described. Dyspnea very marked; ophthalmoscopic examination negative; no tubercle bacilli in the sputum. It is worthy of special note that under no more aggressive treatment than daily wet boric-acid dressings, the large fungoid area on the back became a clean, though rather soft, granulating surface, the mass seeming to melt away. The margin, however, appeared to be unaffected by this treatment. In view of Dr. Nicholas Senn's diagnosis of tuberculosis, in which Drs. Hyde, Montgomery and Bishop were then inclined to concur, the incidence of post-operative dyspnea and associated symptoms naturally suggested the diagnosis of acute general miliary tuberculosis, which the subsequent course tended to confirm.

April 18, thirty-three days after operation, his wife took him home, where I continued to treat him. He died about ten days



after removal, forty-three days after operation. I was permitted to make an autopsy, but was limited to an abdominal incision of about four inches. Through this I removed pieces of the lung, liver, spleen and kidney, all of which were studded with miliary bodies, the lung surfaces being entirely covered by them, a finding which I erroneously concluded to be confirmatory of the diagnosis of acute general miliary tuberculosis, secondary to a cutaneous tuberculosis.

THE HISTOLOGIC EXAMINATION.

Repeated microscopic examinations of sections of the skin removed from the progressing margin of the lesion at the time of operation, which were made by Drs. D. D. Bishop, A. F. Lemke and myself, failed to demonstrate tubercle bacilli. This negative result, however, did not greatly disturb my allegiance to the diagnosis of tuberculosis, because those who had sought tubercle bacilli in cutaneous tissue by the methods then in vogue testified to the exceeding difficulty of finding them. It seems to me, as it has to others, more than probable that some of the cases that have resulted in failure to find tubercle bacilli have been instances of blastomycetic dermatitis. The same explanation, perhaps, accounts in some degree for the polymorphism alleged of cutaneous tuberculosis.

Fragments of tissue removed at the time of operation were used to inoculate two guinea-pigs. Nodular masses developed the size of a pigeon egg with the skin adherent over them. In fourteen days the mass in one animal ruptured and discharged a caseous plug, which resulted in recovery. The other died in twenty-three days, the autopsy revealing nothing but a similar, though firmer caseous mass at the site of the implantation.

I first suspected what proves to be the real nature of this case after reading the Owens-Eisendrath-Ready reprint and was convinced by comparing my slides with Mr. Ready's. I did not know that Dr. Montgomery had recognized the nature of the case until after he reported it. I regret exceedingly not now being able to find tissue from the autopsy on this patient other than that from the lung, the other specimens having been lost.

REPORT ON PATHOLOGY.

We are indebted to Dr. Leo Loeb for the following report on the pathological histology of the lung:

"1. The lesions are distinctly nodular. The alveoli between the miliary nodules being normal or showing only slight pathological changes.

"2. In the nodules are the following changes: Most characteristic is the connective tissue proliferation, which in some places has so far advanced that fibrous nodules are formed. Connected with some of these fibrous nodules, we see areas of different sizes where the alveolar structure of the lung is still more or less preserved and the alveoli are partially filled with a granular material, partially with masses resembling fibrin, besides a variable number of mononuclear cells; but in the majority of the alveoli the connective tissue begins to grow into these masses.

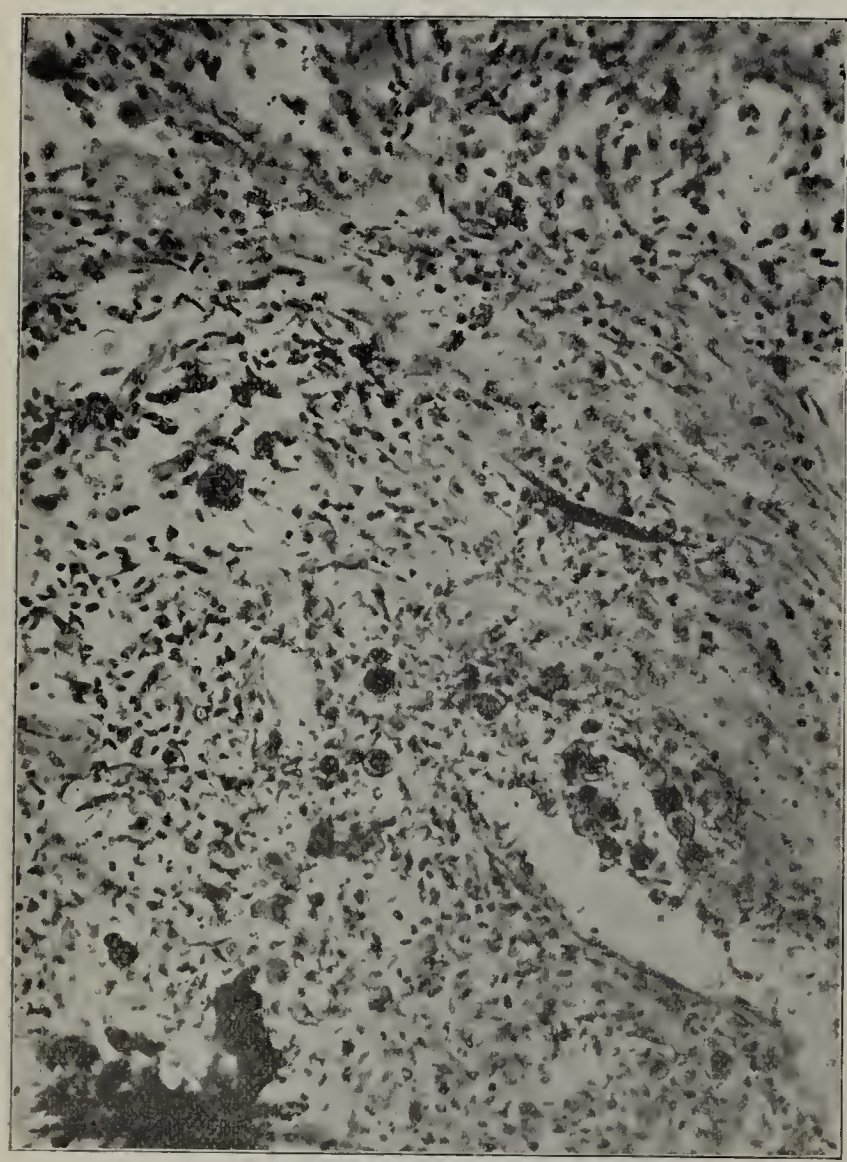


Fig. 3.—Same field as Fig. 4. X 250.

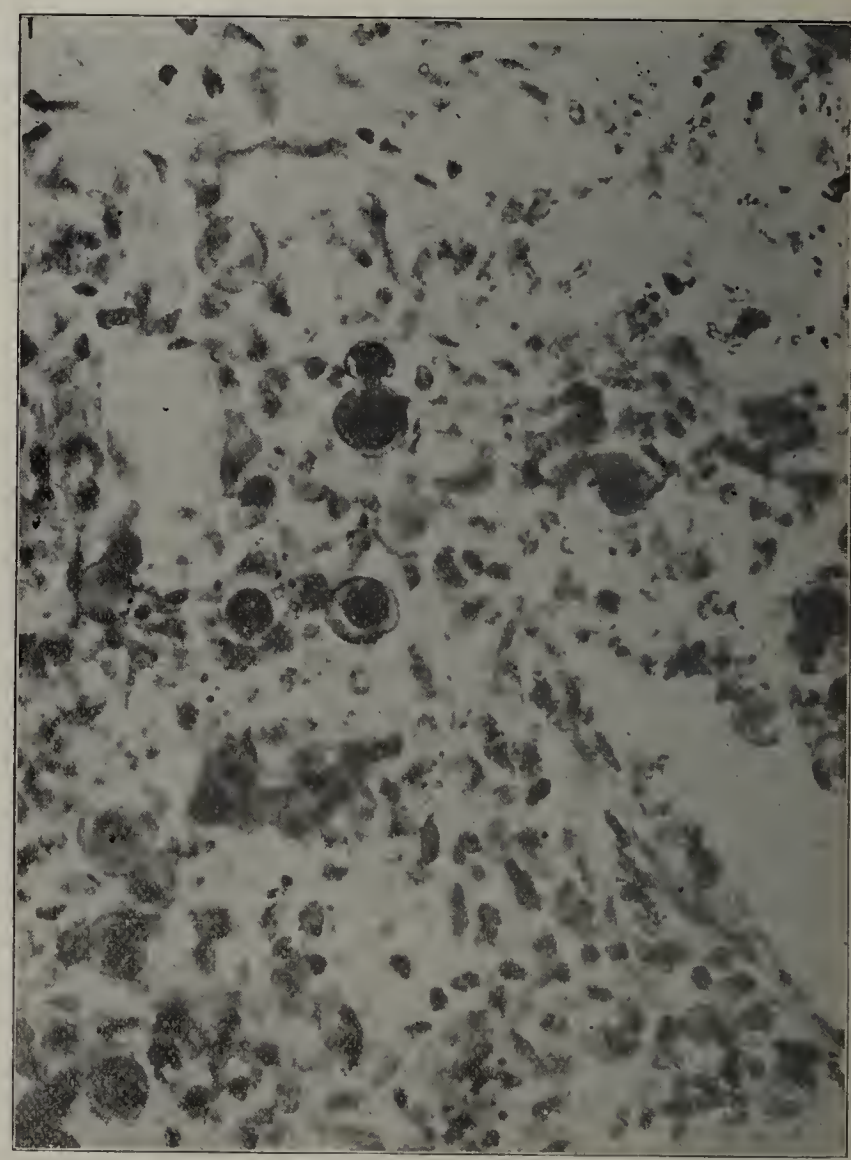


Fig. 4.—Section of lung, showing blastomyces, some of which are budding. X 600.

"3. Some alveoli are filled almost entirely with cells resembling alveolar epithelial cells. Polymorphonuclear leucocytes are seen in places, but they are not present in large numbers.

"4. Necrotic areas occur occasionally in and adjacent to the fibrous nodules.

"5. Location of organisms: *a.* We find these only in the foci showing pathological changes, not in the alveoli that lie between these foci. *b.* In these foci we do not find the micro-organisms distributed equally

everywhere, but the large majority of them we find where connective tissue has been developed or is just developing. There are relatively few in the alveoli that contain only granular or fibrinous masses with a few cells. There are some areas several times the size of an alveolus which are almost filled with masses of the micro-organism. Such areas are found especially in the neighborhood of the larger vessels and bronchi. In the necrotic portions of the fibrous nodule we also find the remains of the organisms. *c.* Where large masses of the organisms are studded together, we see only little fibrillar material between, and the connective tissue distinctly invades these masses only at the margins. In other places where the organisms are less numerous, we find connective tissue frequently surrounding little heaps of them and penetrating some of the heaps. Individual micro-organisms are frequently surrounded by a layer of flat connective tissue nuclei. The organisms are often enclosed in giant cells, both in the fibrous nodules and also in the alveoli into which connective tissue penetrates. The situation of the micro-organisms in the giant cells varies. Sometimes they are at the periphery and the nuclei of the giant cells are in the center. Sometimes this order is reversed. Occasionally we find them enclosed in one large cell.

"6. We also find changes occurring in the organism itself. Usually it has a darkly staining center, taking up the nuclear stains. In some specimens stained with methylene-blue the peripheral part around the nucleus-like body shows many fine blue granules. In some organisms the central body takes up the stain only slightly or not at all. Occasionally we see budding organisms. Other organisms are seen with a central round body having a mulberry-like appearance with the segments of equal size. This appearance suggests the possibility that segmentation (sporulation) is taking place. But it is more probable that this is a change comparable to one not infrequently found in certain nuclei. No definite statement, however, regarding this can be made. The organism is normally variable in size. Further changes are the presence of very large bodies, whose diameter is two to four times as large as the ordinary ones. These usually do not show any special structure and are probably swollen degenerated forms.

"7. We see, therefore, that at this stage of the infection this micro-organism does not cause any tumor-like formation in the lung, not even an epithelial proliferation similar to the one found in the skin, but changes of an inflammatory character comparable to those found in tuberculosis of the lungs."

DISCUSSION OF OTHER CASES.

In operating in the manner I did, I acted upon eminently responsible surgical advice and in uncertainty as to the exact pathology. I now believe that this method is attended with too much risk of general dissemination of the pathogenic organisms to warrant its adoption. Lassar, speaking of the treatment of these cases—regarding them, however, as tuberculosis—insisted very emphatically on a bloodless operation—the Pacquelin cautery. Caspar and Gilchrist say:[4] "We had intended to place the patient under the influence of ether and curette the cutaneous lesions very thoroughly and then apply the nitrate of silver stick." The patient left the hospital and this was not done.

In 1895 Otto Busse published a case in Virchow's Archiv: A woman upon whose tibia a swelling appeared, which was cut down upon eight months later by Helferich, an abscess cavity evacuated, and the abscess wall removed, together with the anterior edge of the tibia. Lesions of the face, neck, right ulnar and sixth left rib followed. The patient died five months after operation and the autopsy revealed numerous foci of disease in the bones and internal organs, from all of which the blastomyces could be cultivated.

Drs. Hyde, Hektoen and Bevan say:[5] "The propriety of removing all the morbid tissue with the curette was discussed." It healed, however, under the administration of potassium iodid. Rixford and Gilchrist[6] publish a case of protozoon infection, which began in 1886, and in 1894 all the infected areas, save one, were "most thoroughly scraped with a sharp spoon and 1-500 bichlorid applied." Cough developed, with purulent expectoration. Fine moist râles were general over the chest and it was thought that the patient had contracted tuberculosis. Death occurred ten and one-half months after operation, protozoa being found in most of the organs and lymph glands, being more abundant in the lungs than in the skin. Microscopically and macroscopically there was a strong resemblance to tuberculosis, but no bacilli were found. This case is here referred to because of general dissemination following within a few months the use of a curette on a skin lesion which had existed for eight years without constitutional disturbances.

I have cited these cases because of their relation to treatment and its results. Drs. Hyde and Montgomery are of the opinion that in the case here reported systemic infection was present prior to operation, as evidenced by the chills and fever, and by the manner in which new lesions developed at a distance from the original one. This is quite possible, and still the curettage may have hastened the termination of the case.

The value of large doses of potassium iodid, first noted by Dr. Bevan, has been demonstrated by a number of observers. In practically all cases it has produced marked improvement, and in several instances it has apparently caused a complete disappearance of the disease. Failing in medical treatment, the actual cautery or free excision with deep dissection and repairs by skin grafts or plastic operation should be the method of election and the curette eschewed as being fraught with too much danger.

4. Jour. of Experimental Medicine, January, 1898, "A Case of Blastomycetic Dermatitis."

5. Brit. Jour. of Dermatology, July, 1899, "A Contribution to the Study of Blastomycetic Dermatitis."

6. Johns Hopkins Hospital Reports, vol. i, 1896.

A SERVICE VIEW OF HERNIA.

ITS PREVALENCE AMONG OUR TROOPS IN THE ORIENT.

E. F. ROBINSON, M.D.

KANSAS CITY, MO.

With the exception of gunshot wound, hernia is the commonest surgical condition that confronts the military surgeon in the Philippines. Among our troops in the Orient it develops as a tropical disease, and is now a condition to be reckoned with just as much as dysentery or typhoid fever. For while it rarely kills, it incapacitates. It puts men out of action, and so out of the service. With the immediate increase in our standing army and the thousands of raw recruits that will soon be ordered to foreign service, the importance of this subject will be greatly augmented, consequently the consideration of the question may not be *inapropos* at this time.

Unfortunately, there are at hand no definite statis-

tics which will show the percentage of hernias among our troops in the tropics; but a very correct estimate of the prevalence of this surgical condition may be deduced from the fact that up to May 15, 1900, 229 cases of hernia were seen by the writer alone in the military hospitals in Manila. These cases also, it must be remembered, were among a most carefully selected class of men, in whom the existence of hernia had been absolutely excluded at the time of enlistment.

The reason for this remarkable tendency to the development of hernia among American troops in the Orient can be attributed directly to several important general and local causes. In the first place, great and sudden loss of flesh is the early experience of more than 90 per cent. of Europeans in the tropics. To a certain extent the climate is directly responsible for this. One eats less and perspires more. Intermittent or persistent attacks of diarrhea, dysentery or typhoid fever, and kindred wasting diseases—for few escape some illness in the first few months of tropical service—all tend to lessen the bodily weight. General relaxation or loss of muscular tone is an important factor. This is evidenced by the great frequency of hemorrhoids, varicose veins and varicocele which appear among our troops in a hot country. Added to this the great and sudden strain to which the soldier is subjected in an active campaign, and the most favorable conditions are produced for the development of hernia.

INFLUENCE OF THE ARMY CARTRIDGE BELT.

But the chief causal factor, it is believed, lies in the army cartridge belt. One hundred and fifty to two hundred rounds of ammunition is no small load when added to the rifle and equipment of an infantryman. When this weight is thrown around the abdomen and only supported by its constriction above the hips, scarcely a muscular movement can be made without undue pressure on the lower abdominal wall. The belt may not be tight, yet it constricts. For some unaccountable reason the American is fond of a belt, and notwithstanding its weight, the soldier will often hang his canteen, meat can and extra pair of shoes and provisions to it. The regulations require that the belt shall be worn at a certain place about the abdomen. This and habit are absolute. Even in "route marching"—except when carrying extra ammunition—the cartridge belt is seldom swung from the shoulders. In almost every army except our own the deleterious influence of the abdominal cartridge belt is recognized, and so discarded. The Spanish have an excellent cartridge bag or pouch in which the weight hangs from the shoulder, and is kept from flopping by a loose belt about the waist. Our own marine corps had an excellent hygienic arrangement for ammunition for the Lee rifle, by which the weight of the belt hung from either shoulder by suspenders, thus evenly distributing the burden and not infringing upon the abdominal wall.

In addition to being a fruitful cause of hernia, the regulation belt is not particularly efficient or accessible, and much ammunition is lost from it. On one occasion during a "hike" the author picked up a campaign hat twice full of cartridges which had fallen from these belts while a company was advancing less than one hundred yards. It is earnestly hoped that some more efficient and sanitary means of distributing the soldier's load will be devised with the development of the new uniform.

From Aug. 1, 1899, to May 15, 1900, at the First and Second Reserve Hospitals, Manila, 104 cases of hernia were operated on. Of these operations 53 were performed by the author while serving as chief operating surgeon, and of them complete records are at hand. The remaining 49 were inguinal hernias. In 27 the operation was that of Bassini, and in 22 its character was unknown. There is no record of the result in these early cases.

Of the author's 53 cases, 45 were inguinal, 31 occurring on the right side and 14 only on the left. There were two femoral and six ventral hernias among the total number. The operation performed was that of Bassini in 43 cases. The method of Halsted was followed in 2 instances, but one of these cases developed a painful testicle later. Of the 2 femoral hernias, one was a large omental hernia about the size of an orange. The contents of the sac were much thickened and presented a peculiar "coxcomb" appearance, suggesting malignancy, but the microscope failed to bear out this opinion. The other case contained a knuckle of small intestines. In both, the canal and ring were closed, after the manner of Bassini's treatment of femoral hernia. Two cases of inguinal hernia contained undescended testicle; in one instance castration was performed, and in the other the organ was anchored to the base of the scrotum, with a most satisfactory result. Primary union resulted in all but one of our cases, and this the first case operated on. In this case, infection was traced unmistakably to the Kangaroo tendon used. Upon having all of this material resterilized no further difficulty was encountered. In all our cases buried sutures of this material were used, while the hernial sack was transfixed and ligated with fine silk. Sutures of silkworm gut closed the skin wound. In our early cases the matrass suture of Kangaroo tendon was used, but ultimately abandoned for the continuous suture. The advantage was threefold: 1. Less knots were left, and so less material to be absorbed and to run the risk of receiving or causing infection. 2. The tension on the sutures was less and was more evenly divided, and there was less danger of splitting Poupart's ligament, with the consequent tearing out of the sutures. 3. Much less time was consumed in the operation. This latter, while not so important a consideration in a temperate climate, is one that must always be reckoned with in the tropics.

For some reason, probably the general low muscular tone and the reduced vital condition of the patient, surgical shock was a much more common occurrence in the Philippines than in the United States. Especially was chloroform badly borne. Shock seemed more profound after its use; although great care was exercised, alarming symptoms again and again developed, and death resulted in three or four instances. Finally, the use of the drug was almost completely abandoned. Our own experience with chloroform was very similar to that of the English surgeons in India, where ether has almost completely replaced it.

WISDOM OF EARLY OPERATION.

The question of the wisdom of operating on these cases of inguinal and femoral hernia, I believe, should be unqualifiedly answered in the affirmative: Most certainly, operation, and operation early, or discharged from the service. Recurrence is rare, indeed, after the improved surgical operation of to-day, and particularly so in men as strong, young and vigorous as those that come to operation in our military service. Unfortunately, a sufficient length of time has not yet elapsed to determine definitely the permanency of cure in our

cases; but now after six months—the latest date from which we could secure information—not a single case of either inguinal or femoral hernia operated on is known to have recurred.

Ventral hernia, however, is by no means so amenable to treatment. Of the 6 such cases operated on, 4 were in the scar of old appendix operations, and 2 occurred just above the umbilicus in the median line. Within two months after operation recurrence had occurred in 2 cases; the ultimate results in the others are not known. From the standpoint of efficiency to the service it is extremely doubtful whether operation on these cases is justifiable. Surely a man with any tendency to weakness of the abdomen should not be enlisted. Even a solid "appendix scar" should bar him. In general, indeed, it may safely be said that discharge is preferable to operation in cases of ventral hernia. From our own experience and that of other military surgeons we are led to conclude that early radical operation should be performed in every case of inguinal or femoral hernia, and we firmly believe that thus many additional years of trained service will revert to the improvement and efficiency of our standing army.

CONCLUSIONS.

1. Additional care should be exercised in the enlistment of men with absolutely sound abdominal walls, and they should not be over weight.

2. Regular exercise should be insisted upon with troops in the tropics, even during so-called "field service," that the general physique may remain above par. There is too great a tendency among officers and men in a tropical country to relax all form of physical exercise and to think because they are in the field such is not necessary.

3. The discarding of the old abdominal cartridge belt and the substitution in its place of some form of belt, if necessary, by which the weight is swung from the shoulders and the abdominal muscles are not restricted.

4. General attention to hygiene and the avoidance of the causes of disease in general are, of course, important factors in preventing hernia.

5. Early operation in all cases of inguinal and femoral hernia.

HYPNOTICS—THEIR USE AND ABUSE.

ARTHUR W. ROGERS, M.D.
WAUWATOSA, WIS.

In a recent paper[1] Dr. Church and Dr. Hutchinson called attention to the untoward and even fatal results of the prolonged and excessive use of trional and sulphonal. It is true, as they state, that "during the past few years both the profession and the laity have been using sulphonal and trional in the most reckless manner, due to the widespread belief that the employment of these remedies is comparatively without danger."

It is my desire to seek further into the causes why a belief fraught with so much danger has become so prevalent and to call attention to further instances where the above mentioned as well as other hypnotic and sedative drugs have been abused, both by patients and in some cases even by practitioners.

It seems to us, in considering the causes why individuals are so prone to excess in the use of hypnotic drugs, that there are several factors. It is not to be expected that patients should fully realize the dangers attached to such excess. Their one idea is to secure relief from the distressing insomnia and oftentimes they act upon the trite fallacy that "if a little is good, more is better." All these drugs are alike in the one respect that their potency gradually fails, leading to increased dosage. It is less expensive and less troublesome to call on the apothecary for a new supply than to consult a physician. Consequently the original prescription may be refilled many times and the patient may be all the time laboring under the error that his insomnia is being cured. This misfortune can be obviated only by the physician taking the precaution to properly instruct his patient and to mark his prescription in such a manner that they can not be refilled indefinitely. The prevalence of insomnia is an incentive to the altogether too enterprising manufacturing pharmacists. New hypnotics are constantly being presented to the profession and samples scattered broadcast. These new drugs are mostly "harmless" and are used indiscriminately before being given a proper trial and before they are endorsed by reliable men. The ease with which this class of drugs can be procured is alarming and in some places has called forth measures regulating their sale. The above-mentioned facts make it very apparent that it is the duty and privilege of the medical profession to regulate the existing evils connected with the dispensing and use of hypnotic and other dangerous drugs.

In the entire category of diseases we find none in which insomnia is the symptom *par excellence* as in nervous and mental maladies, and too, it is right here that the hypnotics are chiefly abused. Because of the slowness of the nervous system to respond to treatment there is opportunity for prolonged and continued use of these drugs and even danger of forming the "hypnotic habit." It is the neurasthenic patient that too often perseveres at his task while using hypnotics each night to produce the sleep that he otherwise fails to get. Again, when the busy practitioner is called in to see a patient who has not been sleeping or who is even excited and violent, the first thing he proceeds to do is to relieve these symptoms, and, other measures failing, the hypodermic and hypnotic is called into requisition. Chemical restraint is often found necessary for such a length of time that toxic symptoms warn him that the danger point has been reached. It is to this class of patients that I wish to call attention and illustrate briefly with a few cases.

It seems to us that the matter of idiosyncrasy is too often lost sight of in prescribing hypnotics. We have all witnessed the unexpected and undesirable manifestations when exhibiting such drugs as morphin, quinin, iodids and many others in certain of our patients. Why should not some organizations be more sensitive to the effects of hypnotics than others? I have known of individuals who had used sulphonal or trional, or both, nearly daily in 10 to 15-grain doses for two to three months without any marked evil results; while on the contrary I have seen others who developed toxic symptoms after using the same drugs and dosage for two to three weeks. I had opportunity to witness the toxic effects of trional in the case of a young man—a morphin habitué—who with suicidal intent took at one time 180 grains of trional. This young man had been excessive in every possible way. He had used cocain and morphin in large doses for months; he had drank one to two quarts of whisky daily for some time and had taken the "gold cure" three different times. His general condition can be imagined, yet such an overdose of trional gave rise to no critical symptoms. Four hours after the medicine had been

1. Chicago Med. Recorder.

ingested he had the appearance of a man drunk from whisky. He was inarticulate in speech; inco-ordination was such that he could not walk at first and later would get about by stumbling and with some assistance. He could not feed himself and during the first twelve hours could not perfectly perform deglutition. Pupils were very dilated and non-responsive to light. There were coarse tremors in tongue and hands, pulse was rapid and weakened; temperature subnormal and respiration was shallow and never below twelve movements per minute. There was suppression of urine for eighteen hours, then a scanty flow of a dark cherry-colored urine with nothing out of the ordinary but a high specific gravity. The patient was given about the same treatment as if he had taken an overdose of morphin and at the end of thirty-six hours was in quite a natural condition aside from some muscular weakness and a slight deafness, which at first was very pronounced. I have observed that individuals habituated to the use of morphin or whisky are much less prone to be affected by the various hypnotics. I could cite many such cases where trional, sulphonal and hyoscin had been used in large doses and over prolonged periods yet produced but little hypnotic effect and as little apparent harmful results. One instance is where a man took 60 grains of trional, 30 of sulphonal, one-sixtieth of hyoscin and two drams of paraldehyde during a night, but slept none, while one-fourth of a grain of morphin gave him four hours good sleep. Another case is that of a young man—a paranoiac—who believed there was no medicine strong enough to injure him. He would take 40 grains of sulphonal and soon follow this with 30 grains of trional. This would give him a few hours sleep and be followed by a drowsiness during the succeeding day, but no evil effects were apparent, even though continued for several days.

Contrasted with the above cases are a few that show a sensitiveness to the effects of these hypnotics. A case in point was one of traumatic insanity in a man 45 years of age who was given sulphonal in 10-grain doses to relieve vague nervous symptoms and a mild delirium due to delusions of persecution. Under the influence of the drug he grew steadily worse and improvement was co-incident with its discontinuance, after which the patient cleared up in fourteen days. In this instance the patient was improving but was troubled with obstinate insomnia for which the sulphonal was given. The patient soon developed marked muscular weakness, difficulty of speech, anorexia and his delusions and hallucinations returned with renewed vigor. All these symptoms rapidly cleared up upon withdrawing the drug. A woman—paretic dementia—was discovered to have almost continuous diarrhea which failed to yield to any treatment. She complained of intense abdominal pain, was inarticulate in speech, had a rapid and weak pulse, subnormal temperature and such a degree of muscular weakness as to be unable to stand or get about at all. The urine was scanty, high colored and of high specific gravity. She slowly grew worse until a 10-grain sulphonal powder which she had been using daily for several weeks was stopped. Soon every disagreeable symptom disappeared.

Relative to the use of hyoscin hydrobromate, I wish to say that experience has taught me to use it very guardedly. In choosing a motor depressant we might much better use duboisin hydrochlorate. The latter drug has all the good and none of the bad properties of the former.

Hyoscin is nearly as drying to the fauces as atropin and in some cases aggravates the case very materially, while I have never witnessed any such unfavorable results in using duboisin.

One case in evidence is that of a young woman suffering from hysterical insanity. In her case hallucinations of sight and hearing were scarcely evident until hyoscin was administered in one 1/100 grain doses every twelve to twenty-four hours. During three weeks this continued and all the time her hallucinations grew more painful until additional hypnotics were required. At the end of this time all drugs were discontinued. For four days her hallucinations were almost in abeyance but later returned but in a much milder form.

Again a patient with incipient organic brain disease had been given one-sixtieth grain of hyoscin every six hours for five days, during which time he was growing worse and showing hallucinations of hearing. Improvement in respect to the hallucinations was immediate upon discontinuing the hyoscin.

In still another instance a young woman suffering from incipient hallucinations of both sight and hearing grew rapidly worse and even delirious under the excessive use of hyoscin and trional. This same case began to clear up quite rapidly when these drugs were left off. I could continue with other cases demonstrating beyond a doubt that hyoscin, trional and sulphonal used injudiciously will in many cases greatly aggravate many of the symptoms in nervous and mental cases. This is especially noticeable in the intensification of hallucinations of hearing and increased excitability and muscular movements in cases of mania.

In considering the entire list of hypnotics we find but few that are reliable and none free from depressing and other undesirable effects. In every instance a hypnotic must be looked upon as a necessary evil and one to be dispensed with at the earliest possible moment. Many patients conceive the idea that "small doses" can do no harm and continue in their use indefinitely. Other patients become so dependent upon hypnotic drugs that they are alarmed at the thought of giving them up. I have found that many of these cases will begin to sleep naturally in a short time even though the drug is stopped, abruptly.

It is wise to resort to hydrotherapeutic and other natural measures and an occasional placebo is a helpful substitute. We are under the necessity of studying each individual case separately. One hypnotic will not be the best in every case. In paraldehyde we have a hypnotic speedy in its action, producing quite natural and refreshing sleep and accompanied by but few and slight after-effects. In fact its only disadvantage lies in its disagreeable odor and taste, and the odor left on the breath. It will be taken quite readily when mixed with coffee, aromatic elixir or made into an elixir according to the pharmacopeia. Trional is less prompt than paraldehyde but produces a more prolonged sleep, is best given in hot milk after retiring. It is often of advantage to give small doses of sulphonal during the latter part of the day and at bedtime 12 grains of trional. In doing this we usually secure for our patient six to eight hours good sleep. Sulphonal is very slow in producing sleep and very prolonged in its effects. It is best given in 5-grain doses two hours apart through the day until 20 and in exceptional cases until 30 grains have been taken. We can expect the patient to sleep that night and be drowsy the following day. In some cases depressing effects may be evident two and even four days after such dosage. Sulphonal is best used in cases of pronounced mental and motor excitement.

Chloral is a hypnotic of such long usage that everyone is familiar with its effects. It has been used much too little of late years and combined with the three bromids is often very serviceable.

Chloralamid is too unreliable to be found helpful, only in a few isolated cases. It seems desirable, in all cases where a hypnotic is necessary, to change frequently as less harm is thus done than where a patient is kept on the same one continuously, even though the new drug may produce fewer hours of sleep.

Clinical Report.

AN EMERGENCY CASE OF CESAREAN SECTION UNDER THE POSITIVE INDICATION, WITH TERMINATION IN RECOVERY.

MICH. T. NAUGHTON, M.A., M.D..

CHICAGO.

Mrs. X. was admitted to the Englewood Union Hospital on the night of July 25, 1901. She had been in labor for 24 hours. The following history was elicited: Bohemian, age 30; ii-para; 5 ft. 4 in. in height; weight 120 pounds. At the birth of the second child the cervix was severely lacerated and the perineum ruptured through the sphincter ani. For a period of six weeks she suffered from septicemia. Seven months after the birth of this child she entered a hospital and underwent an operation for the repair of the cervix and perineum. This was afterward shown to be an ablation of the cervix well into the lower uterine segment, and almost complete obliteration of the os uteri.

Diagnosis: An almost normal pelvis. The osseous system showed no signs of rachitis. There was no spinal curvature and the long bones were perfect in shape and conformation. A digital examination revealed a normal head presentation of a full-termed child. The os uteri could not be demonstrated. The cervix was absent; its former site being occupied by an extensive mass of scar tissue which extended back to the fornix; the tissues imparted a rough parchment-like sensation to the touch.

Notwithstanding the fact that the pelvis was quite normal, the history of former deliveries showed that some cause rendered the birth of the child difficult, that forceps were employed and unusual force was used to extract the child and produce such extensive laceration as this case exhibited; that she had been in labor for twenty-four hours with absolutely no dilatation of the opening representing the os. This was found under anesthesia to be 1/8 in. in diameter, and was located in unyielding scar tissue from which amniotic fluid slowly exuded. Finally the severe uterine contractions, intensified by some cebolic mixture, administered by a midwife, threatened to rupture the body of the uterus.

The question naturally presented was: Can this opening, surrounded as it is by pathologic tissue, be dilated sufficiently to allow the passage of the fetal head without producing an uncontrollable tear or hemorrhage? Or if that proposition is feasible, can a living child be born? We decided in the negative for the reason that it placed both lives in jeopardy: 1, in the mother's case, from fatal hemorrhage, due to a ruptured uterus; 2, the child's, from asphyxia. The patient was prepared for immediate laparotomy. There was no option as to a selected time for the operation. It had to be done at once. The woman was much exhausted, pulse 98, temperature normal.

Assisted by my associate, Dr. Arthur Werkmeister, an incision was made through the linea alba, above the umbilicus, two inches in length and rapidly enlarged to within an inch of the pubes, with strong scissors; no omentum or intestines presented between the uterus and abdominal wall. The uterus was forced from the abdominal cavity and covered with hot compresses, the abdominal wound being carefully covered with hot towels. I was unable to locate the site of the placenta from palpation or inspection before incision. The uterus was opened by a vertical mesian incision in the fundus and enlarged to the extent of six inches with the scissors, through the fundus and anterior uterine wall. The thickness of the uterine wall was three-eighths of an inch. The placenta was adherent to the posterior wall, the membranes were torn through with the fingers and the fetus, which lay R. O. P., rapidly delivered by the feet. It did not breathe, but was soon restored by artificial respiration. The placenta was easily removed and the uterus contracted nicely, the walls increasing by this time to one and a quarter inches in thickness. Ergot was used after the evacuation of the uterine contents. Hemorrhage was slight after the contraction of the uterine musculature and was fully controlled by digital compression and hot sponges. Neither the elastic ligature nor a single hemostatic forceps, except the one used to clamp the cord, was employed in the operation.

Ten buried interrupted silk sutures were used to approximate the uterine muscle, followed by eight interrupted silkworm gut sutures, which included all the tissues down to the mucosæ. When the two rows of sutures were drawn tight the uterine wound was accurately closed and perfectly dry. The Lembert suture was impracticable on account of the tension due to active congestion of the organ.

The toilet of the peritoneum was brief, as no fluid had escaped into the abdominal cavity. The abdominal incision was closed by silkworm gut sutures.

The duration of the operation was thirty minutes. The uterine sutures were placed with unusual care, and that is the time-consuming step of the operation. There was scarcely any shock. She reacted nicely and her convalescence was uneventful. The prevailing temperature was 98.8; on the fourth day it reached 100 F., but subsided in a few hours. On the morning of this day she got out of bed and walked about the room. She repeated this endeavor on the tenth day, with no apparent ill effects, except a slight gastric disturbance. Her bowels were moved on the second day. The lochial discharge was odorless and ceased in two weeks. Lactation was not established. The only after-treatment she received was an occasional vaginal douche. The abdominal sutures were removed on the thirteenth day and the patient left the hospital "feeling fine," as she expressed it, three weeks from the time of entrance.

The child was a mature female, weighing seven and a half pounds, well formed and robust. It has done very well. Examination on December 12 revealed the uterus normal in size and limited motion; the parametrium was nearly free from infiltration; the sutures in the uterine wall could not be felt; the uterus was well up in the pelvic cavity, but could be made to descend with ease. There are probably some adhesions between the uterus and abdominal wall. The abdominal wound is firmly united.

REMARKS.

1. The continuous suture should not be used, as the involuting organ rapidly loosens it.

2. The buried suture possesses the advantage that after it is firmly tied the upper half of the wound can be thoroughly cleansed of blood, thereby giving ideal wound surface, with no interposing material.

3. Silkworm gut was used because silk occasionally acts as a syphon drain. If this occurred, one cavity would drain into the other.

4. The fetus should be rapidly delivered; otherwise the contracting uterus may grasp its head.

5. A satisfactory method of preventing fluids from entering the abdominal cavity will be found by having a rubber dam of such weight as is used by dentists, about one yard square, which should be kept ready for use in hospitals. Through a central circular opening from one and a half to three inches in diameter it can be slipped over the uterus and will effectually prevent fluids from entering the abdominal cavity.

The results obtained in this case answer in a measure the objections to the removal of a woman in this stage of labor, in an ambulance, over rough streets, or that the patient should be prepared the regulation time in advance in order to secure a favorable termination.

Reliance Building.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, APRIL 5, 1902.

MEETING OF THE AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS.

The second annual meeting of this association occurred in Cleveland, March 28 and 29. From the reports that have reached THE JOURNAL an interesting and valuable program was presented and the various sessions were well attended by representative teachers and investigators from different parts of the country. Among the papers the contents of which seem to be of especial interest to physicians in general or of more or less fundamental importance, the following may be mentioned: Dr. McFarland of Philadelphia presented a statistical study of the relation of tetanus to vaccination, in which it was brought out that the number of cases of tetanus after vaccination has increased to a relatively alarming extent during the last few years. The actual number of cases unearthed is still considerably below 100, but the greater part by far is of quite recent origin. From a consideration of all the facts the conclusion was reached that infection, as a rule, occurs through the vaccine, the principal reason for this conclusion being the occurrence of fifteen cases in a definite part of a large institution in Philadelphia, the inmates of which were vaccinated with a virus different from that employed previously. It is "up to" the manufacturers to surround the production of vaccine virus with all the precautions that ingenuity and knowledge can bring forth in order to rescue vaccination from this new though infrequent terror, sure to be exaggerated manifold by the credulous and foolish.

Dr. Warthin of Ann Arbor made an exceedingly interesting report with demonstrations upon the changes after splenectomy in sheep and goats. Since Warthin's recent work[1] on the hemolymph glands these peculiar structures have aroused much interest and it is evident that they are being actively studied in various places. Warthin's newer work shows that splenectomy in the animals mentioned is succeeded by great destruction of red blood corpuscles in which the retroperitoneal and other hemolymph glands play an essential rôle. Later, the existing hemolymph glands develop or change into large and pigmented lymph glands of the ordinary type, while new hemolymph glands spring up on the peripheral lymph nodes or independently in the fat, the first sign of their formation being a local dilatation of minute vessels. Apparently the bone marrow is the principal seat of regeneration of red corpuscles. It was the structural details of this interesting and striking series of changes that Warthin presented, the exact mechanisms whereby they are accomplished being reserved for further study. On account of the great number of fundamental problems that are involved, these studies appear to be of great importance. Dr. Flexner, of the University of Pennsylvania, spoke on thrombi composed of agglutinated red corpuscles. He presented evidence that such thrombi may form in typhoid fever and other diseases in which agglutinating substances develop in the serum, thus reviving the old conception that certain hyalin thrombi are composed of red corpuscles. In connection with this it should be mentioned that Dr. Stewart of Cleveland, physiologist, made some interesting remarks upon the mode of action of certain hemolytic and agglutinating agents, which he divided into biologic and more purely chemic. These references will suffice to indicate that hemolysis and agglutination are coming to be of more and more importance in pathologic research.

A meeting of pathologists certainly would not be complete unless the subject of tumors came in for a good share of discussion. In the first place there were presented a number of valuable morphologic studies by Kelly, Ohlmacher, Larkin and others. Dr. Le Count's forcible presentation of the analogies between the so-called Plimmer's bodies, which many regard as the parasite of carcinoma, and the centrosome and other structures normally found in the archiplasm of many cells, made a decided impression. It seems that the cancer parasite enthusiasts have neglected greatly if not wholly the very important fact that before certain intracellular bodies are regarded as parasites it must be shown that it does not concern normal or abnormal centrosomes and other formations of that kind. Nichols, from Boston, reported upon the lesions produced by the blastomycetes of Plimmer and San Felice, showing that they were wholly granulomatous in character. Leo Loeb reported further upon the transplantation of tumors in animals (rat), an important fact brought out being that the power of inducing tumor growth persists in pieces kept outside the body for five days.

Mere mention of the reports of His, Libman, Charlton and Park on bacteriologic studies of various kinds will indicate that this field was well represented also. In the evening of the last day of the meeting, the Cleveland Medical Society was addressed by Councilman, who spoke on the "Pathology of Smallpox," basing his remarks on the results of some 50 autopsies made during the recent epidemic in Boston. The most noteworthy findings in this series were the remarkable reduction of polymorphonuclear leucocytes in smallpox, the constancy and severity of the secondary streptococcus invasion, and the necrosis in the testicles and bone marrow. A splendid exhibit of gross smallpox lesions was made to the pathologists by Magrath and Brinckerhoff of Bos-

1. THE JOURNAL A. M. A., May 25, 1901.

ton. This study of smallpox bids fair to equal the earlier Boston studies in the pathology of the acute exanthematous diseases.

On the whole it is evident that this meeting is a good indication that research in pathology and bacteriology is progressing favorably among us; that it is to a considerable extent experimental; and that highly creditable work of permanent value is being produced.

SCARLATINAL NEPHRITIS.

Scarlet fever is one of the most dreaded of all the infectious diseases. It has been estimated that it causes one-twenty-fifth to one-twentieth of the entire mortality in England and America. Since we are unable to prevent the disease, our efforts must be directed toward avoiding the unfavorable attendants of the fever and convalescence and in modifying them in a favorable manner when they occur.

Of all the complications and sequelæ of scarlatina, the most important is the affection of the kidneys. Adolf Baginsky, who is well known as a skilful clinical observer of wide experience, has recently presented the subject of scarlatinal nephritis[1] in a masterful manner. His article is founded upon 88 cases occurring in 919 cases of scarlatina observed in hospital during 5 years. In the cases studied the onset of the nephritis occurred from the 6th to the 30th day. In a large proportion of cases the nephritis was accompanied by fever which sometimes rose gradually for two or three days before the nephritis could be demonstrated. As a rule, with the occurrence of nephritis, the quantity of urine became less, but cases were not so uncommon in which there was no effect upon the quantity of urine and the specific gravity remained unaltered. In still other cases a considerable increase in the secretion of urine accompanied the nephritis. Many cases which showed but moderate albuminuria developed uremic symptoms, while others in which the amount of albumin was large terminated favorably. In general, cases with prolonged and marked albuminuria were apt to be severe and prolonged. Out of 37 cases which entered the hospital within the first five days after the beginning of the scarlatina, only a single one exhibited a marked development of uremia. Of the cases coming to the hospital later than the fifth day, a large proportion had general dropsy on admission. Among the cases coming to the hospital early, many severe and even fatal cases were included, so that the failure of dropsy to develop in any of them can only be explained as being due to the hospital treatment. In two fatal cases, anuria without uremic symptoms was observed.

The prognosis in scarlatinal nephritis must be very guarded. Of 88 cases, 11 died—12.5 per cent. Chronic nephritis followed in five cases and possibly in others which could not be kept under observation for a sufficient length of time to certainly exclude it. Out of 38 cases of chronic nephritis in children observed in the hospital, 9 could be traced to previous attacks of scarlet fever.

Baginsky considers scarlatina a most important factor in the production of chronic nephritis, which may follow directly upon the acute attack or may develop after an intercurrent free period. He urges the necessity of watching the condition of the kidneys for some time after scarlatina, especially after acute scarlatinal nephritis. The idea seems to be generally prevalent that post-scarlatinal nephritis is not liable to be followed by chronic Bright's disease. Rotch says that it is rare for renal disease following scarlet fever to become chronic. Holt was formerly of the same opinion, but larger experience has convinced him that it is not very uncommon for chronic nephritis to follow the acute and it may make its appearance even after an interval of years.

These observations direct attention to the necessity of watching the kidneys of such patients for a considerable length of time.

The routine treatment of scarlatina in Baginsky's hospital is hydrotherapy, quiet in bed even for the lightest cases, and milk diet. This does not prevent the occurrence of nephritis, but reduces the mortality to the minimum. Since 1896, a rigid milk diet has been carried out in the hospital in all cases, with the result that general dropsy has not developed in any case treated in the hospital from the start, and severe uremic intoxication has been almost entirely absent. Even in severe cases of scarlatina, so severe general symptoms of nephritis have not been observed as in cases coming from the outside later in the disease. Under this treatment only one case of nephritis has developed which proved fatal and it was complicated by phlegmonous angina. For three weeks the diet is practically only milk. Substances rich in nitrogen are strictly excluded, especially bouillon and meat extracts. In the fourth week some vegetables are allowed and at the beginning of the fifth week, when no complications are present, the patient is allowed to sit up. Only at the beginning of the sixth week are bouillon, eggs and light meat added to the diet. Milk has now come to be generally considered the best diet for scarlatina patients, and its use for at least four weeks is urged by such clinicians as Rotch and Holt. Rotch thinks such feeding may perhaps ward off a certain number of cases of nephritis.

1. Archiv für Kinderheilkunde, xxxiii, 1902.

NERVOUS JAUNDICE.

In not a few cases, the diagnosis catarrhal jaundice, though seemingly forced upon the practitioner by the absence of any other condition to account for the absorption of bile, is eminently unsatisfactory. Not infrequently there have been no symptoms of a preceding catarrhal process in the intestines and no preliminary disturbance of gastro-intestinal digestion. In recent years French clinicians particularly have called atten-

tion to the not uncommon occurrence of jaundice after severe emotional strains—the *icterus ex emotione* of the older medical writers. It is a well-recognized fact that in women particularly an emotional storm may be followed by slight jaundice. Neurotic individuals are prone to have slight amounts of icterus noticeable, especially in the conjunctiva, that are sometimes set down to blood hemolysis, under nervous strain. It would be more satisfactorily explained as due to nervous disturbance of the biliary mechanism which, as we shall see, is dependent on a group of the most complicated co-ordinate reflexes in the system.

Curiously enough, this form of nervous jaundice, apt to be considered a recent observation, embodies a very old idea in medical history, and references to it, even in non-medical writers, are not uncommon. Shakespeare said in "The Merchant of Venice" (act 1, scene 1):

> And let my liver rather heat with wine
> Than my heart cool with mortifying groans.
> Why should a man whose blood is warm within,
> Sit like his grandsire cut in alabaster?
> Sleep when he wakes and creep into the jaundice
> By being peevish.

In fact this is the only sense in which Shakespeare uses the term jaundice. The word occurs but once more in all his plays and then in "Troilus and Cressida" (act 1, scene 3) in the passage:
"What grief hath set the jaundice on your cheeks?"

At the meeting of the New York Academy of Medicine, Feb. 6, 1902, Dr. S. J. Meltzer pointed out in a paper on the influence of inhibition, how complex is the nervous mechanism of the biliary system and how easy it is disarranged. The presence of food in the duodenum causes a reflex opening of the ampulla of Vater, through which the biliary and pancreatic secretions are evacuated into the intestine. This reflex does not suffice, however, to bring the bile to the intestine, for there must be besides an active contraction of the gall-bladder and a stimulation of the secretory function of the liver cells. The splanchnic fibers of the vagus distributed to the intestinal walls are known to provide the inhibitory nerve supply to the muscles of Vater's papilla. The vagus has an inhibitory set of fibers for practically all organs to which it is supplied. In neurotic patients especially, the inhibitory functions are prone to be manifest, because of the irritative condition of all nerves. It is usually in such individuals that disturbances of heart rhythm from inhibitory effects become most noticeable.

It would not be surprising, then, if inhibitory nervous jaundice, due to failure of the ampulla of Vater to open at the proper time, should occur more frequently than is at present supposed. Where previous irritative conditions of the intestine have been noted, this may account for as many cases of so-called catarrhal jaundice as are attributed to the actual spread of a presumed catarrhal inflammatory process from the intestine into the biliary ducts. It is not improbable that the cases of jaundice accompanied by slight biliary colic in which the condition is relieved after a time, without the appearance of a gallstone in the stools, may belong in this category of ailments. Even in cases where the manipulation suggested by Gerhardt is successful and massage over the fundus of the gall-bladder relieves the stasis in the biliary tract, it may still be true that nervous and not catarrhal jaundice is present. The massage may overcome the inhibitory closure of the mouth of the ampulla and the bile ducts may remain open when once the obstruction is relieved. It would seem, then, that in many cases now classed as catarrhal jaundice and treated as such, treatment for the general nervous condition is indicated, especially the use of antispasmodic remedies to relax the reflex spasm set up by irritation of the intestines. The use of purgatives, now so commonly recommended, would in these cases be especially contra-indicated. The ideas involved in this claim for the existence of a purely nervous jaundice seem to be of a practical character that commends them to further study and careful application in select cases.

THE THERAPEUTIC VALUE OF ALCOHOL.

The long existence of a common belief is by no means infallible evidence of its correctness. It is proverbial that superstition dies hard, and the judicial attitude is far from universal. The scientific physician, however, must ever view his facts dispassionately and base an unprejudiced opinion upon the fullest measure of knowledge at his command. Alcohol has so long been employed both as a beverage and as a therapeutic agent that its usefulness has come to be taken for granted and the statement as to its efficacy seems to have been handed down from generation to generation without serious question. There has, however, now accumulated a sufficient mass of evidence of reliable character to permit of intelligent discussion of the entire subject. Directly contradictory opinions are held by different authorities as to the value of alcohol as a stimulant to the circulatory, the nervous and the digestive system, as a food and as a general remedial agent in the presence of various morbid states.

According to the opinion of Dr. H. F. Hewes,[1] expressed in the course of an admirable symposium on the value of alcohol as a therapetuic agent, held a short time ago by the Suffolk District Medical Society, alcohol is to be considered pharmacologically as a narcotic or an anesthetic, being most closely allied in action to ether, chloroform and chloral. In the sense of causing disturbance of bodily function it must be looked upon as a poison. It acts as a local irritant to the mucous membrane of the mouth and the stomach, inducing hyperemia and reflex excitation, and after absorption also direct excitation, of the nerve-centers. It is largely oxidized in the body and it has a destructive effect upon the protoplasm of the tissue-cells. The preponderance of evi-

1. Boston Med. and Surg. Jour., March 13, 1902. The Journal A. M. A., March 29, 1902, p. 841 and 842.

dence tends to show that alcohol does not act as a cardiac stimulant, except for its initial irritant effect, so that its use for this purpose, especially if long continued, is irrational. It is rather a depressant to the heart and circulatory mechanism, as it is also to the nervous system. Taken with food it may serve digestion by stimulating appetite through its pleasant taste and its slight irritant effects. Although it acts as a tissue-sparing substance or food this effect is more than counterbalanced by its destructive or poisonous influence upon protoplasm. Its use as a food is rational, therefore, only when ordinary food-substances can not, and alcohol can be, utilized. Finally, definite scientific evidence is yet wanting to show that alcohol has any special therapeutic activity in the presence of certain definite morbid conditions, such as the various forms of infection.

Dr. F. C. Shattuck, in the same symposium, expressed the belief that while a healthy man under ordinary circumstances in a temperate climate does not require alcohol he may use it moderately and habitually—especially if diluted and taken but once in 24 hours, preferably with food—for years without apparent harm; and also that alcohol is the most trustworthy remedy to counteract the toxemic phenomena attending various infectious processes. Dr. E. N. Whittier expressed his conviction of the great therapeutic value of alcohol as based upon personal and professional experience in extreme degrees of disease.

Dr. E. G. Cutler pointed out that alcohol is no longer used as a ration in the army or the navy or by explorers in arctic or tropical regions. Also it has been discarded —except in the smallest amounts in weak solution—in the preparation of athletes for contests. As to its value in relation to acute infectious diseases it seems rather to predispose to than afford protection from these, while its antipyretic effects, and its usefulness as a food, as a stomachic and as an analeptic or stimulant to the circulation are inconsiderable, if not more than offset by its deleterious effects. Even in the case of chronic infectious diseases, of cardiac, gastric and intestinal diseases, its slight useful effects are but temporary and of brief duration.

As an evidence of the decline in the use of alcohol in the Massachusetts General Hospital, Dr. R. C. Cabot pointed out that the average cost annually for this medicament for each patient in that institution had fallen from $1.48 in 1884 to 29 cents in 1900. Dr. E. P. Joslin spoke of the value of alcohol in the treatment of diabetes in replacing a certain amount of fat in the body, in enabling the patient to take more fat, in lessening the sense of hunger, in inducing a sedative effect. Not more than 5 ounces should be taken in the twenty-four hours with these objects in view, while from half an ounce to an ounce will usually be sufficient. The amount required will be proportionate to the severity of the case. Alcohol is valuable also in antagonizing the acid intoxication upon which diabetic coma is believed to depend.

It will thus be seen that the drift of sentiment as to the value of alcohol is to the belief that this agent is not necessary and may be a source of harm in conditions of health, and that it has little or no value as a therapeutic agent in the presence of disease.

COMMERCIALISM IN MEDICAL EDUCATION.

We are apt to congratulate ourselves on the advantages afforded by medical progress, the facilities of study and investigation and the generally better standpoint of the physician of to-day over the one of the past. This is only one point of view; there is another that is by no means so pleasant a one to take of conditions as they exist. The doctor of to-day seeking fields of practice, after a much greater outlay of time and money than his predecessor of even a few years back, finds himself confronted with conditions that are yearly becoming harder in an overcrowded profession and a gradually ever-narrowing field of work. His diploma is no longer a valid credential; it may admit him to an examination provided it meets the requirements, but in only a limited and ever-narrowing section of our country is it alone sufficient as was formerly the case. Under present conditions, moreover, should he wish at any time to make a new start in another part of the country he must go through the same or similar tests with the disadvantages of lack of the freshness of memory in all the branches that he possessed at his graduation. Altogether, he works more and pays more for a lessened chance of success. This, however, is a necessary evil in the present conditions of medicine and while it is to the disadvantage of the individual at times it is of benefit to the profession as a whole and is in the inevitable order of progress. When interstate reciprocity, or, what is more practical, and infinitely better, a national examining board, is secured, the valid objections will be practically *nil*. A much more serious matter is the overcrowding of the profession and the multiplication of medical colleges.

A recent article by Dr. Emil Amberg[1] forcibly calls attention to these evils and the other disadvantages which the neophyte in medical practice has to meet. It is especially, however, the masked commercialism in this multiplication of medical colleges that he exposes. We are proud to consider our profession as one, more than any other, altruistic in its motives and yet we belie this claim daily by the existence of uncalled-for doctor factories, the real reason for the existence of which is the desire to advertise and financially aid the members of their faculties. The ones to which we refer are mere corporations for profit, existing, it may be, under false pretenses, even if they do not turn in financial dividends directly to their stockholders. Whether Dr. Amberg's remedy to have only state institutions is the only one, may be disputed by some and difficult to apply, but there is no doubt that a rigorous state supervision and legislation toward their limitation

1. Philadelphia Med. Jour., March 22.

would be most desirable. As it is the conditions are, as he says, unhealthy, and his charge that a medical oligarchy exists for its own profit and tyrannizes over the profession, can not be said to be without foundation, but comes too near to being a practical hard fact, and the sooner this is generally realized, the better.

We are aware that this sounds harsh when it is appreciated that very many of the most respected members of our profession fill the chairs in those superfluous medical colleges, but perhaps the harsher it seems the better. If we could only get the best men to refuse positions in any but a few of the best-equipped and well-known institutions and then make the position seek the man, not the man the position, half the work would be done. The reform will not be effective by easily passed resolutions, but only by earnest self-denying work. There are already some signs of a movement in this direction, in Ohio, for example, but it is only the merest beginning of what needs to be done. It is a matter that urgently needs the attention of State Boards, the Medical College Associations and the House of Delegates of the American Medical Association.

ANIMAL EXPERIMENTATION AND THE ANTI-VIVISECTIONISTS.

A service to mankind, if not indeed to the brute creation also, has been rendered in the issuance in book form[1] of the statements made by the remonstrants to the proposed Massachusetts legislation against physiological experimentation on animals. The force of these statements, coming from leading clergymen and teachers as well as from physiologists and physicians, is shown in the fact that the legislative committee to which the proposed act was committed unanimously reported "leave to withdraw," thus squelching for the time the antivivisectionist movement. If anyone requires a convincing series of arguments against the special phase of zoophile fanaticism here exposed, and undoubtedly there will be such occasions, he will find in this little volume a most valuable means of reference. The opening argument by Dr. Bowditch and the closing one by Dr. Ernst are alone sufficient to show up the case, but here they are reinforced by other most convincing statements. The inconsistency of the antivivisectionists is thoroughly exposed by men whose testimony no one with any regard to his own reputation would care to impeach, and the truth that a morbid satisfaction with one's own virtuousness is often the cause of very unethical conduct has seldom been made more manifest. Dr. Bowditch shows how the opinions of the late Dr. Bigelow were misrepresented by the advocates of the bill, who seem to even have suppressed a letter sent by him to one of their publications. Dr. Ernst also furnishes similar evidence both as to Dr. Bigelow and Huxley, the latter of whom was also misrepresented by the zoophiles as favoring their cause. It is not surprising that the legislature made short work with the measure, especially after its committee had further satisfied themselves by personal inspection of various laboratories in the state. With these and Dr. Keen's letters, published in THE JOURNAL, there hardly seems any need of further argument on the subject. Nevertheless, it is safe to prophesy that the sentimental antivivisection agitation will be periodically revived; it is almost as perennial as truth, though it has hardly anything else in common with it. Hence, it is well that we have so effective an arsenal of argument against it, as is here furnished, for use with legislators and others who may be in danger of being misled. We would be glad to see this work obtain the widest circulation with the general public, and bespeak for it the efforts to that end of our profession.

1. "Animal Experimentation," Little, Brown & Co., Boston, 1902.

POLITICS AND PUBLIC HEALTH IN SAN FRANCISCO.

The new mayor of San Francisco has given evidence of what sort of man he is by the removal of the four remaining members of the old city board of health. The reasons for this as given by him are much the same as those influencing Governor Gage in his remodeling of the state board of health and his crusade against Dr. Kinyoun and his associates. Mayor Schmitz says that he has for three months "carefully examined and investigated all accessible reports and records" and has personally inquired into numerous specific cases declared by the board to have been bubonic plague and is unalterably convinced that "bubonic plague has not existed and does not exist in San Francisco." The medical profession of the country and of the world, only excepting a few commercially-influenced physicians in San Francisco and California, is convinced that bubonic plague has existed in that city and state and is very far from being satisfied that it does not still exist there to some extent and that it is not liable to break out into an epidemic at any time. There has been a certain degree of security felt because it was believed that there existed, in San Francisco at least, an honest board of health that would do what it could to protect the city and country from such a calamity. The removed members have, as we believe it was their duty to do, sued out an injunction against the mayor's act and, therefore, are still in office. It is to be hoped this injunction will stand; if it should not, the possibilities of quarantine against San Francisco to its commercial disadvantages are certainly not decreased. The dreaded possibility is that a pliable board of the mayor's creatures will suppress facts of actual cases and neglect the requisite precautions. The only hope will be that there may be some among them whose conscience is held above the influence of commercialism, but it is hard to see how this can be, or how any conscientious or self-respecting physician can accept the appointment, given, as it clearly is, with the understanding that no cases of plague are to be recognized. It is a certainty that under the circumstances the mayor's appointees will not command the confidence of the profession abroad. The situation is an unpleasant one and its possible consequences are still less satisfactory to contemplate.

Potassium Permanganate in Dysentery.—Kusmizki reports excellent results in twelve cases of dysentery treated with 30 gm. of castor oil every day, and twice a day a rectal injection of 800 gm. of a tepid 1 per 4000 solution of potassium permanganate.—*Voenno-Med. Journal*, November, 1901.

Medical News.

CALIFORNIA.

Berkeley Health Board.—The trustees of Berkeley have appointed the first board of health that the town has ever had as an independent body. It consists of Dr. Frank H. Payne, present health officer, and four other physicians of various schools.

Fakirs in Trouble.—The police of Los Angeles have commenced a crusade against the many impostors who are robbing the people of that city under the pretense of giving them medical treatment. "Dr." G. Yglesias, who was in similar trouble a year ago, was one of the first to be arrested.

Mayor Removes Health Board.—Mayor Schuntz has removed Drs. John M. Williamson, Rudolph W. Baum, Vincent P. Buckley and W. B. Lewitt, members of the San Francisco Board of Health, and has appointed in their stead Drs. J. Coplin-Stinson, Albert S. Adler, Tullio A. Rothanzi and Miles E. Van Meter. Dr. Coplin-Stinson has been elected temporary president of the board. On March 26 Judge Cook issued an order restraining the newly-appointed board from interfering with their deposed predecessors.

ILLINOIS.

Globe Hospital, Freeport.—The former residence of ex-Congressman Burchard, remodeled at an expense of $9000, is to be used as a hospital. It will be ready to receive patients May 1.

Sanatorium Burned.—The Carlsbad Hotel and Sanatorium at Nashville was burned, March 23. The loss is $15,000, with $10,000 insurance. The institution was under the management of Dr. Harrison F. Fitzgerald of St. Louis.

City Physician Acquitted.—In the case of Dr. Le Roy P. Barstow, city physician of Quincy, charged with failure to report a case of contagious disease, as the evidence showed that he had reported it to Theodore Featheringill, overseer of the poor, and he in turn reported it to Dr. Wellenreiter, the court held that Dr. Wellenreiter was an agent of the secretary of the board of health and discharged the defendant.

Chicago.

Rush College Commencement.—The quarterly commencement exercises of Rush Medical College were held April 4. Professor Senn delivered an address commemorative of the life work of Prof. Christian Fenger.

Exhibit Disappears.—The exhibit of the Health Department, which was awarded the gold medal at the Pan-American Exposition, has disappeared, and the solace of having been awarded the medal is all that remains to the department.

Fraternity Men Meet.—The Phi Rho Sigma Fraternity of Chicago, consisting of professors and students of the various medical colleges of the city, held its annual interchapter, March 15. Dr. George F. Butler of Alma, Mich., officiated as toastmaster.

Clinic by Dr. Vaughan.—Dr. Arthur R. Edwards, secretary of the Northwestern Medical School, announces that Dr. Victor C. Vaughan, dean of the medical department of the University of Michigan, will give a medical clinic in the laboratory building, 2431 Dearborn St., at 11 a. m., April 9, to which physicians are cordially invited.

Dr. Wing to Leave Chicago.—Dr. Elbert Wing announces that he discontinues the practice of medicine in Chicago, April 1, and will resume it about October in Los Angeles, Cal. He was given a farewell dinner by Dr. Thomas L. Gilmer, March 28, at which Drs. Frank Billings, E. C. Dudley, H. B. Favill, L. L. McArthur, Frank Cary, E. Wyllys Andrews, Frank T. Andrews, Robert Harvey, Junius C. Hoag, T. J. Watkins, Edward Capps, and Clement L. Clapp were present.

Medical Headquarters Plan.—The Physicians' Club discussed at its meeting, March 31, the project to build a home in the business portion of the city which should serve as a medical headquarters and general meeting-place for medical men, with accommodations for the various branches of the Chicago Medical Society. As a preliminary step, the club appointed a committee of five—Drs. Nicholas Senn, Edmund J. Doering, Joseph Zeisler, David W. Graham and Harold N. Moyer—to confer with the trustees of the Chicago Medical Society and arrange plans whereby the fund may be increased.

Warning Against Epidemic Diseases of Childhood.—The almost epidemic prevalence of the communicable diseases of childhood has caused the Commissioner of Health to renew his efforts to secure the co-operation of the public school teachers in preventing their spread. Through the assistance of School Superintendent E. G. Cooley a copy of the circular, "Suggestions for the Teaching of Cleanliness Among School Children," is being put in the hands of every teacher, with the request from the superintendent that they be continuously enforced. The gist of these suggestions is that much may be done to restrict the spread of contagion by teaching habits of cleanliness.

Officer of the Day.—Beginning April 1, the County Hospital has a "medical officer of the day," whose duties are thus defined by Warden Healy: "On and after April 1, 1902, the twelve senior internes of the Cook County Hospital—namely, eight from the regular school, two from the homeopathic school and two from the eclectic school—shall in rotation perform the duties of 'medical officer of the day.' Such service will require the officer of the day to visit each ward and operating room and familiarize himself with every detail pertaining to all medical and surgical requirements and note any neglect of duty by attending physicians, surgeons, members of the house staff, nurses and others and to hear any complaints from patients. He shall make a full and complete report daily in writing of his visits and of conditions as he may find them during his service as such officer."

KANSAS.

Alumni Banquet.—The alumni of the College of Physicians and Surgeons, Kansas City, Kan., gave a banquet to the graduating class of the college, March 25.

Alleged Abortionist Acquitted.—Dr. Robert E. Gray, Garden City, who has been on trial for causing the death of a young girl by an unlawful operation, was acquitted, March 26.

Kansas Medical College.—The thirteenth annual commencement exercises of this college were held at Topeka, March 20. A class of sixteen was graduated. Dr. John E. Minney, dean of the college, acted as master of ceremonies. The general address was delivered by Rev. Daniel M. Fisk, D.D.; Dr. Josiah P. Lewis made the faculty address and Dr. John C. McClintock, president of the board of trustees, conferred the degrees.

KENTUCKY.

Seventy-Five Per Cent. Indicted.—It is announced in a Louisville paper that six indictments have been found against three physicians of Mount Olivet, for giving prescriptions unlawfully. According to the latest directory, this town boasts only four physicians.

Commencement.—On March 28 a class of 31 was graduated from the medical department of the University of Louisville. ——Louisville Medical College graduated a class of 29, March 26. Dr. A. M. Cartledge presided and the salutatory was delivered by Dr. S. T. Taylor.

To Report Contagious Diseases.—The Owensboro Board of Health has promulgated an order requiring physicians and others having the care of persons with any contagious or infectious disease to report the fact to the board within twenty-four hours under the penalties of the law.

MARYLAND.

Bequest to Home for Incurables.—The late Mrs. Rebecca C. Spence, Baltimore, left a bequest of $3000 to the Home for Incurables.

The Week's Deaths.—The deaths in Baltimore for the week ended March 29 were 192, 24 being from pneumonia, 19 from consumption, 2 each from diphtheria and typhoid fever.

Anti-Expectoration Detective.—The Health Department of Baltimore has detailed a detective to ride in the street cars and warn spitters of the ordinance against expectoration. Later, arrests will be made.

Personal.—Dr. Campbell Fair Flautt has been appointed Health Warden, vice Dr. W. A. Davis, resigned.——Dr. Ira Remsen qualified as a member of the School Board, taking the place of Dr. Daniel C. Gilman, resigned.

Suit for Chloroform Death.—Drs. Charles J. Keller and Morris C. Robins, Baltimore, were jointly sued in the Court of Common Pleas for the death of an infant 9 months old. It is alleged that the child's death was caused by the wrongful and unskilful use of chloroform in a surgical operation without the knowledge or consent of his parents.

Recent Legislation.—The Medical Practitioners' Bill has passed both houses of the legislature, and now awaits the Governor's signature. This requires, among other things, a four-year college course. The Omnibus Bill, with appropriations

for the various hospitals, etc., has passed. The Infectious Disease Hospital has been killed in the legislature.

New Public Bath Opened.—On April 1 the representatives of Mr. Henry Walters handed to the mayor of Baltimore the deed and keys of the new public bathhouse on Columbia Avenue. The cost has been $27,000. The building is 40 by 70 feet, with terraced front. The architecture is the free colonial. The first bath was erected by Mr. Walters 18 months ago, and with his present gift represents an expenditure of $52,000.

The Lunacy Commission.—According to the seventeenth annual report of the Lunacy Commission of Maryland there were on November 30 last in the hospitals, asylums and almshouses of the state 2672 insane, an increase over the previous year of 145. Of these, 407 were colored. The president of the commission urges the increase of salary for the secretary, whose duties require two annual visits to each county, frequent attendance at court, and demands without number on his time and labor. The secretary asks for the appointment of a permanent assistant secretary.

MICHIGAN.

Measles in Kalamazoo.—The report comes that the ward schools of Kalamazoo are full of measles. There are 135 cases, 39 of which were reported last week.

Hospital for Blind School.—The new hospital building at the State School for the Blind, Lansing, which has been erected at a cost of about $8000, has been accepted by the board of control.

Fees from Licenses.—The State Board of Registration in Medicine reports a cash balance on hand, March 1, of $1,733.31, which has been derived from fees received from physicians' licenses.

Summer Session at Ann Arbor.—The summer session for 1902 of the medical department of the University of Michigan will extend from June 23 to August 8. The courses offered are classified as special, designed for graduates and advanced students, for which no credit will be given and credit courses, which duplicate certain portions of the regular curriculum, and on the satisfactory completion of which, credit will be given. No allowance for time will, however, be given for work done in the summer school. Courses are announced in thirteen different subjects.

NEW YORK.

State Charities Bill.—Governor Odell has signed the state charities bill, which provides for a fiscal governor to be appointed by the governor at a salary of $6000 a year to supervise expenditures by state charitable institutions, and for a state board composed of the governor, the state comptroller and the president of the State Board of Charities, to pass on all plans for additions and improvements to the institutions.

The antitoxin laboratory of the State Department of Health, which was inaugurated in 1901, is located in the Bender Laboratory, Albany, while the animal house is located several blocks away, with a capacity of 15 large animals. The state has already made an appropriation of $20,000. The object of the laboratory is to manufacture under state control the various antitoxins for use in all state institutions and for the indigent poor. Diphtheria and tetanus antitoxin are now ready for use. It is hoped that effective antitoxins for tuberculosis, typhoid fever and various other infectious diseases may be obtained by original research. The laboratory is under the direction of Dr. Herbert D. Pease.

New York City.

Hospital Saturday and Sunday Collection.—The collection amounted this year to $66,000, which is to be distributed among hospitals in this city.

Municipal Consumption Hospital.—Four buildings are to be added to this hospital and the appropriation for its support has been increased by $48,000 a year.

Cumberland Hospital Staff.—At a meeting of the staff of Cumberland Street Hospital, Brooklyn, March 21, Dr. William H. Pierson was elected vice-president and Dr. Orlando S. Ritch, secretary. The hospital will open about May 15.

City Hospitals Fire Traps.—An inspection of the city hospitals has brought to light the fact that Bellevue, Fordham and Harlem Hospitals are veritable fire traps, and that Gouverneur Hospital alone comes up to the standard required by law.

Microscopes Stolen from Willard Parker Hospital.—For some weeks past there have been mysterious disappearances of microscopes and lenses from the bacteriologic department of the Willard Parker Hospital. Detectives have been working on the case, and have at last arrested an employe of the hospital, and two other persons, one an optician, who are suspected to be accomplices. In the optician's place were found some of the stolen goods, worth about $1000, but the total value of the stolen property is estimated at $4000.

The Ward Damage Suit Against St. Vincent's Hospital.—This now notorious suit of Miss Helen D. Ward against St. Vincent's Hospital, for damages because of burns received by the careless use of hot water bottles, has now passed its fourth trial. The plaintiff was awarded $18,000 damages, $1420 for medical services made necessary by reason of the injuries received in the hospital and five per cent. for her legal counsel. On the first trial the complaint was dismissed; on the second the jury disagreed, and on the third $10,000 damages was awarded.

Shameful Treatment of Paupers.—The new city administration is demanding larger appropriations in order that the paupers may receive decent care. Incidentally, it has been made known that the 2500 inmates of the almshouse last year were fed at a per capita cost of about ten cents a day. The commissioner declares that for a year these persons lived on bread and coffee for breakfast, bread and stew for dinner and bread and tea for supper, without sugar, butter or vegetables. The commissioner very properly says that while he is not anxious to make the fare especially attractive, he thinks such miserable diet calls for a change.

College Education Demanded for Physicians.—The chief undergraduate paper of Columbia University, the *Columbia Literary Monthly*, has stirred up a hornet's nest by declaring "that the greater part of the students at our medical school—the College of Physicians and Surgeons—are not only uncultured, but often even uncouth, thus being fundamentally unfit to become the highest type of their profession. A degree as the entrance requirement would go far to remedy this state. Unfortunately, many worthy men would thus be barred out, but the good resulting from such an injustice would far outweigh the injustice itself, and the benefit to the institution would be vast, although its number of students might be greatly diminished." The way the present state of affairs works to the detriment of the students generally, is well stated in the following extract from another part of the same editorial: "At the College of Physicians and Surgeons those who have made the correct start are retarded by those who have not, while the latter are at a disadvantage when compared to their fellows. This tends to want of balance."

Buffalo.

The new consumptive pavilion at the Erie County Hospital has been opened for the reception of patients.

Money for Gratwick Laboratory.—The annual supply bill contains an appropriation of $15,000 for the Gratwick laboratory for the continuance of the cancer investigations.

Mortality.—The monthly report of the Department of Health for February shows a death-rate of 12.90 per 1000 per annum. The total number of deaths was 379 as compared with 394 for the corresponding month of 1901.

Personal.—Dr. Dewitt Sherman has returned from Atlantic City.——Dr. Julius Ullman has returned from New York and Atlantic City.——Dr. Edward J. Meyer is seriously ill in Florida.——Dr. Harvey R. Gaylord, wife and child sail for Europe shortly.

County Sued by Pasteur Institute.—The County of Erie has been sued by the Pasteur Institute of New York to collect a bill for $4600 for the treatment of Erie County hydrophobia patients. The county officials take the position that the bill should be paid by the state.

Interne at Jail.—To insure the more humane treatment of sick prisoners at the jail the Board of Supervisors has authorized Dr. Frank Bruso, the jail physician, to appoint a resident third-year student interne, who shall receive his board, laundry and lodging at the expense of the county.

The New Marine-Hospital.—It is understood to be the intention of the secretary of the treasury to have the work of construction of the new marine-hospital at Buffalo, the appropriation of $125,000 for which was recently secured, begun next fall. The hospital will accommodate 100 patients. The site has as yet not been selected.

OHIO.

Ohio State Pediatric Society.—The annual meeting of the Ohio State Pediatric Society will be held at Toledo, May 27 and 28.

Hospitals.—During 1901 St. Elizabeth's Hospital, Cincinnati, treated 1856 patients, of whom 713 were women. There were 70 cases of alcoholism and 84 of tuberculosis.——Ashtabula General Hospital has been incorporated with a capital stock of $10,000.

Physicians Mulcted.—In a Columbus court, March 20, Mrs. Beebe Cuthrell obtained a verdict of $1000 in a suit for $20,000 brought against Drs. Will J. Means and J. Willcheur Barnes, who she claimed had performed an operation on her at the Protestant Hospital of a different nature from one she had authorized. The defendants at once filed a motion for a new trial.

New Surgical Building for Women.—The new surgical department for women of St. Vincent's hospital, Cleveland, was opened, March 19. The addition is without doubt the best furnished hospital in the state. One of the many novelties introduced that tend to the comfort of the patients is the invention of Dr. W. H. Humiston. Instead of the numberless and annoying bells used to call the nurses and doctors that are deemed necessary in most hospitals, there has been arranged a set of electric light signals. When a patient wants to call a nurse the button is pushed and outside the door of the room a red electric light appears that gives the call. This innovation, it is expected, will add to the comfort of patients. The second floor contains twenty-six private rooms furnished by friends of the institution. The third floor contains thirteen private rooms, eight of which are still unfurnished. The fourth floor is the dormitory for the nurses, is finished in white and is spacious and airy. The training school for nurses in connection with the institution is one of the finest in the city. The free dispensary in the basement will have a capacity of treating 10,000 patients a year and 6004 were treated last year. The cost of the building was $40,000. The entire sum was raised through the efforts of Dr. W. H. Humiston, one of the most liberal contributors being Mr. H. M. Hanna. He took a great interest in the building and gave the largest sum toward its erection. The hospital has no endowment fund and has no paid staff. The services of the manager, physicians and nurses are all free.

PENNSYLVANIA.

Fraternity Charter Granted.—A charter has been granted the Phi Beta Pi Medical Fraternity, at Pittsburg.

Microscopic Outfit Presented.—Mrs. Charles M. Schwab has given a complete microscopic outfit to the East End Hospital, Pittsburg.

Marine-Hospital for Pittsburg.—The bill appropriating $125,000 for a United States Marine-Hospital at Pittsburg has been passed by the senate.

Hospital Plans Accepted.—The directors of the Allegheny General Hospital have accepted the plans for the new building, which will cost at least $325,000.

New Operating Room.—The new operating room at Reading Hospital, erected at an expense of $8000, has just been completed and equipped and was open for inspection, March 23.

Philadelphia.

Gifts to University Laboratories.—Two anonymous gifts, one of $5000, another of $10,000, have recently been made for the new medical laboratories of the University of Pennsylvania.

Children's Hospital Staff.—Dr. James P. Hutchinson has been recently elected visiting surgeon to the Children's Hospital, and Drs. Henry Norris and George M. Coates have been appointed to the dispensary surgical staff.

To Regulate Barber Shops.—An ordinance to regulate and improve the condition of barber shops of Philadelphia will be introduced into councils. It will provide for the licensing and registration of all shops, and for the appointment of inspectors to investigate their sanitary condition.

Training School for Crippled Children.—It is proposed by P. A. B. Widener, as a memorial to his wife, to erect, in a suburb of Philadelphia, a training school for crippled children. It is the plan to provide a home, hospital, and general education, but especially to give such industrial instruction as will enable this afflicted class to support themselves. The complete cost, including endowment, will be about $2,000,000.

The Righter Case.—In the suit for damages, Bridget Nugent vs. Dr. H. M. Righter, the court has granted a new trial. It will be remembered that the plaintiff was recently awarded $1000 damages, presumably for malpractice in the vaccination and subsequent treatment of her child, who died. Among much volunteer aid in the further defense of the case, is an appropriation of $25 by the Germantown Medical Society.

TEXAS.

Railway Hospital at Houston.—Work has begun on the Southern Pacific Hospital, Houston. The building will be two stories high, and will accommodate about 50 patients.

Medical College Commencement.—The medical department of the University of Dallas held its commencement exercises March 18. Hon. E. B. Mure delivered the opening address. A class of 19 was graduated. The degrees were conferred by Dr. Charles M. Rosser.

Change of Meeting Place.—The place for holding the next annual meeting of the Texas State Medical Association has been changed from El Paso to Dallas, and the time has been changed to May 6 to 9, inclusive. The change of time was made to avoid conflicting with the reunion of the Confederate veterans, which will be held in Dallas, April 22.

Personal.—Dr. Charles M. Yates and family, of Grand View, have moved to Roswell, N. M.——Dr. Mills Dennis, Temple, has resigned his position as house surgeon in the Santa Fe Hospital and has gone to the Philippine Islands as an acting assistant-surgeon in the Army.——Dr. William E. Brown, Coleman, has moved to Abilene.——Dr. William Miller, Boerne, who has been residing in California for some time past on account of his health, will shortly return to Texas to practice.

GENERAL.

Cholera Situation in Manila.—The latest news from Manila gives the total cases of cholera which have occurred to be 90, and of these 70 have died.

Leprosy Report.—The commission of medical officers of the U. S. Marine-Hospital Service, appointed to investigate the origin and prevalence of leprosy in the United States, has made its report to the senate. The report shows 278 cases of leprosy in the United States, as follows: Alabama, 1; California, 24; Florida, 24; Georgia, 1; Illinois, 5; Iowa, 1; Louisiana, 155; Maryland, 1; Massachusetts, 2; Minnesota, 20; Mississippi, 5; Missouri, 5; Montana, 1; Nevada, 1; New York, 7; North Dakota, 16; Oregon, 1; Pennsylvania, 1; South Dakota, 1; Texas, 3; Wisconsin, 3. Of the total number 176 are males and 102 females; 145 American born, 120 foreign born, and the remainder uncertain. The large numbers in Louisiana, Florida and California may be explained by the proximity of those states to foreign sites of the disease, but why Minnesota and North Dakota are so well supplied with lepers does not so readily appear. The commission states that only 72 per cent. of these lepers are isolated and provided for, and recommends the establishment of a retreat for lepers, preferably in the arid Southwest, on the Pacific Coast or on an island in the Gulf of Mexico. The opinion is expressed that there are more cases than are here enumerated, some cases being concealed and some unrecognized. Concerning the origin, it is stated that 186 of the cases were contracted in the United States, but the opinion is expressed by the commission that this number is too large and that some of these cases were brought from abroad. Infection is conveyed from one person to another, they believe, and the most common method of contagion is the inhalation of dust where lepers have been located.

Smallpox.

Illinois: At Carbon Cliff, 9 cases were discovered March 21. These cases had been ill for a week, but the supposition had been that they were suffering merely from chicken-pox, which has been supposed to have been the disease which has existed as an epidemic all winter.

Chicago: The smallpox statistics for the first three months of the year are satisfactory. During this period there were 573 cases and 118 deaths from smallpox in New York, and 106 cases and 1 death from the disease in Chicago. During the week ended March 29, 14 cases of smallpox were reported; 11 patients were discharged from the isolation hospital; 41 are still there and 19 suspected cases were investigated.

Maryland: There are several cases of smallpox among miners in Allegheny County, imported from Garret. There are six patients suffering with smallpox at the pest-house at Cumberland. A death from smallpox occurred at the Quarantine Hospital, Baltimore, March 27.

Michigan: There were four deaths from smallpox during February, one in each of the following districts: Alma village, Gratiot County; Cannon township, Kent County; Reed City village, Osceola county, and Onaway village, Presque Isle County. Two deaths were also reported from chicken-pox,

which term, with other designations, like "Cuban itch," indicates deaths from smallpox. These deaths were in Handy township, Livingston County, and Delray village, Wayne County. There were also 2 deaths from mumps, 1 in Clinton County, and 1 in Lapeer County. Smallpox was present in 145 localities during the week ended March 29.

Minnesota: Dr. Bracken, of the State Board of Health, has issued the weekly smallpox report of the State Board of Health for the week ended March 17. The report shows 254 new cases in 43 counties and 77 localities and no deaths.

Nebraska, Omaha: Dr. C. P. Wertenbaker, U. S. Marine-Hospital Service, ordered to Omaha to investigate the alleged smallpox epidemic, makes, in his report, the following recommendations: 1. A house-to-house inspection, with the prompt isolation of patients. 2. The isolation and vaccination of all persons exposed to smallpox in the disinfection of their clothing. 3. Vaccination with pure glycerinized lymph of all persons in the city that have not been successfully vaccinated within a year. 4. The prompt and thorough disinfection of all infected houses and articles. 5. That the assistance of all corporations, business firms and individuals be invoked in making general vaccination as thorough as possible. He does not consider the conditions in Omaha at all alarming. There are more cases of smallpox in the city than is desirable, even though most of them are isolated in the hospital. There has been a steady decrease in the number of cases for the past month, and this will doubtless continue as the weather grows warmer and the people live more out of doors, until it disappears. The danger of the situation lies in the fact that unless the existing cases are found and isolated and infected houses and materials disinfected, the disease will reappear again next winter and the troubles of previous years will be repeated. In this connection it is suggested that all winter clothing, etc., be thoroughly aired and sunned for several days before being packed for the summer, and that on bright, sunny days houses where sickness has occurred during the winter should be thrown open as much as possible to admit the air and sun.

Canada, Ontario: Dr. Hodgetts, the provincial health inspector, has returned to Toronto from the Ottawa district, where he has been investigating the spread of smallpox from the lumber camps. He speaks encouragingly of the outlook in Ontario generally. Dr. Bryce, the provincial secretary of the Board of Health, has been notified that several cases have occurred in British Columbia, at Rossland, Grand Forks and Fernie.

Quebec: Dr. Elliott, writes over his own signature in the Quebec Chronicle, March 26, that at present there are hundreds of cases of smallpox in the city unknown to the health office and that there is the bright prospect of having a thousand before long. Compulsory vaccination is a thing of the past and the by-law compelling employers to have their help vaccinated is also disregarded, one alderman especially being noted for not compelling his men to undergo vaccination. Placarding is done away with, the patients unable to pay the Civic Hospital dues are allowed to run loose, spreading the disease, and the Civic Hospital is useless.

Montreal: Smallpox is decreasing in Montreal. At the present time there are only ten houses quarantined, and by the latter end of the week it will be raised on most of these. There are not nearly the number of patients in the hospital that there were two weeks ago.

Manitoba: Dr. J. R. Steep, the medical officer of the Indian department, has returned from the vicinity of Bad Throat River on Lake Winnipeg. He stated that there were 73 cases of smallpox altogether among the Indians, but that strenuous measures were taken to suppress the outbreak and that these were stringently carried out, with the result that the disease is now completely eradicated, not a single case remaining, and as the prescribed period of quarantine has been passed there is no likelihood of the disease reappearing.

England, London: The epidemic of smallpox in London still shows no signs of diminution. There are 1542 cases under treatment in the metropolitan hospitals, against 1321, 1309 and 1512 in the preceding 3 weeks; 450 new cases were admitted during the week, against 502, 369 and 555 in the preceding weeks. In the metropolitan county of Essex the number of cases have considerably increased. For the weeks ending March 1, 8 and 15, the numbers are, respectively, 48, 57 and 73. In the Orsett area, which is adjacent to the smallpox ships, which are anchored in the Thames, the number of cases has decreased. It may be remembered that we recently pointed out in THE JOURNAL that Dr. Thresh, medical officer of health for the county, has conclusively shown that the ships are a source of infection to the Orsett area and that the virus is carried from them by the air, possibly for a distance of two or three miles. The deaths from smallpox were 81, against 64, 75 and 81 in the previous three weeks. The total number of fatal cases now amounts to 845.

CANADA.

Fatal Accident in Brockville Hospital.—Miss Mary E. Jackson, 24 years of age, a nurse in training at the Brockville General Hospital, drank mercurial solution on the night of the 21st and died the following day. The bottle was labeled magnesium sulphate and she drank about two ounces. It was, however, a solution of bichlorid of mercury.

Former Toronto and Chicago Physician Honored.—Dr. Don. J. Armour, Toronto, 1894, who was formerly demonstrator of anatomy under Dr. Lewellys Barker, Chicago, and a son of Chief Justice Armour of Toronto, has been appointed senior assistant surgeon at the Belgrave Hospital for Children, London, England. He will also continue his duties as senior demonstrator of anatomy in University College, London.

New Canadian Members R. C. S. England.—*The Lancet* announces that the following Canadian practitioners have recently passed the necessary examinations to admit them to membership in the Royal College of Surgeons, England: Dr. Charles Buckingham Shuttleworth, Trinity Medical College, Toronto; Dr. Walter Henry Phillip Hill, McGill University, Montreal; Dr. Henry Ardagh Kingsmill, Western University, London, Ontario.

Ontario's February Health Report.—Dr. Bryce reports for February that there were 38 deaths from scarlet fever; 34 from diphtheria; measles, 21; whooping cough, 16; typhoid fever, 25; consumption, 177. The total from all causes, 2241, in 769 municipalities which reported, constitute about 90 per cent. of the population. As compared with February of 1901 there has been a considerable falling off from consumption, as a year ago there were 238 deaths from that cause.

Six-Year Courses at McGill University.—The corporation of McGill University has decided that the students in applied science and in medicine shall be enabled to take a double course in arts and either medicine or applied science. Under the old arrangement, students who wished to take arts and medicine had first to finish four years in the former and then four years in the latter. This made a course of eight years. Students in applied science will now be allowed the same privilege as the students in arts, that is, if they wish to proceed to the study of medicine they can first take their B.Sc. degree and then proceed to the study of medicine and thus complete both at the end of six years. In his third year the student in applied science will attend lectures in the faculty of medicine if he so elect, the subjects being anatomy, physics and histology. In the fourth year in medicine he will devote himself in addition to his studies in applied science to anatomy, physiology, histology, pharmacology and medical chemistry. At the end of the fourth he will receive the degree of B.Sc. The studies of the fifth and sixth years will be practically the same as for an ordinary course for the degree of M.D., C.M.

Montreal's Health Menaced.—"Ninety-eight per cent. of the European immigrants, who are prohibited from entering the United States by the American officials in Montreal, and at other points of entry along the border, are suffering from infectious diseases, which are the direct result of filth and lack of sanitary methods." This statement has recently been made by the special immigration inspector, who has charge of all the inspectors of immigration from Sault Ste. Marie to Montreal. These, being rejected by U. S. officials, are left to Montreal and other Canadian cities to look after. The two principal diseases they suffer from are trachoma and favus; and these immigrants so diseased are being dumped into Montreal at the rate of forty to fifty per week. This dumping process has been going on since last September, when the Board of Special Inquiry was commissioned by the United States Immigration Department at Washington. Canadians can hardly take any exception to the United States prohibiting the entry of these immigrants into their country, and, of course, as long as the Canadian government allows of their entry here, Montreal or some other place must suffer. The remedy lies in awakening the Canadian health authorities to the dangers menacing the whole country and its people.

FOREIGN.

Hoffa Called to Berlin.—Prof. A. Hoffa, of Würzburg, editor of the *Ztft. f. Orthop. Chirurgie*, has accepted a call to Berlin as successor to the late Julius Wolff.

Virchow Institute at Moscow.—The Russian government announces the foundation of a new institute for scientific research at Moscow, to be named for Rudolf Virchow.

Japan After Mosquitoes.—Japanese military authorities in Formosa are experimenting to determine the relation of mosquitoes to malaria and the means to combat the disease. The crusade against the mosquito will soon be world-wide.

Retirement of Krafft-Ebing.—Vienna has lost another of its great men. The death of Kaposi was followed by the retirement of Krafft-Ebing after thirty years' incumbency of the chair of psychiatry, etc. His leave-taking was an impressive ceremony. He will make his home henceforth at Graz.

Cholera and Plague Situation.—The mortality from these scourges increases at an alarming rate. In the Punjab, India, 70,000 deaths are reported in March. This corresponds with the prediction by our Indian correspondent on page 595, in the issue of March 1. The report from Arabia states that cholera has claimed 928 victims at Mecca during the week ending March 31, and 61 at Jedda.

Official Measures Against Fake Medicine in Germany.—The German *Aerztliche Vereinsblatt* recently pointed out that many of the certificates published by charlatans were signed by employes of the government railroads. The minister of public works accordingly issued a decree forbidding the use of the railroad buildings for fake medical meetings, and expressing disapproval of the signing of such certificates.

Gifts of the Munich Med. Wochenschrift.—This standard weekly is owned and published by a board of eleven prominent members of the profession. Last year 4400 marks from the surplus earnings were distributed among various professional aid societies. This year 9300 marks were available for the purpose; 5000 marks were turned over to the Pettenkofer Memorial Building Fund, and the rest was given to various societies for the relief of widows and orphans of physicians, etc.

Federation of French Anti-Tuberculosis Institutions.—The seventy-six various anti-tuberculosis institutions of France sent delegates to the assembly convoked at Paris, March 16, for the purpose of uniting them all into a national federation; the success of the plan surpassed all anticipations. The "environment, the race and the moment" modify in each country the character of the measures undertaken in the campaign against tuberculosis. The sanatoria, which are the pride of Germany, owe their existence in great part to the compulsory sick insurance enforced in that country. The decrease of tuberculosis in England is due to the reforms in public hygiene of late years. France has its seaside sanatoria, its special anti-tuberculosis dispensaries, its farm colonies, leagues, unions, and its societies to promote the study of hygiene, besides a few sanatoria due to private enterprise or charity. All these institutions have become federated now with a central bureau of information and council for mutual aid. It is proposed to establish a permanent exposition of everything needful for the campaign against tuberculosis in connection with the bureau and emphasize especially its humanitarian side.

LONDON LETTER.

Smallpox in London.

In England 92 deaths occurred from smallpox last week; 89 took place in London, and the remaining three in the towns of Reading, Leicester and Swansea. In the London smallpox hospitals there were 1512 patients on March 8 against 1185, 1321 and 1309 at the end of the three preceding weeks; 555 new cases were admitted during the week against 390, 502 and 379 in the three preceding weeks. Thus it will be seen that the progress of the epidemic, which had considerably diminished, has again increased. Since the beginning, in August last, 4468 cases have been admitted to hospital, about one per 1000 of the population. Of these 2675 have been discharged cured and 758 have died. The experience of previous epidemics in London tends to show that the present one will continue at least through next winter, perhaps with increased activity.

The Late Sir William MacCormac.

At a meeting of St. Thomas' Hospital and Medical School, to which the late Sir W. MacCormac was attached, it was decided to institute a permanent memorial of his connection with the institution. A committee of the members of the hospital and school was formed and already consists of 250 of St. Thomas' men. From these an executive committee was appointed to solicit subscriptions. The first object will be to arrange for the production of a bust to be placed in the central hall. The secretaries are Mr. G. H. Malsins, C. B., who accompanied the late surgeon to the war, and Mr. F. C. Abbott, surgeon of St. Thomas' Hospital.

Arsenical Poisoning Inquiry.

The Royal Commission on Arsenical Poisoning has resumed its sittings under the presidency of Lord Kelvin. Dr. E. S. Reynolds, Manchester, to whom is due the credit of discovering that the contamination of beer with arsenic was the cause of the recent epidemic of peripheral neuritis in the north of England and Midlands, stated that a special lookout had been kept by himself and his assistants at the Manchester Workhouse and Royal Infirmary for symptoms which might have been caused by arsenic occurring in food or drink. With a few exceptions they had entirely disappeared. The keratosis, arsenical neuritis and pigmentation, which had been ascribed for years to the irritation of vermin in the pauper class, had very markedly lessened in frequency. Many of the arsenical patients who had died had died from phthisis, and in most of the cases cirrhosis of the liver with ascites necropsy had shown that there was also tubercular peritonitis. Dr. Reynolds said in the last 9 months he had seen a considerable number of heavy drinkers and had only seen two cases of peripheral neuritis which he attributed to alcohol. Each of these patients drank over a bottle of whisky a day, and no beer. Personally, his opinion was that alcohol would cause neuritis, but considering the large amount of spirits taken by people in this country it was one of the rarest diseases if associated with arsenic. From his clinical observation during the last 20 years, he was driven to the conclusion that the disappearance during the last seven months of so many symptoms, which were formerly ascribed to alcohol, could only be explained by the elimination of arsenic from alcoholic beverages. He also concluded that arsenic had been present in alcoholic beverages for many years, to an extent dangerous to a few drinkers specially susceptible. This arsenic was possibly from a source entirely independent of contaminated glucose.

Experiments with Disinfectants.

The London County Council has issued a report by the medical officer, Dr. Shirley Murphy, presenting a joint report by Drs. Klein, Houston and Gordon on the result of experiments in disinfection. Of fluid disinfectants carbolic acid (1 in 5), permanganate of soda, bleaching powder and corrosive sublimate (1 in 1000) were tested. Of gaseous disinfectants formalin and sulphurous acid gas were tried. Dr. Shirley Murphy says: The typhoid bacillus was killed by all the disinfectants except Condy's fluid and bleaching powder. Condy's fluid gave a negative result in each experiment, and bleaching powder for the disinfection of wood and cloth infected with this organism failed with one hour's exposure. The bacillus diphtheria was killed by formalin and sulphur dioxid. The vibrio of cholera was in each experiment destroyed by all the disinfectants except Condy's fluid and bleaching powder. Condy's fluid was practically of negative value and bleaching powder was not always efficacious on one hour's exposure, but was successful within 24 hours. Bacillus pyocyaneus was acted upon in much the same way. It was killed in each experiment by all except Condy's fluid and bleaching powder. Staphylococcus aureus was also killed in each experiment by all except Condy's fluid and bleaching powder. Anthrax spores were only destroyed with certainty by perchlorid of mercury, the other disinfectants either failing on each occasion or being uncertain and almost invariably failing when wood and cloth were the materials to be disinfected. For tubercle bacilli, carbolic acid and perchlorid of mercury were the only disinfectants efficacious on each occasion. Condy's fluid and sulphur dioxid were of negative value and the other disinfectants unreliable. Neither formalin nor sulphur dioxid were efficacious for the wood or cloth infected with this bacillus.

Meralgia Paresthetica.

At the Edinburgh Medico-Chirurgical Society Dr. Edwin Bramwell showed a case of this comparatively unrecognized disease. A man, aged 43, had suffered for 18 months from pain over the right hip and lower part of the right thigh anteriorly, also from a feeling of coldness on the outer side of the right thigh. The pain was greatly increased by walking and was so severe that it had incapacitated him from work. In other respects he enjoyed excellent health; he had not had rheumatism or syphilis. The condition was attributed to sleeping on hard boards in damp clothes. An area of relative cutaneous hyperesthesia was found on the outer side of the right thigh, while there was marked tenderness over a point 1½ in. below and just external to the right anterior superior iliac spine. The symptoms were obviously referable to the right external cutaneous

nerve. Since no improvement resulted from rest in bed and Faradism the nerve was cut down upon at the level of Poupart's ligament and 3 inches excised. The nerve and its relations appeared to be normal. The pain which had previously been present even when the patient lay in bed, at once disappeared. For two or three weeks after the operation the patient complained of a feeling of tenderness on deep pressure over this area. Four weeks after operation he was quite free from pain, but still had a feeling of stiffness about the front of the right thigh. No degenerated fibers were found in the excised nerve. Dr. Bramwell considered meralgia paresthetica a distinct clinical entity, probably not uncommon, Roth having recorded 15 personal observations. The condition is well worthy of notice for purposes of exclusion in differential diagnosis when the pain is so severe as to unfit the patient for work. The pathology is obscure; perhaps in some cases there is merely neuralgia, in others neuritis. Faradism appears to have been efficacious in the treatment of several of the reported cases. Resection of the nerve is justifiable in severe and persistent cases.

State Boards of Registration.

Vermont Examination.—The Vermont State Board of Medical Examiners held an examination at Burlington on January 8. The number of subjects examined in was 8; questions, 80. The applicants numbered 8, of whom 6 passed.

Candidate.	Sch. of Pract.	College.	Year Grad.	Percent.
		PASSED.		
1	R.	Baltimore Medical College	1901	91
2	R.	Baltimore Medical College	1901	73
3	R.	University of Turin, Italy	1900	72
4	R.	University of the South	1901	75
5	R.	Laval University, Montreal	1901	77
6	R.	University of Vermont	1901	76
		FAILED.		
7	R.	Laval University, Montreal	1901	63
8	R.	University of the South	1901	63

Married.

R. F. CLARK, M.D., Los Angeles, Cal., to Miss Florence Sykes, at Yuma, Ariz., March 16.

C. A. CUTTS, M.D., Minneapolis, Minn., to Miss Marie Hielman, of River Forest, Ill., March 25.

FAIR ROWE BRINSON, M.D., Lithonia, Ga., to Miss Evie L. Sanderfur, of Dennard, Ga., March 18.

A. R. GILLIFORD, M.D., Allegheny, Pa., to Dr. Jane Nye, of Portsmouth, Ohio, at Cincinnati, March 20.

DICKSON L. MOORE, M.D., Columbus, Ohio, to Miss Marie Margaret Watson, of Washington, D.C., April 2.

J. H. HIGBEE, M.D., Wellsford, Kan., to Miss Daisy Guthrie, of Wichita, Kan., at Haviland, Kan., March 13.

FRANK S. JACKSON, M.D., Dunkirk, N. Y., to Miss Mary C. Crysler, superintendent of the Brooks Memorial Hospital, Batavia, N. Y., March 22.

SILAS CLINTON FREDERICK, M.D., Wilmington, Del., formerly of Baltimore County, Md., to Miss Lucretia Paschall Carpenter, at Germantown, Pa., March 19.

Deaths and Obituaries.

Robert G. Ellegood, M.D. Pennsylvania Medical College, Philadelphia, 1852, one of the most prominent and wealthy citizens of Delaware; for many years a practitioner in Concord, who served his state as representative and as auditor; a member of the American Medical Association, died at his home, March 22, from septicemia, after an illness of one week, aged 74.

Daniel W. Richards, M.D. Jefferson Medical College, Philadelphia, 1863, one of the oldest practitioners of Easton, Pa., a surgeon in the Civil war, and a prisoner in Libby Prison, died at his residence in South Easton, March 23, from paralysis, aged 64. He was a member of the local, county and state medical societies, and of the American Medical Association.

Rollin E. Cutts, M.D. University of Minnesota, Minn., 1893, died suddenly from apoplexy, while making a professional call, March 19, aged 35. He was one of the best-known physicians of Minneapolis, and was a member of the Hennepin County Medical Society, Minneapolis Pathological Society, Minneapolis Medical Club, and the Minnesota Academy of Medicine.

Erwin J. Eldridge, M.D. Jefferson Medical College, Philadelphia, 1854, a prominent physician of Americus, Ga., where he had resided for nearly half a century; a surgeon in the Crimean war and on the staff of Gen. Howell Cobb in the Civil war, died suddenly at his home in Americus, from apoplexy, March 13.

Oren D. Pomeroy, M.D. College of Physicians and Surgeons, New York, 1860, a specialist on diseases of the eye and ear, who practiced for many years in New York City and was one of the surgeons of the Manhattan Eye and Ear Infirmary, died at his home in Whitestone, L. I., after an illness of one year, aged 68.

John E. Richardson, M.D. College of Physicians and Surgeons, New York, 1877, who, after graduation, served as interne in Bellevue Hospital and then studied abroad for a year and a half, died at his residence in Brooklyn, March 23, from malignant disease of the throat, after a prolonged illness, aged 51.

Paul Carlyle, M.D. Western Reserve University, Cleveland, 1901, a promising young physician and ex-interne at Lakeside Hospital, who went to Texas soon after he was graduated, on account of lung disease, died at his home in Mount Gilead, Ohio, March 21, from consumption, aged 26.

Gerhard Loeling, M.D. Jefferson Medical College, Philadelphia, 1874, a German physician of prominence in Philadelphia, and a member of the Philadelphia County Medical Society, died from heart disease, March 23, after a short illness, at his residence in Philadelphia, aged 69.

Tandy L. Dix, M.D. Kentucky School of Medicine, Louisville, 1853, for nearly fifty years a practicing physician in Louisville and Shelbyville, Ky., but for the last three years a resident of Holly Springs, Miss., died at the home of his son in that city, March 23, aged 73.

Uriah Gilman, M.D. Jefferson Medical College, Philadelphia, 1861, the oldest practitioner of Woodstown, N. J., died suddenly from heart disease, March 24. He was 64 years of age and served in the Civil war as surgeon of the Twelfth New Jersey Infantry.

Charles A. Seler, M.D. University of Pennsylvania, Philadelphia, 1892, formerly a practitioner of Allentown, Pa., who was obliged to go to California for his health in 1899, died at his home in Hay Fork, Trinity County, from pneumonia, March 18, aged 32.

Henry M. Bishop, M.D. College of Physicians and Surgeons, New York, 1869, a prominent practitioner of Brooklyn, N. Y., and a member of the American Medical Association, died suddenly from apoplexy, at his home in Brooklyn, March 15, aged 65.

George W. Cushing, M.D. Long Island College Hospital, Brooklyn, N. Y., 1874, who had practiced at the same address in Schermerhorn Street, Brooklyn, ever since his graduation, died at his home, after a short illness, March 20, aged 53.

Thomas S. Butcher, M.D. Jefferson Medical College, Philadelphia, for about fifteen years a practitioner of Philadelphia, but of late years a resident of Monterey, Nuevo Leon, Mexico, died in that city from typhoid fever, recently, aged 55.

Thomas C. Hanson, M.D. University of California, San Francisco, 1867, vice-president of the Nevada State Board of Health and a prominent physician of Nevada, died from apoplexy, at his apartments in Winnemucca.

Reuben O. Evans, M.D. Tufts College Medical School, Boston, an eye specialist of Malden, Mass., died suddenly from heart disease, March 20, while examining a patient in his office, aged 42.

Andrew G. Nywall, M.D. Rush Medical College, Chicago, 1897, a practitioner of Chicago, died at the Presbyterian Hospital in that city, March 23, after an illness of six months, aged 30.

Richard T. Isbester, M.D. Tulane University, New Orleans, 1890, a member of the Chattanooga city council, died suddenly from apoplexy, at his home in Chattanooga, March 21, aged 45.

O. B. Scott, M.D. University of Louisville, Ky., 1888, a practitioner of Cynthiana, Ky., died at his home in that place, from apoplexy, after an illness of one day, March 20, aged 43.

George W. Bishop, M.D. Medical College of Georgia, Augusta, 1887, a practitioner of Sanford, Fla., died at his residence in that place, from consumption, March 20, aged 35.

Thomas L. Jackson M.D., Jefferson Medical College, Philadelphia, 1852, a prominent physician of Marvell, Ark., died at his home in that place, March 17, from consumption.

H. H. Hogan, M.D. University of Vermont, Burlington, 1863, the oldest practicing physician in Washoe County, Nev., died at his home in Reno, from pneumonia, March 17.

Dryden Rogers, M.D. Missouri Medical College, St. Louis, 1848, a well-known physician of Topeka, Kan., died at his home in that city from pneumonia, March 25, aged 75.

Theodule Boldue, M.D., ex-house surgeon at Notre Dame Hospital, Montreal, died from heart disease at St. Urbain, Charlevoix County, Quebec, March 20, aged 25.

Vincent T. Hart, M.D. Medical College of Georgia, Augusta, 1853, of Wood County, Texas, died at his home in Mineola, March 13, after a protracted illness, aged 72.

Edward S. Oliver, M.D., a graduate of the Johns Hopkins University and Medical School, Baltimore, died at Saranac Lake, N. Y., March 18, from consumption.

Miscellany.

Examination of Ocular Fundi of Animals.—One of the most remarkable scientific investigations of modern times is now being brought by Dr. Lindsay Johnson, F.R.C.S., to the close of its earlier stages. Some years ago he began to examine the fundi of animals and betook himself to Jamrach's collection of animals and other menageries and found the macula lutea present in monkeys, but that it varied with each genus. Following up his clew, he discovered that every family of the mammalian order possessed a distinct appearance of its own in the eye, by which anyone seeing the fundus with an ophthalmoscope would be able to recognize not only the family but the genus of the animal. He then proceeded systematically to examine all the animals to be seen in the Zoological Gardens of London, Antwerp, Amsterdam, Hamburg and elsewhere; and as a result of this gigantic labor he found many new and striking facts. For instance, he realized that certain organs, such as the pecten, were also to be found in a large number of the lower mammals—rodents and marsupials. This, of itself, was an interesting piece of evidence in support of the Darwinian doctrine of evolution; his various discoveries are to be found recorded in the proceedings of the Royal Society. His method of investigation is interesting. To examine the eyes of the animals it was necessary for Dr. Johnson to darken the cage, to sit beside the animal with a lamp behind his head and to look through the ophthalmoscope at a distance of half an inch from the animal's eye, for a period of not less than two hours at a time. The total time spent over each animal would vary from eight to sixteen hours. He examined the eyes of about a thousand animals, and made drawings of about 250, some fifty of which have so far been published by the Royal Society. In the cases of the larger animals it was necessary to confine their movements. Thus the elephants were chained down. Sacks some eight feet long were made for slipping over the bears. The closed ends of the sacks were next slit with a knife and as bruin protruded his head he was promptly muzzled and lifted on to the table for the eye testing. In the cases of lions, leopards, tigers and large cats, muzzles could not be used, as they frightened the animals nearly to death. He found it advisable to cut off the whiskers of the brutes, as the touching of the whiskers during the examination made them snap. Some of the birds were induced to thrust their bills into large corks, and the fishes had to be treated gingerly to avoid their suffocation. The boa constrictors and pythons were thrown into sacks, to circumvent their squeezing propensities, and their heads were held out of the sacks by keepers; while with wolves, beavers, otters, seals and sea lions, nets were thrown over them and they were twisted in the meshes.—*Ophthalmic Record.*

American Medical Hero of the Franco-Prussian War.—After the surrender of Metz on Oct. 29, 1870, it was found that black typhus fever was raging among the French soldiers who had survived the siege. The Grande Place or great square of Metz was packed with railway wagons belonging to the Eastern Railway Company of France, brought within the fortifications in order to save them from falling into the hands of the Germans. During the siege these wagons had been converted into field ambulances, in which the typhus patients were placed after their removal from the hospitals. Each truck had accommodation for at least 6 patients, and as there were 320 wagons, the typhus patients must have numbered 1800. After a certain lapse of time a detachment of German soldiers entered the Grande Place in order to remove the dead for burial. A large quantity of quicklime was brought in wagons and thrown from long-handled shovels over the corpses in the trucks. The bodies were then swung by the legs into the wagons, carted away into the fields outside the walls, and thrown promiscuously into huge trenches prepared for their reception. The soil was at once shoveled over them. Among the bodies thus unceremoniously huddled into the trenches was that of a young doctor, who had volunteered to attend on the sick men in the railway wagons, and who had himself fallen a victim to the fatal malady. The pathetic story of this youth of 22, which I afterward heard from my friend Whitwell, who had it from what he considered to be a reliable source, deserves mention as a remarkable instance of magnanimous self-sacrifice and courageous devotion to duty. He was a medical student of American nationality, unknown to me even by name. He had served in the French army as a surgeon throughout the campaign, and had been shut up with it during the siege of Metz. When the black typhus patients had been conveyed out of the hospitals into the railway wagons in the Grande Place, and no surgeon or nurse was found willing to be shut up entirely with them in the square, he volunteered to go alone into the enclosure to undertake this dangerous duty. As a medical man he knew perfectly well he was taking his life in his hands in thus devoting himself to the care of these men, who were dying of the most terribly infectious of all forms of fever. All that one pair of hands could do to relieve their sufferings he did for them by night and day, literally handing them the cup of cold water in the name of a disciple; for it is to me inconceivable that any less motive could possibly induce a youth of 22 to undertake so dangerous a task than the love of Christ constraining him. Naturally, in a short time the fever seized him in that hotbed of disease and ended his brave young life. Buried undistinguished among the heaps of corpses thrown indiscriminately into the trenches no storied urn or animated bust reared over that nameless grave to commemorate his noble self-sacrifice in the service of his fellow-beings—he remains in my memory and in that of my companions who knew the story—to be distinguished as the one true hero of the siege of Metz.—*Brit. Med. Jour., from Jones' "Quaker Campaigns in Peace and War."*

Association News.

The Pathologic Exhibit.

The Committee on Pathologic Exhibit has issued the following circular: The Committee on Pathologic Exhibit for the American Medical Association is anxious to secure materials for the coming session at Saratoga, June 10 to 13, inclusive. This exhibit was accorded much praise and comment during the sessions at Atlantic City and St. Paul, respectively, where were collected valuable exhibits from all parts of the country. The materials included not only pathologic specimens but the allied fields, bacteriology, hematology, physiology and biology were well represented.

It would also be desirable to secure exhibits of new apparatus, charts, etc., used by teachers of pathology and physiology in medical colleges.

This exhibit has already become a permanent feature of the annual sessions of the American Medical Association, and the Committee is desirous of securing its list of exhibits as early as possible and to this end asks those having desirable materials to communicate with any member of the Committee.

To contribute to the value of the work, it is suggested that as far as possible each contributor select materials illustrative of one classification and by such specialization enhance the usefulness of the display.

Those lending their materials may feel assured that good

care will be given their exhibits while in the hands of the Committee and due credit will be given in the published reports.

Very respectfully, F. M. Jeffries,
214 E. 34th Street, New York City.
W. A. Evans,
103 State Street, Suite 1403, Chicago, Ill.
Roger G. Perkins,
West. Res. Med. School, Cleveland, Ohio.
Committee on Pathologic Exhibit, Am. Med. Association.

Societies.

COMING MEETINGS.

American Medical Association, Saratoga Springs, N. Y., June 10 to 13.
Tennessee State Medical Society, Memphis, April 8, 1902.
Florida Medical Association, Tampa, April 9, 1902.
Western Ophthalmological and Oto-Laryngological Association, Chicago, April 10-12, 1902.
Medical Association of the State of Alabama, Birmingham, April 15, 1902.
Medical Society of the State of California, San Francisco, April 15-17, 1902.
Medical Association of Georgia, Savannah, April 16, 1902.
Mississippi State Medical Association, Jackson, April 16, 1902.
New Mexico Medical Society, Albuquerque, April 16, 1902.
South Carolina Medical Association, Spartanburg, April 16-17, 1902.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 22, 1902.
Association of American Physicians, Washington, D. C., April 29 to May 1, 1902.
American Association of Genito-Urinary Surgeons, Atlantic City, N. J., April 30, 1902.
International Association of Railway Surgeons, St. Louis, Mo., April 30 and May 1 and 2, 1902.
American Gastro-Enterological Association, Washington, D. C., May 2, 1902.
Nebraska State Medical Society, Omaha, May 6-8, 1902.
Texas State Medical Association, Dallas, May 6-9, 1902.
Kansas Medical Society, Lawrence, May 7-9, 1902.
American Therapeutic Society, New York City, May 13, 1902.
Utah State Medical Society, Salt Lake City, May 13-14, 1902.
Oklahoma Territory Medical Association, Oklahoma City, May 14, 1902.
Arkansas Medical Society, Little Rock, May 14-16, 1902.
New Hampshire Medical Society, Concord, May 15-16, 1902.
Illinois State Medical Society, Quincy, May 20-22, 1902.
American Surgical Association, Albany, N. Y., May 20-22, 1902.
Medical Association of the State of Missouri, St. Joseph, May 20-22, 1902.
Kentucky State Medical Society, Paducah, May 21, 1902.
Arizona Medical Association, Tucson, May 21-22, 1902.
Medical Society of West Virginia, Parkersburg, May 21-23, 1902.
Medical Association of Montana, Anaconda, May 21-22, 1902.
Iowa State Medical Society, Des Moines, May 21-23, 1902.
Indiana State Medical Society, Evansville, May 22-23, 1902.
American Pediatric Society, Boston, May 26-28, 1902
American Laryngological Association, Boston, Mass., May 26-28, 1902.
American Gynecological Society, Atlantic City, May 27, 1902.
Connecticut Medical Society, New Haven, May 28-29, 1902.
Ohio State Medical Society, Toledo, May 28-30, 1902.

Physicians' Club of Dayton.—The physicians of Dayton have organized a club, embracing all schools, which is to meet five times a year. Dr. Horace Bonner is chairman.

Association of Medical Officers of the Army and Navy of the Confederacy.—This Association will meet under the presidency of Dr. D. D. Saunders, Memphis, Tenn., at Dallas, Texas, April 22.

Physicians' Club of Newark, N. J.—The annual meeting of this Club was held, March 14, at which Dr. Charles L. Ill was elected president: Dr. Charles H. Randall, vice-president, and Dr. William Petry, secretary and treasurer.

Noble County (Okla.) Medical Society.—The physicians of Noble County held a meeting in Perry and organized a medical society, with Dr. Samuel A. Moore, president; Dr. R. A. Felt, vice-president, and Dr. Fred F. Jones, secretary, all of Perry.

Pawtucket (R. I.) Medical Association.—The annual meeting of this body was held, March 20. The election of officers resulted as follows: Dr. Charles H. French, president, and Dr. William F. Gillan, secretary. A banquet followed the business meeting.

Aberdeen District (S. Dak.) Medical Society.—At the annual meeting of this Society in Aberdeen, March 19, Dr. Francis M. Crain, Redfield, was elected president; Dr. Robert D. Alway, Aberdeen, vice-president, and Dr. Henry J. Rock, Aberdeen, secretary.

Stark County (Ohio) Academy of Medicine.—This organization held its annual meeting at Massillon, March 18, and elected Dr. Rezin J. Pumphrey, Massillon, president, and re-elected Dr. Esther M. Tyrrell, Canton, secretary, and Dr. Frank E. Hart, Canton, treasurer.

Nashville Medical and Surgical Association.—This body, composed of the colored physicians, dentists and pharmacists of Nashville, met, March 17. Dr. John A. Lester was elected president; Dr. Henry T. Noel, vice-president; Dr. Charles O. Hadley, secretary, and E. B. Jefferson, treasurer.

Alumni Association of Fort Wayne (Ind.) Medical College.—At the annual meeting of this body in Fort Wayne, March 25, the following officers were elected: Dr. James B. McEvoy, Fort Wayne, president; Drs. Oliver T. May, Monroeville and A. H. MacBeth, vice-presidents, and Dr. Mary A. Whery, Fort Wayne, historian.

Johnson County (Texas) Medical Society.—At the annual meeting of this Society, March 20, at Cleburne, the following officers were elected: Dr. T. E. Edwards, president; Drs. Larkin L. Harris, Cuba, and John M. Huddleston, Cleburne, vice-presidents, and Dr. Finis D. Beauchamp, Pleasant Point, secretary.

Central Michigan Medical Society.—At the annual meeting of this Society, held in Lansing, March 13, Dr. Sidney H. Culver, Mason, was elected president; Dr. Harry A. Haze, Lansing, vice-president, and Dr. L. Anna Ballard, Lansing, secretary and treasurer. The meeting was followed by an anniversary banquet.

Vanderburg County (Ind.) Medical Society.—This Society held its monthly meeting, March 18, at which Dr. J. Herbert Willis was elected president; Dr. Ben S. Rose, vice-president, and Dr. Wm. Ruston Davidson, secretary and treasurer, all of Evansville. The Society is making elaborate preparations to entertain the Indiana State Medical Society, May 22 and 23, at which Dr. Victor C. Vaughan, Ann Arbor, will be the guest of honor.

Western Alumni Association of the University and Bellevue Hospital Medical College.—The second annual meeting and banquet of this Association were held at the Sherman House, Chicago, March 22. The program included responses to toasts from Drs. Edward W. Jenks, Detroit; David W. Graham, Chicago; James C. Culbertson, Cincinnati; Dorrance W. Aldrich, Galesburg, Ill.; George N. Kreider, Springfield, Ill.; Emerson M. Sutton, Peoria, Ill.; Arthur R. Reynolds, Chicago; and James F. Percy, Galesburg, Ill. The following officers were elected: President, Dr. George N. Kreider; vice-presidents, Drs. James C. Culbertson and George W. Mahoney, Chicago; secretary-treasurer, Dr. Willis O. Nance, Chicago; members of executive committee, Drs. Benjamin F. Uran, Kankakee, Ill.; James F. Todd, Chicago; J. Sanderson Christison, Chicago; David W. Graham, Chicago; and Paul Caspers, Chicago.

NORTH BRANCH OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting held March 20, 1902.

The President, Dr. A. M. Eaton, in the Chair.

Ovarian Disease as a Factor in Pseudo-Cyesis.

Dr. J. Thompson Schell gave a brief résumé of the literature on this subject and in all but one instance the cause of this condition was assigned to the mental state of the patient. Dr. E. N. Chapman, in 1864, suggested the possibility of irritation of the uterus and amenorrhea. Four cases which have occurred in the author's own experience were then reported, and in each of these instances there had been some history of ovarian disease. Their ages varied from 28 to 33 and all had previously borne children. All these cases during the early period of the supposed pregnancy had presented the typical symptoms thereof, such as nausea, cessation of menstruation and enlargement of the abdomen and breasts, and in every instance was the patient firmly convinced that she felt the movements of the child. In the first case the patient, after having been in labor forty hours, under the care of her attending physician, was removed to the hospital, and upon examination under ether was found not to be pregnant. A curettage was done, resulting in the removal of some shreds of endometrium, and the patient was discharged from the hospital twelve days later, since which time she has complained of symptoms indicating pelvic involvement, but as she refuses

to be examined this can not be definitely stated. Case No. 2, after missing several periods, again began to menstruate and upon examination under ether a curettage was made, after which the patient made a good recovery, although she still suffers from irregular and painful menstruation, backache, leucorrhea and pains and tenderness in the left ovarian region. The third case was a markedly neurotic patient, and as in Case No. 2, upon menstruation recommencing, she was examined under ether and curettage performed, after which she made a good recovery, although she has subsequently suffered somewhat from nervousness, nausea and backache. Case No. 4 presented practically the same symptoms as the previous ones, and as in Nos. 2 and 3, an examination under ether was made and a curettage done, a quantity of diseased endometrium being removed. This patient made an uninterrupted recovery. Attention was called to the fact that in none of these cases could the condition be based upon the theory of the menopause being a factor, as all were far below the age of this period. Neither did it seem that any of them were either very desirous or very averse to becoming pregnant. While the author does not attempt to overthrow the theory that pseudo-cyesis is the result of a mental condition, yet he suggests the possibility of ovarian disease being a factor in the production of the mental state.

Dr. John G. Clark, in discussion, divided the cases of pseudo-cyesis into three classes: 1, those that fear pregnancy; 2, those that expect to be pregnant; and 3, those that especially desire to be pregnant. In the first class, the missing of one or two menstrual periods will often fix the delusion of pregnancy in the woman's mind, especially when the fear is superinduced by previous illicit intercourse. The second class usually occurs in the married woman who goes along in the ordinary course of events expecting to be pregnant and, of course, the missing of one or two periods firmly fixes this idea in her mind. The third class is generally observed about the age of the menopause and generally occurs in women who have previously had no children, the patient oftentimes being a typical society woman, who has in the early part of her life done everything to avoid conception and, in some instances perhaps, even terminated pregnancy artificially. The opinion was expressed that the symptoms in these cases are of a mental rather than a physical nature, but it was also suggested that possibly this mental condition might be caused by disease of the genital organs and this possibility was strengthened by the fact that in many cases where insanity has occurred co-existent with ovarian disease, the removal of the latter condition cured the former.

Dr. Charles P. Noble stated that out of about 150 cases of this condition which had come under his observation, the large majority had been observed in patients who were especially desirous of being pregnant. Contrary to the opinion expressed by Dr. Clark, he believes that most of these cases occurred in women below the age of the menopause. In regard to the fear of pregnancy being a cause, he stated that, aside from those who had had illicit intercourse, he did not recall having ever seen a case. Although he has seen a few cases in which ovarian disease was associated with this condition, yet he inclines to the opinion that it is caused by a mental rather than a physical disturbance.

Dr. Mordecai Price stated that in his experience most of the cases of this disease had occurred in neurasthenic women, and in many instances the patient was quite fleshy. While he views the mental condition as the immediate cause, he also feels that this condition is often produced by some disease of the genital organs. Several cases have also come under his notice where both the attending physician and the patient were convinced of the existence of pregnancy, when the real trouble was a large fibroid or ovarian tumor.

The Treatment of Puerperal Eclampsia.

Dr. William E. Parke reported a case and dwelt in considerable detail upon the etiology and treatment of this condition. This patient had been twice pregnant, the first pregnancy being terminated about the eighth month on account of convulsions, of which four occurred before the delivery of child and none followed. The patient apparently made a good recovery and repeated examinations of the urine failed to reveal the presence of albumin. During the second pregnancy her health remained good until the seventh month, at which time there was edema of the ankles, albumin was present in the urine and the quantity passed in 24 hours was very much lower than normal. Five days after the onset of these symptoms she complained of a pain between the shoulder blades for which a hot bath followed by rest in bed and hot packs were recommended. A pill containing calomel and podophyllin was also ordered. The attending physician had scarcely left the house after prescribing the above treatment before the onset of a convulsion, and a physician was called in the emergency who administered morphia hypodermically. Two hours after his first visit the attending physician returned and finding that five or six convulsions had occurred, forced delivery under anesthesia. Prior to delivery venesection had been performed, and immediately following, 10 minims of Norwood's tincture of veratrum viride was administered hypodermically. The pulse rate at this time being 130, the same remedy was administered in 5 minim doses at half-hour intervals until the rate was reduced to 60, at which time the frequency was reduced to two, three and six hours, according to indications. In addition to the above treatment, 3 drops of croton oil on sugar was placed on the tongue and an ounce of magnesium of sulphate injected into the rectum, followed later by enemas containing 30 grains of chloral and 60 grains of bromid. The patient made fairly rapid recovery. Great stress was laid on the importance of closely watching the patient during the period of gestation, in order to prevent the formation of the toxic agents from forming in the blood, and if they are already present to eliminate them. For increasing the activity of the skin, hot baths and hot packs were recommended, and for stimulation of the renal function increased consumption of water, Basham's mixture and in more urgent cases one grain each of calomel, squill and digitalis, thrice daily, was suggested. Where the pulse is of high tension nitroglycerin was considered of service. If, notwithstanding these preventive and curative measures, the renal insufficiency continues and toxemia increases, forced delivery is advised. For the treatment of the convulsions, venesection, withdrawing 12 to 30 ounces of blood, according to indications, inhalations of chloroform, administration of veratrum viride, chloral and bromid and injections of salt solution, either through the veins or by the bowel, were recommended.

Dr. John G. Clark said that it is probably due to the retention of some poisonous product within the body. Experiments on rabbits have developed the fact that the introduction of any drug or the application of the electric current will produce convulsions much more quickly in the pregnant than the non-pregnant animal. The toxemic process may be produced by the defective working of the kidneys, liver, skin, etc., and while it was formerly supposed that there were no pathologic lesions in eclampsia, recent experiments have revealed the fact that in 73 out of 75 cases of this condition distinct pathologic changes had occurred in the vital organs.

Dr. Charles P. Noble recommended, as a remedy for the convulsions, blood-letting followed by the injection of salt solution into the veins in the case of vigorous patients. Chloral was thought to be good, but should be used with caution, while morphia and pilocarpin were not approved, the former owing to its contra-eliminating powers and the latter owing to its increasing to an abnormal extent the secretion of all the fluids of the body. In treating these convulsions the proper course was to relieve the convulsion and then set about the delivery of the child, rather than to direct the whole attention to either end.

Dr. Mordecai Price recommended that the attention be first directed to the convulsions, stopping them, if possible, before setting about the delivery of the child. For this purpose he considers venesection the most beneficial measure. Chloroform is of little value, as its effect is not lasting; morphia and pilocarpin were not recommended and chloral was thought to require great caution.

Dr. Wilmer Krusen stated that in his opinion the urine should not be examined for albumin alone and recommended a careful urea estimation in all cases. Among the various

methods of treatment mentioned were the different drugs which had been recommended by the previous speakers, hot packs, venesection and the substitution of salt solution, and the injection of the salt solution by means of the bowel. Prompt delivery was recommended in all cases.

DR. ANDREW J. DOWNES considered that the most necessary thing in the treatment of puerperal eclampsia was prompt delivery; the difference in the mortality between the cases which he has observed in private practice and in hospital work he attributes to this cause. He recommended the use of morphia or chloroform to stop the convulsions, followed by immediate delivery.

NEW YORK OBSTETRICAL SOCIETY.

Stated Meeting, Held March 11, 1902.

The President, Dr. Malcolm McLean, in the Chair.

Puerperal Tubo-ovarian Abscess Resembling Appendicitis.

DR. HERMAN J. BOLDT presented this specimen. From the conditions found during examination prior to operation the diagnosis of appendicitis with a large perityphlitic exudate presenting some unusual features was made. What was thought to be a perityphlitic exudate was found to be a tubo-ovarian abscess. The upper part of the tube was firmly agglutinated to the intestines. An unusually long appendix vermiformis, 12 cm., was found intimately adherent to the posterior surface of the tube.

DR. SIMON MARX had seen a number of cases of appendicitis occurring during and after pregnancy and he had become very wary about making a diagnosis between appendicitis and tubo-ovarian abscess. A diagnosis of that kind might be offered because of the subinvolution, or enlarged uterus.

DR. HERMAN J. BOLDT showed a case of "Chronic Catarrhal Appendicitis; Persistence of Pain After Appendectomy," that demonstrated that long persistent pain, caused by pathological changes in an organ, does not cease as soon as the pathological factor has been removed.

He also presented a specimen of an ovarian tumor which had its origin from the ovary and reached to two-fingers' breadth above the umbilicus. He neglected his usual plan of making the incision long enough at the start to remove the tumor unopened, believing that the size of the tumor could be lessened by the use of the trocar and canula; the result was that he soiled the peritoneal cavity with the pseudo-mucinous contents. While such a mishap was not likely to endanger the prognosis from infection if the flushing is done thoroughly, still more time is consumed, the intestines are subjected to more traumatism, and there is a chance of metastasis from such material as has been clinically demonstrated. It would have been better technique to deliver ovarian tumors unopened unless one was perfectly sure that the contents were serous.

He likewise presented a specimen of "Large Colloid Tumor in a Girl of 16 Years; Doubtful Diagnosis Until Anesthesia was Administered; Twisted Pedicle; Torsion of Uterus." The tumor was ovarian, extending nearly to the xiphoid cartilage; it had a pedicle with a 360-degree twist; the body of the uterus was twisted upon the cervix at 90 degrees. While torsion of the pedicle was not uncommon in instances of ovarian tumors, a combination of pedicle and uterine torsion, in a tumor as large as the one presented (weight 8.5 kilo) was very rare. The tumor was found to be a multilocular pseudo-mucin cystoma.

Vaginal Hysterectomy for Hemorrhage.

DR. BROOKS H. WELLS reported this case as an argument in favor of the removal of the uterus when conditions necessitate the removal of the appendages on both sides. The specimen shown was that of an apparently normal uterus with an atrophic mucous membrane.

DR. HIRAM H. VINEBERG said that in cases of uncontrollable uterine hemorrhage an endarteritis was often localized in the terminal vessels in the uterine tissues. Several such cases had been published abroad and a few in this country.

DR. EGBERT H. GRANDIN did a suprapubic hysterectomy for uncontrollable hemorrhage recently because the appendages were adherent high up. Upon section of the uterus a soft mass was found at the fundus, so situated that the curette would pass over it and not scrape it off.

DR. MALCOLM MCLEAN said it was dangerous to attribute to the menopause any hemorrhage which was due to functional changes. Hemorrhages may occur at that period without there being present any organic condition to explain it. The case reported by Dr. Wells could be classed under that head, where the menopause had been established artificially; this resulting hemorrhage he considered to be quite rare.

DR. ABRAM BROTHERS presented a specimen of "Spontaneous Expulsion of a Cervical Polyp," because, in his experience, polypi spontaneously expelled were among the rarest of occurrences. The pedicle was one and a half inches in length.

DR. JAMES N. WEST reported the history of a case of supposed cervical polyp, but which proved later to be sarcomatous. About two months after he last saw her she fell into the hands of Dr. Janvrin, when she had sarcomata of the shoulder and under the breasts and metastasis.

Pathogenesis and Therapeutics of Puerperal Eclampsia.

DR. GEORGE T. HARRISON said that it was now proven that all the theories which were based exclusively upon the disturbances of the kidneys were no longer tenable. When an attack of eclampsia has broken out the indications were, 1, to lower the excitability of the brain by narcotics; 2, to cut off the effects of the centripetal irritants starting from the sexual organs, by as speedy an ending of the birth as possible, consistent with safety to the maternal organism; 3, to counteract the effect of the toxemia by restoring the function of the kidneys as quickly as possible, and by producing elimination through other channels. Another indication, according to Barnes and other authorities, is to lower the arterial tension. Lately, an Italian physician reports that in 18 cases of eclampsia he obtained brilliant results by the use of veratrum viride, 17 recovering. In the fatal case he could not attribute death to eclampsia. To meet the *first* indication, hypodermic injections of morphin, carefully watched, should be given. Hydrate of chloral has been highly recommended, but its use should be attended with caution especially when there is a weak heart. Chloroform should not be used for any length of time; its prolonged use was dangerous as it invariably leads to fatty degeneration of the heart and other organs. Blood-letting he did not employ; when edema of the lungs threatened in a strong woman a copious venesection was perhaps permissible. Others recommended the use of salt solution infusion with, or without, blood-letting, to dilute and eliminate the poison. To meet the *second* indication all were agreed that if the birth could be ended without risk to the mother, by forceps, by version, or by craniotomy if the fetus was dead, that it should be done while the patient was under an anesthetic. This presupposed that the os was already dilated, or readily dilatable. If the os is not yet sufficiently dilated, or if the cervix maintains its form and is unyielding, the question is still a mooted one as to the indication. On the one hand there are those who insist that we should wait patiently until sufficient dilatation has taken place before actual intervention, keeping the patient meanwhile under the influence of narcotics. Again, there are others who, in cases in which the cervix is dilated above, but the os undilated, make deep incisions into the cervix, the vagina and perineum and then deliver by operative intervention; when the cervix still maintains its form, they introduce a colpeurynter, or Barnes' dilator into the cervix. Dührssen expresses the hope that the classical Cesarean section, in eclampsia, will be replaced soon by the vaginal. The favorable effect of the operative evacuation of the uterus in eclampsia is clear from the fact that, according to his statistics, the disease was relieved in 93.75 per cent. of the cases, while this, in spontaneous birth, is the case in only 78.9 per cent. He recommends, therefore, the Cesarean section per vaginam in maintained cervix and in dilatation of the supravaginal part of the cervix, on the contrary, the delivery with the aid of deep cervical incisions. To fulfill the *third* indication profuse diaphoresis should be excited by the hot pack to eliminate toxic matters. In convalescence the patient should be carefully watched, diaphoresis and

diuresis promoted, and the milk diet enjoined. The psychoses which occasionally follow, and which manifest themselves in the form of great psychical excitation and even maniacal attacks, demand careful attention.

Dr. Simon Marx did not think that Dr. Harrison laid sufficient stress upon the particular factor which exists in these cases, viz., the diminution in the amount of urea excreted. In those cases where we do not get any pathologic evidences in the urine, such as albumin or casts, there is one of two conditions present: 1, a true toxemia of pregnancy, or 2, mechanical pressure upon the ureters. This latter point had been referred to by Herzfeld in his analysis of 100,000 cases of labor, among which there were 100 cases of eclampsia; among the fatal cases, 11 per cent., not one was due to any organic trouble but all were due to mechanical cause, viz., pressure upon the ureter; there was a bilateral hydronephrosis due to pressure upon the ureters at that point where they passed over the brim of the pelvis. Regarding the treatment, he had yet to see a case, with the excretion of urea diminishing day by day, with the symptoms of intoxication present, that did not demand the induction of premature labor.

Dr. George L. Brodhead thought that the treatment should be directed to the kidneys just as if we had to deal with an acute nephritis without the existence of pregnancy. His experience led him to believe that the first stage of labor in cases of eclampsia proceeds very slowly and that much valuable time is lost when active measures are not adopted looking towards full dilatation of the cervix.

Dr. Egbert H. Grandin said he had ceased to be afraid of albuminuric patients; women with albumin and casts in the urine, and who are edematous, frequently go on to term and through labor without eclampsia. If, on the contrary, women with no albumin and few or no casts, with urinary insufficiency, with an absolute diminution in the amount of urea excreted, notwithstanding that they are under the recognized dietetic and medicinal treatment which aims to keep the liver, the intestinal canal and the skin active, if, under such precautions, the kidneys remain insufficient and the urea remains below the normal, then he thought we should not wait for eclampsia to occur, but empty the uterus. Veratrum viride, in his hands, had been a failure; convulsion followed after convulsion, although the pulse was kept below 40. If we elect to lower the arterial tension, venesection was the method *par excellence*. When we were face to face with a long rigid cervix, Cesarean section may be indicated under ordinary circumstances; but the one method which offered itself, was not the *accouchement forcé*, but the *elective accouchement;* no force is used, the muscle yielding to pressure applied by the hand.

Dr. R. A. Murray believed in the ingestion of large quantities of water in order to get the kidneys to throw off the waste matters.

CHICAGO SOCIETY OF INTERNAL MEDICINE.

Regular Meeting.

The President, Dr. Edward F. Wells, in the Chair.

Modern Dietetic Preparations.

Dr. Arnold C. Klebs directs attention to the great progress made in this line and especially in the manufacture of nutrient preparations. In this country the progress in the manufacture has not held pace with the advances of physiologic chemistry and most of the preparations are of foreign make. He warns against the practice of taking as fact the manufacturer's exaggeration of the value of his preparation. Many of the preparations so advertised furnish at a relatively high cost an astonishingly small food-value and frequently have only a *raison d'etre* on account of their stimulating qualities, produced by a higher percentage of extractive substances and salts or by the addition of alcohol.

The dietetic value of a good preparation is determined chiefly by its actual food-value, determined by the amount of assimilable albumin it contains. The price of such albumin should not be higher than that contained in ordinary foodstuffs. Possible objections against the prolonged administration of such preparations should be overcome: 1, by their having none or a pleasant taste; 2, by their small bulk, so that they can be given without overloading the digestive tract; 3, by their not being irritative to the digestive organs, even after prolonged use; 4, by their ready utilization in the metabolism, which can only be determined by experiment; 5, by their low price. These desiderata are fulfilled by a number of preparations now on the market, the difficulty for the practitioner to choose the best ones is increased by the misleading advertisements of the manufacturer. In his choice he should never be guided by them, but rely on analyses and trustworthy clinical reports. The albumoses (somatose) can not be administered in doses sufficient to maintain the nitrogen equilibrium, but in small doses have nutrient value and are powerful digestive stimulants. The peptones, on account of their bitter and unpleasant taste and their irritating properties to the digestive organs, can practically be abandoned; the value of the large number of other predigested foods being also, to say the least, doubtful. Meat extracts, and liquid beef preparations can be used as valuable appetizing additions to the diet, but not on account of nutritious elements contained in them.

Heart Failure in Pneumonia.

Dr. N. S. Davis, Sr., contributed a paper entitled "Does Heart Failure Constitute the Chief Danger in Pneumonia and the Acute Infectious Fevers? Or Does the Importance Attached to it by Recent Authors Unduly Divert the Attention of the Practitioner from Other Important Pathological Conditions of the Patient?" That "progressive cardiac weakness is the most important enemy to fight in pneumonia," and the important infectious fevers, is, in substance, a declaration found in nearly all the text-books and systematic works on the practice of medicine published during the last fifteen years. During two decades preceding, we were told with almost equal unanimity that the chief point of danger in the same diseases was pyrexia or high temperature. Then, antipyretics, both internal and external, were set forth as the chief and most reliable remedies for combating the pyrexia and ensuring the safety of patients, just as we are now told that direct cardiac tonics, as alcohol, strychnin, digitalis, etc., must be our chief reliance for sustaining the action of the heart until nature and time can cure the disease. The author has seen several cases of severe pneumonia, typhoid fever and diphtheria, in which the patients had been for several days taking from 10 to 16 ounces of whisky or brandy every twenty-four hours, with three hypodermic injections of strychnia, and liberal doses of digitalis, all for the sole purpose of strengthening the heart, and without the slightest reference to the special pathologic conditions in each case causing the heart to be weak.

The most efficient mode of sustaining the strength and activity of the heart and of all other muscular structures is to supply them with freely oxygenated blood, the efficient circulation of which not only increases the leucocytic or phagocytic activity, but also best sustains the efficiency of the secreting and eliminating functions of the living body, and thereby either destroys or eliminates all disturbing or toxic agents. All pathologic conditions that diminish the amount of air received into the air cells of the lungs, and thereby diminish the interchange of oxygen for carbon dioxid, notably impair the strength of all muscular structures, both voluntary and involuntary, and consequently diminish the systolic force of the heart and the efficiency of the circulation. Dr. Davis is satisfied that nearly all the cases of serious cardiac weakness or heart failure met with in practice are caused either by deficient oxygenation and decarbonization of the blood, impairment of the action of the cardiac and vasomotor nerves, or direct degenerative changes in the muscular structure of the heart itself. The most rational and important indications for treatment in established cases of pneumonia, diphtheria, typhoid and other infectious fevers are to aid nature's own processes by securing for patients abundance of fresh pure air, strict cleanliness, free sponge bathing, pure water for drink, and the use of such diaphoretic, diuretic, and alterative medicines as will prompt, at least, natural activity in all the excretory structures of the body. It is equally important to avoid the giving of all such antipyretics and so-called cardiac stimu-

lants as are known to diminish hemoglobin and free oxygen in the blood, and to lessen both tissue metabolism and excretion. By their anesthetic and analgesic effects, they allay pain, quiet restlessness, lessen the pyrexia temporarily, but directly favor the retention of the toxic agents in the blood until an unexpected fatal collapse ensues which is attributed to heart failure. Though he has practiced medicine many years, he has never seen a case of fatal heart failure while that organ was supplied with well-oxygenated arterial blood, and the metabolic and excretory functions were fairly active. But he has known many cases of both acute and chronic disease in which death resulted directly from both respiratory and cardiac paralysis, preceded by deficient internal distribution of oxygen and lessened activity of both tissue metabolism and excretion, while they were under the persistent influence of anesthetic and narcotic drugs.

DR. GEORGE W. WEBSTER said that all those who had had a large experience in the treatment of pneumonia must give, in very many cases, an affirmative answer to the question of Dr. Davis. He meant by this, that in many cases of pneumonia heart failure was the particular symptom which demanded immediate attention. Pneumonia was not merely a disease of the lung, but was a general infection; that as the result of this general infection toxins were produced which had their action upon the intrinsic and extrinsic nerves of the mechanism of the heart and of its musculature, thus acting upon both in a deleterious way. The musculature of the heart was less able to cope with its ordinary work; the nervous influences were obtunded by the toxins, and in addition to the poisoning of the heart by toxins and want of control by the nervous system, at the same time the work of the right heart was increased. In many cases of pneumonia, as the result of overwork of the right heart, with impaired nutrition and poisoning both of muscle and nerve, its work was imperfectly done. Those who were in the habit of watching the pulmonic second tone of the heart in pneumonia were well aware that in the early stages of the disease this tone was accentuated because of the increased pressure in the pulmonary circuit, which meant the right ventricle as its work increased and its successful coping with the additional burden imposed upon it. Furthermore, as the pulmonic second tone was watched, and often it became weakened hour by hour and day by day, it was known that the general condition of the patient was not as good as it was the day before, and that this was a guide to the actual condition of that patient, not as to the temperature, or the character of the pulse, but the degree of accentuation or character of the pulmonic second tone. He was in the habit of watching carefully the pulmonic second tone in cases of pneumonia. If physicians watched this point carefully, guarded it thoroughly, as the pulmonic second tone became weakened use appropriate remedies in the way of strychnia, carbonate of ammonium, oxygen inhalations, digitalis and camphor, graduating these reasonably according to the indications, giving no more than is necessary, and withholding or increasing them as the indications arose, they would be able to save many more cases of pneumonia. In many cases of pneumonia failure of the right heart was a dangerous symptom, and one which should be more carefully guarded than almost any other symptom, particularly in acute lobar pneumonia.

DR. JOHN A. ROBISON expressed himself as a firm believer in the efficacy of oxygen in whiffs in pneumonia. His belief had been strengthened by the clinical results he had obtained. He had had several cases in which the remedy proved to be one of such potency that he believed it saved the lives of many patients. An interesting point was as to how much oxygen was actually absorbed by these patients. That there was some absorbed was proven by the action of the remedy. He recalled particularly one case, a man, 62 years of age, who had been suffering from chronic bronchitis for several years, who was attacked by lobar pneumonia. He did not see the patient in the early part of his sickness, but was called when the man was in a very low condition. He had been given the customary treatment of strychnia, digitalis, carbonate of ammonium, etc., and was in an extremely precarious state. Cyanosis was marked; respirations were very rapid and shallow. He advised the use of oxygen, and within a few hours the man's condition improved markedly. The respirations became deeper, were not so rapid, and the cyanosis had materially diminished. The stupor which the patient had for several hours became less, and in the course of 48 hours the patient began to improve, and finally made a complete recovery. This was a simple illustration of several cases he had treated by inhalations of oxygen. The evidence as to its efficacy was so complete that physicians should have no hesitation in recommending oxygen as a good remedy.

As to the antipyretic treatment, where the antipyretic was used with the idea that it was the hyperpyrexia that was the source of danger, he thought the criticism of the essayist was a just one. Nevertheless, the use of cold water, cold sponging or ice-bags in such cases had a beneficial effect, not by lowering temperature, but by the effect it had upon the nervous system.

DR. ARNOLD C. KLEBS agreed with the essayist as to the necessity of free ventilation in cases of pneumonia. As to inhalations of oxygen, he thought the consensus of opinion of the profession, after a perusal of the literature, was against the use of this agent. Personally, he had found that it became a sort of necessary evil to be employed in every case of pneumonia. When the patient and his family believed in it, a tank had to be procured and oxygen used for its mental effect. His experience had been contrary to that of Dr. Robison. He had never seen oxygen inhalations diminish cyanosis markedly. He mentioned one case where he did not observe any effect whatever from oxygen inhalations, either on respiration or the heart's action.

DR. ROBISON thought Dr. Klebs was mistaken as to oxygen being discarded as a therapeutic agent or was not recommended; nearly all the recent text-books advised its use. Roberts of London was a strong advocate of it. He argued against its use indiscriminately, and personally he did not use it in all cases.

DR. FRANK X. WALLS had seen oxygen given where it had benefited the patient materially; in other cases, it had been given without benefit. He thought the negative results from the use of oxygen inhalations were either due to the oxygen having been improperly administered, or having been taken by the patient improperly.

DR. FRANK S. CHURCHILL mentioned a case which he had seen in connection with Dr. Klebs to whom oxygen was given in every conceivable way, without benefit. He had seen patients where the administration of oxygen seemed to improve color very decidedly, and to lessen cyanosis. However, he expressed himself as being a little skeptical as to its value. He thought the great improvement in the case narrated by Dr. Robison might have been due to the crisis which took place at the time the oxygen was given.

Pneumococcic Arthritis.

DR. JAMES B. HERRICK read an abstract of a paper on pneumococcic arthritis. He referred to the rarity of this condition, which occurs most frequently as a complication of acute croupous pneumonia. Cave, who reported a case in January, 1901, was able to find only 31 cases recorded in the literature. To this number Dr. Herrick added 7, 3 of them being cases that had come under his own observation. These cases tended to confirm what had been previously observed by Leroux and others, showing that the condition was most frequently met with in the larger joints; that it rarely occurred except as a complication of pneumonia; was most likely to appear late in the disease or during convalescence. The influence of trauma was shown by the records of two cases.

The prognosis was in general bad, because the condition occurred in those who were already ill of a serious disease, and because there was in these cases a pneumococcic septicemia, frequently with other localization in structures more vital than the joint. Death in many of these instances was due, not to the involvement of the joint, but to a co-existing empyema, endocarditis, pericarditis, or meningitis. The treatment to be employed would generally be surgery, yet some cases, particularly those in which the fluid in the joint was not purulent,

made good recoveries under simple aspiration. Two such cases were reported by Dr. Herrick, in one of which, where there had been an involvement of the elbow joint, the fluid withdrawn by aspiration was distinctly purulent. A recovery had followed in both of these instances. He compared relatively the benign course of pneumococcic arthritis to the similar course in pneumococcic infection of the pleura.

Dr. George W. Webster said that he was called to see a physician who was very ill and thought he was going to have pneumonia. He had a temperature of 103; but there were no physical signs of consolidation in the lung. The only signs were that the post-nasal space was much inflamed, beefy red, and angry-looking in color, the inflammation extending down along one side of the throat and involving a portion of the soft palate. The patient complained of intense pain in the post-nasal space. There was no membrane present. The post-nasal space was carefully swabbed out, and the material from the swabbing was sent to different laboratories for a report. He suspected the possibility of diphtheria. Both laboratories reported to him the following day almost a pure culture of the pneumococcus. There was a distinct crisis on the sixth or seventh day, and from that time on recovery was uneventful.

Dr. Edward F. Wells expressed the opinion that what might be called the less severe or minor cases had probably been observed in a larger proportion of instances than the reports in current literature and text-books would lead the profession to suspect. His own experience was limited to two cases. One was observed about twenty years ago, before bacteriologic examinations were made. The case was that of a child, 6 years of age, who had a sharp pneumonia followed by a left-sided empyema, which was opened, and followed subsequently by arthritis involving the left ankle joint. The inflammation ran an acute course; suppuration ensued; fluctuation was marked, and the joint was opened in two places, the front and rear, and through drainage instituted. The discharge was a thick creamy pus. His impression at the time was that the joint was completely disorganized, and that what he was doing was probably useless, and that amputation would be necessary later. However, it was thoroughly washed out, and within a week's time the purulent character of the discharge had given place to a serous discharge. The drain was removed and in a short time the openings healed, the patient recovered with good motion of the joint.

The second case occurred some three or four years ago; the sterno-clavicular joint was involved, symptoms appearing two or three days after crisis, which occurred at about the end of a week of the pneumonia, involving the lower lobe of the left lung. The left sterno-clavicular articulation was inflamed acutely; fluctuation developed within 48 hours, and a small opening was made. A thick creamy pus was discharged, smears from which showed the diplococcus of pneumonia. The sac was washed out with sterilized water; a thin serum exuded on two or three occasions; when the dressings were removed, no further trouble ensued, and healing occurred promptly. He was under the impression that it was a more frequent complication than Dr. Herrick thought.

Dr. Robert B. Preble said it would seem that the occurrence of these complications must be much more common than the statistics would seem to indicate, when one considered that a dozen or more cases could be reported by so small an audience. He drew attention to some other arthritic manifestations which were seen with pneumonia and which were not due to infection. Those which he had seen had been of two sorts, namely, those which preceded the pneumonia, and those which followed it. He saw last winter a man between 50 and 60 years of age who, about forty-eight hours before he saw him, was seized with what was called acute articular rheumatism by the attending physician. This physician detected dulness in the chest, which he interpreted as pericarditis with effusion. When Dr. Preble saw the man he was able to demonstrate that the area in the chest was not due to pericarditis, but to consolidation of the left upper lobe. The joint manifestations sank into insignificance. The patient went through an ordinary course of severe pneumonia. Recently he had seen another case of the same sort, where a patient entered the hospital, came to the examining room, and a diagnosis of acute articular rheumatism had been made; but there were arthritic manifestations preceding those of pneumonia.

A second class of cases were post-pneumonia arthralgias. Patient would usually have some pain in joints, but without any demonstrable changes, and the pain continued for a short time and then disappeared. His idea had been that these manifestations were perhaps toxic rather than actual infective manifestations. Of course, it was possible they were infections in which the effusion was so small as to escape detection, and in some of these cases the process terminated favorably in a short time.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Scarlet Fever.

The following outline of treatment to be employed in scarlet fever is recommended by W. W. Robertson, of McComb, Miss., in an article in *Pediatrics*. The patient should be properly isolated in a room spare of furniture such as carpets, rugs, etc. The fever must be combated when it reaches 103, by cool sponging, and when higher, with meningeal symptoms, the cold pack or tubbing may be employed. The bath should not be as cold as that employed in typhoid fever. The warm bath at 90 allays the irritation of the skin also, but inunctions of sweet oil or cold cream serve as well to allay the irritation and are necessary as soon as desquamation takes place, to prevent the scales from spreading contagion. An ice cap to the head is very important, especially if the temperature is high and there are cerebral symptoms present. Cool applications are positively non-indicated in the absence of fever, as they increase the tendency to otitis media and to renal complications. Elimination must be promoted by the kidneys and bowels. The officinal solution of potassium citrate or ammonium acetate combined with spirits of nitrous ether with a little flavoring syrup is useful. The constipation must be relieved.

If local measures to the throat are necessary, peroxid of hydrogen (1 to 3), or a solution of bichlorid of mercury (1 to 5000), or a carbolic spray (1 to 50 or 60) may be employed. The peroxid of hydrogen solution is preferred. He favors the application of a bandage to the throat, with pockets opposite the tonsils, into which pieces of ice are placed and the whole covered with a towel; or a small India-rubber ice-bag may be used similarly. The proper treatment of the throat saves the ear; but should the middle ear become involved, the membrana tympani must be watched; if its tension is extreme perforation should be performed, even more than once if necessary. The prophylaxis against nephritis should be most careful, and draughts of air guarded against.

Enuresis in Children.

In an article in *Pediatrics*, it is stated that the average general practitioner who gives to every patient a few drops of tinctura belladonnæ for the relief of enuresis, as a rule, derives poor results. The most important thing in the treatment of enuresis is the improvement in the child's general condition by exercise, diet and, above all, daily cold bathing. This alone will sometimes produce a cure. Such children should not drink any water after supper and but one glass of water at supper. If phimosis, balanitis or preputial adhesions exist, they should be treated, but where circumcision is not indicated, enuresis will persist after the operation. The drug most frequently employed is atropin, often better combined with strychnin, in increasing doses until symptoms of poisoning appear; then the dose should be gradually decreased, and increased again if enuresis recurs. This method of treatment

rarely fails. Where the urine is highly acid, salol and boric acid have rapidly produced recovery. The child must be trained through the day to control the sphincter of the bladder; this must not be forgotten. Punishment is useless; while very neurotic children will need rest and absolute freedom from all excitement.

The Drug Treatment of Neurasthenia.

Dr. Daniel R. Brower, in an article in the *Internat. Med. Mag.*, states that neurasthenia is an autotoxic and exhaustional neurosis, and therefore requires, first eliminants. To promote elimination by the bowel he recommends the following:

℞.	Extracti aloes	gr. viii	52
	Extracti taraxici	gr. xvi	1|06
	Pulv. ipecacuanhæ	gr. i	06
	Ext. hyoscyami	gr. viii	52

M. Ft. capsulæ No. viii. Sig.: One at bedtime for the bowels.

He states that the dose of each of the foregoing ingredients should be regulated to suit the patient. According to his experience this pill acts as a stomachic tonic, a mild diuretic and as a laxative. In addition to this pill he recommends colonic flushings once or twice a week, using the high normal saline injection.

To increase the renal elimination the following is advised by him:

℞.	Potassii citratis	ʒv	18|75
	Ext. adonis vern. flu.	ʒss	1|90
	Aq. aurantii	℥iv	124|00

M. Sig.: One teaspoonful before each meal in hot water.

The exhaustional part of neurasthenia must be treated with alteratives and tonics. The following alterative is considered by him to be the most efficient:

℞.	Auri et sodii chloridi	gr. ii	13
	Pulv. resinæ guaiaci	gr. C.	6|50

M. Ft. capsulæ No. xx. Sig.: One capsule one-half hour before each meal.

He insists upon repeated examinations of the blood in every case in order that the iron may be intelligently administered or withheld. He regards Blaud's mass freshly prepared as the best form, prescribed as follows:

℞.	Ferri sulph.	gr. xl	2|66
	Sodii carb.	gr. xl	2|66
	Ext. nucis vom.	gr. iii	18
	Sodii arsenatis	gr. i	06

M. Ft. cap. No. xx. Sig.: One capsule after each meal.

The author believes that nux vomica and its alkaloids do harm when given in large doses in the treatment of neurasthenia. When the hemoglobin has increased so that the administration of iron is no longer necessary, he recommends the use of phosphorus in the form of zinci phosphidum gr. 1/10 (.006), or calcii glycerophosphas gr. v (30), or syrupus hypophosphiti U. S. P. ʒi (3.75), to be given after meals.

For the nervous system as a sedative, the following is given:

℞.	Sodii bromidi	ʒvi	22|50
	Essentiæ pepsini q. s. ad	℥iii	93

M. Sig.: One teaspoonful in water as necessary.

He advises against the continuous use of nerve sedatives on account of the danger of inducing the drug habit. The insomnia, which is a stubborn symptom, should be combated without the use of drugs if possible; otherwise, the following combination containing chloral and sodium bromid may be used:

℞.	Chloralis hydratis	ʒiv	15|00
	Sodii bromidi	ʒiv	15
	Ext. glycyrrhizæ flu.	ʒii	7|50
	Aquæ q. s. ad	℥ii	62

M. Sig.: One teaspoonful in water at bedtime and repeat in one hour if necessary.

Acute Bright's Disease.

Acute Bright's disease is recognized and encountered by the general practitioner at the present time more often than formerly. It is a severe condition which may arise after a "cold," scarlet fever and in a milder form following la grippe and severe toxemia arising from auto-intoxication. According to *Merck's Archives*, if these acute attacks are properly treated the mortality should be nil and should never be followed by chronic nephritis. In the management of these cases the temperature of the room should be uniform, ranging between 74 and 78 F. It should be ventilated and great care must be taken to avoid draughts or the chilling of the patient. The diet should be milk in some form and plenty of water. The renal congestion must be relieved and elimination by the kidneys increased. If this can not be accomplished other channels must be induced to do greater work. Counter-irritation over the kidneys may be obtained by the application of the following ointment:

℞.	Chloralis hydratis	ʒi	3|75
	Spts. Camphoræ	ʒi	3|75
	Olei terebinthinæ	ʒii	7|50
	Olei sinapis vol.	gtt. x	66
	Pulv. capsici	ʒii	7|50
	Petrolati	℥ii	60

M. Sig.: Apply with friction over the region of the kidneys every three to six hours; or as a poultice for the same purpose:

℞.	Lini contusi (ground flaxseed)	℥xvi	480
	Pulv. sinapis migræ	℥ii	60
	Pulv. digitalis (leaves)	℥iv	120
	Pulv. jaborandi (leaves)	℥iv	120

M. Ft. poultice. Sig.: Apply locally over the kidneys.

Internally as a diuretic and diaphoretic the following:

℞.	Infusi digitalis	℥iii	93
	Pot. bitartratis	℥i	31
	Spts. nitrosi etheris	℥i	31
	Spts. glonoini	m. xvi	1|00
	Sol. ammon. acet.	℥iii	93
	Syr. idæi q. s. ad	℥viii	248

M. Sig.: Shake; one tablespoonful every two to four hours, according to indications.

As a diuretic and cathartic:

℞.	Hydrarg. chloridi mitis	gr. i	06
	Pulv. scillæ	gr. i	06
	Pulv. digitalis	gr. i	06

M. Ft. pil. No. i. Sig.: One such pill three times a day.

This pill may be followed after a due length of time, by a saline cathartic such as magnesium sulphate.

Medicolegal.

Difference in Malpractice Case on Second Trial.—The first question to confront the Supreme Court of Wisconsin, on the second appearance before it of the malpractice case of Kiekhoefer vs. Hidershide, was whether or not, upon the second trial, there was new evidence with reference to the treatment of the wrist of the party suing, so as to take the case out of the rule that the decision on the former appeal was *res adjudicata*, or conclusive, at all future stages of the case. Upon the former trial it was testified by the physician sued and another one that the fragments of the broken radius were brought into apposition, and so retained until they healed, save for a very slight displacement whereby the lower fragment had a dorsal protrusion of about one-eighth of an inch above the upper fragment, and an inward projection of about one-sixteenth of an inch toward the ulna. This testimony was then undisputed, the only other evidence on the subject being that of a third physician that he found "some displacement," and that he also found something of the malformation of the wrist characteristic of the Colles fracture, known as the "silver-fork" or "bayonet" deformity. It was also proved, practically without dispute, that it was consistent with due skill and care to allow the fracture to heal with no more displacement than this, rather than rebreak the bones to place them in perfect apposition. But, upon the second trial, the third physician referred to testified that, in his opinion, formed at the time of examination, the backward displacement of the lower fragment was a half an inch, so that the ends of the fragments were practically not in apposition at all, merely the lower or front edge of one fragment touching or overriding the upper or backward edge of the other fragment; and, that he was still of that opinion, although the

bones were so grown into a mass of callus that it was impossible to distinguish bones from callus, or to tell their exact position. He also testified, with enough definiteness to distinguish it from his former testimony, that the silver-fork deformity of the wrist was "marked," and that it could be due only to displacement of the bones, while a new witness, called for the defense, testified that from such displacement as that described by the physician sued the deformity could not be "pronounced." Under these circumstances, in affirming a judgment for $1200 damages, the Supreme Court holds that this evidence, produced for the first time on the second trial, of an amount of displacement greater than that testified to by the physician sued, albeit only an opinion, was sufficient to carry to the jury the question, not in dispute upon the former trial, whether his statement of the amount of displacement which he allowed to heal up was true, and that, therefore, the court was not precluded by its former decision from considering whether there was presented a jury issue as to his negligence, in treating the fracture, nor as to the effect of such negligence in producing the whole or any part of the ultimate injury to the patient's wrist.

Insufficient Allegation of Qualification.—The Supreme Court of Kansas holds, in the case of Westbrook vs. Nelson, that an allegation in a bill of particulars filed for the purpose of recovering an account for medical and surgical services performed, which alleges "that plaintiff is a physician and surgeon duly entitled to practice medicine and surgery under the laws of the state of Kansas," is not a sufficient allegation of qualification and authority under the law to engage in the practice and recover compensation for services performed months before the commencement of the action in which such pleading is filed. For this reason, the court, in this case, reverses a judgment obtained by a physician, holding that error was committed in overruling an objection to the introduction of evidence under the pleadings. It says that it was essential to a recovery by the physician that at the time of performing the services he possessed the requisite qualifications prescribed by statute. The act expressly so declares. That such qualification may be shown, it must be pleaded. Had the pleadings alleged qualification and authority to engage in the practice of medicine and surgery at the time of performance of the services, and no issue thereon had been joined by proper denial, the allegation of authority would have required no evidence in its support. The fact of proper authority and qualification under the law would have stood admitted. In the light of the authorities, it must be held the allegation of qualification at the time of filing the pleading found in the pleading in this case, was not a sufficient allegation of authority to admit of proof of proper qualification to follow the profession at the time the services were alleged to have been performed, months prior to the filing of such pleading.

Agency of Medical Examiner.—The Court of Appeals of New York says that the decision of the case of Sternaman vs. the Metropolitan Life Insurance Company turned substantially upon the following question: When an applicant for life insurance makes truthful answers to all questions asked by the medical examiner, who fails to record them as given, and omits an important part, stating that it is unimportant, can the beneficiary show the answers actually given, in order to defeat a forfeiture claimed by the insurer on account of the falsity of the answers as recorded, even if it was agreed in the application that the medical examiner, employed and paid by the insurer only, should not be its agent, but solely the agent of the insured? This question the court answers in the affirmative. It thinks that it is well established by the weight of authority in that state that the medical examiner is the agent of the insurer in making the examination, taking down the answers, and reporting them to the company; that his knowledge thus acquired, his interpretation of the answers given, and his errors in recording them, are the knowledge, interpretation, and errors of the company itself, which is precluded from taking advantage of what it thus knew and what it had thus done when it issued the policy and accepted the premiums. Referring to this case, it says that the insured had nothing to do with the medical examiner, except to submit to an examination by him, as the expert of the company, and to answer the questions asked by him in behalf of the company. This he was forced to do in order to procure insurance; for the company required him to undergo a medical examination by an examiner selected and instructed by it, before it would act upon his application for a policy. He could neither refuse to be examined, nor select the examiner, and he was not responsible if the latter was negligent or unfit for the duty assigned to him. He could not direct or control him, but the company could and did; for it required him to make the examination, fill out a blank furnished for his use, and report the facts with his opinion. The insured made no contract with the examiner, and was under no obligation to pay him for his services. The company, however, made a contract with him to do certain work for it, and agreed to pay him for the work when done. As between the examiner and the insured, the relation of principal and agent did not exist, while, as between the examiner and the company, that relation did exist by operation of law. Under the circumstances, an agreement that the physician was the agent of the insured was like an agreement that the company or its president was his agent. It was in contradiction of every act of the parties and of every fact known to either. The law, when applied to the facts, made the physician the agent of the company, and not of the insured; and it could not be held that, as the insured agreed that the physician was his agent, he became such in spite of the law and the facts. While the contract between the physician and the company was still in existence, the latter agreed with a third party only that that contract did not in fact exist between the two parties who made it, but did exist between two parties who did not make it. This was not possible by any form of words, any more than to make black white, or truth falsehood.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal, March 22.

1 *The Use of Methylene Blue as a Sedative. D. E. Hughes and Elizabeth Lovelace.
2 *The Implantation of the Tubercle Bacillus. Lawrence F. Flick.
3 *The Various Methods of Vaccination and Their Results with a Suggestion as to Best Methods. F. M. Wood.
4 *Finger Amputations. H. C. Deaver.
5 The Young Physician. Emil Amberg.

American Medicine (Philadelphia) March 22.

6 *On the Diagnosis of Bilateral Cystic Kidney. William Osler.
7 *Skin Eruptions in Malaria, with the Report of a Case of Urticaria. David Riesman.
8 *A Simple Exploratory Laparotomy as a Palliative and Perhaps Curative Measure in Inoperable Carcinoma of the Breast. Preliminary Report of a Case. Eugene R. Corson.
9 *Some New Facts in the Chemistry of the Stomach, with Special Reference to the Quantitative and Qualitative Analysis of Organic Acids in the Stomach. Mark I. Knapp.
10 Respiratory Gymnastics; Methods. Albert Abrams.
11 Pneumogalactocele of Breast, with an Unidentified Organism. J. Milton Mabbott.

Medical Record (N. Y.), March 22.

12 *Are Vessels Infected with Yellow Fever? Some Personal Observations. Henry R. Carter.
13 Pathology of Appendicitis, with Special Reference to Foreign Bodies in the Appendix. J. Coplin Stinson.
14 *The Disadvantages of Gauze Packing in Appendicitis Work. Robert T. Morris.
15 A Plea for Specific Plans of Treatment Other Than by Single Drugs. Louis F. Bishop.
16 *What Is Chronic Rheumatism? Edwin M. Merrins.
17 A Simple Test for Equilibrity of Eye Muscles in Binocular Vision. Frederick C. Riley.
18 Static Wrinkles. Henry G. Piffard.

Cincinnati Lancet-Clinic, March 22.

19 Matter and Mind, Body and Soul. C. J. Funck.
20 The New-born Infant. N. I. Fraid.

Boston Medical and Surgical Journal, March 20.

21 *Osteo-arthritis of the Spine; Spondylitis Deformans. Joel E. Goldthwait.
22 *Privileged Medical Communications: A Rejoinder. David W. Cheever.
23 *Cases of Extra-uterine Pregnancy Illustrating Difficulties in the Diagnosis of the Condition. Edward Reynolds.
24 Case of Combined Extra- and Intra-uterine Pregnancy. H. P. Perkins.

25 Acute Lymphemia with Estivo-autumnal Malaria. Philip King Brown.

St. Louis Medical Review, March 15.

26 The Fate of the Unoperated Cases of Appendicitis. Herman E. Pearse.

March 22.

27 Ear Complications and Sequelæ of Influenza. M. A. Goldstein.
28 Ophthalmoscopic Examinations in Nephritis. Meyer Wiener.

New York Medical Journal, March 22.

29 *Epignathus. Charles Jewett.
30 A Skiagraphic Study and Researches in the Direction of Obtaining Pictures Which Are Both Shadow and Substance of Bone, Muscle and Ligaments. J. Rudis-Jicinsky.
31 *Remarks Concerning the Practice of Aseptic Surgery. Charles McBurney.
32 *Tuberculous Joint Disease. H. Augustus Wilson.
33 Tripartition in the Study of the Female Pelvis. A. Ernest Gallant.

Medical News (N. Y.), March 22.

34 *Malnutrition as Shown in Congenital Syphilis. Charles G. Kerley.
35 The Necessity for Sanitary Safeguards on the Central American Canals. George A. Soper.
36 *A Report on the Use of Antiphthisis Serum T.R. Earl S. Bullock.
37 *Simple Traumatic Synovitis of the Knee. William S. Thomas.
38 *The Therapeutics of Cutaneous Diseases. Albert E. Carrier.

Medical Fortnightly (St. Louis), March 10.

39 The Present Status of Antitoxin in the Treatment of Diphtheria. Frank Parsons Norbury.
40 Diseases of the Stomach. (Continued.) J. M. G. Carter.

Medical Age (Detroit, Mich.), March 10.

41 Surgical Notes in Cairo, Egypt—Stone in the Bladder, Hematuria, Chyluria, etc. Hal C. Wyman.
42 *Mechanical Asepsis. B. F. Ward.

Northwestern Lancet (Minneapolis), March 15.

43 *Acute Endocarditis. James B. Herrick.
44 *Stricture of the Rectum in Women Due to Inflammatory Processes in the Pelvis. J. L. Rothrock.
45 *One Year's Clinical Observation on the Surgery of the Gall-Bladder. A. J. Ochsner.

Annals of Gynecology and Pediatry (Boston), March.

46 The Diagnosis of Carcinoma of the Corpus and Cervix Uteri. Charles Greene Cumston.
47 The Health Conditions at Nome. F. A. Pillsbury.

Oklahoma Medical News-Journal (Oklahoma City), February.

48 Military Surgery from the Standpoint of an American Surgeon, Who Served with Both Boer and British Armies, in South Africa, During the Spring, Summer and Fall of 1900. R. D. Long.
49 Spina Bifida—Operation—Report of Case. M. A. Kelso.
50 Imperfect Eye Muscles and Errors of Refraction as a Cause of Functional Nervous Disease. Wm. Tanner.
51 Treatment of Influenza. W. E. Dicken.
52 An Unusual Labor Case. Walter G. Bradford.
53 Report of Cases (Vaginal Hysterectomy, etc.). J. B. Rolater.

Journal of Nervous and Mental Diseases (Nyack, N. Y.), March.

54 *Hereditary Cerebellar Ataxia, with Report of a Case. Hugh T. Patrick.
55 Association of Hysteria with Insanity. F. Savary Pearce.

Denver Medical Times, March.

56 *My First Abdominal Section. Thad. A. Reamy.
57 Notes on Menstruation. Byron Robinson.
58 The Doctor, Druggist and the Drug Manufacturer. A. S. Condon.
59 *Carcinoma of the Breast. D. A. Richardson.
60 The Diagnostic Value of Macroscopic Examination of Feces. C. D. Spivak.
61 *Conservative Surgery of the Ovary and Tubes. W. W. Grant.

The Post-Graduate (N. Y.), March.

62 Salpingitis. James N. West.
63 The Drug Treatment of Catarrh. Henry B. Douglass.

Journal of Eye, Ear and Throat Diseases (Baltimore), January-February.

64 Two Cases of Unilateral Deafness, Due to Suppuration of Accessory Nasal Sinuses, Cured by Operation. J. Frank Crouch.
65 Astigmatism with the Rule After Cataract Extraction. F. M. Chisolm.

American Journal of Insanity (Baltimore), January.

66 *The Trial, Execution, Autopsy and Mental Status of Leon F. Czolgosz, Alias Fred Nieman, the Assassin of President McKinley. Carlos F. MacDonald and Edward A. Spitzka.
67 *Twentieth Century Methods of Provision for Insane. Frederick Peterson.
68 New York Conference of Charities, November 20 to 23, 1901. Report of Committee on the Mentally Defective.
69 Recent Advances in Psychiatry and Their Relation to Internal Medicine. Stewart Paton.
70 *Hallucinations and Illusions. George T. Tuttle.
71 *Notes on the Hebrew Insane. Frank G. Hyde.
72 *Traumatic Encephalitis. Henry P. Frost.
73 A Review of the Pathologic Work Done in the Hospital for the Insane at Independence, Iowa. Gershom H. Hill.
74 *The Pathology of Insanity. Louis C. Pettit.
75 *A Case of Idiopathic Internal Unilateral Hydrocephalus with Recurrent Hemiplegic Attacks. William C. White.

Medical Bulletin (Philadelphia), March.

76 Nursing in Diseases of the Skin. E. S. Gans.
77 Psoriasis—Ichthyosis. John V. Shoemaker.
78 One Thousand Ophthalmic Operations. (Continued.) L. Webster Fox.
79 A Case of Otorrhea in the Course of Typhoid Fever. A. Raoult and Specker.

Kansas City Medical Journal, March.

80 Medicine a Science. Joe Clements.
81 Tuberculosis Relative to the Home and Herd. L. W. Shannon.

Southern Medical Journal (La Grange, N. C.), March.

82 Toxemia of Pregnancy. W. W. McKenzie.
83 Therapy of Chronic Bronchitis. J. W. P. Smithwick.
84 Can Pneumonia Be Aborted? A Clinical Demonstration. J. W. P. Smithwick.
85 The Treatment of Severe Burns. Allan Staples.

Chicago Medical Recorder, March 15.

86 *Some Defects of Speech of Peripheral Origin. William L. Ballenger.
87 *Splenectomy in Splenic Anemia or Primary Splenomegaly. Malcolm L. Harris and Maximilian Herzog.
88 Notes on Pessary Therapy. Gustave Kolischer.
89 Management of the Umbilical Cord. C. S. Bacon.

Medical Sentinel (Portland, Ore.), February.

90 Address, Idaho State Medical Society. Joseph R. Numbers.
91 Natural and Artificial Feeding of Healthy Infants. Amelia Zeigler.
92 Neurasthenia. Robert L. Gillespie.

The Canada Lancet (Toronto), March.

93 A Case of Fusiform Dilatation of the Esophagus without Intrinsic Stenosis; Case of Esophagotomy for Foreign Body; Recovery. George A. Peters.
94 A Case of Graves' Disease Treated by Thyroidectomy. J. T. Fotheringham and George A. Bingham.
95 A Case of Perforation of the Bowel in Typhoid; Operation; Recovery; Followed by Subphrenic Abscess; Operation; Recovery. Herbert A. Bruce.
96 The Value of General Reading to the Young Practitioner. H. S. Hutchison.
97 Recurrent Gastritis—Gastro-enterostomy. Ernest Hall.
98 A Case of Otalgia. B. F. Butler.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), March.

99 *Remarks upon the Microbacillus of Seborrhea (Sabouraud)—Preliminary Report on an Examination of the Sebaceous Glands of the Nose. Jay F. Schamberg.
100 *Relative Impotency Due to Chronic Urethritis of the Posterior Urethra. Louis E. Schmidt.
101 *New Tissue Formation in the Urethra, Its Early Detection and Permanent Obliteration. J. Henry Dowd.
102 A Case of Initial Lesion of Syphilis at the Heel. A. T. Buchler.

Cleveland Medical Journal, January.

103 The Medical Aspects of Septicemia. F. Forchheimer.
104 Hedonal as a Hypnotic. G. A. Budd.
105 A Specimen of Diphtheric Membrane, with Remarks. Samuel W. Kelley.
106 An Interesting Case of Tubo-Abdominal Pregnancy. William H. Humiston.
107 An Atypical Acid- and Alcohol-Proof Fungus from the Sputum of a Case Clinically Resembling Pulmonary Tuberculosis. A. P. Ohlmacher.
108 Quinin Poisoning. Harold T. Clapp.
109 Anesthesia During Sleep. N. Stone Scott.
110 A Case of Cyst of the Pancreas. Carl A. Hamann.
111 Report of a Case of Amniotic Band Causing Amputation of a Finger. Hunter H. Powell.

Archives of Pediatrics (N. Y.), March.

112 A Case of Congenital Heart Disease. Edwin E. Graham. With Report of Autopsy. Randle C. Rosenberger.
113 Monster per Defectum. A. C. Cotton.
114 Pulmonary Gangrene. Francis Huber.
115 Pulmonary Gangrene in an Infant. Walter Lester Carr.
116 A Case of Very Persistent Laryngeal Stenosis. J. P. Crozer Griffith.
117 A Case of Congenital Hepatic Cirrhosis, with Obliteration of the Bile Ducts. Martha Wollstein.
118 Report of a Case of Tetany. Alexander McAlister.

Quarterly Journal of Inebriety (Hartford, Conn.), January.

119 *The Relation of Alcohol to Living Nature. Winfield S. Hall.
120 The Study of Inebriety, and Its Proper Prosecution. P. C. Remondino.
121 Pathologic Inebriety. Karl Heilbronner.
122 *A History of Text-Book Teachings of Alcohol and Narcotics in Common Schools. T. D. Crothers.
123 Cigarette Inebriety. J. M. French.

Proceedings of the Pathological Society of Philadelphia, February.

124 Microchemic Reactions of Tube-casts. W. M. L. Coplin.
125 A Case of Hyperplastic Tuberculosis of the Mediastinal Lymph Glands, with Ulceration Into the Esophagus, the Left Bronchus, and the Pulmonary Artery. J. A. Scott.
126 Cancer of the Head of the Pancreas, with Gallstones. M. H. Fussell.

127 Autopsy Findings in a Case of Leprosy. Jay F. Schamberg.
128 A Case of Bothriocephalus Latus. Joseph McFarland.

New Yorker Medicinische Monatsschrift, February.

129 *Phlegmone der Orbita in ihrer Beziehung zu der Frage der sympathischen Ophthalmie. Albert B. Hale.
130 Ueber ein einfaches Verfahren zur Herstellung von Microphotogrammen. H. Kreuder.
131 Ein Beitrag zur Lehre von der Vererbung. Ad. Cohn.

Journal of Medical Research (Boston), March.

132 Notes on the Absorption and Incrustation of Elastic Fibers in Giant Cells. Ludvig Hektoen.
133 Cholesterin Giant-Cells. E. R. LeCount.
134 On the Leucocytes of the Circulating Blood of the Rabbit. Walter R. Brinkerhoff and E. E. Tyzzer.
135 On Physiologic Leucocytosis of the Rabbit. Walter R. Brinckerhoff and E. E. Tyzzer.
136 "Hanging Block" Preparations for the Microscopic Observation of Developing Bacteria. Hibbert W. Hill.
137 A New Sporozoan Parasite of Anopheles. Herbert P. Johnson.
138 Streptococcus Mucosus (Howard) and Its Relation to Micrococcus Lanceolatus. Warfield L. Longcope.
139 A Case of Thrombosis of the Central Vein of the Right Adrenal, with Engorgement and Necrosis (Infarction). Paul G. Woolley.

New York State Journal of Medicine (N. Y.), March.

140 *The Surgical Aspects of Diabetes. Arpad G. Gerster.
141 *The Management of Normal Labor. Bernard Cohen.
142 *Conservative Surgery for Tuberculosis of Lymphatic Glands of the Neck. Parker Syms.
143 A Silver City with a Golden Gate. Earl S. Bullock.
144 *What Percentage of Gouty and Rheumatic Patients Develop Fatal Pulmonary Phthisis? Thomas F. Reilly.
145 Cardiac Manifestations of Arteriosclerosis. De Lancey Rochester.

Columbus Medical Journal, February.

146 Surgery of the Biliary Passages. Charles S. Hamilton.
147 External and Internal Urethrotomy. Thomas G. Youmans.
148 A Study of 125 Operations for Cataract, with Special Reference to Results in Complicated Cases and Aged Persons. Theodore F. Bliss.
149 Requirements for Entrance to Ohio Medical Colleges. Charles E. Albright.
150 The Treatment of Tuberculosis of Bone. Frank Warner.

Atlanta Journal-Record of Medicine, March.

151 Consumption—Its Relation to the General Public. J. Lawton Hiers.
152 Practical Results from Examination of the Stomach Contents. E. Guy Hopkins.
153 Tuberculosis—Its Origin and Dissemination. James N. Brawner.
154 Spina Bifida, with Report of Cases. J. R. Garner.
155 Our New Problem—An Old Idea Enlarged Upon. F. S. Key Smith.

Medical Sentinel (Portland, Me.), March.

156 Cesarean Section, with Report of Two Cases. W. Gilbert Cole.
157 *Cesarean Section. T. C. Humphrey.
158 The Failure of Medical Practice Acts. C. S. Moody.
159 Jacksonian Epilepsy—Operation. Frank W. Hall.

New England Medical Monthly (Danbury, Conn.), March.

160 Autobiography of the Late J. Milner Fothergill, M.D., London, Eng. (Continued.)
161 The Influence of the Appetite in Digestion. Geo. A. Gilbert.
162 Some Obstinate Bladder Cases. George W. Hopkins.
163 A Case of Cystitis of Long Standing, Complicated by Chronic Malaria, Together with Sluggish Liver and Habitual Constipation. J. W. Walker.
164 Anemia and Its Treatment. Deering J. Roberts.
165 Cod-Liver Oil, and What It Can Do for Our Neuropathies. Henry Y. Ostrander.
166 Beta-eucain Acetate, a New Form of Eucain. Paul Cohn.

Georgia Journal of Medicine and Surgery (Savannah, Ga.), February.

167 A Brief Review of the Subject of Tuberculosis—What Are We to Do About It? T. E. Oertel.
168 A Brief Sketch of the Evolution of Gynecology and Its Present Perfected Status. William D. Haggard.
169 Gunshot and Stab Wounds of the Stomach. Randolph Winslow.
170 Movable Kidney, and Its Treatment Through Lumbo-abdominal Incision. A. M. Cartledge.

Proceedings of the New York Pathological Society, December-January.

171 Observations of the Iso-Agglutinating Action of Human Serum. C. A. Herter.
172 A Case of Phlegmonous Gastritis. George P. Biggs.
173 A Study of a Case of Dermatitis Exfoliativa. A. E. Thayer.
174 Biliary and Pancreatic Stasis Due to Atresia of the Papilla. A. E. Thayer.
175 Syphilitic Stenosis of the Bronchi. George Biggs.
176 Dissecting Aneurysm of the Arch of the Aorta. E. L. Dow.
177 A New Animal Holder. Robert J. Wilson.
178 Specimen Showing Result of a Gastro-enterostomy for Carcinoma of the Pylorus. A. E. Thayer.
179 A Case of Thrombosis of the Pulmonary Artery. L. T. Lewald.
180 Report of a Case of Pernicious Malarial Fever. Charles Bolduan.
181 The Value of the Differential Count in the Diagnosis of Blood. O. S. Wightman.
182 A Case of Cutaneous Pigmentation with Lesions in the Adrenal Glands. Harlow Brooks.
183 Primary Pigmented Sarcoma of the Fourth Ventricle of the Brain. J. H. Larkin.
184 Mesenteric Abscesses with Secondary Thrombosis of the Mesenteric and Portal Veins. E. Libman.
185 Dermoid Cyst of the Ovary with Carcinomatous Changes. F. C. Wood.
186 Multilocular Echinococcus Cysts of the Liver. L. T. Lewald.

---

1. **Methylene Blue as a Sedative.**—Following the suggestions of Bodoni, who found that this drug seemed to have a marked sedative effect in nephritis, Hughes and Lovelace have experimented with it in over twenty cases of wild excitement and in only six was there failure to calm. The other patients were relieved without experiencing dulness or hebetude. The effect was noticed three to four hours after the dose was given and lasted from fifteen to twenty hours. No sleep was produced in the day time, but the patients slept well at night and no depression resulted at any time, with the exception of one case, in which it was mild. There were no derangements of the gastro-intestinal canal.

2. **Tuberculosis.**—Flick holds that the primary production of tuberculous germs is not directly in the lungs, but that: 1. The seed supply for new implantations of tuberculosis is derived, almost entirely, from human sources, especially the sputum of consumptives. 2. Seed supply for new implantations of tuberculosis can be derived from animal sources. 3. The tubercle bacillus enters a host through the lymphatic system in the alimentary canal, the respiratory tract and the skin. 4. The forces which convey the tubercle bacillus to its place of destination within a host are the lymph current and the blood current. 5. The place of deposit is no indication of the port of entry of the tubercle bacillus except when deposit has taken place in the bronchial lymphatic glands or in the mesenteric lymphatic glands. 6. Interference with the circulation of a part, whether by traumatism, inflammation or vasomotor disturbance, prepares the part for tubercular deposit. 7. Germination and colonization do not always follow tubercular deposit.

3. **Vaccination.**—Wood believes the method of scarifying for vaccination is bad. The proper way is to make one single scratch with a sterilized cambric needle, which can be readily sterilized by passing through a flame. The best dressing is a small piece of dry sterile gauze fastened by means of a plain bandage, pinned to the undershirt from the outside with a safety pin, or fastened to the arm by a piece of non-irritating adhesive plaster. This ensures good ventilation, absorbs the secretion and keeps out foreign substances. The arm should be cleansed with alcohol or with soap and boiled water and rubbed a little to bring the blood to the surface. The arm is scratched just once, not to draw the blood, but simply to penetrate the cuticle and the virus is then applied and rubbed in well with the ivory point.

4. **Finger Amputations.**—The methods of performing finger amputations are noticed by Deaver, who describes the method as follows: "When amputating near the distal joint the operator should save, if possible, the base of the distal phalanx as the long flexor and extensor tendons are attached at this joint and their function is thereby preserved. In amputating at any point above the distal joint, the cut ends of the tendons should be stitched either to the periosteum or to the flap, thus preserving their function. Senn says, in amputating a finger below its base, the extensor tendon should be sutured to the flexor tendon over the articular end or sawn surface of the bone. This will prevent undue retraction of the flap and furnish the cut ends of the tendons with a permanent point of anchorage. The teaching has been to amputate the middle and ring fingers at the metacarpophalangeal articulation. The surgeon should save as much of these two fingers as possible, for by the above method of fastening the tendons the stumps of these fingers become useful; the inter-ossei muscles, too, are supposed to play a part in flexing these fingers. It is advisable to saw through the bone, instead of cutting with the forceps, as the latter procedure is liable to splinter the bone. Before

sawing through the bone the periosteum should be deflected in the form of a cuff; after the bone is divided the periosteum should be pulled down and sutured with fine catgut over the end of the bone. It is unnecessary to round off the edges of the bone as these are readily absorbed. The cut nerves should be drawn down as far as possible and cut high; this will prevent the nerve from being caught in the scar and causing the condition known as painful stump. The arteries should be left as long as possible and by twisting them sufficiently ligation may not be necessary. If an elastic constrictor has been used, this should be removed suddenly, the old notion that the elastic tube should be removed slowly, thus being apt to cause hemorrhage, is erroneous. Before closing the wound it should be thoroughly washed with hot saline solution and should be perfectly dry. Drainage should usually be introduced either in the shape of a small tube or a strip of gauze. The cut edges should be accurately approximated and stitched with silkworm gut; use as few stitches as are necessary to bring the flaps into apposition. By inserting too many stitches the part becomes constricted, the blood supply shut off, drainage is prevented and the tension causes pain. In the perfect stump the flaps are freely movable over the end of the bone. Always immobilize the stump by placing the hand on a splint; this is very essential to secure absolute rest. If for any reason the stump should become infected, remove the stitches and make free longitudinal incisions into the stump, if there is any swelling. In disarticulating the fingers at the metacarpophalangeal joint, the lateral flap method is perhaps the best. This is done by making two separate incisions, beginning about three-quarters of an inch above the head of the metacarpal bone and extending around to meet on the palmar aspect of the base of the first phalanx. In case it is necessary to remove the metacarpal bone, this can be done by extending the incision just described, up the dorsum of the metacarpal to the carpometacarpal joint. The operator should make the knife hug the bone as closely as possible to avoid cutting the palmar arch or other structures in the palm. The surgeon should be extremely conservative in operating on the thumb, as this is the most important finger on the hand. It is advisable to try excision on the bones of the thumb before resorting to amputation."

6. **Cystic Kidney.**—Osler reports two cases which illustrate very well the general features of cystic kidney. In one of these the diagnosis was easily made. He gives the following characteristic symptoms which were present in these cases: 1. Bilateral tumors were present in the flanks. The polycystic kidney is rarely unilateral. Of the 88 cases collected by Ritchie both kidneys were involved in all but two. In the 62 cases tabulated by Lejars only one was unilateral. The tumors are often unequal in size as in the two cases reported here. There was no difficulty in recognizing that the tumors were renal. The situation and mobility should at once raise suspicion. 2. The cardio-vascular changes of interstitial nephritis are very pronounced in one of these cases, there being dislocation of the apex beat to the left and accentuation of the aortic second sound. 3. The condition of urine was that of advanced interstitial nephritis, low specific gravity, trace of albumin, few red blood corpuscles and scanty tube casts. An interesting feature in the second case was the presence of cholesterin crystals. 4. Hematuria occurred in the second case in attacks for more than one year. This symptom may be associated with much pain. The reason Osler suggests for the failure to diagnose so many cases is that cardiac insufficiency and dyspnea mislead the physician and the kidney condition is neglected.

7. **Malarial Skin Disorders.**—Riesman reports a case and concludes his article with the following: 1. Skin eruptions are not rare in malarial infection. 2. The most frequent are herpes and urticaria. 3. Neither of these presents any specific characters. 4. Both may occur in any stage of the malarial paroxysm, although urticaria is most frequent in the febrile, and herpes in the sweating stage. 5. In obscure cases, herpes and urticaria, especially the former, may have considerable diagnostic value. 6. Three types of urticaria are recognizable: That accompanying the paroxysm, usually the febrile stage; that taking the place of the chill; and that substituting the entire paroxysm. 7. In their appearances, these three do not differ among themselves, nor from urticaria due to other causes. 8. In cases of urticaria of obscure etiology, the blood should be examined for plasmodia. Whether found or not, quinin is worthy of a trial.

8. **Laparotomy for Carcinoma.**—Corson reports a case of general carcinoma of the breast involving the skin of the entire chest, diagnosed microscopically. Laparotomy was performed and marked improvement followed. He suggests that the value of the Beatson method is not from the removal of the ovaries, but simply from opening the abdomen. He considers that the retrograde processes in his patient are probably greater than if he had removed the tubes and ovaries—as he started out to do—and disturbed the peritoneum more. Much injury to the peritoneum would probably divert the healing energy to this part and the benefit to the carcinoma would be less. The rapid relief of infiltrated tissues at the end of 48 hours points to the lymphatics, he says, as channels of escape. He asks: Does not the opening of the peritoneum, the great lymph sac of the body, and the introduction of air stimulate the great lymphatics of the abdomen and cause a current that carries everything along with it, exciting a similar current in the lymph of the tumor?

9. **Gastric Chemistry.**—The methods before described by Knapp have been recently tested, especially the easy method of detecting succinic acid, which, he says, is evidence of the presence of mold if it is of anything. He reviews his tests and confirmatory experiments saying: The general deduction to be made from these experiments, as bearing upon the chemic analysis of the chyme, is: Whenever the ether extract of the chyme shows a ring, yellow or reddish brown, organic acids are present. Lactic acid must never be assumed unless the chyme still gives a sulphur-yellow ring after the acidity of the chyme has been brought down to 20 by dilution with distilled water. When testing for lactic acid no alcohol must be added, as this in itself gives a yellow ring—this would, however, require a very strong or a large quantity of alcohol. As a test for free HCl to be used for volumetric analysis he has found the best to be a saturated solution of tropeolin OO, which is sufficient for chyme analysis. His method of procedure is as follows: To 5 c.c. of the filtered chyme, in a beaker, are added two drops of the saturated alcoholic solution of tropeolin OO, this is titrated in the ordinary way with the decinormal solution of caustic soda until the purplish-red color has entirely disappeared and the contents in the beaker have the appearance of an ordinary tea infusion, somewhat of an amber color. This is the end reaction for tropeolin. Now two drops are added of a .5 per cent. alcoholic solution of dimethylamidoazobenzol which turns the contents in the beaker red, in the presence of organic acids. The titration is further continued until the chyme turns a lemon color. Now two drops of a 1 per cent. alcoholic phenolphthalein solution are added and the titration resumed until the beaker contents turn red. The buret reading at the end of each titration is noted and the calculations are made accordingly. He claims this method has a great advantage over all methods in the short time required and its being an easy way of qualitative and quantitative estimation of organic acid. The first titration gives the quantity of free HCl, the second the possible quantity of organic acids. He has corroborated his claims for this test by different methods and holds that it is an excellent indicator for free HCl estimation not inferior to the more expensive Günzburg reagent. The reagent for acid phosphates used by him is ferricyanid obtained by ferric chlorid and ammonium sulfocyanid. Whenever the acid phosphates are present in chyme they react on the ferricyanid, and when the latter does not react there are no acid phosphates.

12. **Yellow Fever.**—Carter holds that yellow fever may be carried by vessels—only, however, by the carrying of infection-bearing mosquitoes. He sums up as follows: 1. Vessels aboard which yellow fever had been contracted, i. e., vessels infected with yellow fever, have not been rare, at least at southern quarantine stations. 2. Such vessels are much rarer since 1893 and are not very common now. 3. The diminution in the number of infected vessels reaching United States ports is due mainly

to the sanitary measures for avoiding exposure to infection in the foreign port and to the substitution of steam for sailing vessels. To some degree the falling off of the vessels from Brazilian ports is also a factor. 4. A case of yellow fever developing aboard a vessel plying between southern ports of the United States and the tropics will probably infect the vessel, so that other cases can, if time be given, be contracted aboard her. 5. Such vessels, however, if short-trip vessels, not more than ten or twelve days *en route* after the occurrence of the case of yellow fever, will in general be disinfected at southern quarantine stations before any other cases have been contracted abroad, although harboring infected mosquitoes. 6. That a case of yellow fever so occurring aboard a vessel from a northern port of the United States would be able to infect her or not according to whether she had acquired the mosquito stegomyia fasciata in the tropical port. 7. It is, in general, then, necessary to disinfect all vessels running between southern ports of the United States and tropical ports if a case of yellow fever occurs aboard, no matter where it be contracted; while vessels running between northern ports and the tropics may, through precautions in tropical harbors, have no stegomyia aboard, and are thus not infectable by cases of yellow fever occurring aboard. 8. Some vessels giving no history of yellow fever in port, *en route*, or on arrival—even when many days *en route*—are nevertheless infected and communicate the yellow fever to those who go aboard.

14. **Gauze Packing in Appendicitis.**—The dangers and inconveniences of gauze packing in appendicitis are described by Morris, who holds that it causes excessive exudation of reparative lymph which may result in peritoneal adhesions and may also cause ileus and bowel obstruction by simple mechanical pressure. Its use usually leaves a weak place in the abdominal wall and favors post-operative hernia. The worst feature of its use is that it acts as a foreign body, depressing the patient's general resistance and prolongs, if it does not cause, a condition of surgical shock. He does not mean to advise that it should be given up at once, but one should work towards the point of giving up gauze drainage as rapidly as experience shows it to be safe.

16. **Chronic Rheumatism.**—The theory of Merrins is that so-called chronic rheumatism is due to original infection and the term ought to be applied only to those rare cases where there is a clear or unbroken connection with the attack of acute rheumatic fever.

21. **Spondylitis Deformans.**—This condition is discussed at length in this second paper, the disease having been described in a former one presented in May, 1899, to the American Orthopedic Association. In this article he goes further into the symptoms and treatment and describes and illustrates cases. The prognosis is considered and is, on the whole, rather favorable under treatment if taken early. In a certain number of cases the disease is so mild that the muscles alone are able to protect the part, but without treatment in the majority of cases the disorder gradually extends under the continued irritation from motion until the patient is obliged to give up and go to bed. Under the imperfect rest, which this represents, the process gradually but slowly quiets down and the patient is about again, suffering only from a stiffness in the region involved. The possibility of relapse from the weak point left should be considered in the prognosis and the effect on the lungs due to the limitation of respiratory movements from ankylosis. Pulmonary tuberculosis has been seen to develop after the thoracic movement has been thus restricted.

22. **Privileged Medical Communications.**—Cheever's article is a reply to Nichols' paper published in the same journal of January 2, which defended the existing laws. Cheever holds that the physician's position before the courts is a false one in proportion to his sense of honor. He proposes the following modifications of the Massachusetts statute: It shall be considered unprofessional and improper for a physician to divulge anything confided to him by a patient, unless: 1, with the patient's consent; 2, to defend himself when accused; 3, to expose crime; 4, in all other cases such professional confidences shall be classed as "privileged communications." It shall be a question of honor whether the physician shall ever feel it his duty to repeat such a "privileged communication"; if he conscientiously declines, he shall be protected; if he conscientiously testifies, it shall be before the judge or referee only, in private; and no such revelation shall be published.

23. **Extra-Uterine Pregnancy.**—The cases reported by Reynolds illustrate the difficulties in diagnosis. In one case, while the patient suspected her condition, the symptoms were inconclusive; in another there were no signs of pregnancy whatever and no pain, but there was rectal tension accompanied by diarrhea due to mechanical irritation and a tumor was diagnosed. An extra-uterine pregnancy in the Douglas fossa was found. In the third case there were no symptoms of pregnancy except menstrual irregularity and sharp abdominal pain preceded by cramps and a gradual development of tumor. The condition proved to be an acute hydrosalpinx alongside of a small ovarian cyst. The other cases were similar, as regards the deceptiveness of symptoms described.

29. **Epignathus.**—Jewett reports a case of this rare anomaly of a twin monstrosity in which the parasite was united to the supra-maxillary bone. He describes the case and discusses the origin, supporting the belief of Bandler that the dermoid cyst and teratoma are invariably due to displaced ectoderm and mesoderm cells.

31. **Aseptic Surgery.**—The distinction between aseptic and antiseptic surgery is pointed out by McBurney, who shows the uselessness of an attempt to destroy all germs and the irritating effects of strong antiseptics which would alone be effective. He advocates the use of the rubber glove as the only method of sterilizing the hand, and claims that the alleged disadvantages from loss of the tactile sense, etc., are not realized. It is of great importance also to have a first-class assistant; frequent changing of assistants is deprecated. The knives should be sharp so that incisions will be clean-cut; all so-called blunt dissections should be avoided as they affect the vitality of the parts. The more perfectly nutrition is furnished through uninjured blood vessels to the tissues involved in a wound the more certainly will scattered bacteria be destroyed. Hemorrhage should be checked as early as possible to save the blood and also to prevent the formation of small blood clots which may be left and produce culture facilities for germ growth. Antiseptics must be regarded as harmful foreign bodies and totally unsuited to the interior of any wound. The ligature should be of fine material so as to leave only small knots and should strangulate as small a bit of tissue only as is essential; all ligatures and buried sutures should be of absorbable material, like catgut. Hemostasis should be as complete as possible. Complete aseptic work demands that the wound should be treated with the utmost delicacy in this respect and the avoidance of over-injury of tissue as far as possible. He maintains that it is frequently possible by exercising sufficient care to obtain clean aseptic healing in septic wounds, and as an instance of this notices his success in the treatment of abscesses. It is a good idea to give sufficient volume of blood to the tissues, therefore he advocates the rectal injection of hot normal salt solution. Wounds should be immobilized to prevent hematoma and dressings should be large for protection and soft for comfort.

32. **Tuberculous Joint Disease.**—Wilson describes the symptoms and occurrence of tubercular joint disease, its insidious origin, its special signs such as muscular rigidity, the uselessness and danger of anesthetizing in examining a patient for such a condition as it removes the one symptom which is constant and unvarying in incipiency, namely, muscular rigidity. It has become a well-known fact that, even when extensive invasion has occurred, absorption and resolution may be secured, showing the controllability of the condition. The principle of rational treatment would appear to him to be securing ankylosis rather than to attempt to avoid its occurrence.

34. **Congenital Syphilis.**—Malnutrition in children is attributed by Kerley to syphilis in many cases where other symp-

toms are lacking. In cases where parents are of average health and strength with negative family history and the child or children show low vitality, indifferent food capacity and poor appetite, he adds bichlorid of mercury or iodid of potash to the treatment regardless of the standing of the patient and is usually gratified, but never surprised, by the satisfactory outcome. He has learned to look with suspicion upon puny delicate children of parents with average good health, when there is no discoverable reason for the mal-nutrition and resisting well-directed hygienic and supporting measures.

36. **Antiphthisis Serum T. R.**—Experience with this remedy at Fort Bayard, N. M., is reported by Bullock. The results apparently were comparatively negative and about comparable to those in cases treated without it. He believes the favorable results of the agent as generally interpreted occur naturally as the result of proper hygienic surroundings in a large proportion of tuberculous cases rather than to the effect of the serum. It is very easy to attribute to one drug used exclusively what occurs naturally under proper environment.

37. **Synovitis of the Knee.**—The condition here described by Thomas is usually met with in males and often taken as a sprain. It is characterized by pain on moving, tenderness, enlargement of the joint without much loss of motility but with pain on flexion of the joint. In treatment by immobilization in the well-marked cases the average duration is five weeks. He describes the distinction from tubercular disease, acute rheumatism, gonorrhea, syphilitic affections and hematoma. The symptoms are less serious than any of these and the remedial measures usually mechanical. The leg should be put in a position of full extension to relieve strain and the rest method need apply only to flexion and rotation. The joint must be immobilized so long as there is any excess of fluid or a point of distinct tenderness, as recurrence may then follow movement of the joint. Massage may be useful if employed the first twenty-four hours after the injury and also in the later stages, when tight strapping and counter-irritation are also of real service.

38. **Skin Diseases.**—There is no specific medication for skin diseases, with the exception of the syphilids and even syphilitics are sometimes benefited by omitting specific medication and treating the symptoms. Cutaneous affections should be cured as speedily as possible. The diet and hygiene are especially insisted upon. A certain proportion of cases are self-limited, running a definite course, requiring little in the way of treatment but relief of the depressing symptoms. There are others that are benign in character but incurable, and still others that are fatal in spite of all medication. Of course, malignant disease will have to come under the care of the surgeon. The class of cases here considered are those which require active and thorough medication. Carrier thinks the popular notion that arsenic is almost a specific in skin diseases has done an immense amount of harm. There are only a few cutaneous disorders where it can be used with a fair prospect of doing good. It had better not be used at all than used indiscriminately. In acute inflammations it should never be given. It is in chronic affections characterized by exfoliation that it is useful. In psoriasis, squamous eczema, lichen planus and pemphigus it may be used, but even in these cases it is well to try other remedies first. Alkalies are very valuable in cutaneous diseases, indicated whenever there is an active congestion. Antimony deserves more consideration as a remedy than it is receiving. Carrier knows of no remedy that gives as good results in dermatoses occurring in robust individuals with florid complexions who are hearty meat eaters. It relieves the congested state, assisting in clearing out the waste distribution through the alimentary canal and the kidneys. Mercury is very useful in affections characterized by induration—such as old cases of eczema—aside from its specific action in syphilis. It is of great value in small doses in eczema of children, especially in the pustular forms, and wherever there is defective elimination. The salicylates are useful in congested conditions and those of rheumatic or gouty character. In urticaria not due to indigestion they are almost a specific. Ichthyol is of value in the various vasomotor disturbances and in acne in plethoric cases, also in urticaria and in rosacea. Calcium sulphid seems sometimes to interfere with pus formation; again, it hastens the process in sluggish cases. He has had better results from small doses often repeated than from the large ones. The iodids are useful as eliminants, but untoward effects sometimes follow their use and should be watched for.

42. **Mechanical Asepsis.**—The method advocated by Ward is the filtration of air passing to the wound through dry absorbent cotton. He maintains that this is the best and most satisfactory method; absorbent cotton absolutely solves the whole problem, for example, in the management of blisters.

43. **Acute Endocarditis.**—Herrick reviews the general subject of endocarditis and its causes, which may be multiple from a bacteriologic point of view, and be dependent upon any suppurative focus in other parts of the organism. He believes in the classification into the benign and malignant types, since we can not recognize any specific organism causing it, though the terms are loose in an anatomic and to a certain degree also in a clinical sense. The prognosis seems to be favorable in the benign form and there is evidence, not only clinical but anatomic, of the occasionally favorable outcome of the severe ulcerative type. He goes at length into the subject of diagnosis, pointing out the two diseases which most successfully mimic ulcerative endocarditis, malaria and typhoid, especially the latter, and the striking resemblance to tuberculosis. With the emaciation, anemia, slight cough, rapid pulse, dyspnea, slight chills, sweats, irregular temperature and slight hematolysis, only a close physical examination with perhaps careful watching of the patient for a week or more will make the diagnosis certain, and repeated examination of the lungs, sputum, blood and heart will be required. The primary disease may overshadow the condition of the heart. This should also be borne in mind. The complicating lesions also are to be guarded against as possibly receiving too much emphasis in the clinical consideration. As non-malignant cases frequently recover spontaneously, he thinks, even in desperate cases, we should persist in our efforts, insist on rest of the body and heart, eliminate the primary focus of infection, treat untoward complications, aid elimination and strive in every possible way to overcome the existing septicemia and toxemia.

44. **Rectal Stricture in Women.**—Rothrock reports three cases in which rectal stricture seemed to be conditional on inflammatory pelvic disease. In one there was an exudate of almost stony hardness, fixing the uterus and adnexa, causing infiltration and exudate and producing rectal stricture. Colostomy was required to relieve the condition.

45. **Surgery of the Gall-Bladder.**—The conclusions of Ochsner's article are given as follows: "1. The diagnosis of diseases of the gall-bladder and of gallstones requires further study and observation. 2. The classical symptoms must be supplemented in order to be sufficient as a basis for diagnosis. 3. It is not wise to operate during the acute attack of cholecystitis. 4. Patients much reduced by long-continued suffering do not well bear prolonged operations upon the gall-bladder and ducts. 5. Robson's observation that patients with carcinoma of intra-abdominal organs do not bear gall-bladder operations well has been borne out by my experience. 6. If the operation can not be postponed in presence of extreme jaundice, it should be confined to simple drainage of the gall bladder."

54. **Hereditary Cerebral Ataxia.**—Patrick's article is an elaborate discussion of the literature and a report of cases. He doubts the propriety of considering this a distinct nosologic species and thinks for the present it would be wise to follow Sanger Brown's example and simply use the term hereditary ataxia. It seems reasonable to conclude that it is identical with Friedrich's disease, co-ordination and equilibration being only more affected.

56.—See abstract in THE JOURNAL, xxxvii, p. 1480.

59.—See abstract in THE JOURNAL, xxxvii, p. 852.

61.—Ibid.

66.—This article has appeared elsewhere. See THE JOURNAL of January 18, ¶9 and ¶10, p. 202.

67. **Provisions for the Insane.**—The first part of Peterson's paper is historical. He says at the present time Germany approaches nearer the ideal standard, which may be expressed as small hospitals for the acutely insane in cities and colonies for the chronic and mixed classes of insane in adjacent country. He notes the conditions of location, etc., for the colonies, and remarks that the first thing must be an administration building and a small hospital for the acutely insane, which will have to be treated here as well as in the cities. Afterward an infirmary should be built for the infirm, sick, decrepit, idle and disturbed patients that are likely to accumulate in an institution intended for, say, 2000. With this nucleus, the cottages can be built up gradually. The paper discusses the details and suggests how modifications can be made for adapting the existing institutions in the various states according to this plan.

70. **Hallucinations and Illusions.**—Tuttle gives an analysis of the patients at Waverly, Mass., as regards these symptoms and discusses their mechanism. He doubts the existence of so-called veridical hallucinations and is inclined to believe that some of these are hallucinations of memory, as described by Royce, that is, the person has an impression at the moment of some exciting experience, which, at a longer or shorter time afterward, impresses him that he has heard of it before its coming and expected it. Tuttle has little faith in telepathy. The theories of hallucination are not considered settled. It is probable that there are certain disturbances of consciousness and lack of firm grasp of mental conditions, favoring the production of these phenomena. Once established they may be continued by habit.

71. **The Hebrew Insane.**—Hyde notices Beadles and Fishberg's statistics and gives some data as regards the admission of Jews at Manhattan Hospital West. He finds a low ratio of syphilis, but a large amount of hysteria and of neurasthenic types. Recovery is most favorable in those under 30 years of age, but they are liable to relapses and re-admission. Paresis occurs in about 18.05 per cent., which he thinks is not as high as the proportion obtained among Christians, but he does not give the figures.

72. **Traumatic Encephalitis.**—Frost reports the case of a large, florid, full-blooded man in the enjoyment of ordinary health, though subject to the strain of an exhausting and exciting occupation, who received a severe blow on the head, causing convulsions and mental disturbance, and died one year later from cerebral apoplexy. There were found postmortem, symmetric areas of softening at the base of the brain in just the position where a blow upon the vertex would act by contrecoup, together with evidences of beginning arteriosclerosis in the brain and kidneys and a gross cerebral hemorrhage in the hemisphere corresponding to the injury, and in which the other lesions were most marked. The hemorrhage was located in the external capsule, an unusual position, invading the lenticular nucleus externally and breaking through the claustrum but not communicating with the ventricle. The symmetric lesions at the temporal lobes were what is designated as localized cerebritis, focal hemorrhagic encephalitis or acute focal encephalitis.

74. **The Pathology of Insanity.**—The results of the autopsies at the Ward's Island Hospital are analyzed by Pettit. The tabulated number was 56 during the past year, 26 of which were paretic, making a total of autopsies of paretics of about 200 out of a population of that class of 2000. The macroscopic appearances were uniform. He is inclined to believe that with further knowledge a condition will be revealed that may be called peripheral paresis, that is, that the specific cause of paresis will be found to exert its morbid influence upon the nerve terminals and capillaries and produce a dystrophic neurosis by direct interference with diplastic metabolic function. Histo-pathologic changes have been found with this muscular dystrophy where the trophic centers at present recognized have been normal. Further investigation, however, will be required and he is inclined to think there has been a change in the symptomatology of paresis of late years and that at some future time this disease may be isolated from the insanities and treated as a lesion not necessarily involving mental incompetency. Finally, in some cases there seems to be a self-limitation. The disease may run its specific course without fatality in a small ratio of patients who live many years in a state of instinctive moria.

75. **Unilateral Hydrocephalus with Recurrent Hemiplegia.**—White describes a case, as indicated in the title of his article, in a woman 74 years of age. The attacks were of comparatively short duration and were accompanied by great muscular tenderness and cutaneous anesthesia. The limbs on the paralyzed side showed a marked diminution in size. The hemiplegic attacks were always diagnosed during life as cerebral embolism, mainly because of the thickened arteries, quick recovery and the heart murmur. The autopsy revealed severe internal unilateral hydrocephalus, the only causative lesion found being an obstructive one in the left choroid plexus and the only explanation of its unilateral character being a hypothetical one. He is inclined to consider the condition as due to increased production of fluid from venous congestion of the left choroid plexus caused by excess of hyaloid bodies and a valvular closing of the foramen of Monro confining the excess to the left hemisphere.

86. **Peripheral Speech Defects.**—Ballenger enumerates a number of conditions which cause defects of speech in so-called backward children. Among the nasal conditions he includes septal deflections and spurs, double convexity of septum, nasal polypi, turgescence and hypertrophy of the turbinates, occlusion of the posterior nares, displacement of the columnar cartilage, enlargement of the middle turbinates from hyperplasia or cystic degeneration and anterior soft hypertrophies of the septum. Among the nasopharyngeal and faucial conditions, postnasal adenoids, fibroma or other neoplasms of the nasopharynx, chronic catarrhal thickening of the mucosa of the nasopharynx, hypertrophied or hyperplastic faucial tonsils, adhesions of the anterior and posterior pillars of the fauces to the tonsils, paralysis of the soft palate and uvula, adhesions of the anterior faucial pillars to the base of the tongue, cleft soft palate and uvula and a shortened soft palate as is sometimes found after operation for cleft palate. The lingual conditions are inflammatory adhesions binding the tongue to the anterior faucial pillars and epiglottis, congenital shortness of the geniohyoglossus muscle, tongue tie, enlargement of the tongue and of the lingual tonsils. Laryngeal conditions are also mentioned, including too great strength in the uplifting muscles of the larynx, weakness of the down-pulling muscles of the larynx, laryngitis, singers' nodules, choroiditis nodosa, tubercular inflammation and infiltration, perichondritis, laryngeal rheumatism, catarrhal accumulations, neoplasms and paralysis of the intrinsic laryngeal muscles, while the abdominal and thoracic conditions are tuberculosis in its relation to stammering and irregularity of the respiratory rhythm. He notices also the mental impairment associated with defective speech and nasal and faucial abnormalities, but admits that great imperfection of speech may exist without such impairment, though in nearly all cases "the speech beleith the man." The peripheral causes of defective speech should receive attention in early life during the formative period of language.

87. **Splenectomy.**—Harris and Herzog's paper is a long one, giving a list of the splenectomies for primitive splenomegaly already published, adding two cases of their own, making a total of 19 cases with 14 recoveries and 4 deaths, and 1 in which the result is not stated. The after-history of many of the cases unfortunately is not complete, but it seems probable that recovery does occur after splenectomy. It is advisable to operate as soon as a correct diagnosis can be established, as the dangers and difficulties of the operation increase in proportion to the size of the spleen. The median incision is the one most advisable and in their cases they extended the incision downward so that the lower end of the spleen could be drawn upward. The splenic vessels are then easily approached and ligated. It is probably better to ligate at once than to place a large clamp on the vessels, as the thin veins are apt to tear at the edge of the clamp and the hemorrhage may be difficult to control. After ligating and dividing the pedicle, the spleen may be drawn downward and the gastrosplenic omentum more easily reached.

99. **Seborrhea.**—Schamberg reviews Sabouraud's views in regard to the micro-bacilli of this condition, but does not agree entirely with him as to the evidence of the parasitic nature of seborrhea, acne and baldness, or that the micro-bacillus is not a more or less normal resident of the large sebaceous glands.

100. **Chronic Posterior Urethritis.**—The special form of impotence described by Schmidt is where the sexual feelings are changed to a most painful condition and their excitation avoided. The local findings are enlargement and redness of the caput gallinaginis, inflammatory signs in the verumontanum and other evidences of chronic posterior urethral inflammation. The urethra should be treated by direct application of iodoglycerin solution to the parts, at first weak, afterwards increased in strength, using less quantity and less frequent applications.

101. **New Tissue Formation in the Urethra.**—The following are the conclusions of Dowd's article: "The stringy substance found in the urine during the early period of resolution (three to eight weeks) must not be confounded with the true shreds (three months and on), which are evidence of localized inflammation. The bloody, clot-like string so often seen after dilatation of the urethra, due to contracted meatus, close navicular valve and the like, must not be confounded with the true bloody string, which consists of pus, degenerated epithelium, mucus and blood-cells imbedded in a hyaline matrix. An antiseptic solution should always be used for flushing the canal previous to the instrumentation and afterward an astringent should be used in the same way, this not only for allaying irritation, but for flushing out the evidences of new tissue formation. For diagnostic purposes, the constriction must be stretched above the diameter that already exists and for prognosis, at least two numbers above the normal circular caliber."

119. **Alcohol.**—Hall maintains that ethyl alcohol is the excretion of a fungus and that excretions which are toxic to the organism which excretes them are also toxic to all higher organisms. Alcohol is toxic to the yeast plant, and, from its inherent nature, is toxic to all animal protoplasm.

122. **Text-Book Teaching of Alcohol.**—Crothers reviews the subject of text-book teaching, which has been of late so much criticised, following the same lines of argument as in the communication of Mrs. Hunt, published in THE JOURNAL of March 22 and stating many of the same facts.

129. **Sympathetic Ophthalmia.**—From the three cases which Hale here gives he concludes that the theory of transmigration of bacteria in the production of sympathetic ophthalmia will not account for all the facts, especially where there is a long interval between the infection of the second eye and the injury to the other. The case of Schmidt-Rimpler, published in the *Deutsche Medicin. Wochenschr.*, No. 27, 1900, in which an echinococcus of one eye was accompanied by sympathetic ophthalmia of the other is still more difficult to explain by this theory. He is, therefore, brought to the conclusion from his own cases and these others that sympathetic ophthalmia is a neuritis which is not produced entirely by the migration of micro-organisms, but that in any case where it has to do with the growth of bacteria it can be only by the irritation of tissues by the toxins thus produced.

140.—See abstract in THE JOURNAL of March 1, p. 604.

141.—Ibid., March 15. p. 724.

142. **Tuberculosis of Cervical Glands.**—This is usually a localized affection and the author in the treatment has been guided by the facts: 1, that a spontaneous recovery may take place wherever destructive degeneration has not occurred; 2, the general condition of the patient must be carefully looked after; 3, when the gland is broken down it should be removed or incised and curetted; 4, also when it remains very large for a long time and does not decrease in size it should be removed; and 5, that when degeneration or abscess formation have occurred within the gland, it should not be allowed to spontaneously rupture, but should be opened, curetted, drained and iodoformized. The so-called radical operation, he thinks, is not necessary in most cases. It does not save scar and is not a sure and radical cure, increases rather than diminishes the danger of systemic infection and it is a severe task to the patient's endurance. The treatment he usually advises is regulated exercise in the open air, well-ventilated sleeping apartments, good nutritive food, and milk between meals and on retiring. Drugs are seldom necessary. If anemia requires treatment, syrup of iodid of iron is perhaps the best. The patient should retire early, spending as nearly as possible all the hours of the night in sleep. The morning and evening temperature should be recorded and careful record kept of the patient's weight. If the enlarged glands are not broken down, the skin should be thoroughly anointed every night with a 10 per cent. ichthyol ointment. If one or two glands are decidedly larger than the rest and show a tendency to remain so or increase it may be well to make a small incision and remove them, or if any show evidence of having broken down by cheesy tuberculosis incision should be made and they should be opened before they rupture their capsules. In such cases the cavity should be thoroughly curetted and kept open by gauze or a rubber drain for a few days and then treated by a 10 per cent. emulsion of iodoform in glycerin. In the vast majority of cases this treatment will be satisfactory, but not if extensive abscesses have been allowed to form.

144. **Tuberculosis and Arthritis.**—Reilly has collected data of 100 tuberculous patients in the wards of the St. Joseph Hospital, New York, to find out if there may be an antagonism between rheumatism, gout and tuberculosis. In this number there were but six, who, during some period of their lives, had had an attack of rheumatism. In only one case did rheumatism occur after the onset of tuberculosis. In others there was an interval varying from two to ten years between the disappearance of the arthritic phenomenon and the development of tuberculosis. Three of the 6 cases had fibroid phthisis of three or four years' duration with little tendency to the formation of cavities and were in fair general condition. Two of the others had suffered from the disease for about one year, had several large cavities and were considerably emaciated. One of these left the hospital much improved, the other has since died. The sixth case died within nine months of the inception of tuberculosis, which makes a 2 per cent. mortality in the 100. None of the 100 cases had ever suffered from gout or any of the diseases usually classed as being of a gouty or rheumatic origin, with the possible exception of three cases of chronic endocarditis. There was not a single family history of gout. It may be remarked that the neuritis which is quite common in the later stages of phthisis is often mistaken for rheumatism by the patient. All these patients had been employed at work which exposed them to inclement weather much of the time. Alcoholic excesses and loss of sleep, alone or together, had existed in 82 per cent. While these statistics are too limited to be positive proof, there are accessory facts. Croftan has given the same results. He finds in 100 consecutive cases of arthritis only one case of advanced pulmonary tuberculosis. In 200 selected cases of advanced pulmonary tuberculosis there were but three with co-existent arthritic manifestations. He concludes that deposit of the mineral salts of the blood occurs in the lung in arthritics, in and around the areas in which the resistance is lessened, causing a thickening of the tissues, walling off of the areas, lessening the blood supply and then destroying the bacilli. In case of suspected pulmonary phthisis Croftan believes that we may consider it strong corroborative evidence of the existence of the disease when the total percentage of uric acid and alloxuric bases in the urine are persistently low and where there is also absence of polynuclear basophilic granules from the blood. On the other hand, we are justified in making a favorable prognosis in cases of early tuberculosis in which the presence of arthritis may be determined. Bernheim, in the September issue of the *Bulletin Médical de Strasbourg*, confirms Croftan's researches and cites several French writers in support of the statement that there is a pronounced antagonism between gout and tuberculosis. Bronchial asthma, which is generally regarded as a congener of rheumatic intoxication, is seldom associated with fatal pulmonary tuberculosis. It has long been known that a

much more favorable prognosis may generally be given in cases of phthisis pulmonalis which are already affected with mitral regurgitation, which in the vast majority of cases is due to previous rheumatic poisoning. Anders' recent statistics have fully borne out the above statement as to the prognosis in these cases. Harper, of Birmingham, England, has been so convinced of this antagonism that he has employed urea in the treatment of phthisis and has reported a number of cases of apparent arrest of the disease. Various writers have noticed the absence of tuberculosis in the various skin diseases belonging to the arthritic group. Most of us believe that red meats in excess tend to develop the soil on which the specific micro-organisms of rheumatic fever may be developed, while on the other hand we specially recommend this diet for the tuberculous. Most of the cases of permanently arrested pulmonary phthisis develop a decided arthritic taint.

157. **Cesarean Section.**—Cole reports two cases of Cesarean section and enumerates the following points to be considered: "1, thorough asepsis of patient, operators and assistants; 2, expedition in work, as shock must necessarily figure as a factor in every case; 3, diligent efforts in controlling blood loss; 4, a thorough cleansing of the abdominal cavity by gently drying with gauze, avoiding all rough handling of the peritoneal cavity and contents; 5, careful suturing of uterine incision. This last, if not carefully done, may undo all the previous good work." While such operations may occur only once during a lifetime or not at all, it is well that the physician should be able to meet the conditions should they arise. The general practitioner in the practice of obstetrics should be more than a generally useful person, otherwise he will soon sink to the level of the ordinary midwife. Not only should he be able to estimate the amount of contraction, but his experience with normal cases should qualify him to form an opinion as to whether it would be possible for a living child to be born.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), March 15.

1 A Report of Cases Illustrating the Aid of the Roentgen Rays in the Diagnosis of Intrathoracic Tumors. J. Magee Finney and Edward J. M. Watson.
2 *Posture and Heart Murmurs. W. Gordon.
3 Two Cases of Congenital Disease of the Left Side of the Heart. Theodore Fisher.
4 *On the Treatment of Traumatic Aneurysm by Proximal Ligature. Cecil Birt.
5 Case of Acute Exophthalmic Goiter. Alexander John Campbell.
6 The Difficulties of Preventing Enteric Fever in Warfare. Christopher Childs.
7 *Puerperal Insanity. (Concluded.) Robert Jones.
8 On a Convenient Terminology for the Various Stages of the Malaria Parasite. E. Ray Lankester.

The Lancet (London), March 15.

9 *Certain Diseases of the Blood Vessels. A. Pearce Gould.
10 The Anatomy, Physiology and Pathology of the Imperfectly Descended Testis. W. McAdam Eccles.
11 Neurological Fragments. (Continued.) J. Hughlings Jackson.
12 *Some Remarks upon "Internal Derangement" of the Knee Joint. Herbert W. Allingham.
13 A Case of Acute Myasthenia Gravis. C. A. Hingston and W. H. B. Stoddart.
14 Milk or Whey in Enteric Fever? Arthur T. Pridham.

Glasgow Medical Journal, March.

15 *The Treatment of Uterine Fibro-myoma. John Edgar.
16 *Some Statistics Bearing on the Increasing Prevalence and Mortality of Pneumonia. Alexander Fraser.
17 Case of Obturator Hernia of the Ovary. J. Dunlop Lickley.

Gazette Med. de Paris, March 8.

18 *The Nervous System and the Circulation in the Defense of the Organism. J. Grasset (Montpellier).—"Apropos des opérées du Dr. Doyen: le rôle respectif du syst. nerv. et de l'app. circ. dans la défense de l'organisme."

Presse Medicale (Paris), March 5 and 8.

19 Instruction in Operative Medicine at Certain American Universities. H. Hartmann (Paris).
20 Pneumo-Bacillus Angina. A. Descos (Lyons).—"Angine à pneumobacille de Friedländer."
21 *Technique of Lumbar Puncture in Case of Intraspinal Hemorrhage. T. Tuffier (Paris).—"Techn. de la ponct. lomb. dans les hémorrhagies intrarachidiennes."
22 *External Exploration of the Alimentary Canal. L. Vincent (Lyon).—"Expl. ext. du tube digestif, et nouv. méthode d'observation clin."
23 Treatment of Indeterminate Ulcerative Neoplasic Lesion of Mouth. E. Leuglet.—"Conduite à tenir en présence d'une lésion néopl. ulcéreuse indéterminée de la langue ou de la cavité buccale."

Semaine Medicale (Paris), March 5.

24 *Persistence of Negative Effort in Paralyzed Muscles and Its Importance for Prognosis and Treatment. P. Régnier (Bordeaux).—"De la persistance de production de travail negatif dans les muscles paralysés."

Allg. Med. Cent.-Ztg. (Berlin), March 5 to 12.

25 Spectroscopy of the Orcin Test. H. Rosin (Berlin).—"Zum spectroskopischen Verhalten der Orcinreaction."
26 Action of the Cold Iron Rays of the Dermo Lamp. E. Below (Berlin).—"Die Wirkung der kalten Eisenstrahlen der Dermo-Lampe."
27 Ichthyol in Pulmonary Tuberculosis. J. D. Astrachan (Moscow).—"Ichthyol bei Lungentuberkulose."
28 *Intranasal Treatment of Dysmenorrhea. A. Ephraim.—"Die endonasale Behandlung der Dysmenorrhoe."

Centralblatt f. d. Grenzgebiete (Jena), Nos. 1 to 5.

29 Critical-Historical Essay on Venesection During the Last Decade. A. Strubell (Vienna).—"Der Aderlass."

Dermatologisches Centralblatt (Berlin), February and March.

30 Prophylaxis of Venereal Diseases. E. Richter.—"Zur Prophylaxe der geschl. Krankheiten."
31 Recent Works on Affections of the Nails. T. Cohn (Königsberg).—"Neuere Arbeiten über Erkrank. der Nägel."

Muenchener Med. Wochenschrift, March 4.

32 *Arteriosclerosis in Relation to Cerebral Affections. Windscheid (Leipsic).—"Die Beziehungen der Arteriosklerose zu Erkrankungen des Gehirns."
33 *The Newer Clinical Standpoints in Regard to Arteriosclerosis. K. Grassmann (Munich).—"Ueber neuere klin. Gesichtspunkte im der Lehre von der Arteriosklerose."
34 *Hyperkeratosis Lacunaris Pharyngis. H. Arnsperger (Heidelberg).
35 *Sero-Antitoxic Power of Alcohol in Tuberculosis, and Its Application in Treatment of the Disease. S. Mircoli (Genoa).—"Ueber die Sero-Antitoxicität des Alkohols bei der Tub. und ueber die event. Anwend. des Alkohols in der Therap. der Tub."
36 Chronic Swelling of the Bronchial Glands as Factor in Development of Apical Tuberculosis. Esser (Bonn).—"Chronische Bronchialdrüsenschwellung und Lungenspitzentuberkulose."
37 Aspirin. S. Merkel (Nuremberg).—"Weitere Mitteilungen über das Aspirin."
38 Comparison of the New Medical Regulations in Germany and Austria. R. Gottlieb (Heidelberg).—"Ein Vergleich der neuen ärztl. Prüfungsordnungen in Deutschland und Oesterreich."
39 Acquired Elevation of the Scapula. O. Bender (Leipsic).—"Zur Kenntniss des erworbenen Hochstandes der Skapula."
40 Elastic Tissue in Stomach. A. Meinel (Geneva).—"Fall von Karzinom des Magens mit starker Entwickelung des elast. Gewebes und über das Verhalten dieses Gewebes im Magen bei verschied. Alter."
41 The Plague on a German Steamer. S. Oberndorfer (Munich).—"Pesterkrankungen auf einem deutschen Dampfer."
42 Neurasthenic Crises. A. Diehl (Lubeck).—"Neurasthenische Krisen."
43 Value of Jolles' Clinical Ferrometer. E. Boetzelen (Berlin).—"Ueber das Jolles'sche klin. Ferrometer."
44 Comparison of the Stas-Otto and Kippenberger Methods of Determining Alkaloids. J. Weiss (Basle).—"Vergleich der Meth. von S.-O. und K. zum Nachweis von Alkaloiden."

Prager Med. Wochenschrift, January 9 to March 6.

45 *H. S. Frenkel's Therapeutic Exercises. A. Frank (Smichow).—"Wie wird die Uebungstherapie von Frenkel in Heiden gehandhabt?"
46 Trophic Disturbances in Tetany. H. Nathan (Prag).—"Ueber einen Fall von Tetanie mit troph. Störungen im Bereiche des Nervus medianus."
47 *Signs of Commencing Pregnancy. F. Schenck (Prague).—"Ueber die Wertigkeit der einzelnen Symptome und Zeichen der begin. Schwangerschaft."
48 Local Treatment with Hot Air in Rheumatism, Gout, Sciatica, etc., in Electric Hot-Air Apparatus. E. Lindemann (Berlin).—"Locale Heissluftbehandlung im Elektrotherm."
49 An Invasion of Sarcoptes. J. A. Tschuschner.—"Eine Sarcoptes-Invasion."
50 Chronic Tubercular Cholecystitis. J. Kisch (Prague).—"Ueber einen Fall von Cholecystitis tub. chron."
51 A Few Cases of Nervous Affections. L. Schwarz (Prague).—"Ueber einige Fälle von Nervenkrankheiten."
52 *Pertussis and Its Treatment. J. W. Frieser (Vienna).—"Ueber Pertussis und deren Behandlung."
53 Subphrenic Pyopneumothorax. K. Teichl (Prague).—"Ein Fall von Pyopneumothorax subphrenicus."
54 *Five Cases of Uremia in Post-Scarlatinal Nephritis Treated by Venesection. C. Springer (Prague).—"Venaesectio bei Uraemie im Verlaufe der post-scarlatinösen Nephritis."
55 Banti's Disease. Pribram (Prague).—"Ueber Banti'sche Krankheit."
56 Local Application of Formalin in Diphtheria. A. Zdekauer (Trautenau).—"Formalin bei Diphtherie."
57 Recent Works on Obstetrics and Gynecology. Tauber.—"Geburtshilfe und Gynäkologie."
58 Criticism of Stock's Acetone Test. H. Zickler (Prague).—"Ueber die klin. Verwendbarkeit der Stock'schen Acetonreaction."
59 Treatment of Chronic Non-Gonorrheal Urethritis. M. Reichmann (Chicago).—"Zur Behandlung der chron. nicht gon. Urethritis."
60 Medical Certificates in Cases of Accidents. E. Pietrzikowski (Prague).—"Die Begutachtung der Unfallverletzungen."

Grece Medicale (Syra, Greece), February.

61 *Primary, Diffuse, Pigmented Syphilid. N. Moraitis (Army Surgeon).—"Sur un cas de syphilide pigm. gen. primitive."

Gazzetta degli Ospedali (Milan), March 2 and 9.

62 *Modern Indications for Abortion, Especially in Pulm. Tuberculosis. G. Zanoni.—"L'Aborto nella tub. polmonare."
63 Histology of Primary Tumors of the Kidney. A. M. Luzzato.—"Istologia dei tumori primitivi del rene."
64 Erythema in Infections Diseases. S. Pascoletti.—"Eritemi scarlattiniformi nelle malattie infettive."
65 Treatment of Blepharitis. R. Ferro (Palermo).—"Contributo alla cura delle blefariti."
66 Rare Localizations of Tertiary Syphilids. E. Domenici.—"Rarissime localizzazioni della sifilide terziaria."
67 Histology of the Thyroid in Syph. and Non-Viable Fetuses. G. G. Perrando.—"Alterazioni ist. della tiroide nei feti sif. e non vitali."
68 Exp. Study of Influence of Diphtheric Toxin on Fetus, etc. C. Zenoni.—"Influenza della tos. dift. sulla vita della madre e del feto."
69 *To Obtain Rapid Proliferation of Tubercle Bacilli. P. Francesco.—"Sul rapido sviluppo del bac. tub."
70 Case of Grancher's Spleno-Pneumonia. D. Mori.—"Un caso di spleno-polmonite di Grancher."
71 Alterations of Nerve Centers in Pirogallol Intoxication. S. Drago.—"Alterazioni dei centri nerv. nell' avvelenamento da piro-gallolo."

Botkine's Bolnoi Gazeta (St. Petersburg), January 2 to February 20.

72 New Method of Determining the Stability of the Blood. G. Byelonoff (Kronstadt).—"Novii metod opredyelenia stoikosti krovi."
73 A Question of Public Hygiene. A. Baloff.—"Odin eez voprosov obstchestvennoi hygieni."
74 Case of Endothelial Psammo-Sarcoma of the Spinal Pia Mater. G. S. Kulesh.—"Slutchai endothelialnoy psammosarcomi myagkoi spinova mozga."
75 *Hemorrhage After Ablation of Adenoid Vegetations. N. I. Lunin.—"O krovotecheniax vslyed za udaleniem nosoglotochnoi jelezi."
76 Wound of the Spinal Cord with Manifestations of Brown-Sequard's Paralysis. M. L. Zavadsky.—"Slutchai ranenia spinova mozga s yavleniami Brown-Sequard. paralicha."
77 Pathological Anatomy of Primary, Phlegmonous, Streptococcus Enteritis. A. Moiseiff.—"K pat. anat. pervichnix phlegmonoznix strept. enteritov."
78 Roentgen Treatment of Herpes Tonsurans and Favus in Children. D. A. Sokoloff.—"O lechenii herpes tons. e favus u dyetei X-luchami."
79 Morphology of the Internal Secretion of Certain Glands. L. V. Soboleff.—"K morphologie vnutrennei secretzii nyekotorix jelez."
80 Influence of Disturbance in the Functions of the Kidneys on the Secretion and Composition of the Bile. V. Polianski.—"O vlianii narushennoi dyetelnosti pochek na otdyelenie e sostav jolchi."

Vratchebnaya Gazeta (St. Petersburg), January and February.

81 Preternatural Anus of Traumatic Origin. A. P. Morkovitine.—"Slutchai protivoestestvennova zadnyava proxoda traum. proisxojdeniya."
82 Congenital Antihemolysins. I. G. Bandaline.—"O prirodnix antihemolizinax."
83 Leprosy. F. D. Rumyantzeff.—"Dva sluchaya prokazi."
84 Epidemiology of Malaria. N. A. Vigdortchik.—"God v malariin. myestnosti."
85 *Syphilis of Alimentary Canal. L. A. Soboleff.—"O syphilisye jelyd.-kishetcnova trakta. Slutchai syph. tolstix kishek."
86 Future Rôle of Experimental Medicine in the Study of the Physiol. and Path. Action of the Heart. M. I. Breitmann.—"Budushtchaya rol exp. med. v izutchenii physiol. e path. dyeyatelnosti cerdtza."
87 Massage in Treatment of Insomnia. A. G. Naumann.—"Massaj pri letchenii bezsonnitzi."
88 Importance of Instruction in Dental Affections in Medical Schools. F. A. Zvyerjxovsky.—"Znatchenie prepodavaniya zubnix bolyeznei na med. fakultetax."
89 Three Successful Cases of Bottini's Operation for Complete Retention of Urine. Albert Freudenberg.—"Nyeskolko slutchaev uspyeshnova primyeneniya operatzii Bottini pri polnom saderjanii motchi."
90 Fango Treatment in the Caucasus. V. F. Siegrist.—"O myestnom gryazeletchenii na Kavkazskix mineralnix vodax."
91 Hemicephalia and Hereditary Syphilis. W. P. Jukovsky.—"Hemicephaliya e naslyedstven. syphilis."

Revista Med. del Uruguay (Montevideo), January.

92 Paralysis of Cubital Nerve. J. de Leon.—"Paralisis del nervio cubital y contractura consecutiva; mano en pinza."

La Cirugia Contemp. (Mexico), January and February.

93 Histology of Tubal Abortion. F. Hurtado (Mexico).—"Histologia del aborto tubario."

Corr. Blatt f. Schweiz. Aerzte (Basle), January 15 to March 1.

94 Prophylaxis and Suture of Recto-Perineo-Vaginal Laceration and Recto-Vaginal Fistula. M. Walthard (Berne).—"Zur Proph. und Naht des R.-D.-V. risses und der R.-V. fistel."
95 *Treatment of Papilloma Laryngis in Children. W. Lindt (Berne).—"Ein Fall von Papilloma laryngis im Kindesalter."
96 Professional Lead-Poisoning. Schuler (Appenzell).—"Bleivergiftung bei den Blattstichwebern in Appenzell A. Rh."
97 Reflections on Electrotherapy. P. Rodari (Zurich).—"Nochmals einige elektrotherapeutische Reflexionen."
98 *Surgical Intervention in Gastric Affections. A. Huber (Zurich).—"Ueber chir. Hilfe bei Magenkrankheiten."

---

2. **Posture and Heart Murmur.**—Gordon reports and illustrates the effects of posture on the different heart sounds in morbid conditions. If anyone who has a considerable number of cardiac and anemia cases takes the trouble to examine them systematically, both in the recumbent and sitting posture, he will find that the change from one to the other position produces marked effects on the cardiac sounds. To estimate these correctly one must eliminate the influence of exertion, and the change of posture must be effected by an assistant so that no effort is made by the patient himself. A few pulse beats should be allowed to pass after the change of posture and the observation should be made with a wooden stethoscope. He questions as to the mechanism of these changes and has measured several dozens of chests with a specially designed pair of calipers to find whether the altered chest depth may have its influence. He thinks that this influences to a certain extent some of the murmurs, though further explanation is necessary as the changed murmurs occur in some rigid chests where there is practically no change in the altered posture. Gravity, he holds, as Clifford Allbutt has pointed out, seems to cause an increase of hum in the upright condition. He asks whether it can affect the murmurs in the heart, and figuring out the conditions, he concludes that the two factors, change of chest depth and gravity, together should produce an increase of mitral regurgitant murmur, decrease in mitral stenotic murmurs, increase of tricuspid regurgitant murmurs, and aortic stenotic murmurs, while aortic regurgitant murmurs are scarcely, if at all, affected, and these are the chest effects which he finds are produced. His summary is given as follows: "1. It seems to me that recumbency tends to increase all 'hemic' murmurs except the venous hum, which it tends to obliterate; to increase the murmurs of mitral regurgitation, tricuspid regurgitation and aortic stenosis; to decrease the murmurs of mitral stenosis, and to leave little, if at all, affected the murmur of aortic regurgitation. 2. The effects of gravity and of change in chest depth seem to account for the influence of recumbency. 3. Therefore, in describing and discussing murmurs, which posture modifies the patient's position at the time of observation should be stated."

4. **Traumatic Aneurysm Treated by Proximal Ligature.**—The usual rule of tying both ends of the arteries for traumatic aneurysm meets with certain difficulties in cases of diffuse traumatic aneurysm in the axilla, especially in gunshot injuries. Birt reports six cases which show that the ligature of the proximal portion of the arteries alone is sufficient to bring about recovery in each case. In all the cases the wounds run an afebrile and aseptic course.

7. **Puerperal Insanity.**—The paper is concluded in this issue. Jones finds that the usual opinion of authorities that this type of insanity is most recoverable, is borne out by the facts, though he has known a number of cases to pass into the chronic condition. Relapses, he thinks, are more common than generally believed. As regards the different types, that occurring in early pregnancy is rather favorable; that in late gestation is apt to continue in an exaggerated degree until after confinement and may afterward become chronic. The death rate is highest among the insanities of pregnancy and lowest among the puerperal cases. In lactation insanity one must look out for the general condition of the patient. Albuminuria in puerperal insanity is not common, but when it occurs the prognosis is grave. The pathology of the conditions is discussed and the general toxic theory held by the author, who speculates a little on the method in which the condition is brought about. It is uncertain, he says, and improbable that all forms of puerperal insanity are due to the presence of bacterial poisoning, though it is unquestionable that some are of septic origin. The treatment of the condition varies according to the stage in pregnancy cases. He has little favorable to say in regard to bringing about an abortion. He thinks the condition is usually a recoverable one and may pass off toward the end of pregnancy or after confinement. The most constant vigilance must be kept up by those in charge of the patient. The question of hospital treatment is an important one. The dislike and distrust of the patient towards her husband and friends are often a very serious matter. The impulses to

suicide and homicide are better looked after in an institution, and the nutrition can be better regulated, and the resort to narcotics obviated. The general treatment is that of the parturient female—light dietary, general exercise, bright surroundings, attention to bowel elimination and sleep. The complications which may arise, such as eclampsia, must be met as in the usual indications. He tries, as a rule, not to send the patient away from home so as to avoid the recollections of an asylum and the popular stigma. If the mother can be led to think she is suffering from fever and not brain disease it will help her to avoid and go through future attacks. Nourishment is one of the most important things, and refusal of food one of the most serious symptoms. He does not believe in the use of opiates for producing sleep; chloral and bromids in combination are best. Relapses and return of the mental affection after convalescence are frequently noticed, and it is in this stage that a change from the asylum to the home surroundings or a change of scene may prove beneficial. The conditions of the breast need special attention. He has seen cases admitted during lactation as a result of the indiscriminate use of stimulants. In conclusion he suggests the prophylaxis of this form of insanity by discouraging the marriage of hysteric and neurotic persons, and expresses his firm belief that insanity is and always will be the product of two factors, stress and heredity, and the greater the vitality or resistance of the tissues the greater will be the strain required to overcome it. We should endeavor to raise the resistance against the action of selective toxins and thus improve the chances of the sufferers.

9. **Obliterative Arteritis.**—Gould's second lecture takes up this subject, which has been comparatively neglected. It has hardly found its way into the text-books and is still regarded as a very rare affection, though he does not so consider it, having had 9 cases under his personal observation. The paramount rôle of the inner coat of the arteries must be remembered; it is the one essential portion and the part that suffers. The elastic lamina of the outer surface is a very resistant structure; any hyperplasia of the endothelium or sub-endothelium tissue contracts the lumen by pressure in the direction of least resistance. The direction of the growth is toward the center of the vessel, but disease of the inner coat, especially when the endothelium is involved, very quickly leads to thrombus. While thrombus may be and often is a very rapid process, the growth of the inner coat to such an extent as to obstruct the vessel is always a slower process and slower in direct proportion to the size of the vessel. The blood clot, moreover, may be absorbed and disappear and the vessel when it is closed open out again, but a vessel once closed with sub-endothelial growth is permanently occluded. The chief features of obliterative arteritis, which he considers scarcely a specific disease but rather a pathologic effect of many causes, are: "1. The disease originates in the sub-endothelial layers of the tunica intima of the smaller arteries. In its early stages it is marked by a small-cell infiltration, which later organizes into a loose and vascular connective tissue. 2. This growth narrows the lumen of the vessels and may entirely obliterate it; more often, however, thrombosis occurs and the organization of the clot completes the permanent occlusion of the artery. 3. The disease beginning in the smaller arteries tends to spread in a centripetal direction and may reach even the largest arteries. The thrombosis it excites also often extends rapidly and far toward the heart, much faster and further than the changes in the vessel wall, and the clot may thus spread as far as the aorta. 4. The earliest effect of this diseased artery is pain, then follow other evidences of local ischemia and these may pass on to gangrene. These effects vary with the extent of the vascular obstruction and the efficiency of nature's means of compensation. 5. The disease may be very chronic, slowly progressing for years, or it may run a much more rapid course. Having reached a certain point, arrest may occur and the symptoms may gradually pass away, as the unaffected vessels become more and more efficient substitutes for those that have been occluded. 6. The disease arrested for a time may afterward recur in the vessels of the same limb or elsewhere, and it may attack more than one vascular area simultaneously. 7. The vascular changes are not always limited to the arteries and endophlebitis may precede or accompany the endarteritis and the venous obstruction then modifies the effect produced on the tissues." A number of cases are reported illustrating the different conditions and the tendency of the disease to attack the vessels in more than one limb. The disease is certainly more common in men than in women, and it appears to be a disease of adult life, not occurring in infancy or old age, though one unique case in an infant has been described which may be of this character. Of all known causes syphilis is perhaps the most certain; influenza, alcoholism, erythromelalgia, cold, contusions, and previous thrombosis or phlebitis may be regarded as more or less important factors. Diabetes sometimes causes gangrene by exciting this disease. As regards treatment in the earlier stages, prolonged rest of the affected part is certainly called for, and also local warmth. Anodynes for pain may be required. Massage carefully applied may assist in opening out of collateral vessels, promoting absorption through the lymphatics and in freeing the muscles and other tissues of their waste products. In the acute stage the parts are too tender for it; it must be very cautiously employed and only used more vigorously when the disease seems to be arrested and we have only its effects to deal with. Small mummified areas may be left to separate naturally, especially in the hand. For the more extensive gangrene, amputation is necessary. The operation should be done high above the gangrenous spot and at a place and by a method that throws the least strain on the vessels. Thus amputation through the lower part of the thigh is to be preferred to disarticulation at the knee and musculocutaneous flaps are to be chosen in preference to skin flaps.

12. **Internal Derangement of the Knee-Joint.**—A number of different lesions in the knee-joint may cause the symptoms, according to Allingham, and some cases presenting these symptoms improve after the joint is open, though no lesion is found. Possibly these may be early instances of tuberculosis of the joint. He does not advocate immediate and indiscriminate opening of the knee-joint in all these cases; in fact, the very opposite is his aim. The first thing, if the case is treated early, is splinting, varying from a period of one to three weeks, followed by massage and passive movement and properly selected exercise for the joint. This gives rest so that the damage may heal, the split cartilage join and the displaced one grow firmly fixed again, and the slackness of the ligaments consequent on distension of the joint be remedied by massage and movement. In a certain percentage of cases, however, this plan will fail. The trouble will recur and these must be operated on. Those cases also in which a quite loose body can be felt to move to widely different positions in the joint and those in which a loosened cartilage protrudes from the joint will not improve without operation. For operation he prefers a vertical incision, one inch to the inner side of the patella and going down to an inch below the head of the tibia, unless, of course, there are special indications for incising elsewhere. This does not divide the extension of the vasti on the tibia and is easily prolonged upward when necessary for examination of the large synovial pouch above the patella. Care must be taken to clip and tie every bleeding part and the joint must be literally squeezed dry before it is closed. The joint should not be washed out with an antiseptic and no drainage should be employed, though occasionally a little flushing with boiled water would wash out a fragment or clot that could not otherwise be found. The strictest asepsis must be followed and his experience favors the removal of the loose semilunar cartilages rather than fixing them. In closing the wound the sutures are to be passed so as to include the cut synovial membrane. The splints can be taken off within a week, and passive movement begun as soon as the skin wound heals and these measures be combined with massage. If in spite of this there is a stiffness of the joint it must be freely moved under an anesthetic and then daily massaged and freely moved to prevent it from recurring. He tabulates 59 cases showing the different types. In case of damage to the semilunar cartilage there are generally these features: "1. Distinct history of injury originating the trouble; 2, a well-

defined site of pain on the inner or outer side of the knee according to the cartilage damaged; 3, no foreign body palpable; and 4, no creaking in the joint. The same features also characterize generally cases in which the lesion affects an alar ligament or consists in localized hypertrophy of synovial membrane. In a case where a loose body is present the symptoms, again, may be exactly similar to those caused by semilunar damage. Sometimes, however, the body will be able to be moved into widely separated portions of the joint and felt in its different situations. Similarly, a very loose semilunar cartilage may sometimes be diagnosed with certainty through its being protruded at the side of the joint. Such a cartilage, however, may be most confusingly imitated by an excrescence due to rheumatoid arthritis." The general result of the operation is highly satisfactory.

15. **Fibro-Myoma.**—After reporting cases Edgar emphasizes the following points: "1. If the tumor be growing steadily larger, remove it, whether the symptoms be slight or severe. 2. If the tumor be stationary as regards size, the treatment will depend on the severity and continuance of the symptoms, the age of the patient and the state of her health. 3. If drugs fail to check hemorrhage, a trial may be made of the Apostoli treatment, or preferably, of curettage of the endometrium, provided the case is not one for more radical measures. 4. Where removal of the tumor is indicated, remember the danger of delay. The weaker the patient and the more complicated the case, the higher the mortality after operation. 5. Unless in certain cases, supravaginal amputation of the uterus is preferable to pan-hysterectomy. 6. When hysterectomy is being performed, one or both ovaries, if healthy, should be preserved. 7. Abdominal enucleation of fibro-myomata, if performed at all, should be limited to cases of the sub-peritoneal variety, and then only when there are no more than two or three tumors present. 8. If the operation of pan-hysterectomy be adopted, perform it by the vagina when the uterus is small; by the combined method when it is large."

16. **Pneumonia.**—The statistics of the Glasgow Royal Infirmary are analyzed by Fraser and tabulated, and show a decided diminution in the proportion of phthisis and an increased mortality from pneumonia. The question whether the number of pneumonia deaths is due to increased number of cases or to increased mortality, or to both, is discussed and it appears that the average case mortality is greatly increased. In 49 years, from 1852 to 1900, the average case mortality for females and males together has risen from 18.7 per cent., of the period 1851 to 1860, to 30.9 per cent., in the period 1891 to 1900, a sudden increase of 8.59 per cent. occurring in the last decade. The increase among males was greater than that among females, while the frequency of the disease is also increased in males though not in females. It would appear, therefore, that: "1. On the whole pneumonia is becoming a slightly more frequent disease in Glasgow Royal Infirmary when compared with all other medical diseases admitted, and 2, that the average percentage mortality shows a marked increase, amounting to 66 per cent. for males and females together; 72 per cent. for males alone, and 29.5 per cent. for females alone."

18. **The Nervous System and the Circulation in the Defense of the Organism.**—Grasset remarks that Doyen's operation on the united twins is a wonderful demonstration *in vivo* of the important part played by the nervous system in the defense of the organism, which has been demonstrated only experimentally before. Animals have been fastened together in such a way that the blood from one passed into the circulation of the other, and in the united twins the blood circulated freely between them. They had the same blood, the same corpuscles, and the tuberculous infection of one proved the inevitable infection of both. The blood carried the tubercle bacillus and its toxins indiscriminately throughout the body of each of the twins. But the reaction was different in each, and was evidently due to the nervous system, which was entirely distinct in each. These facts demonstrate anew how marked and well defined is the individuality of every living being. Even when united or grouped in a colony with a common circulation, each constitutes an independent and distinct entity. Each has its own individuality in its defense against disease, even when sharing with others the same internal medium.

21. **Technique of Lumbar Puncture in Case of Intraspinal Hemorrhage.**—Tuffier's extensive experience has demonstrated that the cerebrospinal fluid shows traces of blood only from injury of a vein in the soft parts as the needle is inserted, or injury of a vein in the pia or dura mater, or from an actual intraspinal hemorrhage. It is easy to differentiate these three sources of the blood. In the first place, blood issuing directly from a blood vessel coagulates, which does not occur after it has been long diluted with cerebrospinal fluid. If the blood comes from a vein in the tissues outside of the dura, all that is necessary is to push the needle a little farther in. This brings the opening past the vein into the cerebrospinal fluid and the latter flows clear. If this injured vein is in the pia, slightly withdrawing the needle brings the opening away from the pia, and the fluid flows clear. If the blood comes from an actual intraspinal hemorrhage, from fracture of the skull, cerebral hemorrhage, etc., the tint of the fluid remains the same and uniform, no matter how much the position of the needle is altered. The fluid may be more or less reddish, yellow or greenish yellow, according to the degree of hemolysis and the proportion of the normal pigment of the serum, the lutein. When the latter is physiologically abundant, the cerebrospinal fluid becomes yellowish in case of hemorrhage in the cerebrospinal axis. In case no red corpuscles can be detected in the hemorrhagic cerebrospinal fluid, they may possibly have been caught in the crevices of the brain while the pigment diffused, or the hemorrhage may have been absorbed, leaving only the pigment and the blood cells incapable of ameboid movements, the lymphocytes, which remain indefinitely in the cavity into which they have been carried. This occurs also in hemothorax, etc., and the presence of the lymphocytes in such cases should not be called a lymphocytosis. He adds that the yellow tint of the cerebrospinal fluid, free from red corpuscles, is sometimes, exceptionally, the only sign of hemorrhage in the cerebrospinal axis.

22. **External Exploration of Alimentary Canal.**—Vincent points out that inspection, palpation and percussion of the alimentary canal have revealed an unsuspected functional synergy, a functional consensus of the vital phenomena in the various portions of the alimentary canal, both in physiologic and pathologic conditions. Motor insufficiency is always accompanied by secretory insufficiency, hypersecretion by distension of the segment. When the food comes into contact with the wall of the stomach, the entire apparatus, including the liver and pancreas, shares in the vital paroxysm it induces. Some persons react to a pathogenic cause, a cold, errors in diet, etc., by the rapid subsidence of the abdomen. The intestines feel on palpation like wet rags. This subacute condition is in time followed by the return of elasticity and suppleness and restoration to normal both of the tissues and organs and of the functions. This doughy feeling of the abdomen is the objective indication of this subacute condition, and should not be mistaken for digestive marasmus, as it is merely a curable episode unless prolonged or repeatedly induced by errors in diet or treatment. He calls such subjects the weak, and distinguishes another class as the strong. In the latter the resistance to a pathologic cause is indicated by dilatation and hyperplasia of the alimentary canal, revealed by enlargement of the abdomen. This abdominal hypermegaly is a phenomenon of evolution which dominates the entire pathologic life of the individual, and around which cluster the most varied morbid phenomena.

24. **Importance of Persistence of "Negative Effort" in Paralyzed Muscles.**—Régnier has been making practical application of Chauveau's new laws of muscular energy, especially the law in regard to the force, the elasticity, generated by the contraction of a muscle. The muscular effort to raise the arm is called "positive," and the effort to maintain it at a certain height "negative." Régnier finds that these new ideas in physiology are important aids in the prognosis and treatment of paralyzed muscles. The problem is to demand the minimum of effort from the muscle, while inducing the corresponding motor cell in the spinal cord to exert the maximum of energy,

thus overcoming the resistance which the degenerated nerve opposes to the nerve wave. The segment of the limb to be tested is raised by another person to a determined height. Energetic pressure is then applied to the segment of the limb as near to the peripheral limit as possible, the pressure bearing most upon the tendons. It elicits a muscular resistance in the form of negative effort, the intensity proportional to the excitability of the corresponding motor cell. The pressure stimulates the motor cell by simple sensory reflexes and also by the nerve influx from the brain which it elicits or re-enforces. If the muscle does not contract under these conditions it may be possible to induce the "negative effort" by purely reflex action. For example, if the brachial triceps is incapable of opposing voluntary resistance to flexion of the elbow in spite of energetic pressure at the wrist, it may be possible to induce this contraction by having the arm held horizontally, continuing the pressure at the wrist. The patient is then asked to resist the falling of the arm by contracting the deltoid. If during this effort the elbow is flexed, a resistance may be noticed, due to the reflex contraction designed to maintain the rigidity of the lever. The multiplicity of the reflex actions in this case substitutes the nerve wave from the brain, which the pressure is unable to elicit owing to the long disuse of the corresponding cells of the sensory-motor zone. Régnier has found that it is possible to elicit this contraction of voluntary resistance or reflex contraction in more than 50 per cent. of the muscles affected with spinal or neuritic paralysis, even when the degeneration test is positive in every respect. This resistance test is extremely important for the prognosis. He has observed that in every patient the restoration of function was more rapid and more complete in proportion as the response to the test was more perfect. He also found that all treatment proved ineffectual when the response was negative. This resistance contraction is, at the same time, the best treatment of paralysis as it exercises the neuro-muscular system involved, inducing physiologic activity, which is beyond the power of artificial stimuli, even electricity. When the strength of the resistance has been increased by a few weeks of daily séances, the restoration of positive effort can be hastened by salt baths. As the expenditure of energy is proportionate to the degree of contraction and to the weight sustained, the latter factor can be completely suppressed and the weight of the member eliminated by having the patient lie in a salt bath whose density is equal to that of the human body. By this means the patient finds that he is able to execute slight voluntary movements impossible under ordinary conditions. Régnier adds that the latest discoveries in physiology afford a scientific explanation of the results of therapeutic Swedish movements. Ling, the inventor, laid great stress on the "resistance movements," which term has been erroneously restricted since his day to movements to which artificial external resistance is opposed. This is contrary to the principles of his system.

28. **Intranasal Treatment of Dysmenorrhea.**—Ephraim found that cocainization of the so-called genital points in the nose was successful in arresting the pains accompanying the menstrual period in 18 out of 24 patients whom he had occasion to treat for intense dysmenorrhea. Three to five minutes after the points had been cocainized the severe pains vanished for several hours, not only while reclining but during violent exercise. Seven of the patients were married. The nasal mucosa was slightly congested in 7 and pathologic in 5. The septum was enlarged in 3 of these and the other 2 presented evidences of rhinitis. In these 2 last patients the cocain produced no effect. In one patient who was completely relieved of her customary severe dysmenorrhea, the uterus was fastened in retroflexion. His attempts to permanently cure the dysmenorrhea by cauterizing the genital points, were less successful. Only 4 out of the 8 patients thus treated more than six months ago have been permanently freed from their pains. One of the cured patients used to have extremely painful menses and they have now been entirely painless for more than a year. Bipolar electrolysis is the most effective method, but it is so painful that he applied it only twice, using the galvanocautery in the other cases.

32. **Arteriosclerosis in Relation to Cerebral Affections.**—Windscheid describes a complex of symptoms on the part of the nervous system which can be accepted as the direct expression of arteriosclerosis of the cerebral vessels. This is exclusive of hemorrhage, thrombosis, aneurysms and cerebral disturbances secondary to the arteriosclerosis. The symptoms of the condition to which he refers are a certain fatigue and exhaustion of the brain. Subjects thus affected cease to accomplish any new intellectual work. The brain seems to be capable of carrying on its usual tasks but can not undertake anything new. This condition is associated with headaches, vertigo and loss of memory. The headache is usually frontal and persistent, exaggerated by stooping, abdominal pressure and unusual physical exertion. The dizziness is slight, merely an uncertainty in the gait, never sufficient to induce a fall. There is frequently a remarkable intolerance to alcohol. The loss of the memory is generally the symptom that brings the patient to the physician. When this symptom-complex exists coincident with peripheral arteriosclerosis, the diagnosis of arteriosclerotic alterations in the brain is evident. They may occur without peripheral indications of arteriosclerosis. He believes that there is some regulating apparatus which compensates arteriosclerosis of the brain vessels, until some sudden cause disturbs this regulating apparatus and entails the symptom-complex above described. The arteriosclerosis may have long existed but caused no symptoms as long as the regulating apparatus was in working order. This is probably the cause of the disturbances which follow a slight injury to the skull. The nervous troubles observed in such cases, traumatic hysteria, etc., are due to the already established arteriosclerosis. The assumption of a hitherto latent arteriosclerosis of the brain suggests an explanation of the obscure so-called functional cerebral affections, especially certain manifestations of hysteria.

33. **New Clinical Standpoints in Regard to Arteriosclerosis.**—Grassmann describes arteriosclerosis as in one sense a diffuse neoformation in the walls of the vessels. Its frequently progressive course stamps it as of malignant nature. The process is one of hypertrophy, although frequently associated with evidences of inflammation. Hasenfeld has established that certain large tracts of vessels can be affected with a slight or moderate degree of arteriosclerosis, while all the other vessels are intact. He found on comprehensive study of the vascular system in fourteen cadavers that arteriosclerosis of the visceral region does not necessarily entail hypertrophy of the left ventricle so long as the lesions are restricted to the lower portions and do not involve the visceral arteries nor the aorta above the diaphragm. It is a comparatively recent discovery that arteriosclerosis frequently occurs in the small and minutest arterioles over large areas and that the consequent resistance causes increased pressure and enlargement of the heart. Huchard and Runeberg believe that this is due to a vasomotor constriction from toxins in the circulation, but this assumption has not yet been proved. The permanency of the exaggerated arterial pressure in arteriosclerosis is an important point for its differentiation. Some attribute great importance to the serpentine course of the arteries if the subject is under 25 or 30 years of age, and has inherited a tendency to arteriosclerosis. Sakorrhaphos found that all persons of this class in his experience died in middle age. Gehrhardt has noticed that the pulse in two symmetrically located arteries may vary by two to ten beats. This is especially marked when the arteriosclerosis involves the most proximal portion of the artery. Another sign is what Huchard calls the stability of the pulse, that is, the lack of the normal decline of six to eight beats in the pulse when the subject reclines or sits after standing. The pulse may even be more rapid when the subject reclines, and when the second aortic sound is more pronounced in addition the diagnosis of arteriosclerosis is evident. The enlargement of the heart in arteriosclerosis is not restricted to the left ventricle but involves both. Hull and Sutton distinguish an arterio-capillary fibrosis as distinct from arteriosclerosis. Runeberg has recently pointed out that in case of coronary arteriosclerosis, in addition to the familiar symptoms, the first

heart sound becomes a dull murmur while the pulse is peculiarly soft. Study of the clinical picture of coronary arteriosclerosis suggest an analogy between it and the affection known as intermittent limping or claudication. In both cases the vessels are narrowed so that the supply of arterial blood is insufficient and is rapidly used up, with consequent exhaustion of the muscles. The resulting pain is cured by repose. The partial or total abolition of the pulse in the arteries of the feet indicates an arteriosclerotic foundation for the pains and functional disturbances. Formication, numbness, etc., in the peripheral parts are frequently factors in the obstinate insomnia of arteriosclerosis. Pruritus can likewise be traced to arteriosclerosis in many instances. Acute renal affections are liable to produce the same clinical picture as arteriosclerosis, but in these cases it is transient. Von Noorden found arteriosclerosis in 155 out of 343 diabetics, and Fleiner noted that arteriosclerosis was frequent in the vessels of the pancreas in cases of diabetes. Grabe has described cases in which the diabetes might possibly be ascribed to the arterioselerotic alterations noted in the floor of the fourth ventricle. Little progress has been made in treatment during the last few years, but it is frequently possible by prophylactic measures to keep arteriosclerosis under control and arrest it at a moderate stage. Vierordt reports that 50 per cent. of his patients were favorably influenced by treatment with potassium or sodium iodid. Edgren and others report similarly favorable results from the iodin salts kept up in small doses for months and years. The benefit is especially marked in angina pectoris. Rosenbach and Schrötter denounce this treatment. Rumpf orders food as free from lime as possible, excluding milk for this reason. When arteriosclerosis is recognized in the early stages much can be done in the line of prevention by regulating the mode of life. All agree that severe physical exercise in sport or labor, especially when associated with excessive use of alcohol, is an important factor in its production.

34. **Hyperkeratosis Lacunaris Pharyngis.**—Arnsperger reports from Erb's clinic a case of this rare affection. The patient was a young girl of 17, subject to recurring sore throat. She noticed white patches in the throat during an acute attack of folliculitis. When the physician attempted to remove them he found that they were hard and required considerable force for their extraction. A similar keratosis has been described by various writers and treated with caustics, etc., or by extirpation of the tonsils. In the present case daily painting with silver nitrate had no effect and each of the horny plugs was scraped out with the sharp curette under cocain. The tonsils were freed in four sittings, but six more were required for the removal of the other plugs in the wall. This relieved the patient from all her disturbances and there has been no recurrence during the six months since. He advocates this energetic procedure at once without wasting time on gargles and other measures which are liable to prove ineffective. The leptothrix and other micro-organisms found in such cases are probably a secondary invasion.

35. **Antitoxic Power of Alcohol in Tuberculosis.**—Mircoli announces that his experience has fully confirmed Buchner's assertions in regard to the favorable effect of the local application of alcohol in tuberculosis on the principle of Salzwedel's alcohol compresses for treatment of phlegmons, lymphangitis, mastitis, etc. Mircoli was commissioned to test the antitoxic power of the serum in numerous subjects to establish standards for Maragliano's aqueous antituberculosis serum. He found that serum and ascitic fluid from subjects addicted to alcohol possessed exceptional antitoxic power except in case of organic lesions from its abuse. This power increased under treatment with Maragliano's serum much more rapidly than in persons not accustomed to alcohol. He found that the dock hands of Genoa, although exposed to vicissitudes of weather, inhalation of coal and grain dust, etc., do not suffer from tuberculosis more than other workingmen. Each drinks on an average three quarts of wine a day. The statistics at his clinic indicate that tuberculosis is less frequent in alcohol drinkers. The general effect of the alcohol seems to parallel that of the Maragliano serum although it is much less intense. It evidently confers upon the organism the power to neutralize the toxins of the tubercle bacillus. The antitoxic action of the alcohol, supplementing its sclerosing action, works against the spread of tuberculosis. Mircoli's experiences, therefore, tend to prove that a copious but not excessive use of alcohol is distinctly beneficial in tuberculosis. Maragliano recommends it in the form of brandy in milk. The benefits that have been derived from alcohol in typhoid fever, scorbutus, pyemia, etc., are probably due to the formation of antitoxin which it induces. He adds that the moral and sentimental fear of favoring the abuse of alcohol should not deter from the dispassionate scientific study of the matter.

45. **Frenkel's Therapeutic Exercises.**—Frank was at first a patient and then an assistant at Frenkel's establishment, and reports the great success of his method. No apparatus is used, except lines marked on the floor, and the exercises are rigorously individualized. He regulates the length of the exercise by the patient's pulse, which reveals incipient fatigue before he is himself conscious of it. The aim is to induce co-ordinated movements and all unnecessary muscular effort is avoided. Many of the exercises are done while the patient reclines. He discriminates carefully between the disturbances caused by ataxy and those caused by hypotonus which frequently precedes or accompanies the former. Its most striking symptom is the bending of the knee backward. Frenkel asserts that every case of ataxy can be improved and the majority of patients restored to their business. The benefit has been permanent in his patients. Six to eight years have passed in many cases without recurrence. The old idea that tabes is constantly progressive was based on the fact that the co-ordination became progressively worse on account of the lack of exercise from the enforced repose.

47. **Signs of Commencing Pregnancy.**—Schenk has been testing on 61 patients the value of three signs of commencing pregnancy: 1, the increase in size of the uterus in the sagittal diameter; 2, Hegar's sign of the compressibility of the lower segment of the uterus, and 3, the sign noted by Braun and Piskacek, the asymmetrical shape of the uterus. One side seems larger than the other, especially marked in the upper corner. This phenomenon is accompanied by a deep groove outlining the enlarged corner, which is always softer than the other side. He calls this the "Ausladung" sign, which is an architectural term signifying a protuberance or projection. Schenk found that the increase in the sagittal diameter is a constant and most valuable sign in the very earliest stage of pregnancy, while Hegar's and the Ausladung sign are of subordinate importance. By the end of the second month, however, the latter predominate, and Hegar's sign is most constant and important, but the absence of these signs does not absolutely exclude a pregnancy. By the third month the Hegar sign can be noted in almost every case and the Ausladung sign in more than 75 per cent. of all cases. The latter is probably due to the extramedian location of the ovum and coincides with the formation of the placenta. When there is no lateral nor median protrusion in the walls of the uterus front or rear, and the lower segment does not show evidences of compressibility, the idea of existing pregnancy can be discarded with almost certainty.

52. **Pertussis and Its Treatment.**—Frieser advocates the general adoption of antitussin in the treatment of pertussis, as the results attained to date indicate that it has efficacy in aborting and curing established cases. It is an organic preparation of fluorin, a salve consisting of 5 parts difluordiphenyl in 10 parts vaselin and 80 parts lanolin. It is rubbed into the skin of the neck, chest and back. The relief was almost immediate in the fifteen cases in which Frieser has applied it, and in others that have been published.

54. **Venesection in Uremia After Scarlet Fever.**—Springer reports five cases which proclaim the benefit to be derived from venesection supplemented by saline infusion in uremia in the course of post-scarlatinal nephritis. The severe cerebral symptoms and tense pulse subsided almost at once. He recommends venesection without losing time with narcotics and

other measures, whenever the uremic symptoms become alarming in children after scarlet fever.

61. **Primary Pigmented Syphilids.**—Moraitis was able to find only six cases of primary pigmented syphilids published during the last seven years, and only one patient was a man. He has had occasion to observe two and found it impossible to cure the patients, although the other manifestations of the syphilis were easily suppressed. In one of his cases the pigmentation spread like a network over almost the entire trunk, leaving small islands of sound skin.

62. **Indications for Abortion in Pulmonary Tuberculosis.**—Zanoni recommends interrupting the pregnancy in a woman with pulmonary tuberculosis if the infection is comparatively recent, not older than four to six months, and the pregnancy has not passed beyond the third month. The patient must also offer evidence that nourishment can be taken and that the loss in weight observed is due to the nausea, etc., of the pregnancy and not to the tubercular process. The pulse should not be above 100 in the morning after five minutes of absolute repose, without cough. The question of the interruption of pregnancy in chronic disease is to be discussed at the approaching international congress of gynecology to be held at Rome next fall. Zanoni describes a case in which the above conditions were fulfilled and which he therefore treated by prompt abortion, restoring the patient when she was apparently in a rapid decline in a fourth pregnancy. The cough, sputa, and the physical signs of the tuberculosis had vanished in fifty days after the abortion and the patient gained more than a dozen pounds in three weeks. She received five injections of anti-tuberculosis serum and a brief course of cacodylic medication.

69. **To Obtain Rapid Proliferation of Tubercle Bacilli.**—Francesco corroborates the value of Hesse's method of growing the tubercle bacillus. The superior proliferation is probably due to the presence of mucus, which is a favorable medium for it, and also to the slight nutritive value of the medium, which impedes the rapid development of the common pyogenic germs. It is a mixture of agar and somatose and the mucous sputum is spread over its surface in a Petri dish.

75. **Hemorrhage After Ablation of Tonsil or Adenoids.**—Lunin has had five cases of severe hemorrhage after operations of this kind. He describes them in detail. One patient in Bryson Delavan's experience bled to death from merely digital exploration of the region. Anemia also predisposes to hemorrhage. Three of his personal cases were very anemic children. Cardiac affections are another contra-indication, especially enlargement of the left ventricle. Arteriosclerosis is so seldom observed in children that it can scarcely be included in the contra-indications. The operator should also be on the lookout for anomalies in the nasopharyngeal cavity, such as the so-called *vertebra prominens*. A superficial examination might mistake this prominent vertebra for a retropharyngeal abscess or tumor. The malformation most important from this point of view is some abnormal course or projection of a blood vessel. Schmiegeloff has reported a fatal hemorrhage from injury of the internal carotid artery. Others have observed a pulsating vessel on the rear wall of the pharynx, assumed to be an abnormal ascending pharyngeal artery or a branch of the internal carotid. The application of cocain also favors hemorrhage, as the vaso-constricting action of the drug is followed by a relaxation amounting almost to paralysis. This, of course, does not apply to the hemorrhage which occurs several days after the operation. If a scrap of the tonsil is left hanging by its mucous membrane after the operation, it acts like a foreign body and not only interferes with breathing and swallowing, but is liable to induce hemorrhage or maintain it if already established, as he had occasion to observe in his personal experience. Another important factor in the production of hemorrhage is an acute catarrhal affection of the upper air passages. This entails congestion and also a tendency to cough, both of which favor hemorrhage. He states that as the hemorrhage is liable to occur soon after the operation, he keeps the patient until all danger from the effect of the cocain is past. He then dismisses him with strict injunctions to keep very quiet for the following six days. In case of heedless or very lively children he insists that they must stay quietly in bed for six days, with light food, no coffee, tea nor alcoholic drinks. He has witnessed severe hemorrhage occur as late as the fifth and sixth days in consequence of physical exertion. Among the measures which have proved effective in arresting the hemorrhage are injections of iced or hot water, of tannin, ferropyrin, suprarenal extract, hetol, dermatol, etc. Lunin found a 5 per cent. tepid solution of gelatin successful in one of his cases. Tamponing usually proves effective.

85. **Syphilis of the Alimentary Canal.**—Soboleff describes a case of syphilis affecting the large intestine. He remarks that a lesion of this kind may be suspected when severe pains develop suddenly, accompanied by extreme depression but no fever. Syphilitic involvement of the alimentary canal is especially liable to occur during the third stage of the disease, less frequently during the second. Syphilitic manifestations elsewhere are an aid in the diagnosis, but their absence does not preclude the possibility of the affection. It has always been rapidly cured by specific treatment, but is liable to terminate fatally if not recognized in time.

95. **Treatment of Papilloma Laryngis in Children.**—Lindt describes a case of constantly recurring soft papillomata on the vocal cords of a four-year-old boy who had been hoarse from infancy. After two years of vigilant treatment in the hospital, repeated extirpation of the tumors by tracheotomy or laryngo-fissure, intubation, etc., the tendency to the formation of papillomata seemed to have died out, and the boy was dismissed in good health and with only a slight trace of hoarseness in his speech and no respiratory disturbances nor stridor at any time since. Radical extermination of the papillomata has been only exceptionally successful in such cases, but the fact seems to be established that after a certain length of time, months or years, the tendency to papillomatous proliferation is lost. Lori's catheters render great assistance as it is possible to remove the tumors with them without injury to the most wildly struggling child. Lindt derived the greatest benefit from a glass canula with a large opening in the side which was inserted in the larynx and fastened by threads emerging from the tracheal wound and passing around the neck. The opening was closed during the day and the child breathed naturally. At night the plug was removed and he breathed through the opening. The removal of the papillomata is always indicated, as they will interfere with breathing and speaking even if they do not increase in size, and there is always a possibility that they will not recur. When the case comes under treatment just as the tendency is waning, the results of a single operation may prove brilliantly successful. Otherwise extreme patience and perseverance are indispensable.

98. **Surgical Intervention in Gastric Affections.**—Huber reviews the ultimate course of 62 cases of gastric affections which he had referred to the surgeon. They include 34 patients with carcinoma, 23 with benign stenosis of the pylorus, 1 of severe gastroptosis and 2 of stenosis from compression by tumor elewhere. Seven of the patients with carcinoma died from the results of the operation. The longest survival after gastrectomy was 781 days and after gastro-enterostomy was 557, except one patient operated on in 1900, who is still living, and 3 in 1901. There was no palpable tumor in 9 of the cases, all men. In 76 per cent. of the cases free hydrochloric acid was absent and in 73.3 per cent. the presence of lactic acid was noted. Vomiting had been observed in all but 5 cases. Motor disturbances were noted in 100 per cent., severe in 94 per cent. Long bacilli were found when lactic acid was present in all but one case. Yeast fungi and sarcinæ were found in 11 out of the 34 cases; in 6 out of the 7 with free hydrochloric acid and in 5 of the 25 without. A symbiosis of long bacilli and sarcinæ was observed twice. Coffee-dregs vomit occurred in only 5 cases. It is evidently a sign of a late phase of the carcinoma. In 20 cases the symptoms had lasted from six to twelve months. The age of the patients was 30 to 50 in half of the total number, the maximum occurring between 41 and 50.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

REPORT OF THE MINISTER OF AGRICULTURE FOR THE DOMINION OF CANADA, for the Year Ending Oct. 31, 1901. Paper. Pp. 173. Ottawa: S. E. Dawson. 1902.

TWELFTH ANNUAL REPORT OF ST. MARY'S HOSPITAL. Conducted by Sisters of St. Francis. Paper. Pp. 30. Rochester, Minn.: Daily Bulletin Print. 1902.

PROCEEDINGS OF THE ORLEANS PARISH MEDICAL SOCIETY. Issued March 1, 1902. Paper. Pp. 22. New Orleans: Published by the Society.

BULLETIN OF IOWA INSTITUTIONS. October. Published Quarterly. Paper. Pp. 537. Atlantic, Iowa: Telegraph Printing Co. 1901.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 13 to 19, 1902, inclusive:

James K. Ashburn, contract surgeon, leave of absence for one month granted, to take effect about April 1, 1902.

William N. Bispham, lieutenant and asst.-surgeon, U. S. A., from Cabana Barracks, Cuba, to duty at Fort Totten, N. Y.

Joseph J. Curry, contract surgeon, now at the General Hospital, Fort Bayard, N. M., to report in person to the commanding officer of that hospital for duty.

John S. Fogg, captain and asst.-surgeon, Vols., on account of physical disability, is honorably discharged from the service of the United States, to take effect May 25, 1902, and leave of absence is granted until that date.

Clyde S. Ford, lieutenant and asst.-surgeon, U. S. A., leave of absence for two months granted.

Fletcher Gardner, contract surgeon, now at Bloomington, Ind., to proceed to San Francisco, Cal., en route for assignment in the Division of the Philippines.

George L. Hicks, contract surgeon, from temporary duty at Fort Totten, N. Y., to duty with troops or recruits en route to San Francisco, Cal., and Manila, P. I., and for subsequent assignment in the Division of the Philippines.

William F. de Niedeman, major and surgeon, Vols., leave of absence on certificates of disability granted from the Division of the Philippines extended one month on account of sickness.

William M. Roberts, lieutenant and asst.-surgeon, U. S. A., from duty in the Division of the Philippines to post duty at Fort Sill, Okla.

Erwin I. Shores, contract surgeon, former orders amended so as to direct him to proceed to his home, Elmira, N. Y., for annulment of contract.

William J. S. Stewart, captain and asst.-surgeon, Vols., recently appointed and now at Washington, D. C., to report for assignment to duty with troops or recruits that may be sent to San Francisco, Cal., and on arrival there to report for duty on a government transport.

In addition to the above, orders were issued during the week assigning medical officers to duty on boards to examine officers of the Army for promotion, as follows: At Fort Ethan Allen, Vt., Major Marlborough C. Wyeth, surgeon, U. S. A., and Charles B. Mittelstaedt, contract surgeon; at Fort Keogh, Mont., J. Samuel White, contract surgeon; at Fort McPherson, Ga., Major William D. Crosby, surgeon, U. S. A., and Joseph F. Siler, contract surgeon; at Fort Riley, Kan., Major Paul Shillock, surgeon, U. S. A., and Lieut. Robert N. Winn, asst.-surgeon, U. S. A.; at Fort Sam Houston, Tex., Major Charles F. Mason, surgeon, U. S. A., and David M. Roberts, contract surgeon; at San Francisco, Cal., Major Henry S. Kilbourne, surgeon U. S. A., and Lieut. Henry S. Greenleaf, asst.-surgeon, U. S. A.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending March 22, 1902:

Medical Director N. M. Forebec, commissioned a medical director from Jan. 26, 1902.

Medical Inspector S. H. Dickson, commissioned a medical inspector from Jan. 26, 1902.

P. A. Surgeon E. J. Grow, commissioned a passed assistant surgeon from June 3, 1901.

P. A. Surgeon E. G. Parker, commissioned a passed assistant surgeon from Jan. 10, 1902.

Asst.-Surgeon C. M. Oman, detached from the *Constellation* and ordered to report to the Commandant of the Marine Corps, Washington, D. C., to accompany a detachment of marines to the Asiatic Station.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended March 20, 1902:

Surgeon Preston H. Bailhache, leave of absence for 5 days from March 13, 1902, under paragraph 179 of the regulations.

Surgeon G. M. Magruder, granted extension of leave of absence, on account of sickness, for one month from February 22.

P. A. Surgeon C. P. Wertenbaker, to proceed to Lincoln, Neb., for special temporary duty.

Asst.-Surgeon H. C. Russell, granted leave of absence for five days from Feb. 13, 1902, under paragraph 181 of the regulations.

Asst.-Surgeon H. B. Parker, to proceed to Mobile, Ala., for special temporary duty.

Asst.-Surgeon M. J. White, relieved from duty at the Marine Hospital, San Francisco, Cal., and assigned to special duty at San Francisco from March 19.

Asst.-Surgeon W. C. Hobdy, detailed as inspector of unserviceable property at Savannah Quarantine.

Asst.-Surgeon T. F. Richardson, to proceed to Philadelphia, Pa., for special temporary duty.

Asst.-Surgeon D. H. Currie, relieved from duty at Hygienic Laboratory, to take effect March 29, 1902; relieved from special temporary duty at San Francisco, Cal., and assigned to duty at San Francisco.

Asst.-Surgeon J. M. Holt, granted leave of absence for seven days from March 14.

A. A. Surgeon B. Y. Harris, leave of absence granted for fifteen days by Department letter of Feb. 19, 1902, revoked.

A. A. Surgeon J. F. McCormac, granted leave of absence for fifteen days from March 28.

A. A. Surgeon R. T. Walker, granted leave of absence for five days from April 8.

A. A. Surgeon W. O. Wetmore, granted leave of absence for fourteen days from April 3.

Senior Pharmacist E. S. Maguire, leave of absence for thirty days granted by Department letter of Feb. 4, 1902, revoked.

Senior Pharmacist R. H. Gibson, granted leave of absence for twenty-five days from March 29.

APPOINTMENTS.

Walter L. Savage, of New York, appointed acting asst.-surgeon for duty at Buffalo, N. Y.

Albert F. Stuart, of Maine, appointed acting asst.-surgeon for duty at Portland, Maine.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 21, 1902:

SMALLPOX—UNITED STATES.

Alabama: Birmingham, Feb. 1-28, 12 cases.

California: Los Angeles, March 1-8, 1 case; Sacramento, March 1-8, 1 case; San Francisco, March 2-9, 6 cases.

Colorado: Denver, March 1-8, 5 cases.

Florida: Jacksonville, March 8-15, 9 cases.

Illinois: Belleville, March 8-15, 2 cases; Chicago, March 12-19, 7 cases.

Indiana: Elkhart, March 8-15, 1 case; Evansville, March 8-15, 4 cases; Indianapolis, March 8-15, 13 cases; Michigan City, March 10-17, 1 case; Terre Haute, March 8-15, 2 cases.

Iowa: Clinton, March 1-8, 3 cases.

Kansas: Wichita, March 8-15, 2 cases.

Kentucky: Covington, March 8-16, 11 cases; Lexington, March 8-15, 1 case.

Louisiana: New Orleans, March 8-15, 3 cases imported.

Maine: Portland, March 8-15, 2 cases, 2 deaths.

Maryland: Baltimore, March 8-15, 1 case.

Massachusetts: Boston, March 8-15, 21 cases, 4 deaths; Cambridge, March 8-15, 5 cases; Chicopee, March 8-15, 1 case; Haverhill, March 8-15, 1 case; Holyoke, Feb. 22-March 15, 25 cases; Malden, March 8-15, 2 cases; Newburyport, March 1-15, 2 cases, 1 death; Somerville, March 8-15, 1 case.

Michigan: Detroit, March 8-15, 6 cases; Ludington, March 8-15, 13 cases.

Minnesota: Minneapolis, March 1-15, 29 cases.

Montana: Butte, March 2-9, 1 case.

Nebraska: Omaha, March 8-15, 45 cases; South Omaha, March 8-15, 80 cases, 1 death.

New Jersey: Camden, March 8-15, 3 cases; Newark, March 8-15, 32 cases, 6 deaths.

New York: Binghamton, March 8-15, 1 case; New York, March 8-15, 65 cases, 11 deaths; Yonkers, March 7-14, 1 death.

Ohio: Chillicothe, March 8-15, 2 cases; Cincinnati, March 7-14, 25 cases; Cleveland, March 7-14, 3 cases.

Pennsylvania: Allegheny City, March 8-15, 6 cases; Lebanon, March 8-15, 2 cases; Norristown, March 8-15, 1 case; Philadelphia, March 8-15, 53 cases, 6 deaths; Pittsburg, March 1-15, 9 cases.

Rhode Island: Providence, March 8-15, 1 case; Warwick, March 7-14, 2 cases.

Tennessee: Memphis, March 8-15, 14 cases.

Texas: San Antonio, Feb. 1-28, 9 cases.

Utah: Salt Lake City, March 8-15, 1 case.

Washington: Tacoma, March 2-9, 9 cases, 1 death.

Wisconsin: Green Bay, March 9-16, 5 cases; Milwaukee, March 8-15, 2 cases.

SMALLPOX—FOREIGN AND INSULAR.

Porto Rico: Ponce, March 3, several cases reported.

Austria: Prague, Feb. 15-March 1, 11 cases.

Belgium: Antwerp, Feb. 15-March 1, 34 cases, 8 deaths.

Brazil: Pernambuco, Jan. 15-31, 65 deaths.

Canada: Halifax, March 8-15, 1 death; Quebec, March 8-15, 20 cases, 1 death.

Colombia: Panama, Feb. 24-March 10, 15 deaths.

France: Paris, Feb. 22-March 1, 2 deaths; Rheims, Dec. 1-8, 1 case; Roubaix, Feb. 1-28, 1 death.

Great Britain: England—Liverpool, Feb. 22-March 8, 33 cases; London, Feb. 15-March 1, 881 cases, 139 deaths; Sheffield, Feb. 22-March 1, 1 case. Scotland—Dundee, Feb. 22-March 1, 7 cases; Edinburgh, Feb. 15-March 22, 1 case; Glasgow, Feb. 28-March 7, 22 cases, 10 deaths.

India: Bombay, Feb. 11-18, 8 deaths; Calcutta, Feb. 8-15, 2 deaths; Karachi, Feb. 9-16, 2 cases, 1 death.

Italy: Rome, Jan. 11-18, 1 death.

Mexico: Mexico, March 2-9, 3 cases, 1 death.

Russia: Moscow, Feb. 8-22, 18 cases, 12 deaths; Odessa, Feb. 15-March 1, 1 case; St. Petersburg, Feb. 8-15, 7 cases, 1 death.

Uruguay: Montevideo, Feb. 5, 32 cases.

YELLOW FEVER.

Dutch Guiana: Paramaribo, Jan. 1-31, 5 cases, 3 deaths.

Mexico: Vera Cruz, March 1-8, 8 cases, 4 deaths.

CHOLERA.

India: Bombay, Feb. 11-18, 6 deaths; Calcutta, Feb. 8-15, 61 deaths.

PLAGUE.

India: Bombay, Feb. 11-18, 663 deaths; Calcutta, Feb. 8-15, 120 deaths; Karachi, Feb. 9-16, 60 cases, 47 deaths.

Japan: Nagasaki, March 13, present.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, APRIL 12, 1902. No. 15.

Original Articles.

REPORT OF CASES TREATED WITH ROENTGEN RAYS.

Wm. ALLEN PUSEY, A.M., M.D.
PROFESSOR OF DERMATOLOGY IN THE UNIVERSITY OF ILLINOIS.
CHICAGO.

TUBERCULOSIS OF THE SKIN.

Case 1.—Referred to me by Prof. H. B. Favill of Rush Medical College. Woman, aged 38, with extensive lupus involving the chin, cheeks, and neck of four years' duration; healed with healthy soft white scars after five months. This patient has been well now a year and a half and shows no sign of recurrence. This case has been reported in detail.[1]

Case 2.—Referred to me by Prof. A. J. Ochsner of the University of Illinois. Lupus of the nose in a girl 16 years old of two years' duration; healed with healthy scars after five months; practically no deformity. This patient has been well for a year and there is no evidence of recurrence. The case has been reported in detail.[2]

Case 3.—Mrs. A., aged 38, fifteen years married, was referred to me in March, 1901, by Dr. E. A. Matthaei. She has never had a serious illness except vesical calculus and cystitis seven years ago, which were relieved by operation, and has never had any sort of skin eruption, except the one on her chin. Her history gives no suspicion of syphilis. She has four healthy children living and has had one miscarriage of a healthy fetus between the third and fourth months. Her family history is without significance, except that her father died at the age of 49 of chronic lung trouble. The patient is spare-built and not very vigorous-looking, but there is no organic disease.

When she came to me in March, 1901, there were two hypertrophic patches, one on the tip of the chin, the other under the chin, which are well shown in the accompanying photograph, Fig. 1. These consisted of closely set groups of waxy, glistening, almost translucent tubercles, which at a distance looked very much like patches of zoster. The first patch to develop, the one under the chin, appeared about seven years ago as a pinhead-sized lesion around which other lesions gradually developed. This patch was cut out, but recurred in the scar, and two years later the group of lesions appeared on the tip of the chin. Since that time the disease has persisted in spite of treatment and gradually increased to its present condition. The scar in the center of the patch under the chin, resulting from the previous operations, produced a similarity in appearance to syphilis, which was confusing.

The case was first shown by me in March, 1901, at the Chicago Dermatological Society as a case of hypertrophic lupus. There was then a difference of opinion between hypertrophic lupus and tubercular syphilide. The case was afterwards shown at the American Dermatological Association, where most of the members, I believe, agreed in the diagnosis of hypertrophic lupus. The microscopic findings were not conclusive and in order to exclude syphilis the case was for two and a half months put under full doses of iodides and mercury and mercurial ointment locally. This treatment had no effect.

After the failure of mixed treatment the case was put under daily *x*-ray exposures, in June, 1901. The effect was not prompt, but after two months considerable erythema was produced, which was accompanied by marked shrinkage of the lesions. The exposures were continued until August 26, with the production of an acute dermatitis, and by this time the tubercles had shrunken until the surface was flat. The dermatitis was curiously enough confined sharply to the diseased area. Since its first disappearance—seven months ago—there has been no recurrence of the disease. The areas are still red from exposures which the patient has recently had. The only scarring is that which had existed before treatment with *x*-rays was begun. The present condition is shown in the accompanying photograph, Fig. 2.

Case 4.—I have under treatment a fourth case of lupus which was included in a former report.[2] It is a very severe case of at least twenty-five years' duration in a woman 41 years old. She had had all sorts of treatment and in October, 1898, the diseased area was removed and a plastic operation for the restoration of the nose and the central part of the face done. The disease recurred in the scar and has since involved the nose and all of the parts around. The nose has been almost entirely destroyed since the recurrence. The disease, which has been under treatment more or less constantly for a year, has not spread in that time, which is in marked contrast to the history of the previous year, but it has not been eradicated. The result thus far in this case is similar to those reported by Finsen in cases where the disease has recurred after plastic operations. I have recently treated her much more vigorously than ever before, with very considerable improvement in her condition and in view of this and the fact that we have succeeded in stopping the spread of the disease, I still have hopes of curing her.

I have had under treatment two other patients who were thought to have cutaneous tuberculosis and who have gotten entirely well while having *x*-ray exposures. The diagnosis, however, in neither of these cases was fully established and both patients had other treatment besides the use of *x*-rays, so that in my opinion they are not entitled to consideration in this connection.

The results obtained in Cases 1, 2 and 3 are, I believe, as good as can possibly ever be hoped for by any method. There has been no destruction of healthy tissue in getting rid of the disease and less scarring could not possibly remain after disease as extensive as these cases had. The scars are white, soft, pliable and, indeed, in Cases 2 and 3, are hardly to be called scars. As to the permanency of the results, Case 1 had been well eighteen months, Case 2, twelve months, and Case 3, six months, and none shows any evidence of recurrence. But grant that recurrences should take place, there is every reason to suppose it can be controlled by the same method without scarring or pain. When one contrasts such re-

1. The Journal A. M. A., Dec. 8, 1900.
2. Ibid., Sept. 28, 1901, 821.

sults with those obtained by former methods of treatment, and remembers the endless routine of pain that the patients suffered in treatment, the fact that this treatment is painless becomes no small consideration.

EPITHELIOMA.

Case 5.—This case was referred to me by Prof. John L. Porter of the University of Illinois. The patient was a woman, aged 68, with extensive epithelioma of shoulder of fifteen years' duration. The disease entirely disappeared April, 1901, after two months and a half of treatment, with the formation of healthy scars. There is no evidence of recurrence after a year.

This case was reported in detail.[2] Since that time Dr. Ludvig Hektoen, Professor of Pathology in Rush Medical College, has very kindly examined my slides from the case and given me the following opinion: "I have examined the sections from Mrs. C.'s shoulder, both yours and those from 1894, and in my opinion there is no question as to the correctness of the diagnosis of carcinoma (rodent ulcer)."

The histological character of the scar tissue is shown in the accompanying photo-micrograph (Fig. 3) of a section of tissue taken from the shoulder at the site of the largest ulcer.

Case 6.—Mrs. T., aged 68, was referred to me by Dr. Martin F. Engman of St. Louis, late House Surgeon, New York Skin and Cancer Hospital. The history of the case is as follows: Twelve years ago a small nodule developed upon the ala nasi, which ulcerated and was removed but soon recurred. In the last ten years the lesion has been treated by almost every plan short of complete ablation of the nose, but always with prompt recurrence. In the summer of 1900 she consulted Dr. Frank Hartley of New York, who advised a plastic operation, but she declined further operative procedures.

The condition at the time she began treatment with *x*-rays is indicated in Fig. 4. There was an ulcer occupying almost the entire right ala nasi and spreading down on the cheek; a similar small ulcer was on the left ala, and between the two was an area of scar tissue, the result of previous treatment. The ulcers were typical epitheliomas in appearance, deep, with rolled pearly borders, and fed by numerous dilated capillaries. The disease was evident within the nostrils and the walls of the nostrils were of almost papery thinness. The septum was involved and probably also the nasal bones. The ulcers bled frequently and profusely and were the source of much pain. Altogether the case seemed, both to Dr. Engman and myself, to present as unfavorable conditions for cure as possible.

Judging from the treatment she has had, no one has ever made any other diagnosis than epithelioma, and bearing in mind the ulcers, which were perfectly characteristic, the course of the disease, the age of the patient, and the condition of her skin, which showed at various points patches of senile keratosis, I think that there can not be the slightest uncertainty as to the diagnosis of epithelioma.

She was put under daily exposures to *x*-rays April 26, 1901. By May 10 the borders of the ulcers were shrinking, some healthy epithelium was beginning to grow out from the edges and the discharge was greatly lessened. By June 5 the ulcer on the left side of the nose was healed with a healthy looking scar. By the middle of June the ulcer on the right side of the nose was reduced to the size of a wheat grain. This lesion, at the point where the ala nasi perforated, was slow to heal and the treatments were carried to the point of producing acute dermatitis, so that by August 8 the exposures were stopped on this account. After stopping the exposures, the dermatitis increased until the exposed surface was denuded of epidermis. This healed in about ten days and at the same time the last trace of the ulcer on the right side disappeared. Since that date, over six months, the scars have remained in a healthy condition. The condition then and since is shown in Fig. 5. She has had exposures from time to time subsequently with a view to destroying any undiscovered remnants of the disease. As far as can be told there is no disease left. There is still some tenderness and at times there is some bleeding from the inside of the nose. On December 19 I had Prof. T. Melville Hardie of the University of Illinois examine her and he kindly gave me the following report:

The general appearance of the mucous membrane covering the septum and the external wall of the nostril is that characteristic of atrophic rhinitis. The membrane is in nearly every place thinner than normal and there are numerous spots where there is present a slight dried oozing of blood, which follows the removal of the crusts of dried mucus. This condition is more obvious in the right nostril, but this is the case partly because of the partial obstruction in the left nostril caused by a deflection and ridge of the septum.

The right inferior turbinated bone is smaller than normal, the atrophy having extended to the bone, besides affecting the mucous membrane covering it. The anterior end of the middle turbinated body is enlarged and the mucous membrane covering it is atrophic. Careful examination disclosed no ulceration in the nostril and no infiltration, the only irregular feature of the diseased portion being the over-red color of the mucous membrane of the floor and the inferior turbinated body. The naso-pharynx also exhibits atrophy of its mucous membrane and bleeds when the crusts of dried mucus are forcibly disturbed.

As far as can be judged, therefore, both from the internal as well as the external conditions, this case is free from carcinoma.

Case 7.—Patient is a healthy man, aged 38. A year ago an indurated nodule appeared on his nose at the site of a previous wart, which ulcerated and spread rapidly. In May, 1901, he came to my clinic at the College of Physicians and Surgeons. The condition at that time is shown in Fig. 6. There was an ulcer involving the tip of the nose the size of a 5-cent piece. Sections taken from the borders of the ulcer confirm the diagnosis of epithelioma, Fig. 7. It was an epithelioma beginning deep in the subcutaneous tissue, showing many pearls and of rapid growth.

He was put under *x*-ray treatment on May 23 and was given exposures more or less regularly for two and a half months. There was a healthy scar by September 15. His condition since that time is shown in the accompanying photograph, Fig. 8.

Case 8.—Healthy man, aged 72, was referred to me Nov. 5, 1901, from the Illinois Eye and Ear Infirmary, for treatment of the ulcer shown in Fig. 9. This was a sharply punched-out ulcer in the right nasal furrow the size of a little finger nail, with raised, waxy borders, profuse blood supply, and painful. The disease began about two years ago in a warty growth which bled easily. In July of this year it ulcerated and assumed its present condition. I got no section of it, but it was in appearance a typical epithelioma and I believe there is no doubt of the diagnosis. The result is shown in the second photograph, Fig. 10. There is a smooth, soft, white, healthy-looking scar, without induration.

Case 9.—Man, aged 75 years, was referred to me by Dr. Norval H. Pierce, surgeon to Illinois Eye and Ear Infirmary, on Nov. 5, 1901. About eleven years ago a small growth developed on the inner surface of the auricle near the meatus. This gradually became larger and during the past two years has been the source of considerable pain. He made no effort at treatment until the summer of 1900, when he went to the Illinois Eye and Ear Infirmary. The ulcer was there recognized as an epithelioma and during the summers of 1900 and 1901 he was treated at the Infirmary, whence he was referred to me by Dr. Pierce. The sections taken at the Infirmary

Fig. 1.—Case 3. Lupus hypertrophicus, June 1, 1901.

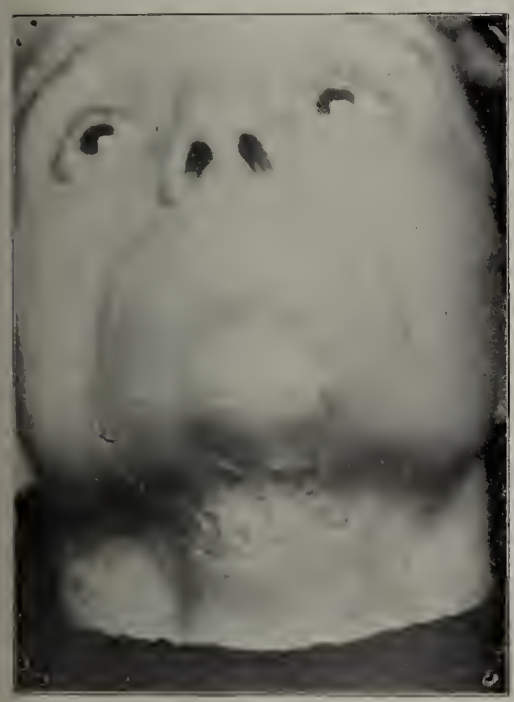


Fig. 2.—Case 3. September, 1901.

Fig. 6.—Case 7. Cutaneous carcinoma, May 23, 1901.

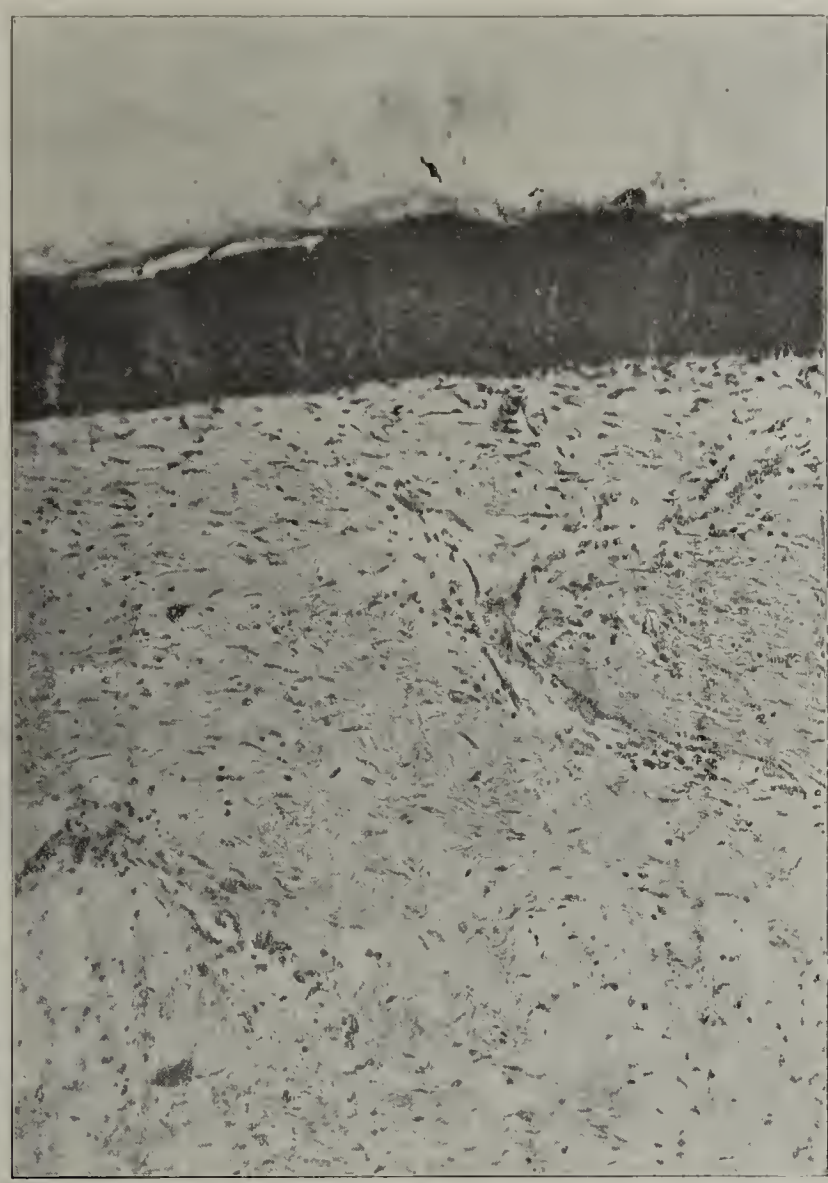


Fig. 3.—Section of tissue taken from site of cutaneous carcinoma in Case 5, showing healthy scar tissue and smooth epidermis.

Fig. 4.—Case 6. Cutaneous carcinoma, April 26, 1901.

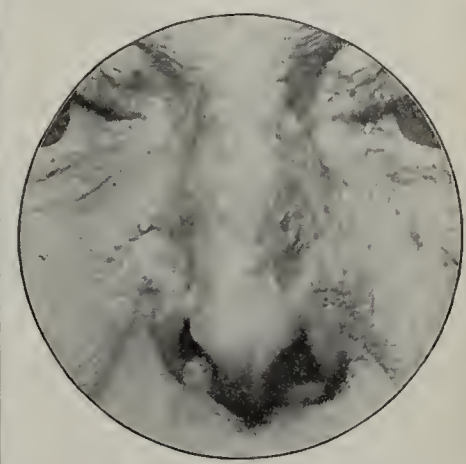


Fig 5.—Case 6. Aug. 20, 1901.

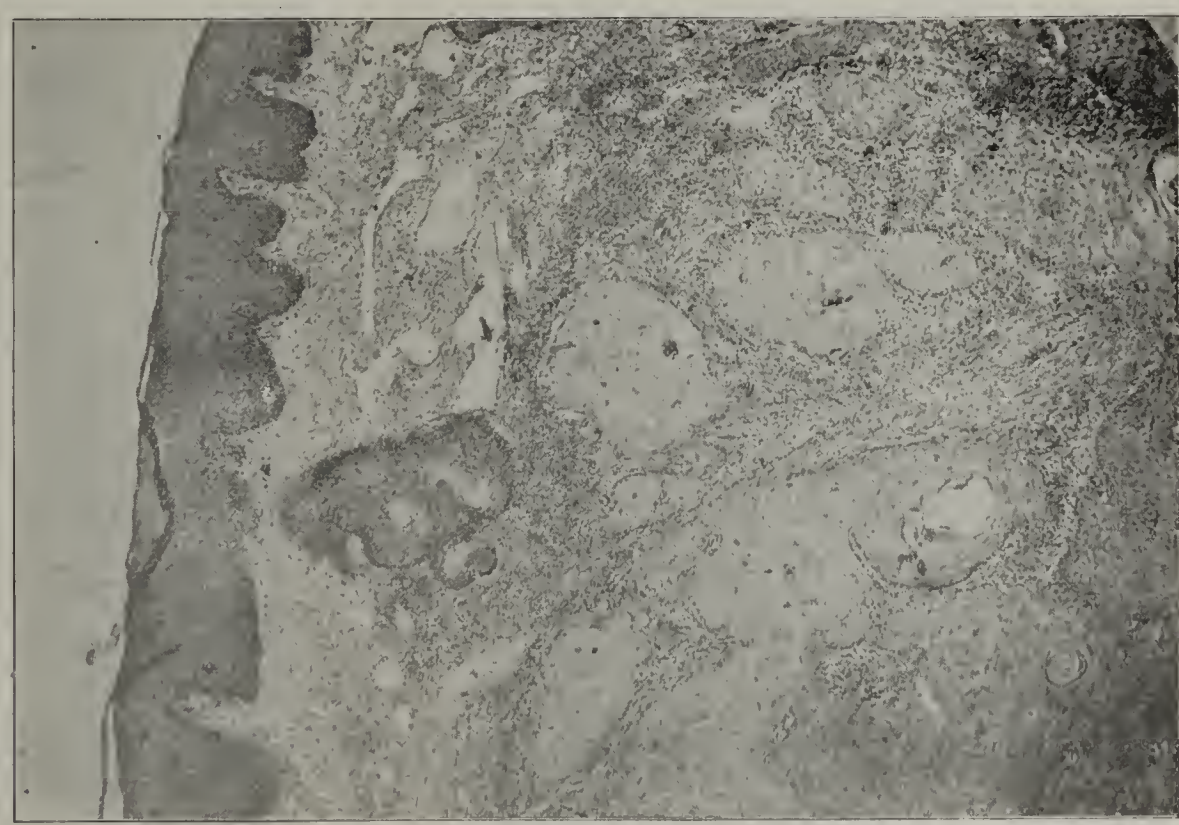


Fig. 7.—Photo-micrograph of Case 7.

Fig. 8.—Case 7. Sept. 15. 1901.

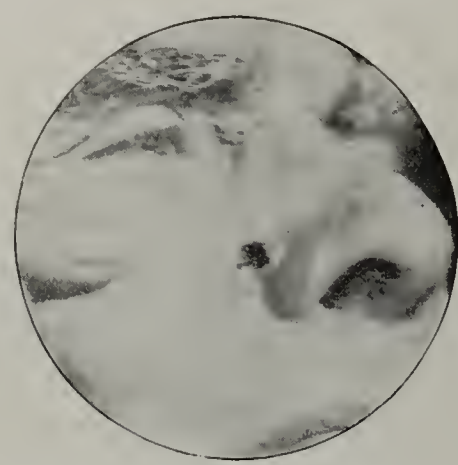


Fig. 9.—Case 8. Cutaneous carcinoma, Nov. 5, 1901.

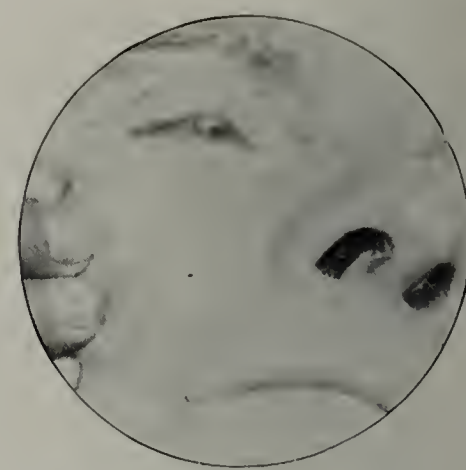


Fig. 10.—Case 8. Feb. 1, 1902.

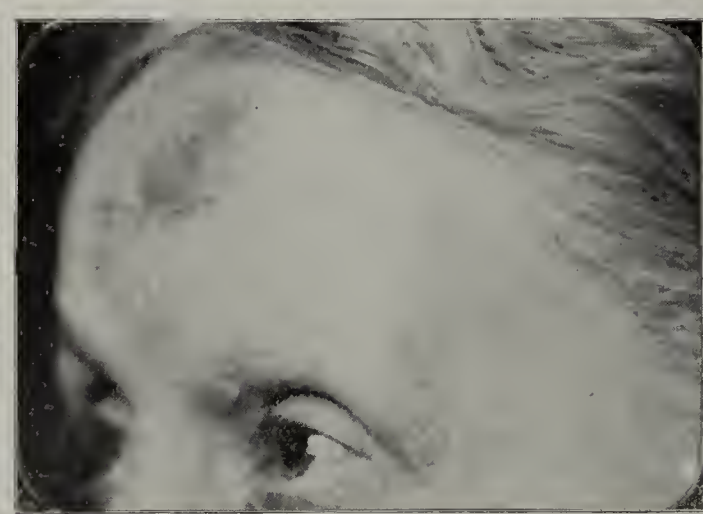


Fig. 12.—Case 10. Jan. 8, 1902.

Fig. 13.—Case 11. Cutaneous carcinoma, Dec. 9, 1901.

Fig. 11.—Case 10. Cutaneous carcinoma, Nov. 14, 1901.

Fig. 14.—Case 11. Jan. 27, 1902.

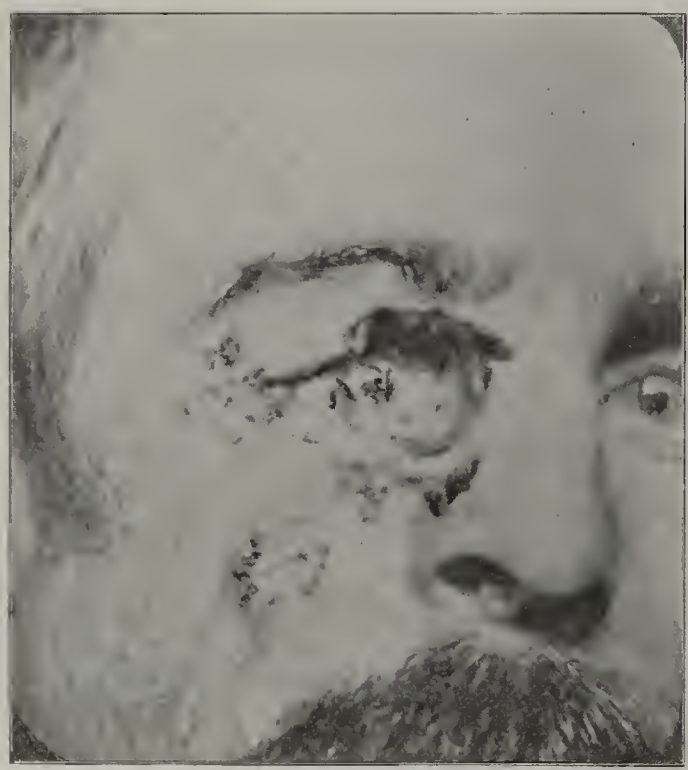


Fig. 15.—Case 12. Carcinoma of the orbit, Dec. 14, 1901.

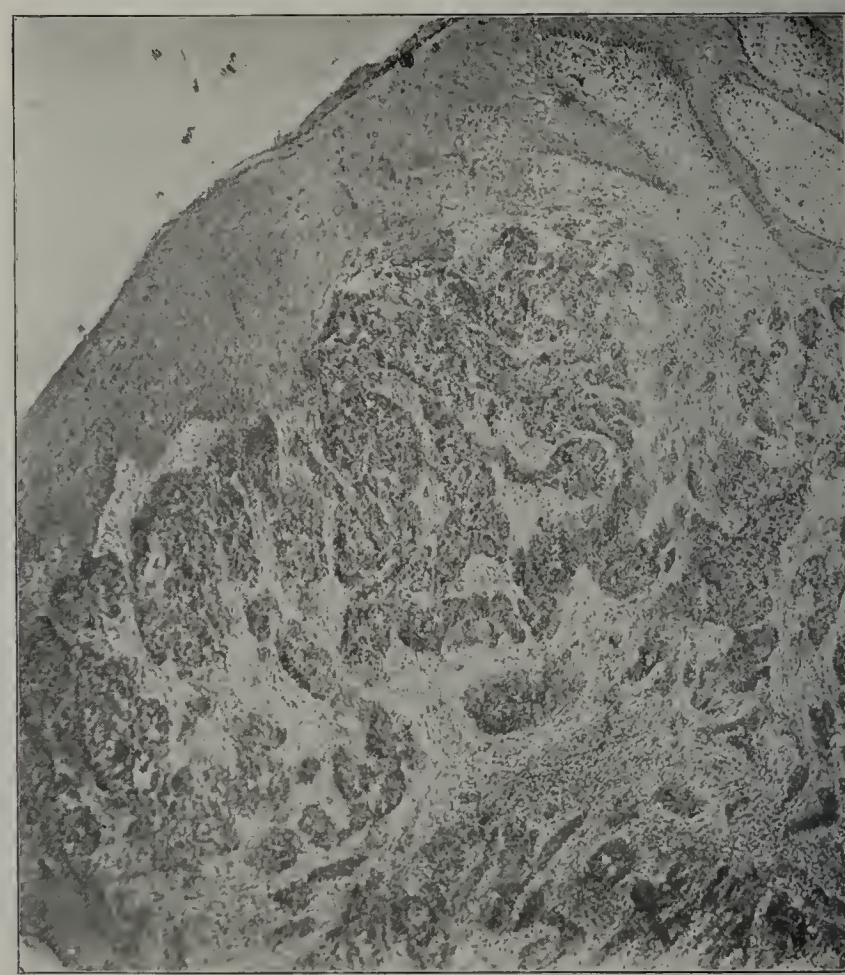


Fig. 16.—Photo-micrograph of Case 12.

Fig. 17.—Case 12. March 15, 1902, showing entire disappearance of the carcinoma, with a small surface of healthy granulations not yet covered with epithelium.

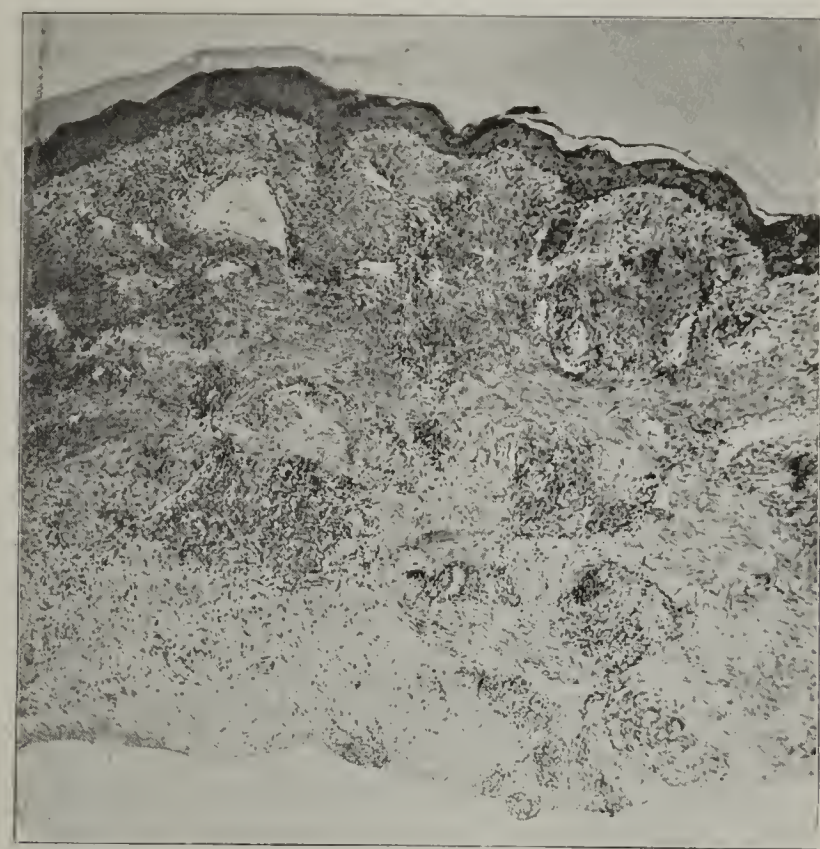


Fig. 18.—Case 12. Photo-micrograph from a section of tumor in stage of subsidence, showing disappearance of carcinoma tissue and the existence of a degeneration product in place of the previous masses of epithelium.

Fig. 19.—Case 13. Recurrent carcinoma of the breast, July 18, 1901.

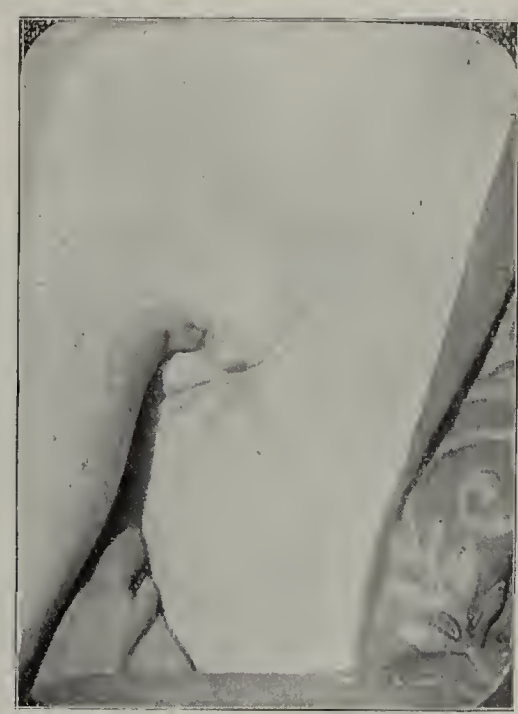


Fig. 20.—Condition of Case 13 since Nov. 8, 1901.

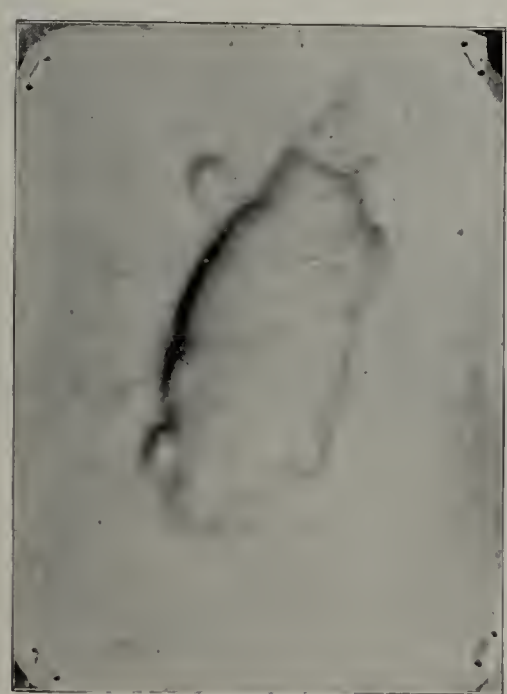


Fig. 25.—Case 34. Keloid, December, 1900.

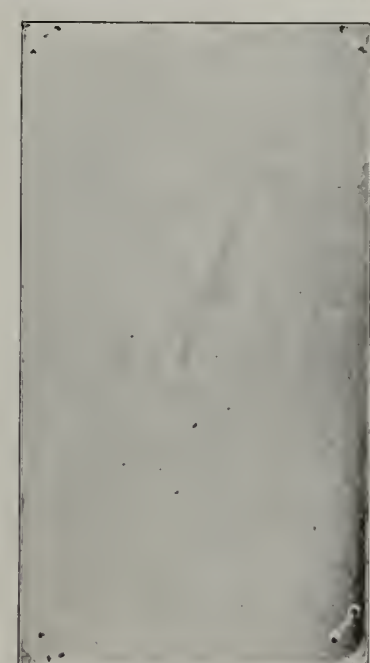


Fig. 26.—Case 34. Nov. 1, 1901.

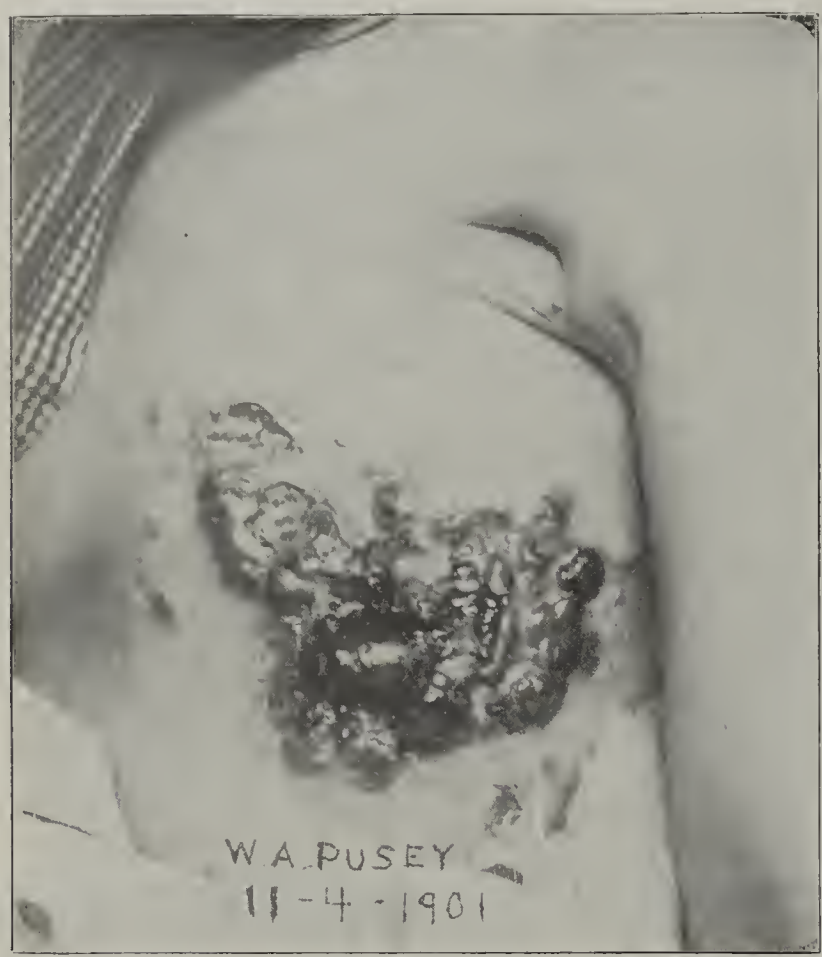


Fig. 21.—Case 14. Recurrent carcinoma of the breast, Nov. 1, 1901.

Fig. 22.—Case 14. Feb. 20, 1902.

Fig. 23.—Case 30. Sarcoma of the neck, Sept. 2, 1901.

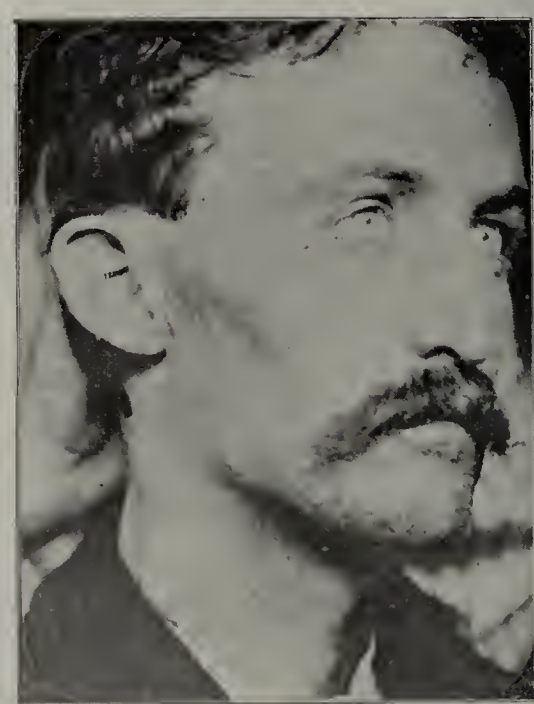


Fig. 24.—Case 30. Since Oct. 5, 1901.

were examined by Dr. E. V. Brown, pathologist to the Infirmary, who made the diagnosis of epithelioma.

When the patient came for *x*-ray exposures there was an epithelioma which involved the circumference of the auditory canal for its external one-third inch and the entire inner surface of the concha, and had spread for half an inch upon the cheek in front of the ear, the tragus having been entirely destroyed. In the last few months it had gotten worse rapidly. He was put under *x*-ray exposures November 5 and given them daily to Dec. 5, 1901, when some erythema developed and the ulcer began to heal. The sittings were nevertheless continued to Jan. 25, 1902, when there developed marked congestion of the exposed area. This has gradually subsided and with its subsidence the ulcer healed. Until a few days ago there remained an ulcer about half the size of a little finger nail. This has healed and the entire site of the epithelioma is now covered by healthy skin. Were the tragus not missing it would be hard to discover that an ulcer had existed. That side of his head has been entirely free from sensitiveness or pain since about two weeks after beginning treatment.

Case 10.—Mrs. W., aged 61, was referred to me by Dr. M. F. Engman of St. Louis. About twelve years ago a lesion developed on her forehead above the right eye which was recognized as an epithelioma. Two years ago it had developed into an ulcer the size of a half dollar and in November, 1899, she went to Dr. William T. Bull of New York City. Dr. Bull has kindly given me his memoranda of the case as follows: "Circular ulcer of forehead in center and reaching to eyebrows and as large as a 50-cent piece. Edges slightly elevated and hard—movable. This appeared first ten years ago as an indurated nodule and was destroyed by caustics. It reappeared and was cut out three times—the last time four years ago. At operation (Dr. Bull's) the ulcer with a wide margin of skin was removed and the raw surface covered with four skin grafts. Healing was complete in three weeks. Dr. Dunton (33 East 33d St.) examined the tissue removed and pronounced the growth an epithelioma." After Dr. Bull's operation the scar remained healthy until September, 1901, when two small ulcers developed in the border of the scar.

The condition when she came under my care Nov. 14, 1901, is shown in the accompanying photograph, Fig. 11. On the forehead above the left eyebrow there is a white, healthy-looking scar 2x2 inches, which is not movable. On the external border of the scar there were two small ulcers, one at the upper outer angle the size of a little-finger nail, the other at the lower outer angle somewhat smaller. Both had raised, hard, pearly borders, had numerous dilated capillaries around them, and presented the picture of typical small epitheliomas. The upper half of the inner border of the scar was occupied by a red, indurated, scaly patch an inch long by half an inch broad, around which were numerous dilated capillaries. This presented the picture of an inflamed patch of senile keratosis undergoing degeneration into epithelioma.

She was given exposures daily over this patch and over the ulcers until the lesions became somewhat inflamed, and afterwards the dermatitis was kept at this stage. By Dec. 8, 1901—approximately a month—the ulcers were healed and by January 8—two months—the induration had entirely disappeared. The skin was smooth, but quite red from *x*-ray effects. The condition since that date is shown in Fig. 12. The skin at the site of the ulcers is smooth, perfectly soft, and free from induration. The site of the patch of verruca senilis on the inner border of the scar is still slightly red as a result of the exposures, but it is smooth and soft and the induration has entirely disappeared.

Case 11.—Lady, aged 50 years, was referred to me by her husband, who is a physician. Five years ago the disease began as an indurated tubercle near the inner canthus of the left eye. Its condition, when she began treatment, is shown in the accompanying photograph, Fig. 13. The disease involved an area on the side of the nose and around the inner canthus as large as a 50-cent piece. There were two ulcers in the area, one the size of a fingernail on the side of the nose, the other half that size at the inner canthus. The ulcers were sharply excavated, with elevated rolled nodular borders and around them the tissue was indurated and waxy-looking. It was a typical small rodent ulcer such as is often seen in this location, but no tissue was gotten for examination. The result after two months of treatment is shown in Fig. 14. There is practically no scarring; the skin is white and smooth and there is no induration. It would be hard to say that any ulcer had existed. The case illustrates the case with which lesion about the eye can be treated with *x*-rays.

Case 12.—Spare-built man, aged 35, was referred to me by Dr. T. J. Knudson from St. Luke's Hospital. Eleven years ago a small nodule appeared on the right cheek below the eye, which gradually increased in size and after two years ulcerated. The lesion was treated from time to time by different surgeons in various parts of the United States. Four years ago he was admitted to Cook County Hospital in the service of Dr. T. A. Davis. Dr. Davis did a radical operation, removing the ulcer and a large amount of the surrounding tissue and restoring the lower lid by an extensive plastic operation. At the end of a year the disease recurred in the scar and rapidly enlarged, involving the orbit. Last winter he was in Cook County Hospital in the service of Dr. Charles Adams. The disease had then attained such an extent that a radical operation was not undertaken. He recently went to St. Luke's Hospital, whence after a few weeks' attention he was referred to me by Dr. Knudson.

When he came to me the disease involved the entire orbit, the upper and lower lids, the side of the nose and the cheek. A shrunken atrophic globe remained, which was retracted deep in the orbit. Before undertaking treatment by *x*-rays I had Dr. W. H. Wilder see him and at my request Dr. Wilder removed the eye on December 5. No attempt was made to destroy the carcinoma in this operation and on December 14 he returned for *x*-ray exposures. The accompanying photograph, Fig. 15, does not adequately show the condition at that time. A photo-micrograph of a section of the tissue taken from the lower lid is shown in Fig. 16 and confirms the diagnosis of epithelioma. At this time the patient was suffering exquisite pain, which had not been relieved by removing the eye, and from anxiety, pain and loss of sleep his physical condition was greatly reduced.

He was put under *x*-ray treatment December 14 and had almost daily sittings to January 27. The exposures were carried to the point of producing erythema and slight desquamation, but no weeping. Within a week after beginning the treatment his pain had ceased and the discharge began to diminish. Since that time the improvement has been continuous. The borders and the nodules have gradually shrunken and the ulcer has become smaller, until the lesion remaining bears no longer any resemblance to epithelioma. The small surface still not covered by epidermis has the appearance of a healthy granulating wound. All surrounding tissue is smooth, soft, freely movable, free from induration, and almost unscarred. The present condition is shown in Fig. 17. There was so much superficial destruction of tissue that the formation of epidermis has not taken place over the entire surface. As shown in the photograph there is still an area on the inner side of the orbit about the size of a dime which is uncovered by epidermis, but is still diminishing in size. The patient has been free from pain practically since the beginning of the treatment, and has entirely regained his health and spirits.

It is interesting to compare sections of tissue taken before the disease was put under *x*-ray treatment with sections taken while the tumor was subsiding. Figure 16 is a section from the border of the ulcer before the treatment was begun; it shows abundant infiltration of embryonic epithelium. Figure 18 shows a section taken from the same location when the tumor was subsiding. The carcinomatous masses are now replaced by a degenerated wavy substance without structure and staining a faint blue with hematoxylin. The contour of the epithelial cells has been lost and the cell nuclei have disappeared. There is evidently a degenerative process of some sort going on, but what it is can not be said.

The above is a list of consecutive cases of epithelioma and I believe all of them can be claimed as successful.

That there will not be recurrences time alone can show, but from the character of the scars I am willing to hazard the opinion that these cases will not show an unusual proportion of recurrences. If recurrences do take place *in situ* there is every reason to believe that their management would not be troublesome. I do not believe any other method of treatment can show such results in epithelioma as some of the above. Take for example Case 6 and Case 12; the results are unique. Case 12 was beyond relief by any other method. That the ulcer in his orbit should have filled up and healed over with healthy skin would not be regarded as possible were the patient not demonstrable. Such a result in such a case is, I believe, entirely unique.

My experience in epitheliomas is such as to give me great confidence in the method. I have had no case thus far in which the disease failed to yield and usually yield promptly. The scars are soft, free from induration, smooth, and of the color of the normal skin or white, and absolutely healthy looking; indeed, there is almost no scarring.

CARCINOMAS OF THE BREAST.

CASE 13.—Mrs. K., aged 48, six years ago, had an operation by Prof. E. C. Dudley of Northwestern University for laceration of the cervix, and her general health has been bad for several years, with complete nervous break-down, but without demonstrable lesion. In 1899 a tumor developed in her right breast, which was recognized as a carcinoma and in April, 1900, was removed. Recurrence became evident in the scar six months after removal, in the fall of 1900. Eight months later, in July, 1901, she began *x*-ray exposures; in the mean time, in the spring of 1901, she had been seen by Prof. Christian Fenger and the case pronounced inoperable. The condition when she came to me is shown in the accompanying photograph, Fig. 19. The skin and subcutaneous tissue for an area six inches in diameter around the center of the scar was dense, hard, and waxy-looking and infiltrated with carcinoma. In and around the center of the scar there was a group of waxy-looking nodules which were for the most part denuded of epidermis and at points ulcerating. The arm was greatly swollen and tensely edematous down to the fingers.

The case was put under daily *x*-ray exposures July 18, 1901, and by August 15 marked dermatitis had been caused over the entire exposed area, and a bulla had formed over the center of the tumor. The treatment had been as vigorous as I dared because it seemed evident if anything was done it had to be done quickly. This effect disappeared by September 2, when the entire surface had become covered with epidermis. At the same time there was a very marked shrinking in the nodules, and the edema entirely disappeared from the arm. With the exception of an interval of six weeks, when she was acutely ill, the patient has had treatment regularly from September to date. An acute dermatitis was again set up in the latter part of October, but since that time the exposures have not been carried to the point of producing an acute effect. On November 8 I made the following note: "The dermatitis has entirely disappeared; the skin is of normal color except for some pigmentation around the periphery of the exposed area. The tissue, where the tumor existed, is smooth and it is impossible at present to find any evidence of carcinoma in this area. All of the nodules have entirely disappeared." The chest wall has remained in this condition since November 8. The condition at the present time is shown in the accompanying photograph, Fig. 20, for which I am indebted to an amateur photographer. As far as her attending physician, who is an ex-interne of Cook County Hospital, and I can ascertain there is no evidence of carcinoma left in the breast or shoulder. There has been no return of the edema to the arm. The right arm is slightly larger than the left, but there is no pitting on pressure and it is not in the slightest degree edematous. The increase in size is, I believe, a permanent connective tissue hyperplasia, due to the long-continued lymphatic obstruction and analogous therefore to an elephantiasis. The disappearance of the edema in this case is, of course, a highly instructive fact. This patient is not in good health, but what the character of her present trouble is, first-class men are unable to decide. Her present condition is in no way directly connected with her breast trouble and it can not be traced to any metastasis.

CASE 14.—Mrs. C., aged 58, was referred to me by Dr. C. C. Gratiot of Shullsburg, Wis. The patient was in Dr. Christian Fenger's care in Passavant Hospital in July and August, 1900, and the following facts are taken from the hospital record, which Dr. Fenger kindly placed at my disposal: "Her present (July, 1900) trouble began about six years ago when patient noticed a little hard lump on the inferior aspect of the left breast on the axillary side. There was a scarcely perceptible enlargement of the hard area until about two years ago when the patient noticed a more rapid enlargement. She then consulted Dr. Sheldon of Madison, Wis. At that time this growth developed very fast and broke through the skin and formed an open sore, which grew in dimensions until it is now the size of a silver dollar. Dr. Sheldon advised an operation, whereupon she consulted Dr. Fenger." Dr. Fenger removed the breast with the axillary and supraclavicular glands in July, 1900. A few months after removal the disease reappeared in the scar. She returned to Dr. Fenger last summer, but he found the case beyond operation. The condition when she came to me November 1 is shown in the accompanying photograph, Fig. 21. As seen in the illustration, there was a mass of carcinomatous tissue on the left side involving an area of about a square foot. The nodules varied in size from a hazel-nut to the size of a small apple. At the upper inner angle there were a couple of ulcers 2½ to 3 inches in diameter. Around the main mass and separated from it by distances of from two to three inches or more, were numerous nodules the size of a hazel-nut. She had on two occasions suffered alarming hemorrhage from the surface. Dr. Fenger had thoroughly removed the glands in the axilla and above the clavicle and no enlarged glands in either of these locations were found. When she began treatment she was suffering a great deal of pain. She was so weak that a nurse had to bring her by easy stages from the nearest hotel for her treatments and she was in every way thoroughly haggard and worn.

She was put under *x*-ray exposures on November 1 and the sittings were given daily for two months and every other day or less frequently after that. Two weeks after the treatments were begun she volunteered the statement that her pain was gone; and she has had none since. On January 17 I made the following note: "There has been rapid subsidence of the tumor going on for the last month. The improvement can be seen from week to week. There is at present only a slight superficial ulceration at one point about the size of a dime and one small nodule the size of a pea. The surface is free from infiltration and thickening and the redness has almost disappeared. The skin is considerably pigmented." Improvement has continued since that time. The condition at the present time is indicated in the accompanying photograph, Fig. 22. There is no evidence of carcinoma left on the chest wall. There is a thin, soft, brownish-white scar which is almost freely movable. Around the borders of the scar there are numerous dilated capillaries, the remnants of the previous abundant blood supply going to the tumor. It seems hardly credible that this scar represents the site of the previous tumor.

Her general condition has progressed equally well. As I said above, she has been free from pain since ten days after treatment was begun. Since January 1, she has been strong enough to come in alone three times a week for her treatments from a town thirty-five miles from Chicago. She has regained her appetite and has increased in flesh decidedly (10 to 15 pounds). Now she presents the picture of a healthy old lady.

CASE 15.—Miss X., aged 49, was referred to me by Dr. A. J. Ochsner. In February, 1899, she noticed a hard lump in the left breast, which was followed by gradual retraction of the nipple. In February, 1900, the breast was removed

by a prominent surgeon. The disease soon recurred in the scar and in October, 1901, a second operation was done, after which the wound healed but soon broke down in two ulcers; then she consulted Dr. Ochsner, who referred her to me. When she began treatment with *x*-rays there were two ulcers in the scar each the size of a 25-cent piece, surrounded by indurated tissue. The case was put under *x*-ray exposures on November 25 and by January 7 had had twenty exposures when considerable erythema developed, and exposures were stopped for two weeks. Since that time she has had exposures every other day or at longer intervals to date, with the maintenance of pigmentation and very slight irritation. With the first development of dermatitis the ulcers rapidly grew smaller and by January 20 had entirely disappeared along with the induration. Since that time the scar has been soft and free from all evidence of carcinoma. Within a month she has been examined by Dr. Ochsner, who found no evidence of carcinoma remaining. This case had had two operations and practically no further hope from operation remained. Its rapid improvement under *x*-rays illustrates the advantages of getting hold of these recurrent cases early.

I have treated three cases of carcinoma of the breast without getting rid of the local trouble. Two of these, however, were under treatment less than six weeks, so that the method did not have a fair trial. These cases were as follows:

Case 16.—Mrs. R., aged 38, had a very extensive recurrent carcinoma of the breast. The case had been passed upon as inoperable by Dr. Charles McBurney of New York. This was the first case of this sort that I treated and the chances of benefit seemed to me then so infinitesimal that with my concurrence treatment was discontinued after five weeks. There was no positive effect.

Case 17.—Mrs. W., aged 65, with inoperable carcinoma of the breast, was referred to me by Dr. A. J. Ochsner. This patient was under treatment for a month without apparent effect and quit.

Case 18.—The third case must be put down as a failure. Mrs. J., aged 50, with recurrent carcinoma of the breast, was referred to me by Dr. J. H. Hoelscher. There was a thick mass of carcinomatous tissue, four inches in diameter, ulcerating at the center and attached to the ribs at the location of the nipple. The supraclavicular glands were enlarged. This patient was under treatment from Sept. 3 to Jan. 24, 1902, having in all 66 sittings. Only once was the treatment carried to the point of producing acute dermatitis. There was no apparent effect on the disease and she died suddenly in January from involvement of the lung. This case looked like a favorable one as far as getting rid of the local disease was concerned. Why I failed in this I have not satisfactorily explained to myself. It was a typical scirrhus of the breast. It is unquestionable that there is a difference in individuals in their susceptibility to *x*-rays. This is seen in the reaction of healthy as well as diseased tissues. I have seen it displayed in different forms of carcinoma, although the above case and perhaps Case 20 are the only ones of my cases in which *x*-rays have failed to produce a positive effect after sufficient exposure.

* * * * * * *

DEEP-SEATED CARCINOMAS OF NECK AND HEAD.

Case 19.—Man, aged 68, was referred to me by Prof. R. R. Campbell, of the Chicago Policlinic. In the spring of 1901 he had an epithelioma removed from the lower lip, with rapid recurrence in the glands of the lower jaw and neck. A radical operation was done in June, which was followed by a rapid recurrence of the disease in the supraclavicular glands. Dr. J. B. Murphy and Dr. Christian Fenger saw the patient in September and he was told that there was no further hope from operative procedures.

When he began *x*-ray treatment there were tumors on either side of the neck above the inner third of the clavicle as large as an egg and the surrounding tissue was infiltrated with carcinoma. He was put under *x*-ray exposures on September 26 and kept under daily sittings with a few intervals, the longest being ten days, for three months. Within a month after the exposures were begun and at the time that dermatitis was produced there was very marked subsidence of the tumors; they disappeared almost entirely and remained in this condition for six weeks. After an interval of nearly three months the case was seen again by Dr. Murphy on December 3. He gave me his opinion at that time that the tumors had not only been checked in growth, but that they were very markedly smaller than when he had seen them three months before. Soon after this, however, they began to grow rapidly and the patient would undoubtedly have died very promptly from carcinoma had he not been taken off by an intercurrent malady.

In this case we were hampered by the fact that tissue transposed in the plastic operation, which was very extensive, was quite sensitive to the *x*-rays and the patitnt was unwilling to have the full effect of the rays produced.

I have under treatment at the present time two very similar cases. Case 20, man, aged 55, was referred to me by Dr. L. L. McArthur, Surgeon to St. Luke's Hospital. This is a case of rapid recurrent carcinoma of the neck after removal of carcinoma of the tongue. The case has been under treatment since November 25 and has grown worse. For three weeks in January the treatments had to be omitted and during that time the tumor developed very much more rapidly than before. The exposures were renewed on February 3 and have been given vigorously since that time. That the disease will be checked seems altogether improbable.

Case 21.—Man, aged 60, is a case very similar in its history to Case 19. This patient was operated on by Dr. Butlin of London and later by Dr. Maurice Richardson of Boston. In order that he might be nearer his home he was referred to me Jan. 18, 1902, by Dr. Richardson and Dr. F. V. Williams, who had been giving him *x*-ray exposures. In this case the floor of the mouth, the neck and the lower jaw were riddled with carcinoma and the patient's condition has been regarded as perfectly hopeless. This patient had exposures as strong as I dared give them and a dermatitis was quickly produced. This patient died March 10 from exhaustion. At the time of his death all of the nodules in the neck had disappeared and some healing of the sinuses had taken place. Altogether, the subsidence of the carcinomatous tissue had been remarkable.

Case 22.—Man, aged 71, was referred to me by Dr. A. J. Ochsner, with a rapidly growing carcinoma the size of a fist, involving the right angle of the lower jaw. This patient continued under treatment a month and quit after there had been produced considerable softening of the tumor. There seemed good grounds for hoping to reduce this tumor had the treatment been continued.

Case 23.—Man, aged 64, referred to me by Dr. George F. Bradley. In January, 1901, an epithelioma was removed from the lower lip by a V-shaped incision. In June, 1901, Prof. N. Senn of Rush Medical College did a radical operation, removing part of the lip and the glands beneath the jaw. About six weeks before he came to me the disease recurred and at the time I saw him there was a tumor occupying the whole area under the chin as large as a small apple, with an ulcer in the center almost two inches in diameter and easily an inch deep. There were numerous enlarged glands at both sides of the neck. He was seen by Dr. A. J. Ochsner, who advised the use of *x*-rays.

The patient has been under treatment since October 24. There was for a while great improvement in the case. The ulcer under the chin was reduced to the size of a hazel-nut, but lately the patient has been going backward and most of the improvement has been lost.

Case 24.—Man, aged 70, was referred to me by Dr. William H. Wilder, with extensive carcinoma involving all the struc-

tures in and around the orbit of the right eye. The growth had progressed within the cranium when the treatment was begun. The treatment in this case continued two months with decided amelioration in his condition for a while, both as regards the appearance of the growth and his pain, but later evidences of rapid intracranial growth appeared and the treatments were discontinued.

Looking back at this case it is Dr. Wilder's opinion and mine that we should have taken out enough of the bone of the orbit to have laid bare the structures beneath, so that the *x*-rays could have been thrown directly on the intracranial growth. Dr. Wilder suggested to me that had this been done there might have been a chance of controlling the disease, so marked was the effect upon the diseased tissue which was directly exposed.

CARCINOMAS IN THE ABDOMINAL CAVITY.

CASES 25 to 29.—I have had under treatment five inoperable cases of carcinoma in the abdominal cavity; one from Dr. A. J. Ochsner, two from Dr. Christian Fenger, one from Dr. Fernand Henrotin of Chicago, and one from Dr. M. DeWitt Pollock of Decatur, Ill. Two of them died within a week, and one six weeks after beginning treatment. One of them has just died three months after beginning treatment. The fifth case is still under treatment four months after it was begun, but will probably soon die. All of these cases were of the most desperate character when treatment was begun, and in the opinion of the physicians who watched them there has been some reason to think that they have been more comfortable under the exposures and that the pain has been decidedly relieved. But the course of cases of this sort is sufficiently uncertain to interfere with any definite claims of benefit in so small an experience.

There is little ground for hoping that the *x*-rays, as they must be applied at present, have more than a slight effect on malignant growths situated in the cavities of the body. There is some reason to believe that the use of *x*-rays in such cases has an effect in relieving pain. And as *x*-ray exposures may be given these patients without disturbing them or interfering with their comfort there seems no reason why they should not have the benefit of the remotest chance of relief.

SARCOMA.

CASE 30.—Man, aged 24, was referred to me by Dr. A. J. Ochsner on Sept. 2, 1901. This case was reported in detail.[3] Briefly, his history is that in February, 1901, he noticed a hard swelling below the angle of the jaw on the left side of the neck which gradually increased in size, and in May, 1901, he noticed a similar hard swelling on the right side of the neck which rapidly increased in size. In August, 1901, he consulted Dr. Ochsner, at which time there were large immovable diffuse swellings on either side of the neck, the size of a man's fist. Dr. Ochsner made a diagnosis of sarcoma and on August 19 removed the tumor on the left side of the neck. On September 2 he sent him to me for exposures to *x*-rays. At the time there was a healthy scar on the left side of the neck and a large sweling on the right side, as indicated in the accompanying photograph, Fig. 23. It was hard, diffuse, not movable, and the neck was almost rigid from interference with motion. Under a month's *x*-ray exposures this entirely disappeared, the result being shown in Fig. 24. Since that time the man has gained 12 pounds in weight and on November 1 wrote me that he had gone back to his work. There was no evidence of recurrence up to March 1—five months—but on March 10 he writes me that some swelling is returning. I wanted to have him for further treatments after the first month, but he was unable to stay in the city. I have been extremely anxious to have him for further treatment, but thus far he has been unable to return.

As to the diagnosis in this case, Dr. F. R. Zeit, professor of bacteriology and associate professor of pathology in Northwestern University has kindly given me the following report:

"My diagnosis of small round-cell sarcoma is based upon: 1. The histo-pathology of the tumor—small round-cells, somewhat larger than red blood corpuscles, densely packed together, traversed by blood channels without walls and the almost entire absence of stroma or connective tissue framework; and 2, the clinical description of Dr. Ochsner—a large diffuse, infiltrating and proliferating rapidly growing tumor in the neck, no inflammation, and which at no time was circumscribed or movable. No enlargement of other glands. I think this effectually excludes all simple hyperplasias, lymphadenoma, lymphatic leukemia, Hodgkin's disease (pseudo-leukemia). This tumor was not produced by a progressive development of lymphadenoma from gland to gland, but started, no doubt, from one gland and infiltrated by proliferation the surrounding structures at once."

CASE 31.—Man, aged 67, osteosarcoma of the right shoulder, with symptoms of sarcoma of the bladder. There was profound cachexia and evidences of general sarcomatosis. The patient was put under *x*-ray exposures, chiefly with the hope of relieving his pain. He was given 16 exposures without effect upon the tumor, but according to his voluntary statement with considerable relief from pain. With my approval the treatment was discontinued.

CASE 32.—Woman, aged 60, with extensive inoperable sarcoma involving the right pectoral muscles and shoulder. She had treatment for a month with marked relief from pain according to her voluntary statement and in the opinion of her physician, Dr. William Fuller, but without further effect.

GRANULOMA OF UNCERTAIN CHARACTER.

CASE 33.—Man, aged 57, was referred to me by Dr. A. J. Ochsner. The diagnosis in this case was not positive. The patient came to Augustana Hospital in Dr. Ochsner's service, Oct. 20, 1901, when the following history was taken: "Two months ago a carbuncle developed on the right cheek. The whole right side of face became painful and swollen; this subsided and three weeks ago the patient noticed a small soft swelling at site of carbuncle. This has increased to present size. It has been opened three times, discharging blood and serum. No tenderness or pain is present. Present condition: Right cheek is slightly reddened and indurated. Downward and forward from malar bone a softish swelling with few crusts, 2.5 cm. in vertical diameter and 2 cm. in horizontal diameter. On pressure discharges sero-purulent fluid. Mucous membrane on inner surface opposite tumor smooth." General health is good; a well-nourished healthy man.

Dr. Ochsner removed the entire mass, going well out beyond the diseased tissue, and closed the wound. The wound remained clean but failed to heal and the tissue around began to break down and within two weeks there was an unhealthy ulcer with a cavity the size of an olive surrounded by bluish flabby tissue.

The pathologic findings were not definite. It was a granuloma with numerous giant-cells, but its character was not definitely determined.

The case was then, November 2, put under daily *x*-ray exposures and practically no attention paid to the local dressing. In two weeks some dermatitis was produced and the ulcer began rapidly to fill up. In three weeks it was healed with a perfectly healthy scar and has remained well to date.

KELOID.

CASE 34.—Boy, aged 10 years, was referred to me by Prof. D. A. K. Steele of the University of Illinois. The patient had a keloid form in his vaccination scar and another keloid form upon a scar on the helix of his right ear. They were removed and promptly recurred. The keloid on the arm was a typical keloid, as will be seen in the acompanying photograph, Fig. 25. It was 2½ inches long, three-quarters of an inch broad and one-half inch high. Each of the stitch scars showed

3. JOUR. A. M. A., Jan. 18, 1902.

a keloid about the size of a marrow-fat pea. The keloid on the ear was a curious-looking globular tumor an inch in diameter, purplish in color, with dilated blood vessels coursing over it and had grown rapidly. It bore in appearance a resemblance to a sarcoma.

The keloid on the arm was put under *x*-ray exposures in December, 1900, and proved entirely rebellious to daily sittings for a long time. It was not until after 80 sittings that any effect was produced. Then I carried the treatment to the point of producing a very acute dermatitis, which was followed by the formation of a superficial necrotic membrane. This healed over in three weeks and after that time (September, 1901) the keloid rapidly shrank. It had practically disappeared by Nov. 1, 1901. The condition since that time is shown in Fig. 26. The entire keloid has disappeared, except for a slight ridge down the center of the scar. I think that this has perhaps increased slightly since the exposures were omitted in November, so that I do not believe a successful result can yet be claimed.

It was interesting to note the sharp limitation to the keloid of the acute inflammatory process produced by the *x*-rays. There was erythema in the exposed normal skin surrounding it, but this disappeared much more rapidly than the inflammatory process in the keloid. The disappearance of this keloid was due to absorption and not to necrosis. The only ulceration that appeared was the superficial membrane not thicker than parchment, but a mass of tissue disappeared about one-half inch in thickness.

Fig. 27.—Case 35. Hodgkin's disease, Sept. 11, 1901.

In July, 1901, the treatment was applied to the tumor over the ear and after 16 sittings (August 10) was carried to the point of producing dermatitis. After the development of the dermatitis there was a very perceptible shrinking in the size of the tumor. The treatment was neglected by the patient until December, 1901, and since that time has been taken up in a desultory way. The growth has decreased very decidedly since the treatments were renewed, but there is still a tumor left about half the original size.

Keloids are scar tissue of such marked vitality that it would be expected *a priori* that they would not be affected by *x*-rays except by producing a reaction that would destroy any healthy tissue. Yet this keloid was certainly made to disappear without necrosis and without affecting the normal connective tissue. It was found in my first case of lupus that there was a great thinning and softening of the scar tissue in the neck, and this observation is a confirmation of that of other workers. There seems, therefore, to be some reason to hope that the method may be of use in attacking scars.

PSEUDO-LEUKEMIA.

Case 35.—Boy, aged 4, was referred to by Dr. A. J. Ochsner. This patient was in the Presbyterian Hospital in May, 1901, in Dr. Fenger's care, and I am indebted to him for the hospital record from which the following facts are taken: The family and personal history prior to the development of the present trouble are without significance. The present trouble began in December, 1900, as small hard swellings below either ear. The mother stated that every two or three days she could see more of the swelings appear. The swellings were symmetrical for about three months, when the right side grew larger. May 20, 1901, when the patient entered the Presbyterian Hospital, the following notes were made:

"Submaxillary, cervical, and supraclavicular lymph glands are enlarged, hard, discrete. There are tense swellings both anteriorly and posteriorly, especially on the left side of the neck. No other enlarged lymph glands found." The blood examination showed 4,200,000 reds and 10,000 whites; hemoglobin 50 per cent.

Dr. Fenger dissected out two lymph glands in the neck and the "pathologist's report states that there is no evidence of tuberculosis in the gland and that the histology coincides with that of a pseudo-leukemia." The diagnosis of Hodgkin's disease was made and "the patient discharged with a statement to parent that little if anything can be done to relieve patient." In August, 1901, patient entered Augustana Hospital in Dr. Ochsner's service. The condition of the swellings at that time is indicated in the following note: "A large irregular swelling on the right side of the neck, size of a small fist, extending from below and behind the right ear to the clavicle. Numerous hard masses varying in size from a filbert to an English walnut can be felt. Small swelling of the left side of the neck about half the size of that on the right. The swellings are not tender, painful or red and are freely movable. No enlargement of liver or spleen." The diagnosis of Hodgkin's disease was made and Dr. Ochsner dissected out a large mass of glands on the right side of the neck.

Fig. 28.—Case 35. Since Nov. 1, 1901.

On September 11 he referred the case to me for exposures to *x*-rays. The condition is shown in Fig. 27. There was a healthy scar on the right side of the neck and on the left side a swelling the size of a fist, made up of a group of greatly enlarged glands. They were hard, painless, and freely movable. These glands were put under exposures to the rays on September 11. In the course of a month, erythema

was produced and the glands rapidly diminished in size. At the end of two months there remained three or four small glands on this side of the neck which were quite soft and not larger than a filbert. Almost all the swelling had disappeared and the slight swelling that remained was as soft as adipose tissue. The case has been under desultory treatment from that time to this without change. The condition at the present time is shown in the accompanying photograph, Fig. 28. The general physical and mental condition of the patient has improved very greatly. The number of red and white corpuscles are about the same as when the blood was examined May last; there is now 80 per cent. hemoglobin as against 50 per cent. in May.

CASE 36.—Man, aged 50, was referred to me by Dr. L. L. McArthur. The patient had typhoid fever six years ago, but aside from that has had no serious illness since childhood. In childhood he had an attack of inflammatory rheumatism; otherwise, his personal and family history are negative.

In April, 1900, he noticed a swelling under the right arm and another on the inside of the elbow. These gradually increased in size and in October, 1900, he consulted Dr. D. N. Eisendrath, who found in addition enlarged glands in the neck, in the other axilla, in the groins, and along the side of the

Fig. 29.—Case 36. Hodgkin's disease, Dec. 18, 1901.

abdomen. The case was seen in consultation by Dr. Christian Fenger, who agreed with Dr. Eisendrath in the diagnosis of Hodgkin's disease. The diagnosis of Hodgkin's disease was also made by Dr. E. J. Doehring and Dr. M. L. Goodkind. The blood examination made at the time that Dr. Eisendrath saw the case showed 80 per cent. hemoglobin, 5,000,000 red corpuscles, and 10,000 whites.

Previous to beginning treatment with x-rays the patient had for a long time been taking arsenic and for several weeks had been having parenchymatous injections of arsenic into the tumors. In spite of this treatment the glands had not decreased. The patient's general health had failed and he showed marked cachexia.

The size of the tumor in the right axilla when x-ray treatment began is shown in Fig. 29. It was about as large as a child's head and interfered seriously with the movement of the arm. The right epitrochlear gland was almost as large as a goose egg. Its vertical diameter was four inches; and its transverse diameter about two and a half inches. Both of the glands were movable but densely hard.

At Dr. McArthur's suggestion I began daily exposures over the right epitrochlear gland November 19, while he continued the parenchymatous injections of arsenic in the axillary gland. By December 18 I had produced considerable erythema over the elbow and by that time the gland was reduced to less than half its previous size. In the meantime the axillary gland, which was having injections of arsenic, showed no change. These injections were then stopped and at Dr. McArthur's suggestion I began exposures also over the axillary glands. The exposures over the epitrochlear gland were continued and by Jan. 1, 1901, all apparent swelling had disappeared and only a soft gland the size of a filbert was left. By January 7, after fifteen sittings and upon the development of considerable erythema, the axillary gland had become quite soft and very much reduced in size. By January 20, almost all of the axillary swelling had disappeared and the condition has remained the same since that date—Fig. 30. There is very slight puffiness at the site of this tumor, but it is as soft as the softest adipose tissue. The man's general physical condition has been greatly improved. Dr. M. L. Goodkind, who saw the patient after an interval of several months, particularly called my attention to the

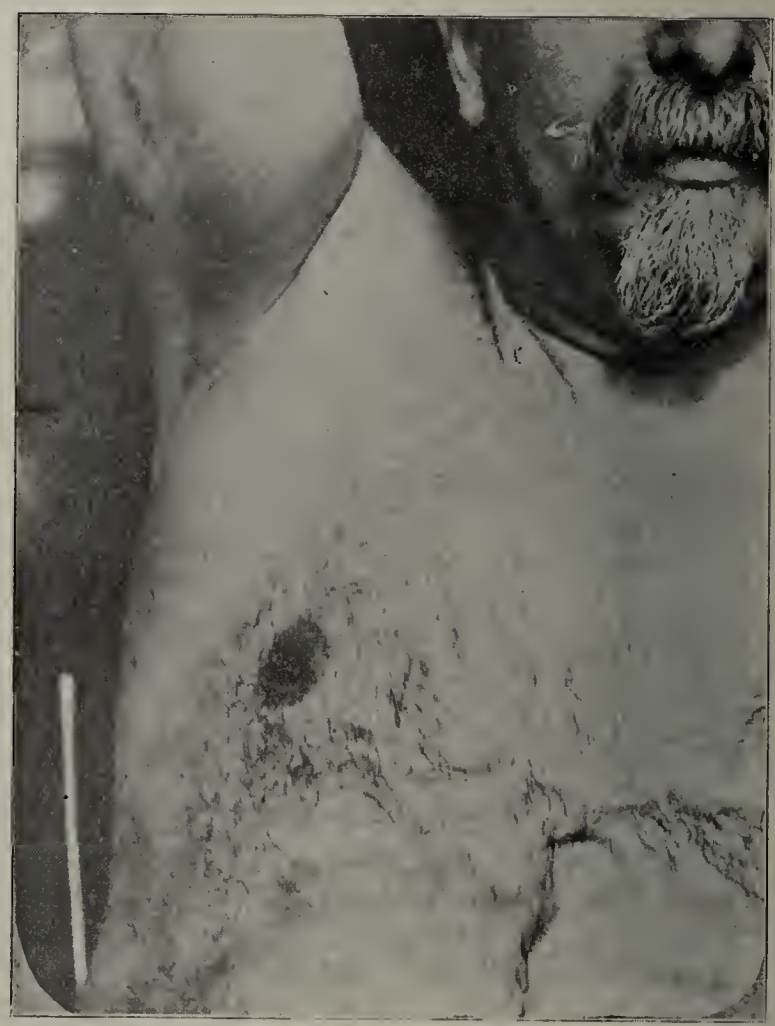


Fig. 30.—Case 36. Since Jan. 20, 1902.

improvement in his general condition, which he characterizes as astounding.

The first case continued the use of protonuclein and the second arsenic, at the suggestion of their physicians, during most of the time that they had x-ray exposures and that mitigates against the conclusiveness of the evidence in favor of the effect of x-rays in these cases. The fact remains, however, that in the case of the child the protonuclein had absolutely no effect on the glands before the x-ray exposures were begun, and in the case of the man the disease had progressed in spite of the vigorous treatment with arsenic. It is also to be borne in mind that the tumors in pseudo-leukemia disappear spontaneously at times and act in the most erratic manner. Against this we have the fact that in neither of these cases, after a year and a year and a half respectively, had any change shown itself, and no acute disturbance of health of any sort occurred at the time that these cases were under x-ray treatment to precipitate

the subsidence of these glands. On the other hand, the sequence of the exposures to x-rays and the subsidence of the glands in these cases was as close and direct as it is possible to conceive. In the case of the child the tumor began to subside with the evidence of the accumulation of x-ray effects on the tissues. It was the same when the epitrochlear gland in the man was exposed and the unexposed axillary gland showed no change. The same sequence was shown in the axillary gland when it was put under the influence of x-rays. In each instance evidence of effect on the gland began to show itself when a corresponding effect on the skin was produced. That the subsidence of the gland might occur spontaneously in one case at identically the same time with the exposures to x-rays is a coincident that might happen; that this coincident should happen in two instances in direct succession is in the highest degree improbable; and that the same coincident should happen in the third instance in succession is mathematically practically impossible.

LEUKEMIA.

I have exposed one case of splenic leukemia to x-rays. This case was a woman, aged 50, referred to me by Dr. A. J. Ochsner. She had an enormous spleen. The blood examination showed 50 per cent. hemoglobin, 3,000,000 reds, and 300,000 whites. She was given x-ray exposures over the spleen for a month with no effect whatever. The exposures, however, were not carried to the point of producing any apparent effect on the skin and in my judgment the case shows nothing.

CONCLUSION.

As will be seen, I have not to report an unbroken series of successful cases treated with x-rays, but I believe the results attained are such as to give encouragement. For it must be borne in mind that the cases I report are of a character that will never allow of an unbroken series of successes. Excepting a few epitheliomas the whole list represents cases which had baffled skilful men or had been passed upon as hopeless by masters of the profession. A more unpromising group of cases could hardly be imagined. That even some of these cases have been controlled or had their progress stayed seems enough. Many of these cases, when they came under treatment, had attained a much more serious character than they had when first recognized as hopeless. When such cases are put under the influence of x-rays sooner, is there not good reason to hope for a still better showing?

The cases are presented for what they are worth and each one will give them whatever weight he considers they are entitled to. One important fact I believe may be claimed as established, not only from these cases but from the work of other men, namely, the x-rays have a destructive effect upon tissues of low vitality, and this effect can be utilized under suitable conditions to cause the destruction of such tissues without destroying the involved healthy tissue.

My sections show that x-rays cause a degeneration of some sort of carcinomatous tissue and a disappearance of this degenerative substance, presumably by absorption. This disappearance of carcinomatous tissue is followed by the formation of firm healthy scar tissue. A similar process presumably occurs in the disappearance of the diseased tissue in tuberculosis, sarcoma, and pseudo-leukemia. However it occurs, the fact stands that growths of embryonic tissue and other tissues of low vitality are made to disappear under the influence of x-rays without the destruction of the involved healthy tissue; and such a fact is pregnant with possibilities.

The advantages of the method are:

1. It is painless.
2. It destroys diseased tissue, but leaves the healthy tissue in its place.
3. It leaves small scars.
4. It can be used in cases where the surrounding healthy tissue can not be sacrificed.
5. Hence, it is available for cases in which ordinary methods involve extensive operations and serious subsequent disfigurement, as, for example, about the eye and nose.
6. It is available in cases in which ordinary methods are impossible because of the amount of destruction of tissue which complete removal would require; in other words, it is applicable to many inoperable cases.
7. It often relieves pain.

As a general proposition the use of x-rays should in my opinion be limited to those cases which for any reason it is inadvisable or impossible to treat by ordinary methods. In other words, until our experience with x-rays extends over a longer time, their use should be a reserve method of treatment. I particularly wish to make it clear that I do not advise the use of x-rays as a substitute for operations in operable malignant growths. As regards cutaneous carcinomas—epitheliomas—I believe no strong objection is to be found to the use of x-rays as a primary method of treatment and some advantages are to be urged for it. Every other malignant neoplasm should have the advantage of operation where it is practicable. On the other hand, I believe that with the present evidence of the effect of x-rays upon malignant neoplasms we are justified in maintaining the following propositions: 1. In all cases of malignant disease which have been operated on there is reason to urge the subsequent use of x-rays as a prophylactic measure. 2. In all inoperable cases of malignant disease the use of x-rays should be tried. 3. In all such cases there is a probability of relieving pain and a possibility of inhibiting the progress of the disease.

A BRIEF REVIEW OF FINSEN'S PHOTOTHERAPY.*

P. C. CLEMENSEN.

Assistant Demonstrator of Anatomy in the Northwestern University Medical School.

CHICAGO.

It is now about eight years since Professor Finsen of Copenhagen published the results of his first investigations concerning the action of light upon the skin. The results of his experiments were essentially the same as those obtained by a number of other investigators, notably Widmark of Stockholm, namely, that sunburn or erythema solare is not caused by the heat of the sun, as was formerly believed, but is due to the action of the ultra-violet or so-called chemical rays.

Having convinced himself of the fact that the blue and the ultra-violet rays of light were capable of inciting an inflammation of a healthy unprotected skin, Finsen concluded that it would be of material benefit to exclude these rays in the treatment of certain inflammatory conditions of the skin, for example, variola; since in that disease suppuration and pitting are most marked upon the parts exposed to light. In summing up his papers he suggested therefore, on a purely theoretical

* Read before Chicago Medical Society, Dec. 4, 1901.

basis, that smallpox cases be treated in red light. A few months later Dr. Svendsen of Bergen, Norway, put this suggestion to a practical test and found it to be not only theoretically, but also empirically correct. This gave rise to Finsen's red light treatment for smallpox and may be considered the beginning of what has come to be known as Finsen's phototherapy.

Finsen himself seems to regard this as an incidental discovery, inasmuch as his great aim was to find the beneficial effects of the chemical rays of light. The following quotation from his article on "The Incitation of Light" can not fail to show how strongly he was convinced of this new therapeutic principle: "This chemical quality of light, which from a theoretical point of view must be placed side by side with the two other forms of energy in the sun's rays, heat and light, is undoubtedly a power of Nature (Naturkraft) which, so far, has not been sufficiently recognized in medicine."[1] The results that he has obtained with these rays, as a curative agent for lupus vulgaris and several other kinds of parasitical skin lesions, are well known. Very little, however, has been published in this country regarding the great amount of research work that has been done during the last two or three years, at Finsen's Medicinske Lysinstitut in Copenhagen. The reasons for this are clearly stated by Finsen in his bulletin of June, 1900, when he says: "Inasmuch as this work has been done in a place which is outside of the great scientific centers of the world, and as the reports have originally been published in Danish, which, of course, is read by only a few outside of the Scandinavian North, it could hardly be expected that the scientific world at large would as yet be thoroughly acquainted with the details of our work and methods."[2]

Fig. 1.—(After Finsen.) Reproduction of a photograph of Finsen's forearm before exposing it to the rays of the arc lamp. Nearest the elbow is a round piece of quartz; following this are five strips of glass. The one nearest to the quartz is red, the second yellow, the third green, the fourth blue and the fifth ordinary clear glass. Besides these are seen the letters N. F., painted with India ink, and a patch of ordinary salve nearest the wrist.

Fig. 2.—(After Finsen.) Arm after exposure. Finsen's object with the colored glass strips was to study the inflammatory effects of the different colored light on the skin. In that particular the experiment was a failure, inasmuch as no reaction took place underneath either of the glass strips, the skin remaining perfectly white. It was found on the other hand that the skin beneath the quartz plate was equally as inflamed as the uncovered skin. (The little white spot seen where the quartz was placed is due to the glue.) This convinced Finsen that the chemical rays will pass through quartz unaffected, and ever since then he has used quartz lenses for his electrical condensers.

In view of this fact, a brief résumé of the recent literature on Finsen's phototherapy may be of interest.

PHOTO-CHEMICAL INFLAMMATIONS.

By experiments on the skin of his own forearm, Finsen has demonstrated macroscopically how an inflammation produced by the chemical rays of light differs from that of a burn and from an erythema caused by a simple overheating of the skin. Microscopically, he has shown by experiments upon tadpoles that this photo-chemical inflammation differs from other kinds of inflammation, inasmuch as it brings about a characteristic change in the red blood corpuscles.

To describe the technique of these experiments would require a complete translation of the text. Suffice it to say, therefore, that Finsen, in the first experiment, exposed the flexor surface of his left forearm to strong sunlight for three hours (the skin being painted here and there with India ink, to imitate negro skin). In an experiment some years later he exposed the same skin, covered in part with various objects (as shown in Fig. 1) for twenty minutes to the rays of an 80-ampere electric arc-lamp at a distance of 50 to 75 cm. in such a position that the rays would strike the skin nearly at a right angle. In each case there followed an inflammatory reaction of the skin, which he describes in substance as follows:

"1. The inflammation thus incited differs from any other kind of inflammation of the same extent, inasmuch as it was followed by a marked pigmentation of the skin of several months' duration.

"2. It does not appear at once (as does a burn), but has its maximum in one or two days after exposure.

"3. It appears only on those parts of the skin which have been directly exposed to the light, while heat rays are also capable of acting through the clothing."

When the acute inflammatory reaction (of the first experiment) had subsided, Finsen again exposed the arm to strong sunlight and found that the pigmented skin reacted very faintly, while the white patches of skin, where the India ink had been, reacted just as the normal skin did before. From this he concludes that the pigment of the skin is the principal defence against the inflammatory influence of the actinic rays and goes on to say: "We are undoubtedly right in supposing that this is still the principal reason for the negro's darkness, and for the circumstance that the skin of the various races gets darker the nearer we approach the equator."[3]

Several months after the pigmentation had disappeared from the arm that had been exposed to the 80-ampere lamp, Finsen noticed, upon briskly rubbing the skin, that the parts which had been protected by the salve and glass plates (seen in Fig. 2) remained almost white, while the rest of the skin was markedly flushed. "This can only be explained by assuming that the action of the chemical rays had caused a more or less permanent dilatation of the capillaries and smaller arterioles of the skin,"[4] a fact which he later takes advantage of in his chemical-light baths.

Finsen demonstrated the histology of these actinic inflammations in the following way: He took a tadpole, wrapped its body in wet tissue paper and placed it upon a microscope stage in such a way that he could

flush it with a stream of cold water, 1, to keep it alive, and 2, to counteract the heat. He then directed a stream of concentrated sunlight upon the tadpole's tail, and observed through a microscope the following changes in the capillary circulation:

"1. In about ten minutes the blood current became markedly slow and there were many leucocytes present.

"2. A little later, the blood current was completely obstructed (stasis) by red and white corpuscles and there were many leucocytes outside of the vessels.

"3. A marked change took place in the red blood corpuscles; they lost their characteristic oval shape (of the frog) and became stubby and contracted. This change in the red cells was absolutely constant in every experiment and, by fixing some of the tadpoles in saturated sublimate solution, the same condition could be observed in the cut sections. That this contraction of the red cells was not a death phenomenon was shown by the fact that they did not lose their sharp contour nor give up their hemoglobin—the two phenomena which, according to Cohnheim, take place at the death of the red blood corpuscles."[5]

THE EFFECT OF LIGHT UPON MICRO-ORGANISMS.

Having determined the harmful effects of the chemical rays of light upon animal tissues, it seems but natural that Finsen should next turn his attention to the influence of these rays upon bacteria. A great deal of this work he assigned to his associates. Dr. Valdemar

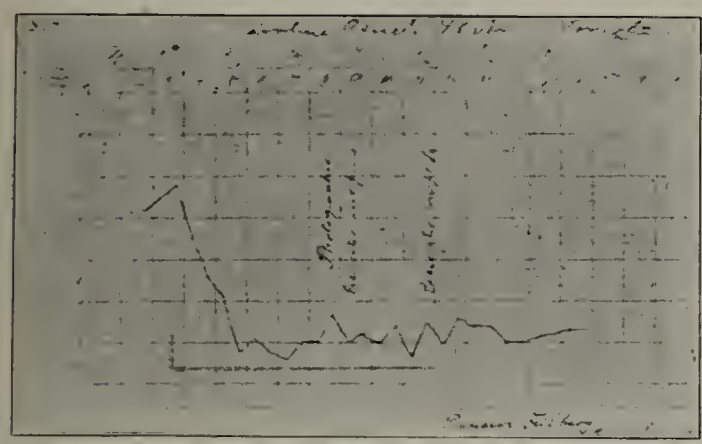


Figure 3. (After Finsen.)

Bie, his first assistant, investigated the effect of the different rays of the spectrum upon the development of bacteria and found:

"1. That all the different rays of the spectrum, from the red upwards, hamper the development of micro-organisms. That the red rays alone are capable of killing bacteria has not been shown; any of the other parts of the spectrum are able to do so.

"2. That the ability of the rays of the spectrum to kill bacteria rises somewhat uniformly with the exponent of refraction, as far as the beginning of violet, where a marked rise takes place.

"3. That the effect is therefore chiefly due to the violet and ultra-violet rays."[6]

These results have been obtained with the bacillus prodigiosus and the light of an electric arc-lamp of 35 amperes, 44 to 46 volts. The light was filtered through colored liquid filters and the technique in general was that in use at the Finsen Institute.

Dr. A. L. Larsen has made some very creditable researches in order to determine whether different micro-organisms are equally or differently affected by light. He finds: 1. That different bacteria are differently affected by light and that there is considerable difference in the resistance of even closely related varieties. 2. That the time which the light requires to kill certain species of bacteria bears no constant relation to that needed to impair their growth."

Dr. Sophus Bang, director of the Finsen laboratories, has lately published an extensive article on the effect of light upon micro-organisms. Dr. Bang states that besides the work done at the Finsen Institute, more than one hundred monographs can be found in the literature pertaining to the bactericidal powers of light, but adds that the results obtained by the different investigators do not compare with the amount of work done. He gives great credit to the work of Downes and Blunt, but has this to say in general: "One gets the impression from most of these researches that they have all been done by more or less skilful bacteriologists, but by very poor physicists."[8]

The errors of most of the former investigators have been that: "1. They have all, with one or two exceptions, used test-tubes for their cultures. (The convex surface of the tube, acting as would a convex lens, has thus caused the light to be refracted unequally throughout the media. 2. The intensity of light used, the amount of chemical rays it contained as well as the distance of the culture from the source of light (when artificial light was used) have in general not been stated

Figure 4. (After Finsen.)

by the older investigators. 3. The use of too weak light; few seem to have thought of the fact that when light is decomposed into its various parts, the source of light must be increased in order to get the same effect."

THE RED LIGHT TREATMENT OF SMALLPOX.

I have already mentioned the theory upon which this method of treatment is based. The clinical reports show that, in the hands of those who have used it rightly and most extensively, it has proved to be a new therapeutic agent of considerable value. For a successful application of the treatment, Finsen emphasizes the following points:[9]

"1. The exclusion of the actinic rays must be complete; the windows may be covered with heavy red curtains or, better still, window panes of deep-red glass may be used. At any rate the light should be of the same quality as that used in a photographer's dark room. (Red incandescent globes or a faint candle light can be used, when for convenience more light is required than can be obtained through the windows.

"2. The patient must remain in the red light until

the vesicles are dried up, even the slightest exposure to daylight can bring about suppuration and its sequelæ.

"3. The treatment should be commenced as early as possible (at the beginning of the exanthema), for the nearer the commencement of the suppuration the smaller are the chances of success.

"4. This method does not prevent the use of any other treatment that might be considered necessary. (Symptomatic treatment of the patient should, of course, be carried out as usual.)

"5. Death from variola (especially before the period of suppuration, or from such complications as pneumonia) can, of course, not be prevented by the use of this method.

"6. If the patient be brought under this method of treatment early enough and these rules observed, the results, according to clinical experience, will be that suppuration is prevented, the course of the disease shortened and the patient cured without pitting."

Dr. Svendsen, who was the first to try this method and who used it for eight cases of variola, four of which were in unvaccinated children, describes his results thus:

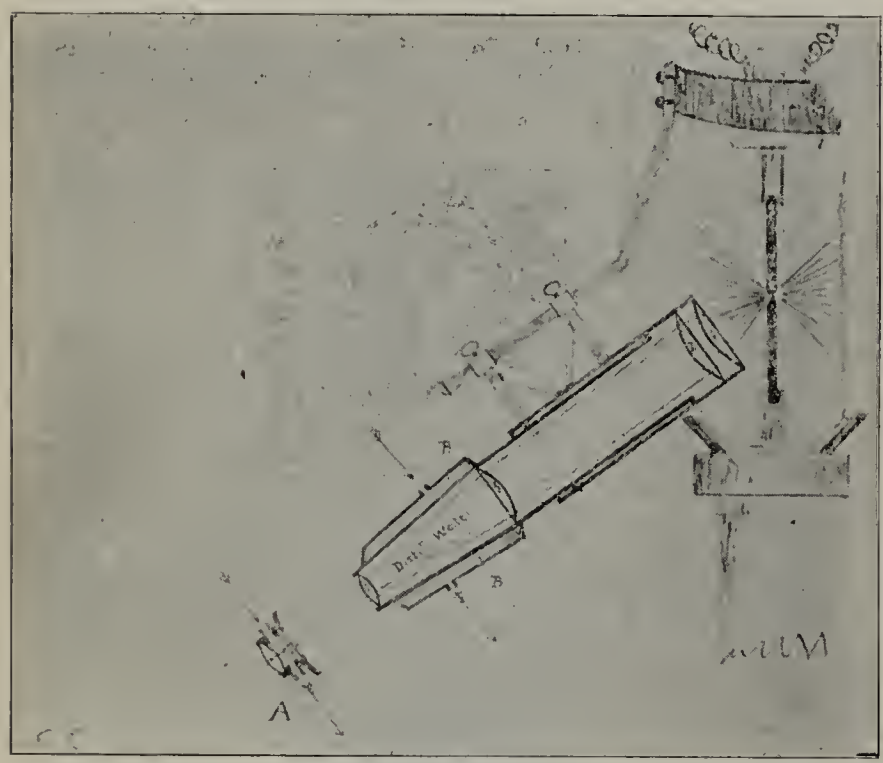


Figure 5.

"The clinical picture of variola was changed, there was no pustulation, no edema, no secondary fever; the patient passed directly from the vesicular stage into convalescence." Dr. Herman Backmann, who has treated 62 cases of smallpox by Finsen's method, says: "The period of suppuration was short and mild, the vesicles dried up much quicker than usual and left no scars."

Dr. C. Feilberg of Copenhagen has reported 14 cases of variola treated in red light at the Copenhagen smallpox hospital. He states: "It must be admitted that this method of treatment is of no insignificant therapeutic value, inasmuch as it shortens the course of the disease, makes it less painful and saves the patient from various complications consequent to the suppuration. When one has seen severe cases of smallpox—the patient bathed in pus—so that the bed clothing sticks to the body, it will be admitted that variola is one of the most painful diseases. All this seems to be avoided by the use of this method."

The exact number of cases that have been reported in the literature, as treated by this method, I am not able to state, but in 1899 between 140 and 150 cases had been reported.

Fig. 3 shows a temperature tracing of one of Professor Feilberg's cases; it will be seen from this chart that there was no secondary fever.

POWER OF THE CHEMICAL RAYS TO PENETRATE TISSUES.

That light is capable not only of penetrating the skin, but also the deeper tissues, can readily be shown by a very simple experiment suggested by Finsen. "Close the eyes and look toward the light, then cover the eyes by the hand and note the difference."[13] The amount of light that penetrates the eyelids is really remarkable, as the light has to penetrate skin, tarsal plate and mucous membrane.

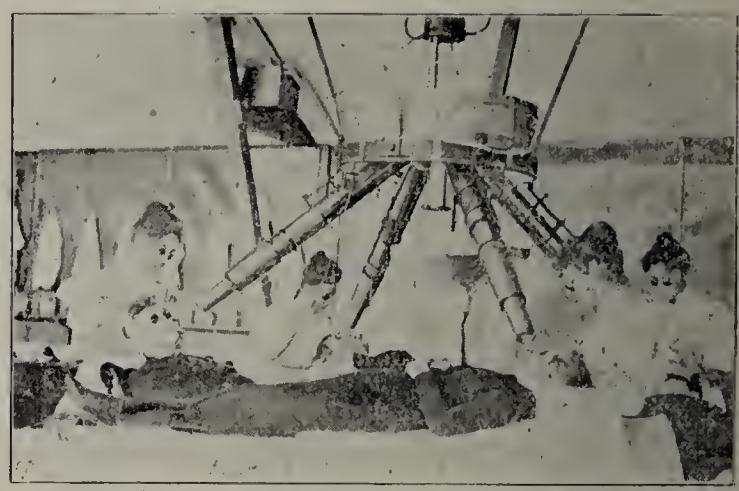


Figure 6. (After Finsen.)

Godneff has shown that the chemical rays of light will penetrate the skin. By means of a trochar, he placed sealed glass tubes containing chlorid of silver beneath the skin of cats and dogs. Some of the animals he left in the dark, while others were exposed to direct sunlight. In the course of an hour he removed the tubes and found that the silver chlorid in the tubes from those animals he had exposed to sunlight was blackened, while it was unchanged in the tubes from those animals left in the dark. (Quoted by Finsen.)

By courtesy of Prof. Finsen.

By sealing strips of aristo paper on one side of a person's ear and then turning a stream of concentrated light upon the other side of the ear, Finsen found, from the blackening of the paper, that the chemical rays were capable of penetrating the tissues of the ear. If, however, the ear over the paper was compressed (between two plates of quartz) it was found that the same light would blacken the aristo paper in about one-tenth of the time. "This shows conclusively that the blood forms the chief barrier to the permeability of the chemical rays" (Finsen).[14] Later he repeated these experiments

by placing a rabbit's ear over a plate-culture of the bacillus prodigiosus. He found that the light would penetrate the rabbit's ear and impair the growth of the germ, while if the ear tissue was made anemic the germ was killed very rapidly.

For these reasons, Finsen uses in his lupus clinic a compressing apparatus for producing local anemia of the parts to be treated by concentrated light. This apparatus is shown in Fig. 5, A, and consists of a plano-convex lens of quartz fastened in a metal ring, the convex surface of the lens being turned toward the skin; radiating from the ring are four arms to which are attached rubber bands, that serve to hold the apparatus in position and to compress it tightly against the skin. For treating the sides of the nose, where this form of the apparatus is impracticable, an oblong form is used.

light (Fig. 4) consists of two concavo-convex glass lenses, fastened in a brass ring in such a way that the concave surfaces of the two lenses face each other, while the space between is filled with a copper sulphate solution. This blue, bi-convex, water lens is suspended on an adjustable metal frame and supported on an iron foot. The two shells of glass about the liquid converge the parallel rays of the sun to a focus, while the copper sulphate solution absorbs most of the heat rays (ultra-red, orange and yellow), but transmit the ultra-violet.

The concentrating apparatus for electric light is more complicated, since the rays from the electric arc-lamp are divergent and not parallel like the rays of the sun. Fig. 5 shows a concentrating apparatus for electric light; it consists of two brass cylinders which are made to telescope into each other, like the barrels of a microscope. In the upper end of the wider cylinder are

By courtesy of Prof. Finsen.

CONCENTRATION OF LIGHT FOR MEDICAL PURPOSES.

Concentrated light is used by Finsen for the treatment of various maladies, but it is for the successful treatment of lupus vulgaris that he has become known throughout the medical world.

In order that a malady may be treated successfully with concentrated light, it must be local, superficial and bacterial. This is Finsen's law in phototherapy and any skin lesion which he may have treated that does not strictly come within these three requirements is not yet beyond the experimental stage. The light used for this method of treatment must be strong, concentrated and cooled. For this purpose Finsen uses in his lupus clinic two kinds of apparatus, one for sunlight and one for electric light. The apparatus for concentrating sun-

placed two plano-convex quartz lenses, marked in the Figs. 5, 1 and 2; the object of these two lenses is to gather the divergent rays of the electric arc-lamp and make them parallel. The lenses (3 and 4) converge these same rays and bring them into focus at a point situated about 70 cm. outside of lens 4. The chamber between the lenses 3 and 4 is filled with distilled water, which absorbs nearly all the heat rays and acts thus as a cooling medium to the light. The ultra-violet rays on the other hand pass through unaffected and, since these rays have the greatest bactericidal power, it will be seen that the water serves the double purpose of holding back the heat and of giving a pure chemical light. In order to keep the column of distilled water between lenses 3 and 4 from getting hot, this part of the apparatus is sur-

rounded by a water jacket, through which a current of cold water is continually flowing. (Fig. 5, B.B.) This concentrating apparatus is held in position by a steel bar projecting from the support around the lamp, shown in Fig. 5. Lens 1 is exactly 15 cm. from the positive pole of the lamp. The apparatus hangs in such a position that its axis forms an angle of nearly 45 degrees with the direction of the carbon poles of the lamp.

TREATMENT BY CONCENTRATED LIGHT.

The patient is best placed upon a table or couch; the compressing apparatus placed over the part to be exposed and the rays from the concentrator directed straight on the compressor. It is necessary to watch and see that the rays strike the compressor at a right angle. The exposure should last from an hour and a quarter to two hours, depending upon the intensity of the light used. The electric lamps used by Finsen are from 50 to 80 amperes and four concentrators are attached to each lamp, as seen in Fig. 6. In this manner an area of skin from the size of a quarter to that of a half dollar is exposed each day until the whole patch has been treated. The skin appears red and swollen after the exposure, but necrosis has never been observed. In the case of lupus vulgaris, the treatment is continued for some time after the last nodule has disappeared in order to guard against recurrences.

Sometimes pyrogallic acid ointment is applied to the skin before treatment is commenced in order to make it soft and easily penetrable to light. Zinc ointment is applied as a soothing dressing to the part after exposure.

The statistics given below are tabulated from Finsen's official report of 1900. It shows in a general way the kinds of diseases that have been treated by concentrated light at the Finsen Institute:

NAME OF DISEASE.	PATIENTS TREATED.	RESULTS.
Lupus vulgaris	454	Positive.
Lupus erythematosus	142	Positive.
Alopecia areata	29	Positive.
Epithelioma cutaneum	17	Positive.
Acne vulgaris and acne rosacea	15	Positive.
Nevus vascularis planus	10	Positive.
Tuberculosis cutanea	7	Positive.
Trichophytia capitis	6	Positive.
Favus	2	Negative.
Seborrhea capitis	4	Negative.
Eczema faciei et sycosis	5	Negative.
Ulcera luetica	5	Negative.
Keloid	1	Negative.
Pigmenta trophica	2	Negative.

The principal advantages of this method of treatment are: 1. It is painless. 2. It promises reliable results for local, superficial and bacterial skin lesions. 3. It gives excellent cosmetic results. 4. It is absolutely without danger.

The disadvantages are: 1. The long time the patient has to be under treatment. 2. The cost of the apparatus, especially the strong electric current necessary for the lamp. The first disadvantage has practically been removed, since Dr. Sophus Bang has succeeded in constructing an electric arc-lamp, which is extremely rich in ultra-violet rays. The lamp radiates practically no heat and gives very little light; the electrodes of the lamp are made of iron, specially prepared, and are kept from melting by the circulation of cold water inside the tips. With this lamp the exposure, which used to last an hour and a quarter, is reduced to three minutes. Dr. Bang is at present trying to construct a new compressor in which a small lamp is to be inserted and in that manner do away with the cumbersome condensors.

FINSEN'S CHEMICAL LIGHT BATHS.

In the latest bulletin[1] there is given preliminary description of the chemical-light baths proposed by Finsen, in order to show how the therapeutic principle of these baths differs from that of the Kellogg electric light baths, now much in vogue in Germany. The latter are nothing more than sweat baths for which the heat is being produced by incandescent electric lamps, instead of by hot air or steam vapors. This diaphoretic effect is all the virtue the originator, Professor Kellogg, attributes to them; but after being imported into Europe (by a layman) it was found desirable to attribute to them some of the chemical effects of light. In connection with these proposed chemical qualities of the Kellogg baths the German proprietors have made use of Finsen's name in a way of which he does not approve.

The following is a translation of Finsen's description of his chemical-light baths:

My light baths are arranged in the following way: I use either sunlight or electric light.

Niels R. Finsen.

The sunbaths consist in letting the patient walk naked in a court of bright sunlight, where everything possible is done to keep the temperature down, so as not to make it a sweat bath. By frequent irrigation of the court with cold water, and, if necessary, by an occasional shower-douche on the skin, one can manage to take a sunbath at moderate temperature.

The electric-light bath consists of a circular room of about 12 meters (40 feet) in diameter, in the center of which hang two powerful electric arc lamps of 100 amperes each. The lamps are suspended about 2 meters above the floor. This large room is subdivided into smaller rooms by partitions radiating from near the center, like spokes in a wheel. In each of these subrooms is found an inclined couch on which the patient lies naked. The temperature in these electric light baths is so low that it is necessary to heat the rooms by other means to keep the patients comfortable. At the same time the chemical effects on the skin from the powerful electric

1. Meddel elser fra Finsen's Medicinske Lysinstitut, June, 1900.

light is stronger than that of bright sunlight. These baths produce a pleasant prickling and slight sensation of heat on the skin.

In the use of these baths, as well as the sun baths, it is necessary to exercise a certain amount of care, inasmuch as there is a great individual difference of toleration to the chemical rays of light. Certain individuals will, even after a 10-minute exposure, present a decided erythema, while others tolerate the same light for hours, their skin presenting nothing more than a slight redness. The indications for these baths and a further description of them I shall not enter upon now, as it is merely my intention to point out the difference between the kind of electric baths, which in reality are nothing more than sweat baths, and the kind of electric light baths, the object of which is a real chemical-light action.

While Finsen as yet refrains from giving any specific indications for these baths he calls attention to the fact, mentioned under photo-chemical inflammations, that the chemical rays produce a dilatation of the capillaries of the skin. "This dilatation of the capillaries insures a greater blood supply and in consequence a better nourishment of the skin." It has also been shown that the chemical rays are powerful counter-irritants; and inasmuch as we treat many chronic skin diseases with stimulating salves, etc., it would be hard to foretell the future therapeutic uses of these chemical-light baths.

BIBLIOGRAPHY.

1. Finsen: Lysets Kemiske Straaler som Incitement. (Meddelelser fra Finsen's Med. Lysinstitut, June, 1900, p. 65.)
2. Finsen: Beretning fra Finsen's Medicinske Lysinstitut, June, 1900, p. 78.
3. Finsen: The Red Light Treatment of Smallpox. British Med. Journ., Dec. 7, 1895, p. 1413.
4. Finsen: Nye Undersögelser over Lysets Indvirkning paa Huden. (Meddelelser fra Finsen's Medicinske Lysinstitut, January, 1900, pp. 17-18.)
5. Finsen: Om de Kemiske Straalers skadelige Virkning paa den dyriske Organisme. Hospitalstidende, November, 1893, p. 1077.
6. Ble, V.: Virkningen af Spektrets forskellige Afdelinger paa Bakteriers Udvikling (Meddel. fra Finsen's Med. Lysinstitut, January, 1899, pp. 73-74).
7. Larsen, A. L.: Paavirkes de forskellige Bakterier ens, eller forskeligt af Lyset? (Meddel. fra Finsen's Med. Lysinstitut, January, 1899, pp. 98-99.)
8. Bang, Sophus: Om Lysets Virkninger paa Mikrober. (Meddel. fra Finsen's Med. Lysinstitut, December, 1899, p. 4.)
9. Finsen: Koppebehandling med Udelukkelse af de kemiske Straaler, Hospitalstidende, March 7, 1894.
10. Swendsen: Medicink Revue, October, 1893.
11. Backmann, H.: Ueber variola vera und chemischen Strahlen. (Finska Läkaresällskapets Handlinger, May, 1898.)
12. Feilberg, C.: Behandling af Kopper med Udelukkelse af Dagslysets kemiske Straaler, Hospitalstidende, July 4, 1894.
13. Finsen: Om Anvendelsen i Medicinen af Koncentrerede Kemiske Lysstraaler. p. 33.
14. Finsen: Ibid., p. 36.

THE USE AND ABUSE OF MORPHIN AFTER ABDOMINAL SECTION.

L. H. DUNNING, M.D.

Professor of Diseases of Women, Medical College of Indiana; Chief of Staff of Deaconess' Hospital.

INDIANAPOLIS, IND.

There seems to be a wide divergence of opinion among English and American surgeons as to the benefits of the administration of morphin and other preparations of opium after an abdominal section, if we take the expressions found in medical journals as a guide to the views and customs of operators. The questions we propose to briefly discuss in this paper are: What are the indications for and benefits derived from the use of morphin after abdominal section? What are the harmful influences of this drug when improperly used?

Unquestionably, pain is considered the chief indication for its use after an abdominal section. It is here, however, that the great divergence of opinion regarding the advisability of its administration is manifest. The early operators almost invariably administered a large dose of opium as soon as the patient was placed in bed or had recovered from the effects of the anesthetic.

The form of this drug was usually laudanum and the method of administration by the rectum. The first dose was followed by others as soon as the patient began to complain of pain. At the present time it seems to be the consensus of opinion among most operators that some form of opium should be given where the pain is very intense. Of late codein has come into general use and is given hypodermically or by suppositories. The advantages of this drug are that it does not constipate and is not liable to be followed by vomiting. It is, however, transient in its effects, so that it must be repeated, and even then it is of little value for relief of pain except in the mildest cases. The writer in his practice has endeavored to substitute codein for morphin, but has found it of little value. The administration of one grain of codein hypodermically will modify the pain and will give comfort and rest for one or two hours, but not longer. So little benefit have I derived from its administration that I have almost abandoned its use for the relief of pain. There are those, and they are not a few, who condemn the use of morphin in toto after abdominal section.

Some two or three years ago the writer listened to a paper read by a prominent operator who condemned the use of morphin in the strongest terms. Some one asked him what he would give to relieve pain if it were severe, and his reply was, "nothing," that he would encourage the patient to bear the pain; in the discussion which followed his paper, he remarked to his interrogator: "If you would avoid the use of opium in any form, your mortality would be reduced 5 per cent." These statements were very positive and yet seemed to meet with the approval of many of the operators who listened to him. The last statement we think, however, was far from the fact, as the recorded experience of some of our most successful operators show. They have attained their very low rate of mortality while using this drug.

I cite but one instance, that of Mr. Tait in his prize essay upon diseases of the ovaries. He states that he had just completed a series of 100 consecutive ovariotomies with but two deaths, and a little further in the same chapter he says: "Should there be pain after the operation, I direct the use of a suppository containing one-fourth grain of morphia; but with this agent I am extremely cautious, for my patients never get a single dose of morphia or opium more than is absolutely necessary to relieve pain. Like other operators, I have long since discarded the routine use of opium, which was the fashion at one time, a practice brought into existence by the idea that it prevented the occurrence of peritonitis." Undoubtedly, Mr. Tait in these statements has given us the key to the rational employment of this most efficient drug.

Dudley,[1] in his recent work, has cogently stated the objections to morphin and opium in the following language: "Opium and its preparations lock up the secretions, induce nausea, arrest peristalsis, cause distension, mask other symptoms which might otherwise give warning of approaching danger; they moreover counteract the influence of cathartics and would therefore prove a serious obstacle if it became necessary to move the bowels. Such drugs, if given at all, should be given with the greatest circumspection."

The writer is in accord with facts and principles stated in this quotation. Let us, however, consider their objections somewhat in detail to see if they may not be counteracted.

The first is it locks up the secretions. Under the old methods of preparatory treatment, when water was withheld and the patient actively purged by salines, the dimi-

1. Dudley: Diseases of Women, p. 137.

nution in the amount of urine, the dryness of the skin and costive condition of the bowels were very noticeable and very distressing. Now, that copious draughts of water are given several days in advance of operation and a large enema of normal salt solution given immediately after the operation, these objections are largely removed.

That many patients suffer of nausea and vomiting as the effect of an injection of morphin, there can be no question. I know of no way of effectually preventing this most unpleasant and often serious after-effect of the drug, but since I adopted the plan of questioning the patient regarding the effects of the drug upon former occasions of its use and avoided giving it to those whom it invariably nanseates, I have had much less annoyance from this source. The administration of morphin combined with atropin soon after section is usually objectionable on account of the excitement of the heart's action and the dryness of the tongue and throat the atropin induces. A second minute dose of morphia as the nausea begins is not infrequently effectual in preventing this symptom.

Morphin does arrest peristalsis, cause distension and counteract to some extent the action of cathartics. However, these objectionable features may be largely counteracted by the administration of a rectal injection of normal salt solution after the operation and by the subsequent rectal injection of milk of asafetida, and by the systemic yet prudent use of the colon tube.

The early action of the bowels is conducive to a quick recovery of the patient. It has long been the practice of the writer to secure an action of the bowels within the first forty-eight hours. This is accomplished sometimes by an S.S. enema, at other times by an enema of four ounces of the saturated solution of Epsom salts, to which has been added one ounce of glycerin or lastly, in case of failure of the above-mentioned measures, by the administration of small doses of calomel followed by a saline.

In cases of extreme restlessness the efficiency of an opiate is most marked. Every abdominal surgeon has seen many marked illustrations of this fact. One recently under my observation was most striking. The patient, a school teacher 43 years of age, was operated upon by vaginal hysterectomy for the extirpation of a fibroid uterus, pus tubes and a small ovarian abscess. The operation was not difficult and was quickly done by the ligature method. The patient was one of those extremely nervous persons who are intolerant of pain or restraint of any kind. She was loud in her complaint of pain and so restless that it was difficult to keep her in bed. Two one-grain doses of codein were given and also one rectal injection of hot water containing 20 grains of sodium bromid and 15 grains of chloral hydrate, all with little or no effect. The administration of one-sixth of a grain of morphin quickly brought relief and quiet, calm sleep. It was not followed by an unpleasant symptom. The whole aspect of the case was changed and the patient went on to a speedy and comfortable recovery.

Persistent vomiting, not due to peritonitis or obstruction of the bowels, but of reflex origin, is not infrequently relieved by the administration of one-eighth grain of morphin.

The place of morphin in the treatment of post-operative peritonitis is far from being settled. My own experience leads me to avoid its administration except in rare cases, such, for instance, as those in which the bowels have acted freely and in which there is no vomiting, yet there is great restlessness and pain. Even in such cases it is so apt to induce vomiting that it should be prescribed with the greatest circumspection. In sepsis all are agreed that morphin is harmful.

The chief etiological factors of post-operative peritonitis are trauma and infection. Recognizing this the surgeon is prone to become dogmatic and absolutely proscribe the drug. Unquestionably, not a few valuable lives have been sacrificed because the attendant or nurse would not heed his dogmatic statement.

There is another condition concerning which I would speak of the use of morphin, viz., in those individuals who are addicted to the use of the drug. The terrible depression, great restlessness and acute pain caused by withholding morphin from such persons, added to the shock and other dangers of the operation, may be the determining cause in producing a fatal issue. Immediately following an abdominal section is not the time or occasion to break the morphin habit. It is, however, an appropriate time to begin diminishing the accustomed dose, so that a little later it may be entirely withdrawn.

In secondary shock occurring one, two or three days subsequent to the operation and due to fright or over-anxiety and accompanied by great restlessness, the administration of a small dose of morphin is often followed by a calm sleep and entire relief of the patient. I am aware that there are those who deny the presence of secondary shock and who teach that so-called secondary shock is a condition due to secondary hemorrhage. I wish to cite one of my cases illustrating my idea of secondary shock. Mrs. A. was operated upon in a private hospital by abdominal section for the extirpation of a small pyosalpinx. The operation was an easy one, the patient reacting well. Everything went on in a normal manner for thirty-six hours, when a patient who had undergone a severe operation, was placed in a bed across the hall from her. The newly arrived patient suffered intensely and was boisterous, crying out in agony that she was dying. My patient heard her every moan and outcry, became frightened and much agitated. Her temperature fell, her pulse became rapid, her skin blanched and respiration sighing.

This is the condition I found her in half an hour after the serious symptoms appeared. She was moaning and turning in bed and begging piteously for her friends, whom she wished to see before she died. For a little while I halted between two opinions, now thinking it was shock and now secondary hemorrhage. We applied heat and friction to the surface, and gave stimulants hypodermically. In a short time a bright spot appeared upon one cheek and one ear became livid. It was plain to my mind we had to deal with shock. I directed a large high enema of hot water and the administration of one-eighth grain of morphin. I sat down quietly by her bedside and assured her that she would soon be better and would recover. In a few minutes her restlessness gradually disappeared. She became calm, then drowsy and finally slept. The sleep lasted for an hour. During that sleep the surface of the body warmed and the color returned. She awoke at the end of an hour refreshed, and at the end of four or five hours every evidence of shock had disappeared except that she was fatigued. Morphin played an important part in the restoration of this patient. I wish to briefly summarize as follows:

1. The routine use of morphin and other preparations of opium are to be condemned.

2. For the relief of severe pain and marked restlessness morphin is much superior to codein, though more prone to be followed by unpleasant symptoms such as nausea, vomiting, diminished secretions and constipation of the bowels.

3. The serious after-effects of morphin may be largely overcome by the drinking of liberal quantities of water before the operation and the rectal injection of a pint or quart of the normal salt solution immediately after the operation, the systematic use of the colon tube and the early action of the bowels.

4. In persistent vomiting not due to sepsis or peritonitis, small doses of morphin hypodermically not infrequently affords relief.

5. In secondary shock due to fright or overanxiety morphin in small doses is often a potent remedy.

SOME POINTS IN THE DIFFERENTIAL DIAGNOSIS OF ABDOMINAL AND PELVIC TUMORS.*

RUFUS B. HALL, M.D.

CINCINNATI, OHIO.

To men who devote their lives to this special work this is a difficult problem. Even in the hands of such men positive diagnosis is not always possible before the abdomen is opened, and not always then until the tumor has been examined under the microscope. It is only fair to make this statement in the beginning as a reason for not drawing the differentiating lines very acutely. We must bear in mind that there may be exceptions to the usual rule in many of the symptoms in any given case. He who takes written notes and keeps a record of his cases for future reference will be doubly repaid for his time in his future work. No better method of informing oneself in this line of work can be suggested than the careful note-taking of every case that passes under observation.

In studying the differential diagnosis of abdominal and pelvic neoplasms it is essential to keep in mind the normal anatomy of the regions involved. The history of the case, showing where the tumor was first noticed or the pain first felt, will often aid us in our diagnosis as to the nature of the disease. If, from the clinical history, we can learn that the tumor was first observed, when quite small, in the region of the gall-bladder, it would give us a suggestion for a provisional diagnosis. Often the early location of the tumor was the normal location of the healthy organ from which the tumor developed, and a knowledge of its relations is of great clinical importance.

Certain methods of examination are essential and the physician who uses them systematically is not nearly so likely to be misled as one who does not do so. The methods are inspection, palpation, percussion, mensuration, auscultation and exploratory puncture. For examination the patient should be placed upon the back on a smooth, level surface, a high table or a smooth, hard bed. The head should be slightly elevated. The clothing should be removed and the patient protected by a suitable covering.

For inspection the abdomen should be entirely exposed to view. The position of the body, the general appearance of the abdomen, the location of the tumor and its outlines, should be carefully noted.

During palpation as during inspection, the patient should be on the back. The patient's knees should be slightly elevated, resting upon a pillow. The physician should attract the patient's attention by ordinary conversation, about something not pertaining to the disease, if possible. It is important not to cause the patient pain by rough manipulation. The parts should be manipulated carefully and gently, absolutely no force being used, otherwise the object is frustrated. The physician should not overlook the simple precaution of having his hands as warm as the patient's body. This is only a little thing, but it is the aggregation of little things in our profession that makes the difference between success and failure. By palpation we may detect cancer of the pylorus or pancreas, floating kidney, abdominal aneurysm, mesenteric and omental or peritoneal growths, small ovarian and uterine tumors, with almost as much certainty as we make a diagnosis in pneumonia. We must not give an opinion, though, at this time, for we want to be as certain as it is possible for man to be before we risk one. The sensation of the patient as to pain and the degree of spasm of the abdominal muscles will give some definite idea of the local inflammation present and of the character of the tumor. The appearance and manner of the patient will tell us whether the pain is hyperesthesia, hysteria or real pain. Note particularly if one portion of the abdomen is more sensitive than another. Try to determine whether the tumor contains fluid or is solid. After gaining all the facts that are possible in this position, the patient should be turned on the side, with the knees flexed. This may reveal entirely new symptoms that could not be elicited with the patient on the back. For instance, floating kidney can always be palpated in this position when it would entirely elude us with the patient on the back. Then, with the combined vaginal, abdominal and recto-abdominal examination, new facts may be gained. These will give us clews to our diagnosis which we can work out to a reasonable certainty in a few moments afterwards.

For percussion the patient is again placed on the back, with the abdominal muscles relaxed. The whole abdomen and flanks should be carefully gone over and every abnormality and dull region noted and marked out on the patient's skin with a pencil of soft lead. When this has been done the patient should be changed first to one side and then to the other and the whole region gone over again. Abnormal conditions should be carefully noted in the changed positions, especially if the abnormality changes its position. Deep and superficial percussion should be carried out carefully, as much valuable information can be gained thereby. Rest the left hand upon the abdomen, using each finger as a pleximeter. Spread the thumb and fingers, allowing one or two fingers to extend over the edge of the supposed growth and the rest beyond it. Carefully percuss each one in turn without moving the hand, and note the different sounds. This will often give positive knowledge of dulness where the ordinary mode of percussion would not. We can readily determine the borders of the supposed tumor and whether it is solid, fluid or gaseous.

Auscultation is not so valuable an adjunct as the preceding methods, but it has its place. This is especially true in supposed intestinal obstruction. We can trace peristalsis of the intestine which is always present in that condition. In not a few instances it will save the physician the chagrin of pronouncing a normal pregnancy an abdominal neoplasm, or confounding an aneurysm with other forms of tumors.

Many good men recommend exploratory puncture or tapping, but the more I see and do of this work the more I am convinced it is rarely necessary or advisable to tap, and that it is not devoid of danger. Men who operate often do not advise aspiration as a means of differential diagnosis in abdominal and pelvic tumors. The reason is logical and just. If a tumor causes enough

* Read before the Northwestern Ohio Medical Association, at Lima, Dec. 14, 1901.

trouble to demand relief and a differential diagnosis can not be made, we had better not add the risk of an accident following tapping, but reserve our opinion until operation has been made.

DIFFERENTIAL DIAGNOSIS OF OVARIAN CYST.

As an illustration of the methods to be employed we will consider the differential diagnosis of an ovarian cyst of moderate size—say somewhat smaller than an adult head. The clinical history is of great importance. Menstruation is not changed in type in any way. The patient complains of a little pelvic discomfort. The tumor is of but few months' duration or perhaps has but just been discovered. The patient is not ill, but alarmed at the discovery of the lump and seeks advice. First note the appearance of the abdomen, whether or not the tumor is more prominent on one side than on the other. Ovarian tumors of this size are rarely ever central. The measurement from one anterior spine of the ilium to the umbilicus is greater on one side by half an inch to an inch than on the other. This much variation is scarcely perceptible to the eye. Tumors occupying exactly the center of the abdomen are usually uterine. Palpation reveals a round, usuaully smooth, semi-elastic tumor, almost always fluctuating. If very thin-walled, fluctuation will be very perceptible, but if the fluid is very thick and tenacious, the sense of fluctuation is correspondingly lessened. Percussion reveals dulness over the entire tumor. Changing the position of the patient will not change the area of dulness.

From Pregnancy.—Then come the fine points of differential diagnosis between ovarian tumors and the other forms of tumor that develop in the pelvis and abdomen. The first to be excluded is pregnancy. It is a well-known fact that unmarried women who find themselves pregnant will make misleading statements to their physicians and resort to the meanest subterfuges in order to mislead their families. When the physical signs and condition of the tumor in an unmarried woman suggest the possibility of pregnancy, we must be on our guard, regardless of her statements, and carry our examination to the minutest detail in every particular. By vaginal examination I have been able time and again to convince myself immediately that the patient had been purposely misleading me by her statements and that the tumor was a pregnant uterus. I will say in passing that nearly all the mistakes of my professional friends who have referred cases of this kind to me have come about because they have not made a vaginal examination, either because the patient objected or they thought it was not necessary. A man who has practiced obstetrics a few years can not be easily deceived when the woman is pregnant if he makes a vaginal examination. There will be the usual physiologic changes in the vagina and neck of the uterus. The cervix will not be firm and hard as in a non-pregnant uterus. The speculum will reveal the parts engorged with blood. The vaginal mucosa will have the bluish tinge rarely present at other times than pregnancy. The normal-sized uterine body can not be mapped out, as it is always possible to do if the tumor is ovarian. From external appearance of the abdomen the bulging forward low down is not so marked in ovarian cysts as in pregnancy. Auscultation may reveal the fetal heart sound, and by a little manipulation we may be able to get the fetal movement as well as ballottement with rhythmical contraction of the uterus. If so, everything in the heretofore obscure case is perfectly plain.

From Fibroid.—Having excluded pregnancy in our differential diagnosis, the fact of a tumor present still remains. If the tumor is the uterus itself enlarged, it will not be difficult to map it out by bimanual examination. If it is a fibroid, we will have a hard mass that may be smooth or irregular in outline, non-fluctuating, and with a history of a slow growth. As a rule the patient will have been conscious of the presence of the tumor for many months and usually many years. She has had well-marked menstrual derangement preceding her observation of the tumor. This derangement usually consists of prolonged and excessive bleeding accompanied by more or less pain. It is the first thing that attracts the patient's attention. Many patients bleed from ten to fourteen days at each period. Sometimes the fibroid develops in one wall of the uterus and remains interstitial growth. The uterine cavity enlarges. Not a few of these cases bleed excessively at each period for two or three years, then the period gradually assumes its normal condition, the uterine body contracts to its natural size and the tumor increases in size. The patient will remain quite comfortable until the tumor is large enough to cause inconvenience from pressure. With this clinical history the physician may doubt the correctness of his former diagnosis. Examination will then reveal the tumor subperitoneal, the uterine body of almost natural size and attached to one side of the tumor. This is because the tumor in its early history was located nearer the peritoneal covering than to the mucosa. The uterine contraction forced it out of the grasp of the uterine muscle. The gradual contraction of the uterus controlled the bleeding. If located near the mucosa in the early history of the growth, this same contraction of the uterine body forces the tumor into the uterine cavity and thus we have the true uterine polyp. With these conditions present and a definite knowledge of the clinical history, one should have little difficulty in making a diagnosis.

From Dropsy.—One of the most difficult conditions to differentiate is the encysted dropsy of tuberculosis. By percussion the same signs are present as in ovarian cysts. Changing the position of the patient does not change the area of dulness any more than in ovarian cyst. By palpation the apparent tumor is not so easily defined in encysted dropsy. In ovarian cyst the upper edge ends abruptly. In encysted dropsy the adherent omentum and bowel prevent our making out a sharp boundary line of demarcation. When the patient is on her back the tumor itself is not quite so prominent. The abdomen rather flattens out as it does in ascites. We must place our chief dependence upon a careful clinical history, in many cases especially for the year or two preceding the time of examination. The general health will usually have been poor, with progressive weakness and emaciation; yet this is not always true. There is always more menstrual derangement in tuberculosis than in ovarian cyst of small size. Usually the flow is either profuse and prolonged or scanty. The general appearance of the patient is that of a sick woman out of all proportion to what we would expect if the tumor were an ovarian cyst. The pulse is always accelerated. The temperature chart will also be an aid, but we must be careful on that account not to confound encysted dropsy with a suppurating cyst. As a rule there will be found other manifestations of tuberculosis.

There should be little or no difficulty in making a correct diagnosis of uncomplicated peritoneal dropsy. The clinical history will give some clew as to organic disease of the kidneys, heart or liver. The edematous feet and limbs will at once attract our attention. With the pa-

tient on her back percussion will reveal the resonant area in front, a dulness in either flank; changing the position to the side, we will have the resonance changed to the uppermost side and the dulness below, on account of the gravitation of the fluid. By bimanual examination the uterus and ovaries will be found perfectly movable and normal.

If we have the complicated condition of the pelvic tumor with abdominal dropsy it may be very difficult to make a correct diagnosis. We frequently have peritoneal dropsy directly due to the irritation of the tumor, especially if the tumor is malignant. In this condition the physician may mistake the distended abdomen for a large ovarian cyst when the real condition is a small pelvic tumor and peritoneal dropsy, with the intestine adherent to the tumor and pelvic floor in such a manner that they can not float up on the fluid. A careful physical examination will correct this mistake.

SPECIAL TUMORS.

Malignant tumors in the pelvis are, as a rule, not difficult to diagnose. There is more or less emaciation and loss of strength. The tumor grows very rapidly and there is a tendency to include the adjacent organs until finally all the organs in the pelvis are fixed. As the disease advances pain is greatly in excess of that of non-malignant growths.

A large suppurating ovary may be mistaken for an inflamed ovarian cyst or a fibroid uterus. As a rule it will not be difficult to make a correct diagnosis if the clinical history is carefully taken. Illness will have extended over a number of years. There will be deranged menstrual function with more or less pelvic pain all the time. The tumor will be more fixed in the pelvis than a fibroid. It is not always possible to get fluctuation in a suppurating ovary the size of a cocoanut, but it is always possible to outline the uterine body, not much enlarged, on one or the other side. The tumor simulates a fibroid inasmuch as the patient bleeds from six to fourteen days at her menstrual period. I have had these cases referred to me many times for fibroid. By vaginal examination the parts are more sensitive and more fixed than is usual in fibroids. In the majority of these cases there is nothing in the temperature chart that would throw any light upon the diagnosis.

Ruptured tubal pregnancy with a large accumulation of blood clot, seen several weeks after primary rupture, may be confusing. Here again the clinical history plays a very important part in the diagnosis. The patient has a previous history of endometritis or salpingitis or both. She has suffered with deranged menstrual function for many months or years. She has missed one, two or possibly three periods and believed herself pregnant. Her illness was ushered in by a sudden, sharp attack of pain in the abdomen, followed by well-recognized symptoms of shock lasting from a half hour to three or four hours. If pregnant not more than seven to nine weeks, she is able to leave her bed the following day and continue her usual vocations. In three or four weeks she has another attack of pain and collapse, when renewed hemorrhage takes place. She is again able to leave her bed in a few days and only complains of a sore abdomen. This may be repeated three or four times before the patient comes under the observation of the consultant. The pelvis and lower abdomen is now filled with old blood clot, forming an apparent tumor. In a number of similar cases I have suggested to the medical attendant that the tumor was blood clot from a ruptured tubal pregnancy. He would reply in a somewhat quizzical tone, "Why, Doctor, that can not be so. If the woman had a ruptured tubal pregnancy she would have bled to death at once." The fact is, ruptured tubal pregnancy rarely causes death from hemorrhage at the time of the first rupture. If it did, we would rarely see these cases on the operating table. The longer the duration of pregnancy before rupture takes place, the greater the danger of the patient dying from hemorrhage at the time of the first rupture.

The above conditions are more likely to be confounded with each other than any of the remaining diseases, yet many of the other conditions require careful consideration.

Appendicitis.—I will only speak of appendicitis with a large accumulation of pus. It ought not to be difficult to diagnose this condition from other abdominal and pelvic tumors. Embarrassing mistakes have been made, however, on more than one occasion by prominent men. The clinical history, the condition present, the fixed condition of the mass, contrast so markedly with other abdominal growths that one can hardly realize how it could be confounded with anything else. It is usually confused with a suppurating ovary on the right side or a right kidney with pyonephrosis. In a kidney tumor the colon is always in front. This can be easily demonstrated by inflating the colon with air. A few compressions of the bulb of an ordinary Davidson syringe, pumping in air in place of water, will make it easily apparent. We can then outline the colon by percussion, perfectly. Carefully analyze the urine for blood and pus. There would probably be a history of attacks of nephritic colic. This would be true of hydro- or pyo-nephrosis. A floating kidney with twists in the ureter would have a history of sudden attacks of pain. In new growths we are not nearly so likely to have the attacks of pain, but there is one symptom of importance, that is, blood in the urine. Not infrequently in malignant disease of the kidney there is nothing abnormal in the urine either microscopically or chemically. The tumor, if it is a kidney, begins to develop too high up for appendicitis. In appendicitis we have the McBurney point, with rigidity of muscles at the commencement of the illness, rise of temperature, marked constipation and abdominal distension. The illness is ushered in with a sharp attack of pain. The tumor, at first barely perceptible, at the end of twelve or fourteen days is the size of a pint cup or larger, extending from the ilium towards the median line. It rarely extends far enough toward the region of the kidney to be mistaken for a kidney. The patient lies upon the back, the leg of the affected side flexed, with more or less inability to extend it without pain. Upon examination we do not find the tumor occupying the pelvis to such a marked degree as in a suppurating ovary. Besides, in the latter disease, we have the history of uterine and pelvic disease preceding the present illness.

Enlargement of the liver with distended gall-bladder should not be difficult to diagnose, yet mistakes occur in the hands of very distinguished surgeons. We may and do have distended gall-bladder from obstruction of the cystic or common duct from various causes. Two of the most common are gallstones and malignant disease. To differentiate which is the cause of the distended gall-bladder, and consequently the enlarged liver, is a most difficult problem and one that can not always be solved before operation. If we have obstruction of the common duct, of course we have jaundice with all its ills. If we will recall the fact that we rarely have gallstones forced

into the common duct as the first indication of their presence, it will give us a clue for provisional diagnosis. In malignant disease about the head of the pancreas and involving the common duct, about the first symptom to attract attention is the slow development of jaundice. There has been a general indisposition of the patient for a few weeks preceding. At the first examination we might and probably would find a distended gall-bladder. On the other hand, if we have a history extending over months or years we have presumptive evidence that the disease is not cancer but gallstones. There will have been sudden, short attacks of pain located exactly in the median line under the ensiform cartilage and not over the gall-bladder. These attacks will be associated with indigestion and followed by a distended gall-bladder, with or without jaundice. I have observed for many years that in the early clinical history of gallstones, that is, before there is a distended gall-bladder or jaundice, the patient always refers the seat of pain to the region of the stomach. They are usually treated for neuralgia, gastralgia, indigestion, etc., before the real condition is recognized. If the distended gall-bladder is of long standing, the liver will be more or less enlarged. If a stone has been forced into the common duct there will be marked jaundice. If the case is a neglected one of long standing, we may have the two conditions present, gallstones and cancer. It is a well-known fact that in many of these cases permitted to die unrelieved, autopsy reveals cancer involving the ducts, as the immediate cause of death. The causative relation between the long continued irritation of gallstones and cancer of the gall ducts, I will not discuss. I referred to this at some length in a previous paper many years ago. It was not generally accepted at that time, but it is now the accepted doctrine of the profession.

A fecal accumulation in an exceedingly fat abdomen may be confusing for a time only. A little careful investigation will soon settle the diagnosis. These accumulations become very large, frequently nearly if not quite as large as an adult head. Manipulation reveals the fact that you can make indentations with your fingers. In this condition the patient is not always constipated. On the contrary there may be diarrhea. A few doses of salts and high rectal injections of ox-gall will soon solve the problem. These accumulations are usually found in old women of marked sedentary habits and habitual constipation until the present illness. With this clinical history one ought to have little difficulty in forming a correct opinion.

Phantom tumors have been a source of annoyance to young practitioners, and not a few old practitioners have made blunders and pronounced phantoms real abdominal tumors. They simulate an ovarian tumor in appearance and clinical history. But we must not take anything for granted in making our diagnosis in abdominal tumors. This condition emphasizes the fact that superficial appearances may lead us to very wrong conclusions. Percussion in a phantom tumor reveals resonance over the entire supposed tumor. This is not true in ovarian tumors. It is rare indeed for ovarian tumors to contain gas. Phantom tumors always contain gas, for it is a gaseous distension of the intestinal canal that makes the apparent tumor.

After using every other means for diagnosis, if not satisfied, give the patient an anesthetic. If the tumor is phantom it will entirely disappear after the patient is thoroughly anesthetized.

In every condition mentioned in this paper we have seen errors in diagnosis many times, because the physician did not employ every means at his command to aid him.

I would say in closing, one of the best rules to adopt in making a diagnosis is to give an anesthetic in every doubtful case before expressing an opinion. Under anesthesia you have the patient and the tumor just as they are. Relaxation of the muscles gives you a much better idea of the condition present than you could possibly get otherwise. I do not hesitate to give an anesthetic to confirm my diagnosis, and I would urge you to do so whenever you are in doubt. It often dispels all doubt at once, and converts the heretofore obscure and difficult case into one that is perfectly easy and plain.

THE BACILLUS COLI COMMUNIS IN HUMAN INFECTIONS.

AUGUST JEROME LARTIGAU, M.D.
Tutor in Pathology, College of Physicians and Surgeons, Columbia University.
NEW YORK CITY.

INTRODUCTION.

The conception of the bacillus coli communis* as a pathogenic factor in disease begins with its earliest history; and the suspicion at first entertained of a possible relationship to certain human infections has been confirmed from many sources. But with the early development of the idea of pathogenic significance the organism was given undue prominence in disease. Whilst its association with a multitude of lesions as different in distribution as they are varied in character is now clearly established, the closer studies of the last few years indicate that its inciting part is certainly one of less independence than many writers are disposed to admit.

Recent investigations which have enlisted more exact and more comprehensive methods of technique reveal in the lesions in which the colon bacillus is so commonly found, other micro-organisms, especially pyogenic cocci, and sometimes bacteria of the anaërobic class[1] whose primary importance is more clearly established. For the most part, the rôle of the bacillus coli communis is a relatively insignificant one as a primary factor in human infections. It is as an invader of territory already *hors de combat* or previously occupied by bacteria that it ordinarily claims our chief attention.

DISTRIBUTION.

The colon bacillus appears to be almost ubiquitous in distribution. The idea once held that it belonged exclusively to the alimentary canal of man and animals is now discarded. It is one of the most widely distributed micro-organisms in nature, having been found in water, air, the surface and depth of the soil, milk, etc. This wide prevalence of the organism under these conditions is, however, quite subsidiary to its presence in man and animals. It is certainly one of the most frequent of the bacteria encountered in the natural cavities of man and animals.† In the putrefaction of cadavers it has been attributed a conspicuous rôle by Malvoz[2]; and Gordon[3] concluded that it has a similar activity in vegetable decomposition.

---

* The distinctions which have recently come into importance between the several varieties of the "colon group" are not maintained in this paper; within certain limitations bacillus coli communis usually refers to the type form.

† For an account of its distribution in animals, consult the article of Flint, JOUR. A. M. A., 1896, vol. xxvi, p. 410. Levin, in Annales de l'Institut Pasteur, 1899, p. 558, has also shown its occasional presence in the intestine of the polar bear and seal; for the most part the intestinal discharges of animals in the Arctic regions were, however, found sterile by this observer.

Distribution in Human Body During Life.—The investigations of Escherich,[4] since confirmed by the more elaborate studies of Schild,[5] Szego[6] and others have shown that the intestinal contents of infants remain sterile for some time after birth, the period apparently depending upon the time at which the earliest nourishment is given. Under ordinary conditions of life bacteria make their appearance shortly after birth in all parts of the digestive tract. In many animals the bacillus coli communis, or its near allies, seem to be, as in man, the chief obligatory forms. Whether the micro-organisms enter by the mouth or the anus, and if by the former whether through swallowed air, in water taken at the first bath, or with the infant's first nourishment still remains a subject of conjecture. But although the bacterial flora of the intestine is subject to variations according to the kind of food ingested Lembke[7] has shown that the bacillus coli communis on the whole alone remains constant and independent of diet. Just why it persists as the peculiar denizen of the bowel in most animals is as difficult of explanation as is the source of its early appearance in the infant's intestine. The relative numbers of bacillus coli communis in different portions of the alimentary canal have been variously estimated. The observations of Gilbert and Dominici[8] and those of Cushing and Livingood[9] indicate that there is a gradual rise in the number from the duodenum to the ilcocecal valve, at which situation the maximum is noted. When the large bowel is reached there is a marked diminution in the number. Since the establishment of its existence in the normal intestine the frequent presence of this micro-organism in the mouth as a saprophyte has been shown by Vignal[10] and Grimbert and Choquet.[11] As would naturally be expected, it has often been found on the skin, particularly in the neighborhood of the anus, in the vagina, anterior urethra, etc., existing as a harmless invader.

It has been urged by Desonbry and Porcher,[12] and by Nocard,[13] but more especially by Adami[14] and Ford[15] that bacteria not alone reach the deeper structures of the intestine under what appear to be normal conditions, but commonly invade the blood of the portal circulation, and liver and kidneys during life. The phenomenon occurs through the intermediation of the leucocytic emigration which occurs with especial prominence during digestion back and forth through the mucosa to the free surface of the alimentary tract. These leucocytes, while in part undergoing a destruction, in part find their way between the epithelial cells, carrying with them foodstuffs and solid particles, among which may be the bacteria present in the cavity of the gut. Many of the bacteria finding their way into the lymphatic channels or the venules of the portal system are for the most part destroyed and digested by the leucocytes. But by the employment of adequate means it can be shown that even in the healthy liver and kidney in a large number of cases a certain number of living bacteria are present almost constantly. It is most probable, further, that in ordinary health a certain number of bacteria which have not been destroyed by the leucocytes or removed by the lymph nodes or endothelium of the portal system, pass as suggested by the studies of Desonbry and Porcher, either through the thoracic duct or through the liver into the systemic blood. Thus it follows from these observations that there most probably exists a condition which the French term "microbisme latent," or as Adami prefers to designate it, "latent infection."

Experiments which I have recently carried on along similar lines to those outlined by the above-named investigators, but bearing more particularly upon the relation of such bacterial invasions to liver and gall-bladder infections, amply confirm the main facts as outlined in the previous paragraph.

Distribution in the Human Body After Death.—The distribution of the bacillus coli communis in the dead body and the condition of its occurrence are of the greatest interest and highest importance in the interpretation of postmortem bacteriology, more especially when the causal significance of this organism is to be established for any lesion. Definite knowledge of its escape into the general circulation and organs after death begins with the studies of Wurtz and Herman[16] and those of Welch[17] published in 1891. The work of these writers received confirmation in the later researches of Beco,[18] and Achard and Phulpin.[19] These observations not only established the frequency with which intestinal bacteria escape into the blood and tissues postmortem, but tend to show that such invasion may take place with or without apparent lesion of the intestinal mucous membrane during the last hours of life. This view has more recently been reaffirmed by Birch-Hirschfeld,[20] who has added observations of his own in support of this belief. Agonal or postmortem invasion is thus a more or less constant phenomenon, most conspicuous in warm weather, and occurring with especial frequency in the liver, and to a less degree in the kidneys, spleen, portal and heart blood, and bile.

THE DEVELOPMENT OF VIRULENCE IN THE BODY.

Under the conditions normally prevailing in the intestine the bacillus coli communis is of relatively low virulence, as shown by the experiments of Dryfuss,[21] Macaigne[22] and others; although in this there seems to be some variation in different parts of the intestinal canal. De Klecki[23] from his studies concluded that it may be of greater virulence in the ileum than in the colon, for instance. My own experience certainly shows no difference in virulence in these two situations, which may be regarded as constant or common. However, general experience abundantly demonstrates that the bacillus is on the whole non-pathogenic, as ordinarily found in normal feces.

But alterations from the conditions normally prevailing in the gut soon increase its virulence. Thus, if the colon bacillus be enclosed in a loop of intestine which is experimentally strangulated, it very soon acquires virulence in the lumen, as shown by the illuminating researches of de Klecki.[24] Mere changes in environment, such as passage of the bacillus into the abnormal situations—through the intestinal walls into the cavity of the peritoneum—may be sufficient to exalt its virulence.

Fermi and Salto,[25] from the results of their investigations, conclude that any abnormal condition of the intestinal mucous membrane, such as would be produced by ligature, cold of the abdomen, too much food, etc., almost invariably increases its pathogenic activity, a fact whose significance in the pathogenesis of colon bacillus infections is far-reaching.

All of the writers appear to favor the theory that the virulence of the bacillus is the result of the growth in the living fluids of the body which are supplied with an unusual amount of albuminous matter by the process of inflammation. The seat of the inflammation, which may either be in the intestine or in other viscera, influences to some extent the degree of virulence. The normal intestine provides food in a most favorable form for assimilation by this organism and from which it forms

indol, namely, peptones, the product of the tryptic enzyme. There is also supposed to be a commensal relation between the cells of the intestinal mucosa and the colon bacillus. In this connection the conclusions drawn by Peckham[26] from a very careful study that while the condition and nutrition and development in the intestine seem to be most favorable, the colon bacillus does not become virulent for the reason, she states, "that its first force is spent upon the process of fermentation, and as long as opportunities exist for the exercise of this function the affinities of this organism appear to be strongest in this direction. Moreover, the contents of the intestine remain acid until they reach the neighborhood of the colon, and by that time the tryptic peptones have been formed and absorbed to a great extent. Under such conditions the colon bacillus has relatively little opportunity to assume an excess of proteolytic activity.

"During the process of inflammation in the digestive tract a very different condition may exist. The peptic and tryptic enzymes may be partially suppressed. Fermentation of carbohydrates and proteid foods then begins in the stomach and continues after the mass of food is passed on to the intestine. The colon bacillus can not, therefore, spend its force upon fermentation of sugars, because they are already broken up and an alkalin fermentation of the proteids is in process. It also can not form peptones from the original proteids, for it does not possess this property, and unless trypsin is present it must depend upon the proteolytic activity of other bacteria for a suitable form of proteid food. Perhaps the bacteria form an albuminoid molecule, which, like leucin and tyrosin, can not be broken up into indol, and thus there might be caused an important modification in the metabolism of the colon bacillus which may have either an immediate or remote influence upon its acquisition of disease-producing qualities, for my own experiment indicates that the power to form indol and the actual forming of it are to some extent an indication of the possession of pathogenesis."[27]

It has further been conjectured that pathogenic activity of the colon bacillus for man may depend on changes of environment—the result of growth in a new host of like or unlike species—such as might create alterations in the normal physiological activities of the bacillus, possibly similar to those suggested by Peckham. This view that the disease-inciting properties may depend upon just such changes brought about by transmission through new and unnatural hosts, has more recently been further emphasized by Theobald Smith.[28] I am inclined to lay great stress upon this as a factor in the development of virulence under some conditions.

The direct action of the colon bacillus is, however, due in part at least to irritating chemotactic substances in its protoplasm shown by the work of Pfeiffer, Kalle, Loeffler and Abel, and by the more recent studies of Vaughan and Cooley.[29] The last-named investigators give the following conclusions:

1. The colon bacillus in virulent form contains within the cell a toxin which is fatal to guinea-pigs of from 200 to 300 grams weight, in quantities of less than 1 mg.

2. The aqueous extract of the cells of the colon bacillus grown on agar is inert.

3. The entire germ is resistant to heat, and to dilute acids and alkalies.

4. The cell wall of the colon bacillus is digested by the prolonged action of the gastric juice which does not alter the toxin.

5. The toxin as thus obtained is insoluble, or but slightly soluble in dilute acid, but is slightly soluble in water and more readily in dilute alkalies.

6. This toxin responds to the ordinary proteid reactions.

7. The toxin, after being freed from the cell membrane, is not destroyed by being boiled.

RESUME OF LESIONS IN WHICH THE BACILLUS COLI COMMUNIS HAS BEEN FOUND.

General Considerations.—The study of the wide anatomical distribution of lesions which may be induced by the bacillus coli communis is of the greatest clinical interest to surgeon and physician alike. Although a great diversity of colon bacillus infections has been described, for most of them, however, the assumed causative significance of the bacillus is unwarranted. If, as the researches of Adami and Ford seem to indicate, this organism may be present in the viscera and blood under normal conditions during life, the difficulties of the problem of the relationship of the colon bacillus to various lesions—especially when the frequency of postmortem bacterial migration is considered—becomes enormously increased. While to the writer few of the reported cases are convincing, still the recital of the cases indicates the class of lesions in which the organism is particularly apt to be found, sometimes being the primary exciting factor, more often, however, having only the interest of a secondary invader.

The caution necessary in the interpretation of autopsy bacteriological findings, particularly with reference to the bacillus coli communis, is admirably shown by the experiences of Veillon and Joyle,[30] and Charrin and Veillon.[31]

From a liver abscess which had on previous examinations been found sterile the first named observers finally obtained the colon bacillus in a subsequent examination; this was clearly a case of secondary invasion. The observation of Charrin and Veillon relates to a case of peritonitis in which pneumococci were present in large numbers during life, but twenty-four hours after death the colon bacillus alone was obtained. Equally interesting are two experiences of my own which further emphasize the limitations of postmortem bacteriology with reference to this organism. In an acute fibrino-purulent pleuritis in the exudate from which the diplococcus lanceolatus had twice been isolated unassociated with other bacteria, a third examination made two hours before death revealed, as did also that made at the autopsy, only the bacillus coli communis. In another case of septicemia with peritonitis from which the streptococcus pyogenes had been cultivated from the blood during life, two agar and blood serum cultures similarly made from blood withdrawn from one of the veins after sterilization of the skin six and two and one-half hours before death contained the colon bacillus alone. In both cases the autopsy findings would have failed to show the real primary inciting factor. As examples of agonal invasion of the blood of the general circulation these cases are most instructive.

Circulatory System.—In a considerable number of instances the colon bacillus has been credited with inciting general infection, starting either from local lesions of the intestinal mucous membrane or from the surface of the body,[32] from an angiocolitis,[33] from a cystitis,[34] or from the uterus.[35] Infections with the bacillus coli communis may give rise to any of the multiple and varied manifestations of septicemia including purpura. Gwyn[36] has reported an interesting observation of general infection with a paracolon bacillus, the clinical

symptoms of which suggested typhoid fever. Eisenhardt[37] and Kerr[38] have both reported instances of general infection of puerperal origin. Phlebitis, particularly in puerperal women, has also sometimes been associated with infection with the same organism by Wurtz[39]; and Hartmann and Luffering[40] have reported cases of hemorrhoidal phlebitis in which it was found. Personal experience with bacillus coli communis bacillemia is limited to a single conclusive case, the history of which was as follows:

Mary L., aged 57 years, before onset of present illness had been bedridden for six months owing to an advanced locomotor ataxia. The family history was unimportant; the patient's personal history showed evidences of syphilitic infection twenty years before. Nine weeks before death there gradually developed a large lumbosacral bed-sore which sloughed ten days later. The oval ulcerated area measured 11 by 9 cm.; and until death continued to discharge a considerable amount of thick, yellowish-brown foul-smelling material. An occasional slight evening rise of temperature had been noted since the development of the sore—1 degree. Two days after having accidentally fallen out of bed, but with no apparent damage, the patient suffered from a chill, followed by moderate fever of an extremely irregular type (100.2 to 104.5). The pulse rate remained steadily between 105 and 120. Moderate diarrhea developed on the third day after occurrence of chill; finally on the sixth day low muttering delirium was observed and continued to the end, which occurred on the eleventh day following the chill. On the third day the patient's spleen was just palpable on deep inspiration; and the liver dulness was possibly a trifle increased. The heart was not perceptibly enlarged, but a soft systolic murmur which had not been present before was on the fifth day heard all over the cardiac area, loudest at the apex.

The blood was examined on the fourth day, with the following result: Reds, 3,208,940; leucocytes, 19,700; hemoglobin, 55 per cent.

Dried specimens stained with Ehrlich's triacid stain showed moderate poikilocytosis, but no nucleated reds were observed. The differential count (500 whites) resulted thus: Small mononuclears 5.7 per cent.; large mononuclears and transitionals, 3.8 per cent.; polymorphonuclear neutrophiles, 89.6 per cent.; eosinophiles, .9 per cent.

Urine.—Uniform cloudiness from the third day on. Previous examinations had shown it to be clear, pale, of low specific gravity and containing hyalin and granular casts with small amounts of albumin. Daily examinations of the urine during this last illness showed practically the same thing; the albumin and casts were, however, increased in amount and after the third day the urine remained persistently cloudy. With this appearance, numerous short, active motile bacilli and some pus cells were observed in the urine; they persisted throughout the disease.

Bacteriological Examinations During Life.—Five c.c. of blood were withdrawn on the second and sixth days, respectively, from one of the veins at the bend of the elbow after thorough sterilization with soap and water, ether, 1 to 500 bichlorid mercury (alcoholic solution) and then alcohol. Aërobic agar plate and blood serum tube cultures were prepared from the blood. In all the cultures, particularly in the plates, a moderate growth occurred. This consisted of a single organism whose morphology was similar to that of the predominant organism in the bed-sore pus. It grew well on all media, decolorized by Gram's method, fermented glucose, coagulated milk, produced indol; clouded broth and Dunham's solution; it appeared as a thick yellowish or white growth on potato; and was moderately motile in young cultures. In all other respects it acted like the bacillus coli communis.

On the fourth day similar cultures were made from the urine and pus of the lumbosacral ulcer. From both the bacillus coli communis was also obtained from the urine in pure culture, and from the ulcer associated with small numbers of the staphylococcus pyogenes albus.

Summary of Autopsy Findings.—The autopsy was made one and three-quarter hours after death. The revised anatomical diagnosis, corrected by microscopic study of sections of the removed tissues, is as follows: Degeneration of the posterior cord columns (tabes dorsalis); fresh vegetative endocarditis of mitral valve with chronic interstitial myocarditis; chronic diffuse nephritis; acute splenic tumor; calcareous atheroma of the thoracic and abdominal aorta; slight fatty atheroma of coronary arteries; congestion of the intestine with swelling of the solitary follicles of the ileum and colon.

Autopsy Bacteriological Findings.—Cultures were taken from the blood of the right auricle, mitral vegetation, left lung, liver, gall-bladder, spleen, both kidneys, urinary bladder, and marrow of right femur. Agar plates and blood serum tube cultures were made and incubated in air and in a hydrogen atmosphere. The bacillus coli communis was demonstrated in all cultures. No other organisms were found.

The virulence of the bacillus obtained from the heart's blood was tested on two rabbits. The first rabbit (1927 grams) received a one-half cubic centimeter of a 16-hour broth culture intravenously; profuse diarrhea followed and it died 21 hours after the inoculation. The lymphatic apparatus of the intestine was found swollen and the mucous membrane congested. A small amount of cloudy fluid containing leucocytes was also present in the pericardial sac. The second animal (1711 grams) was inoculated with the same amount of the same culture in the peritoneal cavity; it died in 15½ hours. The autopsy showed diffuse purulent peritonitis. The bacillus coli communis was recovered from the blood of the heart in both animals, and from the peritoneal exudate in the one and that of the pericardium in the other.

Endocarditis in colon bacillus infections, such as occurred in this case, has already been pointed out by Gilbert and Lion,[41] Thiroloix,[42] Macaigne,[43] and Etienne,[44] and Rendu.[45]

ALIMENTARY TRACT AND ACCESSORIES.

No other micro-organism has been given such prominence in the bacteriology of the gastro-intestinal tract as the bacillus coli communis. This is sufficiently explicable by its almost constant presence in the various inflammatory lesions usually in considerable numbers. There is scarcely any portion of the alimentary canal in which it has not been found associated with greater or less inflammatory lesions, sometimes in pure culture, more often concomitant with one or more other bacteria. Thus, even in the angina of scarlet fever it has been attributed an occasional inciting part by Bourges.[46] And Widal,[47] Bouloche,[48] Lermoyez,[49] and Newcomb,[50] have observed its presence in simple acute angina, whilst Blasi and Russo-Travalli[51] have pointed out its frequent association with the diphtheria bacillus in diphtheria. In the less acute forms of sore throat it has also been sometimes given importance by Lermoyez, Helme, and Barbier,[52] and Hudelo and Bourges.[53] The colon bacillus has also been found in a pharyngeal abscess by Wurtz;[54] in this case, however, the streptococcus pyogenes was also present in the exudate.

The following case of colon bacillus angina came under my own observation. The patient was a hospital orderly, 27 years old, whose family and personal history were good. For the two months prior to the illness of interest here, he had been doing hospital work in a ward containing numerous typhoid fever cases. One morning following the usual day's work he was awakened by the pain of a severe sore throat. Examination that morning showed the presence of swollen lymph nodes about the angle of the jaws and a thin grayish membrane covering the left half of the pharynx and irregularly spreading over a good part of the tonsil of that side. The neighbor-

ing mucous membrane was intensely congested. The breath was fetid. During the next twenty-four hours the membrane formation continued until it covered most of the posterior wall of the pharynx and part of the uvula. The right tonsil remained uninvolved. The fever was at no time high; it ranged from 99.6 to 102.4 F. Beyond local pain and some malaise the patient's condition after the second day approached more and more the normal, when on the fourth day he was fully well.

Bacteriological Examination.—Smears made from the membrane and stained with Loeffler's methylene blue contained large numbers of short, thick bacilli, which readily decolorized by Gram's method. A few rather large oval cocci sometimes single or arranged in pairs, sometimes as tetrads (micrococcus tetragenus) were also observed. Agar plates and blood serum cultures made at the same time contained, beside a few colonies of the micrococcus tetragenus and staphylococcus pyogenes albus, cultures of an organism morphologically and culturally like the bacillus coli communis.

The bacillus had been looked upon as an especially active pathogenic factor in diffuse disease of the intestine because of its increased numbers and exalted virulence whenever inflammatory disease of the parts has existed. Epidemics of infectious enteritis have been referred to a modified and more virulent form of the colon bacillus. Since the early observations of Wyss,[55] and Hueppe[56] upon cholera nostras the investigations of Baginsky,[57] Escherich,[58] Macc and Simon,[59] and others[60] have suggested its importance in the pathogenesis of cholera nostras, cholera infantum, and other forms of enteritis. By the studies of Booker,[61] Cumston,[62] and Nobécourt,[63] it has been shown, however, that in these lesions, organisms, particularly cocci, of known pathogenic activity, are usually coexistent with the colon bacillus. This is of the greatest importance in any analysis of the significance of the bacillus coli communis in gastro-intestinal inflammatory lesions. As in many other lesions, its rôle is to be regarded as accessory rather than primary in the pathogenesis of disease of these tissues, an opinion also entertained by Marfan[64] and Fischl.[65]

Similarly, this organism has been regarded by many writers as the inciting microbic factor in dysentery, but more especially by Chantemesse and Widal,[66] Maggiora,[67] Ogata,[68] Laveran,[69] Arnaud,[70] Coutet and Loir.[71] This view has been discredited within recent years.

The rôle of the bacillus coli communis in typhoid fever has been variously estimated by different observers. From the fact that it is greatly increased in nummers and virulence in this disease some have felt disposed to attribute to it an important part in the incitement of the intestinal lesions so characteristic of this disease.[72] However that may be, it is wholly secondary to the typhoid bacillus. In traumatic lesions of the intestine the colon bacillus evidently has greater claims as an incitant than in some other forms of intestinal lesions. That it may induce inflammation of the intestine is evident, for it has been shown experimentally and clinically that the virulence of the contained bacilli in strangulated gut is soon exalted, as the experiments of de Klecki demonstrate.[73]

Peritonitis.—The literature of peritonitis has been enriched from time to time by valuable contributions made to its bacteriology, mainly by Larnelle,[74] Barbacci,[75] Tavel and Lanz,[76] Grawitz,[77] and quite recently by Flexner.[78] So uniformly has the bacillus coli communis been found in pure culture in cases of peritonitis following perforation of the intestine or stomach that it was for a long time accepted almost without question that this organism is the excitant of the disease in the majority of cases. There has been a radical change of opinion, however, within the last few years, regarding the pyogenic activities of the colon bacillus in peritonitis. The observations of Barbacci suggest that other factors than the colon bacillus must not be disregarded, and that the primary lesions are usually incited by pus-producing cocci. Better methods of bacterial cultivation clearly show that there is in the vast majority of cases concurrent infection. Flexner's[79] experience was a high frequency of the pyogenic cocci in his series, results which agree with my own. However, that the bacillus coli communis can not always be considered merely a secondary invader is shown by the reports of Flexner and others.

Appendicitis.—Recent studies of the pathogenesis of appendicitis have thrown a flood of new light upon the bacteriological side of this interesting disease. It is now definitely established that most cases of appendicitis begin as a local inflammation of the organ induced by intestinal bacteria. To what extent the different species contribute to the incitement of the process is still unknown. For the most part, I am inclined to believe with Monod,[80] Diculafoy,[81] Kümel,[82] Achard and Brocha,[83] Darling,[84] and Low,[85] that the pyogenic cocci are ordinarily the primary factors, and the colon bacillus often accessory to the process. Thus Low found the streptococcus pyogenes in 81 per cent. of the cases under three days' duration; in the more chronic cases the colon bacillus was more common. My own experience with twenty-eight acute cases under four days shows the streptococcus in 73 per cent. Adenat,[86] Poncet and Jaboulay,[87] Talamon,[88] Tavel and Lanz,[89] Kirmison,[90] Obrastzow,[91] A. O. J. Kelly,[92] on the other hand, assume that the colon bacillus plays by far the predominant rôle in the bacterial origin of appendicitis. A. O. J. Kelly found the colon bacillus in pure culture sixty-nine times in ninety-four cases of acute appendicitis, and the streptococcus present but in a single case. These results do not agree with other recent investigations. A study of cover-slip preparations and the use of more comprehensive methods of cultivation invariably reveal much greater frequency of the streptococcus. Notwithstanding, the experimental observations by Roger and Josue[93] and de Klecki[94] indicate that the bacillus coli communis is probably occasionally alone concerned in the incitement of appendiceal inflammation.

Frazier,[95] from the result of his studies on the origin of appendicitis, comes to the conclusion that imperfect drainage from constriction of the lumen or otherwise is the most potent element in the pathogenesis of the process. Such a condition of affairs in his mind leads to an augmentation of the virulence of the contained colon bacillus.

LIVER AND BILE PASSAGES.

Under normal conditions the intestinal bacteria are only found a short distance up the common bile duct, but any alteration from the normal, such as mechanical impediment to the outflow of bile, change in the composition of the bile or other perturbation in the physiology of secretion may be followed by an ascending infection of the ducts or gall-bladder with the bacillus coli communis, thus inducing angio-cholitis[96] or cholecystitis.[97] These conditions have both been realized experimentally by Charrin and Roger.[98]

A colon bacillus cholecystitis may in turn induce the formation of biliary calculi. Welch[99] was among the first to establish the frequent occurrence of this organism within the interior of gallstones, an observation

since confirmed many times by Gilbert and Dominici,[100] Gilbert and Fournier,[101] Hanot,[102] and Letienne.[103] My own experience showed that the bacillus coli communis was present in about 25 per cent. of the stones examined. This in a general way agrees with the results of observers like Gilbert and Fournier, Hanot, and Letienne. Since the bacterial origin of gallstones was suggested by Galippe[104] in 1886, the importance of this organism in the development of cholelithiasis has been proved by the studies of Mignot,[105] Gilbert and Fournier,[106] and Mieczkowsi.[107] My own experiments (to be published later) fully confirm the work of the last-named investigators. All of the studies indicate that the colon bacillus is the most important bacterial factor in the incitement of this lesion.

A variety of lesions of the liver itself have been attributed to infection with the colon bacillus. Thus Achard,[108] and De Vecchi[109] studied its relationship to certain forms of suppurative hepatitis. In infectious icterus it has been found in the blood during life, but of its clinical significance in the disease nothing of a positive nature can yet be said. Lesage and Demelin[110] have more recently ascribed to it considerable prominence in other types of icterus encountered in the newborn. Finally, it has been suggested, more especially by Adami, that this micro-organism is probably of importance in the development of some forms of progressive cirrhosis of the liver. Although this has not been established there are certain points in the experiments of Weaver[111] that tend to lend support to the view that the colon bacillus may induce changes in the liver ultimately leading to cirrhosis of the organ.

URO-GENITAL SYSTEM.

All observers are agreed as to the frequent occurrence of the colon bacillus in the urinary tract. When it enters the tissues from the intestine it is frequently excreted through the urine, sometimes thus inducing local inflammatory lesions of the kidney and bladder. Probably such lesions are more often the result of ascending invasion of the tissues, either from the bladder, or from the anterior urethra where this organism has been found as a saprophyte.[112]

In this connection the experiments of Posner and Lewin[113] are of the greatest interest. They found that if the bowel were tied at the anus, and the urethra were ligated, the colon bacillus was found in the bladder. The fluid in the peritoneal cavity between the rectum and bladder remained sterile; but in all instances the kidneys contained the same organism that occurred in the bladder. They concluded that the bacterial exodus took place through the renal tissue and not by direct transmission through the walls and cavities involved. On the other hand, Van Calcor[114] comes to the conclusion from a long and carefully performed series of experiments upon rabbits that in a considerable number of cases of infectious cystitis the infection comes directly from the digestive tract, probably by the subperitoneal path. Both views are probably correct; in women the latter path is evidently common. Th. Brown,[115] from his studies of cystitis, pyelitis and pyelonephritis in women, concludes that the usual mode of infection is by the urethra.

Investigation into the pathogenesis of infectious nephritis has revealed a large class of bacteria which may be considered of importance in the development of the process. Among the micro-organisms the colon bacillus has at different times and by different writers been regarded with varying clinical significance. Partly from the ease with which it gains entrance into the kidney this organism has been regarded by some observers—Achard and Renault,[116] Ferret and Papillon,[117] Chantemesse and Widal,[118] Jeanselme,[119] Graf[120] and Macaigne[121]—as the excitant of certain descending forms of nephritis. Since the work of Halle and Albarran[122] it has also been regarded as the one most commonly found in ascending pyelitis and pyelonephritis.

It has been assumed that some of the kidney infections were of intestinal origin.[123]

Experience seems to indicate a greater frequency of colon bacillus infection in women than in men. The recent observations of Brown[124] certainly establish the fact that cases of pyelitis and pyelonephritis in women commonly contain this organism in pure culture in the diseased parts, probably due to close proximity of the female urethra to the anus.

Although it is universally conceded that the bacillus coli communis is the micro-organism most commonly found in cystitis the significance of its presence has by no means been definitely established. The French school headed by Guyon has always maintained that it was the most prominent microbic factor in the disease, whilst Melchior, Rovsing, Moullin, and others have contended that other bacteria, mainly pyococci, were of greater importance. This difference of opinion has given rise to a controversy of much interest on more points than one as regards the question at issue. A review of the investigations of Albarran and Halle,[125] Rovsing,[126] Morelle,[127] Krogius,[128] Melchior,[129] Brown,[130] and Douglass,[131] as well as my own experiences, leads to the conclusion that the colon bacillus is, in cystitis, much more often the inciting agent than in any other class of lesions; but that it is the most common primary bacterial factor I am inclined to doubt. It is more probable that it is, as elsewhere, a frequent invader of the bladder, especially when changes have already been induced by other micro-organisms, such as the pyogenic cocci.

In previous studies sufficient attention has not been given to a consideration of concomitant or previous disease, acuteness and chronicity of the cystitis, reaction of the urine, and to the stage of disease in which examination is made, sex and age of patients. Future investigations can not ignore such conditions if more exact knowledge of the bacterial etiology of cystitis is to be attained.

The original infection is, without doubt, very often masked in the long-standing cases by secondary colon bacillus invasion. Then as regards the frequency with reference to sex, the studies of Brown and my own experience show a relatively greater number of cases of acute cystitis among women in which the colon bacillus is present. Thus, among thirty-seven cases of acute cystitis (24 female, 13 male) under ten days, which I studied bacteriologically, 62 per cent. of the women showed colon bacillus as against 35 per cent. for the men. Brown's series of twenty-six cases of cystitis in women following operation contained this organism in 57.7 per cent. of the cases. The mode of entrance into the bladder he believes was ordinarily through the urethra by catheterization, although this procedure was performed with great care. The occurrence of infection under these conditions is sufficiently explicable by the observations of Melchior.[132] Savor,[133] Gorowsky,[134] Bouchard and Charrin,[135] who showed that the normal urethra may contain the bacillus coli communis.

In the reported cases of bacteriuria this bacillus is the micro-organism most frequently encountered; thus

Jeanbran[136] found it fifty-six times in 67 cases, and thirteen times in pure culture. Still more interesting is its relation to pneumaturia as shown by the cases reported by Pere,[137] Favre,[138] Schow,[139] Heyse,[140] and Hall.[141] In the cases of Pere and Hall sugar urine was present, but in the others its absence was specially noted.

Infection, particularly with colon bacillus, has from time to time been suggested by various observers as the important factor in the development of urinary fever; and Achard and Hartmann[142] have published the history of a case in which this was assumed to be the case. Gilbert[143] further believes that "urinary paralysis" may often be attributed to colon bacillus infection; the case which he cites in support of this belief does not carry much conviction.

A variety of other lesions of the uro-genital tract have also been described in which the same organism has been regarded more or less definitely as having clinical significance. Thus Barbacci[144] found it in foci of suppurative inflammation in the prostate gland; and Pezzoli,[145] Pluyn and Laag[146] in the pus of acute urethritis. Malherbe and Monnier[147] have described a case of gangrenous inflammation of the penis, apparently induced by a variety of the colon bacillus. In the cases of epididymitis and orchitis reported by Karo[148] a history of enteritis was elicited; the colon bacillus was repeatedly isolated from these lesions.

This organism has likewise been found in the genital organs of the female in a few cases. Colon bacillus metritis has been described by Gilbert;[149] and Eisenhardt[150] has reported it as inducing puerperal fever. Its presence in salpingitis has been noted; Gilbert and Lion,[151] Raymond,[152] and Gebhard[153] reported instances of this kind. With regard to the last reported case Dr. Welch has pointed out the possibility of its being a bacillus aërogenes capsulatus infection. Hall[153 1/2] has very recently described a case of vaginal false membrane in which the colon bacillus was found.

RESPIRATORY SYSTEM.

Few cases are on record of the occurrence of the bacillus coli communis as a pathogenic agent in lesions of the respiratory organs. The examples of bronchopneumonia that have been attributed to it have been published by Gilbert and Girode,[154] Levy and Fischer,[155] Mace and Simon,[156] Sevestre and Lesage,[157] Kreibich,[158] Lesage and Mascaigne,[159] Harbitz,[160] and several others. Thiercelin,[161] and Renard[162] have recorded cases of phlegmonous infection supposedly originating in the intestine. Hitzig[163] cultivated the same organism from two cases of what he considers to be primary putrid bronchitis; in both he thought the colon bacillus was the active microbic excitant. Cases of pleuritis sometimes associated with foul-smelling pus have also been reported by Widal and Albarran,[164] Netter,[165] Dumontpallier,[166] Henke,[167] Wendrickx,[168] and Metzel,[169] in which the same bacillus was believed to be the inciting microorganism.

To this list I am able to add one of acute purulent pleuritis. The case was that of a six-year-old child whose previous history and health were excellent. During the hot weather of August, 1900, the child was taken acutely sick with symptoms of entero-colitis. At the start the temperature did not exceed 101.6 degrees F.; the urine contained a trace of albumin and some hyalin casts on the third day. On the fourth day there was noticed marked dyspnea accompanied by the ordinary symptoms of acute left-sided pleuritis. A leucocyte count made at this time revealed 11,500 leucocytes to the cm.; for the most part polymorphonuclear (88.4 per cent.). Two days later (sixth day of disease) signs of fluid in the left chest were observed and about 200 c.c. of ill-smelling purulent exudate were removed by the aspirator. The intestinal symptoms continued unchanged for ten days; then gradual improvement occurred. One month after onset of first bowel symptoms the health of the patient was almost fully re-established.

Bacteriological Examination of Pleural Exudate.—Five cover-slip preparations of the exudate were stained with Sterling's gentian-violet and searched for bacteria. Numerous short plump rods were observed which decolorized by Gram's method. Cocci were especially looked for but with no success.

Agar plates (aërobic) contained apparently only one organism—a bacillus morphologically similar to that observed in exudate—which in all respects corresponded to the bacillus coli communis. The virulence of the organism was not tested on animals; but it was agglutinated by the serum of the patient as follows: 1 to 10 dilution in 9 minutes; 1 to 30 dilution in 25 minutes.

This may well have been an infection originating in the intestinal canal; as to this, however, proof is wanting. The clinical history alone suggests such an association.

NERVOUS SYSTEM.

Practically all of the cases of colon bacillus infection of the nervous system relate to meningeal inflammation, purulent in character. The cases reported by Adenat,[170] Netter,[171] Roux[172] and several others indicate that the character of inflammation does not essentially differ from that which other bacteria may induce. One instance of its presence in a brain abscess has been recorded by Sevestre and Gaston.[173]

I have found the colon bacillus in pure culture in a lumbar puncture fluid. The case was that of a four and a half year old child who had been suffering for eleven days with diarrhea and moderate fever. On the twelfth day symptoms of acute meningitis were observed, and a lumbar puncture made on the following day enabled one to get about 2 c.c. of turbid serum which contained large numbers of polymorphonuclear cells, a few rods, and a small number of short motile bacilli. Coverslips stained for bacteria showed bacilli morphologically similar to those seen in the hanging-drop specimens; they decolorized by Gram's method. The agar plates and serum tube cultures (aërobic) showed but one organism in every way similar to the bacillus coli communis. The child continued sick with the same symptoms until it died on the fifth day of the meningitis. Cultures from lumbar puncture fluid obtained on the day preceding death gave analogous results to the first. No autopsy was obtained on this child.

SENSE ORGANS.

Very few cases of inflammation of the sense organs have been recorded in which the colon bacillus has been regarded of pathogenic significance. Werner,[174] and Jacques[175] found it in suppurative disease of the nose. Both claim that the fetid discharge is characteristic of such infections in this situation. Mercanti,[176] Randolph,[177] and Mazet[178] have described cases of tear duct inflammation in the secretions from which it was also isolated. Bietti[179] reported its presence in a case of blennorrhea neonatorum. In purulent otitis it has been found several times by Meniere,[180] Guizzetti,[181] Stern,[182] and Baup and Stanculeanu.[183]

MISCELLANEOUS FOCAL LESIONS.

Besides the different lesions already mentioned the bacillus coli communis has been found in a great variety

of other conditions in which it has been supposed to be the excitant. For the most part abscesses incited by it have been located in the neighborhood of the digestive tract, more especially the anus. Tavel[185] and Brunner[186] mention cases of wound infection with the bacillus. Suppurative inflammation of the breast,[187] muscle,[188] and bone[189] have been also described. Arthritis is also mentioned as one of the lesions.[190]

Two interesting cases of gaseous phlegmonous abscess have also been described by Dungern[191] and Bunge.[192]

CONCLUSIONS.

1. The bacillus coli communis is widely distributed in the normal body and in nature. It is usually present as a saprophyte in all parts of the alimentary canal, and may also be present as such in the lower portion of the common bile duct, on the skin, especially in the neighborhood of the mouth and anus, and in the anterior portion of the urethra and vagina.

2. The bacillus coli communis may, under what seem to be normal conditions, be carried during life from the intestine to healthy viscera. This invasion takes place from the intestine into the abdominal viscera, more especially the liver and kidneys, through the portal circulation. It is possible that similar invasions may take place from other parts, especially the mouth, pharynx, etc. Further, it is probable that under similar conditions to which these invasions occur, bacteria may sometimes reach the systemic circulation.

3. Agonal and postmortem invasion of the tissues of the body is common, occurring with great frequency under the most diverse circumstances with or without apparent lesion of the mucous membrane of the intestine.

4. The virulence of the bacillus coli communis is influenced by at least two factors; 1, changes in the physiologic activities of the intestine; 2, growth in new host environments.

5. The rôle of this organism as a primary inciting factor in infection is infrequent. It is as a secondary invader of tissue previously occupied by micro-organisms, or of tissue already injured from other causes that it claims our chief attention.

6. The bacillus may induce inflammatory lesions, mainly suppurative, in the body tissues generally; the infection may originate in the intestine.

7. Its rôle in acute inflammatory lesions of the intestine, more particularly of the appendix, peritoneum, and urinary passages, has been generally overestimated. Whilst it may be the primary inciting factor, other organisms usually take this part, the bacillus coli communis more commonly acting as an accessory factor.

8. It is a factor of importance in the incitement of cholelithiasis.

BIBLIOGRAPHY.

1. Veillon and Zuber: Recherches sur quelques microbes strictement anaerobies et leur role en pathologie. Arch. de Méd. Exp. et d'Anatomie Pathologique, 1898, Tome x, p. 517.
2. Malvoz: Annales d'Hygiène, Nov. and Dec., 1899.
3. Gordon: Dissertation Inaugural, Erlangen, 1897.
4. Eschrich: Die Darmbakterien des Kinder und ihre Beziehungen zur Physiologie der Verdauung.
5. Schild: Zeitschrift f. Hygiene, 1895, Bd. xix, p. 113.
6. Szego: Arch. f. Kinderheilkunde, 1897, Bd. xxii, p. 25.
7. Lembke: Arch. f. Hygiene, 1896, Bd. xxvi, p. 293.
8. Gilbert and Dominici: Comptes Rendus de la Soc. de Biologie, 1894, p. 117.
9. Cushing and Livingood: Contribution to the Science of Medicine by the pupils of William Welch, 1900, p. 543. For fuller details of the bacteriology of the normal intestine, consult this article.
10. Vignal: Arch. de Physiologie, 1886.
11. Grimbert and Choquet: Comptes Rendus de la Soc. de Biologie, Oct. 19, 1895.
12. Desonbry and Porcher: C. R. Soc. Biologie, Feb. 9, 1895; Ibid., May 4, 1895.
13. Nocard: Ibid., Feb. 9, 1895.
14. Adami: Journal A. M. A., Dec. 23, 1899.
15. Ford: Trans. Assoc. Am. Phys., 1900, vol. xv, p. 389.
16. Wurtz and Herman: Arch. de Méd. Exp. et d'Anat. Path., 1891, p. 734.
17. Welch: Medical News, 1891, vol. lix, p. 669.
18. Beco: Ann. de l'Institut Pasteur, 1895, p. 199.
19. Achard and Phulpin: Arch. de Méd. Exp. et d'Anat. Path., 1895, p. 25.
20. Birch-Hirschfeld: Ziegler's Beitr., 1898, Bd. xxiv, S. 304.
21. Dryfuss: Centr. f. Bakt., xvi, 1894, No. 14.
22. Macaigne: Le Bacterium Coli Communis: Son role dans la pathologie. Thèse de Paris, 1892.
23. De Klecki: Ann. l'Institut Pasteur, 1895, ix, p. 710.
24. De Klecki: Loc. cit.
25. Fermi and Salto: Cent. f. Bakt., 1896, Bd. xix, p. 525.
26. Peckham: Jour. Exp. Med., 1897, vol. ii, p. 557.
27. Peckham: Loc. cit.
28. Theobald Smith: Cong. Amer. Phys. and Surg., 1900.
29. Vaughan and Cooley: Journal A. M. A., Feb. 23, 1901.
30. Veillon and Joyle: C. R. Soc. Biologie, 1891.
31. Charron and Veillon: Ibid., Jan. 5, 1894.
32. Sevestre: Bull. Med., 1891, p. 1124.
33. Netter and Martha: Arch. de Phys. Norm. et Path. Flexner; Twentieth Century Practice of Med., vol. xix, p. 638.
34. Sitmann and Barnov: Deutsch Arch. f. Klin. Med., Bd. lii, p. 250.
35. Vautrin: Gaz. Heb. Méd. et de Chir., 1899, T. iv, p. 908.
36. Gwyn: Bull. Johns Hopkins Hospital, 1898, vol. ix, p. 54.
37. Eisenhardt: Arch. f. Gynaek., 1894, Bd. xlvii.
38. Kerr: Glasgow Med. Jour., September, 1899.
39. Wurtz: Precis de Bacteriologie Clinique, Paris, p. 102.
40. Luffering: Vide Flugge, Die Mikroorganismen, ii, p. 363.
41. Gilbert and Lion: C. R. Soc. de Biologie, 1888.
42. Thiroloix: Thèse de Paris, 1891, Aubert.
43. Macaigne: Thèse de Paris, p. 153.
44. Etienne: Les Pyosepticemies, Thèse de Nancy.
45. Rendu: Loc. cit.
46. Bourges: Les Angines de la Scarlatina, Paris, 1890, p. 102.
47. Widal: Sem. Méd., 1894, No. 37.
48. Bouloche: Les Angines à fausses Membranes, Paris.
49. Lermoyez: Soc. Méd. des Hop. de Paris, 1894.
50. Newcomb: New York Medical Journal, 1895, No. 52.
51. Blasi and Russo-Travalli.
52. Lermoyez, Helme and Barbier: Soc. Méd. des Hop. de Paris, 1894, p. 449.
53. Hudelo and Bourges: Sem. Méd., 1895, p. 54.
54. Wurtz: Loc. cit.
55. Wyss: Cent. f. Bakt., 1885.
56. Hueppe: Berl. Klin. Woch., 1887, p. 59.
57. Baginsky: Deutsch. Med. Woch., 1888.
58. Escherich: Naturf. Vers., 1889.
59. Mace and Simon: Rev. Gén. de Clin. et de Thérap., 1891, No. 49.
60. Marfan and Lion: C. R. Soc. de Biologie, Oct. 24, 1891; Chantemesse, Widal, and Segry: Soc. Méd. des Hop. de Paris, Dec., 1891. Rossi-Doria: Cent. f. Bakt., 1892, Bd. xii, p. 458. Lesage: Soc. Méd. des Hop. de Paris, 1893. Gilbert and Girade: Sem. Med., 1894, p. 48. Flugge: Ztsch. f. Hyg. 1894, Bd. xvii, p. 272. Holst: Norsk. Mayaz. for Laeyerinenskaben, Christiania, 1894, p. 281.
61. Booker: Johns Hopkins Hosp. Reports, 1896, vol. vi, p. 159.
62. Cumston: Internat. Med. Mag., Feb., 1897.
63. Nobecourt: Sur la pathogénie des affections gastro-intestinales des jeunes enfants, Thèse de Paris, 1899; Sem. Méd., May 17, 1899.
64. Marfan: Rev. mens. des Mal. de l'Enfance, Aug., Sept., Oct., Nov., 1899.
65. Fischl: Ibid., May. 1899.
66. Chantemesse and Widal: C. R. de l'Acad. de Médecine, 1888, Paris.
67. Maggiora: Cent. f. Bakt., 1892, p. 173.
68. Ogata: Ibid., 1892.
69. Laveran: Sem. Méd., Nov., 1893.
70. Arnaud: Ann. de l'Institut Pasteur, 1892, p. 495.
71. Courtet and Loir: C. R. Acad. de Med., Paris, 1895. For consideration of the bacteriology of dysentery, consult Flexner: Johns Hop. Bull., 1900, p. 231.
72. Sanarelli: Ann de l'Inst. Pasteur, 1894, p. 183.
73. De Klecki: Ann. de l'Inst. Pasteur, 1899, p. 480.
74. Larnelle: La Celluie, Tome iii.
75. Barbacci: Cent. f. Allg. Path., 1893, Oct. 12.
76. Tavel and Lanz: Ueber die Etiologie der Peritonitis; Mittheilungen aus Kliniken und Medizinischen Inst. der Schweiz, 1893.
77. Grawitz: Charité Annalen, xi, 1886.
78. Flexner: Phil. Med. Jour., Nov. 12, 1898.
79. Flexner: Loc. cit.
80. Monod: Soc. de Chirurgie, 1895, Oct. 16.
81. Dieulafoy: Bull. de l'Acad. de Méd., 1896, No. 10.
82. Kümmel: Ueber Perityphlitis, Leipzig, 1896.
83. Achard and Broca: Soc. Méd. des Hop., 1897, March 26.
84. Darling: Boston Med. and Surg. Jour., 1894, vol. cxxxi, p. 482.
85. Low: Med. and Surg. Reports, Boston City Hosp., 1900, p. 173.
86. Adenat: C. R. Soc. de Biologie, 1891.
87. Poncet and Jaboulay: Revue de Med., 1892.
88. Talamon: Appendicite et Perityphlite, Paris, 1892.
89. Tavel and Lanz: Loc. cit.
90. Kirmisson: Soc. de Chir., Sept. 16, 1895.
91. Obrastzow: La Méd. Moderne, 1896.
92. A. O. J. Kelly: Phil. Med. Jour., 1899, vol. iv, p. 1032.
93. Roger and Josue: Revue de Med., 1896.
94. De Klecki: Ann. Inst. Pasteur, 1899, p. 480.
95. Frazier: Wm. Pepper Laboratory Contributions, 1900, p. 395.
96. Dmochowski and Janowski: Cent. f. Allg. Path., 1894, Bd. v, p. 153.
97. Gilbert and Girade: C. R. Soc. de Biologie, 1890, No. 39.
98. Charrin and Roger: Sem. Méd., 1891, p. 71.
99. Welch: Medical News, Loc. cit.
100. Silbert and Dominici: C. R. Soc. de Biologie, Jan. 16, 1894.
101. Gilbert and Fournier: Ibid., Feb. 8, 1896.
102. Hanat: Bull. Med., 1896.
103. Letienne: Med. Mod., 1895, Aug. 17.
104. Gallppe: Jour. des Connaissances Méd., March 25, 1886.

105. Mignat: Arch. Gén. de Méd., 1898, vol. ii, p. 129.
106. Gilbert and Fournier: C. R. Soc. de Biologie, Oct. 10, 1897.
107. Mieczkowski: Mittheilungen a. d. Grenzgebieten der Med. u. Chir., 6 Bd., 1900.
108. Achard: Bull. Soc. Méd. des Hop., Nov. 16, 1894.
109. De Vecchi: Il Policlinico, 1899, p. 199.
110. Lesage and Demelin: Rev. de Méd., Jan., 1898.
111. Weaver: Contributions to the Science of Medicine by the pupils of Prof. Wm. Welch, p. 297.
112. Gazette des Hopitaux, 1895, p. 287.
113. Posner and Lewin: Berl. Klin. Woch., 1894, p. 742.
114. Van Calcor: Nederl. Tydschrift oor Geneeskunde, 1899, ii, p. 1188.
115. Brown: Johns Hopkins Reports, vol. x, Nos. 1 and 2.
116. Achard and Renault: C. R. Soc. de Biologie, 1891, p. 831.
117. Fernet and Papillon: Bull. Soc. Med. des Hop. Dec 23, 1892.
118. Chantemesse and Widal: Ibid., Dec. 30, 1892.
119: Jeauselme: Gaz. Hebd. de Méd. et Chir., 1893, p. 280.
120. Graf: Deutsche Med. Woch., 1896, No. 38.
121. Macaigne: Arch. Gén. de Méd., 1896, vol. ii, p. 722.
122. Halle and Albarran: Bull. Acad. de Méd., August, 1888. Albarran: Etude sur le rein des urinaires, Thèse de Paris, 1899. Schmidt and Aschaff: Die Pyelonephritis in Anat. und Bakteriologie, Beziehung, Jena, 1893. Saxor: Wiener Med. Woch., 1894, p. 57. Wunscheim: Zts. f. Heilkunde, Bd. xv.
123. Trump: Munch. Med. Woch., 1896, p. 1008. Hutinet: Presse Med., Nov. 18, 1896. Baginsky: Arch. f. Kinderheilk., vol. xxii, p. 97.
124. Brown: Loc. cit.
125. Albarran and Halle: Bull. Soc. Anat., Oct. 20, 1887.
126. Rovsing: Sur l'Etiologie et le Pathogénie et le Traitement des Cystites. Copenhagen, 1889.
127. Morelle: La Cellule, 1891, Tome vii, Fasc. ii.
128. Krogius: Recherches bactériologiques sur l'Infection urinaire. Helsingfors, 1892.
129. Melchior: Cystite et Infection urinaire, Paris, 1895.
130. Brown: Loc. cit.
131. Douglass: Scottish Med. and Surg. Journal, February, 1901, p. 124.
132. Melchior: Loc. cit.
133. Savor: Wiener Klin. Woch., 1894.
134. Gabrowsky: Cited by Macé.
135. Bouchard and Charrin: Cited by Brown.
136. Jeanbran: Gazette des Hopitaux, 1899, p. 163.
137. Pere: Arch. de Méd. et Pharm. Milit., Paris, 1897, Tome xxix, p. 437.
138. Favre: Ziegler's Beiträge z. Path. Anat., Bd. ii, p. 161.
139. Schow: Cent. f. Bakt., Bd. xii, p. 745.
140. Heyse: Cent. f. Inner. Med., 1844, No. 14.
141. Hall: Phil. Med. Jour., Dec. 30, 1899.
142. Achard and Hartmann: Semaine Médicale, 1892, No. 2.
143. Gilbert: Traité de Médecine et de Therapeutique (Brouardel, Gilbert and Girode), Paris, 1895, p. 634.
144. Barbacci: La Sperimentale, 1892, No. 15.
145. Pezzoli: Arch. f. Dermat., 1895.
146. Pluyn and Laag: Cent. f. Bakt., Bd. xvii, p. 233.
147. Malherbe et Monnier: C. R. Soc. de Biologie, 1899, p. 186.
148. Karo: Deutsche Med. Woch., 1901, Bd. xxvii, p. 230.
149. Gilbert: Traite de Med., loc. cit., p. 633.
150. Eisenhardt: Arch. f. Gynäk., Bd., xlvii, Heft 2.
151. Gilbert and Lion: Arch. Med. Exp., 1893.
152. Raymond: Anat. path. et bact. des Salpingo-ovaritis, Thèse de Paris, 1895.
153. Gebhard: Ztsch. f. Gynäk., 1893, xxvi, p. 480; Ibid., 1897, xxxvii, p. 132.
153½. Hall: Am. Med., May 4, 1901, vol. i, p. 205.
154. Gilbert and Girode: Sem. Méd., 1891, p. 48.
155. Levy and Fischer: Deutsch Ztsch. f. Chir., 1891.
156. Mace and Simon: Loc. cit.
157. Sevestre and Lesage: Sem. Méd., 1892, p. 32.
158. Kreibich: Beiträge zur Klin. Med., 1893.
159. Lesage and Mascaigne: Ann. l'Institut Pasteur, 1893, No. 1.
160. Harbitz: Fetsch. z. Fejer d. 25 Jahr. Prof.
161. Thiercelin: Thèse, Paris, 1894.
162. Renard: Thèse, Paris, 1894.
163. Hitzig: Virchow's Arch., 1895, Bd. 141, p. 28.
164. Widal and Albarran: Bull. Acad. de Med., 1888.
165. Netter: Bull. Soc. Méd. des Hop., Dec., 1891.
166. Dumontpallier: Gaz. des Hop., 1892.
167. Henke: Cent. f. Bakt., 1894, Bd. xvi.
168. Wendrickx: Vide Wurtz.
169. Mezet: Arch. de Méd. Exp., 1895, No. 3.
170. Adenat: Arch. Méd. Exp., 1889, p. 656.
171. Netter: Soc. Clinique, Paris, 1889.
172. Roux: Lyon Méd., 1889. Scherer: Jahr. f. Kinderheilk., Bd. ix, p. 1. Balp: Rev. Gén. Méd. Ital. di Clinica, 1890, No. 14. Mircola: Gaz. degli Ospedali, 1893, No. 57. Heubner: Berl. Klin. Woch., 1895, No. 27. Leitz: Cent. f. Bakt., 1895.
173. Sevestre and Gaston: Bull. Soc. Méd. des Hop., Dec., 1891.
174. Werner: Cong. German Laryn., 1895.
175. Jacques: Gaz. Hebd. de Med. et Chir., 1899, p. 909.
176. Morcanti: Ann. d'hygiene, 1892.
177. Randolph: Am. Jour. Med. Sci., 1893.
178. Mazet: Gaz. des Hop., 1895, p. 726.
179. Bietti: Klin. Monat. Sbl. f. Augenheilk., 1899, p. 311.
180. Menlere: Traité d'Laryngologie, 1894.
181. Guizzetti: Policlinico, 1896, vol. iii.
182. Stern: Arch. of Otology, April, 1896.
183. Baup and Stancuieanu: C. R. de la Soc. Biologie, 1900, p. 152.
184. Lannelongue and Achard: Bull. Med., 1893, p. 95. Tavel: Third Gen. Assembly of Swiss Med., 1899. Muscatello: Cent. f. Allg. Path., 1892, p. 130.
185. Tavel: Opus cit.
186. Brunner: Cent. f. Bakt., 1894, Dec. 20.
187. Martin and Tuffier: Clinique de la Pitié, 1894, p. 186.
188. Brault: Arch. Gen. de Méd., 1899, vol. i, p. 319.
189. Klemm: Arch. f. Klin. Chir., Bd. 48, p. 792. Kermann: Arch. de Med. Exp., 1895, Tome vii, p. 329. Blumer: Pacific Record of Medicine and Surgery, Nov. 15, 1898. Del Vecchio and Parascandelo: Rev. Med., 1895, p. 29. Canon: Deutsch. Ztsch. f. Chir., 1895, Bd. xliii.
190. Sevestre and Gaston: Loc. cit. Singer: Wien. Klin. Woch., 1895, No. 26.
191. Dungern: Munch. Med. Woch., 1893, No. 40.
192. Bunge: Fortsch. der Med., July, 1894.

MEDICAL ASPECTS OF CHOLELITHIASIS.*

ROBERT B. PREBLE, M.D.
Professor of Medicine in the Northwestern University Medical School, Attending Physician to the Cook County Hospital, Mercy, German and Polyclinic Hospitals.
CHICAGO.

It will be quite impossible in the time suitable for an occasion like this to even touch upon many of the important phases of this question and I shall therefore limit myself to those aspects which it would seem desirable to discuss before a surgical society, in other words, to consider the reasons why this disease, which ideally is a surgical one, falls so largely to the lot of the medical man. In the first place, the burden of the diagnosis is on the latter, for the surgeon rarely sees these patients first. Secondly, the medical man is the one who decides which cases shall be operated on and which shall be treated by medical means, for the great bulk of the cases do not require mechanical interference, but any case may at any moment require it and some cases from the outset of the symptoms are inappropriate for medical treatment. We must therefore consider the indications for surgical treatment, and lastly, we must briefly refer to the medical treatment of the cases in which surgical interference is unwise either because of the mildness of the symptoms or because of some concomitant disease or in which mechanical means have failed to give the desired relief.

If gallstones always presented themselves under the typical picture of the gallstone colic, there would be but little difficulty in the diagnosis, but, unfortunately, the pictures are extremely diverse so that often months or even years elapse before the diagnosis becomes clear. Frequently, however, the obscurity of the diagnosis is due to the fact that the multiformity of the symptoms is not sufficiently appreciated and the diagnosis is deferred until a paroxysm of pain is followed by jaundice. Too many are content with making a symptomatic diagnosis such as gastralgia, hepatalgia or neuralgia.

For purposes of diagnosis cases of gallstones may be conveniently divided into two groups, those with colic and those without. For sake of brevity, let us disregard the cases with paroxysmal pain and jaundice as being too manifest to require discussion and consider only the cases of pain without jaundice. Any of the diseases of any of the abdominal organs which ever cause colic may be confused with gallstone colic and some of the diseases of the thoracic viscera and nervous system also are not rare causes for confusion. Some of these errors are easily avoided by careful and systematic examination, others are unavoidable until after the abdomen is open.

Tabes dorsalis sometimes presents a very faithful copy of gallstone colic and I have personally seen several cases of this disease which have been operated on for gallstones. The error is easily avoided provided only the possibility of it is remembered. Attention to the Argyll-Robertson pupil, the Rhomberg symptom and the knee-jerk will prevent the error. A diagnosis of gallstones in a tabetic should be made only when there is something more significant than paroxysms of pain and tenderness in the region of the gall-bladder. Jaundice following pain with a palpable gall-bladder with or with-

* Read by invitation before the Chicago Surgical Society, March 5, 1902.

out crepitus, or better still, with the demonstration of a gallstone in the fæces, would warrant the diagnosis of gallstones in a tabetic. In a word, the clinical picture of gallstones must be complete and typical to warrant the diagnosis in a tabetic patient.

I have twice seen patients entered under the diagnosis of gallstone colic who had a pleurisy of the right side and nothing else. This error, like the one just mentioned, is easily avoided by an examination which is systematic and not limited to the region of the liver. Why the pain of a pleurisy should be felt over the region of the gall-bladder is not clear, but the phenomenon is probably comparable to the referred pains seen in a wide variety of diseases, for example, the neuralgia of the middle dorsal nerves of the left side so often found with various diseases of the stomach. It must, however, be remembered that the opposite error is also possible, that a right-sided pleurisy may be the result of gallstones. I am reminded of another possibility by a case which I saw two or three years ago with Dr. Herrick. It was a young man who gave a history of a number of febrile attacks which were reasonably interpreted as gallstone colic. Examination showed a localized pleurisy, low down anteriorly on the right side. This was thought to be a pleurisy of the right side, secondary to a localized peritonitis from gallstones, but when the abdomen was opened it was found to be a tubercular peritonitis with pleurisy by extension through the diaphragm and not gallstones.

Lead colic sometimes leads one into an error which may be avoided by attention. The occupation of the patient is usually the key to the puzzle. The lead line along the border of the gums, rarely absent among people exposed to lead intoxication, the localization of the pain in the umbilical region and the freedom from radiating pains, together with the lack of the more characteristic symptoms of gallstones, is usually sufficient to lead to a correct diagnosis. Moreover, the bulk of the cases of lead colic occur in male patients and it always requires a more complete picture to warrant the diagnosis of gallstones in a male than in a female. Greater difficulty will be found with the not uncommon cases of lead poisoning in patients whose occupation does not obviously expose them to lead poisoning. Here attention to the other effects of lead will be of aid, particularly the cardio-vascular, the renal and the neuritic effects.

The differentiation between gallstone colic and the pain of the ulcus ventriculi is usually simple, but when found difficult especial attention should be paid to the fact that the gallstone colic comes on generally with extreme suddenness in the midst of good health, while the pain of the ulcer comes on more gradually and is usually obviously influenced by the taking of food. It generally lasts a shorter time than the biliary colic, but the patients are not free from discomfort between the paroxysms as they usually are with the gallstones. Pain radiating to the right shoulder or to the right lower dorsal region speaks for gallstones, especially when followed by chill, fever and sweating. A marked increase in the hydrochloric acid in the gastric juice points to an ulcer, although a similar excess has been seen with cholelithiasis. Youth and anemia speak for the ulcer while age and repeated pregnancies speak for the gallstones.

Far more difficult than the differentiation mentioned is that between gallstones and the indefinite conditions grouped under the purely symptomatic name of gastralgia or neuralgia of the stomach. The subjective symptoms of the two conditions may be identical and the physical examination be equally negative in both. The close similarity between the two is clearly proven by the frequency with which the gallstones are diagnosed as gastralgia and less often by the opposite error. The development of a single symptom proving a disturbance of the biliary tract, such as jaundice, even the demonstration of the bile pigments in the urine or a palpable gall-bladder or continuously recurring tenderness in the region of the gall-bladder removes the doubt, but, unfortunately, such symptoms are often looked for in vain. Radiation of pain to the right shoulder, chills with fever, the cause of which is not manifest, particularly in women past the mid-point of life, should suggest gallstones. Attacks of pain in the epigastrium occurring at irregular intervals and often precipitated by psychic influences rather than by the taking of food, particularly in a neurotic patient, suggests a gastralgia. Examination of the gastric contents is often of aid in clearing away the obscurity. One should carry in mind the possibility of this confusion and if a patient, especially a female patient, who is not a neurotic, has several attacks of epigastric pain at frequent intervals even though there may be no jaundice, palpable gall-bladder or demonstration of gallstone in the stools, one should advise an exploratory laparotomy.

It is in such cases as these that the symptoms to which Dieulafoy applies the name of satellite symptoms are of aid in the differentiation. The gallstone cases are frequently greatly troubled by vertigo, slight or severe, fugacious or persistent, occurring either before or during the paroxysm of pain and even in some cases replacing the pain. Such attacks of vertigo are not infrequently regarded as gastric vertigo, but they rarely occur with the gastralgia. Syncope or rather a distressing tendency to lose consciousness is another sometimes prominent accompanying symptom.

Another of these symptoms is both an aid and a source of confusion. I refer to the chill, fever and sweat which not infrequently accompanies attacks of biliary colic. These are valuable in distinguishing the biliary colic from the renal colic and the gastralgia, with which they are said not to occur, but are a source of confusion because they are with difficulty distinguished from the bilio-septic fever resulting from infection of the bile tracts. Charcot, Pentray, Besnier and others long ago recognized two forms of fever resulting from cholelithiasis, one transient and of relatively slight importance, called by Charcot the hepatalgic fever, and the second or bilio-septic fever of serious moment. The explanation of the hepatalgic fever is unknown, but it seems probable that it is nothing more than a mild bilio-septic fever. At any rate, I think that we are justified in saying that any patient presenting several attacks of biliary colic with febrile phenomena should be considered as having septic bile tracts and be treated accordingly.

Formerly these febrile paroxysms, simulating as they do the malaria paroxysms, were often diagnosed as malaria, an error the more easily made because there may be accompanying them no more pain in the hepatic region than malaria often causes. To-day we are more liable perhaps to the opposite error, taking a malaria for an angiocholitis. Both errors are easily avoided by careful examination of the blood for the plasmodia and by the therapeutic test of quinin.

There are many other questions of diagnosis which might be discussed, just as those mentioned might be

more fully described. However, the things which appear to me most important have been mentioned about the errors which most easily and most frequently occur.

Having decided that the patient has gallstones, we must decide whether the patient should be treated medically or surgically and often this is much more difficult than the diagnosis. Could we adopt the idea advocated by several in the Surgical Section of the American Medical Association in 1900, namely, that the diagnosis of gallstones is in itself an indication for operation, there would be no need to discuss the question of surgical indications. I am glad to be able to say that the Chicago surgeons, I believe without exception, opposed so radical an idea as this. I know of no clearer demonstration of the absurdity of this position than that given by Professor Kehr. Kehr utilizes the figures of Riedel, who holds that in Germany there are 2,000,000 people with gallstones, of whom 5 per cent., or 100,000, suffer from symptoms; and of these 34,000 are in need of immediate operation. I know of no figures for America, but I am sure that every one of us has seen many cases of gallstones in which an operation could be no more justified than many of the ovariotomies done a few years ago or the hysterectomies done to-day.

Certain of the rules proposed by surgeons do not appeal to me at all. For example, I can see no point to Riedel's rule that one unsuccessful attack of biliary colic is an indication for an operation. By an unsuccessful attack he means one after which no calculus is found in the stools. He infers that the calculus is too big to escape and must therefore be removed, ignoring the fact that one may have an attack of colic without gallstones and that very many stones lie quiet for years even after exciting several attacks of colic. On the other hand, Kehr's suggestion that frequently repeated successful colics are not an indication for operation seems to me to be too conservative.

For a long time I have given my students the following list of indications for surgical interference: 1, frequently repeated attacks of colic; 2, septic symptoms in a patient who has symptoms of gallstones; 3, empyema of the gall-bladder; 4, localized or generalized peritonitis; 5, persistent jaundice; 6, obstruction of the intestines; 7, fistulæ.

Let us briefly consider these. 1. Frequent attacks of colic. This is really a rather indefinite statement for the word frequent is altogether relative. One must consider the character of the patient, the social condition and the responsibilities bearing upon her and a variety of other factors, but to put it briefly we may say that when the happiness or the usefulness of the patient is seriously interfered with by the attacks of colic and when their frequency is not materially lessened by medical treatment, an operation should be performed. It does not seem to me that the success or failure of the attacks has much bearing on the question. Far more important is the bearing of the chills and fever which often enough accompany the attacks. If these symptoms are frequently repeated, operation seems to me to be indicated even though the other signs of sepsis are wanting.

2. Septic symptoms developing in a patient suffering with gallstones. It would be superfluous to describe these symptoms even briefly, for the general symptoms do not differ from those of sepsis wherever its point of origin. In many of these cases operation is futile, but it should be attempted because it is impossible to distinguish before opening the abdomen between the operable and the inoperable cases. If the infection is localized in any one portion of the bile tract or the liver, the chances of success are good, while if there are multiple biliary or peribiliary abscesses, failure is certain.

3. Empyema of the gall-bladder might properly be considered under the second heading but is placed here in conjunction with hydrops of the gall-bladder, both being subsequent to occlusion of the cystic duct. With the empyema the indication for operation is absolute while it is not so clear with the hydrops.

4. The development of either a localized or generalized peritonitis is an indication for operation. It is not necessary to discuss here either the pathogenesis of the peritonitis or its symptoms. A generalized peritonitis is indication for immediate operation, while with the localized inflammation the indication is neither so absolute nor so urgent. The danger of the local process lies rather in its remote than in its immediate effects. The list of possible remote effects of the local peritonitis would be long and such examples as obstinate abdominal pain, pyloric stenosis, obstruction of the intestines are sufficient for illustration.

5. Obstruction of the common duct with resulting jaundice. There can be no question of the absoluteness of this indication. The destructive changes in the liver and the intoxication of the organism as a whole with the bile make relief of the obstruction imperative. The only point for discussion is the length of time we should wait before admitting that the jaundice is permanent. If after eight or ten weeks the obstruction persists, there is little use in waiting longer, although there are numerous instances in which the obstruction was spontaneously relieved even after a much greater period than this. These cases are not desirable subjects for operation because of the hemorrhagic diathesis often resulting from the prolonged jaundice and often requiring a preliminary treatment with gelatin or calcium chlorid to increase the coagulability of the blood.

6. Obstruction of the intestines. It is perhaps inappropriate to include this among the indications for surgical treatment, for in the great majority of cases there have been previous to the onset of the symptoms of ileus, no symptoms of gallstones and the case is not recognized as one of gallstones until the operation shows the cause of the obstruction. Stones large enough to cause intestinal obstruction can not escape through the ductus choledochus and must make their way from the gall-bladder by unnatural passages, by fistulæ between the gall tracts and the intestines. The establishment of such fistulæ is accompanied by no peculiar symptoms. In 92 observations collected by Lobstein, there were but 17 in which the symptoms of the occlusion were preceded by symptoms of gallstones. Of the cases collected by Lobstein, 61 were not operated upon and 31 died; of the 31 operated upon, 19 died. These figures about agree with those of Naunyn, who states that 50 per cent. recover spontaneously. Although these figures indicate a higher mortality in those operated upon than in those not, it is clear to my mind that all cases should receive operation as soon as their nature is recognized. If this is done the mortality falls to a low figure.

7. Fistulæ may be established between the bile tracts and a large number of the organs. Some of these are to be regarded as beneficial, while others, such as the cutaneous fistula, are both an inconvenience and an injury and should be relieved as soon as possible by surgical means.

There has recently been an addition to the list of sur-

gical indications, namely, the development of the fat necrosis. I have no doubt that, now that our attention has been drawn to this effect of gallstones, we will see and recognize antemortem a rapidly increasing number of cases. As the number increases, the clinical picture will become clearer and better characterized. When recognized the indication is imperative.

Mention might also be made of the cancer of the gall-bladder found with gallstones. The question is still open as to which causes the other, assuming that there is a causal relation between them. Should the possibility of cancer resulting from gallstones be an indication for operation? When one compares the great frequency of the stones with the infrequency of the primary cancer of the gall-bladder, there seems no reason for so radical a position. It seems to me more radical than the hysterectomy as a prophylaxis against cancer of the uterus.

Lastly, we must refer briefly to the general plan of treatment of patients who, because of the mildness of their symptoms, the presence of some other disease of more serious moment than the gallstones, or because of the failure of relief after mechanical means have been tried, are to be put on medical treatment. Let me, however, in passing insist upon more careful attention to all the other viscera in cases of this sort than is often given. All too frequently the patient's heart or kidney is irreparably injured in the effort to relieve the gallstones and the patient left in a far worse condition than before and with his life materially shortened. Look out for nephritis, myocarditis, arteriosclerosis, diabetes and lipomatosis.

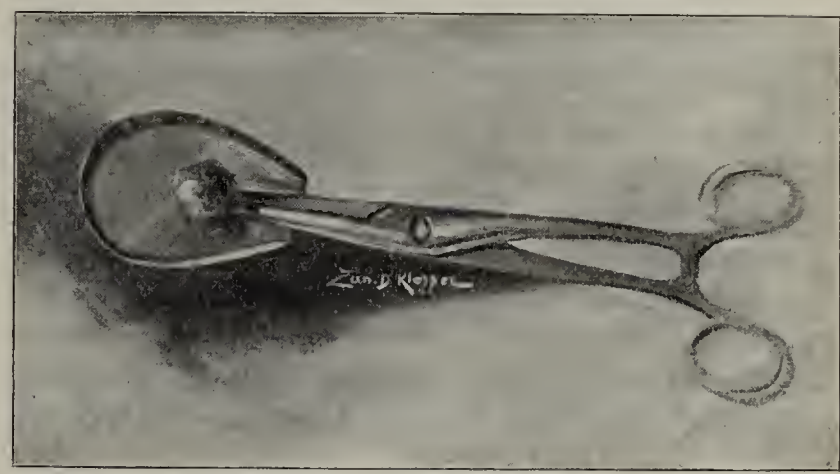
So far as the medical treatment is concerned, we may dismiss as futile efforts to dissolve stones which are already formed. Calculi are not highly soluble in the test tube and anything we may give by mouth is not likely to dissolve them in the gall-bladder. If any of the various methods which have been tried with this idea in mind have succeeded there is no evidence to that effect. Our efforts must therefore be directed toward preventing the formation of additional stones and the relief of troublesome symptoms. With the first indication in mind we must recall the two essential conditions for the formation of calculi, stagnation of the bile and a lithogenic catarrh of the biliary mucous membrane. We must lessen the stagnation and the inflammation of the mucous membrane. The patients should be urged to give up the sedentary life they are usually leading and take a reasonable amount of outdoor exercise. If they are wearing their clothing too tight or lacing with corset or string, they should be shown the error of their ways. Massage is often a useful adjuvant, although personally I see no use and only possible harm in efforts at massage of the liver and gall-bladder as is advocated by some. A wide variety of diets have been planned and include all sorts of extremes. The best diet is a simple, well proportioned one, taken regularly and rationally and in as small quantity as is compatible with the maintenance of nutrition. Every effort must be made to keep the gastro-intestinal tract in the best possible condition both for the effect this has upon the stagnation of the bile and upon the catarrh of the gall-bladder. In this way the circulation through the mucous membrane is improved, favoring recovery from the existing catarrh, increasing the resistance to new infection and other causes exciting inflammation. The diet and the exercise are probably the most important factors in accomplishing these purposes, but there is also a long list of drugs which have proved themselves useful adjuvants in cases of this sort. Prominent among these are the various mineral waters and salts. Carlsbad, Epsom, Glauber and others of similar character, mercurials, salicylates and the various gastro-intestinal antiseptics are all used. So far as the treatment of the colic is concerned I think that nothing need be said except to draw attention to the danger of the formation of the morphin habit if the attacks are frequently relieved by this drug. In some cases, indeed, this gallstone morphinism becomes an indication for operation. The truth of the matter, however, is that any patient having attacks of colic so frequently that there is any danger of morphinism, furnish in the attacks sufficient indication for the adoption of mechanical means.

New Instrument.

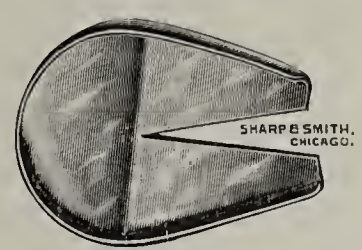
THE PILE SHIELD.

V. PLETH, M.D.
CHICAGO.

It has often happened, even in the best hands, that the patient has been severely burned, when the ordinary clamp and cautery method has been employed in the operation for piles, causing the surgeon no end of annoyance. To avoid this, I have devised a little instrument that eliminates such acci-



dents; this instrument is small, inexpensive, portable, easily sterilized and does away with the expensive pile clamp and protecting gauze pad. It is an oval-shaped, nickel-plated brass plate, 2½ by 2 inches, with the edges turned up, except at the lower portion, which has a narrow slit for the purpose of slipping it behind the forceps that grasps the pile mass. In using it the rectum is thoroughly dilated with a rectal speculum,



the protruding pile mass grasped by an artery forceps and an ordinary hysterectomy forceps (Ferguson flat-tipped forceps is admirably adapted) is made to grasp around the base of the pile mass, so that the axis of the forceps is parallel to the axis of the gut. The first forceps is removed and the shield slipped over the pile mass behind the clamp. The cautery in any form is now employed to burn the pile mass away. On account of the elevated rim of the shield, the cautery can not slip over and touch the surrounding skin.

Salicylic Acid in Strawberries.—Portes and Desmoulières have succeeded in isolating crystallized salicylic acid from strawberries. The *Gaz. Méd. Belge* of March 13 mentions this curious fact and observes that it is important in the study of adulterating substances in preserves, syrups, etc., containing strawberries.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, APRIL 12, 1902.

ROENTGEN RAYS IN THERAPEUTICS.

Electricity has always been a field for the sanguine therapeutist and too often a disappointment to the conservative judicious practitioner. High hopes raised by flattering reports of its efficiency have been again and again overthrown by the hard lessons of actual experience and some, like a distinguished German neurologist, have even gone so far as to hold that in the vast majority of cases its good effects have been merely those of psychic impressions, thus practically relegating it to the class of suggestive medicine. Methods of its employment—the Apostoli treatment for myomata for example—have been a temporary craze, to be almost entirely forgotten in a very few years. When d'Arsonval showed some years ago that currents of very high potential might be used on human beings with perfect safety, hope ran high for the eventual discovery of effective electrical treatment. It proved as disappointing as all previous methods of using electricity in medicine. As Prof. Osborn said recently with regard to biologic problems generally, "Life rarely acts according to the reasoning of the closet philosopher. Out of the careful observations of the unexpected, however, is come the *rationale* of the life processes." It may easily be that the pendulum has swung too far in this direction of skepticism, but the effect is the same and the distrust of high claims for new methods of utilizing electricity and allied agencies is the rule with the conservative portion of our profession.

Perhaps it is a good sign that it is now five years after the introduction that the therapeutic effect of the x-rays is beginning to be one of the most prominent features in the medical and surgical horizon. There seems some reason for hope from recent reports of conservative observations that this form of radiant energy is not to prove as disappointing therapeutically as have other forms. The morbid effects of the x-ray exposures on normal tissues and the precancerous keratosis, observed by Johnston,[1] are suggestive of a similarly hostile action on therapeutic utility. The favorable results reported by Pusey, Allen, Rinehart, Lee and others here and abroad seem to point to a real value of these rays in a large number of cases of malignant disease, and the testimony is increasing. Dr. Pusey's paper in the present issue gives an encouraging, but still a very conservative view of the possibilities of x-ray therapeutics. A like encouraging note has prevailed in quite recent articles by Morton, Hopkins and others, and notably in the discussion of a paper by Dr. F. H. Williams[2] read at the meeting of the New York Academy of Medicine, March 6, 1902.

We are probably just entering on a period when x-rays will be extensively used in the treatment of many forms of disease. It is important, then, to realize the limitations and the possibilities of the new therapeutic agent as far as possible. Dr. Coley, at the meeting of the New York Academy of Medicine mentioned, pointed out one of the limitations. In his experience the x-rays do not favorably affect rapidly growing malignant tumors at all. Sarcomata, especially those of the round cell variety that so often take on luxuriant neoplastic activity, seem not to be inhibited in the slightest even by long and daily exposures to the x-rays. (On the contrary, Pusey reports a rapidly growing round-cell sarcoma which subsided with marked rapidity under x-rays.) Other more slowly growing sarcomata are very frequently not only inhibited in growth but induced to take on a shriveling process that leads to their ultimate disappearance. This is true at times, even after a series of operations, when the neoplasm has become absolutely inoperable and death seems inevitable.

In Dr. Williams' experience no external malignant tumor has failed to be benefited by exposure to the x-rays. Even in cases where extensive involvement of deep-seated tissues rendered all hope of permanent cure futile and where the progress of internal symptoms showed that the deeply situated process continued to spread, the superficial neoplastic tissues were always favorably affected, the odor of discharges was rendered less intolerable and the discomfort was considerably lessened. The most striking feature of the employment of the x-rays by all has been the lessening of the pain associated with the malignant conditions. In cancers *en cuirasse* where the chest was imprisoned as in a vise to the constant intense discomfort of the patient, relief was afforded almost immediately after exposure. In the extremely tender cancers of the breast in which even the weight of clothing becomes insupportable, this exaggerated sensitiveness can be made to disappear. Even the painful conditions associated with cancer of the stomach are assuaged and in some reported cases the patient has been able for a time at least to once more take nourishment.

It would seem, then, that the x-rays may be resorted to in all inoperable and painful cancers. Further, in recurrences after operation for cancer, the malignant nodules are often so close to the surface that they form an especially favorable subject for x-ray treatment. It is in these cases that the most satisfactory results have been obtained. With regard to superficial epitheliomata the question comes up—shall they be treated by surgical intervention or by the x-rays? In any case it is evident

1. Brooklyn Med. Jour., February, 1902.

2. See page 959 in this issue.

at the end of two weeks whether the x-rays will be of benefit or not. This is not too long a delay to ask before having recourse to the knife. As in the doubtful cases where there is a suspicion of syphilis the therapeutic test of specific treatment is applied, so in the cases of epitheliomata the possible benefit of x-ray treatment should be sought.

Notwithstanding all these remarkable results and the very evident indications from the same, the therapeutics of the x-ray is yet in its infancy and a wise conservatism is advisable as regards its future. The promise so far is the brightest, but there is much yet to be learned both as to its possibilities and as to its limitations. With care the exact value of the x-rays for malignant disease can be determined without any of the unseemly over-enthusiasm and consequent reactionary disappointment that has characterized the introduction of every new therapeutic agent of any promise during this last quarter of a century. Let us hope that the dignity of the medical profession will not in this matter be compromised before the public as it has been so often under similar circumstances in the past.

HUMAN STIRPICULTURE.

The number of articles proposing the prevention of propagation of defectives indicates a widespread interest in problems of improving the human stock. It is apparent that permanent segregation of every individual who may easily be recognized as physically or mentally unfit to be a parent is too great a task for state resources, while permanent seclusion of moral defectives is quite out of the question. The consequence of these conditions is that individuals whose offspring will surely either actively or passively prey on society are allowed to keep on propagating even though they are returned time and again to institutions and secluded. Since temporary segregation is a failure in keeping down the birth-rate of perhaps our worst class of citizens, it is proposed to surgically asexualize by vasectomy or by ligation of the Fallopian tubes those whose progeny are certain to be a menace to society. Already some legislative bodies have taken up the subject and in the future medical men will find themselves called on more and more to express opinion about the value of these measures.

Judgment on the efficacy of this method of ridding the world of degenerates must be formed in the light of many practical considerations. Especially to be remembered is the fact that the biologic forces of degeneracy are always at work even in the best stock. If every existing defective were prevented from producing offspring, yet in the next generation there would be a new crop of degenerates springing up from sources now considered within the pale of mental and physical fitness.

But this problem of the betterment of the human breed has been recently taken up from an entirely different standpoint by Francis Galton, who for a generation past has been a recognized authority on heredity and inheritance. In the last Huxley lecture,[1] Galton took for his subject "The Possible Improvement of the Human Breed under existing Conditions of Law and Sentiment," calling attention to the nobility of enthusiasm for bettering the human stock. He is very optimistic about the practicability of a movement in this direction, but says that "the possibility of improving the race of a nation depends on the power of increasing the productivity of the best stock. This is far more important than that of repressing the productivity of the worst." Prevention of the birth of children among the worst classes is, to be sure, a commendable object, thinks Galton, but yet the tremendous social and industrial value of an individual of the best class so overbalances the worthlessness of a defective that it is clearly most economical to spend our efforts in getting just these best individuals into the world. Now, the laws of heredity are so well established that surely the most excellent results would obtain from picking out, if such a thing were practicable, young men and women with a view to their ability to produce worthy children. They should then be urged to marry each other at the earliest suitable age and beget a number of children compatible with healthy production and development. As it is at present, many of our best young people refrain from marriage until the childbearing powers are on the wane, because the man is often struggling for a competency and the woman meanwhile is pursuing aims quite unworthy in comparison with the production of fine children.

Galton thinks that medical men might take a large part in determining the fitness of individuals for marriage and in teaching the best that is known about the production and bringing up of offspring. They, in connection with other professional students of the subject, might even give diplomas of especial fitness for marriage so that financial aid might be occasionally offered under properly managed patronage. He acknowledges his plan to be rather Utopian and such, certainly, seem some of the details. The general idea, however, of drawing attention to the racial need of progeny from the best stock can not be commended too strongly. From the days of Lycurgus it has often been pointed out that we do less for the human family in this respect than we do for domesticated animals. Galton does good service in pointing out the rational economy of concentrating efforts for race improvement on the means from which the greatest returns can be expected. There must be radical changes in our social ideals and in our conceptions of the motives for marriage, however, before his suggestions can be put into practice.

SHORT CUTS INTO THE MEDICAL PROFESSION.

A rather "practical" contemporary devotes a leading editorial in a recent issue to night medical schools, the same being really an attack on the more modern systems

1. Popular Science Monthly, January, 1902.

of medical education. We have no quarrel with night medical schools provided that they carry out what they usually propose to perform; they meet a certain need and furnish, under decided disadvantages it is true, a medical education to those who are unable to give their whole time to their medical course. Their graduates may be to a certain extent prepared; they can pass state examinations, and make up later for the handicap with which they start. A man who will honestly devote his evenings till late in the night to study, laboratory work and other accessories of a medical course after a day's exertion in some potboiling occupation ought to be one of more than ordinary resistance to fatigue and capacity for work and, if his strength and health hold out, these gifts will tell in his future career. Such a one, however, will always regret that his advantages were so limited, unless indeed he is one of those so-called self-made men who have no appreciation of the true relations of things and are ever lost in self-wonder and love and praise of their makers.

What we object to in the editorial alluded to, however, is not so much its defense of night medical schools, which nevertheless is overdone, as its disparagement of modern medical education; it denounces the latter as superfluous in details, tending to useless memorizing and neglecting the training of the understanding and judgment in practical clinical lines. It says "twenty-five years ago men were turned out of medical colleges sounder thinkers, healthier reasoners and more hard-headed practical men at the bedside than they are to-day from our greatest medical colleges, though they had not memorized as extensively as do the present graduates." If this is true our civilization is getting played out. When one compares the old two-course system of the same lectures over and over again, class after class, that was in vogue twenty-five or thirty years ago, with the laboratory work, graded lectures, and all the other modern requirements of a medical course, to say nothing of the greatly enlarged clinical facilities of a modern medical college, the talk about mere memorizing seems ridiculous enough. It appears, however, to be thought a good enough argument for the "practical man." This, we believe, is an error; those who have striven against disadvantages and won a deserved, not a fictitious, standing in the profession do not glory in their early deficiencies, but regret them.

There has been a great increase of medical knowledge during the past quarter of a century and the student of medicine has to keep up with it. Our present methods of education may not be perfect, but they are an earnest effort to meet the needs of the times. Education has always been, as Mr. Dooley says, something to be fought for and one has to pull it out of its hole by the hair of its head. This was true in the past and still more so in the present, and the honest medical graduate of to-day, if he has had more facilities, has also worked harder and has earned more fully the right to care for the health of his fellow-men than had those of twenty-five years ago. It is not only right but a duty to discourage short-cuts into the medical profession, and so far as any kind of schools have this aim they deserve only condemnation.

THE SIGNIFICANCE OF THE HEMOLYMPH GLANDS.

The blood has always been the object of intense interest to all thinking persons and especially to medical men. Of the various and complicated activities that take place in the lymph glands, the spleen and the bone marrow the most striking and apparently one of the most important is the formation of the various blood corpuscles.

Recently attention has been directed again to certain hitherto rather neglected lymph glands with distinct blood sinuses which seem to occupy intimate relationship to the other blood-forming organs. In this country, Warthin of Ann Arbor has made these hemolymph glands the subject of extensive investigations[1]; and simultaneously investigators in Germany and in Italy have published articles on the same topic. Warthin recognizes two structural types of lymph glands with blood sinuses, namely the splenolymph glands and the marrow-lymph glands, the former being the more numerous and related structurally and functionally to the ordinary lymph glands on one hand and the spleen on the other, while the marrow-lymph glands stand between the common type of lymph gland and the lymphoid marrow of bone. He believes that normally the hemolymph glands are concerned chiefly with the formation of leucocytes and with the destruction of red corpuscles, but under diseased conditions the hemolymph glands undoubtedly take on full blood-forming functions.

These conclusions are based on the study of human hemolymph glands under various conditions. Morandi and Sisto[2] reach contrary conclusions. In the first place they note that hemolymph glands occur (man, dog) quite constantly in the same regions as the ordinary lymphatic glands, from which they are distinguished macroscopically by their smaller size and redder color, and microscopically by containing globuliferous and pigmentiferous cells in blood sinuses. These authors do not appear to recognize the marrow-lymph gland of Warthin as a separate variety. They hold that hemolymph glands are concerned with the destruction of red corpuscles and do not take on hemoblastic activity. When the spleen is removed the number of pigmented cells and cells containing red corpuscles is greatly increased in the hemolymph glands; and when hemolytic substances are given splenectomized animals these appearances become more pronounced, being in fact quite intense. But they did not find nucleated red corpuscles

1. Boston Journ. Med. Sciences, April, 1901 (reviewed editorially in THE JOURNAL A. M. A., May 25, 1901, 1478); Journ. Med. Research, July, 1901; and American Journal of Anatomy, November, 1901.

2. Archivio per le Scienze Mediche, 1901, xxv, 397-434.

or giant cells in the hemolymph glands either under these conditions or when they produced so grave an anemia that blood pigment appeared in the urine. In other words they pointedly announce their belief that the hemolymph glands have no erythroblastic powers.

No doubt this contradiction of results will stimulate to renewed study of the structures in question, and those who know of Warthin's accuracy in morphologic study will feel no hesitancy in expressing the belief that his observations will stand the test of further inquiry.

COMMERCIALISM VERSUS SANITATION.

The Paris tradesmen have a new peril to their business welfare and are crying out against the sanitary legislation. It seems that the medical profession is fairly well represented in the French House of Deputies, there being some fifty of our confrères among its members. The result has been that the attention of the chamber has been drawn to certain commercial practices on the part of food purveyors to the public and remedial measures proposed. Moreover, the same influences appear to be acting unfavorably to some of the tariff regulations that work to the profit of the home dealers and the result of all this is the demand at last that medical men and hygienist experts shall be excluded from the legislature. They charge the medical "amateur legislators" with spreading false official reports as to the adulteration of food, intended to ruin the business of the dealers, and assert that any doctor who leaves his practice to become a deputy is *ipso facto* a quack. It is the same old story, commercialism against sanitary reform which is being fought out as it has always been. At present Paris is following San Francisco, but the latter has still a good lead.

THE DANGER FROM SURGERY.

The perils of only the most trivial injuries in surgery are well emphasized by the recent death of Dr. Middleton of Davenport, Iowa, referred to in our obituary columns, and the very critical condition of the surgeon who assisted him in the operation. In neither case was the wound which caused the septicemia more than barely noticeable. Even the least abrasion may be fatal with specially virulent infections and one can never be sure that he is not in the presence of such in an operation. In this instance the condition of the operator's system can hardly be credited with much influence as a factor. Both operators became infected and the rapidly fatal progress in one and the threatening condition in the other indicate that it was the special nature of the poison that was alone effective. Surgeons run so many chances without injury that they are liable to forget that in some particular case they may meet with a virus that is overwhelming in its virulence. Even the utmost precautions may not always be a safeguard; it is not known that they were neglected in this case. It is a reminder, such as we have from time to time, that our profession has its special perils from which all our enlarged acquaintance with germs and their toxins can not always save us.

THE PHYSICIANS' HONORARIUM IN PRESIDENT McKINLEY'S CASE.

For several months the newspapers have been printing absurd stories regarding the bills sent in by the physicians and surgeons in attendance on the late President McKinley. Some of these stories were so obviously fictitious that no one who had given the matter thought could believe them. We have been told that the total amount of the bills would figure up to $250,000 and from this down to one-fifth of this figure. Unjust comments on these estimates and unpleasant and caustic criticisms, based on ignorance, have been indulged in and an impression has been created in the public mind that we are to have a repetition of the Garfield experience of large claims and extensive cutting down in the Congressional appropriations. President McKinley, while in the line of his duty, was shot by the assassin Czolgosz, and the expenses of his treatment are therefore properly a public charge and it would have been entirely within the limits of professional ethics and propriety had the attending surgeons presented bills proportionate to the responsibility they incurred. We are authorized to state, however, that as a matter of fact the physicians and surgeons have sent in no bills, have made out no bills, and have fixed no charge in bills for their service. They have declined positively to send in any bills. The question of compensation must be settled entirely apart from any statement made by the physicians and surgeons. We hope this statement will be sufficient to settle all questions in regard to the matter. Whatever amount is paid to the gentlemen who have assumed the responsibility must and will be settled by Congress when and in what manner its judgment may dictate.

IATROPHOBIA.

There is a little magazine published by the New England Antivivisection Society called *Our Dumb Animals.* Just why it bears this name is hardly indicated by the contents of its latest (March) number, which is mainly given up to attacks on vaccination. Indeed, other samples of the publication have impressed us with the fact that its management is more interested in fighting the medical profession than in benefiting any class of living beings, dumb or otherwise. What it says does not seriously hurt us; attacking vaccination, for example, is like denying the eternal verities, but we regret to see the spirit and the mental idiosyncrasies that prompt these utterances. Indeed, we can only charitably account for the temper and moral obliquity shown, by assuming a sort of psychic failure on the part of these antivivisectionists. What shall we say of the mental condition of a writer of a recent article in a popular magazine who seems to think that he has unanswerably demonstrated that the same reasons that justify the sacrifice of the lower animals would be valid for that of human infants? The dog, he says, is equal in intellect to the child one year old, is equally susceptible to pain and in point of love and affection much the superior of the two! He asks: "Why not vivisect the child as well as the dog?" The trouble with these antivivisectionists is that they do not seem to be able to appreciate the difference between a man and a dog—they have lost their

human point of view and take, we may say, a general bestial view of things! Following, however, the usual evolution of systematized insanity the persecutory delusions have developed into an aggressive phase; their journalism has become affected with an active iatrophobia—to coin a word for this form of mental aberration—the dumb animals are in the background. The stage of megalomania may next be looked for; like a certain well-known character in fiction, they will set up an image of themselves and call it the divine nature and demand that we shall all bow down and worship. It is a pity and a shame that a morbid and narrow zoöphily should thus masquerade under the name of humanity and so possess its followers as to lead them to oppose in various ways the best interests and even the temporal salvation of their own kind.

SCHOLARS AND THEIR REWARDS.

In his recent article entitled "Some Noteworthy Scholars,"[1] Daniel C. Gilman, formerly president of the Johns Hopkins University, emphasizes that "the merit of a university, in the long run, depends upon the men who are called upon to conduct it." In the course of the organization and development of the university at Baltimore, Mr. Gilman came into familiar relations with many noteworthy scholars who came to the university as guests and delivered open lectures on various subjects. As he recounts in a charming manner some of the peculiarities and traits of the scholars he has known, we meet with the following splendid estimate of the services of scholars: "They and their peers, at home and abroad, are the men by whose learning, investigation and publications, society is carried forward. The world applauds the heroes of great struggles, and it does so rightly; it showers its plaudits upon the great orator; it witnesses, breathless, the achievements of surgeons; it calls our times the age of electricity; and yet it is prone to forget or overlook the hidden workers in the laboratory and the library, the quiet men who are the necessary precursors of those who are devoted to the application of knowledge. It underpays them while they are in service; it rarely thinks of providing pensions for their advancing years, or of giving stipends to their families when premature death interrupts activities; the honors it bestows are the empty privileges of placing after their names a few letters of the alphabet in order to show their academic rank. The world knows little, until they are ended, of the anxieties that harass the scholar when he thinks of his future life—I mean his future life here below; it cares nothing for his family. But these quiet men of the desk and the den, of the pen and the book, of the balance and the lens, are they who have kept alive the traditions of literature and extended the bounds of science." It is interesting to note that Mr. Gilman is very careful to emphasize in this manner the investigative side of medicine and to contrast it with the more spectacular. And the truth of his remarks can not be questioned by any one at all familiar with the situation. The rewards open to real investigators and scholars in the various fields of medicine in this country are indeed so insignificant as yet that undoubtedly many young men of splendid gifts for such work are forced into purely practical lines. As head of the recent Carnegie Institution in Washington, Mr. Gilman has a good chance to put into actual practice his ideas about pensions for investigators and stipends for their families.

1. Scribner's Magazine, April, 1902.

FUNCTIONAL ALBUMINURIA.

During the last few years much has been written on the subject of albuminuria without demonstrable disease of the kidneys. Most cases of this sort are properly "cyclic" albuminuria; the albumin is absent upon rising in the morning, appears after breakfast and is usually not present late in the day. It is not influenced by diet, and may even be absent after active exercise. Postural albuminuria is not inaptly applied to this condition. The majority of the cases in persons who are supposed to be in perfect health and in whom no organic disease can be found are discovered accidentally. In many instances life-insurance examinations are instrumental in disclosing the condition. The discussions as to the relation such albuminuria bears to life-expectancy are of little value, as they are based largely upon theories and the conclusions are drawn by men who are apt to give the favor of a doubt to the insurance company. The conditions which underlie the passage of the albumin into the urine are unknown and until these are understood, no rational prognosis is possible. As noted by Mendel and Hooker,[1] in the interesting report of a typical case, all attempts to refer the disappearance of the albumin when the subject is in a horizontal position to attendant circulatory changes in the kidneys is no more than an interesting speculation. If urine contains not only small amounts of albumin, but also renal tube-casts, especially other than a few hyaline ones, the condition is one of nephritis, and not of "cyclic" albuminuria. Because albuminuria is intermittent, it does not follow that it belongs among the variety under discussion. In nephritis the amount of albumin in the urine is also apt to be less in the morning before assuming the upright position, and where there is little albumin it may even be entirely absent at that time of day. The only way to learn what ultimately becomes of these cases is by intelligent observation of single examples through a long period of the life of the subjects and by postmortem examinations of the kidneys. If medical men who accidentally find themselves the subjects of functional albuminuria would make regular and careful observations of their own cases during the continuance of the albumin and publish the results, it would help very much to place us in a position of knowing what is to be expected. Physicians who are so situated as to be able to keep cases under observation for years or during life, would contribute something of value to medicine by studying and reporting them. When the results of such collective investigation is obtained, an intelligent prognosis can be made and a suitable therapy instituted. A sufficient number of cases have been reported to show that functional albuminuria is not infrequent; hence what is most needed is information as to what actually comes of them. It would be wise to watch the condition of the kidneys with more than usual care whenever acute disease or pregnancy occurs.

1. Journal of Experimental Medicine, Oct. 1, 1901, 647.

Medical News.

DISTRICT OF COLUMBIA.

The District's Morbidity and Mortality.—For the week ended March 27 there were 128 deaths reported, a death-rate of 22.7 per 1000 per annum. Brain disease caused 18 deaths and consumption 17. During the week 7 new cases of diphtheria, 4 of scarlet fever and 3 of typhoid fever were reported.

GEORGIA.

Militia Change.—Dr. Benjamin W. Bizzell, Atlanta, has been appointed captain and assistant surgeon of the Fifth Regiment, G. S. T., vice Dr. Edward C. Davis, resigned.

Medical Association of Georgia.—The preliminary program of the fifty-third annual session of the Medical Association of Georgia, to be held in Savannah, April 16, 17 and 18, shows 52 titles.

Bethesda Medical Staff.—The staff of the Bethesda Orphanage, Savannah, for the current year is composed of Drs. William E. Fitch, Arthur A. Morrisson, George L. Harman and J. O. Cook, each of whom has a service of three months.

Graduating Exercises.—The Medical Department of the University of Georgia, Augusta, held its graduating exercises, April 1. The graduating class numbered 46. The diplomas were presented by Chancellor Walter B. Hill. Dr. Theodore E. Oertel delivered the address to the graduating class and the dean announced the honors and hospital appointments.—— Atlanta College of Physicians and Surgeons graduated a class of 130, April 4.

ILLINOIS.

Chicago.

To Russia Again.—The Secretary of State has appointed Dr. Nicholas Senn a delegate to the seventh international conference of the Red Cross, to be held in Moscow, May 16 to 29. Dr. Senn leaves for Moscow, April 29.

Undertakers Suspended.—Health Commissioner Reynolds has suspended the licenses of two undertakers, Bernard McNeil, 2915 State Street, and Jacob Weinstein, 264 West Fourteenth Street, on charges of carelessness and violating the rules laid down for the interment of the bodies of scarlet fever patients.

Semi-Centennial of Chicago Medical Society.—The Society celebrated its semi-centennial by a banquet at the Auditorium, on the evening of April 9. Dr. N. S. Davis, its founder, addressed the 300 physicians present; Drs. McAnally, Billings and Danforth also spoke. Dr. Victor C. Vaughan read a paper on the "Etiology and Spread of Typhoid Fever." A fuller account of the banquet will be given next week.

Thousands for Charity.—The German-American Charity Association has obtained donations amounting to $12,000, which will be distributed among the following charities: Alexian Brothers' Hospital, German Hospital, St. Elizabeth's Hospital, Chicago Maternity Hospital, Home for Destitute and Crippled Children, Visiting Nurses' Association, Chicago Orphan Asylum, and five non-medical charitable institutions.

Death-Causes.—Except from convulsions, pneumonia and scarlet fever, deaths from all the principal causes of death showed a decrease last week. The total deaths reported, 496, indicate a reduction of 8.9 per cent. from the previous week's mortality, but the rate is still 6 per cent. higher than that of last year. The death rate per annum per 1000 was 14.19, as against 13.37 for the corresponding week of 1901. There were but half as many deaths from diphtheria as the week before, and but one death from typhoid fever—the least since June, 1901.

Rush College Co-Educational.—The senior and junior years of Rush Medical College will be open to women after July 1. This means co-education in all classes of Rush. Women have been admitted to the first two years since last fall, when the first two classes were moved to the University of Chicago. It is expected that fifty women will take advantage of this change and be found in the upper years of Rush by next fall. Among them will be a delegation from Northwestern Medical College, which has barred women. There are twelve women in the work of the first two years of Rush at the university.

Post-Prandial Plans.—A few months ago, after a banquet, it was announced that a large sum of money would be given for the erection of the finest medical college building in the world and its endowment, the beneficiary being a college which offers to teach "pathies" of all kinds. At a second banquet, held April 2, a similar announcement was made, but the speaker was still not at liberty to mention particulars. Although the property for the site has not yet been bought, the sanguine projectors have already planned that their "Chateau en Espagne" shall be a $500,000 reality within eighteen months.

Scarlet Fever Prevalent.—Scarlet fever has been for some months and still is more prevalent and more fatal in Chicago than at any time in the last seventeen years. Since the first of the year there have been 167 deaths reported from this disease out of a total of 7318 deaths from all causes—a proportion of nearly 2.3 per cent. The nearest approach to this was in 1884, when the scarlet fever mortality formed nearly 2.5 per cent. of the total. Last week there were 243 cases of the contagious diseases reported, of which number 162, or exactly two-thirds, were scarlet fever. During March 644 cases were reported as against 156 in March, 1901.

INDIANA.

Hospital Dedicated.—St. Edward's Hospital, New Albany, was dedicated with appropriate ceremonies, April 8. It is to be under the charge of the Sisters of St. Francis.

Magnetic Healer Jailed.—On account of his refusal to furnish bail for his appearance, Charles L. Gilmore, a "magnetic healer," against whom five affidavits have been filed for violation of the state medical law, has been committed to jail.

Galileo Redivivus.—Last week an Indianapolis physician, after having been fined $10 for failure to report cases of smallpox to the local health board, pleaded guilty and then declared that he was still of the opinion that the cases were chickenpox.

Fort Wayne Medical Graduates.—The commencement exercises of the Fort Wayne College of Medicine were held, March 25, when degrees were conferred on a class of nine. After the graduating exercises, the Alumni Association sat down to its annual banquet.

Dr. Eastman's Illness.—The condition of Dr. Joseph Eastman still continues to be serious. His health has been failing for several months. During the last two months his condition has changed for the worse. The disease is abdominal and a positive diagnosis has not yet been made. He has been very brave and patient throughout his illness, and in this may lie a hope for his ultimate recovery.

Doctor Sues Doctor.—Dr. Francis Kelly, Vincennes, has filed suit for $1000 for professional services rendered Dr. Welcome B. Sprinkle, Oaktown, in the past two years. In the complaint Dr. Kelly claims that he cured Dr. Sprinkle of an affliction of the foot, thereby enabling him to resume the practice of medicine, and that when he proffered his bill for $1000 Dr. Sprinkle refused to pay him.

Indiana Medical Journal.—At the annual meeting of the stockholders the old board of directors and all the old officers were re-elected. Dr. Alembert W. Brayton will continue as editor, and Dr. George J. Cook as business manager. The directorate includes Dr. Lewis C. Cline, president; Dr. Hugh M. Lash, secretary; Dr. George J. Cook, treasurer; Dr. William N. Wishard, Dr. Joseph O. Stillson, Dr. Lehman H. Dunning, Dr. John H. Oliver and Dr. Hugo O. Pantzer.

IOWA.

University of Iowa Commencement.—At the thirteenth annual convocation of the State University of Iowa at Iowa City, April 1, forty graduates in medicine were given their diplomas by President George E. McLean. The address of the evening was delivered by President S. B. McCormick, of Coe College.

Davenport's Deaths and Diseases.—The annual report of City Physician Charles H. Preston shows a death-rate for 1901 of 15.03 per 1000. There were 530 deaths, of which 60 were caused by tuberculosis, 18 by pneumonia, 10 by nephritis, 25 by cancer, 9 by insulation, 17 by accident, 8 by suicide and 2 by homicide. During the year 1039 cases of infectious diseases were reported, with 31 deaths.

Regulation of Osteopathy.—A committee of the House of Representatives has reported to that body a bill which requires that the present state board of medical examiners shall issue certificates to osteopaths who have had at least twenty months' study in an accredited school, and who have passed an examination in all the sciences required for doctors in Iowa. The bill

contemplates that in all respects osteopaths must be qualified to diagnose diseases and be competent to practice medicine. The diplomas of osteopathic colleges will be recognized only for the one branch of osteopathy.

MARYLAND.

The Medical Journal Club held its annual banquet at the Hall of the Medical and Chirurgical Faculty, April 5, Dr. Henry M. Thomas presiding.

Dr. Martin B. Billingslea, retiring president of the Northwest Baltimore Improvement Association, was presented with a handsome silver loving cup by the association, April 1.

Expectoration Arrests.—Arrests are being made for spitting in the street cars of Baltimore, and the Health Commissioner declares that he will see the law upon the subject enforced.

Frederick City Hospital will be opened about April 15. It has been built at a cost of about $9000, and contains 3 wards and 16 private rooms, in addition to the operating and service rooms.

Doctors Elected.—At a meeting of the Society of Colonial Wars, at Baltimore, April 1, Dr. Bennet B. Browne was elected historian, Dr. Walter B. Platt, surgeon, and Dr. Christopher Johnston, member of the council.

Graduates and Undergraduates.—There are 256 students pursuing the regular course for the degree in the Medical School of the Johns Hopkins University and 34 graduate students registered for special courses.

Personal.—Dr. Arthur D. Mansfield, Baltimore, will sail for Europe, May 1, to visit English and continental hospitals.——Dr. W. B. Morrison was appointed physician to the Washington County Jail, succeeding Dr. H. S. Herman.

Correction.—Referring to the death of Dr. Elizabeth A. Darby, noted in THE JOURNAL of January 18, the dean of the Woman's Medical College, Baltimore, notifies us that Dr. Darby was not a graduate of that institution.

Deaths and Diseases.—For the week ending April 5 there were 224 deaths in Baltimore against 177 for the same period last year. Among the causes of death were tuberculosis 31, pneumonia 26, cancer 7, typhoid fever 4, diphtheria 2, smallpox 1. Two new cases of smallpox were reported. There were 43 deaths from cancer in Baltimore in March against 33 for the same month of last year. There was also a decrease of 22½ per cent. in the number of cases of infectious diseases for the same periods.

Recent Legislation.—Among bills passed by the late legislature were: 1. To amend State Board of Health law. 2. To amend medical practice act. 3. Omnibus charitable appropriation bill. 4. To regulate sale of poisonous drugs. 5. To provide for the maintenance of the Emergency Hospital at Annapolis by appropriating $3000. 6. To create a tuberculosis commission. 7. To provide for the appointment of secretary of health board of several counties. 8. To enlarge the powers of the Maryland Medical College. 9. To provide for new buildings at the Maryland Asylum and Training School for Feeble-Minded Children. 10. To authorize the erection of a hospital at Cambridge. 11. To amend the charter of the Presbyterian Eye, Ear and Throat Charity Hospital, Baltimore; and 12. To authorize the appointment of an assistant surgeon-general and a hospital corps in the Maryland National Guard. A bill to forbid vivisection was lost in the legislature, and all sewer legislation for Baltimore failed to pass on account of political jealousies.

MINNESOTA.

Leprosy.—There are 20 lepers in Minnesota, 6 of whom are isolated and 14 at large.

Pneumonia Fatal.—During March, out of the 214 deaths recorded in Minneapolis, 36 were from pneumonia.

Internes Selected.—As the result of an examination held, March 26, for the positions as internes in the City Hospital, St. Paul, Drs. W. W. Lewis, St. Paul; Adolph G. Liedoff, Minneapolis; E. A. Meyerding, St. Paul; W. M. Brown, Minneapolis, and Fred D. Rogers, St. Anthony Park, were selected, and Dr. Hugh C. Arey was appointed bacteriologist and pathologist.

Vaccination Creed.—About 150 physicians of Minneapolis have signed a statement endorsing vaccination as a preventive of smallpox. Their belief is as follows:

1. That true vaccination is an absolute preventive of smallpox.
2. That true vaccination, with pure lymph, followed by cleanliness and proper care of the vaccinated surface, never did and never will produce a serious sore.
3. That true vaccination leaves a characteristic scar that follows from no other cause.
4. That no serious effects ever follow true vaccination and that on the contrary thousands of human lives are annually saved by it.

MISSISSIPPI.

Appropriation for Asylum.—The legislature has passed the bill appropriating $127,900 to the East Mississippi Insane Hospital for two years.

Asylum Burned.—The Institute for the Deaf and Dumb at Jackson was burned, March 18. The inmates were removed without casualty. The loss is $40,000.

Columbus Board of Health.—The Board of Health of Columbus has been organized with Dr. Arthur C. Halbert as president and Dr. W. G. Brewer as secretary.

Osteopath Convicted.—An osteopath, who has been practicing in Biloxi for three months, was convicted, April 1, of practicing medicine without a license, and was fined $20 and costs. This conviction was due to the concerted action of the local profession. In Mississippi the law passed in 1896 defines the practice of medicine with absolute clearness.

MISSOURI.

Addition to Nevada Asylum.—An addition to cost $28,000 is to be erected at State Lunatic Asylum No. 3, Nevada, which will accommodate 150 patients.

License Revoked.—The State Board of Health, at a meeting held in Kansas City, April 2, revoked the license of Dr. Henry C. McFall, Mexico, charged with malpractice.

New Graduates.—University Medical College, Kansas City, held its commencement exercises, March 26. Dr. James E. Logan, president of the college, was in the chair and Rev. E. D. Morgan delivered the doctorate address. Diplomas were conferred on a class of 29.——Woman's Medical College, Kansas City, graduated a class of 6, March 24. The degrees were conferred by Dr. Nannie P. Lewis and the diplomas presented by Dr. Blencowe E. Fryer.——Kansas City Medical College conferred degrees on a class of 18, March 26. The doctorate address was delivered by Prof. F. H. Hodder, of Kansas University; the degrees were conferred by Dr. John H. Van Eman, president of the college, and the prizes were presented by Dr. Andrew L. Fulton, dean of the faculty.

NEW YORK.

Batavia Hospital.—The new Batavia Hospital, which has been erected by the women of Batavia, was opened to the public last week. The building cost about $10,000 and is free from debt.

Dr. James T. Burdick, surgeon of the Soldiers' Home at Bath, has resigned and Dr. Warren L. Babcock, St. Lawrence Hospital, Ogdensburg, succeeds him as acting surgeon. Dr. Frank H. Starr, of Bath, is appointed temporary assistant surgeon, vice Dr. Arthur P. Shellman.

Gifts to Hospital.—Kingston City Hospital has received a donation of $5000 from the Hon. Ira Davenport in memory of his mother. The income is to be used for the maintenance of a bed.——Frederick S. Flower, New York, made an Easter gift to Watertown hospital of $5000 to endow a free bed in the hospital to be known as the Mary Elizabeth Flower bed.

Medical Law Amended.—The medical law of the state has been so amended that the Regents of the University of the State may, in their discretion, admit conditionally to the medical examinations in the preliminary subjects—anatomy, physiology and hygiene, and chemistry—applicants 19 years old, who meet the other requirements. Under this amendment the regents have power to grant an allowance of one of the four years of study in a medical school to graduates of college courses, registered by them as entitled to this privilege.

New York City.

Public Expectorators Fined.—Recently 50 persons charged with violating the ordinance against expectorating in public places were brought into court, and 32 were fined $5 each.

Patient Bites Physician.—The physician of the Hotel Navarre, Dr. J. W. Gibbs, was bitten by a patient suffering from uremic convulsions, and although he immediately sucked the wound, and shortly afterward cauterized it, the finger and arm became swollen and decidedly septic.

Personal.—Dr. C. H. Catherwood, who has been engaged in studying and practicing among persons sick with pulmonary tuberculosis, has contracted the dread disease himself, and has gone with his wife to Colorado.——Dr. J. H. Girdner has been appointed by Governor Odell a trustee of the State Hospital for

Incipient Tuberculosis.——Dr. M. D. Lederman has been made adjunct professor in laryngology and rhinology at the New York Polyclinic.

Dr. Blinn Held to the Grand Jury.—Some years ago Dr. Francis Gray Blinn was charged with being concerned in the death of a young woman, but managed to escape the clutches of the law. He has also been in trouble because of accusations that he was practicing medicine under various aliases. In spite of these little unpleasantnesses he has apparently been able to do a thriving business, until a few days ago, when a young woman from Connecticut was inconsiderate enough to die in his "sanitarium." This new streak of ill luck bids fair to be the worst one yet, for there were some very strange doings when the parents of the dead girl came to his office, and sufficient evidence has been obtained from his nurse and others to lead the coroner's jury to hold Dr. Blinn for the action of the grand jury.

Buffalo.

The Emergency Hospital has been designated by the Board of Aldermen to receive city patients.

Personal.—Dr. Herman Mynter, wife and daughter sail in June for a four months' visit to Denmark, Germany and France. ——The Board of Supervisors has appointed Herman W. Johnson as medical student to have charge of the hospital at the jail.

Anti-Spitting Ordinance.—An ordinance was passed in April, 1902, known as the anti-spitting ordinance. It prohibits spitting upon the floor, seat or any part of a street car or public conveyance of any kind or upon the floor of a passenger elevator or in public places. Violation is punishable by a fine not less than $2 or more than $100.

Doctor Bitten by Rabid Dog.—Dr. Irving Phillips Lyon and wife have gone to the Pasteur Institute, New York, for treatment of a bite of a supposedly rabid dog. The dog was a pet dog owned by Dr. Lyon, which had been bitten by a wandering dog, and a few days ago developed symptoms of rabies, after having bitten both Dr. and Mrs. Lyon. The dog was carefully observed by the Health Department for further symptoms of the disease, and has developed dumb rabies.

OHIO.

Personal.—Dr. Arthur F. Shepherd, Toledo, has assumed charge of the Dayton Hospital for the Insane.

To Exempt Students.—A bill introduced by Senator Thompson exempts from the state medical examination students matriculated prior to January 1, 1902, and graduating before 1906.

Columbus Health Department Changes.—The Director of Public Safety, C. C. Philbrick, removed from office Dr. Herbert M. Platter, smallpox physician. Thereupon Dr. William D. Deuschle, superintendent of health and charities, tendered his resignation, to take effect at once. Dr. McKendree Smith has been appointed poor inspector, secretary of the department of health and captain of the sanitary police.

Cincinnati Interneships.—Drs. H. Bowles, Muncie, Ind., and Charles F. Souther, Ky., both from the Ohio Medical College, were chosen internes, and Dr. R. C. Kendig, Ashville, Ohio, the alternate for Christ's Hospital.——Dr. R. Wilkinson, a graduate of Miami Medical College, and Dr. Joseph J. Black, of the Ohio College, have been selected internes for the Jewish Hospital.——Drs. Harry Schroer and Edward Davis, both of Cincinnati, have been appointed internes to the German Deaconess Hospital.

PENNSYLVANIA.

Lose Suit Against Doctor.—The jury in the case of Joseph Defrehn vs. Dr. Francis W. Boyer, Pottsville, to recover damages of $30,000 on account of alleged unskilful treatment, brought in a verdict for the defendant.

Dr. Kershner Reinstated.—The President has signed the bill restoring Dr. Edward Kershner, formerly of Mercersburg, to the retired list of the navy, with rank of medical inspector, and that his name will be sent to the senate immediately.

Philadelphia.

Long in Practice.—Dr. Michael O'Hara, a graduate of the University of Pennsylvania in 1852, is still in active practice.

Dr. Carnett Injured.—Dr. J. Burton Carnett was injured in a collision in St. Louis, recently, sustaining a fracture of the arm.

Bequests.—By the will of Mrs. A. P. Biddle a bequest of $1000, upon the decease of her friend, Mary J. French, is made to each of the following institutions: The Pennsylvania Institution for the Blind, Pennsylvania Training School for Feeble-Minded Children and the Germantown Hospital.

New Honors for Dr. Keen.—A cablegram states that Dr. W. W. Keen has been elected an honorary member of the 31st Congress of the German Chirurgical Association recently in session at Berlin. Dr. Keen has also been elected honorary president of the First Egyptian Congress of Medicine, which will convene Dec. 19 to 23, 1902.

The Medical Club of Philadelphia, on April 5, gave a reception to Dr. John A. Wyeth, of New York. Addresses were made by Dr. Wyeth, Dr. Todd of Atlanta, and Drs. Beattes, Rodman and Fulton, of Philadelphia. The subjects discussed were "Reciprocity Among State Boards of Examiners," and "Better Preliminary Preparation for Medical Education."

St. Joseph's Hospital.—The report of St. Joseph's Hospital for 1901 shows that 2414 patients were treated in the wards. About 6000 new patients received free service at the dispensaries; upwards of 22,000 visits were made, and 2384 emergency cases were cared for. The tradition of the hospital has been departed from in changing the board of management to a non-sectarian body. The hospital has been completely renovated, including the fitting of wards and corridors with metal ceilings and wainscoting. An x-ray laboratory is being fitted up. A substantial and commodious ambulance house and dormitory for male employes has recently been completed. Dr. E. E. Montgomery is president of the medical staff of the hospital.

GENERAL.

Hawaii Physicians to Speak English.—It is announced that hereafter no physician unable to speak English will be licensed to practice in the Territory of Hawaii.

Cholera in Manila.—The total number of cholera cases, up to April 9, was 184, and 140 deaths. It has been confined to the natives and the Chinese, who, in their panic, conceal the dead in the fields or desert the sick in the houses. The Americans and Europeans have no fear of the pestilence.

Smallpox.

Connecticut: The annual report of the State Board of Health makes some timely remarks upon smallpox and vaccination. It says: "Connecticut is to be highly congratulated that with a population of over 908,000 there have been only 48 cases of smallpox; at a time, too, when it is prevailing so extensively in other states with which we have such constant intercourse. No stronger evidence can be offered, no more forcible argument can be made, no more convincing proof can exist, than is found in the fact that in Connecticut, as elsewhere, smallpox occurs only in unvaccinated subjects, or in those upon whom vaccination has been neglected for many years. Other methods of securing immunity from smallpox are temporary, untrustworthy, vexatious, expensive, and greatly inferior in every way to the security assured by vaccination." The state board strongly recommends the vaccination of school children as provided by statute. It advises that it be required in large factories where many operatives are gathered daily within closed walls.

Illinois: The board of health of Monmouth decided, April 6, that Edward Kimball, a guest of the Hammond Hotel, who had been sick several days, had a well-developed case of smallpox. In consequence 27 occupants of the hotel were quarantined.

Iowa: The report for 1901 of the Davenport Board of Health remarks that the attenuated smallpox infection, which for more than two years past has been everywhere prevailing, remains almost non-fatal in Davenport and generally in the west, though taking the country over the deaths so far this year are five times and the reported cases two and one-half times what they were in the same period of 1901. From March 1, 1901, to March 1, 1902, Davenport had 107 cases, though it was free from the disease from August 1 to December 5. The record of the 143 cases since June, 1899, shows not one successfully vaccinated before exposure, within 16 years, and only seven with any trace of a vaccinal cicatrix whatever. Surely no better proof of its protective agency could be required.

Minnesota: The report of smallpox issued by the State Health Board for the week ended March 31, gives 231 new cases, reported from 64 localities in 34 counties. No deaths are reported.

Tennessee: Dr. James A. Albright, secretary of the State Board of Health, in his semi-annual report makes the following observations regarding smallpox and vaccination: "Since my last semi-annual report on October 1, 1901, smallpox from that date until Feb. 19, 1902, has appeared in 56 counties of the state. During this period there was reported a total of 2060

cases, with a total of 33 deaths, or a death rate of 1½ per cent. During the same period last year Tennessee had about double this number of cases, as the figures will show—4197 cases, with 98 deaths, or a death rate of about 2¼ per cent.; also during this same period—from October, 1899, to April, 1900—Tennessee had 2591 cases, with 45 deaths, or a death rate of 1¾ per cent. Our reports show that there were present in the state on February 19 of this year only 302 cases of smallpox. Since that time reports from various local boards show the disease to have developed at several additional points over the state; also that the disease has been stamped out altogether at twelve or more points included in our report. At the present time there are not over 250 cases of smallpox in Tennessee. . . . Tennessee has a smaller number of cases of smallpox within its borders to-day than any state of the Union where the disease prevails to any appreciable extent. There has never been a time during the past three years when every local board of health in the state did not promptly respond and do all within its power to eradicate the disease when ordered so to do by the State Board. The local boards have at all times and under all circumstances done everything required, as far as they were able to do, considering the many difficulties encountered, a few of which I have already mentioned, but which I desire to emphasize by reiteration, as follows: 1. The mildness of the disease. 2. Local opposition on account of difference of opinion as to diagnosis. 3. The absence of sufficient authority of law for the enforcement of vaccination. 4. Prejudice against vaccination. 5. In the counties of Middle Tennessee and West Tennessee, where the disease has been exceptionally mild, with a small death rate, or none at all, I have noted a reckless desire among a class of improvident negroes to contract the disease, that they might become pensioners upon the county's bounty and charity. . . . Vaccination, then, according to the experience and observation of Tennessee's health officers, not only protects and renders immune when properly and successfully performed prior to exposure, but even after exposure, vaccination, when performed, serves to modify and reduce to the minimum the virulence of the disease, and, I may add, to such an extent that only one death has afterward resulted, and which might be attributable in part to old age."

Utah: A serious outbreak of smallpox is reported at Vernal.

United States: The total number of cases in the United States on March, 1902, according to the report of the Marine-Hospital authorities, was 24,157, with 707 deaths, which is slightly under 3 per cent. mortality. In the corresponding period of 1901 there were 11,496 cases, with 149 deaths, or above 1¼ per cent.

The Army Medical School Graduation.

The fifth session of the Army Medical School, which began Nov. 4, 1901, ended April 4, 1902, with the commencement or graduating exercises. The lecture hall of the National Museum, Washington, D. C., was filled by an interested audience largely composed of the fair sex, among whom the student officers had made many friends during the session. On the platform were Col. W. H. Forwood, the president of the faculty, who acted as master of the ceremonies, the members of the faculty, the Secretary of War, the Lieutenant-General commanding the Army and the Surgeon-General.

Colonel Forwood described the course of instruction through which the class had passed and in conclusion stated that the highest marks were received by Asst.-Surgeon James M. Phalen, to whom would be awarded the Hoff Memorial Medal. Asst.-Surgeons Conrad E. Koerper, Roderick P. O'Connor and Robert U. Patterson made more than 90 per cent., which entitled them to the distinction of honor graduates. A large proportion of the others made high percentages, and none fell below the 70 per cent. required for a diploma of proficiency. These others were Jerome S. Chaffee, Charles C. Geer, Ernest L. Ruffner, George P. Heard, Roger Brooke, Jr., Arthur M. Line, Verge E. Sweazey, Matthew A. DeLaney, Paul S. Halloran, Kent Nelson, Robert Smart, Lloyd LeR. Krebs, William P. Woodall, Charles A. Ragan, William R. Eastman, George William Jean, James F. Hall, Raymond F. Metcalfe and Perry Lee Boyer.

Secretary Root presented the diploma of the School to each of the members of the class in the order of their rank in the Army, after which the Surgeon-General delivered the formal address of the occasion. He spoke of the importance of preventive medicine in military practice. He said the most important function of the Army Medical School is to make the student officers practically familiar with all that is known upon this subject and to prepare them to give expert advice upon all matters relating to the prevention of disease among our soldiers under the various conditions of service. This had become doubly important since we have come into possession of the Philippines, as our soldiers there are exposed to various infectious diseases which are of rare occurrence, or practically unknown within the limits of the United States.

Reference was made to the suppression of yellow fever in Havana, Cuba, to the methods of protection from malaria and other specific diseases. When he looked back forty-one years to the time when he was a newly appointed assistant-surgeon in the Army and realized how many things of which the medical profession was then ignorant are now known and taught in the Army Medical School, he regretted that he was not now a member of the graduating class, equipped like them for a life of valuable work. Facilities are now afforded at every military post of any importance for bacteriologic and chemical work, and it is expected of the members of this class that they will avail themselves of these facilities not only for purposes of diagnosis in the interests of their patients and of prophylaxis in the interest of the command with which they are serving, but also in the interest of scientific medicine and their fellow man.

Among the enquiries before them are: What are the essential factors in the etiology of beri-beri, of sprue, and of tropical ulcers? What are the principal harmful intestinal parasites in these new possessions of ours? Why is it that malarial fevers prevail in the more elevated regions rather than in the vicinity of the paddy fields of valleys near the sea level? What is the principal habitat of the Amoeba dysenteriæ outside of its human host? etc.

The Surgeon-General then referred to the importance of a knowledge of military hygiene on the part of military officers and to the prompt suppression of such a disease as typhoid fever which would follow a full appreciation by them of the method of propagation of this disease in camps, giving as an instance in point the rapid fall of prevalence and deaths in the camps of the Spanish-American war, when the subject became understood and the knowledge acted upon. He concluded: "Finally, young gentlemen, do not forget to apply practically the knowledge of hygiene which you have acquired for the preservation of your own health. Aside from any personal interest you may have in the matter, it is your duty to do so; for, if you contract a preventable disease through your own neglect of the proper measures of prophylaxis, or are prematurely retired from service for Bright's disease, cirrhosis of the liver or some other chronic ailment caused by excesses of any kind, you deprive the government of the services of a valuable trained officer. But enough of advice. You are liberally educated physicians of mature age, and I do not doubt that you will go out after your brief period of special training in the Army Medical School fully equipped for the duties which await you and fully cognizant of your obligations to yourselves, to the profession, to the Medical Corps of the Army and to your country. With best wishes for the fullest measure of success and happiness in the prosecution of your life work, I wish you godspeed."

The Hoff memorial medal was then presented by Lieut.-Col. John Van R. Hoff to Lieutenant Phalen, after which General Miles stepped to the front of the platform and was greeted with applause, which for some minutes prevented him from speaking. "It is a great pleasure to me," he said, "to welcome this graduating class to the service of the United States. You have completed your course and have passed your last test. You are now officers in the Army and well-educated surgeons, and I congratulate you upon the success you have achieved. You have reached your goal by honest, consistent and earnest efforts, and are now ready to begin a career which will bring honor to yourselves and which will consist of valuable service to your country. I congratulate you and wish you all success. I would recommend one thing to you particularly, and that is that your life as an officer and a surgeon be based upon the splendid address which has been delivered to you by the Surgeon-General of the Army. If you study it and always live up to its teachings and doctrines you can not go wrong. In closing, I would ask you always to remember something which should be honored and revered above everything else in your lives. You are now officers. You wear the uniform of the Army, a uniform which will make you honored and respected wherever you go, either in this country or abroad. You should, and I know you do, feel proud to wear that uniform. Yet there is something of which you should be more proud and which you should always endeavor to honor and respect. It is your citizenship in this great free country, the greatest republic the nations have ever known."

The ceremonies closed with the playing of "My Country, 'Tis of Thee," the audience and officers standing.

CANADA.

License to Practice in Country Only.—A bill has been introduced into the legislature in British Columbia requiring the council of medical examiners to admit to practice, without examination, all physicians presenting diplomas from any college of medicine in Great Britain or any of the dependencies. This is subject to the proviso that no such physician shall not be permitted to practice in any municipality without complying with the further conditions of the existing act. The press naturally wants to know why a man who can set a leg in a town of 100 people can not set a leg in a metropolis, and why the country population is not entitled to as efficient medical attention as that of the city.

Dr. Roddick's bill has been reported on favorably by the special committee appointed by the House of Commons, and it will come up for its final reading in the near future. Dr. J. A. Kennedy, writing from Nkandhla, Zululand, under date of February 20, complains of the great injustice which is done graduates in medicine of Canadian universities in South Africa. This practitioner was refused registration in the New Colonies, Transvaal, upon the grounds that only graduates who were registrable in Great Britain might register. When Dominion registration is accomplished, as it will be, if Dr. Roddick's bill passes, there will be a means of offering English doctors a recognition of their registration, and thus the disabilities under which Canadians suffer in South Africa and other parts of the empire will be removed.

Representative in London for McGill.—An article recently appeared in the *London Times* regarding the excellence of the equipment of the Faculty of Applied Science at McGill University, and the wish was expressed that English students would patronize this institution in preference to the Massachusetts School of Technology. Following this the authorities of McGill have announced that McGill has arranged to hold an entrance examination in London commencing on June 6 next. The intimation is also made that Mr. J. Stuart Horner, a well-known English scientist, has been appointed the honorary representative of McGill in Great Britain. As McGill has recently established a six-year course in applied science and medicine, it may be that we will see some English students crossing the Atlantic yet to take a course of medicine in this country.

FOREIGN.

Plague in Brazil.—Five cases of bubonic plague were reported at Rio Janeiro on March 30, and four deaths at Pernambuco.

Von Ziemssen's Library.—The 25,000 works which comprise the late Professor von Ziemssen's medical library, have been purchased by the book store of Gustav Fock, at Leipsic.

Prof. A. Jarisch died at Graz from typhoid fever, March 21. He had recently published an important compendium of skin diseases. Jarisch introduced pyrogallic acid into the materia medica.

Cremation of Plague Victims.—A petition has been presented to the German Reichstag, signed by physicians all over the empire, asking that arrangements be made for the cremation of the bodies of persons who die from the plague or cholera.

Berlin Professor in Trouble.—Professor Schweninger, the private physician of the late Prince Bismarck, and professor in the University of Berlin, has incurred the hostility of the entire staff of the Hospital of Gross Lichterfelde, of which he is chief physician.

Marey Institute at Paris.—The French Chambre des Deputés has appropriated 25,000 francs for the construction of an institute for researches in physiology by the method of graphic tracings, etc. The chief aim is to establish standards for the instruments used, the necessity for which has been proclaimed at various congresses of physiology. Marey's jubilee anniversary was recently celebrated at Paris with much ceremony.

Sentences for Charlatans in Germany.—An illiterate charlatan named Rogge has been condemned to a year's imprisonment on account of injury from some of his procedures at Braunschweig. The Chemnitz courts have nearly doubled this sentence for the quack Wolf for a similar cause. He has had a large practice, and this is his seventy-seventh sentence. A faith-healer at Darmstadt has been sentenced to three years' imprisonment for fraudulent practices. The trial of the healer, Schumacher, resulted in a verdict of four years' imprisonment and a fine of 4500 marks.

Increase of Physicians in Germany.—Consul-General Oliver J. D. Hughes makes the following report to the Assistant Secretary of State at Washington concerning the prospects of the German medical students:

The *Aerztliche Central-Anzeiger* publishes an article according to which the prospects for the average German physician are by no means hopeful, if not gloomy. The article says that in 1880 at an average one physician was counted for every 3400 inhabitants, in 1900 there was one for every 2000, and in all probability in 1906 the proportion will be one to 1850. At present the total number of physicians in German amounts to 28,500, only 6 per cent. of whom are in the employment of the state. The remaining 94 per cent. get no pension, are not freed from municipal taxes, and most of them are compelled to pay a big house rent. Up to 1906, about 500 physicians will die every year, while 1350 young physicians will come from the universities, so that their number will be increased by 860 yearly. In future doctors will have to study for at least 6½ years; the average student, however, will want a longer time, and spend more than 12,000 marks ($2856) on his studies, rarely less. It is pretty certain that more than one-half of the German physicians make less than 3000 marks ($714) a year; an income which compares very poorly with the time and money spent on the medical career. Since about 1885, up to the present time, judges and philologists in Germany reached an average of between 30 and 40 years of age before they were permanently employed by the state, the natural consequence was that a good many of those who could not support themselves, up to that age, either from their parents' or their own private means, turned to the study of medicine. While from 1887 to 1896 the increase of the population amounted to 115 per cent., the number of physicians augmented during that time by 63.8 per cent.

LONDON LETTER.

Prevention of Consumption.

At the third general meeting of the National Association for the Prevention of Tuberculosis, the Earl of Derby, presiding, said that the Association had reached a stage when it was content to progress quietly. Though great efforts might be made—such as that of the congress last year—on the whole the work should be to entrench the ground occupied. Last year's congress marked an epoch in the history of tuberculosis and home progress has been steady and satisfactory. In Liverpool the boards of guardians have united and erected two sanatoria for pauper consumptives. At Bradford the guardians have decided to erect one. At Marylebone, Sheffield, Wolverhampton and other infirmaries for the poor endeavors are being made, by adapting existing buildings or by additions to them, to provide facilities for open-air treatment. In the west of England the counties of Gloucester, Somerset and Wilts have taken joint action to erect a sanatorium for the working classes—a matter in which this country is far behind Germany.

Widal's Reaction in Other Diseases Than Typhoid Fever.

At the Clinical Society an important discussion took place on this subject, initiated by a paper by Dr. Hale White and Mr. W. C. C. Pakes on a case of malignant endocarditis giving Widal's reaction. The case was typically one of malignant endocarditis, the patient dying from cerebral embolism. The blood on June 10 failed to agglutinate typhoid bacilli even in a strength of 1 in 2 and 1 in 20, but not with a strength of 1 in 200. Pure cultures of streptococcus longus were obtained from the blood. On June 29, cultures from the urine collected with every precaution showed the presence of a streptococcus identical with that previously obtained from the blood and a bacillus belonging to the paracolon group. Every attempt which was made to isolate the typhoid bacillus failed. The agglutination test was tried with five different strains of bacilli and with four a complete agglutination was obtained with a dilution of 1 in 20 and with one partial agglutination was obtained with a dilution of 1 in 200. On Sept. 13 the patient died. Blood taken from the heart and the spleen showed the streptococcus longus in pure culture, but no typhoid bacilli could be discovered. The patient never had spots or other signs of typhoid fever, nor were signs of healed ulcers found postmortem. In this case the blood of a patient suffering from malignant streptococcic endocarditis contained certain substances which had the power of agglutinating the typhoid bacillus. Dr. Hale White and Mr. Pakes pointed out the clinical importance of this result in considering the diagnosis between typhoid fever and malignant endocarditis and also alluded to the fact that many observers had failed to obtain a Widal reaction in malignant endocarditis. In this particular case the presence of the reaction could not be due to the patient having had typhoid fever previously, for no reaction was obtained on admission. She was treated with various strains of anti-streptococcic serum, but without good result. Dr. F. T. Foogood referred to the case of a man who inoculated his thumb with septic matter on February 10. This was followed by glandular enlargement and constitutional symptoms with a temperature of 104 F. On March 4 there was epistaxis

and the blood gave Widal's reaction, but next day the right shoulder-joint and the tissues around were edematous and other joints became involved. On March 10, the blood again gave Widal's reaction, with dilutions 1 in 10, 1 in 25 and 1 in 50. The patient recovered, but he had presented the clinical features of septicemia, although the blood gave Widal's reaction.——Dr. J. W. Carr remarked that the paper raised the question of the value of Widal's reaction. He referred to the case of a child aged 5 with symptoms and physical signs typical of acute tuberculosis mainly affecting the lungs, yet the blood tested at the Jenner Institute gave a marked Widal's reaction.——Dr. C. R. Box said that it was most important to indicate what dilutions were used. At first with low dilution he had gotten reactions with diseases other than enteric fever, 1 in 50 was the most suitable dilution for obtaining the true test in cases of actual enteric fever. Turning to the question of nomenclature, he thought that it would be much better to call this test the agglutinative or serum reaction.——Dr. W. Lee Dickinson referred to a case of gastric ulcer which was erroneously diagnosed during life as enteric fever on the strength of the agglutinative reaction with typhoid cultures. ——Dr. Poynton remarked that his experience at St. Mary's Hospital led him to the conclusion that although the test was not infallible it was a most valuable guide. A great deal must depend upon the technique and the dilution of the culture and on the particular strain used, and this to some extent diminished the value of recorded cases.

Success of Women as Surgeons.

At the annual meeting of the recently established new Hospital for Women, of which the staff are all women, Sir Thomas Smith, surgeon to St. Bartholomew's Hospital, said that the surgical work done had shown the capacity of women for successfully performing all the operations which were performed on their sex. Upwards of 1900 obstetrical cases had been attended without a single death connected with the process of parturition, though the normal fatality was 1 in 500; 577 major operations were performed with a mortality under 6 per cent. He had attended the operations in the theater and had nothing but admiration for the great celerity and dexterity which he had witnessed.

Book Notice.

OPHTHALMIC MYOLOGY. A Systematic Treatise on the Ocular Muscles. By G. C. Savage, M.D., Professor of Ophthalmology in the Medical Department of Vanderbilt University. 8vo. Cloth. Pp. 589. Illustrated by 61 Cuts and 6 Plates. Price, $4.00. Nashville, Tenn.: Published by the Author, 139 N. Spruce Street.

It is somewhat remarkable that, in view of the numerous and extensive publications that have from time to time appeared from the pens of American writers on the ocular muscles, their physiology, their pathology and the treatment of the various anomalies of muscular balance, so little or so comparatively little space has been devoted to the physics of the subject. Whether one accepts the conclusions or not, the chief attraction of the book before us lies in the attempt to lay down certain fundamental principles based upon experimentation in the dynamics of the eye muscles—particularly of the extrinsic muscles. Having accepted these theories the mysteries of heterophoria are, according to the author, readily explicable.

We are, ourselves, mainly interested in the challenge given to the Helmholtz law of direction and to the reality of Listing's plane. As is well known, the latter is an imaginary vertical plane, which, passing through the centers of the eyes, always contain their axes of rotation in whatever direction they are turned. Savage, on the other hand, claims that the axis of rotation always lies well within the *equatorial* plane of the eye and not necessarily within the plane of Listing. A very material alteration in the well-known law of Listing is called for if the author be correct. In any event, he supplies this demand on page 54, and furnishes us with a restatement that certainly seems plausible, and which, we do not think, will be readily controverted: "When the line of fixation passes from its primary to any other position, the angle of torsion of the eye in this second position is the same as if the eye had arrived at this second position by turning first about the vertical axis and then about the horizontal axis." This would mean, of course, that the eye in its second position would have its vertical axis still vertical and its horizontal axis still horizontal.

Again, as is well known, Helmholtz taught that the lines of direction of all objects in the visual field intersect at the nodal point just posterior to the crystalline. Savage suggests that this is an incorrect or misleading statement, and that it would be nearer the truth to claim the intersecting point for the center of retinal curvature, which, he adds, is also the center of rotation of the eye.

Our author, while agreeing in the main with the contention of Maddox on the subject of ocular torsion, believes that undue rotation of either eye on its visual axis is prevented by the oblique muscles, and that, practically, the vertical axes remain parallel to each other and the meridian plane of the head. He very properly rejects the ideas that formerly prevailed and that are, even now, held by some observers as to the simplicity of the oculo-muscular movements. We especially recommend a perusal of Chapter 1, particularly of the section "The Individual Muscle and Its Plane." As the author's views are introductory to the work itself, the following quotation will be germane to this review: "The extrinsic muscles do not act alone. In every act of binocular single vision the triple task imposed on the twelve muscles by the imperious law of corresponding points, must be performed. The keeping of the visual axes in the same plane is the chief work of the superior and inferior recti, but they are aided in this work by the obliques, which are also sub-vertors and 'super-vertors.' The intersecting of the visual axes at the point of fixation is the chief, sometimes the only, work of the interni and externi; but the interni are helped by the superior and inferior recti, so that the point of intersection may not be beyond the object; while the obliques assist the externi to prevent the intersection from taking place between the observer and the object. The paralleling of the vertical axes of the eyes with the median plane of the head is the chief work of the obliques, but in doing this work they are hindered rather than helped by the recti. In subversion the superior obliques aid the inferior recti, but at the same time the former must counteract the mischievous outward torsioning effect of the latter. In superverting the eyes the inferior obliques help the superior recti, but the former must oppose the inward torsioning effect of the latter."

The chapter on Cyclophoria should be perused by every student of ocular myology, not only because of the inherent practical importance of the subject, but because it is handled by the man with whom the whole matter is original (although he generously credits his associate, Price, with the name) and who has certainly presented it in a clear and concise manner.

The management of cases of muscular imbalance and the rules laid down for the treatment of every possible form of heterophoria and heterotropia also constitute a most valid claim upon our gratitude. Whether or not we suspect that the enthusiasm of the writer occasionally lead him to expect operative and other remedial results denied to the ordinary ophthalmologist, yet definite and even dogmatic assertions at least command attention and challenge investigation. Space does not allow of reference to even the most important of the subjects comprised in the twelve chapters (whose perusal we commend to every ophthalmologist) but we do not think that much fault will be found with them by even the most conservative or carping critic. If a minor criticism were to be made we would like to join issue with Dr. Savage in the advice he gives (page 566) as to one of the ways of dealing with astigmatism—"give at once a full correction . . . as shown by the ophthalmometer." Not only do we believe this advice to be unwise in that it almost always adds many woes to the unfortunate so treated, but because we agree with Donders that the astigmatism of the cornea is usually greater than the total astigmatism of the refracting surfaces of the eye, and, of course, an ophthalmometric correction is commonly an overcorrection. Another minor point is the binding of the book. We believe that a volume of nearly 600 octavo pages, filled with matter as good as this, deserves a stronger and better covering—an affair that, happily, can be adjusted in the second edition.

Married.

H. P. Moulton, M.D., Petersburg, Ill., March 18.

C. Bret Pool, M.D., to Mrs. Alice B. Barnes, both of Lowell, Mass., March 19.

Frank Walker, M.D., Wichita, Kan., to Mrs. Irene Owen of Topeka, Kan., March 20.

Henry Barton Jacobs, M.D., to Mrs. Robert Garrett, both of Baltimore, Md., April 2.

C. M. Denny, M.D., to Miss Myrtle Bradshaw, both of New Brighton, Pa., March 26.

James Ditmar Voorhees, M.D., to Miss Louise Brown, both of New York City, April 2.

Graham Street, M.D., to Miss Margaret Colt Bryan, both of South McAlester, I. T., March 25.

H. C. Nickolai, M.D., Milwaukee, Wis., to Miss Mary E. Tremain of Saginaw, Mich., March 29.

Livingston L. Lewis, M.D., Hoboken, N. J., to Mrs. Gus Itkins, of North Bergen, N. J., March 20.

Edward R. Henning, M.D., West Liberty, Ohio, to Mrs. Lulu Mae Hamer of Bellefontaine, Ohio, March 26.

Arthur Gray Sage, M.D., Buffalo, N. Y., to Mrs. Elizabeth Smith Alexander of Dunkirk, at Buffalo, March 26.

Benjamin W. Cornwell, M.D., Buffalo, N. Y., to Miss Lydia M. Bates of Batavia, N. Y., in Grace Church chantry, New York City, March 11.

Thomas Miller Morrow, M.D., Altoona, Pa., to Miss Laura Virginia Greene, superintendent of the Cottage State Hospital, Philipsburg, Pa., March 17.

Deaths and Obituaries.

Albert C. Corr, M.D. Chicago Medical College, 1868, one of the best-known practitioners of Central Illinois, formerly president of the State Board of Health, and president of the Illinois State Medical Society in 1896, died at his home in Carlinville, April 2, after a short illness, aged 63. He was a member of the American Medical Association, and at the time of his death was in editorial charge of the eye and ear department of the *Journal of the Southern Illinois Medical Society.* The following are the resolutions of respect adopted by the Macoupin County Medical Society at the A. C. Corr memorial held in Carlinville, April 4:

Whereas, In obedience to Nature's fixed and unalterable law of life and death, we must part from A. C. Corr, the nestor of our society, a charter member and one of its constant supporters, more than twenty-five years its secretary. Resolved, That we mourn his loss as a brother physician, cut down while in active work for the cause of science and humanity. Resolved, That we escort him to his last resting place, to await the coming of the Great Physician, whose touch healeth all sorrow and pain. Resolved, That a suitable floral emblem be placed upon his bier, as a public testimonial of our appreciation of his beautiful character as a friend, counsellor and Christian gentleman. Resolved, That a copy of these resolutions be made of record and a copy be sent to the bereaved wife and partner. Resolved, That a copy be sent to the city papers and to the state and national medical journals.

William S. Muir, M.D.—By the death of Dr. Muir, of Truro, Nova Scotia, Canada has lost one of her foremost general practitioners, and certainly one of the most popular men in the medical profession. Dr. Muir, who was the son of a doctor, was born at Truro in 1853. He was graduated in 1874 from the Halifax Medical College and from Dalhousie University. For a time he served as house surgeon in the Halifax General Hospital, now the Victoria General Hospital, and subsequently took a course in the old country in 1877, again in 1879 and yet again in 1891. He has always been a very active man in medical society work. Elected secretary of the Nova Scotia Medical Society in 1887, he continued to hold that office until the time of his death. Last year he was president of the Maritime Medical Association. For years he has been a prominent and regular attendant at the meetings of the Canadian Medical Association, having held the offices of local secretary and vice-president for the province of Nova Scotia on different occasions. He was a great worker on committees at the annual meetings of the national association, and his loss will be very great indeed. A big, strong, robust, Scotch-Canadian, of a kindly and sympathetic nature, and withal a jovial disposition, he has been cut down in the prime of life, after but three days' sickness from appendicitis.

William D. Middleton, M.D. Bellevue Hospital Medical College, New York, 1868, one of the most eminent surgeons of the West, professor of surgery and dean of the medical faculty of the State University of Iowa, and surgeon-in-chief of the Chicago, Rock Island and Pacific Railway, died at his home in Davenport, Iowa, April 5, from acute septicemia following a wound received while he was performing an operation. It appears that March 30 Dr. Middleton, assisted by Dr. H. W. Braunlich, operated on a woman suffering from peritonitis, possibly of a streptococcic origin. It is supposed that while tying an artery, Dr. Middleton abraded the thumb of his left hand. The next day he was seized with a chill, which was immediately followed by intense oppression over the chest and high fever. There was no local affection until the fifth day, when the arm became edematous and was lanced. Dr. Braunlich is suffering in the same way, and at this time, April 8, is not expected to recover.

Delavan Bloodgood, M.D. Jefferson Medical College, Philadelphia, 1854, medical director, U. S. Navy, retired, died at his home in Brooklyn, N. Y., April 5, from heart disease, aged 70. His first service was on the frigate *Merrimac* on the Pacific station. At the opening of the Civil war he was serving on the *Dacotah* in Hampton Roads. Later he was with Farragut on the Mississippi and afterward saw duty off the Newfoundland banks in pursuing privateers. After the war he served on foreign stations, and for several years was fleet surgeon of the Pacific squadron.

John J. Stafford, M.D. University of Georgetown, D. C., 1885, a practitioner of Washington, D. C., for several years professor of chemistry at the Georgetown University Medical School, and a member of the American Medical Association, died at his home in Washington, March 17, from chronic nephritis, after a long illness, aged 52.

Gerald D. O'Farrell, M.D. University of Pennsylvania, 1862, a prominent practitioner of Philadelphia, who served throughout the Civil war as surgeon of the 63d and 215th Pennsylvania regiments, and afterward settled in Kensington, died suddenly from heart disease while making a professional call, March 27, aged 70.

Frank L. Portzer, M.D. Western Pennsylvania Medical College, Pittsburg, 1888, of Greensburg, Pa., a member of the American Medical Association, was found dead in bed from internal hemorrhage, in Saltsburg, March 27, aged 35. He had been in impaired health for a long time.

Frank Harold Thompson, M.D. Trinity Medical College, Toronto, Ontario, a well-known young physician, who had spent the last two years as surgeon of the coast and geodetic survey steamer *Patterson*, died from typhoid fever after a long illness, March 21, aged 26.

D. A. Lewis, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1880, prominent as a physician in Boone County, Neb., until two years ago, when failing health necessitated his retirement, died at his residence in Albion, March 28, from paresis, aged 54.

William H. H. Nash, M.D. Miami Medical College, Cincinnati, 1872, a member of the American Medical Association and a practitioner of medicine in Columbus for many years, died from paralysis at the Home for the Aged, Columbus, March 31, aged 65.

Moses T. Babcock, M.D. Geneva (N. Y.) Medical College, 1852, who had practiced medicine in Hammondsport, N. Y., for fifty years, died suddenly at his home in that place, March 31, aged 77. During the Civil war he served as assistant surgeon.

Charles R. Burks, M.D. Jefferson Medical College, Philadelphia, 1858, a practitioner of Kerr's Creek and Natural Bridge districts, Virginia, died at his home near Sherwood, Rockbridge County, March 26, from consumption, aged 70.

Thomas Dunn English, M.D. University of Pennsylvania, Philadelphia, 1839, but who preferred literary to professional pursuits and is best-known as the author of "Ben Bolt," died at his home in Newark, N. J., April 1, aged 82.

Frederic Augustus Putnam, M.D. Castleton Medical College, Vt., 1837, who practiced for sixty years in New York City, but had resided at Sutton, Mass., for the past six years, died at his home in that place, March 27, aged 89.

Charles L. Tarleton, M.D. Tulane University, New Orleans, La., a prominent physician of Callaway County, Mo., and a member of the state pension board, died from Bright's disease at his home in Cedar City, aged 66.

Harry W. Whitesell, M.D. Western Pennsylvania Medical College, Pittsburg, Pa., 1897, of Sewickley, Pa., was found dead on a pile of rocks on the banks of the Ohio, March 23. He was 28 years of age.

David J. Underwood, M.D. College of Physicians and Surgeons, Baltimore, 1887, a leading physician of New Martinsville, W. Va., died suddenly at his home in that place, March 26.

Gilbert P. Mills, M.D. Bellevue Hospital Medical College, New York, 1892, died at his ranch home near Missoula, Mont., March 26, from consumption, after an illness of several years.

James Watt Taylor, M.D. Medico-Chirurgical College, Philadelphia, 1866, a practitioner of Pittsburg, Pa., died at his residence, March 18, after an illness of four years, aged 72.

Thomas N. Bryan, M.D. University of Louisville, 1857, for many years a prominent physician of Indianapolis, died at his home in that city, April 3, after an illness of one week.

Simon P. Breed, M.D. McDowell Medical College, St. Louis, Mo., 1847; University of Pennsylvania, Philadelphia, 1865, died at his home in Princeton, Ill., March 21, aged 83.

S. Townsend Bowne, M.D. Albany (N. Y.) Medical College, 1872, for several years a prominent physician of Leadville, Colo., died from dementia at Pueblo, March 26.

Jacob Young, M.D. Baltimore Medical College, 1843, the oldest physician in Wetzel County, W. Va., died at his home in New Martinsville, March 22, aged 82.

Bowen Combs Bowell, M.D., who had practiced medicine in La Porte County, Ind., for more than fifty years, died at his home in La Porte, March 29, aged 82.

Jerome F. Hertzmann, M.D. a resident of Omaha for twenty-five years, died at his home in that city, March 28, after an illness of seven months, aged 48.

Sven S. Reimestad, M.D. University of Minnesota, 1895, a practitioner of Madelia, Minn., died suddenly, March 29, at a hospital in Minneapolis, aged 30.

Richard H. Sommerville, M.D., a native of Moorefield, W. Va., a graduate of the University of Maryland, 1882, died at San Antonio, Texas, aged 40.

Charles F. Ulmer, M.D. Arkansas University, Little Rock, 1895, a practicing physician of Dublin, Texas, died at his home in that city, March 23, aged 45.

Osear K. Guyer, M.D. Medical College of Ohio, Cincinnati, 1884, a prominent practitioner of Lewisville, Ind., died at his home in that place, March 31.

John F. Ely, M.D. formerly of Cedar Rapids, Iowa, and one of the founders of the Dubuque Medical Society, died in California, March 14, aged 81.

E. E. Furber, M.D. Harvard University Medical School, Boston, died at his home in Springfield, Vt., March 22, from pneumonia, aged 34.

Manning T. Smith, M.D. University of Maryland, Baltimore, 1881, died at his home in Union, S. C., March 25, from pneumonia, aged 47.

Robert P. Davis, M.D. Cincinnati College of Medicine and Surgery, 1873, died at his home in Portland, Ind., March 28.

Alfred J. Sporry, M.D. University of Zurich, Switzerland, 1885, died at Portland, Ore., March 16.

Association News.

Annual Announcement.

The fifty-third annual session (55th year) of the American Medical Association will be held at Saratoga Springs, N. Y., on Tuesday, Wednesday, Thursday and Friday, June 10, 11, 12 and 13.

GENERAL MEETING.

The first general, or opening meeting of the Association will be called to order at 11 a. m., Tuesday morning, June 10.

MEMBERSHIP.

No permanent member shall take part in the proceedings of the Association, or of any of its Sections, until he has exhibited his credentials to the proper officer or committee, entered his name and address in full on the registration book, and paid his annual dues. He shall also indicate the Section to which he will officially attach himself.

Permanent members who have complied with the foregoing regulations shall at all times be entitled to attend the General Meetings and Sections, and to participate in the affairs of the Association, so long as they continue to conform to its regulations.

No individual who shall be under sentence of expulsion or suspension from an affiliated society (whether a directly affiliated state or territorial society or an indirectly affiliated local society) of which he may have been a member, or whose name shall have been dropped from the rolls of the same, shall be received as a member or shall be allowed to continue as a member of this Association, until he shall have been relieved from said sentence or disability by such society; nor shall any person not a member of his local affiliated medical society, provided there be such a one, be eligible to membership or be allowed to continue as a member in the American Medical Association.

Members may vote for Section officers only in that Section with which, upon registration, they have declared their intention of uniting.

Any permanent member who shall fail to pay his annual dues for one year, unless absent from the country, shall be dropped from the roll of permanent members, after having been notified by the secretary of the forfeiture of his membership.

Honorary Members may be elected by the House of Delegates on the nomination of a Section, but not more than three Honorary Members shall be elected in any one year.

Honorary and Associate Members shall have all the rights of membership except those of voting and holding office. They shall not be assessed for dues, nor shall they be entitled to receive THE JOURNAL free.—From Chapter I of By-laws.

HOUSE OF DELEGATES.

The House of Delegates will convene for its first meeting at 2 p. m., Tuesday, June 10.

Each state and territorial society entitled to representation shall have the privilege of sending to the House of Delegates one delegate for every 500 of its resident regular members, and one for any additional fraction of that number; but each affiliated state and territorial society shall be entitled to at least one delegate.—Chapter III, Sec. 2, By-laws.

Members of the House of Delegates shall be elected for a term of two years, and those state and territorial societies entitled to more than one representative are requested so to arrange such election that one-half of their delegates, as near as may be, shall be elected each year.—Chapter III, Sec. 4, By-laws.

According to reports received March 1, 1902, the following is the number of members in the various state societies and the number of delegates to which each was entitled at that time: Alabama, membership 1156, delegates, 3; Arizona, 87, 1; Arkansas, 270, 1; California, 315, 1; Colorado, 326, 1; Connecticut, 684, 2; Delaware, 119, 1; District of Columbia, 394, 1; Florida, 160, 1; Georgia, 650, 2; Idaho, 75, 1; Illinois, 1203, 3; Indian Territory, no response, but will be entitled to only 1 delegate; Indiana, 1625, 4; Iowa, 719, 2; Kansas, 109, 1; Kentucky, 550, 2; Louisiana, 316, 1; Maine, 445, 1; Maryland, 678, 2; Massachusetts, 2644, 6; Michigan, 606, 2; Minnesota, 466, 1; Mississippi, 314, 1; Missouri, 270, 1; Montana, 113, 1; Nebraska, 410, 1; New Hampshire, 365, 1; New Jersey, 1038, 3; New Mexico, 42, 1; New York, 1421, 1; Nevada, no response, but will be entitled to only 1 delegate; North Carolina, 485, 1; North Dakota, 126, 1; Ohio, 989, 2; Oklahoma, 145, 1; Oregon, 212, 1; Pennsylvania, 3518, 8; Rhode Island, 251, 1; South Carolina, no response, but will be entitled to only 1 delegate; South Dakota, 68, 1; Tennessee, 317, 1; Texas, 352, 1; Utah, 87, 1; Vermont, 193, 1; Virginia, 1033, 3; Washington, 156, 1; West Virginia, 306, 1; Wisconsin, 628, 2; Wyoming, 37, 1.

THE SECTIONS.

The various scientific Sections of the Association will hold their first meetings at 2 p. m., Tuesday, June 10. Section 2 of Chapter IX of the By-laws says that the Sections shall be composed of those who have complied with Sections 1 to 4 of Chapter I of the By-laws. These are as follows:

Permanent Members.—Permanent Members shall consist of such members of the state societies, together with their affiliated local societies, entitled to representation in this Association as shall make application for admission, in writing to the Treasurer, and accompany said application with a certificate of good standing signed by the president and secretary of the society of which they are members, and the annual fee.

Members by Invitation.—Members by Invitation shall consist of distinguished physicians of foreign countries who may be invited by the officers of Sections or of the Association. They shall hold their connection with this Association until the close

of the annual session to which they are invited, and shall be entitled to participate in all of its affairs, as in the case of permanent members, but they shall not be assessed the annual dues.

Honorary Members.—Honorary Members shall be physicians of foreign countries who have risen to pre-eminence in the profession of medicine.

Associate Members.—Representative teachers and students of the allied sciences, not physicians, may become Associate Members by the vote of the House of Delegates.

PAPERS BEFORE SECTIONS.

It shall be the duty of every member of the Association who proposes to present a paper or report before a Section to forward either the paper or an abstract indicative of its contents, and its *length*, to the Secretary of such Section at least one month before the annual session at which the paper or report is to be presented. This abstract shall contain not less than fifty nor more than two hundred words.

ORATIONS.

The following annual orations will be delivered: On Medicine, Dr. Frank Billings, Chicago; on Surgery, Dr. Harry M. Sherman, San Francisco, Cal.; on State Medicine, Dr. J. M. Emmert, Atlantic, Iowa.

ARRANGEMENTS.

Chairman Committee of Arrangements, Dr. Geo. F. Comstock, Saratoga Springs, N. Y.

PROPOSED AMENDMENTS.

Amendment to the Constitution and By-laws, offered by Dr. L. B. Tuckerman, of Ohio: Amend Section 3, Chapter VII of the By-laws by substituting the following:

"Section 3. Committee on Legislation. The Committee on Legislation shall consist of three members appointed by the President of the Association for a term of three years. One member shall be a resident of Washington, D. C., one of Baltimore, and one of Philadelphia. It shall be the duty of the Committee to represent before Congress the wishes of this Association regarding any proposed legislation that in any respect bears upon the promotion and preservation of the public health or upon the material or moral welfare of the medical profession. This Committee shall also invite to a conference once a year or oftener if need be, one delegate each from the medical service of the United States army, the United States navy, and the Marine-Hospital Service, one from the Bureau of Animal Industry, and one from each affiliated state or territorial medical society; such conference to meet in Washington to consider questions of medical and sanitary legislation, and to report back to this Association and to the several state and territorial societies."

Amendment to the Constitution and By-laws, offered by Dr. T. J. Happel, of Tennessee:

Chapter IX, Section 7, as follows: Strike out the following words of Section 7, Chapter IX, "reprints and transactions of Sections, including its lists of members, its rules of order, its lists of officers, as now published, shall be paid for out of the funds of the Association, and furnished free to members of the Association."

OFFICERS OF SECTIONS, 1901-1902.

Practice of Medicine—Chairman, Frank A. Jones, Memphis, Tenn.; Secretary, Robert B. Preble, Chicago.

Obstetrics and Diseases of Women—Chairman, J. H. Carstens, Detroit; Secretary, C. L. Bonifield, Cincinnati.

Surgery and Anatomy—Chairman, DeForest Willard, Philadelphia; Secretary, James B. Bullitt, Louisville.

Hygiene and Sanitary Science—Chairman, Arthur R. Reynolds, Chicago; Secretary, H. M. Bracken, Minneapolis, Minn.

Ophthalmology—Chairman, Frank Allport, Chicago; Secretary, C. A. Veasey, Philadelphia.

Diseases of Children—Chairman, H. M. McClanahan, Omaha, Neb.; Secretary, Frank X. Walls, Chicago.

Stomatology—Chairman, A. H. Peck, Chicago; Secretary, Eugene S. Talbot, Chicago.

Nervous and Mental Diseases—Chairman, Richard Dewey, Wauwatosa, Wis.; Secretary, F. Savary Pearce, Philadelphia.

Cutaneous Medicine and Surgery—Chairman, Henry W. Stelwagon, Philadelphia; Secretary, R. R. Campbell, Chicago.

Laryngology and Otology—Chairman, G. Hudson Makuen, Philadelphia; Secretary, J. F. Barnhill, Indianapolis.

Materia Medica, Pharmacy and Therapeutics—Chairman, George F. Butler, Alma, Mich.; Secretary, C. S. N. Hallberg, Chicago.

Physiology and Pathology—Chairman, Frank B. Wynn, Indianapolis; Secretary, Joseph McFarland, Philadelphia.

GEORGE H. SIMMONS,
Secretary American Medical Association.

Saratoga Springs Hotels.

Below we give a list of the important hotels of Saratoga Springs, with prices. Besides those mentioned there are a number of boarding houses whose rates vary from $1 to $2 per day. The chairman of the committee on hotels is Dr. J. R. Swaniek, Saratoga Springs, who writes that he will be glad to engage rooms in advance for those who will write to him.

Hotels.	Accommodations.	Single rooms.	Single rooms, with bath.	Double rooms.	Double rooms, with bath.
Grand Union	1500	$4.00 up	$6.00 up	$8 00 up	$10.00 up
United States	1200	4.00-5.00	6.00-7.00	8 00-10 00	10 00-12.00
Congress Hall	1000	4.00	5.00-6.00	8 00	10.00
Kensington	500	3.00 up	4.00 up	5.00 up	8 00 up
American-Adelphi	300	3.00 up	4.00 up	6.00 up	8.00 up
Columbian Hotel	250	3.00	.....	5 00	
Worden Hotel	250	3.00	.....	6.00	
Everett House	200	2 50	.....	4 00	
Huestis House	200	2.00	.....	4.00-5.00	
The Commercial	150	2.50	3 00	4 00	5 00
Hotel Continental	150	2.00	.....	3.00	
Franklin House	150	1.50-2.00	.....	3.00	
Vermont House	125	2 50	.....	5 00	
The Carlsbad	100	2 00	2.50	3.00	4.50
Woodbridge Hall	100	2.00	.....	3.00	
Elmwood Hall	100	1.35	.....	2.00	
The Waring	75	2.00	.....	3 00	
Spencer House	75	2.00	.....	3.00	
The Linwood	50	2.50	.....	4 00	
The Washburne	50	2 00	.....	3 00	
The Moriarta	50	3 00	Suite.	6.00	Suite.
The Ashton	50	2.50	.....	4.00	
Broadway House	50	2.50	.....	4.00	
Pleasant Home	40	2.50	.....	4.00	
Washington Hall	35	2 00	.....	4.00	
Summer Rest	35	2 00-2.50	.....	4.00	

New Members.

The following is a list of new members for the month of March, 1902:

ALABAMA.
Winn, L. M., Eufaula.

ARIZONA.
Palmer, E. Payne, Phœnix.
Foss, J. W., Phœnix.

CALIFORNIA.
Kirk, A. W., San Francisco.
Dorn, Dora I., San Francisco.
Thomas, P. M., San Francisco.
Riley, W. C., San Francisco.
Easton, D. E. F., San Francisco.
Herrington, H., San Francisco.
Thorne, I. W., San Francisco.
Burnham, F. R., San Diego.
Lautersheimer, Geo. A., Los Angeles.
Buteau, S. H., Oakland.
Mueller, H. E., Oakland.
Cox, T. J., Sacramento.
Henderson, A. W., Sacramento.
Twitchell, E. W., Sacramento.
Soiland, A., Los Angeles.
Garcelon, Frank, Pomona.

COLORADO.
Gregersen, R. J., Leadville.
Turner, W. E., Brush.
Pilsbury, L. B., Primero.
Cohen, H. M., Victor.
Macomber, E. K., Delta.
Atchcson, Geo., Idaho Springs.
Sewall, Henry, Denver.

CONNECTICUT.
Fleck, H. W., Bridgeport.

DISTRICT OF COLUMBIA.
King, E. F., Washington.

GEORGIA.
Brown, Geo., Atlanta.
Crows, W. A., Atlanta.

ILLINOIS.
Manierre, C. E., Chicago.
Price, A. E., Chicago.
Porter, J. L., Chicago.
Jackson, Josephine, Chicago.
Marquis, G. P., Chicago.
Powers, F. H., Champaign.
Sargent, A. M., Lincoln.
Maxon, O. F., Jr., Springfield.
Fox, A. L., Danville.
Baxter, G. E., Jacksonville.

INDIANA.
Wright, C. L., Huntington.
Cowan, E. H., Crawfordsville.
Ford, T. J., Connersville.
Jeffries, W. E., Indianapolis.

KANSAS.
Stacey, H. J., Leavenworth.

KENTUCKY.
Hoover, J. C., Owensboro.
Field, J. W., Owensboro.
Otis, L. J., Paducah.

MAINE.
Howard, B. F., Bangor.

MARYLAND.
Beckley, E. L., Middletown.
Goldsborough, B. W., Cambridge.

MASSACHUSETTS.
Monks, G. H., Boston.
Bottomley, J. T., Boston.
Smith, C. M., Boston.
Bangs, C. H., Lynn.
Curry, E. F., Fall River.
Nickerson, W. J., New Bedford.

MICHIGAN.
Kirton, J. R. W., Phœnix Mine.
Balch, R. E., Kalamazoo.
MacLaren, A. D., Port Huron.

MINNESOTA.
Smith, C. A., Minneapolis.
Holman, C. J., Mankato.

MISSOURI.
Robinson, E. F., Kansas City.
Bell, W. J., St. Joseph.
Armstrong, H. E., Billings.

NEVADA.
Hershirer, A. E., Reno.

NEW JERSEY.
Armstrong, E. C., Weehawken.
Freeman, R. D., South Orange.

NEW MEXICO.
Harrison, G. W., Albuquerque.

NEW YORK.

Hendrickson, S., Brooklyn.
Hoople, H. N., Brooklyn.
Cruikshank, W. J., Brooklyn.
Pearce, E. F., Brooklyn.
Prendergast, P. J., Brooklyn.
Keyes, J. J., Brooklyn.
Cleland, T. J., New Lebanon.
Fairbank, A. W., Chazy.
Reuner, W. S., Buffalo.
Merrins, E. M., New York City.
Hayes, W. Van V., New York City.
Cohn, S., New York City.
Abrahams, R., New York City.

NORTH DAKOTA.

Haagensen, E. C., Hillsboro.
MacGregor, M., Fessenden.

OHIO.

Pattou, M. V., Springfield.
Taylor, W. J., Dayton.
Beckwith, S. W., Toledo.
Hill, C. T., Akron.
Hines, J. A., Van Wert.
Skeel, R. E., Cleveland.
Huston, E. M., Dayton.
Roberds, T. W., Bell.
Fitzsimmons, J. F., Bucyrus.
McClure, J., Marietta.
Williams, B. T., Goshen.
Longfellow, R. C., Fostoria.
Wood, J. S., Collinwood.

OREGON.

Lazier, D. C., Arlington.
Stephenson, G. W., Medford.
Bell, J. F., Portland.
Fried, M., Portland.
Houck, G. E., Roseburg.
Twitchell, H. F., Portland.
Gregg, G. W., Wallowa.
Phy, W. T., Baker City.
Parker, Thos., Portland.
Daniel, Z. T., Silitz.
Geary, J. W., Burns.
Short, J. M., Gresham.

PENNSYLVANIA.

Miller, Mary Thomas, Philadelphia.
Hand, A., Jr., Philadelphia.
Simpson, F. F., Pittsburg.

RHODE ISLAND.

Latham, D. S., Auburn.

SOUTH DAKOTA.

Hawkins, J. R., Sioux Falls.

TEXAS.

Deal, E. O., Sherwood.
McClendon, E. F., Galveston.

UTAH.

Meyer, Theo., Salt Lake City.
Hughes, M. A., Salt Lake City.
McElroy, R. L., Salt Lake City.
Stauffer, F., Salt Lake City.
Beer, W. F., Salt Lake City.
LaMotte, H., Salt Lake City.
Conroy, E. M., Ogden.

VERMONT.

Griffin, C. E., Fair Haven.

VIRGINIA.

Phillips, J. E., Suffolk.
Green, P. B., Wytheville.

WASHINGTON.

Osburn, Eva St. Clair, Tacoma.
Hall, W. L., Spokane.
Van Kirk, F. J., Whatcom.

WEST VIRGINIA.

Johnston, W. L., McDowell.
Golden, W. W., Elkins.

WISCONSIN.

Amundson, A. C., Cambridge.
Adams, J. C., West Superior.
Darrow, Edw., West Superior.
Love, G. S., Pewaukee.

Societies.

COMING MEETINGS.

American Medical Association, Saratoga Springs, N. Y., June 10 to 13.
Medical Association of the State of Alabama, Birmingham, April 15, 1902.
Medical Society of the State of California, San Francisco, April 15-17, 1902.
Medical Association of Georgia, Savannah, April 16, 1902.
Mississippi State Medical Association, Jackson, April 16, 1902.
New Mexico Medical Society, Albuquerque, April 16, 1902.
South Carolina Medical Association, Spartanburg, April 16-17, 1902.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 22, 1902.
Association of American Physicians, Washington, D. C., April 29 to May 1, 1902.
American Association of Genito-Urinary Surgeons, Atlantic City, N. J., April 30, 1902.
International Association of Railway Surgeons, St. Louis, Mo., April 30 and May 1 and 2, 1902.
American Gastro-Enterological Association, Washington, D. C., May 2, 1902.
Nebraska State Medical Society, Omaha, May 6-8, 1902.
Texas State Medical Association, Dallas, May 6-9, 1902.
Kansas Medical Society, Lawrence, May 7-9, 1902.
American Therapeutic Society, New York City, May 13, 1902.
Utah State Medical Society, Salt Lake City, May 13-14, 1902.
Oklahoma Territory Medical Association, Oklahoma City, May 14, 1902.
Arkansas Medical Society, Little Rock, May 13-15, 1902.
New Hampshire Medical Society, Concord, May 15-16, 1902.
Illinois State Medical Society, Quincy, May 20-22, 1902.
American Surgical Association, Albany, N. Y., May 20-22, 1902.
Medical Association of the State of Missouri, St. Joseph, May 20-22, 1902.
Kentucky State Medical Society, Paducah, May 7-9, 1902.
Arizona Medical Association, Tucson, May 21-22, 1902.
Medical Society of West Virginia, Parkersburg, May 21-23, 1902.
Medical Association of Montana, Anaconda, May 21-22, 1902.
Iowa State Medical Society, Des Moines, May 21-23, 1902.
Indiana State Medical Society, Evansville, May 22-23, 1902.
American Pediatric Society, Boston, May 26-28, 1902.
American Laryngological Association, Boston, Mass., May 26-28, 1902.
American Gynecological Society, Atlantic City, May 27, 1902.
Connecticut Medical Society, New Haven, May 28-29, 1902.
Ohio State Medical Society, Toledo, May 28-30, 1902.

Erie County (N. Y.) Medical Association.—At the annual meeting of this Association, Dr. James Grosvenor was elected president; Dr. Jacob S. Otto, secretary, and Dr. William I. Thornton, treasurer, all of Buffalo.

Lee County (Ark.) Medical Society.—The physicians of Lee County, Ark., have organized this Society with Dr. T. J. Robinson, Marianna, president; Dr. William S. Bradford, Haynes, vice-president, and Dr. William H. Deaderick, Marianna, secretary and treasurer.

Dearborn County (Ind.) Medical Society.—At the annual meeting of this Society, held March 26, at Lawrenceburg, Dr. O. P. M. Ford, Rising Sun, was elected president; Dr. Richard C. Bond, Aurora, vice-president, and Dr. Francis M. Mueller, Lawrenceburg, secretary.

Smith County (Texas) Medical Society.—The physicians of Smith County met at Tyler, March 24, and organized a county medical society, with Dr. Thomas J. Bell, Tyler, president; Dr. William S. Lacey, Troupe, vice-president, and Dr. Albert Woldert, Tyler, secretary and treasurer.

Montgomery County (Ind.) Medical Society.—At the annual meeting of this Society, held in Crawfordsville, March 26, Dr. Harry E. Greene, Crawfordsville, was elected president; Dr. George T. Williams, Brown's Valley, vice-president; Dr. Effie Current, secretary, and Dr. Oliver H. Jones, Crawfordsville, treasurer.

Jefferson County (W. Va.) Medical Society.—This Society was reorganized, March 15, at Charlestown, W. Va., and the following officers elected: Dr. William Neill, Charlestown, president; Drs. J. M. Miller, Charlestown, and Charles C. Lucas, Kearneysville, vice-presidents; Dr. George A. Davis, Summit Point, secretary, and Dr. William E. Perry, Halltown, treasurer.

North Central Ohio Medical Society.—The twenty-first annual meeting of this Society was held in Mansfield, March 28, at which the following officers were elected: Dr. Josiah S. Hedges, Mansfield, president; Drs. A. Melville Crane, Marion, and S. N. Alban, Mansfield, vice-presidents; Dr. John McG. Burns, Mansfield, secretary, and Dr. J. Lillian W. McBride, Mansfield, treasurer.

American Association of Pathologists and Bacteriologists.—This Association held its second annual meeting at Cleveland, Ohio, March 28 and 29. The following officers were elected for the ensuing year: President, Dr. Ludvig Hektoen, Chicago; vice-president, Dr. J. Ewing, New York City; secretary, Dr. H. C. Ernst, Boston, Mass., and treasurer, Dr. Eugene Hodenpyl, New York City.

CHICAGO MEDICAL SOCIETY AND CHICAGO SURGICAL SOCIETY.

Joint Meeting, held March 5, 1902.

Dr. A. H. Ferguson in the Chair.

Cholelithiasis.

The first paper, "Medical Aspect of Cholelithiasis," by Dr. Robert B. Preble, appears in this issue, page 938.

DR. WILLIAM J. MAYO, Rochester, Minn., read a paper (by invitation) entitled, "An Analysis of 328 Operations Upon the Gall-Bladder and Bile Passages." A study of these cases brings out some general features of interest. The origin was benign in 311 and the number of deaths was 8, giving a mortality of about 2.5 per cent. In 17 for malignant disease, there were 3 deaths, a mortality of 18 per cent. In 214 cases, the stones were located in the gall-bladder or cystic duct or both, with 2 deaths. In about 10 per cent. of these cases stones were contained in the cystic duct. The after history of many of these cases, in which the cystic duct was involved and simple cholecystostomy performed, was not wholly favorable and for cases in which this duct has been obstructed or in which stones have been lodged in the duct for a length of time, cholecystostomy is insufficient, and the gall-bladder should be extirpated at the primary operation if the patient is otherwise in good condition.

Stones in the cystic duct are often more easy to remove with the gall-bladder than without it. If the peritoneum binding it to the liver be divided on each side, the connective tissue between can be easily separated with the finger and by using the gall-bladder as a tractor, and if necessary, dividing the peritoneal and muscular coats just above the cystic duct, the mucous tube of the latter will strip out readily, bringing the stone with it. The mucous coat about the neck of the gall-bladder is thick and separates easily from the outer coats, while the fixation by adhesions is to the outer coats alone. At the fundus, the mucous membrane is less easy to separate and a combination of amputation of the fundus with removal of the mucous coat from the lower portion of the gall-bladder and

cystic duct, makes cholecystectomy a safe operation. A study of these cases leads to the belief that stones passing by ulceration and perforation from the bile tract to the intestine do so slowly and that cicatrization usually takes place behind, before the extrusion into the intestine is accomplished.

The cases of cholecystitis numbered 34, with 5 deaths. This mortality calls attention at once to the serious nature of the infections. All cases in which an acute suppuration existed at the time of the operation, with or without stones, and all cases in which the gall-bladder was found thickened and contained more or less ropy mucus and bile or sand-like sediment, without stones, were classified at the time of operation as cholecystitis. The author has long held the view that the dependent fundus was a mechanical factor which rendered the possibility of stone formation in cases in which the stagnation of the bile, infection of the gall-bladder and obstruction at the cystic duct were the other factors, that is to say, if the cystic duct were the bottom, the sediment would pass out first. In 31 cases, stones were found in the common duct with one death. In only one case was it possible to remove the stone through the cystic duct by dilating it. In 29 cases, the duct was incised and the stones removed. In 5 cases this was accomplished by separating the gall-bladder from the liver and incising the free surface down to and along the cystic duct to the common duct and the latter was incised at the juncture.

Jaundice in connection with stones in the common duct was a most variable feature. In many cases it was so slight as not to attract especial attention and the finding of stones in the common duct was a surprise. In the majority the jaundice was marked. One case of extreme jaundice, from a stone impacted in the cystic duct at its juncture with the common duct, and three cases of jaundice from malignant disease died from post-operative capillary oozing. In all of these cases there were subcutaneous ecchymotic spots, looking like purpura hemorrhagica before operation. Every case of jaundice with this condition died in this way. No case in which this was not present died from this cause, although several were in extreme jeopardy.

Cholecyst-enterostomy was performed three times for chronic pancreatitis and three times for malignant disease. The anastomosis was made to the duodenum twice and to the transverse colon four times. So far as we could judge, the anastomosis with the colon answered every purpose. Malignant disease, involving the bile tract, was found seventeen times; the results were very discouraging.

Diagnosis of Gallstones.

Dr. Frank Billings said the diagnosis was helped somewhat by a knowledge of conditions which led to gallstones. For instance, knowledge that an individual had suffered from typhoid fever, chronic or infective gastro-intestinal disease, colon bacillus infection of other parts of the body and of the gall tract, pneumonia or possibly colonic infection, would help in making the diagnosis. The age of the patient, if the diagnosis was doubtful, would be of considerable aid. Gallstones rarely occur before adult life, but with increasing frequency after that period. They occur oftener in the female than in the male, because of the former's manner of dress and more sedentary life. Courvoisier, quoted by Osler, states that 25 per cent. of all women over 50 years of age have gallstones. The previous condition of health should be duly considered. Stones remain in a latent condition for a considerable time in some cases without causing symptoms, or so slight are the symptoms as to be attributed to something else, and not until some accidents due to gallstones occur are we led to the correct diagnosis. A large percentage of people die of some other disease and gallstones are found postmortem.

Pain was usually present in cases of stones, but cases occurred without pain. When pain was present it was usually different from pain of almost every other kind, and severe, considering the small part of the body that was involved. Perhaps a small stone causes a more severe pain than a larger one. The pain from stones in the cystic duct was much less than that from the same in the common duct. With stones in the cystic duct, the pain radiated, as a rule, to the right side, and was often felt in the region of the shoulder-blade Pain from the common duct was more severe and radiated from just above the umbilicus downward and to the left, and might encircle the body in the region of the costal arch. Pain was accompanied, as a rule, with disturbance of the gastro-intestinal tract; nausea, vomiting and, if the common duct was not obstructed, vomiting went on until bile was vomited, the presence of bile in the vomit was good evidence that the common duct was not completely, if at all, obstructed.

The next important and common symptom was jaundice; it did not occur in uncomplicated cases. Dr. Preble had already gone over some of the differential diagnostic points. There were some others that might be mentioned, for instance confounding gallstones with floating kidney. Women were sometimes seized with a sudden attack of pain, more often on the right than left side, sometimes associated with jaundice, and a recognition of floating kidney, its replacement, etc., would enable one to differentiate it from gallstones. Gumma of the liver was usually multiple, associated with a remittent type of fever, but it was not always multiple. It was possible for it to be situated near the gall-bladder, and cause symptoms similar to those of gallstones. He had seen two such cases, in both of which a diagnosis of gallstones was made.

Dr. Billings then quoted at length the statistics of gallstones as found in the literature, the number that had been seen and operated by different surgeons, the results, mortality, etc.

Indications for Surgical Intervention.

Dr. Arthur Dean Bevan said that he could not agree with those surgeons who say that whenever a diagnosis of gallstones is made a surgical operation is indicated. In his own dissecting room experience during a large number of years, 16 per cent. of cases had stones, and he thought it would be safe to say that from 8 to 10 per cent. of the adult population in most communities had gallstones. Taking this approximate estimate, it led to the conclusion that in a great number of cases the gallstones were innocuous.

With the very brilliant results that had been obtained by surgical treatment, with the very low mortality resulting from it in expert hands, the indications for operation were very much wider than they ever had been. These indications he summarized as follows: 1, cases in which there is obstruction of the cystic duct, either the direct or indirect result of gallstones; 2, cases of obstruction, the direct or indirect result of continuous or intermittent attacks; 3, cases of perforative inflammation of any part of the bile tracts, including the gall-bladder.

This leaves a great group of cases without symptoms of obstruction or a perforative inflammation, but symptoms in the majority of cases of stones remaining in the gall-bladder. Such cases go from physician to physician, many of them diagnosed as cases of dyspepsia or gastric neuralgia. Medical men were beginning to recognize this class of cases and recommend surgical intervention more frequently now than formerly. Another group was where the patients had gallstones, probably recognized, but in whom the attacks were infrequent. These cases required the combined judgment of the internist and surgeon as to the desirability of surgical intervention.

Real and Apparent Recurrences After Operation.

Dr. E. Wyllys Andrews discussed this question. Do gallstones ever reproduce themselves after operation, or, does the removal of gallstones fail to cure the patient who has them? These were two very different questions in the last analysis and might require opposite answers. Often the condition may not be new stones in the bladder or ducts, but old ones purposely or accidentally left or else kinking of the cystic duct, stenosis from carcinoma, adhesions, or other mechanical cause for hydrops of the gall-bladder. But of apparent recurrences, numerous instances did occur. Formerly he thought and taught that gallstones would reproduce *a priori* as urinary bladder and kidney calculi were known to do. After reading the positive statements of Courvoisier, Riedel, Kehr, and others, he searched carefully in his records and could not find one unmistakable case of stone reproduction, i. e., one in which an overlooked stone, ulcer or cancer of the gall tracts,

old adhesions, or some other cause might not explain the recurrence of symptoms. Riedel says that gallstone reproduction does not occur because the drainage cures the gall-bladder inflammation and stops their formation. Even if a few are left, they come out on the dressings. Dr. Andrews thought this was bad teaching if it led to superficial work. It was the exact opposite of what Dr. Fenger's example would lead to. It also took no account of choledochous stones which never would come out if left alone. Riedel also states that he has operated twelve years on gallstones, and never had a real reproduction of stones. Kehr in one thousand cases of his own and Riedel had no proved case of reproduction. He thinks gallstone reproduction is an occurrence usually which takes place once in a lifetime.

Leaving out of account diseases of neighboring parts, such as the kidney, ureter, cecum or appendix, all of which might give pain like hepatic colic, there was quite a list of post-operative troubles of the gall tracts themselves which we were powerless to prevent and which might defeat all efforts at relief. Among these were adhesions to viscera and anterior wall; hernia in drainage scar; cholecystitis, still uncured; stones accidentally left and stones knowingly left. Stones were very unsatisfactorily felt when the gall-bladder was not opened. Those surgeons, who did the two step operation, often knew very little of how many should come out later. There always would be a few cases to be operated on in the most conservative and rapid manner, and with a minimum of anesthetic or local anesthesia. The aim in doing an incomplete operation was to relieve the cholemia and later complete the operation. Stones intentionally left were not recurrences; stones accidentally left were, it was to be hoped, less common than at first. He would state it as his observation that this had occurred oftener in the past than some operators would lead one to think. As he looked back on his earliest work, before the common duct operation was elaborated by Fenger, he could think of several cases lost through inefficient search, and the now discredited idea of crushing stones through the duct wall. Some of these continued to have jaundice after the gall-bladder had been cleared of numerous stones.

It was unfair to demand more of surgeons than a good majority of cures. Internists with the Carlsbad cure only succeeded in reducing the stones to a quiescent or sleeping state. We did not in any operation get a uniform series of cures, but this did not discredit the operation. The only thing which could discredit any operation was a failure to report bad as well as good results, so that false statistics gained currency.

The treatment of complications causing recurrence of gallstone symptoms was often satisfactory from a surgical standpoint. An overlooked carcinoma might be detected at a later exploration. Stones purposely or accidentally allowed to remain might be taken out after the patient had been built up by drainage. Adherent bands might be divided to release the gall-bladder, but broad adhesions were difficult to remove. A puncture might be made in a bladder once drained through the old adhesion with little or no danger. Finally, cholecystectomy, as advised by William J. Mayo, Lobker, Kehr, Langenbuch and Korte, was an admirable cure for some of the unpleasant sequelæ of gallstone work.

Relation of Gallstones to Fat Necrosis.

DR. WILLIAM A. EVANS discussed the anatomic connection between the bile ducts and the pancreatic ducts and said the wonder is not that there should be a relation between disease processes situated in these two structures, but that that relation is not more apparent than it is. Stones passing down the bile ducts are prone to locate at various points in those ducts, and the results that ensue depend in a measure upon the location of the stones. He mentioned four cases of fat necrosis which he had collected up to last summer accompanied, and perhaps caused, by gallstones, and said that in not one of them, so far as he was able to demonstrate, was there stone obstruction at the time of death. Since last summer he had knowledge of eight cases of fat necrosis in this vicinity associated with gallstones. In most of the cases he had seen there was a history of repeated attacks of gallstone colic. In three cases the attacks began much as did the others, but the patients, instead of getting well after the stones had passed, continued to suffer. The pain and tenderness were irregular in their distribution, in one case shifting around the abdomen in a rather peculiar fashion. The sense of discomfort and uneasiness was rather more marked than the pain. Another marked symptom was a cyanosis that amounted to lividity. Neither the fever, pulse nor respiration was very suggestive. Abdominal inspection postmortem and operative, showed the changes to be those of fat necrosis. None was hemorrhagic in type. None showed much digestion of proteids. In two of the cases that came to autopsy the liver, duodenum, stomach and pancreas were removed en masse, and the ducts were carefully searched. They were radically examined in two other cases. In none was obstruction to the common or the pancreatic duct found. He thinks that old gallstone cases are liable to eventuate in fat necrosis.

DR. MAYO, in closing, stated that uncomplicated cases of gallstone disease gave a very small mortality. Considering the low mortality of early operation, he believes it will only be a short time when internists will send their gallstone patients to surgeons as promptly as they now send them their cases of chronic appendicitis.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Regular Meeting, held March 17, 1902.

President, Dr. Parker Syms, in the Chair.

Smallpox and Its Differentiation.

DR. CHARLES S. BENEDICT read the opening paper in the symposium on smallpox. He said that so anxious were many persons to call smallpox by some other name and thus conceal its true nature that it was not uncommon at the present time to meet with it under such names as "Cuban itch" and "Philippine measles." Varioloid was not recognized officially by the health department for it was nothing more than a very mild type of smallpox, demanding the same isolation and care. The presence of a rigor, followed by high fever, headache, angina, lumbar pain and prostration should be sufficient to lead the physician to search for an eruption. The initial fever often felt suddenly by crisis and the secondary fever might be as severe as that of the first stage. The eruption of smallpox ordinarily made its appearance in from 24 to 36 hours after the chill, was at first macular and was completely out in about 24 hours. The macules were dark red and disappeared on pressure. They were followed in a few hours by the characteristically hard, shot-like papules, which were converted into vesicles by the sixth day, and into pustules by the ninth day. The hemorrhagic form of smallpox terminated fatally within forty-eight hours. Smallpox should be differentiated from varicella, measles, scarlatina, malignant endocarditis, cerebrospinal meningitis, erythema multiforme, papular syphilides and pemphigus. In varicella there was not the hard papule of smallpox and umbilication was rare. In measles no vesicles would be observed in the throat. Scarlet fever might be confounded with variola in the earliest stage of that disease only, but the erythema of variola was ephemeral except in the hemorrhagic form, and did not disappear on pressure. In the hemorrhagic form the mucous membranes were apt to bleed, which was not the case in scarlet fever. The petechial rash associated with malignant endocarditis was more likely to be mistaken for typhus fever than smallpox. Heart murmurs would not aid in the differentiation, but the duration and course of the disease would do so. The appearance presented by pemphigus and the absence of constitutional symptoms should serve to readily differentiate it from variola. Of course, the lesions of vaccinia very closely resembled those of variola, but the lesions were much more scanty and the duration of the disease was limited to nine days. In the early diagnosis of smallpox no one symptom or sign should be relied on implicitly.

Smallpox and Its Treatment.

DR. S. DANA HUBBARD was the author of this paper. He insisted that the surroundings of the smallpox patient should be as nearly aseptic as possible and, while the sick room or ward should be kept at a temperature of 70 to 78 F. and be

well ventilated, draughts of air should be carefully avoided, as the mucous membranes are exceedingly sensitive and pneumonia in such persons is very fatal. The attendants and visitors should wear large, loose gowns, rubber shoes, gloves and caps and these should be discarded in an anteroom. After the removal of the patient, the fumigation of the room should be conducted so thoroughly that at its completion the fumes would be so dense as to prevent one seeing through them for more than four feet. The smallpox patient and his surroundings must be kept scrupulously clean, the patient himself receiving a daily bath or sponging. After the bath the application of alcohol was grateful to the patient, but if there was much itching 5 to 20 per cent. carbolized oil should be used. During the stage of suppuration the water of the bath should contain from half a grain to two grains of permanganate of potassium to the ounce and the patient should be given quinin internally, though unusually small doses, because of the peculiar susceptibility to quinin exhibited by this class of persons. In septic cases alcoholic stimulants should be given very freely, remembering the injunction of a well-known physician, "Don't let them die sober." During the vesicular and pustular stages it was desirable to prevent rupture of the lesions. He thought if outside infection could be prevented pitting would not occur, nevertheless but little progress had been made in this important part of the management of smallpox cases. The too early removal of the scabs should be prevented. A mixture of boric acid and glycerin, applied constantly under a mask, he had found to act very well. The patient should be very thoroughly scrubbed and scraped and bathed in bichlorid solution before being discharged.

What Constitutes Efficient Vaccination?

Dr. Frank S. Fielder read this paper. In answer to the important question propounded in its title, he defined efficient vaccination as that which secures to those vaccinated, 1, the smallest proportion of smallpox cases per thousand individuals; 2, the longest duration of immunity among those who finally take smallpox; 3, the lowest mortality among those who contract the disease, and 4, the mildest course of the disease and the least amount of subsequent pitting in those who survive it. A good vaccination scar is whiter than the surrounding skin, having a regular and well-defined outline and a depressed and sometimes slightly striated center surrounded by a foveated ring. The latter corresponded to the area of active vesiculation, and the center represented either the original area of scarification or a cicatrix following the separation of a more or less deep central slough. The size of the scar depends partly upon the scarification and partly on the activity of the virus. Occasionally there would result a poor scar from a vaccination running a typical course, but the rule was that a good vaccination yields a good scar. Dr. Fielder then quoted at length from foreign statistics bearing on the question as to the number and quality of the vaccination scars and the duration of immunity. Thus observations had been made in London by Dr. E. C. Seaton and Dr. Buchanan in the smallpox epidemic of 1863 on about 50,000 cases. Their tables show that the smallest proportion of smallpox cases per thousand was found in those who had been vaccinated in four or more spots and presented scars of excellent quality. R. Cory, in a series of observations on 448 persons who had had smallpox, came to the conclusion that vaccination by multiple insertion gives slightly longer immunity to smallpox than the one-spot method. J. F. Marson, who for more than thirty years was the resident physician of the London Smallpox Hospital, concludes that the efficiency of the vaccination is in exact ratio to its excellence and completeness, as shown by the number and quality of the resulting scars. W. M. Welch made a similar study of his cases while in charge of the Philadelphia Smallpox Hospital for more than twenty-five years, and concluded that the quality of the scars is a far more reliable indication of the degree of the protection than the quantity and that when the scars are typical it makes no difference whether they are single or multiple. Dr. Fielder closed his paper by accepting Marson's conclusion that "test the question in whichsoever way we will the result is in favor of producing four vesicles at least at vaccination with lymph which leaves good permanent cicatrices."

Dr. John H. Branth was of the opinion that some of the great epidemics of smallpox in England and Ireland had been favorably influenced by the process of inoculation and that it was probably safer to perform inoculation at a time when there is no epidemic of smallpox. Some light, he said, might be thrown upon the nature of vaccination by the statement of Ernest Hutchinson, D.V.S., of Portland, Ore., U. S. Inspector of Animal Industry, that the tubercle bacilli from one species can not be transplanted with the same success to other species, and that if successful, a modification of the virulence takes place. It was possible that vaccinia might be due to modified virulence like that claimed by Hutchinson for tuberculosis of different species. It had been contended by the antivaccinationists that compulsory vaccination was an infringement of personal liberty, but to allow an unvaccinated person to remain in our midst and thus menace our well-being was an infringement of our personal liberty.

Dr. William Dolz said that he had been engaged in taking care of 1300 cases of smallpox in the province of Santiago, Cuba, and had adopted essentially the treatment outlined by Dr. Hubbard. They had been given a bichlorid of mercury bath, 1 to 5000, once, twice or three times a day, the worse the eruption the more frequent these baths. Half of the cases were confluent, two-thirds not vaccinated and the surroundings most unfavorable. Despite these drawbacks the mortality rate was 10 per cent. These 1300 had been discharged within a period of ten weeks and although for over a year previously an epidemic of smallpox had been raging and had carried off over 4000 people, no new cases had developed in that district in the three years that had elapsed since that time.

Dr. David P. Austin was of the opinion that Dr. Fielder's quotations from hospital statistics were misleading because in certain countries it was the rule to make three or four insertions at the primary vaccination, thus vitiating the results of any subsequent investigation into the number of vaccination scars present. Two vaccinations, made at different times, protect better against smallpox than one vaccination consisting of several insertions. At one time he had vaccinated 10 children successfully, and one month later had again successfully vaccinated 8 of these children. At the end of the second month 6 of the children were again successfully vaccinated, and at the end of still another month 6 of the children were vaccinated with 4 successes. One vaccination should not be relied on for any length of time for protection. He had records of 10,000 vaccinations of public school children that he had done and these showed that between 60 and 65 per cent. of these vaccinations had been successful. Of those vaccinated only once before, 40 or 50 per cent. were successful, while there were only about 8 per cent. of successes in those who had been previously vaccinated four or five times. In his opinion, immunity was that condition which protected the person from smallpox for the balance of his life. In some persons, four or five vaccinations were necessary to establish this immunity, but when once secured it lasted for life.

Dr. Fielder, in closing, agreed with Dr. Austin regarding the superior results obtained from repeated vaccination as opposed to simultaneous insertions. That immunity to smallpox and to vaccination are not the same had been demonstrated by a resident physician of the smallpox hospital on North Brother Island. This gentleman, though living in the midst of smallpox and not contracting the disease, was able to successfully vaccinate himself. There was no way of determining how long a time a given individual would remain immune by reason of a vaccination.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, held March 6, 1902.

President, Robert F. Weir, in the Chair.

The Use of the X-Ray in the Treatment of Some Forms of Cancer.

Dr. Francis H. Williams, Boston, said that it was immaterial whether a static machine with large plates was used or a coil for the generation of the *x*-ray. There should be an adjustable spark-gap and the tube-holder should be so ar-

ranged as to conveniently focus the rays on the part to be treated. For this purpose he was accustomed to make use of a box painted inside with white lead, having an opening in the bottom for the exit of the rays. By means of a suitable lead screen a cone of rays a little larger than the area to be treated was brought to bear on the diseased part. For the treatment of growths within such cavities as the mouth and vagina, it was desirable to pass the *x*-rays through a cylindrical glass speculum passed through the center of a screen of sheet tin. At first, an exposure of only five or ten minutes should be given, three times a week, but the time of exposure may be gradually increased to twenty minutes or more. The exposures should be especially brief in the case of actively growing tumors. The sound tissues are not affected by the exposures required for this method of treatment. Dr. Williams said that a microscopic diagnosis had been made for him in almost every one of his cases, which included epithelioma, rodent ulcer, carcinoma, papilloma of the larynx, spindle cell sarcoma and keratosis. He thought it probable that most external growths could be made to disappear by the *x*-rays, but in the more advanced, though operable, cases one would have to choose between the *x*-ray and operation. In the inoperable cases, or where the patient declined operation, the *x*-rays should certainly be used. It was worthy of note that a trial of two weeks would ordinarily be sufficient to show whether or not the *x*-rays would avail in a given case of epithelioma Thus far, every external new growth that he had subjected to the *x*-ray had healed or was rapidly improving. He believed this treatment would prove beneficial in certain forms of cancer of the breast, and nodules recurring in the scar of operation were certainly amenable to this new agency. The absence of any dread of operation, the painlessness of the treatment and the excellent cosmetic effects secured would prove potent factors in bringing many patients under observation at a much earlier stage than heretofore. At the present time, however, the physician was not justified in promising a good result from the use of the *x*-ray in the deeply-seated growths, and it was his duty to warn his patients of the present narrow limits of this method of treatment.

DR. WILLIAM JAMES MORTON said that he had found no occasion to employ the aluminum screen, for, while it could not be denied that such a shield cut off the electrostatic field, it was not the electricity but the *x*-ray that caused the burns. Neither did he make any effort to insulate the lead plates, but instead made use of common tin foil, which he found exceedingly convenient for the purpose. He had found the medium soft and the hard vacuum tubes the best for this class of work and had learned to divide his cases into four classes, viz., 1, exterior or superficial; 2, interior growths situated beneath a healthy skin; 3, operable cases and, 4, inoperable cases. A rather soft tube should be used for the treatment of cases of the first class. As regards the operable cases, he did not feel at present like advising the use of the *x*-ray in preference to the knife, though he had found carcinoma of the breast, both initial and recurrent, yield well to the *x*-ray. Dr. Morton reported, among others, one case, proved by the microscope to be carcinoma of the breast, in which, after three operations, he had made use of the *x*-ray, and had apparently effected a cure. A patient was shown who was still undergoing treatment for a large osteosarcoma behind the ear. The young woman had received 20 treatments and only about one-tenth of the growth now remained.

DR. WILLIAM B. COLEY described his experience with this treatment. Several cases of sarcoma had shown no permanent improvement, but one case of lymphosarcoma and another recurrent small round-cell sarcoma of the neck had shown marvelous improvement. This was particularly true of the latter case, which was accompanied by a complete history dating back ten years.

DR. CHARLES W. ALLEN exhibited a case of lupus of twenty years' standing that had been apparently cured by the *x*-ray. He said that he had almost invariably noted cessation of pain after the first treatment.

DR. PERCY TURNURE briefly narrated his experience at the Roosevelt Hospital, and showed two patients, one a case of epithelioma of the face, and the other an erythematous lupus of the same region. He said that his results in carcinoma had been discouraging.

DR. GEORGE C. HOPKINS, Brooklyn, said that he, too, would dissent from the view entertained by the reader of the paper concerning the necessity for using the screen. He had treated a very large number of cases and had never produced an *x*-ray burn. Most of his work had been with recurrences in the line of operation scars, and here he had met with considerable success. He believed that if a static machine and a low vacuum tube were used there would be little danger of producing *x*-ray burns.

DR. H. G. PIFFARD thought many of the external growths that had been treated with the *x*-ray could have been treated just as successfully, and in a much shorter time, by curettage and the application of the galvano-cautery.

DR. WILLIAMS, in closing, said that as it was possible to produce a dermatitis even when a screen was used, and that it was also possible to produce a severe burn by the brush discharge, it seemed to him wiser to make use of a screen and so reduce to a minimum the risks of this method of treatment.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Rectal Alimentation.

The technique of rectal alimentation must be properly carried out if the best results are obtained. The importance of a proper knowledge of the preparation of the food and the method of its introduction is evidenced by the number of diseases in which it must be used. Mention may be made of some of these conditions, such as ulcer and carcinoma of the stomach, persistent vomiting from any cause, and certain abdominal operations.

In cases of tubercular laryngitis the pain is so severe that the swallowing of food in any form is almost impossible; in diphtheria rectal feeding is sometimes necessary. In the treatment of appendicitis, where surgical measures are not carried out, complete rest of the intestinal tract is sometimes advised for a number of days, during which time the patient may be sufficiently nourished per rectum, thus lessening the peristalsis otherwise produced by food introduced per os.

It is important to bear in mind that the lower portion of the large intestine has not the power to digest, and consequently any alimentation thus introduced should be predigested or peptonized. Some authors state, among them Ewald, that milk will be properly assimilated when introduced per rectum. Others are in the habit also of giving raw beaten eggs and beef juice, but it is a question whether any of them are of great nutritive value when given without first undergoing the process of predigestion.

Dr. N. S. Davis, Jr., in the "System of Phys. Ther.," states that peptones are well absorbed. So also is the white of an egg when a little salt is mixed with it. Raw beef juice in his opinion is completely absorbed. Sugar is readily absorbed, but is especially liable to provoke diarrhea, for in concentrated solution it irritates the mucous membrane of the bowel. It will, however, be retained if introduced in a solution of not more than 20 per cent. strength. Starch, according to Davis, is perfectly absorbed, while fats are not absorbed. He gives no reason why the above substances are absorbed when they have not been predigested, except that the epithelial cells of the mucous membrane are probably capable of modifying them chemically. By reversed peristalsis, food introduced by the bowel may reach the small intestine unless there be some obstruction along the course of the canal.

Yeo holds a contrary opinion and states that only water, salts and peptonized foods can be absorbed. It should be remembered that the mere retention of the enema is no evidence that the patient is being nourished. Rectal alimentation, as

has been stated, may supply sufficient nourishment, when employed, for a limited length of time and should only be resorted to as a temporary means of tiding a patient over until his stomach is again able to properly retain and digest the food. The lower bowel should be properly prepared to receive the nutrition by first flushing it out with a high enema of plain water or of weak soap suds. Then the patient should rest about one hour before the food is introduced. The patient should be instructed to lie flat on the back with the hips slightly elevated or upon the left side. The nutrient enema should be given at about 100 F. The tube should consist of an ordinary flexible large catheter to which is attached a glass tube five or six inches in length, to which in turn is attached a funnel which should be held at an elevation of two or two and a half feet above the bed. The tube should be inserted at sufficient length into the bowel so that the upper end will have passed above the sigmoid flexure and the fluid allowed to run slowly into the bowel.

The amount to be introduced at each feeding should not exceed six or eight ounces (180 or 240 c.c.); larger amounts are liable to provoke increased peristalsis and cause evacuation of the contents. Irritation of the bowel must be avoided if possible by not feeding oftener than once in six hours; if necessary five to ten drops of tinctura opii may be added to each feeding to lessen the irritability of the mucous membrane.

Dujardin-Beaumetz advises the following nutrient enema: One glass of milk to which is added the yolk of one egg beaten up; then add 2 dessertspoonfuls of solid peptones or 2 tablespoonfuls of liquid peptones, and 7 or 8 grains (one-half gram) of sodium bicarbonate.

Daremberg, as stated in the "Manual of Clinical Therapeutics," states that he kept alive a patient who was suffering from stricture of the esophagus, for fourteen months by means of a peptonized enema prepared in the following manner: Place in a glass vessel 7500 grains (475 grams) of finely minced meat as lean as possible; pour on this about 100 ounces (3000 grams) of pure water and an ounce (30 grams) of hydrochloric acid of a density of 1.15. To this add 40 grains (2.5 grams) of pure pepsin. Digest this mixture for 4 hours at a temperature of 112 F. Then let it boil, adding meanwhile a solution of sodium bicarbonate (17 grains to the ounce, or 1 to 30) until the mixture has a slight alkaline reaction; this will require 5 or 6 ounces (150 or 180 grams) of the solution. Strain the liquid and concentrate to 50 or 60 ounces (about one and three-quarters kilograms). Half this amount is given by the rectum daily.

Ewald's formula is as follows: Beat up two or three eggs with a tablespoonful of cold water; boil a teaspoonful of flour with a 20 per cent. solution of grape sugar and add a wineglassful of red wine; stir the egg slowly into this mixture when it has cooled. The above mixture is an indication of his opinion that the absorption of nutrient enema may take place without peptonization.

Leube recommends the following as a nutrient enema: Take about 5 ounces (150 grams) of finely scraped meat; chop it still finer, add to it one and a half ounces (45 grams) of finely-chopper pancreas free from fat, then add about 3 ounces (90 grams) of luke warm water and stir to the consistence of thick pulp.

Ordinary peptonized milk is, for all practical purposes, the best food for rectal nourishment. It may be prepared as follows: To three parts of pure milk add one part of water. Pour one pint of this mixture into a jug after bringing it to a boil. When it has cooled down to about 140 F., one or two teaspoonfuls of liquor pancreaticus and a little sodium bicarbonate should be added. Set aside for one hour and boil again for one or two minutes; cool to 100 F. and the enema is ready for use.

The following nutrient enema is sometimes used, prepared according to Scheffer's formula:

℞.	Infusi carnis (beef tea)	℥iv	124
	Acidi hydrochlorici	m. x	60
	Pepsini glyceriti	ʒii	7 50

M. Sig.: As a nutrient enema.

Bidwell gives the following formula:

℞.	Milk	℥ii	62
	Beef tea	℥ii	62
	Yolk of egg	i	
	Sol. pancreatici	ʒi	3 75

M. Heat one hour before use at a temperature of 100. Sig.: Use as an injection once in six hours.

A very good combination may be prepared as follows:

℞.	Beef peptonoids	ʒii	7 50
	Yolk of egg	i	
	Spts. frumenti	℥ss	16
	Tinct. opii	m. v	33
	Sodii chloridi q. s.		
	Peptonized milk	℥vi	186

M. Sig.: Use as an enema once every six hours.

Leube also recommends the following formulæ:

℞.	Peptone	℥ii	62
	Milk	℥viii	248

Or:

℞.	Three eggs		
	Sodium chlorid	gr. xlv	3
	Milk	℥viii	248

Or:

℞.	Grape sugar	℥ii	62
	Milk	℥viii	248

Or:

℞.	Starch	℥ii	62
	Milk	℥ix	280

N. S. Davis, Jr., employs the following:

℞.	The white of three eggs.		
	Starch	℥ii	62
	Sodium chlorid	ʒi	3 75
	Water	ʒviii	248

Somatose, the predigested meat preparation, is an admirable product for rectal alimentation. There is also upon the market a great variety of peptone preparations of predigested meat in powder form, which may be used in the preparation of nutrient enema.

Medicolegal.

Telling Character of Injury Not Waiver of Privilege.—The third appellate division of the Supreme Court of New York says, in the case of Dunckle vs. McAllister, that no court, it believes, has yet gone so far as to hold that it is a waiver of the right conferred by statute to enjoin secrecy in an attending physician, when all that can be said is that the patient himself became a witness and told the character of the injury he was suffering from. That appearing to be all that the patient did in this case, the court holds that there was no error in excluding, upon his objection, the opinions of certain physicians, formed from an examination of his wound while attending him as a patient, that it was not a gunshot wound, but the result of a blow.

Statements of Injured Person to Physician.—The Supreme Court of Ohio holds, in Pennsylvania Company vs. Files, a personal injury case brought by the latter party, that testimony of a physician, who had made an examination of the party before the trial, as to statements made by the party at that time, in regard to his suffering from the injury, was incompetent as evidence, the examination not having been made for the purpose of treating the party, but for the purpose of enabling the physician to testify as an expert at the trial. Such evidence, the court says, is to be distinguished from evidence of a like character, given by a physician called on for treatment. In such case, what the patient may say to his medical adviser as to his condition and how he suffers may be admitted. It is to be presumed in such case that he states the truth, as it is to his interest that he should do so, and not mislead the physician by false statements as to his condition. He is under a strong motive in such case to state the truth, and it

is on this ground that such evidence is admitted. But where the physician is called on, not for the purpose of treatment, but to enable him to give evidence in a pending or proposed suit, no such sanction of the truth of what he says exists. On the contrary, he is under a strong motive to deceive the physician, and, not being under oath, may, with impunity, make such statements as he sees fit. What he says to a physician under such circumstances is self-serving in character, and should not be admitted in evidence; and, for a stronger reason, like statements made to third persons, not physicians, under similar circumstances, are incompetent.

Illinois Medical Practice Act and Osteopathy.—The Supreme Court of Illinois says, in the case of People, to Use of State Board of Health, vs. Gordon, that it thinks it clear, from the several sections of the act of 1899 to regulate the practice of medicine in the state of Illinois, that the State Board of Health is authorized to divide those who desire to practice medicine in this state into two classes; that is, those who desire to practice medicine and surgery in all their branches, and those who desire to practice any other system or science of treating human ailments without the use of medicine or instruments. In this case, the party said that his treatment was a mental science. But he said, too, "I first make a diagnosis. Then I remove the cause for that condition by working and freeing the nerve force. . . . I get as near the muscles as I can. If a person is fleshy, it takes more force." He also flexed, or, as one witness said, bent the limbs. The court declares that it is at a loss to perceive how it could be said that his own testimony did not tend to show that he did treat and operate on patients for physical ailments, within the meaning of section 7 of the act, which defines who shall be regarded as practicing physicians, within the meaning of the act, as including both classes above mentioned, and defines the practice of medicine as including all "who shall treat or profess to treat, operate on or prescribe for any physical ailment or any physical injury to or deformity of another." In short, the court thinks that all the testimony tended to show that he practiced what is known as osteopathy, at least, the treatment was of that nature. It says further that it hardly thinks that the large school of osteopathists and those who believe in their method and system of treatment, would be willing to concede that such treatment is no more than that which a trained nurse might administer. While it may be truthfully said that it is not the practice of medicine in the common acceptation of that term, it can not be claimed that it does not "profess to treat, operate on or prescribe for any physical ailment or any physical injury to or deformity of another," and certainly it can not be insisted that such persons do not practice another "system or science of treating human ailments without the use of medicine internally or externally." Nor is the court able to see how, under his own evidence, the position advanced could be maintained that he was exempt from the operation of the statute by the last clause of the proviso to section 7; that is, that he was a person "who ministers to or treats the sick or suffering by mental or spiritual means, without the use of any drug or material remedy." Very clearly this provision, the court says, means that those who pretend to relieve the ailments of others by mental or spiritual means shall not be considered within the act; but if this party, under the proof in this case, could bring himself within that exception, then every one who treats diseases without administering medicine, either externally or internally, could also be brought within the exception. Few, perhaps, if any, physicians attempt to treat the sick and suffering without appealing to the mental faculties, to a greater or less degree, in aid of the remedies they apply or prescribe; but that is not treating the sick by mental or spiritual means. Again, the court says, that merely giving massage treatment or bathing a patient is very different from advertising one's business or calling to be that of a doctor or physician, and, as such, administering osteopathic treatment. The one properly falls within the profession of a trained nurse, while the other does not.

Authority Required for Appointment of Health Officer.—The Court of Civil Appeals of Texas says, in the case of Brumpy vs. Boyd, that the right on authority is select and appoint public officers is one of the highest prerogatives of sovereignty, and the delegation of such authority by the sovereign power must be clearly shown by the person claiming the right to exercise the same. The power to appoint officers—excepting, perhaps, those who are to assist him in the discharge of his personal executive duties—is not inherent in the chief executive, but must exist, if it exist at all, by virtue of the authority conferred upon him by the sovereign power. Consequently, for example, unless the sovereign power, the people, have, through the act of their legislature granting a charter to a city, conferred upon the mayor thereof the power to appoint a health officer to temporarily fill a vacancy in that office, caused by the death of the incumbent, the mayor has no such power, and any appointment made by him is absolutely void. A provision in a city charter that "in case of a vacancy in any elective office, from whatever reason, the council, upon nomination by the mayor, shall fill the vacancy by the election of some person by a vote of a majority of the aldermen elected and qualified," does not authorize the executive to make a temporary appointment of a health officer in the recess of the confirming or concurring body. Neither can act in the matter independent of the other, and no legal appointment, temporary or otherwise, can be made unless concurred in by both the mayor and a majority of the board of aldermen. But it was urged that upon the failure of the mayor and board of aldermen to agree upon a suitable person the right of the mayor to make a temporary appointment would arise from public policy, which requires that a vacancy in a public office should be filled. It is true, the court replies, that the law does not favor a hiatus in office, and the welfare of the citizens demands that a vacancy in the office of health officer of a city should be filled; but the city council of the city, to whom alone the authority to fill such vacancy was delegated, having failed to perform that duty, and there being, as before shown, no inherent power in the mayor to make such appointment, the office must remain vacant until filled in the manner prescribed by the law. Nor does the court consider that the council could legally authorize one of the health inspectors of the city to perform the duties of health officer pending the filling of the vacancy in the office in the manner required by the charter; besides, both offices being offices of emolument, to allow one person to hold them in even that manner would be in violation of the state constitution. Then, either an appointment by the mayor or by the council, being not merely irregular and informal, but absolutely void, neither's appointee would have any colorable right to the office, nor could be regarded as the de facto health officer of the city.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record (N. Y.), March 29.

1 *The Relation of Surgery to Obstetrics. Edwin B. Cragin.
2 The Study of Quarantine in the Light of Modern Progress. Arthur H. Glennan.
3 *A Fatal Case of Gangrenous Appendicitis Without One Cardinal Symptom in the Course of the Disease. Samuel M. Evans.
4 *Cosmetic Considerations Not the Only Ones in Cases of Strabismus—The Importance and the Possibility of Securing Binocular Vision. Richard H. Derby.
5 *The Treatment of Internal Hemorrhoids. W. Duff Bullard.
6 Is the Mind an Entity? H. H. Stoner.

New York Medical Journal, March 29.

7 *The Obesity of Adolescence. Heinrich Stern.
8 The Relation of Local Disease to Nervous Disorders, Especially Neurasthenia. Frederic Coggeshall.
9 *The Radical Cure of Hydrocele by Minute (2-minim) Injections of Carbolic Acid. William B. Coley and Preston A. Satterwhite.
10 A Prostatectomy Forceps. Ramon Guiteras.
11 *Hippus. Richard C. Newton.
12 *Diabetes and the Eye. S. Busby Allen.

American Medicine (Philadelphia), March 29.

13 *Sand Filtration in Relation to Disease. James M. Anders.
14 *Observations on Bacillus Coli Communis from Certain Species of Domesticated Animals. Veranus A. Moore and Floyd R. Wright.

15 *The Treatment of Suppuration in the Uterine Appendages. Charles P. Noble.
16 Report on a Parasitic Disease in Horses, Mules and Caribao in the Philippine Islands. J. J. Curry.
17 *Movable Kidney; with Possible Explanation of Failure in Some Cases to Relieve Symptoms by Nephrorrhaphy. George H. Mallett.
18 *A Criticism of a Recent Discussion upon the Value of Certain Cases of Blood Examination. Robert N. Willson.

Philadelphia Medical Journal, March 29.

19 *Paresis: A Clinical Study of 149 Cases Occurring at the Philadelphia Hospital. William Pickett.
20 Somnolence Caused by an Ear Lesion. W. G. B. Harland. With Remarks by Charles H. Burnett.
21 *A Second Contribution to the Study of Anesthesia by Nitrous Oxid Gas and Ether. Prescott Le Breton.
22 *The Supra-orbital Reflex—An Explanatory Note. D. J. McCarthy.
23 Arteriosclerosis and the Nervous System. Charles Lewis Allen.
24 A Case of Herpes Zoster Ophthalmicus. W. S. Durand.

Medical News (N. Y.), March 29.

25 *The Present Status of Serumtherapy in Typhoid Fever. James Ewing.
26 Surgical Complications of Typhoid Fever. Robert Abbe.
27 *The Detection of Typhoid Bacilli in the Feces as a Diagnostic Test of Typhoid Fever, and a Comparison of This Test with the Widal Reaction. Henry A. Higley.
28 *Remarks upon Some Experiences with the Widal Reaction. E. Libman.
29 Some Observations in Typhoid Fever. Frank S. Meara.
30 *Adrenal Substance in the Intestinal Hemorrhage of Typhoid Fever. Warren Coleman.
31 Pathology of Typhoid Fever. R. Alexander Bate.

Boston Medical and Surgical Journal, March 27.

32 *The Suture of Arteries. J. C. Hubbard.
33 *A Contribution to the Study of Catgut as a Suture and Ligature Material. Hugh Cabot.
34 *Neglected Methods for the Sterilization of "Gum-Elastic" Catheters. F. J. Cotton.
35 *Two New Methods of Operating for Retrodisplacement of the Uterus. Frederic Coggeshall.
36 *The Influence of School Life Over Health. Frank W. Wright.

Cincinnati Lancet-Clinic, March 29.

37 An Apoplexy in the Visual Center Without Any Other Symptoms of Motor or Sensory Paralysis. Louis Stricker.
38 When I Studied Medicine. Geo. J. Monroe.

Virginia Medical Semi-Monthly (Richmond), March 7.

39 Foreign Bodies in the Ears. O. A. M. McKimmie.
40 *A Case of Suture of a Stab-Wound of the Heart, with Remarks on and a Table of the Cases Previously Reported. George Tulley Vaughan.
41 Treatment of Delirium Tremens. T. D. Crothers.
42 Why Doctors Disagree—A Plea for a Modern Code of Ethics. Little C. Keister.
43 The Prophylactic Care of the Breasts Before and After Labor. John F. Winn.
44 Serumtherapy. Charles R. Grandy.

American Journal of Obstetrics (N. Y.), March.

45 *Chorio-epithelioma Malignum. Frank E. Pierce.
46 *Retroversion and Retroflexion of the Uterus. Edward P. Davis.
47 Primary Carcinoma of the Uterine Fundus. J. M. Baldy.
48 *The Uniform Principle in Performing Operations for Lacerated Perineum, Cystocele, Rectocele and Prolapse. Henry J. Krentzmann.
49 *A Contribution to the Surgical Treatment of Laceration of the Female Perineum. J. Wesley Bovée.
50 The Technique of Amputation of the Cervix Uteri. Charles P. Noble.
51 On the Etiology, Histology and Usual Course of Ectopic Gestation. (To be continued.) Samuel W. Bandler.
52 *Some Observations on the Menopause. George W. Cook.
53 A Case of Grape-Like Sarcoma of the Cervix Uteri. Bache McE. Emmet.
54 Prolapsus Uteri. W. H. Wenning.
55 *Gonococcal Peritonitis: Report of Another Case. Louis Frank and Henry H. Koehler.
56 *Repair of a Complete Laceration of the Perineum in a Girl of 9 Years, Produced by the Finger of the Obstetrician at the Patient's Birth. H. A. Royster.

Interstate Medical Journal (St. Louis), March.

57 Bacteriemia. R. Krétz.
58 Tuberculosis of the Choroid: Tumors of the Choroid. James M. Ball.
59 Smallpox—The Present Epidemic. A. W. Brayton.
60 Double Optic Neuritis Occurring During Lactation. John Green, Jr.
61 Abdominal Tumors. Jesse S. Myer.

Medical Bulletin of the Washington University (St. Louis), January.

62 *Reflexes from a Sympathetic Ganglion. S. P. Budgett and C. A. Snodgrass.
63 *Notes on the Treatment of Syphilis. W. A. Hardaway.
64 *The Report of 18 Cases of Various Eruptions Associated with Malarial Infection. Martin F. Engman.
65 A Case of Keratosis Follicularis (White). Joseph Grindon.
66 A Case of Syphilitic Iridocyclitis.
67 A Case of Tertian Remittent Fever with Profuse Skin Eruption. H. Clay Creveling.
68 Suppuration of a Dermoid Cyst of the Ovary, Caused by Infection with the Typhoid Bacillus. Ernest Jonas.
69 A Case of Acquired Knock-Knee. F. B. Hall.
70 Carcinoma of the Scalp. W. M. Robertson.

Journal of Advanced Therapeutics (Rahway, N. J.), March.

71 General Consideration of Electro-therapeutics. Ernest Wende.
72 Ozone in Tuberculosis. J. D. Gibson.
73 The Effects of Electro-static Modalities upon Hyperemia and Pain. William B. Snow.
74 Therapeutics of Dry Hot Air. Clarence E. Skinner.
75 The Turkish Bath. Charles H. Shepard.

Annals of Surgery (Philadelphia), March.

76 *Suture of the Abdominal Wall. Charles Davison.
77 *Epiplopexy in Cirrhosis of the Liver with Ascites. Gaston Torrance.
78 *On Splanchnoptosis and Its Surgical Treatment, with Report of a Case. Henry A. Ingalls.
79 *Abdominal Contusions Associated with Rupture of the Intestine. Homer Gage.
80 Traumatic Rupture of the Mesenteric Arteries. Charles J. Aldrich.
81 *The Surgical Treatment of Some of the Remote Results of Inflammation of the Gall-Bladder and Bile-Ducts. Harry D. Niles.
82 An Instrument for Facilitating Intestinal Anastomosis. Oscar H. Allis.
83 *Misapplied Mechanical Support to Weak Ankles of Children. H. Augustus Wilson.
84 *Elbow Fractures in Children. (Concluded.) Frederic J. Cotton.

Occidental Medical Times (San Francisco), March.

85 A Case of Perforation of Stomach Resulting from Gastric Ulcer; Laparotomy; Recovery. R. T. Stratton.
86 *Chronic Urethritis and Its Treatment by Extract of Suprarenal Capsule. George L. Eaton.
87 Recollections of the European Clinics. James T. Watkins.
88 Cataphoric Medication. D. J. Prather.

Medical and Surgical Monitor (Indianapolis), March 15.

89 Report of Two Cases—Removal of a Sole Leather Bougie from the Male Urethra and a Mulberry Calculus from the Bladder. John A. Sutcliffe.
90 Dysmenorrhea. Madge P. Hawkins.
91 Cause and Prevention of Typhoid Fever. G. D. Lind.
92 Some Observations on Internal Strabismus. J. L. Masters.

Indiana Medical Journal (Indianapolis), March.

93 *Immunity Following, and Its Influence in Curing Gonorrhea. J. T. McShane.
94 Why Is It? (Unfriendliness Among Doctors.) J. B. Fattic.
95 *Veratrum in Pneumonitis. Carter H. Smith.
96 Hypertrophy of Prostate. T. J. O'Brien.
97 What Constitutes "Septic Poisoning" in Accident Policies? G. W. H. Kemper.

Canadian Practitioner and Review (Toronto), March.

98 A Case of Intussusception in a Child; Operation; Recovery. A. Primrose.
99 A Case of Perforation of the Bowel in Typhoid; Operation; Recovery. Followed by Subphrenic Abscess; Operation; Recovery. Herbert A. Bruce.
100 Gastro-enterostomy in Pyloric Obstruction—A Case. Alexander McPhedran.
101 Report of a Case in Practice. (Cerebral Hemorrhage.) Charles F. Neu.

American Medical Compend (Toledo, Ohio), March.

102 *The Nausea and Vomiting of Pregnancy. Is Instrumental Abortion Justifiable for Its Relief? J. A. Wright.
103 Neurasthenia Gastrica. E. J. Greenfield.
104 The Treatment of Influenza and Coughs. David E. Bowman.
105 A Hallucination. J. T. Woods.

Medical Herald (St. Joseph, Mo.), March.

106 The Various Phases of Ascites and Their Treatment. A. R. Leonard.
107 Examination of the Eye for General Diagnostic Purposes. F. E. Sampson.
108 Sugar in the Urine. J. Malseed Bell.
109 Antitussin in Whooping Cough—Clinical Report. J. N. Bartholomew.

Therapeutic Gazette (Detroit, Mich.), March 15.

110 The Treatment of Cutaneous Cancer by the X-Rays. G. E. Pfahler.
111 *The Instrumental Relief of Acute Retention from Prostatic Enlargement. Wm. T. Belfield.
112 Cholagogues. A. L. Benedict.
113 A Case of Imperforate Rectum—Death from Chloroform After Three Operations. John W. Luther.
114 Reports of Various Types of Insomnia, with Hints on the Treatment. C. H. Brockway.
115 Incomplete Retention of Urine in Stricture of Male Urethra and Its Bearing on Treatment. E. H. Siter.

Therapeutic Monthly (Philadelphia), February.

116 Chronic Muscular Diseases of the Heart. Theodor Schott.
117 An Address on Medical Education. J. R. Jones.
118 Auto-intoxication and Its Treatment. Charles H. Shepard.
119 Organic Hair and Fur Dyes. V. Coblentz.
120 Note on the Use of Cinchonin Sulphate in Coryza. James Ely Talley.

American Journal of Surgery and Gynecology (St. Louis), March.

121 *Modification of Halsted's Operation for Cancer of the Breast. J. F. Binnie.
122 Primary Carcinoma of the Body of the Uterus. J. M. Baldy.

123 *Skin Grafting. Raymond C. Turck.
124 Two Tubal Pregnancies in One Patient, with Other Ectopic Cases. W. M. Harsha.
125 Growths in the Female Breast. H. C. Crowell.
126 Stone in Kidney. A. H. Cordier.
127 Spinal Anesthesia and Chloretone. D. MacDonald.
128 Abdominal Section for Rectal Prolapse of Many Years' Standing. F. W. Parham.
129 Six Cesarean Sections, with Death of One Woman and One Child (One Death Before Delivery). Edward P. Davis.

Journal of Medicine and Science (Portland, Me.), March.

130 The Pathology and Etiology of Cancer. W. B. Small.
131 Some Modern Methods of Diagnosis of Cancer, with Particular Reference to Cancer of the Stomach. A. K. P. Meserve.
132 The Treatment of Cancer. C. E. Williams.

St. Louis Courier of Medicine, March.

133 Studies About Agglutinins. Carl Fisch.
134 Syphilis and Marriage. W. A. Hardaway.
135 The Neurologic Aspect of Syphilis. M. W. Hoge.
136 Early Diagnostic Signs and Symptoms in Hereditary Syphilis in Infants. W. L. Johnson.
137 A Gunshot Wound of the Abdomen Inflicting 19 Perforations of the Intestine and 4 Lacerations of the Mesentery, with Recovery. Robert F. Amyx.
138 Laryngeal Crisis in Locomotor Ataxia; Report of a Case. Charles J. Orr.
139 Senile Gangrene of the Right Foot. Louis J. Oatman.

Chicago Clinic, March.

140 *Laparotomy Dressings. E. C. Dudley.
141 *The Significance and Treatment of High Temperature in the Toxemias of Young Children. Marcus P. Hatfield.

Charlotte Medical Journal, March.

142 Perforating Abdominal Wounds; Report of Cases with Remarks. James M. Parrott.
143 Puerperal Fever. W. Gill Wylie.
144 Report of Five Cases of Asthma Treated with Silver Nitrate Injections. H. T. Bass.
145 Cystitis. H. M. Wilder.
146 Puerperal Convulsions as Seen by a Country Practitioner, with Report of Cases. W. T. Griggs.
147 Urinary Analysis, Diagnosis and Prognosis by the Microscope. W. H. Prioleau.

Kansas City Medical Index-Lancet, March.

148 Some Reflections on the Senile Changes of the Uro-Genital Tract. Jacob Block.
149 Eye Hospitals of France, Germany and England. Geo. W. Mason.
150 *Preputial Adhesions in the Female. E. B. La Fevre.
151 Food Preservatives, Their Use, Misuse and Toxicology.
152 Reminiscences of a Recent Trip Abroad, Including Visits to the London, Paris, Berlin, etc., Hospitals, Clinics, Medical Museums and Libraries, as Well as to the British Medical Association. John Punton.

Southern California Practitioner (Los Angeles), March.

153 Ethics of Nursing. Walter Lindley.

Texas Medical Journal (Austin), March.

154 Common Nasal Conditions as the Cause of Neuralgias of the Terminal Branches of the Fifth Nerve. Joseph Mullen.
155 The Ear and Kidney in Mild Scarlet Fever. John S. Lankford.
156 Gonorrhea in the Female. E. B. Parsons.
157 Nevi; Report of a Case and Treatment by Electrolysis. R. M. Dunn.
158 Leucorrhea and Its Treatment. R. Y. Lacy.

Texas Medical News (Austin), March.

159 The Gymnastic Training of College Men—Methods Employed in the University of Texas Gymnasium. F. Homer Curtis.
160 Tuberculosis. C. E. Lane.
161 *A Report of Seven Perineal Operations for Vesical Calculi. Joe S. Wooten.
162 Traumatic Tetanus—Report of a Case. A. L. Anderson.

Alabama Medical Journal (Birmingham), March.

163 *Epiplopexy in Cirrhosis of the Liver with Ascites. Gaston Torrance.
164 Acute Dysentery. Allen E. Cox.
165 Influenza. A. W. Sims.

---

1. **Surgery and Obstetrics.**—Cragin calls attention to the importance of surgical training for obstetricians, especially in the technique of asepsis, which is of importance in obstetric work and which a surgical training can best give. The obstetrician needs special training in preparation for the meeting of hemorrhage and treatment of lacerations, obstruction deliveries, eclampsia and infections.

3. **Gangrenous Appendicitis Without Symptoms.**—The case reported by Evans was that of a child 9 years old. In the five days' sickness there was a steady advance in the pulse and toxemia. The temperature remained practically normal until the fourth day. At no time were there any cardinal symptoms of appendicitis or peritonitis. The autopsy showed that the appendix was straight, of large lumen, unobstructed by any foreign body, without adhesions or malformation. There was a bacterial infection of the peritoneum without perforation of the walls of the intestine or appendix and gangrene in that part of the lumen touching the appendix. The patient died before the peritoneal symptoms had developed. This case shows that an infection can exist in the appendix which will end fatally, not only before peritoneal symptoms exist, but before giving any indications of its source. If, in the presence of constitutional symptoms of toxemia of unknown origin, there exists the slightest suspicion of abdominal involvement, Evans suggests an exploratory incision for the purpose of diagnosis and further interference if necessary.

4. **Strabismus.**—Derby insists on the importance of long continued daily exercise and the training of an amblyopic eye. A closely fitting screen over the well eye is necessary, and for half an hour at a time daily and sometimes twice a day the deviating eye is to be exercised by writing and reading. He thinks that this is of great importance and we ought to see that the advantage of good binocular vision is secured.

5. **Internal Hemorrhoids.**—Bullard discusses four methods of treatment of hemorrhoids, the injection method, the Whitehead operation, the ligature and the cautery. The first two he thinks should be abandoned. The only value the injection method has is its applicability in cases of dangerously ill patients, to whom an anesthetic can not be administered. But the risk is so great that it is better for the time to adopt palliative measures. The Whitehead method has no advantages. The ligature and clamp and cautery operations are the proper procedures to employ, the latter possessing the advantages of a more speedy and painless cure and of being less liable to complications.

7. **Obesity.**—Studying the polysarcia of adolescence, Stern finds in some cases it diminishes toward the close of the second or beginning of the third decade of life, while in others it continues to exist after maturity and he thinks that this seems to be of some etiologic importance. Where it persists after the completion of growth, the underlying causes are undoubtedly the same as those existing in the adult, but where it disappears in maturity it must be something else. The cases abiding after individual development he classifies as metabolic, and those which subside with the approach of adult life as transitory. Both forms occur in both sexes, but he has found the metabolic factor more frequent among boys, while the specific form certainly predominates among girls. The metabolic obesity of adolescence is virtually nothing but a juvenile modification of that which he has described as metabolic obesity in the adult, understanding by that a condition in which obesity concurs with a normal or slightly subnormal degree of body-density. It is the most common of all the types and is always due to the excessive ingestion of nutriment or to insufficient oxidation in the organism or to both together. He gives the proportion of calories required normally in conditions of rest and the excess in these cases which tends to produce this abnormal growth. In some exceptional instances metabolic obesity during infancy and adolescence may be due to infantile predisposition, but in the majority of cases it is instead due to the habit of living adopted by parents and children, that is, either the same degree of superalimentation or the lack of body-activity or the combination of the two. In adolescence the metabolic obesity is not indicative of any important specific organic changes. The transitory obesity of adolescence occurs only in youth and Stern thinks there is little doubt that it is caused by certain metamorphotic anomalies which are incidental to pubescence and disappear before or at the completion of systemic development. Some anomalies are also apt to occur at the climacteric age in women and after orchidectomy and oöphorectomy in consequence of the pronounced alteration in the organism. The greater frequency of this form among girls is explained by the fact that the changes occurring at puberty are more decisive in the female than in the male. Superalimentation is not a causative factor of specific obesity and this must be due to diminished intra-organic oxidation and he attributes it to the perverted function of the thyroids, parathyroids or both. The reasons for this are first, the disappearance of the thymus gland and the marked development

of the thyroids at puberty. The more frequent occurrence of thyroid affections in girls than in boys and our physiologic and clinical experience as regards increase in protoplasm oxidation after administration of thyroid gland or its preparations. He notices certain peculiarities of the type in the specific form. The disposition of fat is more frequently on the breast and extremities, while in the metabolic variety it occurs in and upon the abdomen, region of the hips, etc. In the specific form of the affection the hair of the head is full and attains great length, while it is much less abundant and apparently short in the metabolic obesity. Neither form of juvenile obesity demands treatment when the weight is not excessive, so as to interfere with the function of certain organs, or grave concomitant disorders exist. Uncomplicated cases of less than 30 per cent. overweight should not be subjected to any continuous treatment. If, however, metabolic obesity has already appeared at an early age in other members of the family, proper dietetic treatment may be of value, but it will be of no avail in checking transitory obesity which is the result of developmental anomalies. In all cases our therapeutic efforts should be directed rather to complications and concomitant disorders than to the obese condition itself. But if the condition is extreme and giving cause for alarm the thyroid preparations may be employed. A safe form of administering thyroid substance, a tablet which he has made use of for a number of years, is as follows:

℞. Arsenous acid	gr. 1/60	001
Adonidin	gr. 1/12	005
Thyroid gland, dry powder	gr. 2	12

M. Ft. C. T. No. i.

Physical treatment, in any of its branches, may be of benefit in individual cases of transitory obesity.

9. **Hydrocele.**—Coley and Satterwhite report a number of cases treated by the injection of pure carbolic acid by the Levis method or a modification of it. They are convinced that the carbolic injection is by far the best method. It is easily performed and almost uniformly successful, the only disadvantage being the doubt as to its always being free from risk. While this may not be great, a few serious results have occurred, sufficient to deter many patients from having it tried. Although this is valuable and effective in the great majority of cases, there are a few in which the open treatment of resection must be employed and here the method of von Bergmann of resection of the superficial tunica vaginalis seems the best and most certain and should never require more than eight or ten minutes in its performance.

11. **Hippus.**—Newton reports a case and notices the literature. He has found but one case closely corresponding to his own and that was one by Oestreicher mentioned in Kniess' work of "The Eye in General Diseases." The value of the symptom, he concludes, is but poorly determined. New researches and new study are required to determine it.

12.—See abstract in The Journal of March 1, p. 604.

13. **Sand Filtration.**—The value of sand filtration is pointed out by Anders, who illustrates it by experience of various places, including Hamburg. While its primary cost is greater, and while it requires more space it has an undoubted superiority to mechanical filtration, which is 2more expensive to operate and demands the utmost care in the artificial chemical processes which constitute the system.

14. **Bacillus Coli.**—Moore and Wright have investigated the bacillus coli as to its occurrence in other species than man. They have examined 44 animals, including horses, cattle, sheep, pigs, dogs and chickens. The action of the colon bacilli on the sugars and milk shows that these fall naturally into two groups, viz., those that ferment the three sugars with the formation of gas and those that ferment dextrose and lactose only, corresponding with the two varieties described by Smith. The quantity of gas produced and the relative quantities of H and CO_2 varied somewhat in the different cultures, but not sufficiently to justify the naming of special varieties or groups. In frogs the results were negative so far as the colon bacilli were concerned, but in rabbits it seemed to be present in about 1 in 4. In all the cases the cultures fermented the three sugars and produced gas. The variation in the pathogenicity of the cultures from the different species of animals is very marked. Guinea-pigs inoculated with cultures from dogs respond quickly, but apparently not with those from other animals. Additional results will be necessary before conclusions can be deduced.

15.—See abstract in The Journal of February 8, p. 413.

17. **Movable Kidney.**—Sometimes the pain complained of in movable kidney continues after operation and four cases are reported by Mallett, who accounts for it by assuming that in most instances the kidney has been fixed in a malposition and that it is attached in a position externally rotated on its vertical axis, interfering with the function of the ureter and vessels. As far as he knows, this point has never been emphasized and he calls the attention of surgeons to exercising care in the performance of nephrorrhaphy, and to see that the circulation of the ureters and vessels is not interfered with.

18. **Blood Examinations.**—Willson's article is a reply to the recent condemnation of blood tests by Deaver and Baldy, who have minimized the importance of blood examinations in surgery.

19. **Paresis.**—Pickett notes the fact that paresis without delusion is a very common type; the old type of delusion of grandeur is much less frequent than seems to be popularly believed. He mentions among the diseases liable to be confused with this disorder, so-called organic dementias, chiefly those due to hemorrhage, thrombosis, etc., dementia precox, epilepsy and alcoholic insanity. His statistics cover cases up to 65 years of age, which fact should be noted. The crucial tests of true paresis are, first and most important, the state of the pupils. He tabulates the types of the pupil changes observed. The consensual reflex, upon which Pickett lays much stress, was seen in a comparatively small percentage, but the Argyll-Robertson type, that is, marked impairment of light reflexes, occurs in over 50 per cent. The knee-jerk, he says, when abnormal, accompanying any psychosis of neurosis in middle life, suggests paresis. It was absent in 31 per cent. of the cases, diminished in 10 per cent., and only normal in 10 per cent. Paralytic attacks and convulsions are also noticed as well as hypochondriac delusions and remissions. He lays much stress on hereditary degeneracy, giving family histories in 89 cases, in 75 per cent. of which vicious constitutional conditions existed in the heredity. He includes under this head: consumption, cancer, heart disease, asthma, nephritis, etc. The purely neurotic histories would not come to so high a percentage. He says in conclusion that it is profitable to suggest two lessons from our study of paresis. First, for our patient: That immunity from paresis rests not on freedom from the great infection alone, but, as the older writers believed, on abstinence from all excesses. Second, for ourselves: That diagnosis, the principal thing required of us in the present state of our knowledge of paresis, depends so much upon a practical acquaintance with the "paretic manner," that no amount of fine training in the best schools can take its place. Impressed with this fact by daily contact during several years, with some scores of the best graduates of our Philadelphia medical colleges, he would urge the importance of teaching in the asylums. An hour in the wards is of more value than many lectures.

21. **Nitrous Oxid and Ether Anesthesia.**—Le Breton's experiences with this form of anesthesia are given in a general way in this article. He quotes other authorities also in favor of this method. It is the writer's custom to remove the inhaler about once every two minutes to allow the patient one or two inspirations of air during the ether anesthesia and thus avoid asphyxiation. Unless too much ether is required in this method there are few unpleasant after-effects. The changes of technique which he has adopted with the use of the Goldan apparatus since the appearance of his first article are as follows: "The rubber mouth-piece may be kept sterile by placing it in a weak formalin solution after each operation. The quantity of ether inhaled may be determined by using as a holder a graduated nursing bottle with a cork perforated by two metal tubes, such as ordinarily is used to drop chloroform upon a chloroform inhaler. Dr. Mann originated a little scheme for introducing the ether which the writer has found of great

service. By boring a small hole in the metal cylinder which holds the gauze, and inserting into it the end of one of the tubes in the cork of the nursing bottle, the ether is allowed to trickle upon the gauze quietly and rapidly. About twenty seconds after starting the gas the first dose of ether may be run in, and at the end of the second minute, by which time the gas has made the patient unconscious, the gauze in the cylinder has been well saturated with ether. At the end of the fourth or fifth minute a return to semiconsciousness is sometimes noted, but continued small doses of ether quickly control the situation."

22. **Supra-Orbital Reflex.**—In September, 1901, McCarthy published his first description of what he considered a pure sensory motor reflex, to which he gave the name of supra-orbital reflex. Since that publication the symptoms have been discussed by Hudovernig, who considers it an overflow of contraction from the occipito-frontalis to the orbicularis, and by von Bechterew, who considers it only partially a true reflex and to a certain extent the transmission of mechanical impulses along the different fascia and muscular fibers. In order to exclude the mechanical errors he tried irritation of the skin areas by means of heat, cold and pain, and accurately outlined the supra-orbital distribution so that he is sure that the name supra-orbital reflex is justified and his original explanation a correct one. A careful study of the reflexes in the upper portion of the face, which is richly supplied with sensory nerve filaments of the fifth nerve, all of which are accessible to mechanical or sensory irritation, shows that there are several independent and distinct reflexes there occurring as follows: "1. A pure sensory-motor reflex, in the nature of a skin-muscle reflex, elicited from the supra-orbital distribution exclusively. 2. A periosteal reflex may be obtained when there is an excited condition of the reflexes, by irritation (percussion) over the malar arch or the periosteum of the nose (v. Bechterew, Overend). 3. The corneal and conjunctival reflexes, by irritation of these structures. 4. The corneo-mandibular reflex of v. Solder, a lateral movement of the lower jaw produced by irritation of the cornea." (*Neurologisches Centralblatt*, 1902.)

25. **Serumtherapy.**—The progress of investigation in the direction of serumtherapy of typhoid is reviewed by Ewing, who says that the problem of the serumtherapy of the disease is the preparation of a serum which is principally bactericidal and not antitoxic as in typhoid. It remains for investigators who have the experience and means to combine the results that have been made and to determine what success can be secured in the treatment of typhoid fever by the injection of serum and visceral extracts from animals which have been treated with a view of producing culture immunizing bodies. He thinks the outlook is fairly hopeful, if not in the production of a curative serum, at least as regards progress in our knowledge of artificial immunization both in this disease and other obstinate affections.

27. **Typhoid Bacilli in the Feces.**—Higley has studied the occurrence of typhoid bacilli in the feces and gives a résumé of the cases with the following conclusions: 1. During the second week of typhoid fever, when technical aids are of the greatest value to the practitioner, isolation of typhoid bacilli from the feces gives slightly better results than does the Widal test. These two methods used in combination, when the tests are carefully and persistently made, render material aid in the diagnosis of this disease previous to the appearance of distinctive clinical symptoms. 2. By the use of the Hiss isolation method, especially with the substitution of the new plating medium, the detection and isolation of typhoid bacilli are, to one familiar with bacteriologic methods, simple, reliable and practical.

28. **Widal Reaction.**—Libman made 3514 tests in 860 cases. He finds the positive Widal reaction always means the presence or previous existence of typhoid. A partial reaction should be absolutely ignored. The negative reaction does not exclude the existence of typhoid fever. It occurs under any of the following conditions: 1, the reaction has already disappeared; 2, the reaction may only appear later; 3, the culture may be at fault; 4, the case is clinically one of typhoid and there may never be a positive reaction; 5, the disease is not typhoid. A negative reaction may occur if the patient is suffering from paracolon infection, and still, for the practitioner, the case is clinically identical with typhoid. Scientifically, the Widal reaction is of the greatest value in establishing the presence of infection by the typhoid organism where the clinical typhoid fever does not exist. It is practically also of use, but not so valuable as we wish in many cases. In many cases it alone can establish the diagnosis. This is practically true of atypical cases in which pneumonia or meningeal symptoms usher in the disease, which are more common in children than in adults. He thinks that it is advisable to test the blood early in any fever case, the diagnosis of which is not known. If the result is negative, as is apt to be the case, the later positive reaction stamps the case as typhoid and it can not be attributed to an earlier attack of the disease. If a case present the classical symptoms of typhoid fever, it is not necessary to examine the blood, except possibly for two reasons: 1. If later in the course of the disease some perplexing symptom-complex arise, one can be sure that the original diagnosis was correct. 2. If some unusual observation is made, the case can be utilized for the purpose of advancing our knowledge of typhoid fever. If the case be a doubtful one, the reaction should be made every two days until it becomes positive, or until in other ways a positive diagnosis of the condition has been established by the practitioner.

30. **Adrenal Substance in Typhoid Hemorrhage.**—Coleman maintains that we are justified in advocating the free administration of adrenal substance in cases where the ordinary reaction hemostatics are not sufficient. It can do no harm and may be of the greatest value.

32. **Suture of the Arteries.**—The various methods that have been devised for suturing the arteries are detailed by Hubbard, who gives a résumé of twenty operations from the literature. He tried to show by experimentation that transplantation or anastomosis of arteries was possible and three experiments on dogs are reported, which seem to indicate this possibility, though the results are imperfect. If this were possible, he has and idea that in a certain number of conditions, such as some abdominal aneurysms for example, this procedure will be of some value. All the dogs survived the operation and were killed within two weeks and the conditions observed. In the first case an incision into the artery was sewed up. The recovery was good. In the second case there was a resection of the left carotid and a lateral anastomosis of the ends. At death there was found to be soft blood clot occluding the artery at the point of union, though air passed freely. On the same dog a similar operation was made on apparently the other carotid, only cutting out a portion of the wall to make the circulation freer, though it is stated as the same one. Anastomosis seemed to be free, though there was a clot in a hole where a stitch had given way, causing secondary hemorrhage at the time of death.

33. **Catgut Ligatures.**—From his experimentation Cabot concludes: 1, that in rabbits chromicized catgut of No. 1 size is retained longer than is desirable in a suture material for surgical use; 2, that plain catgut of No. 1 size is retained a sufficient length of time; that is to say, a minimum of three weeks; 3, that catgut prepared by dry heat is more rapidly absorbed than that prepared by moist methods; 4, that the time required for absorption increases very rapidly with the increase of size, as No. 2 gut took from two to three times as long to absorb as No. 1. The application of these results to operative surgery is taken up, and he emphasizes the following points which seem to him important. 1. In order to get the best results from catgut, care must be taken to select the size and preparation best suited for each occasion. 2. The use of too large sizes is one cause of unsatisfactory results. 3. Care in tying and cutting catgut ligatures is essential to safety.

34. **Catheter Sterilization.**—From the results of his tests, Cotton claims that all the gum-elastic catheters and bougies ordinarily sold may be boiled repeatedly and for long periods in saturated (or something less than saturated) solutions of ammonic sulphate or sodic chlorid without essential damage.

New instruments show no damage whatever, used instruments only a deterioration that is of no great consequence. As to a choice between the two, he feels a little surer of the ammonic sulphate, perhaps, but would choose it not so much because of this as because it is easier to handle and spatters less when it boils down than does the common salt. As to the weaker solutions of common salt, they seem to be all right, but the tests made are too few as yet to be conclusive. At all events, the use of these more dilute solutions has no obvious advantage and has the disadvantage of lowering the boiling point. The methods have not been tested bacteriologically because it seemed superfluous.

35. **Uterine Retrodisplacements.**—Coggeshall's article is a demonstration of Goldspohn and Gilliam's operations, which he thinks are much superior to any method of shortening the round ligaments by doubling the proximal portion upon itself within the abdominal cavity.

36. **School Hygiene.**—Wright notices the various conditions bearing on the health of school children. First, the site of the school house, which should be a healthy one, and the number of pupils occupying a room, which should not be over 40 or 50, allowing about 20 sq. ft. of space for each. He favors natural ventilation rather than an artificial method. A northern light is preferable to any other and should be introduced from the left side of the pupil. The desks should be properly adjusted to the pupils, for this has much to do with the production of spinal curvature and sight defects. He thinks one of the most important factors in the causation of disturbances of the nervous and digestive system in the school children are due to the long school hours, and many failures of health and scholarship are due to them. A session of three hours, with a short intermission, is as long as any growing person should work. High school hours are generally bad, requiring an early breakfast and late dinner. The various diseases that should be watched for are enumerated, including tonsillitis and all digestive disturbances. Vaccination should be compulsory. A person who has been sick with scarlet fever should be kept from school at least until the process of desquamation has been completed, and even then he should not return until a thorough disinfection has been made of the person and premises. The danger of diphtheria is not over when the membrane disappears. Outbreaks of disease often have their origin in persons who have been allowed to return to school before they were entirely free from the infection. Measles and whooping cough are often slighted by teachers and parents, but they are really serious disorders. Pupils should have nothing in common, such as pencils, drinking cups or books. Medical inspection, if properly performed, seems to offer the best chances for lessening sickness. It should include: 1, sanitation of the buildings, inspection of the heating and ventilating apparatus, general cleanliness, water supply, closets, and the possible supervision of books, pencils, etc.; 2, examination of the pupils, which should be daily, for the prevention of contagious diseases and at stated intervals for the detection of parasitic diseases and vermin, and at least every term to ascertain if all pupils have been successfully vaccinated; examination several times a year of the eyes and ears in order to correct errors of refraction and defects in hearing. Many children naturally bright are considered dull simply because no one has discovered these defects. What might be called outside inspection is looking into the causes of absence of children and the nature of their illness. The custom of sending pupils from the school for this purpose is wrong and sometimes contagion is conveyed in that way.

37. **Visual Center Lesions.**—The case reported by Stricker occurred in a laboring man 60 years of age, who suffered severely from dizziness, vertigo and reeling gait followed by coma and later had very serious defects of vision. The vision fields were carefully examined and sketched. The consensual reaction of his pupils was perfect. There was no paralysis of the sphincter of the pupil, or of accommodation or other ocular muscles. He showed no form of other sensory or motor paralysis, nor did he disclose any form of psychic involvement. By exclusion, the author comes to believe that there is a localized cortical lesion restricted to the visual center in the region of the calcarine fissure. The color sense was perfect in the retained portions of the field.

40.—This article has appeared elsewhere. See The Journal, xxxvii, ¶20, p. 1702.

45. **Chorio-Epithelioma Malignum.**—This condition, known as "deciduoma malignum," "sarcoma deciduo-cellulare," "sarcoma chorio-cellulare," etc., is described and its theories elaborately discussed by Pierce, who suggests the name given by Marchand as the most correct one. Its pathology is not altogether clear, but he considers it probably connected with some diseased condition of the endometrium. Why it usually follows abortion or normal labor is more difficult of explanation than why it should follow a mole, in which there is perhaps a higher degree and greater persistency of chorio-epithelial proliferation. He describes the symptoms and the treatment, which is essentially surgical, consisting practically in total extirpation of the uterus as soon as the diagnosis is made.

46. **Retroversion and Retroflexion.**—Davis concludes that our present knowledge favors Schroeder's conclusion that uterine retroflexion or retroversion uncomplicated by tubal or ovarian disease does not affect the health nor does it demand treatment. In the cases reported, the patients were greatly benefited by tonics and rest. The corset should be discarded and the clothing adjusted in each case so that there is no interference with the mobility of the viscera. When dragging or heaviness is felt in the pelvis the assumption of the knee-chest posture will usually bring relief. If the patient has been accustomed to wear a support and believes it necessary, that one which exerts less pressure will be found most successful.

48. **Perineal Laceration.**—The principles of operation for laceration of the perineum consist, according to Kreutzmann, in the adjustment of the layers so that each tissue is united to its corresponding part. He divides the operation into four different acts, which he describes thus: 1, dividing the vagina, cutting down into the septum between vagina and bladder or between vagina and rectum; 2, the detachment of the prolapsed diverticulum of the bladder from the vagina, if necessary from the uterus, or separation of the rectum from the vagina; 3, the careful apposition of the fascial tissue and of the muscles that belong to each other, by direct, exact, buried suture; 4, to finish the operation, the vaginal flaps may be resected and united, or they may be united without any resection, as the individual operator sees fit in every single case. No matter what the operation, the principle of procedure is always the same and he applies these principles to other operations such as vaginal fixation.

49. **Perineal Laceration.**—Bovée describes his method, the principal points of which are: "1, the use of buried and absorbable material for the principal sutures; 2, placing the deep ones in such manner that no skin suturing is required; 3, placing them so that the tension of the levator ani and its auxiliaries is restored; 4, avoidance, to a high degree, of infection from the rectum; 5, the facility of the operation; 6, emptying the bowels every day after operation."

52. **The Menopause.**—Cook's article maintains that the climacteric is a normal phase in woman's life and there should be no necessary symptoms whatever. The manifestations experienced are pathologic, not normal.

55. **Gonococcal Peritonitis.**—Frank and Koehler report several cases and say in conclusion that "to-day we are in possession of absolute facts pointing to the extensive activity of the gonococcus in regions formerly considered immune to its infection. The lesions produced may be summed up briefly as follows: endometritis, metritis, salpingitis, oöphoritis, peritonitis (both circumscribed and diffuse), proctitis, seminal vesiculitis, cystitis, carditis, pleuritis, parotitis, periostitis, osteomyelitis, bursitis, arthritis, tendo-vaginitis, muscular and subcutaneous abscesses, myelitis and meningitis. Metchnikoff's investigation of the nervous tissue, according to Nissl's method, has disclosed the fact that the toxin of the gonococcus has an undoubted deleterious effect upon the cord. Clinically, this is shown by the occurrence of neuralgias (ischias). Also probably due to the circulating toxin alone are the cutaneous lesions

at times observed. They are multiform in kind, erythematous, papular, urticarial, hemorrhagic, bullous and hyperkeratoid. Wassermann's investigations show that the toxin of the gonococcus has marked phlogistic powers and is bound during life to the bodies of the cocci. After their death its liberation may produce an active suppuration, the bacteria themselves disappearing by disintegration. This may explain the inability at times to find the organisms, though we may be firm in the belief that the condition or death may have been caused by their action."

56.—See abstract in The Journal, xxxvii, p. 1411.

62. **Reflexes from a Sympathetic Ganglion.**—Budgett and Snodgrass report experiments on cats to test whether a sympathetic ganglion can act as a reflex center. They severed the vagus above the trunk ganglion and united its peripheral end to the central end of the cervical sympathetic severed just below the superior cervical ganglion. The experimenters say: "As a result of these experiments, it seems highly probable that sympathetic neurons may respond to nerve-impulses transmitted to them by afferent nerve-fibers, but the possibility remains that the effects produced may have been due to an axon-reflex caused by the stimulation of efferent pneumogastric fibers."

63. **Syphilis.**—Hardaway deprecates the routine practice of continuous specific medication, especially in late syphilis. The need of building up instead of depressing the general vitality is emphasized. Tonics are indicated with or before the iodids and mercury. He says: "Perhaps twenty-eight years ago I became acquainted with the following formula for giving iodid of potassium—a method, I think, originated by the elder Bulkley, and which I have modified a trifle:

℞. Potassii iodidi	℥ss	15	
Ferri et ammonii citratis	ʒi	3	75
Tr. nucis vomicæ	ʒii	7	50
Aquæ	℥iss	45	
Tincturæ cinchonæ comp. q. s. ad	℥iv	120	

M. Sig.: Teaspoonful in one-fourth glass of water after meals.

"The elixir of calisaya may be used instead of cinchona This is a nasty mixture at best and is both chemically and pharmaceutically objectionable, but its virtues far outstrip its faults. With the majority of people the beneficial effects of this ideal tonic mixture are rapidly apparent, the appetite increases, the anemia disappears and a general feeling of well-being is engendered. Before breakfast and at bedtime a pill of opium and protoiodid of mercury is ordered. The dose of the protoiodid is usually one-fourth to one-half a grain and of opium about one-fourth grain. I regard opium as a drug of the very highest value in the treatment of ulcerations of all sorts, and I am convinced that in syphilis we get along better and quicker with it than without it. If for any reason it is desired to increase the dose of iodid, which, however, is rarely required, the patient may be given a saturated solution, of which he may add the necessary number of drops to the tonic mixture. Many years of constant employment of this plan of treatment has taught me its great value in suitable cases, and especially in the class of luetic lesions mentioned above; although, of course, I am fully aware that no one method can be infallible and that the physician must have many strings to his bow if he hopes to treat successfully so protean a malady as syphilis."

64. **Malarial Dermatoses.**—Eighteen cases of skin affections, urticarial, herpetic, etc., are reported and discussed by Engman. He remarks on the neglect these have received and offers the following as his conclusions: "1. It is highly probable that certain affections of the skin, as pruritus, urticaria, angioneurotic edema, erythema multiforme, pompholyx, zoster, eczematoid eruptions and gangrene may be due to malarial poisoning. 2. In such cases there is generally a periodicity in the intensity of the eruption symptoms. 3. There may be marked or slight constitutional disturbances, or the eruption may occur without any other symptom of paludism. 4. Nephritis may complicate the picture in severe cases and seem to be the apparent cause of the dermal manifestations, whereas the malarial infection is the sole etiologic factor. 5. When an eruption is associated with malarial infection it quickly recovers under the specific treatment."

76.—See abstract in The Journal, xxxvii, p. 933.

77. **Epiplopexy.**—Torrance reports a case and analyzes cases reported in the literature. He reviews the opinions of authors and calls attention to the fact that of the 10 cases that have been cured by this operation, in 7 the omentum was simply sutured to the abdominal wall and the surface of the spleen and liver left unirritated. He is convinced that this is the best operation. Oozing from these irritated surfaces makes an excellent culture medium for any germs that may accidentally get into the abdomen. Moreover, the operation was designed to relieve the strain on the liver cells and we should attempt to divert as much current from the liver as possible; therefore, we should not attempt to form any adhesions between the liver and abdominal wall. If he has an opportunity to do the operation again he will tap his patient on the day of the operation and make a small incision under local anesthesia, simply suturing the omentum without exploring the abdomen.

78. **Splanchnoptosis.**—A case of Glenard's disease is reported by Ingalls, who emphasizes the fact that surgery alone offers material aid for this class of sufferers, that is, to those in whom the symptoms are relieved by support, and they should have the benefit of an operation as soon as the condition is known. The work should be complete in every detail. He recapitulates the steps as follows: "1, suture of liver and kidney; 2, shortening of gastrohepatic omentum; 3, fixation of transverse colon; 4, general reconstruction of the abdominal wall."

79. **Rupture of the Intestine.**—Four cases are reported of rupture of the intestine by abdominal contusion; in all a small striking surface combined with great velocity characterized the accident. The only chance for these cases, he holds, is operation at the earliest possible moment. The danger of delay and the hopelessness of last-resort surgery are evident. It is necessary to note carefully the presence or absence of severe primary shock, and when it is present to take immediate measures to counteract it as far as possible. Large enemas of salt solution may favor fecal extravasation, but intravenous or subcutaneous infusions should be promptly and freely given. As soon as reaction is established, an incision should be made over the point of the blow whenever it is possible to locate it by the appearance of local pain or tenderness, and should be sufficiently free to permit of thorough exposure and inspection of the underlying intestinal coils. The injury is likely to be at once apparent and the injured bowel should be withdrawn from the cavity, and any possible contaminating matter that may have escaped wiped away. Mesenteric hemorrhage should be prevented and the intestinal wound closed and the intestinal tract examined, and finally the peritoneal cavity should be washed out with salt solution and close the incision. Resection may be required, but he would avoid it if possible. He does not think that simple peritoneal drainage is necessary or useful after the rupture has been tightly and carefully closed; but when one can not be satisfied as to this, it should be walled off from the rest of the cavity and left accessible to future inspection. In the majority of cases, however, this will hardly be necessary.

81. **Remote Results of Gall-Bladder Inflammation.**—Niles reports several cases of late symptoms produced by gall-bladder inflammation and says: "These and other experiences and observations in the same line lead me to conclude: 1. In this region inflammatory lesions often occur and produce permanent organic changes without giving rise to those characteristic signs and symptoms described in our text-books. 2. The anatomic relations and physiologic functions of the surrounding organs and tissues are such that peritoneal adhesions here may produce grave secondary lesions and symptoms that in the past we all have failed to recognize, or at least to correctly interpret. 3. In these obscure cases we are often compelled to resort to an exploratory incision to determine the exact condition and to rely exclusively upon surgical measures to remove or correct

the pathology. 4. In the light of our present knowledge, no experienced surgeon is justified in hastily declaring these cases to be hopeless or in permitting them to be deluded by a foolish faith in drugs or other unreasonable measures; it is his duty to offer them such chances as modern surgery affords so far as his ability and the conditions permit. Guided by my recent studies and personal experience, I shall in the future be, if possible, more thorough and radical in separating all adhesions and in taking every precaution to prevent their reforming."

83. **Weak Ankles.**—Wilson's conclusions are as follows: "The natural human foot best performs its functions when it has been freest from restraint. The natural foot can be quickly crippled into inefficiency by high-counters, corset-shoes, arch-raisers, wedges and elastic anklets. The natural foot, when burdened by misapplied mechanics, is rendered weak, and therefore susceptible of sustaining injury, such as sprains and the formation of bunions, flat foot, wabble joints, etc. The natural foot in a constitutionally weak or rhachitic child may demand mechanical aids specially adapted to the individual requirements and peculiarities of the case. It is the duty of the medical profession to discourage the indiscriminate use of high-counters, corset-shoes, elastic anklets, arch-raisers and sole wedging, which are known to be injurious, unmechanical and productive of permanent loss of function."

84. **Elbow Fractures in Children.**—Cotton concludes his elaborate paper on this subject, which is too full to be abstracted, with a classification of the different forms of fracture, for which the reader is referred to the original.

86. **Suprarenal Extract in Urethritis.**—Eaton finds suprarenal extract of special value in chronic urethritis of the anterior urethra, characterized by glandular and follicular engorgement and by a tendency to epithelial infiltration and to form fibrous tissues. It may also be applied to posterior urethral inflammations of the same general character. In acute gonorrhea it is contraindicated. He reports cases.

93. **Gonorrhea.**—McShane holds that one attack of gonorrhea produces complete immunity to future similar attacks for a period lasting from a few months to a few years and that partial immunity modifying the attack may exist for an indefinite period; these cases of modified gonorrhea are sometimes mistaken, he holds, for reappearance of an old attack.

95. **Veratrum.**—The views of authorities on the effect of veratrum are noticed by Smith, who does not consider it an advisable remedy in pneumonia. While he has often used it, he has only been disappointed and never feels comfortable while employing it in this disease.

102. **Vomiting of Pregnancy.**—Wright considers the induction of abortion for the vomiting of pregnancy unjustifiable, as the natural termination of all cases is recovery. The resources of treatment are practically inexhaustible. If death occurs it is more likely to be due to gastric ulcer, malignant growths, tubercular peritonitis or some other disease.

111. **Prostatic Enlargement.**—Belfield summarizes his paper as follows: "1. Acute retention from prostatic enlargement is due to edema, not a rigid obstacle, in the prostate. 2. This edema can be passed sometimes by a Nelaton, always by a Mercier catheter. 3. A metallic catheter is curved to traverse the normal deep urethra and is therefore not adapted to traverse the elongated, distorted urethra of the enlarged prostate. Hence it should be used only as a last resort, and then never forcibly. It is understood that urotropin or cystogen should be administered at once in all cases of acute retention and continued until the danger of pus infection of the urinary tract has passed."

121. **Mammary Cancer.**—The modification of Halsted's operation here suggested by Binnie consists practically in doing the excision from without inward instead of from within outward. As much skin is removed with the breast as in Halsted's operation, but the ordinary incision penetrates the skin alone. The skin is reflected centrifugally from the tumor and more thoracic fat is taken away. If it is desirable to incise the supra-clavicular or cervical glands, such work would form another step in the operation. The advantages claimed are: 1. The delicate axillary dissection is done while the surgeon is fresh and he is not hampered by loose tumor mass getting in his way. 2. The breast remains *in situ* while the tedious portions of the operation are being executed, preventing body cooling, and hence obviates some shock. 3. It has the advantage also of not requiring the assistant to manipulate the breast while the surgeon works in the axilla and thus possibly avoiding some chances of driving cancerous virus from diseased lymphatics and into the circulation before all communications are cut off.

123. **Skin Grafting.**—Turck believes in the preliminary use of oxychlorin, 1 to 500 in sterilized water, as a wet dressing on alternate days with aristol for a week or more. In the cases reported it was applied alone for three days before the grafting operation and left undisturbed until brought to the operating room. After removal of the wet dressing, the grafted surface should be rinsed with salt solution, shaved with a sharp scalpel and if any tissue seems soft and irritated it should be removed down to firm granulations; all blood clots and shreds are to be carefully cleared away. The grafts are cut with a sawing motion, taking a little less than one-half the thickness of the skin. Numerous small grafts one-half to three-fourths of an inch by one inch in size do better than a few large ones. They should be placed in no solution after cutting, but transferred immediately to the field. It is well, however, after the graft is cut, to dip the end of the razor into normal salt solution, thus taking a few drops of the solution on the concave upper surface to float the graft off. The advantage of overlapping grafts is doubtful; they should just touch one another, and a little overlapping does no harm. The wounds left from taking the grafts are dusted with aristol or dermatol and a layer of gauze covered with vaselin applied. The grafted surface should be entirely covered by narrow strips of rubber dam to prevent any adhesions of the outer dressing. Over these, layers of gauze wet with normal salt solution and the whole enveloped in rubber tissue or oil silk, forming a saline moist chamber. The dressing should not be allowed to become dry, but should be kept constantly moist, and the dressings be left undisturbed for several days. When removed the field should be carefully cleansed with oxychlorin solution, taking particular pains not to disturb the grafts and a wet dressing of oxychlorin applied. It should be left for two to four days. If after removal there appears to be no great amount of secretion, the field may be dusted with aristol and the daily alternation of aristol and oxychlorin continued for a week or more. After cicatrization is well marked, an ointment of aristol and vaselin should be applied until the scar is perfectly formed.

140. **Laparotomy Dressings.**—The following method is described by Dudley as that employed for abdominal incisions in St. Luke's and Wesley Hospitals: 1. Dusting with nosophen; 2, a single layer of gauze, its outer edge fastened down with collodion; 3, a layer of cotton; 4, a second layer of gauze fastened down with collodion; 5, several larger pieces of gauze secured by perforated adhesive plaster over all. The advantages of this method of dressing are claimed to be: 1. Nosophen powder, if freely used over the wound, is preferable to most of the other so-called "dusting powders"; and, especially when used in combination with the subcutaneous suture, is almost certain to prevent stitch-hole abscesses. 2. By using the collodion only on the margin of the gauze, any slight secretion from the wound, which, if confined, might embarrass the healing process, can escape by absorption into the dressings. 3. A small amount of cotton placed between the two layers of gauze adequately serves for absorption of wound secretions and for the protection of the wound against outside influences. 4. A small amount of gauze and cotton dressing may be used in place of the enormous and cumbersome dressings which are ordinarily employed and which are not only a source of great discomfort to the patient, but are with difficulty kept in place by the conventional abdominal binder, and which, moreover, may confine so much heat to the region of the wound that it acts like a poultice and so favors suppuration. 5. The perforated plaster takes the place of the annoying and rather unmanageable abdominal binder, which a careless or incompetent nurse not un-

commonly permits to slip upward toward the axillæ, thereby leaving the wound exposed. In a long series of cases at St. Luke's and Wesley hospitals, dressed in the manner above described, only one case has shown suppuration in the wound, and in this case the incision has been made through an old suppurating sinus.

141. **High Temperature in Children.**—The following "thermic aphorisms" are laid down by Hatfield regarding high temperature in children, its significance and management: 1. Transient high temperature (below 104) is of little clinical significance. 2. Barring cerebral lesions, continued high temperature is evidence of the accumulation and attempted destruction of toxins in the organism. 3. Except in rhachitic children, this process is conservative and rarely requires other than hydropathic treatment. 4. The most prompt antipyretic for children is antipyrin in alcoholic solution given either by the mouth or rectum. 5. The safest antipyretic, though slow in its actions, is quinin by inunction or suppository. 6. An antipyretic that is analgesic as well as antithermic is acetanilid, best given in a dilute solution of arom. spirit. ammoniæ. 7. Phenacetin, as an antipyretic for children, is slow in its actions—at times, cumulative—and may be profitably substituted by lactophenon given in the same doses. 8. Pathognomonic temperature curves, on account of the nervous instability of the child, are less frequent than in adults, and this is especially true of typhoid, malaria and broncho-pneumonia.

150. **Preputial Adhesions.**—Cases are reported by La Fevre of convulsions, enuresis, mental depression and other neuroses in females, which were relieved after other methods had failed by breaking up adhesions of the clitoridian prepuce. He remarks on the neglect of this condition and, while admitting that it produces no symptoms in many cases, holds that it should always be borne in mind when a reflex neurosis, not otherwise explained, is encountered.

161. **Vesical Calculi.**—Wooten discusses his cases and gives his preferences. He thinks the suprapubic operation has its disadvantages in the lack of natural drainage and the impossibility of determining whether immediate suture is possible; the inability to regulate the extent of incision in bladder wall toward the pubis; serious post-operative complications such as suppuration, necrosis, etc. There is a danger to the peritoneum when it is anomalous and extends down over the anterior surface of the bladder beyond the usual limit. The long duration of convalescence is another trouble and hernia may occur even when the deep fixation sutures in the upper angle of the wound are employed. The disadvantages of perineal section are the dangers of sterility which Ehrmann characterizes as a bugbear and which are slight at best, and the inability to inspect the bladder and meet with other conditions than the existence of stone. The advantages are that the surgeon can thoroughly and usually ascertain by finger or forceps that the bladder is free from growths and debris and the existence of prostatic growths, the natural drainage by retention catheter and the chance of clearing up existing cystitis, the non-prevention of treatment of certain forms of prostatic growth and the chance of dealing with complications of stricture in the deep urethra, the possibility of using perineal lithotomy when stone is found to be unusually large and the statistical evidence in its favor. He finds, according to the records which he has been able to obtain from Cabot, White, Barling and others, that the percentage of deaths is much less in this operation than in the others.

163.—See ¶77 above.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), March 22.

1 A Farewell Retrospect. John K. Spender.
2 *On the Treatment of Deafness of Middle-Ear Origin. Chalmers Watson.
3 Hay's Reaction for Bile Salts. A. P. Beddard and M. S. Pembrey.
4 *The Isolation of the Typhoid Bacillus. A. Moore.
5 *A New Diagnostic Point in Typhoid Fever. Heneage Gibbes.
6 An Experiment with Ultra-Violet Light. Dawson Turner.
7 Two Cases of Rare Orbital Tumor. F. T. Paul.
8 Case of Tumor of the Pons Associated with Degeneration in the Posterior Columns of the Cord. E. E. Lastett.
9 Notes on Adrenalin Chlorid Solution in Ophthalmic Practice. George A. Ferdinands.
10 Case of Total Suppression of Urine Due to the Obstruction of Both Ureters by Renal Calculi. W. Mitchell Stevens.

The Lancet (London), March 22.

11 *The Etiology of Typhoid Fever and Its Prevention. W. H. Corfield.
12 *The Pulmonary Circulation More Particularly in Relationship to Variations in Cardiac Activity. T. G. Brodie.
13 The Education of Epileptics. William Alexander.
14 *A Short Contribution to the Study of General Infections Produced by the Staphylococcus Aureus and by the Streptococcus. Guiseppe Bellei.
15 *Electric Shocks at 500 Volts. Alexander P. Trotter.
16 A Criticism on the Visual Test as Used in the British Army. A. A. Bradburne.

Journal of Tropical Medicine (London), March 15.

17 *Duration of the Latency of Malaria After Primary Infection as Proved by Tertian or Quartan Periodicity or Demonstration of the Parasite in the Blood. John T. Moore.
18 Principles Determining the Geographical Distribution of Disease. Louis W. Sambon.

Australasian Medical Gazette (Sydney, N. S. W.), February 20.

19 Specialism in Medical Work. G. Affleck Scott.
20 Medical Ethics. P. Sydney Jones.
21 The Medical Curriculum. J. T. Wilson.
22 *On a Probable Way by Which the Young Ankylostomum Duodenale Enters the Human Subject. Thomas L. Bancroft.
23 *The Solution of the Septic Problem. D. Montgomerie Paton.
24 Three Cases of Syphilis. E. Ken Herring.
25 A Case of Cesarean Section. James T. Mitchell.
26 The Value of the Diagnostic Signs of Suppuration in the Maxillary Antrum. H. Russell Nolan.

Annales de Dermat. (Paris), February.

27 *Alopecia Areata of Dental Origin. L. Jacquet.—"La pelade d'origine dentaire."
28 Recurring Phlyctenosis of the Extremities. Carle (Lyons).—"Cas de phlycténose récidivante des extrémités."

Bulletin de l'Acad. de Med. (Paris), March 4 and 11.

29 *Chloroform in Heart Disease. General Discussion Continued.
30 The Sanitary Service and Quarantine Stations. Report of Committee.
31 *Rapid or Sudden Death of Gastric Origin. Lancereaux.—"De la mort rapide ou subite d'origine gastrique."
32 Mechanism of Movements of the Eye. Motais (Angers).—"Mécanisme des mouvements de l'œil."

Bulletin Medical (Paris), February 8 to 26.

33 *Heredity in Relation to Movable Kidney. Guillet (Caen).—"Que faut il penser de l'hérédité du rein mobile?"
34 Alger as a Health Resort. Crespin.—"Index des princ. stations françaises."
35 *Insanity in the Army. Granjux.—"L'aliénation mentale dans l'armée."

Bulletin Soc. Med. Hop. de Paris, March 6 to 20.

36 *Lactate of Mercury in Treatment of Syphilis. Gaucher.—"Le lactate de mercure. Son emploi dans le traitement de la syphilis."
37 *Prokhoroff's Method of Treating Syphilis. G. Scherb (Alger). "De la méthode de Prokhoroff dans le traitement de la syphilis."
38 *Relations Between the Spindle-Spirillæ Symbiosis and Scarlet Fever, Diphtheria, Scorbutus and Ordinary Sore Throat. Simonin.—"Les rapports de la symbiose fuso-spirillaire avec la scarlatine, la dipht., le scorb. et les angines banales."

Echo Medical (Lille), March 16.

39 Bacteriologic Study of Ocular Secretions. E. Painblan (Lille).—"A propos de l'examen bact. de quelques sécrétions oc."
40 *Pathogenic Deductions from Study of the Freezing-Point of Hydatid Fluid. H. Surmont (Lille).—"Déductions path. de la détermination du point cryoscopique du liquide hydatique."
41 *Study of the Diazo-Reaction. Deléarde.—"Note sur la diazo-réaction."

Journal de Med. de Paris, March 16.

42 *Relations Between Cutaneous Affections and the Size of the Stomach. L. Butte.—"Rapports entre les affections cut. et les dimensions de l'estomac."

Nord Medical (Lille), March 1 to 15.

43 *Hysteric Vomiting in Children. G. Carrière (Lille).—"Sur les vomissements hystériques chez l'enfant."
44 *What We Can Learn from Homeopathy. R. Bommier (Arras).—"De l'homéopathie. Ce qu'il faut en retenir."
45 Pathology of the Lingual Glands. A. Jousset (Lille.)—"Pathologie de l'amygdale linguale."
46 *Lumbar Puncture for Cephalalgia. G. Carrière.—"La ponction lomb. contre les cephalées."

Presse Medicale (Paris), March 15 and 19.

47 Treatment of Recto-Perineal and Recto-Vaginal Fistulæ by Drawing Down the Rectal Mucosa. G. Marchant (Paris).—"Traitement des fistules r.-p. et r.-v. par l'abaissement de la muqueuse rectale."
48 Family Periodic Paralysis. C. Oddo (Marseilles).—"La paralysie périodique familiale."

49 How Should Quinin Be Administered? A. Martinet (Paris).—"Comment il faut administrer la quinine."
50 *Direct Surgical Intervention for an Aneurysm of the Aorta. T. Tuffier (Paris).—"Intervention chir. directe pour un anevrysme de la crosse de l'aorte."

Revue de Chirurgie (Paris), March.

51 *Symmetric and Ignored Fractures of the Clavicles. Ch. Féré (Paris).—"Fractures symét. et ign. des clavicules."
52 *The Segment of the Intestine Above an Intestinal Stenosis. Patel (Lyons).—"Du segment de l'intestin sus-jacent à une sténose int."

Revue Hebd. de Laryngologie (Bordeaux), February 15 to March 15.

53 Danger of Expectant Treatment in Suppuration of the Middle Ear. Brindel (Bordeaux).—"Des dangers de l'expectation dans les suppurations de l'oreille moyenne."
54 *Nasal Vertigo and Epilepsy. A. Jousset (Lille).—"Vertigo nasale et épilepsie."

Progres Medical (Paris), March.

55 *Benefits of Appropriate Surgery for the Mentally Unbalanced. F. Glénard.—"A propos de la chirurgie chez les aliénés. Psychoses et névropathies."

Semaine Medicale (Paris), March 12.

56 *Is There a Renal Diabetes? F. Mauch (Paris).—"Existe-t-il un diabète rénal?"

March 19.

57 Study of Case of Cervical Pott's Disease. Raymond (Paris).—"Sur un cas de mal de Pott cervical."

Centralblatt f. Bakteriologie, etc. (Jena), Nos. 3 and 4.

58 Osteomyelitis and Phlegmons Caused by the Bacillus of Pneumonia. F. Schlagenhaufer (Vienna).—"Osteom. und Phlegm. erzeugt durch den Bac. Pneumoniæ."
59 New Species of Bacilli of Hemorrhagic Septicemia. E. Klein.—"Bacterium Phasianicida."
60 Tuberculosis in Cold-Blooded Beings. H. Herzog (Wuerzburg).—"Tub. im Kaltblüterorganismus."
61 New Pyogenic Branching Bacterium. W. K. Stefansky (Odessa).—"Ueber ein neues, Eiterung hervorrufendes, verzweigtes Bakt."
62 Babes-Ernst Corpuscles and the Virulence of Bacteria. C. J. Gauss (Göttingen).—"B.-E. Körperchen und Virulenz bei Bakterien."
63 Behavior of Colon Bacillus in Respect to Certain Nitrogenous Substances and Starch. M. Pfanndler.—"Ueber das Verh. des Bact. coli commune zu gewissen Stickstoffsubstanzen und zu Starke."
64 Biology of the Gonococcus. H. Wildbolz (Berne).—"Zur Biologie der Gonokokken."
65 Tubercle Bacilli in Butter. A. Anjesky (Budapest).—"Ueber das Vorkommen der Tub.-Bac. in der Budapester Marktbutter."
66 Etiology of Acute Dysentery in the United States. E. B. Vedder and C. W. Duval (Philadelphia).
67 Study of a Disease of the Extremities Affecting Young Cattle in South America. O. Voges (Buenos Ayres).—"Ueber eine in S. A. bei jungen Rindern vorkommende Erkrankung der Extremitäten."
68 Panophthalmia Bovina Carcinomatosa. O. Voges.
69 Fowl Plague. E. Centanni (Ferrara).—"Die Vogelpest."
70 New Style of Syringe for Bacteriologic Investigations. F. Inghilleri (Rome).—"Ein neuer Spritzentypus f. bakt. Untersuchungen."
71 A Practical Filtering Apparatus. H. Preisz (Budapest).—"Ein prakt. Filtrierapparat."
72 Cultivation of Anaerobics. R. Turro (Catalnna).—"Zur Anaerobenkultur."

Cent.-Blatt f. Chirurgie (Leipsic), March 8 and 15.

73 Advantages of Krause's Anastomosis Clamp. H. Garnerus.—"Fall von Anus praeternaturalis mit der K. Anastomosenklemme behandelt. Glatte Heilung."
74 Two Cases of Partial Unilateral Rhinoplasty. F. de Quervain (Chaux-de-Fonds).—"Ueber partielle seitliche Rhinoplastik."

Deutsche Med. Wochenschrift (Leipsic), March 13.

75 *Compulsory Notification of Cases of Tuberculosis. C. Fraenkel (Halle).—"Die Anzeigepflicht bei Tuberculose."
76 *Study of Cancer Tissue and Etiology. Feinberg (Berlin).—"Zur Lehre des Gewebes und der Ursache der Krebsgeschwülste."
77 Tetanus Germs in Gelatin. Schmiedicke (Berlin).—"Weiteres ueber Tetanuskeime im der käufl. Gelatine."
78 Intoxication from Chemicals Used in Flash Lights. A. Graefe (Berlin).—"Fall von Vergiftung durch Chloroxyd und Chlordioxyd."
79 Pancreas and Liver Affection Without Glycosuria. Lenné (Neuenahr).—"Pankreas- und Leberkrankung ohne Glyc."
80 *Intravenous Injection of Credé's Colloid Silver in Septic Affections. J. Mueller (Buetow).—"Die intrav. Inj. von Arg. coll. Credé bei sept. Erkrankungen."

Muenchener Med. Wochenschrift, March 11.

81 Principles and Dangers of the Treatment of Abortion. H. Sellheim (Freiburg.—"Prinzipien und Gefahren der Abortbehandlung."
82 *Mechanism of Albuminuria by Egg Albumin. M. Ascoli (Pavia).—"Ueber den Mech. der Albuminurie durch Eiereiweiss."
83 *Danysz's Rat Bacillus. E. Wiener (Vienna).—"Ueber den Bac. Danysz."
84 *Bactericidal Action of Roentgen Rays. H. Rieder (Munich).—"Nochmals die bakterientödtende Wirkung der Röntgenstrahlen."
85 Center for Reflex Contraction of Pupil and Study of Pupil Immobility. K. Baas (Freiburg i. Br.).—"Zentrum der reflekt. Pupillenverengung und Sitz und Wesen der reflekt. Pupillenstarre."
86 Voluntary Dislocation of the Upper Arm. J. Riedinger (Würzburg).—"Ueber willkürliche Verrenkung des Oberarmes."

Wiener Klin. Rundschau, March 9 and 16.

87 *Internal Use of Chloroform and Its Dangers. E. Franck (Berlin).—"Die inn. Anwendung des Chloroforms und ihre Gefahren." Concluded from No. 9.
88 Study of the Utilization of Iron by the Organism. A. A. Lerner (Vienna).—"Wie verhalt es sich mit der Ausnützbarkeit des Eisens für den Organismus?"
89 *Microscopic Investigation of the Blood for the Diagnosis of Intra-abdominal Suppuration. J. Schnitzler (Vienna).—"Ueber die Verwerthung der mikr. Blutuntersuchung zur Diagnostik und Indicationsstellung bei intra-abdominalen Eiterungen."

Wiener Med. Presse, January 12 to February 16.

90 Cases in Abd. Surgery. R. von Mosetig-Moorhof.—"Casuistik der Abd. Chir."
91 Hydrotherapy in Treatment of Pulm. Tuberculosis. W. Winternitz.—"Lungentub. und Hydrotherapie."
92 *Experimental Study of Treatment of Fractures. B. Rossi (Milan).—"Exp. Beitrag zur Frage der Behandlung von Knochenfrakturen."
93 *Treatment of Ileus. L. Chassel (Vienna).—"Zur Behandlung des Ileus."
94 Elimination of Ammonia in Urine. W. Camerer, Jr.—"Ammoniakausscheidung im menschl. Urin."
95 Atony of the Stomach. A. Pick.—"Ueber Magenatonie."

Roussky Vratch (St. Petersburg), January and February.

96 A Glance at the Science of Obstetrics and Gynecology in the Past, Present and Future. V. S. Grudzeff (Kazan).
97 Application of the Mirror Table for the Diagnosis of Flat-Foot. G. I. Turner.—"Prostoe prisposoblenie dlya opredeleniya ploskoy stopi stolik Bradford'a e Lorett'a."
98 Walking Apparatus for Paralytics. Mme. M. K. Valitzkoy.—"Apparat dlya paralizovannix."
99 Influence of Color Perception on the Pulse Curves. M. Reznikoff.—"O pulsovoy krivoy e o vliyanii na nee tzvetovova ostchestcheniya."
100 *Exp. and Clin. Experiences with Phototherapy. N. A. Velyaminoff.—"Svyetolechenie po Finsen'u na osnivanie exp. e klin. izsledovanii v. Acad. chir. Clinikye."
101 Prophylactic Measures Against Gonorrheal Infection. L. I. Jacobsohn.—"Preloxranitelniya myeri protiv zarajenie pereloem."
102 Treatment of Stricture in the Urethra by Electrolysis. B. N. Xoltzoff.—"O letchenie sujenii motche ispuskatelnova canala elektrolizom."
103 New Reaction of Certain Oxydizing Substances in the Organism. G. N. Gabritchesky.—"Novaya reaktziya na nyekotorix vozstanovlya. vestchestva organisma."
104 *Forward Luxation of the Humerus Complicated by the Tearing Off of the Tuberculum Majus. G. I. Turner.—"O perednem vivix pletcha e ob oslojnenie yevo otrivom bolshova bugorka."
105 Banti's Disease. P. Rozanoff.—"Bolyezn Banti."
106 Exp. Study of Alexins in Serum of Children. G. A. Guseff.—"Opit. koliteh. opredelyenie alexinov i sivorotke ot boly. e zdorovix dyetei."
107 Treatment of Glandular Tuberculosis. B. S. Kozloffsky.—"Letchenie bugortchatki. lymph. jelez."
108 Tumor in Cerebellum. M. D. Xanutina.—"Slutchai opuxoli mozjetchka."
109 *Treatment of Tetanus by Instillation of Antitetanus Serum in the Spinal Canal. P. Jacob.—"Letchenie stolbnyaka."
110 Differentiation and Treatment of Affections of the Esophagus. S. P. Fedoroff.—"Krasposnavaniu e letcheniu bolyeznei pistchevoda."
111 Specific Thyreotoxin. A. F. Mankovsky.—"O klyet. yadax tireotoksini."
112 Anchylosis of Both Hip Joints. I. I. Grekoff.—"K casuistik ankyloza oboix tazobedrennix sustavax."

St. Petersburg Med. Wochenschrift, February 16 to 20.

113 Cure of Paraplegia by Suggestion. L. Stembo (Wilna).—"Fall von unterer Paraplegie geheilt durch Suggestion."

Revista Asoc. Med.-Farm. de Cuba, January.

114 Dr. Carlos Findlay and the Mosquito Theory of Yellow Fever.

El Siglo Medico (Madrid), February 9 to March 2.

115 Clinical Evolution and Degeneration of Uterine Fibro-Myomata. I. R. Irigneros (Madrid).—"Evolucion clin. y deg. de los fibro-miomas uterinos."
116 *Treatment of Tuberculosis. J. Garcera (Valencia).—"Tratamiento de tub."

---

2. **Myelocene in Deafness.**—Watson offers the theory that bone marrow produces an internal secretion of vital importance in the economy and that it is a powerful prophylactic against the injurious action of various bacteria which in health are present as saprophytes in different tissues and that defects in this bone marrow are likely to be followed by pathogenic action of the same micro-organisms. The results of this pathogenic activity vary with the individual reaction. The main sites of these bacteria are the respiratory and alimentary tracts and the skin. In this article he deals with chronic suppurative middle-ear disease and promises in a later one to give the results of

observation in cases of psoriasis. As a sort of control experiment he uses olive oil as a mechanical lubricant and the combination of rectified spirits and glycerin on account of its stimulating effect on the circulation of the membranes of the middle ear. Having satisfied himself as regards the effect of mere lubricants, he proceeded to apply the substance derived from the bone marrow according to his theory and gives the results in 20 cases. The tests mainly included the watch, whisper and ordinary voice, the latter being the one which he found most satisfactory. Of the 20 cases treated, 4 were of a mixed type, the tuning-fork conduction being greater by air than by bone. One case was of post-suppurative origin. The results are summarized as follows: "Of the 15 cases of apparently pure dry middle-ear disease, 11 showed a record of improvement fairly comparable to those already detailed, due allowance being made for the different degrees of deafness when the patients first came under observation. Two showed a marked improvement in one ear only, but as this improvement took place in the deafer ear, the practical benefit was slight; 2 cases, male patients aged 46 and 60 respectively, were uninfluenced by the treatment. Of the mixed cases 3 showed a practical improvement and one did not. The post-suppurative case improved. In some cases the improvement has been fully maintained, in others deterioration has set in slowly and progressed. Observations are at present being made on means of maintaining the improvement in the hearing power." It may be said here that there was a temporary improvement following the use of rectified spirits and glycerin. Olive oil was ineffective. The substance employed, which he calls myelocene, is prepared as follows: The bone marrow from selected normal bones with perfectly physiologic appearance is extracted with ether and the ethereal solution is evaporated down at first in the open and later over the warm bath. The fat is then rubbed up with 1 per cent. chloretone for preservation. It now appears as a whitish or faintly yellow fat with a strong odor, partly of ether, partly of chloretone, with a variable melting point. The fat with a low melting point is the only one that has proved satisfactory in use.

4. **Isolation of Typhoid Bacillus.**—The separation of typhoid from the colon bacillus in examination is often a matter of some difficulty, the latter being uniformly present in overwhelming numbers in any material likely to be contaminated with the typhoid bacilli. Moore first experimented with a W-shaped tube, using the Parietti serum gelatin, in which the material was introduced in one limb and the actively motile typhoid bacillus passes through it to the other, while the sluggish colon bacilli remain at the bottom of the first curve. This, however, while giving excellent results in artificial mixtures with a given strain of colon bacilli, was unsatisfactory for other strains. To meet this objection he used a modification of the Elsner potato iodid gelatin medium, which itself is slow in action though otherwise the best process, substituting agar-agar for the gelatin. Plates prepared with this medium were sown with mixed cultures of typhoid and colon bacilli and incubated for 24 hours in an incubator at 37 C. At the end of this time examination under a low power microscope shows very much the same difference between the two sets of surface colonies as is found in the Elsner gelatin after four or five days' growth, the typhoid colonies being very clear, transparent and almost invisible when strongly illuminated, and with irregular clean-cut margins, while the colon colonies were much larger, rounded and opaque. In this way the typhoid bacilli were isolated in pure cultures from numerous artificial mixtures, especially from Thames water contaminated with typhoid broth culture and old dejecta kept for five months.

5. **Typhoid Fever.**—Gibbes offers the following as a new point of diagnosis in typhoid, viz., the use of photography, which reveals the rose spots much earlier than the naked eye can recognize them. The best plan is to use orthochromatic plates and make a number of exposures as quickly as possible; a ray filter is required with some plates, but with Cadett's "spectrum" plates, this would not matter. The procedure is simple; cover the head and face with a light shawl and remove the covering from the abdominal regions, moisten a small bit of printed matter, and stick it on the skin to get the focus. The operation is greatly facilitated if an assistant throws all the light possible on the part by a mirror. No rules for exposure can be given, as the light varies, but out of six exposures of varying light one or two should show the rash. The greatest care is required in developing the plate. Over-exposure must be avoided and development should be slow, with a weak developer and not carried too far.

11. **Typhoid Fever.**—This first Milroy lecture by Corfield is historic, giving the history of the development of the theories of typhoid to their final verification by the discovery of the typhoid bacillus.

12. **The Pulmonary Circulation.**—Brodie's experiments by the plethysmographic method on the lung brought out a number of facts in regard to its circulation, some practical deductions from which are made on the effects of certain drugs. He doubts whether there are vaso-constrictor fibers to the pulmonary arteries. He finds that his experiments rather contraindicate the use of adrenalin or suprarenal extract in case of pulmonary hemorrhage. Still, the results are not conclusive, as the effect of small doses taken internally is still to be considered. It seems to have a directly opposite effect on the pulmonary vessels from what it has on the systemic, when applied by perfusion in the vessels. The action of nicotin is somewhat similar to that of suprarenal extract, producing congestion of the lungs and rise in pulmonary venous and arterial pressure. Pilocarpin tends to produce systemic vaso-constriction, the effect of which, however, is obscured by marked cardiac inhibition simultaneously produced. Muscarin produces the same effect as pilocarpin.

14. **Staphylococcal and Streptococcal Infection.**—Bellei reports several cases of interest, two of fatal staphylococcal infection. The first was a man who was infected while operating on an abscess in a woman and pyemic abscesses resulted. The infection of the woman was not severe and she recovered. The second case was that of a boy who died in six days from a slight injury by a nail in the right leg. The streptococcal cases reported are of interest from the fact that in one there was a complicated infection with streptococci and saccharomyces, and he suggests that the natural defense, the phagocytes, were inefficient on account of the presence of the saccharomyces, though they might have been efficient if the streptococcus had been alone. Both patients had suffered for many years from disease of the teeth, with pus formation, and he suggests the ill effects following were largely due to this original infection. The micro-organisms which exist in the saprophytic state in the mouth become virulent when chronic disease of the alveoli and gums is present.

15. **Electric Shocks.**—A good deal of misapprehension exists as to the circumstances under which shocks at 500 volts may be felt or conditions which may lead to serious consequences. The electric pressure of 500 volts has become well established as a standard for electric traction, but pressure can be arranged to take another 100 or 150 without appreciable alteration. Conditions of commercial standardization seem to set the limit of working at about 600 volts. It is fortunate that no further extension of pressure is likely to be wanted. Since in a few cases 500 volts have been fatal, it has been assumed that they always are. But Trotter says that he has repeatedly stood on rails in wet boots, sat on rails and slapped the running rails with his bare hand. A pressure of 300 volts was used at first for traction purposes, but afterward it was found by Americans that 500 volts were high enough for economy and not too high for safety. The sensation of 500 volts may be a prick, a pleasant tingle, a hot burning or a convulsive shock. It does not depend directly on the actual current, but on the current density. With four or five square inches of contact between dry metal and bare skin, a steady continuous current of one or two milliamperes is hardly perceptible. From 3 to 8 are easily supportable, above 10 painful and above 35 almost unendurable. With larger currents and more surface, muscular contractions are added to the tactile sensations, especially if the current is at all unsteady. The alternating current seems to be four or five times more painful, but the sensation

is of a different character. It is difficult to make any exact determination between the current density and the sensation. More than about 14 milliamperes of steady continuous current at the finger-tip, making a poor contact of about one-sixth of a square inch, is unendurable, but 35 milliamperes from boot to boot, nearly the whole soles of the feet in contact, is much less painful. The resistance from hand to hand when grasping two pieces of dry trolley wire is about 5000 ohms, and he has found it as high as 14,000 ohms. The resistance between the body and earth or an iron rail through the sole of the foot, stocking and rail is of considerable importance. He finds the resistance from boot to boot, the boots being free from nails, varies from 45,000 to more than 200,000 ohms. The lowest measurement he observed with 500 volts was 25,000 ohms. Boots worn into holes and wetted gave 13,000. The mere touching of dry metal at 100 volts gave hardly any sensation, but with a larger contact the shock is severe. At 200 volts a light touch gives an unpleasant prick, but the current through a firm contact is from about 12 to 18 milliamperes, which can be borne without considerable pain. The sensation is very similar to that of heat. To grasp with bare hand two pieces of metal at 500 volts may give a very painful shock, but a light and quick touch is no worse than that from a half-pint Leyden jar. A 500 volt may be described as worse than touching a kettle of boiling water, but not so bad as touching a red-hot poker. Such shocks are common occurrences with careless linemen. Cases of fatal accidents from 500 volts are so rare that the condition can only be guessed at. If the skin resistance be reduced by moisture, especially if salt or chemicals be present, and if the contact be long and pronounced 100 volts may be fatal, but a man may be choked by a crust of bread under exceptional conditions. Neither the man in the street nor a man on a car runs any risk of taking 500 volts, skin to metal. Trotter has repeatedly done this and had no trouble, and his son, 7 years old, stood on a rail and played with a wire of 500 volts. The current was less than one-quarter milliampere, and he felt nothing. A fallen telephone wire is not so easily seen. It does not stop traffic and may twist around a person and burn him. With wet boots and wet ground the conditions are worse. The danger of the third rail on the electric railways is also mentioned, and he remarks that the effects are about the same as in the other case. Horses are especially susceptible to shock. What would be a painful shock to a man can cause instant death to a horse. Horses are terrified by conditions where a human being would feel no shock. It is possible that the resistance is very small and the current large. The horse is specially fitted for making contact with his shoes, which are connected by nails with his body. The conclusions are given as follows: "The dangers of electric shocks at 500 volts have been much misunderstood, greatly exaggerated and little investigated. The pressure of 500 volts has been deliberately chosen by electrical engineers because it is not dangerous under ordinary conditions. The conditions under which serious shocks are not produced by 500 volts are discussed in the paper, and it is safe to assume that all shocks more serious than those which are recorded are dangerous. Dry wood and dry boots without large nails offer so great resistance to electric current that it is perfectly safe to touch a trolley-wire while standing on a dry tram-car, or even while standing on the ground or on the rails. Wet weather makes a considerable difference, but boots must be very wet to allow enough current to pass to produce a severe shock. Men engaged in electric traction work receive many slight electric shocks at 500 volts and they might avoid most of them by taking more care. Dry clothing offers so great a resistance that no shock can be transmitted through it. The peculiar conditions under which shocks at 500 volts have caused death are discussed and are shown to be very exceptional. Experiments have been made on some 30 persons, including 12 women and 6 children, and it is proposed to make other experiments. With sound dry boots hardly anybody can feel a shock when standing on the live rail of an electric railway with one foot and a running rail with the other. With damp or wet boots a shock is felt, but neither the sensation nor the degree of wetness of the boots can be measured accurately. It is not possible to receive a shock by sitting or lying on a live rail so long as the clothes are dry and continuous—that is to say, so long as the live metal is not touched by the bare skin."

17. **Latent Malaria.**—Moore suggests conditions analogous to those described in certain plants, as occurring in malarial parasites. He has observed certain bodies which seem to him to be able to take a simpler form of reproduction than the ordinary one. In his observations of latent cases which he reports, the duration varied from a few months to several years, and he thinks it depends upon the following, viz.: 1. The parasite failed of development in sufficient numbers to liberate toxins and cause symptoms. 2. The parasites may become attenuated to such a degree that they do not produce the amount and the kind of toxins to manifest their presence, for they may be present in large numbers, as he has frequently observed. 3. The individual may have acquired a certain immunity, so that he prevents sufficient development of parasites which liberate toxins or the organism has become more resistant. 4. The attenuation, lack of development and partial immunity may have been of such a character that the symptoms manifest themselves in an atypical way, or the presence of some associated disease may so modify the symptoms of malarial fever that they become atypical. In this case he would be disposed to speak of it as a masked rather than a latent malaria.

22. **Uncinariosis.**—Bancroft believes that he has observed cases where reinfection with ankylostoma was produced through the skin by children walking through infected ground. He reports a case and the conditions which would favor this method of infection and gives Looss' statements in bearing out this theory. He notices that children or persons affected with ankylostoma are inclined to eat dirt and gritty materials and thinks that a feeling of well-being is produced by such ingestion, possible dislodging the parasites in the bowel.

23. **Antitoxin.**—Paton has used diphtheria antitoxin for septic conditions, giving it internally, and says that its range of action is: "1, specific for the staphylococcus and streptococcus in all their varieties; 2, specific for simple and traumatic inflammation (whether we regard such inflammation as being a distinct entity or only an attenuated sepsis, diphtheria antitoxin makes no distinction); 3, without parallel in medicine as an absorbent of inflammatory tissues left from the previous-mentioned inflammations, 1 and 2, and also of effused blood; 4, that it has considerable influence on the coagulability of blood, and 5, has great power in some depressed nervous conditions, probably due to septic conditions acquired or to autotoxemia." Though he can not say how it acts he is satisfied that it has a beneficial effect. The gastric secretion, he holds, from such data as he has obtained, has little effect on antitoxin. He believes the oral exhibition of glandular and other organic products, such as thyroid and suprarenal, is sufficiently a parallel to justify the exhibition of antitoxin serum in this way. His formula for using it is given as follows:

℞. Diphtheria antitoxin, 3000 units.
Trag. carmin q. s.
Aq. ad .....℥ii
M. Sig.: Dose one half ounce (which equals 750 units).

The time of administration varies from night and morning to every 4 hours, but the latter is only used in exceptionally severe cases; it is better to give too much than too little. For erysipelas ℥ss every 8 hours is usually effective. For acute peritonitis and appendicitis ℥ss at once, ℥ss in two hours, ℥ss four hours later, and afterward every 6 to 8 hours now usually does all that is required. For children the full doses may be given, as the antitoxin is harmless, but usually for small children half the dose is quite effectual. In about 1 per cent. of the cases either a little kidney irritation or skin eruption may be seen, but they are of the most superficial and fleeting character."

27. **Alopecia Areata of Dental Origin.**—Jacquet regards alopecia areata as a symptom resulting from various irritations. The most common of all these irritations is from the teeth. He has established in numerous instances that the alopecia has developed subsequent to a subjective series of phenomena in the sphere of the inferior trigeminal. The

localization of the alopecia is on the same side, and it is merely one factor in the syndrome of sympathetic manifestations grouped around the primary trigeminal phenomena. The cause of the syndrome is some irritation of the gums or teeth. The study of the routes of conduction clearly explains the connection between the initial irritation and the cutaneous symtom as well as the entire pathologic train. Suppression of the primary irritation entails the disappearance of the symptom-complex derived from it. He has established this train of phenomena in 27 out of 200 cases of alopecia areata and reports 21 in detail, with diagrams illustrating the routes of nerve conduction and the close connection between the dental or paradental affection and the alopecia. He noted painless congestion in one case, painful congestion or congestive neuralgia in 7 and simple neuralgia in 19. The syndrome may include epistaxis, coryza, erythrosis, hyper- or hypo-thermia, adenopathy, swelling of the tonsil—all on the same side and connected chronologically and topographically with the alopecia and all with a substratum of latent and deep hyperesthesia of the nerves and muscles or of the former alone, most marked at their emerging points.

29. **Chloroform in Heart Disease.**—Panas attributes sudden death under chloroform to a bulbo-laryngeal reflex contraction of the vocal cords, from contact of the fumes with the glottis. This contraction prevents the passage of any air and even of the chloroform into the lungs. The mechanical phenomena of respiration on the part of the ribs and diaphragm continue as usual and deceptively simulate normal respiration in spite of the asphyxia. The heart soon ceases to beat and the death is erroneously attributed to the cardiac syncope, when in reality the contraction of the vocal cords was the primary trouble. In blue asphyxia the heart and the pulse persist and the thorax rises and falls normally. But the intoxication from the excess of carbon dioxid in the blood superimposed on the disturbances from the anesthetic, entails such a condition that it is impossible to resuscitate the patient. In both these cases the respiration and the heart action continue approximately normal until the danger point is long past. The anesthetist should devote his chief energies to surveillance of the free intake of air. He should listen closely and continuously to hear the laryngo-tracheal respiratory souffle. A useful precaution is the addition of an index to the receptacle holding the chloroform. Any disturbance in the regularity of the to-and-fro movements of the index should sound the alarm and the anesthetic should be suspended until respiration is restored to regular and complete action. Panas emphasizes that by observing these precautions there will never be any deaths from chloroform, even among patients with established heart disease. He has performed 15,000 operations and has never had a mishap. The reason why children take chloroform so much better than adults is because they protest against and resist the chloroform, cry and scream and in their excitement take deep breaths. This prevents the spasmodic closure of the glottis and enables the anesthesia to be complete with the minimum of chloroform. The persons for whom chloroform is inclined to be dangerous are not those with heart disease, but nervous persons with peculiarly intense reflexes easily induced and long persisting. Such patients require the closest surveillance; the chloroform should be administered drop by drop and suspended at the slightest suspicion of irregularity in the breathing.

31. **Sudden Death of Gastric Origin.**—Lancereaux affirms that two-thirds of the cases of sudden death in which the organs are found sound, are the result of reflex inhibition of the centers of circulation or respiration by a nervous disturbance in the stomach, usually due to dyspepsia and most frequent in dyspeptic subjects with a gouty taint. The digestive disturbances excite the heart, especially if there is dilatation or fatty deposit in the organ. Sudden death from this cause occurs at the time after meals when the digestive troubles are at their height, at night between 2 or 3 a. m., in the afternoon between 4 and 5. He describes several instructive cases in which he was able to resuscitate the patient by artificial respiration, but the syncope recurred again and again. In one there were no other symptoms except slight colic, nausea and vomiting, but the syncope kept recurring and at last resuscitation was no longer possible and the patient died. The trouble began four days before with an indiscretion in diet, which had been followed for three days by vague dyspeptic disturbances and accelerated pulse. Death was undoubtedly due to arrest of the heart action. The physician with his finger on the pulse was able to foretell the approach of the syncope each time. It invariably commenced by the total disappearance of the pulse, followed by contraction of the jaws, rigidity of the muscles of neck and thorax, stoppage of respiration and apparent death, which would have been actual death if artificial respiration had not been practiced at once. Stimulation of the nerve terminals in the mucous membrane of the stomach induces the inhibition of the bulbar reflex center and hence arrests the heart. Death from this cause is frequent. Hillairet and Potain are examples of it. Neither had any organic affection of the heart or arteries and both retired at night in good health and were found dead in the morning. The prophylactic indications are to treat the dyspepsia and moderate the excitability of the nervous system. The majority if not all of such subjects are impressionable nervous persons, leading a more or less strenuous life and digesting poorly. In the presence of an attack, artificial respiration should be practiced, the patient reclining and the head low, the heart stimulated and the excitability of the bulbar center neutralized by abolishing reflex action as far as possible. This can be accomplished by the proper dose of morphin, but too weak a dose exaggerates the reflexes and too strong a dose is toxic. The physician must individualize for each patient and for the origin, the nature and the intensity of the trouble in each case. The initial excitation may be moderated when it proceeds from the stomach by leaving the organ in repose, allowing nothing except possibly water with sodium bicarbonate. Digestive disturbances in the intestines are liable to induce sudden death in this way the same as when located in the stomach. Instances of this are not rare in convalescence from typhoid fever or dysentery.

33. **Heredity in Relation to Movable Kidney.**—Guillet thinks that movable kidney should not be considered a malformation or a sign of degeneracy, as some maintain. In a few exceptional cases it is possible that a general tendency to looseness and laxness of the tissues may be inherited. In other cases the condition is acquired. The shape of the paravertebral recess in which the kidney lies is peculiarly adapted in women to favor the production of movable kidney under slight provocation.

35. **Insanity in the French Army.**—Granjux states that the proportion is about .4 to 1000 men. This proportion is doubled in the troops stationed in Africa, quintupled in the prisons and sextupled in the "compagnies de discipline."

36, **Lactate of Mercury in Treatment of Syphilis.**—Gaucher asserts that the neutral lactate of mercury is of all the mercurial salts the one best adapted for the treatment of syphilis, either by the mouth or in subcutaneous injection. It is prepared by dissolving the red oxid of mercury in 10 per cent. lactic acid. The salt thus obtained belongs to the organic series; it is easily made and of almost indefinite stability; it is scarcely at all irritating and contains so much mercury that 1 cg. a day in a subcutaneous injection is an ample dose.

37. **Prokhoroff's Method of Treating Syphilis.**—Scherb has been testing this method of treating syphilis and describes three cases of severe and old encephalopathy and myelopathy remarkably benefited by this treatment, which is based on the principle that mercury which is frequently toxic in repeated small doses is not so in large doses at sufficient intervals. Each case had been rebellious to ordinary mercurial treatment. One was so far advanced that the benefit was only transient as the patient soon died. He injected in one case of syphilitic general paralysis 18 cg. of the salt and the same amount 12 days later and 12 cg. after another interval of 14 days. The acute paralytic manifestations subsided in less than a year and the improvement amounted to resurrection. Another patient with the "cerebellar syndrome" and atrocious cephalalgia was completely cured after three epidural injections of the same amounts at ten-day intervals. There was a slight pollakiuria,

due probably to some irritation of the nerve rootlets innervating the bladder and urethra.

38. **Relations Between the Spindle-Spirillae Symbiosis and Diphtheria, Etc.**—Simonin relates a number of clinical experiences to sustain his assertions that the symbiosis of the spindle-shaped bacillus and spirillæ (Vincent), is of great importance in pathology. These parasites are superficial and not toxic. They never invade the general circulation and are never found except in some cavity in direct communication with the mouth. Their action is restricted to boring a passage through the skin or the mucous membrane. But the boring of these passages provides an entrance for germs capable of causing dangerous secondary septicemia and consequently the spindle-spirillæ combination is a menace. Every cause altering the pharyngeal epithelium favors the implantation of the associated germs, but they are easily destroyed by simple antiseptic measures.

40. **Pathogenic Deductions from Freezing Point of Hydatid Fluid.**—Surmont found that the freezing-point of hydatid fluid is about the same as that of the lymph. The hydatid membrane is evidently permeable in both directions for crystalloid and colloid substances. These facts explain the slight amount of molecular interchanges between the parasite and its host and also the phenomena of intoxication which supervene after violent osmotic exchanges, such as occur after puncture and partial evacuation.

41. **Study of the Diazo Reaction.**—Delcarde is convinced that the diazo-reaction is not produced by absorption of the products of intestinal putrefaction, as the ingestion of powerful antiseptics, such as the saline purgatives, do not diminish it. There is no proportion between the amount of indican in the urine and the intensity of the diazo-reaction. On the other hand, the reaction diminishes or is completely suppressed under the influence of the phenol group, phenol, salol, benzo-naphthol and betol. This effect is evidently due to the action of the phenol on the substances in the urine which induce the diazo-reaction.

42. **Relations Between Cutaneous Affections and the Size of the Stomach.**—Butte noted that the size of the stomach was larger than normal in cases of eczema, herpes, psoriasis, acne, urticaria and alopecia in his experience. Assuming that the normal adult stomach measures 8.5 to 10 cm. vertically and 9.5 to 11 cm. horizontally, the increase in size is evident in the list of 34 cases he publishes. The size also parallels the extent and intensity of the cutaneous affection. In a case of eczema for instance, the stomach measured 11x14 cm. and subsided to 10x12 when the eruption vanished. In another case, from 12x17 the stomach subsided to 9x11 as all traces of the eczema disappeared. In a case of chronic eczema of the nails the stomach measured 12x20. Among the cases of herpes was one with 12x15 during and 10x12 after recurring herpes. One patient with alopecia, 13x17, and only 9.5x14 as the alopecia subsided. One with urticaria, 10x15 during and 8x11 after the attack. One with acne of the face for 6 years, 12x16 and 10x14 as it healed. In seborrheic eczema and psoriasis alone, the size of the stomach did not diminish during recovery from the cutaneous affection.

43. **Hysteric Vomiting in Children.**—Carrière describes two cases of severe repeated vomiting in girls of about 9 years of age. There was no organic lesions. The vomiting had been preceded by other neuropathic manifestations, somnambulism, arrhythmic chorea, etc. It did not affect the general health and could be induced, modified and even suppressed at times by purely psychic causes. A hysteric origin was consequently probable, and both of the children were promptly cured by a catheterization of the stomach. Other practitioners have been successful in such cases by administering methylene blue pills or some other impressive measure, by suggestion under chloroform, by hypnosis, and Basset actually performed a laparotomy.

44. **What We Can Learn from Homeopathy.**—Bommier is a converted homeopathist, although he only confesses that he studied homeopathy from curiosity. He thinks that certain of its principles, revised and corrected, may be studied with profit by every physician. He claims that among these principles are: 1, the necessity of thorough study of the drug to be used; 2, that a drug should not be combined with other less known drugs without good cause; 3, that the dose should be as small as possible; 4, that masked expectant treatment should be sometimes raised to an actual principle; 5, that the diet should be strictly supervised, with what might seem at first view to be almost puerile regard to details; 6, that the possible opposition of the effects of the same drug at different doses should never be forgotten; 7, utilize the similia similibus, *alias* substitutive method, for whatever it can possibly accomplish.

46. **Lumbar Puncture for Cephalalgia.**—Carrière states that intense cephalalgia in 4 cases of tubercular meningitis in his service ceased after lumbar puncture. The fluid was under very high pressure; moderate pain recurred later in 2. The same procedure relieved the intense headache in a case of acute, fatal hydrocephaly. No relief was obtained in a case of empyema of the frontal sinuses. The cerebrospinal fluid flowed very slowly in this case. In another of uremia with intense headache, the cerebrospinal fluid flowed very slowly and the intervention was ineffective, but in a second case the fluid was under high pressure and the cephalalgia disappeared permanently after withdrawal of 90 c.c. In 2 patients with migraine, there was no improvement after lumbar puncture in one, and only a small quantity of fluid could be withdrawn. In the other the puncture allowed the immediate escape of 50 c.c. and the attack was arrested at once and without vomiting. It proved ineffectual in 6 cases, one a chlorotic patient, the others with adenoids. These results indicate that the headache in one class of cases is due to hypertension of the cerebrospinal fluid and is relieved by evacuation of a certain amount. When it is the result of some organic or functional disturbance of the brain or vasomotor action, it is not amenable to lumbar puncture. Carrière has but once witnessed headache occurring after the lumbar puncture. That patient, instead of reclining afterward, according to instructions, walked home and suffered from intense headache for twenty-four hours, probably from the motion and upright position. When the previous cephalalgia persists after the lumbar puncture its characteristics remain unaltered.

50. **Direct Surgical Intervention for an Aneurysm of the Aorta.**—Tuffier observes that an aneurysm of the arch of the aorta can not be reached by the surgeon when it is located in the descending portion. It can not be isolated when it is very large and adherent to all the organs of the mediastinum, and it would be impossible to extirpate it in case of total ectasia of the artery or if too large an extent of wall is involved. As these three varieties of aneurysm are the most numerous, only a limited number at the best are amenable to surgical intervention. The degeneration of the wall observed at the autopsy in case of ectasia of the artery does not necessarily affect the intervention, as the part involved in the sac dilatation is the only part that ruptures. Sac-shaped aneurysms are therefore the only ones that indicate surgical intervention, and only those in which the moderate size encourages the hope of complete obliteration by the procedure. The diagnosis of this variety is possible with radiography; resection of the sac with lateral suture of the vessel is easily done and promises to be effective, although cases of this character are very rarely encountered. To justify operation they must be accessible and possible to isolate and extirpate. They must be the only arterial lesion and beyond the reach of medical aid, threatening a speedy fatal termination. He recently found these conditions united in a woman of 40, free from syphilitic taint, with an extremely painful pulsating tumor with synchronous pulse, both radial and temporal, on both sides. Its location indicated that it must be an aneurysm of the ascending portion of the arch of the aorta between its origin and the emergence of the brachio-cephalic trunk. The slowness with which the aneurysm filled again after it was reduced, the absence of concomitant aortic insufficiency, the normal position of the arch of the aorta, and the single souffle, suggested a sac-shaped aneurysm with a narrow neck, rapidly increasing in size. It had only to ulcerate the skin to perforate outward, and had attained the size of a fist. There was no sign of any other arterial

lesion and the general health of the patient was perfect. Although fully informed in regard to the danger of an operation, she clamored for it as the radiating pains from the aneurysm were unbearable. Tuffier examined all the specimens of aneurysms that he could find in the museums and found seven which corresponded to his conception of the aneurysm in the present case, and indicated that they could have been successfully extirpated. The sac was found as he anticipated, but it was adherent to the second and third ribs and to the pleura. The second rib was actually imbedded in the tumor, and he cut it across on each side, not venturing to disturb the adherent portion. After the sac was emptied into the aorta, the opening was found only large enough to admit the forefinger and a ligature was thrown around it. The pulse and respiration showed no disturbance. He intended to remove the empty sac and suture the wall of the artery, but omitted to do so at the last, and replaced the flap and sutured the skin wound. The immediate results of the intervention were most satisfactory, but the patient succumbed in a few days to secondary hemorrhage from the sac which had gangrened. The conditions found at the autopsy were all favorable to the healing of the wound if the sac had been removed as first intended. The walls of the aorta around the neck of the sac were nearly normal, and a suture would probably have held firm.

51. **Symmetrical and Ignored Fractures of the Clavicles.**—Féré gives the skiagraphs of five out of six persons distinguished by the fact of a complete fracture of both clavicles at the junction of the outer third with the inner two-thirds. Velpeau described a similar case and regarded the fractures as congenital. In only one of the six were any functional disturbances noted, and most of the patients had served as porters or something of the kind requiring the carrying of heavy weights. Féré's cases were all in his service for the insane at Bicêtre. He believes that such symmetric fractures are probably congenital and are due to violent muscular action in some intrauterine convulsion.

52. **The Segment of Intestine Above an Intestinal Stenosis.**—Patel states that the walls of the intestine above a stricture are very often abnormally thick. This thickening is not proportional to the site, degree or age of the stricture, but always seems to coincide with some actual lesion of the mucosa. It consists of a pathologic infiltration of the muscle whose fibers are separated and dissociated, the infiltration involving and being most marked in the subserous and submucous cellular layers. This enlarged segment is diseased and should be sacrificed during an anastomosis, in order to operate entirely in sound tissue.

54. **Nasal Vertigo and Epilepsy.**—Jousset adds two more cases to the few on record of epileptic seizures with a nasal aura. The patient first experienced a tingling in the nose, followed by a heaviness in the head, formication and loss of consciousness. The face was at firt congested and then became pale at the height of the seizure. In one patient there was a traumatic deviation of the nasal septum to the left, and in the other, rhinitis with hypertrophy on one side and atrophy on the other. Operative treatment of the abnormal nasal conditions led to the complete disappearance of the epileptiform seizures. He asserts unconditionally that the nasal conditions in these cases evidently were a prominent factor in the development of the seizures.

55. **Benefits of Surgery for the Mentally Unbalanced.**—Glénard cites the case recently communicated by Picqué in which a patient with anxious melancholia was operated on for the relief of recurring appendicitis, and was cured of the mental troubles at the same time. In a recent case the removal of a previously nephrotomized kidney cured a severe psychosis. Christian has also reported a case of delirium which was permanently cured by an urgency operation for the relief of a strangulated hernia. Glénard believes that operative intervention on the mentally unbalanced should not be limited to urgency operations, but should be undertaken deliberately in certain cases as an indirect means of influencing the nervous system. Picqué has collected 132 operations undertaken not for the purpose of curing the mental trouble, but in response to general surgical indications. In 51 the mental trouble was cured at the same time as the surgical affection; in 21 the mental condition was much improved; in 42 unchanged and 8 patients died. The mental affection in similar cases, far from being an obstacle, should be an additional incentive to prompt surgical intervention, as it may accomplish the cure of two affections at once.

56. **Is There a Renal Diabetes?**—Munch observes that it seems to be established in experimental pathology that we are justified in admitting the existence of a glycosuria of renal origin. In certain cases, as an intoxication by cantharidin or after administration of theobromin, there is merely an increase in the permeability of the kidney. In other cases, as in phloridzin glycosuria, we may attribute to the kidney an actual sugar-producing rôle. These facts seem to be established in regard to animals, but there is much less certainty about them in human pathology. In all of the few cases that have been related the coincidence of sugar and albumin was certain. None of them afford positive evidence in regard to the relations as to cause and effect between the glycosuria and alteration of the kidney. It is impossible to class as renal diabetes any cases in which the renal affection did not unmistakably precede the glycosuria, or in which another cause can be incriminated such as gout or lithiasis, in the production of the glycosuria. Lépine has reported a case in which a woman of 69 died in coma with a glycohemia of 10.6 per cent. and atrophy of the kidneys. Achard and Weil have also published the case of a diabetic whose glycosuria diminished after an apoplectic attack while the hyperglycohemia increased. Such cases as these indicate that the permeability of the kidney plays a certain rôle, if not in the production, at least in the elimination by the kidney of the sugar in the blood. The reality of a renal diabetes has yet to be established, but in the meanwhile it seems to be possible and even legitimate to assume the existence in diabetes mellitus of an actual renal element.

75. **Compulsory Notification of Tuberculosis.**—Fraenkel advocates compulsory notification of tuberculosis when there is danger for the environment from the sputa, etc. He states that as long as this is neglected the campaign against tuberculosis lacks a most important aid. He observes that those who are quick to read the signs of the times are convinced that tuberculin is rising like the phenix from its ashes and heralds a new era in the treatment of tuberculosis.

76. **Etiology of Carcinoma.**—Feinberg has been studying cancer tissue for years, frequently making a thousand sections in every direction of a single carcinoma. He calls attention to the vacuoles observed in it when stained by the ordinary methods. These vacuoles or minute cysts have been supposed to be merely interspaces between the cellular elements of the tumor, when any attention has been paid to them. He has succeeded in demonstrating by new methods of technique, that these assumed vacuoles are in reality micro-organisms independent of the human tissues. They have a membrane with a double outline which takes an intense stain with orange G. They contain a nucleus surrounded by an unstainable clear zone and a plasma which does not take the nucleus stain. He says that the cancer tissue must be very fresh, untreated by disinfectants and not crushed during the operation of removal. He found mammary cancer the best adapted for the study of these micro-organisms as it is usually operated on at an earlier stage than internal neoplasms. He proclaims that these unicellular organisms are probably involved in the etiology of the tumor, and that their discovery will differentiate a dubious new growth. The encysted form in which he has found the micro-organisms is probably not the form under which they invade the tissues primarily. He describes his technique in full.

80. **Intravenous Injections of Colloid Silver in Septic Affections.**—Mueller's experience with a 1 per cent. solution of Credé's colloid silver or "collargol" has been so successful that he regards it as an actual specific in septic affections. He has thus treated 30 patients, in threatening erysipelas, pneu-

monia, epidemic cerebrospinal meningitis, phlegmonous erysipelas, puerperal perimetritis, pleurisy with effusion, peritonitis, appendicitis, empyema, etc. One or two injections arrested a felon and phlegmons. In a case of acute articular rheumatism fourteen days of salicylic medication had been ineffectual in arresting the disease, which was accomplished by two injections of the collargol. He injected it five times in an emaciated girl of 9 years, who was in a very bad condition as the result of a tubercular affection of both knees, which had required resection and removal of sequestra. The fever vanished after the injections of collargol and the wounds healed rapidly. Although he has injected as much as 2.5 gm. and even 5 gm. of the collargol solution, he has never witnessed any evil effects except the chill, which occurs in almost every case one to four hours after the injection.

82. **Mechanism of Production of Albuminuria by Egg Albumin.**—Ascoli relates experiments which demonstrate that the white of egg in moderate amounts causes no albuminuria in healthy individuals, although its presence in the blood may be disclosed by the biologic serum test, which also serves to differentiate it from the albumin normally in the blood. After excessive amounts of the egg albumin have been ingested or injected subcutaneously, it succeeds in passing the renal filter and induces albuminuria. When this occurs the urine is found to contain not only the egg albumin but also the albumin which is the normal constituent of the blood. He explains this by assuming that the kidney is relatively immune to albumin in small, physiologic amounts, but that it is injured by large amounts. The resulting lesion allows the passage of the egg albumin and also of the normal blood albumin.

83. **Danysz's Bacillus.**—Wiener announces that the virulence of the Danysz bacillus can be enhanced by cultivating it in raw eggs. It is then capable of inducing extensive epizoöties among rats. He injects 8 or 10 drops of a 1 per cent. solution of soda into a freshly laid egg and then introduces a loopful of the bacillus culture. The contents of the egg become transformed in the course of eight days to a highly virulent, practically pure culture, killing rats in five to seven days. Other rats fed with the intestines of the dead ones, succumbed even more rapidly. It was impossible to induce infection of fowls and rabbits even with these highly virulent cultures.

84. **Bactericidal Action of the Roentgen Rays.**—Rieder's tests have confirmed the bactericidal power of the Roentgen rays. It is not energetic enough to be a very prominent factor in their therapeutic application. The efficacy of phototherapy is due rather to the "reactive inflammation of the skin" determined by it.

87. **Internal Use of Chloroform and Its Dangers.**—Franck reviews 7 cases of ingestion of chloroform for the purpose of suicide and 14 in which it was taken by mistake. The amounts ranged from 2 to 30 gm., and one man recovered after having drank 60 gm. When the stomach is full the chloroform is vomited and very little is absorbed. In all these cases the narcosis was complete in ten minutes, much more profound than from inhalation of chloroform. Three small children drank a chloroform liniment prescribed for their father and two died. Franck warns against ordering chloroform for external application on account of the possibility of accidents from this source. He also urges the substitution of other equally effective substances for internal use when prescribing for heedless patients. Aqua chloroformii for rinsing the stomach should be prepared by the apothecary, and should never be used where there is a suspicion of an idiosyncrasy to chloroform. He cites several cases in which serious accidents were observed only to be attributed to this cause. The use of chloroform as a vermifuge has been condemned by Leichtenstein and others as ineffectual and dangerous.

89. **Microscopic Investigation of the Blood for Diagnosis of Intra-Abdominal Suppuration.**—Schnitzler summarizes the results of his researches and experience as follows: If leucocytosis is observed accompanying symptoms of ileus, it speaks against a mechanical obstruction of the intestines and proclaims the presence of peritonitis or appendicitis. If there are symptoms of ileus and no leucocytosis, the evidence is in favor of a mechanical obstruction, even if there is fever. The increased leucocytosis, if it is the only symptom of the increasing suppuration, might possibly serve as an indication for intervention without further delay, but there are usually pregnant concomitant symptoms at this stage of the process. The increase in the leucocytosis indicates the gradual increase in the suppuration, but it is impossible to schematize and set up certain figures as the absolute danger points. The general symptoms and the aspect of the patient are of greater importance for the diagnosis than the mere blood count.

92. **Experimental Study of Treatment of Fractures.**—Rossi reports the results of ten series of experiments on rabbits killed in one to thirty-six days after a bone had been fractured and treated by various methods. He found that massage and mobilization are evidently a distinct advantage in treatment of a fracture when there is no dislocation of the fragments; also for cases in which a temporary apparatus allows systematic massage.

93. **Treatment of Ileus.**—Chassel advocates evacuation of gases by puncture. The needle can be left for fifteen minutes to an hour or longer, and is a harmless and effective method of relieving and gaining time. The hole is invariably closed by the mucosa as the fine needle is withdrawn as he has established on the cadaver and also in the clinic. There is thus no danger of the escape of fecal matter.

100. **Experimental and Clinical Experiences with Finsen's Phototherapy.**—Velyaminoff reports successful curative results in 38 cases of ordinary lupus, 19 of the erythematous variety, 10 of rodent ulcer and 10 of telangiectasia. The experimental and clinical research undertaken at the same time confirmed the destructive influence of the light, applied in this way, on the lower organisms and also on certain cellular elements of the tissues, such as giant cells and the lymphoid cells in lupus. On the other hand, he established the fact that the light has a distinct action in promoting the formation of cicatricial tissue. The combination of these two actions explains the clinical benefit derived.

104. **Forward Luxation of the Humerus and Tearing Off of the Greater Tuberosity.**—This complication is not so rare as generally supposed, Turner proclaims, and the possibility of it should not be forgotten in examining the arm in such a case.

109. **Treatment of Tetanus by Instillation of Serum in Spinal Canal.**—Jacob reports two cases and states that this procedure has been followed by success in two-thirds of all the cases thus treated at the Charité. About 5 or 10 c.c. of cerebrospinal fluid are withdrawn and then 10 to 20 c.c. of antitoxin are injected very slowly, under weak pressure.

116. **Treatment of Tuberculosis.**—Garcera applies antiseptic substances directly to the lungs by means of electric discharges which carry the antiseptic to the affected points. This procedure is supplemented by inhalation of antiseptic gases and local application of medicated sprays over the lesion, alternated with the interrupted current. He claims to have cured 70 per cent. of his patients in the first and second stages by this method. This preliminary communication is merely for the purpose of establishing priority.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A Practical Manual of Insanity. For the Student and General Practitioner. By Daniel R. Brower, A.M., M.D., LL.D., Professor of Nervous and Mental Diseases in Rush Medical College, in Affiliation with the University of Chicago, and in the Post-Graduate Medical School, Chicago; and Henry M. Bannister, A.M., M.D., formerly Senior Assistant Physician, Illinois Eastern Hospital for the Insane. Cloth. Price, $3.00 net. Handsome octavo of 426 pages, with a large number of full-page inserts. Philadelphia and London: W. B. Saunders & Co. 1902.

Progressive Medicine, Vol. I, 1902. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surg-

ical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 452 pages, 5 illustrations. Per volume $2.50, by express prepaid to any address. Per annum, in four cloth-bound volumes, $10. Philadelphia and New York: Lea Brothers & Co.

THE ROENTGEN RAYS IN MEDICAL WORK. By David Walsh, M.D. Edin., Physician Western Skin Hospital, London, W. Part I—Apparatus and Methods, Rewritten by Lewis Jones, M.D. Cantab., F.R.C.P., Medical Officer in Charge of Electrical Department of St. Bartholomew's Hospital. Part II—Medical and Surgical. Third Edition. Cloth. Pp. 316. Price, $2.50. New York: Wm. Wood & Co. 1902.

MORPHINISM AND NARCOMANIA from Opium, Cocain, Ether, Chloral, Chloroform, and other Narcotic Drugs; also the Etiology, Treatment, and Medicolegal Relations. By T. D. Crothers, M.D., Superintendent of Walnut Lodge Hospital, Conn. Handsome 12mo of 351 pages. Cloth. Price. $2.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

JOHNSON'S FIRST AID MANUAL. Suggestions for Prompt Aid to the Injured in Accidents and Emergencies. Edited by Fred B. Kilmer. Illustrated. Pp. 113. Cloth. Price, 50 cents. New Brunswick, N. J.: Johnson & Johnson. 1901.

FIFTH ANNUAL REPORT OF THE STATE INSTITUTION FOR FEEBLE-MINDED OF WESTERN PENNSYLVANIA. Polk, Venango County, for the Year Ending Sept. 30, 1901. Paper. Pp. 34. Oil City, Pa.: Derrick Pub. Co. 1901.

THE INTERNATIONAL MEDICAL ANNUAL: A Year-Book of Treatment, and Practitioner's Index. 1902. Twentieth Year. Cloth. Pp. 688. Price, $3.00. New York: E. B. Treat & Co.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 20 to 26, 1902, inclusive:

Edward C. Carter, major and surgeon, U. S. A., leave of absence extended one month.

Jere B. Clayton, lieutenant and asst.-surgeon, U. S. A., member of a board at Fort Myer, Va., to examine officers of the Army for promotion.

Marshall M. Cloud, lieutenant and asst.-surgeon, U. S. A., retired from active service on account of disability.

William B. Davis, major and surgeon, U. S. A., member of a board at Fort Myer, Va., to examine officers of the Army for promotion.

Willis S. Horne, contract surgeon, now at Fort Sheridan, Ill., relieved from further duty in the Division of the Philippines, and to proceed to his home, Marlin, Tex., for annulment of contract.

James P. Kimball, colonel, asst. surgeon-general, U. S. A., to report for examination by the retiring board in session at Governor's Island, N. Y.

Frank E. McDermott, contract dental surgeon, former orders directing him to proceed to Fort Crook, Neb., for duty revoked, but this revocation was cancelled by a subsequent order.

George Newlove, contract surgeon, leave of absence for two months granted.

George F. Owens, contract surgeon, to proceed from Washington, D. C., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Martin A. Probert, contract surgeon, now at Columbus Barracks, Ohio, is relieved from further duty in the Division of the Philippines and assigned to duty at Fort Crook, Neb.

William W. Quinton, captain and asst.-surgeon, U. S. A., leave of absence for one month granted.

Robert P. Robins, major and surgeon, Vols., leave of absence from the Department of California extended one month.

Louis A. Spaeth, contract surgeon, now at Fort Sheridan, Ill., is relieved from further duty in the Division of the Philippines and will proceed to Jersey City, N. J., for annulment of contract.

Louis A. Thompson, contract surgeon, leave of absence on account of sickness extended two months.

Gideon McD. Van Poole, lieutenant and asst.-surgeon, U. S. A., now at the General Hospital, Presidio of San Francisco, Cal., to report at the Army and Navy General Hospital, Hot Springs, Ark., for treatment.

Appointments, Promotions, Retirements, Etc.,

recorded in the Adjutant-General's Office between Feb. 15 and March 15, 1902:

Regular Army, Promotions.—Feb. 14, 1902: Lieut.-Col. Robert M. O'Reilly, deputy surgeon-general, to be assistant surgeon-general with the rank of colonel; Major Edward B. Mosely, surgeon, to be deputy surgeon-general with the rank of lieutenant-colonel; Capt. Benjamin L. Ten Eyck, asst.-surgeon, to be surgeon with the rank of major.

Volunteers, Appointments.—To be surgeon, with the rank of major: Capt. Roger P. Ames, asst.-surgeon, Vols., Jan. 6, 1902. To be asst.-surgeons, with the rank of captain: Edward A. Romig, of Michigan, Feb. 5, 1902, and William J. S. Stewart, of Massachusetts, contract surgeon, Feb. 4, 1902.

Honorably Discharged.—The following captains, asst.-surgeons: Charles Anderson, February 16; Allen D. McLean, February 17; Jerome B. Thomas, February 27; Carl R. Hexamer, February 28; Wharton B. McLaughlin, March 10, and Joseph J. Curry, March 14, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 29, 1902:

Surgeon W. R. Du Bose, ordered to report on the *Wisconsin* to the Commander-in-Chief of the Pacific Station as fleet surgeon.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers for the U. S. Marine-Hospital Service for the seven days ended March 27, 1902:

Surgeon J. H. White, to proceed to Baltimore, Md., for special temporary duty.

Surgeon P. M. Carrington, to proceed to Fort Bayard, East Las Vegas and Santa Fe, New Mexico, for special temporary duty.

P. A. Surgeon H. D. Geddings to proceed to Baltimore, Md., for special temporary duty.

P. A. Surgeon J. B. Greene, granted leave of absence for seven days from March 18, 1902, under Paragraph 181 of the regulations.

A. A. Surgeon F. B. Adams, granted leave of absence for twenty days from April 1.

A. A. Surgeon B. Kinsell, granted leave of absence for ten days from February 10.

A. A. Surgeon F. Townsend, granted leave of absence for one month from March 15.

A. A. Surgeon W. O. Wetmore, leave of absence for fourteen days, granted by previous order, revoked.

BOARD CONVENED.

Board convened to meet at the Bureau March 24, 1902, for the physical examination of candidates for admission to the Engineer Corps, R. C. S. Detail for the Board: P. A. Surgeon H. D. Geddings, chairman; Asst.-Surgeon B. S. Warren, recorder.

APPOINTMENT.

W. E. Rice, of Maine, appointed acting asst.-surgeon for duty at Bath, Maine.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 29, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, March 8-15, 6 cases; Sacramento, March 8-15, 1 case; San Francisco, March 8-16, 13 cases.

Colorado: Denver, March 8-15, 8 cases.

Illinois: Belleville, March 15-22, 2 cases; Joliet, March 1-15, 8 cases.

Indiana: Evansville, March 15-22, 5 cases; Indianapolis, March 15-22, 14 cases.

Iowa: Clinton, March 15-22, 1 case.

Kansas: Wichita, March 15-22, 5 cases.

Kentucky: Covington, March 16-23, 8 cases.

Maine: Portland, March 15-22, 4 cases.

Massachusetts: March 15-22, Boston, 19 cases, 2 deaths; Cambridge, 3 cases, 1 death; Fitchburg, 3 cases; Lawrence, 4 cases; Malden, 2 cases; Somerville, 2 cases.

Michigan: Detroit, March 15-22, 13 cases; Grand Rapids, March 8-22, 4 cases; Ludington, March 15-22, 19 cases.

Nebraska: Omaha, March 15-22, 29 cases.

New Jersey: Elizabeth, Dec. 28-March 15, 13 cases, 1 death; Hudson County, March 9-16, 48 cases; Jersey City, March 9-23, 78 cases, 1 death; Newark, March 15-22, 25 cases, 5 deaths.

New York: Binghamton, March 15-22, 1 case; New York, March 15-22, 66 cases, 13 deaths; Yonkers, March 14-21, 2 cases.

Ohio: Cincinnati, March 14-21, 25 cases.

Pennsylvania: Allegheny City, March 15-22, 1 case; Philadelphia, March 15-22, 35 cases, 3 deaths; Pittsburg, March 15-22, 4 cases.

Rhode Island: Providence, March 15-22, 5 cases.

South Carolina: Greenville, March 8-15, 7 cases.

South Dakota: Sioux Falls, March 15-22, 4 cases.

Tennessee: Memphis, March 15-22, 13 cases.

Washington: Tacoma, March 8-15, 10 cases.

West Virginia: Wheeling, March 15-22, 2 cases.

Wisconsin: March 15-22, Green Bay, 23 cases, 1 death; Milwaukee, 3 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, March 1-8, 18 cases, 3 deaths.

Canada: Halifax, March 15-22, 9 cases; Hamilton, March 15-22, 1 case; Quebec, March 15-22, 22 cases; Winnipeg, March 1-15, 9 cases.

China: Hongkong, Feb. 1-8, 1 case.

Colombia: Cartagena, March 3-9, 1 death; Panama, March 10-18, 50 cases.

France: Paris, March 1-8, 3 deaths.

Great Britain: England—Leeds, March 8-15, 2 cases; London, March 1-8, 555 cases, 80 deaths; North Shields, Feb. 22-March 8, 16 cases, 2 deaths; Swansea, Feb. 22-March 1, 1 case; Tottenham, Feb. 22-March 1, 1 case; West Ham, Feb. 22-March 1, 7 cases. Scotland—Dundee, March 1-8, 1 case; Glasgow, March 7-14, 95 cases, 2 deaths; Leith, March 1-8, 1 case.

India: Bombay, Feb. 18-25, 8 deaths; Calcutta, Feb. 15-22, 8 deaths; Karachi, Feb. 2-23, 14 cases, 5 deaths; Madras, Feb. 8-14, 5 deaths.

Italy: Naples, Feb. 22-March 1, 9 cases, 1 death; Palermo, Feb. 22-March 8, 27 cases, 5 deaths; Rome, Jan. 18-25, 1 death.

Russia: Odessa, March 1-8, 2 cases, 1 death; St. Petersburg, Feb. 22-March 1, 11 cases, 8 deaths; Warsaw, Feb. 15-22, 2 deaths.

Spain: Barcelona, March 8-15, 5 deaths.

Straits Settlements: Singapore, Jan. 18-25, 2 deaths.

SMALLPOX—INSULAR.

Porto Rico: San Juan, Feb. 22-March 1, 14 cases.

YELLOW FEVER.

Mexico: Vera Cruz, March 8-15, 4 cases, 2 deaths.

CHOLERA—FOREIGN AND INSULAR.

Philippines: Manila, March 24, 18 cases.

China: Canton, March 17, 2 deaths; Fatshan, March 19, raging.

India: Bombay, Feb. 18-25, 5 deaths; Calcutta, Feb. 15-22, 84 deaths; Madras, Feb. 8-14, 10 deaths.

Straits Settlements: Singapore, Jan. 18-25, 21 deaths.

PLAGUE.

Australia: New Castle, March 21, present.

India: Bombay, Feb. 18-25, 701 deaths; Calcutta, Feb. 15-22, 176 deaths; Karachi, Feb. 2-9, 53 cases, 45 deaths; Karachi, Feb. 16-23, 52 cases, 48 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, APRIL 19, 1902. No. 16.

Original Articles.

THE ETIOLOGY AND SPREAD OF TYPHOID FEVER.*

VICTOR C. VAUGHAN, M.D.
ANN ARBOR, MICH.

THE TYPHOID BACILLUS.

Is typhoid fever due to a specific, well-defined, easily differentiated micro-organism, or are there several varieties of this germ, differing from one another in cultural, tinctorial, and possibly other properties? For many years after the discovery of the Eberth bacillus bacteriologists generally held that the micro-organism causing typhoid fever constitutes a distinct, easily recognizable species. In this country, at least, the writer stood almost or quite alone in claiming that there are varieties of this germ. In 1892 in a paper read before the Association of American Physicians, and published in the transactions of that Society, I made the following statement: "It probably makes but little difference whether we conclude that these germs are varieties of one species or that they are related species. I know of no hard and fast lines upon which one can decide, to the satisfaction of everyone else, whether two or more germs differing more or less should be classified as species or as varieties. Of one thing I am certain, and that is that I am ignorant of any crucial test or of any combinations of tests upon the strength of which I can say at present that a germ which I may find in drinking water is identical with the so-called typhoid bacillus. I have found in spleens, after death from typhoid fever, germs which differ from the typhoid bacillus obtained from Berlin, and from one another as my bacillus venenosus differs from either or from both."

With the discovery of Gruber and Durham of the phenomenon of agglutination and with its application by Widal to the study of typhoid fever, it was at first believed that this reaction proved beyond all controversy the specific character of Eberth's bacillus; but recently Sternberg[1] has reported the finding in water of colon germs which agglutinate with typhoid serum in the proportion of 1-10,000, and Stern[2] found that in some cases of typhoid fever the blood serum agglutinates colon bacilli in a higher dilution than that in which it acts on the typhoid bacillus. It has been claimed by some that such observations as these can be accounted for by the typhoid patient suffering from a secondary infection with the colon bacillus. but Jatta[3] has shown that in some instances at least blood serum obtained from animals inoculated with pure cultures of the typhoid bacillus has a more markedly agglutinating effect upon the colon than it has upon the Eberth germ. Gruber and Durham in their original communication on the phenomenon of agglutination reported that typhoid serum experimentally obtained in animals even in high dilutions may agglutinate the bacillus enteritidis of Gaertner. It will be seen from this (and additional evidence might be furnished if desired) that the agglutination test has failed to establish the specific character of the Eberth germ.

From time to time atypical forms of the Eberth bacillus, differing from the standard sufficiently to be classed as varieties, have been obtained from persons dead or sick with typhoid fever. Babes[4] was probably the first to report on these atypical forms, all of which were obtained from the organs of typhoid cadavers; but three of the varieties, or very similar bacteria, were also found elsewhere. It is undoubtedly true that the typhoid bacillus when growing outside the body, as for instance in drinking water, departs more or less markedly from the type of this germ as found in the spleen and mesenteric glands after death. Gwyn[5] obtained from the blood of a typhoid patient during life a germ which differed from the typical typhoid bacillus inasmuch as the former produced gas in nutritive media containing glucose. The blood serum from this patient agglutinated this germ in dilutions of 1-200 and was without action upon the typical typhoid bacillus. Schotmuller[6] obtained from the blood of five cases of typhoid fever, in an examination of 68 cases, bacteria which on account of their cultural properties this investigator classifies as intermediate between the colon and the typhoid germ. To sum up this part of our subject, we may say that there are bacteria which are frequently found in drinking water, more rarely in the bodies of persons sick or dead with typhoid fever, which on account of certain cultural manifestations we can not classify with either the typical colon or the typical typhoid bacilli. These intermediate forms have been designated by different names. Generally in the examination of drinking water we call them typhoid-like bacilli. In my report upon the examination of drinking water in relation to typhoid fever published in the transactions of the Association of American Physicians, in 1892, I studied these germs under the general name of *bacillus venenosus aquatilis,* or the poisonous bacillus of water, and in the paper referred to I described four varieties. By others, they have been designated as paracolon or paratyphoid groups, and some have proposed that they be designated as the Gaertner group on account of the fact that the bacillus enteritidis belongs to it. Aided by my assistants I have carried out since the first of January, 1888, a systematic study of all toxicogenic germs found in the samples of

* An Address at the Semi-Centennial Meeting of the Chicago Medical Society, April 9, 1902.

drinking water sent to the hygienic laboratory of the University of Michigan for examination. During this time we have made careful studies of between four and five hundred samples of water which have been suspected of causing typhoid fever. These studies have led me to the following conclusions:

1. A water containing a typical colon bacillus, one which coagulates milk within from 24 to 48 hours, readily reddens litmus and produces an abundance of gas in glucose media, does not cause typhoid fever. There are several smaller cities in Michigan which send to us monthly their drinking water supply for bacteriological examination, and some of these waters contain the colon bacillus constantly; in fact, this germ never fails to appear when a test is made, and yet there have been no epidemics of typhoid fever among the people drinking these waters.

2. The more markedly a germ found in drinking water differs from the typical colon bacillus, and the more closely it approaches the typical typhoid germ, the more likely is typhoid fever to appear among those using the water containing this germ. I am not ready even after fourteen years of investigation of this matter to lay down any rules by means of which I can say just where the line should be drawn between the colon and the typhoid groups, and I still continue to speak of typhoid-like bacilli, and I have no hesitancy in condemning waters which contain these micro-organisms.

3. I have never found in any sample of drinking water a typical Eberth bacillus. I do not say that such a germ may not be found in water, but I do not believe that the typhoid bacillus preserves its typical characteristics for any great length of time when growing in water. As confirmatory to this last statement, it may be worth while to mention the fact that Remy[7] has found that when the typhoid bacillus is grown in company with the colon germ the former is so far changed that it can not be identified by any means at our command at present, and that it even loses its susceptibility to the agglutinating action of typhoid serum.

When asked whether or not I believe in the specific nature of the Eberth bacillus I have no hesitation in replying in the affirmative. Notwithstanding our inability in many instances to say positively whether a given micro-organism should be classed with the typhoid or the colon bacilli, I am thoroughly convinced that there is really a sharp line of demarcation between the two, and that one does not develop or emerge from the other. I do not believe that typhoid fever ever comes from the colon germ, and I am thoroughly convinced that although the typhoid bacillus may lose many of its characteristics, it is never converted into a colon bacillus. I know of too many people, whole cities full, who are drinking every day millions of colon bacilli without developing typhoid fever to permit me to believe that this germ can cause this disease. When I began my work in the bacteriological examination of drinking water fourteen years ago I condemned for drinking purposes every water which contained the colon bacillus, but an experience of six years convinced me that this opinion was wrong and since 1894 I have not condemned waters which did not contain typhoid bacilli or typhoid-like bacilli, and I have known of no epidemic of typhoid fever arising from the consumption of such waters. On the other hand, I do condemn all waters containing atypical typhoid bacilli. I hope at some time in the near future to be able to make a close study of the toxicogenic germs which have been isolated from drinking waters in my laboratory, and cultures of most of which have been preserved. In fact, one of my assistants is now engaged in a comparative study of these micro-organisms.

The natural distribution of the typhoid bacillus is another subject needing careful investigation. Apparently trustworthy bacteriologists have reported the finding of this organism in the most unexpected places. Its presence has been detected in the soil of localities far removed from the habitation of man, and its isolation from drinking water supposed to be free from contamination has been reported. It must remain for future investigations to decide upon the reliability of these reported findings and to attach to them their proper significance, should they be found to be true.

The Elimination of the Bacillus from the Body.—In a study of the etiology and spread of typhoid fever it is important to ascertain by what avenues the specific micro-organism leaves the body of the infected individual. The exhaled air from the lungs of the typhoid fever subject is germ free, as is probably the case in all of the infectious diseases. Therefore, there is no possibility of this disease being spread by means of the air exhaled from the lungs. However, it must be borne in mind that in the pneumonias that frequently complicate typhoid fever the Eberth bacillus is found in the diseased lungs, and may be eliminated in the matter coughed up, and disseminated through the air in the fine spray that accompanies fits of coughing. It is also possible that the typhoid bacillus may be present in the sputum in advanced cases of this disease, even when there is no lung complication.

There is no positive evidence that the perspiration from one sick with typhoid fever contains the specific bacillus of this disease. It is true that this bacterium may be found on the surface of individuals suffering from the disease, but in such cases the germ owes its presence in this locality to contamination of the skin with the stools or with the urine. The urine of persons sick with typhoid fever may contain the Eberth bacillus, and several observers have found this bacterium in this excretion. In some of these cases it seems probable that the germ causes some destructive changes in the kidney, inasmuch as its presence is accompanied by the elimination of more or less albumin in the urine. However, the bacillus may be abundant in the urine when this secretion contains no albumin, and when there is no evidence of structural disease of the kidney. Persons recovered from typhoid fever may continue for weeks to eliminate in the urine millions of the Eberth bacillus. It sometimes happens that a cystitis occurs as a sequence of typhoid fever. In at least some of these cases the inflammation of the bladder is due to infection with the typhoid bacillus, and this germ in a virulent form may for a long time remain in the bladder and render the urine a possible source of the spread of typhoid fever. Houston[8] has reported a case of cystitis of three years' standing due to the infection of the bladder with the bacillus of Eberth. An interesting point in connection with the report of this case is that the patient never had typhoid fever, but had nursed cases of this disease. I may say parenthetically that a case very similar to this came under my observation a short time ago, and the physician in charge called my attention to its resemblance to Houston's reported case. This patient had never had typhoid fever, but had nursed a typhoid case, and subsequently developed a cystitis. I made a most careful study of this germ, and found

that it had no resemblance whatever to the typhoid bacillus, and undoubtedly belonged to the colon group. Post-typhoidal abscesses may form in various parts of the body and may discharge the Eberth bacillus in virulent form for months or even years. It is unnecessary to add that infected material of this kind should be burned or otherwise disinfected. The necessity for this is evident whether the abscess be due to the typhoid bacillus or to other bacteria.

The most important avenue for the elimination of the typhoid bacillus from the body is through the bowel. Long before the discovery of the specific micro-organism of this disease the profession had learned that the stools of typhoid patients contained the infective agent of the disease. It had been frequently observed that epidemics of typhoid fever resulted from the drinking of water contaminated with the stools of those suffering from this disease, and the more intelligent members of the medical profession recommended thorough disinfection of the feces long before the bacillus had been discovered. The elimination of the typhoid bacillus in the stools probably begins soon after its introduction through the mouth. Indeed, it is quite certain that the individual may become the bearer and distributer of the infective agent without developing the disease himself. The specific bacterium finds its way into the small intestines, in the contents of which it multiplies rapidly, and this intestinal culture may be wholly discharged from the bowels without causing any local lesions. Furthermore, it has been shown by the report of several cases that typical typhoid fever may develop and death result without intestinal ulceration. I desire to emphasize the fact that the typhoid bacillus may grow in the intestines of an individual and pass from the same without causing typhoid fever. This is most likely to occur when many irritative saprophytic germs are taken into the alimentary canal along with a few typhoid bacilli. This is probably the true explanation of the unquestionable preventive effect of diarrheas in certain epidemics of typhoid fever. I shall return to this later. The specific germ of typhoid fever may be transported from one place to another in the intestines of a man who is immune, and when cast out in the stools may become a source of danger to others. It is most likely that in some such way as this certain epidemics which appear to originate *de novo* have their start.

The stools of individuals sick with typhoid fever constitute the most important source of the spread of this disease, and it may be stated in a general way that typhoid fever is due to the transference of some part of the feces of an infected individual to the alimentary canal of one susceptible to this infection. In exceptional cases this transference may be quite direct, as when a careless nurse soils her hands with the dejections from her typhoid fever patient and then eats her food without disinfecting her soiled fingers. However, in the great majority of instances the transference is more indirect, and the germs in the infected stool may multiply through many generations and be transported by water or otherwise through considerable distances. It is also probable that the bacilli may pass through an intermediate host, which may be man or one of the lower animals. An immune individual may visit a distant city, the water supply of which is infected with the typhoid bacillus, and this man may carry the infection to his village home where it may be deposited in his normal stool, may find its way into the local water supply, and cause an epidemic of the disease.

Longevity of the Bacillus.—In studying the problem of the spread of typhoid fever, it is of importance for us to know how long the specific bacillus of this disease may continue to live and be possessed of its specific properties. It is also evident that when seeking for an answer to this question we must know something of the conditions under which the life of the organism is to be perpetuated. We have already seen that in the human body the Eberth bacillus may continue to grow and reproduce its kind quite indefinitely. This is known to be the case in instances of post-typhoid cystitis and abscess. I would not have it understood that I believe that cases of typhoid fever are frequently due to infection from this source, and I have mentioned these facts simply for the purpose of showing how long an individual may retain this germ in some part of his body. It is true that there is a possibility of the infection spreading to others from the germ found in these post-typhoidal conditions, but such cases must be rare except when the urine is infected. The living germ has been found in the bodies of men dead from typhoid fever three months after death. However, the longevity of this bacillus in the dead body must vary greatly, and must be dependent upon a number of conditions which are not likely to be the same in any two cases.

So far as the spread of typhoid fever is concerned, the longevity of its bacillus after it leaves the body of the infected man is of greater importance than its possible longevity in the body. When material containing this germ is spread out in a thin layer and exposed to the direct action of the sunlight, the bacilli are soon destroyed. A cloth moistened with a culture of the Eberth bacillus and exposed to the direct sunlight soon fails to yield a growth when a bit of it is placed in a suitable culture medium. However, we must not get too much comfort out of the fact that the typhoid bacillus is killed by an exposure of a few hours to the light of the sun. Practically, typhoid stools are not spread out in thin layers or otherwise placed in a condition suitable for the light to exert a markedly germicidal action on them. It is true that the bacilli, when a small quantity of typhoid stool is smeared on a sheet, may be destroyed by a few hours' exposure to direct light, but the same material rolled in heavy blankets may retain its virulence for many weeks. Complete desiccation soon destroys the Eberth bacillus, but it may retain its vitality in relatively dry material for a long period. Bits of agar or gelatin cultures placed upon cloth, leather, wood, or metal retain the living bacillus for many months, and clothing or bedding soiled with typhoid stools may be the means of spreading this disease. The experiments of Uffelmann[9] show that the bacillus may retain its vitality in layers 4 mm. thick on wood for 32 days, on linen for 62 days, and on woolen cloth for 80 days.

The experiments made for the purpose of determining the longevity of this bacillus in the soil have yielded widely different results. This is explained by the fact that no two investigators have conducted their experiments under exactly the same conditions. When cultures of the Eberth bacillus are mixed with dust or pulverized earth of any kind and completely desiccated the germs speedily die, but when the desiccation is not complete, the bacilli may retain their vitality for weeks and months. Since desiccation soon destroys the germ of typhoid fever, it has been inferred that this disease can not be spread by particles of dust carried through the air, but we know that particles of dust thus carried are by no means always completely desiccated. Currents

of air may and do carry through great distances considerable particles of moist dust. Considerable interest is attached to the question of the vitality of this organism in the soil about sinks and privies containing typhoid stools. After the Franco-German war it was found that typhoid fever continued to prevail for several years in garrisons in which soldiers sick with typhoid fever had lived. An interesting case of this kind is the following: An epidemic of typhoid fever began among German soldiers located in a certain garrison on April 4, 1872. During the war these barracks had been occupied by French prisoners, among whom typhoid fever had prevailed. Large sinks had been filled with the undisinfected stools of the prisoners, and when filled, these sinks, located just outside the barracks, were covered with thin layers of earth. The water of a well near by had probably become infected from these sinks and caused the epidemic in the garrison in 1872. After the appearance of the epidemic the old sinks were cleaned out and the well thoroughly disinfected. Four days later the last case of typhoid fever occurred in this garrison. Some interesting experiments have been made in England for the purpose of determining the longevity of the typhoid bacillus in the soil. Martin took specimens of dirt from various sources, some being obtained from localities where it was known that the soil was largely contaminated with organic matter, and where typhoid fever had been epidemic, while others were obtained from places which had not been contaminated by sewage or in any other way. These samples were pulverized, placed in Erlenmeyer flasks and sterilized, after which they were inoculated with cultures of the typhoid bacillus. It was found that the Eberth germ grew luxuriantly in the polluted earth, and that flasks containing this soil showed growths of this micro-organism after the lapse of 105 days. The results were different in the case of the unpolluted earth, inasmuch as the germ not only failed to multiply, but after a short time died out.

Investigations of Klein indicate that the process of nitrification as it goes on in soil favors the growth and development of the typhoid bacillus. Klein had ascertained, as others before him had done, that sewage is not a suitable medium for the growth of this germ, but subsequently he found that by the addition of nitrates to crude sewage the latter is converted into a more suitable medium for the growth of this organism. In fact, in this modified sewage the typhoid bacillus grows abundantly. Robertson selected a grass-covered field for his investigations on the longevity of the typhoid bacillus. Patches of turf were cut and removed from the subjacent soil. In one locality the ground immediately below the turf was watered with a culture of the bacillus, after which the turf was replaced. In another, nine inches of the earth beneath the turf was removed and the Eberth bacillus sown at this depth, while in the third experiment the germ was placed at a depth of eighteen inches, the soil which had been removed being carefully replaced after depositing the germ. One hundred and thirty days after this had been done the soil under the turf of the infected localities was removed and examined. Robertson found that in all cases the bacilli had not only retained their vitality, but had multiplied. In the place where the germ had been buried eighteen inches beneath the surface it had grown through the earth above it where it was found widely and abundantly distributed. Some of these plantings were made in July, 1895, and during the cold months of the following winter no typhoid bacilli could be obtained from the soil in which they had been deposited, but during the following spring these spots were treated with dilute sterile broth in order to furnish material for the growth of the micro-organisms and furthermore for the purpose of rendering the conditions similar to those existing in cases of pollution with sewage; and it was found on the following June, nearly a year after the time of the planting of the germ, that those localities, which had been properly fertilized with the beef broth, furnished abundant crops of the micro-organism, while areas which had not been so fertilized failed to show any growth. These experiments indicate that a polluted soil when once infected with the typhoid bacillus may retain the infection for a long time, and this finding is quite in accord with military experience, inasmuch as it has frequently been found that a healthy regiment may speedily develop this disease after occupying a site vacated by an infected command. The history of typhoid fever among the troops during the War of the Rebellion furnishes instances of this kind, one or two of which may be mentioned. The 23d Massachusetts left that State in November, 1861, and was encamped at Annapolis, Maryland, until Jan. 6, 1862, the record of health being good up to that time. On March 14, 1862, this regiment arrived at New Berne, North Carolina, with the health of the regiment still good, notwithstanding exposure to many hardships. On arriving at New Berne the regiment occupied an encampment, including tents, abandoned by a Confederate regiment that had suffered severely from typhoid fever. This disease soon broke out in the Massachusetts regiment and during the month of April, 1862, 300 cases developed and 22 deaths occurred.

On March 7, 1862, the 10th New York Cavalry moved into barracks at Perryville, Maryland, which had recently been vacated by the 14th U. S. Infantry, the latter regiment having suffered largely from typhoid fever during the month of February. On the arrival of the New York regiment the barracks were thoroughly cleaned, drains opened, and improved, and an excellent spring, supposed to be exempt from any source of pollution, was found. It should be stated that the 14th Infantry had not used water from this spring, but had taken it from a well only six feet deep. Notwithstanding the precautions taken by the New York regiment typhoid fever soon made its appearance. Other illustrations equally striking might be given from the histories of military campaigns.

It will be seen from what has already been stated that both experimental evidence obtained with pure cultures of the bacillus and epidemicological observations in the study of typhoid fever show that infected things and places may remain sources of danger for weeks and months. These facts have not been sufficiently impressed upon the medical profession, and the necessity for careful disinfection of soil, clothing, bedding, etc., has not been appreciated.

Inasmuch as epidemics of typhoid fever are frequently spread by means of drinking water, the longevity of the bacillus in this medium is of importance. Many experiments have been made for the purpose of obtaining information on this subject, but the results have been somewhat contradictory. In distilled water and sterilized drinking water obtained from springs, wells, rivers and lakes and kept at ordinary room temperature without exposure to direct sunlight, the typhoid bacilli may rapidly multiply and may retain their vitality for three

or four months. In ordinary unsterilized water the conditions that influence the life of the typhoid bacillus are many and variable. In the first place the chemical composition of the water is not without effect upon the longevity of the germ. As has already been stated, sewage ordinarily does not form a good medium for the growth of the Eberth bacillus, but as Klein has shown, the addition of nitrates renders the growth abundant, and that processes of nitrification are constantly going on in polluted water is shown by the presence of nitrates and nitrites. Evidently the kind and number of other germs present in infected water have much to do in determining the longevity of the typhoid bacillus in such mixed cultures. Some of the ordinary water bacteria undoubtedly hasten the death of the typhoid bacillus owing to the fact that the conditions of growth are more favorable to the former than to the latter, but experimental evidence on this point is not always conclusive, because the water bacteria are present in relatively much greater numbers than the typhoid bacillus, and failure to detect and isolate the latter is not always convincing proof of its absence. Westcott[10] reports a case of apparently great longevity of the typhoid bacillus in water. He states that he was able to trace nineteen cases of typhoid fever to a well drawing its supply from a sewage contaminated area. On closing the well the epidemic ceased, but on reopening it for the purpose of obtaining water for laundry purposes another case occurred. The well had been closed twenty weeks, and during this time the conditions were such that the introduction of further contamination was improbable.

In certain liquid foods, such as milk, bouillon and broth, the typhoid bacillus may retain its vitality for months. This is true whether the food be sterilized or unsterilized at the time of the introduction of this organism. When deposited on solid food, such as potatoes, bread, and meat, the typhoid germ may retain its vitality as long as such foods are likely to remain palatable.

THE DISSEMINATION OF TYPHOID FEVER.

1. *Transported by Man.*—Man himself is the most active agent in the dissemination of this disease. He may carry the specific virus in his alimentary canal, on his person, or in his clothing, and in this way the germs may be transported hundreds and thousands of miles and may be widely distributed. For instance, an infected recruit may plant the specific bacillus in every latrine in his regiment before he is suspected of having the disease himself. The history of mining expeditions also gives us instances of the transportation of typhoid fever to places far remote from the permanent habitations of man. Indeed, the history of typhoid fever justifies the statement that wherever and whenever men congregate and live without adequate provision for disposing of their excrement, there and then typhoid fever will appear. This seems to be so universally true that many men who have been engaged in the study of the epidemiology of this disease have come to agree with Murchison in his pythogenic doctrine concerning the origin of this disease. This theory supposes that typhoid fever may be generated independently of a previous case by the fermentation of fecal and other forms of organic matter. This conclusion resulted from the difficulty generally experienced in tracing the introduction of the disease, and we now know that it is erroneous. The board appointed by the Surgeon-General to study typhoid fever in the encampments of the United States in 1898, and of which the speaker was a member, and whose report has not been published, was able to trace typhoid fever into every encampment in which it became epidemic.

2. *Dissemination through the Air.*—Is typhoid fever ever disseminated through the air? This is a question to which diverse answers have been given. Our present knowledge of the etiology of this disease gives no support to the old belief that it may be caused by the inhalation of gases from decomposing organic matter. Infection can result only from the specific germ, and no amount of decomposing matter in which this organism is not present can cause the disease. Again, the specific cause of typhoid fever is a particulate body and not a gas. Inhalation of gases from putrid material may cause intoxication, but not infection so long as these gases are free from micro-organisms. Many cases reported by older writers in which typhoid fever was believed to be due to the inhalation of gases from putrid matter were, as we can now see, not instances of infection. As an illustration of this we may mention the Clapham epidemic, reported by Murchison, and frequently quoted. Out of 22 school boys who watched the opening of a pit containing a large amount of decomposing matter, and which had been closed for some years, 20 were within three hours prostrated with vomiting and diarrhea. Two died, one within twenty-three and the other within twenty-five hours. Postmortem examination showed acute swelling of Peyer's patches and the solitary follicles, with slight ulceration of these structures, together with congestion of the mesenteric glands. These were diagnosed as cases of typhoid fever, but we now know that they were instances of acute poisoning with noxious gases. The oldest cultures of the typhoid bacillus are free from disagreeable smells, and infection is not likely to result from ingestion of putrid material. I wish to emphasize the difference between the question now before us, as to whether or not typhoid fever may be disseminated by infected particles of dust carried through the air, and the older idea, that it was spread by the agency of gases given off from putrid material. Such gases are generally germ free. On the other hand, a wind may carry partially dried infected particles of dust, which may be deposited on food or inhaled and cause typhoid fever. However, I am reaching a conclusion before giving the arguments. Germano,[11] after reviewing the literature of this subject, endeavored to decide the question concerning the possible dissemination of typhoid bacilli through the air experimentally. In his investigations Germano found that typhoid bacilli mixed with dust from different sources and thoroughly desiccated speedily die, and he concluded that air infection through many hundred meters is impossible. In my opinion Germano's investigations confirm what was already well known, that the typhoid bacillus is speedily deprived of life by desiccation, but they do not convince me that dissemination of the living germ in particles of partially dried dust or bits of infected fecal matter may not be carried even through distances of many hundred meters and deposited upon the food, in the drinking water, or inhaled. Neisser[12] has shown that dust infected with the typhoid bacillus may be carried by a current of air moving at the rate of 1.7 cm. per second through a distance of 60 cm., and there deposited with the germs still possessed of vitality. However, he concludes that since the germ is not transported to a distance of more than 60 cm. by the air moving at the rate which generally prevails within a room, that typhoid fever can not be considered

a dust disease. It will be seen that this conclusion has reference only to the possibility of the typhoid bacillus floating through the air of a closed room, but even within doors the air often moves with a velocity many times greater than 1.7 cm. per second. Especially is this true when the movement of air within a room is influenced by draughts from windows, doors and ventilating flues. Partially dried typhoid stools on the floor may be sufficiently comminuted to form an infected dust which may float through the air, be deposited on food, find its way into uncovered receptacles of water or milk, or be directly inhaled and find lodgment in the nose and pharynx, and finally reach the intestines. The danger of air infection is greatly increased in military life where food and drink are often exposed for hours to an atmosphere laden with dust and possibly infected with the typhoid bacillus. At Chickamauga in 1898 the surface of the ground about many of the regimental encampments was so covered with fecal matter that it was impossible to walk through these places without soiling the feet. So prevalent was typhoid fever that much of this fecal matter must have contained the Eberth bacillus, and it seems hardly possible that the great clouds of dust in which the men lived could have been free from this infection. The shell roads through the encampments at Jacksonville were ground by the heavy army wagons into an impalpable dust many inches thick. Along these roads scavengers carted in half barrels fecal matter generally infected, and the contents of these tubs often splashed over and fell into the dust. On each side of these roads soldiers were encamped, and many mess tables were in close proximity. Local whirlwinds sometimes caught up large quantities of dust and carried it considerable distances. After seeing these things I am of the opinion that we can not exclude dust as a probable carrier of the typhoid infection, notwithstanding the fact that it would probably prove a very difficult thing to scientifically demonstrate that the disease was disseminated in this way.

3. *Influence of the Soil.*—There is an old theory concerning the relation of the soil to the causation of typhoid fever which still has many advocates. This theory supposes that decomposing organic matter in the soil passes through a ripening process by means of which the typhoid poison is either generated *de novo* or is greatly increased in virulence. Reference has already been made to the pythogenic theory of Murchison, and this in a more or less modified form has been accepted and is advocated by many prominent epidemiologists, especially those with military experience. It is believed that different soils vary in their adaptability to harbor, grow and ripen this poison. The believers in the pythogenic doctrine may be divided into two groups: 1, those who hold that soil contaminated with any fecal matter will generate the poison; 2, those who believe that the introduction of the specific bacillus is necessary, but that this undergoes a ripening process in the soil by means of which its virulence is greatly augmented. Scientific support of the theory of the ripening of the typhoid poison in the soil has been found in the investigations of the late Professor Pettenkofer into the etiology of typhoid fever in Munich. During the first half of the last century typhoid fever was continuously endemic in that city. Munich is situated on a bed of gravel and marl, and during the time mentioned fecal matter was deposited in pits and allowed to percolate into the soil from which the drinking water, collected in shallow wells and surface springs, was taken. With our present knowledge of the etiology of this disease we would suppose that with the above-mentioned conditions the drinking water was specifically contaminated. However, Pettenkofer, from his very careful studies of the distribution of the disease, came to the conclusion that its prevalence was not due to contaminated water. After many years of careful and skilful investigation he found that the prevalence of typhoid fever varied inversely with the height of the ground water below the surface. The nearer the ground water came to the surface, the less typhoid fever. With the fall of the level of the ground water the number of cases increased. He concluded from this that the deeper layers of the soil contained putrefactive material in which the typhoid poison undergoes a ripening process, and that the ripened germ passes from the soil into the air and is inhaled by susceptible persons. When the level of the ground water is high, the putrefactive material in which the ripening is supposed to be going on is covered by the water, and its escape into the air is prevented, while a fall in the ground water leaves the putrefying substances uncovered, and the poison is exhaled from the soil. Pettenkofer believed that the specific poison must be present, but that this undergoes in the soil changes by means of which its virulence is augmented. If this theory be true it should hold good for other cities as well as for Munich, and numerous other investigators have found that elsewhere this supposed relation between ground water and the prevalence of typhoid fever is by no means constant. Indeed, there are so many exceptions to Pettenkofer's rule that his theory must be abandoned as an explanation of the origin of epidemics of typhoid fever. There is no reason for believing that in the ordinary movements of the air from the pores in the ground to the atmosphere the velocity is sufficient to carry dust laden with bacilli. Certainly such a transference of the bacillus from the deeper layers of the soil to the atmosphere in the form of dust must be of most exceptional occurrence if it ever happens. It is proper to state in this connection that some epidemiologists accept that part of Pettenkofer's theory which provides for the ripening of the poison in the soil, but believe that the ripened and highly virulent bacillus finds its way into drinking water.

4. *Dissemination through Drinking Water.*—There can be but little doubt that in civil life the great epidemics are caused by the specific infection of drinking water. The danger in drinking water was recognized long before the discovery of the specific bacillus, and indeed epidemics had been unquestionably traced to contaminated water supply. The most frequent contamination of water with typhoid material results from the introduction into the water of the feces or urine of some infected person. After this has happened the rapid multiplication of the organism in water permits the speedy infection of a large volume. Moreover, in flowing streams the specific bacillus may be carried long distances. Variations in the temperature of this medium do not apparently affect the virulence of the germ. It may be frozen in ice and remain in this condition quite indefinitely without any loss in potency, and it is equally unaffected by alternate freezing and thawing. The fact that typhoid fever is frequently disseminated through drinking water is so well known that I will not take up any space in giving instances.

5. *Transportation on the Person, or in Clothing.*—That the infection of typhoid fever is often carried on the hands or in the clothing of nurses or other attend-

ants, there can scarcely be any doubt. This is probably one of the most frequent means by which the disease is spread through a family after its introduction. The mother, or other attendant on the sick, handles the food of the well without disinfection of the hands. Superficial ablution with soap and water is not sufficient to destroy the vitality of this organism. Thorough disinfection with special attention to the material collected under the finger nails is absolutely essential. At one of the division hospitals at Camp Alger in August, 1898, the members of our board observed the nurses, many of whom went directly from their duties in the typhoid wards to their mess tents, handle the food eaten by themselves, and pass articles to their neighbors without even washing their hands. Another practice in the army was undoubtedly accountable to a greater or less extent for the spread of typhoid fever among the soldiers in the various encampments in 1898. It was customary in several of the camps to take a fresh detail of men from the line each day as orderlies in the hospital. These men, at least the majority of them, were wholly ignorant of the nature of infection; they had never had any training as nurses; they knew nothing of the desirability or necessity of being careful in order to prevent infecting themselves, and they knew less about means of disinfecting their hands soiled with typhoid discharges. At the close of the day these men were returned to their company tents and the next morning a new detail of the same number went through the same routine. More effective means for the spread of typhoid fever could scarcely have been devised. Many of the so-called cases of prolonged incubation after exposure to tyhoid fever can be best explained by the supposition that the infected material is carried on the person for some time before it finds its way into the alimentary canal. Experimental evidence shows that pure cultures of the typhoid fever bacillus will retain their virulence when poured upon cotton, linen, or woolen cloth for from two to three months, and it is altogether possible that the infection may be carried in a blanket roll for a much longer time. The personal and bed linen of patients sick with typhoid fever when soiled with discharges from the kidneys or bowels should be immediately immersed in a properly prepared disinfecting solution. When such articles are thrown aside without previous disinfection flies may carry the infection from the stains to articles of food, and moreover, after the material dries, handling these articles may scatter the infected material through the air in the form of fine dust.

6. *Dissemination by Flies.*—Our board in investigating the etiology and spread of typhoid fever in 1898 gave the following reasons for coming to the conclusion that flies were the most active agents in the spread of typhoid fever among our soldiers:

1. The latrines contained fecal matter specifically infected with the typhoid bacillus.

2. Flies alternately visited and fed upon this infected fecal matter and the food in the mess tents. More than once it happened when lime had been scattered over the fecal matter in the pits, flies with their feet covered with lime were seen walking over the food.

3. Typhoid fever was much less frequent among members of messes who had their mess tents screened than it was among those who took no such precaution.

4. Typhoid fever gradually died out in the fall of 1898 in the encampments at Knoxville and Meade, with the disappearance of the fly, and this occurred at a time of the year when in civil practice this disease is generally on the increase.

CONDITIONS INFLUENCING THE SPREAD OF THE DISEASE.

Influence of Season.—The prevalence of typhoid fever is apparently influenced largely by season. This certainly is true in the north temperate zone in Europe and in America. The disease is most prevalent during late summer and fall, and is less prevalent during the spring months. As a rule, the increase in frequency begins to be observable in July and continues according to the season and local conditions to increase until the last of October or November. In December, as a rule, the decrease in frequency is noticeable and continues until the minimum is reached in March, April and May. The researches of Flint, Wood and others showed this to be true in the United States soon after the medical profession learned to distinguish between typhus and typhoid fevers, and more recent authorities in this country have confirmed this observation. Curschmann, Fiedler and others find the same to be true in Germany, and Murchison in his classical studies of typhoid fever showed that season has a like effect on the prevalence of this disease in Great Britain.

While it is probably generally true that typhoid fever is most prevalent in the fall, great epidemics of this disease do not always occur at this season of the year. In fact, the greater prevalence of typhoid fever in the fall of the year is not so marked now as it was thirty years ago, because of the altered conditions under which we live. This relationship of typhoid fever to season has always been more evident in a rural than in an urban population. At present the most striking epidemics of typhoid fever are those that occur in cities and are due to an infected water supply. Season affects these epidemics to the extent to which it modifies the chances of water infection. Many such epidemics within recent years have occurred in the spring of the year during the months in which, according to the general rule, the prevalence of typhoid fever should be at a minimum. Water infection is likely to occur when the snow melts and the ice breaks up, and infected material deposited on the snow or ice during the winter finds its way into the water supply. Epidemics of typhoid fever due to infected water supply are quite independent of season except as stated above. On the other hand, epidemics due to insects and those caused by the dissemination of the germ in the form of dust are more likely to occur during late summer and autumn. The same is probably true of some epidemics in rural places due to infected wells. Contaminated material is more widely and easily disseminated in summer and fall than during other seasons of the year. In the summer time or in the early fall a typhoid stool thrown on the surface of the ground may be scattered far and wide by the wind, may be carried on the feet of men or animals, may be washed into wells or springs, and in short its wide dissemination is more likely to occur at this season of the year than at any other. These facts, in my opinion, sufficiently explain the relation of typhoid fever and season, so far as such a relation exists.

Influence of Age.—That typhoid fever is more likely to occur in persons of certain age than in others younger or older is shown by voluminous statistical evidence. However, we must not be too hasty in arriving at conclusions on this point. First, I will make some general statements and will then briefly discuss the same. Curschmann states: "Undoubtedly early adult life especially predisposes the individual to typhoid fever.

Individuals from 15 to 35 years of age are in greatest danger of this disease. In my experience at least four-fifths of all cases have occurred among people within these limits, and more than half (about 56 per cent.) have been between 15 and 25 years of age. Between 30 and 35 years the percentage begins to fall, and from 35 to 40 it sinks rapidly. After the 50th year the percentage or morbidity of this disease falls to a fraction. In old age typhoid fever is seldom seen. During the first year of life, as is the case with most infectious diseases, typhoid fever is rare. From the 1st to the 5th year morbidity from this disease increases. From the 5th to the 15th year the disposition to typhoid fever is increased, and is greater than it is during the period from 35 to 40 years."

Murchison reported 52 per cent. of his cases among individuals from 15 to 25 years of age. Fiedler found 58.8 per cent. of his cases to range from 20 to 30 years of age, while only 3.4 per cent. were over 40, and 0.7 per cent. over 50.

This apparent predisposition of early manhood to typhoid fever may be at least partially explained. In the first place it is at this time of life than man is most inclined to roam about, obtaining his water and food from the most diverse sources, and it must be evident that his chances of infection are greater than either earlier or later in life. In the second place it is probable that many of those who have reached 40 years of age have acquired a certain immunity to the disease without ever having developed it in recognizable form. I shall give some evidence later tending to show that short diarrheas often give at least temporary immunity to this disease. How long this immunity may last in different individuals we have no means of positively determining. The infant, taking its nourishment exclusively from its mother's breast, has but little opportunity of being infected with typhoid fever. As the child grows up and seeks its food and drink from other sources danger of typhoid fever infection increases in direct proportion to the diversity of the sources from which he draws his supply. During the period of life when he mingles most largely and most promiscuously with other men, the danger of infection is increased. Later in life he becomes tethered by his habits; he visits fewer places, cares less for the society of strangers, and the chances of infection are decreased. While sickness from typhoid fever is much more frequent in early manhood, the percentage of death among cases is much greater late in life. In general, other things being equal, the percentage of mortality increases with advancing years, and ranges from 2 per cent. in early childhood to more than 50 per cent. in old age. The mortality in persons from 15 to 35 years of age averages 7.5 per cent., but of course varies considerably in different outbreaks and is modified by the individual condition of patients.

Influence of Sex.—Hospital statistics taken alone indicate that typhoid fever is more prevalent among men than women. However, this is not true and the apparent greater prevalence among men as shown by hospital figures is due to the fact that more men than women are treated in hospitals. Moreover, all hospital statistics do not show a greater percentage of cases among men. In London from 1848 to 1861, according to Murchison, 2431 cases of typhoid fever were treated in the fever hospital. Of these 1211 were males and 1221 were females. There is not the slightest reason for believing that sex has any influence upon susceptibility to typhoid fever. It is probably true that on the whole a larger number of men than women have the disease, but this is due to the fact that men are more frequently exposed to infection. They travel about more. They take their food and drink from more diverse sources, and consequently the chances of infection are greater.

Pregnancy and the puerperal state apparently give some degree of temporary immunity to typhoid fever, or at least diminishes susceptibility to this disease. On this point Curschmann makes the following statement: "Greissenger finds typhoid fever to be very rare in the puerperal state and believes that nursing mothers are especially protected against this disease. In this he agrees with Rokitansky, and I myself have only seen typhoid fever appear twice in women in the puerperal state and very seldom during lactation." Pregnancy is also supposed to lessen susceptibility to this disease, but the probabilities are that the relatively small number of cases observed among women during pregnancy and the puerperal condition is due to the fact that during these times women are less exposed to infection.

Influence of Fatigue.—Bodily fatigue and mental worry apparently increases susceptibility to typhoid fever. The effect of fatigue is especially observable in armies. However, there are certain points connected with the study of this subject that are not altogether clear and there is a possibility of falling into error in formulating conclusions concerning the relation between fatigue and typhoid fever. In the first place exhaustive physical exercise, as for instance after prolonged forced marches with raw troops, may cause a continued fever which resembles typhoid fever clinically, but is wholly different in its etiology and pathology. This fever of exhaustion may continue for two or three weeks and is frequently mistaken for typhoid fever, but it never occurs in epidemic form, that is, it never spreads to those who have not undergone the fatigue. It has been observed that within two or three days after a forced march or other exhaustive exercise the number of typhoid fever cases increases. The short time clapsing between the exercise and the appearance of the fever does not justify the belief that infection occurred during or after the exercise, but in many of these cases infection must have occurred before the physical exercise, and the only effect attributable to fatigue is that of causing the more speedy development of the disease in persons already infected. It is true that physical exhaustion may and probably does increase susceptibility to typhoid fever. This is brought about by lowering the resistance of the body to infection.

Influence of Social Position.—Typhoid fever is not more prevalent among the poor than among the rich. Indeed, it frequently prevails more extensively among the better-to-do classes than among those suffering from poverty. It was frequently told us while making our inspection of camps in 1898 that companies recruited from the wealthier classes had more typhoid fever than those from the working classes. In some instances we found this apparently true; in others it was only an opinion not supported by facts. In some instances men having money indulged more largely in the purchase of articles of food and drink from outside venders, and in this way the dangers of infection were increased. However, in civil practice it is observable that typhoid fever is not a disease of poverty, but on the other hand, it is quite as likely to afflict those who are pecuniarily well-to-do. Furthermore, this disease is more prevalent among the well-nourished and robust than it is among

those of more delicate constitution. I have already endeavored to point out that man is most susceptible to this disease in early adult life when he is supposed to be possessed of the greatest vitality. The full-blooded, vigorous man is quite as likely to fall a victim to this disease as his anemic weak brother. So far as the influence of vocation is concerned, there is no evidence that one occupation more than another creates a special predisposition to this disease, except in so far as the occupation brings the individual into more frequent and dangerous communication with the specific cause of the disease. Physicians, nurses and laundresses show a large percentage of typhoid fever, but this is due to the fact that their work brings them into close contact with the stools of typhoid fever patients.

Influence of Cold.—It is quite widely believed that exposure to cold increases susceptibility to typhoid fever. In most reported cases supposed to illustrate this point the fever follows so closely upon the exposure that the infection must have occurred previously. The probabilities are that in most of these cases the supposed exposure to cold arose from the chilly sensation likely to accompany the prodromal stage of this disease.

Influence of other Diseases.—The Influence of other diseases upon susceptibility to typhoid infection is interesting, but is also one about which we must be slow to draw conclusions because the evidence is likely to be misleading. Curschmann states that the acute infectious diseases, especially during the febrile stage, protect against infection with typhoid fever. He has also observed that during convalescence from other acute infectious diseases there seems to be partial and temporary immunity to typhoid fever. These opinions are based upon personal observations in several great epidemics, notably that of Hamburg from 1885 to 1888, in which 15,804 cases were reported. However, we must bear in mind that one sick of scarlet fever or some other acute infectious disease is not for the time being exposed to typhoid infection to the same extent that healthy people are. The Hamburg epidemic was due to an infected water supply, and it is more than likely that individuals suffering at that time from other acute diseases drank proportionately less unboiled water than healthy people did. However, there may be truth in Curschmann's observations. I simply suggest caution in accepting them as conclusive. The same great clinical teacher has observed that persons with tuberculosis in an advanced stage seldom become infected with typhoid fever in spite of the fact that tuberculous patients are often kept for long periods in the same hospital wards with typhoid fever cases. He thinks, however, in these instances the immunity to typhoid fever should be chiefly attributed to the emaciation accompanying tuberculosis, and he states that typhoid fever is also rare among those suffering from malignant diseases, from constitutional disorders, and especially from diabetes. The belief that the immunity to typhoid fever observed in advanced cases of tuberculosis is due to emaciation rather than to specific infection with the tubercle bacillus is supported by the observation that infants with latent tuberculosis fail to show this immunity to typhoid fever, and he adds that every physician of experience has unfortunately had opportunity to observe the rapid progress of tuberculosis in such cases during illness with typhoid fever. He states that individuals suffering from chronic nervous disease, in so far as these maladies occur among those of susceptible age, show no immunity to typhoid fever.

Certainly with our present knowledge concerning the etiology of typhoid fever, no one will hold that this disease is ever caused by errors in diet or by the consequent gastric or intestinal catarrh. However, there still remains the question whether or not acute catarrhal conditions of the stomach and intestine place these organs in a better condition for the reception and retention of the typhoid bacillus. When the three members of our board began the investigation of the cause and spread of typhoid fever all of us believed that special attention should be given to the study of the relation between preceding gastro-intestinal disturbances and typhoid fever. At that time we were of the opinion, which seems to be quite generally held, that acute disease of the gastro-intestinal tract renders the individual more susceptible to subsequent infection with typhoid fever. However, our studies forced us to come to the following conclusions concerning the relation between typhoid fever and preceding temporary intestinal disorders, including those diagnosed as diarrhea, enteritis, gastro-enteritis, gastro-duodenitis, intestinal catarrh, gastro-intestinal catarrh, gastric fever, and simple indigestion.

1. The temporary gastro-intestinal disturbances of May and June (it will be remembered that the troops went into encampment late in April or early in May and continued in the service until September or October) had but little effect upon subsequent infection with typhoid fever. We mean by this that men who are reported as having such temporary disorders during the time mentioned were found to be no less and no more susceptible to subsequent infection.

2. The temporary gastro-intestinal disturbances of July and August gave a certain degree of immunity against subsequent infection with typhoid fever.

3. The majority of men who developed typhoid fever did not report at sick call previous to the appearance of this disease.

4. In a considerable percentage (a little more than one-third) of the cases which are reported as having been preceded by some intestinal disturbance the preceding illness was so closely followed by typhoid fever that we must regard the former as having occurred within the period of incubation of the latter.

In order to show the evidence upon which the above given conclusions are founded, I quote from our unpublished report the following statements:

We have investigated the medical history of each of 12,484 men at Chickamauga. With the names of these men before us we have ascertained the complete medical history of each one so far as the regimental and hospital records show.

Of these 12,484 men, 5237 had some intestinal disturbance. As has already been stated, the names given to these intestinal disorders by the surgeons were numerous and diversified, but we have included all under the general head of gastro-intestinal disorders.

The 5237 men who had some intestinal disorder furnished 672 cases of typhoid fever. This shows a percentage of 12.83. The 7247 men who had no recorded intestinal disturbance furnished 2091 cases of typhoid fever. This shows a percentage of typhoid fever among these men of 28.85.

These figures show that the men who had temporary intestinal disorders furnish less than one-half as many cases of typhoid fever as did the men who had no preceding intestinal disorder, but the above given figures are misleading because of the 672 cases of typhoid fever that occurred among men who had had some intestinal

disorder, in 265 the recorded intestinal disorder is so closely connected with the subsequent typhoid fever that it must be regarded as a part of the prodroma of typhoid fever.

A corrected statement would read as follows: 4972 men who had had some preceding intestinal disorder furnished 407 cases of typhoid fever. In other words, the percentage of typhoid fever among the men who had had temporary intestinal disorders was 8.18; 7512 men who had had no preceding intestinal disorder furnished 2356 cases of typhoid fever. In other words, the percentage of typhoid fever among the men who had had no intestinal disorder was 31.36. The facts might be stated in another way as follows: Among 2763 cases of typhoid fever, 2356 were not preceded by any intestinal disorder, or the percentage of cases of typhoid fever which were not preceded by any intestinal disorder was 85.27.

To my mind the only explanation that can be given to the immunity, which was apparently due to gastro-intestinal disorders, is that these temporary disturbances were typhoidal.

BIBLIOGRAPHY.

1. Zeitschrift f. Hyg., 1900, xxxiv, 394.
2. Centralblatt f. Bact., 1898, xxiii, 673.
3. Zeitschrift f. Hyg., 1901, xxxvii, 381.
4. Ibid., 1890, ix, 322.
5. Johns Hopkins Bull., 1898, p. 54.
6. Zeitschrift f. Hyg., xxxvi, 368.
7. Annales de l'Inst. Pasteur, 1900, pp. 555 and 755.
8. Brit. Med. Jour., 1899, i. 78.
9. Centralblatt f. Bact., 1894.
10. Jour. of State Med., vii, 104.
11. Zeitschrift f. Hyg., 1897, xxiv, 403.
12. Ibid., 1898, xxvii, 175.

A SYNOPSIS OF THE SANITARY CENSUS OF MANILA.

HARRY L. GILCHRIST, M.D.

First Lieutenant and Assistant Surgeon U. S. Army; Late Chief of the Sanitary Department, Board of Health, Manila, P. I.

MANILA, P. I.

Early in January, 1901, the President of the Board of Health of Manila, under the authority of the Provost Marshal General, ordered the sanitary census of the city to be taken and a report of the same to be made. The undertaking was difficult in the extreme. Obstacles peculiar to Oriental cities were met on every side.

The work, however, was essential for the better government and sanitation of the city. Manila had now been in the possession of the United States a little over two years. At the time of our entrance the city was in the usual filthy state characteristic of most Spanish cities, and was also in the midst of an epidemic of smallpox, which was everywhere apparent. One of the first orders issued by the Commanding General was the establishment of a Health Board, and the suppression of the smallpox epidemic was the first thing that received the attention of the board. A vaccine farm was established and a hospital erected for the treatment of these cases. Later the dirty streets, alleys, parks and public buildings were attended to. It was not until August, 1899, that the Board of Health was thoroughly organized, and Major Guy L. Edie, Surgeon, U. S. Army, was chosen as its president. Under his personal supervision the different departments were established, reputable physicians and midwives were employed to attend to the indigent sick, and free dispensaries located throughout the city; a uniformed sanitary brigade, a corps of public vaccinators, and a system of street scavenger carts was organized. Competent inspectors of markets, foods, buildings, etc., were employed.

As the work progressed and the duties in the different departments increased, it became apparent that little was being accomplished, owing to the utter lack of information concerning the location, modes of life and surroundings of the inhabitants. To remove these difficulties and also to ascertain the population of the city the sanitary census was ordered.

To understand more clearly the contents of this article and the scope of the work accomplished, attention is called to the accompanying map, a photograph of the original sanitary map of Manila.

Owing to the irregular lay of the city, its densely crowded condition, and the mixed nature of its population, the work of taking the census could not have been accomplished by following the methods adopted in the larger cities of the United States. After numerous consultations with those thoroughly acquainted with the subject the following plan was adopted:

1. The division of the city into districts, sections and blocks.

2. The work to be accomplished by sections separately, a census-taker to be assigned to each block.

3. In order to secure accuracy, a numbered and illustrated chart of each block was made, showing the location of every house within the block for checking off purposes in the final compilation.

4. The staff of census-takers to be divided into day and night forces for reasons hereinafter stated.

It was not till Jan. 25, 1901, that the printing and other preliminaries necessary for the work were ready. Meantime a corps of intelligent natives, selected as census-takers from the excellent sanitary brigade, were carefully drilled and instructed in all that appertained to their duty. On this date the actual census-taking was begun, and so energetically was the work prosecuted that by the end of June it was entirely completed.

OBSTACLES TO BE OVERCOME.

It was the original intention to record each family and the names of its members, but it was early discovered that this was impossible, owing to the fact that a large proportion of the native population had no family names. A record in sexes, numbers and races was substituted, this being the only feasible thing to do. Another great difficulty, one which often proved a serious hindrance to the work, was the characteristic suspicion, or superstition, with which the census-taking was regarded.

The homeless population, including those who worked on the bay during the day and slept under promiscuous shelter along the river front during the night, was a third difficulty which the census-takers found hard to overcome, owing to their great numbers and roving disposition. On one occasion more than 300 males were counted sleeping under the porches and around the large piles of boxes and barrels surrounding the government "go-downs."[1] These men worked along the river front and in the quartermaster's warehouses and obtained their subsistence from the numerous street venders scattered throughout the district. As this class could not be interviewed by the day force, it was the duty of the night men to discover and enumerate them.

THE CITY BOUNDARIES.

The city boundaries were those laid down by the military governor. Commencing on the north, they extend from a line drawn through the Boca de Vitas to Lico, a

1. Go-downs are large one-story warehouses usually built of brick or stone and covered with corrugated iron roofs. They are use for storing hemp, rice and sugar.

part of which is included, then across to the San Juan river, passing just to the outer side of the Chinese Hospital, taking in Block Houses 4, 5, 6 and 7; to the San Juan river to its mouth; the Pasig river to the outlet of the Estero Concordia; the Estero Concordia to Block Houses 10 and 11; then the Estero Tripa de Galinas to the road passing Block House 14 to Manila bay on the south. (Map is not extensive enough to show these.)

In compiling this work some very insanitary places have been discovered, brief mention of which will be made later.

Before entering into a detailed description of the various districts of the city attention is invited to the following quotations of Notter and Firth. Under the subject of "Tenement Houses" and under the Public Health Act of 1875, Section 90: "The minimum free air space allowed for rooms used for sleeping purposes should be 300 cubic feet for every person exceeding 10 years of age, and 150 cubic feet for those under that age," and "for all apartments not used for sleeping purposes the minimum air space should be 300 to 400 cubic feet, and for every 80 cubic feet of air space within a room there should be one square foot of window or door space." Munson's "Military Hygiene," 1901, says in regard to barracks in the tropics: "Each man should be allowed 90 feet of superfices and 1800 cubic feet of air space."

Attention is now called to the various districts into which the city is divided, and which may be compared to wards in American cities.

San Nicolas.—The San Nicolas district was chosen as the starting place, being the largest in population. It is, however, the smallest in area of any district in the city. The district lies on the northern side of the Pasig river at its mouth. In area it occupies about one-fourth of a square mile, but has a population of 46,280 inhabitants, living in 5181 buildings, none of which are more than two stories high; 828 buildings are in good condition, but contain only a small portion of the population, while they cover a large part of the area of the district. The rest of the buildings are poorly constructed and ventilated, and in most cases, horribly overcrowded. Commencing at the Bay, one of the worst blocks in the district is that known as the "Farola." Here were found nearly 1800 people, living in small rudely constructed shanties, built over the Bay, back of the river front. This was the starting-point of the last cholera epidemic which visited the city ten years ago. Working gradually toward the center of the city, another very insanitary place is the double block of nipa shacks[2] occupying the territory between Calles Vives, Lavezares, Principe and the Bay.

The first section of this block faces on Calles Vives, and has an area of 20,250 square feet, on which are crowded 60 nipa shacks, the only shelter for nearly 800 people. The block is extremely unhealthy and insanitary, due not only to the crowded condition, but to the situation. The ground being very low, the tide washes over the greater part of it, and the place is always in a filthy state. The second section of the block is in even a worse condition than the first, it being not only subject to tide washes, but is the outlet of the overground sewer on Calle Principe, the main drainage of the whole district. The area of this section is 35,154 square feet, and has a population of 1776 people living in about 80 shacks. The inhabitants are mostly poor native fishermen.

Calle Ylang Ilang is a very narrow street, only 16 feet in width, extending from Calle Jaberanos to Calle Lavezares, a distance of one-fourth of a mile. It is built up on both sides with solid running one and two story dilapidated tenements, occupied almost entirely by Chinamen who operate opium dens, chow stands and disreputable houses. These dwellings are appallingly overcrowded. In apartments of not over 10 feet front, 8 feet high and 20 feet deep, from 40 to 50 Chinamen were found huddled together on the floor and shelves surrounding the room. The ventilation of these places is wretched, the only opening in the most of them being the small door in front, which is generally closed with the setting sun. Plague has existed in this district ever since its first appearance two years ago, and still furnishes a large number of cases. At the corner of this street and Calle Jaboneros there is a large 2½ story tenement house occupied principally by Chinese. On the ground floor is the usual opium dens and dirty eating stands; on the second and third floors are disreputable joints and cheap lodging places. This building contains nearly 800 people. The sanitary arrangements of the place are very poor. There is only a limited supply of water, and practically no sewerage system. The blocks bounded by Calles Jaboneros, Camba, San Nicolas and Asuncioni; Calles San Fernando, Elcano, Jaboneros and Asuncion; the Chinese row on Calle Jaboneros near Calle Madrid; Calle Jaboneros between Calle Elcano and Santo Christo; different sections of Calle Santo Christo, Calle Fundidor; the district back of the city slaughter house, and numerous other places, space not permitting mention, are in a terribly crowded condition —25 to 50 people having been found crowded together in small ill-ventilated rooms of not over 1800 cubic feet, with no other ventilation than the small door used as an entrance. Within the district are a large number of warehouses and go-downs, nearly all of the army store houses, including the quartermaster and commissary depots, sub-station board of health,[3] the Port Captain's office, the new steel market house, and the San Fernando police station. The streets are clean and in good condition; they run at right angles to each other, are well illuminated at night by electric lamps, and are sprinkled during the dry season. The rather limited water supply is obtained from the city water works,[4] numerous wells and cisterns. The closets used are of the old vault system and are very insanitary.

There is practically no sewerage system except the open gutter drains which empty into the nearby esteros, and in many cases these drains are in bad condition, accumulated in stagnant pools, and seething with germs of disease.

2. A nipa shack is a small thatch-covered house, built of bamboo framework fastened with pegs and tied with rattan. It is covered with the dried leaves of the palm. These houses are constructed in various shapes and sizes, and are generally raised from 4 to 8 feet above the ground on bamboo posts. Entrance is gained by means of a small bamboo ladder. The doors and windows are constructed of like material.

3. These stations are established throughout the city, and are in telephonic communication with the main office of the Board of Health. All sanitary work connected with the various districts is done through these offices. Ambulances and disinfecting wagons are attached to each. They are in charge of a competent chief inspector, and from four to eight sub-inspectors assist him in the various duties connected with the sanitation of the district.

4. Manila's limited water supply is piped in from the Mariquina river, a distance of nine miles. During the dry season this stream is very shallow. Many small barros or villages are built on its banks (above the intake), and the water from this stream is used for all their purposes. A recent examination of the water obtained from different places above the intake was found by Dr. Calvert to be polluted with bacteria. The wells are very shallow —not more than three to five feet deep—and the water obtained from them is brackish and inpalatable. The numerous cisterns existing are generally built of brick or stone and cement lined, and are above ground. They are of sufficient capacity to retain water enough to last from one wet season to the next. This water is considered to be the best.

Tondo.—This district lies just north of San Nicolas and extends to the city limits on the north. Nipa shacks predominate throughout, with here and there a few good buildings. The district has a population of 33,003, nearly all being Filipinos; there are 2112 Chinese. The populated part is the southern section, very few living in the northern two-thirds. Within the district are numerous ruins of the fire of Feb. 12, 1899, when the insurgents tried to burn the city; many caribou sheds, a large cemetery, the terminus of the Manila and Dagupon Railroad, the Tondo Cathedral, the Quartel de Meisic and the old Tondo Market, which is the largest and most insanitary place in the city. This market is composed of many badly constructed, closely packed and insanitary nipa shacks, where from 5000 to 10,000 natives congregate every market day. The northern section of the district is composed mostly of swamps, tide-flows and rice paddies. The rebuilding in the section destroyed by the fire has been carried on without restriction, to such an extent that some streets have been obliterated entirely. There is no sewerage in this district, the usual results prevailing. The water supply is obtained from the city water works, numerous wells and cisterns and street carts. Few closets exist, and those are of the vault system, the natives using the bay, beach, swamps, rice fields, and in a few cases the hog scavenger closet is still retained. Owing to the lack of a crematory in this part of the city, the rubbish, refuse, etc., is dumped near the center of the district, between Calle Lemery and Saleedo, giving rise to very offensive odors. The district is poorly lighted, the only illumination on many streets is that furnished by the natives themselves by means of small cocoanut-oil lamps suspended in the front of their houses. During the rainy season a large part of the district is inundated.

Binondo.—This district, which embraces the business section of Manila, joins San Nicolas on the east and is about the same in area, extending almost to the San Lazaro Hospital. It has 34,361 inhabitants, and 1469 buildings of all descriptions. The district is thickly inhabited, and contains the largest Chinese population of any in the city. Viewed from a sanitary standpoint, Carvahal Alley is easily the worst place in the district. This alley is about one-sixth of a mile long, and varies in width from 4 to 10 feet. On either side are one and two story dilapidated buildings, occupied by hordes of Chinese who conduct opium dens, chow stands, etc. False floors exist in all these places to the great detriment of sanitation and the health of the occupants. In the rear of these places are shacks of all varieties, furnishing shelter to large numbers. Plague has been prevalent here since its first appearance.

Many other sections in this district are in an overcrowded and insanitary condition, notably the blocks bounded by Calle, San Vicente, Neuva, San Jacinto and Dasmarinas.

The solid running buildings facing the numerous alleys which extend from Calle Rosario to Calle Neuva are not only in an overcrowded condition, but these thoroughfares being only 3 or 4 feet in width, sunshine is an unknown factor; hence these places are always dark and damp, and extremely unhealthy. Sub-station No. 2, of the Board of Health, the postoffice, two theaters, the Orient and English Hotels, the Insular Cigar Company, the large Binondo Church, many warehouses and go-downs are in this district.

The sewerage system is very poor, only a few small sewers existing on some of the larger streets, which empty into the nearby esteros and Pasig river. The closets are of the old vault and flush vault system, mostly the former, and generally in bad repair. The water supply is obtained from the city main, and a few wells and cisterns. The streets are clean, well illuminated, stone paved and in good repair.

Santa Cruz.—This district extends from the Pasig river and Estero San Jacinto to the city limits on the north, and contains some good buildings, many nipa shacks, San Lazaro Hospital, two theaters, Santa Cruz Church, Convent, and Cemetery, the Plague Hospital, Sub-station No. 3 of the Board of Health, and the Bilibid Prison. The population of the district is 34,333; four-fifths are Filipinos, the remainder are mostly Chinese. There are 2140 buildings in the district; Calle Bilibid, a very wide street, divides the district in the center. The buildings on the south side are in good condition; those on the north are mostly nipa shacks. The most thickly populated parts are Calle Bulumbavan, along the Estero San Jacinto, Calle de Lacoste, Calle Trinidad and Calle Dolores. The majority of the buildings in this section are of good material, two stories high, but all densely populated. The Chinees joints are on Calles San Jacinto, Obando and Dolores, the usual insanitary conditions in Chinese quarters prevailing. The streets are clean and in good condition. The district is well illuminated at night. There is no sewerage system. A few much neglected sewers exist in some streets. These empty into the adjacent esteros. The water supply is obtained from the city water main and numerous old wells, cisterns and water venders. Most of the closets are of the vault system and very insanitary. In the north section the open fields, rice paddies and esteros are used for closet purposes. Numerous cases of plague have been found in this district. The ground is very low. At high tide during the rainy season the district in many places is covered with water ranging from six inches to two or three feet.

Quiapo.—Quiapo extends from Calle de Bilibidon on the north, to the Pasig river on the south. In the district are 16,282 people, the greater part being Filipinos. There are 2905 Chinese. The remainder of the population is made up of Americans, Spaniards, etc. There are 1205 buildings, nearly one-half of which are constructed of good material and two stories high. Nipa shacks constitute the greater part of the remaining buildings. The section west of the Cuytido is thickly populated. Here are many small, ill-ventilated, densely overcrowded stores and stands.

In the northern section are numerous rice fields and pasture lands, which are inundated during the rainy season. The streets occupied by Chinese are Calles Echague and Villalobos, and are in the usual Chinese fashion as regards sanitation. The electric light plant, San Sebastian church, the Oriental cigar factory, and numerous warehouses are in this district. The only sewerage is a few surface drains on some of the streets. The few closets are mostly of the vault system. The water supply is obtained from the city water works. Most of the streets are in good order, clean and well illuminated at night.

Sampaloc.—This is the most eastern section in the city and takes in all that territory east of the Calle Iris and Santa Cruz district. It has a population of 22,005 and contains 2229 buildings, all but 300 being native shacks. The district is the largest in area north of the Pasig river, and has many fine residences, the Sta Mesa Hospital, vaccine farm (where most of the virus used in the islands is prepared), sub-station No. 5 of the

Board of Health, the terminus of the Manila street railroad, Manila driving park, and many disreputable houses. The main streets are wide, well illuminated and in good condition. The side streets are narrow and neglected. There is no sewerage system. In the better class of residences a few flush closets exist, the natives using the rice fields, esteros, etc. During the wet season a large portion of the district is inundated.

San Miguel.—The district of San Miguel extends from the Pasig river on the south to the Esteros San Miguel and Sampoloc and Sta Mesa on the north. The population is 8185, of whom 1075 are Chinese. Of the 715 buildings two-thirds are shacks. The thickly-populated section is along Calle San Miguel and part of Calle Novalieres. The Chinese section is on Calle San Miguel.

Within the district are numerous fine residences, headquarters of the Department of Luzon, the Governor-General's residence, Nurses' Home, Women's and Children's Hospital, San Miguel brewery, and several lumber yards and sheds. There is no sewerage system. Most of the water is obtained from the city water works. The closets are of the flush vault system, the better class of residences having the flush closets, which empty into the nearby Pasig river. A large whisky distillery and several tobacco factories are in the district. The streets are in good condition and well illuminated at night.

Old Manila or Walled City.—This district comprises the territory within the walls, and is the old city of Manila. It has a population of 15,325, nearly 3000 of whom are Americans. There are 307 buildings, nearly all of good material and two stories high. Within the district are numerous hotels, churches, convents, schools and colleges, the Governor-General's palace, headquarters Provost-Marshal General, and the Intendencia buildings and the Manila Medical University.

This district is entirely covered with buildings, no vacant lots existing. Some of the buildings are densely crowded. The streets are narrow, but well kept and well illuminated. The area of the district is less than one-fourth of a square mile. The poor sewerage system drains into the insanitary moat[5] just outside the old walls. The water is obtained from the city water works, wells and cisterns. The closets are of the flush and vault systems, mostly of the latter and all very insanitary.

Ermita.—Extends from the walled city and Bagumbayan on the north to Calle Herran and an imaginary line continuing to the Ermito Estero on the south. It embraces that section sometimes called Conception. The population is 8747, many of whom are Americans.

References.—Figures below names of district indicate population of district. Crosses indicate plague sections. S—s s s, shacks or nipa houses. Dotted lines indicate boundary limits. Network throughout the outlying districts represents rice paddies.

5. The moat is the walled-in trench, varying in width from 30 to 300 feet, which surrounds the old wall on the outer side. This moat, which formerly contained eight feet of water, has been allowed to fill up until at present it is in a condition similar to the many esteros, filled with deposits of all kinds and very insanitary.

There are 1238 buildings, of which 970 are of the nipa variety.

Within this district are the Luneta, Malcon drive, Ermita church, sub-station Board of Health, Hospital No. 3, a large observatory, exposition grounds, First Reserve Hospital, and the very dilapidated and insanitary market adjoining, with many fine residences along the bay shore. Numerous rice fields are in the eastern portion. The nipa section is the only crowded part of the district. The main streets are wide and in good condition. There is no sewerage system. The water is taken from the city water main. The closets when present are of the flush vault system, the natives using the esteros and rice fields. Some of the main streets are lighted by electric lamps, but, in the native section, the only illumination at night is the small cocoanut-oil lamps.

Malate.—This district extends from the southern boundary of the Ermita to Paco on the east, to Manila bay on the west, and to the city limits on the south. The population is 5831. Over three-fourths of the 748 buildings are nipa shacks. This is the largest district in area south of the Pasig river. The resident portion is along the bay shore. There are no thickly crowded sections. In the districts are the Second Reserve Hospital, Malate barracks, several fine residences, Fort San Antonio, cable station and the Malate church. This being an outlying district, the greater part of it is under cultivation. The streets are in good repair, and the main thoroughfares well lighted. The city water works and numerous wells supply the water. The closets when present are mostly of the vault variety. There is no sewerage system.

Paco.—This district occupies the southeastern section of the city of Manila, and is one of the largest south of the Pasig river. It extends from the boundaries of Ermita and Malate to the city limits, with the exception of the most eastern part, which is known as the village of Pandacan. The population is 11.380, and the number of houses is 1380, of which 1278 are constructed of nipa. There are no thickly populated parts. In the district are many ruins of the fire of Feb. 12, 1899, also some fine residences and the works of the Germinal Tobacco Company, Paco cemetery and a large crematory.

Pandacan.—This district is practically a small village just outside the second mile circle. The population is 2839, all of whom are Filipinos. There are 543 buildings, most of which are nipa shacks, built closely together. A large church and convent are in the district. There is no sewerage system. The Pasig river and some wells supply the water.

The city of Manila is built on a low tract of land consisting of an alluvial deposit at the mouth of the Pasig river; a network of unsightly and insanitary esteros or canals practically make it a city of islands, none of which are over four feet above high-water mark. These esteros are utilized for various purposes and are subject to tide changes. At full tides they are used for the navigating of small bancos, scows, rafts, etc. At low tides they are beds of filth and muck, giving rise to the most sickening odors; at all times they are used as sewers and catchalls for the immediate vicinity, also for washing, bathing and in some instances for drinking purposes. The latitude of Manila is 15 degrees north. The temperature is from 65 to 97 F. in the shade. April, May, June and July are the hottest months; December and January the coolest. The greatest rainfall occurs in July, August, September and early October. The average rainfall during the year is 75 inches, and it rains 130 days out of the 365. The inhabitants are mostly Filipinos and Chinamen, with a scattering of Spaniards, French and Chinese mestizos or halfbreeds.

The principal articles of diet are rice and fish. The clothing, which is light, is prepared from the fiber of hemp, pine-apple and cotton. The Filipino is very clean about his person and attire, but entirely the opposite regarding his place of abode and general surroundings. As most of the native houses are built from 4 to 8 feet above the ground and the floors of the slat variety, the disposal of slops, refuse and fecal matter was a simple problem until American occupancy, the ground beneath being a seething mass of corruption and generally a good stamping place for the family pigs that grew and fattened there until sufficient size to be taken to the market. (This method of disposal of slops is frequently spoken of by Americans as the hog-scavenger, a few of which are still in operation in some of the outlying localities.)

The Chinese, on the other hand, especially the coolies, or laborers, are filthy in regard to their person, dress and general surroundings, and are great believers in darkness, confinement and absence of water, air and sunshine. They generally live in dark, damp and ill-ventilated rooms, containing numerous false floors or shelves.

The prevailing diseases are: malarial fever, called by the natives calenturia; tuberculosis of the lungs; marcesuela or convulsions, which is very fatal among children; dysentery, diarrhea, beri-beri, bubonic plague and an occasional case of smallpox.

The population of Manila has been greatly exaggerated. Former estimates gave from 300,000 to 600,000 people, but on studying the city and noting the location and small living accommodations, the vast areas of unutilized ground, rice fields, etc., one will see that it could not possibly have contained the number of people thought to have existed there. Taking the Palace within the Walled City as a center, nearly the entire population of Manila lies within the mile and a half circle, which would make it three miles from north to south, and, as this center is near the shore of the bay, one-half of the area is water. Two-thirds of the population occupy a strip of land one and a half miles long by half a mile wide, just north of the Pasig river. South of the Pasig river, the area being about the same as that of the north, contains but 44,122 inhabitants, of which nearly 15,325 occupy the space inside the old walls or the Walled City. As the limits of Manila are nearly five miles from north to south, it will be seen that a large part of the city is covered with rice paddies and cultivated fields.

Its sanitary situation under the present condition is only fair. Until a sewerage system is established, the unsightly and insanitary esteros filled up, the old moat surrounding the Walled City cleaned out, and many of the old dilapidated buildings removed and improvements made on the others, especially in regard to their crowded state, the sanitary condition of the city can not be improved upon.

As a result of the taking of the sanitary census immediate steps were taken under authority of the Provost Marshal General to enact such laws and regulations as would gradually place the city in a better state of sanitation, especially in regard to the overcrowded condition.

The photograph accompanying this article was taken

from the Sanitary Map, size 8x9 feet, which was made and compiled at the time. It is an accurate map of the city and shows the location of every house, hut, outhouse and insanitary place in the city; separate sanitary cards were made also for each premise, containing not only a complete record of sanitary information but a plan of the same.

The total population of Manila, exclusive of officers and men of the army and navy, was found to be 244,732, and the number of buildings 19,463, divided as follows: Americans, 8461; Filipinos, 181,361; Chinese, 51,567; Spaniards, 2382; British, 201; German, 226; Swiss, 78; Portugese, 52; Japanese, 203; Turks, 16; French, 66; Indian, 53; Russian, 13; Italian, 13; Australian, 4; Arabs, 12; Chilean, 3; Malaysian, 5; Cuban, 10; Mexican, 5; Uruguay, 1. Total, 244,732.

The total number of buildings are the following: Good buildings, 3739; poor buildings, 1135; small buildings, 1333; shacks, 13,256. Total, 19,463.

AGREEMENT BETWEEN THE HISTORY OF YELLOW FEVER AND ITS TRANSMISSION BY THE CULEX MOSQUITO (STEGOMYIA OF THEOBALD).*

CHARLES FINLAY, M.D.

HAVANA, CUBA.

(Read on Feb. 19, 1902, before the Pan-American Sanitary Congress.)

The early history of yellow fever, notwithstanding the scarcity and vagueness of the data referring to the first 150 years after the discovery of America, enables us to establish a very plausible connection between the earliest undoubted epidemics of yellow fever, described by Du Tertre and by Cogolludo in the fourth decade of the seventeenth century, and the previous ones which, under the names of "plague," "pestilence" and "malignant fevers," usually attacked the newly-arrived Spaniards at Santo Domingo, Terra Firma and Vera Cruz, ever since the conquest of Mexico in 1519, as also between those same fevers and the "modorra-illness" or "pestilential modorra" which had been recorded, under similar circumstances, at Santo Domingo and at Darien, during the first twenty-five years after the discovery.[1] If this connection be accepted, the unavoidable inference must be that, since the American Indians have no natural immunity against yellow fever and that disease had never been known among Europeans before coming to America, there must have existed, before the discovery, endemic foci of yellow fever on this side of the Atlantic offering climatic conditions suited to the development of the yellow fever mosquito and enabling that insect to perform its functions as transmitter of the disease. As may be gathered from the contemporary chronicles of Las Casas, Oviedo and Herrera, such endemic foci did exist in the Island of Santo Domingo (Hispaniola) and on the coasts of Venezuela (Nueva Andalucia) and Columbia (Castilla de Oro) ever since settlements were made in those places by newly-arrived Spaniards. As a rule, the disease broke out in its full force during the summer months and, after a lull during the cooler season, it would break out again the following summer, until all the new-comers, having once suffered an attack remained thereafter proof against that illness.

The most significant statement which I have been able to find in order to connect pre-Columbian epidemics suffered by the aborigines with those which subsequently attacked the Spanish invaders, occurs in the Chronicles of Herrera,[2] which he published in 1599, eighty years after the conquest of Mexico. In chapter 6 he explains "how it happens that the country of Vera Cruz and that northern coast is so sickly * * * from April till September, at which time those who go out in the sun to attend to their business are taken sick * * * * while in the months from November till March, the weather is cold * * * * and, the earth being then dry, the country becomes as healthy as it is in Mexico (City), and those who arrive at that time are safe not to suffer." Chapter 8 is headed: "About the cocolitzle sickness, and wherefor the northern coast of New Spain is so scantily peopled," and it opens thus: "It has already been stated that the city of Vera Cruz and all the northern coast is sickly, owing to its hot climate which makes the illnesses more deadly * * * and children can not be reared in it because any disorder gives them fever; this is why the population there is so scanty. If in Montezuma's time its population was so numerous, notwithstanding that the same general diseases (epidemics), called "cocolitzle" prevailed, and in some years more than in others, as happens now, that was due to the fact that Montezuma, in view of the mortality and scarcity of inhabitants in that part of the country, used to collect from Mexico and other parts, where the population was numerous, eight thousand families * * * and sent them to the places where the cocolitzle had been severe, giving them houses and lands and exempting them from taxes for a term of years; in this way the coast was repeopled, whenever it became necessary, with those who were not needed in the places from which they had been taken. So also the name cocolitzle has been given to general diseases of smallpox, which they have suffered, and to universal plagues."

I wish to call particular attention to Herrera's remark: "as happens now," referring, no doubt, to the year 1598 in which he wrote—whereby he identifies the "pestilence" which, up to that time, the newly-arrived Spaniards suffered every summer in Vera Cruz, with the "cocolitzle" which in Montezuma's time attacked the inhabitants of the high plateaux around the City of Mexico who had been sent to repeople the coast upon which Vera Cruz was subsequently built. Both diseases were annual and prevailed in the summer season, as does now yellow fever in the same spot, after the lapse of three and a half centuries. It was not, therefore, without good reason that a belief prevailed among the inhabitants of

---

* My own experiments of yellow fever inoculation, ever since 1881, when I decided to submit my mosquito theory to a practical test, have always been performed with the domestic day mosquito of Havana. I had previously consulted the distinguished Cuban naturalist, D. Felipe Poey, about the classification of the samples which I showed him, and he informed me that from similar samples which he had taken to Paris in 1817 or 1820, the species had been named "culex mosquito" by Robineau Desvoidy. D. Felipe had previously called the insect "mosquito de Cuba" (Cuban mosquito). The experiments made by Drs. Reed, Carroll, Agramonte and Lazear were started in June, 1900, with a brood hatched from eggs of the identical insect which, at Dr. Lazear's request, I had handed to him. All the successful experiments have hitherto been made with that particular mosquito.

From a medical point of view, it would be quite illusory to admit, *a priori*, that other mosquitoes, whose external and functional characteristics differ materially from those of the culex mosquito of Desvoidy, share with the latter the faculty of transmitting yellow fever, even though they should happen to belong—from the naturalist's standpoint—to a common group or species, such as the Stegomyia fasciata, of Theobald.

So far as I can judge from the written descriptions by former classifiers, the culex mosquito (Desv.), culex teniatus (Wied.), and culex elegans (Fic.) represent but one identical insect, and must therefore be considered as the "yellow-fever mosquito." About the other synonyms included in the Stegomyia fasciata species, in the absence of direct experiments of inoculation, the faculty of sexual reproduction between males and females classed under different headings, should be resorted to before prejudging their capability of transmitting the disease.

1. "Epidemiologia primitiva de la fiebre amarilla," in La Cronica medico-quirurgica de la Habana, May 15, 1897.

2. Chronicles of Herrera, 1599, Chaps. 6 and 8, Book 9, 4th Decade.

Vera Cruz that yellow fever had existed there ever since the foundation of the City—as Humboldt was informed when he visited the place at the beginning of the nineteenth century.

If Montezuma had in view the protection of the coast of his empire against foreign maritime invasions, when he adopted a measure which seemed well calculated to maintain alive the cocolitzle infection, he must have relied upon its success and cherished the hope that, after having by his dilatory policy induced Cortés to remain on that coast from April till the middle of August, the Spanish leader would have been forced to abandon his enterprise in consequence of the havoc which the Mexican cocolitzle would have made among his soldiers. That Cortés had not to submit to the sad fate, which befell General Leclerc in Santo Domingo in 1802, must be attributed to the circumstance that the 600 Spaniards who came with him had previously gone through epidemics of "modorra" at Darien and at Santo Domingo; another proof being thus afforded that the two names belonged to one identical disease.

On the American coast and islands—with the exception of the Island of Cuba—where the Spanish discoverers made their first settlements, those who came for the first time to America had always to reckon on the "modorra" or "pestilence" which, as a rule, attacked them in the summer months. The propagation of the infection was not generally limited to the seaboard, as happened on the coast of Vera Cruz; this difference arising from the peculiar orography of the Mexican territory, on the one hand, and, on the other, from the circumstance that the modorra or cocolitzle disease, like our modern yellow fever, was only transmissible within moderate altitudinal limits above the sea level. Mexico, indeed, differs from the other places mentioned above by the fact that its shores toward the Atlantic consist of a comparatively narrow strip of lowlands at the back of which rises a continuous wall of highlands, altogether beyond the reach of those pestilences which I claim to have identified as our modern yellow fever. That condition of things did not occur along the shores of Santo Domingo (Hispaniola) nor of Darien, so that no obstacle existed there to prevent the propagation of such epidemics from the coast to the interior. The Indian population was very numerous, before the discovery, on the islands as well as upon the continent. They lived in crowded huts, forming separate villages—some of them with 1000 or 2000 inhabitants, of peaceful habits and devoted to agriculture, but ever ready to change their dwellings or to scatter in the woods whenever danger was apprehended from enemies or from some contagious disease. Under these circumstances it will be readily understood how, upon the occurrence of an epidemic of yellow fever, many would escape from the contagion, but the germ would spread over a wide area, and, by reason of the mild winters, the infection would not be easily extinguished.

The final confirmation of the rôle which appertains to the culex mosquito Desv. (now included in the genus Stegomyia of Theobald), in the transmission of yellow fever, has now been sanctioned by the experiments of Drs. Reed, Carroll, Agramonte and the lamented Dr. Lazear, at Quemados de Marianao during the winter of 1900, afterward by those of Dr. Guiteras at the Experimental Station of Las Animas, last summer, and finally by the splendid practical results obtained by the Chief Sanitary Officer of Havana, Major W. C. Gorgas, during the epidemic-year which has just been completed. With those facts and the ones which I had gathered in former years, it is now possible to determine with some degree of precision the conditions which are necessary in order that yellow fever may develop in an epidemic form in a given locality, not too highly situated above the sea level and where temperatures between 25 and 35 C. (77 and 95 F.) either temporarily or habitually prevail. A distinction will, however, have to be made between localities in which the yellow fever mosquito already belongs to the fauna of the place, and others in which that species of mosquito does not habitually exist. The conditions, in either case, may be reduced to three. They will be, in the first instance, as follows:

1. Presence of a yellow fever patient within the first 5 days of his attack and exposed to be bitten by mosquitoes, or else the mere importation of one or more contaminated mosquitoes.

2. Abundance of mosquitoes of the required species, so that some of them will be likely to reach a yellow fever patient in a condition to become contaminated.

3. Presence of persons liable to contract the disease and so placed that they may be bitten by the contaminated mosquitoes.

In the second instance, when mosquitoes of the particular species did not previously exist in the locality, the conditions will be:

1. Introduction of mosquitoes of the required species, previously contaminated or under such circumstances that they may become contaminated from yellow fever patients simultaneously or subsequently introduced.

2. Circumstances which may enable the contaminated mosquitoes which have been introduced to continue inoculating a series of non-immunes during a sufficient length of time to allow the insect to develop a new brood, so that the new generation of yellow fever mosquitoes may come out in time to contaminate themselves from some of the patients inoculated by their predecessors.

3. The same conditions as in number 3 above.

Whenever two of the above conditions have been fulfilled without any outbreak of the disease following, the other condition must be supposed to be wanting; and, vice versa, if an epidemic of yellow fever does develop, the third condition may be supposed to have been fulfilled even if not actually demonstrated, unless the reverse can be absolutely proved.

Instances of the first class are, for obvious reasons, by far the more frequent; they include the epidemics recorded in the southern states of the Union, in the South of Spain, in the Canary Islands, in the Balearic Islands, Western coast of Africa, Italy (Leghorn in 1804), in all of which countries mosquitoes of the yellow fever species are known to exist. As instances of the second class may be cited the epidemics recorded in the northern parts of the United States, in Saint-Nazaire (France), in England, in Canada (Quebec), Madrid (Spain), in which countries the outdoor temperatures are only suited for the active functions of the yellow fever mosquito during a limited period, and even then may not be such as would allow the reproduction of successive generations of that insect.

Inasmuch as the only natural means by which yellow fever is, so far, known to be propagated, consists in the inoculation of the pathogenic germ through the bites of contaminated mosquitoes, the propagation of the disease across the sea would, in many instances, be inconceivable unless those insects have some propensity to take up their abodes inside of vessels and to thrive in

them, even when confined within the hold during a considerable length of time. A confirmation of this fact has recently presented itself; the Mosquito Commission of the "Orleans' Parish Medical Society" having reported that five mosquitoes of the "Stegomyia fasciata" species had been found last summer in the hold of a fruit vessel just arrived in that port. Indeed, there is a possibility that such a thing did occur as far back as Columbus' first voyage of discovery. After discovering and exploring the island of Santo Domingo, he sailed from the coast of Higuey on Jan. 11, 1493, for Spain, but on February 14, his carabela having been assailed by a terrible hurricane since the 12th, he was so exercised over the thought that he might yet be unable to convey the glorious news of his discovery that, he wrote, a great fear took possession of him and every mosquito sufficed to worry and disturb him. If that expression is to be understood literally and Columbus was referring to the hours of night, the mosquitoes which worried him were probably our "pungens," otherwise they must have been our day mosquito, the regular yellow fever mosquito, those two being the only species whose domestic proclivities would have been likely to induce them to board the admiral's carabela while it lay close to the shore of Santo Domingo. The following year (1494), also, there is collateral evidence which induces me to infer that contaminated mosquitoes must have been conveyed from Santo Domingo to the Canary Islands, the homeward trip at that time being made along that route. From historical data which I had set down in my recent paper,[1] I had come to the conclusion that the first name given by the Spaniards to the epidemic which caused so many deaths among them, at Santo Domingo in 1494, had been "modorra pestilencial"; a name which I had never met before (as applied to any human disease) and only once again with reference to the severe epidemic, of the same kind, which attacked the Spaniards who went with Pedrarias Davila to Darien in 1514, until a short time after the publication of the aforesaid paper[1] when I accidentally came across the following remarkable passage in Humboldt and Bonpland's Travels[3]: "What remained of the Gaunches (in the Canary Islands) perished mostly in 1494, in consequence of the terrible pestilence called the modorra, which was attributed to the number of dead bodies left exposed to the air by the Spaniards after the battle of La Laguna." On Feb. 2, 1494, Antonio Torre had sailed from Santo Domingo for Spain, bringing Columbus' full description of his second voyage to that island and also Dr. Chancas' interesting letter telling of the many men who had latterly been taken sick, though he felt very hopeful that their illness was not a dangerous one. It proved otherwise, however, for that was but the forerunner of a terrible epidemic to which I understand that the name of "modorra pestilencial" was given. The obvious inference is, therefore, that some of Antonio Torre's vessels had harbored mosquitoes which had bitten, in Santo Domingo, patients of modorra. The contaminated insects must have been left at the Canary Islands and there developed the epidemic among the Gaunches which is mentioned by Humboldt and Bonpland.

The following instances may be cited to show the coincidence of a remarkable abundance of mosquitoes and great mortalities among the Spaniards in Hispaniola and on the coasts of the Spanish main, within the first decades of the discovery of America.

In Hispaniola, after referring to another outbreak of the usual scourge (1502-1503) on that island and to the yellow color which the patients retained for many days, Herrera[4] goes on to describe the fauna of Santo Domingo, and incidentally mentions "the mosquitoes which are there very troublesome." In 1509, on the coast of Venezuela, when Nicuesa attempted to establish his governorship of Nueva Andalucia, according to Las Casas,[5] "the men who were left at the Belen river died in large numbers and were greatly distressed by the mosquitoes." In Darien, in 1514, Pedrarias Davila's nephew having been sent to reconnoiter the Cenu river, with 200 men, these began to sicken and die, and, adds Las Casas, "being new to the country, they were devoured by the mosquitoes." Finally, on the coast of Mexico, where Vera Cruz now stands, Bernal Diaz del Castilo, notwithstanding his previous experience at Darien, complained very bitterly of the intolerable torment caused by the mosquitoes.

On the Island of Cuba, on the contrary, the abundance of mosquitoes is not particularly emphasized by the early chroniclers and it so happens that on this island the earliest outbreak of a fever which bore any resemblance to yellow fever occurred in 1620, during the summer months only and never recurred again till 1649; but this time with a more permanent character. Pezuela[6] refers to it in these terms: "In the spring of 1649, the city (Havana) was thrown into consternation by a horrible epidemic. Since the smallpox which had decimated the newly-settled towns in this island at the beginning of the sixteenth century, it had known no contagions nor illnesses, excepting those which properly belonged to its hot climate and the malignant fevers of the summer of 1620," and he adds: "In July and August (1653), Santiago de Cuba and Bayamo were afflicted with the same fevers which, three years before, had caused so many deaths in Havana." From those data, it must be inferred that the yellow fever mosquito did not originally belong to the fauna of this island, but that gradually a race of the species developed in Cuba, capable of accommodating itself to its climate which is somewhat cooler than that of Santo Domingo or of Vera Cruz; otherwise it would be difficult to account for the fact that having a sufficient non-immune population and notwithstanding that the three regular fleets (*flotas de India*) from the infected ports of Carthagena de Indias and Portobello, from Honduras and from Vera Cruz, met each year at Havana in June, before proceeding on their return trip to Spain, 100 years elapsed after the first Spanish settlements were made in Cuba before yellow fever made its appearance on this island.

In Campeche and Merida de Yucatan, on a parallel corresponding to that of the center of the Island of Cuba, the first epidemic of yellow fever, after its occupation by the Spaniards (1547) occurred in 1648, and its description by an eye witness, the Historian Cogolludo, is indeed more accurate and detailed than any that had previously been published in any language. Since then epidemics of yellow fever have at different times broken out in Yucatan, the yellow fever mosquito having apparently adapted itself to the climate of Yucatan one year sooner than to that of Havana.

Farther toward the equator, in the Guianas, where the Dutch made their first settlements in 1580, I have no information regarding the early medical history of that

3. Humboldt and Bonpland's Travels, London, 1814, and Philadelphia, 1815, vol. I, p. 216.

4. Chronicles of Herrera, Decade 1, Book 5, Chapter 11.
5. Historia de las Indias, lii, p. 330.
6. Historia de la Isla de Cuba, li, pp. 106 and 112.

country; but in 1763, an expedition of colonists having been sent by the French Government to Cayenne, most of them died of a fever which, according to Bérenger Féraud, could have been no other but the yellow fever.

South of the equator, on the coast of Brazil, the first epidemics on record are those of Bahia and Pernambuco (Recife) in 1686; but the facility with which it extended in the neighboring country shows that the yellow fever mosquito must have already existed there. Not until 1850 did yellow fever extend as far south as Rio de Janeiro; it has, however, been endemic there ever since. The present limits of the endemic yellow fever zone, so far as latitude is concerned, may therefore be placed at the 23d parallels, north and south of the equator.

In equatorial Africa, through the slave trade with the West Indies, endemic centers must have developed soon after the discovery of America; and some have persisted to this day, principally in the French colonies on the west coast, notwithstanding the racial immunity which most of the indigenous races possess.

Beyond the Atlantic shores, yellow fever epidemics have only been recorded in some ports of the Mediterranean and on the Pacific coast of South and Central America. The fact that no permanent endemic focus has ever developed on the Pacific side of the American continent, is a curious feature which must probably be attributed to the following circumstances: 1, the necessity of crossing the mountain range of the Andes in traveling from the Atlantic to the Pacific coast and, 2, the cooler temperatures which usually prevail along the western coast of South America. The first of these conditions impedes the spontaneous migration of contaminated mosquitoes across the highlands, while the cooler temperatures may prove incompatible with the development of successive broods of the particular species, on the Pacific coast, except at certain epochs, when unusually high temperatures have been known to occur during several successive years.

CONCLUSIONS.

As the outcome of the above historic and etiologic considerations I beg to submit the following conclusions:

1. The endemic foci of yellow fever in America, from the pre-Columbian times to the beginning of the seventeenth century, were comprised within a zone between the 20th and the 8th or 9th parallels of north latitude, reaching, toward the east, as far as the Leaward Islands and limited toward the west by the Atlantic coast of the American continent. During the seventeenth century, that zone extended farther north up to the 23d parallel and southward to the parallels of Bahia and Pernambuco. Finally, in 1850, it reached Rio de Janeiro.

2. The transportation of mosquitoes of the yellow fever species, in sailing vessels, appears to have been of frequent occurrence, ever since the early times of the discovery of America. To it must, probably, be attributed the coincidence of the severe epidemic of the so-called "modorra pestilencial" in Santo Domingo, in 1494, with another very fatal epidemic of the same name, in the Canary Islands, the same year. Apart from the conveyance of contaminated mosquitoes, healthy ones must have been frequently imported into subtropical countries, where they are found now to exist, having acclimated themselves to their new abodes. This is known to be the case in Italy, in the south of Spain and coasts of the Mediterranean, as well as in the South of the United States and in other countries. The previous existence of the yellow fever mosquito must be considered, *per se*, to constitute a dangerous complication whenever a case of yellow fever happens to be introduced in a place usually free from that infection.

3. The range of the Andes and its prolongation along the Isthmus of Panama and Central America, appears to have stood as a barrier, protecting to some extent the western coast of America against the migration of contaminated mosquitoes. That obstacle, however, is about to disappear when the Panama or the Nicaragua canal comes to be opened; let us hope, therefore, that, by that time, through the joint efforts of all the nations interested, all the existing foci of the disease will have been extinguished and that the adoption of measures, similar to those which have proved so successful in the hands of our sanitary department, will henceforth provide reliable means for controlling the propagation of yellow fever.

THE DIAGNOSTIC VALUE OF TUBERCULIN.

C. M. WOOD, M.D.
PHYSICIAN TO COOK COUNTY HOSPITAL FOR CONSUMPTIVES.
DUNNING, ILL.

As a general proposition it may be said that prompt accurate diagnosis is the most difficult and at the same time the most important thing in medicine or surgery.

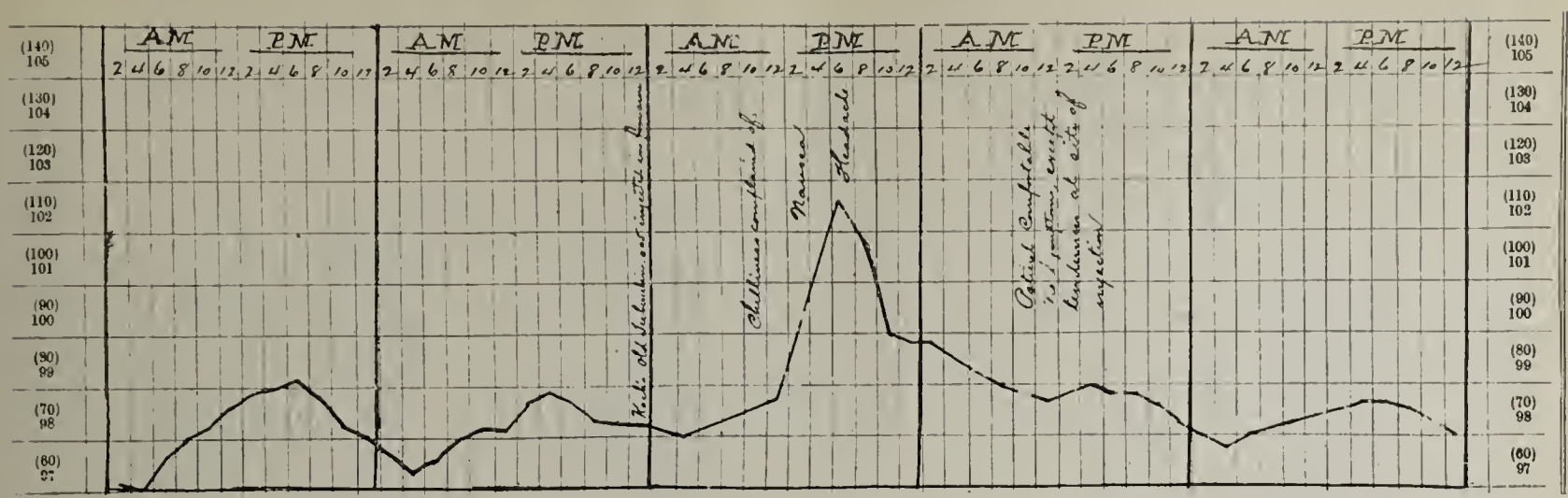
This is especially true in the matter of tuberculous diseases. Recognized early, they are very largely curable; recognized late, the prognosis is relatively and almost absolutely bad. In other words, in tuberculosis the promptness of the diagnosis very largely determines whether the given case shall result in recovery or death. If, then, early diagnosis is of such great importance; if it enables us to transform a hopeless disease into one which is in a large measure curable, it behooves us to make use of every harmless means within our power to discover the lesion and determine its nature at the earliest possible moment. The microscope, the stethoscope, the clinical thermometer and the tape measure are in the hands of every physician; their value is admitted and when properly used they will, as a rule, make possible a definite diagnosis at the time of the first examination.

However, there are cases of tuberculosis where there is no sputum nor discharge for examination; where the stethoscopic findings are inconclusive; where there is no fever nor deformity. In these cases, where all other signs fail, we have an aid so searching, so harmless and in my opinion, so helpful, that I wish to urge for it a much more general use among the profession. I refer to the hypodermic injection of tuberculin.

In 1890 Koch first advocated tuberculin as a remedy for tuberculosis. When it was found later that it would not cure the disease the majority of the members of the profession abandoned it and now that it has found its place as an aid to diagnosis they refuse to reconsider it.

Much has been written on the value of tuberculin as a diagnostic measure, and its use has been advocated by some of the best men in the profession. Nevertheless, it has not been employed as generally as it should be. There are several reasons for this. 1. We habitually neglect to use all the diagnostic resources at our command. 2. It was formerly thought that the administration of tuberculin, even in moderate doses, might aggravate the disease. 3. The reaction is not always clear and definite. This, however, is usually due to insufficient dosage.

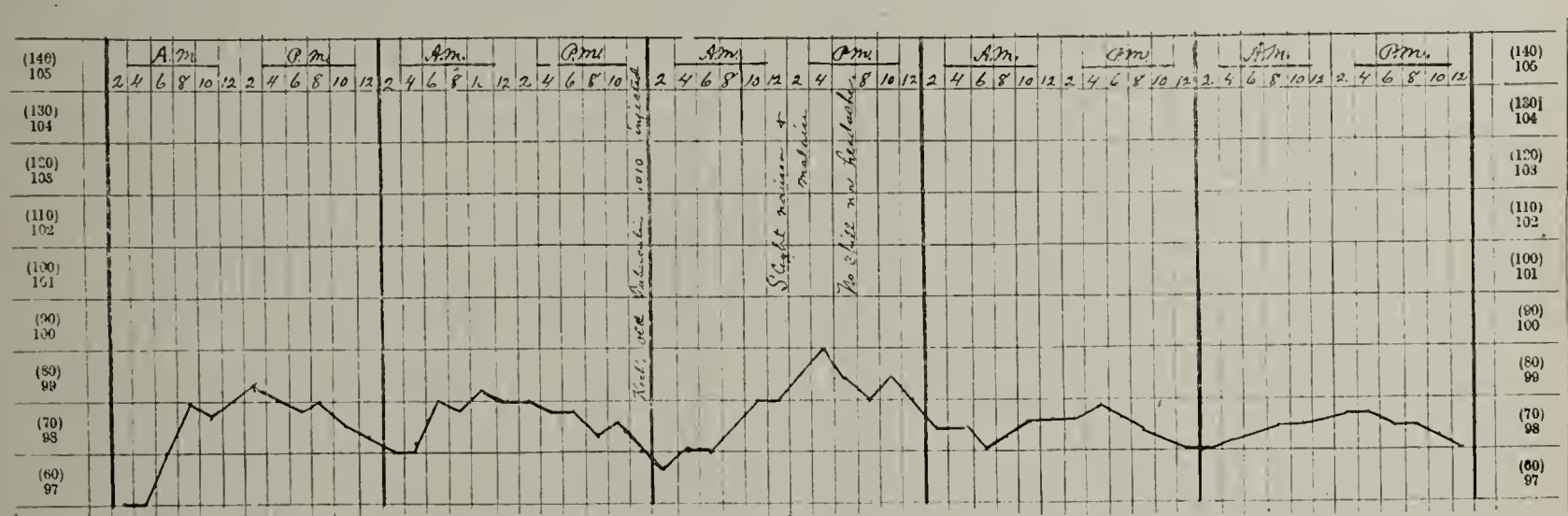
The principal objection urged against tuberculin is its supposed possibilities for doing harm. It is no doubt true that the enormous doses given in the first years of



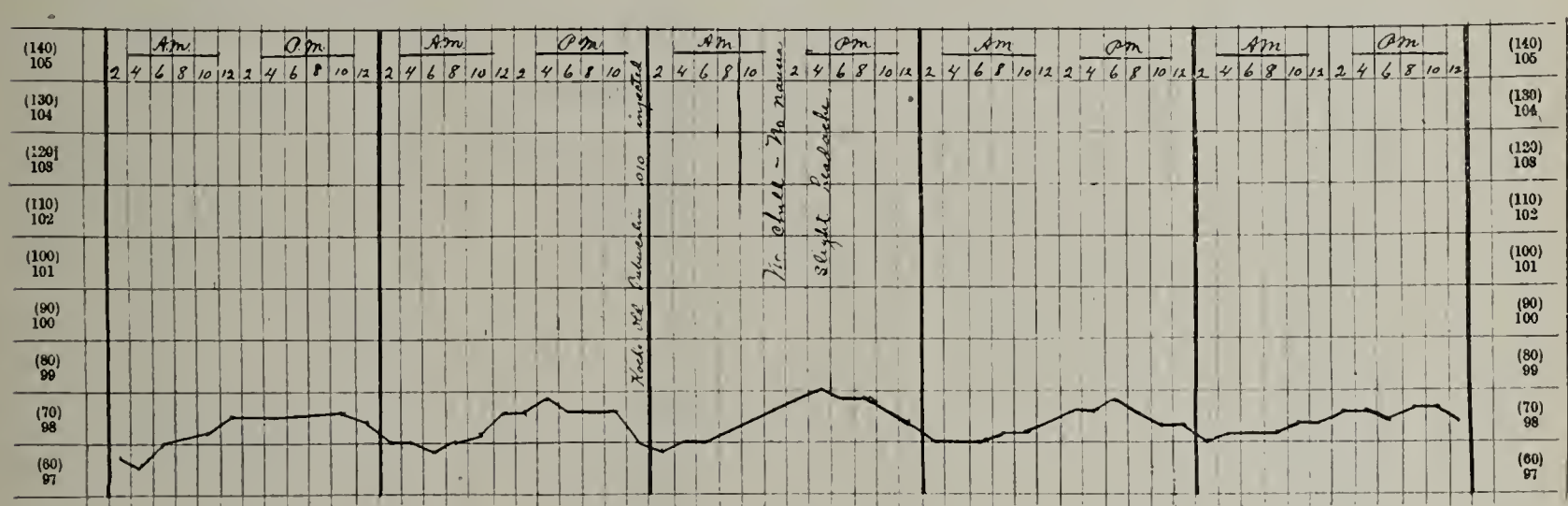
April 4, 1900.—Typical tuberculin reaction in a patient supposed to have incipient pulmonary tuberculosis—lung examination negative and no T. B.'s in sputum.

May 2, 1900.—T. B.'s found in sputum.

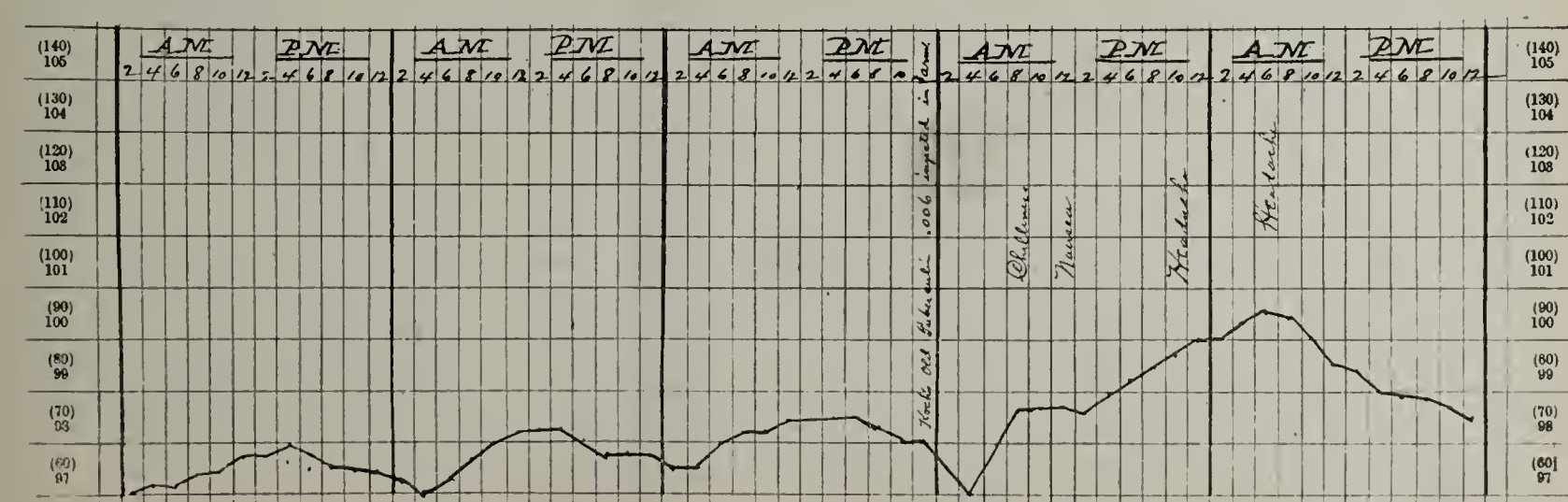
Dec. 1, 1901.—Chronic tuberculous broncho-pneumonia of right upper lobe and left apex.



Slight disturbance but no diagnostic reaction in case of resolving pneumonia.



Showing absence of tuberculin reaction in case of bronchiectasis with distinct cavity formation.



Delayed but distinct tuberculin reaction in the case of fibroid phthisis, showing no T. B.'s in sputum.

Case number.	Date injected.	Amount injected	Name.	Temperature rise. Degrees.	Hours from injection to height of reaction.	Chilliness.	Headache.	Nausea or vomiting.	Described reaction.	Diagnosis.	Re-examinations.	
926	11, 30, '99	.010	H. A.	0					No.	Emphysema	12, 1, '01.	Not tuberculous.
936	12, 7, '99	.010	A. G.	0					"	"	1, 1, '01.	" "
528	6, 29, '99	.010	C. J.	0.4	8				"	Nephritis	6, 29, '99.	Died. Nephritis.
572	6, 30, '00	.010	C. C. G.	0 5	6				"	Bronchitis	1, 3, '01.	Recovered.
716	8, 26, '00	.010	E. S.	0.					"	Endocarditis	11, 30, '00.	Postmortem; not tuberculo's.
146	1, 7, '99	.005	S. B.	1.	6		1	1	"	Bronchitis	4, 4, '99.	Recovered
1564	12, 8, '00	.010	J. McD.	0.			1		"	"	12, 1, '01.	Not tuberculous.
2202	3, 14, '99	.010	J. McK.	4.2	12	1	1		*Yes*	Syphilis	12, 1, '01.	" "
252	3, 14, '99	.008	T. D.	0.					No.	Bronchiectasis	4, 15, '99.	Bronchiectasis.
619	12, 7, '99	.010	J. A.	1.	48				"	Abscess, lung.		Postmortem; abscess, lung.
802	10, 24, '99	.010	C. L.	0.					"	Bronchitis	4, 15, '01.	Recovered.
1185	6, 4, '99	010	S. A.	0 6	36				"	Bronchiectasis	6. 30, '01.	Not tuberculous.
1093	2, 6, '00	.010	J. M.	1	24				"	Pneumonia	3, 26, '00.	Recovered.
1815	2, 26, '00	.010	A. O.	0.					"	Emphysema	12, 1, '00.	Not tuberculous.
984	2, 12, '00	.010	C. N.	0.					"	Bronchiectasis.	6, 23, '01.	" "
978	2, 7, '00	010	J. McD.	1.	18				"	Bronchitis	12, 10, '01.	" "
497	8, 26, '99	.010	M. H.	8.	30	1	1	1	*Yes*	Hysteria	12, 1, '01.	" "
981	1, 2. '00	.008	W. A. S.	1.	12				No.	Bronchitis	12, 9, '01.	" "
957	12, 16, '99	.010	H. M.	0					"	"	8, 7, '00.	Recovered.
695	8, 26, '99	.010	M. R.	0					"	Bronchiectasis.	12, 1, '01.	Not tuberculous.
1119	2, 12, '00	010	F. W. R.	4.	18	1	1		Yes	Phthisis	3, 1, '00.	T. B.'s found.
842	10, 24, '99	010	A. B.	3 3	20		1	1	"	"	12, 1, '01.	T B.'s found in sputum.
909	6, 5, '00	.010	M. W.	4.	10	1	1	1	"	"	7, 6, '01.	Died; hemoptysis.
1275	6, 14, '00	.008	T. W.	2.	8	1	1		"	"	8, 6, '00.	Died; phthisis.
943	12, 16, '99	.008	J. C.	2.5	16	1	1	1	"	"	7, 4, '00	" "
1238	6, 8, '00	008	J C.	4.	24	1	1	1	"	"	2, 17, '00.	Left upper.
1244	6, 5, '00	.010	E. R.	0.					No.	Subphrenic abscess	11, 27, '00.	Postmortem; not tuberculo's.
1288	6, 14, '00	.008	E. W. H.	1.	24				"	Pneumonia	7, 14, '00.	Recovered.
110	1, 7, '99	005	M. B.	0.					"	Bronchitis	4, 24, '99.	"
1280	6, 9, '00	.010	J. B.	1.	30				"	"	11, 15, '01.	Not tuberculous.
1422	9, 17, '00	010	A. D.	0.5	12				"	Neuritis	10, 20, '00.	Recovered
1454	10, 8, '00	.010	E. B.	5.2	18	1	1	1	*Yes*	Dementia	12, 1, '01.	Not tuberculous
1223	6, 8, '00	008	J B.	0.8	20				No.	Syphilis	6, 12, '00.	Secondary eruption.
1143	4, 1, '00	.010	T. R.	"					"	Pneumonia	5, 15, '00.	Recovered.
854	10, 24, '99	.010	A. O.	0					"	Dementia	5, 15, '00.	Not tuberculous.
602	10, 26, '99	.008	T. M	2.	6				"	Syphilitic joint	7, 5, '01.	Recovered under iodids.
1042	2, 28, '00	.010	J. L.	1.	18		1	1	"	Bronchitis	3, 1, '01.	Not tuberculous.
939	4, 1, '99	.007	A. H.	1	20		1		"	"	5, 8, '00.	Recovered.
1600	12, 29, 00	010	J. A.	0.					"	"	4, 29, '01.	"
1414	9, 15, '00	007	A. M.	0.		?			*No*	Dissolution	9, 19, '00.	Postmortem: phthisis.
1403	9, 17, '00	.010	J. P.	0.					No.	Neoplasm.		Postmort.; sarcoma of liver.
1704	3, 13, '01	010	C. J.	2.	36	1	1		Yes	Phthisis	12. 1, '01.	Fibroid; left, upper.
1572	12, 29, '00	.010	D. L. M.	1.4	24				No.	Bronchitis	3, 27, '01.	Recovered.
867	2, 25. '00	.008	C. L.	4.5	18	1	1	1	Yes	Phthisis	12, 2, '01.	T B.'s in sputum.
431	2, 25, '00	.010	J. D.	1.4	24				No.	Cirrhosis of liver	8, 9, '00.	Postmortem; not tubercu
1294	7, 13. '00	008	M. W.	3.	8	1	1	1	Yes	Phthisis	8, 21, '00.	Died; phthisis.
1450	9, 26, '00	010	E. D.	2.5	16	1	1	1	"	"	3, 26, '01.	T. B.'s in sputum.
1435	9. 18, '00	.010	W. G	2.	16	1	1	1	"	"		T. B.'s found.
1298	10, 16, '00	.010	L. W. H.	3.	22	1	1	1	"	"	10, 27, '00.	" "
1385	11, 27, '00	.008	J N.	3.	16	1	1	1	"	"	2, 17, '01.	Died; phthisis.
96	1, 7, '99	.010	T. C.	0.					No.	Bronchiectasis	2, 12, '01.	Not tuberculous.
1356	12, 31, '98	.008	S. D.	5.	10	1	1	1	Yes	Phthisis	9. 30, '00.	Died. phthisis.
456	12, 31, '98	008	W. D.	6.	10	1	1	1	"	"	4, 15, '00.	" "
29	1. 7, '99	.010	L. F. D.	0.					No.	Bronchiectasis	12, 1, '01.	Not tuberculous.
13	12, 31, '98	008	G. E.	6.	8	1	1	1	Yes	Phthisis		T. B.'s found.
5	12, 31, '98	008	O. E.	5.	10	1	1	1	"	"		" "
91	12, 31, '98	.010	W. M.	0					No.	Mitral regurgitation	12, 3, '99.	Mitral regurgitation.
1288	6, 18, '00	.010	C. W. H.	4.	24	1	1		*Yes*	Syphilis	9, 15, '00.	Recovered on iodids.
114	3, 14, '99	.008	F. F.	0.5	8		1	1	No.	Bronchitis	12, 1, '01.	Not tuberculous.
151	3, 12, '99	.008	O. K.	0.					"	Empyema		Rib resection: recovery.
1055	3, 14. '99	.010	G F.	0 5	12				"	Bronchitis	3, 14, '00.	Not tuberculous.
349	4, 30, '99	.010	J. Mc.	3 5	18		1	1	Yes	Phthisis	10, 1, '01.	T. B.'s found in sputum.
712	12, 7, '99	.010	C. P.	2 5	18		1	1	"	"		Died; phthisis.
949	12, 7, '99	.010	T. D.	4.	20	1	1	1	"	"	5, 1, '00.	T. B.'s in sputum.
261	10, 11, '99	.010	W. F.	5.	18	1		1	"	"	3. 18, '00.	Died; phthisis.
762	1, 6, '99	.005	S. N.	3.	16		1	1	"	"	8, 23, '99.	" "
911	12, 4, '99	.010	H. W.	4.	16	1	1	1	"	"	1, 18, '00.	Right upper lobe.
930	11, 30, '99	.010	P. K.	4.	18	1	1	1	"	"	4, 10, '00.	" " "
488	6, 26, '99	.010	M. M.	5.	14	1	1	1	"	"	2, 13, '99.	Extensive phthisis.
878	11, 13, '99	.010	J. O'M.	4.	18	1	1		*Yes*	Syphilis	2. 13, '00.	Not tuberculous.
417	4, 1, '99	.010	M. C.	2.	16		1	1	Yes	Phthisis	1, 1, '00.	Evident phthisis.
338	4, 1, '99	.005	M. P.	2.	16		1	1	"	"	8, 8, '99.	Died; phthisis.
1600	11, 11, '99	.010	J. A.	0.5	4				No.	Bronchitis	4, 29, '01.	Not tuberculous.
831	10, 26, '99	.008	D. O'N.	0.					"	Acute pleurisy	5, 2. '00.	Recovered.
924	11, 30. '00	.010	J. S.	1.2	16		1		"	Bronchitis	7, 5, '01.	Not tuberculous.
1629	12, 5. '00	.010	W. G., 2.	5.	15	1		1	Yes	Phthisis.	5, 6. '01.	T. B.'s found.
1545	12, 18, '01	.010	W. G., 1.	0.			1	1.	No.	Bronchitis	3, 11, '01.	Recovered.
1742	2, 21, '01	.010	J. K.	5.	12	1	1		Yes	Pleurisy	5, 17, '01.	Tubercular empyema.
1749	4, 12, '01	.010	T W.	2.	18	1		1	"	Phthisis	5, 1, '01.	T. B.'s found.
	11, 25, '01	.005	M. D.	2.6	24	1	1		"	Tubercular		Tubercular knee and ankle.
1668	2, 21, '01	.008	J. M. I.	6.	10	1	1	1	"	Phthisis	3, 13, '01.	T B.'s found.
1700	2. 22. '01	.010	A. B.	5.	16	1	1	1	"	No signs	2, 28, '01.	Left apex.
1446	9, 26, '00	.010	A. F.	1.6	28		1	1	No.	Typhoid	11, 1, '00.	Recovered.
1439	9, 20, '00	.010	J. C.	0.					"	Hospitalism	12, 1, '01.	Not tuberculous.
1542	11. 27, '00	008	M. F.	0.					"	Enteritis	12, 28, '00.	Recovered.
1537	12, 5, '00	.010	W. B.	0.					"	Emphysema	12. 5. '01.	Not tuberculous
1569	10, 8, '00	.010	J. R.	1 6	21		1		"	Bronchitis	12, 8, '01.	" "
1688	2, 22, '01	.008	E. K.	0.					"	Pneumonia	3, 22, '01.	Recovered.
1702	2, 22, '01	.010	C. F.	1.	16				"	"	3, 15, '01.	"
1708	2 22, '01	.010	J. A.	0.					"	Acute bronchitis	3, 1, '01.	"
1641	1, 26. '01	.008	J. B.	3.	20		1	1	Yes	Phthisis.	2, 26, '01.	Right upper lobe.
1721	3. 15, '01	.006	R. M.	1 8	24		1		No.	Bronchiectasis	12. 1, '01.	Not tuberculous.
	6, 1, '99	.010	I T.	0.					"	Fistula	12, 1, '01.	" "
1611	1, 23. '01	.010	J. S.	0.					"	Bronchitis	5, 5, '01.	Recovered.
1729	3, 13, '01	.008	J. W.	1.	24				"	Acute adenitis	4. 15, '01.	"
1785	4, 12, '01	.010	D. W.	1 6	16				"	Abscess	6, 1, '01.	Postmortem; lung abscess.
1445	9, 26, '00	.010	J. P.	0.5	4				"	Pneumonia	10, 27, '00.	Recovered.
844	11, 11, '99	010	J. S.	1.4	20				"	Tumor.	Postmortem; mediastinal tumor.	
60	3, 15, '99	010	C. B.	1.2	28	1	1		"	Bronchitis	1?. 1. '01.	Not tuberculous.
2164	12, 2, '01	.008	P. K.	2 2	10	1		1	Yes	Phthisis	12, 10, '01.	T. B.'s in sputum.

Number of cases injected, 100; number of false reactions, 6; percentage of error, 6 per cent.

its use as a remedy sometimes did injury. Mention is made by Muir and Ritchie of the injection of 25 c.c., which is 1600 times the dose necessary for the diagnostic reaction. With such huge doses it is quite possible harm may have resulted.

In approximately 250 cases, some of these receiving as much as .015, I have watched carefully for any unfavorable effect in the course of the disease. In not a single instance did the diagnostic dose either accelerate an active process or light up a quiescent one.

Also in cases complicated with nephritis, cirrhosis of the liver, endocarditis, typhoid fever and pneumonia no harmful effect could be detected. In tubercular meningitis however (and this is the only exception), it is quite probable that the local reaction might do serious damage by increasing the intracranial pressure.

Objections to tuberculin on the grounds of unreliability can not however be answered so readily. Tuberculin is like the stethoscope—it gives the evidence but the verdict must be decided by the diagnostician.

Appended to this paper is a table of 100 cases in which tuberculin has been given for diagnostic purposes. All cases have been under observation for a year or more after the injection or else the case has earlier taken such a course that the findings based on the tuberculin injection could be either confirmed or disproven. From a study of this list of cases I have formulated for my own use the following requirements for the diagnostic reaction:

1. The rise in temperature must amount to at least 2 degrees.

2. It must reach its height between 6 and 24 hours after the injection, except in fibroid cases, where it may be delayed to 36 hours.

3. It must be accompanied by at least two of the following symptoms: chilliness, headache, nausea, and muscular pains.

When the list is examined it is found that 41 cases gave a reaction meeting these requirements. Of the 41 cases 36 were subsequently proven to be undoubted cases of tuberculosis; 3 were syphilitic, and 2 were profoundly neurotic.

In something less than 50 per cent. of cases syphilis gives a reaction which can hardly be distinguished from that of tuberculosis. However, this seems to be the case only when syphilis is still active enough to give manifest signs—one case by Dr. Otis, of Boston, to the contrary notwithstanding. Consequently, in any case showing a reaction, active syphilis should be excluded before it is decided that the case is tuberculous.

In the neurotic cases the symptoms were wildly exaggerated, in one case the temperature reaching 108. The other case reacted later with almost equal intensity to a hypodermic injection of sterile distilled water. In these cases the reaction had no diagnostic dignity.

It is said that a reaction sometimes follows the injection of tuberculin in cases of leprosy, actinomycosis and a few other diseases, but these occur so infrequently in this country that they seldom enter into the problem.

Of the 100 cases 59 failed to show a reaction that would meet the above mentioned requirements; of these only one subsequently showed evidence of tuberculosis, although all were under observation for from one to three years.

In this single case the injection was made only four days prior to death at a time when the bodily powers were unable to react to any irritant.

This list is short; the number is small, but since every case was followed until it made manifest its tuberculous or non-tuberculous nature it gives us some idea of the reliability of tuberculin and the essential symptoms of the true diagnostic reaction.

Unless the process is undergoing fibrosis the reaction must reach its height in the first 24 hours after injection, most typically at the 18th hour.

CHART I.

Slight rise of temperature is inconclusive; 33 of the 58 non-tuberculous cases showed some elevation following the injection, but only in the 3 syphilities and 2 neurotics did the rise amount to 2 degrees.

CHART II.

The rise in temperature in tuberculous cases depends somewhat on the amount of tuberculin injected. The initial dose should be .005 (M. viii of a 1 per cent. solution). If there is no reaction whatever it is probable that tuberculosis is not present. If no symptoms have been produced by this small dose, it is more satisfactory and perfectly safe to repeat the injection, using .010. If with this dose the characteristic reaction does not occur it may be decided with much certainty that the case is not tuberculous.

CHART III.

If, however, .005 produces some disturbance, yet less than the characteristic reaction, the dose should be increased by .0025 each third day until .010 is reached or the characteristic reaction produced.

These doses, while somewhat larger than usually recommended, are absolutely safe and will not influence unfavorably the course of the disease. On the other hand the result will be more definite and therefore more valuable than if small doses only are used.

The amounts given above are for Koch's original tuberculin made in Germany; with the Pasteur Vaccine Co.'s tuberculin I have had to use slightly larger doses to obtain the same definite results. Veterinary tuberculin I have not found reliable for human use.

The technic of the injection is as simple as the administration of a hypodermic of morphin or strychnin. A one, two or three per cent. solution may be used, or a solution of the following formula: Koch's old tuberculin made in Germany, m. i, distilled water recently boiled, ʒi, 5 per cent. carbolic solution, m. v of this solution m.i = .001 of tuberculin. Before the injection the temperature is to be taken every four hours for at least two days and the temperature during the reaction is to be compared, not with the normal but with the temperature at the corresponding hours on the days preceding the injection. Patient's mode of life, his diet and exercise must not be changed during the days of the test in any way that might influence the temperature.

Tuberculin has its peculiar value in the fact that it is the complement of the microscopic examination. A positive sputum examination establishes a diagnosis of tuberculosis; a negative tuberculin examination, provided a dose of .010 is used, practically excludes tuberculosis.

It can not be denied that patients are more or less uncomfortable for a few hours during the height of the reaction. Headache is the symptom most complained of and it should be relieved by a moderate dose of the bromids, as the coal-tar products interfere with the temperature curve. Chilliness, nausea, muscular pains and sweating occur in various combinations. Seldom are they all present and no symptom except the headache is ever severe. The day after the reaction the patient feels quite as well as usual.

A very circumscribed induration and redness of the skin, very closely resembling erysipelas, will usually surround the site of injection for a few days. This occurs in tuberculous and non-tuberculous cases alike. Abscess formation can always be avoided except in syphilitic subjects, where it is very prone to occur.

The so-called "local reaction" at the site of the tuberculous lesion may be very slight; in fact, even where the general reaction is distinct the local reaction often can not be detected either in affected lungs or joints. In lupus the local reaction is usually distinct.

That tuberculin might sometimes be used to advantage in recognizing advanced, as well as early cases, of pulmonary tuberculosis, is shown by the fact that of the 2240 cases sent to the Cook County Hospital for Consumptives 239, or over 10 per cent., were not tuberculous; 263 showed no tubercle bacilli in the sputum. Of these 24 were proven by the aid of tuberculin to be cases of tuberculosis.

Also in excluding the 239 non-tuberculous cases tuberculin was often of service; for with the microscope and the stethoscope alone it is manifestly much easier to confirm than to disprove a diagnosis of phthisis.

CONCLUSIONS.

Tuberculin in doses of .005 carefully increased, when necessary, to .010, produced no bad effects in simple or complicated tuberculous or non-tuberculous cases.

The characteristic tuberculin reaction is shown by a rise of at least 2 degrees in temperature, reaching its height in from 6 to 36 hours after the injection, typically at the 18th hour, and accompanied by at least two of the following symptoms: chilliness, headache, nausea and muscular pains.

The tuberculin test ranks in value with the Widal typhoid test since in the former the technic is simpler; the materials are more readily obtainable and more permanent; the danger is no greater and the information obtained is scarcely less reliable.

THE PARAFFIN INJECTION TREATMENT OF GERSUNY, WITH A REPORT OF CASES.

RUPERT M. PARKER, M.D.
CHICAGO.

About two years ago a young man, who had undergone a double castration, presented himself to Gersuny[1] with the complaint that, being obliged to go before the military medical board of Austria for examination, it would be humiliating to display his defect.

Gersuny, having incidentally observed, in connection with certain therapeutic measures, that paraffin of a low melting point, when injected into the tissues of the body, remained indefinitely without reaction, conceived the idea of substituting paraffin prothesis for the absent members. He injected various quantities of paraffin at different times, and accomplished the desired result, which he reported shortly afterwards, together with the details of his technique.

The success of his first trial encouraged Gersuny to make other applications of his treatment. The second patient,[2] a woman, suffered from absolute incontinence of the urine, which had resisted repeated operations for its relief. The urethra was widely dilated and its mucous membrane was prolapsed. Paraffin was injected under the prolapsed mucous membrane and the latter pushed into the bladder so that the deposits of the wax came to rest within the internal meatus. Then a ring of paraffin was injected beneath the skin around the external meatus, to prevent a recurrence of the prolapse. After injections of various quantities of paraffin at different times, Gersuny finally succeeded in producing complete continence, and at the last report from the patient, one year after the final treatment, urine could be retained from eight to ten hours at a time.

Since the publication of these two cases, other surgeons, as well as Gersuny, have employed the treatment in various pathological conditions. In a case of urinary incontinence in a female, Kapsammer[3] injected the paraffin below the urethra, which was thus crowded upward and arched over the prothesis, a condition resembling that of the hypertrophied prostate in the male. Pfannenstiel[4] reported an unsuccessful attempt in treating a case of bladder insufficiency almost identical with that of Gersuny. He used the same method but deviated somewhat from the original technique and observed the typical symptoms of a lung embolus as a complication, which will be considered later. Halban[5] and Moszkowicz[6] have reported cases of cystocele, prolapse of the vagina and prolapsus uteri with retroversion successfully treated by the injection of paraffin into the vaginal walls and the parametrium. It is self-evident that such an application is permissible only when future pregnancy can with all probability be excluded and when the radical operation must be avoided.

Gratifying results were obtained from the injections for the relief of incontinence of the feces[6] following an amputation of the rectum for carcinoma and after operations for peri-rectal abscess and fistula in ano.[6] Complete continence was secured in the two latter cases, and continence, except for fluid stools, in the former. Three months after the final treatments the good results were still present. Hard feces were passed with difficulty, making it necessary to use enemata and avoid constipation. Paraffin injections have been used to some extent in the treatment of inguinal hernia. Moszkowicz[6] reported two cases of large scrotal hernia which had repeatedly become incarcerated in spite of attempts at mechanical support. The inguinal canal was narrowed from a diameter admitting four fingers to that admitting one, by injections of paraffin into the surrounding tissue. The contents of the sac could then be satisfactorily retained by means of a truss. Seven months after the treatment of one case and ten months in the other the improved conditions were unaltered. Experience has taught in these cases, however, that the paraffin in the loose tissue about the inguinal canal is liable to become displaced and sink into the scrotum unless sufficient time is allowed for its encapsulation before the truss is applied. Gersuny does not consider his method a substitute for the radical operation in the treatment of hernia, but an alternative when the latter is contraindicated.

Among numerous other applications the injection of paraffin about the ends of a resected nerve[6] has been found useful in preventing their reunion. The introduction of paraffin between the surfaces of a joint after the breaking of an old ankylosis has been suggested to prevent a recurrence of the adhesion. A substance like paraffin which can be easily removed after the joint surfaces have healed is much more suitable than the firmer materials, such as celluloid, silver, tin and rubber, employed by Cklumsky. However, the practical application of paraffin to this purpose has not been sufficient to establish its utility.

Gersuny has found a limited use of his treatment in oral surgery. A small opening between the nose and the

mouth, left after a staphylorrhapy,[6] was closed by injections of paraffin. In another case following staphylorraphy,[6] the velum was too short to be approximated to the posterior pharyngeal wall, so that hard "g" could not be pronounced. Injections under the mucous membrane of the posterior pharyngeal wall and of the uvula caused the former to bulge forward and the latter to elongate sufficiently to overcome the defect.

Most satisfactory and startling results of the treatment are seen in the correction of unsightly deformities following cicatricial contractions resulting from wounds and loss of tissue through disease and operative measures. The resection of the superior maxilla in one patient and of several ribs in another[6] was responsible for two disfigurements corrected by Gersuny. In the latter case the depression was so great that an injection of over two ounces of paraffin was required to fill out the chest to symmetrical proportions. This is the largest amount of paraffin ever injected into the human body. As most suitable for the purpose of filling out smallpox pits and other cicatricial retractions, Gersuny[6] recommends a mixture of four parts of olive oil to one of paraffin. To

overcome the defect it is usually necessary to make the depressed area bulge. The oil is absorbed and the surface becomes even. Where the scars are firmly bound to the underlying tissue by adhesions, it is necessary to separate them by means of the bistoury. Moszkowiez[6] and Rohmer[7] have reported the injection of paraffin into the retro-orbital tissue, thereby supplying a deficient support for an artificial eye. In the correction of the saddle nose which has resulted from either trauma or osteomyelitis highly satisfactory results are reported by Moszkowiez,[6] Stein[8] and Heath.[9] The writer also has employed the treatment in the correction of two cases of saddle nose, a report of which follows with a description of the technique used.

The paraffin should have a melting-point slightly above the normal temperature of the body, i. e., between 99 and 104. If it is below the body temperature it will soon be carried away by the lymphatics and if the paraffin is too hard it may cause necrosis, as in the case treated by Foederel. There is no paraffin on the market with the proper melting-point, so far as I can learn. The ordinary lump paraffin is much too hard and the paraffin known as white or medicinal vaseline is too soft. These two products may be melted together in proportions to secure the desired consistency, or the liquid vaseline and the lump paraffin may be mixed. The ordinary soft paraffin in lumps and oleum petrolati were used in the treatment of my cases. The melting-point of the mixture was tested with the clinical thermometer. The bulb was smeared with a thin coating of the wax and immersed in a water bath, which was gradually heated until the melting-point was reached, when the wax loosened itself and floated to the surface as a globule of oil, and the thermometer indicated the temperature. My finished product had a melting-point of about 102 F., and its consistency was that of vaseline. It was sterilized, as Gersuny[1] recommended, by heating it at its boiling-point for a few moments. This process is reasonably certain to kill all pathogenic germs, as the boiling-point of the paraffin is much above that of water.

For the purpose of injection an ordinary hypodermic syringe with a large needle might have been used, but as the paraffin hardens and destroys the leather valves and loosens the cement in the joints around the glass barrels, a syringe constructed entirely of steel was found more serviceable. The syringe was aspirated full of the melted paraffin, inverted, and the piston pressed upward sufficiently to expel any bubble of air present in the cylinder. The needle was then screwed firmly on its attachment and, to prevent its contents from hardening too rapidly, the instrument was placed in hot water until needed. Just before inserting the needle for injection, the syringe and its contents were tested by strong, steady pressure on the piston. If the needle had become clogged, the obstruction was removed by a strand of fine wire. The paraffin was allowed to cool sufficiently to flow from the needle, not as a liquid, but as a worm-like, semi-solid, coherent string. The patient, as a rule, required no preparation beyond the usual antiseptic precautions. When the tissue to be injected was very dense and inelastic, the injection of paraffin was preceded by one of Schleich's solution, which served to anesthetize the region and at the same time dilate the lymph spaces in anticipation of the paraffin. The needle was always

introduced at some distance from the seat selected for the prothesis and then carried under the skin to the desired point. If the needle were inserted through the skin directly over the prothesis, more or less paraffin would escape through the tract of the needle after its withdrawal. The paraffin was distributed as desired by changing the position of the needle-point while an assistant molded the prothesis with the fingers as it was deposited in the tissue. The skill required in the injection and distribution of the paraffin was previously acquired by a few experiments on animals.

CASE 1.—This was a patient of Dr. E. B. Fowler, to whose courtesy I am indebted for the opportunity of presenting this case. Wm. T., aged 25, received a traumatic injury of the bridge of the nose eleven years ago. The deformity which resulted is shown in photograph No. 1, taken immediately before the first injection. On Dec. 6, 1901, 2.5 c.c. of paraffin were injected by Dr. Fowler and the writer. The point of the needle was inserted under the skin on the dorsum of the nose, slightly below the level of the eyebrows, and pushed as far downward as it was desired to begin the prothesis. The result of the first injection is shown in photograph No. 2, taken immediately afterwards.

The pain experienced was inconsiderable; no anesthetic was required in this or subsequent treatments. The reaction was at its height two days later and consisted in a feeling of tension in the skin of the nose, slight frontal headache, some erythema and a moderate amount of edema of the nose, spreading somewhat upon the face. December 15 the reaction had so far subsided that a second injection was permitted. With the needle inserted at the tip of the nose, .5 c.c. was injected. The reaction was less than by the first treatment.

The patient presented himself again on Jan. 5, 1902. Although the curve of the bridge was uniform, he was not yet satisfied, as the nose was very broad at the base, and out of proportion to its height. Another injection of .5 c.c. was given. The prothesis has gradually increased in hardness until now it has the consistency of a cartilage.

CASE 2.—Mrs. C. presented a deformity of the nose, shown in photograph No. 4, as the result of an ulceration nine years ago, which destroyed the whole cartilaginous septum and the cartilages of the alæ. An injection of 1 c.c. of paraffin on December 8 corrected the saddling completely, but the collapsed condition of the alæ remained unimproved after repeated injections, owing to their lack of support. The reaction following the injections in this case was very slight. Infiltration of Schleich's solution preceded the paraffin injections into the alæ, on account of their dense, inelastic tissue. The results of the treatment in both cases were most gratifying to the patients and their friends.

Several objections have been raised to the injection treatment of Gersuny. Meyer[10] holds that the paraffin is more or less toxic and his contention is corroborated to an extent by the experimental work of Straume,[11] Dunbar,[12] Stubenrath[13] and Sobieranski.[14]

On the other hand, Stein[8] injected liquid vaseline under the integument on the backs of white mice, in quantities equal to one-third their body weights. No rise of temperature or other constitutional disturbance followed. Only one mouse died and that from mechanical injuries. Whether the constitutional disturbances observed by the other investigators, above mentioned, resulted from mechanical injuries in the administration of large quantities of the coal-tar oils, or whether the injury was of a toxic nature, matters little so far as the Gersuny treatment is concerned. The amount of paraffin is relatively so small and its absorption, if it occurs

at all, is so slow that toxemia from the paraffin injected for surgical purposes is not to be feared.

Meyers[10] also objects that the paraffin used by Gersuny will be eliminated from the body by absorption. To prove this he carried out a series of experiments on animals, but admits that his results were not conclusive. Juckuff[15] found that non-watery fluids like liquid vaseline, when injected into the bodies of animals, are not directly taken up by the lymph vessels, but undergo a fine subdivision by the ingrowth of connective tissue and are finally converted into emulsions, the small globules of which are held in the meshes of the connective tissue and finally carried away by the lymphatics. In the margins of an old paraffin prothesis the same histological process was seen by Gersuny. No case has been observed long enough to decide whether the paraffin finally undergoes absorption or not. In Gersuny's oldest case[6] no diminution in the size of the prothesis could be detected after two years. From this we know that if elimination of the paraffin does occur it is a very slow process. The objection from Werthmuth, that

paraffin injected into the pelvic tissue may become displaced by coitus and obstruct the ureters by pressure, is more theoretical than practical. At least no such accident could occur after the prothesis has had two or three weeks' time to become fixed by encapsulation.

Another and a more credible objection to the treatment is the danger of lung embolism if the paraffin is injected directly into a vein. In Pfannenstiel's complication of lung embolus following the injection of 30 c.c. of paraffin, the case ran a mild course with recovery. Friends of the treatment blame Pfannenstiel's technique for the accident, inasmuch as he used paraffin with a melting-point of 113. They claim that in order to inject 30 c.c. of such paraffin at one injection, a much higher temperature would be required to prevent hardening before the process could be completed, and that the degree of heat may have caused coagulation in a vein, hence the embolus. The experience of the dermatologists with the injections of mercury suspended in liquid paraffin and other allied oils is instructive as to the dangers of embolus in the paraffin injections. Harttung[16] saw only one case in 8000 intermuscular injections, and Möller observed 28 in 3835 cases. He then changed from inter-muscular to subcutaneous injections, and found no embolus in 240 injections. Neisser[18] had one among 800, and Epstein only 7 among 8292 subcutaneous injections. The majority of the cases of emboli following intermuscular and subcutaneous injections of oils are very mild, with transitory symptoms and I know of no fatal case ever reported. When a semi-solid paraffin is injected, it is reasonable to expect fewer emboli than have occurred with injections of oil.

From the results of the paraffin injection method of Gersuny already obtained, I think it justifiable to claim for the measure a permanent place in the treatment of appropriate cases. Even though future experience proves a slight danger from lung embolism, the treatment will find application in cases which can not be relieved in any other way, and in those in which other measures are far more dangerous or absolutely contra-indicated. It may be that the paraffin is slowly absorbed, but many patients will gladly submit, at long intervals, to so mild a measure for the relief of defects which are social stigmata, when they would shrink from the dangers of a more severe operation.

BIBLIOGRAPHY.

1. Gersuny: "Ueber eine Subcutane Prothese." Zeitschrift für Heilkunde, 1900, vol. i. Pt. 9.
2. Gersuny: "Paraffineinspritzung bei Incontinentia Urinæ." Centralblatt für Gynäkologie, 1900, No. 48.
3. Kapsammer: Wiener Klinische Wochenschrift, 1901, p. 193.
4. Pfannenstiel: "Zur Discussion über die Paraffineinspritzung bei Incontinentia Urinæ nach Gersuny." Centralblatt für Gynäkologie, 1901, No. 2.
5. Halban: Centralblatt für Gynäkologie, 1901, No. 5.
6. Moskowicz: "Ueber Subcutane Injectionen von Unguentum Paraffini." Wiener Klinische Wochenschrift, 1901, No. 25.
7. Rohmer: La Semaine Médicale, 1901, No. 15.
8. Stein: "Ueber die Erzeugung Subkutaner Paraffinprothesen." Deutsche Medicinische Wochenschrift, 1901, Nos. 39 and 40.
9. Heath: "Nasal Deformity Corrected by Gersuny's Paraffin Prothesis." Vol. ii, No. 23.
10. Meyer: "Ueber Subkutane Paraffininjectionen." Münchener Medicinische Wochenschrift, 1901, No. 11.
11. Straume: "Paraffinum Liquidum und Vaseline. See 12.
12: Dunbar: "Ueber Gesundheitsschädlichkeit von Erdölrückständen." Deutsche Medicinische Wochenschrift, 1896, No. 3.
13. Stubenrath: "Beiträge zur Frage der Gesundheitsschädlichkeit von Erdolrüchkständen." Deutsche Medicinische Wochenschrift, 1897, p. 639.
14. Sobieranski: "Ueber die Resorption des Vaselins von der Haut und seine Schickale im Organismus." Archiv für Experimentelle Pathologie, vol. xxxi, p. 329.
15. Juckuff: "Ueber die Verbreitungsart Subcutan brigebrachter mit den Körpedsäften nicht mischbarer Flüssigkeiten im tierischen Organismus." Archiv für experimentelle Pathologie, vol. xxxii, p. 124.
16. Harttung: "Zur Technik der Lungenembolieen bei Hydrargyrumparaffininjektionen." Archiv für Dermatologie und Syphilis, vol. xl, p. 91.
17. Möller: "Ueber Lungenembolie bei Injektion von unlöslichen Quecksilberpräparaten." Archiv für Dermatologie und Syphilis, 1897.
18. Neisser: Archiv für Dermatologie und Syphilis, 1889, p. 336.

A NEW COUPLER FOR RAPID INTESTINAL ANASTOMOSIS.*

EVAN O'NEILL KANE, M.D.

KANE, PA.

The variety of mechanical devices and stitches recommended for intestinal anastomosis is so great as to sufficiently prove all to be inadequate. The loss of one of my patients in whom I placed a Murphy button, on account of a plum skin occluding its small aperture like a valve, brought forcibly to my notice the danger in its employment. The loss of two others, however, in which I subjected them to the shock incident to prolonged exposure of the intestines during suturage with mauling and bruising and needle puncturing common in such cases, made me still unwilling to lay aside Murphy's contrivance.

I began a series of experiments seeking to elaborate some device which would possess the advantages of the Murphy or the Frank button but with an aperture of ample dimensions and admitting of a larger and wider intestinal overlap. I determined, also, to do away with stitching of any kind and to make leakage impossible. After much work and experimentation I believe I have succeeded in producing a coupler that answers every purpose, at least until something better can be devised.

I have as yet employed this latest modification of my coupler upon but one human subject, a boy who unfortunately died three days after operation from a general septic peritonitis (result of a neglected typhlitic abscess and requiring a resection of gut for gangrene), too soon therefore to allow of the complete detachment of the coupler. In this case, however, a firm union by lymph exudate had taken place around the entire circumference while a rarifying necrosis had already commenced in the portion compressed between the flanges. Among the living animals upon which I experimented were two dogs and three cats, all of which made perfect recoveries. They passed their couplers at periods varying from three to five days after the insertion, with the exception of one cat, which disposed of its coupler when out on a ramble, the precise date not being known.

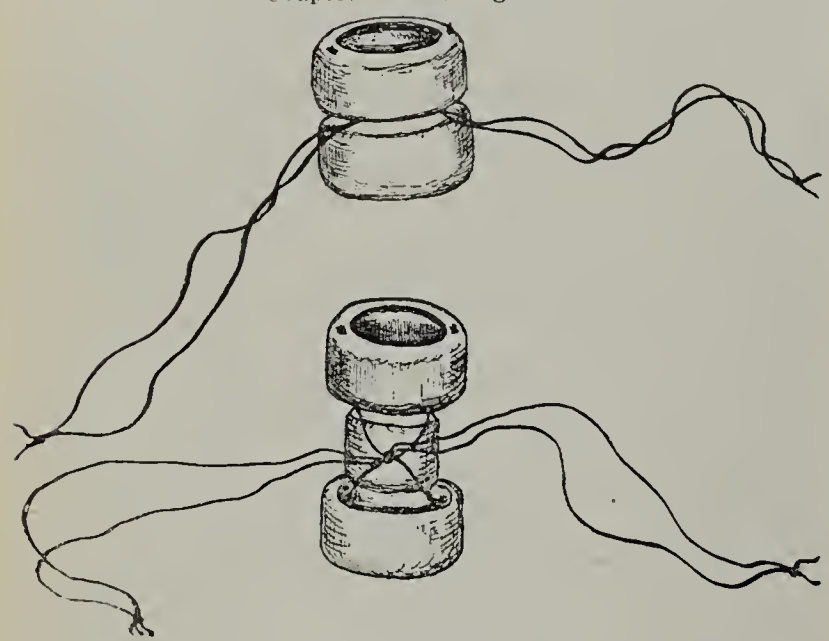
The principles essential to assure success are as follows: 1. Rapidity of execution. 2. A patulous canal with a caliber sufficient to make occlusion impossible. 3. No possibility of leakage. 4. Apposition of serous surfaces around the entire lumen. 5. A sufficient overlap to insure obtaining sound live gut within and about the field of union with active circulation. 6. The least amount of handling during the necessary manipulation. 7. The least number of needle punctures and suturage. 8. Simplicity of construction and application such as will render its employment intelligible and applicable by any novice. 9. It should not be large enough to make it a source of obstruction after it becomes detached.

My coupler consists of three cylinders, two outer and one inner one. The latter has a length equal to that of both the former, which are large enough to slip easily over it, besides allowing a layer of gut to be interposed. The inner cylinder has a depression around each end and a projecting flange. The distal margins of the outer cylinders are incurved to the same caliber as that of the inner one. The proximal margins are also inverted but only to a sufficient degree to enable them to catch upon the flange of the inner cylinder when they are drawn apart. By means of two perforations opposite each other in the incurved distal surfaces of each of the outer

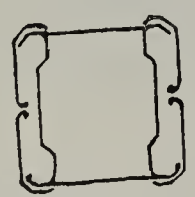
* Read and demonstrated before the McKean County Medical Society, Dec. 12, 1901.

cylinders and others in the flanges at each end of the inner one, extra strong braided linen threads with knots at the ends to prevent their slipping completely through, are passed, brought together across the middle of the inner cylinder and twisted loosely into a half tie. The method of application is as follows: A severed end of gut, the mesenteric attachment of which has been cut or pushed back one or two lines, is seized firmly at four equidistant points by hemostats and drawn over one of the outer cylinders, the coupler having been previously pulled as widely apart as the flanges will permit. Leaving an assistant to hold the intestine drawn thus over the outer cylinder the operator passes a strong silk ligature around the gut immediately behind the beaks of the hemostats and after making two half turns pulls tightly upon it until the encircled gut is firmly buried in the groove around the end of the inner cylinder. A second tie is now made to prevent the thread loosening and with a scissors the ends of the thread are cut short. At the same time the scissors cut off any redundant portions of gut held in the jaws of the hemostats, which are now removed. A similar procedure is next carried out with the other severed portion of gut upon the opposite outer cylinder. Thorough lavage

Coupler drawn together.



Coupler open.

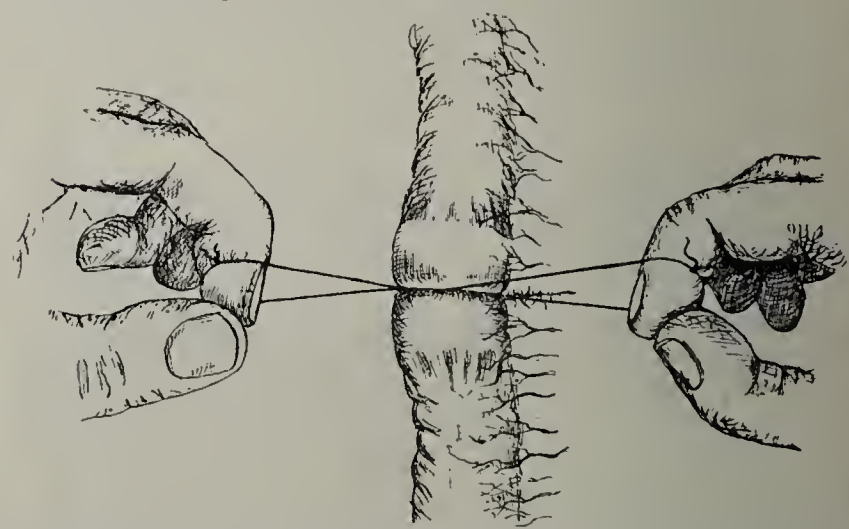


Longitudinal section of coupler.

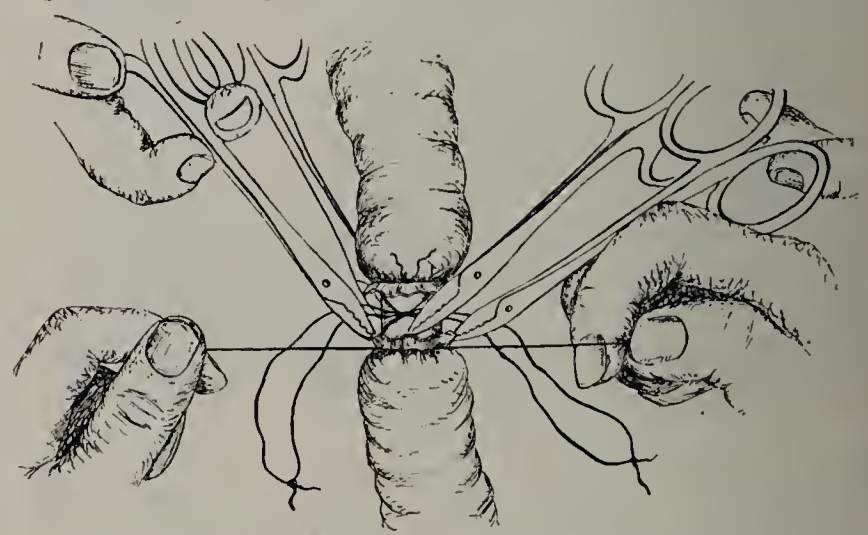
with sterile salt solution is here resorted to before folding under shall take place. Then the operator, passing the index finger of each hand through one of the loops of the approximating ligature of the coupler, pulls firmly upon them with a slightly zigzag motion until the outer cylinders are drawn so snugly together as to bring the intervening margins of the inverted serous intestinal surfaces into an even and accurate apposition around their entire circumference.

In completion a reverse half turn is made in the approximating ligatures, the knot drawn tightly, and the ends cut off short. It will be observed that the knot is hidden deeply between the serous intestinal surfaces and approximated cylinders so that by lightly pressing back the protruding ends of ligature with a scissor blade or other dull-edged instrument, there is no thread left visible at any point.

As with Murphy's and similar devices so with my coupler, the approximated serous surfaces of gut rapidly adhere by lymph exudate, but my coupler does not permit any possible leakage (owing to the ends of gut having been first tied firmly down within the grooves at the extremities of the inner cylinder). It therefore requires no suturing of serous surfaces and produces a more perfect and smooth union. It becomes detached and is passed like other contrivances, but unlike them one need feel no anxiety regarding that occurrence because of its relatively small diameter in proportion to its central opening. While it remains adherent there is less danger of stoppage as the opening is much wider than that in any other mechanical device. My objections to a coupler of decalcified bone are that it is hard to make and can be used only once; it is expensive and it swells after its introduction. I see no necessity for an absorbable contrivance when a metal one is so unlikely to become lodged after detachment.



Drawing the coupler together by pulling upon the approximating ligature after the gut has been tied over.



End of gut being tied down into the groove in one extremity of the coupler, the other end having been already tied.

Instead of traction cords I have tried the employment of notched springs on the same principle as with the Murphy button, but while this makes the work a trifle simpler and more rapid it necessitates firm pressure being made upon the ends of the coupler through the gut thus contusing it. This is a serious objection to the Murphy button and one entirely obviated where apposition by traction is employed as it is both in the Frank button and in my coupler. My coupler made of aluminum is very light, one-fourth or less the weight of a Murphy button of the same size. Lightness is an important advantage where the gut to be united is in a much injured condition.

While to the expert abdominal surgeon union by suturage may seem easy and be accomplished with a reasonable amount of rapidity, it is not so with the occasional operator. For him to attempt their applica-

tion is not only puzzling and tedious but, should the case be one of emergency, his work will be well-nigh impossible. The threads become tangled, knotted, twisted and mixed. The gut gets bruised and pulpified by prolonged manipulation, devitalized and leaky from punctures and cuts of needles while the surgeon himself becomes exhausted and more tangled up than his sutures.

The "average surgeon," or "occasional operator," as the patronizing expert calls him, will find himself far better satisfied with a simple comprehensive and rapidly applicable device than with one of the above mentioned brilliant and complicated intricacies. To him I would respectfully dedicate my coupler.

DIAGNOSIS, PREVENTION AND TREATMENT OF PUERPERAL INFECTION.*

FREDERICK HOLME WIGGIN, M.D.
VISITING GYNECOLOGIST, CITY HOSPITAL.
NEW YORK CITY.

Thomas Kirkland, Ashby, Eng., in 1774 called attention to the fact that the so-called puerperal fever was a contagious disease. This view was later supported by other independent observers, notably, in 1843, by our own Oliver Wendell Holmes by Sir James Young Simpson in 1846, by Semmelweise in 1847 and by Trousseau in 1856. But it needed the teaching and practical results obtained by Lister, based on the previous work of Pasteur and by the demonstration of the latter in 1880 that streptococci are often found in the lochial discharges of puerperal women suffering from fever and other constitutional disturbances, before obstetric surgeons finally recognized it as a fact that these pathologic manifestations were due to the same micro-organisms, whose entrance into wounds in other parts of the body were followed by similar constitutional disturbances, and that when the wounded maternal parts were kept free from these organisms or their products the puerperal woman during her convalescence was free from constitutional disturbances of a febrile nature.

The practical result of the acceptance of these views and the change in technic in obstetric practice which followed in lying-in hospitals resulted in the practical abolition of epidemics with their high mortality rate, of what was formerly known as puerperal fever, till at the present time, when infection of the mother's wounds does occasionally occur, the constitutional symptoms are mild in character, the disease is readily controlled and the mortality rate a fraction of one per cent. Unfortunately, these results have not been achieved by all physicians in private practice and it seems strange that we are obliged to admit that puerperal wound infection in the ordinary daily practice of physicians is of almost as frequent occurrence and is followed by as severe constitutional symptoms and with as high a rate of mortality as it was fifty years ago. Many physicians have been slow to grasp the importance of the principles underlying modern surgical teaching or, while knowing these principles, they have yet failed to apply them to obstetric work and consequently have not profited by them. They are still too often seeking consolation and explanation of the fever and other constitutional symptoms complicating the puerperal convalescence, in the possibility that the disturbance arises from the beginning of lactation or from the specific poisons causing malarial or typhoid fever, instead of attributing those symptoms to their true cause, in almost every instance, wound infection.

Before considering the diagnosis of abnormal puerperal conditions, it is well to recall the fact that when normal conditions prevail during the puerperium, the pulse rate falls soon after delivery and is slower for a time than usual; that the respirations are normal and that there is little or no rise of body temperature; that increase of pulse rate and of body temperature due to emotional causes rapidly subside, and that similar variations due to an overloaded colon disappear as soon as the bowels move. We should be on our guard, therefore, to quickly recognize that infection of some portion of the wounded maternal parts has almost certainly occurred whenever we find that a puerperal woman during the early days of her convalescence has a pulse rate of 90 a minute or higher, accompanied by a temperature of 100.5 or more, especially if these symptoms continue for more than twelve hours. A careful general examination of the patient should at once be made to exclude inflammatory conditions of the breasts and other sources of error; this should be followed by a local examination and it will probably be found that there are some ulcerating wounds on either perineum, vulva, vaginal walls or cervix, which are covered with a dirty yellowish secretion. If the patient does well for several days and then complains of headache and general discomfort, having at the same time a rapidly rising pulse rate, a chill, a marked elevation of body temperature and pains in the lower abdomen, and if on local examination an enlarged, doughy and tender uterus be found, with its cervix patulous and the lochial discharge purulent in character, with less color than usual, it is reasonably certain that the trouble is due to the most common variety of puerperal infection, endometritis caused by the absorption of the products of decomposition, and that on examining the interior of the uterus a retained portion of the membrane will be found; or there will be discovered a roughening of its inner surface at the placental site caused by adherent portions of the placenta. When the trouble is confined to this region, the course of the disease is limited and in a few days the constitutional symptoms will subside and the disorder become chronic; or the entire endometrium may become involved in the process, in which case the condition is more serious, the constitutional symptoms more marked, the lochial discharge having more odor and less color than in the milder forms of the disease. As a rule, the trouble does not extend beyond the endometrium, but when it does, the evidence of its extention are repeated chills, a daily variation of several degrees of temperature, the usual symptoms of pus formation, the rise of temperature continuing until the abscess is opened and evacuated. The peritonitis following this form of the disease is usually circumscribed. A bacteriologic examination of the uterine secretions will probably demonstrate the presence of staphylococci and establish the fact that the disorder is due to their special action.

When the cause of the septic trouble is due to the direct invasion of the tissues by the streptococci the constitutional symptoms are much more severe in character; the very rapid and weak pulse especially attracts attention, while on the other hand the local symptoms are less marked in character; the uterus on examination is found less sensitive to pressure, of proper size; the cervix is closed and the lochial discharge diminished in quantity or absent, or free from both odor and color. Symptoms of general suppurative peritonitis may be the

* Read before the New York County Medical Association, Feb. 17, 1902.

first local sign of the infection to attract attention. The symptoms of this serious complication usually manifest themselves between the second and seventh days of the puerperium and are characterized, in addition to the ones already mentioned, by intense pain which at first is limited to the lower abdomen but which gradually extends upward and is accompanied by tympanites. Septicemia, the most fatal form of wound infection, results from the direct invasion of the tissues by virulent streptococci and the absorption at the same time by the tissues of the toxins of decomposition produced by the presence of staphylococci. Its characteristic sign is the great amount of bodily prostration which accompanies the other constitutional symptoms of wound infection. Pyemia manifests itself by the occurrence, ordinarily in the second week of the convalescence, of recurring chills accompanied by a widely fluctuating temperature and the formation of abscesses in various parts of the body. Broncho-pneumonia is a more or less frequent consequence. Phlegmasia alba dolens manifests itself in the second week of the puerperium by pain along the course of one or other of the femoral veins, usually the left, accompanied by swelling of the limb from above downward. When the infection arises from the invasion of the wounded tissues by gonococci, it may usually be determined by the coincident occurrence of ophthalmia neonatorum. The presence of the Klebs-Loeffler bacilli in the wound may be determined by the appearance of the characteristic membrane on the wounded surfaces combined with the usual constitutional symptoms, and confirmed by a bacteriologic examination of the lochial discharge.

The patient's wounds may also be infected by the bacillus coli communis, the pneumococcus and others. It is important, as soon as we are aware of the fact that our patient's wounds have become contaminated, that a bacteriologic examination when practical be made of the lochial discharge, as the information derived therefrom will aid us in deciding the form of treatment to be carried out. Malarial infection can be excluded, as a rule, by remembering the fact that in septic poisoning the pulse rate is higher than the temperature, and by the absence in the blood of Laveran's bodies, whereas in malarial infection they are present and the temperature is higher than the pulse rate. Typhoid fever may be excluded by the absence of the characteristic eruption and the negative result of Widal's reaction.

The causes of puerperal wound infection having been proved to be the result of the introduction into the parturient canal of septic material either before, at the time of or subsequent to delivery, the great responsibility therefore devolves upon the obstetric surgeon of preventing its occurrence, which can ordinarily be done by his bearing in mind a few easily comprehended principles, by the exercise of watchfulness and by attention to a few simple details which are easily carried out even in the homes of the poor. It should be constantly borne in mind by the physician that these germs may be brought in contact with the parts by the act of copulation, by the hands of the patient, nurse or physician, especially if wounds exist in the canal, or by means of unsterilized instruments, syringes used for both enemas and vaginal douches, dirty bedding, linen and towels, neglect to properly care for the patient's body and to empty the intestinal canal.

The nurse selected to attend an obstetric case should be chosen with as much care, if practicable, as one would be for a patient on whom an abdominal operation is to be performed, or in other words, she should understand the prime importance of cleanliness and be sufficiently trained to carry out the necessary details, as well as to be able to care for the infant; it is as well when possible to have the nurse in attendance on the patient a short time before the expected delivery, and the necessary instructions should be given to her to empty the patient's bowels and to secure a good condition of her skin by means of hot baths, especially that of the external genitals and the anal region, before the expected delivery. At the first indication of labor the rectum should be washed out by an enema of soapsuds and, as soon as this has been accomplished, the mother should be given a final hot bath, after which the genitals and the anus should be washed off with a solution of carbolic acid and the parts protected by a sterilized napkin—or what is better, an obstetric pad—until the end of the second stage of labor has been nearly reached, after this preparation each act of urination or defecation should be followed by again thoroughly cleansing the external genitals and the anal region, by washing them off thoroughly with an antiseptic solution.

The physician on his arrival should be careful to disinfect his hands before making a vaginal examination, and this he can readily do by scrubbing his hands and arms in hot running water, preferably using tincture of green soap and scrubbing them for ten minutes with a fiber brush. The hands should next be immersed in alcohol; the nails being cleansed with a piece of sterilized gauze wet in the alcohol; they should next be immersed in an alcoholic solution of bichlorid of mercury of the strength of 1 to 500, which solution should be removed from the hands by sterilized water before the lubricant is applied to them, which lubricant should be contained in a collapsible tube, or the physician after cleansing his hands may put on rubber gloves that have been boiled for at least half an hour and have then been soaked in a one per cent. solution of lysol. As few vaginal examinations should be made as possible during labor, the required information, after the position of the child has been determined, can be obtained by external examination, with the exception of that relating to the duration of labor. As the second stage of labor draws to a termination, the obstetric pad should be removed, the patient placed on a sterilized sheet and her thighs and abdomen protected with sterilized towels, or with those which at least have been recently washed, and the obstetrician should wear a gown or an improvised one made from a sterilized sheet.

It is, of course, of the utmost importance that the membranes and placenta should be removed intact; the physician should make certain of this by carefully inspecting them after they have come away, and if he finds that portions of either have been retained, he should, after thoroughly sterilizing the external genitals, the vagina and his hand and arm, determine this by an intra-uterine examination, removing them if found; this procedure should be followed by an irrigation of the uterine cavity with sterile salt solution followed by hydrozone. This complication will, however, seldom occur if the physician abstains from administering ergot to his patient until after the delivery of the placenta.

As soon as the labor is over and the patient has had time for a little rest, the physician should make a careful inspection of the perineum, vulva, vaginal and cervical tissues and if any laceration of the parts are found they should be at once repaired and the parts washed

with sterile salt solution and hydrogen peroxid, and protected with sterilized pads. No intra-uterine douche should be given unless it has been necessary to introduce the hand into the uterine cavity. In the after-treatment of the patient under normal conditions, vaginal douches should be omitted, the nurse being directed to keep the external genitals and the anal region in good order by carefully washing and disinfecting them after each act of urination and defecation.

If, on visiting the patient, the physician finds an accelerated pulse and elevated temperature, he should carefully examine her and afterwards make a local examination, first disinfecting his hands and instruments. If he finds an ulceration of the perineum, vagina or cervical tissues, he should thoroughly wash out the vagina with salt solution and follow this with hydrozone or other strong solution of peroxid of hydrogen; if in the judgment of the physician it is necessary to follow this treatment with other irrigations of the vagina, he should administer them himself and not leave them for the nurse. If the septic trouble is more serious in character and is due to the retention in the uterine cavity of decomposed septic material, the patient should be put on a table and placed under the influence of an anesthetic and, after the external genitals and vagina have been carefully disinfected, the uterine cavity should be explored with the finger, which has also been carefully disinfected, or—if the operator is trained and skilful—with the curette, and the offending material removed. The cavity of the organ should then be thoroughly washed out with saline solution followed by hydrogen dioxid and an application of Monsell's solution if the cavity has been curetted. If the operation has been well performed the patient's constitutional symptoms will probably disappear and no further uterine intervention will be necessary. It will, however, probably be best for the physician to give the patient a vaginal douche of saline solution, followed by hydrogen dioxid, once or twice a day for several days. If the constitutional symptoms persist and the condition becomes chronic, it may be necessary to again explore the cavity of the uterus. If the trouble extends beyond the endometrium and an abscess forms, it should be evacuated by means of a vaginal incision, or if there be a bilateral pyosalpinx to deal with, it may be necessary to open the abdomen and remove the diseased tubes and uterus. If it be determined after careful examination that the septic condition of the patient is due to the direct invasion of the tissues by the virulent streptococcus, the physician should, in the writer's opinion, after thoroughly cleansing the external genitals and the vagina of the patient, dilate the cervix and explore the uterine cavity with the finger or with the curette, and then, after thoroughly irrigating the cavity with saline solution and hydrozone, should make an application of Monsell's solution. If the constitutional symptoms of the patient, as the result of this treatment, do not show inprovement in a few hours, an intravenous infusion of a considerable quantity of saline solution should be given and the advisability of opening the abdomen and removing the uterus considered, bearing in mind, as has been pointed out by Vineberg, that the uterus is the focus of the disease and that the patient's system will eliminate a reasonable amount of the infective material by the skin, kidneys and intestines; therefore, if the further production of the poison can be stopped, there is a reasonable chance of that already in the patient's system being eliminated and recovery following.

Although a few observers have claimed benefit to have accrued to their patients suffering from this form of infection from the use of Mamorck's antistreptococcus serum, the burden of testimony is against its having been of any avail in these cases; if used, from 10 to 20 c.c. should be injected into the patient's body every 12 hours till she shows signs of improvement, or a reasonable quantity has been used. When from the severe prostration and other constitutional symptoms which accompany it, there is reason to believe that the patient is suffering from septicemia, she should at once be stimulated and given the benefit of a large intravenous saline infusion slowly administered, the temperature of the solution in the reservoir being 120 F., and if she rallies in response to this treatment the vagina and uterine cavity should be cleaned out by thoroughly washing them with saline solution followed by hydrogen dioxid, and the cavities loosely packed with sterilized gauze soaked in ozonized glycerin, which will tend still further to disinfect the parts: the gauze should be removed in from eight to twelve hours and the application repeated. If under this treatment there are signs of improvement, it may be continued at lengthening intervals, or the propriety of more radical measures be considered. If there is no improvement in the patient's condition, further operative treatment will be of no avail. If pyemic conditions are recognized before the onset of pneumonia, there may be some hope under favorable conditions of saving the patient by cleansing and disinfecting the external genitals and vagina, followed by the prompt performance of an abdominal hysterectomy. When thrombosis of the femoral vein occurs, its course should be painted with iodin, the limb wrapped in cotton, bandaged and kept in an elevated position, which should be maintained for two weeks after all swelling has disappeared. Abscesses should be promptly opened.

In the treatment of the various forms of puerperal wound infection there is little to hope for in the use of drugs, except as temporary aids, the physician's reliance being placed rather on the administration of proper nourishment, increasing the activity of the skin, kidneys and bowels, the internal administration of large quantities of saline solution by means of enemas, injections under the skin or into the patient's veins, according to the urgency of the symptoms, and appropriate carefully considered local treatment, which must be decided for each case as it arises.

Curettage and other operative measures should not be universally condemned because when performed by inexperienced and untrained men, or under unfavorable conditions, they have more often been followed by harmful rather than good results. The importance of an early recognition of the fact that the patient's wounds have become infected can not be overestimated, for on this the physician must rely to institute proper local treatment at an early stage of the trouble and before the patient's system is overwhelmed by the poison, for on this must largely depend whether or not the prognosis of the graver forms of the disorder is to be more favorable in the future than in the past.

55 West 36th Street.

Salicylic Acid in Strawberries.—Portes and Desmoulières have succeeded in isolating crystallized salicylic acid from strawberries. The *Gaz. Méd. Belge* of March 13 mentions this curious fact, and observes that it is important in the study of adulterating substances in preserves, syrups, etc., containing strawberries.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, APRIL 19, 1902.

TREATMENT OF DIPHTHERIA WITH ANTITOXIN.

The time is long past when there could be any difference of opinion as to the utility of the antitoxin in the treatment and in the prevention of diphtheria and, at the present day, after abundant time has elapsed for the enthusiasm aroused by an important innovation to subside, it may be accepted as the deliberate judgment of the medical profession that the discovery of the antitoxin of diphtheria must rank with that of anesthesia and that of vaccination as among the most beneficent in the history of medicine. Statistical evidence to this effect has been forthcoming in overwhelmingly convincing amount and it would appear almost superfluous to add thereto. Nevertheless, the results of a study of the cases of diphtheria treated in the municipal hospital of Mühlhausen, a small manufacturing city of Germany, both before and since the introduction of the antitoxin are not without interest. Thus, the percentage of mortality from diphtheria was in 1892, 53.4; in 1893, 55.3; in 1894, 51.7; in 1895, 38.5; in 1896, 28.8; in 1897, 16; in 1898, 20; in 1899, 15.1; in 1900, 18.7. Among the cases of pharyngeal diphtheria the mortality percentage was in 1892, 20; in 1893, 35; in 1894, 37.1; in 1895, 19.4; in 1896, 26.2; in 1897, 8.6; in 1898, 14.8; in 1899, 7.1; in 1900, 8.1. Of the cases of laryngeal diphtheria the percentage was among those not operated on: in 1892, 33.3; in 1893, 81.8; in 1894, 58.3; in 1895, 100; in 1896, 0; in 1897, 10; in 1898, 12.5; in 1899, 7.1; in 1900, 8.3; while among those operated on the percentage was in 1892, 67.5; in 1893, 67.7; in 1894, 70.9; in 1895, 70.7; in 1896, 33.3; in 1897, 29.4; in 1898, 35.3; in 1899, 34.4; in 1900, 37. At the same time a large reduction in the number of cases of laryngeal diphtheria requiring operation was noted after the institution of antitoxin treatment. That the favorable results, which correspond closely with those observed elsewhere, are not due to the character of the disease is shown by the fact that the cases during the years 1899 and 1900 were more severe than at any time in the last twenty years.

The plan of treatment pursued consists in the administration immediately of an injection of antitoxin to every child admitted to the hospital, the amount varying with the duration and the severity of the symptoms. Thus, in cases of pharyngeal diphtheria from 600 to 1500 immunity units are given, in accordance with the extent of the deposit, the degree of temperature elevation and the duration of the disease, the same dose or a smaller one being repeated on the following day and if necessary also on the third day. In cases of laryngeal stenosis, not less than 1500 immunity units are injected at once and the same dose is repeated in from six to twelve hours and possibly from 1000 to 1500 units on the following day. In grave cases, in which the general intoxication is profound, a dose of 3000 immunity units is injected at once. Generally 4000 or 4500 immunity units are sufficient, but in rare cases as much as 6000 units are required. In some cases operative intervention has been averted by the administration of an emetic, the stenosis being, as a result, overcome for a few hours, until the antitoxin has time to exert its influence.

The local treatment in cases of pharyngeal diphtheria consists in the use of gargles of potassic chlorate or boric acid, but in the case of small children, incapable of gargling, local treatment is entirely foregone. Only in severe septic cases are applications of solution of ferric chlorid, 1 to 5 or 1 to 10, made to the pharynx and sprays of antiseptic solutions practiced. The use of the ice collar and the swallowing of bits of ice is practiced only when the glands of the neck are enlarged and deglutition is painful. The general measures consist of rest in bed, a nutritious diet and the treatment of complications. Cases of laryngeal diphtheria and of tracheotomy are kept in a room whose air is saturated with steam.

There are at present few specifics in therapeutics and the antitoxin of diphtheria must be considered one of the most important and most reliable of these. To be most effective it should be employed early and in sufficient dosage. No seriously unpleasant secondary results need be feared from such a course and if these injunctions be observed, we may hope that the mortality from diphtheria, which already has been reduced to half of what it formerly was prior to the introduction and general employment of the antitoxin, will be still further reduced. Even now much of the terror formerly aroused by the development of a case of diphtheria in a household has been removed because of the more hopeful outlook in the individual case and of the powerful weapon for attack and defense that has been placed in the physician's hands in the form of the antitoxin injected for both curative and prophylactic purposes.

PUERPERAL INFECTION IN PRIVATE PRACTICE.

Maternity hospital statistics show low mortality from sepsis. Private practice, however, still has too many cases of puerperal fever. Often the physician is to blame through ignorance of the proper technique of surgical cleanliness, or through a too great readiness to interfere.

In an article* in the present number of THE JOURNAL is the following:

"It seems strange that we are obliged to admit that puerperal wound infection in the ordinary daily prac-

* Wiggin: Diagnosis, Prevention and Treatment of Puerperal Infection. Page 1005.

tice of physicians is of almost as frequent occurrence and is followed by as severe constitutional symptoms and with as high rate of mortality as it was fifty years ago. Many physicians have been slow to grasp the importance of the principles underlying modern surgical teaching or, while knowing these principles, they have yet failed to apply them to obstetric work and consequently have not profited by them. They are still too often seeking consolation and explanation of the fever and other constitutional symptoms complicating the puerperal convalescence, in the possibility that the disturbance arises from the beginning of lactation or from the specific poisons causing malarial or typhoid fever, instead of attributing those symptoms to their true cause, in almost every instance, wound infection."

Dr. Wiggin has given utterance to what is, unfortunately, too true. We are almost ready to make the statement even stronger than he has made it. We believe we are safe in saying that statistics, if carefully compiled, would show that in private practice the mortality from puerperal sepsis is greater to-day than in the pre-aseptic period. The great maternity hospitals, like the Rotunda at Dublin or the Maternity at Prague, show an astonishingly low death rate from this cause, and this in spite of the fact that students witness and assist at the deliveries and are permitted to make examinations. But it is this very fact of the striking reduction in the number of fatalities from puerperal fever in these great lying-in hospitals, where a few decades ago this dread disease destroyed so many lives, that has made physicians bold. Knowing that asepsis and antisepsis have wrought the marvelous change in the morbidity and and mortality records in the hospitals, the physician feels that if he is aseptic in his work his record will be as good and he can do practically what he will. The old rule of "meddlesome midwifery is bad" is cast aside. With improved forceps of several patterns, with chloroform given with practically no danger, even the careful physician feels justified in early instrumental interference, resorts to version on slight provocation, is indifferent to lacerations because he can sew them up immediately, is digitally diligent in determining the progress of the labor; in fact, he hesitates at none of these because he has practically no fear of sepsis. And why? Because by his side is a bowl of bichlorid solution or of carbolic acid or of some other favorite antiseptic into which he dips his fingers, his silk, his forceps, perhaps, flattering himself that in this way he is rendering himself clean and protecting his patient from harm. We need not go into the details of how it all happens. There is a slip somewhere in the technique of his asepsis and the deed is done. The brush with which he cleans his hands may be foul, the towel soiled, or with clean hands he handles a chair or the patient's hand—in any one of a thousand ways he may commit an error that will account for the unfortunate result. And then, though he may have been scrupulously careful, an ignorant nurse may spoil it all with her dirty douche-point or her unclean hands.

These tragedies are occurring every day, and that, too, right in the midst of our large cities where are hospitals and medical schools in which the technique of surgical cleanliness is properly taught. It is time that the profession should wake up to the fact that an operation that is surgically unclean is often worse than no operation at all; that a careless obstetrician, overconfident because of his fancied protection by his so-called asepsis, may be a breeder of most serious mischief. The statement that the lying-in woman is aseptic is so true that the physician should enter upon the task of the delivery of such an one with as much caution and as much intelligent, painstaking preparation as in entering a surgically clean abdominal cavity. Most physicians are conscientious in these matters and the fault lies, when these mistakes occur, in some little slip in the aseptic measures or in a too great readiness to interfere, thus producing serious local damage that favors infection. The remedy lies in a clearer knowledge of the importance of details in asepsis and in a faithful observance of the same in every case.

INFORMAL PRESCRIBING AND ITS DANGERS.

Not infrequently a physician is tempted in the case of a friend or intimate acquaintance to give a therapeutic hint rather than a formal prescription. He may name some simple drug that can be taken with benefit. Sometimes the motive will be no more than the avoidance of prescription rates in the dispensing of the drug suggested. The longer a physician is in practice the less is he liable to make this mistake, for mistake it always is and one that may sometimes be followed by even serious consequences. Probably every physician of considerable experience has had occasion to regret such occurrences. No matter how apparently unmistakable word-of-mouth directions are, the non-medical mind can not be depended on to follow them as intended. People seem to abandon what appears the plain path of ordinary common sense at times on the presumption that they are following their physician's directions.

As a warning against this practice we have collected from recent literature some cases that show the serious evil that may flow from it. How easy it is, for instance, to suggest that a lotion of carbolic acid, 2 to 5 per cent. in strength, be used to wash off a small wound, or abraded surface, on a finger or toe. Suppose the patient, as is not unlikely, concludes that the use of a wet dressing, the gauze being soaked in the cleansing solution, may do good in preventing all danger of infection—a danger that the physician usually points out very clearly. The result may be gangrene of the finger or toe. Harrington[1] read a paper before the Massachusetts Medical Society in which he collected 132 cases of gangrene following the use of carbolic acid solutions, of from 1 to

1. Boston Med. and Surg. Jour., May 2, 1901.

5 per cent. strength. In not a few of these cases the solution was applied by the direction of a physician. Harrington himself has seen eighteen such cases in the Massachusetts general hospital and in most of them amputation of the finger or toe involved was rendered absolutely inevitable.

Effects almost as serious have followed off-hand therapeutic hints for purely medical affections. At a recent meeting of the Harvard Medical Society the case was reported of a matron who had taken some 150 drops of wintergreen oil within a few hours because her son-in-law, a physician, had suggested ten-drop occasional doses of this drug for certain presumably rheumatic pains from which she suffered from time to time. An extremely acute exacerbation of the painful condition led her to take the amount of the drug mentioned. Her medical relative-in-law found her cyanotic, extremely weak, almost pulseless and with sighing respiration. Experiences analogous to this are very common in the use of the coal-tar products for headaches, though the public has been very generally warned with regard to the possibilities of harm from these drugs and serious symptoms are not so frequent as they once were. Hints dropped as to the value of nux vomica for run-down conditions have often been followed by muscular twitchings and even more serious cramp-like effects because non-medical persons were convinced that if a little was good, a good deal must surely be better.

Serious results from the use of so well known a poison as arsenic are not often reported, but a case has been recently under observation. The patient suffering from psoriasis in a mild form was advised to take Fowler's solution in five-drop doses three times a day. He improved rapidly under the treatment. The following spring he suffered from a relapse of the psoriasis and of his own accord took Fowler's solution once more. This time it failed to relieve as promptly as before. The patient increased the dose until he was taking twelve drops three times a day. Acute symptoms of gastric disturbance developed that were not attributed to the arsenic. With the idea that the psoriasis was a manifestation of the disturbed general condition the arsenic was continued. Finally a physician was consulted, but only after all the ordinary remedies for gastro-enteritis had failed did the thought of possible poison occur. By this time an arsenic neuritis had developed and it is doubtful if the patient will ever be quite himself again. At least, he is not after a year of most careful treatment.

When a condition is serious enough to call for a physician's attention, the giving of a formal prescription is likely to prove least liable to subsequent inconvenience. It even seems better, as a rule, not to give many details as to the drugs that are being prescribed. Prejudices with regard to certain drugs exist and the negative suggestion thus brought into play may prove sufficient to counteract, to some extent at least, the effect of a special drug that otherwise would be helpful. Latin prescription writing has lost much of its mystery for the non-medical, but it still remains a judicious means of maintaining a certain wholesome secrecy as to the drugs that are being employed. It is not that the physician fears that the abolition of this secrecy will in any way lessen his usefulness. Familiarity with drugs, however, is apt to bring them into undeserved contempt. The formality of the prescription remains the most trusty safeguard for patient as well as physician against such dangers as we have pointed out.

RARE COMPLICATIONS OF TYPHOID FEVER.

Numerous instances of the localization of the bacillus of typhoid fever in various parts of the body and consecutive suppurative processes have been recorded. There are not a few cases of typhoid abscess of the thyroid gland. Mastitis may occur in typhoid fever and, according to Thomas McRae[1], it usually develops late in the disease, occurring with about equal frequency in both sexes, both breasts being involved in about one-half of the cases. In women the process does not seem associated in any special manner with active function of the gland. In a full report of a case of brain abscess in typhoid fever, due to the typhoid bacillus, McClintock[2] notes that in the literature he has found nineteen cases of meningitis, complicating typhoid fever, in all of which the bacillus was present, generally in pure culture; and five cases of brain abscess, in none of which the bacillus was found. The case described by McClintock may be said to be typical, the abscess—in the left temporal lobe—probably began to develop about the fifth week and led to death with basilar meningitis on the sixty-sixth day. A full study of the organism isolated leaves no doubt that it concerned a true bacillus typhosus.

The exact mechanism of these and similar, e. g., the osseous localizations of the typhoid bacillus is not clearly understood. Undoubtedly it is intimately associated with the distribution of the natural and acquired antibacterial substances in the blood. The importance of the so-called complement (alexin or cytase) in bactericidal action is now generally recognized and it is not difficult to believe that in infections this substance may be used up and disappear more or less completely from the serum. Metalnikoff and others report that in chronic suppuration and in the absorption of dead tissue the complements are diminished or absent; and Ehrlich and Morgenroth found that as the liver degenerates from phosphorus poisoning the complements disappear from the serum. Now it may be that when typhoid bacilli enter the blood they are drawn together into clumps by the agglutinins present, and thus lodged in a capillary loop they are hindered by the protective substances in the blood serum from further proliferation until by some accident or otherwise the complement is bound and used up by substances elsewhere in the body. The conditions seem too complex and too little understood to permit of any more definite explanation.

1. Johns Hopkins Hospital Bulletin, 1902, xiii, 20-23.
2. Amer. Jour. Med. Sciences, 1902, cxxiii, 595-603.

THE NEXT ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The next annual meeting of the American Medical Association promises to be even better than that of last year. The indications are that the meeting will be much more largely attended and the programs promise a very high order of scientific work in the various sections. Last week we printed a list of the prominent hotels at Saratoga Springs, which of itself shows that that town will be able to take care of the Association in a most satisfactory manner. Besides the hotels indicated in that list, there are a large number of boarding houses and minor hotels, so that there can not possibly be any doubt that ample accommodations will be provided for all who attend the session. As regards prices, like all fashionable resorts where the hotels are open only part of the year, the prices of some will be high enough to satisfy the most fastidious; but on the other hand, there are plenty of good hotels and boarding houses having rates within the reach of all. While the railroad rates have not been announced, the Committee on Transportation believes that it will secure one-half rates on some of the roads at least, if not on most of them. This, however, has not yet been promised.

TWO MORE COLLEGES COMBINE.

One of the conditions often complained of in this country is the large number of medical colleges and the consequent unnecessary output of medical graduates each year. One of the good signs of the times is the fact that the evil is remedying itself gradually and surely. We recently noted the fact that the colleges in Ohio, especially in Cincinnati and Cleveland, were considering the advisability of combining. Some combination of colleges in Kansas City is also talked of, but it is only talk thus far. According to a circular just received, the two regular schools of Denver, viz., Gross Medical College and the Denver College of Medicine, have just combined, the name of the new school to be the Denver-Gross College of Medicine. It will be the medical department of the University of Denver. Each of the old schools agree to turn over to the new one all its furniture, apparatus, instruments, charts, etc., free of all incumbrances. The business affairs will be in the hands of a board of trustees composed of nine members made up of those connected with the old schools. The faculty of the combined school is a large one and takes in practically all the men who were connected with the old faculties. This will make the Denver-Gross College of Medicine one of the strongest in the West.

NURSES AND MATRIMONY.

The industry of nursing is apparently a captivating one to young women, but it has its drawbacks. It appears that the future nurse must be a celibate. There is said to be a decided tendency among hospital physicians and matrons in London at the present time to discourage the offers of services on the part of engaged young women or those who are likely to include matrimony in their life plans. It is also said that some are suspected of utilizing their opportunities to inveigle medical men and those prospectively such into pedotrophic partnerships, the nursing course being only a means to the end. It seems a pity that those who are as well suited to make and adorn a home for a deserving man, as are many of the nursing profession, should be debarred from the privilege, the more so when we consider how well adapted their training will make them for such function, but it seems to be the trend of the times. This, of course, is not speaking of the nurse adventuress who is an occasional and deplorable fact; her case is another story. Perhaps with the multiplication of training schools, which is the order of the day, there will be found a way out, or provisions may be made for a special prematrimonial education in nursing, in which no vows, given or implied, will be required. The philanthropic young woman can then work out her destiny without let or hindrance.

FRAUDULENT USE OF ANOTHER'S FAME.

A decidedly bold fraud has been perpetrated upon a Chicago surgeon by the insertion of the following advertisement in the Kansas City *Journal*:

"Patients Notice! Always ask Cancer or Tumor Specialists to show their State Board of Health License before taking treatment. If not licensed they can not cure you. Cancer can not be cured by needle injection, plaster or any other way but by Dr. John B. Murphy's System. Address 16 State St., Chicago." It will be noted that the surgeon's name is vaguely used to explain the supposed method of the fakir and his opinion of other means of cure. The fact that there is no such system is not known by the general public, who may readily suppose that such a well-known surgeon has a method of his own for every important disease. The nomenclature of operations and systems of treatment is a medical topic foreign to the general public, and the shrewd wording leads the careless reader to infer that the famous surgeon is to be addressed. Evidence of this effect is forthcoming in the mail addressed to him from those desiring treatment. The author of this advertisement got himself into the reach of the law by ordering a change of address from 16 State street—a saloon which is apparently innocent as far as this particular offense is concerned—to a so-called "Red Cross Hospital" in the disreputable West Madison street district. The forged signature of Dr. Murphy on this order would have passed on a check, we are informed.

SURGEON-GENERAL STERNBERG.

The Secretary of War has transmitted to Congress a recommendation that Surgeon-General Sternberg, when his active service is legally terminated next June, be retired with the rank of Major-General. This is endorsed by General Corbin, Adjutant-General of the Army, and with it is communicated a biographical sketch of Dr. Sternberg with a list of his leading contributions to medicine up to 1893. This naturally does not include some of Dr. Sternberg's best work, but it makes a showing that ought to convince congressmen that in thus advancing him a grade they are honoring one who has been an honor to his country as well as a faithful public servant for forty-one years, much of the time in arduous and perilous service in the field and on the frontier.

Indeed, we can say, without disparagement of any of his predecessors, that as a scientific medical man he has exalted the office of surgeon-general of the United States Army and that at the present time we are not aware that such a position is anywhere held by anyone of superior or even equal scientific reputation as an original investigator and authority. If, as General Corbin says, the Surgeon-General of the Navy was entitled by law to be retired with a rank equivalent to that of major-general, by what rule of justice can not the like officer of the Army with a wider range of work and greater responsibilities be retired with the same rank and emoluments? Dr. Sternberg's record is well known to the members of the medical profession, which has shown its appreciation by his election to many honorable positions and honorary memberships both here and abroad. The members of Congress can be assured that by the legislation requested they only carry out the wishes of the class of their constituents both in and out of the medical profession who can best judge of the propriety and need of such action. It is to be hoped that the recommendation will be promptly followed and the act made effective before the time of Surgeon-General Sternberg's retirement.

TUBERCLE BACILLI IN CHEESE.

During recent years much study has been given to the subject of tubercle bacilli in dairy products, especially milk and butter. This study has been in a large measure instrumental in bringing to notice a group of bacilli, which are acid-proof, like the tubercle bacillus, but which differ from it in other ways. It is not improbable that these bacteria have been sometimes mistaken for the tubercle bacillus in milk and butter; this mistake could occur the more readily if the identification of the tubercle bacillus was mainly dependent upon its staining properties. Still there is little doubt but that true tubercle bacilli are found in all of these dairy products, and that they may become a real danger when taken into the bodies of predisposed individuals. The recent agitation regarding the relation of human and bovine tubercle bacilli has not materially altered the views, previously held by competent medical men and investigators, that tubercle bacilli in dairy products may produce infection in man. If tubercle bacilli are found in milk, they are naturally also present in cheese. Experiments were made in Switzerland over two years ago, to determine the fate of tubercle bacilli in cheese, and it was demonstrated that they died out between the thirty-third and fortieth day in cheese made after the Emmenthaler method, but considerably later in cheese made approximately after the Cheddar method. The experiments regarding the time that tubercle bacilli would remain alive in Cheddar cheese, which is made in the approved manner, have been repeated by F. C. Harrison.[1] An emulsion of tubercle bacilli was added to milk at the same time as the rennet, and cheese was made from the milk in the manner required to obtain typical Cheddar cheese. After various lengths of time. guinea-pigs were inoculated with portions of the cheese and it was found that the tubercle bacilli died out somewhere between the sixty-second and seventieth days. Even some time before this, the number of tubercle bacilli was small or else they were much reduced in virulence, for the guinea-pigs inoculated on the forty-second and fifty-second days were all lightly infected. Harrison concludes that these experiments justify the statement that Cheddar cheese contains no living tubercle bacilli, that might naturally be present, when it is ten weeks old; and hence no danger need be apprehended from eating living tubercle bacilli in Cheddar cheese.

1. Cent. f. Bakt., Abtheilung 1, March 3, 1902, 250.

Medical News.

ALABAMA.

New Hospital at Montgomery.—Ground was broken, April 2, for the new hospital of the Sisters of Charity at Montgomery, to cost $100,000.

Birmingham Medical College.—At the graduating exercises of this college, March 28, Dr. Benjamin L. Wyman, dean of the college, conferred degrees on a class of 8, and Hon. John M. Caldwell, Anniston, delivered the address to the graduating class.

Medical College of Alabama.—The forty-third annual commencement of this institution was held in Mobile, April 8. A class of 13 received diplomas from the dean, Dr. George A. Ketchum. The address was delivered by Prof. Julius Tutwiler Wright, Mobile, who chose for his subject "Criminology."

New Hillman Hospital.—The arrangements for the erection of the New Hillman Hospital, Birmingham, are nearly completed. The association has already $33,000 in hand toward the $50,000 which will be required for the construction of the building. The Birmingham Medical College will erect its new building to cost about $40,000 on the lot next to the hospital.

CALIFORNIA.

Oakland Medical College.—Ground was broken, March 31, for the new building for the Oakland College of Medicine and Surgery. The building is to cost about $15,000.

San Francisco Board of Health.—After injunctions, counter-injunctions and threatenings, the old and the new city boards of health are now resting and awaiting further legal developments.

Medical Electrician Acquitted.—A medical electrician of Los Angeles, arrested on the charge of practicing medicine without a license, was acquitted by a jury, April 3. Her sole defense was that she acted under the instructions of a regularly qualified physician.

Physicians Refuse to Pay Local License Fee.—Ten of the thirteen practicing physicians in Chico were arrested, March 31, for refusal to pay the city license. Under an ordinance of Chico physicians are required to pay $5 per quarter license. This ordinance has been in effect since 1897, and until this time the license has been paid. Now the physicians have decided to test the ordinance and have organized for that purpose.

ILLINOIS.

Insane Transferred.—Watertown hospital has transferred 20 male and 30 female incurably insane patients to the new state institution at Bartonville, near Peoria.

Raising Funds.—The Julia F. Burnham hospital board, Champaign, has already raised $11,500 of the $15,000 required to obtain $5000 conditionally offered by William B. McKinley.

Railway Hospital at Decatur.—The Wabash Hospital Association has accepted the offer of the citizens of Decatur of a site for the Middle Division Hospital. Plans have been prepared and a building to cost $50,000 will be erected.

Chicago.

Dunning to Bartonville.—The superintendent of Cook County Insane Asylum has transferred 65 incurable women to the Hospital for the Incurable Insane.

Air-Borne Diseases Rife.—All the air-borne diseases are again as rife as before the March rains, and the high winds and dry surfaces give little present hope of relief.

Increased Mortality.—As compared with the week previous the Department of Health reports an increased mortality last

week from all the chief causes of death except scarlet fever, pneumonia and violence. The 562 deaths represent an annual rate of 16.10 per 1000 of population, as against 14.19 and 13.8 respectively for the previous week and the corresponding week of 1901, or more than one-seventh and more than one-fifth increase respectively.

Eye and Ear Hospital Internes.—The annual examination for internes for the Illinois Charitable Eye and Ear Infirmary will be held at the infirmary, 227 W. Adams Street, Chicago, commencing at 2 p. m., Monday, April 28, and continuing April 29 at 1 p. m. The number of positions to be filled is three, and the length of service is one year. This examination is open to any practitioner of medicine or graduate of any recognized medical college.

Vaccination in Zion.—Frightened either by the presence of smallpox in Zion College or by the bill of expense he will have to meet, Dowie has issued an order "allowing" his subjects to be vaccinated. Dowie will have to meet a bill of expense when the epidemic is over. He will have to pay $25 a week for the care of each patient at the Isolation Hospital, and besides he will have to pay $3 a day for the services of four city policemen who have been enforcing the quarantine.

Chicago Lying-In Hospital Report.—The annual report of this hospital shows that during the last year 1082 patients were attended, 142 of whom were confined at the hospital and more than 11,000 visits were made. During the last four years not a single maternal death occurred in the out-service. The incubator ward had 13 inmates, of whom 10 survived. The school for nurses trained 63 nurses in obstetrics during the year. The medical board now includes Dr. Joseph B. De Lee, representing the Northwestern University Medical School, Dr. J. Clarence Webster, representing Rush, and Dr. Frank B. Earle, representing the College of Physicians and Surgeons.

The Officer-of-the-Day Recommends.—The medical officers-of-the-day recently established at Cook County Hospital have made from day to day the following recommendations: 1. That the number of visitors to the hospital be restricted. 2. That a convalescent home be established. 3. That rollers be placed on all beds in the hospital. 4. That closer watch be kept to prevent smuggling of liquor to patients. 5. That convalescents be permitted to have more out-door recreation. 6. That out-door exercise and tennis be prescribed for internes and nurses. 7. That a dressing-room be provided for non-septic patients. 8. That female patients be permitted to visit the lawn. 9. That the wards and beds be constantly painted.

IOWA.

Mercy Hospital Bequest.—By the will of Michael Hennessey of Dubuque, $50,000 is bequeathed to Mercy Hospital in that city.

Hospital for Iowa Falls.—Initial steps have been taken toward the establishment of a hospital in Iowa Falls. A site has been secured at a cost of $4500, of which one of the owners donated $1500. Plans have been prepared for the building which, when equipped, will cost between $18,000 and $20,000. Toward this expense $6000 has already been secured.

Osteopaths Recognized.—The Iowa house has passed the senate bill in recognition of the osteopathic school of physicians, authorizing the State Board of Medical Examiners to issue certificates to graduates of osteopathic colleges and to others who pass examination, and authorizing the choice by the governor of an osteopath to become a member of the State Board of Health and State Board of Medical Examiners.

KENTUCKY.

Gift to Lexington Hospital.—James R. Keene has given $1000 to the Good Samaritan Hospital, Lexington.

Dr. Byrne Acquitted.—Dr. W. A. Byrne, Peak's Mill, Franklin County, was acquitted in the County Court, April 4, of the charge of violating the statutes regarding medical practice. Dr. J. N. MacCormack, of the State Board, concurred.

Louisville National Medical College held its fourteenth annual commencement, April 7. Degrees were conferred on a class of 7. The address to the graduating class was delivered by Augustus E. Wilson, and the alumni address by Dr. Pickett of the class of 1898.

Certificate Sufficient Qualification.—Dr. Joseph M. Mathews, president of the State Board of Health, and City Health Officer M. K. Allen have furnished the secretary of the sinking fund a certified copy of the list of physicians in Louisville who are qualified to practice medicine under the state law. Hereafter he will accept the certified copy of the list as prima facie evidence that the license should be issued and will issue the license to those on the list without the necessity of bringing the personal certificate to the sinking fund office.

Addition to Norton Infirmary.—An addition to the John N. Norton Memorial Infirmary, Louisville, has just been completed, which more than doubles its capacity, the new and commodious operating rooms in the new building giving facilities for surgical work equal to any institution in the Southwest. The old building which has done so much good work in the past twenty years is being renovated and new steam heating apparatus and electric light fixtures installed so that when completed the entire plant will be as modern as it is possible to make it. In opening the new infirmary the trustees have followed the example of like institutions in other cities and determined upon a reorganization, electing a medical and surgical staff, feeling the need of the constant supervision and advice of professional experts who are thus made responsible for the conduct of the house. It is emphasized, however, that the infirmary will continue to welcome any and every patient brought to its doors by a reputable physician, to be under his own particular care, without intrusion from any one, and there will be no interference on the part of the medical staff with the patient of any physician. The members of the medical staff are as follows: Surgery, Drs. A. M. Cartledge, W. O. Roberts, E. L. Pearce, James B. Bullitt, and Louis Frank; internal medicine: Drs. J. B. Marvin, John G. Cecil, F. W. Koehler, C. W. Kelly and F. C. Simpson; obstetrics and diseases of children: Drs. H. B. Ritter and Henry E. Tuley; ophthalmology: Drs. S. G. Dabney and A. O. Pfingst; dermatology: Drs. I. N. Bloom and H. H. Koehler; pathology: Dr. J. A. Flexner. In rearranging the building, the administrative portion has been removed to the first floor of the new addition, with an electric elevator leading to each floor; the operative rooms are located on the fourth floor with dressing rooms on each floor; a new drug room will be installed with added facilities for obstetric work. The institution has a private laundry plant with latest machinery and in every department is thoroughly up to date.

MARYLAND.

Medical Assistant Authorized.—The legislature has passed a bill allowing a medical assistant to the secretary of the State Board of Health.

Personal.—Dr. Louise Erich has been elected professor of orthopedics at the Woman's Medical College, Baltimore.—— Dr. Howard Bratton, Elkton, has been appointed health officer of Cecil County.

Alumni Address.—The address before the Alumni Association of the University of Maryland School of Medicine, May 2, will be delivered by the Hon. Joshua W. Hering, M.D. (class of 1855), state comptroller.

Infectious Hospital Suit.—As a result of the failure of the Baltimore city council to confirm the purchase of a site for the Infectious Diseases Hospital by the hospital commission, suit has been brought against the city by the owner of the land in dispute for $20,000.

The Union Protestant Infirmary, Baltimore, will be reopened in a few days. It is practically a new building. A large addition has been made, and the whole thoroughly modernized. Three houses north of the main building have been purchased for the use of the 30 nurses. There are now 100 beds. The operating room is on the fourth floor. One feature of this is a cabinet where salt solutions are kept at blood-heat for immediate use. In the children's ward the doorknobs are placed high so that a child can not reach them. The floor of this ward is of compressed cork, therefore always warm so that children may sit on it without catching cold, and falls are not felt as much as on plain wooden floors. Around the walls for 3½ feet is white tiling, one course of which has Mother Goose pictures in blue. Children are first received in a special department, where they are bathed and in all infectious cases the clothing is fumigated. There are also isolation rooms, one for delirious patients and a lounging room. All the doorknobs are of white glass and the painting white enamel. The lighting is by electricity. The private apartments on the second and third floors are furnished with iron bedsteads enameled in white and with birdseye maple furniture. Dr. J. S. Davis, Jr., is resident physician, and Drs. W. A. Fisher, George S. Drake and William M. Dabney are assistants.

NEBRASKA.

Creighton Feasts and Will Dance.—Creighton Medical Society, composed of undergraduates of Creighton Medical College, Omaha, held its annual banquet, April 16, and will give its first annual ball, April 23.

University Absorbs College.—As a result of an important meeting of the board of regents of the State University, April 9, Omaha requires a direct and local interest in the university. A contract was adopted which affiliates the Omaha Medical College with the university by virtually annexing it. The medical course will be four years—two of which are to be spent in the university at Lincoln and the remaining two years in the Omaha college. A university degree will be given.

NEW JERSEY.

Practicing at 93.—Dr. Otis R. Freeman, Freehold, although in his ninety-third years, is still in the active practice of medicine.

Woman's Hospital Bequest.—By the will of the late Justis B. Crandol, Seaville, $5000 is bequeathed to the Woman's Hospital, Philadelphia.

Dr. Lemuel G. Goode, Jersey City, who recently underwent an operation for the amputation of his leg, has recovered and taken up his practice.

Sanatorium for Tuberculosis.—Through the efforts of the governor, the legislature passed the bill appropriating $50,000 for the establishment of a state sanatorium for consumptives.

Oldest Alumnus of Princeton.—Dr. James Curtis Hepburn, Orange, a graduate of Princeton in 1843 and of the University of Pennsylvania Medical Department, 1836, celebrated his 87th birthday recently. He has spent 37 years as a medical missionary in China and Japan.

NEW YORK.

Suit Against Lunacy Examiners.—The wife of a wholesale liquor dealer, who was adjudged insane in 1898 and was subsequently discharged because a sheriff's jury declared that she was sane, has begun suit for $100,000 damages against Drs. Allen Fitch and Austin Flint, examiners, and Dr. O. J. Wilsey, superintendent of the Long Island Home at Amityville.

New York City.

Dr. William Aldren Turner, of London, was the guest of the New York Neurological Society at its meeting April 8. He presented an interesting paper entitled "An Experimental Study of the Reflexes in Total Transverse Lesions of the Spinal Cord."

City Aid for Private Charities.—The new Comptroller has announced a sweeping reform in the matter of aiding to support hospitals and other charitable institutions. The city now pays annually $2,750,000 to these institutions and in some instances nearly all of the income comes from the city. It is now proposed that the city shall contribute only as much to these institutions as they are able to obtain from private sources.

Abattoirs Declared a Nuisance.—A number of property holders and residents in the vicinity of the slaughter houses located near the East River and Forty-second street, many of them women, having become exasperated by the vile odors that make their life miserable in the summer, have organized themselves into the Citizens' Health Protective Association, and purpose to oust the abattoirs that have so long been a nuisance in this region.

Bellevue Out-Door Department to Close.—It is announced that the trustees of the city hospitals have decided to close, on June 1, that old and justly celebrated dispensary known as the "Bellevue Out-Door Poor." The trustees declare that they need this building for dormitories and that adequate provision for the patients is made at the nearby medical schools of Cornell and the New York University; but there are some who know the sharp rivalry between the medical schools who are disposed to think that Bellevue has been betrayed into the hands of these rivals.

Buffalo.

Ambulance for German Hospital.—The German Hospital has received a new and beautiful ambulance and is now prepared to answer emergency calls.

Correction.—Dr. Livingston L. Lewis, Hoboken, desires us to announce that it was not he, but Dr. Harry Lewis, North Bergen, who was married to Mrs. Gus Atkins of North Bergen, March 20.

Accommodation Inadequate.—In view of the fact that the children's wards and nurses' quarters have become inadequate at the Erie County Hospital, it is proposed to build a children's pavilion and to convert the children's ward for nurses' quarters.

Eddyites Agree to Report All Communicable Diseases.—The Health Commissioner has persuaded the local Eddyites to report all contagious diseases and to submit such cases to quarantine. By this treaty the Health Department gives much more recognition to the Eddyites than they deserve, for it practically licenses them as practitioners and therein lies the danger. As the Buffalo *News* says editorially, "they are good diplomats, these people who deny disease and get rid of every undesirable thing in life—and death—by simply explaining it away."

PENNSYLVANIA.

Dead-Beat List.—The Lawrence County Medical Society has determined to establish a "dead-beat" list and has appointed Dr. James M. Popp, New Castle, collector.

Joseph J. Kinyoun, M.D., Ph.D., late surgeon of the United States Marine-Hospital Service and director of the Hygienic Laboratory at Washington, has assumed the directorship of the biologic laboratories of the H. K. Mulford Company, Glenolden.

St. Francis Hospital, Pittsburg.—At the annual meeting of this hospital April 9, it was reported that 1628 patients had been cared for during the year; that the training school for nurses was giving excellent satisfaction and that the hospital was in prosperous condition.

Personal.—Dr. James L. Srodes, Wilkinsburg, moved to Woodville, April 1, to become the medical superintendent of the Allegheny County Home.——Dr. Cyrus B. King, Allegheny, has been appointed a member of the State Board of Charities.——Dr. C. E. Lockwood, Brackney, has purchased the practice of Dr. Frank I. Smith, Hallstead.——Drs. John Rourke and Robert E. Culler, internes at the Reading Hospital, have been re-appointed.——Dr. John W. Gordon, Belle Vernon, a member of the Fayette County pension board, has resigned; Dr. Jacob S. Hackney, Uniontown, succeeds him.——Dr. Thomas L. White, McKeesport, sailed for Europe, April 10.——Dr. Andrew H. Elliott, Emsworth, has been compelled to move to Colorado for his health.——Dr. Gustav T. Fox, Bath, has resumed practice after a prolonged vacation.

TENNESSEE.

The West Tennessee Medical and Surgical Association will hold its annual meeting at Jackson, May 22 and 23, under the presidency of Dr. Jere L. Crook, Jackson.

State Board of Health.—At the annual meeting of this body in Nashville, Dr. William J. McMurray, Nashville, was elected president and Dr. Heber Jones, Memphis, vice-president.

Funds for Erlanger Hospital.—The County Court, on April 8, appropriated $5000 for the support of Erlanger Hospital, Chattanooga, the expense to be borne equally by the city and county. The court also appropriated $7500 for an addition to the County Insane Asylum.

Faculty Changes.—University of Nashville Medical Department announces the following faculty changes: Dr. Alberto Hudson, from adjunct professor to professor of anatomy, vice Prof. Carl C. Warden, resigned; Dr. Samuel M. Bloomstein, professor of diseases of children; Dr. Holland M. Tigert, assistant to the chair of materia medica and therapeutics, vice Dr. Robert S. White, resigned; Dr. Adam G. Nichol, director of the surgical laboratory, and Dr. James Whitworth, first assistant demonstrator of anatomy and lecturer on regional anatomy.

Commencements.—The fifty-first annual commencement exercises of the Medical Department of the University of Nashville were held March 27. Chancellor James D. Porter presided and conferred degrees on a class of 34. Prof. Hill McAlister delivered the faculty address.——The Medical Department of the University of Tennessee, Nashville, held its graduating exercises, April 3, at which Col. J. B. Killebrew, representing Dr. Charles W. Dabney, conferred degrees on a class of 17. Dr. Robert O. Tucker delivered the charges to the graduating class, and Dr. Paul F. Eve, dean of the faculty, presented the diplomas.——Vanderbilt University Medical Department, Nashville, graduated a class of 16, April 3. Dr. N. Pendleton Dandridge, Cincinnati, delivered the address to the graduating class; Dr. W. Frank Glenn gave the faculty address, and Chancellor Kirkland conferred the degrees.

GENERAL.

Cholera Increases in Manila.—The Philippine Islands have had 663 cases of cholera reported thus far and 510 deaths. Of these, 245 cases and 192 deaths were in Manila.

Death of Dr. Meacham.—Dr. Franklin A. Meacham, major and surgeon, U. S. A., assistant to Major Maus, health commissioner of the Philippines, died, April 15, at Manila, from overwork in the cholera supervision.

Internes Wanted in New York Hospitals.—Students about to graduate who are unable to secure positions in general hospitals, or young physicians whose terms are about to expire in general hospitals and who wish to enlarge their experience, are now offered an opportunity to enter the New York State Hospitals as internes or clinical assistants. These positions provide lodging and board. Appointments are made for a year. Some 28 positions will be opened in the 14 hospitals situated in the following places in New York State: Utica, Ward's Island in New York City (two hospitals), Buffalo, Gowanda (homeopathic), Rochester, Binghamton, Ogdensburg, Kings Park, L .I., Poughkeepsie, Flatbush (Brooklyn), Willard, Central Islip, L. I., and Middletown (homeopathic). Although these are hospitals for the insane, yet they are so large that opportunities for experience in general medicine are abundant. Each hospital is well equipped, the field for study in general medicine is excellent and surgical operations of all kinds are frequently performed. Many students will be glad to learn that positions of this kind have been thrown open to them. It is believed that young physicians wishing hospital experience will profit by a year's residence in one of these hospitals, and such as desire to continue in special work would be eligible for appointments subsequently to salaried positions in the same service. No examinations will be necessary, but application must be made in person with good references, directly to the medical superintendent of any of the above named hospitals or to Dr. Frederick Peterson, President of the Commission in Lunacy, 4 West 50th St., New York City.

Measles Among Troops in Philippines.—The report of the chief surgeon, Division of the Philippines, dated Feb. 15, 1902, has been received at the surgeon general's office. The percentage of sick for the month of January 15 to February 15 was 6.39. The total number of cases reported was 2611 in a mean strength of 40,820 men. There were 230 cases of venereal diseases, 118 of wounds and injuries, 124 of malaria, 112 of dysentery, 69 of diarrhea and 25 of other intestinal diseases. The deaths numbered 54, as compared with 59 during the previous month. Two men were killed in action, 2 died of battle wounds, 2 of gunshot wounds not received in action, 14 of dysentery and 5 by drowning. Four hundred and twelve medical officers were on duty in the division during the month, with 2165 men belonging to the Hospital Corps, and 67 female nurses belonging to the Army Nurse Corps. Bubonic plague, to date, had not appeared among the troops, and only one case was reported for the month in the whole archipelago. This occurred on the person of a native woman, on February 9, in the walled city. She died soon after discovery. The inhabitants of the house were removed to the detention camp of the Board of Health, where they were inoculated with Kitasato's serum and Shiga's vaccine matter. To date no further cases had occurred. The board detailed for the investigation of Surra had not made a report, but it is understood that during their trip through Southern Luzon they found a great number of cases of the disease. The transport *Sheridan* brought measles to Manila on January 26. On February 5 the first case of this disease was developed. Notwithstanding careful isolation, disinfection and inspection, 22 other cases followed, all of which were isolated at the First Reserve Hospital. The troops, including the 27th Infantry, 11th cavalry and casuals were taken to Mariveles on the *Sheridan*, their clothing and everything which had been exposed were disinfected, and they returned on the *Relief* to Manila. The *Sheridan* was brought back to the city and unloaded; she was then turned over to the quarantine officer for thorough disinfection. The men of the 27th Infantry were put in a detention camp at Camp Wallace, the 11th Cavalry at Pasay, and the casuals at Santa Mesa. No further cases occurred except at the last-mentioned point, where several children who came on the *Sheridan* were attacked. Some of them are still in the city, and a few other children have been infected by them. The troops free from the disease have been released from the detention camp. The cases were of a mild type, as measles usually is in this climate.

Health and Sanitation in Manila.—The report of the Commissioner of Public Health, Major L. M. Maus, surgeon, U. S. Army, for the month of January, 1902, states that the deaths in Manila for the month were equal to an annual rate of 30.33 per thousand, as compared with 30.12 in January, 1901. It is to be observed, however, that the former rate was computed on a basis of 297,154 inhabitants, while the latter was calculated from a population of 250,000. Neither of these estimates of the population appears to be more than guesswork. Among the permanent residents of the city there were 765 deaths and 87 among the transients. The former list was made up of: Filipinos, 723; Chinese, 25; Americans, 3; U. S. Soldiers, 5; all others, 9. As usual, the greatest mortality was due to infantile convulsions, there having been 248 deaths from this cause alone. Other prominent causes were: Diarrhea and dysentery, 99; tuberculosis of the lungs, 44; nonpuerperal eclampsia, 37; acute and chronic bronchitis, 47; beri-beri, 32; meningitis, 21; intermittent fever, 20; senile debility, 16. Not a case of smallpox, scarlet fever or diphtheria was reported during the month. The birth rate is stated as 14.59 per thousand, the absolute number having been 368. Until many radical sanitary defects and conditions are removed or remedied the mortality among the lower classes will remain larger than it should be. The principal improvements needed are: 1, the installation of a modern sewerage system; 2, the construction of filter beds and an increase in the city water supply; 3, walling and cleaning of the esteros, a number of which should be closed; 4, remodeling or removal of the majority of the old stone buildings in the city; 5, obliteration of the moat around the Walled City and removal of the wall; 6, raising the streets and city site; 7, repairing and widening the streets; 8, constructing a good system of gutters and subsoil drainage, and 9— but not least— providing suitable parks.

No plague occurred in the city during the month, the last case having been reported Dec. 24, 1901. During January, 1900, 18 cases occurred and in January of last year 4; but in May of that year there were 124 cases. Radical measures for the suppression of the disease are being enforced by the Board of Health, among which may be mentioned the cleaning out and disinfection of all houses in which plague cases have occurred or in which rats affected with the disease have been found; the destruction of rats by means of traps and poison; the immunization of the lower classes, among whom the disease usually occurs, by means of the Shiga vaccine; the thorough cleaning and disinfection of all the filthy habitations in the city and the prevention of overcrowding. Since September, 1901, 33,772 rats have been caught, of which number 30,786 were examined in the laboratory. Of this number 229, or 0.7 per cent., were found to be infected. During January, 1902, 16,776 were examined, 51 of which, or 0.3 per cent., were infected. It would appear from this that the disease among rats is gradually disappearing.

Boards of Health have been organized in nineteen of the provinces, and municipal boards are being established in many of the pueblos. These boards will prove of great benefit to the Philippines, not only in improving the sanitary condition of the natives, but in the suppression of smallpox and of epidemic diseases among domestic animals as well. All the presidents of provincial boards have been provided with the necessary instruments for immunizing cattle against rinderpest. From the Vaccine Institute in Manila there were issued during the month 109,075 units of vaccine virus to the various provinces for the use of the natives.

Smallpox.

Alabama: Several new cases of smallpox in mild form are reported near Larkinsville, Jackson County.

California: The report of the quarantine committee at Randsburg shows that 2 patients remain at the pesthouse; 71 male patients and 10 females have been under treatment at the isolation hospital, and 30 have been quarantined.——At Lewiston, five new cases are reported in one family.

Illinois: The Chicago Department of Health announces that of the 16 new cases of smallpox discovered and removed to the isolation hospital last week one was imported from Iowa and one from Springfield, Ill.; five others were cases contracted from exposure at Zion College, discovered March 26. At the close of the week 42 cases remained under treatment in the hospital, 10 had been discharged, recovered, and no death had occurred. Since January 1 there have been 128 cases treated, with one death and 84 recoveries.

Maryland: At the monthly meeting of the State Board of Health, April 9, eight cases were reported in the counties outside of Baltimore, viz.: 2 each in Wicomico, Caroline and Allegheny; 1 each in Talbot and Worcester, 8 in all. Since March 1, there have been altogether in these counties and in Somer-

set, Frederick and Howard 26 cases, of whom 2 have died.

Massachusetts: A short time ago Dr. Morse, of the State Board of Health, made the announcement that there had been 46 cases of smallpox in Gilbertville, and six in Ware during the last three months. This was doubted by the majority of the people, and even by some of the local physicians. Since that time two more cases have occurred which the patients' friends refused to believe to be smallpox. The board finally decided to get a specialist, and Dr. Thomas B. Shea of Boston was called in. He examined the patients carefully and pronounced the disease smallpox.

New York: Health Commissioner Lederle of New York City has asked the Board of Estimate and Apportionment for a bond issue of $1,025,000 to enable better provision to be made for smallpox cases in Greater New York. As an example of the inadequacy of the present arrangement, it is stated that cases of smallpox having developed in a remote portion of the Borough of Richmond, the diagnostician of the health department was forced to travel 40 miles; the ambulance sent for the patients went 36 miles; the boat for contagious diseases made a trip of 66 miles, and it was fifteen hours after the nature of the disease had been certified before the patients could be conveyed 33 miles to the nearest hospital. Evidently there are unusual difficulties attending the proper administration of the health department in this second "city of magnificent distances."

Ohio: Scio has 6 well-developed cases of the disease.——Shelby has had a return of the disease and seven houses are quarantined.

South Dakota: The commissioners of Lawrence County have passed a resolution making vaccination compulsory, hoping in that way to relieve the epidemic of smallpox that has been raging in the Black Hills. The Board of Health has recently fumigated all saloons in Deadwood, and strict quarantine regulations are being enforced. Under the resolution just adopted all persons who have not been vaccinated within the last year must submit to the operation. Those who have not the money to pay for it may have it done free of charge by the county physician.

Virginia: Smallpox still prevails to a greater or lesser extent in many of the counties. In some sections—counties contiguous to those in which the disease is reported—there are no reports, making it impossible for the secretary of the board, Dr. Paulus A. Irving, to definitely determine the actual conditions in the state. Alleghany county has 1 case; Augusta, 8; Bedford, 4; Botetourt, some; Floyd, several; Fluvanna, 60; Franklin, 50; Gloucester, 30; Isle of Wight, 1; Northampton, 1; Patrick, several; Pittsylvania, 40; Roanoke, 1; Rockbridge, 4; Wise, some, and Wythe, 12.

Canada: Halifax, N. S., has been declared free of smallpox.——Manitoba, which, after a long siege of smallpox, was nearly empty of patients, is again full. The disase has broken out afresh in different sections of the city and fears are entertained of an epidemic. It is stated that returning lumbermen from the camps which have broken up are the source of the infection. The medical health officer, Dr. Douglass, is putting forth strenuous efforts to hold the outbreak in check.——In 1901 there were 1879 cases throughout Ontario. In January, 1902, 629 cases were reported; in February, 707; in March, 302. The cases have therefore fallen off over fifty per cent. in the last month. The total number of cases reported during the past fifteen months amounted to 3517.——Official records show that the present outbreak of smallpox in the city of Quebec dates from October 28 last. Since that time there have been 671 cases, and the largest number of cases on the books of the health authorities at any one time was eighty-two. In that time there have been only eight deaths, so light has been the character of the disease. The assertion has been made by doctors and others in the city that there were several hundred cases of smallpox in the city, unknown to the health authorities, and that people were constantly exposing themselves to the disease in order to take it and thus avoid vaccination. This is owing to the mildness of the disease.

CANADA.

Dr. W. H. Drummond, Montreal, known as the "habitant" poet-doctor, is to receive distinct honor from Toronto University at its June convocation. On that occasion he will receive the degree of Doctor of Laws.

Vancouver Personal.—Dr. Robertson of Vancouver has sailed as ship's surgeon on the *Aorangi* and will make the round trip to Australia. The regularly appointed surgeon had arrived too late to accompany the steamer to Vancouver on its last voyage.

The Rhodes' Scholarships are of the yearly value of £300 each and are tenable at any college in the University of Oxford for three successive academic years. Ontario will have three, Quebec three and Newfoundland three. It is expected that the other provinces of Canada will be provided for later by the executors.

St. John Medical Society.—After the regular meeting of this society on April 9, a complimentary dinner was given to Dr. Morris, one of its members, who has had charge of the smallpox outbreak at St. John, N. B. Mr. Ellis presided, and a very happy evening was spent by a large section of the medical fraternity of St. John.

The British Columbia Medical Society Council, once announced, is now amended. The result was so close that a recount was demanded, and Dr. Lefevre is declared elected in place of Dr. McKechnie of Nonaimo. The members are: For Victoria, J. C. Davie, O. M. Jones, C. J. Fagan (secretary); Vancouver, W. J. McGuigan, J. M. Lefevre; New Westminster, R. E. Walker; Kamloops, Arthur P. Proctor.

Canadian Association for the Prevention of Tuberculosis.—The annual meeting was held at Ottawa, April 17 and 18. An address by S. A. Knopf, M.D., New York, was entitled, "The Mission of Societies for the Prevention of Consumption in the Anti-Tuberculosis Crusade." The program covered all the avenues of effort in this important work and consisted largely of reports of committees of investigation with discussion of the same.

Changes at Toronto University.—The Senate of Toronto University has decided to separate the Board of Medical and Dental Studies. There will be hereafter three distinct boards, for medicine, dentistry and pharmacy. At the same meeting a statute amending the curriculum in medicine received its second reading. It provides that an examination and attendance in the fourth year will hereafter be necessary in ophthalmology, otology, laryngology and rhinology.

New Wing for Hotel Dieu Hospital, Montreal.—The Sisters of the Hotel Dieu, in charge of the Hotel Dieu Hospital, Montreal, have decided upon the erection of a large wing to the present hospital. The new wing will contain a new operating room and two special rooms for the use of the *x*-ray. The remainder of the wing will be divided up into private wards for which there has been a great demand recently. The addition will be greatly to the advantage of the medical students of Laval University.

Closing Exercises at Queen's University.—Queen's medical convocation ceremonies took place on the afternoon of April 8. Dr. Herald, the secretary, reported that the attendance at the medical department during the session just closed was 177, the largest in the history of that faculty of the University. G. F. Dalton, Kingston, was medallist in surgery; F. E. Mellow, medallist in medicine; house surgeons for the Kingston General Hospital for next year are: G. F. Dalton, C. Destremy and F. Etherington.

Insanity Increasing in Montreal.—Mayor Cochrane of Montreal states that he is shocked at the number of persons he daily has to commit to the insane asylum. He commits on the average two patients per day. Persons committed by the corporation have to be supported in the institutions by the corporation; and owing to the large numbers the mayor is of the opinion that these are sent in to the city from outside points to friends and are thus foisted on the charity of the city. He will cause the city council to make an enquiry into the matter.

Right of City to Send Smallpox Patients to Hospital.—Owing to the fact that some persons affected with smallpox in Montreal refused to go to the city hospital, one individual going so far as to say that he would split open the head of any doctor or officer who entered his house for the purpose of removing him, the Hygienic Committee has asked that the city attorneys make a report to council on the right of the city to compel patients suffering from infectious diseases to go to the civic hospital. The report will no doubt be awaited with interest.

Ontario Board of Health.—The regular quarterly meeting of the Ontario Board of Health was held in Toronto during the past week. Dr. Bryce, the secretary, presented an interesting report on the smallpox outbreak, which is summarized in another column. Dr. Bryce also presented an extensive report on the mortality returns, claiming that there was altogether too much "heart failure" set down as the cause of death. On this report an interesting discussion arose as regards the duties and responsibilities of coroners, it being held that the

law should be amended so that these officers should not be required to make affidavits that there were no evidences of foul play before they had actually made a thorough investigation. Ontario, with 2500 doctors, has over 500 coroners.

Canada Has Immigration Problems.—Owing to the increased surveillance at the border by American officials, about 100 foreigners desiring admission to the United States are refused each week. Mr. Robert Watchorn, special immigration inspector of the United States in Canada, has startled the dominion by the statement that 98 per cent. of these immigrants are suffering from serious and most infectious diseases. The two chief diseases mentioned are trachoma and favus. Mr. Watchorn calls the attention of Canada to the fact that these persons largely remain in Canada. The statistics show what a nice measure the United States took when the tide of emigration, checked at the seaports, turned to the unprotected Canadian border for an unhindered entrance. Parliament will doubtless make a speedy investigation. It is interesting in this connection to note Canada's active immigration propaganda. Mr. R. W. Hilliard, the Canadian traveling immigration agent, reports that he learns that about 75,000 people from the Northern and Western States are contemplating removing to the Canadian Northwest. The continual loss that the United States suffers in this way is largely of healthy, desirable farmers, and is of moment to the states affected, as well as to those physicians whose practices are lessened by it. However, one valuable feature is that it binds Canada and the United States by one of the firmest of ties.

FOREIGN.

The Barcelona Academy of Medical Sciences offers a prize of 2500 pesetas for the best work in Italian, French, Portuguese or Spanish on "Comparative Histology of the Fovea Centralis," received before December 31.

Grecian Medical Congress.—The second Pan-Hellenic Medical Congress will convene at Athens May 17 to 21, 1903. Paludism in its various aspects will be one of the subjects chiefly discussed, especially in its relations to pregnancy and malignant disease.

International Congress of Electrotherapy and Radiography.—The first congress was held at Paris in 1900. The second will convene at Berne, Sept. 1 to 6, 1902. Communications should be send to the secretary, Dr. Schnyder, Bundesgasse 38, Berne, before July 15. The fee is 25 francs.

Literary Property in the Medical Press.—The report to be presented by the committee to start the discussion of this subject at the International Conference of Delegates from the Medical Press at Monaco, April 7, was based on the following principles: "1. Original articles, lectures and, in general, all solid articles have unquestionably the rights of private property. They should not be reproduced nor translated without indication of the original source and even this should not be done without the authorization of the journal. Abstracts can be made of these articles without authorization, provided that the original source is duly credited. However, if the abstract only refers to a limited portion or point of the subject treated, the name of the author alone may be sufficient. 2. Other articles, transactions of societies and congresses, abstracts or reviews of articles already published, scientific letters, professional interests, etc., may be reproduced or translated without authorization, under the express condition that the periodical from which they are taken is indicated, and also the original source of the abstracts. 3. The reproduction of news, medical items, "varia," and all other items of this nature, is absolutely free." The committee added that they hoped the discussion would be based on these principles. They presented these rather strict regulations in order that the matter might be discussed along the lines and principles accepted by the periodical press of all the countries in the Postal Union.

The Fourteenth International Medical Congress will be opened in Madrid, Spain, April 23, 1903, and close April 30. Dr. Abraham Jacobi, having been requested by the officers of the Congress to form the American committee, has arranged that the plan devised by Dr. William Osler, which worked so well in preparation for the thirteenth congress, shall be followed also for the fourteenth. Invitations to accept places on the committee have therefore been sent to the presidents of the American Medical Association, American Congress of Physicians and Surgeons, and of the fourteen constituent societies and associations of the American Congress, the Surgeons-General of the Army, Navy and Marine-Hospital Service, the President of the Canadian Medical Association and the President of the National Dental Association. Acceptances have been received from nearly all of those invited. Dr. Howard A. Kelly of Johns Hopkins University will deliver the address at one of the general meetings of the Congress. He has chosen for his subject "The Passing of a Specialty." Dr. Ramon Guiteras has been appointed delegate to the Congress by the New York Academy of Medicine. The committee to date consists of W. W. Keen, M.D., Philadelphia, President of the American Congress of Physicians and Surgeons; John C. Wyeth, M.D., New York, President of the American Medical Association; R. H. Chittenden, M.D., New Haven, President of the American Physiological Society; Walter S. Christopher, M.D., Chicago, President of the American Pediatric Society; Joseph Collins, M.D., New York, President of the American Neurological Association; John W. Farlow, M.D., Boston, President of the American Laryngological Association; Samuel A. Fisk, M.D., of Denver, President of the American Climatological Association; S. C. Gordon, M.D., Portland, Me., President of the American Gynecological Society; Geo. T. Jackson, M.D., New York, President of the American Dermatological Association; Horace G. Miller, M.D., Providence, President of the American Otological Society; Presley M. Rixey, M.D., Washington, Surgeon-General of the Navy; F. J. Shepherd, M.D., Montreal, President of the Canadian Medical Association; George M. Sternberg, M.D., Washington, Surgeon-General of the Army; O. F. Wadsworth, M.D., Boston, President of the American Ophthalmological Society; DeForest Willard, M.D., Philadelphia, President of the American Surgical Association; H. August Wilson, M.D., Philadelphia, President of the American Orthopedic Association; James C. Wilson, M.D., Philadelphia, President of the Association of American Physicians; Walter Wyman, M.D., Washington, Surgeon-General of the Marine-Hospital Service; Abraham Jacobi, M.D., New York, chairman. The secretary of the American committee is John H. Huddleston, M.D., 126 West 85th St., New York City.

LONDON LETTER.

The Smallpox Epidemic.

The number of cases of smallpox in the metropolitan hospitals at the end of last week was 1567 against 1309, 1508 and 1542 in the three preceding weeks; 449 new cases were admitted during the week against 369, 554 and 450 in the three preceding weeks. The total number of cases since the commencement of the epidemic is 5267. Of these 3246 have been discharged cured and 750 have died. From extra-metropolitan districts, 574 cases have been admitted to the metropolitan hospitals. The incidence of the disease in London has now been 1 in 870 persons. The daily admissions show that the disease is still progressing. The average daily admissions in January were rather less than 42, in February just over 56, and in March, up to the 20th, 70 a day.

The number of patients in hospitals this week is 1526, against 1508, 1542 and 1567 in the three preceding weeks; 389 new cases were admitted during the week against 554, 450 and 449 in the three preceding weeks.

Vaccination. Government Control of Lymph.

At the annual meeting of the Hospital Saturday Fund (an institution which collects money for the metropolitan hospitals on a certain Saturday every year, and last year collected $100,000) Dr. T. D. Acland made an important statement based on his seven years' experience as medical officer to the Royal Commission on Vaccination. More than 6,500,000 vaccinations were brought under the notice of the commission and in these serious injury occurred in one case in 14,159 primary vaccinations. But more than half of these were due to preventable causes, namely, the various kinds of inflammation. Having given facts and statistics to show the protective power of vaccination against smallpox he advocated arrangements by the government for an adequate supply of lymph of the best quality. A motion was carried that "The government should establish a laboratory fitted in the most perfect manner, adequate to supply all practitioners throughout the United Kingdom with vaccine lymph; and that they should inspect all establishments for the preparation of lymph in this country and regulate the sale of all that is imported."

Paralysis of the Cervical Sympathetic from a Bullet Wound.

At the Clinical Society Dr. J. Purves Stewart exhibited the following case: The patient was a soldier, aged 26, who had been wounded 14 months previously by a Mauser bullet, which entered the left side of the neck 1½ inches below the mastoid process and came out in the seventh right intercostal space in the posterior axillary line. The bullet thus passed in front

of the vertebral column. He had temporary total paralysis of the right arm, which gradually cleared up. There was some hemoptysis and slight dysphagia for a few days. Ever since the injury the sight in the right eye had been less acute than in the left, and he had noticed that he did not sweat on the right side of the face, scalp, neck or upper limb. As regards the present condition, there were slight weaknesses of the small muscles of the right hand, and an area of slight analgesia along the inner border of the upper arm, forearm and hand, including one and a half fingers, with a small patch in the axilla. The right pupil was smaller than the left, and did not dilate when shaded. Both pupils reacted briskly to light and on convergence. The cilio-spinal reflex was absent on the right side. The right palpebral fissure was narrower than the left, and the right eye was slightly sunken. He did not sweat on the right side of the face, scalp, neck, upper part of the thorax, or upper extremity. This area of anidrosis was bounded by the middle line and extended down as far as the third rib in front and posteriorly as far as the middle of the scapula. The lesion was apparently one of the first dorsal nerve-root on the right side, involving the cervical sympathetic.

The Increase of Cancer.

It is an observation in all civilized countries that cancer has greatly increased in the last generation. The subject has been repeatedly discussed in England. An attempt was made, but not successfully, to show that the increase is only apparent, and that the increased number of deaths from cancer registered are the result of more accurate diagnosis in the present day. Two very important papers have just been read on the subject at the Chelsea Clinical Society. Dr. J. Tatham, superintendent of statistics at the General Register office, said that during the last four years the annual number of deaths from cancer (using the term for all forms of malignant diseases) in England and Wales has averaged more than 25,000. According to the latest returns the male death-rate from cancer in England and Wales is 672 per 1,000,000 living, while female death rate is not less than 975 per 1,000,000. This excess was due to the tendency of malignant diseases to attack the generative organs of the female more than those of the male. When the deaths from cancerous affections of ovaries, uterus and breast were substracted from the total cancer deaths of females, the remainder gives a death rate among females which is considerably below that among males. Thus, in the four years, 1897-1900, the male deaths from cancer, less the deaths from disease of the organs referred to, corresponded to a death rate of 645 per 1,000,000, while the female rate with the same limitations did not exceed 568 per 1,000,000. The official figures show the appalling fact that the cancer death rate is more than double what it was 30 years ago. In the decade, 1861-1870, the average annual death rate from cancer per million living was 242 in males and 519 in females; in the decade, 1891 to 1900, the rates were respectively 597 and 903. Thus, although at present women suffer much more severely than men from malignant disease, nevertheless the disease during the last 30 years had increased among men much more rapidly than among women. Sir William Banks, the eminent Liverpool surgeon, said that he was absolutely certain that cancer now appears at a much earlier period of life than formerly. In discussing the cause of cancer he referred to the fact of its prevalence near rivers that periodically overflowed their banks and low damp situations, especially those with a clay soil. The parts where there is the least cancer are the high situations, especially those with a chalk formation. He thought that the great increase of the disease was due to the great amount of food, especially meat, consumed now by the people. There was no longer a class such as existed 50 years ago who ate meat only once a week. Wretched, half-starved patients were not the most prone to cancer, but well-nourished persons with plenty of fat and often with the color of health in their cheeks. However, this view, which has been advocated before, has been confuted. Dr. Reiche of Hamburg has shown that the increase of cancer in Hamburg in the last 30 years occurred equally in the poor and ill-fed part of the town and in the rich and prosperous. A much more plausible cause for the increase of cancer is that given by Mr. Jonathan Hutchinson, i. e., increase of longevity.

The Medical Graduates' College and Polyclinic.

At the third annual general meeting, the annual report records a gratifying and steady increase in all departments, showing the polyclinic filled a real and long-felt want. The attendances at the practical classes have been considerably augmented and on one or two occasions the entries have been so numerous that a duplication of the courses was necessitated. The register shows the total number of life members, members, subscribers and temporary subscribers to be for the year 1901 825, against 615 for 1899 and 674 for 1900. The special committees formed for dealing with leprosy, yaws, climatology and tuberculosis have held several meetings, and two new special committees for the study of cancer and vaccination are in course of formation. The short courses on special subjects, which were inaugurated in October, 1900, have proved so attractive, that their number during the past year has been doubled. The work of the consultation is steadily increasing, and it was pointed out that a great many more members availed themselves of its opportunities than formerly. In the past year 150 clinical investigations have been carried out in the laboratory. The museum has been enriched during the year by many valuable additions. The net profit that accrued to the college funds as a result of the dinner held at the Hotel Cecil on May 22 last was £1163.

Correspondence.

Reprints, Whence They Come and Whither They Should Go.

DENVER, COLO., March 28, 1902.

To the Editor:—There is an inborn craving in the hearts of medical men for reprints of their articles. The explanation of this universal phenomenon is based on a psychological fact, namely, that every writer wishes to give the stamp of individuality to his work. An article in a modern periodical is like a pin in a stack of hay. That an article nowadays may make a lasting impression upon the reader, it must be an extraordinary production, indeed. The individuality and force of the majority of writings is obliterated in the "crowd." Hence, the writer unconsciously makes an attempt to rescue his production from oblivion by giving it at least the form of individuality. A reprint is an entity, a whole, not a part of a conglomerate.

There is, besides, a utilitarian reason for the existence of the reprint. It is a time-saving contrivance, since it is easier to handle and, therefore, more serviceable for purposes of reference. Especially is it true in the case of long articles running through several numbers of a periodical. By using a reprint one avoids the annoyance of hunting for continuations through a maze of irrelevant literature.

The reprint, furthermore, possesses an altruistic element, namely, the socialization of ideas. By sending out reprints, one is enabled to call the attention of his colleagues to some new idea, to some particular point. By individualizing and bringing one's work into bolder relief the writer may have the satisfaction of seeing his ideas either accepted or justly refuted. The reprint then becomes a source of mutual benefit.

In the majority of cases, however, the sending out of reprints instead of being a mutual benefit, is nothing but a mutual fraud. They are sent out, not with a view of being read and preserved by the recipient, but simply as a hollow courtesy, which *faire des compliments* is reciprocated in the same spirit. Of one thousand reprints sent out, one will not be far from the mark in saying that not fifty will be read, and not a dozen will be preserved for future reference.

Any one who doubts the above assertion should make the following experiment: Ask of all of those to whom you sent out your reprints, say, six months ago, to return you a copy. You will soon be convinced that your reprints, the writing, printing and mailing of which cost you labor and money, have all gone the way of the daily newspaper.

The fun of the matter is that you have no right to grumble or to be indignant at your fellow-man, for you, too, have been the happy recipient during the last six months of many reprints, to whose authors (after having deposited their missives into the waste basket) you have probably addressed a courteous note, thanking them for their "valuable contributions." How many have *you* read? How many have *you* preserved?

This exchange of compliments is downright mockery and self-deception. The present system of sending out reprints promiscuously is a failure. A radical change is imperative.

SEND YOUR REPRINTS TO THOSE WHO WILL READ THEM.

If any one is more liable to read your reprints than another it is he who himself has contributed to the subject treated in your article. Look over several volumes of the periodical and find out the names of authors who have written already on the subject, and send them your reprint. They will undoubtedly read it, possibly preserve it.

If you wish to awaken an interest in your subject in such whom you do not know, mark with a blue pencil the most salient points in your reprint, and write on the title page "Pages so and so marked." This will insure a glance at least, perhaps a perusal.

SEND YOUR REPRINTS TO MEDICAL LIBRARIES.

A medical library is the only place where your reprint will certainly go to the shelf instead of to the basket. There your reprint will be smoothed out, catalogued under your name and under the name of the subject you treat of, be bound and eventually read with profit. If you have contributed anything of value, be sure sooner or later your work will be read by a colleague unknown to you, perhaps thousands of miles away from you. Many ideas ripen and become digestible under the dust of book shelves. In years to come, when you have already forgotten your own work, you may have the satisfaction of seeing yourself quoted or referred to. Your friends may have sent your reprints to the paper mill, or burned them in a fit of "cleaning up rubbish"; nay, your own copies may have disappeared from the face of the earth, yet your reprints still live. By sending them to libraries you have secured for them a home where they will be tenderly cared for and preserved for all time.

Let the medical libraries be the first claimants upon your reprints. We live in the work we leave behind us. By placing our reprints in medical libraries we are reaching out for immortality.

C. D. Spivak, M.D.,
Sec. Colorado Medical Library Association, Editor of *Medical Libraries.*

State Boards of Registration.

Pennsylvania Examiners.—At the examination in December by the Pennsylvania State Medical Boards, there were 105 applicants for certificates before the Regular Board, 21 failing to pass; 9 applicants before the Homeopathic Board, 4 failing to pass.

New York State Examination.—The New York State Board of Medical Examiners held an examination at Albany, in January. The number of subjects examined in were 7; percentage required, 75. The total number of applicants was 113, of whom 79 passed.

Montana Osteopaths.—The state board of osteopathic examiners elected the following officers on March 5: Dr. Asa Willard, Dillon, president; Dr. C. W. Mahaffy, Helena, secretary, and Dr. O. B. Prickett, Billings, treasurer. Of 26 applicants examined during the year, all have passed.

Missouri Examination.—At Jefferson City, January 7, the Missouri State Board of Health examined 31 candidates, of whom 14 passed and 17 failed. The written examination covered 11 subjects with 110 questions, the percentage necessary to pass being 75. The successful regular candidates were graduates of the following schools: University of Basel, Germany; University of Berlin, Germany; Imperial University, Austria; Johns Hopkins, Baltimore, Md.; Marion-Sims, St. Louis; Marion-Sims-Beaumont, St. Louis (three); Denver Medical College, Colorado; Miami Medical College, Cincinnati; American Medical College, St. Louis (two); University of Pennsylvania. There was one member of the Homeopathic school licensed, a graduate of Hahnemann Medical College, Chicago. The board objects to furnishing the percentages attained by applicants and the data concerning those who failed.

Examinations in Many States.—The spring meetings of examining boards have been in session in many states during the past few weeks.——The Montana Board, at Helena, April 3, granted licenses to 13 out of 20 applicants. Dr. F. W. McCrimmon, Butte, was elected president; Dr. William C. Riddell, secretary, and Dr. George H. Barbour, treasurer. The next session is in October.——Twenty-one candidates were examined by the Minnesota Board at St. Paul, March 31, April 1 and 2.——Wisconsin candidates numbered about 20 at Milwaukee, April 7 to 9.——About 100 applicants met the Missouri Board of Health at Kansas City, April 2.——Iowa aspirants were examined, April 3-5, at Iowa City.——The Indiana State Board met at the capitol, April 10.——Tennessee examiners divided their forces, according to law, and examined candidates in Nashville, Knoxville and Memphis, April 3. Under the law as it now stands graduates of Tennessee colleges are entitled to license without examination, but next year's and succeeding graduates must be examined.——In Pennsylvania the next examination will be June 25 to 28, at Pittsburg and Harrisburg. The board met, April 2, at Pittsburg and elected these officers: President, Henry Beates, Jr., Philadelphia; secretary, H. S. McConnell, New Brighton.——The Illinois Board examined 137 candidates at Chicago, April 9-11, of whom 98 desired license as physicians, 28 as osteopaths, and 11 as midwives.

Results in Maine Examination.—At Portland, March 18, the Maine Board of Registration in Medicine examined 6 applicants and passed 4, there being 7 subjects with 70 questions, part oral and part written. The percentage necessary to pass was 75.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
		PASSED.		
446*	R.	Long Island College Hospital	1892	82
455	R.	Harvard Medical School	1901	76 3-7
456	R.	Dartmouth Medical School	1902	80 3-7
457	R.	Eclectic Medical College of Penn	1868	87
		FAILED.		
444*	R.	Northwestern University, Chicago	1892	60
454	E.	Eclectic Medical College of Maine	1884	66 2-7

* Had failed November, 1901.

Illinois State Examination.—The Illinois State Board of Health held its regular quarterly examination on January 16, at Chicago. The number of subjects examined in was 11; questions, 110. The total number of applicants was 39, of whom 36 passed.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
		PASSED.		
940	R.	Rush Medical College, Chicago	1901	91
946	R.	Rush Medical College, Chicago	1901	84
949	R.	Rush Medical College, Chicago	1901	88
959	R.	Rush Medical College, Chicago	1901	87
948	R.	Rush Medical College, Chicago	1902	85
968	R.	Rush Medical College, Chicago	1902	91
964	R.	Rush Medical College, Chicago	1902	82
941	R.	Rush Medical College, Chicago	1901	88
977	R.	College of Phys. and Surg., Chicago	1898	86
975	R.	College of Phys. and Surg., Chicago	1901	84
971	R.	College of Phys. and Surg., Chicago	1901	82
970	H.	Hahnemann M. C. and Hosp., Chicago	1901	78
973	H.	Hahnemann M. C. and Hosp., Chicago	1901	86
967	H.	Hahnemann M. C. and Hosp., Chicago	1902	92
933	H.	Hahnemann M. C. and Hosp., Chicago	1900	76
969	H.	Chicago Homeo. Medical College	1901	85
956	H.	Chicago Homeo. Medical College	1896	86
965	H.	Chicago Homeo. Medical College	1901	88
966	R.	Illinois Medical College, Chicago	1901	84
961	E.	Bennett Coll. of Eclectic M. and S.	1901	80
958	H.	Dunham Medical College, Chicago	1901	78
950	R.	American Med. Miss. College, Chicago	1900	85
953	R.	Columbus Medical College	1880	77
952	E.	Eclectic Medical Institute, Cincinnati	1899	84
938	R.	Cleveland Medical College	1896	83
931	R.	John A. Creighton Med. School, Omaha	1896	79
936	R.	McGill University, Quebec	1893	86
976	R.	Kentucky University, Louisville	1901	87
960	R.	Marion-Sims Coll. of Med., St. Louis	1901	82
947	R.	St. Louis Medical College	1897	82
944	R.	University of Parma, Parma, Italy	1899	83
955	R.	St. Louis and Missouri Med. Coll	1900	82
944	R.	University of Parma, Italy	1899	83
945	R.	Baltimore Univ. School of Medicine	1894	76
963	R.	Meharry Medical College, Nashville	1901	86
979	R.	Keokuk Med. Coll., Coll. of P. & S.	1901	86
957	H.	New York Homeo. Med. College and Hosp., New York City	1891	77
		FAILED.		
....	..	Name of college refused by board	1884	66
....	..	Name of college refused by board	1899	67
....	..	Name of college refused by board	1900	54

Virginia Examination.—On Dec. 16-19, 1901, the Medical Examining Board of Virginia met at Richmond and examined 94 candidates, of whom 53 passed, 12 failed and 29 took only a

partial examination. There were 10 subjects and 63 questions. The next session will be June 16 to 19.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
....	R.	University College of Medicine	1901	77
....	R.	University College of Medicine	1901	77
....	R.	University College of Medicine	1901	75
....	R.	University College of Medicine	1901	75
....	R.	University College of Medicine	1901	78
....	R.	University College of Medicine	1901	78
....	R.	University College of Medicine	1901	78
....	R.	University College of Medicine	1901	83
....	R.	University College of Medicine	1901	77
....	R.	University College of Medicine	1901	81
....	R.	University College of Medicine	1901	77
....	R.	University College of Medicine	1901	77
....	R.	Medical College of Virginia	1901	75
....	R.	Medical College of Virginia	1901	77
....	R.	Medical College of Virginia	1901	76
....	R.	Medical College of Virginia	1899	75
....	R.	Medical College of Virginia	1901	78
....	R.	Medical College of Virginia	1901	76
....	R.	Medical College of Virginia	1901	77
....	R.	Medical College of Virginia	1901	77
....	R.	University College of Medicine	1901	78
....	R.	University College of Medicine	1901	80
....	R.	University of Virginia	1901	78
....	R.	University of Virginia	1901	76
....	R.	University of Virginia	1901	88
....	R.	University of Virginia	1901	88
....	R.	University of Virginia	1901	83
....	R.	University of Virginia	1899	87
....	R.	University of Maryland	1901	75
....	R.	University of Maryland	1877*	
....	R.	University of Maryland	1900	77
....	R.	University of the South	1901	76
....	R.	University of the South	1901	77
....	R.	University of the South	1901	76
....	R.	University of the South	1901	75
....	R.	University of the South	1901	80
....	R.	University of the South	1901	75
....	R.	University of the South	1901	75
....	R.	Jefferson Medical College	1901	76
....	R.	Jefferson Medical College	1901	77
....	R.	Jefferson Medical College	1901	86
....	R.	Johns Hopkins	1900	89
....	R.	College of Phys. and Surg., Georgia	1901	75
....	R.	Baltimore Medical College	1898	78
....	R.	University of Baltimore	1899	75
....	R.	Howard Medical College, D. C	1901	75
....	R.	Howard Medical College, D. C	1900	84
....	R.	Harvard University	1901	83
....	R.	Howard University	1901	77
....	R.	Leonard Medical College	1901	78
....	R.	University of Pennsylvania	1898	75
....	R.	University of Pennsylvania	1901	80
....	..	College Unknown	*	

FAILED.

15	R.	Medical College of Ohio	1890	62
17	R.	Howard University	1901	73
23	R.	Medical College of Virginia	1901	71
35	R.	Leonard Medical College	1901	72
80	R.	Leonard Medical College	1901	73
38	R.	University of Virginia	1901	63
47	R.	University of the South	1901	73
49	R.	Howard Medical College	1882	16
63	R.	Louisville Medical College	1890	34
65	R.	Baltimore University	1898	57
92	R.	Vanderbilt University	1890	58
93	R.	University of Georgia	1900	69

* Oral examination.

Book Notices.

ALCOHOLISM, A Study in Heredity. By G. Archdall Reid, M.B., C.M., F.R.S.E., Author of "The Present Evolution of Man." Cloth. Pp. 293. Price, $2.50. New York: Wm. Wood & Co. 1901.

Dr. Archdall Reid is the champion, we might say, of certain extreme views. It is perhaps not unfair to say that he believes that drunkenness exalteth the nation by weeding out its defectives. The present work is an argument to this effect drawn out at length. Many of his alleged facts are open to dispute and his deductions are still more disputable. The inference that the Northern races have not become immune to alcoholism, while the Southern Europeans have become resistant from long usage and, therefore, temperate, seems unsupported. In fact, the Northern Europeans, the Scandinavians, British, etc., have in all times been drinkers and on the other hand temperance as such is not universal among the Southern Slavs nor even in the so-called Latin race. His statements as regards the effects of prohibition are the commonly repeated ones of the anti-temperance advocates in this country and one does not need to be fanatical to have to admit that they are not absolutely based on facts. Prohibition does prohibit to a marked extent in rural districts, but in the large towns it has been more or less a failure. It certainly makes a difference, however, in the community and in the State to have prohibition laws on the statute books. His absolute acceptance of the "for revenue only" findings of the British opium commission in India is also striking. For positiveness of statement and general contempt for all who disagree with him we think Dr. Reid has hardly a rival among medical writers, and he utterly ignores a very large and respectable class of biologists and naturalists whose theories are opposed to his own as well as many illustrious medical authorities. The fact of the evil heredity of parental drunkenness is probably as well demonstrated as any medical fact existing, yet he will not admit it. He seems to entirely ignore the statistics in regard to this point of those who have studied the defective classes, especially in France. We would assume from the internal evidence that Archdall Reid is probably the chief author of the report of the Committee on the heredity of inebriety which is published in the appendix. The acknowledgment that the committee adopted the researches of Dr. Reid on national peculiarities and did not itself make any investigation of the subject, we think bears out our opinion. The book is a readable one and will have its place in the literature of inebriety and anti-temperance reform.

PRINCIPLES AND PRACTICE OF OPERATIVE DENTISTRY. By John Sayre Marshall, M.D. (Syr. Univ.), Dental Surgeon, U. S. A. Cloth. Pp. 635. Price, $5.00. Philadelphia and London: J B. Lippincott Co. 1901.

The author has shown decided skill in classification and arrangement of the topics discussed in the various chapters. The departments are arranged in a progressive, comprehensive style. Methods of constructing artificial crowns and bridgework, orthodontia and other similar subjects that do not properly come under the head of operative dentistry have been eliminated. Those considered as pertaining to operative dentistry, such as dental embryology histology, bacteriology, anatomy and pathology, are handled in a masterly manner.

No one can write a work on science at the present time which would be entirely original. This is particularly true of operative dentistry. The present methods of operating are the evolution of sixty years of practice. Operative dentistry, however, does not admit of a wide range of development. The compilation and arrangement are well done. Unlike many dental authors, Dr. Marshall has given credit to those from whom he has obtained material. He has discussed many subjects that are very important to the dentist outside of filling teeth. General and special pathology are lacking in dental schools; hence, this new departure will have a beneficial influence.

Fine photomicrographs by Dr. Vida A. Latham illustrate the chapters on origin, development and histology of the dental tissue; bacteriology of the mouth; dental caries; diseases and injuries of the dental pulp, and render the work equally interesting to student and practitioner. New illustrations by Drs. Andrews, Miller, Williams, Cryer, Noyes, Vincentine, James S. Shearer, together with originality in text, place this work in advance of other text-books on the subject. It is admirably adapted to both student and the busy practitioner, because nearly everything pertaining to the various subjects is found up to date.

MORPHINISM AND NARCOMANIA from Opium, Cocain, Ether, Chloral, Chloroform, and Other Narcotic Drugs: Also the Etiology, Treatment, and Medicolegal Relations. By T. D. Crothers, M. D., Superintendent of Walnut Lodge Hospital, Conn. Handsome 12mo of 351 pages. Cloth. Price, $2.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

This work is, as the author states, a practical summary of clinical experience of over one-quarter of a century in active treatment and care of narcomaniacs and as such it has a very decided value. The scarcity of literature also on the subject is mentioned by the author in the preface, as comparatively few text-books or treatises give the subject full consideration. It is therefore a valuable addition to the medical literature and the reader will find in it a large amount of well-described facts and suggestions. The author's views on inebriety of all kinds as a disease are well known. It is not necessary, of course, to agree with him in every point, but most of us, if not all, will be better for the information he can give. We would have been glad to have had him state, for example, the average daily amount of morphin consumed by

the ordinary morphin fiend, but we do not see it given in the work, nor the average amount given by different methods. Such a fact would be of value in estimating the number of such cases in a district where the sales are reported, as some alarming statistics have been sent out comparatively recently on this subject. We do not believe that morphin-taking is so widespread a habit as some claim, though it is far too common in every civilized country. The work is neatly printed and in the concluding chapters are given some well-known facts in regard to other drug addictions, such as chloroform, coffee and tea inebriates. The latest details in regard to the effects of methyl alcohol on the eye are not given, which seems to have been an oversight, but the data are so comparatively recent that the omission may be excusable.

The Roentgen Rays in Medical Work. By David Walsh, M.D. Edin., Physician Western Skin Hospital, London, W. Part I—Apparatus and Methods. Rewritten by Lewis Jones, M.D., Cantab., F.R.C.P., Medical Officer in Charge of Electrical Department of St. Bartholomew's Hospital. Part II—Medical and Surgical. Third Edition. Cloth. Pp. 316. Price, $2.50. New York: Wm. Wood & Co. 1902.

Since the discovery of the Roentgen rays a new specialty accessory to medicine has arisen. While not every physician can master all the facts and details required for a thorough knowledge of the subject, the practical features of skiascopy so far as they relate to medicine and surgery are particularly well summarized in the present volume. The fact that it has gone through two editions is sufficient evidence of its having met a need. Recent as this publication is, it is necessarily a little behind the time in such a progressive specialty as this department of electric science. A number of recent publications have appeared which contain facts that might well have been included, but on the whole we know of no better book as a compendium of the present knowledge.

Recherches Cliniques et Therapeutiques sur L'Epilepsie, L'Hysterie, et L'Idiotie. Compte-rendu du Service des Enfants Idiots, Epileptiques et Arriérés de Bicêtre Pendant L'Année 1900. Par Bourneville avec in collaboration de MM. Crouzon, Dionis de Séjour, Izard, Laurens, Paul-Boncour, Philippe et Oberthur. Volume XXI. Avec 19 figures dans le texte et XI planches. Paris: Progrès Médical. 1901.

This volume, which forms the report on the idiot, epileptic and feeble-minded departments of the Bicêtre under Bourneville, is, like its predecessors, a valuable contribution. The papers it contains are of unequal length, but all of them of more or less special interest. Among them may be mentioned the account of a family cerebrospinal disease by Bourneville and Crouzon, consanguinity in the etiology of epilepsy and alcoholism in the production of these diseases by Bourneville, statistics of the persistence of thymus, the data on the skull in idiocy, microcephalism, etc. This series of works will be of permanent value as containing valuable data in regard to defective humanity.

Nursing, General, Medical and Surgical. With Appendix on Sick-room Cookery. By Wilfred J. Hadley, M.D., F.R.C.P., F.R.C.S., Physician and Pathologist to the London Hospital. Cloth. Pp. 326. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1902.

Among the various books on nursing which have recently appeared this is the latest, and it appears to be fairly well adapted to its purposes. The arrangement perhaps is a little to be criticised. The question occurs to some of us as physicians whether the little knowledge of diseases given in the matter of the larger portion of this book is always a necessary part of the nurse's accomplishments. It is far from being complete, though in the main the information given seems to be correct. The description of the various special duties of the nurse comprises only a small portion of the work and some little nursing wrinkles that are taught in nursing schools are not mentioned. The appendix on sick-room cookery, though brief, is a useful addition.

Valid Objections to So-called Christian Science. By Rev. Andrew F. Underhill, Rector of St. John's Church, Yonkers, N. Y. Paper. Pp. 49. Price, 25 cents. New York: Edwin S. Gorham. 1902.

The substance of this book was contained in two discourses delivered in Yonkers last January. It is dedicated to "The physicians of Yonkers in recognition of their progressive scientific spirit and unselfish devotion to the cause of humanity." The author shows that Eddyism is neither Christian nor scientific; neither ethical nor moral; that it is purely speculative; and that it is in opposition to all physical and hygienic laws, and to all common sense and reason. It will make an excellent little book for physicians to place in the hands of those of their patients who are open to conviction.

Kirke's Handbook of Physiology. By W. D. Halliburton, M.D., F.R.S., Professor of Physiology, King's College, London. Seventeenth Edition, with 681 Illustrations. 12mo, 888 pages. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

It has been only two or three years since we noticed the last prior edition of this well-known handbook, which should really be called Halliburton's Physiology. This seventeenth edition has been thoroughly revised, and although it only exceeds the former one by fifteen pages, which are due largely to increased illustrations, sufficient unnecessary typography has been excised to leave a considerable amount of space for new matter, bringing the work as fairly up to date as can be reasonably expected. Any work on physiology rapidly changes in details; the science is a progressive one; hence, the necessity of frequent new editions. The book will undoubtedly retain the favor which it has so long held in professional public opinion.

The Pocket Gray, or Anatomist's Vade-Mecum. By the Late Edward Cotterell, F.R.C.S., Fifth Edition, Revised and Edited by C. H. Fagge, M.B., M.S., Lond., F.R.C.S., Senior Demonstrator of Anatomy, Guy's Hospital. Twentieth Thousand. Cloth. Pp. 269. Price, $1.25. New York: Wm. Wood & Co.

The fact that this is the fifth edition of this little work shows its popularity. It is a very convenient reminder of anatomic facts prepared in pocket size. There is no one whose memory is so perfect on everything in our complicated mechanism that he will not find such a reference book occasionally of use. The work is not absolutely complete, as the skeleton aside from the articulations is not included in its matter, but this, probably, is purposely omitted for the saving of space.

Rough Notes on Remedies. By Wm. Murray, M.D., F.R.C.P. Lond., Newcastle-on-Tyne. Fourth Edition. Cloth. Pp. 176. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1901.

This little volume, which has arrived at the fourth edition, consists only of a few scattered papers of the practical type that have attracted the attention of the average physician. Some of them are generally interesting, others are purely local, especially the later ones which have been added to this edition, bearing on the local conditions as to health resorts, etc., in Great Britain. One paper which is simply an advertisement of a special kind of alcoholic drink is hardly commendable in a general way.

An Introduction to the Chemical Analysis for Students of Medicine, Pharmacy and Dentistry. By Elbert W. Rockwood, M.A., M.D., Professor of Chemistry and Toxicology in the Medical, Dental and Pharmacal Departments of the University of Iowa. Illustrated. Cloth. Pp. 255. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1901.

This volume is intended as a handbook for students in their analytic work in the course of medical college instruction. It is not intended, the author says, to make analytic chemists, but to give something more than a mere smattering in this particular line of work. We should think from our examination of the work that it would be a convenient and useful adjunct to the student's medical course.

On the Cure of the Morphia Habit Without Suffering. With a Note on the Physiologic Method of Relieving the Craving for Drink. By Oscar Jennings, M.D. (Paris), M.R.C.S. (Eng.), Fellow of the Royal Medico-Chirurgical Society. Second Edition, Revised and Enlarged. Cloth. Pp. 211. Price, $1.50. New York: Wm. Wood & Co. 1901.

For ten years this has deservedly been a sort of standard work in Great Britain. The methods described are rational and we do not know of any small monograph on the subject that answers the purpose any better. The author has rewritten a number of chapters and changed the order of others, introducing new illustrative cases. The book is one that can be recommended.

Manual of Physical Diagnosis. For the Use of Students and Physicians. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the University Hospital. Fourth Edition, Revised and Enlarged, with Colored and Other Illustrations. 12mo. Cloth, $1.50 net. Philadelphia: P. Blakiston's Son & Co. 1901.

This is the fourth edition of a well-known manual which has been carefully read, revised and brought up to date by the author. That it has already received such success, shows its estimation by the profession.

Married.

JOSEPH C. BUSSEY, M.D., to Miss Julia Isaacs, both of Louisa, Ky., March 17.

ELIZABETH JOHNSON, M.D., to Rev. Evert Van Slyke, both of New York City, April 3.

LOUIS T. KENNEDY, M.D., to Miss Harriett Bland, both of Pottsville, Pa., April 1.

M. H. THOMAS, M.D., to Miss Cosette Watkins, both of Huntington, Ind., March 30.

JOHN C. HOYE, M.D., to Mrs. Elizabeth McGraw, both of Newcastle, Pa., April 2.

HUGH P. FLEMING, M.D., to Miss Ethel Gormully, both of Ottawa, Ontario, April 16.

GEORGE D. SITZER, M.D., to Mrs. L. Grace Thomas, both of Charles City, Iowa, April 1.

WALTER REEVE RAMSEY, M.D., to Miss Ruth Albia Lusk, both of St. Paul, Minn., April 19.

JACOB M. MCWILLIAMS, M.D., to Miss Ova Goodner, both of Fayetteville, Tenn., March 26.

M. M. HALLUM, M.D., Carrollton, Ga., to Miss Beulah Murphy, of Newnan, Ga., March 26.

MALCOLM S. COUNCILL, M.D., Bryn Mawr, Pa., to Miss Helen Duer, of Philadelphia, March 31.

WILLIAM H. CUSHING, M.D., to Miss Gertrude E. Kranich, both of Southington, Conn., March 31.

HENRY E. ARMSTRONG, M.D., Billings, Mont., to Mrs. Mattie Capple, at Los Angeles, Cal., March 4.

WILLIAM HOUSTON TANKSLEY, M.D., to Miss Laura Hayes Webb, both of Nashville, Tenn., April 2.

ARTHUR M. JOHNSON, M.D., Rochester, N. Y., to Miss Lucy E. Finch, of Binghamton, N. Y., March 31.

RAY BURNEY TUBBS, M.D., of Tacoma, Wash., to Miss Ethel Percy Opdyke, of Plainfield, N. J., March 15.

HARRY WALSH, M.D., Chickasaw, I. T., to Miss Bessie De Verter, of Lodi, Ind., at Chickasaw, March 27.

THOMAS JEFFERSON DAVIS, M.D., Jordan, S. C., to Miss Minerva Goode Holden, of Petersburg, Va., April 8.

WILLIAM J. RITCHIE, M.D., Warren, Ohio, to Miss Edith Maud Clement, of Brantford, Ontario, April 16.

FRANCIS WALTER ERNEST WILSON, M.D., to Miss Mary Victoria Beatrice Ferguson, both of Niagara Falls South, Ontario, March 31.

HENRY GIDEON WELLS, M.D., a member of the faculty of the University of Chicago, to Miss Bertha Robbins, of Newington, Conn., April 2.

CLARENCE W. WILLE, M.D., assistant surgeon, U. S. Marine-Hospital Service, Old Point Comfort, Va., to Miss Helen Davis Hague, of Elkton, Md., March 26.

DR. AND MRS. JAMES THOMAS JELKS, Hot Springs, Ark., announce the marriage of their daughter, Julia Roberta, to Mr. William C. Morris, of Pony, Mont., April 8.

Deaths and Obituaries.

John Kennington Leaning, M.D. Castleton (Vt.) Medical College, 1848, a prominent physician of Cooperstown, N. Y., died at his home in that place, April 4, after an illness of five days, from pneumonia, aged 78. Dr. Leaning had practiced medicine in Otsego County for 54 years. He was a member of the County Medical Society, the New York State Medical Association and the American Medical Association. He was also president of the medical board of Thanksgiving Hospital, Cooperstown. Otsego County Medical Society. at a special meeting held in Cooperstown, April 7, passed resolutions of sorrow and sympathy.

William L. Williams, M.D. Medical College of Virginia, Richmond, 1841, one of the oldest, most successful and highly-esteemed physicians of Virginia, who had practiced in Nelson County for more than 50 years, and had served his county in the state legislature, died at his home in Avon, after a painful illness, April 8, aged 83.

John Ahl, M.D. College of Physicians and Surgeons, Baltimore, Md., 1875, one of the oldest physicians of York, Pa., who had at times filled the positions of coroner, jail and almshouse physician and health officer, died from senile gangrene at his home in York, April 4, after an illness of three months, aged 79.

Thompson D. Fisher, M.D. Rush Medical College, Chicago, 1857, a retired physician, of Leroy, Ill., some-time president of the McLean County Medical Society and a member of the Illinois State Medical Society, died at his home in Leroy, April 6, after an illness of two weeks, aged 75.

John L. Eddy, M.D. Castleton (Vt.) Medical College, 1854, one of the most prominent physicians of Western New York, a veteran of the Civil war, and at one time president of the State Association of Railway Surgeons, died suddenly at his home in Olean, N. Y., April 5, aged 73.

John Eccles, M.D. University of Pennsylvania, Philadelphia, 1896, a former practitioner of Philadelphia, who had been for two years a medical missionary in Central America, died from septicemia at the United Fruit Company's Hospital, Bocas del Toro, Colombia, January 18.

J. W. H. Vest, M.D. Starling Medical College, Columbus, Ohio, 1847, a practitioner of Montezuma and Des Moines, Iowa, since 1856, a surgeon and later medical director of an army corps in the Civil war, died at the home of his son in Montezuma, April 5, aged 79.

Ulick W. C. Burke, M.D. Bellevue Hospital Medical College, New York, 1880, a specialist in diseases of the gastro-intestinal tract, died at his home in Brooklyn, April 3, from heart disease, after an illness of two weeks.

William E. Huger, Jr., M.D. University of Virginia, Charlottesville, 1897, assistant on surgical staff of the Johns Hopkins Hospital, Baltimore, died in that institution, March 29, from typhoid fever, after a short illness.

Henry C. Linn, M.D. Washington University, St. Louis, 1864, who had practiced medicine since 1833 and was the oldest physician and resident of Butler, Pa., died suddenly at his home in that place, April 3, aged 90.

William J. Poe, M.D. Memphis (Tenn.) Hospital Medical College, 1893, formerly of De Leon, Texas, but for the last three years a practitioner of Carbon, Texas, died at his home in that place, April 6, from pneumonia.

Francis M. Gunnell, M.D. National Medical College, Washington, D. C., 1846, formerly a surgeon in the United States Navy, who was retired for age in 1889, died at his home in Washington, April 5, aged 74.

John H. Blau, M.D. University of Gratz, Austria, 1852, a pioneer physician of Covington, Ky., who had been in practice for 50 years in that place, died at his residence, April 3, after a long illness, aged 69.

James T. Atchison, M.D. University of Louisville (Ky.), 1857, one of the most widely-known practitioners of Jefferson County, Ky., died at his home in Lochland, April 6, after a long illness.

Robert Q. Wilson, M.D. Rush Medical College, Chicago, 1853, one of the wealthiest and most prominent citizens of Kokomo, Ind., died at his home in that city, March 31, aged 80.

Charles N. Hayden, M.D. University of Wooster, Cleveland, Ohio, 1866, the oldest practitioner of Lansing, Mich., died at his home in that city, April 7, after a lingering illness, aged 70.

Carl Gottlieb Hirner, M.D. Tübingen, Germany, 1853, died at his home in Allentown, Pa., April 4, from pulmonary tuberculosis, after a long illness, aged 67.

Will C. Brumfield, M.D. Washington University, St. Louis, Mo., 1877, of Porterville, Tulare County, Cal., died in San Francisco, after a short illness, April 4.

J. W. Onstott, M.D. University of Wooster, Cleveland, Ohio, 1885, died at his home in McKees Rocks, Pa., April 4, after a prolonged illness, aged 43.

William Wood, M.D. Castleton (Vt.) Medical College, 1852, a resident of Cairo, Ill., for half a century, died at his home in that city, April 5, aged 80.

Henry Herbert Vinke, M.D. Missouri Medical College, St. Louis, 1882, died at his home in St. Charles, Mo., from pneumonia, April 9, aged 42.

Charles H. Berry, M.D. University of Michigan, Ann Arbor, 1868, died at his home in Columbia City, Ind., March 28, from paralysis, aged 60.

Alexander McCoy, M.D. a prominent physician of Tazewell County, Ill., for nearly fifty years, died at his home in Pekin, April 2, aged 79.

William E. Lee, M.D. Memphis (Tenn.) Hospital Medical College, 1884, died at his home in Montcalm, Lincoln parish, La., April 1.

Julius C. Pasley, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878, died recently at his home in Arcadia, Kan., aged 52.

James J. Pinckard, M.D. Louisville Medical College, 1871, died recently at Beaumont, Texas.

Miscellany.

AN OPERATING TABLE.

THOMAS M. HOPKINS, M.D.
DENVER, COLO.

It may seem presumptuous in me to intimate that any improvement can be made in the operating tables used in our well-equipped modern hospitals. There is one criticism, how-

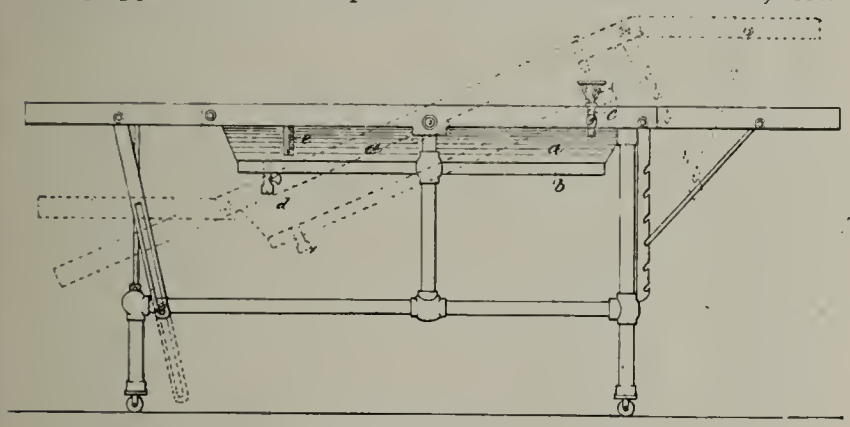


Figure 1.

ever, which I think is quite reasonable; to place a patient upon a cold glass or metallic table, saturate his clothing with

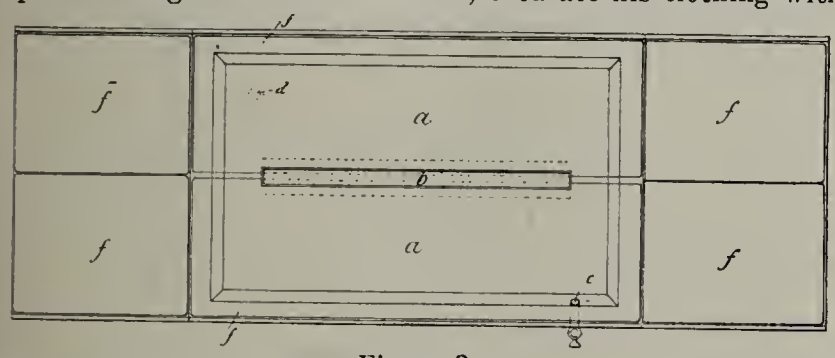


Figure 2.

water, and allow him to remain in this condition for an hour or more, appears to me to be subjecting him to an unnecessary

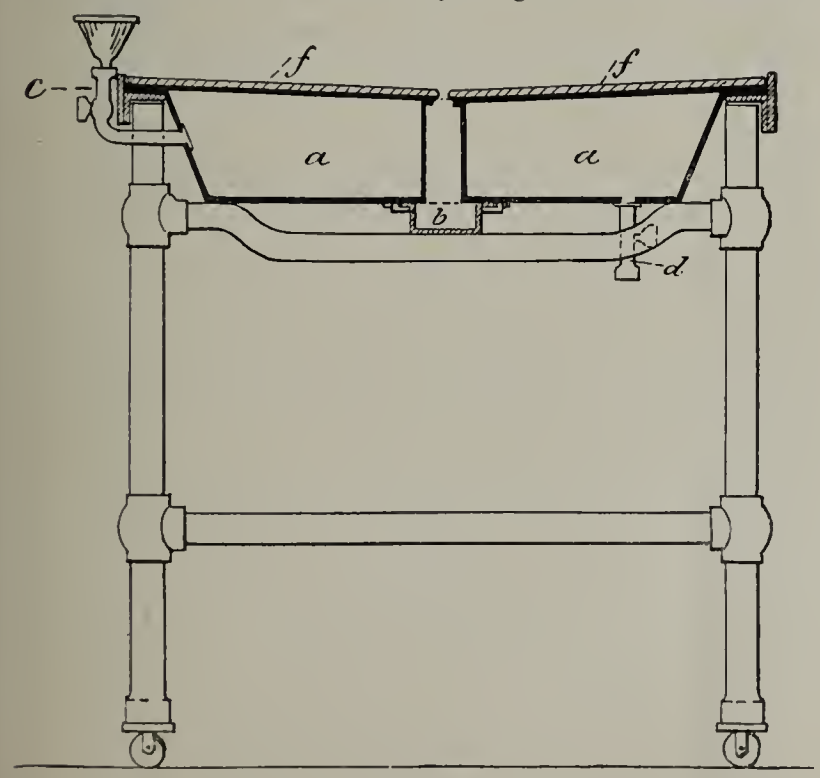


Figure 3.

and dangerous exposure. I have devised an appliance which will overcome these objections.

The accompanying drawings illustrate how a table can be made which will furnish a warm surface for the patient to lie upon during the operation.

Fig. 1 shows side view of the table. *a*, Represents a reservoir attached to the table upon which the glass slabs will lie. The reservoir is to be made water tight and filled with warm water. *b*, Represents the drip trough underneath. *c*, Represents the inlet which is controlled by a cock through which water can be poured by means of a funnel. *d*, Is the outlet also controlled by a cock. *e*, Represents a thermometer placed inside the reservoir with a small glass window at the side, so that the temperature of the water may be readily seen.

Fig. 2 represents top view of the table, showing the reservoir underneath the glass slabs, *f*, upon which the patient will lie.

Fig. 3 represents cross section of the table showing the reservoir in position; *f*, represents the glass slabs resting directly upon the reservoir, the slot between them allows the fluids to flow into the drip trough *b*, which can be withdrawn and cleansed.

Fig. 4 represents enlarged detail section of the reservoir and the manner in which it is secured to the frame of the table.

The reservoir may be made of aluminum, copper or any other suitable material. It can be applied to any table by making a few alterations. If the water in the reservoir becomes cold, a small amount can be withdrawn and hot water added

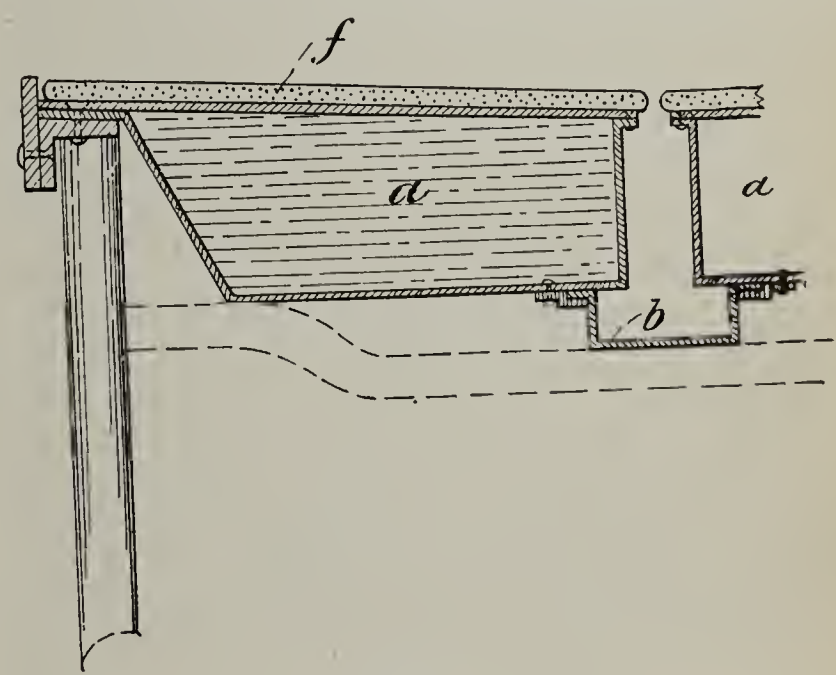


Figure 4.

in sufficient quantity to raise the temperature of the water as high as desired. To maintain the heat of the water an alcohol lamp or a gas jet may be placed under the reservoir during the interval between operations.

In representing my idea by these drawings, I have used the frame of the Baldwin table, as its construction is simpler than any other one with which I am familiar. I invite the criticism of the members of the profession upon this appliance, and if, in the opinion of those competent to judge, it has merit, I hope an early day will see it adopted into general use.

2710 E. 12th Ave.

Association News.

Conference of the Committee on National Legislation of the American Medical Association.

The third annual conference of the Committee on National Legislation of the American Medical Association was called to order by the chairman, Dr. H. L. E. Johnson, at 9 a. m., April 10, at the Arlington Hotel, Washington, D. C. Twenty-four members were present. Dr. Emil Amberg, chairman of the Committee on Uniform Legislation on basis of uniform medical education, presented a report which was discussed very generally and after slight modification was unanimously adopted and approved, and on motion was referred to the House of Delegates at the Saratoga meeting. The Committee

on State Medical Organization, Dr. Shinault, chairman, made a report of the work of that committee since the last conference. The report was further discussed by Drs. Bracken, Goff and others. The death of Dr. L. B. Tuckerman of Cleveland, Ohio, was announced, and Dr. Amberg was appointed a committee to draw up suitable resolutions of regret, which, on presentation, were adopted. The Committee on National Legislation made a report of its work *ad interim*, and made many recommendations, which, on motion, were approved by the conference. The official action of the Conference of State Health Officers at Washington, March 12-13 last, and their recommendations to Congress and this conference, on the several pending National Health Bills were considered and approved. They recommend the adoption of the Perkins-Hepburn Bill, with the following amendment to Section 7, "That when, in the opinion of the Surgeon-General of the United States Health Service, the interests of the public health would be promoted by a conference with the state or territorial boards of health or health authorities, the District of Columbia included, the Surgeon-General of the United States Health Service may, or, on the application of five state boards of health or quarantine officers, he shall invite representatives of state boards of health, and the quarantine officers to send delegates —not more than one from each state and territory and District of Columbia— to said conference."

A committee of three, consisting of Drs. H. L. E. Johnson, Wm. H. Welch and Wm. H. Rodman, was appointed to wait upon the committees in Congress having charge of the bill, and urge its passage with the proposed amendment. (The committee conferred with Senator Spooner and complied with the instructions of the conference.) The conference took up the consideration of Senate Bill 189, providing for the further prevention of cruelty to animals in the District of Columbia, recommending adverse action by Congress. Dr. Welch presented resolutions against the adoption of the bill, and he was appointed a committee of one to present these as the sense of the conference to the House and Senate. Favorable action was taken on the Nelson Bill to establish the Department of Commerce and Labor; the Proctor Bill to provide for the payment of medical expenses of sick officers and enlisted men of the Army while absent from duty with leave or on furlough, and the amendment to Section 18 of Act 4300, the Army Reorganization Bill, as proposed by Dr. John J. Riley, U. S. A., of the Legislative Committee of the Medical Officers of the U. S. A. at Manila, Philippine Islands. The report of Surgeon-General George M. Sternberg, ex-president of the American Medical Association, on Army Medical Reorganization was received with applause and adopted unanimously. Reports were received and Dr. Marmion, representing the Medical Department of the United States Navy, Dr. Salmon, the Bureau of Animal Industry, and the delegate from each state medical society represented, all of which received the unanimous approval of the conference. To carry out the expressed wishes and various resolutions of the American Medical Association, the following was presented by the Committee on National Legislation, unanimously adopted by the conference with instructions to the same committee to present the matter to Congress and secure its passage.

On June 7, 1899, the American Medical Association approved the following resolution:

WHEREAS, The position of Surgeon-General of the United States Army involves great and grave responsibility, the direction of vast interests, the highest order of professional skill and learning and executive ability; and

WHEREAS, The number of officers and soldiers under the direction of the Surgeon-General in an army organized as is the Army of the United States is greater than the command of a division commander, be it

Resolved, That it is the sense of this body that the Surgeon-General of the Army should have the rank, pay and allowances of a major-general.

The officer who was Surgeon-General at the time this resolution was passed was Brig.-General George M. Sternberg, whose period of forty-one years' service will expire June 8, 1902.

General Sternberg entered the Army May 31, 1861, at the beginning of that momentous period in the history of our country, and served throughout the war of secession—for the most part in the field—where he rendered valuable and efficient service, for which he received honorable mention and brevet rank. Subsequently, for many years, he served on the frontier and in several Indian expeditions, where he added to the reputation already gained.

General Sternberg early appreciated the enormous importance to humanity that would result from the scientific development of the germ theory of disease, to which he devoted himself so assiduously and with such success that his name is recognized throughout the world as one of the pioneers in the science of bacteriology, his works on that subject being among the most valuable extant.

General Sternberg was appointed Surgeon-General of the Army May 30, 1893. He immediately devoted himself to the advancement of his corps along scientific lines with which he was so familiar. He at once organized the Army Medical School, wherein the recently appointed officers of the corps are instructed in the special subjects most important to the successful performance of their work. He established at every permanent post a bacteriologic laboratory and demanded that the professional work of the corps be advanced to the highest plane. During the first five years of his incumbency he exerted every effort to place his corps in a position to meet the exigencies of war. Before assuming the office of Surgeon-General he had already qualified himself by experience in every field that a medical officer could be called upon to explore, and by the deepest study of the causes of disease to undertake the direction of the most difficult department of the Army. Through his persistent efforts the beginning of the war with Spain found the personnel of his department ready to meet the demands of active service to the full limit of the Army for which it was organized. When this war was declared he immediately proceeded, amidst great legislative embarrassments and administrative obstacles, to organize a medical department from the civil profession to meet the demands of a new army of 250,000 men.

"The enormous addition to his labors, due to a sudden multiplication of a combatant force by ten, and the final retention of the permanent strength at four times the antebellum number, has been met by him readily and easily, performing duties many times more arduous and responsible than those of a major-general (except only the Commanding General in the Division of the Philippines), and he has remained a brigadier-general, although the medical profession of the country has unanimously urged the advancement of the surgeon-generalcy to the grade of major-general."

A glance at the functions of the Medical Department of the Army will convince any unprejudiced person of the enormous responsibilities attaching to its chief. They are:

First. To investigate the sanitary condition of the Army and make recommendation in reference thereto.

Second. To care for the sick and wounded.

Third. To make physical examinations of officers and enlisted men.

Fourth. To manage and control military hospitals.

Fifth. To recruit, instruct and control the Hospital Corps and Nurses' Corps.

Sixth. To furnish all medical and hospital supplies for the department.

It will be observed from the foregoing that the responsibilities of the Surgeon-General attach primarily to men (secondarily, to material). He has control of, and is responsible for, the sick of the entire army and the personnel necessary to their care.

Assuming that the sick number 7 per cent. and the personnel 5 per cent., it is seen that 12 per cent. of our army constitutes the command of the Surgeon-General. With us to-day that means a responsibility for twelve thousand men, which is about the equivalent of a division. But aside from these twelve thousand men, the functions of the Surgeon-General extend widely beyond that of a major-general of the line, for he has advisory supervision of the sanitary condition of the entire army. He must direct the examination of every recruit who enters the service, and of every man who is discharged for disability; of every officer at entrance, promotion, etc. He must recruit, instruct and discipline the Hospital Corps—a body of nearly 5000 men. He must organize, super-

vise and direct the administration of all military hospitals and he must purchase the medical and surgical material necessary for the service. No other officer in the army combines the dual function of control of personnel and the supply of material as is done by the Surgeon-General, and no other officer has the responsibilities that attach to him.

We need not go afield in civil life to seek comparisons between the responsibilities of this office and those of the captains of industry, but it is not hard to imagine that the amount of executive capacity and actual work demanded of the head of the medical department could not be obtained in civil life for five times the remuneration which he receives. In other armies, where the responsibilities of the surgeon-general are often less than our own, he is given a much higher rank: in the British service, that of a lieutenant-general; in the German and French services, a major-general. In fact everywhere the importance of the office and the dignity attaching to it are recognized by rank, without which no military office can be effective.

General Sternberg's military services have been so important, so devoted, that his appointment as Major-General would be but just recognition thereof. This certainly should be done as a mark of appreciation by his country of his services as a soldier.

His accomplishments as a scientific and professional man are already a part of the history of modern medicine, and his work for humanity is honored by all the world. Congress can not add to this physician's honors, but through it the country can give material recognition of its debt to one who has worked far beyond the ordinary measure for its welfare. Congress can reward the head of the Medical Department of the Army and through him recognize the great work of a devoted corps, to which praise has come sparingly and material reward not at all.

In view of the foregoing we, the representatives of the American Medical Association, respectfully submit to Congress the following bill, the adoption of which is earnestly recommended:

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress Assembled, That the President of the United States is hereby authorized to select one from the medical officers of the Army, who has served forty-one years or more, nine years of which as surgeon-general, and by and with the advice and consent of the Senate, appoint him a Major-General of the United States Army for the purpose of placing him on the retired list.

Hotel Rates.—The Kensington Hotel rates, appearing in the issue of April 12, should be for single rooms $3 to $4, and for double rooms $6 to $8 per day.

American Medical Association Membership.—Two hundred and fifty-eight new members of the A. M. A. are reported by The Journal for the month of January. Not one new member from Minnesota! What is the matter with our medical men? South Dakota sent in 6 new names, North Dakota 2, Wisconsin 6, Iowa 4, and California 30. Dr. Wyeth, the new president, in a circular letter urges medical men to join the "only representative National organization in the Union," the one great aim of which is to federate into one compact organization the medical profession of the United States. Its comprehensive scheme embraces the formation in every county of a medical society, with a uniform constitution and by-laws, each of which shall belong to the state association, organized and governed with equal uniformity, and all a part of the National body. Of course it is expected that difficulties may arise in counties or states where societies are few and at too great a distance for medical men to attend. Such matters will be adjusted in time by the formation of new county societies or the eligibility of men to societies in adjoining counties. These possible delays should not prevent men in populous counties where societies already exist from joining the Association. Let our Minnesota medical men bend every effort to affiliate with a society, and send in applications for membership to the A. M. A. that Minnesota may make a good showing before the meeting at Saratoga.—*Northwestern Lancet.*

Societies.

COMING MEETINGS.

American Medical Association, Saratoga Springs, N. Y., June 10 to 13.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 22, 1902.

Association of American Physicians, Washington, D. C., April 29 to May 1, 1902.

American Association of Genito-Urinary Surgeons, Atlantic City, N. J., April 30, 1902.

International Association of Railway Surgeons, St. Louis, Mo., April 30 and May 1 and 2, 1902.

American Gastro-Enterological Association, Washington, D. C., May 2, 1902.

Nebraska State Medical Society, Omaha, May 6-8, 1902.

Texas State Medical Association, Dallas, May 6-9, 1902.

Kansas Medical Society, Lawrence, May 7-9, 1902.

American Therapeutic Society, New York City, May 13, 1902.

Utah State Medical Society, Salt Lake City, May 13-14, 1902.

Oklahoma Territory Medical Association, Oklahoma City, May 14, 1902.

Arkansas Medical Society, Little Rock, May 13-15, 1902.

New Hampshire Medical Society, Concord, May 15-16, 1902.

Illinois State Medical Society, Quincy, May 20-22, 1902.

American Surgical Association, Albany, N. Y., May 20-22, 1902.

Medical Association of the State of Missouri, St. Joseph, May 20-22, 1902.

Kentucky State Medical Society, Paducah, May 7-9, 1902.

Arizona Medical Association, Tucson, May 21-22, 1902.

Medical Society of West Virginia, Parkersburg, May 21-23, 1902.

Medical Association of Montana, Anaconda, May 21-22, 1902.

Iowa State Medical Society, Des Moines, May 21-23, 1902.

Indiana State Medical Society, Evansville, May 22-23, 1902.

American Pediatric Society, Boston, May 26-28, 1902.

American Laryngological Association, Boston, Mass., May 26-28, 1902.

American Gynecological Society, Atlantic City, May 27, 1902.

Connecticut Medical Society, New Haven, May 28-29, 1902.

Ohio State Medical Society, Toledo, May 28-30, 1902.

Rappahannock Valley (Va.) Medical Society.—This Society held its annual meeting at Fredericksburg, Va., March 27, and elected Dr. J. Edward Tompkins, Fredericksburg, president.

Lyon County (Kan.) Medical Society.—This Society held its annual meeting at Emporia, April 1, and elected Dr. Thomas F. Foncannon, president, and Dr. Jonathan J. Wright, vice-president and treasurer.

Terrell (Texas) Medical Society.—On March 28, this Society held it annual meeting and elected Dr. William H. Neely, president; Drs. Thomas B. Bass and Samuel M. Gladney, vice-presidents, and Dr. James Orr, secretary.

Butte (Mont.) Medical Society.—This Society was organized, April 6, with the following officers: Dr. Havelock H. Hanson, president; Dr. Thompson G. Heine, vice-president; Dr. Thomas B. Moore, secretary, and Dr. Willis H. Haviland, treasurer.

Henry County (Tenn.) Medical Society.—At a meeting of this Society, at Paris, April 7, the following officers were elected: Dr. Felix F. Carter, president; Dr. Richard A. Grainger, vice-president, and Dr. John H. McSwain, secretary and treasurer, all of Paris.

Orange County (Cal.) Medical Association.—At its annual meeting, April 4, Dr. James P. Boyd, Santa Ana, was elected president; Dr. William Freeman, Fullerton, vice-president; Dr. John L. Dryer, Santa Ana, secretary, and Dr. Charles D. Ball, Santa Ana, treasurer.

University of Texas Medical Club.—This club was organized, January 6, and will meet monthly. The following officers were elected: Dr. James E. Thompson, president; Dr. John T. Moore, vice-president; Dr. William Kieller, secretary-treasurer, and Dr. William S. Carter, recorder.

New London County (Conn.) Medical Association.—The annual meeting of this organization was held at New London, April 3. Dr. Newton P. Smith, Norwich, was elected president; Dr. Harold H. Heyer, New London, vice-president, and Dr. Morton E. Fox, Montville, clerk and treasurer.

Medical Association of the District of Columbia.—At a meeting of this Society, held April 1, the following officers were elected: Dr. George N. Acker, president; Drs. John R. Wellington and Edmund L. Tompkins, vice-presidents; Dr. Monte Griffith, secretary, and Dr. Frank Leech, treasurer.

Iola (Kan.) Medical Society.—The physicians of Iola met, March 31, and organized this Society, the membership of which is to be limited to the physicians of Allen County. Dr. Frank D. Teas was elected president; Dr. Wyatt, vice-president; Dr. Gantz, secretary, and Dr. W. H. McDowell, treasurer.

Faulkner County (Ark.) Medical Society.—The physicians of Faulkner County met at Conway, March 24, and organized a medical society, with the following officers: Dr. George D. Dickerson, president; Dr. Charles H. Voris, vice-president, and Dr. Joseph S. Westfield, secretary and treasurer, all of Conway.

Waynesboro (Pa.) Academy of Medicine.—This organization, which was established in 1884, flourished until 1890, and since that time has been inactive, was reorganized, April 4, with the following officers: Dr. James B. Amberson, president; Dr. A. B. Sollenberger, vice-president, and Dr. Percy D. Hoover, secretary and treasurer.

Denison (Texas) Medical Association.—The physicians of Denison met, April 3, and organized a society, with an initial membership of seventeen. Dr. Ashel B. Gardner was elected president; Dr. Pierre Wilson, vice-president; Dr. D. Ross, secretary; Dr. John M. Owensby, corresponding secretary, and Dr. Daniel H. Bailey, treasurer.

Golden Belt (Kan.) Medical Association.—This Society, whose membership is made up from the physicians of Central Kansas, met at Abilene, April 4, and elected Dr. John C. McClintock, Topeka, president; Dr. John T. Curtiss, Dwight, secretary, and Dr. Cassius W. Brooks, Enterprise, treasurer. The next meeting will be held at Chapman, in July.

Pulaski County (Ill.) Medical Society.—The annual meeting of this Society was held at Villa Ridge, April 1. Dr. Marcus L. Winstead, Wetaug, was re-elected president and Dr. Charles J. Boswell, Beechwood, secretary. The next meeting will we held in Mound City, July 1. It was decided to make Mound City the permanent meeting place and to hold meetings quarterly.

Polk County (Iowa) Medical Society.—The annual meeting, election of officers and banquet of this Society were held, April 1. Dr. Charles D. Rawson was elected president; Dr. Edith G. Fosnes, first vice-president; Dr. Granville N. Ryan, second vice-president; Dr. Lenna L. Means, secretary, and Dr. William S. Conklin, treasurer, all of Des Moines. Dr. Michael F. Patterson, Des Moines, presided over the banquet as toastmaster.

Association of House Physicians of Harper Hospital (Detroit).—Ex-internes and members of the present house staff of Harper Hospital, to the number of 21, met at the hospital, April 3, for organization. The following officers were elected: Dr. Henry O. Walker, president; Drs. Howard W. Longyear, John K. Gailey, and Frederick W. Robbins, vice-presidents; Dr. F. R. McClure, secretary, and Dr. Richard T. Mason, treasurer, all of Detroit.

Clark County (Ohio) Medical Society.—At the regular meeting of this Society, at Springfield, April 3, Dr. John H. Rodgers delivered an address on the "Reorganization of the Medical Societies." He believes in the reorganization as laid down by the American Medical Association, that is, a reorganization from the county societies to the national association on a uniform basis. The general principle involved is the putting of the Society on a better basis for scientific and literary work, and for anything which pertains to the advancement of the profession.

TENNESSEE STATE MEDICAL SOCIETY.

Sixty-ninth Annual Session, held at Memphis, April 8-10.

President, Dr. Deering J. Roberts, Nashville, in the Chair.

Address of Welcome.

This meeting was a profitable and interesting one and was well attended. Among the visitors were Drs. Frank Billings and Fenton B. Turck, Chicago; Edwin S. Ricketts, Cincinnati; J. N. MacCormack, Bowling Green, Ky., and P. W. Rowland, Oxford, Miss. The meetings of the Society were held at the Peabody Hotel.

The address of welcome was delivered by Dr. E. M. Holder, who referred to the great work done by physicians and surgeons from the earliest times for the sake of science. In conclusion he said: "It seems to me that the most beautiful benediction of the medical profession has descended upon the poor. There is no excuse now for anyone not receiving scientific treatment. All over the civilized world there are dispensaries and hospitals under the control of the very best doctors. A half-starved woman comes out from her low tenement house into the dispensary and unwraps the rags from her baby and over the little sufferer bends the accumulated wisdom of ages. In one dispensary in one year 150,000 prescriptions were written. Who will say that anesthesia is not of greater benefit to the world than all the poetry that was ever written? Or that asepsis in the operating room does not represent a greater wealth of service than has been rendered by all the artists and novelists who ever trod the earth? Long may such achievements live in song and story to inspire countless generations of youths yet unborn with love for the science of medicine and surgery."

Dr. Billings on Cirrhosis.

After Dr. S. R. Miller, Knoxville, responded in brief and appropriate terms to the address of welcome and the committee on arrangements reported, the first feature on the official program was the special address by Dr. Frank Billings on "Symptoms and Signs from the Early Stages of Cirrhosis, with Report of Cases." The paper was one of the most learned and instructive treatises that has been presented before the Society and was discussed by Drs. Henning, Frank Jones of Memphis, Cowan of Tullahoma, Sheddan of Columbia, and Fenton B. Turck of Chicago.

Pneumonia.

DR. G. B. HENNING, Memphis, read a paper on "Pneumonia." His conclusions are that the mortality from this disease has not decreased with the advance of medical science. He regretted that no routine treatment could be offered for this disease, and advised that the patient be treated as the symptoms developed.

DR. DEERING J. ROBERTS, Nashville, praised creosote in the treatment of pneumonia.

DR. REAGOR, Shelbyville, believes that the death-rate from pneumonia was higher now than in the days of venesection, and furthermore believes that bleeding would yet be recognized as an important feature in the treatment.

In closing the discussion Dr. Henning stated that there were only two anatomic conditions to deal with in pneumonia. When the disease attacked the air passages it became catarrhal and was likely to be protracted and the contrast between the mortality of pneumonia in the city and country was very marked, the mortality being much higher in the country despite the fact that the patients were, as a rule, more robust. He agreed with the last speaker that the lancet was often efficacious.

Gunshot Wounds of the Stomach.

DR. PAUL F. EVE, Nashville, reported a case of gunshot wound of the stomach. The surgeon should exercise the greatest care in these cases in searching for wounds of the stomach, as almost invariably two punctures will be found. The stomach should be dilated for thorough examination and sutured. No nourishment should be allowed in the stomach for at least three or six days, then nothing but liquids. He never allows solids or any food capable of fermentation to be given until eighteen or twenty days after the operation.

President's Annual Address.

At the evening session Dr. J. B. Murfree, Jr., first vice-president of the association, occupied the chair. The president, Dr. Deering J. Roberts, delivered his annual address. He outlined the histories and deeds of former presidents of the Tennessee Medical Society from 1830 to the present time. He cited the fact that through the association and its members much beneficial medical legislation has been secured, and mentioned that the society was more than 15 years older than the American Medical Association, and three of the members of the former society have been elected president of the national organization. He paid a tribute to the generation of young practitioners who, he stated, are the control spirits of the day and are superior to the former generation as they have better advantages, better opportunities and in addition the experience of their predecessors to help them. During the year the number of affiliated local and county societies was increased from 14 to 21.

Controversy Between Two County Societies.

The Judicial Committee, to which has been referred the controversy between the Shelby County Medical Society, a recently organized society and the Memphis and Shelby County Medical Society, reported in favor of the latter society, which has long

been affiliated with the state organization under the name of the Memphis Medical Society and has complied with all the requirements of the state and American Medical associations. The societies of Lincoln and Hardeman counties were also recognized and the recognition of the societies of Overton and Lauderdale counties were deferred until certain amendments should be made to their constitution and by-laws.

The Hippocratic Oath.

Dr. J. H. Preston, Humbolt, advocated that the profession should reaffirm its loyalty to the Hippocratic oath. He feared that too much commercial spirit was creeping into the profession, and appealed for a higher regard for medical ethics. He stated that there should be in the ranks of the profession the system of freemasonry whereby the differences and friction of the members might be kept a secret from the laity, and closed with an earnest appeal for the adherence to the Code of Ethics.

Pathologic Tonsils.

Dr. Richmond McKinney, Memphis, read a paper on "Pathologic Tonsils with Some Considerations of Treatment," in which he said that the prejudice against the removal of tonsils was born of ignorance. He strongly advocated the operation and described in detail the symptoms and treatment of the various diseases of the tonsils and of the operations for their removal. His observation has been that the range of the singing voice is greatly increased rather than injured by the removal of the tonsils.

Dr. Turck on Gastro-Enteroptosis.

The second day's session, April 9, opened with a paper by Dr. Fenton B. Turck, Chicago, on "Gastro-enteroptosis," in which he illustrated the various stages of the disease by large *x*-ray photographs, and described the modern methods of diagnosis and treatment.

Smallpox and Mercury Bichlorid.

Dr. E. W. Ridings, Dickson, presented a paper on "Bichlorid of Mercury in the Treatment of Smallpox." In the portion of the state in which Dr. Ridings resides there appears to have been a special susceptibility to smallpox, and he has almost limitless opportunities for observation and treatment. He described his method of treatment of the disease by bichlorid of mercury baths and asserted that the specially low mortality of the patients was due, in some measure at least, to this treatment.

Adoption of the New Constitution and By-Laws.

At the afternoon session, the Judicial Council reported that it had given careful consideration to every section of the new constitution and by-laws, and each section had been unanimously adopted. They were practically the same as those adopted by the American Medical Association and conformed to all the requirements of that body. After considerable discussion the constitution and by-laws were adopted as a whole.

Necrology.

The Necrology Committee reported that since the last meeting of the society the following men had died: Dr. R. L. Bush, Gallatin, graduated from the University of New York in 1865; Dr. William L. Nichol, Nashville, University of Pennsylvania, in 1849; Dr. E. P. Sale, Memphis, Tulane University, 1869; Dr. B. W. Stone, Louisville, Ky., Kentucky School of Medicine, 1868; Dr. Charles William Beaumont, Clarksville, University of Pennsylvania, and Dr. Asa Bell, Henderson. The report of the committee was accompanied by an eloquent and feeling tribute to the memory of the late Dr. Beaumont, written by Dr. C. W. Runyon of Clarksville.

Medical Examiners and Board of Health.

The resolution was unanimously adopted that the society have the Governor appoint Dr. T. J. Happel, Trenton, a member of the State Board of Medical Examiners for the western division of the state.

The resolution offered by the Secretary that it be the sense of the society that the medical members of the State Board of Health be appointed from members affiliated and in accord with the State Medical Society was enthusiastically adopted.

Injuries of the Tarsus.

Dr. T. J. Happel, Trenton, read a paper on "Injuries of the Tarsus, with Reports of Three Cases." He took the position that no wound or puncture of the foot, however trivial, should be neglected. Even if it were a mere scratch, it was worthy of the most careful surgical attention and aseptic treatment; if this care were taken cases of tetanus would be less frequent.

Treatment of Pelvic Lesions.

Dr. Edwin Ricketts, Cincinnati, read a paper on "Diagnosis and Treatment of Pelvic Lesions," in which he paid an eloquent tribute to the distinguished physicians of the South. The scientific portion of the paper provoked a spirited discussion, in which Drs. McGarnon of Nashville, Crawford of Memphis, Burch of Nashville, Haggard of Nashville and Sheddan of Columbia entered.

April 10—Morning Session.

In the election of officers, Dr. S. R. Miller, Knoxville, was made president; Dr. Cooper Holtzclaw, Chattanooga, vice-president; Dr. F. J. Runyon, Clarksville, third vice-president; Dr. Deering J. Roberts, Nashville, secretary; Dr. W. C. Bilbro, treasurer; Dr. W. F. Glenn, Nashville, delegate to the American Medical Association, and Dr. B. C. Savage, alternate.

The society adjourned to meet in 1903 in Nashville.

SEMI-CENTENNIAL MEETING OF CHICAGO MEDICAL SOCIETY.

Celebrated April 9, 1902, at the Auditorium Hotel.

Dr. Alexander Hugh Ferguson, in the Chair.

Etiology and Spread of Typhoid Fever.

Dr. Victor C. Vaughan, Ann Arbor, Mich., delivered an address on this subject, which appears in this issue.

Organization of the Medical Profession.

Dr. J. T. McAnaly, Carbondale, Ill., president of the Illinois State Medical Society, in this address, said the time had come when medical societies must enlarge their scope of usefulness. Medical men are coming to believe that the scope of medical societies is too narrow. We can no longer ignore the material and social interests of the members, if we are to keep a compact organization. There are many subjects for medical societies to discuss other than strictly scientific matters, such as irregularities in practice, the best means of obviating them and the prosecution of offenders against the medical statutes.

Fifty Years of the Society.

Dr. N. S. Davis, Sr., gave brief reminiscences of the origin and growth of the society. He referred to two or three critical periods in its existence. He said, when the society was first organized, and during the three or more years of the beginning of its existence, the profession was in a condition of entire disorganization as far as harmony was concerned. There were more physicians in proportion to the population than there were now. One of them had a wide reputation for dealing in thunder and lightning pills, and some of the members of the profession devoted more time to dealing in real estate and politics than to the practice of medicine, consequently they could not be induced by any influence to pay any attention to the organization of the profession at that time, and they had to be left out. Of the rest, they were divided into factions, each group worked for its own end and fought the other groups. The most influential group was connected with a medical college that had been planted here, and there was a bitter enmity on the part of two or three of the minor groups against those that belonged to the college. After speaking of the different crises through which the society had passed, to show the way in which physicians were divided into warring factions when Chicago was young, he related the story of a man whose leg had been nearly torn off in a street accident. Several physicians of one clique had made preparations to amputate the limb where the accident happened, when another faction arrived and succeeded in driving the first lot away from the patient. Dr. Davis said there was less bickering and less enmity among members of the profession in Chicago to-day than in any other

city in the United States; he hoped that this good, cordial, liberal feeling one with another would be cultivated until the end of time.

He thought there was such a thing as having too many organizations, too many things to attend. He said he had heard of doctors in Chicago who were attached to so many hospitals that it seemed to him if they visited each one during the week they would accomplish nothing else. He urged the members of the profession to be a little cautious. If they wanted to accomplish the most there was in this life, they should select their field of labor and cultivate it, but not try to cultivate all the earth.

In closing, Dr. Davis said that his work was nearly over and he found that he could do only a little every day and then rest in his comfortable home and wait for the end of life to come. He was happy that he had lived so long and had seen the growth of the society from its small beginning to the present membership of between ten and eleven hundred.

DR. I. N. DANFORTH, one of the older members of the society, gave a number of reminiscences of the early days and the different methods of practice then in vogue.

DR. FRANK BILLINGS followed with remarks in which he paid an eloquent tribute to the late president, Dr. Christian Fenger. Among other things, he said that Fenger's knowledge of pathology made him a surgeon. He was not an operator. There was a distinction between a surgeon and an operator. Almost any physician could be an operator, but surgeons were few, and Fenger was one of them. He was a man who knew when a case was operable and when it was not and he did not operate unless the indications demanded it. He undertook the most difficult operation and never stopped when he once began. Although slow as an operator, his results were as good, if not better, than the most brilliant operators who have ever wielded the knife.

CHICAGO SOCIETY OF INTERNAL MEDICINE.

Regular Meeting, held March 31, 1902.

President, Dr. Edward F. Wells, in the Chair.

DR. CHARLES SPENCER WILLIAMSON read a paper entitled "Muscular Mitral Insufficiency," which will appear in THE JOURNAL.

The Prognosis and Treatment of Suppurative Pleurisy.

DR. E. FLETCHER INGALS read a paper with this title, giving an analysis of eighty-three cases taken from his own records and those of the Presbyterian and Cook County Hospitals.

The prognosis in empyema had always been considered unfavorable, and it became interesting to inquire how far this had been modified by the progress of surgery in recent years. Laennec, writing in 1826, conveyed the impression that very few cases recovered, either with or without operation. Alfred L. Loomis stated that the majority of empyemic children recover, while in adults, although for a time there is improvement, it seems that phthisis is almost certain to develop sooner or later. The essayist was unable to obtain accurate statistics of cases left entirely to nature, or to medicinal treatment, but all of the authors at his command agreed that if left to themselves nearly all die.

Operative treatment changes the prognosis decidedly, fatality now being the exception in uncomplicated cases that are properly treated early.

Puncture with a trocar through the canula in which a double tube was introduced and brought out with the end under water was recommended by Kussmaul in 1869. Without knowledge of Kussmaul's recommendatioi, Dr. Ingals has used this method in most of his cases since 1872; but for the past ten years he has employed a trocar so large that two drainage tubes, each with a caliber of three-sixteenths of an inch, could be passed through it. A tube of this size is so large that it obviates most of the objections which were properly urged against the tubes that were employed when this method was first introduced.

The advantages urged for the drainage tubes are that they enable one to secure free drainage and to wash out the cavity thoroughly, and if introduced through a trocar in the proper manner, they exclude air for ten or twelve days, during which time the lung will have expanded and the chest wall contracted to a great extent and adhesions will have taken place between the pleural surfaces, so as to diminish materially the size of the suppurative cavity.

After giving the statistics of numerous authors, Dr. Ingals states that of his own cases, all but one of which were operated on by introducing a drainage tube through a trocar, six were of less than four weeks' duration and all of these recovered; fourteen were of from two months' to three years' duration and of these only 9 recovered. In other words, 100 per cent. recovered in early cases, and only 64 per cent. in those of longer duration.

In pleurotomy difference of opinion exists as to whether it is better to make the opening small or large. If the pus has already escaped between the ribs and is burrowing under the skin, Wilson Fox recommends that a valve-like opening be made through the skin and the knife not allowed to penetrate the thoracic cavity, thus preserving nature's method. But under other conditions exsection of one or two ribs is desirable in order to scrape out the fibrinous deposit.

Of the 83 cases that he is considering, 41 were operated upon by exsection of a portion of one or more ribs, and of these only 12, or 30 per cent., recovered. Of those that recovered, 2 were in children, whom it has been shown usually recover under almost any form of treatment, and 4 were in those over 15 years of age, who had not been sick for more than a month when the operation was done. In 11 cases the disease had been present for several months, and of these 2 recovered, 2 were improved and 7, or 64 per cent., died.

Exsection of the rib is easily performed, and wherever the intercostal spaces are greatly narrowed by retraction of the chest, as when there has been perforation of the lung so that the pus has been continually escaping, this operation is the only one to be recommmended. In acute cases where retraction has not taken place, he believes that the introduction of the double drainage tube through a canula and the exclusion of air for several days after the operation very considerably improves the patient's chances for life, for although exsection of a rib is easy, the danger of secondary infection, especially through the cut ends of the rib, is considerable, and the operation is much more formidable than by the trocar.

Being fully convinced of the advantages of the operation by the trocar, he urged it in all suitable cases, which comprise nearly all of the empyemas in children and the great majority of cases in adults in whom the disease is not of more than two or three months' duration. In these 83 cases, which were taken in order without any selection, of those operated upon by the method he recommends, 70 per cent. recovered, while of those in whom exsection of a rib was done, only 30 per cent. recovered.

Dr. Ingals then gave the directions for the operation and the subsequent treatment at considerable length.

DR. EDWARD F. WELLS warned against the free use of peroxid of hydrogen in the chest cavity without free exit. He also mentioned an old case of left-sided empyema in which the spleen was greatly enlarged. One day in dressing the cavity and pressing over the spleen he noticed fluid pouring out of the opening freely; whereas, if he relaxed the pressure air entered. Applying an elastic bandage around the chest and forcing the spleen up a little, little was required to expedite a cure. In two or three weeks the cavity had closed because the surfaces were coaptated properly.

DR. JOSEPH M. PATTON said that the age of patients had a good deal to do with the mortality. Then, we must remember the cause of death in those cases which were due to general infection and embolism, causes which might act in various cases irrespective of the nature of the operation. In regard to the selection of the operation to be performed, too much stress could not be laid on the nature of the infection. He spoke of three or four cases that had recovered from simple aspiration. Some time ago he aspirated a boy the ninth time. He was aspirated twice afterwards; he saw the boy about a year subsequently and his recovery was perfect. However,

he did not think we could rely too much on aspiration. Surgeons taught that nothing would do short of exsection of a rib. He believed this to be good teaching in chronic cases, but not in acute, especially in pneumonic affections, as a large percentage of such cases could be cured by simple siphon drainage. He had drained three or four cases with single siphon drainage with satisfactory results. One of these patients, a child of 6 years, recovered in six weeks, and the loss of expansion on the affected side two years afterwards was less than one-quarter inch. He uses the single tube because he does not believe that in very recent cases of pneumococcus infection irrigation is necessary or advisable.

Dr. Wessels, of Cape Town, South Africa, expressed himself as being conservative with reference to operating on acute cases of empyema. Even before resorting to aspiration it was necessary to weigh the matter very carefully, lest one disturbed the condition of the patient. Operations which caused the prolapse of one side of the thorax by removing a number of ribs to close a chronic cavity which had existed for a long time were indicated in order to cure intractable cases of empyema; but in well-selected cases he thought aspiration would probably do as much good as the resection of one or more ribs.

Dr. John A. Robison said that prior to ten years ago he had performed the operation outlined by the essayist eleven times, and he reported 100 per cent. of recoveries.

Dr. Ingals, in closing the discussion, said that his own experience had not been that many of the cases were tubercular. He did not recall any case, excepting that of an empyema, where there was pure pus that seemed to him to be tubercular. The cases that appeared to him to be tubercular were those in which he got sero-pus. He recalled that Dr. Bowditch told him of four cases he had had in which there was sero-pus, and all of these died. He recalled two of his own cases of a similar character, one of which died.

The suggestion of Dr. Wells not to use peroxid of hydrogen was timely. Personally, he had never used it. However, if a large opening was made, it might be used safely, but he had never tried it.

As to whether one should make the opening at the point nature usually selects or not, this was a matter of individual choice, and physicians and surgeons varied much in their choice. Some operators preferred to open near the angle of the ribs, others at the mid-axillary line, still others a little farther forward. He liked to make the opening on a line near the angle of the ribs, believing that better drainage could be secured.

Referring to aspiration, he thought it very important to resort to preliminary aspiration, not with the hope of curing the patient of empyema, but for the purpose of expanding the lung.

NORTHWEST MEDICAL SOCIETY OF PHILADELPHIA,

Regular Meeting, held April 1, 1902.

President, Dr. Wendell Reber, in the Chair.

Treatment of Heart Disease.

Dr. I. Newton Snively read a paper entitled "A Brief Consideration of the Scientific Treatment of a Few of the Diseases of the Heart," in which he laid great stress upon the importance of an individual study of the general condition of each patient showing cardiac lesions, especial attention being directed to the condition of the kidneys. In the author's opinion no heart medicine is needed if the myocardium is able to perform its work in a satisfactory manner, and more consideration should be given to the heart muscle than to the heart murmur. Among the most important therapeutic agents in the treatment of cardiac conditions are rest in bed, properly selected diet and the use of tonics to restore the blood to its normal condition. Physical exercise and light gymnastics were also stated to be of value in properly selected cases. In treating the acute infectious diseases the importance of preventing myocardial weakness by medicines tending to eliminate the poisons from the system was noted and as heart stimulants to be used in conjunction with rest, in cases where a weakness of the myocardium is manifest, strychnia, caffein, digitalis and alcohol were recommended.

Dr. Judson Daland opened the discussion and remarked upon the weak action of the heart in typhoid fever, directing particular attention to the fact that in these cases the ordinary symptoms of cardiac weakness are not present, the conditions making the greatest impression on the observer usually being the feebleness of the muscular element of the first sound, which is particularly important, not only as indicating the general condition of the myocardium, but also the condition of the circulation and acts as an important guide to general medication. Rest, properly arranged massage and Swedish movements were recommended to stimulate the flow of the blood in the veins and thus produce a balance of circulation.

Dr. Thomas H. Fenton believed much valuable information could be gained in cardiac and vascular conditions by the working together of the ophthalmologist and the clinician, the ophthalmoscopic observations revealing many conditions of the arteries and veins which are valuable adjuncts to the physician in the treatment of his patient.

Dr. Howard S. Anders considered that the most important factor in the treatment of cardiac disease was the condition of the myocardium, which is also, in his opinion, one of the most difficult of diagnosis. Regarding hypertrophy and dilatation of the heart, he felt that while these two conditions usually occur in conjunction, yet the greatest difference in the apparent general condition of the patient is observed, depending upon which of the two is predominating. As a rule when hypertrophy predominates, the patient remains in fairly good health, while the reverse is true where dilatation is the predominant factor. Attention was called to the importance of making a thorough physical examination in all cases, and particular stress was laid upon the position and character of the apex beat, the area of heart dulness and the character of the sounds of the heart and, in the event of any of these conditions being discovered at a time when the patient is under treatment for some other disease, preventive measures were recommended.

Dr. Samuel Wolfe considered many cases of dilatation due to malnutrition, and inclined to the opinion that in many instances the physician is too hasty in insisting upon the patient quitting his occupation and limiting the amount of exercise. While there are no doubt a considerable number of cases where these directions are necessary, yet the speaker felt that in a far larger majority it was of much more importance to prevent worry and regulate the diet and unless the lesions had progressed pretty far he did not think the physician was justified in ordering cessation of all work. Methodical muscular exercise should be carefully regulated by the physician. The use of cold baths is of value and the cold sponge baths can be employed to advantage in almost all cases.

Dr. W. E. Robertson reiterated the opinion that the most important factor is the condition of the heart muscle. He remarked upon the value of the position of the apex beat as an aid in diagnosis and recommended, to locate the normal apex beat, the use of a line dropped from the center of the clavicle, instead of the nipple line, which varies more or less according to the age, sex, and health of the individual. The importance of preserving the balance of circulation was thought to be especially illustrated in children, where the same symptoms of cardiac disease are not found as in adults. Failing compensation in adults is usually accompanied in its inception with some cyanosis and edema, while in children neither of these conditions is common and, if present at all, exists only to a slight degree, the predominating symptoms in the latter class of cases being progressive pallor and asthenia. The belief was expressed that the continued use of digitalis would in itself produce hypertrophy, a case being cited in which the patient had used this drug continuously for twenty years prior to his death, at which time the organ weighed two and one-half pounds. While the value of calomel in right-sided heart failure was not discounted upon, yet the speaker felt that better results would probably be obtained from the use of phosphates and the salicylates.

DR. JUDSON DALAND made a few remarks with reference to the anatomic condition of the heart in mitral regurgitation (non-inflammatory) secondary to dilatation and the discussion was closed by Dr. Snively, who urged upon the members the importance of improving the general condition of patients suffering from cardiac disease.

DENVER AND ARAPAHOE COUNTY MEDICAL SOCIETY.

Regular Meeting, held March 11, 1902.

Dr. George B. Packard, in the Chair.

Surgical Treatment of Chronic Nephritis.

DR. C. B. LYMAN, after referring to the scant literature on this subject, and especially to the papers of Dr. Edebohls, related the case of a patient who was well until the summer of 1900, when he began to have headache and loss of appetite. Edema of the genitals and legs followed, with puffiness under the eyes. In February, 1901, when admitted to hospital, he had attacks of vomiting and partial loss of vision. He was tapped four times for ascites and showed an enlarged liver and heart, with a mitral systolic murmur. Symptoms of uremic intoxication yielded to vigorous treatment. The urine contained albumen in large quantities, granular hyalin and fatty casts, free fat globules and epithelial cells in a state of fatty degeneration. The operation was performed February 21, 1902, and consisted of complete decapsulation of both kidneys. The stomach was washed out after the anesthetic (ether) was discontinued. Both kidneys were diminished in size by fully one-third. The capsule peeled off easily. The operation consumed one hour and fifteen minutes. Sixteen ounces of urine, containing no blood, were withdrawn per catheter during the twenty-four hours following the operation. The day following the operation the pulse and temperature rose and the patient died 56 hours after the operation.

The fatal termination of the case should not and will not deter him from operating on suitable cases. That the handling of the kidney does no injury was proven by the fact that the urine following the operation did not contain any blood. In the future he will endeavor to determine before the operation whether one or both kidneys are involved. This would in many cases obviate a bilateral operation. In connection with the subject he thinks two questions deserve careful consideration. The first is whether it is advisable to operate on both kidneys at the same time or whether it is not wiser to operate on one kidney at a time, allowing an interval of a month or more to elapse between the operations. The cases where cure was effected early, according to Edebohls, were those when the disease was unilateral. The second question is whether it is necessary to do a complete decapsulation or whether a sufficient collateral circulation could not be obtained by making a partial denudation, such as is made in nephropexy.

DR. T. M. BURNS exhibited a rare specimen of a fetal anomaly. The fetus was expelled six months after the patient's last menstruation. The fetus was 3½ inches long and was covered by the amnion as by tights. The deformities were many—a meningocele, talipes, absence of toes and all the abdominal viscera were outside the abdomen. There was no history of prenatal shock or of maternal impressions.

TORONTO CLINICAL SOCIETY.

Regular Meeting, held April 3, 1902.

Purulent Pericarditis and Empyema.

DR. K. MCILWRAITH reported three cases of puerperal septicemia treated with the antistreptococcic serum with one death.

DR. R. D. DUDOLF reported an interesting case of purulent pericarditis and empyema, with operation and recovery. This occurred in a boy of 7 years, who was admitted to the Children's Hospital with shortness of breath, cough, pain, lips cyanosed, extremities cold, but no edema. The abdomen was prominent, especially in its upper portion, and the umbilicus was protruded. Palpation revealed the lower border of the liver a finger's breadth below the umbilicus. The respiration was almost entirely thoracic. The cardiac impulse could not be detected at all. By the *x*-rays it was ascertained that there was an enormous collection of fluid in the pericardial sac which was interfering with the cardiac action. Dr. George A. Peters operated and over thirty-six ounces of fluid were taken away. The cyanosis disappeared rapidly, even before the patient left the operating table. The heart was not very much displaced. The empyema followed and was treated successfully in the usual way.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section on Medicine, March 18, 1902.

Dr. James K. Crook, in the Chair.

Acute Articular Rheumatism—Its Pathogenesis.

DR. HEINRICH STERN made some remarks on this topic. He took the ground that the microbic theory of the origin of rheumatism was not based on clinical facts. Because of the old theory of the acidity of the blood in rheumatism he had accurately estimated the blood alkalinity in a number of cases and had found no marked deviations from the normal. Similarly the urine, though often vaguely called "highly acid," when examined by acidimetry showed the acidity to be close to the normal. Attention was directed to the fact that in acute rheumatism and in only one other disease, i. e., pneumonia, were the urinary chlorids decidedly reduced.

Symptomatology and Diagnosis.

DR. LEONARD WEBER said that the onset of acute articular rheumatism was sudden and the disease was often fully developed in twenty-four hours. Monoarticular rheumatism was very rare. In very well-marked cases anemia quickly developed. A soft cardiac murmur at the beginning was common and was not due to endocarditis but to the fever and anemia. If, however, the murmur persisted after defervescence, the patient should be kept absolutely quiet in bed for several weeks. Endocarditis should be looked upon as a part rather than as a complication of rheumatism. Gonorrheal arthritis is monoarticular and does not respond to the salicylates. Acute osteomyelitis might occur in several places simultaneously, and thus be mistaken for rheumatism. In atypical cases of gout, a search for deposits of urates about the joints would sometimes aid in the diagnosis.

Complications and Sequelae.

DR. FRANK W. JACKSON gave his own personal experience in this field. He said that the principal complications of rheumatism were hyperpyrexia, delirium, coma and convulsions, tonsillitis, bronchitis, pneumonia, meningitis, pleurisy and inflammations of the other serous membranes and inflammation of the kidneys. True hyperpyrexia, i. e., a temperature of 105 or 106 F. and usually fatal, was not frequent in this locality. Delirium in young rheumatic subjects was often due to the use of the salicylates. Coma and convulsions he had not seen. Acute rheumatic iritis was occasionally met with. While there was a distinct relation between throat inflammations and rheumatism he was not sure that they were a part of that disease. Rheumatic meningitis must be very rare, as he had not seen it. Rheumatic pleurisy was fairly common, and was generally of a mild type and characterized by its dryness or by the rapid formation of adhesions. In his own experience pericarditis had not been a very frequent complication of rheumatism. In making this statement he excluded cases having pericardial friction, due to a plastic inflammation between the pleura and the external layer of the pericardium. It was quite common in acute articular rheumatism for a heart murmur to be alternately audible and inaudible on different days. Careful and extended observation had convinced him that some patients absolutely recover from a rheumatic endocarditis.

Prognosis and Treatment.

DR. WILLIAM H. THOMSON took up this topic. He described rheumatism as a microbic infection running its course in about six weeks. The salicylates were chiefly useful in controlling the pain. He had found an antecedent tonsillitis in nearly 25

per cent. of his cases of rheumatism and hence he favored, as a prophylactic measure, the douching of the throat with peppermint water. To guard against relapse, the rheumatic patient should be clothed in flannel and lie between blankets. The modern use of the salicylates almost to the exclusion of the alkaline treatment he believed was responsible for a greater proportion of cardiac complications. He used aconite to quiet the heart, and cod-liver oil to improve the general condition, but considered iron mischievous in the anemia of rheumatism. He preferred the strontium salts to the salicylates.

Dr. Morris Manges was disposed to think that several germs might stand in etiological relation to rheumatism. He was of the opinion that more than 25 per cent. of cases were preceded by tonsillitis. The anemia was certainly very marked in rheumatism, but he had not found iron harmful. He was in the habit of using the organic preparations of iron. Many of the cardiac murmurs heard during an attack of rheumatism are hemic or myocardial, which explains the diurnal variations noted by Dr. Jackson. The best medicinal treatment for rheumatism was the use of the salicylates, together with the alkalies in sufficient quantity to keep the urine alkaline—often a difficult matter. Rest in bed during convalescence from rheumatism was of the utmost importance.

Dr. S. Baruch said that many of the disappointments with the salicylates arose from the use of too small doses. For some years past he had prescribed twenty-grain doses of pure salicylic acid from oil of wintergreen combined with ten-grain doses of bicarbonate of sodium, thus making the salicylate of soda extemporaneously. It was best to begin its administration at 4 p. m., and repeat at intervals of two hours until eighty grains have been taken. The drug should be given up to the point of producing a ringing in the ears, and if given only in the evening, the disagreeableness of the medicine would usually disappear during sleep. Locally, he made use of compresses of three or four thicknesses of linen wrung out of water at 60 F. and covered with flannel. They should be renewed about every two or three hours and were not usually required unless the temperature of the body was over 100 F.

Dr. Abraham Mayer said that while most physicians now believe in the bacterial nature of rheumatism, the specific germ was still unknown. He cited the experiments of Singer and Meyer in support of the view which he entertained, that rheumatism is caused by various germs. The impure varieties of salicylate often cause delirium, which is rarely true of the pure drug. With the latter he found it possible often to give 120 grains in the twenty-four hours without causing delirium. He had found iron useful.

Dr. Andrew H. Smith said that he was accustomed to keep the urine of rheumatic patients alkaline by giving a mixture composed of equal parts of the acetate, bicarbonate and citrate of potassium. There was undoubtedly an intimate relation between tonsillar inflammation and acute articular rheumatism. A useful local application in acute articular rheumatism was made up of equal parts of guaiacol and glycerin. The patient should be confined to bed for some time after the temperature had reached the normal.

Dr. Louis Fischer, speaking of acute rheumatism in children, said that in his hospital cases of polyarthritis, 70 per cent. had developed heart complications and 11 per cent. of the cases had terminated fatally. The dietetic treatment was more important than the medicinal. The affected joints should be kept at rest by the use of bandages or splints. A 10 per cent. ointment of the salicylate of methyl applied to the affected joint would give relief in some cases. It was often useful to bathe the whole body of the child in water at 75 or 85 F., to which about two ounces of the sulphuret of potassium had been added.

Dr. Heinrich Stern said that the great number of bacteria found in connection with rheumatism tended to throw doubt upon the microbic theory. The salicylates act in rheumatism by increasing the osmotic tension of the blood.

Dr. W. H. Thomson said that he expected in the near future the announcement that Wassermann's bacterium had been demonstrated to be the ultimate cause of rheumatism.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Treatment of Gallstone Colic.

G. S. Eveleth, in *New York Med. Jour.*, states that, in the treatment of gallstones, the first indication is the relief of pain by means of morphin administered hypodermically. One should bear in mind, however, the possibility of a rapid discharge of the stone and the immediate relief from pain. The second indication is the prevention of subsequent attacks by giving attention to the hygiene and diet; by the use of medicinal agents and by the aid of surgery.

In order to favor the respiratory and circulatory acts and thus increase metabolism, the following is recommended by him:

℞.	Tinct. nucis vom.	ʒiii	12
	Sodii salicylatis	ʒvi	24
	Ext. xanthoxyli flu.	℥ii	60
	Elix. aurantii q. s. ad	℥vi	180

M. Sig.: One teaspoonful three times a day in water.

The nux vomica is given to increase the respirations and circulation, the sodium salicylate to increase the flow of bile, and the xanthoxylum for its tonic action upon the gastro-intestinal mucous membrane and to promote glandular action.

W. L. Heeve, in the same journal, states that biliary colic in mild form can always be relieved by the administration of 5-minim doses of a reliable fluid extract of dioscorea villosa every half hour in hot water. It may be given in the following combination:

℞.	Ext. podophylli flu.	m. xxiv	1 50
	Ext. dioscoreæ vil. flu.	ʒiii	12
	Tinct. lobeliæ	ʒii	8
	Aquæ chloroformi q. s. ad	℥iv	120

M. Sig.: One teaspoonful every half hour.

The action of olive oil, while not a specific, from his experience may be relied upon only when the obstruction is at the diverticulum of Vater, given in combination with aromatics in order that it may be better borne by the stomach:

℞.	Olei cinnamomi	m. v	30
	Methyl salicylatis	m. vi	35
	Menthol	gr. ss	03
	Saccharini	gr. i	06
	Essentiæ anisi	m. xv	1
	Olei olivæ	O. ss	240

M. Sig.: At one dose.

When the obstruction lies in the cystic ducts the internal administration of one-quarter grain doses of podophyllin until one grain has been given is recommended.

[Dioscorea—colic root—is an unofficial preparation made from the rhizome of the plant. It contains an acrid resin, which is perhaps the active ingredient acting upon and stimulating the intestinal canal. It has been used in the past in the form of the fluid extract to relieve the cramps in cholera morbus, spasmodic hiccough, and biliary colic. But very few of the pharmacopeias speak of it at the present time.]

Bromipin in Epilepsy.

Dr. J. Wolff, in *Allg. Med. Centralzeit*, recommends bromipin in the treatment of epilepsy as a substitute for the bromids, because of the symptoms of intolerance and irritation of the stomach by the latter. According to his statement, bromipin did not so diminish the frequency of the attacks but was successful in lessening their severity. Also an improvement in the mental condition of the patients was very considerable. He gave to these patients bromipin in doses ranging from one and a half to six teaspoonfuls in the twenty-four hours. He observed no untoward effects from the drug. The functions of the body and the digestion were in no way disturbed by this treatment; on the other hand, the general nutrition of the patients were almost uniformly improved.

Lupus Erythematosus.

G. H. Fox, in the *Ther. Monthly*, recommends, where the patches are dry and scaly, an ointment or plaster of salicylic acid, gradually increased in strength until the inflammatory reaction is as great as the patient will tolerate. The following formula is recommended for local application:

℞. Acidi salicylici .....gr. x |60
Acidi pyrogallici .....gr. xx 1|20
Vaselini .....ʒiii 12|

M. Sig.: Apply locally once or twice daily.

Epilepsy.

In discussing the treatment of epilepsy, Bowman, as noted in in the *Ther. Month.*, states that every effort should be made towards preventing the first paroxysm. Prophylaxis directed toward rachitis or defective nutrition may be exerted through proper feeding. Careful treatment through the acute infectious diseases, and the regulation of diet will prevent infantile convulsions. Hygienic measures can not be too strongly enforced. The patient, indeed, should live by the clock. Meat as a food should be forbidden absolutely or given in very small quantities. Keep watch on the enormous appetite of the epileptic. Forbid the use of alcohol and insist on the use of cold baths. Operations on the cortex may be considered in a certain proportion of cases of partial or traumatic epilepsy, but in no cases which have existed over two years. The bromids are relied upon for direct treatment. Strychnin is of value. Beta-naphthol is recommended by him as the best intestinal antiseptic. He states, however, that salol may be advantageously used and that it has a tendency to prevent the bad effects of the bromids.

Scabies (Itch).

The following is Kaposi's formula for the treatment of scabies:

℞. Beta-naphthol .....ʒiii 12|
Cretæ prep. .....ʒiiss 10|
Saponis mollis .....ʒiii 12|
Adipis .....ʒvi 90|

M. Ft. unguentum. Sig.: Apply locally at night.

Gonorrheal Urethritis.

The following combinations are recommended in the treatment of gonorrheal urethritis:

℞. Ichthargin .....gr. ss |03
Aquæ destil. .....℥iii 90|

M. Sig.: Use in the form of an injection three times daily.

[Ichthargin is the sulpho-ichthyolate of silver.. It is a brown odorless powder containing about 30 per cent. silver. It is soluble in water or glycerin, and is an astringent and bactericide.]

Internally the following is of service:

℞. Copaibæ .....ʒii 8|
Salol
Pulv. pepsini, āā .....ʒiiss 10|
Mucilag. acaciæ .....℥i 30|
Aquæ destil q. s. ad.....℥iv 120|

M. Sig.: Shake and take one teaspoonful three times a day.

Cystitis.

Dr. B. Foster, in *St. Paul Med. Jour.*, states that, in the treatment of cystitis, when the urine is acid in reaction, the following preparation containing liquor potassæ is the most useful:

℞. Liquoris potassæ .....ʒii 8|
Mucilaginis acaciæ .....℥i 30|
Tinct. hyoscyami q. s. ad.....℥iv 120|

M. Sig.: One teaspoonful every four hours in water.

If the urine is already alkaline, and particularly if it has undergone ammoniacal decomposition, urinary antiseptics are indicated, such as salol, boric acid, sodium benzoate or urotropin.

Care of the Breasts in Nursing Mothers.

Dr. G. Barksdale, in *West. Druggist*, recommends in the treatment of tender nipples, that the nipple be painted over with glycerite of tannin and alcohol for several days. If they become fissured they should be painted with tincture of benzoin or boric acid solution. When the flow of milk is more than the child can use it is best to withdraw some of it to prevent pain to the mother. When the symptoms of abscess appear the child should be taken from the breast, the milk withdrawn and the tumors, produced by the overdistended ducts, should be massêed until they disappear; or the breast anointed with an ointment composed of camphor, opium, belladonna and lanolin. The pulverized jalup compound should also be given to secure free movement of the bowels and to promote diuresis. If the symptoms continue, use hot fomentations until the abscess forms and then open.

Enuresis in Females.

G. C. Parnell, as noted in the *Med. Standard*, in an extensive clinical practice has had occasion to treat many obstinate cases of enuresis in females of different ages. In an article in *Brit. Med. Jour.*, he reports five cases ranging in age from 9 to 18 years in which he applied a strong solution of silver nitrate to the neck of the bladder. Every case was benefited and one patient, 18 years of age, who had been a sufferer for ten years was permanently cured, and three of the others had only slight relapses. He used a wire dilator in applying the solution so as to reach the entire length of the urethra. No ointment or oil of any sort is used in its introduction. After the urine has ceased to flow a probe covered with cotton wool saturated with the solution is introduced between the blades of the dilator and applied thoroughly. The dilator is removed and again reinserted at right angles and the solution again applied to the surfaces. The strength of the solution should vary from gr. x (.60) to gr. l (.3) to the ounce (30) of water. Chloroform is not necessary, as the pain is not severe. The patient should be kept in bed for twenty-four hours and the application repeated in four or five days if necessary.

Medicolegal.

Employment of Surgeon by Trainmaster.—The Supreme Court of Mississippi says that the appealed case of the Southern Railway Company in Mississippi vs. Brister was brought to recover an agreed fee of $100 for services to an employe of the company. It seems that the employe, while engaged in the company's service, was run over by one of its trains and seriously and, as it soon proved, fatally injured. The company's station agent at the place where the accident happened sent a call to the surgeon who rendered the services, whose services in like cases the company had before refused to compensate. The surgeon informed the station agent that he would attend the injured employe if he would be responsible for the fee. The agent asked him to wait a little, and, as the court infers, placed the case before the trainmaster, who wired the surgeon to take charge of the case for the fee of $100, unless he was appointed the company's surgeon. The surgeon attended the wounded man, gave him all necessary medical attention and procured and paid for other necessary care and nursing, and after a few hours the patient died. The company not having engaged the doctor as one of its surgeons, he brought this action. The record disclosed the proof of the contract with the trainmaster for the payment of the $100, the performance of the surgeon's part of the contract and the breach by the company. It was also proved by a former employe that the trainmaster had authority in emergencies to employ a surgeon temporarily and that the trainmaster also acted under the superintendent and performed the duties of local superintendent, which evidence was not objected to or controverted. Besides, so far as the record showed, the station agent was the only officer of the company on the spot, and it is assumed by the court that the trainmaster was the next officer of authority within reach. Under these circumstances, and with it admitted that this trainmaster might perhaps employ a surgeon in an emergency, the Supreme Court is of the opinion that he had authority to bind the company, and that the contract made was valid and enforceable. However, it says that it is not called upon to decide whether, as train-

master, he had authority to contract with the surgeon as he did; but, it says, inasmuch as at the time he was in the exercise of the functions of a division or local superintendent over that part of the road, it thinks it may be presumed that he had the power to so contract. From the fact that the company had surgeons in employ, though they were not in call, it infers that the company recognized its duty to employes injured in its service.

Privilege in Nebraska—Board of Health Records.—The Nebraska statute relating to witnesses and their competency contains the following provision relating to professional communications: "No practicing attorney, counsellor, physician, surgeon, minister of the gospel or priest of any denomination shall be allowed, in giving testimony, to disclose any confidential communication, properly entrusted to him in his professional capacity and necessary and proper to enable him to discharge the functions of his office according to the usual course of practice or discipline."—Code of Civil Procedure, Section 333. "The prohibitions in the preceding sections do not apply to cases where the party in whose favor the respective provisions are enacted waives the right thereby conferred."—Section 334. The rule in Nebraska, as well as in other states having a like statute, the Supreme Court of Nebraska says, in Sovereign Camp of Woodmen of the World vs. Grandon, is that the above sections protect a party against any disclosure by a physician made to him in the course of his professional employment, and necessary and proper to enable him to discharge his duty to his patient. Not only are such communications privileged, but whatever knowledge the physician may gain from observing his condition and symptoms is likewise privileged. There can be no doubt as to the rights of the patient, and the courts, in a proper case, are vigilant to see that these rights are fully protected. But the fact that a physician was called to attend a patient is not a privileged communication. A physician may testify that he was called to attend a patient and to the number and dates of his professional visits. Moreover, where, in an action between the representative of a deceased person and an insurance company, the former introduced in evidence, as a part of the cross-examination of the attending physician, a written statement, which the latter had given her at her request, to the effect that the deceased was not seriously sick until the evening previous to his death, the court holds that this constituted a waiver of her privilege on her part, and that the company should have been permitted to re-examine the physician as to the condition of his patient. A record kept under the ordinances of a city for the evident purpose of assisting the board of health in the conduct of the affairs of that office, the court holds, is not such a public record as to be entitled to admission in evidence to show the truth of the matters therein recited and especially should it be rejected as evidence when offered to establish a fact which would not be admissible against a part because of its privileged character. That a record of this character, reciting privileged communications, may be used in evidence against a party where the testimony of the physician making it could not be received, the court says, is a proposition so inconsistent with reason and natural rules of justice that it can not give its consent thereto. Besides, the requirement, for example, of a city ordinance that, before a burial permit is issued, there must be filed with the secretary of the board of health a certificate setting forth the cause and date of death, the duration of the last illness of the deceased, etc., the court says is a mere police regulation, and is not intended for the purpose of supplying the public at large with information upon which reliance may be placed in the business affairs of the community.

Damages for Injury to Physician's Business.—The Supreme Judicial Court of Massachusetts says that the case of Earle vs. Commonwealth was brought by a practicing physician to recover for damage to his business by the carrying out of the Metropolitan Water Supply act. The case was referred to a commission. It reported that he lived and had his office in West Boylston and had a practice which extended through that and some neighboring towns. The taking of land at West Boylston necessarily affected his business to a considerable extent. The questions of law arising on the report were reserved by one of the justices for the consideration of the full court. To begin with, the commonwealth contended that the material portion of the statute, if it applied to cases like this, in allowing damages, was unconstitutional. But the court pronounces it constitutional without stopping to consider whether the question was open, although it says that very likely the physician's rights were of a kind that might have been damaged if not destroyed without the constitutional necessity of compensation. Next it was contended that the physician was not an "individual * * * owning * * * an established business on land in the town of West Boylston" within the meaning of the statute. But a majority of the court does not see why not. It thinks the word "business" quite wide enough to include the practice of a doctor. As to the suggestion that the practice was not established on land in West Boylston, it says that it is true that a doctor can give advice elsewhere than in his office, and that in fact he does so to a greater extent than a shopkeeper sells his goods outside his shop. But no less than a shopkeeper a doctor usually has, as this one had, a locally established center to which patients resort, and from which he goes his rounds. There is even a certain amount of salable good will, as is made familiar to us by English law and literature as well as by an occasional case in our own reports. Then, the commonwealth demanded a finding or ruling that the physician's business was not decreased in value by the carrying out of the act, because of figures given for his income for the preceding year, and thereafter. But, the court says, the commission may have found, and for all that it can see, rightly, that the diminution of income before the date when the act should affect it was due to precautions taken by him in anticipation of the change and it is unable to see that the commonwealth's request should have been granted. If his business was within the protection of the act and was "decreased in value," damages were to be paid for "such injury," that is to say, for the actual decrease in value of that business, not for the decrease in the value of such elements in it, only, as admitted of being sold. The money value of his business could be estimated, even though absolutely personal to himself. Again, the court says that the damage theoretically would be the difference in value between the business as it had been and as it was left. Perhaps it might be reached by taking the difference in value between the business carried on as it was in West Boylston and a similar one carried on by the physician in the nearest available place, bearing in mind the effect of requiring all West Boylston patients to move. A request for a ruling that what the physician had earned as a specialist since his abandonment of his general practice could not be considered, the court says, went too far, though undoubtedly the evidence was not very important.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine (Philadelphia), April 5.

1 *The Function of the Army Medical School. George M. Sternberg.
2 *Notes on Some Diseases of the Kidney and Bladder in Infancy. John L. Morse.
3 The Use of Eggs as a Medium for the Cultivation of Bacillus Tuberculosis. M. Dorsett.
4 *The Surgical Uses of the Hair-pin. J. Torrance Rugh.
5 Report of a Case of Bacillus Aerogenes Capsulatus, Probably Invading the Body from a Gangrenous Lung; Gas Cysts in the Brain of a General Paralytic. J. D. Madison.
6 *A Contribution to the Etiology of Appendicitis. Arthur J. Patek.

Boston Medical and Surgical Journal, April 3.

7 *Angina Cruris (Intermittent Claudication) and Allied Conditions, Including Painful Cramps, with Remarks on the Importance of Examining the Pedal Arteries. G. L. Walton and W. E. Paul.
8 *Physiological Heart Murmurs Produced by the Electric-light Bath. Thomas Howell.
9 A Congenital Malformation. Seabury W. Allen.
10 Poisoning from the Application of Carbolic Acid to the Unbroken Skin. J. W. Wainwright.
11 A Case of Dermatitis Medicamentosa. William H. Robey, Jr.
12 The Sign of "Koplik" in the Diagnosis of Measles. Enrico Castelli.

Philadelphia Medical Journal, April 5.

13 The Relation of the Tubercle Bacillus to Pseudoleukemia (Sternberg's Disease). (To be concluded.) Joseph Sailer.
14 *Bacterial Purification of Sewage. B. H. Buxtou.
15 *Light and Radiance in the Treatment of Disease. George G. Hopkins.
16 A Case of Bubonic Plague—Recovery. Thomas W. Jackson.
17 A Case of Thrombosis of the Left Iuterual Jugular, Subclavian, Axillary, Basilic and Median Basilic Veins, of Unexplained Origin. Charles J. Aldrich.

New York Medical Journal, April 5.

18 *On the Treatmeut of Fracture of the Anatomical Neck of the Humerus by the Aid of the Roentgen Rays. Carl Beck.
19 *The Differential Diagnosis Between Disease of the Gall-Bladder and Disease of the Vermiform Appendix; With a Report of Two Cases. James C. Keunedy.
20 *Pulmonary Embolism After Operations upon the Bladder and Prostate. Edward L. Keyes, Jr.
21 *Human Asymmetry. William S. Ely.
22 Au Epidemic of Typhoid Fever In the Backwoods of Maine. E. F. Brush.
23 An Unusual Complication of Inguinal Hernia. A. C. Smith.

Medical News (N. Y.), April 5.

24 *Treatmeut of Acute Puerperal Sepsis from a Surgical Standpoint. Hiram N. Vineberg.
25 *Leucocytosis as a Point of Prognosis in Appendicitis. Henry M. Joy and Frederick T. Wright.
26 The Pneumatic Proctoscope. James P. Tuttle.
27 The Antirabic Vaccination at the New York Pasteur Institute During 1900 and 1901. George Gibier Rambaud.

Medical Record (N. Y.), April 5.

28 *Pathological, Therapeutic, and Clinical Notes on a Few Cases of Malarial Infection. J. Herbert Ford.
29 *The Influence of Suprarenals in Pueumonia. Ethau A. Gray.
30 *Plastic Operation for Restoratiou of the Sphincter Ani, with Report of a Case. Charles H. Chetwood.
31 *Uunecessary Antiseptic Treatment in Midwifery. Valentine Browne.
32 *What Can We Diagnosticate in Acute Appendicitis? Charles A. Elsberg.
33 Carbolic Acid Gangrene, with Report of a Severe Case. John G. Sheldon.
34 Tetanus; Recovery After Thirty-six Days. J. Burton Nowlin.
35 Report of a Case of Foreigu Body in the Trachea. Walter W. Stebbins.
36 Are Seeds Potent Factors in the Production of Disease of the Vermiform Appendix? James C. Kennedy.

Cincinnati Lancet-Clinic, April 5.

37 Address, Cinciunati Obstetrical Society. Julia W. Carpenter.
38 Some Clinical Observations on the Treatmeut of Rheumatism. William Oseubach.

St. Louis Courier of Medicine, March 29.

39 Proteolysis: A Study into the Quantitative Work of the Chief Function of the Stomach. M. D. Schmalhorst.
40 Skin Grafting. John C. Morfit.

April 5.

41 Aphthous Stomatitis. F. Neuhoff.
42 Acute Rheumatism and Its Treatment. W. E. Thomas.

Medical Fortnightly (St. Louis), March 25.

43 *The Classification of Cirrhosis of the Liver. Arthur R. Edwards.
44 The Cervical Loop. Byron Robiuson.
45 Ecthol in the Treatmeut of the Eruptive Fevers. Robert C. Kenner.

Pediatrics (N. Y.), March 15.

46 An Unusual Case of Subperiosteal Hemorrhage of the Orbit Followiug an Uncomplicated Delivery. Edgar S. Thomson.
47 *Cirrhosis of the Liver iu Infancy and Childhood. Frank X. Walls.
48 Congenital Defect of the Penis. A. M. Vance.
49 A History of Six Vacciuations. J. M. Krim.

American Practitioner and News (Louisville, Ky.), March 15.

50 *Latent Malaria. George B. Young.
51 Skiu Grafting, with Report of Case. J. T. Duun.
52 Adenoids of the Pharynx. P. Richard Taylor.
53 Boro-chloretone, the New Surgical Dressing. Walter P. Ellis.

Virginia Medical Semi-Monthly (Richmond), March 21.

54 *Hemoptysis. Johnson Eliot.
55 *Syphilis Domestica. James T. Boutelle.
56 The Physiology of Proteids, with Its Bearing on the Dietetics and Treatment of Uremia. Greer Baughman.
57 The Physiology and Pathology of Metabolism. G. W. Drake.
58 Prophylaxis and Treatment of Puerperal Sepsis. Charles S. Webb.

Journal of Experimental Medicine (Baltimore), March.

59 Experiments on the Effects of Injection of Egg-Albumin and Some Other Proteids. Torald Sollmann and E. D. Brown.
60 A Contribution to Our Knowledge of the Action of Saponin on the Blood Corpuscles and Pus Corpuscles. G. N. Stewart.
61 Snake Venom in Relation to Hemolysis, Bacteriolysis, and Toxicity. Simon Flexner and Hideyo Noguchi.
62 On a Coccidium (Klossielia Muris, Gen. et Spec. nov.) Parasitic in the Renal Epithelium of the Mouse. Theobald Smith and Herbert P. Johnson.

American Journal of the Medical Sciences (Philadelphia), April.

63 *Cases Illustrative of the Localization of the Mental Faculties in the Left Prefrontal Lobe. Charles Phelps.
64 Brain Abscess in Typhoid Due to Bacillus Typhosus. R. W. McClintock.
65 Modern Mastoid Trephining Operations, with Notes on 100 Recent Operations. B. Alexander Randall.
66 Corrected Mal-union in Fractures of the Radius and Ulna of Both Forearms. Carl Beck.
67 *Albuminous Expectoration Following Thoracocentesis. David Riesman.
68 *Primary Tuberculosis of the Liver. Louis Frank.
69 *On the Association of Stoue aud Tumor of the Urinary Bladder, with Report of a Case. Edward C. Roseuow.
70 A Case of Stomatitis Gangrenosa (Noma). Louis Fischer.
71 *An Experimental Study of the Effects of Change of Color Upon Pigment Bacteria. Charles A. Oliver.
72 On the Effect of Severing and of Mechanically Irritating the Vagi. George W. Crile.
73 *An Experimental Investigation into the Causes and the Treatment of Diabetes Mellitus. Alfred C. Croftan.
74 *Present Methods of Treating Ureters Severed During Abdominal Operations. William R. Nicholson.

Indiana Medical Journal (Indianapolis), April.

75 The Society of the Lying-in Hospital of the City of New York. Nelson D. Brayton.

Canadian Journal of Medicine and Surgery (Toronto), April.

76 Transplantation of Ureters into the Rectum for Exstrophy of the Bladder, by the Author's Extra-peritoneal Method; Three Additional Cases. George A. Peters.
77 Sewage Purification. P. H. Bryce.
78 Pus in the Kidneys; Its Pathological Basis and Its Treatment. Thomas H. Manley.
79 Successful Treatment of Rheumatism and Renal Calculi. W. A. Young.

Ophthalmic Record (Chicago), March.

80 *The Treatment of Congenital Lens Displacement. L. D. Brose.
81 An Additional Case of Conical Cornea, in Which Vision Was Improved by Convex Cylinders. Cassius D. Westcott and Brown Pusey.
82 The Clinical and Pathological Report of a Case of Foreign Body Retained in an Eye for 26 Years. Burton K. Chance.
83 Curious Case of Ocular Infection from Dust from Nest of Mud Wasp, and a Case of Transplantation for Inverted and Shortened Eyelids. J. B. Taylor.
84 Syphilitic Ulcer of the Eyelid. Wm. Campbell Posey.
85 A New Ophthalmoscope Combined with Which There Is a Plane Mirror for Retinoscopy; Intended as a Pocket Instrument. Brown Pusey.
86 Simultaneous Paretic Mydriasis, Subluxation of the Lens, and Rupture of the Choroid, with Marked Involvement of the Retina; a Peculiar Form of Persistent Pupillary Membrane. A. Duane.

Clinical Review (Chicago), April.

87 *The Importance of Rickets iu Girls from an Obstetric Standpoint. C. S. Bacou.
88 A Suggestion for Treatment of the Broad Ligaments in the Removal of the Uterine Appendages. E. C. Dudley.
89 Clinical Lectures Upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Cleveland Medical Journal, February.

90 A Review of the Vital Statistics of Clevelaud During the Last Decennium. H. E. Anderson.
91 How We Rid Cleveland of Smallpox. Martin Friedrich.
92 A Case of Hysteric Hemiparesis and Hemianesthesia with Bell's Palsy. T. L. Chadbourne.
93 Complications and Sequels of Cholelithiasis. M. Stamm.
94 The Medical Treatment of Cholelithiasis. John B. McGee.
95 Bacteriologic Observations Bearing on Promiscuous Expectoration in Cleveland. Bourdet G. Hannum.
96 A Case of Mitral Stenosis, Hour-glass Stomach, and Other Lesions, with Some Atypical Signs. M. J. Lichty.

Pennsylvania Medical Journal (Pittsburg), March.

97 *The Radical Cure of Hernia. Edmund W. Holmes.
98 Ludwig's Angina Complicating Typhoid Fever. Wm. Egbert Robertson and Chas. C. Biedert.
99 *Movable Kidneys: Their Effect Upon the Gastric and Intestinal Functions. Boardman Reed.

Buffalo Medical Journal, April.

100 *The Suprapubic and Vaginal Methods of Treating Pelvic Suppuration. W. R. Pryor.
101 *Comparative Merits of Vaccination—Old aud New. John Hauenstein.
102 Pemphigus. J. W. Grosvenor.
103 Deviation of the Nasal Septum. Edgar A. Forsyth.
104 A Case of Mycosis Fungoides. Alfred E. Diehl.
105 Clinical Versus Bacteriological Diagnosis and Quarantine of Diphtheria. Wm. L. Conklin.

Medical Mirror (St. Louis), February.

106 *The Shock of Intra-abdominal Operations: Its Etiology, Prophylaxis aud Treatment. Lewis S. McMurtry.

St. Louis Courier of Medicine, April.

107 *Concerning the Antistreptococcus Serum. Robert Leudeking.
108 *The Variatiou in the Production of Free Hydrochloric Acid in the Infant Stomach from Various Foods. A. S. Bleyer.
109 *Diphtheria Treated with Antitoxin and Pilocarpin. E. W. Saunders.

110 *Problems in Infant Feeding. John Zahorsky.
111 A Perforated Meckel's Diverticulum. Robert Leudeking.
112 Enterorrhaphy by the Connell Suture. Louis Rassieur.

Merck's Archives (N. Y.), March.

113 The Last Stand: Practical Therapeutic Resources. Joseph Byrne.
114 Addison's Disease—As Affected by Suprarenal Extract. H. A. Moody.
115 An Index of Diseases Alphabetically Arranged with Their Modern Treatment. G. Bjorkman.

Medical Standard (Chicago), April.

116 Practical Dietetics. A. L. Benedict.
117 A Surgical Clinic. Nicholas Senn.
118 The Commoner Diseases of the Eye—How to Detect and How to Treat Them. Casey A. Wood and Thomas A. Woodruff.
119 Pain and Its Indications—Neuralgia. Edward C. Hill.
120 La Grippe. W. B. Parsons.

Western Medical Review (Lincoln, Neb.), March 15.

121 Medical Societies as Viewed from a Social, Scientific, and Legislative Standpoint. E. E. Levers.
122 The Operative Relief of Impaired Function of the Elbow-Joint, Due to Faulty Reattachment of a Separated Internal Humeral Epicondyle. Gilbert G. Cottam.
123 Cholelithiasis. E. F. Root.
124 Stab Wound of Gravid Uterus—Recovery of Mother and Child. Report of a Case. Voorhees Lucas and N. McCabe.
125 *A Contribution to the Surgery of Spina Bifida. Van Buren Knott.
126 A Few Observations Concerning Enteric Fever. G. G. Verbyck.
127 Some of the Relations of the Physician and Laity. J. L. Wicks.
128 Plea for a Better Practice in Holding Coroner's Investigations. W. C. Burke.
129 Diphtheria. W. A. Wyman.

International Journal of Surgery (N. Y.), March.

130 *Some Points in the Diagnostic Palpation of Prolapsed Kidney. Augustin H. Goelet.
131 Cancer of the Breast. R. H. Moss.
132 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
133 *Practical Suggestions on the Treatment of Rectal Diseases. James P. Tuttle.
134 The Surgical Assistant. Walter M. Brickner.
135 Fibroid Tumors of the Uterus. A. E. Spohn.
136 Recurrent Malignant Disease of Testicle. A. Carter Weber.
137 Ruptured Tubal Pregnancy: Delayed Operation; Death. Howard Crutcher.
138 A Case of Strangulation of the Bowel in a Slit in the Mesentery. J. E. Miller.

Southern Practitioner (Nashville, Tenn.), April.

139 The Clinical Variations of "La Grippe." W. C. Welburn.
140 Albuminuria. Louis LeRoy.

Brooklyn Medical Journal, April.

141 Correcting Speech Defects. Olive E. D. Hart.
142 Some Cases of Supracondyloid Fracture of the Humerus (with X-Ray Illustrations). Alwin H. Schwab.
143 The Removal of Foreign Bodies from the Ear, Nose and Throat. Stephen H. Lutz.
144 The Influence of Acute Disease upon Insanity. D. Ed. Warren.
145 Diagnosis in Abdominal Lesions. Thomas H. Manley.

Carolina Medical Journal (Charlotte, N. C.), March.

146 Cancer Cases—Reported to Illustrate Method of Diagnosis and Technique of Surgical Treatment. Stuart McGuire.
147 Address, Tri-State Medical Society of the Carolinas and Virginia. I. N. Upshur.
148 A Few Abdominal Operations on Women. R. S. Martin.
149 Suggestions on the Treatment of Inflammatory Conditions of the Air-Passages. A. L. Leatherman.

Medical Examiner and Practitioner (N. Y.), March.

150 The Stigmata of Degeneracy in Relation to the Medical Examiner. Eugene S. Talbot.
151 The Bearing of Alcoholic Stimulants in Medical Selection for Life Insurance. A. B. Bisbee.
152 A Case of Fulminent Appendicitis with Unusual Complications: (a) Post-Operative Ileus, and (b) One Week Subsequently a Pyo-thorax: the Pus Perforates the Lungs and Is Discharged Through the Bronchial Tubes: Resection of the Seventh Rib and Insertion of a Drainage Tube. Talbot Jones.
153 Fresh Blood Examinations. Robert L. Watkins.
154 Observations on Adrenalin Chlorid. F. W. Frankhauser.
155 Monograph of a Stimulant, Sedative, Antispasmodic Expectorant. M. E. Chartier.

Medical Times and Register (Philadelphia), March.

156 On the Significance of Symptoms and Signs in Disease. Thomas H. Manley.

1.—See abstract in The Journal of April 12, p. 950.

2. **The Kidney and Bladder in Infancy.**—Morse has investigated the condition of the urine in every baby admitted to his service at the Infants' Hospital, Boston, for the last two years, as well as many in private practice. While his results are by no means complete, he thinks they are of importance. The first urine of the newborn is acid, almost always clear, of rather low specific gravity and contains small quantities of albumin, often persisting for a couple of weeks and not infrequently for two months. He doubts whether any explanation offered for this has been correct. It is hardly sufficient to consider it physiologic, however, until more is known about the metabolic aspects in the newborn. In any case it is not a serious condition and should not be looked on as the forerunner of nephritis in later life. The evidences of uric acid infarction are present soon after birth and are found in more than 40 per cent. of the autopsies of the first week or two of life. In infancy the odor of the urine is slight, the color pale, and it is frequently turbid from mucus. The reaction is acid, with specific gravity as low as 1003 to 1008 for the first three months. The urine of breast-fed babies almost never contains indican and that of the artificially-fed baby only slight traces. Urobilin is never present in the breast-fed and seldom in the other. Albumin is absent and sugar is not found with the ordinary reagents. The sediment is slight and consists almost entirely of cells. The quantity of urine is usually large. Hematuria is found in infancy under the same conditions as in adult life. Acute nephritis may occur and the author feels certain that it is more frequent than generally supposed. It is difficult to say what influence it may have on the future of the child. The enormous reparative powers of the infants' tissues would make it probable that its power of harm is less than in adult life. A distinction must be made between the primary and secondary forms. His experience has been that while primary nephritis is seldom recognized, other conditions are not infrequently mistaken for it. Edema develops in many other diseases, but examination of the urine will prevent mistakes. As regards secondary nephritis, it complicates the eruptive fevers of infancy, as in childhood, but seems to develop more commonly in the pneumonias of infancy than in later life. He thinks it would be found more frequently in influenza if the urine were examined. The enteric diseases have been more studied than others, but he has found evidence of renal involvement in only 15 per cent. out of a series of 70 cases which he had investigated. Nephritis may occur also as a complication of eczema and suppurative ear disease, also from rickets, anemia, etc. Chronic nephritis is necessarily rare and where it occurs, heredity seems to be of etiologic importance. He has seen but a few cases. Acute pyelitis and pyelonephritis are not uncommon. A short time ago 2 of 18 babies in his service were found suffering from them. The secondary form is more common and the type usually mild. Primary cystitis is uncommon and usually not severe, but secondary cystitis is very common, and occurs in a great variety of cases. It is usually mild in type, but may be severe, and is rarely the result of upward extension of vulvovaginitis or urethritis. Both the primary and secondary forms are almost always due to the colon bacillus. The most usual source of invasion is probably the rectum. The symptoms of the primary forms are fever, restlessness and colicky pain and are easily misinterpreted. The diagnosis can be made only by examination of the urine. The symptoms of the secondary form are presumably the same. They are usually masked, however, by those of the primary disease. He says, in conclusion, that his experience leads him to believe that diseases of the kidneys and bladder are not at all uncommon in infancy and that the examination of the urine will render a diagnosis possible in many doubtful cases and throw light on many obscure symptoms. It is not enough to examine the urine only in cases in which diseases of the urinary organs are suggested, because the symptoms of these conditions in infancy are not only almost never characteristic, but usually misleading. It should be examined as a routine procedure, otherwise most of these cases will be missed, and diseases of these organs will continue to be as uncommon in the future as they have been in the past. If it is examined as a routine measure he feels sure there will be a very sudden increase in the frequency of these diseases, an increase, however, apparent rather than real.

4. **Surgical Uses of the Hairpin.**—Rugh describes the uses of the hairpin in surgery. It is serviceable to hold the hair

away from the shoulders and neck during an operation; to pin on bandages; to remove concretions or foreign bodies from any sinus, natural canal or opening. As a dull curette he thinks it of value and the points may be employed as an esthesiometer. It may be also utilized to catheterize the female by the insertion of the rounded end. If the points are bent slightly outward the danger of its slipping into the bladder will be obviated. It is also useful to run under a blood vessel with a figure-of-eight ligature, and the blunt ends make compression and prevent hemorrhage. It can also be employed to close wounds by running the arms through the tissues, on each side and then fastening the ends, thus keeping the skin edges compressed together in approximation. It can be employed also as a caliper or compass. Straightened out it can be used as an applicator; as a probe; to wire wounds together; to rupture the membranes in labor, and when heated, as a cautery; as harelip pins; to sound a child for stone in the bladder; as a hook to extract foreign bodies; and as a tenaculum. Bent or twisted, it can be used as a nasal speculum; as a retractor; as an aneurysmal needle; in lieu of the tracheotomy tube; as a drainage tube; and to approximate wounds. The illustrations give the different methods of its use.

6. **Appendicitis.**—From a number of cases here reported Patek calls attention to the forms of appendicitis having origin in an affection derived from some other part of the gastro-intestinal tract and urges vigorous action in such cases. He comes to the following conclusions: 1. Because of its anatomic characteristics and relations the appendix is an organ of lower vitality and less resistance than are other parts of the intestinal tract. 2. Micro-organisms are normally present in the intestine, and await but an opportune moment when, in the presence of irritating secretions, they may excite an inflammatory reaction. 3. While appendiceal inflammation may undoubtedly originate *de loco*, there is no question but that in many cases the appendiceal inflammation is a secondary infection, the primary focus being in the intestine proper, the result of an acute indigestion or a catarrhal inflammation. 4. While we can rarely make the positive assertion that a disease has through our efforts been aborted, he believes that prophylaxis is the price of health and that it may even be possible to do much toward the prevention of attacks of appendicitis, especially in the case of patients who have previously suffered, by careful attention to the regulation of diet and intestinal habit in health, no less than in securing good intestinal drainage and antisepsis in the various gastro-intestinal illnesses.

7. **Intermittent Claudication.**—Walton and Paul report a number of cases of this type and are inclined to believe arterial disease an important factor. They make suggestions also illustrated by cases, that some of the paroxysmal pains of degenerative spinal diseases—for example tabes—may be allied to this condition and have a peripheral rather than a spinal origin. Their conclusions are given as follows: 1. The concurrence of the paroxysmal pains of angina cruris with pulseless pedal arteries is too constant to be explained by coincidence, though it is true that pulseless arteries may be found without the pains, and, conversely, that such pains may appear with apparently normal arteries. 2. The painful paroxysms are probably of vascular origin, and result from vascular spasm coupled, perhaps, with increased blood pressure acting on vessels already partially occluded, whether from local or general disease (aneurysm, syphilis), from senile changes (atheroma), or from congenital tendency to angiofibrosis. 3. Recurring painful cramps of constant seat probably represent a modified form of angina cruris. 4. It is important to examine the dorsalis pedis and posterior tibial, as well as the radial and temporal arteries, in all cases in which it is desirable to estimate the bearing of the vascular condition upon disease in the central nervous system or elsewhere.

8. **Physiologic Heart Murmurs.**—Howell has experimented with a number of patients to determine the cause of murmurs produced in them after the use of the electric-light bath. Of the 22 carefully collected cases of males only one had an organic murmur, and only one a functional murmur prior to the bath. This was in a nervous but otherwise healthy man. Out of the 22 there was only one in whom the murmur was not produced by the bath. Of the 29 females a larger proportion had organic and functional murmurs, 12 in all. In only one of all these did he fail to hear a murmur after the bath; in this case the bath was short, and this was probably responsible for the failure. He speaks of the causes of functional non-organic murmur, and has come to believe that anything that causes the heart to act rapidly and forcibly, especially where arterial tension is reduced, will frequently produce these murmurs, therefore heart disease may be wrongly diagnosed when conditions are present which may thus excite the murmurs. He says in conclusion, "given a condition of temporarily dilated aorta and a vigorously acting heart rapidly forcing the blood through a relatively narrow aortic orifice, it seems reasonable to suppose that vortices should form as the blood enters the artery, and that they in turn should produce the sounds we term murmurs."

14. **Sewage Purification.**—Buxton describes the methods of sewage purification, more particularly the septic tank system. The different processes are tabulated and the septic tank method recommended as best meeting the difficulties, especially the Cameron system, which seems to be largely employed throughout Great Britain, the Scott-Moncrieff plan being only exceptionally in use.

15. **X-Rays in Carcinomatous Growths.**—This third article by Hopkins gives the general facts of the effect of these rays on diseased cell growth. The author has come to the conclusion that the larger proportion of these growths can be absolutely controlled, and he favors the soft tube for this kind of work, and the static machine as a source of electric energy. His turn, he says, may come for burns, but it will not be for want of precaution; he thinks they can be avoided if necessary care is taken. Lately he has been treating inoperable cases of uterine cancer with considerable success and has had gratifying results in hemorrhagic cancer of the uterine neck and vaginal walls, employing the Finsen light as well as the *x*-ray. He prefers in these cases the hard tube as it has to its credit more injuries to the deep tissues, and therefore penetrates more deeply. The use of an aluminum screen he considers dangerous, as it leads to recklessness from a sense of false security. One of the most satisfactory fields for this work is recurrent cancer after amputation of the breast, and this has given him the most satisfactory results. When ulceration has not occurred in these breast cases, nearly every case will yield to treatment without the destruction of the superimposed skin. Where the skin has been destroyed over the region of disease the ulceration will heal promptly. Gastric carcinomas require the greatest amount of care and judgment and it is better to err on the side of the short exposure. The offensive odor, especially in face carcinomas, is quickly relieved and the *x*-ray has worked marvels in cancer involving the tongue where speech has been lost and swallowing has become so difficult that rectal enemata were required to support the patient. He has had one case where amputation of the tongue was decided on as the growth was closing both the trachea and the esophagus, that yielded to the combined use of the Finsen light and the *x*-ray. After five treatments in three weeks the patient was able to eat solid food and had regained speech.

18. **Fracture of the Humerus.**—Beck reports a case with skiagraphic illustrations. The diagnosis without these would have been erroneous, and he recommends it as a practice for a surgeon to draw a sketch of his diagnosis and see how the skiagram supports it. In the case reported he had to move the arm to fit the smaller fragment and fixed it in extension from the shoulder for two weeks. In seven weeks the function of the arm was perfectly restored.

19. **Appendicitis and Gall-Bladder Disease.**—Kennedy reports several cases diagnosed as appendicitis, one of which turned out to be gall-bladder disease and another biliary colic followed by symptoms suggesting biliary trouble, proving to be appendicitis complicated by a large concretion resembling a gallstone. He thinks that when very similar symptoms are

present in both diseases, the ailments of the appendix too often get the benefit of the doubt.

20. **Pulmonary Embolism.**—Ten cases have been collected by Keyes which seemed to belong to this class, two of which were verified by autopsy, and two more by prima facie symptoms of embolism, and may be classed as probable. Four were possible examples and two that he mentions are improbable. He calls attention particularly to the possibility of this accident from operation for prostatic disease and suggests that it is a real element in the prognosis, and that the sooner it is realized the better. Any tearing, cutting or burning of this organ must assuredly cause a certain amount of vesical thrombosis with its associated inflammatory reaction, and when the sluggish portal circulation is considered, the wonder is not that thrombosis should be frequent, but that it should be rare. Add the shock of the operation upon the vitality of an old man, the inevitable uremia for the first few days, and the wonder grows that embolism should not more frequently result. Perhaps it does result more often than we think. He asks the following questions: Is it frequent or not? Are we confronted with a danger we can not meet or will means be discovered to prevent it? Is thrombosis encouraged by the rough torsion of the rongeur? Is it due to infiltration following Bottini's operation? Does it ever extend from the gland itself or is it due to injury of the periprostatic plexus? Are phleboliths concerned in its production? Are there any signs by which it may be recognized and means by which it may be prevented? These questions naturally present themselves, but he can not answer them.

21.—See abstract in The Journal of February 8, p. 413.

24. **Puerperal Septicemia.**—The points upon which Vineberg lays special stress are: 1. Every case of puerperal sepsis is a wound fever or a wound infection and should be treated as such. 2. Each case of puerperal sepsis, however slight, should be carefully watched from the onset. We can not tell into what it may develop. 3. When a case of uterine sepsis progresses unfavorably after curetting, irrigation and proper general treatment, as evidenced by the pulse, temperature and the conditions of the uterus, we are justified in opening the abdomen and removing the uterus unless we find some conditions outside of the uterus to account for the persistence of the sepsis, or some condition in the uterus itself, as a single intramural abscess or a localized gangrene, which would admit of removal without ablation of the whole organ. 4. When a uterine infection extends to a tube or ovary, setting up a violent grade of salpingitis or ovarian abscess, the abdomen should be opened without delay and the affected tube or ovary removed. 5. When a uterine infection sets up a septic peritonitis the abdomen should be opened and the uterus ablated, the peritoneal cavity flushed with saline solution and free drainage employed through the vaginal opening. 6. To operate for these conditions, when the patient is evidently moribund, is unjustifiable and can only discredit the profession.

25. **Leucocytosis in Appendicitis.**—The value of the leucocyte count as a point of prognosis in appendicitis is insisted upon by Joy and Wright. They do not depend on it for diagnosis, but as a symptom of the severity of the disease. They summarize their views as follows: 1. The leucocyte count is a valuable aid to prognosis in appendicitis. 2. This is distinct from its diagnostic value. 3. A high stationary, or an increasing, count indicates a morbid condition of increasing severity which demands operation, no matter what the clinical symptoms may be. 4. A low stationary or decreasing count indicates that the severity of the case is abating and that operation may be safely postponed. Cases in which a falling count is accompanied by unmistakable signs of a generally bad condition form the rare exception to this second principle, and in them there is no chance of error. 5. No arbitrary set of prognostic values to be assigned to various degrees of leucocytosis can be constructed. The important point is to follow any scheme in which one learns to have confidence, provided the essential principle be preserved. 6. The count indicates when operation should be performed for the best interests of the patient. 7. Circumstances often render it desirable to postpone operation in appendicitis. Study of the blood-count enables it to be determined whether this may be done with safety and often renders such postponement permissible.

28. **Malaria.**—Ford reports cases simulating appendicitis, broncho-pulmonary disorder and typhoid fever, and calls particular attention to the unclassified fevers of the tropics leading to mistakes in diagnosis. He considers that in these occur the greatest amount of errors and that they offer the greatest opportunity for investigation.

29. **Suprarenal Extract in Pneumonia.**—Gray recommends and reports cases of the use of suprarenal extract in pneumonia which seem to have, according to his accounts, excellent results. He thinks we have in it the most favorable heart stimulant, which we are at liberty to use in the presence of heart failure impeding the pulmonary circulation as in pneumonia with coexisting renal inflammation. He has noticed a peripheral increase of the blood pressure in a few cases, but this was not permanent.

30. **Artificial Sphincter Ani.**—Chetwood reports a case where a sphincter was apparently destroyed by injury, and, though eight or nine operations had been performed to endeavor to restore the continuity, it was still unsuccessful. He made a large semi-circular incision with its convexity in the direction of the coccyx, from a point about one inch in front of the anterior limit of the anus, on a line, externally, with the tuberosity of the ischium on one side to a similar point on the opposite side, and then turned down a flap. He next dissected out a ribbon-shaped piece of muscular tissue about one and one-fourth inches in breadth on each side from the glutei muscles, leaving an attachment above. Then transposing them, he crossed the lower ends each to the opposite side, underneath the ligamentous connection between the anus and coccyx, encircling the rectum and fastened them with sutures of chromicized catgut. The finger in the rectum now recognized the constriction formed by this arrangement. The flap dissected away was sutured back again in place and the operation was a perfect success.

31. **Antisepsis in Midwifery.**—Browne protests against the use of douches, believing that bichlorid may produce toxic effects and that the natural secretions are antiseptic. In his experience of 26 years he has had 6 cases of puerperal fever, 3 of them treated by strict conformity with the antiseptic method, of which 2 died, and 1 recovered, and 3 treated without antisepsis, with 1 death and 2 recoveries. His results in obstetrics are generally much better without the douche than with it. He also speaks in favor of the use of ergot for expediting labor when the pains have become feeble and the os is completely dilated.

32. **Appendicitis.**—The diagnosis of appendicitis is discussed by Elsberg, who believes we can best diagnose the locality of the disease by the following method: Ask the patient to point the finger quickly at the spot where there is the most pain without looking at the abdomen. Repeat this proceeding a number of times until you are certain that the right point has been obtained. Then the course of the appendix will lie between the base of the organ and this point. Where no mass can be felt in the region it is impossible correctly to diagnose a perforation or gangrene. Where the mass can be felt and persists longer than two or three days without diminishing in size or indeed even increasing, it always has pus for a nucleus. When the mass is to be felt by rectal examination it means an inflamed appendix partially in the pelvis, or a secondary abscess, adhesion in Douglas' pouch, or a gravitation of fluid into the pelvis. One can not lay down fixed rules for the conditions of the general peritoneal cavity, but the author is inclined to believe in rigidity as one of the most striking features. The differential diagnosis between appendicitis and other diseases is generally easy. Occasionally gall-bladder disorder, torsion of the omentum, new growths in the intestine, intestinal obstruction, an affection of the female adnexa, or reflected pain from thoracic disease may make it difficult. The frequency of appendicitis must be kept in mind and that it occurs most fre-

quently in late spring and summer months. The severest cases occur in the large cities. No fixed rules can be laid down for appendicitis. Sometimes the severity of the disease is not in sufficient proportion to account for the symptoms. Sometimes the local symptoms are slight and the general intoxication severe. We have to depend on the pulse, pain, temperature and other symptoms as indications of the severity of the disease and of the treatment to be followed.

43.—See abstract in THE JOURNAL of February 22, p. 529.

47. **Infantile Hepatic Cirrhosis.**—This is a rare condition, according to Walls, affecting male children more than female, and with alcoholism in about 20 per cent. of the reported cases and syphilis in about 10 per cent. as an etiologic factor. Tuberculosis is a relatively frequent causative factor. Chronic sepsis has been noted as a cause and acute infectious diseases have been considered as potent causative excitors, though not unequivocally connected with acute instances. He describes the symptoms, the gastro-intestinal disorders that usher it in, icterus, ascites, venous stigmata on the face, hard, large and readily palpable liver, etc. The diagnosis is not always easy, as some of the symptoms in the adult may be lacking and some other infantile diseases like chronic peritonitis have a somewhat similar symptomatology. A large liver and spleen, icterus, suggillations of the skin, hemorrhages from the mouth and intestinal tract, and the presence of free fluid in the peritoneal cavity would indicate this disorder. The prognosis is unfavorable and the course rapid. If we could anticipate the disease before it comes on much might be done, but therapy thus far has been ineffective.

50. **Latent Malaria.**—Young understands by this term a condition in which, following an infection differing in no ascertainable respect from one producing malarial symptoms in the usual time, clinical manifestations are absent, or are delayed for weeks, although the parasites may be more or less constantly present in the circulation and follow (as far as can be determined) their normal intracorporeal life-history. He groups these roughly into two classes: 1. Cases of long incubation followed by an outbreak without an apparently immediate exciting cause. 2. Those where there are, so far as can be seen, no clinical manifestations, or if they do occur their onset seems to be determined by some existing cause entirely independent of the malarial infection. The hypotheses that the parasites lie dormant in the spleen or bone marrow, or that they multiply so slowly that they fail to produce a febrile reaction, are not fully accepted by him and he thinks that, under certain circumstances, the apparent dormancy of the parasites may be due to their following, under the influence of conditions not at all understood, an entirely different life cycle. He gives his reasons for this belief and calls attention to the clinical importance of the condition, suggesting that in any section where malaria is endemic we should not be satisfied in obscure cases of illness of any character, from hysteria to dyspepsia, until we thoroughly examine the blood.

54. **Hemoptysis.**—The importance of pulmonary hemorrhage is insisted upon by Eliot, who quotes Stricker's investigations to show its significance as a premonitory indication of tuberculosis. He notes that most persons have temporary improvement following the arrest of hemorrhage and gives details of the treatment.

55. **Syphilis Domestica.**—Boutelle's paper reports several cases of syphilis occurring in persons in whom it would not be suspected. He thinks we should not be blinded to the existence of this condition by respectability, refinement, innocence or purity of life, as they are not always safeguards.

63. **Localization of Mental Faculties.**—The cases reported by Phelps are those of injury or tumors of the left frontal lobes in which decided mental symptoms existed, while in others of the right frontal lobe, the mental functions were far less affected and often unimpaired. He reviews the literature and finds in every case but two (in which consciousness was retained and the mental faculties were not perverted by general delirium) that the laceration involving the left frontal lobe was attended by default of intellectual control, and that the lesion is usually, if not always, of the prefrontal region implicating either its superior or inferior surface. Subcortical disintegration, or deep or extensive laceration of the cortex, was specially characterized by abrogation of mental power, and superficial laceration by aberration in its manifestations. Of the two exceptional cases, in one the final coma occurred within two hours after injury and it might, therefore, be excluded; the other one was exceptional only in being regarded as normal for one day in which the patient emerged from a general condition of stupor. The abrogation of mental power seems to be proportionate to the extent of the lesion rather than to its situation in the prefrontal region. In every case where laceration was confined to the right frontal lobe the mental faculties were unaffected, except as they were obscured by stupor or delirium occasioned by coincident general lesion. Compression or contusion of the left lobe only exceptionally produced specific intellectual disturbance. There are also many cases unverified by necropsy and, therefore, debarred in evidence which he thinks are scarcely less convincing.

67. **Albuminous Expectoration.**—Tapping of the chest for the removal of fluids is ordinarily so safe that the idea of serious accident, as Riesman remarks, rarely enters the physician's mind. That such accidents may occur, however, is important and Riesman reports a case and finds others in the literature. The expectoration was carefully analyzed and the theories of the phenomenon of albuminous expectoration are discussed. The following are the author's conclusions: "1. Albuminous expectoration is a very rare complication of thoracocentesis. It is usually serious and sometimes fatal. 2. It consists in the expectoration of a viscid albuminous fluid closely resembling the fluid of serous effusion. 3. The condition is best explained on the basis of an intense congestion and edema of the lungs (congestion by recoil). 4. The principal cause seems to be either too rapid or too great a withdrawal of fluid. 5. Serious cardiac disease and morbid conditions of the opposite lung, hindering expansion, are predisposing causes. 6. Under all circumstances, but particularly when these complications exist, aspiration should be performed slowly. If the effusion is large the amount withdrawn at any one time should be moderate. 7. In some cases it may be wise to perform several tappings, drawing off a small quantity each time. 8. The treatment consists in counter-irritation, venesection, and artificial respiration, together with the use of morphin if the cough is severe."

68. **Primary Tuberculosis of Liver.**—Frank reports a case of this lesion and reports as follows: "1. That primary tuberculosis of the liver, though rare, may occur. 2. That the infection may take place by way of the intestine and the portal circulation, the bacilli finding entrance through an ulcer in the bowel (which in this case was at the time of illness some time previous), leaving no trace of the place of entrance into the body. 3. That tuberculosis of the liver may infect the other abdominal viscera and also the peritoneum secondarily. 4. That the process may cause a great increase of the connective tissue in the liver (interstitial hepatitis). 5. That the disease results fatally within twelve months."

69. **Stone and Tumor in the Bladder.**—The co-existence of stone and tumor in the bladder is seldom mentioned in the literature, and Rosenow finds only six articles on the subject. He reports a case and tabulates the recorded cases of this condition. The question of the relation between calculus and nephritis is discussed and the arguments that favor the view of tumor increasing the liability to calculus are given. In 8 cases the calculus was probably secondary to tumor. Tumors are not infrequently incrusted with phosphatic material and villous growths, especially when poorly nourished, and if they become detached, are likely to form a nucleus. The evidence that vesical calculus is a factor in the etiology of tumors is given as follows: 1. In nearly one-half the cases it appears that the stone was primary in point of time. 2. Inflammation of the urinary bladder caused by irritation, other than that produced by calculus, has been known to cause an increased liability to new growths. 3. Tumor of the urinary bladder un-

complicated by stone occurs more frequently in the lower segment, and the probable explanation here favored is the greater irritation of this portion by the chemical and mechanical agencies is the reason for this selection of site. The more frequent involvement of the anterior wall in a series where calculus was present must, in Rosenow's opinion, be ascribed to the influence of the stone. 4. The large number of cases in which the calculus was primary in point of time and the fact that calculi and tumors occur more frequently in the male and at nearly the same age, may be taken to indicate that the calculus was not without etiologic influence in the development of tumor. 5. Since in 90 or 95 per cent. of primary tumor of the gall-bladder, biliary calculi are present, analogy would lead us to expect a somewhat similar relation between stone and tumor in the urinary bladder; hence, the conclusion may be drawn that the etiologic relationship between calculus and tumor is not to be altogether denied. Calculus seems to favor the development of tumor in a larger percentage of cases than tumor favors the development of stone.

71. **The Effects of Color on Bacteria.**—Oliver's conclusions are given as follows: "1. Color-changes both of kind and of intensity take place in and around many chromogenic bacteria when such micro-organisms are placed under different color-conditions. 2. Rehabilitation of chromogenic bacteria into old color environments after having later obtained a new color-value under any particular color-condition, is quite frequently accompanied, sooner or later, with a return of the germ's color-equivalent to that which it primarily held while in its original situation. 3. Differences of color-conditions in pigment-bacteria most probably signify in part relative changes in the various methods of obtainance of sustenance, peculiarities in the kind and ratios of foodstuffs, and irregularities in the character of resulting excreta; each species of color-bacterium exhibiting its chromogenic change in a typical and relevant manner, a behavior that has its determining effect upon the very life of the germ itself. 4. The naming of bacteria by specific coloration is only of value when the actual habitat of the micro-organism is understood. 5. As a postulate conclusion based upon these facts, it is most certain that all living faunal and floral color-changes of true objective type are expressions of biochemic peculiarities taking place in and around such organisms—a mere difference of molecular motion as it were in part dependent upon the relationship existing between active life force and co-existing conditions."

73. **Diabetes Mellitus.**—Croftan has investigated the self-destruction of blood sugar and has repeated and amplified the experiments of Lepine, Arthus, Krause and others which seem to show that the blood and lymph incorporate an agent that can destroy sugar. Other experiments were undertaken to determine the source and character of the sugar-destroying substance ferment. He finds that this agent is contained in corpuscles and not in serum, and in the white rather than in the red cells; whether in leucocytes or plaques is not determined, and the degeneration of the white cells must occur before the ferment can develop its powers. The question as to the influence of the pancreas is also investigated, and it seems probable that it is in some way connected with the manufacture of glycolytic ferment, and that trypsin has formed this glycolytic ferment is shown by the impairment of the blood. Both the solution of trypsin and the solution of glycolytic ferment can digest fibrin in alkaline solution; they can coagulate certain coagulable solutions; give certain proteid reactions; they are precipitable by dilute acetic acids; they are soluble in water after contact with alcohol; they can form bile-pigment and acids from hemoglobin in the presence of small quantities of dextrose; they lose their power if dextrose is not present, and they possess glycolytic powers in the presence of hemoglobin, lose it in its absence and are rendered inactive by contact with urine, so that neither is normally excreted in the active form by way of the kidneys. In fact, they are so similar, even identical, that they can not be distinguished by any known method. Until proof to the contrary is forthcoming, we are justified in considering the glycolytic ferment of the blood and tissues to be none other than trypsin. The question of what causes pervert glycolysis and reduces the sugar-destroying powers of the body is not easy to answer, but Croftan concludes that pancreatic fluids play an important part in the function. While we can not assume pancreatic disease in all cases of diabetes, it is possible that functional diseases of the organ may exist during life, that leave no anatomic trace and that may have this effect. The recent discovery by Opie in regard to the frequent occurrence of degenerative changes in the islands of Langerhans give a certain experimental basis to such a hypothesis. Some therapeutic suggestions are offered as regards the treatment of diabetes and indications as to the increased glycolysis by supplying glycolytic ferment, and the following measures promise some success: 1. The infusion of chyle or of blood from a healthy animal. 2. The injection of leucocyte extracts. 3. The injection of trypsin. 4. The injection of vegetable glycolytic ferments. The experiments were made on animals that had been rendered diabetic by the extirpation of the pancreas; the reduction of sugar in the urine was observed to ensue in some of the cases from the injection of lymph, though there was a later increase. The leucocytes of the lymph seemed to be active in affecting the glycolytic action for a certain period, and after a while, the glycolytic ferment contained in the cells of chyle injected had disappeared and an increase of sugar followed. The effects of the blood injections were less marked; the injection of vegetable ferment with glycolytic powers has not yet been attempted, and the results of experiments with trypsin will be published later. The extreme toxicity of trypsin proves its greater power of altering the course of normal processes and when carefully tested and its safe dosage determined, it may be found of value in the treatment of diabetes.

74. **Ureteral Anastomosis.**—Nicholson reviews the various methods of operation for uretero-ureteral anastomosis and uretero-cystostomy, reports the general results from what has been done in this line and discusses the question of anastomosis of severed ureters with other organs, such as the bladder, uterus, etc. As regards uretero-intestinal anastomosis he concludes it is not a permissible operation, though the Maydl operation elaborated by Peterson may in future give better results. Little need be said as to the sites of ureteral implanation other than that the bladder, the skin, vagina, etc., all have disadvantages that make them practically out of the question.

80. **Congenital Lens Displacement.**—From his experience with reported and other cases, Brose would treat ectopia lentis: 1. By trying to secure satisfactory vision by properly adjusted lenses. 2. Failing in this, he would determine by the help of the mydriatic and a stenopaic disc whether a small iridectomy will give satisfactory vision—and, if so, perform it. 3. Especially if the patient is under 30 years of age, he would do a discission operation. Over 30 years of age it is better to extract the lens, on account of the danger of secondary glaucoma after discission. As a rule, he instructs the patient from the beginning that this condition has a tendency to grow worse with time, and that if the sight should rapidly fail or the eye become painful, he should report at once.

87. **Rickets from the Obstetric Standpoint.**—Bacon calls attention to the importance of rickets in girls in producing serious pelvic deformity and causing obstetric complications during the child-bearing period, illustrating it by reported cases. The disease is one of infancy, but its effects manifest themselves in adult life, and while we are not in possession of data of infantile rickets, the number of pelvic deformities due to this may be estimated from statistics kept up in various obstetric clinics. We know that pelvic contraction occurs in 10 to 20 per cent. of all women. There is, however, no agreement as to the relative frequency of contraction due to rickets and that due to other causes. Nevertheless, the great importance of rickets as an etiologic factor is admitted by all. He specially calls attention to the importance of early diagnosis. Unfortunately, there are no marked signs for the parents to observe and the physician may have a child under observation for some time before his attention is called to this. Chronic diarrhea should lead us to be on the lookout for it, so should backwardness in teething, sitting and walking. A special sign

of importance which may be mentioned is the well-known beading of the costo-chondral junction. The epiphyseal enlargement of the lower ends of the radius of the ulna, thickening of the bosses of the parietal and frontal bones of the skull and the symptom of head sweating which is so common in rickets should also excite suspicion. There are two considerations of importance: 1. Control of the disease process as soon as possible, which is generally managed by careful dieting and hygienic measures. Frequently we find children on a starvation died of diluted milk. The other is the care of the child to prevent pelvic deformity and so far as we can learn orthopedists have not considered this phase of rickets. Pelvic deformity is too often neglected, because it is hidden. No doubt there is difficulty in detecting the degree and presence of this deformity. Whether it is possible for practitioners to devise any kind of apparatus to relieve the trunk pressure on the sacrum is left for the orthopedist to decide.

97. **Hernia.**—The points specially presented by Holmes are: 1. That congenital defects are far more commonly the prevailing features in hernia production than has been supposed. 2. Nature protects us from these protrusions by an oblique canal, by an oblique internal ring, by a valve-like oblique flap of peritoneum, and by oblique pressure of the viscera, which actually tends to prevent protrusion. 3. Hernia existing, we should imitate nature; by making a new canal and a new internal ring; and by our methods of suturing so as to render them oblique; the new internal ring being the point of resistance, should not only be buttressed as directed by MacEwen and others, but the parietal peritoneum should be sewed to it above and below, and the new canal should have incorporated in it the floor of the old canal. 4. The aponeurosis of this external oblique muscle is used by nature as a point of counterpressure, and should therefore be sutured in front of the cord and not behind it. The ideal operation for the radical cure of inguinal hernia is still a surgical desideratum.

99.—See abstract in THE JOURNAL, xxxvii, p. 995.

100. **Pelvic Suppuration.**—Pryor holds that as an operation to prevent suppuration and check septicemia, vaginal section stands alone; as an operation of purely evacuative character vaginal section is the operation of choice; and as a procedure seeking removal of the uterus and both tubes, vaginal operation is far superior to abdominal section, except where high abdominal complications are found. For the removal of one purulent set of adnexa, there is no operation equal to abdominal section, and the vaginal operation is not to be thought of. He asks whether pelvic suppuration can be prevented and how. He finds that iodin compounds kill the streptococci, but it still remains for some one to discover the agent that will destroy the gonococcus without injuring the pelvic tissues.

101. **Vaccination.**—Hauenstein argues for the humanized virus as preferable to the bovine virus; he says the claim of some practitioners against the latter is absurd and hints that the epidemic of smallpox all over the world at the present is due to the adoption of this form of vaccine. He thinks the humanized virus will gain in favor and become more general.

106.—See abstract in THE JOURNAL of January 18, p. 197.

107. **The Antistreptococcus Serum.**—The causes of failure of the antistreptococcic serum are credited by Leudeking to: 1. The polymorphism and variability of streptococci. 2. The fact that few septic processes in man are pure, unadulterated streptococcus infections. 3. The usually tardy and late employment of the remedy. 4. The inertness of many of the sera that are on the market. He reports several cases of the use of this serum with advantage, and holds that the early administration of a recent serum in fitting cases of streptococcus infection will prove life-saving. Early intervention in erysipelas and in middle-ear suppuration gave good results. In puerperal infection matters are not so simple, but if the streptococcus pyogenes is the agent, the early treatment should bear good fruit. In any case of abscess of the brain, empyema of the chest, or a purulent exudate in the peritoneal cavity, the serum has no application. Its employment would be irrational, at least until after proper surgical help had been obtained. In the author's experience the injection of serum has no special dangers. He has met with urticaria and painful joints, accounted for by the large bulk of ingested foreign serum. It is not seen to affect the circulation or respiration. We should watch the kidneys. We should learn properly to apply a good preparation and should give it early in proper cases.

108. **Free HCl.**—Bleyer has investigated the effect of different foods on the production of free HCl in the infant's stomach. He finds from these data that foods containing little or no albumin to utilize the HCl and yet encouraging its production will produce hyperacidity with the usual symptoms of continued vomiting, unremitting hunger and wasting. In absence or deficiency of acid we find intestinal disturbance. He calls attention to the advisability of examining carefully the condition of the gastric juice in every case of infectious enteritis and where HCl is lacking to carefully detract the caseins until sufficient HCl is permitted to exist in the stomach to stay the invasion. When hyperacidity is present, on the other hand, and every food has been tried, when the vomiting is persistent and excessive, and especially with the more delicate foods, then we may increase the caseins, double or treble them, and give the hydrochloric acid a chance to do its physiologic duty.

109. **Diphtheria.**—The rules followed by Saunders in the management of diphtheria are given by him as follows: 1. In all cases exhibiting an exudate or a pseudo-membrane in the faucial mucous membrane, administer pilocarpin at once, in doses large enough to excite its physiologic action. When there is the least suspicion that the case is diphtheria the diagnosis should be settled and antitoxin employed without delay. The dose of antitoxin should be large enough to neutralize all the toxins in the blood and an excess that will neutralize all that may occur in the circulation the following week. A sufficient dose must be given at once and need not be repeated. For a mild case 1500 units may be given, a case of moderate severity should receive 2000 units and a severe infection from 2000 to 3000 units. Special attention should always be given to the antitoxin. If only old serum can be obtained, the least concentrated should be chosen, so that more can be injected, and allowance must be made for the deterioration. A serum that is two months old should be regarded as only about one-half the strength that is marked on the vial. Even when the temperature drops to normal and the membrane begins to be cast off, the pilocarpin should be continued for one or two days in diminished doses, stimulating the leucocytes and hastening convalescence. If the case comes under treatment after the fifth day pilocarpin should be used with caution, on account of the danger of heart failure. Other medication is rarely necessary, except possibly an initial purgative of calomel. Tonics are indicated during convalescence. He believes that applications to the throat can do no good. The fear which many of the profession entertain for pilocarpin is groundless.

110. **Infant Feeding.**—Zahorsky emphasizes the fact that in placing an infant on any food, we should bear in mind that a period of adaptation may be necessary for its proper digestion and assimilation. This period varies in length from a few days to many weeks, depending on a great variety of factors. The idiosyncrasy of the child should be considered. Some can not digest casein or cow's milk and others can not ingest fat. Observations indicate that in the presence of an active gastric juice with a strong percentage of hydrochloric acid caseinogen is well digested. The great susceptibility towards intestinal bacteria and bacterial products in infants is mentioned and inquiry should be made as to the bactericidal power of infants' foods. With our present knowledge we should watch this, but much has yet to be learned. Babies fed on condensed foods and milks are especially susceptible to intestinal infection. Our knowledge of the effects of foods on intestinal peristalsis is also important, and we know that starches are constipating, while fats and sugars are laxative. Beyond this there is not much that is definite. He finds that whey almost invariably increases the number of passages and intestinal irritability, while casein is constipating, as pointed out by Holt. Hence its withdrawal in certain forms of diarrhea is contra-indicated. The question of osmosis is also con-

sidered. Should all food constituents be in solution before absorption takes place? The lesson is plain, in the modification of milk, the osmotic pressure should always be adjusted so that it approximates human milk. The effects of inorganic salts in the food ingested is a matter of importance, though they are usually ignored in the modification of milk. He lays down certain therapeutic principles by which the feeding of infants must be governed, as follows: "1. Normal osmotic pressure should be restored when a deficiency of the diffusible substances is present in the food, by the addition of salts. 2. The electric conductivity of the fluids depends on the presence of inorganic molecules, foods poor in this (as albumen water) should be enriched by the addition of salts. 3. In the process of metabolism, sulphuric and phosphoric acid is formed by oxidation from the tissue proteids, and an adequate quantity of basic radicles must be present in the blood to neutralize these acids. 4. It is known that citrates exist in the milk, possibly other compounds may be found which also contain a metal in combination with an organic compound. Certain dried and heated foods probably do not contain these free bases in sufficient quantity. 5. Sodium chlorid must exist in all foods, but as to the other salts we are yet in the dark."

125.—See abstract in The Journal of January 11, p. 125.

130.—This article has appeared elsewhere. See The Journal, xxxvi, p. 1736.

133. **Artificial Anus.**—Tuttle performs an operation for artificial anus by making an incision one inch above and one and a half inches inside the anterior superior spine, parallel with the fibers of the external oblique, and separating these fibers with a dull instrument. The internal oblique is similarly treated, the wound is held open and the fascia transversalis and the peritoneum incised in the line of the original incision. As soon as the peritoneum is opened, the patient should be placed in the Trendelenburg position and the edges of the wound grasped with fixed forceps to prevent the membrane being stripped off the abdominal wall in subsequent procedures. The wound should be enlarged so as to allow the introduction of the entire hand for thorough exploration, and if a temporary artificial anus is advisable, the rectum is traced upward to the sigmoid flexure, which is grasped and dragged out through the abdominal wound. If the anus is employed to give functional rest to the parts, or for the local treatment of inflammatory diseases of the lower end of the intestinal tract, it should be made in the lowest portion of the sigmoid that is healthy. If it is intended as a preliminary to extirpation or resection of the rectum, it should be made in the highest loop of the sigmoid in order to allow the operator the greatest latitude in dragging down the gut in the operation. After determining the site, the loop of the gut should be drawn well out of the abdominal wound, and a glass rod four inches long should be passed through the mesentery beneath the gut, its ends resting on either side of the wound. Care should be taken to avoid the blood vessels of the mesentery. The gut, being then held above the skin, is fastened at the corners of the wound by chromicized catgut, passed through the skin and peritoneum of the abdominal wound, then through the peritoneal and muscular wall of the gut and finally through the peritoneum and skin of the opposite side of the wound. These are all the sutures required. The abdominal muscles draw together and effectually prevent any protrusion of the small intestine. Small pads of iodoform gauze are put under each end of the glass rod and the whole is dressed with protective tissue covered with absorbent cotton or gauze held in position by an abdominal bandage or adhesive straps. Unless urgency requires it, the intestine should not be opened for twenty-four or forty-eight hours. For gaseous distension the use of a trocar may be advisable. In opening the intestine no portion of its circumference or wall should be sacrificed. It is done by incision in the longitudinal muscular fibers extending from the superior juncture of the abdominal skin down to a point one-half an inch below the rod. At the lower end of this wound a transverse incision is made involving two-thirds of the circumference of the gut. The two little triangular flaps in the upper portion of the loop thus roll upward like dried leaves, the lower flap falls inward and effectually closes the distal segment of the intestine. The glass rod is left in position from ten days to two weeks, after which time the gut will be so firmly adherent to the abdominal wound that there will be no danger of its sagging down nor of escape of fecal material into the intestine below. This makes an effectual inguinal anus, the entire wall of the intestine is preserved and firm closure is possible without material reduction in the caliber of the canal. In closing the anus the little triangular flaps are uncurled by blunt dissection either with the finger nail or a blunt instrument. Their edges and that of the lower flap are then freshened and the T-shaped wound is sutured first by bringing together the mucous membrane with silk sutures and tying the ends inside the intestine. The muscular and peritoneal walls are then brought together by Lembert sutures with fine chromicized catgut. The opening in the gut being thus closed, the latter is then dissected from the attachment to the skin and the muscular wall of the abdomen down to the peritoneum. This membrane is then stripped from the abdominal wall by gentle pressure with the finger or gauze pledgets for about one-half an inch all around the abdominal wound without opening the peritoneal cavity. This loosening forms a loop which allows the knuckle of the intestine in which the artificial anus has existed to drop downward into the abdominal cavity below the muscular walls of the abdomen. The latter are then tied together by one or two silkworm gut sutures and the skin closed as the operator may prefer. He has operated in ten cases in this way; in two there were leakage and small mural abscesses, which were followed by fecal fistulæ, which healed spontaneously. In no case was there any tendency to hernia or stricture of the intestines. The operation of closure is practically without any danger, as the peritoneum is not opened and leakage from the wound is therefore always outside of the cavity. In colostomy of the right side, the rod may not be practicable as the mesocolon is frequently too short to drag the gut well outside the abdominal cavity. Here Cripps' method is the one to be followed.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), March 29.

1 Cases of Lymphangiectasis with Enormous Overgrowth of Cutaneous and Subcutaneous Structures. Walter Whitehead.
2 *Treatment and Morbid Anatomy of Enlarged Prostate. Cuthbert S. Wallace.
3 Total Extirpation of the Prostate for Radical Cure of Enlargement of the Organ. Charles Roberts.
4 *A Short Note on the Surgical Use of Subcutaneous Injections of Carbohydrates in Exhausting Diseases. Arthur E. Barker.
5 Intravenous Injection of Normal Saline Solution in a Severe Case of Hematemesis; Recovery. H. E. Bruce-Porter.
6 Single Non-Tuberculous Ulcer of the Bladder; Suprapubic Cystotomy; Cure. J. B. Christopherson.
7 Suprapubic Cystoscopy. E. Hurry Fenwick.

The Lancet (London), March 29.

8 *The Comprehensive Study of Thoracic Phthisis. F. T. Roberts.
9 *Notes on the Treatment of Furunculosis, Sycosis and Acne, by the Inoculation of a Staphylococcus Vaccine, and Generally on the Treatment of Localized Bacterial Invasions by Therapeutic Inoculations of the Corresponding Bacterial Vaccines. A. E. Wright.
10 The Surgery of Non-Malignant Gastric Ulcer and Perforation. C. B. Keetley.
11 An Example of Universal Hirsuteness. A. J. Balmanno Squire.
12 A Case of Appendicitis in Which the Appendix was Lodged in, and Adherent to, the Femoral Canal. John H. Galton.

Annales de l'Institut Pasteur (Paris), February.

13 Streptobacillary Pseudo-tuberculosis of the Rat. J. Sabrazés (Bordeaux).—"Pseudotuberculose streptobacillaire du mus decumanus."
14 Rôle of the Between-Bodies in Phagocytosis. J. B. Savtchenko.—"Du rôle des immunisines (fixateurs) dans la phagocytose."
15 Cytases. L. Tarassevitch (Kieff).—"Sur les cytases."
16 Vascular Lesions Induced by Diphtheric Toxins. Rematzky.—"Recherches sur les lesions vasc. provoquées par les toxines diphthériques."
17 Modifications of the Leucocytes in Cattle Plague. Réfik-Bey.—"Modifications leucocytaires dans la peste bovine."

Annales des Mal. Gen.-Urin. (Paris), January.

18 *Remote Results of Surgical Intervention in Three Cases of Traumatic Laceration of the Urethra. Guyon (Paris).—"Suites éloignées de l'int. chir. dans three cas de déchirures traum. de l'urètre."
19 Pathologic Anatomy of Bladder. N. Hallé.—"An. path. de la vessie."
20 Bacteriologic Study of the Bladder. R. Faltin (Helsingfors).—"Recherches bact. sur l'infection vesicale."

Bulletin de l'Acad. de Med. (Paris), March 18.

21 *Preventive Injections of Antidiphtheria Serum. Netter.—"La prophylaxie de la diph. par les injections prév. de sérum."
22 *Surgery of the Heart. J. Fontan (Toulon).—"Contribution à la chirurgie du cœur."

Revue de Gynecologie (Paris), vi, 1.

23 *Superiority of Colpotomy for Treatment of Pyosalpinx. H. Treub (Amsterdam).—"La colpotomie, traitement op. de choix du pyosalpinx."
24 To T. Gaillard Thomas of New York. Editorial.
25 Tubo-Uterine Pregnancy. Muret (Lausanne).—"De la grossesse interstitielle."
26 Anatomy of Tubal Pregnancy. A. Couvelaire.—"Quelques points de l'anatomie des grossesses tubaires en évolution."
27 *Multiple Strictures of the Small Intestine. Patel (Lyons).—"Les rétrécissements multiples de l'intestin grêle."
28 *Cancer of Cecum and Sigmoid Flexure. Gouilloud (Lyons).—"Cancer du cecum et cancer de l'S iliaque."
29 *Hepatoptosis and Hepatopexy. H. Judet (Paris).—"De l'hepaptose et de son traitement par l'hepatopexie."

Progres Medical (Paris), March 15 and 22.

30 *Paramyoclonus Multiplex. A. Murri (Bologna).

Allg. Med. Cent.-Ztg. (Berlin), March 15 and 22.

31 Treatment of Diabetes. Lenné (Neuenahr).—"Zur Behandlung des Diabetes mellitus."
32 Two Cases of Probable Inoculation with Bovine Tuberculosis. B. Freytag (Hanover).—"Zwei Fälle von wahrsch. Perlbacillen-Impfung."

Archiv f. Gynaekologie (Berlin), lxv, 3.

33 Acetonuria in Pregnancy. M. Stolz (Graz).—"Die Acetonuria in der Schwangerschaft, Geburt und im Wochenbett."
34 Remote Results of Conservative Treatment of Early Interrupted Extra-uterine Pregnancy. C. von Scanzoni (Leipsic).—"Ueber die Dauerresultate bei cons. Beh. frühzeitig unterbrochener Extraut.-graviditäten."
35 Histogenesis of Ovarian Cystomata. S. Gottschalk (Berlin).—"Zur Histogenese der dickgallertigen Ovarialkystome."
36 Operative Treatment of Prolapse. P. Baumm (Breslau).—"Die op. Beh. des Scheiden- und Gebärmuttervorfalles."
37 Clinical and Anatomic Study of Cancer of the Uterus. Kraemer (Breslau).—"Klin. und au. Untersuchungen ueber den Gebärmutterkrebs."
38 *Pathogenesis of Eclampsia. L. Blumreich (Breslau).—"Exp. und Klin. Beitraege zur Pathogenese der Eklampsie."

Archiv f. Klin. Chirurgie (Berlin), lxv, 3 and 4.

39 *New Conservative Operation on the Testicles. W. J. Rasumowsky (Kasan).—"Neue conserv. Op. am Hoden."
40 *Cause of Death in Strangulation of Small Intestine. V. Albeck (Copenhagen).—"Exp. und klin. Untersuchungen ueber die Todesursache bei Dünndarmstrangulation."
41 Spina Bifida. P. Bockenheimer (Berlin).
42 *Operations on Gasserian Ganglion. E. Lexer (Berlin.)—"Zur Op. des Ganglion Gasseri nach Erfahrungen an 15 Fällen. Zusammenstellung der ausgeführten Exstirpationen des G. G."
43 Orthopedic Couch for Application of Bandages to Trunk in Treatment of Scoliosis, etc. F. Staffel (Wiesbaden).—"Ueber ein orthop. Bank zur Anlegung von Rumpfverbänden in Schwebelagerung zum modellirendem Redressement der Skoliosen und zu anderen Zwecken."
44 *Operative Treatment of Brain Tumors. E. von Bergmann (Berlin).—"Zur Casuistik op. Hirntumoren."
45 Metaplasia of Epithelium. P. Eichholz (Konigsberg).—"Exp. Untersuchungen ueber Epithelmetaplasie."
46 Static Relations of Bones in Thigh. C. Ghillini (Bologna).—"Ueber die stat. Verhältnisse des Oberschenkelknochens."
47 Wounds from Firearms and Artillery in Boer War. A. Hildebrandt.—"Wirkungen des kleinkalibrigen Geschosses und der Artillerie im Boerenkriege." Concluded from No. 3.
48 Comparative Study of Cancer in Domestic Animals. A. Sticker (Frankfurt a. M.).—"Ueber den Krebs der Thiere, insb. ueber die Empfänglichkeit der versch. Hausthierarten und ueber die Unterschiede des Thier und Menschenkrebses." Concluded from No. 3.

Archiv f. Kinderheilkunde, xxxiii, 1 and 2.

49 Bacteriologic Study of Scarlet Fever. A. Baginsky (Berlin). "Ein constanter Bacterienbefund bei Scharlach."
50 *Scarlet Fever Nephritis. A. Baginsky.—"Ueber Scharlach-Nierenentzündung."
51 Indications for Op. Treatment of Diphtheric Stenosis of the Larynx. G. Alsberg (Berlin).—"Ueber die Indicationsstellung der op. Beh. der diphth. Larynxstenose."
52 Histogenesis of Arterial Duct. H. Roeder.—"Die Histogenese des art. Ganges."
53 Porencephalia. G. Alberg.
54 Utilization of Phosphorus and Nitrogen During Milk Diet of Older Children. P. Sommerfeld.—"Zur Kenntniss der Ausnützung von Phosphor und Stickstoff bei reiner Milchernährung älterer Kinder."

xxxiii, 3 to 6.

55 Arrangement, etc., of Hospitals for Infants. A. Schlossmann (Dresden).—"Ueber Säuglingskrankenanstalten."
56 Phosphorus Cod Liver Oil. A. Heiduschka.—"Untersuchungen ueber Phosphorleberthran."
57 Infant Feeding. Flachs.—"Prakt. Gesichtspunkte zur Säuglingsernährung."
58 *Causes of Infant Mortality in Institutions. A. Schlossmann.—"Ursachen des Todes bei der Anstaltsbehandlung kranker Säuglinge."
59 Contracted Kidney in Infancy. Ida Democh.—"Gennine Schrumpfniere im Säuglingsalter."
60 Infant Feeding. A. Schlossmann and H. Peters.—"Grösse der Einzelmahlzeiten der Säuglinge bei nat. Ernährung. Zur Frage der nat. Säuglingsernährung."
61 Review of Tracheotomy and Intubation in Diphtheria Since Serum Treatment. Siegert (Strassburg).
62 *Growth of Colon Bacillus in Milk. O. Cozzolino (Naples).—"Ueber die Veg. vom Bact. Coli in der Kuh, Ziegen-, Esellin- und Frauenmilch."
63 Care of Infants in Institutions. Cornelia de Lange (Amsterdam).—"Zur Anstaltspflege von Säuglingen."

Berliner Klin. Wochenschrift, March 3.

64 Study of the Alexins. H. Sachs (Frankfurt a. M.)—"Giebt es einheitliche Alexinwirkungen?"
65 *Study of Embolism of the Superior Mesenteric Artery. R. Sievers (Helsingfors).
66 Alcohol as a Disinfectant for the Hands. R. Schaeffer.
67 Sterilization of Milk for Infants at Lowest Possible Temperature. E. Kobrak (Berlin).—"Ueber Ster. von Säuglingsmilch bei möglichst niedrigen Temperaturen."
68 Nephritis Syphilitica Acuta Præcox. E. Salkowski (Berlin).
69 Functional Diagnosis of the Kidneys. F. Strauss (Frankfurt a. M.).—"Zur funct. Nierendiagnostik."

March 10.

70 *Study of the Substitution of the Bromids for Salt. T. Hondo (Berlin).—"Zur Frage der Subst. des Chlors durch Brom."
71 Myogenic Rigidity of the Spine. R. Cassirer.—"Ueber myog. Wirbelsteifigkeit."
72 Hydrotherapy of Tuberculosis. S. Munter.
73 Second Report of Institute for Medical Diagnosis at Berlin. M. Klopstock.

Centralblatt f. Chirurgie (Leipsic), March 22.

74 *Simple Means of Locating Foreign Bodies in the Brain by Radioscopy. H. Stamm (Hildesheim).—"Beitrag zur Lagebestimmung von Fremdkörpern im Gehirn mittels Röntgenphotographie."

Centralblatt f. Gynaekologie (Leipsic), February 8 to March 8.

75 Two Cases of Fetus Papyraceus. T. von Lichem (Klagenfurt).
76 Case of Vagitus Uterinus. L. Reldhaar (Basle).
77 *Treatment of Sepsis. J. Wernitz (Odessa).—"Zur Beh. von Sepsis."
78 Deportation of Villi and Its Consequences. R. Scholten.—"Weitere Untersuchungen ueber Zottendeportation."
79 Dubious Sex of a Hermaphrodite. F. Nengebauer.—"Fall von zweifelhaftem Geschlecht eines als Frau verh. Scheinzwitters."
80 Traumatic Granuloma of Female Bladder. G. Kolischer (Chicago).—"Traum. G. der weiblichen Blase."
81 Complicated Birth After Low Vagino-Fixation. F. Stähler (Siegen).—"Vorderer Uterus-Scheidenschnitt bei Geburtskomplication bedingt durch tiefe Vaginæfixur, mit Fibromenukleation und Cervixplastik."
82 Case of Vaginal Defect. C. Donati (Innsbruck).
83 Pathology and Diagnosis of Tuberculosis of the Cervix. E. Alterthum.—"Zur Path. und Diag. der Cervixtub."
84 *Castration by Application of Steam to the Interior of Uterus. L. Pincus.—"Castratio mulieris interna."
85 *Posterior Parametritis an Intestinal Affection. A. Mueller (Munich).—"Parametritis post. eine Darmerkrankung."
86 Report of Third Series of Thirty Operations on Uterus. E. Wertheim (Vienna).
87 Cervical Segment and Contractio Previa: Suggestion for Obstetric Nomenclature. H. Beyer (Strassburg i. E.).

Deutsche Med. Wochenschrift (Leipsic), March 20.

88 Study of the Central Nervous System in Foot and Mouth Disease. G. Scagliosi (Palermo).—"Untersuchungen ueber das cent. Nervensystem bei Maul und Klauenseuche der Rinder."
89 *Toxinemia. S. Kaminer (Berlin).
90 Tuberculosa Verrucosa Cutis. M. Joseph (Berlin).
91 *Bone Charcoal as Substitute for Iodoform. A. Frommer (Cracow.)—"Knochenkohle als Ersatz für Iodoform."
92 *Gallstone Ileus. Karewski (Berlin).—"Ueber Gallensteinileus." Concluded from No. 11.
93 *Specific Treatment of Typhoid Fever. J. Petruschky (Dantzic).—"Spec. Beh. des Abdominaltyphus."

Deutsche Zeitschrift f. Chirurgie (Berlin), January.

94 Dislocation of Tendons. J. P. Haberern (Budapest).—"Ueber Sehnenluxationen."
95 *Results of Surgery of the Kidneys. V. Schmieden (Bonn).—"Die Erfolge der Nierenchirurgie."
96 Cure of Chylous Ascites by Laparotomy. E. Pagenstecher (Wiesbaden).—"Ascites chylosus. Ein durch Lap. geheilter Fall."
97 Intramuscular Cavernous Angioma. C. Strauch (Braunschweig).
98 *Orthopedics of the Ovaries. E. Rose (Berlin).—"Eine Art Orthopëdie der Ovarien."
99 Exclusion of Intestine as Preliminary to Extirpation of Cecal Tumor. O. Langemak (Rostock).—"Die Darmausschaltung als präl. Op. vor Exstirpation grosser Cöcaltumoren."
100 Serous Cysts of the Outer Ear. W. von Noorden (Munich).—"Beitrag zur serösen Cyste der Ohrmuschel."
101 Operative Treatment of "Retrocollis Spasm." W. Mintz (Moscow).—"Zur op. Beh. des retrocollis spasm."
102 Origin of Gastric Ulcers, etc., after Experimental Resection of Omentum. G. Engelhardt (Halle).—"Entstehung von Magengeschwüren, etc., nach exp. Netzresectionen."
103 *Laceration of the Intestines by Horse's Kick. Riegner (Breslau).—"Darmzerreissung durch Hufschlag."
104 Subcutaneous Laceration of the Longitudinal Sinus. Ibid.—"Subcutane Zerreissung des Sinus Longitudinalis Durae Matris."

February.

105 Cystic Degeneration of Hermann's Sinus and Genesis of Anal Fistulæ. E. Tavel (Berne).—"Cyst. Entartung der S. H. und Genese der Analfisteln."

106 Value of My Method of Detaching the Hip-Joint. E. Rose (Berlin).—"Der Werth meiner Extirpationsmethode bei der Auslösung des Oberschenkels."
107 Inflammation and Gangrene of Meckel's Diverticulum. Denecke (Braunschweig.)—"Ueber die Entzündung des M. D. und die Gangrän desselben."
108 Pathogenesis of Thrush. Ibid.—"Beitrag zur Pathogenese des Soor."
109 Spontaneous Luxation of Hip-Joint in Acute Infectious Diseases. H. Graff (Bonn).—"Ueber die Sp. Lux. des Hüftgelenkes im Verlauf von acuten Inf.-Kr."
110 Preservation of Useful Arm in Spite of Crushing of Upper Arm, Leaving Only Small Bridge of Soft Parts. C. Ossig (Breslau).—"Erhaltung eines brauchbaren Armes."
111 Congenital Malformation of Small Intestine. S. Lilienfeld.—"Zur Casuistik der angeb. Missbildungen des Dünndarmes."
112 *Is an Operation Indicated in Gastric Hemorrhage, and if so, Which? W. Kaupe (Bonn).—"Ist bei lebendrohende Magenblutuug in Folge von Ulcus Ventriculi ein op. Eingriff indicirt und welcher?"

Muenchener Med. Wochenschrift, March 18.

113 Abdominal Hysterectomy for Complete Rupture of Uterus. J. A. Amann, Jr. (Munich).—"Die abd. Totalexstirpation bei kompleter Uterusruptur."
114 Anilin Dyes as Means of Precipitating Albumin. M. Heldenhain (Tübingen).—"Die Anilinfarben als Eiweissfällungsmittel."
115 Study of Silicic Acid as a Possible Therapeutic Agent. H. Schulz (Greifswald).—"Einige Bemerkungen ueber Kieselsäure."
116 *Surgical Treatment of Spasm of the Cardia. F. Cahen (Cologne).—"Zur chir. Beh. des Kardiospasmus."
117 Case of Peculiar Stenosis in Small Intestine. A. Groth.—"Fall von eigenartiger Stenosenbildung im Dünndarm."
118 Gangrene of the Lungs After Aspiration of a Fragment of Straw. E. Schlechtendahl (Barmen).—"Lungengangrän nach Aspiration einer Kornähre."
119 Arrangement of Hygiene Expositions. K. B. Lehmann (Würzburg).
120 Hemorrhagic Purpura with Genital Tuberculosis. Gossner.—"Fall von Purpura hem. bei Genitaltub."

Wiener Klin. Wochenschrift, March 6 to 20.

121 Folliculitis Exulcerans Serpiginosa Nasi. E. Finger (Vienna).
122 *Experimental Transplantation of Kidney. E. Ullmann (Vienna).—"Exp. Nierentransplantation."
123 Ibid. A. von Decastello.
124 *The Destruction of the Albuminoids in the Liver. Töpfer.—"Ueber den Abbau der Eiweisskörper in der Leber."
125 *Treatment of Epityphlitic Abscesses in Douglas' Pouch. F. Pendl.—"Zur Therapie des epit. Douglasabscesses."
126 Retroperitoneal Hematoma Simulating Torsion of Ovarian Cyst. E. Waldstein.
127 Twin Pregnancy in Uterus Bicornis. O. Rudl (Darntheim). "Uterus bicornis mit Zwillingsschwangerschaft und Placenta incarcerata."
128 Vaginal Hysterectomy. A. von Mars (Lemberg).—"Ueber die Uterusexstirpation durch die Scheide."
129 *The Oculo-Pupil Sensory Reflex. L. von Varady (Budapest).—"Untersuchungen ueber den oculopupillären sensiblen Reflex."
130 Neuro-Psychic Disturbances in Acute Yellow Atrophy of the Liver. K. von Wieg (Vienna).—"Ueber einen Fall von ac. gelber Leberatrophie und die dabei auftretenden psych.-nerv. Störungen."

Gazzetta degli Ospedali (Milan), March 16 and 23.

131 Basophilic Granulations in Reds in Hemoglobinuria. G. Guyot.—"Le gran. bas. nei globuli rossi in un caso di emoglobinuria parossistica a frigore."
132 Heat Stroke in the Tropics. M. Salvatore (Palermo).—"Nota clin. sui colpi di calore tropicali."
133 *Vaccination in Prophylaxis of Pertussis. G. Poschi.—"Contributo alla Profilassi della pertosse."
134 Rapid Cure of Pulmonary Tuberculosis with Antitoxin. A. Cambiaso.
135 Two Cases of Traumatic Tetanus Cured by the Baccelli Method. G. Copetti.
136 *Treatment of Gonorrheal Epididymitis and Orchitis with Guaiacol. A. Bocchi (Modena).—"Sulla Medicazione al guaiacol nella epid. ed orch. blenorragica."
137 *Experimental Proof of Internal Secretion of Suprarenals. I. Salvioli (Padua).—"Ulteriore contributo allo studio della funzione delle capsule sopra-renali."
138 Experimental Peritonitis. N. Valerio.—"Osservazioni sulla peritonite sperimentale."
139 *Methylene Blue in Malaria. A. De Blasi.
140 Evolution of the Parasitic Theory. P. Demateis.—"Evoluzione della teoria parassitaria."
141 Bilateral Nephrotomy for Very Large Calculi. A. Tassoni (Cesena).—"Nefrotomia bilat. per voluminosi calcoli renali."

Brazil-Medico (Rio de Janeiro), March 1.

142 *Tabes Dorsalis. V. de Britto (Porto Alegre).—"O tabes dorsalis e a doutrina da especificidade."

Nordiskt Med. Arkiv. (Stockholm), xxxiv, 1, 4.

143 *Experimental Appendicitis. J. Nicolaysen.—"Exp. App."
144 *Transplantation of Tendons. Bülow-Hansen (Christiania).—"Ueber Sehnentransplantationen und Plastiken."
145 *Polycystic Degeneration of the Kidneys. J. Borelius (Lund).—"Zur Genese und klin. Diagnose der polycystischen Deg. der Nieren."
146 Transplanting the Penis to Close Extensive Defects in Urethra. G. Ekehorn.—"Ein neues Verfahren um grössere Defekte der Harnröhre durch Abwärtstransplantirem des Penis und des entsprechenden vorderen Teiles der Harnröhre zu schliessen."

2. **Prostatic Enlargement.**—It is customary to speak of the enucleation of the prostate, and Wallace has investigated to ascertain whether or not it is an anatomic possibility. He has examined a large number of specimens in the Museum of the Royal College of Surgeons and finds quite a difference in structure in the different cases. The increased size of the organ he finds is due in the first instance to increase in the glandular elements. The growth usually affects the greater part of the organ, but often leaves small portions almost unaltered. Within a large area the alteration of the glandular element may be of varying degree, consisting in some cases of small discrete points, while in others well-marked adenomatous lobules occur, usually compound, and may occupy the whole space within the "capsule." The hypertrophy in these cases is therefore best described as an adenomatous hypertrophy, comparable to the adenomatous form of goiter. Next, he considers the nature of the so-called capsule, quoting from Quain's "Anatomy" as to its character, and giving the results of his own examinations. He finds that this capsule is really a portion of the normal prostatic tissue. The stretched and laminated amount of prostatic tissue found after removal will depend on the situation at which the separation has been made. The amount of "capsule" found will depend on whether the separation has been carried through or within the so-called capsule, which is really altered prostatic tissue. It does not seem possible, he says, to enucleate the prostate in its normal state, judging from the examination of the specimens; the upper part of the rectal surface may be cleared of its enucleated fibrous tissue over a small area and the prostate, covered by a thin fibrous layer, exposed. Laterally, these two fibrous layers join together to enclose the lateral plexus of the veins. Immediately within this sheath is a fibro-muscular layer, and by working within this sheath with a blunt instrument the main mass of the organ may be separated from the fibrous covering with more or less difficulty, but leaving a rough and ragged surface without any resemblance to enucleation. The normal organ has no separable capsule. The connection between the prostate and the urethra is even more intimate than between the prostate and its fibrous covering. When, however, adenomatous hypertrophy exists, it is well known that certain forms are enucleable and the surface after may be as smooth as that of most adenomata in the other organs or may exhibit in some cases areas of torn tissue. The readiness of removal depends on the situation of the adenoid masses and the isolation from the surrounding tissue. If they have grown so as to protrude into the bladder, the line of separation, after the incision of mucous membrane, is soon reached and the enucleation quickly carried out. If they lie more deeply a considerable layer of prostatic tissue must be traversed before the line of separation is reached. Then again, the mass may not have become isolated from the surrounding prostatic tissue or only partially so; some tearing may be required. If the quickly growing adenomatous masses were situated near the center of the lobes it is conceivable that they still would have left a considerable zone of tissues between themselves and the urethral wall so that in their removal the urethra may be left intact. There are, unfortunately, some cases of enlarged prostate which do not present any easily separable tumors and any attempt at removal simply means tearing the organ away piecemeal.

4. **The Subcutaneous Injections of Carbohydrates.**—Barker calls attention to a method of introducing compounds into the circulation which may be looked upon in the light of foods, and not merely the innocuous addition to the blood of water that is lost as in the use of saline solution. This is the addition to the normal saline solution of pure glucose. The idea was first obtained from Professor Lennander of Upsala, since which he has used it both in hospital and private practice with much satisfaction. Five per cent. of glucose added to normal saline solution equals .06 per cent. of the total. He finds that a 5 per cent. solution of sugar freezes at the same point as the serum of blood and as normal saline solution and in the language of botanical physiologists is isotonic or isosmotic with the latter and should be indifferent to tissues.

This is a practical fact. The question of isotonic or isosmotic fluids in relation to human tissues is interesting and should always be borne in mind in injecting subcutaneously, but it is only necessary here to remember that fluids (exclusive of corrosives) of the same freezing point as serum are isotonic and produce neither pain nor other change in the tissues in which they are injected. He has largely employed the saccharo-saline solution both in preparing exhausted patients for operation and supporting them during and after the latter. Thus far he has limited himself to 25 grams in twenty-four hours as advised, equal to a liter of 5 per cent. solution and has never seen any sugar in the urine. The mode of its employment is given as follows: "An ordinary aspirator needle of about 1 mm. in the transverse section of its lumen attached to 3 feet of rubber tubing, and with a glass funnel at the other end, is all that is necessary. This apparatus is, of course, carefully sterilized by boiling, and is filled with the sterilized and warmed saccharo-saline fluid; the needle is introduced under the sterilized skin of the arm near the axilla, and the funnel is raised 2 feet, when the transfusion is found to proceed easily, as a rule, until the whole half liter is seen to distend the subcutaneous tissues of the arm and axilla. In preparing, say, for a gastro-enterostomy in an exhausted patient, I do this with 500 c.c., morning and evening if possible, for some days before and up to the time of operation; and on the table again another 500 is injected. Possibly more might be used, but for the present I have been using only the half liter at a time. Again, for days after, while the stomach only receives a limited amount of food and fluid, the same course is pursued. The effect of this treatment has been uniformly good as regards pulse, general strength, and relief of thirst. There is another effect which I think ought to be taken into account in septic cases; for example, appendicitis with septic peritonitis. This is the increased secretion of urine which is rendered possible by the free use of saline injections. We believe that some, if not all, of the toxins in such cases are eliminated from the system by the kidneys. If this is so the presence of abundance of water in the body ought to render the work of the kidneys easier. The toxins would be excreted in more abundance if there were plenty of water to be excreted and in greater dilution. The saving to the kidneys in eliminating dilute poisons rather than concentrated ought to be great, and we ought to see less of renal complications. In a case of very extensive peritonitis following on gangrenous epityphlitis I recently gave subcutaneously half a liter of the fluid mentioned above morning and evening for a fortnight, with, I believe, good results in many ways. But in the preliminary treatment the operation and after-treatment of exhausted patients, the use of the saccharo-saline subcutaneous infusion is beyond doubt of great value, and ought to be more widely known and practiced. A concentrated solution is now made for me sealed up in glass capsules, which can be diluted to the proper strength in a moment with the corresponding amount of boiled water. Such capsules can be carried about for every serious operation and will, I believe, in the future to be found of much use."

8. **Pulmonary Tuberculosis.**—In this first lecture Roberts covers the subject of the causation, etc., of thoracic phthisis. He protests against the modern tendency to regard all questions relating to phthisis too exclusively as a scientific study, regarding no opinion as valuable or authoritative unless it emanated from the pathologic laboratory. We can not settle questions entirely by laboratory studies. The pathology of phthisis, that is, its special microbic origin, is well established, though other pyogenic organisms have their share in producing the disease. He thinks too much prominence is given to the contagion of consumption and this has a material influence on social, commercial, professional and practical life. Actual experience does not bear out the public fear which has been roused on the subject. He does not, moreover, seem entirely hopeful as to the extermination of tuberculosis. The vitality of the organism and its general distribution is too great. The various methods of infection are discussed. He thinks there is an exaggerated idea of direct infection and the experience of Brompton Hospital, with which he is connected, bears out this belief. Still there are occasional instances which seem to point very strongly to it. Auto-infection of the lungs may occur from tuberculous infection anywhere else and a latent focus is very often its cause. Heredity, he believes, has more to do with the subject than modern teaching would seem to indicate, but he would not wish to have people think that because they came of sound stock they are out of danger. Diathesis and temperament are also mentioned. People of scrofulous diathesis have certainly a predisposition in a marked degree to tuberculosis. The temperament does not seem to have much to do with the disease, nor has he been able to associate it with any particular facial physiognomy. Persons of robust type and apparently excellent health sometimes may be subject to the disorder. The various causes acting on the general system are reviewed, including insanitary conditions, deficiency of proper nutriment, intemperance and general debauchery, occupation, conditions which cause a more or less constant drain on the system, such as rapid childbearing, prolonged lactation, menorrhagia, and chronic diarrhea, and lastly, mental depression from causes of various kinds, such as worry and overwork. Each of these is discussed in detail. Traumatism is not infrequently the cause. Alcohol is a notable cause, and he suggests that excessive smoking may be a factor. He lays some stress on the excessive cough, which he thinks has a damaging effect on the lungs, and excessive use of the voice may predispose to phthisis. He has met with cases where hemoptysis resulted from a definite and powerful strain in running, swimming, etc., and from a blow on the chest in persons apparently healthy, and from various conditions, such as pneumonia, chronic bronchitis, pleuritic conditions, pressure on the trachea, etc. Whooping cough, measles, grip, etc., and their well-known relation to phthisis, are mentioned; it occasionally follows enteric fever and other acute diseases. Congenital syphilis sometimes predisposes. As a secondary event it may be associated with diabetes, prolonged indigestion or anything affecting the consumption or assimilation of food, chronic cardiac disease and various nervous disorders. He believes, however, that the idea of some authorities that gouty predisposition is hostile to tuberculosis, and that when the disease occurs among gouty patients its course is much modified and makes but little progress and, as a rule, tends to obsolescence, may be correct. There is a sound foundation, he believes, for these statements. The combination of causes in most cases should be considered. It is often not possible to refer the onset of thoracic disease to any distinct and recognizable exciting cause. He would warn against the modern tendency to ignore altogether the old-fashioned ideas as to the danger of getting wet, chilling, exposure to cold, wind, etc. In conclusion he says he does not share in the extraordinarily hopeful views now so widely entertained and freely expressed as to the final eradication of this terrible scourge. Still we can do a great deal to better matters, and the prevention of infection is of first importance. He would like to see more stringent measures taken as regards the habit of spitting, etc.

9. **Staphylococcus Serum Injections.**—Wright has investigated the subject of the use of staphylococcus serum in cases of furunculosis, etc. He says if we consider the matter rightly we will see that the process of bacterial inoculation, as applied to a patient who is the subject of bacterial invasion, is in reality a process of temporarily taking away from the patient's power of resistance in view to his receiving back the power with usury. In short, it is the process of trading upon the patient's balance of resistance, and it will be wise to inform ourselves beforehand in regard to the resisting powers of the patient. He gives a report of cases with careful examinations of the blood and finds that there are rather favorable results obtained from his anti-staphylococcus vaccine. It may have some value, he thinks, in abnormal vaccinia, and also in the treatment of old ulcers, sinuses, etc. In inoculation it is important to graduate the doses and so to time the injections as to leave to the infected patient in any negative phase which may supervene after inoculation a sufficient margin of resistance to safeguard him against any generalization of his infection. We may keep in view the fact that patients who have

been suffering from long-continued localized inflammatory processes would seem, so far as can be judged from clinical experience, to have acquired a defensive power such as suffices to ward off the more generalized forms of their particular infections and that where bacterial invasions manifest themselves only under the form of "surface-invasions" the conditions in the interior of the organisms must be assumed to be hostile to the growth of the invading micro-organisms. This suggests the desirability of testing the effect of therapeutic inoculations of sterilized streptococcus cultures in the case of patients subject to indolent and relapsing forms of erysipelas, bearing in mind that the streptococcus has a much greater capacity for generalizing itself in the organism than the staphylococcus. A consideration of these facts also point to the "desirability of determining whether any therapeutic advantage could be derived from the inoculation of the appropriate bacterial vaccines into patients suffering from chronic 'surface-invasions.' There would be opportunity of applying such inoculations in connections with the treatment of bronchitis, ozena, gleet, leucorrhea, and those forms of the bacteriuria which depend upon a bacterial invasion of the mucous membranes of the genito-urinary tract. It would, of course, be necessary in each case, after determining the particular species of invading micro-organisms which was giving rise to trouble, to consider: 1, the question of technique in connection with the preparation of the vaccines; 2, the question as to whether the particular invading micro-organism possessed any power of generalizing itself in the system; and 3, the question of the resisting and reacting power of the particular patient. In connection with the estimation of these last, the methods of estimating the bactericidal power of the blood which have been described by myself and the method of estimating the phagocytic power of the blood which has been described by Major Leishman are, I think, capable of rendering services."

18. **Remote Results of Surgical Intervention in Traumatisms of the Urethra.**—Guyon warns against immediate repair of the urethra in case of severe traumatic laceration. The intervention should bear the remote results in mind, and the formation of constricting cicatrices be carefully guarded against. He describes three instructive cases. In two the operation was supposed to be very successful at first. The urethra was resected and defect repaired with adjacent tissues, but the remote results proved disastrous. Autoplasty with superposed flaps, the raw sides facing, proved very satisfactory in the one case in which it was done. The results are still excellent after fourteen years.

21. **Preventive Injections of Antidiphtheria Serum.**—Netter reiterates that preventive injections of serum have a pronounced prophylactic effect and have never occasioned any serious accidents. The only inconveniences that have ever been noted are a transient eruption or a few pains in the joints. Unfortunately, the immunity conferred does not commence before twenty-four hours and wears off by the end of three or four weeks. When children have been exposed, the conditions of the environment determine the necessity for these injections. If they can be kept under surveillance by the physician and the sick child has been isolated from the rest of the family, they are not necessary unless positive results are obtained from the nasal and pharyngeal mucus. But under other circumstances, in schools, hospitals, etc., when a case of diphtheria occurs, the other children should receive these preventive injections. Even in the absence of established diphtheria, in measles and scarlet fever wards, they ward off possible diphtheria infection, which is always serious as a complication of these diseases. Heubner has established that twice the dose of serum is required for a little patient with measles, and the immunity conferred lasts only fifteen days on an average. Richardière's experience is conclusive in this line. During the first 4 months of 1901 2 to 4 cases of diphtheria occurred each month in the measles ward and during the following 6 weeks 19 cases developed. The system of preventive injection of every child entering the ward was then adopted and there has not been a single case since. The dose injected was 5 to 10 c.c. of Pasteur Institute serum. Heubner injects 250 units and 500 in measles. In the few rare cases in which diphtheria has occurred, notwithstanding the preventive injection, it was especially mild.

22. **Surgery of the Heart.**—Fontan reports 2 cases of stab wounds of the heart on which he successfully operated, and Le Dentu supplements his communication by a summary review of 36 other cases of surgical intervention on the heart which he has been able to collect. One operation was undertaken to ligate an isolated injury of certain vessels of the heart. Four were restricted to immediate or tardy tamponing of the organ, with 3 recoveries. Four were non-penetrating wounds and 3 were sutured. All recovered. Twenty-nine were penetrating wounds and 8 recovered after suturing. Five of the deaths occurred on the operating table. Out of the 38 cases, 16 were restored to health. Laforgue has recently reported 17 recoveries under medical treatment alone in 56 cases of wounds of the heart, that is, recovery in 30.35 per cent. But only 6 of these cases were stab wounds. Nietert asserts that more than 90 per cent. of unoperated wounds of the heart prove fatal. Italian names are most numerous on the list of operators.

23. **Superiority of Colpotomy for Treatment of Pyosalpinx.**—Treub recommends colpotomy as indicated in every case of tumor in the adnexa requiring the knife. In case of recurrence, colpotomy must be done again and again, with vaginal hysterectomy as the last resort. In case of a hydrosalpinx recurring after colpotomy, a conservative abdominal operation may be suggested.

27. **Multiple Strictures of Small Intestine.**—Patel states that the cases of attenuated tuberculosis of the intestines causing fibrous hypertrophy and multiple strictures, have always been relieved by surgical intervention, and in many instances permanently cured. In cancerous or pronounced tubercular lesions the results are merely palliative. The diagnosis is based on the character of the pains and the way in which the disturbances travel a certain path, always the same, the pains and meteorism recurring at each stricture as the contents of the intestine move along. In case of cancer the patient is generally older, the general condition more depressed and bloody stools more frequent than under other conditions. He reviews 103 cases on record with details of operation and results.

28. **Cancer of Cecum and Sigmoid Flexure.**—Gouilloud recently operated on a cancer of the pylorus and found 25 prune-stones and a number of cherry-stones. In another case of cancer of the descending colon he found two fish bones at the point of the cancer. He is convinced that foreign bodies create at points of lodgment some erosion or cicatrix favoring the invasion of the cancer. The frequency of cancer of the biliary passages in persons subject to gall-stones is another argument that supports this view.

29. **Hepatoptosis and Hepatopexy.**—Judet has collected 90 cases of hepatoptosis and notes that lithiasis was evident in 15. He has also observed 3 personal cases in which cholelithiasis coincided with hepatoptosis. Treatment of the former alone frequently cures both. Cholecystostomy results in the fixation of the liver by the adhesions which form. Immobilization of the gall-bladder and bile duct fastens the liver in place, and after they are drained the congestion of the liver diminishes and with it the tendency to displacement. In doing hepatopexy the fundus of the gall-bladder—even when it is sound—should be sutured to the parietal peritoneum and abdominal wall or fastened to the lobe of the liver by adhesions induced by leaving a wick between for four to six days.

30. **Paramyoclonus Multiplex.**—Murri has had occasion to make post-mortem examination of three typical cases of paramyoclonus multiplex within a few hours after death. In one case there had been no other nervous symptoms, but the tremor was exceptionally pronounced. The findings were much the same in all the cases and cause him to assert that multiple paramyoclonus is always the indication of some morbid condition in the region of the fissure of Rolando. Although no anatomic modifications may be apparent, yet its function is affected and improved technique might reveal changes that escape us now. Paramyoclonus is therefore single as to its

anatomic site, but multiple as to its nature. A number of causes are liable to induce the modification in the region which is the basis of the tremor. It is not a morbid entity but merely a symptom common to various affections involving the region mentioned: epilepsy, hysteria, meningitis, peri-arteritis or micro-encephalitis, etc. If the paramyoclonus appears to be essential, it is merely because we are unable to class the facts observed with any of the morbid processes known to date.

38. **Pathogenesis of Eclampsia.**—Blumreich asserts that he is the first to establish by clinical and experimental research that the brain becomes altered during pregnancy and that it responds with convulsions at this time to comparatively trivial irritation. The alteration may be due to the diversion of the blood to the genital sphere or to the accumulation of toxic substances in the blood. Whatever the cause, the fact of this increased excitability of the motor centers in pregnancy explains why eclampsia is so closely connected with pregnancy.

39. **New Conservative Operation on the Testicles.**—Rasumowsky has performed this operation on four patients and found it effective in retaining function, while the traumatism is slight and the technique not difficult. After total extirpation of the epididymis he made an anastomosis between the vas deferens and the rete testis or the commencement of the coni vasculosi. In two of the cases only the lower half of the epididymis was removed and the vas deferens was implanted in the body of the epididymis above.

40. **Cause of Death in Strangulation of Small Intestine.**—Albeck relates experimental and clinical experiences which show that death is not necessarily due to peritonitis in case of constriction of the small intestine. In many cases it is due exclusively to the action of toxins generated in the constricted portion and the afferent intestine above.

42. **Operations on Gasserian Ganglion.**—Among the 15 operations on the ganglion described in this communication from von Bergmann's clinic, is the case of a woman of 73 who had been treated for twelve years for typical right trigeminal neuralgia. After a number of partial operations the Gasserian ganglion was removed as a last resort. The patient died four days later of meningitis and the autopsy revealed a psammoma the size of a nut in the posterior cranial fossa. The tumor surrounded the trigeminus nerve and the auditory and facial nerves were also slightly involved. As nothing suggested the possibility of a tumor in this case, the fundus of the eye had not been examined. Of the 14 other patients 13 are entirely relieved of pain on the operated and all but one on both sides. The neuralgia recurred in another case, but this apparent recurrence may be due to some cerebral affection. Ten of the patients recovered with no ocular disturbances, but a preceding chronic conjunctivitis in 2 cases developed into a corneal ulcer with loss of vision in one instance. The dreaded keratitis is probably due to the lesser resistance of the eye deprived of its sensory nerve. In 2 cases paralysis of the abducent nerve was noted and slight opacity of the cornea persists in one. Lexer concludes from these experiences and from the operations reported in the literature which are appended in tabulated form, that extirpation of the Gasserian ganglion is the last resort for severe trigeminal neuralgia not to be controlled in any other way. It is liable to be dangerous, but in most cases it accomplishes the desired result. The tables show that 33 of the 201 operated on died, but that 156, that is, 93.4 per cent. of the survivors, were permanently cured by the intervention.

44. **Operative Treatment of Brain Tumors.**—Bergmann describes 4 cases of brain tumors and 2 of brain cysts operated on. Only one survived in each class. One of the brain tumors proved to be a diffuse cavernous angioma; the patient was a robust man of 44 and he bled to death on the operating table as the angioma was incised. There are 6 cases on record in which angiomata of the brain have been successfully removed. Bergmann states that as the head is raised during operations on the brain the dura sinks and the tumor becomes more prominent. He advises operating as soon as the diagnosis is certain.

50. **Scarlet Fever Nephritis.**—Baginsky dwells with great urgency on the importance of preventing the development of dropsy as of vital importance for the prognosis of this affection. He states that he was able to ward off severe nephritis in the children seen not later than the fifth day. The scarlet fever is kept under control with baths and wet packs and the little patients are kept in bed, even in the mild and afebrile cases, and limited to a strict milk diet. Hydrops did not develop in any case under this regime nor severe symptoms of uremic intoxication. None of the children had the disease so severely as those outside. He considers milk the best diuretic, supplemented perhaps by one to three pints of an alkaline water each day. Diuretin with or without digitalis may be indicated in certain rare cases and prove extremely beneficial. Hematuria is not so alarming as it appears. If it persists and there are no contra-indications, it can almost certainly be controlled with a little tannin, a tablespoonful three times a day of a 1 per cent. solution. Mild, afebrile symptoms of uremia can be combated with senna for a laxative, warm baths, with moderate sweats afterward. In case of fever a cold pack for one to two hours may precede the warm bath to advantage. Very severe cerebral symptoms indicate local blood-letting or venesection. Three or four leeches can be applied to the head of even very young children and, supplemented by withdrawal of 60 to 120 c.c. of blood, may accomplish marvels. Cold applications to the head during the warm bath are also useful at times. Injections of chloral or inhalation of chloroform can not take the place of blood-letting, but may advantageously follow it. One must be prepared at any moment with measures against collapse. Persisting albuminuria is due to the atonic condition of the renal vessels, and usually subsides spontaneously when the child gets out of doors. But if the indications of subacute or chronic nephritis persist and increase, Wildinger or Fachinger water and an easily-digested vegetable diet are necessary, with occasional administration of tannin and, if possible, a change of air to a milder climate or watering place. Under prolonged and systematic observance of these precautions most children can be saved from the threatened chronic nephritis. There will always, however, be a few who are left with a chronic nephritis and persisting cardiac defect as the relics of a severe attack of scarlet fever. In the 75 cases on which this communication is based nephritis was noted in 38, uremia in 18, and 5 of the latter died.

58. **Causes of Infant Mortality in Institutions.**—Schlossmann attributes the low death rate in the Children's Polyclinic and Infants' Home at Dresden to the fact that it is the policy of the institution to supply good breast milk to the children regardless of the expense, which is, on the whole, less than anticipated. Only 53 deaths have occurred among the 207 sick infants, a proportion of only 25.6 per cent., which is very much less than in other institutions of the kind in Germany. The 93 healthy children of the wet nurses are not included in the figures. None of these children contracted any severe disease during their stay at the institution.

62. **Growth of Colon Bacillus in Milk.**—Cozzolino reports that comparative tests showed that human milk is far less favorable as a culture medium for the colon bacillus than milk from the cow, goat or ass. The growth of the bacillus is very much checked from the 14th to the 48th hour in human milk, while it flourishes exuberantly in the other kinds. Human milk does not become as acid as the other kinds under the influence of the bacillus.

65. **Embolism of Superior Mesenteric Artery.**—Sievers describes the case of a patient taken suddenly sick with violent pains in abdomen, moderate meteorism, nausea and slight vomiting and death in twenty-nine hours with the clinical picture of intestinal occlusion and collapse. The case terminated before the hemorrhage into the intestines could be voided.

70. **Substitution of the Bromids for Salt.**—Hondo has found that when the minimum of sodium chlorid is ingested and the bromids are administered, the bromin is eliminated much more slowly and in much smaller quantities than when the patient receives the usual proportions of salt in his food.

74. **Simple Means of Locating Foreign Bodies in Brain by Radioscopy.**—Stamm locates the foreign body on the principle of geographical location by parallels of latitude and longitude. He uses for the purpose a narrow strip of flexible sheet metal provided with holes 1 cm. apart. Small nails are inserted in these holes, the points projecting outward, the heads held in place with wax. This strip is placed on the skull, starting from the root of the nose and passing to the base of the skull behind. A bandage of gauze is then wound around the head. The points of the nails pierce the gauze and the latter holds the metal strip immovable. The radiograph is then taken and the strip is then changed to a transverse position and another radiograph taken, the location of the foreign body each time being marked on the skull and its position in regard to the number of the nearest nail. The nails can be removed as convenient for the patient to rest his head. As the strip is radiographed with the skull the pictures can be compared and serve for future reference.

77. **Treatment of Sepsis.**—Wernitz is enthusiastic in praise of his method of rinsing out the body in case of severe sepsis, by slow, protracted irrigation of the intestines with a .5 to 1 per cent. saline solution injected under weak pressure. The reservoir is lowered from time to time to allow the fluid to flow back out of the intestines. The reservoir is then filled with fresh fluid and the irrigation continued. He maintained these injections twelve out of the twenty-four hours in one case of very severe puerperal sepsis. About five liters of urine were voided by the patient during this time. The temperature rose whenever the injections were suspended and fell again when they were renewed. Four were given the next day and the patient entered upon convalescence. The intestinal tract is kept clean by this constant flushing, and its secreting and excreting functions promoted, while the patient sweats copiously. This sweating is merely the overflow of the fluid arriving in such quantities and does not depress the organism. The patient ceases to sweat when the irrigation is suspended. The vascular system is not overloaded as by subcutaneous injection, although about one or two pints are absorbed in the course of an hour. He states that the results of this simple but tedious procedure were marvelous in a case of puerperal sepsis, one of acute peritonitis and two of septic abortion, which is the list of his experiences to date.

84. **Castration by Application of Steam to Uterus.**—Pincus recommends atmokausis as a simple and effective method of abolishing the menstrual function in cases of incurable affections in which the patients are otherwise doomed to a speedy decline. He describes two cases thus treated. One was a young consumptive, a ii-para, the other in Bright's disease, a iv-para, 32 years old. Both had had extremely severe post-partum metrorrhagia at their deliveries, and the indications for avoidance of future pregnancies were vital. The patients were at the prime of the procreative age and the suspension of the procreative faculty and also of the monthly loss of blood was an indispensable condition for long survival. This was accomplished without pain or danger by the application of steam at 115 and 112 C. for a minute in the second case and at 110 for forty seconds in the first, repeated later for forty seconds. No narcosis, no discomfort nor disturbances of any kind were noted. Menstruation has not occurred since in either case. The uterus is completely atrophied and obliterated above the internal os. The function of the endometrium of the fundus is destroyed, but the cervix is intact, and it is possible that a cervical menstruation may still occur.

85. **Posterior Parametritis an Intestinal Affection.**—Mueller asserts that the troubles known as posterior parametritis, periproctitis, pathologic anteflexion, peritoneal adhesions, etc., distinguished by the "uterine syndrome," are generally the result of an affection of the rectum at the point where it is enclosed by the utero-sacral ligaments. They very rarely proceed from the uterus itself.

89. **Toxinemia.**—Kaminer noticed that Ehrlich's iodin reaction of the leucocytes, which does not occur in normal blood, seemed to occur in connection with bacterial processes. He has therefore been studying it in rabbits and guinea-pigs after inoculation of bacteria. He found that the reaction was more intense when the bacterial toxins were injected instead of the bacteria themselves. The only exceptions were the bacillus of fowl cholera which produced no effect, and tetanus toxin. Diphtheria toxin induced a marked reaction and this difference between the action of these two toxins is interesting. Another point established was that it was impossible to obtain the reaction in animals immunized to a high degree against diphtheria. On the other hand, after the iodin reaction was apparent, it was impossible to save the animal by serum treatment. The iodin reaction can probably always be obtained in man when a sufficient number of bacteria or quantity of toxin is circulating in the blood. There may possibly be some connection between the reaction and the leucocytosis observed in appendicitic abscesses. It may aid in the diagnosis of bacteriemia and toxinemia and thus prove of much clinical importance.

91. **Bone Charcoal as Substitute for Iodoform.**—Frommer has been testing bone charcoal which A. Fraenkel has been advocating for the dressing of wounds. The results of his tests were unfavorable.

92. **Gallstone Ileus.**—Karewski points out that the gallstone in the intestines causes an irritation and reflex contraction which may induce the severest symptoms of ileus. The stone may pass along and cause the same symptoms at another point, or if the contraction subsides it may be harmlessly voided. In some cases the irritation induces fatal paralysis of the intestines. The irritation from the stone may lead to perforation and peritonitis. In these cases the stone may be evacuated in some perforating abscess or cause the formation of extensive adhesions with chronic stenosis of the intestines. The stone may dig a diverticulum in the wall of the intestine. In most cases of gallstone ileus the diagnosis has been retrospective, at the operation or autopsy or after the stone has been voided. Even a presumptive diagnosis is impossible in the absence of previous indications of lithiasis. When there is a history of this condition and gallstone ileus is diagnosed, some other cause for the ileus may be disclosed by the operation, such as necrosis of the small intestine, the result of kinking, as in a recent case in his experience. Women are more frequently affected than men, and the subjects are usually over 60 years of age. As the obstruction is generally in the upper portion of the small intestine, after severe symptoms of total occlusion have developed, gas and feces may still be voided from below it. The high location of the obstruction also renders fecal vomiting one of the first symptoms. Gallstone ileus is the only form of obstruction in which fecal vomiting may coincide with natural discharges. The copious vomit contains bile with fecal matters from the small intestine. Another important differentiating point is that the general health does not suffer as in case of ileus from other causes. This is probably due to the fact that the intestine is still slightly permeable and that the circulation of the part involved does not suffer to such a degree. The pulse is more regular and the pains less violent on the whole. The meteorism is less pronounced and less in proportion to the higher location of the obstruction. High obstructions afford the worst prognosis, and thus we are compelled to resort to surgical intervention as soon as it is established that medical measures have none or only transient effect. The more certain the diagnosis of gallstone ileus the more urgent the indications for operation. Only the rapid subsidence of the severe symptoms justifies the postponement of the intervention. Körte lost only 2 out of 7 patients thus operated on. One of these died from collapse and the other was at the seventh day of the ileus and peritonitis had already developed. Even if the stone becomes dislodged it is liable to cause dangerous injury on its further passage through the intestines. Incipient peritonitis is no contra-indication to operation. But the latter may prove ineffective if the intestine has lost its elasticity by too long delay. The operation is alone able to decide the diagnosis—it will perhaps save the patient when a gallstone ileus has been erroneously diagnosed while in fact other irremediable conditions exist.

93. **Specific Treatment of Typhoid Fever.**—Petruschky has been treating typhoid patients for two years with minute doses of dead typhoid bacilli, which he calls "typhoin" for convenience. It keeps for three or four weeks. No inconveniences were ever observed. He injected .5 to 1 c.c. twice a day for three days, gradually increasing to 3 c.c. He first partly fills the Pravaz syringe with a mixture of 5 parts phenol and 8 parts sodium chlorate in 1000 parts distilled water. The typhoin is then drawn into the syringe and the injection is made in the thigh or calf. After the three days of treatment the temperature begins to fall and returns quite or nearly to normal by the end of three more days. In every instance the severity of the disease was mitigated during the treatment. The pulse and sensorium improved and the tongue began to clear up. He found that this treatment was ineffectual when the typhoid was complicated by pneumonia or other severe affections, or was in an advanced stage when treatment was commenced. He observes that not every typhoid culture is adapted for the purpose. He intends to manufacture the typhoin on a large scale.

95. **Results of Surgery of the Kidneys.**—Schmieden reports the tabulated details of 184 operations on the kidney performed by Schede. Five of the 18 cases of malignant tumors have been permanently cured.

98. **Orthopedics of the Ovaries.**—Rose applies this term to an operation performed in two cases. The ovary was found sound but in an abnormal position which had caused severe pains and a tumor-like protuberance. The ovary was restored to its normal position and the abdomen was closed without opening the ovary. Both patients were permanently freed from their disturbances.

103. **Laceration of Intestines from Horse's Kick.**—Riegner has observed fourteen fatal cases of this traumatism and reports one patient who was cured by prompt operation. The success in this case was probably due to the empty condition of the intestines at the time. He urges not to defer the operation on account of shock.

112. **Operative Intervention in Gastric Hemorrhage.**—Kaupe reviews the cases of such intervention which have been published and concludes that the results certainly encourage further attempts in this line, although success is by no means certain, especially if the patient's strength is waning from long-continued hemorrhage from ulcer. Operation should be prompt and must be individualized for each case. Besides the methods commonly in vogue, Witzel has recently been successful in a case of this kind by ligating the large afferent blood vessels without opening the stomach. He found the arteries very much enlarged when the stomach was drawn out. The dilatation seemed to be almost an aneurysm at one point, distinguished further by adhesions, evidently corresponding to the site of the ulcer on the inner side of the stomach wall. He therefore ligated the afferent gastric artery to right and left, and closed the abdomen without further intervention. All hemorrhage was arrested at once, and the patient has been in apparently perfect health during the two years since.

116. **Surgical Treatment of Spasm of the Cardia.**—Cahen describes a typical case of spasmodic contraction of the cardia. An elastic sound could be introduced into the stomach, passing the obstacle, but it was impossible for a single drop of fluid to pass it. There was not a trace of free hydrochloric acid in the stomach then or after the patient had been relieved by gastrostomy. The condition was much improved by retrograde continuous application of the sound, although it proved impossible to keep the cardia completely in repose on account of the swallowing of saliva which accumulated above the contraction in the esophagus. A stout drain tube was introduced through the fistula and left a day at a time. This aided in stretching the cardiac orifice and allowed feeding by the mouth to be resumed. The patient was a previously healthy married man, 35 years old, who became nervously excited over various worries and commenced to vomit frequently. Symptoms of spasm of the cardia soon developed, treated as above described. The stomach fistula healed spontaneously, and for three months his troubles seemed at an end. After this interval his old symptoms reappeared in a mild form whenever he was worried. He was frequently compelled to leave the table and vomit what he had eaten, but he could then return and finish the meal in peace. He has learned to introduce the sound himself and returns to the physician every ten to fourteen days, when he experiences difficulty in eating. The esophagus is then rinsed out. A slight resistance is still noted at the cardia when a thick sound is introduced. Cahen thinks that this spasm of the cardia is similar to vaginismus in its nature, and may be symptomatic or idiopathic. The former or reflex variety is more apt to yield to treatment than the idiopathic which occurs in nervous persons without any local inciting cause.

122. **Experimental Transplantation of Kidney.**—Ullmann's successful transplantation of the kidney in dogs has attracted much attention. He exposed the carotid artery and jugular vein over quite an extent and applied a ligature or clamp on each side of the wound. They were then severed and a tube of magnesium slipped into the stump of each. The kidney was then ablated and the renal vein fitted over the stump of the jugular and the renal artery over the carotid. The clamp was then removed from the carotid artery and at once the blood poured into the kidney. The secreting function continued undisturbed, evidenced by the dripping of urine from the ureter, the stump of which projected through the wound. The physiologic function continued only five days in each case as the animals scratched the spot and induced irritation which obstructed the ureter.

124. **Destruction of Albuminoids in Liver.**—Töpfer excluded the liver in various ways in his experimental research, and reports that the liver alone is unable to decompose the albuminoids. When the liver circulation is cut off from the intestinal circulation the albuminoids remain unchanged.

125. **Treatment of Epityphlitic Abscesses in Douglas' Pouch.**—Pendl reviews 12 cases of this kind operated on at Hochenegg's clinic, and 4 in his own experience. The mechanical occlusion of the rectum by a large abscess in Douglas' pouch causes symptoms which simulate those of generalized peritonitis or invagination. Differentiation is only possible by digital exploration of the rectum. When the abscess is not recognized and evacuated, general sepsis or pyemia may result from its perforation into the peritoneum. It has been stated that these abscesses occur in 30 per cent. of all cases of appendicitis. Attempts to evacuate them through the abdomen may transform a simple into a complicated case with general peritonitis. The simplest and most effective means of intervention is through a sacral or parasacral incision. A rubber drain can be left for ten days and the patient can be dismissed by the fourth week with a small granulating wound in the gluteal furrow as the last trace of the intervention. By this method the peritoneum does not need to be opened. There is no danger of hernia nor of injury to the intestines from the drain. The rectum tolerates it without inconvenience of any kind. No severe hemorrhage has ever occurred by this method. Eight of the patients were between 9 and 13 years of age, 4 between 16 and 21. Three died from pre-existing sepsis.

129. **The Oculo-Pupil Sensory Reflex.**—Varady applies this term to the reaction of the pupil to sensory stimuli such as contact, heat or electricity. Stefani and Nordera have recently been studying it on healthy subjects. The pupil dilates gradually after a single brief stimulus and then suddenly returns to its original size. If the stimulus is prolonged the pupil first dilates and then contracts to a smaller diameter than at first, then it dilates again and gradually contracts once more. The reflex differs from the light reflex principally in that it takes place much more slowly. The reflex is also soon exhausted and it proves impossible to repeat it. For clinical purposes the first dilatation and subsequent contraction is sufficient for the study of the reflex. The stimulus found most effective in tests on 50 subjects was a needle prick, usually in the malar process. The result is more striking in a weak or moderate light. Prompt response to the needle prick shows that there is no organic anesthesia of the part pricked. It is most marked in subjects with a mobile pupil and occurs in cases of functional disturb-

ances in the sensibility the same as in healthy persons, that is, it is present in some and absent in others. It may persist in tabes after the reaction to light is lost. In case of anesthesia of organic origin it is impossible to elicit the reflex, but this is only decisive when it can be induced on the sound side.

133. **Vaccination in Prophylaxis of Pertussis.**—Poschi had vaccinated a large number of infants just before an epidemic of pertussis developed. He noticed that only one of these infants contracted the disease, although all were more or less exposed to it. The one child affected had a very brief attack. He vaccinated a number of older children who were known to be in the stage of incubation, and was impressed by the mildness of the disease when it developed. He noticed, however, that children who had been vaccinated the year before were not immune.

136. **Treatment of Gonorrheal Affections with Guaiacol.**—Bocchi reports ten cases of acute gonorrheal epididymitis and orchitis treated with guaiacol, as recommended by Lenz, in a 10 per cent. vaselin salve. The pain is relieved almost instantaneously and disappears permanently after four or five days. The relief of the pain is more pronounced in the more recent cases. Resolution is remarkably prompt under it and other writers have noticed that the temperature was reduced under this treatment. None of Bocchi's patients were febrile. He has also applied it in two cases of traumatic epididymitis with the same success. The simplicity, convenience and efficacy of this guaiacol treatment render it superior to all other remedies in his experience.

137. **Experimental Proof of Internal Secretion of Suprarenals.**—Salvioli withdrew 8 to 10 c.c. of blood from the suprarenal efferent vein of a dog and injected it into the jugular vein of another smaller dog. This experiment was repeated a number of times and in every instance the small dog exhibited the characteristic variations in the blood pressure, respiration and heart rhythm which distinguish the action of extract of the suprarenals. Similar experiments with blood drawn from other veins failed to produce any such effect.

139. **Methylene Blue in Malaria.**—De Blasi administered methylene blue in 100 cases of malaria with complete cure in 62. He found that it was only effective when the parasite had been circulating for some time in the blood. It seemed to have a tendency in pregnant patients to induce painful contractions of the uterus, and he therefore warns against its use during the last two months of pregnancy. He gave from 20 cg. to 2 gm. in the twenty-four hours, after eating.

142. **Tabes Dorsalis.**—De Britto has been making a careful study of eight cases of tabes. Syphilis was denied in three but was evident in the others. He concludes that tabes is always due to two factors, one is a certain vulnerability of the spinal centers, inherited or acquired, which serves as a predisposing cause. The other factor is some occasional infection or intoxication. Syphilis, pellagra, paludism and intoxication from ergot may serve as this occasional cause.

145. **Experimental Appendicitis.**—Nicolaysen has been studying the connection between enteritis and appendicitis by inducing these processes in animals by bacterial infection. He found that the lesions were similar to those of chronic appendicitis in man. The animals fed on bacteria such as are encountered in human appendicitis developed ulcerations and other profound alterations in the appendix when at the same time the intestinal tract seemed to be intact except for the swelling of Peyer's patches. The lesions in the appendix were more pronounced the longer the animals survived after having been fed on the bacterium coli. The most profound alterations were found at the ninth to the fifteenth day. The lesion most frequently noted was a perforating ulceration.

146. **Transplantation of Tendons.**—Bülow-Hansen collected 75 cases of tendon transplantation in 1900. The results were successful in 75 per cent. The results have been even more satisfactory since that date. He describes fourteen cases in detail, treated by transplantation or a plastic operation on the tendons in case of paralysis, Little's disease, etc. He says that some gain can always be attained, and in many instances it amounts to an actual cure. The circulation of the blood in the parts is much better, warmth substituting the former clamminess of the skin. He uses the finest silk for suturing and applies a plaster cast in over-correction. The sutures in the skin are left for three or four weeks if temperature is normal. The dressings are renewed and left for two to four weeks. Massage is then commenced, combined with gentle resistance exercises.

145. **Polycystic Degeneration of the Kidneys.**—Borelius describes 4 cases of this condition. One was a casual discovery at an autopsy. One ran a latent course until the subject was 70 years old, when he died after a train of symptoms of chronic uremia. In another case the renal tumor developed without symptoms until infection occurred. The fourth case was complicated by renal lithiasis. The diagnosis of polycystic degeneration of the kidney is probable when symptoms of contracted kidney are observed accompanied by enlargement of one or both kidneys. Another type develops with attacks of pain, suggesting calculi. In still another type the symptoms are those of a slowly progressive chronic uremia with palpable tumor in one or both kidneys. In case of unilateral renal tumor it is necessary to exclude all other causes before thinking of polycystic degeneration, but the diagnosis is easier when both kidneys are affected. Lumbar pains and hematuria are frequent symptoms but are not specific. In 3 of Borelius' cases the patients belonged to the same family, father, son and nephew. Others have noticed a family tendency and the frequent coincidence of congenital malformations of various kinds. As cystic kidneys are a *noli me tangere*, their diagnosis is of great importance. In about 25 per cent. of the cases the liver is also affected with cystic degeneration, and tumefaction of this organ may prove a hint for the diagnosis. Functional diagnosis should not be neglected, whenever it is possible. If the daily elimination of urea is below 16 gm., the functional capacity of the kidneys is evidently diminished, and cystic degeneration is probable, but the latter may exist even when the elimination of urea happens to be normal at the time of the tests. In one of his cases the urea was less than half the normal amount, showing that the other kidney was probably degenerated, although only one kidney was palpably enlarged. If this had been removed the results would probably have been disastrous. On the other hand, the proportion of urea remained practically normal in another case, even after extirpation of the degenerated kidney. This result confirmed the previous diagnosis that the remaining kidney was able to substitute the missing organ, although not necessarily entirely sound. Lumbar exploratory puncture may aid in the differentiation. The fluid contents of the cysts frequently contain small concentric bodies similar to the concretions found in the prostate, sometimes rosette-shaped. Borelius does not know of any other renal affection in which these characteristic little bodies are found. Exploratory incision is a serious operation and cost the life of Holländer's patient. Mohr collected 22 cases of extirpation of the kidney on account of polycystic degeneration, with a mortality of 7.

Queries and Minor Notes.

THE AUTOMOBILE.

Spokane, Wash., April 2, 1902.

To the Editor:—I note in your number of March 22 an inquiry relative to the best power for automobiles for physicians' use. Having had considerable experience recently in the matter of automobiles, I feel that I can without hesitation advise in favor of the gasoline motor, exploded by an electric spark, for the following reasons: First, that it requires less time to start such a wagon than it does to untie and unblanket a horse; second, that it is the least expensive engine and costs but about one-third as much to run as the steam rig which is its principal competitor. Electricity as a motive power for wagons will never be successful from the standpoint of economy, comfort, endurance, etc., until a light storage battery shall have been perfected, also a battery that will not leak power when the wagon is not in use and one that can be charged quickly. Under the most favorable circumstances

it requires from twelve to twenty-five minutes to start a steam wagon, and, in addition to the large quantity of gasoline required for generating steam, a considerable quantity of water must also be used, which can not be easily replaced under all circumstances. In buying a gasoline motor wagon, however, it should be remembered that most all manufacturers are making two distinct varieties of wagons, each for a specific purpose. One is a light rig called a runabout, weighing about eight or nine hundred pounds with four or five horse power, suitable for two persons on light grades or level roads, where there is little or no mud. The other is a heavier wagon, with six or eight horse power, usually containing two seats, called a touring car, costing a great deal more to operate and too cumbersome, noisy and expensive for city work. Bearing all these facts in mind, being careful to go to a well-established manufacturer, it is safe to purchase and use an automobile in the practice of medicine. Yours very truly,

C. P. THOMAS.

New Patents.

Patents of interest to physicians, etc., March 18, 25 and April 1:

695,470. Syringe. Young M. Milam, Lake Charles, La.
695,761. Vaccination shield. Josiah C. Peacock, Philadelphia.
695,496. Invalid's robe. Adeline Schermerhorn, Troy, N. Y.
695,657. Ozonizer for wounds, etc. Robert F. W. Smith, London, England.
695,658. Ozone inhaler. Robert F. W. Smith, London, England.
696,158. Atomizing apparatus. Wm. A. Barton, Jersey City, N. J.
695,927. Casein solution. Wm. A. Hall, Bellows Falls, Vt.
696,342. Combined face steamer and inhaler. Henry C. Karpenstein, Brooklyn, N. Y.
696,105. Disinfectant. Abiel W. Nelson, New London, Conn.
696,123. Surgical dressing. Henry P. Weidig, Newark, N. J.
696,538. Catamenical bandage. Heinrich Bauer, New York City.
696,722. Physicians' examining chair and table. Robert P. Curtis, Columbus, Ohio.
696,802. Adjustable invalid mattress. Maggie Dambaun, Des Moines, Iowa.
696,728. Syringe. Richard H. Eddy, Providence, R. I.
696,441. Bag for remedial applications. Franklin C. Holmes, Chicago.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 27 to April 2, 1902, inclusive:

Alexander P. Bacon, contract dental surgeon, relieved from the Department of Cuba, to take effect April 30, 1902, and assigned to duty at Fort Clark, Texas.

Henry P. Birmingham, major and surgeon, U. S. A., to represent the Medical Department of the Army at the Eleventh Annual Meeting of the Association of Military Surgeons of the United States, to be held at Washington, D. C., June 5-7, 1902.

George M. Decker, contract dental surgeon, from the Department of Cuba, to take effect April 30, 1902, to duty at Fort Logan, Colo.

William H. Forwood, colonel, assistant surgeon-general, U. S. A., to represent the Medical Department of the Army at the Fifty-third Annual Meeting of the American Medical Association, at Saratoga, N. Y., June 10-13.

William C. Gorgas, major and surgeon, U. S. A., when his services are no longer required in the Department of Cuba, to proceed to Washington, D. C., and report to the Surgeon-General for instructions; also to represent the Medical Department of the Army at the Fifty-third Annual Meeting of the American Medical Association, Saratoga, N. Y., June 10-13.

William E. Hall, contract surgeon, from St. Louis, Mo., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Jefferson R. Kean, major and surgeon, U. S. A., when his services are no longer required in the Department of Cuba, to proceed to Washington, D. C., and report to the Surgeon-General for instructions; also to represent the Medical Department of the Army at the Eleventh Annual Meeting of the Association of Military Surgeons of the United States, at Washington, D. C., June 5-7.

Frank E. McDermott, contract dental surgeon, former orders directing him to proceed from Webster, Mass., to duty at Fort Crook, Neb., revoked.

Charles F. Smith, contract surgeon, now at Whitehall, Mich., is relieved from further duty in the Division of the Philippines and assigned to duty at Fort Sheridan, Ill.

Arthur C. Stokes, contract surgeon, from Omaha, Neb., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Eugene R. Whitmore, lieutenant and asst.-surgeon, U. S. A., from Fort Sheridan, Ill., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending April 5:

P. A. Surgeon B. R. Ward, detached from the Boston Navy Yard, and ordered to the *Lancaster*.

Asst.-Surgeon R. A. Bachmann, appointed asst.-surgeon from March 20, 1902, and ordered to the Naval Academy.

P. A. Surgeon E. V. Armstrong, granted sick leave for six months.

Pharmacist C. O'Leary, retired from active service April 25, 1902, having reached the age of 62.

P. A. Surgeon D. N. Carpenter, ordered to Naval Hospital, Newport, R. I., for temporary duty.

Asst.-Surgeon W. E. Griffin, detached from Naval Hospital, Newport, R. I., and ordered to accompany a detachment of marines to the Philippines.

Asst.-Surgeon H. C. Curl, ordered to the Naval Hospital, Mare Island, Cal.

Asst.-Surgeon M. V. Stone, detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Constellation*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended April 3, 1902:

Surgeon H. R. Carter, granted leave of absence for six days from April 1, under paragraph 170 of the regulations.

PROMOTIONS.

Junior Pharmacist Charles G. Carlton, to be senior pharmacist from Jan. 13, 1902.

Junior Pharmacist H. E. Davis, to be senior pharmacist from Feb. 10, 1902.

Junior Pharmacist R. F. Troxler, to be senior pharmacist from March 13, 1902.

Junior Pharmacist J. E. Beck, to be senior pharmacist from March 15, 1902.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 5, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, March 15-22, 4 cases; San Francisco, March 16-23, 4 cases.

Colorado: Denver, March 15-22, 9 cases.

Florida: Jacksonville, March 22-29, 3 cases.

Illinois: Belleville, March 22-29, 1 case; Chicago, March 22-29, 14 cases; Joliet, March 15-22, 1 case.

Indiana: Evansville, March 22-29, 3 cases; Indianapolis, March 14-21, 21 cases.

Kansas: Wichita, March 22-29, 1 case.

Kentucky: Covington, March 23-30, 13 cases.

Maine: Portland, March 22-29, 3 cases.

Massachusetts: Boston, March 22-29, 15 cases, 4 deaths; Cambridge, March 22-29, 3 cases, 1 death; Lawrence, March 22-29, 1 case; Medford, March 22-29, 1 case; Newburyport, March 15-22, 2 cases; Tanuton, March 22-29, 1 case.

Michigan: March 22-29, Detroit, 15 cases; Grand Rapids, 1 case; Ludington, 9 cases.

Minnesota: Minneapolis, March 15-29, 31 cases.

Montana: Butte, March 23-30, 2 cases.

Nebraska: Omaha, March 22-29, 29 cases, 1 death.

New Jersey: Camden, March 22-29, 2 cases; Hudson County, March 23-30, 38 cases, 7 deaths; Jersey City, March 23-30, 25 cases; Newark, March 22-29, 11 cases, 9 deaths; Passaic, March 1-15, 2 cases.

New York: New York, March 22-29, 69 cases, 4 deaths; Yonkers, March 21-28, 2 cases.

Ohio: Chillicothe, March 22-29, 2 cases; Cincinnati, March 21-28, 18 cases; Cleveland, March 22-29, 1 case; Dayton, March 22-29, 1 case; Toledo, March 22-29, 1 case.

Pennsylvania: Lancaster, March 1-29, 3 cases; Philadelphia, March 22-29, 38 cases, 3 deaths; Pittsburg, March 22-29, 5 cases.

Rhode Island: Providence, March 22-29, 2 cases; Warwick, March 24-April 1, 10 cases.

South Dakota: Sioux Falls, March 22-29, 1 case.

Tennessee: Memphis, March 22-29, 5 cases.

Utah: Salt Lake City, March 15-22, 1 case.

Washington: Tacoma, March 16-23, 4 cases.

Wisconsin: Green Bay, March 23-30, 8 cases; Manitowoc, March 1-31, 20 cases; Milwaukee, March 22-29, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 8-15, 8 cases.

Belgium: Antwerp, March 8-15, 13 cases, 4 deaths; Liege, March 8-15, present, 1 death.

Brazil: Rio de Janeiro, Feb. 9-16, 6 deaths.

Canada: Halifax, March 23-30, 1 case, 1 death; Hamilton, March 1-31, 1 case; Quebec, March 23-29, 11 cases, 1 death.

Colombia: Cartagena, March 10-16, 1 death.

France: Paris, March 8-15, 7 deaths; Rheims, Jan. 5-12, 12 cases, 8 deaths.

Great Britain: Cardiff, Jan. 25-March 8, 1 case; Dundee, March 8-22, 2 cases; Glasgow, March 15-22, 53 cases, 7 deaths; Liverpool, March 8-22, 23 cases, 1 death; London, March 8-15, 450 cases, 81 deaths; Plymouth, March 15-21, 1 case; Sheffield, March 1-15, 6 cases; Southampton, March 8-15, 1 case.

India: Bombay, Feb. 24-March 4, 7 deaths; Calcutta, Feb. 22-March 1, 7 deaths; Karachi, Feb. 23-March 2, 8 cases, 1 death; Madras, Feb. 15-28, 4 deaths.

Italy: Naples, March 1-15, 16 cases, 3 deaths.

Mexico: Mexico, March 9-16, 3 cases.

Russia: Moscow, Feb. 27-March 6, 18 cases, 5 deaths; Odessa, March 8-15, 1 case; St. Petersburg, March 1-15, 15 cases, 3 deaths.

Straits Settlements: Singapore, Feb. 1-15, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Feb. 9-16, 17 cases.

CHOLERA.

China: March 29, Canton, almost disappeared; Sheshing, sporadic; Tung Mun, sporadic.

India: Bombay, Feb. 24-March 4, 3 deaths; Calcutta, Feb. 22-March 1, 158 deaths.

Straits Settlements: Singapore, Feb. 1-15, 7 deaths.

PLAGUE.

China: Tsang Shing, March 29, 20 deaths.

India: Bombay, Feb. 24-March 4, 856 deaths; Calcutta, Feb. 22-March 1, 347 deaths; Karachi, Feb. 23-March 2, 84 cases, 62 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, APRIL 26, 1902. No. 17.

Original Articles.

THE NATURE OF PROSTATIC HYPERTROPHY.

ROBERT HOLMES GREENE, A.M., M.D.

Dermatologist to the City Hospital; Surgeon to the Workhouse and Penitentiary Hospitals; Genito-Urinary Surgeon to the French Hospital.

AND HARLOW BROOKS, M.D.

Pathologist to Montefiore Home and Harlem Hospital; Assistant Curator to Bellevue Hospital; Instructor in Histology and Embryology, Bellevue and University Medical College.

NEW YORK CITY.

In the introduction of this paper the writers wish to state that there is no expectation on their part that they will be able to settle definitely at once all the questions concerning the nature of prostatic hypertrophy. Their object is to place on record a somewhat exhaustive report of the histologic examination of a considerable number of prostates, to mention the results of some clinical experience and to present the conclusions to which the data have directed them. An exhaustive consideration of the theories and data of other observers must, on account of lack of space, be omitted. By confining ourselves to a consideration of the conclusions of observations made during the past five years by those who have had a large amount of material at their command and eliminating those whose conclusions have been made from theoretical considerations, the field to be looked over can be made narrow. From early times until the microscope came into general use the prostatic hypertrophy of the aged was by many considered of inflammatory origin, often thought to have been caused by a preceding urethritis. But for the past twenty years, while the theories as to its nature have been varied, there seems to have been a pretty general consensus of opinion that a true tumor formation of some sort or other was present in the prostatic hypertrophy of the aged and that the prostatitis associated with urethritis found in young men was another affair.

Gouley, who did the earliest serious work on the prostate in this country, claimed that in necropsies of young men suffering from prostatitis who died from intercurrent affections he found conditions apparently resembling those found in the prostatic hypertrophy of the aged. He suggested but did not assert an inflammatory origin in this condition. In his latest publication he considers that inflammation is the cause in some cases but adenoma in others.

The senior author of this article in a paper and discussion[1] calling attention to the frequency of prostatitis as a complication of urethritis from an examination of 216 cases, stated his belief from clinical observation that the hypertrophied prostate of the aged followed prostatitis and again later in a paper read before the Academy, but not published, expressed the same views, giving a list of men who had believed the same thing from clinical observations before the microscope came so generally into play. His views were received at the time with a lack of approval that was, to say the least, discouraging.

At the present time so many observers have noticed the very frequent connection between urethritis and prostatitis that the former may be considered as an etiological factor. Two questions which arise are: what evidence can be brought out at the present time from histologic findings that the nature of prostatic hypertrophy differs to any extent from that found in the past and what new relations, if any, can be shown to exist between posterior urethritis, prostatitis and hypertrophied prostates? Until very recently pathologists almost universally considered prostatic hypertrophy of the aged to be due to true tumor formation and while they differed among themselves as to the nature of these tumors a good many of them thought the tumors consisted of an increase in the amount of glandular tissue, which would be an adenoma; in the muscular tissue, therefore, a myoma; or in the fibrous tissue, a fibroma; or that there existed more or less of a mixture of these three forms.

Referring to important researches published during the past five years, those of Motz, Albarran, Halle and Ciencanowski seem to have been the most deserving of attention. The writers of this article gave the results of some of their observations on the prostate last June in a paper entitled "Fallacies in the Treatment of Urethral Diseases," read before the annual meeting of the American Medical Association in St. Paul.[2] Motz, whose article was the earliest published, arrived at his conclusions from the examination of thirty hypertrophied prostates and his conclusions seem to show that the vast majority of enlargements were of the adenomatous type, that the remaining enlargements were due to a mixture of the glandular and fibrous forms and that the purely fibrous were of a very great rarity. His researches tended to demonstrate that there was no ground for the views held by those who have considered that the changes in the blood vessels played an important part.

Prof. Dr. Stanislaus Ciencanowski[3] reported a most exhaustive study on a large number of hypertrophied prostates as well as studies on the pathology of the bladder and of the kidneys. Whether or not one agrees with the conclusions he reached, every one must agree in praising the exhaustive research, both histologic and

1. Some Observations on the Prostate. Journal of Cutaneous and Genito-Urinary Diseases. Read before the American Genito-Urinary Association in 1898.

2. Jour. A. M. A., Nov. 9, 1901, p. 1223.

3. Anatomische Untersuchungen neber die Sogenannte Prostate Hypertrophica und Verwandte Prozesse. Mittellungen aus den Grenzgebieten der Medizin und Chirurgie, Jena, 1900. (Published originally in the Polish in 1896.)

historical, and give him credit for the excellent plates published illustrating his article. As an indication of the thoroughness of his work it may be stated that the bibliography to which he refers comprises some five hundred names. Briefly stated, Cieneanowski's conclusions were that prostatic hypertrophy was an inflammatory affair, the inflammation extending from the posterior urethra and he suggested blenorrhagia as a probable cause.

Albarran and Halle followed Cieneanowski by making a most painstaking and exhaustive research of prostatic hypertrophy.[4] Their conclusions were reached from the examination of 100 prostates, which were obtained from men who died from some of the complications of what is generally termed prostatism. Their conclusions—as regards the preponderance of the glandular or adenomal form over that of the myomatous or fibro-myomatous—agree with Motz, whose conclusions were reached after an examination of thirty hypertrophied prostates. They mention Cieneanowski's work, but criticise it by saying that the prostates from which Cieneanowski drew his conclusions were those of young men. While they mention hypertrophied prostate as being due to adenoma or fibro-myoma, using the old terms, so to speak, they do not by any means reject the theory of its being the result of inflammation and while they mention the two different grounds of belief, judging from their language, they seem to lean more towards the latter. It may be interesting here to note that out of the hundred cases they only found one of what they called the purely fibrous form and what has probably been called in the past the purely myomatous form. The conclusion on which Albarran and Halle dwell most emphatically is that in fourteen cases they found a condition which they termed adeno-carcinoma. In other words, they claim that cancer was present in these fourteen cases. They give a history of the cases. Upon reading the histories, two clinical facts seem to stand out prominently in opposition to their theory that those fourteen cases were cancer. One of these facts is that in but one case was there any mention of metastasis. The other is that the clinical histories of most of those cases show that the patients had suffered from their prostatic trouble for many years. Albarran and Halle claim that these are a sort of a tumor midway between the ordinary hypertrophy of old age and true cancer. They make the interesting statement that when a patient who has suffered the discomfort of a hypertrophied prostate for a long time suddenly develops cachexia and dies within a few months without other clinical evidence to account for it, cancer of the prostate is probably present.

While the writers of this paper can hardly agree with the conclusions reached by Albarran and Halle as to the frequency of cancer of the prostate from their histologic findings, as our plates show similar appearances in certain specimens to those shown in their plates and called cancer by them, which we do not consider such, yet we think that surgeons should be grateful to them for directing thought in that direction. Several other cases whose history they give were undoubtedly cancer of the prostate. They leave the impression on our minds that cancer of the prostate is probably more frequent than has been generally supposed and may be held accountable occasionally for cancers in other parts of the body occurring without any history of prolonged irritation. Some such cancers, therefore, which have been considered primary, may after all be secondary in character.

Regarding the question as to the connection between prostatitis as it presents itself as a complication of urethritis and true prostatic hypertrophy of the aged, it may be interesting to quote here the latest views of Cieneanowski[5]: "To recapitulate, the histologic aspect of all the senile hypertrophies I have studied correspond in many regards to those upon which Mr. Fenger has written apropos of chronic prostatitis of gonorrheal origin. There exists, however, this important difference, that the alterations of the stroma of which I write are much less pronounced in the cases of senile hypertrophy of the prostate and produce the impression of a chronic inflammation of extremely slow evolution." Right here it may be well to examine an argument against the idea that hypertrophied prostate may be of inflammatory origin, which has been brought up in Europe and in St. Paul last June, and that is that any inflammatory processes found in true prostatic hypertrophy are the result of an accidental inflammatory complication such as might come from the improper passage of instruments or the remains of an ancient chronic prostatitis. It may be here stated briefly that one of the main arguments against such a supposition is the fact noticed by Cieneanowski in all his cases that the same appearance was found in all the cases of prostatic hypertrophy examined whether there was any history of the passage of sounds or not. Cieneanowski's reply to the criticisms of Albarran and Halle shows that his cases of hypertrophied prostate were those of old men, some of whom had shown symptoms of prostatism during life and some not, but the same conditions were present in both; and then, again, Cieneanowski, whose views have been confirmed by us, has been able to show the direct connection between the alterations observed, and secondly, the origin of the senile hypertrophy of the prostate.

To quote again from Cieneanowski, "Hypertrophy senile of the prostate has nothing to do with a neoplastic process. The essential cause of this phenomenon lies in chronic inflammation of extremely slow evolution, localizing itself in the glandular tissue, or in the stroma, or in both and resulting in this inflammatory process which resembles from a histologic point of view chronic post-blenorrhagic inflammations and depends in its intensity on its extent and above all on its localization. The appearance of the hypertrophy is much more pronounced if the periglandular inflammation of the stroma is most evident in the center than it is if the interglandular inflammation localizes itself at the periphery of the prostate. The inverse disposition of these lesions does not cause any hypertrophy of the glands and may even cause atrophy." The slow progress of the inflammation we would expect from our knowledge of the slow progress of chronic inflammation in the urethra generally and it should also be borne in mind here that the clinical experience of many men for decades past has led them to believe that hypertrophy of the prostate was of gonorrheal origin, although the clinical experience of some others has led them to dispute it. One argument against the theory that urethritis plays a part in causing prostatic hypertrophy is that in India, where urethritis is common, prostatic hypertrophy is unknown or very rare. An examination of India medical journals and health reports does not seem to bear this out.

4. Hypertrophie et Neoplasies Epitheliales de la Prostate, Par M. M. J. Albarran et N. Halle, Ann. des Mal. des Org. Urin., Tome xviii, 1900.

5. Annual de Malad. des organs Genito-Urinar., 1901, "Quelques Apercus sur le Prostatisme."

To recapitulate briefly, the results of the work done on the nature of prostatic hypertrophy during the last five years by observers who have had the opportunity of forming their conclusions from the observation of a large number of prostates amount to about this:

1. That any former belief that prostatic hypertrophy was due to atheromatous conditions of the blood vessels is erroneous.

2. That the purely myomatous or fibrous form of prostatic hypertrophy is extremely rare, as is being shown by unanimous conclusions, resulting from investigation, by Motz, Albarran and Halle and Ciencanowski.

3. Motz, Albarran and Halle consider that proliferation of the cells of the glandular portion of the prostate, either alone or mingled with changes in the stroma, play the most important part in the hypertrophy of the gland.

4. Albarran and Halle do not dispute the fact that a chronic inflammatory process furnishes the phenomena presented, but lay special consideration on conditions found histologically in a large portion of the prostates examined by them, fourteen out of a hundred, and which they consider are either cancer in the prostate or a sort of a product midway between inflammatory and cancerous tissue.

5. Ciencanowski in his very exhaustive studies of the prostate considers hypertrophy the result of a chronic inflammation of the organ, the original seat of which can always be found if searched for long enough by means of a large number of sections. According as the original focus of the inflammation is in the periphery or in the center of the organ a corresponding form of prostatic hypertrophy or atrophy will be present.

Following is a description of the histologic work done by us on the subject. The exact number of prostates, including normal ones, that have been examined and from which the selection was made on which our conclusions are founded, it is not possible for us to state. The junior author of this paper has for six years been examining all the prostates that a large amount of necropsical work permitted him to obtain. The number would probably run into the hundreds. A hundred or over were collected, including normal ones, for the purposes of the paper read in St. Paul last June. From the total number of prostates which the writers of this paper have been able to gather, a selection was made of all those which showed marked enlargement, in other words, which were apparently abnormal prostates, whether we were able to obtain any history of the cases or not. These enlarged prostates were fifty-eight in number. We consider that they can properly be termed hypertrophied prostates from the fact that under the microscope the same or similar conditions were present in them all, whether they had been removed and we had the history of the case, or whether they were some specimen, of whose history we know nothing. We either have or are able to obtain the history of 19 of the 58.

Six of these have been removed at operation. We believe that in so large a series, selected conscientiously without regard to anything except the presence of tissue augmentation, we have included all usual varieties of prostatic hypertrophy. This condition being most frequent in the aged, we assume that the majority of our specimens have been taken from old men. The process which we have found has been of the same nature in all the cases, the difference being entirely quantitative or of degree. For this reason we state with confidence that our studies have been based on all true types of prostatic hypertrophy. The tissue removed for examination was always selected from that portion of the gland which showed the greatest hypertrophy. Several sections were taken from a single gland, wherever from the gross appearance of the tissue considerable variation in structure was expected. The notes recorded on each specimen have been as brief as possible, only points directly bearing on the problem under consideration have been touched. No attempt has been made to sub-classify or exhaustively describe the various types of prostatic hypertrophy. The entire study has been made with the idea of detecting the cause of this common condition.

We wish to express our thanks to Dr. B. Lapowski for having first called our attention to the extremely interesting work of Ciencanowski; to Dr. John T. McGowan, who handed to us for the purpose of the paper last spring a collection of some sixty prostates which he had gathered and on which he was carrying on some histologic investigations in connection with Dr. Smith; to Drs. Howard Lilienthal, Frank Hartley, Henry Morton, Raymond Guiteras, Chas. Phelps and George Stewart, each for a prostate which they had removed by operation. Through the kindness of Dr. Charles Peck, six specimens were obtained from the Museum of the New York Hospital, some if not all of which we understand had been removed at operation, about which we have not yet had time to obtain the histories. The Museum of the Carnegie Laboratory, the morgue and various other sources supplied other specimens.

HISTOLOGICAL REPORT.

Case 1.—N. Y. H., No. 3876. Great chronic interstitial increase with obliteration of acini in places, and marked atrophy of muscle fibers. Patches of round-cell infiltration about the acini and particularly in the neighborhood of vessels. In some places structure seems about normal, but acini are generally small and corpora amylacea few. The interstitial increase and obliteration of acini are most marked in the peripheral portions.

Case 2.—N. Y. H., No. 2121. Acini in central portions are cystic, filled by cells and detritus. Corpora amylacea are fairly numerous. There is generally a considerable increase in the amount of connective tissue with a corresponding decrease in the muscle cells. There are a few areas of small round-cell infiltration about the periphery and occasionally about some of the central acini, but inflammation is mostly represented by the chronic connective tissue hyperplasia.

Case 3.—N. Y. H., No. 2431. In general the tissue is normal, but in one portion there is intense round cell infiltration which has produced partial necrosis and has infiltrated deeply into the substance of the gland. Acute connective tissue hyperplasia is apparent about these areas, but the remaining portions of the gland are otherwise natural.

Case 4.—N. Y. H., No. 6446. Moderate distension of acini, some of which are completely filled with detritus and epithelial cells. Considerable round-cell infiltration about some of the acini, particularly in the central parts of the section. In these areas there is an increase in the connective tissue stroma, with a compensatory relative decrease in muscle. Elsewhere the relative amounts of muscle and stroma are normal. Corpora amylacea are few and small.

Case 5.—N. Y. H., No. 5265. General stroma much increased, particularly about certain acini and ducts where the hyperplastic tissue is in the adult form. Still other acini are surrounded by zones of small round-cell infiltration, in parts of which injection of vessels and true acute inflammatory changes are made out. Corpora amylacea are infrequent, though some of the acini are much dilated.

Case 6.—N. Y. H., No. 4877. Great enlargement of glandular acini, so that appearance is of large cysts, lined by a layer of usually simple columnar epithelium and filled by detritus, cells and small corpora amylacea. The connective tissue about these dilated acini is increased and occasionally karyokinetic figures are found in the connective tissue cells. Small areas

of small round-cell infiltration are present, particularly about some of the acini. The muscle cells in places have been replaced by hyperplastic connective tissue. The blood vessels are not congested, and show but a very moderate degree of atheroma. Some are surrounded by an adventitia which is more or less infiltrated with small round cells. Apparently, some edema of the tissues is present. This specimen represents what would ordinarily be called a cystic adenoma of the prostate.

CASE 7.—Greatly enlarged middle lobe from specimen in Carnegie Laboratory Museum. The peripheral portions of the gland show a thickening of the connective tissue, particularly about the vessels, where frequent areas of round cell infiltration are also found. Muscle cells have been largely replaced in these areas and the glandular acini and ducts have been compressed by interstitial hyperplasia. The central portions of the middle lobe are made up of much dilated acini, which are mostly filled by epithelial cells, many of which are breaking down. Small round-cell infiltrations are frequent about these acini and connective tissue increase is marked. The blood vessels show slight atheroma. Corpora amylacea are infrequent.

CASE 8.—Museum specimen from Carnegie Laboratory. Great enlargement of the middle lobe. Considerable increase in connective tissue, numerous large fibroblastic cells, moderate small round cell infiltration in patches about vessels. The central acini are much dilated and are filled by broken-down cells and cell detritus. Occasional small corpora amylacea are present in these cystic acini. The blood vessels show slight arteriosclerosis.

CASE 9.—From Museum Carnegie Laboratory. Great middle lobe hypertrophy. Some of the acini are small, being compressed as a result of hyperplasia of the surrounding connective tissue, but most of the acini are enlarged and filled by one or more corpora amylacea, several of which are extremely large. In the immediate neighborhood of such acini muscle tissue has been replaced by fibrous tissue of adult form. Nearly all the acini contain such large bodies. The blood vessels show moderate arteriosclerosis.

CASE 10.—From Museum Carnegie Laboratory. Great hypertrophy of the middle lobe. Quite extensive perivascular connective tissue increase. The acini are widely separated and there is a general connective tissue hyperplasia apparently of perivascular origin. Patches of small round cell infiltration are frequent. The acini are centrally situated, usually widely distended and filled by cell detritus, polygonal epithelial cells and small corpora amylacea.

CASE 11.—Museum Carnegie Laboratory. Hypertrophy of middle lobe. Marked increase of adult connective tissue. The acini are represented by small openings and are compressed by the hyperplastic connective tissue about them. The vessels show marked arteriosclerosis. Such acini are usually filled by polygonal epithelial cells and small corpora amylacea. The interstitial hyperplasia has also resulted in muscular atrophy.

CASE 12.—Museum Carnegie Laboratory. Greatest enlargement in middle lobe. Well-marked connective tissue increase in peripheral portions of gland, showing both old and recent changes. Peripheral acini almost completely obliterated by overgrowth of connective tissue. Central acini distended somewhat and contain cells, detritus and small corpora amylacea. Patches of small round-cell infiltration frequent. Moderate arteriosclerosis.

CASE 13.—Prostate enlarged about one-third, from a man of 53 years. Morgue. Most portions of the gland are normal, but occasional patches of cell infiltration are found, particularly about certain acini which are over distended and contain epithelial cells, the central portions of which have broken down into amorphous material grouped as though forming corpora amylacea. Occasional acini are surrounded by hyperplastic connective tissue which has stenosed their ducts. This is particularly frequent in the peripheral portions of the section. The vessels are mostly congested and show but slight atheroma. The muscle has in some areas been more or less displaced by the hyperplastic connective tissue.

CASE 14.—From morgue. Subject aged 63. Enlarged about one-fourth. Marked adult connective tissue increase extending in from periphery where acini are almost completely obliterated and where round cell infiltration is almost general. The central acini are cystic, contain detritus, epithelial cells and small corpora amylacea. The walls between these distended acini are much thinned and are almost wholly fibrous. Some of the larger acini contain very numerous corpora amylacea. The vessels show a moderate degree of atheroma.

CASE 15.—Morgue. Quite general interstitial hyperplasia with the result that nearly all parts of the gland show collapsed acini, surrounded by hypertrophied connective tissue. In some places there is considerable inflammatory infiltration, but in other areas this is wanting. Connective tissue hyperplasia in this section seems mostly limited to the periacinous tissue. Corpora amylacea are infrequent and small. The vessels show very little change.

CASE 16.—Morgue. Section is from periphery of gland. Vessels show marked atheroma, one shows endarteritis obliterans. Few acini in section. Considerable connective tissue hyperplasia, displacing much of the muscle tissue and obliterating the glands. No acute inflammatory exudate.

CASE 17.—Morgue. Tissue generally normal. Slight interstitial increase about certain distended acini. The vessels show no abnormality.

CASE 18.—General hypertrophy. From morgue. No inflammatory patches. A few areas in which perhaps there is slight increase in the connective tissue. The acini are not small, but are filled by cells and contain moderate quantities of detritus. Corpora amylacea are infrequent and are mostly small, though a few are found which nearly fill the acini. One border of section shows, however, a quite intense small round cell infiltration, with connective tissue proliferating about it—apparently this is a recent process.

CASE 19.—Morgue. Enlarged one-fourth. Contains an encapsulated whorl of connective tissue which shows both chronic and acute inflammatory diseases. General connective tissue increase, with occasional areas of inflammatory exudate and with apparently general edema, particularly about the enlarged and cystic acini in central portions of gland. Some of these enlarged acini are completely filled by a single great corpora amylacea, others contain several smaller ones. Inflammatory reaction about these acini is abundantly shown. The vessels show a moderate degree of arteriosclerosis.

CASE 20.—Morgue. Enlarged one-half. Great connective tissue hyperplasia, in places obliterating the acini, while in other places the acini are large and distended, probably from obstruction of their ducts. Great inflammatory exudate into periacinous tissue. Numerous and large corpora amylacea, some of which are surrounded by occasional epithelial cells, being otherwise encapsulated by connective tissue. A very marked and decisive specimen, showing all forms of inflammatory reaction. Blood vessels show but moderate atheroma.

CASE 21.—Morgue. Enlarged laterally, diminished in antero-posterior diameter. General connective tissue increase particularly in central portions of the gland, where the process is still active and round-cell infiltration general. Peripheral acini are largely dilated, surrounded by augmented connective tissue and many contain corpora amylacea. Such acini have but few epithelial cells and the walls are almost entirely fibrous and round cell infiltrations are quite frequent in them. Occasional acini contain only epithelial cells and detritus. The blood vessels show slight atheroma.

CASE 22.—Morgue. Slightly enlarged. Acini mostly dilated, filled by epithelial cells, though some contain corpora amylacea. The glandular epithelium shows numerous evidences of proliferation. Some contain several corpora amylacea of moderate and small size. There are occasional patches of round-cell infiltration about the acini, slight in degree. The specimen apparently represents an intra-acinal inflammation which has not extended beyond to any appreciable degree. Blood vessels natural.

CASE 23.—Morgue. Enlarged one-third. Very marked general connective tissue hyperplasia still active but not entirely acute in character. Extensive patches of infiltration in places. Interstitial growth about some acini has almost obliterated

Fig. 1.—Showing an area of small round cell infiltration. This condition is one of the most frequent manifestations of inflammation seen in hypertrophy of the prostate. Section taken from the peripheral portions of the gland. Case 34.

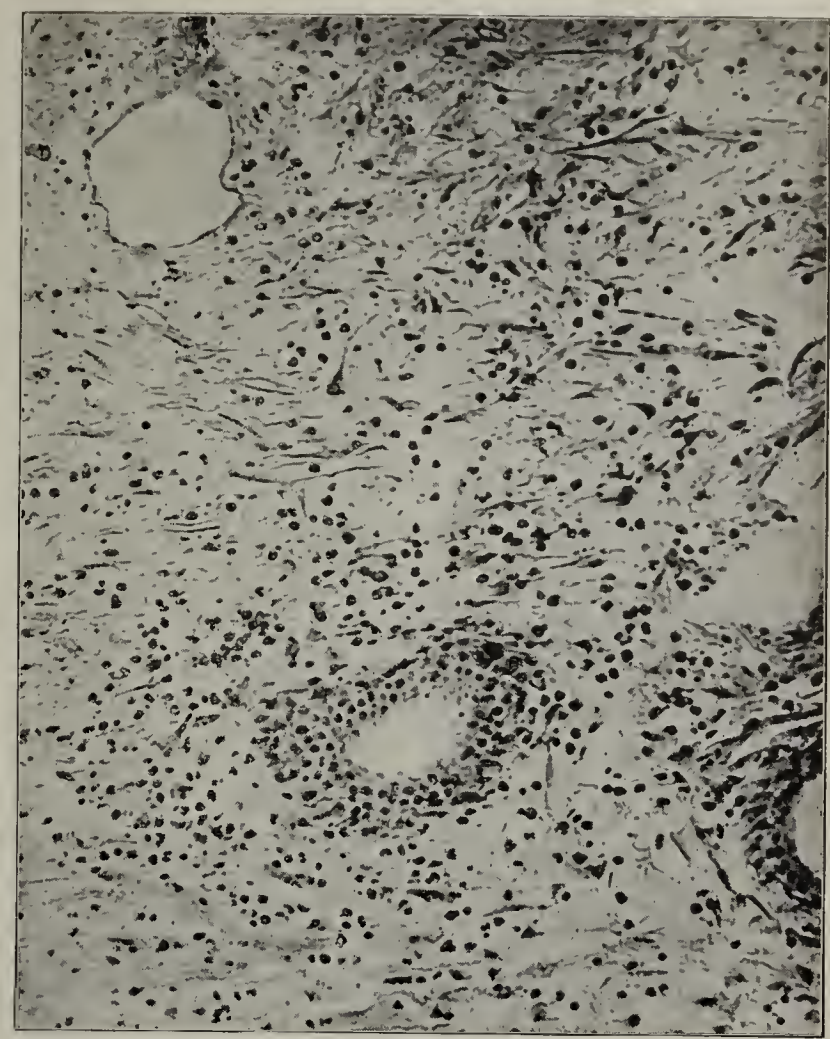


Fig. 3.—This picture may follow immediately on that shown in the previous plate. The inflammatory infiltration is less and is replaced by numerous fibroblasts and newly formed connective tissue fibers. The acinus shown is partly filled by proliferating epithelial cells. Case 55.

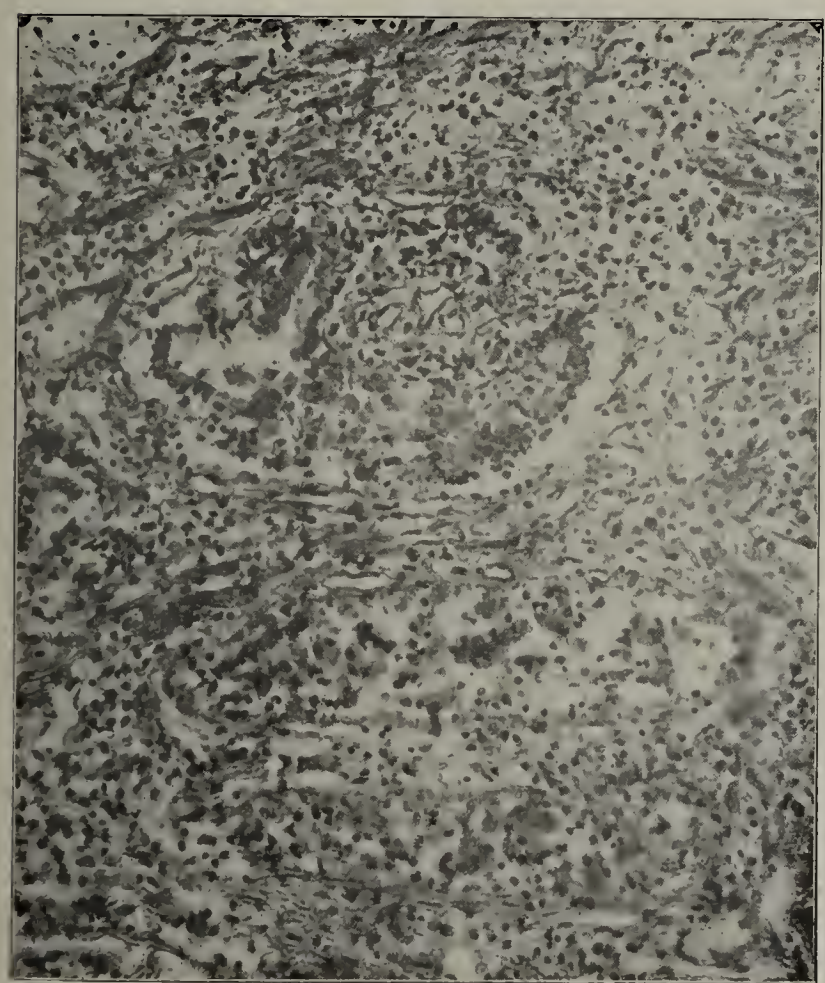


Fig. 2.—Showing general cell infiltration, edema and beginning desquamation of the cells of the acini. This stage precedes and induces interstitial hyperplasia. Case 42.

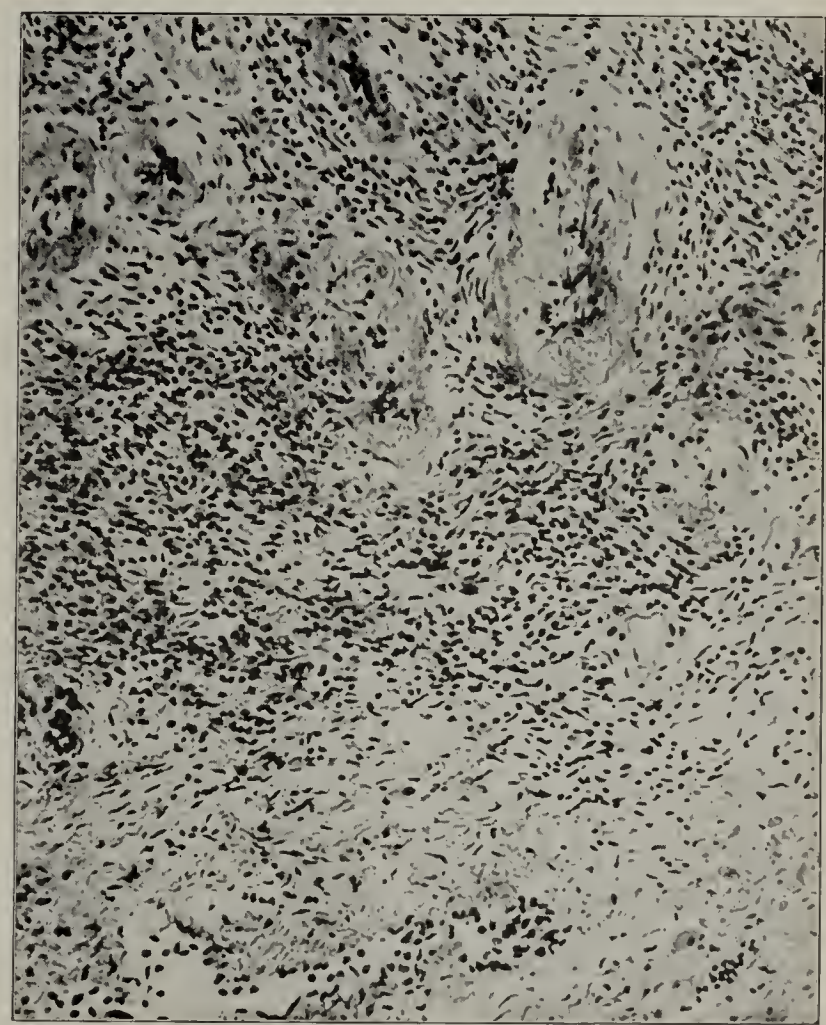


Fig. 4.—The plate shows several acini which have become compressed by the production of new connective tissue about them. This has resulted in the atrophy of the epithelium of the acini and finally terminates in complete replacement by hyperplastic connective tissue. From the periphery of the gland. Case 36.

Fig. 5.—Section of a prostatic fibroma. The hyperplastic tissue making up the substance of the fibromatous nodule is clearly defined from the more adult fibrous tissue surrounding it. We believe that conditions similar to this follow the process illustrated in the previous plate. Peripheral part of gland. Case 39.

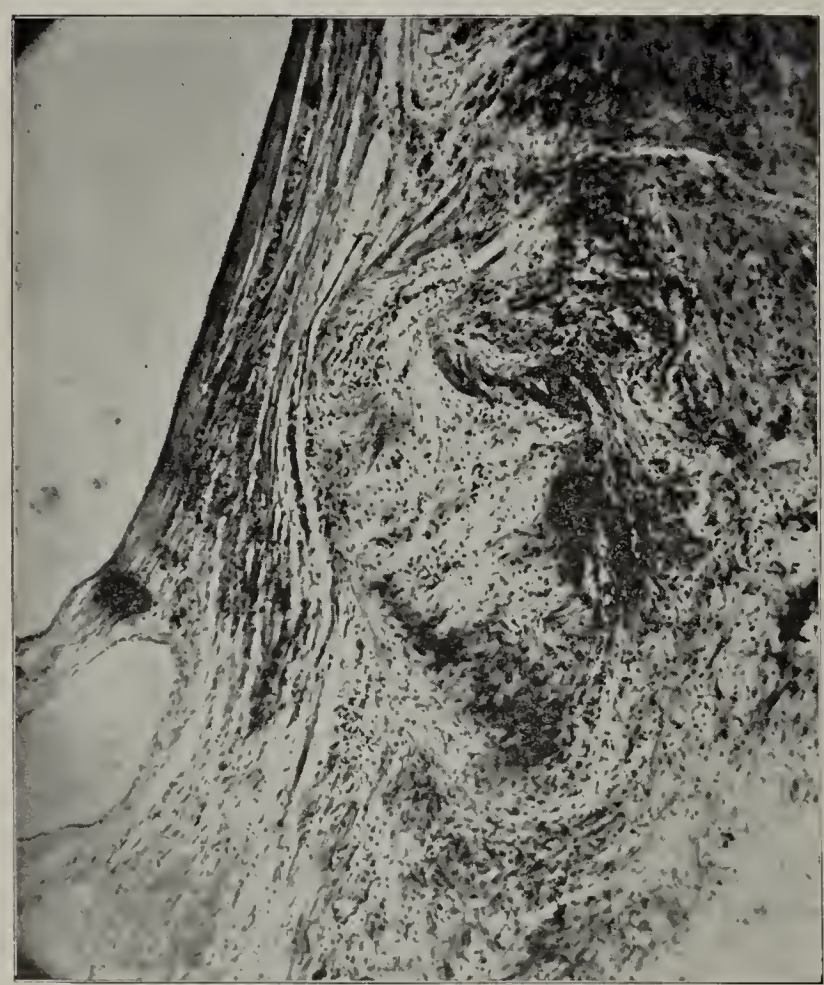


Fig. 6.—Section from the central portion of a hypertrophied prostate. One of the excretory ducts of the glands is seen to be completely obliterated from the formation of new connective tissue in and about it. Round cell infiltration is present throughout the hyperplastic tissue. The acini in the outer portions of this gland were much dilated, forming the so-called cystic adenoma of the prostate. Case 41.

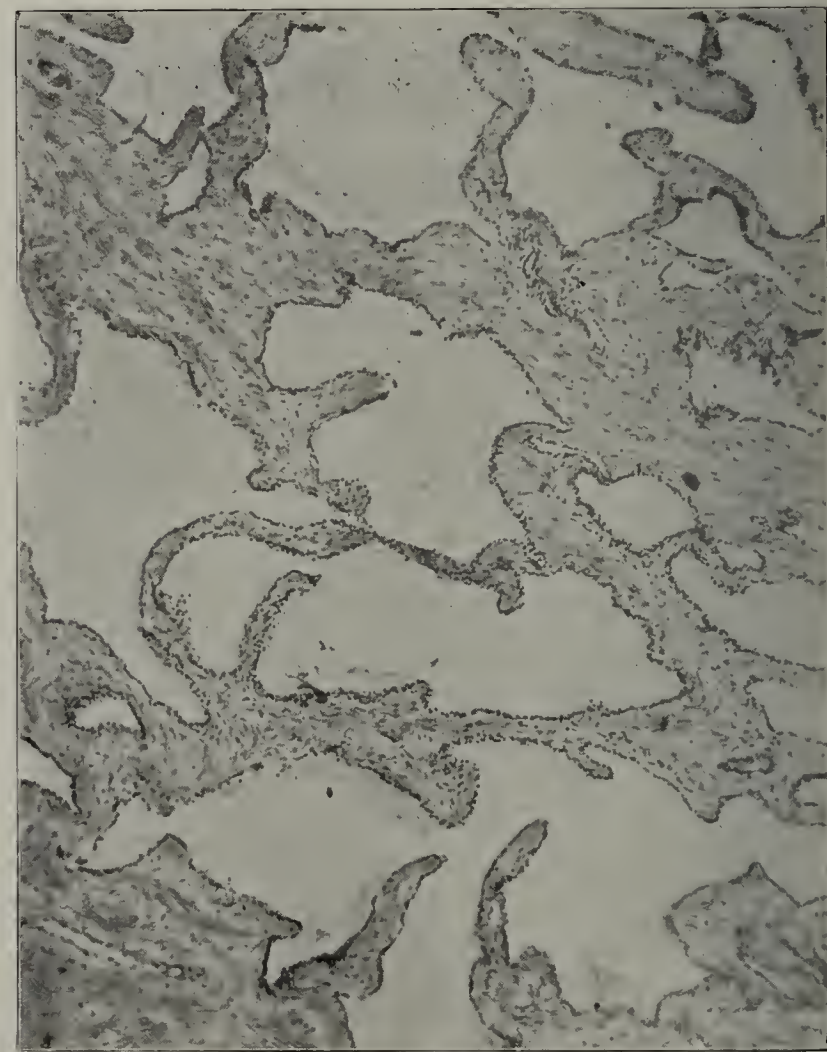


Fig. 7.—This shows the condition produced in the gland when the ducts become closed as shown in the previous figure. This lesion is commonly known as the cystic prostate, and in the fresh condition the spaces formed by the distention of the acini is filled by a semi-fluid material. Specimen taken from the outer part of gland. Case 47.

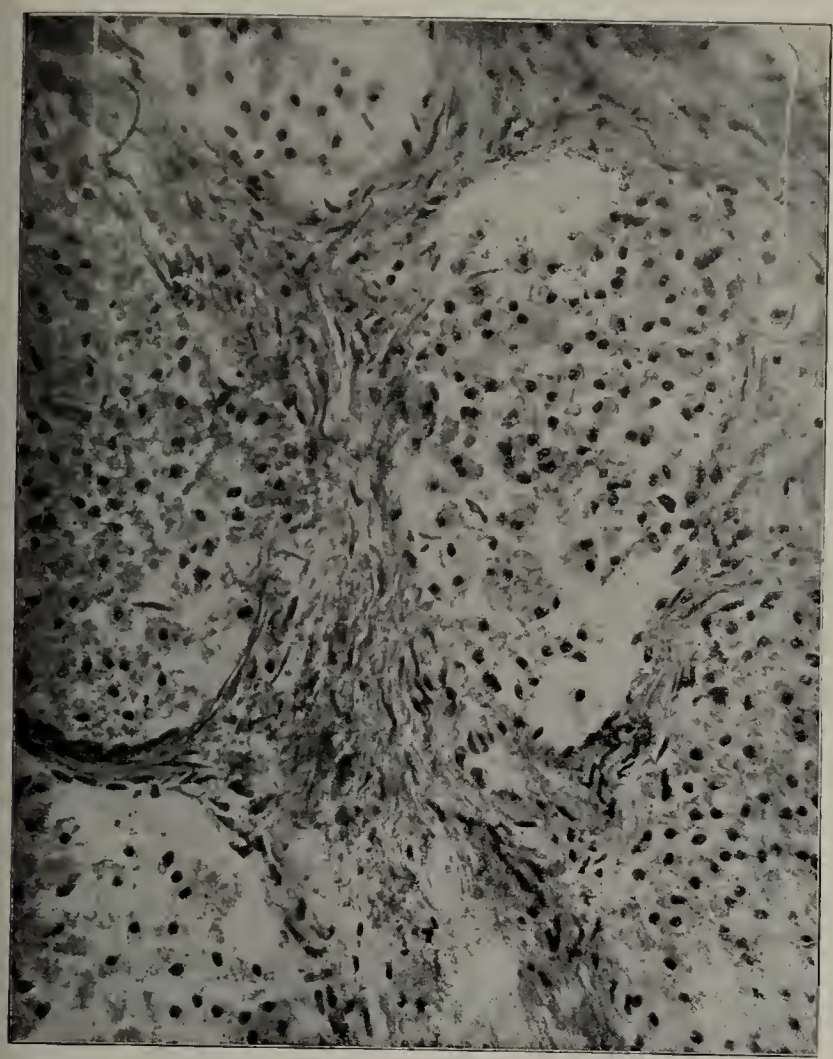


Fig. 8.—Section showing dilated acini which are filled by proliferating epithelial cells. This condition in some of its forms may be readily mistaken for carcinoma. Mitotic figures are not present in the cells in the centers of the islands, but are seen in the cells still lodged against the basement membrane, the inference is that reproduction is taking place only in the last mentioned cells. From outer portion of gland. Case 36.

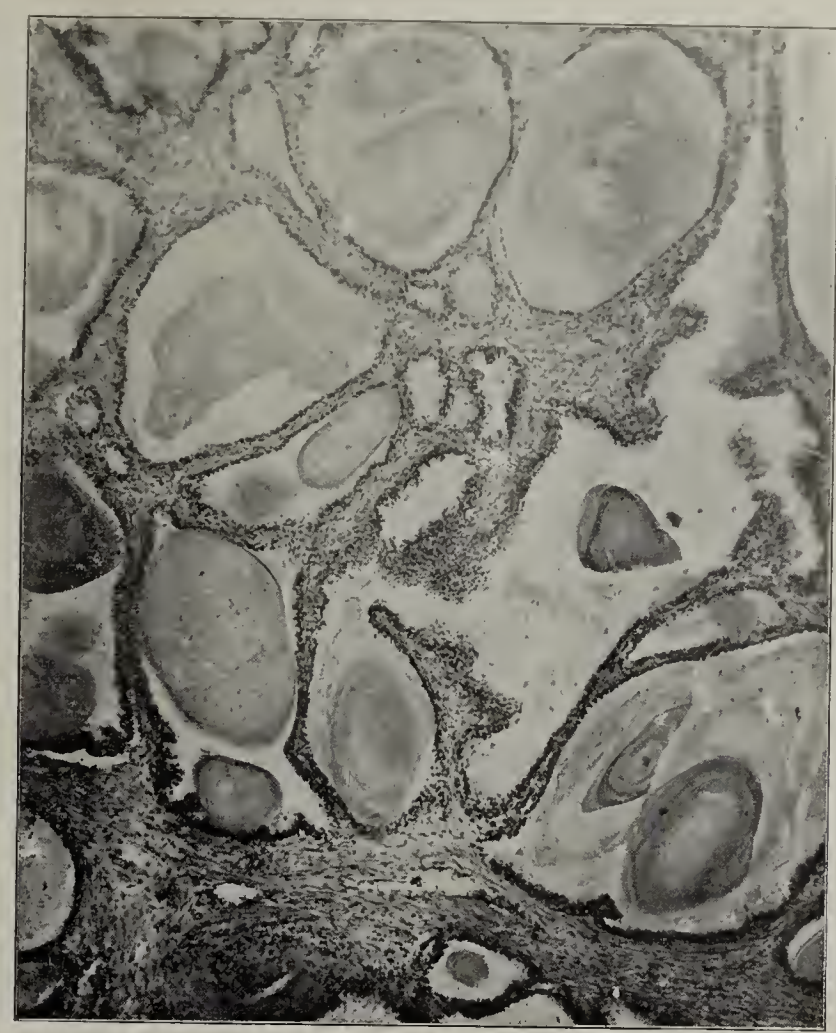


Fig. 9.—Showing the presence of large corpora amylacea occupying the dilated acini. They have apparently formed from the detritus of breaking down cells in such a condition as that pictured in Fig 8. From the peripheral portion of gland. Case 53.

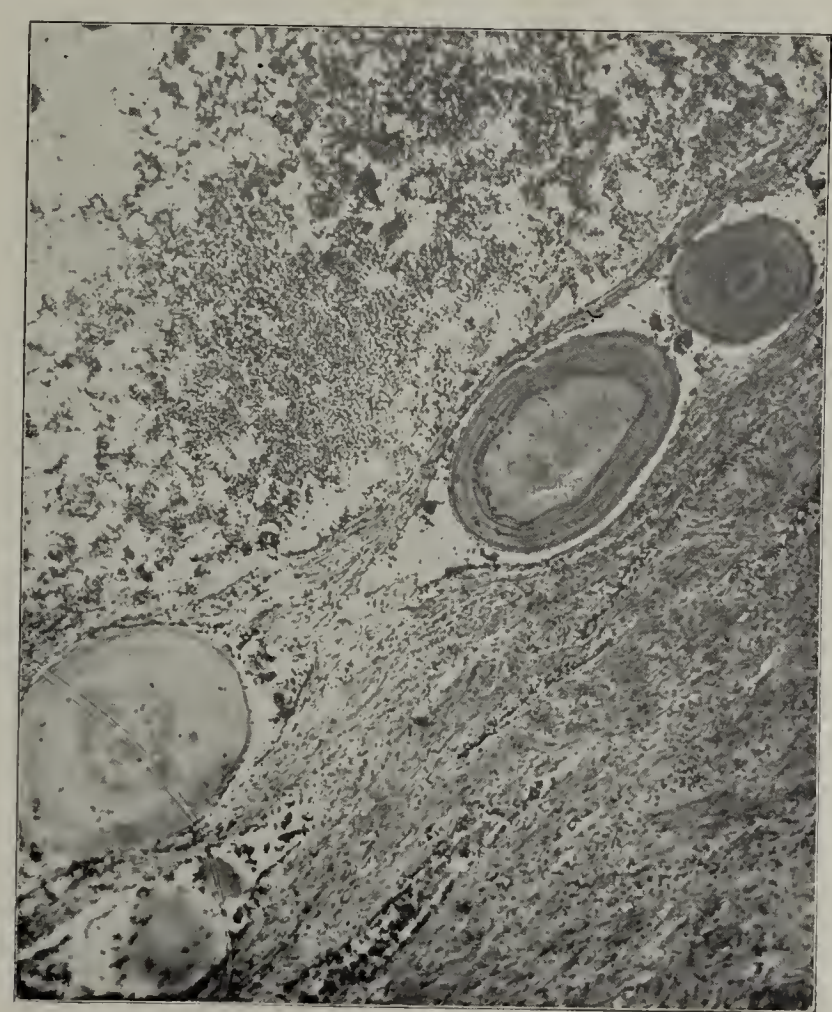


Fig. 10.—Conditions of this nature result when prostates containing large corpora amylacea become infected. Pus formation is shown in one part of the section and the remaining portions show interstitial sclerosis, atrophied acini and cell infiltration. From central part of gland. Case 52.

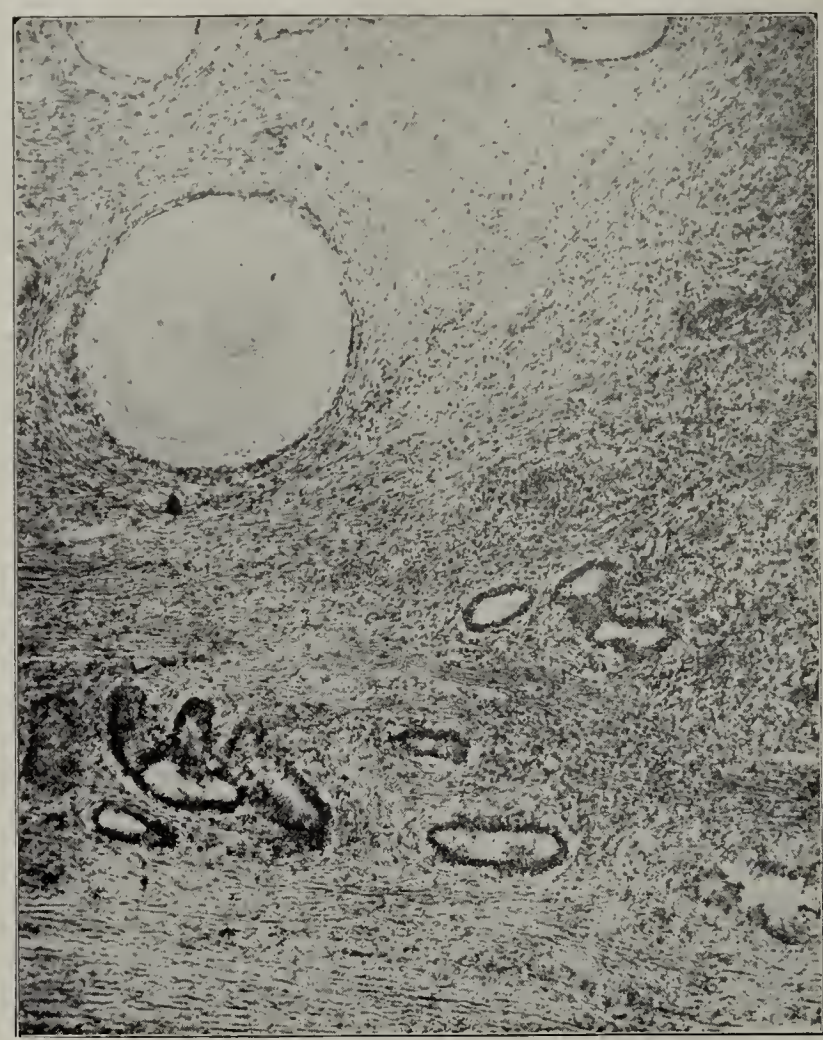


Fig. 11.—Showing proiifcration of connective tissue about iarge corpora amyiacea when situated in the outcr zones of the giand. Atrophy of acini, general infiitrafion and connective tissue hyperplasia. Case 54.

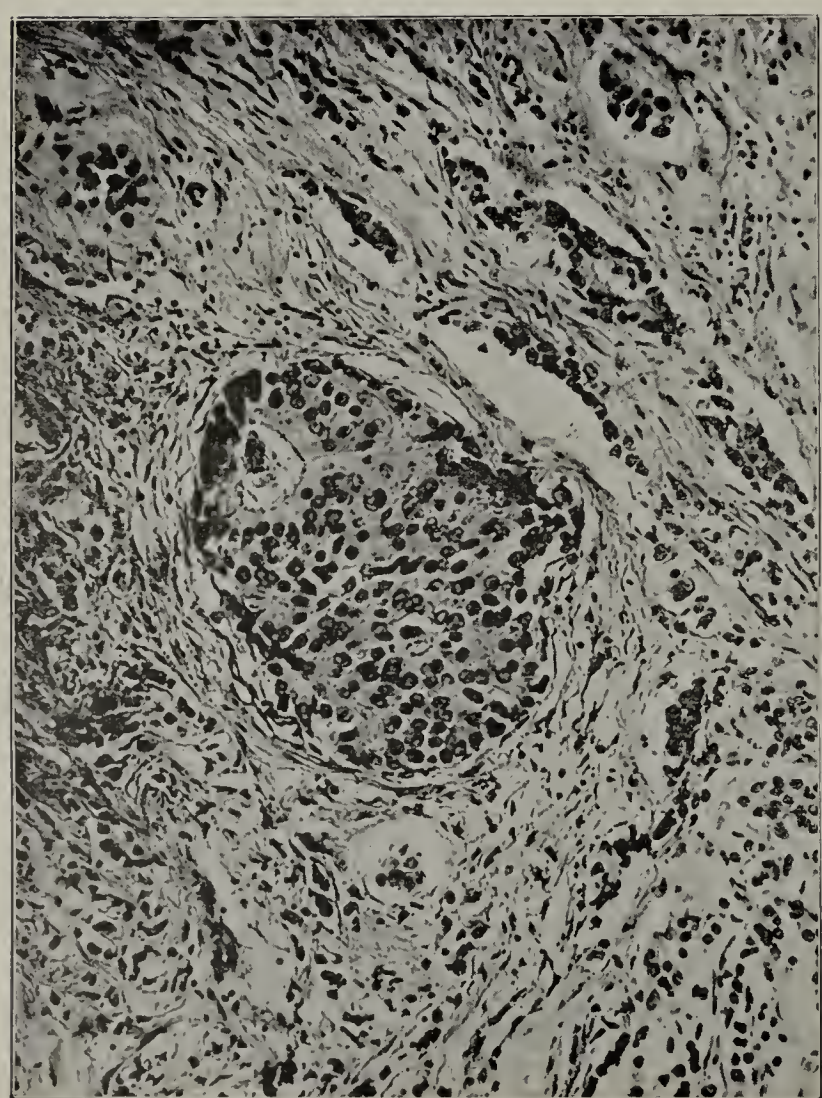


Fig. 12.—Carcinoma originating in thc hypertrophied prostate giand. Case 45.

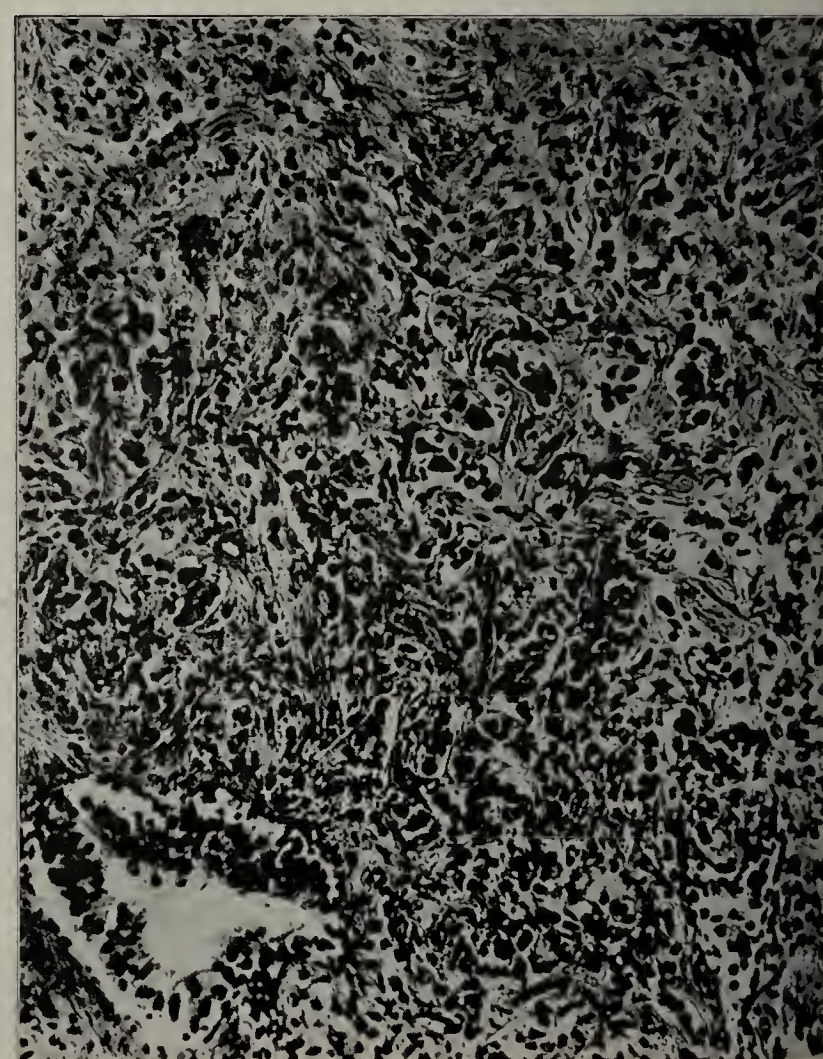


Fig. 13.—Carcinomatous Infiltration of eniarged prostate gland. Case 50.

them, but occasional acini are dilated and these are mostly filled with epithelial cells. In the central part is found detritus, showing evident beginning formation of corpora amylacea. Blood vessels show quite extensive arteriosclerosis, but perivascular connective tissue increase is still more evident. This specimen shows to a very extreme degree a hyperplastic inflammation of the connective tissue with slight involvement of the glandular parenchyma.

Case 24.—Morgue. Enlarged one-fifth. Acini generally dilated and filled by cells and detritus. Formation of numerous small corpora amylacea in the acini, connective tissue of gland stroma not increased. Blood vessels natural. Lesions are apparently only the distention with marked epithelial proliferation in the acini. Probably represents an early stage of prostatic hypertrophy.

Case 25.—Morgue. Moderate hypertrophy, very hard. Increase of connective tissue marked, very extensive and general infiltration of small round cells, not only in stroma, but also in acini. Muscle tissue mostly displaced by the hypertrophic connective tissue. Acini which are not involved by cyst formation mostly filled by epithelial cells or detritus. Many acini completely collapsed from the great proliferation of surrounding connective tissue.

Case 26.—Morgue. Moderately enlarged. Acini largely dilated, contain large corpora amylacea in various stages of formation. Other acini are filled by epithelial cells and detritus. Many are surrounded by numerous but small areas of round-cell infiltration and in the neighborhood of these connective tissue hyperplasia is evident, particularly immediately around such acini, where in some cases the process is well advanced. Other acini appear perfectly natural, and in many places the stroma is also normal, showing regular proportion of muscle and connective tissue and no inflammatory infiltration. Blood vessels show moderate atheroma.

Case 27.—N. Y. H., No. 2431. Moderate general connective tissue hyperplasia. Acini in general show very little change, except where acute inflammatory process is present. Very intense small round-cell infiltration in peripheral portion, some places of which show pus formation and local tissue necrosis, with in places hemorrhagic extravasation. A true acute and sub-acute inflammation. Few small corpora amylacea.

Case 28.—Morgue. Moderate general hypertrophy. General connective tissue hyperplasia of chronic form. Acini dilated and filled by proliferating cells. Perivascular connective tissue increase marked. Moderate atheroma.

Case 29.—Carnegie Museum. Great middle lobe hypertrophy. General connective tissue hyperplasia. Areas of round cell infiltration numerous. Acini are enlarged, cystic and filled by epithelial cells and detritus, with formation of corpora amylacea. Moderate atheroma. Many vessels are surrounded by exudates of small round cells.

Case 30.—N. Y. H., No. 3878. Moderate general chronic connective tissue hyperplasia, but the most marked lesion is a pronounced infiltration of small round cells, between the connective tissue fibers. In certain parts of the peripheral portion, particularly in the region of the prostatic urethra, this cellular infiltration has become so extreme as to result in tissue necroses and actual pus formation. In places this process has practically wiped out the acini and the infiltrations are found scattered throughout the entire gland. Some of the centrally situated acini are dilated, being filled by cells, and cell detritus. In the most acute inflammatory areas the vessels are congested and a few hemorrhagic extravasations are found in the region of the urethra, otherwise the vessels show only a slight atheroma.

Case 31.—Prostate operated on by Dr. Guiteras. Greatly enlarged. Great hyperplasia of adult connective tissue throughout entire gland, most abundant about the dilated acini. Areas of round-cell infiltration are common and have apparently originated from or about the acini. Centrally situated acini are much dilated and are mostly filled with epithelial cells or detritus, which has resulted from disintegration of these cells. Some of the acini have apparently ruptured into their neighbors. Corpora amylacea are small and infrequent, but formation of them is apparently taking place from cell detritus. The vessels show but very slight atheroma in most places and the interstitial overgrowth is clearly not of arterial origin. In some places small round cell infiltration of the septa between the dilated acini is very extreme. Of course where interstitial hyperplasia has been great muscular atrophy has been correspondingly marked.

Case 32.—Enlarged prostate removed by Dr. Lilienthal. Very marked hypertrophy. General connective tissue hyperplasia, in places with actual formation of fibrous nodules, where all traces of muscle and glandular tissue are replaced by a firm mesh of hyperplastic interstitium. Areas of round cell infiltration are frequent and large and usually bear direct relation to the acini, which are mostly small, being compressed by the connective tissue growth. They are largely filled by cells and detritus. Corpora amylacea are infrequent and small, being found only in the larger acini. The vessels show a moderate atheroma.

Case 33.—From Carnegie Laboratory Museum. General hypertrophy. Tumor projecting into bladder from middle lobe. Peripheral portions made up of a dense zone of connective tissue containing but few muscle fibers. Areas of small round-cell infiltration are frequent both in the outer and in the central portions. Central portions chiefly made up of greatly dilated acini, filled with broken-down cells and detritus. Frequent areas of inflammatory exudate about the dilated acini. Corpora amylacea frequent but small. Blood vessels normal.

Case 34.—Carnegie Laboratory. Tumor of middle lobe. General fibrosis. Acini as a rule are atrophied, apparently from the pressure of the surrounding hypertrophic connective tissue. Some of the acini are, however, greatly dilated and are filled with cells, detritus and small corpora amylacea. Numerous areas of small round-cell infiltration surrounded by zones of fibrosis. The walls of the blood vessels are slightly thickened.

Case 35.—From Carnegie Museum. Prostate measures 6 by 10 cm. Hypertrophy involving all portions equally. Enormous distention of acini which are filled by broken-down cells, detritus and small, but frequent corpora amylacea. Stroma very scant in central portions, but peripheral portions show hyperplastic connective tissue and are almost devoid of muscle fibers. Blood vessels apparently normal.

Case 36.—From Carnegie Laboratory Museum. Entire prostate enlarged, particularly the middle lobe, which is about three times the usual volume. Walls of bladder hypertrophied and sacculated. Marked general increase of fibrous connective tissue. Muscle fibers are still abundant, but many are degenerated, as though from pressure. Many of the acini are distended with broken-down cell detritus, but others are atrophied and show marked increase of the connective tissue about them with resulting complete atrophy of the acinus. In these areas inflammatory changes are very marked surrounding the alveoli. Blood vessels show a marked atheroma.

Case 37.—From Carnegie Laboratory Museum. General hypertrophy with tumor of middle lobe. Sections of the middle lobe tumor show an incapsulated fibromatous nodule 1 cm. in diameter. This area shows a well-defined capsule of adult connective tissue enclosing acini atrophied or dilated. In either case the lumen is filled by detritus and small corpora amylacea. Blood vessels are numerous and thick walled. Round-cell infiltration about the acini is frequent and it is also present about the small blood vessels.

Case 38.—From Carnegie Laboratory Museum. Enlarged about four times. Hypertrophy most marked in the left lobe. Peripheral portions made up of thickened and infiltrated connective tissue. In the central parts the acini are either much atrophied or distended. In the latter case the central portion of the acinus is filled with a fine granular debris and the walls are covered by a thin layer of columnar or squamous epithelium. The connective tissue cells show many evidences of proliferation. Muscular atrophy is clearly shown, particularly about the enlarged acini, where more or less inflammatory infiltration is present. Blood vessels show no change.

Case 39.—Carnegie Laboratory Museum. General hyper-

trophy of prostate and of the walls of the bladder. Very marked connective tissue hyperplasia with general glandular atrophy, particularly where the acini are compressed by the hyperplastic connective tissue. Patches of inflammatory infiltration are present about nearly all of the acini and also about the smaller blood vessels. Small fibromata, highly vascular and evidently of recent origin, are present in places (see plate). Blood vessels slightly thickened.

CASE 40.—Carnegie Laboratory Museum. Great enlargement of the middle lobe with less marked hypertrophy of the lateral lobes. Peripheral portions show marked fibrous increase. Central portions made up of greatly dilated acini, between which thin connective tissue walls intervene. These walls are almost universally infiltrated with small round cells. Blood vessels moderately thickened.

CASE 41.—Specimen removed by Dr. Morton. General augmentation of the connective tissue stroma. Frequent areas of inflammatory exudate. Acini are generally small and are frequently surrounded by zones of infiltration. Walls between the acini are atrophied. Most of the acini contain proportionately large corpora amylacea. Blood vessels natural.

CASE 42.—Carnegie Laboratory Museum. Prostate enlarged about 6 volumes. Abscess cavity in anterior portion 2 cm. in diameter communicating with posterior urethra through dilated duct of prostate. Section taken from portion of gland distant from abscess cavity. The entire interstitium of gland is edematous and is infiltrated with numerous small round cells and plasma cells. This infiltration is most pronounced about the acini, which are filled for the greater part by broken-down cells and by inflammatory exudate. Some of the acini are compressed by the exudate about them. Pus formation is not present in these sections. Under high magnification the epithelial cells of the inflamed acini show frequent karyokinetic figures.

CASE 43.—From Carnegie Laboratory Museum. Moderate degree of general hypertrophy. Muscle tissue almost completely absent and in some portions the glandular elements are represented by spaces lined with a layer of simple squamous epithelium filled by a single large amyloid body and invested by a capsule of hypertrophic fibrous connective tissue. In other portions of the same gland the sections show but very numerous small acini with thin walls, evidently formed by the distention of the acinus by the pressure of its own secretion since the walls of the acini show numerous evidences of distention.

CASE 44.—Carnegie Laboratory Museum. Moderate hypertrophy limited in the lateral lobes. Great general connective tissue hyperplasia. One side of the section shows a few atrophied voluntary muscle fibers surrounded by a greatly augmented endomysium. The acini are large, mostly filled by cells and by corpora amylacea and frequently surrounded by an edematous infiltrated interstitium. The blood vessels show thickened walls.

CASE 45.—Carnegie Laboratory Museum. General hypertrophy, particularly of the middle lobe. Walls of the bladder are hypertrophied and ulcerated. Very marked hypertrophy of the connective tissue with almost complete atrophy of the muscle fibers. Acini for the greater part filled by cell detritus and inflammatory exudate, but in certain of the acini the epithelial cells have taken on very active proliferative changes with the result that they are filled with large epithelial cells supported by connective tissue stroma which has grown in from the walls of the altered acinus. The nuclei of these cells show numerous karyokinetic figures and the specimen is undoubtedly one of carcinoma, originating from the inflamed acini of the gland. Blood vessels greatly thickened throughout the section and in places endarteritis obliterans is shown.

CASE 46.—Carnegie Laboratory Museum. Marked hypertrophy of lateral lobes. The interstitium throughout the entire section is greatly increased, particularly about the glandular acini, where evidences of recent connective tissue proliferation are abundant. The acini are atrophied and contain frequently but a single large amyloid body. Other acini are filled by the epithelial cells and small quantities of detritus. The adventitia of the blood vessels is generally thickened.

CASE 47.—Carnegie Laboratory Museum. Moderate hypertrophy. Numerous small semi-pediculated nodular masses project from the surface of the prostate. Marked general connective tissue increase with consequent muscular atrophy. The acini are greatly dilated and are usually lined by a thin layer of simple squamous epithelium. They contain detritus which has apparently remained after the evaporation of fluid. Corpora amylacea, where present, are usually single and completely fill the acinus in which they are lodged. The vessels show marked endarteritis.

CASE 48.—Carnegie Laboratory Museum. Great hypertrophy of the middle lobe. Peripheral portions show a very marked fibroid increase which is of less pronounced degree in the central portions of the gland. The central acini are distended by epithelial cells and detritus. Corpora amylacea are small and frequent. There is a general inflammatory exudate throughout the entire section. Blood vessels normal.

Case 49.—Carnegie Laboratory Museum. Great enlargement of the entire gland. Small pediculated tumor projects from middle lobe into cavity of bladder. This last portion shows in section almost complete substitution of glandular tissue by dense fibrous connective tissue which encloses frequent corpora amylacea of large size and surrounded by connective tissue only. Blood vessels moderately thickened.

CASE 50.—From Carnegie Laboratory Museum. Moderate hypertrophy involving all portions of the gland. Wall of bladder thickened and the seat of several carcinomatous ulcerations. The connective tissue of the gland is greatly increased and is infiltrated in almost all portions by columns of actively proliferating epithelial cells. A few large corpora amylacea are found situated in atrophied acini and the acini throughout the section are compressed by the greatly augmented connective tissue and by the infiltration of this stroma by cancer cells. Blood vessels moderately thickened.

Case 51.—Carnegie Laboratory Museum. Moderate hypertrophy of the lateral lobes, great enlargement of the middle lobes. Great thickening of the walls of the bladder. Peripheral portions of the gland show an advanced connective tissue hyperplasia with inflammatory infiltration. Central portions show distension of the acini with atrophy of their walls and formation of numerous small corpora amylacea. Blood vessels moderately thickened.

CASE 52.—From autopsy. Man aged 57. Patient died of meningitis following abscess of the prostate, pyonephrosis and general sepsis. Prostate enlarged about six volumes. Abscess cavity of prostate measuring 2x3 cm., communicating with posterior urethra through ducts of prostate gland. This case gave a history of long standing but "cured" posterior urethritis. Acini throughout entire gland are infiltrated with pus cells. In this exudate are found frequent large corpora amylacea. The connective tissue stroma is greatly augmented throughout, the increase being in adult fibers. There is inflammatory exudate of the entire glandular substance, even where far distant from the abscess cavity.

CASE 53.—From autopsy. Man aged 60. Cause of death acute on chronic alcoholism. Prostate enlarged about one volume. Peripheral portions show a marked increase in connective tissue. The stroma throughout the entire gland is infiltrated with small accumulations of round cells. In the peripheral portions of the gland the acini are greatly dilated and contain very large corpora amylacea. In the central portion of the gland the amount of connective tissue is more abundant and the glandular acini are smaller and are either empty or contain less detritus. Corpora amylacea are numerous, though small. The blood vessels are moderately thickened. In the areas of greatest connective tissue hyperplasia, that is in the central portions of the gland, muscular atrophy with connective tissue substitution is very pronounced. Blood vessels normal.

CASE 54.—From the autopsy of a man aged 53, dead of alcoholism and pneumonia. History of chronic prostatitis obtained. Marked hypertrophy, particularly of the lateral lobes. General connective tissue hyperplasia. Infiltration of small round cells through entire stroma, especially about the acini, which are generally atrophied and contain large corpora amylacea. Blood vessels moderately thickened.

CASE 55.—Specimen removed at operation by Dr. Geo.

Stewart. Patient aged 57. Has had difficulty in passing urine for past ten years. Entered Bellevue Hospital with retention of four weeks' standing. Urine drawn for three weeks by prostatic catheter. When in good condition, operated on by Dr. Stewart. Bloodless specimen weighed 115 gm. Acini generally dilated and filled by proliferating epithelial cells, cell detritus and numerous small corpora amylacea. Several acini are largely filled by pus cells. Inflammation has apparently traveled from these acini to others in the neighborhood. The connective tissue stroma is hyperplastic and contains many areas of small round-cell infiltration. Interstitial hyperplasia has been so marked about certain acini as to produce marked glandular atrophy. This is more observable about the ducts in the neighborhood of the posterior urethra.

Case 56.—Removed at operation by Dr. Chas. Phelps. Patient an old man who gave typical history of enlarged prostate of long standing. Mass of tissue removed measured 8x7x5 cm., very nodular. Gross diagnosis of cancer of prostate. Entire tissue greatly infiltrated with serum, stroma very edematous and shows exudate of small round cells, occasional leucocytes and many plasma cells. General hypertrophy of interstitium, particularly in region of posterior urethra where there are many evidences of a chronic inflammatory process of long standing with the result that hyperplasia of connective tissue has constricted the prostatic ducts, producing great distension of glandular acini in peripheral portions of gland. Acini about border of gland largely filled with proliferating epithelial cells, cell detritus and numerous small amyloid bodies. Acini in central portions of gland often occupied by single very large amyloid concretions and surrounded by zone of infiltration. The blood vessels show no abnormality.

Case 57.—Specimen removed at operation by Dr. Hartley. The specimen is divided histologically into two distinct parts. The largest of these is located in the anterior portion of the tissue and extends from the periphery to the central parts of the gland. It is made up of large hyperplastic fibers of connective tissue in which beginning sclerosis is apparent. Numerous fibroblasts are also present and many of the connective tissue cells show karyokinetic figures. Areas of small round cell infiltration are frequent and include occasional plasma cells intermingled with the round cells. The acinal arrangement is wholly obliterated in these portions by the overgrowth of the connective tissue, but in several places multiplying epithelial cells are found, mostly in rows infiltrating between the connective tissue fibrils and in places forming small islands of actively dividing cells. Apparently the epithelial proliferation is a recent process and it probably is developing into carcinoma of the scirrhus type. The histological picture is found only in certain parts of the posterior portions and near the center of the gland. These show an active connective tissue hyperplasia, but the fibers are more of the embryonic type than those found in the previously described portion. The epithelium in this portion of the gland has more of the normal arrangement and though the cells are dividing they do not have the appearance of cancerous growth. The blood vessels show slight thickening. Corpora amylacea are few, found only in the second portion and are small in size.

Case 58.—Tumor removed from the lateral lobe of an enlarged prostate of an old man at autopsy. The sections show marked hypertrophy of the interstitium, the increase being in adult tissue only. The acini are small and are much encroached upon by the overgrowth of connective tissue about them. Several acini are partly filled by epithelial cells which are largely broken down. The blood vessels are slightly thickened. Corpora amylacea are of small size and few in number.

A review of this series of 58 cases shows that abundant evidences of inflammation are present in every gland. Naturally, the precise character of the inflammatory lesion differed considerably and often a single gland showed several types. The most common lesion noted was interstitial hyperplasia and this was almost invariably accompanied by resultant atrophy of the muscle cells of the gland. Thus, in 41 of the 58 cases, the prostatic hypertrophy was entirely or largely due to increase of the fibrous connective tissue. A considerable percentage of these cases showed fibroblasts and newly-formed fibers as well as other evidences of recent proliferation of the connective tissue, as shown in Fig. 3.

Thirty-six cases show areas of inflammatory infiltration, usually consisting principally of patches of small round-cell infiltration, though some showed a more extreme change, characterized by the presence of plasma cells and marked edema, as shown in Case 42 from which Fig. 2 was taken. In 5 cases pus formation was present; in 3 of these infection had clearly taken place from the posterior urethra. It is probable that had all the sections been so cut as to include the posterior urethra we should have found that this were even more frequently the case. Nineteen of the 58 cases showed more or less cystic formation. The true character of these cysts and their mode of formation from inflammatory disease of the prostate will be discussed later in the paper. These 19 cases are such as would ordinarily be classified as cystic adenomata of the prostate; that they are in no way adenomata will be shown later. Of the 6 specimens, in which marked proliferation of the glandular epithelium was present, 3 belong also to the cystic prostates. Only 5 neoplasms of the prostate were found. Of these 2 were carcinomata and 3 fibromata. Case 57 also probably represents an early stage of cancerous growth. Neither fibro-myomata, myomata nor true adenoma were present. Atheroma or endarteritis of moderate to marked degree was present in 17 cases.

To recapitulate briefly: in the 58 cases studied all showed evident inflammatory lesions. In 41 the increase in size was entirely or chiefly due to fibrous proliferation, but in 36 inflammatory infiltration played a leading or contributory rôle and in 19 cystic distension of the alveoli was present in sufficient degree to notably increase the size. Six tumors were present, 3 of which sprang from the interstitium (the fibromata, Cases 19, 37, 39) and 3 from the epithelium (the carcinomata, Cases 45, 50 and 57). No cases of true glandular or muscular hypertrophy were found.

Interstitial hyperplasia is then found to be the most frequent cause of hypertrophy of the prostate. That interstitial increase after adolescence is the result of inflammatory disease is so generally recognized that it is not necessary to discuss this point at this time. Nevertheless, since it is the most frequent factor in the production of prostatic hypertrophy, it must be considered in its relation to this condition at some length.

It is our purpose to discuss later the origin of the process so we shall assume a condition of acute or subacute prostatitis as a starting-point. In all organs, acute or sub-acute inflammation gives rise to interstitial hyperplasia; small wonder, then, that the process becomes marked in the prostate, an organ abundantly supplied with blood vessels and highly cellular connective tissue. The interstitial hyperplasia, coupled with more or less edema and cell infiltration, always associated in so highly vascular a tissue, gives rise to the acute prostatic hypertrophy, such as is found in the young. With a cessation of acute inflammation following a removal of its cause and normal reaction on the part of the tissues of the organism, interstitial hyperplasia should cease and retraction and atrophy follow from the sclerosis of the fibers, as the embryonic tissue takes on the adult form. Such a result does follow in favorable cases of prostatitis in the young and healthy, and, as the sclerosis of the newly-formed tissue continues, the atrophic or small hard prostate follows to a greater or less extent, always

provided, however, that this same fibrous sclerosis does not excite secondary changes in the glandular epithelium. But in the middle aged or old man, particularly where more or less general or arterial disease exists, resolution and healing do not so readily follow and instead of cessation of connective tissue hyperplasia the condition becomes chronic. With the increased fibrosis, consequent thickening of the walls of the veins and lymphatics follows and chronic congestion is added to the factors tending to prolong and increase interstitial hyperplasia, edema and inflammatory exudation. So it happens that in the enlarged prostate of the aged, acute and sub-acute proliferations are found mingled with the thickened masses of adult sclerosed connective tissue. As an inevitable result of this overgrowth of stroma, atrophy of the smooth muscle cells follows. This may be of greater or less degree, greater if the inflammation partakes more of the acute type where parenchymatous degenerations are most rapid, less if the process be more chronic.

As a result of this overgrowth alone, when continued for months or years, considerable prostatic hypertrophy may follow, but to this process is added secondary changes, taking place in the glandular tissue, which increases the enlargement of the prostate.

If the fibrosis be most marked in the peripheral portions of the gland it results in encroachment upon and fibrous thickening of the walls of the alveoli which finally become compressed and obliterated—Fig. 4. If the hyperplasia be most marked in the central portions of the gland or about the ducts this results in obstruction or occlusion of the ducts—Fig. 6. After occlusion of the ducts continued secretion on the part of the glandular epithelium causes a distension of the acini and alveoli, producing the familiar cystic adenoma of the prostate—Fig. 7. When now desiccation or condensation of this secretion follows, corpora amylacea form—Fig. 9. Even though the duct be partly pervious the formation of these bodies and the inspissation of the secretion, mingled with desquamated epithelium, renders normal drainage of the alveolus impossible and cysts of considerable size result. If absorption through the walls be marked and the surrounding fibrosis sufficiently active a single amyloid body may later be found surrounded by a thick connective tissue capsule, perhaps still lined by a layer of atrophied squamous epithelial cells—Fig. 11.

Although three small encapsulated fibromata were found in our series of specimens, and though their structure is identical with that of fibromata found elsewhere, we are still loath to classify even these as true neoplasms of idiopathic origin. When the proliferation of stroma is especially active about a group of acini, the actively growing fibroblasts compress these gland sacs more and more until, as shown in Fig. 4, atrophy of the epithelium takes place and fibroblasts grow in, filling up the space, producing a nodule of highly cellular young connective tissue enclosed by a capsule of more dense adult fibers—Fig. 5. Undoubtedly a true fibroma may originate from the prostate gland, but our study of these specimens leads us to the above explanation for the formation of the prostatic fibromata seen by us.

Albarran and Halle have recently called our attention to the frequency with which carcinoma originates in hypertrophic prostates. While we concur with these authors in their general statement, we do not accept as cancer most of the cases which they picture and classify as such; of this more later. Careful study of our three cases of hypertrophied prostates, in which carcinomatous growth was present, we believe throws some light on this very important subject. In two of our cases cancerous invasion of the walls of the bladder was present, but after careful study of the gross and microscopic specimens we feel justified in concluding that the growth was primary in the prostates. In our cases, the cancer involved but a limited part of the enlarged gland and the usual interstitial and inflammatory infiltrations of the ordinary enlarged prostate were present—Figs. 11 and 12. For these reasons we believe that the cancer had attacked the glands subsequent to their hypertrophy, as is undoubtedly the case with specimen 57. It is universally admitted that the chronic or sub-acute inflammation of glandular stroma tends toward the production of malignant epithelial proliferation. Surgeons and pathologists admit that these conditions predispose toward cancer of the mammary gland and so in the enlarged prostate we have a chronic interstitial proliferation compressing and irritating the alveolar epithelium; with these most favorable conditions we can only express surprise that cancer of the hypertrophied prostate is not more frequent.

In a certain number of enlarged prostates we find an epithelial proliferation of an entirely innocent character. These are those cases in which dilatation of the glandular sac is followed by a proliferation of the epithelium which finally completely fills the gland sac and gives rise to an appearance frequently resembling carcinoma—Fig. 8. It is this condition, in certain of its modifications, which we believe Albarran and Halle have in some cases mistakenly called cancer. Six of the specimens studied by us show this lesion in its most exquisite type. Ordinarily it can easily be distinguished from carcinoma by the fact that the cells resting on the basement membrane are distinctly columnar and that those in the central portions of the cell islands show many degenerative alterations of both nucleus and cytoplasm without karyokinetic nuclear figures, except in the cells resting on the basement membrane. When, however, such acini become greatly compressed by the interstitium about them, they resemble cancer very closely, but this new growth should not be diagnosed unless it be found that the proliferating epithelial cells are invading the tissues about the acini—Fig. 13. We fully agree with Albarran and Halle, nevertheless, in their statement that primary carcinoma of the prostate is much more frequent than generally recognized, and it is highly probable that the hypertrophied organ is more than seldom the site of unrecognized primary carcinoma. Undoubtedly, true adenoma of the prostate may exist. We have, however, not yet seen a case and we contend that the condition ordinarily described as such is not adenoma and that its origin is due to the occlusion of the glandular ducts after the process described above.

Atheroma has been considered by some as an etiological factor in the production of prostatic hypertrophy. Moderate to extreme atheroma was found in seventeen of the cases of this series, but in each instance it was accompanied by other and more pronounced lesions more directly bearing on prostatic hypertrophy. It is now generally admitted that when atheroma is found in the prostate it only represents a local manifestation of a general condition and that it is just as frequent in normal or atrophic prostates taken from men of like age as in the hypertrophied gland.

The question has doubtless occurred to many of our readers, if these inflammatory changes noted by us may not be secondary or accidental in character, caused by the

prostatic hypertrophy and not its cause. We believe that this legitimate question can be answered in the negative. We have endeavored to show in the above examinations that the increase in size of the glands was either immediately or secondarily due to the direct inflammatory exudates or to the reaction on the part of the tissues to these processes, i. e., interstitial hyperplasia.

Granting that our observations in this series of specimens is correct, the origin of the inflammation is yet to be ascertained. In certain of our cases (30, 52, 55, and 56) the sections apparently indicated that the primary inflammatory process had originated about the posterior urethra. Had all our sections been chosen with the determination of this point in view, it is probable that a larger percentage would have shown this condition. But at best, such deductions from the histologic picture are uncertain and more or less speculative. In our opinion clinical evidence is much more trustworthy. It will hardly be questioned that prostatitis most frequently results from, or follows, posterior urethritis, and posterior urethritis is usually primarily or secondarily of gonococcic origin. Asserting as we do, however, that prostatic hypertrophy is the direct result of chronic prostatitis, by the same chain of clinical evidence we are forced to the conclusion that it follows posterior urethritis from whatever cause. For the reasons stated above chronic proliferative prostatitis is more frequent in the aged than in the young.

From our study of prostatic hypertrophy we believe that the usual story of this disease is as follows: Given a posterior urethritis, infection of the ducts and alveoli follows. This is accompanied by inflammatory infiltration about the walls of the infected sac. Following this inflammatory exudate (Fig. 1), which may involve large portions of the gland, fibroblasts and plasma cells appear and acute interstitial hyperplasia becomes inaugurated, as shown in Figs. 2 and 3. The changes which now follow depend largely on what portion of the gland is involved. If the hyperplasia be most marked in the peripheral portions, the acini become compressed and the epithelium atrophies (Fig. 4) and from such acini small fibromata may result—Fig. 5. If the process be more slow and infiltration still active, the condition shown in Fig. 6 may follow. Should the fibrosis be most marked about the ducts or the glands, constriction of these tubes may produce pictures like that shown in Fig. 7, which may be followed by that shown in Fig. 9. Now, if fibrosis be marked about the acini the condition shown in Fig. 11 may happen; on the other hand, acute inflammation with pus formation may take place, as seen in Fig. 10. If proliferation of the alveolar epithelium be excited, pictures like that of Fig. 8 are produced and if this irritation result in malignant cell proliferation true cancer may form (Fig. 12) finally with carcinomatous infiltration of the interstitium—Fig. 13.

This work on prostatic hypertrophy has purposely been founded on histologic findings only, for the reason that in the early days, when the study of prostatic hypertrophy was necessarily purely clinical, or aided only by gross observations or rude microscopic methods, the general impression was that the disease was inflammatory in nature. This fact has already been stated in our introduction. This idea held until, after incomplete sporadic microscopic studies, a theory was formed, founded purely on the histology of the disease, that prostatic hypertrophy was a true tumor formation and idiopathic in its origin. Nearly all text-books on general pathology now give this view and the greatest of pathologists have favored the theory either by copying what others have written or by confining their personal observations to a few specimens only. Serious histologic studies of the hypertrophic prostate have not been numerous and for this reason, if for no other, we are much indebted to the recent, most careful and thoroughly scientific study of Ciencanowski, who has fully demonstrated by his histologic observations that hypertrophy of the prostate is an inflammatory disease.

This study was taken up by one of us with the idea of disproving the statements of Ciencanowski and satisfying himself of the truth of the idea expressed in nearly all works on pathological anatomy. The result has been a complete conversion to the views of Ciencanowski, whose conclusions we endorse fully, as far as our work has covered his field. We therefore take no credit to ourselves for originality of thought or discovery, leaving all credit to the clinical observers who first advanced the theory and to Ciencanowski who first fully and finally proved its truth.

We may briefly state our conclusions as follows:

1. Prostatic hypertrophy of the aged is the result of chronic prostatitis.
2. It most frequently arises from chronic posterior urethritis, of whatever cause.
3. True neoplasms of the prostate are rare and are not concerned in the production of prostatic hypertrophy.
4. Carcinoma is apt to occur in the hypertrophied prostate as a result of the chronic inflammatory process.

SARCOMA OF THE UTERUS.

D. S. FAIRCHILD, M.D.

Professor of Surgery, Medical Department Drake University; Surgeon to St. Joseph's Hospital.

CLINTON, IOWA.

During the present year a lady 65 years of age came under my care presenting the following history and symptoms. The mother of several children, she had enjoyed good health until about two years ago, when she began to be troubled with constipation and pain in the lower part of abdomen and a sense of weight and pressure in the pelvis. These symptoms gradually increased. About six months prior to coming under my observation the symptoms became more acute, when she had, according to her statement, a discharge of fluid from the bowels. This gave her a measure of relief, but soon the same chronic condition she had previously suffered from appeared and continued on with some increase in severity until she came under my care in August of last year. A physical examination revealed the uterus to be uniformly enlarged to two or three times its normal size and appeared to be firmly impacted in the pelvis. There was no discharge from the organ and the symptoms seemed to be largely due to pressure. The general condition of the patient appeared to be good, although she had lost in weight and was somewhat anemic. This could be accounted for, in part at least, on the ground of constipation and impaired digestion.

The age of the patient and the fact of the growth appearing after the menopause suggested malignancy, but the absence of positive symptoms of cancer indicated the possibility of a non-malignant growth. Assuming the probability of an enlarged and myomatous uterus I opened the abdomen. The peritoneum was very much thickened and there was found a considerable quantity of free fluid in the abdominal cavity. The abdominal

wound was made sufficiently large to admit of a free examination of the uterus after the intestines were walled back by large abdominal pads.

The bladder was normal in appearance. The uterus was uniformly enlarged and occupied the usual position in the pelvis and reached upwards to a point corresponding to a uterus enlarged to the fourth month of pregnancy. The anterior surface of the uterus presented a grayish-white appearance, and fluctuated on palpation. The sigmoid was well crowded over to the left. The uterus was firmly adherent on its posterior surface. Masses of new growth extended out on either side to the ovaries and broad ligaments. It was at once apparent that we had to deal with a sarcomatous uterus and that any attempt to remove it would involve a dangerous hemorrhage with small prospect of getting all the diseased tissue. I could not see my way clear to secure safe hemostasis on either side of the uterus, and having in mind the certain and speedy return of the disease in such cases, I determined not to expose the life of the patient in the useless attempt to remove the organ. I opened the cyst on the anterior surface of the uterus just sufficient to explore the interior, about one ounce of clear fluid escaped, revealing a very red and irregular velvety surface. The thick cyst wall became flaccid when the fluid escaped, which enabled me to surround the three-quarter inch incision with a purse-string suture slightly inverting the edges, thus closing the opening completely. I now reinforced the purse string with a few additional sutures. Catgut was used in both instances. I folded over the sutured surface a strip of iodoform gauze, which I allowed to extend out of the lower angle of the wound, inserting a secondary suture to be tied when the gauze was removed on the sixth or eighth day; otherwise the wound was carefully closed. On the eighth day the gauze was removed, followed by the discharge of some serous fluid and the secondary suture tightened. The patient was discharged and returned home, a distance of 150 miles, in good condition at the end of the second week.

It was my impression that the less we disturbed the diseased organ the better it would be for the patient. I doubted the wisdom of opening the cyst, but the unusual appearance of the organ and the desire to discover the condition inside the cyst led me to do so.

My personal experience with diffuse sarcoma of the uterus is extremely limited, but the literature of the subject does not give much warrant for operative procedures when the disease has advanced so far as to make the diagnosis easy before an operation is undertaken. In early cases where scrapings have revealed the sarcomatous nature of the disease better results may be expected, or in somewhat later cases, when the disease is clearly confined to the organ and the tying off can be easily accomplished without leaving any part, an operation may be warranted. But when the disease has plainly spread out over the broad ligaments, even to a moderate extent, no good can be accomplished.

A recent examination shows that the growth has rapidly increased since the exploratory operation and her general health has correspondingly declined and the fatal termination is not far off. I realize the fact that a diagnosis as to the character of a morbid growth without a microscopic study lacks in scientific accuracy, but the clinical importance of arriving at a conclusion at the operating table was, in my judgment, of the utmost importance. If the disease was malignant I ought to have removed it; if non-malignant, I am very sure I would have shortened her life. I recalled the special features in the history of the case, that a few months previous to the operation a quantity of fluid had escaped from her bowels, giving her for a time some relief. This was no doubt due to the emptying of a cyst lying in contact with the sigmoid. I took into account the general appearance of the mass, the free fluid in the abdominal cavity, the adhesions and the extension of the growth on to broad ligaments. I had never before seen a cyst sarcoma of the uterus or a sarcoma which had undergone cystic degeneration. But I was so firmly impressed with the idea that I had one before me that I had no hesitation in acting on the theory that it would be much better for the patient to let it alone. What the antecedents of the growth were I do not know. But it is quite probable that a fibro-myoma involving the fundus had existed for perhaps a long time which had more recently undergone cystic and sarcomatous degeneration. An important diagnostic symptom was absent, namely, a uterine discharge; but it may be assumed that the endometrium and sub-mucous tissues were not involved. However, there was no distinct tumor and the organ appeared to be uniformly enlarged, a condition which would seem to favor the probability of such a general involvement as to lead to hemorrhages. It may be observed that recently a moderate loss of blood has occurred on one or two occasions. Since the operation, and for some time before, she has suffered severe pain in the abdomen, has lost much in flesh and has become very anemic.

The development of a diffuse sarcoma of the uterus after the menopause is much less frequent than carcinoma, but that it does occur late in life is well established, and it has particularly been observed to occur as the result of degenerative changes in fibro-myomas, which have no doubt remained stationary for a long time. When these growths, which appear to give no serious trouble and make no advancement, begin to take on a new growth attended with pain, loss of weight and anemia they may be looked upon with great suspicion if the change occurs after the menopause. This fact suggests the danger which may arise in allowing these apparently harmless uterine tumors to remain, and whether the risk of letting them alone is not greater than the risk of life in their removal. There can be no question on this point, if after 50 years of age a more or less rapid growth is discovered, but then it may be too late for the best results. Is it not true that any form of uterine growth is a menace to life at some time, even if it is apparently stationary?

THE RELATIONSHIP OF ANTISTREPTOCOCCUS SERUM TO THE TREATMENT OF PUERPERAL SEPSIS.

GEORGE E. RANNEY, M.D.

Ex-President Michigan State Medical Society; President United States Pension Examining Board at Lansing; State Inspector of Communicable Diseases; Member of the Michigan State Board of Registration in Medicine, Etc.

LANSING, MICH.

Since the first disturbances of unknown origin in the puerperal state, up to the time of Semmelweiss, who stimulated investigation of fever in the puerperal state, this subject has been the bone of contention and the modus operandi for its successful treatment has been the highest aim of all clinicians.

Serum therapy has been deemed ideal for the treatment of diseases due to specific organisms. Pasteur, Koch, Behring and others contended that the bodily

functions in the destruction of toxins could be increased by the introduction of the attenuated serum of those definite organisms. Theoretically this worked admirably, but thus far the only successes are in diphtheria and tetanus. and in the many experiments conducted with antistreptococcus serum we do not in all the literature find one report of its value in the prevention of infection from the streptococcus. In animal experimentation, J. Petruschy[1] says: "The protective power against infection with streptococcus Starmock, as well as two forms from Lyons, did not show any protective power against infection." He also states that serum can not be recommended for use upon man, and also that positive knowledge for a serum therapy against streptococcus infection has as yet not been produced.

Of course, I admit that there are some cases reported in the literature in which recovery has been stated to be due to this form of treatment. I here agree with Petruschy when he states that all other forms of treatment were indulged in, and why can not the recovery be attributed to other forms of treatment or to nature? In none of the cases that we have reviewed did we find the only treatment that of the serum.

Williams[2] reports fourteen cases of puerperal septicemia treated by antitoxin. In these no benefits followed the injections. Of the two fatal cases, in one the course of the disease was not affected by the serum; the other died during convalescence, the fever having run its course. The physician who performed the autopsy considered the death due to the serum.

We must note that the true founders of this form of treatment have also grown skeptical as to its absolute benefits. Another writer[3] states: "The reports of the English and French journals of cures as a result of serum treatment must be looked upon with suspicion."

This brings me to a case unsuccessfuly treated by me and my medical counselors.

Mrs. ——, aged 25, primipara. Spontaneous birth after six hours, the whole labor being uneventful, save for a superficial tear of fourchette. Temperature and pulse normal and general condition favorable. As is my habit, I directed the nurse to use vaginal douches of water and formaldehyde twice daily. Up to the fourth day everything seemed favorable, when the temperature suddenly rose to 102.5 without an initial chill. I then immediately examined her and found nothing to which I could attribute this sudden rise of temperature. I immediately ordered a purge and a freer use of the antiseptic douche. The following day, the temperature still remaining high, I gave her an intra-uterine douche of formaldehyde and water and repeated it the following day and informed the family that a consultant should be called in. Her uncle, being a prominent member of the profession, was sent for, but as he was not at home his confrère, Dr. ——, came instead. About this time an exudate made its appearance on the abraded surface of the fourchette, and the nurse was directed to make frequent applications of peroxid of hydrogen to those parts. On careful inquiry I learned that the nurse employed by the patient had recently been attending a family with membranous tonsillitis and that she herself had but just recovered from the same disease. Characteristic of the "meddlesome women" she undertook to improve upon my treatment by applying large quantities of vaselin from an open jar on the abraded surface and into the vagina after each douche, without my knowledge, thus defeating largely the very object of the cleansing process. This fact, together with the knowledge of her recent experience with membranous tonsillitis, accounted, of course, for the source of sepsis in this case. On advice of Dr. ——, vaginal and uterine antiseptic douches were continued,[4] and the exudation continuing to extend up the vagina, clear to the fundus of the womb, Dr. Goodell's solution of hydrate of chloral, iodin and carbolic acid was applied to the parts involved twice a day for the purpose of destroying the membrane. Antistreptococcic serum, 10 c.c., twice a day, was injected for three or four days, producing some unpleasant local effect, the parts looking red, the integument raised and edematous, presenting a smooth shiny, pale-yellow surface, somewhat mottled with infiltration into cellular tissue. The temperature varied from slightly above normal to 104.5 and 105, without reference, as far as I could see, to the use of the serum. Either one or the other or both of the consultants saw her or were communicated with every day by telephone, and their efforts, as well as my own, were untiring, active and unremitting. Quinin and nuclein were given and laxatives as required.

Before the termination of this case Dr. ——, in a paper read before the Michigan State Medical Society, May 5, 1899, said: "I saw her on the fifth day after confinement. Her temperature was 104 and had been nearly that for 48 hours. A thick white membrane covered the surface of the perineal laceration and other abrasions of the vaginal wall. . . . Nuclein solution and quinin were prescribed. The next morning the temperature was normal and remained so until toward evening the next day, when it began to rise, and increased steadily until noon of the eighth day, when it registered 103."

The wide variation of temperature at short intervals characteristic of this disease was a marked feature in this case, from its beginning to its termination, ten weeks later, and these exacerbations of fever were not preceded by chills and fluctuation of temperature did not seem to bear any relation to the medication employed.

The temperature had varied from 101 to 104 during 48 hours. There were no vaginal abrasions or exudations except at the fourchette, but despite all treatment the exudation extended gradually up from day to day, involving the entire vaginal wall and cervix, till it reached, about the third week, the end of the uterine canal.

A marked feature in the case was a high temperature every seventh day from the first to the tenth week, when she died. At the first visit of Dr. ——, beside the treatment above mentioned, the nurse was directed to apply the peroxid of hydrogen. and he recommended Goodell's iodin, carbolic acid and chloral mixture to be applied if the exudation continued. Dr. —— visited her again the third day following his first visit and her symptoms not having improved and the exudation continuing, he applied the Goodell mixture to the abraded surface and injected the same into the uterine canal, and the vagina was packed with iodoform gauze and vaginal and uterine douches continued till about the thirteenth day, when the membrane ceased to form.

The diagnosis of streptococcic infection had been made and the antistreptococcic serum was used hypodermatically once in twelve hours, till three doses were given and after a short interval six more were given, making nine in all. Inasmuch as the nurse in attendance had just returned from a case of membranous tonsillitis it can not be denied that the infection may have been diphtheritic rather than simply streptococcic. We could scarcely suppose that so thick a false membrane could result from a simple streptococcic infection. It would rather suggest wound-diphtheria and would therefore require antidiphtheritic serum.

Though never having used the serum, I had but little faith in its virtues, but was encouraged in its use in this case by the consultant, who, in writing of it in connection with this case, says: "If we find that patients so virulently infected as this one was recover under its use, while others under usual forms of treatment, without its use, almost all die, there must be virtue in it. In some cases it works as positively as does the antidiphtheritic serum.[5] She is in excellent spirits, has no

1. Centralblatt für Bakt. u. Parasit, vol. xx, p. 173. "Researches on Antistreptococcus Serum."
2. British Medical Journal, 1896, p. 1285.
3. Encyclop. der Geburtshülfe und Gyn., 1900, p. 286.

4. The continuation of the uterine douches was repeated only on his advice, as, owing to conditions unnecessary to explain in this connection, all treatment recommended by him and his associate consultant was carried out.
5. This was written before the patient died.

pain, excepting after examination, has had no symptoms of systemic infection, having had no chill or sweating. Her temperature for the past three days has ranged lower, showing minimum of 98.5 F. and a maximum of 102.5." Mace[6] states that serotherapy has proved a failure and is rapidly being abandoned and that the Institut Pasteur itself has admitted the action of the Marmorek serum unsatisfactory.

The patient's appetite and strength and circulation kept good, and she looked cheerful, and neither she nor her friends could feel that she was very ill during the first few weeks of her malady. There occurred, early in the case from inflammatory action, a thickening of the left broad ligament and enlargement (though not marked) of the womb. Later the right broad ligament became involved, but its enlargement soon disappeared, under the persistent and thorough use of hot vaginal douches. The nineteenth day from the inception of the fever, the consultants thought they discovered evidences of pus in the left broad ligament, which I was frank to say I doubted.[7] Operation for the removal of pus was postponed for five days, when she was placed under ether and chloroform was given, and two or three attempts were made with a trocar to reach pus in the broad ligament through the vagina. This thorough exploration revealed no pus, and 26 days from this examination the patient was placed under the influence of chloroform and an abdominal section made. No pus was found, but of course the plastic inflammation of and about the broad ligament involved the Fallopian tube. The tube, slightly enlarged, was removed, but when laid open no pus was found. In a case so serious as that of streptococcic infection in the puerpera, no mind is so gifted as to see the end from the beginning, but it seems to me that it would require no superhuman gift to anticipate the result in this case. Fifteen days following this the patient died. A few days following the etherization and exploration with trocar for pus, on examination of the patient's urine I found it contained considerable mucus, blood and pus and other evidences of a well-developed case of acute nephritis, edema of her limbs, hands and face and different parts of the body changing, more or less, from place to place, being more marked in pendent portions, the lungs becoming somewhat involved and pleuritic effusion being present.

A drainage tube was left in the surgical wound of the abdomen and about three ounces of serum were removed through it twice a day until a day or two of her death, when, coming away spontaneously, it was not replaced. After the diagnosis of nephritis saline catharties and digitalis were freely used. She died in a spasm from uremic poisoning.

We are prone to report our successes and especially if we can attribute them to means or fads not in general use by the profession, but it is no less our duty to record our failures as a warning to others.

Left to myself to treat another case like the one above described, I would not employ: 1. Antistreptococcic serum. 2. I would not administer ether. 3. I would not explore with trocar for pus. 4. I would not cauterize abraded surfaces to destroy exudation. 5. I would not make an abdominal incision during the course of the septic fever, unless the pus accumulation had become localized and demonstrated. 6. I would not make it then till after leucocytosis had been determined. 7. I would not subject the patient to the shock of any operation until the pus had formed and become localized and could be easily removed without severe shock to the system.

The fact that no pus was formed is not, in my opinion, due to the use of the serum, but to the frequent and persistent vaginal douches, eight gallons at a time, much of the time once in three hours, the douches being grateful and restful to the patient.

6. Obstetrics, June, 1899.

7. Patient had no chill, no severe pain in region of tubes, no reflex symptoms, vomiting, etc., no rectal or vesical irritation, no abdominal symptoms. Her appetite was good and she slept well. For those and other reasons I believed no pus had formed, the case being exceptional in that regard.

We all know how the kidneys are susceptible to disturbances during and following pregnancy, and especially must we note the deleterious effects of ether upon the kidney, so much so that many surgeons, especially in Europe, discard its use almost wholly as an anesthetic. So in case of an acute attack of nephritis following its use in such a depleted condition, can we not conclude, after knowing that a patient had during the whole period of pregnancy shown no disturbances in this direction, that the ether was the cause?

Hence, in such cases, where the patient is thus depleted, should we not hesitate, in view of the inhalation of ether having such a strong tendency to produce an acute congestion of the kidneys, especially as this form of congestion is almost always fatal? I would not have administered an anesthetic without first ascertaining, by an examination of the blood, if pus were present—the blood, if pus was present in the system, would show a marked leucocytosis, both absolutely and relatively, there being particularly a great increase in the polymorphonuclear leucocytes. There are two exceptions to this rule. Leucocytosis might not occur first where a pus cavity is walled off by adhesions, and second, in cases where the system was overwhelmed by the poison, for in these cases a negative chemiotases seems to be present, neither of which conditions would apply in this case, for the presence of pus during the active stage of the disease would be less dangerous than the danger of an almost certain septic infection of the peritoneal cavity, by an attempt at its removal by abdominal incision.

Besides the high blood pressure produced by the inhalation of ether being directly injurious to the kidneys, do we not in such a case of septicemia have special reasons for withholding it, in view of the well-known fact of such extensive destruction of the blood corpuscles in septicemia leading to a weakened condition of the walls of the small vessels, in many cases to extensive hemorrhages, both with the subcutaneous and submucous tissues; why then not into the kidney, producing in this way acute nephritis?

I would not, during the active stage of the disease, explore with trocar the broad ligament through the Douglas cul-de-sac for pus. I would not cauterize abraded surfaces to destroy the exudate, a product, not a cause of the disease. What physician of the present day cauterizes diphtheritic membrane to cure diphtheria?

I would not, during the progress of the fever, subject such a patient to the additional shock of an abdominal incision or any operation. Certainly I would not operate until the presence of pus was proven by blood test, if necessary, or the pus pointed and could be easily reached without shock to the system.

This brings me to the brief consideration of some cases that I have seen as a consultant and what seems to me to be the most rational treatment of them.

Case 1.—I saw her Jan. 2, 1901. Age 21; occupation, housewife. Menstruated first when 16 years of age, regular every four weeks; last was ten months ago, duration 4 days—delivered by midwife, child six days old, character of labor was normal. This was her first child and she never had any abortions. Condition of patient when I first saw her: Duration of disease was four days. She had pain in the lower part of the abdomen and had a reddish discharge. Micturitions take place frequently, about every three hours. Upon examination large broken-down exudative patches were visible on the anterior and posterior vaginal walls and apparently extending into the cervical canal. A sound was passed for the purpose of diagnosis and a vaginal douche of bichlorid, 1 to 5000, was given.

Patient's temperature on my first visit was 106, pulse 140, respirations 24. This temperature fluctuated, the first day from 106 to 102, then to 105 and back again to 102; second day, temperature was 106, pulse 130, respiration 48; third day, temperature was 100, pulse 112, respirations 32; fourth day, temperature was 104, pulse 116, respirations 34; fifth day, temperature was 98, pulse 104, respirations 30. There was a daily fluctuation ranging from 103.4 to 99.8 for ten days following, when on the sixteenth day the temperature rose to 105 and fell the following morning to 100. This fluctuation kept on gradually decreasing until on the 22d day, when the patient's temperature reached normal part of the day and did not go above 101. At my first visit quite a large mass was diagnosed, involving left broad ligament, and three days later blood test showed marked leucocytosis, but no attempt was made at that time to explore for pus. Urine examination was negative. Pathologic examination showed streptococcic infection. General treatment was sponging with alcohol and water when the temperature rose above 103. Milk diet and beef juice; whisky was given every three hours. Strychnin sulphate gr. 1/60 once in three hours. Bichlorid douches 1 to 5000 twice daily. Bowels kept regular by laxative salines, enemas and occasionally calomel. At the end of six weeks from my first visit her temperature was but slightly above normal, and what fever she had I attributed to other causes than streptococcic poisoning. Fluctuation could be felt from the Douglas cul-de-sac to the posterior lateral aspect of the uterus on the left side. The pus having pointed I emptied the abscess by incision at this point, causing but little pain and no perceptible shock, from which time the patient progressed to a satisfactory recovery.

Case 2.—I saw her Jan. 12, 1901. Age 20; married four years; occupation, housewife; menstruated first at 15 years of age; regular in character, period of four weeks; last was in the middle of September, lasted three or four days. Patient gives history that some time in last September she was curetted. Present illness dates from a few days following curettage, made because she was barren, and to overcome sterility.

January 12, patient's temperature was 97, pulse 160, respirations 32; on the same day temperature rose to 103.4. From 17th to 23d it fluctuated from 99.4 to 103.

The patient looked blanched, and blood examination showed marked leucocytosis. On examination of her vagina quite an enlargement was found posterior and to the right of the uterus, involving the broad ligament. The tumor was hard and I could detect no fluctuation. She was too feeble to undergo any operation had one been desirable. Treatment in general was the same as that employed in Case 1, except that bichlorid was not used in douches. From this time on temperature fluctuated from normal to 103, till on April 8 the fever had entirely gone. At this time fluctuation being found just to left and posterior to cervix I removed the pus by a free incision and the patient went on to a satisfactory recovery.

I report the last two cases mentioned above to show the treatment, which not only in these cases, but in quite a number of others in my experience, most satisfactory recoveries followed, though the disease was somewhat protracted, which is usual in such cases. The profession being ever ready and anxious to conquer disease, there is constantly being evolved, through the application of intellectual experiment and money, new remedies to accomplish this end. Diphtheria, over which science has achieved such glorious victories, is an example of a disease which has been arrested and humiliated by the application of attested scientific methods. But the admitted virtues of anti-diphtheritic serum may, and I think has, stimulated the over-credulous and enthusiastic to use a variety of serums of more than doubtful utility, if not absolutely harmful, as was demonstrated in the use of the Koch lymph for the cure of tubercle, and I think I may say in the use of the serum in puerperal streptococcic poisoning in the puerperium.

SURGERY OF THE LIVER.

CARL BECK, M.D.

CHICAGO.

It is only within recent years that the liver has received the attention of surgeons. Operations upon this organ were dreaded on account of the profuse, at times uncontrollable, hemorrhage which followed the cutting into the very vascular organ. This was observed in cases of injury of the liver, where the surgeon often was helpless in trying to check the bleeding by methods which would be applied in other organs.

Another reason why surgeons hesitated to remove large portions of the liver was the uncertainty of the physiological after-effects in the destruction of a large part of the liver substance. The knowledge on this subject was very imperfect, and when a surgeon was confronted with a case requiring resection of a large portion of the liver, the picture of acute yellow atrophy and its fatal results stood before him and naturally he was not very enthusiastic.

Spontaneous healing following injuries resulting from accidents of the liver substance first suggested to the surgeons how to deal or attempt to deal with such wounds.

In 1870 Bruns treated a gunshot wound of the liver by resection of the lacerated portion, and the patient recovered. In 1886 Linz removed a solid tumor of the liver, and though the patient died the feasibility of an operation on the liver substance was proven. Since that time, a number of operations on the liver substance have been reported, the majority being with fairly good results. In studying the details of these reported cases, we note that they were not well-planned operations, but inventions of the moment, because the conditions requiring the operations were discovered accidentally after opening the abdomen, either after a wrong diagnosis or a probatory incision in doubtful diagnosis.

There having been no definite technique or rules in the removal of tumors from the liver, we can readily understand that the methods were quite primitive, such as removal of the growth by a finger-nail or a spoon.

A step forward was taken by the very interesting and important experiments on animals by Gluck, Tizzoni, Griffini, Podvyssotski, and especially by Ponfick and Kahn. They have all proven that on animals a resection of a considerable portion of the liver is possible and compatible with life and that the damage is soon repaired. Ponfick, for instance, was able to remove two-thirds of the liver without causing the death of the animal. These experiments and very favorable results encouraged surgeons to work on the human liver. All that was then needed was a perfect method of controlling the treacherous hemorrhage of the liver and the two objections mentioned would be overcome. Work in this direction was carried on with equal zeal, of which the publication of Kausnetzoff and Penski, and of Auvray and Terrier, published in the "Revue de Chirurgie," 1896 and 1897, are the most important ones. Other individual observations and operations by reliable surgeons were reported.

The methods so far advocated by different authors may be summed up as follows:

1. Removing the liver tissue by cautery alone.—Jacobs.

2. Cutting away the pathologically changed tissue following the cut with the thermo-cautery.—Bruns.

3. Curetting and tamponnading afterwards.—Mikulicz and Schmidt.

4. Cauterization and ligature of some vessels which continued bleeding after cauterization.—von Eiselsberg. Tuffier found this method reliable, as the vessels can withstand a good deal of stretching. Keen operated on a case by this method with good success.

5. Ligature *en masse* with elastic material before removing the tumor.—Lucke and Israel. A modification of this method is to leave the elastic ligature until the danger of secondary hemorrhage has passed, and securing the stump, preventing the slipping back by long needles, a method well known formerly in the extraperitoneal treatment of fibroids.—Sklifassovski, Rosenblatt, Bastianelli.

The Suegireff method, i. e., the use of hot air or steam as a hemostatic, has been abandoned, for the reason that it was not possible to apply it to small areas. It produced a cooking effect on the surrounding structures, even if they were well protected.

Kausnetzoff and Penski have made a great many experiments on animals, from which they deduct the following conclusions:

1. Lightly drawn ligatures are of no value.

2. The intraperitoneal treatment of the stump after resection is preferable to the extraperitoneal.

3. Blunt needles do less harm in sewing the liver than sharp needles.

4. Gradual tightening with elastic material is thoroughly hemostatic.

5. The vessels resist a good deal of weight and pressure, and ought to be tied individually.

6. The omentum should not be used to cover the liver stump, as it does not increase the hemostatic effect.

7. A transverse incision to reach the liver is preferable to any other.

Keen and others have collected and tabulated the cases in detail, and given their own experiences. Remarkably good results were obtained in most of the cases, but from the perusal of the descriptions it was evident that there was still no reliable method of dealing with one of the greatest dangers of these operations, i. e., the hemorrhage. Even if Dr. G. V. Segale, of Genoa, considers the problem solved by the ingenious method he has devised, it seems that such is not the case. More experiments and observations will be necessary before we have reached a faultless method.

My attention was called to this subject by a case which occurred in my practice in 1892. A boy, about 10 years of age, accidentally shot himself with a toy gun, 22-caliber. In trying to hide the weapon underneath his vest, he accidentally pulled the trigger and the bullet was discharged, entering his right epigastrium below the costal arch. The bullet took a downward course, penetrating the liver, perforating a few loops of the intestine, finally entering the bladder, and by contractions of this organ the bullet was passed halfway down into the urethra, blocked the same, causing stranguria. I saw the case a few hours after the accident. The fact that the boy had been shot had not been known to the physicians or the parents up to that time; their attention was directed to relieving the stranguria and collapse.

Upon opening the abdominal cavity, we found it filled with fresh blood and coagula. The first injury discovered was the lacerated border of the liver, which still bled freely. A compress was tightly kept over it by an assistant, which temporarily stopped the hemorrhage, while we proceeded with the examination. When the intestine and the bladder had been sutured, the compress was removed from the liver, and we found that the hemorrhage had nearly stopped. I was inclined to resect the ugly torn substance, being afraid of infection from it, but I refrained from so doing for fear that a new hemorrhage would be started by a fresh cut, and perhaps be fatal to this already very anemic boy.

Further experiments on animals convinced me that the liver substance removed in small pieces from the border of the liver may safely be sutured without causing the death of the animal. Subsequently during my Cook County Hospital service I was able to verify this, especially in the case of a stab wound through the liver. In this case I put several sutures into the liver substance, and obtained a good result. I desire to report another case, that of a young woman, who came under my observation in 1894, in whom a diagnosis of inoperable cancer of the stomach with metastatic tumors of the liver was made by a leading surgeon, and operation refused. The diagnosis seemed to me doubtful, and I made an exploration. I found a tumor the size of my fist at the anterior border of the liver, yellow in color, glistening and surrounded by a somewhat congested area. The stomach and intestines were not involved. I was very much tempted to remove it, on account of its favorable location, but the first small incision made into it caused me to stop, on account of the profuse hemorrhage; I hastily closed it with a few sutures. I was afterwards glad I had not removed the tumor, because while manipulating the liver I discovered that there were smaller lumps on the upper and posterior surface of the same, and I suspected that I had to deal with a case of "Multiple gummata" of the liver. My suspicion was verified by a rapid disappearance of the tumors by vigorous antisyphilitic treatment.

In 1896 I again had occasion to observe a tumor of the liver which seemed to be a promising case for resection, but having had no definite method of technique, I refrained from operating. I then began to experiment on animals, with the object of devising a method which would promise a good result in this case.

Where lay the fault with the methods already in vogue? What particular danger was to be feared in the operation in question? First of all, I concluded that the wound should not be drained. Drainage introduces many dangers. For this reason it was essential that absorbable suture material should be used. Second, the hemostasis should begin even before the cut is made into the liver substance. If we begin to enucleate a tumor and try to ligate or pack as we go on, the hemostasis will be only partially checked. If we apply the cautery, we darken the tissues and can not distinguish pathologic from normal tissue, because when burned they both look alike, and we are liable to leave some of the pathologic tissue behind.

Catgut or silk without any support cuts through the liver structure with great ease, and therefore is not practical. This was proven by many investigators who had worked on this problem before I did.

It was therefore necessary to find some material for the support of the ligatures. The most suitable for this purpose seemed to me to be decalcified bone recommended by Professor Senn for similar purposes. We began to use the same in oblong pieces, perforated at either end with a small punch, passed the catgut through these holes, and tied them in the manner of a quilt suture. The method was identically the same as

that described by Dr. Segale, with the exception that he used ebony or ivory rods or tubes. These are not absorbable, or only partly so. His method is the following: He uses small beads of ebony or ivory, which are hollow, and fit one into the other at the ends, and are threaded with catgut so as to form a small flexible rod. The material was chosen because it lends itself to disinfection, and the bead-like arrangement favors encapsulation of each bead. The technique of the operation is as follows: At the boundary of the lobe of the liver, which is intended to be removed, and along the transverse line there are passed several such loops of rods, so as to compress a triangular piece, the base of which is directly towards the operator. The string is tightly drawn and knotted, and then the tissue resected. The secondary hemorrhage is thus avoided, and intraperitoneal treatment of the stump possible. The catgut is absorbed, the rods break up into their small components, which are then encapsulated by connective tissue. Segale believes to have solved the problem by this method.

With the difference of the material—his being ebony or ivory beads, ours decalcified bone plates—the methods used in our experiments were nearly the same, but in my cases I found on postmortem on the animals local abscesses around the partially broken-up decalcified bone. These were firmly surrounded by adhesions to the stomach and intestine. This, of course, was undesirable, although such abscesses and even the unabsorbed suture material usually break into the intestine and heal out; still there were dangers in this method of healing; for, strictures, ulcers and other unfavorable sequelæ might result, and consequently I advised the use of absorbable material in the abdominal cavity. If, for some reason, silk had to be used, it should be used in interrupted sutures, so as to make the eliminative process easier.

I was about to abandon my experiments, when upon the suggestion of my brother, Dr. Joseph C. Beck, to utilize living tissue from the abdomen of the animal for the support of the sutures, I renewed them. The method was carried out as follows: From each border of the incision into the abdomen we slit up a broad band, including the peritoneum, the fascia, and in some cases also the muscle. This strip was left attached at one end to the abdominal wall. These strips were used as supporters for the suture material by encircling the liver with them where the sutures were intended to be placed, and the catgut sutures were passed through these strips and tightly drawn, in the same method with which the decalcified bone plates were used. The results were most gratifying and at a November meeting of the Chicago Medical Society, in 1898, I exhibited some specimens of these experiments.

After November, 1898, I discontinued the experiments on the liver, and have had no opportunity to give the subject my attention, until of late, when a case occurred in my practice which proved to me that after all we had not yet solved the problem of resection of large portions of the liver. This case is in many respects unique, and illustrates many points of pathology and technique in the operation. The following is a detailed report of this case:

F. K., 20 years old, porter, remembers having had a prolonged fever when he was a very young boy; the nature of this he has never ascertained. At the age of 6 he had mumps. At 18 he suffered from gonorrhea, made a quick recovery, but never had a syphilitic infection.

About five years ago the present illness began. He received a severe kick in the abdomen in an altercation with a companion. The pain was so severe that he had to go to bed and remain there several days. The pain was localized in the left upper part of his abdomen for several weeks, disappeared for a time, but returned as soon as he resumed work or lifted anything heavy. At such times there appeared a swelling in what he called "a weak spot," which subsided after application of turpentine and reappeared again. After several such experiences he noticed a gradually growing tumor in the left upper abdomen, which caused shortness of breath, especially in lying down. A cough with expectoration of thick mucus set in and annoyed him greatly. Of late he had been feeling miserable, declined in weight; his temperature varied, sometimes below, sometimes above normal. He lost his appetite and his bowels were very irregular. When offered an operative interference a few weeks ago, he declined, but now he begs for relief, even at the risk of life.

Status on Admission: Tall, thin, colored man, with normal conditions of head and face, slight bronchitis of both lungs, normal conditions otherwise of lung and heart. While standing we noticed a bulging beginning at the lower anterior chest wall of the left side at the height of about the 6th rib, becoming more and more prominent in the epigastrium, being pear-shaped in contour. In the recumbent position the mass which forms this prominence becomes more visible in the epigastrium. A moderately marked resistant, globular hardness are the characteristics of this tumor, which does not show fluctuation on any part. It is slightly movable from above downward, but seems to extend under the arch of the ribs and also slightly movable from side to side, though not to a great extent. The percussion shows that the hepatic dulness passes directly into this tumor; that the hepatic dulness on the right side does not extend as far below as normally; that the tumor extends about two inches below the umbilicus; on the back the dulness begins in the 6th intercostal space and reaches down as far as the line of the third lumbar. Otherwise the abdomen seems normal.

The patient has a temperature of 101.6, pulse 96. He coughs considerably and expectorates a yellowish, tenacious sputum. He is highly dyspneic. There is pain but no tenderness. Urine shows trace of albumin; otherwise normal.

Diagnosis: A tumor of the omentum, tumor of the stomach, tumor of the pancreas, or of the left kidney, tumor of the spleen, were the possibilities. I did not think of the tumor of the liver because no symptom pointed to this organ. The greatest probability seemed to be a pancreas or omental growth.

Operation: Anesthetic was quite difficult on account of the bronchitis and dyspnea. An incision was made over the highest prominence, in a line parallel to the median, of about six inches. After exposing the growth it was found that the same was a tumor of the liver. The spleen was small; the left kidney normal and in normal place; pancreas normal, but the stomach was very much out of its normal place, being grown into the tumor so that it appeared half buried with a small curvature in the lower surface of the growth. The first act of operation consisted in the freeing of the stomach from its position. This procedure was slow and very tedious, the adhesions being firm and bleeding. Finally, I succeeded in separating the stomach, but not without having denuded its upper wall of a portion of peritoneum and muscle. The defect was sutured, whereupon the tumor became free. An examination of the tumor showed that it was of the size of a man's head, more or less pear-shaped, passing with its narrower portion into the normal liver tissue at about the gall-bladder, or slightly beyond. The normal right lobe was so small and flabby that at first I thought of a situs inversus, which idea, however, was disproven by the spleen being in normal position. The tumor was brought outward from the abdominal cavity down to normal liver tissue. For this purpose the gall-bladder had to be slightly separated, which caused a slight bleeding. Being positive that all the pathologic tissue was outside of the abdominal cavity, I proceeded to exclude by elastic ligature. This method was the only one available for this kind of tumor. We were not prepared to find this tumor, and had not planned

a method of procedure. Consequently, most of the apparatus for exclusion and separation of the tumor had to be improvised. At first a broad band of iodoform gauze folded four times was placed around the stump, which was then tightly constricted by a rubber catheter, No. 14, Nélaton, and held by an artery forceps. A second band of iodoform gauze with another constricting Nélaton catheter was applied about half an inch above the first, and in order to prevent the stump from slipping into the abdominal cavity, two hatpins furnished by one of the nurses improvised the apparatus necessary to prevent the retraction of the stump. Then the abdominal portion of the liver was carefully surrounded with draining gauze and closed as far as possible to prevent prolapse of bowel or other abdominal contents. The tumor beyond the second constricting band was then resected, leaving just enough tissue to make it impossible for this band to slip off. There was absolutely no hemorrhage from the stump after the resection, proving that the constricting bands were tight enough. This completed the operation. Figure 1.

Post-Operative Notes: The operation had lasted 1 hour and 20 minutes. The patient returned in good condition. There was slight irregularity of pulse, but no considerable shock. He

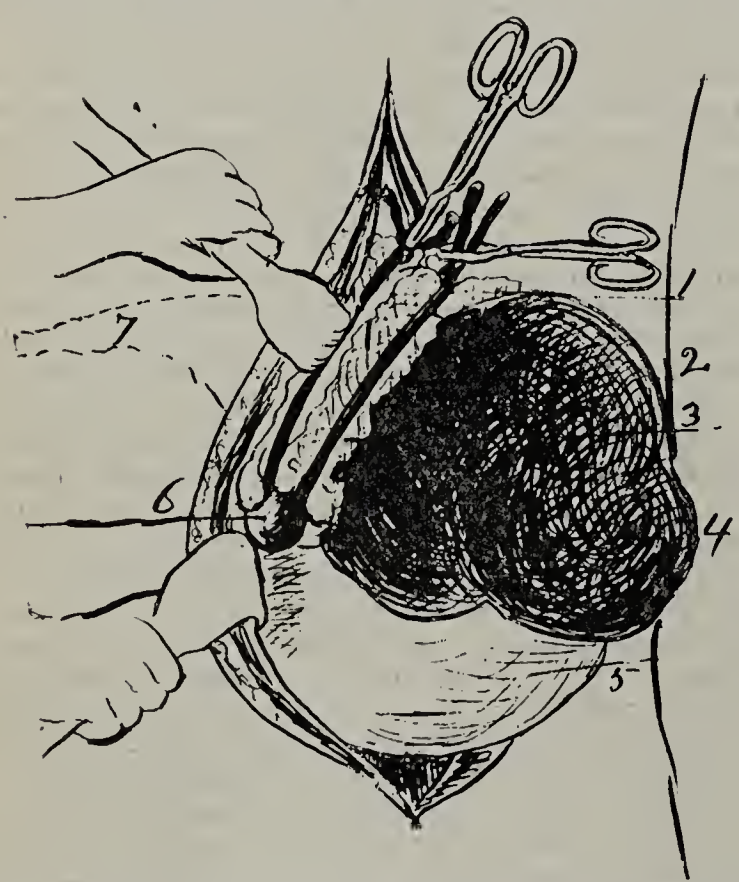


Fig. 1.—Shows the relation of tumor (4), stomach (5), and gall-bladder (6), the size of tumor about 2-3 of liver, two elastic ligatures (1 and 2), over gauze bands (3), leaving the gall-bladder within the healthy side; 7, small right liver lobe.

received a little cracked ice by mouth, but was fed entirely by rectum. Bowels moved slightly every day through the enemata. Temperature was from 101 to 102 continuously; the pulse 138 to 140. There was some oozing from the abdominal cavity during the first day, but on the third day, when the original dressing was removed, the hemorrhage had entirely stopped. A considerable odor from the gangrenous stump and a profuse malodorous discharge made it necessary to apply a considerable amount of orthoform. On the fifth day one of the rubber constrictors was removed. On the eighth day the second constrictor was removed, also the transfixing pins and a large part of the gangrenous stump was snipped off. About this time a considerable discharge of bile set in, apparently from large ducts, which were laid open near the line of demarcation. Firm adhesions of the healthy stump to the abdominal wall had formed by this time. The symptom, however, a high temperature, at times as high as 104, remained unexplained, inasmuch as there was no symptom of intra-abdominal inflammatory condition. Inasmuch as the patient had a cough and expectoration, we were inclined to think of tuberculosis, but the repeated examination proved it to be negative. Finally the fever went down, and on the 16th day the patient was allowed to sit up in bed. On the 27th day he was moved into a chair; on the 34th day he was allowed to walk around. At this time the abdominal stump of sloughing liver had almost dwindled down to the size of a walnut and was surrounded by healthy granulations.—Fig 2.

Twenty days after the operation a suppuration from the right ear set in, which explained to us partly the fever of the patient. Several weeks after the operation the patient was able to go before the Chicago Medical Society to be demonstrated. At this time the abdominal wound was almost closed. The examination of his liver showed that the right lobe gave about twice as large an area of dulness as before the operation, indicating that a restoration of liver had taken place. For some time after, the patient gained, but about the middle, or toward the latter part of November, he had a recurrence of fever, pain in the ear, and some cough again. Inasmuch as his liver was entirely healed up, I inclined to the belief that this temperature was due to tuberculosis of his middle ear, and in order to give him the benefit of a better climate, he went to the South. I receive

Fig. 2.—Thirty-four days after operation.

a letter every week informing me as to his condition, which thus far is improving.

The specimen was immediately brought to the laboratory of Professor Zeit, who was inclined to pronounce it, from the macroscopic examination, an angioma. Microscopic specimens were prepared and showed, besides the large blood-filled cavities, which make up the bulk of the tumor, small areas of positively new-formed tissue of glandular character; so that we thought we had to deal with a tumor of angio-adenomatous character. Dr. Max. Herzog kindly examined some of the slides and believes the tumor to be an angioma. Microscopically it appears to be composed of large cavities filled with coagulated blood between small islands of liver tissue and connective tissue The size of the tumor was that of a child's head and one could say it amounted to about two-thirds of the whole liver—Fig. 3.

The reason why I did not in this case employ the method which proved so successful in my experiments on dogs was that there was too much temptation to treat this tumor extraperitoneally. The tumor was so large that I could make it pediculated, but the patient was

exposed to great danger of infection. There was sufficient opportunity for it. A vast gangrenous surface, resorption of foul material for weeks, drainage of bile and danger to the life of the patient—all these could have been avoided had we used the intraperitoneal method. It was by mere accident that the patient escaped these dangers.

This case again prompted me to conduct more experiments on animals, which I desire to report in this paper.

No. 1.—A medium-sized dog was chloroformed and through a longitudinal incision in the region of the gall-bladder a lobe of the liver was brought out. Several sutures of silk were inserted, starting with the fascia, then the peritoneum, then through the liver and again in the opposite side through the peritoneum and fascia. In this way the liver was practically clamped between the two abdominal walls. The protruding portion of the liver was then amputated. The constriction of

Fig. 3.—Slices of tumor proper, showing cavities with coagulated blood.

the silk ligatures, which had been previously tightened, prevented bleeding from the cut surface completely. In order to prevent retraction of the stump, before firm adhesions would be produced, all tissues including the skin on both sides were transfixed by two long pins crossing each other. The superficial fascia and the skin were then separately sutured over the stump. This dog unfortunately died from peritonitis forty-eight hours after operation. On postmortem examination there were no signs of hemorrhage, but no adhesion had taken place, probably on account of the infection of the peritoneum. To demonstrate the method of this operation, I have prepared a schematic drawing, No. 4.

No. 2.—A large-sized animal was chloroformed and an operation in every respect corresponding to the one of No. 1 was performed Nov. 4, 1901, by Dr. Hecht. The dog recovered, and two months later, Jan. 9, 1902, a second operation was performed by myself. A transverse incision along the border of the lowest rib was made. The old scar contained a stump of the liver. The stump was completely surrounded by an adhesion of omentum, as though it had been soldered to the abdominal wall, but no intestines were adherent. The transverse incision permitted lifting out of the abdominal cavity nearly one-third of the remaining portion of the liver. A strip of gauze was placed around it, and slowly constricted, but nevertheless it cut through the substance of the liver on one side, and resulted in a slight oozing, which I thought would stop without any suturing. The abdomen was closed, as in the previous two cases, but the dog died the following day from the effects of hemorrhage, which was the result of oozing from the constricted portion.

No. 3.—Operation was same as in No. 1. The animal died from the effects of sepsis, but there was no evidence of any hemorrhage after the operation.

No. 4.—A medium-sized animal was chloroformed, and an attempt was made to remove the two lobes in a manner similar to No. 1. In pulling the liver upwards, however, a rent was produced in the central portion of the organ where the lobes originate. This was sutured by catgut sutures, with apparently a satisfactory result. The abdomen was then closed in the usual manner. The animal died the same day from the effects of hemorrhage from the rent in the posterior part of the liver. No signs, however, of hemorrhage were present in the stump, which was sewed into the abdominal wall.

No. 5.—Medium-sized female dog was chloroformed, and an operation in every respect like No. 1 was performed. No infection took place in this case, and the dog recovered and lived several weeks. On postmortem there were no evidences

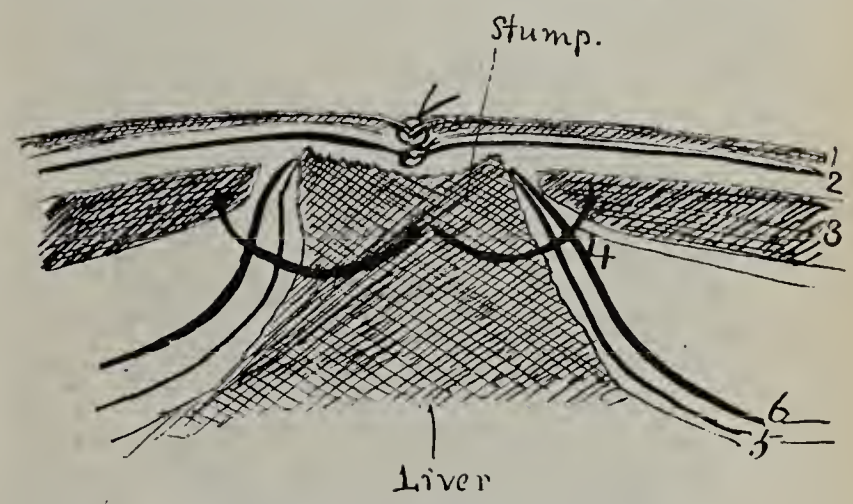


Fig. 4.—1, skin; 2, S, fascia; 3, muscle; 4, suture of liver fascia and peritoneum; 5, peritoneum; 6, deep fascia.

of hemorrhage; simply the adhesions of omentum around the portion which entered the abdominal wall.

No. 6.—An operation in every way like No. 1 was performed, with apparently complete hemostasis. Before closing the abdomen, however, I decided to make another resection deeper down, with the preliminary compression of a gauze bandage, as I had done in the case No. 2. In doing this the liver substance was again torn by compression with the gauze, and bled freely, leaving an irregular, lacerated wound of the liver running backwards. The flaps were not long enough to encircle the posterior part of the liver, and it was impossible to stop the hemorrhage, and the animal died from the effects of hemorrhage the same day.

No. 7.—In this animal the same experiment was made as in No. 6. In this case, however, large and broad flaps were secured. No difficulty was encountered hereby. The right part of the liver was almost entirely removed, and controlled with the compression and suture, which was supported by the flaps. This dog recovered, and was killed three weeks later, showing that the hemorrhage can be prevented by the method pursued in these experiments.

The lesson taught by these experiments is that it requires broad and long flaps of fascia and peritoneum in cases where a large portion of the liver is to be removed, using the gradual slow constriction of the organ before placing the sutures. From my observations on

the cases of the human, and experiments on animals, I would draw the following conclusions:

1. Liver tissue of considerable size may be safely removed by previous anemization of the part which is intended to be removed.

2. That for the support of the ligatures living tissue from the same animal, preferably the fascia and peritoneum from the abdominal wall, is best suited.

3. That the intraperitoneal or the intraparietal method is preferable to the external method.

A CASE OF INFANTILE CEREBRAL PALSY, WITH AUTOPSY FINDINGS.

L. PIERCE CLARK, M.D.

AND

T. P. PROUT, M.D.

NEW YORK CITY.

The lesions found at autopsy in old infantile palsy cases are variable. The findings are for the most part porencephaly (more frequently pseudo-porencephaly, often mistaken for porencephaly), small and indurated convolutions, single or multilocular cysts and microgyria. There may be but little or no evidence of the initial cerebral lesion. In the great majority of cases, however, there is usually some non-development of the cerebral convolutions in which the whole hemisphere of the side involved often unequally participates.

Fig. 1.—Cerebral hemispheres immediately after removal from the skull. The frontal lobes are located anteriorly. The left hemisphere is seen to be much smaller than the right. *a*, porencephalic areas in left hemisphere still filled with fluid. *b*, "Bear claw" bony formation in dura mater. *c*, Depression between right ascending frontal and middle frontal convolutions. *e*, Similar depression and break in right ascending parietal convolution. *f*, Fold of the dura mater. *d*, Border of the larger (left) hemisphere of the cerebellum.

The cerebellum of the same side or of the opposite side may also enter into the atrophy or non-development. The cerebellar lesion occurs on the same side if the pressure of the early lesion (hemorrhage) was great, or on the opposite side if the lesion resulted in large surface destruction or secondary atrophy of the hemisphere. There are, however, many varied changes present in individual cases; for instance, the calvarium and fossæ may be involved in the lesion. There may be low-grade formative connective tissue cysts, calcareous plaques, internal or external hydrocephalus, in which latter condition the degree of cerebral atrophy is secondary. The degree and extent of the unilateral lesion is often shown in motor and special sense defects. However, very frequently the clinical symptoms fail to give an adequate idea of the site and extent of the lesion. This is due to the fact that the symptoms which follow injuries in the silent regions are unknown, as is also the degree of compensation possible in the unaffected areas in the same hemisphere and the extent of bilateral representation of cerebral processes in the cortex.

An interesting case of infantile cerebral palsy in which epileptiform crises developed and in which multiple lesions were found to exist at autopsy is as follows: M. E. C., aged 29, unmarried, was born at term; labor normal. There was no disease in infancy until the onset of infantile cerebral palsy at 2 years of age. The palsy was supposed to be caused by fright. It was attended by "fever, convulsions and great prostration for several days." The whole right side was paralyzed. In the course of several years she regained considerable use of the leg, notwithstanding the occurrence of marked atrophy and maldevelopment of the muscles and bones of the right arm. The arm was entirely useless and developed the usual condition of spastic rigidity. Lack of development was marked and the extremity always remained infantile in appearance as shown in Fig. 7. At the age of 6, epileptiform crises appeared. They began in the right face and shoulder muscles. For the first seven years the crises were confined to that side without loss of consciousness. At 13 the attacks became typical grand mal, with right-side order of invasion, and an epigastric aura. For the past two years, two or three attacks occurred daily. The patient was feeble-minded although able to read and write and do ordinary housework. Old cicatrices were present on both cornea and chronic conjunctivitis was present, yet the corneal scars were not central and interfered but slightly with vision.

Fig. 2.—The small left cerebral hemisphere is shown against the larger right cerebral hemisphere. The small atrophied convolutions of the left hemisphere are shown with porencephalic areas collapsed. *a*, Porencephalic areas in parietal region. *b*, Porencephalic area in temporal region. *c*, Large left hemisphere of cerebellum; the relative size of it and the left cerebral hemisphere is apparent.

Ophthalmoscopic examination was negative. There was bilateral paralysis of the levator palprebræ with marked ptosis on the right side. All the deep reflexes were greatly exaggerated in the paretic parts. Several periods of serial attacks occurred during the past year. A series of attacks which occurred April 5, 1901, was very exhausting and temporary loss of speech followed each attack. When free from seizures the speech was normal but slow and drawling as commonly found in the mentally deficient. All seizures began and ended on the right side (face and shoulder), the head was always turned to the right. Occasionally, after the right side contractions ceased and the convulsion had apparently ended, the left arm and leg showed a series of three or four sharp clonic contractions.

On July 4, 1901, the patient passed into a condition of stupor and delirium constituting the status equivalent. The cardinal curves of this fatal coma are shown

in the graphic chart. Patient died of the status equivalent on July 9.

PATHOLOGIC ANATOMY OF THE CASE.

The autopsy was necessarily postponed until 30 hours after death. The body was well nourished; rigor mortis was marked. There was no asymmetry of skull or face. The right upper extremity was small, ill-developed and presented marked contractures. Although the right lower extremity was poorly developed, atrophy and contractures were not so marked as in the right arm. All the muscles of the right side were small and showed poor development.

The scalp was not excessively adherent to the skull, but was extremely thick. The skull was greatly thinned, especially in the left parietal and frontal regions. The diploë was entirely obliterated in those parts of the cal-

Fig. 3.—The relative size of the two cerebral hemispheres is shown; frontal aspect.

carium. The dura was not excessively adherent to either the skull or the pia, and its sinuses were free. Adjacent and parallel to the superior longitudinal sinus and near its anterior extremity was found a "bear claw" bony formation firmly attached to the inner surface of the dura. It was triangular in shape, about two inches in length and partially covered the convexity of the left frontal region. The dura was somewhat thickened in some areas on the right side, while the left presented a well-formed membrane over its internal surface. There were a few small calcareous bodies in the dura. The

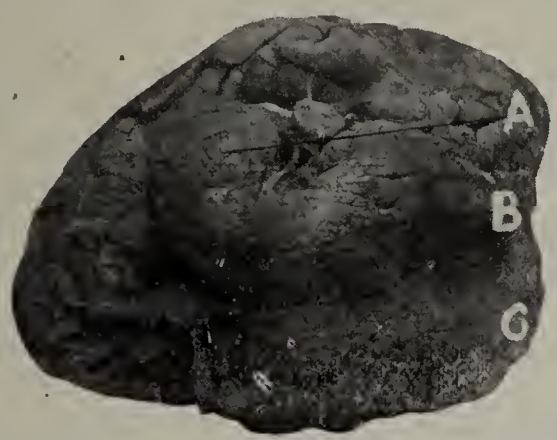


Fig. 4.—View of the two hemispheres of the cerebellum, showing their relative size. *a*, Small right cerebellar hemisphere. *b*, Normal left cerebellar hemisphere. *c*, atrophied convolutions of left cerebral hemisphere.

pia was considerably thickened, especially in the occipital and frontal regions of the left side, and quite adherent to the brain surface. There was considerable edema of the pia-arachnoid over the whole brain surface and many opaque areas in the pia, especially on the left side. The velum interpositum was considerably thickened. The vessels at the base presented the following abnormalities: The left anterior cerebral artery was very small and rudimentary. The anterior communicating artery was very long (three-quarters of an inch); the cerebellar branch of the basilar artery was very small on the right side.

The brain mass filled the cavity of the skull fairly well; but on attempting its removal, the left cerebral hemisphere was so greatly softened that the ventricular wall and certain pseudo-porencephalic areas on the left side were still somewhat distended. Figure 2 shows these areas collapsed and gaping, certain ones being indicated (*a*), but the largest of these cysts was located in

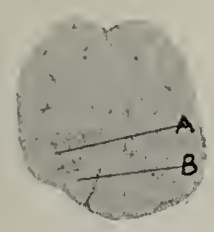


Fig. 5.—Drawing of section of the medulla through the inferior olivary bodies, showing atrophy of left inferior olive, *a*, and left posterior pyramid, *b*.

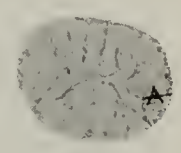


Fig. 6.—Drawing of section through the cervical cord, showing sclerosed area in region of right pyramid, *a*. The entire right side of the cord is smaller than the left.

the superior parietal region and is not shown in the cut. The relative size of the two hemispheres is shown in Fig. 3.

Weight of brain without pons and medulla was 586 gm., left side 85 gm., right side 501 gm. The convolutions of the entire left hemisphere were very rudimentary (microgyria) as shown in Figs. 2 and 3. Those of the parietal and occipital areas were especially small

Fig. 7.—Infantile right arm.

(knife-blade-like) and of diminished consistence. There were two convolutions in the occipital region and one in the temporal that still showed a cortical formation, but both were very small and the cortex was very thin and rudimentary. At the juncture of the Sylvian and Rolandic fissures there were several convolutions also

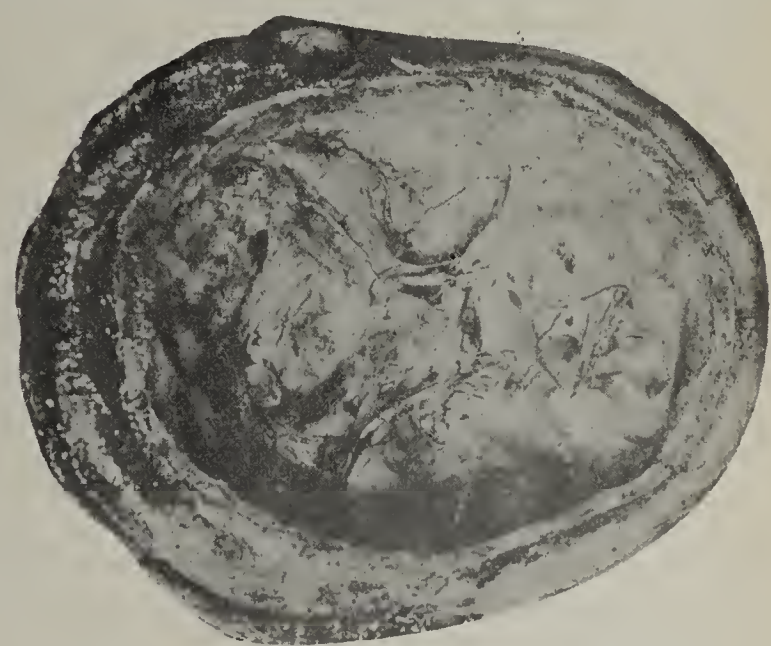


Figure 8.

that showed a rudimentary cortex. The entire parietal region of the left side was pseudo-porencephalic. There were two large cysts, each about the size of an English walnut, in the upper parietal region. They are shown by the fulness indicated (*a*) in Fig. 1, and the gaping areas (*a*) in Fig. 2. There was a large cyst also in the upper

temporal region of about the same size but somewhat multilocular (Fig. 2, *b*). There were many small porencephalic cysts scattered throughout the parietal and temporal regions. The lateral ventricle and the pseudo-porencephalic areas are completely collapsed and the left hemisphere appears as an undeveloped mass. The left lateral ventricle was very large in comparison with the right and its ependyma over the basal ganglia was very granular.

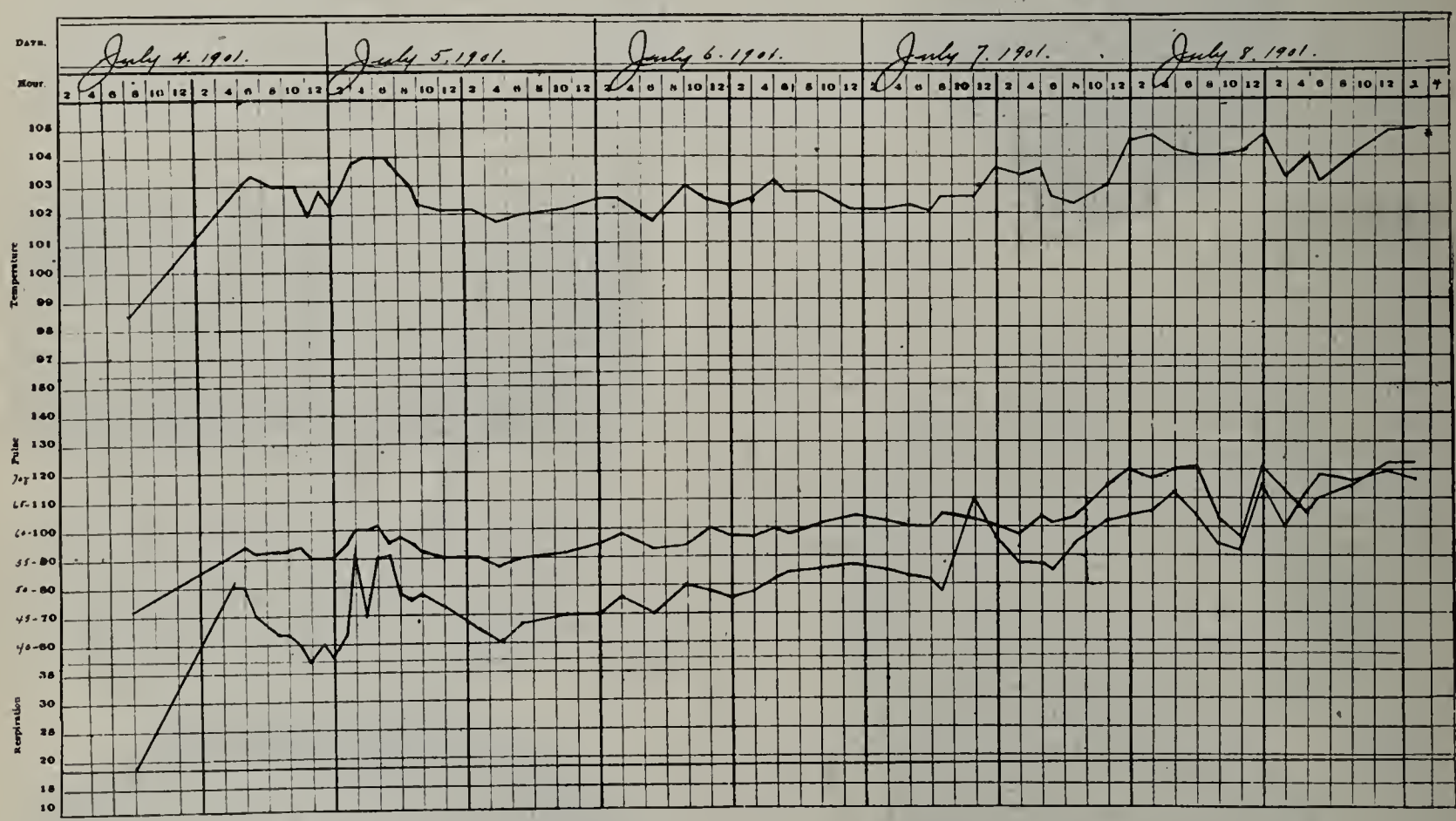
The right cerebral hemisphere was large in comparison with the left, the convolutions being large and coarse. Between the superior and middle frontal convolutions and at the point where they join the ascending frontal convolution there was an unusually large and gaping sulcus as shown in Fig. 1, (*c*). There was also a decided break in the ascending parietal convolution which gave rise to another gaping sulcus (Fig. 1, *e*). The sulci over the entire right cerebral hemisphere were wide and shallow and the convolutions coarse and rounded. The cortex appeared of normal thickness and appearance throughout this hemisphere, but the brain substance was somewhat congested.

The basal ganglia of the left side were very greatly reduced in size, especially the optic thalamus, which was a mere nodule. The lenticular and caudate nuclei were larger in proportion than the optic thalamus, but were, nevertheless, small. The cornu ammonis was small and greatly sclerosed. On incising the basal ganglia, the internal capsule appeared very rudimentary, appearing as a thin narrow line throughout its entire extent. The basal ganglia and the internal capsule of the right side appeared normal.

The cerebellar hemispheres were very unequal in size, the right being much smaller (Fig. 4, *a*) and weighing 57 gm., while the left hemisphere weighed 77 gm. The substance of the right cerebellar hemisphere was of greatly increased consistence, sulci shallow, convolutions small and arbor vitæ almost absent. Of its interior ganglia the dentate nucleus was still definable. The right cerebellar peduncles were greatly reduced in size, being about half the size of those of the opposite side.

The medulla was very asymmetrical. The pons appeared very narrow transversely, and was much shrunken on the left side. The left crus above was reduced in size and the pyramidal region below was very rudimentary (Fig. 5, *b*). The left olive was very small compared to that of the opposite side; otherwise the tegmental portion of the medulla on the two sides appeared about equal.

The base of the skull was markedly asymmetrical; the left anterior fossa (Fig. 8) was relatively shallower and more rudimentary in its cavity development. The left middle fossa was also smaller and of lessened capacity compared with that of the right. The superior occipital fossæ for the cerebrum were slightly asymmetrical. The capacity of the left was uniformly less in all its dimensions, while the inferior occipital fossæ for the cerebellar lobes were markedly asymmetrical. The right fossa was little more than a continuation of the basilar groove, which was S-shaped. The left fossa was twice the usual size.



To summarize the points of interest in the case: We have here a very pronounced case of infantile cerebral palsy, beginning at 2 years of age, and later resulted in severe epilepsy. Mental impairment was not marked; speech and the special senses were intact and normal. The cerebral lesions were probably produced by venous thrombosis of surface veins and secondary hemorrhage resulted. This in turn caused more or less complete but asymmetrical atrophy of the entire left hemisphere (microgyria, cystic degeneration and pseudo-porencephaly). Secondarily, the cerebral lesion caused mal development of the whole right cerebellar lobe and extreme atrophy of the left thalamus and inferior olive. The cranial fossæ at the base also participated in the pathologic condition most remarkably for an extra-uterine lesion. Their arrested development corresponded in location and extent with the brain masses which each contained.

MANAGEMENT OF THE UMBILICAL CORD.*

C. S. BACON, M.D.
CHICAGO.

The cutting of the cord is the first surgical operation to which most human beings are subjected and an operation to which all must submit. The management of the stump during its separation from the body and the care of the ulcer subsequently formed are surgical proceedures upon which depend the health and perhaps the life of the infant. If the wound be improperly managed so that infection results the child comes into serious danger. Navel infection is indeed one of the greatest dangers to which the newborn is exposed.

This surgical operation has been done since time immemorial. It must also be performed by the lower animals. It was done for centuries and ages before there were surgical principles to determine its technic. It is done to-day in many, perhaps the majority of cases, by those who have no knowledge of surgical principles.

Yet in some way or other babies have generally overcome the dangers of hemorrhage and infection of the stump of the cord just as they have overcome the measles and chicken-pox and the other infantile diseases that overtake them a little later in life. Nature's protective arrangements provided for by natural selection in the ages of development are generally sufficient to overcome or ward off the dangers that confront the newborn. It is probably true that Nature's arrangements are more efficient with races in a state of nature than with highly civilized mankind. Just as plants cultivated in glass houses are not as hardy as those that grow out of doors, so people that bathe daily, live in evenly heated houses and protect themselves carefully with clothes are less capable of resisting hurtful influences than dirty and naked savages.

Nature's methods of ridding herself of offending matter and healing wounds are sloughing, suppuration, ulceration and inflammation. These suffice very well for natural conditions. In this way the stump of the cord is removed and the ulcer that is left is healed. These methods do not satisfy us entirely to-day in our civilized state. We have begun to control the processes of Nature which show in our bodies just as we have learned to control the forces outside of us. We can to some extent eliminate sloughing and inflammation from the healing process. This we do by the aseptic technic which follows from the applications of the discoveries of Pasteur and Lister. You know what a revolution the principles of asepsis have made in surgery. Is it worth while to apply the principles of the new surgery to the management of the child's navel?

Perhaps the majority of physicians would answer that the old methods of caring for the cord are good enough. By the old methods I do not mean now the primitive methods of animals and savages, that is, tearing or biting off the cord and letting the stump hang until it is separated by rapid suppuration in one or two days. The old methods to which I refer are semi-surgical methods of the ordinary nurses and midwives, namely, cutting the cord with a stump one to two inches long and keeping it wrapped in a piece of old linen and covered with oil or lard or perhaps dusted with powder till it falls away. Treated in this way the stump sloughs off in from two to six days and the ulcer, retracted below the surface of the skin, heals in a few days more. There is really very little difference between this method and what might be called the primitive method. The suppuration is nearly as rapid and the inflammation quite as intense.

The dangers of this method of treatment are not appreciated, because in general the importance of disturbance of navel healing in the causation of infantile disease in the first days of life is not properly studied. The management of the navel is generally left to the nurse, even when she is totally ignorant. If the temperature of the infant is regularly taken, which is rarely the case, fever is often or generally found, but this is ascribed to colic or some such cause. There is good reason for the statement that this fever is due in at least 90 per cent. of the cases to navel infection. Postmortem examinations of infants dying within two or three weeks of birth generally show, besides localized inflammation around the navel, also an arteritis, phlebitis or lymphangitis of the umbilical vessels, or all of these pathological conditions together.

It is not my purpose to give a complete résumé of the investigations in the pathology of the separation of the cord nor of the studies concerning the anatomy and histology of the cord. There is already a considerable modern literature which has recently been summarized in English by Dickinson[1] of Brooklyn, whose monograph is accessible to all. I will only call attention to the papers of Eroess of Budapest published in 1891, which was one of the first of the more recent papers to draw attention to the importance of this subject. He found in a careful study of cases in the Budapest clinic that the process of separation was pathologic in 68 per cent., that fever was due to navel infection in 45 per cent. of the cases, and that very serious illness and in some cases death were due to these diseased conditions. All who have given the subject any attention are agreed that navel cord separation is one of the most serious dangers that menace the newborn child and that the subject of its management is of the greatest importance.

While inflammatory changes due to bacterial presence are no doubt a constant accompaniment and factor in the separation of the cord and healing of the navel wound in a state of nature, it is possible that these events may occur without inflammation, that is, in a state of asepsis. There are three distinct physiological processes: 1, drying the cord; 2, separation of the cord from the body of the child; 3, epidermization of the navel wound. The drying or mummification of the cord is due to retrogressive changes in the Wharton jelly, resulting from lack of nutrition, combined with the desiccating action of air. The mummification makes the cord impossible as soil for bacterial growth. An impervious dressing would prevent its desiccation. Should bacteria then gain access to it there would result moist gangrene. This is often found in the stump, particularly that portion next the navel which is much less apt to mummify than the outer end. The lesson from the study of the retrogressive changes in the cord teaches that if any of the cord is left attached to the child it should be freely exposed to desiccation.

It is in the second process, that of separation of the cord, that the influence of the bacteria is in Nature's plan most efficient. There is no doubt that bacterial growth favors the early separation of the cord. Yet a sterile dried cord would in time be thrown off, when its vital connection is severed, just as a sterile blood scab is separated from an aseptic wound. The best way to remove the cord aseptically is by cutting the jelly

* Read before the Chicago Medical Society, Feb. 19, 1902.

1. Robt. L. Dickinson: Is the Sloughing Process at the Child's Navel Constituent with Asepsis in Childbed? Am. Jour. Obst., December, 1898; June, 1899.

with scissors and ligating the vessels, as will be described. By using a silk ligature drawn pretty tightly around the cord at its base a considerable part of the jelly is cut through, but by this manipulation we are unfortunately often in danger of cutting through the vessels at the same time.

The epidermization of the denuded surface left by the cast-off cord will go on much better when the parts are sterile than when they are infiltrated with bacteria and their poisons. Hence, this important process is favored by surgical treatment.

It will therefore be seen that it is possible to manage the cord according to surgical principles. Suppuration, although natural and almost constant, is not necessary. These statements, probably true from our knowledge of surgical pathology, have been verified by clinical experience.

If surgical treatment of the cord is possible the prevention of infection is certainly desirable. The fact that most babies get on pretty well or at least do not die when the cord is left to Nature, which is practically what we do no matter how much we fuss with it in any of the old ways, should not satisfy us. Most women will live even if the obstetrician is not clean, but there is generally some disturbance in child-bed and at times serious trouble. Just as we have learned that the strictest possible asepsis in labor pays, so we shall find in the course of the next few years that surgical treatment of the cord will pay. I do not believe that the ideal method of managing is yet perfected. The methods that I shall shortly describe are only those that are best at present to advise for general use.

LIGATION.

We first ask where to ligate and cut the cord. It has sometimes been claimed that ligation is unnecessary; but the experience of all of us with hemorrhage in cases of poorly ligated cords would prevent the introduction of any practice which did not secure us against the possibility of bleeding. The mass ligature is in almost universal use and is no doubt to be advised for the use of nurses and those physicians who have no surgical experience. The objection pertains to it that in a cord of moderate size the rapid shrinking of the Wharton jelly leaves the knot loose and makes secondary hemorrhage possible. For mass ligation a narrow tape perfectly sterilized is best, as it will not be as apt to cut through the gelatinoid cord when tied very tightly as would a silk ligature. The elastic ligature has had some adherents, and ingenious devices for fastening it have been devised. Its use is somewhat complicated and the after-management is not so simple. As said above, there is no question that separate ligation of the vessels at the base of the cord is the best procedure not only because it is a sure protection from hemorrhage but also because it best favors the separation of the cord. The crushing of the cord and vessels with forceps and the use of the cautery as hemostatic have been tried but have no advantages to justify their adoption.

The cord has been tied at the junction of the skin and cord, and at all distances from the body. Unless the ligation is made close to the body of the child the best plan is to tie about 1 inch, or 2 cm., away and cut the cord 3 to 5 mm. beyond the ligature. This length of cord allows it to be laid over on the abdomen for dressing and access to the separating zone is easy. The increased length of the cord has no influence on the rapidity of its dying. If the stump is too short it will not lie well on the child for dressing and is more likely to be pulled by the clothes and when the child nurses or is handled.

The best place for tying is, however, close to the body of the child, at the junction of the skin of the body and the amniotic sheath of the cord. When tied here and cut as closely as possible the after-dressing is exceedingly simple. The only objection is the fear of secondary hemorrhage. This is overcome almost completely by adopting the technic to be recommended. Such a hemorrhage, if it did occur, could be controlled by the nurse with pressure until surgical help could be secured. August Martin, formerly of Berlin, proposed to provide against the danger of secondary hemorrhage by severing the cord with the actual cautery, using for this that article of some ladies' toilet, the curling iron. This cauterization would also serve to remove the cord jelly or hasten its mummification and prevent infection. The danger of burning the squirming child, as well as the demonstration of the uselessness of the cauterization by the good results of the Paris clinics, where the cord is severed with the scissors after short ligation, has led Martin and his followers to abolish the cautery.

DRESSING.

In studying the best dressing of the cord, we must keep in mind the three physiologic changes that must take place, namely, the dying of the cord, its separation from the body and the epidermization of the surface left by the stump of the cord. Some, among others Goodell, have advised against any dressing, in order to favor the drying of the cord. That this is an important process all must admit who have seen the condition of moist gangrene and trembled over its possible dangers. Yet desiccation is interfered with only slightly by a dressing of gauze or absorbent cotton, which may perhaps help in protecting the cord from infection. Under any circumstances the impervious dressing should be proscribed.

It is essential for us to determine whether we shall strive to secure an aseptic or an antiseptic dressing. It may be admitted at once that an aseptic management of a long stump is a practical impossibility. If the duration of the management lasted only a few hours the attempt would not be so hopeless, but the most particular nurse would fail to secure asepsis in a dressing on an infant's belly for a period of three or four days. Hence, if we allow a stump at all we must be content with antisepsis and indeed with partial success. The avoidance of contamination as far as possible is of course our aim. We should be able to exclude the more dangerous contaminations such as tetanus and erysipelas germs. The saprophytes, the staphylococci and probably the colon bacilli will surely appear. Hence, the choice and method of using an antiseptic becomes an important question.

The objection to a routine and efficient use of the poisonous antiseptics like sublimate and carbolic acid are apparent. The much used boric acid is too inefficient to merit consideration. For several years I have used and advocated in my classes the use of alcohol. In 1900, Ahlfeld of Marburg, who is well known as an advocate of the practical value of alcohol as an antiseptic, published his method of treating the cord with this agent, a method which he had used for three or four years and which is essentially like my own. The method consists in thoroughly washing the region of separation of cord from the body once or twice a day with alcohol and protecting this region in the interval

with sterile or antiseptic gauze or cotton. My results agree with those of Ahlfeld in being on the whole quite satisfactory if not ideal.

Theoretically an antiseptic powder would be desirable, but practically the use of powder has not fulfilled our expectations. Iodoform is not to be thought of, on account of its odor if for no other reason. Bismuth, boric acid, dermatol, etc., are inefficient or form crusts under which the process of suppuration goes on undisturbed. Some of these powders may be of value after the cord has separated before the denuded surface is covered. For the slight eczematous condition sometimes found at this time I have often used nosophen with advantage.

Closely connected with the subject of the dressing of the cord is that of the bath of the infant. Much has been written on this subject, particularly since Doktor in Pest, following up the studies of Eroess, showed the improvement in the morbidity of infants by omitting the daily bath. It may be admitted that the tub bath is a source of contamination and in aseptic management such as we should strive for in short ligation of the vessels of the cord it should be avoided. In the antiseptic management which alone is possible with a stump it is doubtful if the bath has any deleterious effect. We must assume that bacteria begin to appear in the region of the navel in a few hours after thorough disinfection. A careful enclosure of the cord with sterile cotton will hinder the access of the germs somewhat, but in twelve hours and at least in twenty-four hours they will be found in contact with the separating cord. Now, the washing off of the cotton or gauze with alcohol and the renewed disinfection is necessary. It is not probable that the momentary contact of the bacteria in the bath water will lead to much extra contamination. The germs thus brought to the cord are at once washed away by the alcohol that is used immediately after the bath.

It is quite possible that the wetting of the cord will hinder its mummification and therefore be a further objection to the tub bath. The immediate drying of the cord after the bath and the use of the hygroscopic alcohol will, however, reduce the objectional influence of the bath to the minimum.

For these reasons I have generally allowed the bath in cases treated with a stump and have not become convinced of any deleterious effects. I always direct that the child be cleaned from all feces before it is bathed and if it has boils or pustules I interdict the tub in order that other parts of the body as well as the navel should not be contaminated.

Our observations on the antiseptic management of the navel apply to those cases where a stump of greater or less length is left. When the ligature is placed at the base of the cord and particularly when the gelatinoid envelope of the vessels is removed and the vessels ligated directly, I believe that we may strive to secure asepsis. The first method of ligation, which is that of Pinard and the one now followed by Martin and many others, may require some antiseptic treatment, for some jelly remains to mummify. The little button of jelly 2 or 3 mm. thick above the ligation is generally pulled into the navel funnel and prevents the infection of the separating junction. There can be no harm in pouring into the funnel alcohol at change of the dressing until the button separates. The aseptic dressing should protect the navel, which is no larger than after the falling off of the ligature.

When the gelatinoid envelope is removed and the vessels tied directly with silk or catgut the cut vessels retract within the navel depression and aseptic management is perfectly simple. Only a dry aseptic pad over the navel is necessary. This method of management first described by Flagg, and since elaborated by Dickinson, is, I believe, very valuable and probably susceptible of general adoption.

Another method of procedure more radical than the last has been advocated by Dickinson. It consists in suturing together the skin margins of the navel after removing the cord. The vessels may first be ligated with catgut or they may be included in the grasp of the suture. Although I have not tried it, yet I mean to do so, for the suggestion is reasonable and we may find in this operation the coming method of the rational treatment of the cord.

MANAGEMENT OF THE CORD.

I will now briefly describe in detail the plan of managing the cord from the moment of the birth of the child. Just as the head is being expelled, a clean towel is got in readiness to wrap the child's body in the region of the cord. This towel is applied as soon as the body is born, then the child is wrapped in a large sterile blanket and laid between the mother's legs till the cord ceases to beat. It is then tied 4 or 5 cm. from the body with a sterile tape; the vessels are emptied out toward the placenta by the pressure of the thumb and forefinger of the left hand, and then the cord is held by the thumb and finger about 3 cm. away from the ligature. The cord is then cut with a sterile scissors and the placental end dropped. It is probably better not to tie the placental end unless a twin remains in the uterus. I generally cut the cord off again close to the vulva in order that an antiseptic pad may be applied while waiting for the third stage of labor. After the child is separated from the mother the body is wrapped well in the sterile towel so that the cord can not become contaminated. Then it is laid away until the mother is cared for. We then attend to the child. The nurse having prepared the room for the baby's bath, generally the bath room, by securing a temperature of about 90 F., having in readiness the bath, clothes, alcohol, cotton or gauze, scissors, artery forceps and ligature, takes the baby on her lap and holds down the arms and legs with clean towels. With sterile hands I unwrap the towel from around the cord and with a medium-size silk ligature retie the cord at its base or the junction of the skin and amniotic sheath. Without cutting the ligature I then carefully cut off the cord 2 or 3 mm. beyond the ligature. If the cord was quite thick, or if there is any sign of bleeding from the vessels, or if I have any doubt of the security of the ligature, after careful inspection, I enclose the cord once more with the ligature. The ends are then cut off rather short, and a large sponge of cotton saturated with alcohol is placed on the navel. This is kept in place by the nurse while she oils the child to remove the sebum, and then it is placed on its back in the tub that is only partly filled with water or the child is washed with a sponge. After the bath fresh alcohol is placed on the navel while the child is being dried and measured. Then a dry sterile pad of gauze or cotton is placed over the navel and the usual bandage applied. This pad stays in place without trouble till the next dressing of the child. As a rule, the child is bathed and the navel attended to every twenty-four hours. At the subsequent dressings a cotton sponge saturated with alcohol is applied before the bathing and also afterwards. Then a dry dressing is used. The ligature dis-

appears with the thin dry remnants of cord above in the center of the navel and is never seen until it comes off on the third to the sixth day.

The method of ligation of the vessels I have used too little to justify an opinion concerning it. My impression is that it will supersede the other method. I have performed it according to the directions of Dickinson as described in his paper before alluded to. The child is prepared for the little operation as described, and then holding the stump of the cord in the left hand we cut around the skin margin with blunt-pointed scissors. One can generally see the vein near the surface at one point. Here we must be careful not to cut the vein. The jelly is then stripped back like a cuff leaving the vessels exposed. They are then tied with a fine silk or catgut ligature and cut beyond the ligature. They at once retract and give us no further trouble. A pad is then placed on the navel and held with a bandage. The child is bathed with a sponge and not placed in a tub for a week.

These methods can not be recommended to nurses. For them I advise the procedure I myself followed until about ten months ago. The cord is cut primarily as before described, leaving a stump about 2 cm. long After the bath the cord is wrapped in cotton saturated with alcohol, which is allowed to remain three minutes. This is then removed and the cord wrapped in sterile absorbent cotton and laid to one side and bandaged. At the subsequent dressings the cord is wrapped in alcohol-saturated cotton both before and after the bath. Care is taken to apply the wet cotton to the base of the cord at the line of the separation, for it is always at this point that suppuration occurs. In applying the dry dressing it is also carefully wrapped around the cord at the line of demarcation.

By this method of management the separation of the cord is probably delayed. It is attended, however, with no infection and that fact more than counterbalances for the delay in separation. The greatest objection to this method is the care necessary in the dressing and the inconvenience to the child, inseparable from a long stump that is apt to pull on the clothes and cause trouble.

SOME OBSERVATIONS ON RESECTION OF THE RIBS IN EMPYEMA.*

ANDREW STEWART LOBINGIER, B.A., M.D.

Professor of the Principles of Surgery and of Clinical Surgery in the Medical Department of the University of Colorado; Visiting Surgeon to the University Hospital.

DENVER, COLO.

The management of effusion into the thorax will depend much upon the character and extent of the inflammatory process which produced it. Netter has shown that in children empyema is of tubercular origin in 25 per cent. of all cases. The other 75 per cent. is due principally to the pneumococcus, with the staphylococcus, streptococcus, the Eberth and colon bacillus as occasional sources of infection. In adults Netter and Eichhorst have found 65 to 69 per cent. to be tuberculous.

It is generally recognized that empyema resulting from tubercular pleurisy has a much less favorable prognosis than when of pneumococcus origin. The latter variety of cases is attended by a less stable proliferation and the lung is left more patent and resilient than is the case in tuberculosis.

A very small percentage of cases are permanently cured by aspiration. Da Costa believes the cures to be limited chiefly to post-pneumonia cases in children and declares pointedly that "aspiration is not to be considered a method of curative treatment in empyema."

In very young tubercular subjects of progressive type Lockwood prefers aspiration and regards it as the surgical measure of election in these cases. In fact it is the experience of most operators that extensive resection in young tubercular subjects of florid type, is not attended by results sufficiently favorable to justify the hazard of such a radical measure.

In operable varieties of empyema of long standing, where the pleura is greatly thickened, nothing but extensive resection of the ribs should be undertaken. The delay so common in these cases can offer no possible hope for the patient and only endanger his life from amyloid degeneration of the liver, spleen and kidneys.

There is a principle involved in the operation for empyema which underlies the argument for radical interference and must not be lost sight of in the consideration of every chronic case. This principle consists, not in evacuation, not in drainage simply, but in the obliteration of an abscess cavity, whose non-collapsible wall is a bony arch. This obliteration may be accomplished either by releasing the thickened pleura over the bound-down lung, as De Lorme has advocated, or if this be not feasible on account of atrophy, tubercular consolidation or fibrous contraction, then collapse of the thoracic wall may be effected by some modification of Quenu's, Estlander's or Schede's method.

It is evident that the choice of operation must be governed largely by the pathologic condition in each individual case, the long-standing cases with large cavities calling for more extensive resection than those of briefer duration.

Resection of the ribs in empyema was first advocated by Warren Stone of New Orleans. Since his day a great variety of technique has been employed, but underlying each method has been the principle heretofore enunciated.

Every chronic patient presenting himself for operation should have the urine carefully examined for evidences of amyloid degeneration. As much time as the condition of the patient will permit should be devoted to preparation for the shock, which very commonly attends thoracic surgery in depleted subjects.

If a thoracotomy has previously been done, the usual preliminary withdrawal of the greater portion of the pus will, of course, not be required. I am in the habit of waiting a week or ten days after tapping before proceeding with the resection. This affords time for the heart to return to something near its normal position and for the patient to gain resistance. The heart should be supported by strychnia a week before operating. On the table 1/20 grain should be given hypodermically, to be repeated at the conclusion of the operation if necessary; and by the rectum a liter of warm salt solution, to be followed by subcutaneous transfusion of the same during the operation, should the pulse require it. These well-understood measures of preparation and support are detailed here for the purpose of their especial emphasis, and because of a belief that often they are grossly neglected in this class of surgery.

The principle of obliteration of the pus cavity is somewhat that of the contraction of a hollow sphere. Hence the widest resection should be in a plane crossing the center of the sixth rib, and should not go higher than the second, nor lower than the ninth rib. It has been

* Read before the Colorado State Medical Society, at Denver, June 18, 1901.

my observation that the ninth is best left undisturbed, and that whenever a pocket is left unobliterated it is commonly found to be near the apex and next to the axilla.

The U-shaped flap of Schede is much to be preferred to the straight or elliptical incisions of Pearce Gould or the intercostal incisions of Estlander. Schede's flap was designed to be followed by the total shearing away of the ribs and muscles, from the angle posteriorly to the cartilage anteriorly. But this technique may be so modified as to include an ellipse, the transverse diameter of which will measure six or eight inches, exsecting rib and periosteum and leaving the costal muscles and parietal pleura. With this modification it becomes necessary to curette the thickened parietal pleura as well as that over the lung, in order to obtain union when the two surfaces are coapted.

The procedure advocated by De Lorme whereby the thickened pleura is torn away from the lung and the latter allowed to expand, is theoretically ideal, but it is adapted only to the more recent cases where the lung is merely bound down and not extensively atrophied or consolidated. It is a procedure attended by considerable danger, and Kiliani reports the case of a little girl 9 years old, on whom he operated, who bled profusely through the mouth and nose from laceration of the lung in tearing away the densely adherent pleura.

Perhaps no feature connected with the operation and after-treatment of empyema has been more widely discussed than that of irrigation. At present most operators are opposed to irrigating either before or after the resection. Several very reputable surgeons have limited washing out the thorax to the fetid class of cases. But there seems little reason for this distinction and it may be confidently stated that an increasing number of surgeons believe irrigation to be a dangerous and needless measure. Senn wipes the cavity dry with gauze sponges, and finds in the more recent cases this to be sufficiently erosive to clear away the lymph coagula and expose the capillaries, thus avoiding the curetting required in the older and denser deposits. In the latter class of cases, however, nothing short of deep and thorough denudation will answer. No islands of lymph deposit should be left behind, for such constitute one of the most potent causes of pockets and fistula through which the discharge may persist.

Care should always be exercised to introduce the lightest possible gauze drain and to maintain perfect collapse and coaptation of the thoracic wall with the lung surface. One of the strongest arguments against the use of irrigation, aside from the danger of syncope, is the hydrostatic distension it causes of the walls designed to be in collapse.

In conclusion, it may be well to emphasize certain well-defined facts in connection with this review:

1. Cases for operation must be selected with much care and judgment and without delay for repeated or too frequent aspirations.

2. Progressive tubercular involvement in young subjects is a contraindication for anything more radical than simple thoracotomy and drainage.

3. Cases long delayed, until the organic pleura is dense and contracted, require free resection and are apt to be attended by greater deformity and loss of lung tissue, than those resected earlier.

4. The periosteum must be removed completely and the U-shaped flap affords the best covering for this, as it does for the lung in the true Schede technique.

5. Irrigation is not at any time to be employed. The cavity may be wiped, both before and after curettage, with dry sterile gauze sponges. After this a light drain of iodoform gauze may be inserted, and the usual thick sterile dressing of gauze and cotton under snug compression by adhesive strips, placed over the resected area. The after-treatment is that of any collapsed abscess cavity, drainage being abandoned as early as possible. Firm pressure over the collapsed area should be maintained by properly applied dressings until coaptation of the flaps has been fully established and the sinus closed.

Scoliosis and drooping of the shoulder on the affected side have always seemed to me to be needlessly dwelt upon and to constitute in the average case a very unimportant sequel to resection. I can recall no case where it was sufficiently marked to be worthy of comment. Much can be done after the wound has closed to correct through proper muscular and respiratory exercises the scaphoid depression which deflects the spine and drags the shoulder downward.

McPhee Building.

CASE OF RIGHT CECAL HERNIA, COMPLICATED BY HYDROCELE AND SUPPURATIVE APPENDICITIS.

RAYMOND CUSTER TURCK, M.D.

Professor of Anatomy and Operative Surgery, Chicago Post-Graduate Medical School; Director of the Post-Graduate Laboratory; Adjunct Professor of Surgery, College of Physicians and Surgeons (University of Illinois); Surgeon to Post-Graduate, Chicago and Samaritan Hospitals; Fellow of the Chicago Academy of Medicine.

CHICAGO.

Mr. D. G., aged 78, was sent into the Chicago Hospital with a diagnosis of probable strangulated inguinal hernia. Patient was found suffering intense abdominal pain, and unable to pass feces or flatus; temperature was 101.4, pulse 110, respirations 34. There was no nausea or vomiting. He gave a history of having had right inguinal hernia for over sixty years, with small hernia on left side for about twenty years. He had worn a truss and had suffered no previous pain or particular inconvenience other than an obstinate constipation. Bowels had not moved for ten days previous to entering hospital. It was impossible to get a satisfactory history.

Physical examination revealed a greatly distended, generally tender, and markedly tympanitic abdomen. Hernia on left side was protruding at the external ring, about the size of a hen's egg. Right hernia was very large, scrotum extending downward nearly twelve inches. In the bottom of the scrotum was a large hydrocele. It was impossible to differentiate the testicle. Just above the hydrocele was a hard mass about the size of an orange, firmly fixed to the hydrocele sac, and entirely incompressible. Above this mass could be distinguished the presence of bowel, filled with gas, and apparently containing no fecal matter. Hernial sac and contents were hard and inelastic; the hernia could not be reduced in the slightest degree, and there was no impulse on coughing. Diagnosis was made of hydrocele, hernia probably strangulated at internal ring, with hypertrophy of sac and possible malignancy. Very slight returns of scybala resulted from enemas.

Operation was performed Aug. 8, 1901, with chloroform narcosis. A long-curved incision was made on the right side through skin from point above internal ring to the bottom of the scrotum. Hydrocele was turned out and contents evacuated by an incision preparatory to Sach's operation; hernial sac was exposed and isolated as well as possible. Sac had a diameter of over three inches, and was intimately adherent to the surrounding tissues. Upon cutting into the sac, along the anterior surface, it was found very much hypertrophied, being about three-eighths of an inch in thickness. The interior of the sac was filled with a doughy, yellowish-white, agglutinated convoluted mass of bowel adherent also to the internal surface of the sac, and to the lower tumor mass, which, at first sight,

appeared to be a carcinoma of the epididymis. It was impossible to visually or palpably demonstrate the variety of the bowel; an extreme hyperplasia of the serous and muscular coats destroyed all semblance of normal intestine. The bowel and interior of the sac were covered with a muco-purulent material of offensive odor. This secretion was wiped away and the upper portion of the bowel was protected with gauze pads. After partial separation of the adhesions, the large and small bowels were differentiated. Adhesions were broken down in the course of which a portion of the hypertrophied serous coat was stripped from the lower portion of the cecum; this demonstrated the vermiform appendix passing downward into the tumor. The appendix was ligated and cut as close to the cecum as possible. During the manipulations there was an escape of a small amount of very fetid pus from the lower part of the appendix; because of this, and because of the agglutination of the appendix, testicle and hydrocele and hernial sacs, it was decided to remove all *en masse*. All adhesions of bowels up to the internal ring were broken down and tied off and a large amount of much thickened omentum cut away at this point, and after a careful toilet, the intestines were replaced in the abdominal cavity. The spermatic cord was ligated and cut; the hypertrophied hernial sac was cut away flush with the internal abdominal ring, and removed, together with the appendix, testicle and hydrocele sac. The internal ring was closed with interrupted sutures of catgut, and the internal oblique and transversalis muscles and conjoined tendon sutured to Poupart's ligament well down to the pubic spine. United the separated external oblique aponeurosis, obliterating the external ring, and closed the skin with silkworm gut, inserted silkworm gut drainage in the upper and central portions of the skin wound, and packed the scrotum with iodoform gauze. On account of the exhausted condition of the patient, did not operate on small hernia on left side.

Patient was given 1000 c.c. of normal salt solution subcutaneously on the table. He returned from the operating room in a feeble condition; temperature 100.2; pulse 106, intermittent; respirations 44. Sulphate of strychnia, gr. 1/30, was given hypodermically every two hours, and one pint of normal salt solution at a temperature of 115 per rectum, every three hours. He had fair bowel movement; was very restless during the night.

August 9: In much pain, vomiting and hiccoughing severely. Abdomen distended and tender; slight bowel movement; some flatus passed; average temperature 100.2; pulse 96; respirations 34.

August 10: Normal salt enemas were discontinued; there was slight bowel movement. Temperature 100; pulse 85; respirations 36; severe pain, with great abdominal distension; much weakness.

August 11: Hot turpentine stupes were kept constantly on the abdomen; there was some vomiting and hiccough. He passed a little flatus, temperature not running above 99. Predigested beef ℥ss was given every three hours.

August 12: General condition improved. There was no return from enemas; vomiting and hiccough were lessened.

August 13: There was slight bowel movement, with escape of a great deal of flatus. Abdominal distension was much reduced. Dressed wound, removed gauze and silkworm gut drains. Wound suppurated superficially; was repacked with iodoform gauze.

August 14: Vomiting and hiccough disappeared. There were four free bowel movements: no abdominal distension or pain; hot turpentine stupes discontinued. General condition was much improved; predigested beef continued. Temperature averaged 99; wound discharged freely at upper and lower angles.

Second week: Wound was irrigated and dressed daily, still suppurating and discharging freely. Drainage was inserted beneath skin from the upper angle to the center of the wound, and from the center to the lower angle. General condition was good, temperature averaging normal.

Third and fourth weeks: Wound still suppurated in lesser degree; sinuses beneath skin gradually closed; daily dressings, and through-and-through irrigations were continued. Bowels moved freely.

Fifth week: Temperature was normal or slightly subnormal; wound still discharged, but nearly closed. Bowels were in good condition.

Patient left hospital at the end of the seventh week; walking about; wound closed except very small superficial sinus, with no sign of return of hernia. Two weeks later patient reported wound entirely closed, with no return of hernia. He is doing daily work without a truss or any form of supporter.

The specimen was submitted to Dr. W. A. Evans for examination, who reported as follows: "Gross appearance: The specimen consists of a testicle with much thickened tunics and hydrocele and peritoneal sacs. The spermatic cord is very hard and tortuous, winding over surface of sacs (hydrocele and hernia). The exceedingly thick peritoneal sac contains an appendix which in its upper portion has its submucosa and mucosa stripped from the muscular tunics. The lower part has an enormously developed muscular tunic, and is embedded in a mass of old scar tissue. There is also some omentum greatly thickened. Sections were made of appendix at tip, and proximal end of the intestine. Microscopically, the appendix shows hyperplasia in the mucosa, submucosa, muscle tunics, and in the outside fibrous coat. There is an acute inflammation engrafted upon a chronic one. The vas deferens shows an enormous hyperplasia of fibrous tissue. There is no evidence of malignant disease."

The hernia evidently had been unreduced for a long period of years. The adhesions of the appendix to the lower portion of the sac and testicle, and numerous bowel adhesions resulting from an extension of appendical inflammation necessitated an intense peristaltic action in the misplaced bowel, with great hypertrophy as the result.

A NEW METHOD FOR THE REMOVAL OF INTERNAL HEMORRHOIDS UNDER LOCAL ANESTHESIA.

THOS. CHAS. MARTIN, M.D.

President of the American Proctologic Society, Proctologist to the Cleveland General Hospital, Professor of Proctology in the Cleveland College of Physicians and Surgeons.

CLEVELAND, OHIO.

The subject of hemorrhoids often prefers to bear those ills he has than fly to that relatively desperate refuge afforded by general anesthesia and be relieved. As a consequence he may become a crank or an invalid. He receives little sympathy and less help, often.

The non-malignant anal growths may be removed painlessly without resort to general anesthesia by means of the technic presently to be described, provided it be performed by the trained hands of an operator who thoroughly understands the principles of infiltration-anesthesia, and who, furthermore, has been sufficiently persevering to master the difficulties encountered in the application of these principles to this operation.

The clamp, Fig. 1, consists of a hollow cone three and one-quarter inches in length and three-quarters of an inch in diameter at its distal extremity, and one and three-quarter inches in diameter at its proximal end. One quadrant of the cone is fenestrated, Fig. 3. This is occupied by a movable blade with a serrated edge, which makes contact with the cone's serrated edge. The movable blade is sheathed in the cone when the jaws of the clamp are separated. Hence, after the instrument is introduced it may be made to receive the pile without irregularly expanding the anus. The great essential to painless manipulation of the sphincter is the even distribution of pressure throughout its circumference. Users of irregularly dilating speculums have been confused and baffled by the pain they provoke.

Preparation of the patient consists in daily gradual dilatation of the anus by means of Kelly's conic dilator until the anus may be made to open painlessly to the

degree necessary for the introduction of the clamp. Those patients who long have been subjects of hemorrhoids have a dilated or relaxed sphincter, and therefore do not require this preparatory treatment.

The patient should be placed and made comfortable in Sims' posture. The table's upright knee-piece should be adjusted to support the patient's legs, and the light focused on the field of operation.

The anoscope should now be employed that the precise situation of each hemorrhoid may be determined. These should be noted as occupying certain given zones and quadrants of the anus.

The summit of each tumor should be infiltrated with a one-tenth of one per cent. solution of eucain. A very fine needle should be employed. The needle should have a long tapering point; its introduction provokes little or no pain, and the thin wall of a varicose hemorrhoid may be infiltrated. Whereas, on the other hand, a needle of larger diameter will enter the tissues less easily and will provoke great pain, and perhaps may be so much thicker than the capsule of the tumor it is designed to anesthetize, that instead of effecting an infiltration of that structure the anesthetic may be driven at once into a blood-space and directly into the circulation.

The now artificially edematous and anesthetized portions of the several tumors should be grasped with curved hemostats and the anoscope withdrawn. It will then be noticed that the tumors are somewhat prolapsed under the weight of the pendant hemostats, and that because of their handles the anoscope can not be drawn off them. They should be detached, withdrawn from the anoscope and reattached, one by one. Thus, in order, each of the prolapsed tumors is to be released and again seized and the anoscope removed from field of operation.

The attached hemostats should be surrendered to an assistant, who should radiate them from the anus and well out of the way of the operator.

The operator should take the well-lubricated clamp, adjusted as shown in Fig. 2, and introduce it into the anus with its blade pressing against the tumor which first is to be removed. When the instrument is buried to its shoulder the fenestrum should be opened, as shown in Fig. 3. The hemostat, which is attached to the tumor within the now exposed field, should be used as a lever to drag the hemorrhoid into the clamp's chamber. The pressure incident to the introduction of the clamp often expresses the eucain from the tumor so that it is necessary to re-anesthetize it before subjecting it to such manipulation as is necessary to carry it completely into the clamp. As the pressure of the clamp from this time on obstructs the local circulation, the infiltration should be thorough. Not only must the tumor itself be anesthetized, but its base also, and the tissues underlying this. If the patient should feel pain at any time during these manipulations, it indicates that the infiltration is incomplete—complete it. The clamp should now be closed and locked, and the growth cut away by means of scissors.

Figure 1.

Figure 2.

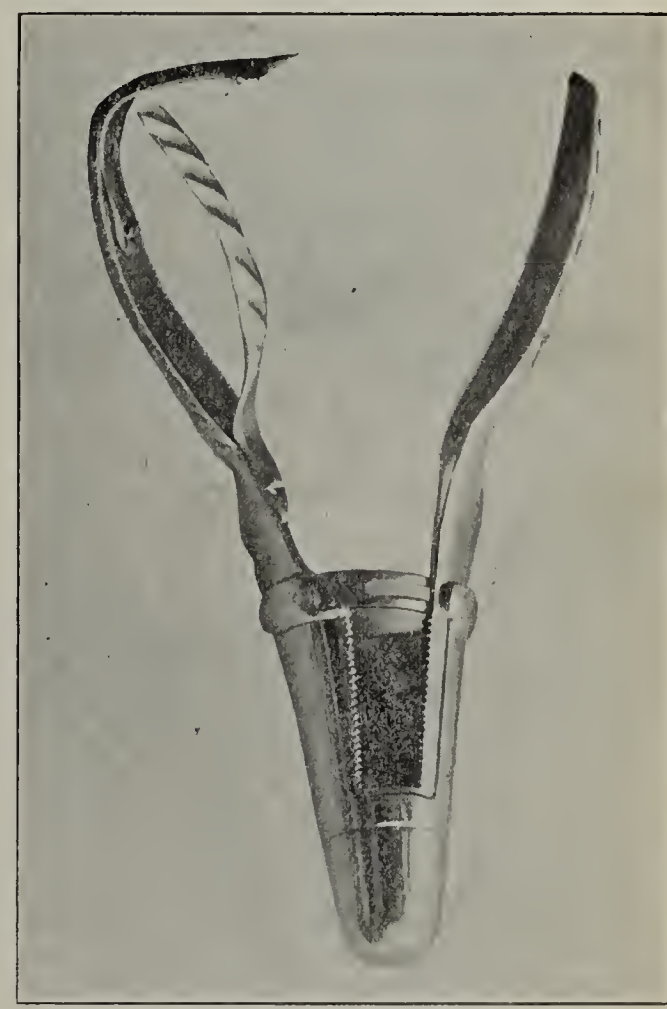


Figure 3.

If the character of the growth is such that the operator has reason to fear secondary hemorrhage, the wound should be lock-stitched with catgut. If it be of the connective-tissue or fibrous variety the pedicle should be cauterized. The red-hot platinum should be applied for a second only and repeatedly, thus the clamp will not accumulate sufficient heat to distress the patient, and the lymph will be coagulated and plug the vessels.

Tentatively, the clamp should be made to release the wound. If there be any bleeding it may be controlled at once by suture or cauterization.

The clamp should be withdrawn gently and reintroduced for the removal of other hemorrhoids, if necessary.

This clamp may be separated and rendered aseptic—Figs. 4 and 5. As the tumor operated on is within a sterile metal chamber, the former may be antisepticized,

and, therefore, the field of operation may be rendered surgically correct. Insufflation of iodoform or other antiseptic powder upon the wound fortifies it in a measure against subsequent infection.

Because of its peculiar form this clamp effectually

Figure 4.

blocks the field of operation against the accidental invasion of feces or the remnant of an enema. There can occur no hemorrhage to inundate and obscure the field. The pile is dry-docked.

Figure 5.

This clamp demands that the wound shall be linear in form and parallel with the axis of the anus; it dilates the anus to a degree greater than its normal excursion, hence there will be no subsequent contraction and stricture as a result of this operation.

That this method of clamp operation is inapplicable to inflamed or thrombotic piles, is obvious.

Eucain is much less toxic than cocain. Eucain may be sterilized by boiling without affecting its anesthetic property. An ounce or more of a one-tenth of one per cent. solution may be used without danger, for on the removal of the tumor most of the eucain is recovered. If the eucain be prepared in normal salt solution its injection is not so likely to be followed by smarting and burning.

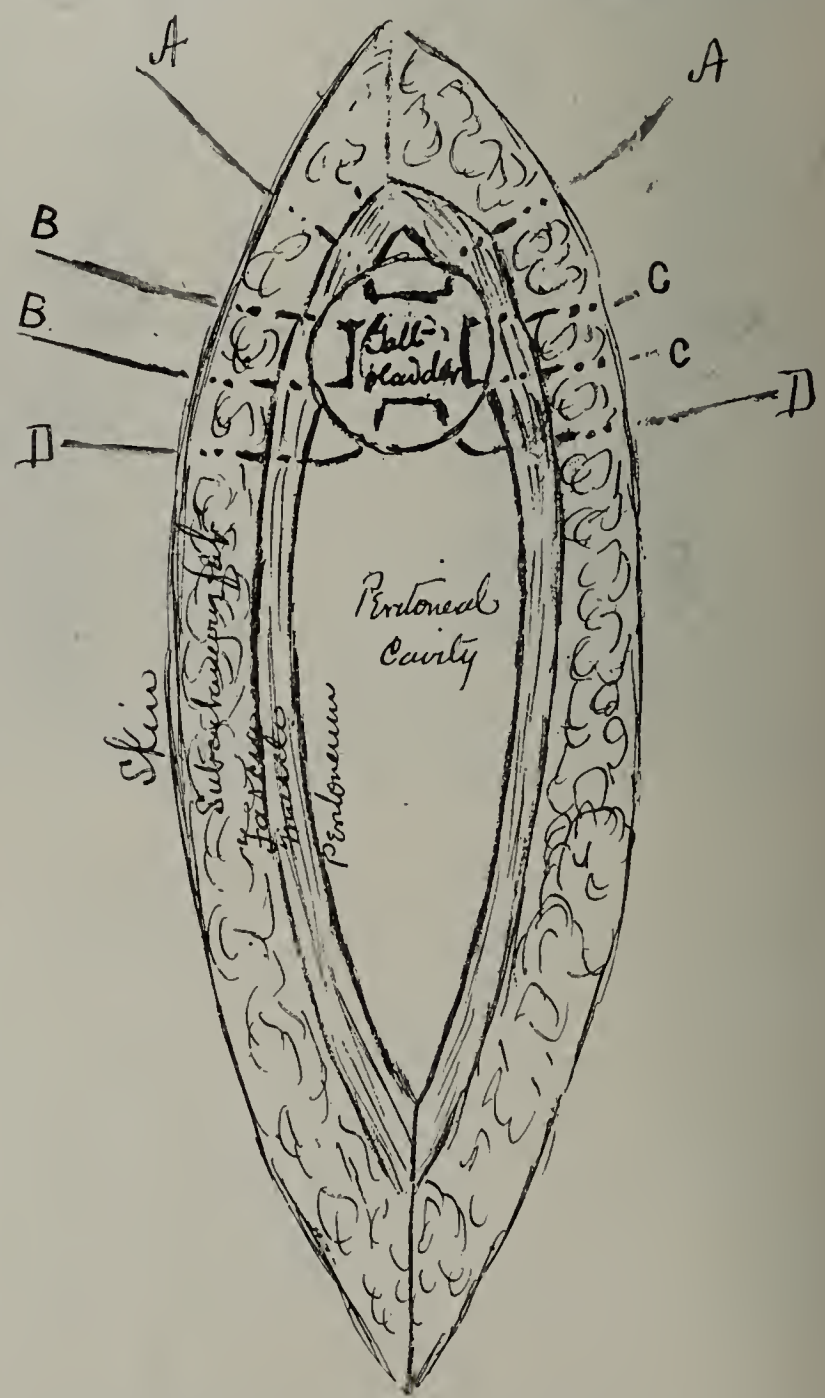
Local anesthesia is a surgical refinement; skill in effecting it may be acquired only by the exercise of patience and practice.

729 Case Avenue.

A METHOD OF SUTURING THE GALL-BLADDER TO THE PARIETES IN GALL-BLADDER OPERATIONS.

WILLIAM WOTKYNS SEYMOUR, A.B. Yale, M.D. Harvard.
SURGEON TO THE SAMARITAN HOSPITAL.
TROY, N. Y.

In my last twenty cases I have attached the gall-bladder to the parietes in the following manner: A



full curved Hagedorn needle is threaded with silkworm gut and passed mattress-stitch fashion from within the gall-bladder through the peritoneum. overlying muscle

and fascia; then it is brought out and reintroduced and carried out through the skin a short distance from the wound. The opposite end of the silkworm gut is introduced in the same manner and the ends fastened by two or three shot, the uppermost of which is crushed. At first I used five sutures of this character to suspend the gall-bladder, but now I rarely use more than three. The suspension sutures are removed on the tenth day, or earlier, if indicated. The advantage in this form of suture is that there is no danger of the sutures falling into the gall-bladder to become the nidus of new concretions as in the cases reported by Homans, Kocher and Kehr, and the early removal of the sutures relieves the patient of the annoyance of the extrusion of unabsorbable sutures weeks after operation. In no instance have I had a fistula and the healing has been as prompt as was desirable in each case. In closing the abdominal wound I prefer the through-and-through suture of silkworm gut, at least three to the inch, passed so as to take in little peritoneum, a good grip of the muscle and fascia and very little skin, and not drawn very tightly. The time required is very brief and the joint a sufficiently light one.

GLIMPSES OF THE PRACTICE OF MEDICINE AND SURGERY IN BRITISH AND SPANISH HONDURAS.

N. SENN, M.D., Ph.D., LL.D.

PROFESSOR OF SURGERY, RUSH MEDICAL COLLEGE, CHICAGO.

The physicians in sparsely settled tropical countries have many disadvantages, difficulties and hardships to contend with unknown to their colleagues in prosperous countries in the temperate zone. They are isolated from the great centers of medical education, and the benefits arising from professional intercourse and attendance upon active medical societies. The defective mail service interferes with the regular supply of recent medical literature. The physician in remote country and coast towns is often thrown upon his own resources in the treatment of grave cases, as satisfactory counsel is frequently unavailable. He is seldom adequately remunerated for his services as the majority of those who apply to him for aid are too poor to reward him for his work. In many instances he furnishes the medicines or dressings without any expectation of a return of his cash outlay. If he is not in possession of an unusual degree of energy, he soon falls into a routine practice and finds himself in a few years far behind the rapidly advancing medical progress. Exposed to the depressing effects of a tropical climate, he leads a life which is not conducive to scientific research and professional advancement. It is under such circumstances that encouragement from outside sources often succeeds in stimulating the flagging professional and scientific interests. The occasional medical journal or some new medical book sent to these distant colleagues is always appreciated and its contents eagerly devoured.

CHARMING VACATION SPOTS.

Central America is an ideal place for a midwinter vacation, and it is somewhat strange that it is so seldom visited by our medical men who need rest for a few weeks at that time of the year. It is very accessible and can be reached from Chicago with comfort and ease in less than a week. The steamers of the United Fruit Company sail from New Orleans for the different ports every week. The voyage of five days is a restful one, admirably adapted for mental recuperation and physical rest. The gradual transition from ice and snow to a tropical climate is an experience well calculated to divert the channel of thought from the bedside and operating room to Nature's wonderful products and works of art. To leave icebound Chicago and find yourself ten days later shooting monkeys and parrots in the primitive forests of Spanish Honduras is an experience it would be impossible to duplicate by traveling the same distance in any other direction. The dangers of contracting malaria or any of the tropical diseases, if one observes the ordinary precautions, is very remote. All of the Central American countries present scenery, inhabitants, antiquities, trees, shrubs, flowers, fruits and birds that daily furnish new object lessons for the study of the visitor from the north. The gigantic trees, the flowering shrubs, the birds of song and plumage, the antics of the monkeys in the treetops, the humming of insects, the immense fields of the stately banana, the magnificent coffee plantations on the hillsides, with the dark shiny green leaves of the shrubs bearing the snow-white fragrant blossoms and the purple berries, can not fail in fascinating the thoughts of the traveler. The mixture of races and the habits of the people are studies in themselves. To the medical man the study of tropical diseases and climatic conditions are of special interest. He will find in all of the larger cities physicians well prepared and willing to give detailed information on these important subjects.

Last winter I visited Costa Rica and reported the results of my observations in the columns of The Journal; this year I selected British and Spanish Honduras as the objective points of my short midwinter vacation. Last year the trip was made in January, this year in February. In comparing my experiences, I have come to the conclusion that January is the best time to visit any part of Central America, as the summer here begins during the month of February, with a marked increase in the temperature.

BRITISH HONDURAS.

This is one of the smallest colonial possessions of Great Britain. Since it came under British rule it has been free from strife and rebellion. The colonial government is a wise and efficient one and insures justice to natives and foreigners alike. The whole population does not exceed 39,000, of which number the whites number only 800. Belize, the largest city and the seat of government, has a population of 10,000. The coast is low and swampy, the interior mountainous. The principal articles of export are mahogany, cedar and bananas.

PHYSICIANS.

The practice of medicine is regulated by a board of medical examiners composed of three members apointed by the government. Examination is compulsory. Applicants must present a diploma from a recognized medical college. At present there are only seven licensed physicians in the entire colony, one of them a woman, a graduate of the College of Physicians and Surgeons, Chicago. The most prominent doctors in the capital city are Drs. Eyles, Harrison and Heusner.

HOSPITALS.

The colonial government has made adequate provision for the indigent sick by the establishment of three hospitals. The Belize Public Hospital has 43 beds and at the time of my visit every bed was occupied and a number of cots furnished accommodations for the overflow. During the year 1899, 429 cases were treated in this institution. The two-story buildings are constructed of wood and the wards are fairly well furnished. The operating room is small but well lighted and supplied with the most necessary instruments and appliances for aseptic work. Dr. J. H. Harrison is in charge of the hospital and at the same time attends to the insane asylum, poor house and prison, which means hard work. For all of this he receives the pitiable salary of $1000 a year. Dr. C. H. Eyles, the colonial surgeon, for good reasons, takes great pride in the commendable fact that the colonial government sets aside 10 per cent. of the entire income for the medical department, something that can not be said of any other government in the world. The nursing in the hospital is done by colored women and two colored orderlies trained by Dr. Harrison. The first attempt to secure trained female nurses for the hospital was made in 1894. At first this was in the nature of an experiment, but as it proved to be successful the same plan has remained in force with the most satisfactory results. The female nurses remain in training for one year and when found satisfactory at the end of this time receive a salary of $7 per month and board and washing. The orderlies are paid from $240 to $480 a year. They assist in oper-

ations, dispense the medicines and do part of the nursing in the male ward. The scrupulous cleanliness of the wards, bedding, patients and halls speaks well for the nursing force of this institution.

Dr. Harrison is an enthusiast in his hospital work and chafes under the somewhat primitive conditions under which he has to labor. There can be no doubt but that under his wise and energetic administration the institutions will grow and improve in the course of time. Everything in Central America under the care of man moves slowly and the hospital work constitutes no exception. The public takes very little interest in charitable institutions and the entire responsibility rests in the hands of the government, which certainly has shown its liberality towards the medical department in a way that should humiliate more prosperous nations.

The two remaining hospitals have each a capacity for about sixteen patients, are located in the coast cities next in size to Belize and are likewise supported by the government and are in charge of competent physicians. From the above it will be seen that the government takes care of 75 sick poor and the whole number treated at public expense will reach annually in the neighborhood of one thousand patients.

What Belize needs is a small, well-equipped private hospital for the accommodation of foreigners and well-to-do citizens. The enterprising United Fruit Company and the prosperous merchants of the city should take the necessary steps in this direction, as such an enterprise would soon become self-supporting and would do away with one of the objections on the part of the travelers who visit this country, in case of accident or sickness.

INSANE ASYLUM.

On the same grounds and only separated a few yards from the public hospital, stands the insane asylum, occupied at present by 46 inmates, 31 males and 15 females. It is a one-story wooden building resting on piling five feet above the ground. The rooms are kept clean and patients are well treated and well fed. If a person is found insane he is admitted without any court proceedings. The prevailing type of insanity is melancholia, although the homicidal and suicidal forms and violent outbreaks are by no means rare. Dr. Harrison believes that alcoholism is the most potent cause in the production of mental disorders. Caribs, Indians and the mixed populations furnish the largest contingent of mental diseases. Drunkenness is very common. A cheap vicious rum made of sugar cane is the national drink among the common people.

THE PRISON.

This is a modern building surrounded by large grounds with palms and flower-beds and fenced in by a high solid stone wall. An English officer is in charge of the prisoners and enforces strict discipline. The treatment is humane. The cells are kept scrupulously clean and the food is excellent. Most of the prisoners are serving long time sentences and are employed in manufacturing mats and brushes from the fibers of the envelope of the cocoanut, shoemaking, tailoring and crushing stone. A few of them are engaged in printing. There has been in many years only one execution by hanging. The execution chamber is in the prison building and the trap is always kept in good working order. Corporeal punishment seldom becomes necessary, as was evident from the brand-new appearance of the different implements of torture that were shown us on our visit. The prisoners numbered 43, one, the most dangerous one, being an American. Most of them were committed for murder, robbery and stealing. The fact that only one woman was in confinement speaks well for the good behavior of the female population. This prisoner was a girl, 18 years of age, of doubtful racial origin, who awaited trial for stealing.

MIXTURE OF RACES.

British Honduras is a small country with a still smaller population, but it is one of the best places to study racial mixture. In visiting the market, the different places of business, and in observing the passers-by in any of the public thoroughfares, the visitor can see in a short time all shades of color from coal-black to the fairest of the fair, the short curly hair of the negro and the long, straight jet-black hair of the pure Indian. The Indian and the Carib represent the early settlers of the country. Then come the English, French, Germans, Americans, Spaniards, Portuguese and the American and Jamaica negroes and the mixtures arising from intermarriage between the different nationalities. The Carib maintains his identity more than the native Indian as he is opposed to intermarriage. He bears a strong resemblance to our negro and is undoubtedly of Ethiopian origin. The Indian mixes freely with all nationalities. The intermarriages which have taken place between the native Indian and the different white races since Columbus discovered this part of America and the invasion by that intrepid explorer Cortez have resulted in a mixture of races such as it would be difficult to find to the same extent in any other country. Such a mixture of races has its advantages and disadvantages. It is one of the means of spreading civilization, but leads at the same time to vice and disease. The natives of Central America have and continue to share the same fate that was meted out by the whites to the North American Indian. He is losing his right-

Mixture of races.

fully inherited landed possessions and has acquired from the European invaders more of their vices than their virtues.

PREVAILING DISEASES.

British Honduras, like all other Central American countries, has its share of malaria, the most prevalent disease. The lowlands along the coast are the breeding-places of the plasmodium. Many of the residents, foreign and native, who have lived for several years in malarial districts show plain indications of chronic malarial poisoning. The pernicious form and that complicated by hematuria are occasionally met; the quotidian type is the most common. Yellow fever has never had its origin here, the several epidemics which have scourged the country at different times could always be traced to cases coming from Cuba, Port Limon or South America, more especially Colon. Tuberculosis is prevalent among the Indians, Caribs and halfbreeds. The lungs are most frequently the primary seat of the disease, but glandular, bone and joint tuberculosis are by no means rare. The mixture of races has here, as elsewhere, been a potent element in the rapid dissemination of the disease. Pneumonia and rheumatism are most common during the rainy season. Dysentery and diarrhea occur at all times of the year and to them must be attributed the frightful infantile mortality.

The frequency of intestinal disorders can be accounted for by improper food, inadequate clothing, exposure to rain, prolonged heat and high atmospheric humidity. The maximum shade temperature is about 90 F., minimum, 56 F. Whooping cough invaded the colony in October, 1898, has continued to prevail from time to time and has contributed largely to the mortality of infants, and raised the death rate from respiratory diseases. Typhoid fever is a very rare disease here as elsewhere in Central America. The rarity of the disease in Belize may be attributed to the water supply as this is on the "separate" system, that is, to a considerable extent each house has its supply from a separate vat, the water being

rain water collected from the roof. A few years ago there were four cases of leprosy in British Honduras, at present only one.

Anchylostoma was reported for the first time in the colony in 1898. Since that time it has been frequently observed. I was given an opportunity to examine two cases in the Public Hospital. In both instances the disease was characterized clinically by puffiness of the face and pronounced anemia.

In Corosal "it was observed in selected cases that this worm was almost invariably present, associated with ascaris lumbricoides and oxyuris vermicularis"; and in Orange Walk the medical officer reports: "It is frequently encountered, and in responsible for much of the anemia prevalent among the Indian population." (Eyles.) Cases of beri-beri are occasionally seen both imported and indigenous. One case of this disease, the paralytic form, is in the public hospital at the present time. The patient is a woman of middle age. The muscles principally involved are the extensors of the hand and fingers.

(To be continued.)

Clinical Report.

A CASE OF ATROPIA POISONING, WITH HIGH TEMPERATURE AND RECOVERY.

L. L. BEEHLER, M.D.
CHICAGO.

The patient, aged 25, was a neurotic female. She has had scarlet fever, and had studied diligently for proficiency upon the piano from early life, and was subject to severe headaches since menses were established at 15. Her father died of tuberculosis; mother, of cancer of uterus. A sister had chorea; two sisters were exceedingly irritable.

She came under observation Jan. 14, 1902, complaining of gastric disturbances, headaches, languidness and general malaise. In about a week she said she was all right in regard to previous trouble, but complained of strange noises and delusions. She seemed conscious of these troubles and said she tried to avoid them, but found it impossible. She appeared then to be a neurasthenic of pronounced type. At that time her sister was told of the possibility of acute melancholia developing, which derangement occurred one week later. At the time of the melancholia developing, care was advised as to her being left alone on account of suicidal intent. She was put to bed, and during the absence of her sister who had been sent to get her a drink she swallowed three grains of atropin in four ounces of water given her by an oculist, who had given directions for five drops in each eye every hour. The patient was seen in less than twenty minutes after taking the drug. She was given strychnin hypodermically, grain 1/40, and dose was repeated in 15 minutes on account of countless thready pulse. Apomorphin, grain 1/10, repeated in 15 minutes, gave no result. In 30 minutes ⅛-grain of apomorphin was given, with no result. Twenty grains of copper sulphate were given, with no result. A stomach tube was tried, but could not be passed, owing to constriction, which held the tube after striking the pharynx. Pilocarpin, the physiologic antidote to atropia, failed to produce any desired effect and was early discarded.

At 8 p. m. her pulse was 160, which dropped to 155 in 20 minutes. The nurse sponged the body with alcohol and water. She was later wrapped in hot towels, but diaphoresis could not be established. At 9, her temperature was 105 axillary, pulse 152. At 9:50, axillary temperature was 106, pulse the same as before. Apomorphin, grain ¼, was then given, but with no result. At this time, the peculiar red rash appeared, first on chest. This remained for three days. One hour later her temperature had dropped to 103.5, pulse 150. At this time she was catheterized and the urine saved. Analysis later showed: Amount, 4 ounces; sp. gravity, 1,016; slight amount of albumin. Atropin was found in urine four hours after ingestion. One drop of the urine dropped into the eye of the household cat produced mydriasis of pupil in five minutes. At 11:40, temperature had fallen to 101.8 axillary, pulse 150. At 3:40 a. m., pulse was 140, respiration 30, temperature 101. At this time patient seemed to be conscious when aroused and answered questions by shake of head. At 8:15 a. m., temperature had dropped to 98.8 by mouth, pulse 108, respirations 24. She was given one-fourth glass of milk and one dram of whisky, which she retained. At noon she urinated voluntarily and drank two-thirds of a cup of strong coffee.

Improvement was rapid up to the sixth day, with temperature normal, pulse 80, respirations 20. On the fourth day, her temperature dropped to 97, and there remained for one hour, but speedily retained its usual height under massage. On the fourth day also she started to menstruate, which at this time slightly aggravated the symptoms. Menses are usually absent in attacks of melancholia, and strange to say she menstruated two days longer than usual. The pupils were dilated before taking the atropin internally from the previous local eye treatment, hence nothing can be said in regard to them. They resumed their normal size, reaction to light and accommodation in sixteen days from ingestion of drug. Facial lividity, which is not seen as a rule except in imminent peril, was present from first and lasted two days.

The rise of temperature due to increased heat production from influence on nerve centers was combated by sponging. The fast heart due to paralysis of peripheral inhibitory nerves and to stimulation of heart and ganglia was controlled by the strychnia, which moderated it and produced a regular rhythm.

It is not possible in this case to state how long the temperature was 105 or 106 axillary, as the thermometer was not used until about one and one-half hours after the ingestion of the drug.

The Nemesis of the Placebo.—A famous French physician of the Second Empire is said to have given the following prescription to a hypochondriac patient who worried him:

℞.	Aqua fontis	100	
	Illa repetita	40	
	Eadem stillata	12	
	Hydrogeni protoxyd	0	32
	Nil aliud	1	25

One drop thrice daily. This elixir, it is said, cured a large number of neurotics about the court and in Parisian society. But it got the doctor into trouble at last through the indiscretion of a pharmacist. A *grande dame de par le monde*, as Brantôme would have called her, who had taken it for years with blind faith and unfailing success and recommended it to her friends as an infallible remedy for most human ailments, in an evil hour allowed herself to give way to the curiosity which proved the ruin of Eve. Consumed with eagerness to know the secret of the composition of the wonderful panacea, she submitted the document containing the mysterious formula to all the initiated whom she came across. At last she found one who revealed the fatal secret. What explanation the physician attempted is not recorded, but there can be little doubt that the outraged lady explained her attitude in language more picturesque than polite. A more modern instance of the nemesis of the placebo occurred not many years ago to a well-known practitioner in this country. He had a patient, a neurotic lady, as exacting as such patients can often be. He had at one time given her some opium pills, to which she became too much attached, and he finally decided to give her no more. On the following Sunday evening while sitting at table after dinner he received an urgent letter either to come at once or to send some more of the pills. He sent the servant to the surgery for a pill box, and there and then rolled some pills from the crumbs on the table. He received a grateful letter of thanks stating that the pills had produced the much-desired sleep, and asking for the prescription; this he declined, and was much pleased with himself on the whole. But his gratification was diminished a few mornings later when at 2 a. m. he was roused from sleep to send another supply.—*British Med. Journal.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, APRIL 26, 1902.

CRITICISMS OF SOME SURGICAL TENDENCIES.

If a single writer had announced the discovery of certain undesirable tendencies in the workings of surgery and had offered criticisms thereon, it would not have awakened much surprise. When, however, during the past eighteen months, several men of high standing in the profession both in America and England have pointed out what they believe to be a tendency for general and special surgery to overstep its legitimate limits, it surely behooves the medical profession to look at the matter impartially but very carefully. For some time part of the profession has believed that there was too frequent recourse to operative measures, especially in the surgical specialties having to do with the nose and throat and with diseases peculiar to women. The too early and frequent use of obstetric forceps has been spoken of with disapproval. Resort to exploratory incision for purposes of diagnosis in intra-abdominal diseases has undoubtedly become too common. Such an operation should be performed in rare cases only. An operation is not a legitimate diagnostic measure, save in very exceptional instances. It should never be allowed to substitute for a lack of skill in applying legitimate diagnostic means.

In August, 1900, Frederick Treves,[1] in the address in surgery before the British Medical Association, said that there is some foundation for the impression that operations are becoming too frequent and that, while the value of exploratory incision is beyond question, it is impossible not to notice a tendency to resort too readily to this means of arriving at a diagnosis.

At the meeting of the same association, one year later, James F. Goodhart,[2] in the address in medicine, spoke still more emphatically in a similar vein. He said: "Throats and noses suffer terribly from this lust of operation that has beset the public, ears are now being swept into the panic and I incline to think that the only region of our art that preserves its proper decorum is that of ophthalmic surgery." Sir Felix Semon,[3] in two very able lectures dealing with the principles of local treatment in diseases of the upper-air passages, maintains that the frequency with which local interference is advised and practiced nowadays is unfortunately far in excess of actual requirements; that operations are performed wholesale where they are not needed; that operative proposals are being made and carried out on an extensive scale on the basis of some unproved theory; that the operative interference is often unduly severe and protracted in proportion to the smallness of the complaint for which it is undertaken. Coming from a man of good standing in the particular specialty of which he speaks, these criticisms can not be ignored.

Under the title of "Some Surgical Tendencies from a Medical Point of View,"[4] Reginald H. Fitz of Boston has written one of the most convincing articles bearing upon this matter. Speaking of exploratory laparotomies, which he thinks are too common, he says, "They are not without considerable danger and often disclose conditions which can not be relieved and which might have been appreciated without an operation. They tend to make the physician superficial in observation, since the diagnosis is to be made definitely by means of the operation." He has tabulated the cases of exploratory laparotomy performed in the Massachusetts General Hospital from 1890 to 1899. The table shows that while the percentage of deaths has grown somewhat less, being about 36, the cases which have been uncured or unrelieved remain at about 80 per cent.

The cases of cancer of the alimentary canal which were operated upon in the same hospital and whose subsequent history could be learned are also considered by Fitz; 54 per cent. died within a month and 72 per cent. within six months. Any considerable prolongation of life applied to less than 30 per cent. and to many of these the life was one of suffering and sorrow requiring the frequent or constant use of opiates to obtain any measures of relief. Of 10 cases operated on for intra-cranial tumors all were dead within eight months. He naturally questions the utility of operating in such cases.

William B. Coley of New York,[5] who is a surgeon, insists upon the necessity of a knowledge of the after-history of all operations in order to come to any conclusion regarding their value to the patient. He says that he has "personally observed at the Hospital for the Ruptured and Crippled many women with large and uncontrollable ventral herniæ resulting from operations that, according to the patients' stories, were performed for the relief of trifling uterine and ovarian symptoms with the result that in many cases the symptoms of the original trouble continued and in addition the patient suffered far more from the hernia that followed the operation."

Recovery from an operation does not make it a success. It is only useful when it makes life longer and more free from suffering. We can not better conclude than by quoting from Fitz: "Any operation which does not better the condition of the patient must be regarded as a therapeutic error. Progress in the future is likely to depend much more upon the discoveries which shall make surgery less necessary than to the opening of new fields for surgical treatment. The advance should be in the

1. British Medical Journal, Aug. 4, 1900, 284.
2. Ibid., Aug. 3, 1901, 260.
3. Ibid., Nov. 2, 1901, 1313, and Nov. 9, 1901, 1396.
4. The Medical News, Dec. 28, 1901, 1009.
5. Therapeutic Gazette, Feb. 15, 1902, 73.

direction of limiting those unnecessary and harmful operations, for the wisdom of the surgeon should serve as well to restrain him from operating as to enable him to operate successfully. Especially to be cultivated for this purpose are greater accuracy in diagnosis and prognosis and the more widespread knowledge of pathology and pathologic anatomy. The surgeon will thus become a better adviser although the number and variety of his operations thereby may materially be lessened."

SECOND ANNUAL REPORT OF THE HARVARD CANCER COMMITTEE.

In the second report of the Cancer Committee to the Surgical Department of the Harvard Medical School,[1] are given the results of a number of investigations bearing upon the parasitic theory of the origin of cancer. In the summary of the work given by Edward H. Nichols at the conclusion of the report, the plan of the investigations is made clear. Thus it has been claimed by the adherents of the theory of the parasitic origin of cancer that coccidium oriforme and other protozoa may produce a proliferation of epithelial cells analogous to that of carcinoma. This question was studied by E. E. Tyzzer, who devoted himself to an investigation of coccidium infection of the rabbit's liver. Tyzzer shows that the lesion of coccidium oriforme is essentially a chronic inflammation which in its progress and termination is not at all analogous to that of carcinoma.

It has been claimed further by the believers of the parasitic origin that the skin lesions of molluscum contagiosum characterized by epithelial proliferation, are due to the action of a so-called protozoön. Charles J. White and William H. Robey, Jr., carefully review the literature of molluscum contagiosum and report the results of an examination of several of the nodules found in this disease. The main conclusion is that the so-called molluscum bodies are composed of keratin which is produced by a strange metamorphosis of rete cells. The bacteriologic examination resulted negatively. At all events the lesions are not analogous to the processes observed in cancers.

Joseph D. Weis made a systematic study of a number of blastomycetes, including those which San Felice and Plimmer isolated from carcinoma, with a view to determine their proper place in the classification of yeasts and allied fungi. After going over the subject in the light of Klöcker's classification, which is accepted by the great Danish authorities Hansen and Jörgensen, he reaches the opinion that the so-called "blastomycetes" of San Felice and Plimmer are Torulæ. The subject is at present of too special an interest to be of much importance to physicians in general, but it has been evident for some time that systematic botanic study of the organisms generally referred to as blastomycetes by pathologists is highly desirable.

San Felice, Plimmer and others have claimed that by experimental inoculations of animals with blastomycetes true carcinomas may be produced. This question was studied by Edward H. Nichols by means of extensive experimental inoculations of animals with the blastomycetes of San Felice and Plimmer, and the sum and substance of this work are that the lesions produced by these organisms are nodules of granulation tissue, consequently not cancerous or true tumors in any sense. Blastomycetes are not constant in the malignant tumors of man. Hence there is no evidence that blastomycetes have anything to do with the production of human cancers.

The endocellular bodies of cancer cells, familiar to every student of the morphology of cancer cells, have been urged by many to be parasites, and the cause of cancer. Greenough finds similar "parasites" in non-cancerous disease of the mammary gland as well as in practically all cases of mammary cancer, but he did not find them in epithelioma and sarcoma. He regards them as the morphologic results of the secretory activity of the glandular cells and holds that there is no cause for regarding them as parasites.

The mere enumeration of the principal conclusions of these investigations shows that the present cancer parasite theory in whatever form it may be stated does not receive any trace of support. The Boston investigators reach conclusions that are diametrically opposed to those of the Buffalo investigators as formulated by Gaylord and Rosewell Park in publications of recent date. The history of medical science shows that frequently the development of knowledge is greatly furthered by diversity of opinion and controversy among investigators. We hope that the different conclusions of these two sets of investigators now engaged in the study of the nature of cancer may have this desirable result.

1. Journal of Medical Research, No. 3, vol. vii.

THE MEDICAL POLICE POWERS OF THE STATE.

In a recent issue a legal publication[1] takes up the question of the right of the state to compel citizens to undergo medical treatment in case of sickness in order to prevent their wilfully sacrificing their own lives or endangering those of others. It admits that the state can interfere for a child whose parents do not supply due medical care and whose welfare is thus compromised, but says that no court has as yet to its knowledge ruled on the question whether or not it can thus act for an adult. It is not a question of suicide, for, as it says, the Dowieite or Eddyite has no desire to die but does not believe in medical treatment, and the right of the state to prevent him seems to be in doubt in the legal mind. The fact that there are different schools of treatment legally recognized complicates the question; Eddyism, Dowieism, etc., have all a like standing with regular medicine in the estimation of many lawyers and judges. Shall the state dictate how the citizen shall save his life is what they ask; the question is apparently a puzzler to them and common law and statutes are apparently both lacking for its solution.

1. Chicago Law Register, April 9.

When, however, the case is one of contagious disease or such as in any way may imperil the community, law does seem to come to the aid of common sense to a certain extent. In the matter of compulsory vaccination it appears there is at least one decision recognizing it as appertaining to the police powers of the state. Against this, however, there are other decisions that violate both consistency and common sense as well as the principles of medical science. The legal writer in the *Law Register* does not seem to believe in compulsory vaccination and disagrees apparently with the Georgia decision above referred to. He says "to make a failure to get vaccinated a criminal matter requires an exercise of arbitrary power more dangerous to the state itself in the long run than to the individual upon whom it is first visited." He holds, nevertheless, that the closing of schools to the unvaccinated children is a rather different matter; it is only the withholding of a privilege and not an invasion of a right. "A negative rather than a positive punishment is permissible where the injury apprehended is at best only speculative and problematic." If this is good law, what shall we say to the decision of a State Supreme Court that ruled that the exclusion of unvaccinated children was permissible only when an epidemic existed, thus locking the door after the horse had had a good chance to be stolen. To a medical man it appears that the police power of the state is exercised in many unequivocal ways no more evidently necessary than compulsory vaccination. The right to bear arms is guaranteed in the Constitution, but a man is subject to fine and confiscation of his weapon if he carries a pistol in his pocket. It does no harm there, the possible danger is purely anticipatory, but it is more easily realized by the average man than is that from non-vaccination. The legal principle, however, is or ought to be the same in each case.

We can not pose as law critics, but, if we had to accept the definition given of law as the culmination of human wisdom, we would often have to think poorly of the latter. We go as far as anyone ought, we think, in our regard for personal liberty and are willing to admit, if it is so required, that any mature individual of average sanity who wishes to undergo Eddyite or Dowieite or any other treatment should be allowed to do so and take the consequences, provided that in so doing he imperils no one else. With the modern developments of our knowledge of disease, however, the range of possible danger from communicable disease is shown to be vastly greater than was formerly believed, hence the need of all the more precautions for the public safety. No man liveth or dieth to himself and the world is beginning to realize this fact more than ever with the modern germ theories of disease. Just how far the police powers of the state will go in the near future it is impossible to say, but there seems every probability that they will receive a wider interpretation by the courts than has been given them heretofore. The state has its duty to the public it represents, not only to check existing disease by measures within its power, but also to prevent it by any means, which genuine science and experience have shown to be effective.

It is a noteworthy fact that, with a few insignificant exceptions, the active opposition to vaccination and other wholesome sanitary measures is led by quacks and off-color practitioners and their dupes—individuals whose occupation, under the salutary regulations now in force over the greater part of this country, is a direct active violation of the laws. It has come to be generally recognized that whoever undertakes to treat illness shall possess certain reasonable qualifications and statutes have been enacted to that end. It is chiefly the opponents and violators of such laws whose plea of injury to personal liberty and individual rights seems to have the respect of the legal editorial writer quoted above.

From his utterances and the Supreme Court decision referred to we are in some confusion as to what is good law in regard to the matter, but there is no doubt as to what is good common sense.

REORGANIZATION OF STATE SOCIETIES.

Probably few of our readers are aware that in nearly every part of the United States the movement for a better and more systematic organization of the medical profession is in progress. While some know that this movement is going on in their own locality or state, they can not very well know what is transpiring elsewhere, unless they are especially interested.

The officers of state societies, in many instances, have been stimulated to active work by the action taken and recommendations made by the American Medical Association at its last meeting, but there has been another potent and widespread influence—as some one expresses it, "organization is in the air." The large majority of the state bodies held their annual sessions during April and May, hence before the St. Paul session of the American Medical Association and consequently its action last June could not have been brought before them for action. Nevertheless, certain of the state societies, knowing that some action would probably be taken at St. Paul, appointed committees on reorganization last year, making it possible for some definite action to be taken this year. It is extremely gratifying to notice that of the two state societies which can take action this year, and which have already held their annual session—Tennessee and California—each has adopted a new constitution and reorganized in accordance with the recommendations of the national association. As reported in our "Medical Societies" column last week, the former adopted, with only two or three minor changes, the constitution and by-laws for the state societies just prepared by the Committee on Organization of the American Medical Association. The California State Society adopted a new constitution prepared by its own committee, but which includes the fundamental principles recommended.

The example set by these two states is likely to be followed by many others during the next five or six weeks, in which case we may look for practical results in this excellent movement much sooner than the most optimistic had hoped for.

It must not be lost sight of at this time that, while the adoption of a definite, systematic and business-like plan of organization is the first and most important step in the great scheme of organization, it is not the only work to be done. It is like adopting the architect's plan for a complete building, the work of putting up the building must follow and this will require time and energy, and—money. In the past we have been working without a definite plan, and there has been nearly as much pulling down as building up.

HAY'S REACTION FOR BILIARY ACIDS—A CORRECTION.

In The Journal of March 23, 1901, page 820, appears an editorial abstract of the work of Frenkel and Cluzet on the reaction with sulphur for the presence of biliary acids in urine and other fluids. "When sublimed sulphur—flour, or flowers, of sulphur—is added to urine containing bile, the sulphur immediately falls to the bottom." This reaction they termed Haycraft's reaction for bile, this being the name mentioned in connection with the reaction in Langlois and de Varigny's physiology. But it appears that the actual author of the reaction is Matthew Hay, professor of legal medicine in Aberdeen, and in a recent note Frenkel[1] makes the necessary correction. Professor Hay in 1886 inserted a note, describing the reaction in the second English edition of Landois' physiology, translated by Stirling (page 381), but the test was not described in the journals. Consequently the sulphur reaction for biliary acids should be known as Hay's reaction, the name Haycraft having become attached to the test through some error.

ANNUAL EXHIBIT OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.

The Pathological Society of Philadelphia last year inaugurated the custom of holding an annual exhibition meeting, designed to illustrate the progress of pathology and to bring before the members in an objective manner pathologic subjects of contemporary interest. The second exhibit was held Jan. 9, 1902, and was largely attended. A list of the subjects presented occupies fifteen pages of the Proceedings of the Society (March, 1902) being composed of nearly three hundred items. Exhibits were made by over twenty individuals connected with the various laboratories in and about Philadelphia and they included gross and microscopic specimens in human and comparative pathology, cultures and slides of some of the bacteria which are especially interesting at present, and a series of blood preparations from the Pepper Laboratory of Clinical Medicine. The value of such an exhibit is manifold. As an educational factor among the physicians of the city where it is held, it must be of no little utility, and the possible good which may come from it to the body of medical students in a large medical center like Philadelphia should not be disregarded.

1. Jour. de Phys. et Path. gén., 1902, March 15, vol. iv, pp. 308-309.

THE GREGORY TESTIMONIAL BANQUET.

Last week nearly one-third of the members of the medical profession of St. Louis gathered in a testimonial banquet to one of their number who had just completed fifty years as a medical teacher. Dr. Gregory, the recipient of this honor, is an ex-president of the American Medical Association and has received many positions of honor and responsibility from his fellows, showing that he has always been held in high esteem. This fact is what prompted his confrères to show their appreciation of the man. It was not because he had done some great deed, nor because he was a great surgeon or a great scientist, but because he had been honest, faithful, hard working and unselfish during all these years of professional work. In honoring Dr. Gregory, the profession of St. Louis honored itself. This spontaneous exhibition of fraternalism shows a spirit that is typical of the highest and noblest there is in humanity. Such unselfish, brotherly and professional good-fellowship as that which prompted and carried out this affair shows a professional good-feeling that is always to be found among physicians whenever there is an opportunity to display it, although one can hardly believe it, judging from what one often sees on the surface. If there only were more of such gatherings among us they would help to do away with the petty jealousies and misunderstandings that are so liable to develop among medical men. We may not have too many meetings for scientific and educational purposes, but we certainly have too few social functions. Let us have more of them, even though we have to adopt some other excuse for them than to wait for some one to have taught or worked for fifty years.

RAILWAY EMERGENCY SUPPLIES.

One of the leading railroads in the middle west has initiated a practice that seems eminently proper and likely to be useful. Every freight and passenger train is supplied with an emergency medicine chest and packets and the trainmen are to be instructed in their use. It often happens that medical aid is not immediately available in cases of railroad accidents and if physicians happen to be present they are not always provided with the medicines and appliances that are desirable; hence the utility of first-aid packages and a supply of such drugs, etc., as are useful in cases of accident. The medicine chests for the passenger trains are naturally to be more complete and will contain a considerable variety of articles suitable for emergencies of sudden injury or sickness. On the freight trains the outfits are simpler and are accompanied with directions for their use. It is prescribed that whenever any of these packages have been opened or used that they be returned to the proper designated medical official of the road with a full account of the occasion of their use. Anyone who has had much railroad experience can recall cases where such provisions would have been most valuable for relief of suffering if not indeed for saving life. It is to be hoped that the example will be gen-

erally followed by transportation companies. On many of our inland and coast steamboat lines similar provisions would be of the greatest value and are altogether neglected at the present time. First-aid packages for injury should at least be provided on every passenger train and boat. This should be a legal requirement, the enforcement of which should be a regular part of the duties of the steamboat inspection and whatever corresponds to this on land. In one or two of the countries of northern Europe this is the rule and the example should be followed everywhere. The public, of course, does not like to be reminded of the possibility of the dangers of travel, and such provisions would hardly be included in the advertisements of a transportation company, but a general knowledge that it provided for them would not hurt it any in general estimation, but on the other hand would, we believe, advance its reputation and popularity with the traveling public.

GYNECOLOGY FOR THE INSANE.

The extremely favorable results claimed by A. T. Hobbs[1] from his practice of gynecologic surgery among the insane again brings up this oft-discussed subject. A series of 253 cases operated on is reported, extending over a period of six years, during which 1000 female patients were received at the hospital. As a result of these operations 101 women are reported to have been restored to mental health and the annual discharge rate of the women's side of the hospital advanced from 37 per cent. to 52 per cent. The discharge rate for men, 35 per cent., during this time has remained the same. With the exception of this introduction of gynecologic surgery the treatment for the insane under Hobb's observation has remained practically unchanged for a long period. Hobbs makes some detailed analyses of his operative work and its results upon different forms of insanity, but certainly with too little discrimination between *post hoc* and *propter hoc*—a discrimination that is peculiarly necessary in drawing warrantable conclusions from any treatment of insanity. The value to the state as well as to the individual of a recovery from insanity makes the trial of any promising method of treatment a matter of sociologic import, but there is another reason for taking a moderately favorable view of remedying pathologic conditions in the insane. It is recognized that individuals mentally deranged have sufficient capacity for realizing the pains and pleasures of life so that the same physical conditions which cause suffering in those of sound mind very generally cause suffering, though perhaps not definitely recognized nor localized by the patient, to these unfortunates. So far as pelvic lesions are concerned, they may or may not be the particular bit of stress which carries an unstable nervous organization over the border-line between sanity and lunacy; according to Hobb's figures they often are, yet whether they are or not the treatment of such lesions may be of considerable benefit to the patient. Even the least result attained in suitable cases must be some comfort gained for individuals whose external conditions are hard enough to endure without at the same time being obliged to suffer from remediable organic ailments. Certainty of improving the physical condition, probability of the improvement being reflected in better mental feeling and better behavior in some cases, added to the possibility of curing the psychical disease in a few, would seem to be inducement enough to warrant the introduction of properly controlled, competent, conservative gynecologic surgery in every hospital for the insane.

1. Amer. Journal of Obstetrics, February, 1902.

THERAPEUTIC VALUE OF THE CACODYLATES.

In a former issue of THE JOURNAL we suggested that the very favorable testimonials as to the value of cacodylic medication within the past year or so, ought not to be too implicitly accepted, but that they indicated that it deserved a judicial study.[1] These numerous testimonies as to its good effects hardly indicate in themselves such a study; they are generally *ex parte* observations, uncritical so far as any comparative trial with other forms of arsenical medication or chemical tests as to the actual efficiency of the basic drug. Dr. Thomas R. Fraser[2] in a paper read before the Edinburgh Medico-Chirurgical Society, March 5, reported some therapeutic tests by him of the cacodylate of soda which do not support the highly favorable reports of Gautier and others of its therapeutic efficacy. He tested it in cases of chorea, eczema, leukemia, and chlorosis, and found it practically ineffective as compared with other remedies. The cacodylate of iron was efficacious in chlorosis but this he holds was the effect of the iron alone. Three samples of urine were examined: one, as a control, to which liquor arsenicalis was added; one with cacodylate of soda oxidized in a special manner with mineral acids, and one with the cacodylate alone. Only the first two reacted to Marsh's test; the third showed no traces of arsenic. Fraser maintains that in cacodylates the arsenic is so thoroughly locked up with the methyl groups that to liberate it, prolonged oxidation with the mineral acids is required, and that therefore it can not be effective in the organism. The urine of patients being treated with cacodylate gave no arsenic reaction until after oxidation, when it was very marked. Fraser concludes from these facts that the arsenic in the cacodylates passes unchanged through the body. The action is analogous to that of cyanogen, which, while active in many of its preparations, enters into such stable combination in the ferro- and ferri-cyanids as to be entirely inert. The cacodylates, however, have their disadvantages; they irritate the gastro-intestinal tract, even when administered subcutaneously, and their long-continued administration is thereby seriously embarrassed. Fraser's results appear to have borne out completely his anticipations, as he says his investigation was prompted by his preconceived opinion of the inertness of these combinations. This fact may be utilized by the advocates of the cacodylic medication as affecting the value of his conclusions. Nevertheless, till they can be shown to be erroneous they cast a cloud upon the therapeutic value of these drugs.

1. THE JOURNAL A. M. A., Aug. 17, p. 455.
2. Medical Press and Circular, March 12, 1902.

MEDICAL JOURNALISM IN JAPAN.—We must realize that Japan is becoming one of the nations of the world. There are over thirty medical periodicals published in that country.

Medical News.

COLORADO.

March Mortality.—The State Board of Health report for March shows 783 deaths, an annual death rate of 15.78. Diphtheria caused 39 deaths; scarlet fever, 28; typhoid fever, 7, and smallpox 1.

Home for Needy Consumptives.—Charles L. Adams of Pittsburg, Pa., has given $30,000 for the erection of a home for indigent consumptives in Denver, and has promised to give $20,000 in addition conditional on the securing of a like amount.

Board of Health Sustained.—According to a decision just rendered by Judge Voorhees, a board of health, whether it be a state, county or city board, has absolute power to make rules and regulations governing the sanitary conditions of a community. This decision was given in denying an application made for an injunction to restrain the mayor and school board of Rocky Ford from preventing a child from attending school because she had not been vaccinated.

Instructions to Health Officers.—The State Board of Health has made the following suggestions to health officers:

In case of death from cancer, require a statement of the organ or organs involved in the process, or a statement as to whether the process was general.

In case of death from septicemia, peritonitis or hemorrhage in an adult female, require a statement as to whether it was puerperal in character.

In case of death from inanition, marasmus, mal-nutrition or dropsy, secure, if possible, a definite statement of cause.

In case of death from violence or poison, have the death certificate state whether it was suicide, accident or homicide.

In case of death from tonsillitis, spasmodic croup, or other suspicious disease of the throat, investigate as to the question of diphtheria, and require the certificate to show the facts.

Do not accept the statement of "heart failure" as a cause of death.

Death certificates are required for still births and premature births, provided the fetus is twenty-eight weeks old. In all such cases, be sure to see that the death certificate states whether the child lived.

DISTRICT OF COLUMBIA.

American Gastro-Enterological Association.—The fifth annual meeting of this Association will be held in Washington, May 1, under the presidency of Dr. John C. Hemmeter, Baltimore. A luncheon is to be given to the members by Dr. William Gerry Morgan.

In Memory of Dr. Johnston.—A public meeting was held, April 9, by the Medical Society of the District of Columbia, in memory of the late Dr. William Waring Johnston. Resolutions were adopted providing that a memorial pamphlet be published embodying the addresses made, an embossed copy of which shall be forwarded to the bereaved family.

Proposed School Inspection.—The Medical Society of the District of Columbia recommends the system of medical inspection of public schools outlined by the Commissioners. This inspection should be under the health officer and inspectors should be appointed after competitive examination. Pupils in the normal school should be taught to recognize the earliest manifestations of communicable disease, so that they can intelligibly co-operate with the inspectors.

ILLINOIS.

Fire Loss.—Dr. Ralph P. Dowd suffered a loss of about $1000, with no insurance, by the recent fire at Fisher.

Doctor Robbed.—A burglar at Springfield not only robbed the residence of Dr. Percy L. Taylor, April 15, but also forced the doctor and his wife to accompany him while he was securing such valuables as he desired.

Chicago.

Ex-Internes Feast.—The ex-internes of Cook County Hospital were the guests of Warden Healy, April 19. Dr. William E. Quine acted as toastmaster and toasts were responded to by Drs. John B. Murphy, James B. Herrick, Robert Bruce Preble, C. E. Kahlke, and John D. Robertson.

National Association of Trained Nurses.—This Association will meet at the Lexington Hotel during the first week in May. The management of Mercy Hospital and the Mercy Hospital Alumnæ Association of Trained Nurses have arranged a clinic to be given for the associations at the hospital by Drs. John B. Murphy, Arthur R. Edwards and others at 10 a. m., May 1.

Dunning Rules Revised.—At a meeting of the special Dunning committee it was decided to formulate new rules to govern the County Hospital for the Insane and the Poor Farm. The appointment of a medical director, head nurse and a business manager make this necessary. Drs. Frank Billings and Hugh T. Patrick, Julia Lathrop, President J. J. Hanberg, Commissioner W. K. Walker and J. E. Flannigan were appointed a committee for this purpose.

The Officer-of-the-Day Again.—The officers-of-the-day at the County Hospital have recommended: 1. That church services be held in the amphitheater. 2. That a ward be assigned for sick house physicians and attending physicians. 3. That an annual report be issued of the number of cases treated, the deaths, general information concerning the hospital and all data which would be of interest to the medical profession. 4. That the rule prohibiting profanity be strictly enforced.

New Hospitals.—The trustees of the Frances E. Willard Hospital are considering a proposition to acquire additional east frontage in Lincoln street, north of Harrison street, and to erect a hospital building to cost about $250,000. Bequests have been made for about $21,500, which leaves a little more than $228,000 to be raised.——Maimonides Hospital Association has been incorporated by Dr. Gustavus M. Blech and others.——Watts De Peyster Hospital and Home for Invalid Children has been incorporated.——Plans are being prepared for a six-story addition to Augustana Hospital to cost about $100,000.——Protests have been received by the building department of the city against the erection of hospital buildings by the Chicago Polyclinic at Oak Street and La Salle Avenue, and by Dr. Nathan E. Wood, at 617 La Salle Avenue.

INDIANA.

Central College of Physicians and Surgeons, Indianapolis, graduated a class of 8 at its twenty-third annual commencement exercises, April 17.

Banquet for Dr. Ferris.—The professional friends of Dr. Edgar S. Ferris, New Castle, who is about to leave for the east for a year of special study, tendered him a banquet, April 8.

St. Edward's Hospital, New Albany, recently erected at a cost of $90,000, was dedicated, April 8, with appropriate ceremonies. The hospital will be in charge of the Sisters of St. Francis.

Fined for Violation of Law.—Dr. Louis Lukenbill, Marco, was fined $10 and costs, April 14, for interfering with quarantine regulations in Vigo township, Green County.——Gideon Stevens, living near Stroh, La Grange County, plead guilty to the charge of practicing medicine without a license, and was fined $25 and costs.

Death and Disease.—The monthly report of the State Board of Health shows that there were 3045 deaths in March, the annual rate per 1000 being 14.2. In the corresponding month last year the number of deaths was 3272, the rate 15.3. Compared with the preceding month, there were 171 more deaths. Of this increase, 88 or almost 50 per cent. was of children under 15 years of age and 20 per cent. was of people over 65 years. Diseases which caused the increase in the number of deaths in March over February, were consumption, measles and puerperal fever. The deaths from important causes were: tuberculosis 457, typhoid fever 39, diphtheria 26, scarlet fever 18, measles 22, whooping cough 16, pneumonia 470, diarrheal diseases 9, cerebrospinal meningitis 21, influenza 59, puerperal fever 21, cancer 82, violence 127, smallpox 2. From influenza alone was the death rate higher in the country than in the cities, the rates per 100,000 being: cities, 26.1; country, 28.4. The violence death rates in 100,000 were: cities, 94.9; country, 41.2. Aside from smallpox the prevalence of diseases was in the following order: Rheumatism, bronchitis, influenza, pneumonia, tonsillitis, measles, intermittent fever, pleuritis, diarrhea, scarlet fever, erysipelas, typhoid fever, diphtheria, cerebrospinal meningitis, whooping cough, inflammation of bowels, puerperal fever, cholera morbus, dysentery and cholera infantum.

IOWA.

Keokuk College of Physicians and Surgeons held its commencement exercises, April 14, graduating a class of 64. On April 15 the alumni held their annual banquet, over which Dr. George F. Neff, Farmington, presided as toastmaster.

Hospitals.—Articles of incorporation of the Benjamin Hershey Memorial Hospital, Muscatine, have been filed.——The new detention hospital at Des Moines, erected at a cost of $13,000, is now ready.——Clark Hospital, McGregor, will be ready to receive patients, May 1.

Made Surgeon-General.—Dr. Henry Munson Dean, Muscatine, major and surgeon-general of the Department Command

of Iowa, Union Veterans' Union, has been appointed surgeon-general on the staff of the commander-in-chief, national command, of the organization, with the rank of colonel.

MARYLAND.

The Frederick City Hospital was formally opened on April 22. The state gave $5000 toward its erection and $3500 for two years for its maintenance.

The Medical and Chirurgical Faculty of Maryland held its annual meeting, April 22, 23 and 24. Dr. James Tyson, of Philadelphia, delivered the oration.

The Baltimore University School of Medicine held its annual commencement, April 15. Rev. Dr. Donald Guthrie delivered the oration, and Dr. E. Miller Reid conferred degrees on 31 graduates. A dental department is said to be in contemplation.

Alumni Association of the College of Physicians and Surgeons of Baltimore.—The annual meeting of this body will be held, April 28, at Baltimore. Dr. Samuel H. Allen, Provo City, Utah, will be the orator. The meeting will be followed by a banquet at the Hotel Rennert.

Medical Librarians' Bulletin.—The first number of the *Bulletin of the Association of Medical Librarians*, appeared in Baltimore, April 19. It contains "A Visit to the Hunterian Library at Glasgow," by Dr. William Osler, and "The Library of a Colonial Physician," by Dr. Cordell.

Personal.—Dr. Edward N. Brush, of the Sheppard and Enoch Pratt Asylum, sailed for Europe, April 23.——Dr. E. G. Ballenger, of the University Hospital, has been appointed surgeon of the Maryland Granite Company, and will reside at the quarries, Guilford, Howard County.——Dr. P. E. Stigers was appointed a pension examining physician at Hancock.

Lectures.—Dr. William Osler gave a lecture, illustrated by lantern pictures, before the Medical and Chirurgical Faculty, April 22, on "The Diagnosis of Smallpox."——Prof. J. Gaule, of the University of Zurich, Switzerland, lectured at Johns Hopkins Hospital, April 21, on "The Effects of Changes in Altitude Upon the Blood Corpuscles," with demonstrations of preparations.

Lazear Memorial.—The committee of the Medical School of the Johns Hopkins University, appointed to erect a memorial to the late Dr. Jesse William Lazear, who lost his life as the result of an experiment on the transmission of yellow fever, reports that sufficient money has been subscribed to erect a memorial tablet and to establish a library fund for the purchase of works relating to tropical diseases.

MICHIGAN.

No Quorum.—At the annual meeting of the State Board of Health, April 11, a quorum not being present, much important business waiting for this meeting could not be transacted. The members present had a long conference on important subjects, and conducted the examination in Representative Hall of 45 embalmers who were applicants for license.

Appeals to Supreme Court.—Peter Radebaugh, who represents that, upon the assurances of a member of the State Board of Medical Examiners, he located at Sturgis, intending to engage in the practice of medicine, has applied to the Supreme Court for a mandamus to compel the board to recognize the Miami Medical College of Cincinnati as a reputable college and to issue him a certificate entitling him to practice. He claims that the board is discriminating between reputable colleges.

Emergency Hospital Opens.—The building given to Grand Rapids by Dr. Louis Barth for an emergency hospital opened April 8. The hospital is supported by the sale of certificates, the holders of which are entitled to medical aid and a free bed in case of accident so long as needed. The annual fee for a certificate is $2, and should husband and wife in one family each hold tickets all children under 15 years of age are entitled to free service. Drs. L. A. Cottle and L. B. Hayden, of Boston, are in charge. No contagious diseases will be treated in the new hospital as planned at present, but all accidents and surgical cases will be received.

Mortality of Michigan.—There were 2959 deaths reported to the Department of State for the month of March, corresponding to an annual death rate of 14.1 per 1000, a slight increase over the rate for February, which was 14 per 1000. There were 495 deaths of infants under 1 year of age; 205 deaths of children aged 1 to 4 years, inclusive, and 912 deaths of elderly persons over 65 years. Important causes of death were as follows: Pulmonary tuberculosis, 200; other forms of tuberculosis, 21; typhoid fever, 41; diphtheria and croup, 33; scarlet fever, 37; measles, 34; whooping cough, 29; pneumonia, 385; influenza, 70; cancer, 119; accidents and violence, 147. The most marked features of the month were the increased numbers of deaths from pulmonary tuberculosis and the common diseases of children, scarlet fever, measles and whooping cough.

MISSOURI.

St. Louis College of Physicians and Surgeons held its commencement exercises, April 7. A class of 50 received diplomas.

Testimonial to Dr. Gregory.—A testimonial banquet was tendered Dr. E. H. Gregory by the profession of St. Louis, April 17, a fuller notice of which will appear in our next issue.

Barnes Medical College, St. Louis, graduated a class of 79, three of whom were women, April 10. Rev. John D. Vincil, chairman of the board of trustees, delivered an address; Dr. Meredith D. Jones was faculty valedictorian, and Dr. Abram M. Carpenter presented the faculty prize medals.

NEW YORK.

Personal.—Dr. Carl G. Leo Wolf was appointed health officer of Niagara Falls.——Dr. A. L. Chapen has been appointed police surgeon and Drs. F. Guillemont and W. P. Russell physicians to the poor at Niagara Falls.

Bars Patent Medicine Distribution.—The Oswego Department of Health, at its meeting, April 10, passed a resolution that no person be allowed to distribute patent medicine without permission of the Board of Health, and, further, that the chief of police be directed to carry out the order.

Cause of Diphtheria Infection.—Dean Estewen A. Fuertes, of the College of Civil Engineering, Dr. George A. Caldwell, and Dr. Veranus A. Moore, all professors in Cornell University, who were appointed by the State Lunacy Commission to investigate the cause of diphtheria which has been prevalent at the Willard Insane Asylum for some years, have found that the ventilation was imperfect, that germs of diphtheria were taken up to the garret by upward currents of air, and then either by changes in the direction of the wind or by the opening of windows in the lower floors these germs were distributed again through the building.

New York City.

Bequest to a Hospital.—By the will of the late William Whitewright, a well-known bachelor of this city, $50,000 is left to the Presbyterian Hospital.

Brokers to Endow Hospital Bed.—A movement is on foot in the Stock Exchange to endow a hospital bed in order to meet the frequent demands made upon the members for assistance for sick and disabled employes.

Dr. Alvah H. Doty, Health Officer of the Port of New York, has received from the directors of the Pan-American Exposition at Buffalo a gold medal for his exhibit on sanitation which consisted of models of boats, quarantine plant, islands, with photographs and other material.

New Hospital for the Bronx.—Governor Odell, on April 14, signed the bill authorizing the construction of a new hospital in the Borough of the Bronx. It directs the Sinking Fund Commission of the city to have bonds issued for $200,000 to be used in acquiring the site for the proposed structure and for $300,000 for erecting and equipping the building.

Mortality of Greater New York.—The report of Registrar Guilfoyle to Commissioner Lederle, of the Board of Health, for the first quarter of the present year, shows 18,364 deaths, as compared with 18,575 deaths for the first quarter of 1901. This is a rate of 20.22 per thousand, as against 21.01 per thousand for last year. There was a decrease of 282 deaths from consumption, an indication that the measures instigated by the Department are bearing fruit.

The City Tuberculosis Hospital.—The hospital for persons having pulmonary tuberculosis, started by the city authorities on Blackwell's Island last February as an experiment, is reported to be doing good work. In all, 273 patients have been received, about fifty of whom were practically in the very last stage of the disease. About an equal number had the disease in an advanced form. There have been 76 deaths, while 50 patients have been discharged greatly improved. There are now 114 patients, forty of whom are in the later stages.

More than a Million Needed for Isolation Hospitals.—President Lederle of the Board of Health has transmitted his estimate of the amount required by his department for repairs, alterations and new buildings for the contagious disease hos-

pital service of the five boroughs. For the Borough of Manhattan, $600,000 is required; for Borough of the Bronx, $100,000; for Borough of Brooklyn, $125,000; for Borough of Queens, $100,000; for Borough of Richmond, $50,000, and for North Brother Island, $50,000—in all, $1,025,000 is needed.

Unlicensed "Nature Curer."—"Doctor" August F. Reinhold, the proprietor of a "Nature Cure" sanitarium, has been brought into unpleasant notoriety by the death in his establishment of a fourteen-year-old girl, temporarily boarding there. Though the autopsy ordered by the coroner declared that death had resulted from valvular disease of the heart and pulmonary edema, it is thought that the cold baths given her by Reinhold when she became ill hastened her death. Although it is said that Reinhold circulates literature, bearing his name as author, and having appended the titles Ph.D. and M.D., Reinhold admits that he is not a registered physician.

New Entrance Requirements.—The plan for advancing the standard of requirements for entrance to the College of Physicians and Surgeons has been completed and has received the approval of the University Council. Heretofore any one who had a Regents' forty-eight-count medical student's certificate could enter the first-year class in the college. A student who has only thirty-six counts may enter, but must make up the remaining twelve before the close of one year. The new plan provides that after July 1, 1902, no student who does not have the full forty-eight counts will be admitted. The most important provision of the new plan will go into effect July 1, 1903. By its terms no student will be admitted to the school who has not secured his certificate in one of these two ways: 1. By having successfully completed one full year's course in a college or scientific school of the United States, or an equivalent course in a European institution. 2. By passing an entrance examination conducted in June of any year by the College Entrance Examination Board, or in September by Columbia University.

Buffalo.

Personal.—Dr. Roswell Park will deliver the address at the anniversary exercises at Yale Medical School, June 24.——Dr. Charles G. Stockton has returned from a trip to the Orient.——Dr. Charles Cary is visiting in the East.——Dr. Edward J. Meyer, who was obliged to go to Florida for his health a few weeks ago, has returned, greatly benefited by the change and rest.

Ventilation of Schools.—There has been much just criticism concerning the ventilation of Buffalo schools, especially those of most recent construction. In these buildings recently erected the city has expended large sums for a ventilation system installed by a local firm, and after examination it is now found that the system is not efficient, so that in the construction of the new West Side High School, Professor Woodbridge, an expert from Boston, has made plans for a far less expensive and more efficient ventilation system.

Infection by Barbers.—The health ordinances for the prevention of the spread of disease through the medium of barbers' razors and other appurtenances to the trade in barber shops is to be rigidly enforced. The ordinance requires that the razor shall be sterilized before it is used on each customer, compels the barber to provide a fresh clean towel for each customer and prohibits the use of alum in such form that the same alum comes in contact with more than one face. The barbers are also required to wash their hands before shaving each customer.

PENNSYLVANIA.

Memorial to Dr. Onstott.—The McKee's Rocks Medical Society held a special meeting, April 5, at which resolutions of sorrow and sympathy regarding the death of Dr. J. W. Onstott were unanimously adopted.

Damage Suit Settled.—The suit for $50,000 damages, brought by Andrew J. Miller against Dr. Samuel L. McCarthy, Altoona, for malpractice, whereby it was alleged that plaintiff lost his right arm, has been settled by mutual agreement.

Personal.—Dr. H. B. Lockhead has been added to the house staff of Pittston Hospital.——Passed Assistant-Surgeon Raymond Spear, U. S. N., of Norristown, has received the thanks of the Colombian government for valuable services rendered to wounded Colombian soldiers during the recent revolution.

Bryn Mawr Hospital Enlarged.—The Garrett Memorial wing of Bryn Mawr Hospital was opened to-day with appropriate ceremonies. The capacity of the hospital is doubled by this addition. The Garrett memorial wing was erected to the memory of William E. Garrett, Jr., who, before his death, gave to the hospital the operating room. It contains twelve rooms and has been furnished by the donors at a cost of $10,000. The wing is for private patients only.

Philadelphia.

Dinner to Dr. Turner.—On the evening of April 13 Dr. Charles K. Mills gave a dinner, at the University Club, in honor of Dr. William Alden Turner, of London, the well-known neurologist, and of his brother, Dr. Logan Turner, the laryngologist. The distinguished guests are sons of Sir William Turner of London.

Sanatorium for Incipient Tuberculosis.—The trustees of the Rush Hospital for Tuberculosis have recently bought, for a country branch, a farm of 47 acres in Chester County. The land is elevated, and is thought to be favorably situated for the treatment of incipient cases. If the treatment proves successful cottages will be erected.

Personal.—Dr. William M. Thompson recently sailed from New York for London. He will visit many of the hospitals abroad.——Dr. John B. Deaver, accompanied by Drs. A. E. Wilcox and G. G. Ross, resident physicians of the German Hospital, were passengers on the *Kronprinz Wilhelm*, for Bremen, April 8. The party will be abroad about two months, visiting Halberstadt, Heidelberg, Paris and London.

Bequests.—By the will of Mrs. Mary A. Allison $5000 is left to the Methodist Episcopal Hospital, and $2500 to the Presbyterian Hospital.——The will of Owen Lamb, after bequeathing $500 to each of several Catholic institutions, including St. Joseph's Hospital, devises his residuary estate, estimated at $50,000, to the Sisters of St. Francis, for the support of St. Mary's Hospital and to the Society of St. Joseph, for the maintenance and education of poor orphan children.

Death of Pioneer Masseuse.—Jessie Miller Ward, the first in the country to teach massage upon a scientific basis, died April 6, at the Presbyterian Hospital. After two years of study at the Women's Medical College, ill health compelled Miss Ward to turn her energies in another direction. She attained distinction in this valuable branch of therapeutics. For some time she had been giving courses in massage at some dozen leading institutions of the city, and was the author of a valuable text-book on the subject.

Municipal Hospital Management Endorsed.—At a business meeting of the County Medical Society, April 16, which was largely attended, the constitution was revised, a number of new members was elected, and, on motion of Dr. E. E. Montgomery, the following resolutions were unanimously adopted: "*Resolved*, That the Philadelphia County Medical Society heartily endorses the administration of the Municipal Hospital of Philadelphia during the smallpox epidemic." "*Resolved*, That it commends Dr. William M. Welch and his able corps of assistants for the efficient and thorough manner in which every detail of the arduous and responsible work of that institution is, and has been, carried forward."

GENERAL.

Leper Settlement Undermined.—It is reported that the peninsula of the island of Molokai, Hawaii, on which the lepers live, is undermined by the sea for some distance. The lepers are alarmed and the superintendent will investigate.

Nine Hundred Cholera Deaths.—The total number of cases of cholera in the Philippine Islands up to April 20 was 1244, of whom 902 died. In Manila alone there were 388 cases and 300 deaths. The commission has passed laws authorizing municipalities to appropriate funds for the extermination of epidemic diseases.

Smallpox.

California: Stockton schools were closed, April 12, on account of the reappearance of smallpox.

Colorado: The State Board of Health has devoted considerable energy to tracing the source of infection of the 254 cases of smallpox reported during March. Their report shows that of these cases, 197 originated in the town or country from which each was reported, 41 came from other counties or adjoining territory, 7 had an origin that could not be ascertained, and 9 came from outside the state. Among the latter were 3 cases from Kansas, 2 from Missouri, and 1 each from Michigan, Wyoming, New Mexico and Nebraska.

Connecticut: The report of the State Board of Health announces that smallpox is still occurring sporadically in several towns, but is epidemic only in Waterbury. As an illustration of the possible control of the disease, it is reported that, except in Waterbury, it has been limited to one case in five other towns and to two cases in the other two towns in which it has

appeared. Its greater spread in Waterbury is due to the large number of unvaccinated persons, the large foreign population, and the greater facilities for concealing the presence of the disease until many have been exposed to it. The disease was reported during March as follows: Berlin, 1; East Windsor, 1; Putnam, 1; Southbury, 1; Stamford (city), 2; Thomaston, 1; Waterbury, 23; Windsor Locks, 2. Total, 32 in 8 towns.

Illinois: East Galesburg reports a new outbreak of the disease with three cases. The parents of the children affected are among those who do not believe the disease is smallpox.—— Chicago: The Department of Health reports that smallpox, which has heretofore been very mild—only one death in 139 cases since January 1—is taking on the old-time typical form, with pronounced initial symptoms, profuse eruption and high secondary fever. Five out of the eleven cases discovered during the week, including one from Iowa and one from New Jersey, were of this type.

Indiana: Smallpox was the most prevalent disease in March, 785 cases being reported as follows: Jay County 12, Hendricks County 2, Union County 1, Porter 1, Montgomery 41, Howard 3, Noble 46, Cass 4, Carroll 1, Shelby 37, Lawrence 12, Dekalb 1, Wayne 2, Vermillion 1, Morgan 1, Martin 1, Dubois 20, Wabash 16, Delaware 17, Clay 19, Warrick 61, Madison 64, Whitley 4, Clark 5, Gibson 22, Owen 1, Wells 81, Tippecanoe 1, Floyd 2, Lagrange 16, Perry 10, Posey 2, Allen 13, Vigo 6, Daviess 29, Vanderburg 54, Franklin 40, Adams 55, Knox 44, Marion 64, Grant 20, Greene 5, Spencer 2, Henry 2, Miami 3, and Benton 1. The two deaths reported from smallpox during the month were one each in Montgomery and Shelby Counties.

Iowa: The legislature has enacted a law which empowers the board of supervisors to levy on each city or incorporated town the expense of the quarantines. The city or township in which a case of smallpox originates will have to bear the expense of quarantine. The county treasurer is protected by granting the board of supervisors discretionary power in regard to accepting contracts made by local boards of health. If the supervisors decide that a contract made by the local board of health in smallpox cases is not reasonable or just they can repeal it. The State Board of Health is given power to enforce quarantine and vaccination regulations and rules when local boards fail to do so. Police and peace officers in the state, when called upon by the State Board of Health to enforce such rules and regulations, must execute the orders of the board, and the expenses shall be paid by the local boards of health. Any person affected with smallpox may be removed to a separate house or contagion hospital, and if it is impossible to so remove such person he may be cared for at his home, the removal of affected persons to be made after an application has been made before a magistrate. The removal shall be made under the direction of the local board of health.

Maryland: There are several mild cases of smallpox in Caroline County.

Michigan: Smallpox was reported present at 157 places in the state during the week ended April 5. Three deaths occurred from smallpox during March, 1 in Escanaba City, 1 in Clio village, Genesee County, and 1 in Chesterfield township, Macomb County.

New York: At a recent meeting of the New York State Medical Association, Dr. S. Dana Hubbard, in discussing the increased prevalence of smallpox in the United States, made the following assertion: "In my opinion the country has been reinfected with smallpox from the Philippines in the last two or three years."

Ohio: Miamisburg is said to have 56 cases of smallpox; Scio has 8 cases; Laceyville one case, and 6 cases in the Fayette County Children's Home near Washington Court-House. A conference of the state boards of health of Ohio, Illinois, Kentucky, Michigan and Indiana for the discussion of means of checking the smallpox epidemic was held in Indianapolis on April 25.

Pennsylvania: Superintendent Geary, of the Philadelphia Hospital, has announced that the quarantine against visitors on account of smallpox, which has been maintained since last October, has at last been raised. It is thought that the danger from the disease has so far abated as to render such restriction unnecessary, not only at this hospital, but at others as well.

South Dakota: It is announced that 207 persons were vaccinated at the Green Front Theater in Deadwood, April 13. The place is a variety house and dance hall, and a case of smallpox was discovered there. Four doctors and the sheriff performed the operation. Five men who objected spent the night in jail. This action is in conformity with a recent order of the Board of Health requiring all persons to be vaccinated, and it is to be extended to all public resorts where there are large numbers of people. The doctors have gone through the public schools and teachers and pupils were vaccinated.

Texas: The State Health Department has been advised of the existence of considerable smallpox at Beckville. State Health Officer Geo. R. Tabor left at once to investigate.

England: The smallpox epidemic in London continues. The deaths from the disease up to April 5 numbered 1015. They are classified according as the cases had been vaccinated, unvaccinated, or revaccinated. Of those who had been vaccinated 534 died, and 398 unvaccinated died. Of the 534 vaccinated cases 427 had been vaccinated in infancy, and only one of these was noted as having been imperfectly vaccinated. Under the age of 10, 414 were vaccinated and over that age there were 20. As against the claim that the efficacy of infant vaccination is spent, not one death of a person who has been revaccinated is recorded within the last ten years, in spite of the universal prophecy to the contrary.

CANADA.

New Chairs for Laval University, Quebec.—To commemorate the jubilee of Laval University, Quebec, in June, old scholars will contribute to the establishment of several new professorships. Already over $10,000 has been offered. Dr. A. G. Belleau, of Quebec, has given $1000; Dr. Arthur Vallee and Dr. Rosseau $500 each.

Government Bacteriologic Station.—For the past three years the Department of Agriculture has been maintaining a station at Outremont, near Montreal, where scientific observations have been made regarding tuberculosis in cattle. The minister has ordered the station to be closed and the bacteriologist in charge, Dr. Higgins, has been transferred to the cattle quarantine staff at Ottawa. These investigations will henceforth be conducted at Ottawa. It is likely that the researches will be extended to tuberculosis in human beings.

Montreal Western Hospital.—On Tuesday afternoon of last week the quarterly meeting of the board of governors of this institution was held. Dr. H. L. Reddy, one of the attending staff, resigned, and was subsequently appointed to the consulting staff. Dr. W. Grant Stewart was appointed to succeed him. The report of the committee of management was read by the secretary, Dr. Alex. Macdonald. During the first three months of the year there have been treated 43 medical cases, 58 surgical and 30 gynecologic cases, or a total of 131, as compared with 102 in the corresponding period of 1901.

To Help Women Inebriates.—The Local Council of Women at Ottawa have adopted a resolution asking that the government establish cottage homes for inebriate women. They state that in their city of Ottawa intemperance among women and girl prisoners has increased to the alarming extent of 75 per cent.; and that women in many cases under or about the age of 20 have been incarcerated for drunkenness or for crimes committed while under the influence of drink. Imprisonment to check this evil has proven an utter failure as there are women in a brief life of 40 years who have spent 20 years in jail.

Laws Upon Sending Patients with Infectious Diseases to Hospital.—At a meeting of the Montreal Hygienic Committee held last week, Alderman Ames brought up this question. He stated he had collected legal advice on the matter and the city attorney had stated that if a patient is residing in a hotel, boarding house or tenement containing more than one family, a vessel, railway car or carriage, the sanitary authorities are empowered to remove that patient and place him in a hospital, but this is not the case when a patient resides in a self-contained house. The Provincial Board of Health at Quebec will no doubt be asked to give the local board power by by-law to enforce the removal of smallpox patients.

The annual convention of the Canadian Association for the Prevention of Tuberculosis was held at Ottawa, April 17 and 18. Hereafter there will be a permanent central organization at Ottawa, and an efficient paid secretary will be appointed. There are said to be at the present time in Canada between 30,000 and 40,000 consumptives, the average number of deaths yearly totaling 9000, or one in every 650 of the population. It was recommended that the Federal and Provincial Governments should grant aid toward preventive measures and that measures should be taken to guard against the importation of immigrants suffering from tuberculosis. The following were the officers elected: President, Mr. W. C. Edwards, M.P.; secretary, Dr. H. B. Small, Ottawa.

The Question of Diseased Immigrants.—We referred last week to the warning of the United States immigration officials concerning those refused admittance to the United States. During last week this vexed question was up for discussion in the Canadian House of Commons, and it was denied that many of these are allowed to remain in Canada. The Minister of the Interior, under whose control is immigration, referred to the extravagant statements which had been circulated in this connection and illustrated by saying that an investigation had been made into the published statement that there were 200 diseased immigrants in the hospitals of Montreal. The report sent in by the superintendent of Notre Dame Hospital of that city showed that there were two cases in January, two in February and six in March. There had been none in the Royal Victoria Hospital for six months, or in the Montreal General for three months, and in the Hotel Dieu there were seven. Of 25,000 persons who came into Canada 132 were rejected by the United States commissioners as undesirable, and of these 132 there are now 29 in Canada.

Personal.—Dr. H. H. Sanderson, of Windsor, Ont., has gone to London, Eng., where he will take a special course in the hospitals. He will continue his studies in Berlin before returning. ——Dr. David Shirres, of McGill University, has been appointed professor of nervous diseases at the University of Vermont.——Dr. Charles Sheard, Medical Health Officer, Toronto, and Dr. H. B. Anderson, editor of the *Canada Lancet*, have returned home after spending a holiday in New York.——Dr. Graef, of Vancouver, is attending the New York Post-Graduate Hospital, doing special work on the eye and ear. He will shortly leave for England to further prosecute these studies. ——Dr. T. H. Morgan, Trinity '97, has been appointed an assistant in Dermatology at the New York Post-Graduate Medical School.——Dr. A. E. Randall, of Truro, N. S., is collecting a Muir memorial hospital fund in memory of the late Dr. Muir.——It has been lately currently reported that Colonel Neilson, director-general of the Army Medical Service of Canada, was to resign to be succeeded by Dr. Fiset, of Quebec. This has received official denial, Dr. Neilson having been granted leave of absence for a few months, Dr. Fiset acting temporarily.

FOREIGN.

The American Hospital in Mexico City treated 61 patients in March and discharged 33. Three died and 4 operations were performed.

French Must Vaccinate.—Vaccination is now obligatory in France within the first year from birth, and must be followed by revaccination at the ages of 11 and 21.

Prophylaxis of Tuberculosis.—The German central committee has ordered 150,000 copies of its pamphlet on tuberculosis to be distributed in the public schools.

Germans Buy Goats.—Tuberculophobia in Germany is causing the importation from Switzerland of many goats to replace cows as a milk supply, since goats seem so rarely susceptible to tuberculosis.

Argentine Plague Mild.—There is no alarm over the outbreak of plague at Buenos Ayres, Argentine, the cases are few and not severe, and the president of the sanitary department does not apprehend a spread of the disease.

Abolition of Compulsory Vaccination.—By a recent act of Parliament, vaccination is not compulsory in South Australia for a person (or the parent of a child) who makes a sworn declaration to his belief that vaccination would be prejudicial to health.

Russian Supervision Over Advertisements.—A certain widely-advertised disinfectant for the mouth has proved to be without antiseptic properties, according to the Russian authorities, and consequently papers are prohibited from accepting its advertisement except with the sole claim that it is a cosmetic for cleansing the mouth.

Many Lepers in Nicaraugua.—The newspapers of Nicaraugua are warning the people against the danger from leprosy. They say that fifteen years ago there were about 200 lepers in the country and now there are nearly 2000. These are allowed to go about anywhere and beg, and the papers declare the disease is spread by incidental contact.

Gift to Aberdeen Infirmary.—The Royal Infirmary at Aberdeen, Scotland, has received a gift of $150,000 from Lord Stephen, who had previously paid a debt of $125,000 which was hanging over that institution. Lord Stephen was formerly president of the Canadian Pacific Railroad and the famous mountain peak of the Canadian Alps is named after him.

Mexican Tuberculosis.—According to *El Imparcial*, Dr. Eduardo Liceaga has published a complete record of statistics of mortality caused by tuberculosis in the City of Mexico, during the 32 years from 1869 to 1900. The deaths in 1869 were 7447, and in 1900, 19,272. Mortality has nearly tripled therefore. Deaths in the last decade are almost double the number in the first decade.

New Chinese Hospital.—On December 7 the Elizabeth Shelton Danforth Hospital was opened at Kiukiang, under the Methodist Central China Mission. The two physicians, Drs. Stone and Kahn, had 7854 out-patients in the preceding twelve months. Their new facilities include a glass operating room, and modern equipment for distilling, sterilizing and microscopic work. The English and American consuls made addresses.

Deaths Abroad.—Dr. M. Piza, of Hamburg, one of the most prominent and devoted members of the executive committee of the national Aerztevereinsbund, has died.——The death of the Russian psychiatrist, Professor I. Balinski, is also reported from St. Petersburg, and of Crouzat, professor of obstetrics at Toulouse.——Professor R. N. Bruzelius died recently at Stockholm in his 71st year. His tastes inclined him most to laryngology and zoology, but he was physician-in-chief at the Serafimer Hospital.

Death of Hans Buchner.—Munich has lost another prominent medical man, following close on the death of von Ziemssen. Professor Hans Buchner died, April 5, of tuberculosis of the lungs, in his fifty-third year. He was at first a military medical officer until called to take Pettenkofer's place at the head of the Institute of Hygiene. He still maintained his connection with the army as surgeon-general "a la suite der armee." He was born in and spent most of his life in Munich. Among his latest contributions to science is his work on the prolonged local application of alcohol for inflammatory processes.

Charlatans in Berlin.—The recently-published statistics for 1897 state that there are 476 medical charlatans in Berlin, that is, one to every 4.6 physicians. Out of 123 male charlatans, 20 per cent. had been previously servants or day laborers; 40 per cent. artisans and only 24 per cent. from classes which presuppose an education above the lowest grades. Out of 125 women charlatans, 58 per cent. had been servants; 10 per cent. working women; 4.9 per cent. attendants on the sick, and 1.6 per cent. without previous occupation. The *Deutsche Med. Woch.* states that, whereas the population of Berlin has increased by 61 per cent. since 1879 and the number of physicians by 102 per cent., the number of charlatans has increased by 1567 per cent.

LONDON LETTER.

The Smallpox Epidemic.

The number of cases under treatment in the metropolitan hospitals, which had been 1542, 1567 and 1526 in the three preceding weeks, has declined still further to 1522; 376 fresh cases were admitted, against 450, 449 and 389 in the preceding weeks. The deaths from the disease, which had been 81, 53 and 61 in the preceding weeks, were only 54 last week. Since August 10 last, when the epidemic began, 5925 cases have occurred. Of these, 3712 have recovered, and 931 have died.

Leprosy in South Africa; Hutchinson's Conclusions.

Mr. Jonathan Hutchinson, whose departure for South Africa to investigate the mode of diffusion of leprosy we announced in THE JOURNAL, has returned and made a highly important communication to the *Times*. Later his researches will probably be communicated at greater length to the Royal Medical and Chirurgical Society. In addition to the large leper asylums on Robben Island (Cape Town) and at Emjuayua (Tembuland), he has visited many districts where the disease occurs, in order to investigate the domestic conditions of lepers. His inquiries establish the fact that the disease is very sparingly scattered over the whole of South Africa, and is by no means abundant anywhere. It chiefly affects the colored races, but a certain number of cases are to be found among the Dutch farmers. It was probably a new disease when the first cases (in members of the latter class) were recognized near to Cape Town 150 years ago. Since then it has gradually spread from the Cape Town district over the whole British territory, including the newly-annexed colonies of the Transvaal and the Orange Free State. In Natal it was a new disease as recently as 60 years ago, and is still met very sparingly. In Zululand it is as yet almost unknown. Mr. Hutchinson concludes that

the primary cause of the disease is the use as food of badly-cured saltfish. Such fish is prepared at Capetown and various places on the south and west coasts, and is sent inland in large quantities. While believing that this has been by far the chief agent in its diffusion, Mr. Hutchinson thinks that he has obtained conclusive evidence that leprosy may, in very exceptional circumstances, be communicated from person to person. He does not believe that it is either infectious or contagious in the proper sense of these words, but that it may be communicated by eating food contaminated by a leper's hands. This mode of transference can obviously occur only under the most careless conditions as to taking food and hence the explanation that the disease never spreads in leper asylums or in well-civilized communities, while it does so in Hottentot and Kaffir kraals. Its introduction into these kraals is usually effected by some laborer who has been into Cape Colony to work and returning home with the seeds of the disease has become a source of this kind of food contamination in his native place. The measures suggested for the prevention of the disease are first (and by far the most important) the legislative control of the fish-curing establishments; secondly, the diffusion of information as to danger of communication; and, thirdly, the establishment of small isolation homes into which lepers should be induced to go during the stage involving risk. Thus Mr. Hutchinson, as the result of his investigations, reaffirms the "fish-hypothesis" of the origin of leprosy—a doctrine which he has strenuously and persistently maintained for many years in the face of almost universal opposition of all the other authorities. He has also, against the general view, insisted that leprosy is not in the ordinary sense a contagious disease, pointing out that although a number of lepers live in England and mix freely with the population no case of contagion has ever been observed. This peculiar method of contagion from lepers through food is a new hypothesis, but it in no way invalidates (on the contrary, it confirms) Mr. Hutchinson's view of the non-contagiousness of leprosy in civilized life.

The Medical Profession in 1902.

The total number of practitioners for 1902 is 36,788, an increase of 434 over the total of 1901, which was 36,354. There are 6292 names on the London list, and 16,232 on the English provincial list. Scotland possesses 3645 medical men, as against 3569 in 1901, being an increase of 76; Ireland possesses 2587 medical men, as against 2575 in 1901, being an increase of 12; and Wales possesses 1183 medical men, as against 1165 in 1901, being an increase of 18. The registered medical practitioners abroad and of members of the naval, military and Indian medical services show a small increase upon the numbers of last year. The foreign and colonial names in 1901 numbered 3910, and this years number 3952, or an increase of 42; the members of the services in 1901 numbered 2798, and this year 2886, or an increase of 88.

The Campaign Against Malaria.

The Liverpool School of Tropical Medicine, which has organized a number of expeditions for the investigation of malaria in various parts of the empire, has asked the government to assist the expedition which is now endeavoring to improve the condition of Freetown, West Africa. The Governor of Sierra Leone has reported on the suggestion to increase the number of workmen who are working in Freetown under the superintendency of Dr. Logan Turner, that while anxious to give him every assistance he has decided after consultation with the principal medical officer that the best form in which that assistance can be given is for the government to undertake by degrees the surface drainage of those parts of the city most infested by mosquitoes. Arrangements have been made for the immediate surface drainage of a swampy portion of the grass fields district in which Dr. Taylor has worked. The cost of the work is estimated at $2300.

Glanders in London.

A marked increase of the number of cases of glanders in London has recently taken place. During the past few weeks the number of cases reported have run over 40, last week alone totaling 45, as compared with 20 in the corresponding week of last year. There has always been considerable fluctuation in the returns as to glanders in London. For instance, the number which had fallen as low as 786 in 1885, increased to 2526 in 1892, and again fell to 845 in 1898. Last year the number was 1843. The use of mallein in detecting latent cases of the disease may be responsible for some of the recent increases. An unscrupulous owner of horses, when an outbreak occurs in his stud, has all the horses which have been in contact with the diseased animals quietly injected with mallein, and if they show signs of glanders at once proceeds to sell them. If this is done to any large extent it would not be difficult to account for the present spread of the disease.

Gifts of a Patient to a Physician Invalidated.

An important case has just been decided in the law courts. The executors of a wealthy old lady, who died at 80, sought to recover from Dr. Price, who had attended her for 11 years, three sums of $2500, $500 and $1000 given to him in the years 1899-1900. She left at her death property amounting to $450,000, which she had inherited from her first husband. She provided for her second husband, made gifts to relatives in humble circumstances, left her house and grounds for a museum and public gardens, and made large bequests to charities. The executors made no charge of fraud or improper conduct against the doctor, but claimed that because of the relations of physician and patient existing between the parties, in the absence of independent advice obtained by the donor, a presumption of undue influence existed and that such gifts should not stand. The doctor who had been paid for his services in the ordinary way the sum of $1560, explained fully the circumstances in which the gifts were made. The largest sum, $2500, was a gift partly in recognition of his exceptional services as medical attendant, and partly in recognition of his consent to act as trustee of the institution to be founded by the patient in memory of her husband. The $500 was a Christmas present, and the $1000 was given to replace a brougham which had been injured in a carriage accident. The judge ordered the doctor to repay the whole of the gifts, $4000. He ruled that: "It has been laid down that the relation of patient and physician is a confidential relationship, and where it exists, as it did in this case, the donor must have had competent and independent advice before a gift can be supported." The law applies to other confidential relationships, such as those of clergy and solicitors. In the present case the doctor was mulcted in costs, which the *Lancet* thinks was rather hard. As the contention arose out of acts of the testatrix, her estate should have borne the costs. The *Lancet* does not see why a patient's gratitude should not be manifested to her doctor otherwise than by fees which can be claimed, but care should always be taken that the patient has independent advice. If the doctor in the present case had done this, the validity of the gifts could not have been questioned.

Book Notices.

THE STANDARD MEDICAL DIRECTORY OF NORTH AMERICA, Consisting of Twelve Parts, Including Directory of Physicians of North America, Medical Colleges, Medical Service of the United States, Medical Societies, Medical Practice Acts, Medical Publications (Including Books and Periodicals), Mineral Springs, Drugs and Medicines, Medical and Surgical Products, Manufacturers and Life Insurance Companies. Handsomely Bound in Red Buckram, 824 Pages, Imperial Octavo. Price, $10.00. Chicago: G. P. Engelhard & Co.

This directory is divided into twelve parts, the first of which takes up medical colleges, present and extinct, prefaced by a short chronological sketch of medical education. Part second, which makes up the greater part of the book, is on the same general principle as Polk's Directory. An improvement over the latter is that the index of names of colleges is on the front inside-cover page instead of being in the body of the work; furthermore, the colleges in each state are numbered consecutively. An exceedingly important omission is that of the name-index which forms so valuable a guide in looking up the addresses of physicians whose names only are known. The directory of physicians is, so far as we can judge, in the main, correct and complete. The succeeding sections of the book are devoted to the medical service of the United States—the army, navy, marine-hospital service, pension examination service, etc.; medical societies—national, state, district, county, and city; medical legislation, including the text of the medical practice acts of all of the states, a synopsis of the statutes, the board regulations and rules, and the personnel of the state boards of health, and boards of medical examiners; medical publications by authors' names; medical books by subjects, medical directories and medical libraries; hospitals and sanatoria, arranged by states; mineral springs and their distribution; drugs and medicines; medical and surgical products; manufacturers and life insurance companies and fraternal and assess-

ment organizations. It is, of course, too much to expect that a work of this nature could be issued without interleaved advertisements, but this is much to be desired. An interesting page is that which presents the population of the countries of North America, the number of physicians and the proportion of physicians to ten thousand of population.

A Practical Manual of Insanity. For the Student and General Practitioner. By Daniel R. Brower, A.M., M.D., LL.D., Professor of Nervous and Mental Diseases in Rush Medical College, in Affiliation with the University of Chicago, and in the Post-Graduate Medical School, Chicago; and Henry M. Bannister, A.M., M.D., formerly Senior Assistant Physician, Illinois Eastern Hospital for the Insane. Cloth. Price, $3.00 net. Handsome octavo of 426 pages, with a large number of full-page inserts. Philadelphia and London: W. B. Saunders & Co. 1902.

The average physician is only incidentally interested in the controversial questions relating to psychiatry; what he needs and asks for is practical information for every-day practice, something to help him solve the problems of managing these unhappy cases. The book before us is an attempt to supply this need and to give this help. It is not intended for the alienist or for those who want an exhaustive treatise on insanity. It is a practical presentation of the subject for practical use. While it is not encumbered with controversial matters or padded with a lot of theories it is sufficiently full and complete to meet every need. Dogmatic assertions are avoided and, when disputed points are considered, the views of others are given as well as those of the authors. The classification of insanity is a stumbling block to most authors of works on the subject. It is impossible to classify the various forms of insanity in a manner satisfactory to all and yet, as the authors say, it is a necessity for the ordering of ideas. They devote quite a chapter to the subject giving the classifications of Ziehen, Kraepelin, Regis, Agostini and others and adopt a modification of that of Kraepelin. A few minor typographic errors are to be found, but not more than is usual in a new edition. The most serious one is in the comparative table of classifications on page 149, where the word "verwirrheit" is used where it should be "verrueckheit." However, this will not mislead those who read the text.

The subject is presented in an attractive and simple style, making the reading a pleasure, which is more than can be said of most works on insanity. We predict that it will prove one of the most popular works on the subject that has been placed before the profession for years.

A Civilian War Hospital. Being an Account of the Work of the Portland Hospital, and of Experience of Wounds and Sickness in South Africa, 1900. With a Description of the Equipment, Cost and Management of a Civilian Base Hospital in Time of War. By the Professional Staff, Anthony A. Bowlby, C.M.G., F.R.C.S., Senior Surgeon, Howard H. Tooth, M.D., C.M.G., F.R.C.P.; Cuthbert Wallace, M.B., B.S., F.R.C.S.; John E. Calverley, M.B., B.S., M.R.C.S.; and Surgeon-Major Kilkelly, C.M.G., Grenadier Guards, Principal Medical Officer and in Military Charge. With Numerous Illustrations. Cloth. Pp. 341. Price, $4.00. New York: Longmans, Green & Co. 1901.

This work contains in detail the work of the Portland Hospital, which was the first of the civilian hospitals to be equipped and sent to South Africa after the opening of the Boer war. It was probably the first voluntary hospital attached to the British army at the front. After describing the personnel, equipment and interior economy of the hospital, the authors describe the work done by this hospital and its career in the field. The medical work done by the hospital was chiefly in enteric and typhoid fevers; the next most frequent diseases being diarrhea, dysentery and diseases due to exposure. The surgical work of the hospital is described by Mr. Bowlby and Mr. Cuthbert Wallace and deals first with weapons and projectiles, the surgical aspects of modern rifle fire, bullet wounds in general with their characteristics, and then takes up special wounds of the bones, joints and blood vessels and then regional injuries. The volume is copiously illustrated and is completed by a series of appendices, containing specific details, forms and blanks, staff of the hospital, etc.

Hygiene for Students. By Edward F. Willoughby, M.D., Lond., Diploma in State Medicine of the London University. Cloth. Pp. 563. Price, $1.25. London and New York: The Macmillan Co. 1901.

This is practically the fourth edition of the Principles of Hygiene, published in 1884, 1888 and 1893. This is specially adapted to English professional examinations and the arrangement is made accordingly, each chapter ending with a series of questions on the subjects discussed. The book is one that we should consider well adapted for students' use, and, while arranged especially for English students, it might be used with profit in this country. It covers the whole ground of hygiene, not only the more exclusive medical side, but also the subjects of vital statistics, demography, meteorology, etc. We find here and there a little that may be open to question and some matters may arise in this country that are not fully treated of, which is to some extent a defect in the work for American students. Taking it altogether, it is a valuable book and one well worthy the attention of the practicing physician as well as the student.

Official List of Legally Qualified Physicians, State of Illinois. Published by the State Board of Health. March, 1902. Paper Edition and Cloth Edition. Springfield: Illinois State Register Co.

This is a list of the 20,000 physicians who have received certificates from the State Board of Health from July 12, 1877, to March 1, 1902, except those known to be deceased or whose certificates have been revoked. There are given the school of practice, date of license and present address if in Illinois.

A valuable feature of the book is the text of the laws governing practice in Illinois and a summary and tabulation of the laws in all the other states and territories. This is also published separately in a pamphlet which will be appreciated by the applicant for license. A list of accredited medical colleges and information for Illinois applicants for license complete the contents.

Syphilis: A Symposium. Cloth. Pp. 122. Price, $1.00. New York: E. B. Treat & Co. 1902.

The papers contained in this volume appeared recently in the *Interstate Medical Magazine* and constituted one of the special numbers which have been sent out of late by that publication. As an up-to-date statement of the practical facts regarding syphilis it makes an exceedingly useful and authoritative little work. Some of the papers have been already noticed in The Journal abstracts and we need not review them more fully here.

Compend of General Pathology. By Alfred Edward Thayer, M.D., Assistant Instructor in Gross Pathology, Cornell Medical College. Containing 78 Illustrations, Several of Which Are in Colors. Cloth. Pp. 321. Price, $0.80. Philadelphia: P. Blakiston's Son & Co. 1902.

This is one of the well-known series of quiz compends published by Blakiston. The illustrations are specially good. Of course, such a work as this is very inadequate for thorough work, but as a reminder to the memory it has its value.

State Boards of Registration.

In Georgia, licenses were given to 74 out of 78 applicants at Atlanta, April 5.

Utah Board Adds to the List.—The session of the Utah examiners on April 7 and 8 added to the licensed physicians of that state 7 out of 10 applicants and 11 of the 12 prospective midwives were licensed.

Indiana Board Gives Certificates.—Eight recent graduates were licensed to practice by the Indiana Board of Medical Registration and Examination at its April meeting at the capitol. A candidate who presented a diploma from a school of magnetic healing at Nevada, Mo., for which he had studied and labored for three weeks, was asked a few questions for the board's amusement. He was advised to try some other calling or else to study a few years.

The Colorado State Board of Medical Examiners passed on the credentials of 43 applicants to practice medicine. Thirty-eight were granted licenses on their diplomas according to the statute requiring the board to recognize as sufficient evidence of ability diplomas from recognized medical colleges. Four passed examinations and were licensed, three of them non-graduates, and one a graduate of a medical college requiring only a three years' course. There were 80 written questions in 3 subjects and 70 per cent. was necessary to pass. The application of G. L. Hagen-Burger, No. 3611, was refused, it having been shown by conclusive evidence to the board that the purported diploma from Kiel that he presented was fraudulent.

The dean of that university and the U. S. Consular agent at Kiel report it to be a forgery of the diploma of one Dr. Otto Tretow of that date on the same thesis "Zwei Falle von Luxatio Lentis Congenita." The secretary, Dr. S. D. Van Meter, is prosecuting the man, and will be glad to have the assistance of any graduate of Kiel who can aid him. The man has been arrested, but technicalities may prevent conviction.

North Dakota Examiners at Grand Forks, April 1 to 3, tested 12 applicants and found 11 could answer 75 per cent. of the questions in the 13 subjects. The examination was written.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
J.	R.	Central Coll. of P. and S.	1898	77
G.	R.	Louisville Medical College	1894	81
S.	R.	University of Iowa	1901	79
W.	R.	University of Illinois	1896	76
L.	R.	University of Illinois	1899	80
S.	R.	Coll. of P. and S., Iowa	1901	81
V.	R.	Grand Rapids Medical College	1901	82
C.	R.	Coll. of P. and S., Minnesota	1895	82
M.	R.	Coll. of P. and S., Minnesota	1901	76
P.	R.	Rush Medical College	1901	80
G.	R.	Hamline University	1901	83

FAILED.

332	R.	Minnesota and Rush Med. Coll	1902	..

Minnesota Examiners gave 97 questions on 12 subjects and required 75 per cent. correct. The written examination was taken by 20 applicants, of whom 17 passed and 3 failed.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
1951	R.	Iowa State University	1902	85
1952	R.	Johns Hopkins University	1901	82.3
1953	R.	Laval University	1898	76
1954	R.	Rush Medical College	1897	78.3
1955	R.	Rush Medical College	1900	90.3
1959	R.	Rush Medical College	1902	89
1961	R.	Rush Medical College	1901	83.2
1963	R	Rush Medical College	1901	84.6
1962	R.	P. and S. Keokuk, 1898, and Rush Medical College	1902	93.8
1968	R.	Rush Medical College	1901	84.4
1956	R.	University of Michigan	1901	85
1957	R.	Hamline University	1901	75
1958	R.	Central Coll. P. and S., Indiana	1900	80
1960	R.	Kiel University, Germany	1891	83.1
1969	E.	Kentucky School of Medicine	1901	82.2
1970	R.	University of Christiania	1897	87.1
1966	H.	Hahnemann Medical College	1895	77.9

FAILED.

1964	R.	Hamline University	1896	68.4
1965	R.	Sioux City College of Medicine	1894	67.5
1967	R.	University of Michigan	1877	66.9

Married.

E. A. DYE, M.D., to Miss Nina Smith, both of Vienna, Ohio, April 10.

A. J. KIMMONS, M.D., to Miss Mary Guy Cowan, both of Shelbyville, Tenn.

HENRY G. HART, M.D., to Miss Selma N. Alpiner, both of Chicago, April 15.

ALEXANDER C. SMITH, M.D., Sterling, Ill., to Mrs. Georgia Hilger, at Chicago.

CHARLES CLARK FOWLER, M.D., to Miss Charlotte Frye, both of Des Moines, Iowa, April 9.

CHARLES F. BAUMEISTER, M.D., Panama, Iowa, to Miss Lida Bard Moore, of Chicago, April 9.

ARNOLD T. ADDY, M.D., Middleport, N. Y., to Miss Mary Waldrum, of Toronto, Ontario, April 14.

HARRY P. RITCHIE, M.D., St. Paul, Minn., to Miss Elizabeth Winter, of Chicago, at St. Paul, April 24.

ARTHUR P. SHELLMAN, M.D., Binghamton, N. Y., to Miss Jennie E. Gibson, of South Pulteney, N. Y., April 15.

HENRY CYRIL GOODMAN, M.R.C.S., L.R.C.P., Kasr-el-Aini Hospital, Cairo, Egypt, to Miss Sue Clay of Paris, Ky., April 22.

SALING SIMON, M.D., secretary of the staff of the National Jewish Hospital for Consumptive, Denver, to Miss Sara E. Lowenstein of Memphis, Tenn., April 9.

Deaths and Obituaries.

Franklin A. Meacham, M.D. University of Virginia, Charlottesville, 1889, whose death was noted under "General News" last week, was the son of Major Meacham, who was for many years post surgeon at Fort Douglas, Utah. After completing his medical studies he practiced in Salt Lake City and was a member of the Staff of Holy Cross Hospital. At the outbreak of the Spanish-American war he was appointed surgeon of volunteers, with the rank of major, and served with his regiment in Cuba. He made especial study of camp hygiene and was an authority on that subject. He was ordered to Manila and served in the Chinese expedition in 1900. On his return to Manila he was detailed as assistant to Major L. M. Maus, insular health commissioner. Heart failure, caused by overwork on the cholera cases, was the cause of his death, at the age of 39.

Luther B. Grandy, M.D. College of Physicians and Surgeons, New York, 1890, is reported as having died at Lipa, Batangas, Luzon. He was a native of Tennessee and practiced at Atlanta, Ga., until the Spanish-American war, through which he served as major-surgeon of the Third Georgia Infantry, U. S. V. He then went to Manila as an acting assistant surgeon, and was later assigned to the Thirty-fifth Infantry, U. S. V., as major-surgeon, and died while on duty with his command, aged 42.

Richard R. Ricker, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1847, one of the oldest physicians of Lewiston, who served through the Civil war as assistant surgeon of the Twenty-third and Thirty-first Maine Volunteer Infantry, and afterward located in Lewiston, where he was for several terms a member of the city council, and for six years, city physician, died at his home in that city, from paralysis, April 14, after an illness of three days.

George M. Ramsey, M.D. Jefferson Medical College, Philadelphia, who practiced in New York City until the outbreak of the Civil war, through which he served as surgeon of the 95th New York Volunteer Infantry, and soon after retired from practice on account of deafness, contracted while in the service, died at his home in Washington, Pa., from infirmities incident to old age, April 13, aged 82.

Horace Tupper, M.D. University of Buffalo, N. Y., 1862, a pioneer physician of Bay County, Mich., who served two years in the Civil war, until compelled to resign on account of ill-health, and who afterward resided in Bay City, died at his home in that city, April 16, from cancer, after an illness of four months, aged 71.

John F. Dowd, M.D. Dartmouth Medical College, Hanover, N. H., 1896, of Manchester, N. H., a member of the Manchester Medical Association and of the New Hampshire State Medical Society, died at Sacred Heart Hospital, Manchester, April 12, from pneumonia, after an illness of one week, aged 37.

Eugene C. Hoge, M.D. Long Island College Hospital, 1872, one of the best-known physicians of Wheeling, W. Va., a member of the Medical Society of the State of West Virginia, died in Wheeling from meningitis, after an illness of several weeks, April 10, aged 54.

T. H. Sharpneck, M.D. Jefferson Medical College, Philadelphia, 1872, of Jefferson, Greene County, Pa., a member of the American Medical Association, died suddenly from paralysis while making a professional call at Khedive, April 12, aged 58.

Braxton D. Cox, Jr., M.D. Kentucky School of Medicine, Louisville, 1892, a prominent young physician of Jackson, Ky., was shot and instantly killed while on his way home from his office, April 13. So far, his assassin has not been found.

Theodore W. Nellis, M.D. Albany (N. Y.) Medical College, 1881, died at his home in Albany, April 14, after a long illness. The Medical Society of the County of Albany held a special meeting, April 15, and passed suitable resolutions.

Joseph T. V. Blocksom, M.D. Jefferson Medical College, 1871, of Wilmington, Del., who had been an inmate of the State Hospital for the Insane, Farnhurst, for several weeks, committed suicide at the hospital, April 15, aged 55.

Matthew Campbell, M.D. Medical School of the Valley of Virginia, Winchester, Va., 1852, a retired physician, for many years a practitioner of Fairmont, W. Va., died at his home in Parkersburg, W. Va., April 12, aged 84.

John H. McIntyre, M.D. Jefferson Medical College, Philadelphia, 1864, one of the oldest and best-known physicians of St. Louis, Mo., died from asthma at his residence in that city, after a long illness, April 10, aged 69.

Charles H. Carter, M.D. Rush Medical College, Chicago, 1880, a native of Rock Island, Ill., who practiced for several years and then was obliged to go to California for his health, died at Pasadena, April 5, aged 49.

William L. Bain, M.D. Trinity Medical College, Toronto, 1888, who served during the Riel rebellion in the northwest, and

practiced medicine in Toronto until 1893, when he moved to Chicago, died at his home, April 13.

Charles E. Bartlett, M.D. Berkshire Medical College, Pittsfield, Mass., 1844, a resident of Battle Creek, Mich., since 1845, died at his home in that city from pneumonia, April 14, after a short illness, aged 82.

Marcellus M. White, M.D. Hospital College of Medicine, Louisville, Ky., 1895, of Cumberland Gap, Tenn., died in Fannin County, Texas, April 13, after a long illness, aged 39.

Moses H. Detwiler, M.D. Jefferson Medical College, Philadelphia, 1870, one of the oldest physicians of Bedford County, Pa., died, April 15, at his home in Hopewell.

Alvin A. Moore, M.D. University of Cincinnati, 1886, of Parker's Landing, Pa., died from tuberculosis at Kenton, Ohio, after a long illness, April 14, aged 41.

Andrew G. Toven, M.D. College of Physicians and Surgeons, New York, 1890, of New Britain, Conn., was found dead in Hartford, Conn., April 11, aged 35.

William F. Shepard, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1871, died at his home in Bangor, from pneumonia, April 12, aged 57.

Edward P. Gordon, M.D. Toronto University Medical College, 1890, died recently in San Francisco, Cal. He practiced for several years in Toronto.

David A. Plank, M.D. Jefferson Medical College, 1870, of St. Clairsville, Pa., a veteran of the Civil war, died, April 12, at his home, aged 64.

Joseph H. Gallagher, M.D. Long Island College Hospital, Brooklyn, 1898, died at his home in Brooklyn, from pneumonia, April 9, aged 26.

Charles B. Robertson, M.D. University of Buffalo, N. Y., 1884, died from consumption at his home in Towlesville, N. Y., April 4, aged 49.

John Dixon, M.D. Jefferson Medical College, Philadelphia, 1860, of Fayetteville, Ala., died at Talladega, April 15, after a long illness.

Jonathan Faust, M.D. Jefferson Medical College, Philadelphia, 1867, died at his home in Zieglersville, Pa., April 14, aged 60.

Robert W. Dailey, M.D. University of Pennsylvania, Philadelphia, 1842, died at his home in Romney, W. Va., April 12, aged 80.

George A. M. Cooke, M.D. Tulane University, New Orleans, 1881, died at his home near Washington, La., April 10, aged 47.

Jessie Florence McKay, M.D. University of Buffalo, died recently in New York City, from pleuro-pneumonia, aged 41.

P. A. Davis, M.D. Willamette University, Salem, Ore., 1871, died, the second week in April, at his home in Silverton, Ore.

James T. McKillop, M.D. Trinity University, Toronto, Ont., 1889, died at his home in Wardsville, Ont., April 9, aged 41.

George S. Smith, M.D., of Pinckneyville, Ill., died at his home, April 2, aged 85.

John F. Biggs, M.D., died at his home in Center Point, Ark., recently.

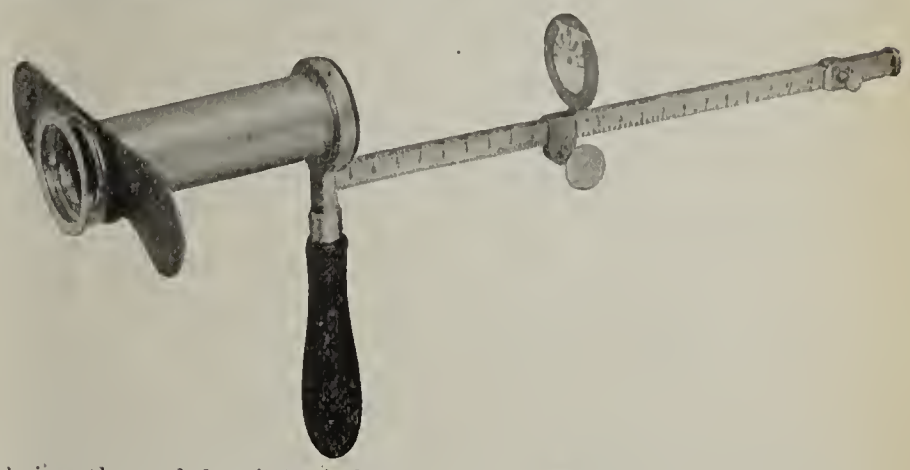
New Instruments.

THE PUNCTUMETER, FOR MEASURING THE RANGE OF ACCOMMODATION.

J. G. HUIZINGA, M.D.
GRAND RAPIDS, MICH.

The punctumeter is an instrument for ascertaining the range of accommodation. Its name signifies a point-measurer, i. e., to measure the far and near points of vision. The difference between these two points equals the range of accommodation. For several years I have been impressed with a lack of reliable methods for making these measurements. No instrument for obtaining this information being in existence, I began to study whether it would not be possible to have one constructed on scientific principles. After the usual history of trials and failures I am at last able to present to the profession an instrument which I believe to be absolutely reliable. It is so constructed that it can also be used as a rapid test for any of the errors of refraction and in this respect I know of no instrument that is superior to it.

A 10 D. convex lens is placed at a distance of 9.7 cm. from the end of the instrument which rests against the edge of the orbit. This brings the lens practically 10 cm. from the nodal point of the eye. A test card, with figures of appropriate design and size, is placed 10 cm. behind this lens and thus occupies one of the points of the conjugate foci, the other

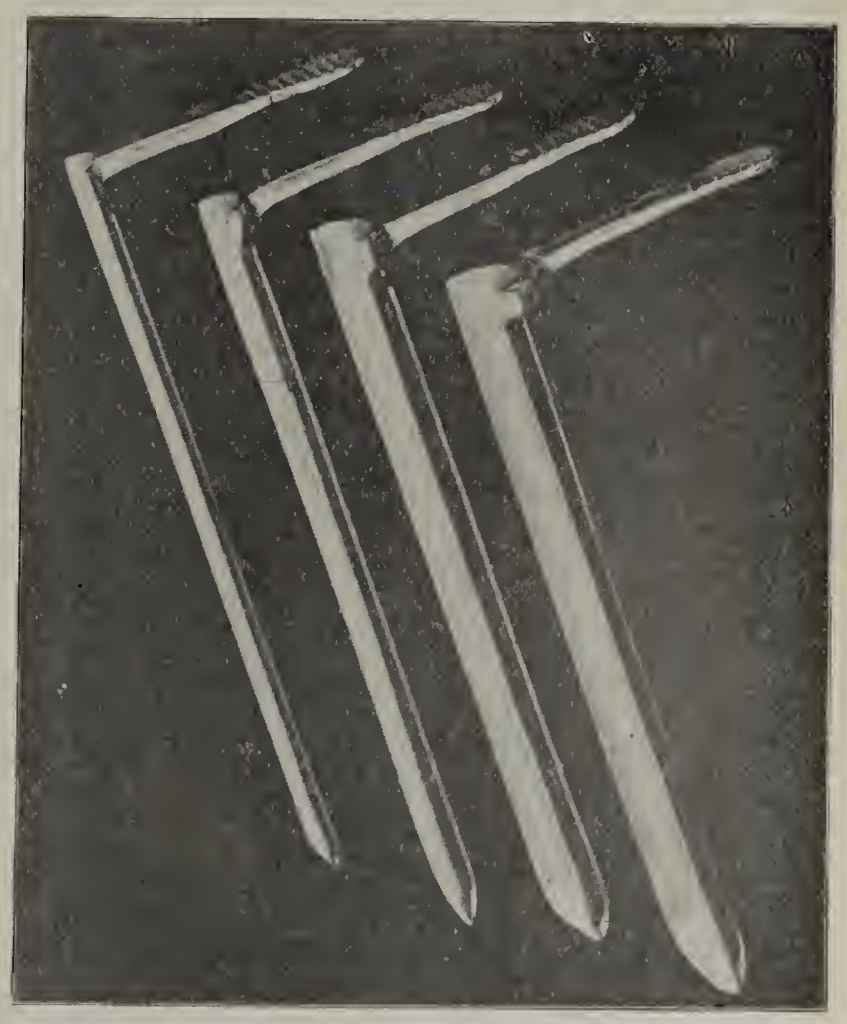


being the nodal point of the eye. This test card can be moved back and forward. The difference in centimeters between the greatest and least distances at which this test type can be distinctly seen is the measure of the range of accommodation.

INSTRUMENT TO FACILITATE THE PLACING OF DRAINAGE IN AFTER-TREATMENT OF SUPPURATIVE APPENDICITIS.

A. E. SPALDING, M.D.
LUVERNE, MINN.

The effort to place drainage at the bottom of the sinus after removal of the primary drain is sometimes difficult and often painful to the patient. As the gauze adheres to the sides



of the sinus, considerable force has to be used before it can be properly carried to the bottom of the cavity.

The necessity for an instrument for the purpose of facilitating the placing of drainage led to a crude production which I hammered out of a white metal spoon and which I have frequently used during the past four years.

Having demonstrated to my own satisfaction the practicability of such an instrument, I have recently had made for me

a set of four instruments, ¾, ⅝, ½ and ⅜ of an inch in diameter by 5 inches in length. The large size is the one ordinarily used for the first dressing, diminishing the size as the sinus narrows.

The manner of using is to place the convexity toward the median line; gently force the instrument to the bottom of the cavity; then draw it toward the median line as you would a retractor, and with long dressing forceps grasp a strip of the gauze which is then carried to the bottom of the cavity and released. After packing loosely, pressure is used with the dressing forceps on the top of the gauze to prevent misplacement while withdrawing the instrument. Should Morris' wick drain be used instead of gauze, the principle and utility of the instrument will be the same.

While this is a very simple device, I am confident it will be found a great aid to the proper carrying out of the treatment required in such cases.

Their use need not be restricted to the purpose above indicated, but will be found convenient in certain gall-bladder cases or in any abdominal case requiring subsequent drainage, as well as in suprapubic cystotomy as an exploratory instrument.

Miscellany.

American Journalism.—America can now boast of seven great weeklies, 260 monthlies, and some 25 other journals of various kinds. According to the *American Medical Journalist*, the following new journals were born within the year: *American Medicine*, Philadelphia; *Detroit Medical Journal; Texas Medical Gazette*, Fort Worth, Tex.; *Journal of New York Medical Association*, Albany; *Journal of Surgical Technology*, New York City; *Doctors' Magazine*, Alma, Mich.; *Regular Medical Visitor*, St. Louis.

What One Society Does.—In Minnesota a local medical society has by practical experiment carried to successful conclusion shown what can be accomplished by our profession in a business way. The Ramsey County Medical Society owns and publishes the *St. Paul Medical Journal*, whose excellence is everywhere well recognized. The journal has been earning a profit for the society, and has collected a library of 3500 or 4000 volumes which is open to the profession. There is operated in connection with it a clinical laboratory, and a profit has been made out of the preparation and sale of catgut. In view of the marked success of this experiment there is no inherent reason for holding that the profession can not in other cities conduct in a coöperative way those industries with which it is so closely allied.—*Cleveland Med. Journal.*

A Lay View of Physicians.—"Doctors do not call themselves philanthropists, yet they practically accomplish more in that line than men of any other vocation. What a great, though quiet, force they have been in the building of the West! If the full story of their labors and sacrifices in Missouri could be told the record would touch every heart and impress every mind with its value and magnitude. Doctors are men of sentiment, wholesome and high-minded sentiment, suited to the needs and advancement of everyday life. They know few holidays and often devote those they have to greeting a noble old teacher, as they did last night. (This refers to the Gregory banquet.) They work in the shadows of human existence, but always toward the light. Americans could get along without politicians, being born that way, but the learning and goodness of the medical profession do not come by nature."—Editorial, St. Louis *Globe-Democrat.*

Hahnemann on Sectarianism.—We have all heard and read of people who are more royalistic than the king himself: and so sectarians of all descriptions frequently become more zealous than the founders themselves. Some of the narrow-minded homeopaths object to the liberalizing movement which has been making itself felt of late and which induces many Hahnemannians to drop their sectarian names. Such ones will do well to read and ponder over the words of Hahnemann, which will be found in his "Lesser Writings." They are in substance as follows: "The motto of a sectarian name is a bar to sober, calm, scientific investigation; it only rouses the antagonistic spirit to a fierce, volcanic flame. Truth and welfare of humanity should be the only motto of the true followers of the art, and a brotherly, peaceful reunion, without slavish adherence to any sectarian leader, should be our only watchword, if we do not wish to see that little good that we have accomplished completely sacrificed to party spirit and discord."—*Merck's Archives*, March.

Movement of the Population in France.—An editorial in the *Presse Medicale* states that the recent census shows that France has gained 444,613 inhabitants during the last five years, more than two and a half times the gain during the preceding years. During the corresponding period Germany has gained 140 for every 1000 inhabitants; Austria 96, and Great Britain 100; while the gain of France has been only 16 for every 1000. The French cities have increased their population by 458,576 during this period, so that in spite of the total gain, the country outside of the cities has actually lost inhabitants. The departments which contain the largest cities, Seine and Rhône, average 256 deaths from tuberculosis out of every 1000 deaths, while the rural districts average only 68. Out of this proportion of 256 a very large number, if not the majority, are young men, *déracinés*, transplanted from their natal soil, from the vast spaces and pure air of the country, who have not been able to acclimate themselves to the conditions of crowded city life.

Superiority of Goats' Milk.—The French National Société d'Acclimatation and the Paris municipal laboratory have been making extensive tests of goats' milk. The results have demonstrated—according to an article in the *Journal de Méd.*—that the goat deserves the highest rank among all milk-producing animals. Their milk contains 22 to 40 gm. of casein to the liter and it is identical in all its properties with the casein in human milk. The species of goat and the period of the lactation determine the richness of the milk. The molecules of butter and casein are extremely minute and the milk is rich in natural phosphates. As the goat is refractory to tuberculosis, the danger of infection from this source is avoided by the use of goat milk. A Paris physician, Dr. G. Barbellion, has opened a goat milk depot and calls upon his confrères elsewhere to follow his example and thus remedy one of the worst scourges of our epoch. The medical control of the establishment guarantees the aseptic bottling of the milk as soon as drawn. Results have shown the way in which young and old thrive on this pure, physiologic, living natural food.

Liquid Soap.—An excellent formula for liquid soap for surgical and toilet purposes is the following, from the *Am. Jour. Pharmacy:*

℞.	Cottonseed oil	300
	Alcohol	300
	Water	325
	Sodium hydrate	45
	Potassium carbonate	10
	Ether	15
	Carbolic acid	25

To the oil in a bottle of sufficient size, add 100 c.c. of water and 200 c.c. of alcohol; add the sodium hydrate and shake occasionally until it saponifies; then add the remainder of the alcohol and the potassium carbonate dissolved in the rest of the water; lastly add the carbolic acid and ether. Keep well corked. It will solidify at a temperature below 10 C. A few drops will make a copious and lasting lather with great detergent qualities, excellent for instruments, preparation of patients, cleansing of the hands, especially when stained or odorous, and for other surgical uses. By substituting an essential oil for the ether and carbolic acid, a scented toilet soap is made. This makes an unequaled shaving soap and shampoo, according to Pharmacist M. I. Wilbert, of the German Hospital, Philadelphia.

Javanese Method of Narcosis.—L. Steiner describes in the *Arch. f. Schiffs- u. Tropen-Hygiene*, v, 12, a method of narcosis which has been long practiced in Java. The hands are placed on the neck of the subject, the fingers meeting at the back, and the carotid artery is briefly compressed with the thumbs, back of and a trifle below the lower jaw. The artery is pressed back toward the spine. Only 5 out of 30 subjects failed to

respond to his application of this maneuver. The head falls back and the subject seems to be in a profound slumber, from which he awakes in a few minutes as if suddenly aroused. The effect can not be due to suggestion, as the same maneuver avoiding the arteries, fails to produce any effect. The procedure is called by a Javanese term which signifies "compression of the sleep vessel." The popular name for the carotid artery in Russian, by the way, is also the "sleep artery"; and "carotid" is derived from the Greek *karos*, sleep. He has never witnessed or heard of any accidents from this method of narcosis which is widely practiced on the island, frequently associated with general massage. The patients do not vomit, and there is no incontinence of urine or feces. He opened an inguinal abscess in one case while the patient was unconscious. He is inclined to advocate this absolutely harmless method of narcosis as worthy of a place in surgery, on account of the rapidity with which it can be accomplished and the rapid awakening. The procedure may also prove effective in combating cephalalgia, vertigo and insomnia.

The Relation of Malignant to Rheumatic Endocarditis.—At the Royal Medical and Chirurgical Society Dr. F. J. Poynton and Dr. Alexander Paine read an important paper on this subject. The relationship between the two diseases was, they believed, a very close one, and this was especially true of certain cases of malignant endocarditis which were associated with a previous history of rheumatic fever, and during the course of which rheumatic manifestations were apt to occur. Now that rheumatic valvulitis is known to be infective, "malignant endocarditis" is, they think, a more accurate term than "infective endocarditis." The question arises whether some of these malignant cases are not really rheumatic. The possibility of complete proof has been heretofore impossible since an exciting cause of rheumatic fever was unknown. The evidence in favor of such a cause being a diplococcus is now extremely strong. The writers' research has led to the conclusion that there is a group of cases of malignant endocarditis rheumatic in origin. A diplococcus can be isolated from cases of malignant endocarditis which grows in pure culture and reproduces that disease in rabbits, and resembles the diplococcus of rheumatic fever in its morphology and cultural characteristics. Moreover, the diplococcus of rheumatic fever produces malignant endocarditis in rabbits on the one hand, and the diplococcus from certain cases of malignant endocarditis produces rheumatic fever in rabbits on the other. Finally every grade of valvulitis, from simple or malignant and vice versa, can be produced by these two diplococci. A valuable series of macroscopical and microscopical specimens, lantern slides, and drawings were exhibited in support of these statements.

Primary Tuberculosis of the Cervix Simulating Cancer.—At the Obstetrical Society, London, Dr. Lewers related the case of this very rare condition. A married woman, aged 36, had never been pregnant. For nine months there had been a blood-stained and slightly offensive vaginal discharge. Bleeding was noticed after coitus and after using a vaginal syringe. The general health began to fail about twelve months before she came under observation, but she did not think she had lost flesh. An aunt had died of consumption. The vaginal portion of the cervix seemed to be in a condition identical with what was found in many cases of cancer. It was the seat of a friable growth which bled easily on examination. The uterus was freely movable. Thinking the case was one of cancer of the cervix, Dr. Lewers performed vaginal hysterectomy on Jan. 30, 1896. The patient made a good recovery. In November, 1901, she enjoyed "fairly good health." Microscopic examination of the growth showed that it was tuberculous.

Medicine Among the Ancient Inhabitants of Peru.—The *Cronica Medica* of Lima published during the last months of 1901 the graduating thesis of D. E. Lavoreria which is devoted to this subject. He pays particular attention to the herbs used by the ancient Incas in various affections, some of them still in use to-day. He mentions that anesthesia was induced by an exceptionally strong alcoholic drink when servants were to be killed at the death of their masters and also when the ears of young warriors were mutilated. Ancient Spanish writers dwell upon the fondness of the Incas for bathing, which they believed washed away their sins as well as various diseases. Another cause for their love of hydrotherapy is suggested by a royal decree calling for a certain tax tribute from all the people. When the subjects were absolutely too poor to pay it in money they must pay it with a certain number of body lice in token of vassalage. The Inca names of certain diseases indicate their nature, as for instance "burning breathing." Medicine was practiced mostly by the priests and the trephining of the skull was a measure adopted to allow the egress of the evil spirit causing the disease. Muniz found trephined skulls in the proportion of 2 per cent. in his collection of 1000 skulls. Some of the subjects evidently survived and others died under the operators' hands, to judge from the unfinished condition of the wound.

Cure of Excessive Sweating of the Feet.—Gorodtzeff writes to the *Voenno-Med. Journal* that he has found ordinary kitchen soap the most reliable and best treatment of excessive sweating of the feet and the resulting ulcers. The feet are bathed in tepid water and the skin—between the toes and wherever there is sweating—is rubbed with a piece of moistened soap until a thin layer remains on the skin. The stockings and shoes are then put on without wiping the feet. The procedure is repeated once a week or more or less frequently, and in his extensive civilian and army experience the most inveterate and fetid sweats were thus conquered in every instance. Wearing ventilated shoes during the summer hastens the cure.

Treatment of Smallpox with Brewers' Yeast.—The favorable effect of yeast in furunculosis suggested to S. Pietri of Nice that it might be useful also in smallpox. The *Semaine Méd.* of February 19 states that it seemed to have an actual abortive influence in the two cases in which he tried it. Both were confluent cases and recovered rapidly after the administration of five or six teaspoonfuls of fresh yeast every day, with no other treatment. The pustules healed promptly without suppuration, fever or pitting.

Desiccated Serum for the Biologic Blood Test.—J. Hausner has found that it is possible to preserve the sera of various animals to use in the Deutsch and Uhlenhuth biologic test for blood. He poured the sera in a thin layer in Petri dishes and dried them in the oven in the dark. The powder thus obtained proved extremely effective.—*Med. Obosrenie*, December, 1901.

Societies.

COMING MEETINGS.

American Medical Association, Saratoga Springs, N. Y., June 10 to 13.

Association of American Physicians, Washington, D. C., April 29 to May 1, 1902.

American Association of Genito-Urinary Surgeons, Atlantic City, N. J., April 30, 1902.

International Association of Railway Surgeons, St. Louis, Mo., April 30 and May 1 and 2, 1902.

American Gastro-Enterological Association, Washington, D. C., May 2, 1902.

Nebraska State Medical Society, Omaha, May 6-8, 1902.

Texas State Medical Association, Dallas, May 6-9, 1902.

Kansas Medical Society, Lawrence, May 7-9, 1902.

American Therapeutic Society, New York City, May 13, 1902.

Utah State Medical Society, Salt Lake City, May 13-14, 1902.

Oklahoma Territory Medical Association, Oklahoma City, May 14, 1902.

Arkansas Medical Society, Little Rock, May 13-15, 1902.

New Hampshire Medical Society, Concord, May 15-16, 1902.

Illinois State Medical Society, Quincy, May 20-22, 1902.

American Surgical Association, Albany, N. Y., May 20-22, 1902.

Medical Association of the State of Missouri, St. Joseph, May 20-22, 1902.

Kentucky State Medical Society, Paducah, May 7-9, 1902.

Arizona Medical Association, Tucson, May 21-22, 1902.

Medical Society of West Virginia, Parkersburg, May 21-23, 1902.

Medical Association of Montana, Anaconda, May 21-22, 1902.

Iowa State Medical Society, Des Moines, May 21-23, 1902.

Indiana State Medical Society, Evansville, May 22-23, 1902.

American Pediatric Society, Boston, May 26-28, 1902.

American Laryngological Association, Boston, Mass., May 26-28, 1902.

American Gynecological Society, Atlantic City, May 27, 1902.
Connecticut Medical Society, New Haven, May 28-29, 1902.
Ohio State Medical Society, Toledo, May 28-30, 1902.
American Laryngological, Rhinological and Otological Society, Washington, D. C., June 2-4, 1902.
Louisiana State Medical Society, Shreveport, June 3-5, 1902.
Medical Society of the State of North Carolina, Wilmington, June 3-7, 1902.
Maine Medical Association, Portland, June 4-6, 1902.
Wisconsin State Medical Society, Milwaukee, June 4-6, 1902.
Rhode Island Medical Society, Providence, June 5, 1902.
South Dakota State Medical Society, Scotland, June 4-5, 1902.
Association of Military Surgeons of the United States, Washington, D. C., June 5-7, 1902.
American Orthopedic Association, Philadelphia, Pa., June 5-7, 1902.
American Academy of Medicine, Saratoga Springs, N. Y., June 7, 1902.
American Association of Life Insurance Examining Surgeons, Saratoga Springs, June 9, 1902.
National Confederation State Medical Examining and Licensing Boards, Saratoga Springs, N. Y., June 9, 1902.
Association of American Medical Colleges, Saratoga Springs, N. Y., June 9, 1902.
American Climatological Association, Los Angeles, Cal., June 9-11, 1902.
American Proctological Association, Saratoga Springs, N. Y., June [illegible], 1902.
Medical Society of Delaware, Newark, June 10, 1902.
Massachusetts Medical Society, Boston, Mass., June 10-11, 1902.
Colorado State Medical Society, Pueblo, June 17, 1902.
American Medico-Psychological Association, Montreal, June 17-20, 1902.
Minnesota State Medical Society, Minneapolis, June 18, 1902.
Medical Society of New Jersey, Atlantic City, June 24-26, 1902.
Washington State Medical Society, Tacoma, June 24-26, 1902.
Michigan State Medical Society, Port Huron, June 26-27, 1902.

Cass County (N. D.) Medical Society.—At the annual meeting of this Society, Dr. Isaac N. Wear, Fargo, was elected president.

American Therapeutic Society.—This Society will hold its third annual meeting at the New York Academy of Medicine, May 13, 14 and 15, under the presidency of Dr. Reynold Webb Wilcox, New York City.

Southern Idaho District Medical Society.—This Society convened at Boise, April 3. Dr. Burpee L. Steeves, Weiser, was elected president; Dr. Lewis C. Bowers, Boise, vice-president, and Dr. Hubert A. Castle, Pocatello, secretary and treasurer.

Cumberland County (N. J.) Medical Society.—At the annual meeting of this Society, held in Bridgeton, Dr. H. Garrett Miller, Millville, was elected president; Dr. John C. Applegate, Bridgeton, secretary, and Dr. Joseph Tomlinson, Bridgeton, treasurer.

Cuyahoga County (Ohio) Medical Society.—The annual meeting of this Society was held, April 3, when Dr. John P. Sawyer was elected president; Dr. Frederick C. Herrick, vice-president; Dr. George W. Moorehouse, secretary, and Dr. Charles G. Foote, treasurer.

Perry County (Ind.) Medical Society.—This Society, at its annual meeting held in Tell City, elected Dr. Charles M. Brucker, Tell City, president; Dr. Henry G. Weiss, Lamar, vice-president; Dr. Claude T. Hendershot, Cannelton, secretary, and Dr. James B. Bennett, Derby, treasurer.

San Diego County (Cal.) Medical Society.—At the annual meeting of this Society, April 4, at San Diego, Cal., the following officers were elected: President, Dr. William M. Cummings; vice-president, Dr. Peter J. Parker, and secretary and treasurer, Dr. Thomas L. Magee, all of San Diego.

Albany County (N. Y.) Medical Association.—The annual meeting of this Association was held at Watervliet, April 1. Dr. William E. Lothridge, Verdoy, was elected president; Dr. Adam T. Van Vranken, Watervliet, vice-president, and Dr. Martin J. Zeh, Watervliet, secretary and treasurer.

Edwards County (Ill.) Medical Society.—The physicians of Edwards County met at Albion, April 8, and effected a permanent organization with the following officers: Dr. William E. Buxton, Samsville, president; Dr. John S. Williams, Albion, vice-president, and Dr. James H. Lacy, Albion, secretary.

Tipton County (Tenn.) Medical Society.—This Society, originally formed in 1876, was reorganized at Covington, April 1, with the following officers: Dr. James B. Witherington, Munford, president; Dr. William H. Sale, Covington, vice-president, and Dr. B. V. Dickson, Covington, secretary and treasurer.

Essex District (N. J.) Medical Society.—At the annual meeting of this Society, held in Newark, April 1, Dr. James T. Wrightson was elected president; Dr. Walter S. Washington, vice-president; Dr. Archibald Mercer, secretary; Dr. Charles D. Bennett, treasurer, and Dr. William S. Disbrow, reporter, all of Newark.

Windham County (Conn.) Medical Society.—The one hundred and ninth annual meeting of this Society was held at Willimantic, April 10. Dr. Frank H. Coops, Danielson, was elected president; Dr. Henry R. Lowe, Putnam, vice-president; Dr. James L. Gardner, Central Village, clerk, and Dr. Theodore R. Parker, Willimantic, county reporter.

Steuben County (N. Y.) Medical Association.—This Association was organized at Hornellsville, April 7, with the following officers: Dr. John G. Kelly, Hornellsville, president; Drs. Charles O. Green, Hornellsville, George C. McNett, Bath, and Herbert B. Smith, Corning, vice-presidents, and Dr. Charles R. Phillips, Hornellsville, secretary and treasurer.

Washington County (Texas) Medical Association.—This organization, which was originally formed in 1868, was reorganized at Brenham, April 8, with the following officers: Dr. James T. Spann, Chappell Hill, president; Drs. R. H. Lennert, Brenham, and W. R. Campbell, Chappell Hill, vice-presidents, and Dr. John B. York, Brenham, secretary and treasurer.

Florida Medical Association.—The annual meeting of this Association was held in Tampa, April 9, 10 and 11. The following officers were elected: Dr. J. Harris Pierpont, Pensacola, president; Drs. Edward N. Liell, Jacksonville, and John MacDiarmid, DeLand, vice-presidents, and Dr. J. D. Fernandez, Jacksonville, secretary and treasurer. St. Augustine was selected as the meeting-place for 1903.

Broome County (N. Y.) Medical Association.—This Association held its annual meeting in Binghamton, April 8, and elected Dr. Le Roy D. Farnham, president; Dr. William A. White, vice-president; Dr. Clarke W. Greene, secretary, and Dr. William H. Knapp, treasurer, all of Binghamton. Dr. John M. Farrington, Binghamton, was elected delegate to the State Medical Association, and Dr. Clarke W. Greene, alternate.

Tidewater Medical Association.—This Association, composed of colored physicians from Norfolk, Portsmouth, Suffolk, Yorktown, Gloucester, Hampton, Old Point, and Newport News, Va., was organized at Newport News, April 10, with the following officers: Dr. William R. Granger, Newport News, president; Dr. Philip L. Barber, Norfolk, vice-president; Dr. Welcome T. Jones, Newport News, secretary, and Dr. Thomas W. Addison, Hampton, treasurer.

Fairfield County (Conn.) Medical Association.—The one hundred and tenth annual meeting of this Association was held in Bridgeport, April 8. The newly-elected officers include Dr. Nathaniel E. Wordin, Bridgeport, president; Dr. William B. Cogswell, Stratford, vice-president; Dr. Harris F. Brownlee, Danbury, county reporter, and Dr. George S. Ford, Bridgeport, clerk. Delegates and alternates to the State Society were also elected.

West Penn Hospital (Pittsburg) Resident Physicians' Association.—This Association, composed of the resident physicians at the hospital for the past 28 years, held a smoker, April 10. About 40 physicians were present. The organization is a year old and the following officers were re-elected for another year: President, Dr. James W. MacFarlane; vice-presidenth, Drs. Ellis E. Montgomery and Thomas L. Hazzard, Allegheny; secretary, Dr. J. M. Jackson, and treasurer, Dr. Elwood B. Haworth.

Blue Earth County (Minn.) Medical Society.—The reorganization of this Society was effected at Mankato, April 3, along the plans adopted by the American Medical Association. The following were elected officers: President, J. Francis Schefick; vice-presidents, F. D. Brandenburg, John Williams, and Julian A. Heilscher; treasurer, DeLos D. Smith; secretary, Carl J. Holman; judicial council, William Frisbie, Madge Timmerman-Holman and S. D. Sour. A resolution of approval of the plan of reorganization of the Minnesota Medical Society was passed. The subject of discussion for the evening was "Puerperal Fever, Its Prophylaxis and Treatment."

Milwaukee County (Wis.) Medical Society.—This Society held its annual meeting in Milwaukee, April 11. The following officers were elected for the ensuing year: Dr. Horace M. Brown, president; Dr. William H. Washburn, vice-president; Dr. Alfred W. Gray, secretary; Dr. Charles G. Willson, treasurer, and Drs. Alden B. Farnham, Ernest Copeland and Louis F. Frank, censors, all of Milwaukee. This Society was organized in 1846, and with the exception of two periods of inactivity, has been holding meetings regularly. At present it has more than eighty members, with the prospect that this number will be greatly increased.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held March 26, 1902.

President, Thomas H. Fenton, M.D., in the Chair.

Symposium Upon Dysentery.

Dr. L. Napoleon Boston read a paper entitled "Amebic Dysentery with Hepatic Abscess; Rupture into the Lung; Amebæ Coli Found in the Sputum." Dr. Boston's paper recounted the case of a male, aged 21, who served for several months in the U. S. Army in the Philippines. Within the time of his service he several times had attacks of dysentery lasting 3 or 4 days. At one time, upon the day of admission to the army hospital, he had 28 bloody stools. There were hard nodular masses over the abdomen, with pain. The patient returned to the United States in June, 1901, and the symptoms abated. When seen by Dr. Boston in September, 1901, the lungs were normal. On Feb. 4, 1902, the patient was seized with chills, developing the symptoms and signs of a right lobar pneumonia. Respirations were 40, there was much pain. Drenching sweats followed, the temperature usually being 98 degrees. There was paroxysmal cough in the morning. Tenderness developed in the epigastrium. Impairment of resonance of the right lower lung occurred with crackling râles over the base. Girdle pain developed, and cough accompanied with free expectoration of blood-streaked gelatinous sputum. Microscopic examination of the sputum showed the presence of amebæ coli, oil globules, diplococci and blood cells; later there was presence of elastic tissue.

In a series of 2400 cases of amebic dysentery collected, 20 per cent. showed the development of hepatic abscess. The patient was shown in good condition, now manifesting no symptoms; the physical signs being practically *nil*.

Dr. J. M. Anders directed attention to the afebrile state, a condition usual in such an hepato-pulmonary abscess. The speaker cited the case as an example of the common chronicity of the disease, symptoms being absent for months before its recent manifestation. The lesions were believed meanwhile to have persisted in the intestines.

Dr. J. H. Gibbon referred to a man who had been in South Africa and upon whom he had operated for some condition causing enormous distension of the right hypochondrium. The diagnosis of a broken-down hydrated cyst of the liver was made. The liver extended below the umbilicus. The condition proved, upon operation, to be an amebic abscess with sterile pus. A sinus existed for three months subsequent to incision and drainage and then closed, the liver meanwhile contracting. There was no pain or leucocytosis.

Bacillary Dysentery.

Dr. Simon Flexner presented this subject and said that the classification of dysentery was formerly based upon its clinical and pathologic manifestations, but that its etiology is the only true basis of classification. According to pathologic findings, there were commonly said to be four forms, namely, catarrhal, diphtheritic, acute ulcerative and chronic ulcerative. As to the catarrhal form, there is nothing specific in its causation; it accompanies scarlet fever, diphtheria, tuberculosis, enteric fever, etc., and it is not at all likely that this form can ever have a specific etiology.

Another classification which has been common is endemic (chiefly in the tropics) and epidemic, acute in its nature. The two are not different, however, in their causation. Within the last several years the use of the microscope and culture tube has done much to put the classification upon an etiologic basis. The bacillary form of dysentery is found to be due to a bacillus not normally in the intestine. It is of the typhoid group, although different from the true typhoid bacillus. When a patient is infected with the bacillus, the blood undergoes such changes as to give the agglutination test with this special bacillus. This is particularly manifest in the form in whch the pseudo-membrane is found in the intestine. Some three years ago this subject was studied by Shiga in Japan. Great difficulty was experienced because of the many organisms present in the intestine. The specific organism was differentiated by the agglutinative reaction. It has since been demonstrated by Strong and the speaker from studies in the Philippine Islands and in Germany by Kruse; and Dr. Flexner said he had had the privilege of studying the disease in soldiers returned from Porto Rico. In this country the past summer there were sporadic cases and some epidemics. One of the latter occurred at Lancaster, Pa. One peculiar and striking fact is, that (especially in the diphtheritic form) when the bacilli diminish in number from the intestine, the reaction of agglutination lessens.

There is a group of cases in which the specific bacillus is never found; there is no agglutinative reaction and the disease is chronic. This is the amebic variety. In the acute form no amebæ are present. Ulceration in the two varieties also differs. The two forms are separated by clinical phenomena, pathologic findings, and especially in the micro-organisms causing them. We can not give true dysentery to the lower animals. We may cause lesions, but not characteristic ones.

It has long been noted that advanced Bright's disease and cirrhosis of the liver often end by dysentery. This form agrees exactly with the bacillary variety. The same organism is present. This is evidence of the wide distribution of this special bacillus, and the liability of debilitated subjects.

Amebic Dysentery.

Dr. William Osler, Baltimore, addressed the society upon this subject. He stated that it was his fortune to have introduced the term. He briefly related experience with the disease in Johns Hopkins Hospital during the last 12 years. It is endemic in his city and state. Within the period mentioned 93 cases have been admitted to the wards; double this number had been treated at the dispensary. Four or five cases had come from the same locality. There were only 11 females in the group. The disease is more common among whites, there being only 9 colored patients of the number. It is a disease chiefly of young adults and is essentially chronic. Very few cases are acute. Fever is slight. Pus, mucus and blood are found in the stools. Four cases are under treatment at present, one of which has persisted for 6 years. It is common for constipation to alternate with diarrhea. Very few die of dysentery *per se*. Two cases died of perforation. Abscess of the liver is not infrequently a cause of death. Twenty-three cases developed liver abscess. Only the severe forms were admitted to the hospital.

After the studies of Shiga and Flexner it was thought that all forms of dysentery might be due to the bacillus of Shiga, but it is now known that there are marked differences between the bacillary and amebic forms. The amebic variety does not occur in widespread epidemics; it is rarely acute; it kills more by complications; its chronicity is marked, with a tendency to relapses; the amebæ coli or the pus of an abscess are found in the stools; the serum reaction of Shiga's bacillus is absent. This variety will be recognized to have distinct characteristics from the bacillary form. A considerable number of cases die. The mortality is greater than that of typhoid fever; it approximates that of pneumonia. Two cases of hepatico-pulmonary abscess occurred at the hospital this winter. Operation in such cases is questionable. Of the cases in which abscess ruptures into the lung 40 to 50 per cent. get well without operation. Such a focus is often central at the root of the lung, can not be located, and is difficult of access. One of these two cases nearly strangled to death and finally died of exhaustion in his attempt to cough up the pus.

The Treatment of Dysentery.

Dr. H. A. Hare claimed that much of the treatment commonly employed is based upon empiricism, and is irrational. The food should be easily digested and such as is chiefly digested in the stomach and duodenum, so that there will be but little residue to pass into the lower bowel. Milk is not always as useful as is supposed, because curds are apt to pass through the bowel undigested. Milk should be well diluted, better peptonized, and given in small quantities frequently. Solid food is contra-indicated. Soft eggs and milk toast may be taken.

The drug treatment is commonly one of three methods. First is the ipecac plan. Physicians believe they have found it beneficial, although its use is almost entirely empirical. There may be a rational basis in the fact that a profuse flow of bile

is caused. Sixty grains are given, vomiting resulting. Three grains are then given hourly until a profuse black stool is passed. Vomiting is controlled by opium and stimulants are freely used. The second is the purgative plan. Purgation is obtained by the free administration of magnesium sulphate. This is followed by aromatic sulphuric acid. The latter seems rational as bacteria may be destroyed by an acid medium or are at least rendered inert and the drug is astringent. The third plan is that of attempted intestinal antisepsis by bismuth salol, beta-naphthol, mercurials and other drugs. Mercurials at least have the value of increasing the flow of bile.

There seems to be no question as to the value of rectal injections of different kinds, if properly given. Potassium permanganate solution, 2 to 4 grains to the pint, has been so used and is believed to have controlled outbreaks of the disease. The speaker has used sulphocarbolate of zinc solution, 20 grains to the pint of water, and nitrate of silver solution in the same strength. In afebrile condition, with a tender abdomen, ice water injections are grateful. Intestinal lavage should be given very gently and slowly, at least 15 or 20 minutes being taken for the process. If there is much irritability of the bowel it is best to use two catheters, inserting one for the backward flow. Normal saline solution may be used with advantage as may also a solution of quinin which need not be strong as a solution of 1 to 5000 is deadly to the germ.

DR. JAMES TYSON said that his experience with the terminal dysentery of Bright's disease sustained the conclusions of Dr. Flexner. As to treatment, he had used every form except the ipecac method. He has most faith in the purgation method, associated with cold enemas and sufficient opium to quiet irritation.

DR. ALFRED STENGEL gave a plan of treatment which he had used with a happy result. Dr. Cunningham of India, one of the earliest writers upon amebic dysentery, had observed that when the feces were alkaline the conditions were favorable for the growth of the germ, but if the intestine were rendered acid the growth of the germ was inhibited. Upon this basis Dr. Stengel treated a young man who had had amebic dysentery for 4 or 5 years, by giving capsules of sulphur, 10 grains 3 or 4 times a day, guarded with opium. When the stools became acid, the amebæ disappeared and the stools became solid within 24 hours. The brother of this patient was given the same treatment with the same result.

DR. GIBBON asked Dr. Osler whether, in any of the Johns Hopkins cases, colostomy with through-and-through irrigation had been done.

DR. OSLER answered in the negative; he further stated that intestinal irrigation with quinin solution had been efficient; no motile amebæ were found after such a procedure. The speaker referred to the necessity, in colon irrigation, of giving, as Dr. Hare had pointed out, the injection very slowly, of having the hips raised, and of turning the patient from side to side during the procedure.

DR. FLEXNER stated that the outlook for serum-therapy in dysentery is not hopeful. A serum, to be effective in this disease, must probably be antibacterial in its effect. If the blood of apes could be used in the preparation of the serum the results would probably be better.

DR. HARE, in closing the discussion, emphasized the importance of clinically differentiating the forms of dysentery and thus being able to adopt the treatment suitable to the form present. As to the therapeutic use of sulphur, he believes that physicians will come back to its more frequent use; that in amebic dysentery it may have an antiseptic or other favorable effect upon the bowel besides the acid effect.

DETROIT MEDICAL SOCIETY.

Meeting held March 26, 1902.

Roentgen Rays in Epithelioma.

DR. H. R. VARNEY exhibited four patients and narrated their histories and the results of the *x*-ray treatment of the lupus, epithelioma and hypertrichosis previously existing in them. The cases follow:

CASE 1.—Lupus.—Miss F., general health fairly good except neurotic temperament. No history of tuberculosis in family. In October, 1899, a purplish, hard, thickened nodule appeared on her left cheek and slowly increased in size. In a few months other lesions developed on the same cheek, involving about half its area during the first year of the disease. Constant treatment in 1900 and 1901 caused some improvement.

On Dec. 2, 1901, patient was referred to me by Dr. Steinbrecker and his diagnosis of lupus confirmed, it being scrofuloderma ulcerosum, or tubercular gummata. The lesions, six in number, varied in size from a small five-cent piece to a dollar and were deep-seated. The exposures, begun December 2, were of five minutes' duration, four inches from a medium soft tube. No improvement noted until the sixth exposure, when there was a marked diminution in size of lesions and amount of discharge. On Jan. 10, the seventeenth exposure, erythema developed, due to the rays. Exposures were discontinued for ten days, during which time there was marked improvement; lesions became level with surrounding skin normal in color, infiltration and induration all carried away with no scar to mark location of the lesion. Patient had in all twenty-one exposures. Time of exposure from six to nine minutes, covering a period of about ten weeks.

CASE 2.—Epithelioma.—Mr. B., aged 59, old soldier, general health good, works every day. In June, 1900, he noticed a sore place on his nose, with scab constantly forming and falling off, having no tendency to heal. In August, 1900, Dr. McEachren made the diagnosis and cauterized at two different times. On Jan. 29, 1902, the growth being three-fourths of an inch long and a half-inch wide, daily exposures of six minutes' duration were started. The lesion was six inches from tube, other parts of the face being protected by a tin-foil mask. On February 18, erythema developed; exposures were continued, however. February 26, dermatitis noticed, exposures discontinued. March 10, lesion all healed. No crusts have formed since. Patient had in all twenty-six exposures covering three weeks and a half.

CASE 3.—Hypertrichosis.—Miss M. Both cheeks and chin were thickly covered with lanugo hair. When about the age of puberty, the length of the hairs worried her and she cut them with shears and pulled the coarser ones out until the condition became so embarrassing that she shunned all company. Dr. Biddle by electrolysis removed great numbers of the hairs.

Treatment with the rays began Nov. 18, 1901, for six minutes at first, increasing to nine minutes; exposing only the left side.

Patient's health and occupation prevented her from taking regular treatment. On January 17, the hair began falling from area which was first exposed. There has been no return of the hair on the left cheek and two months have elapsed since it fell out. The right side has had no exposures as yet. Thirty-six exposures have been given.

CASE 4.—Epithelioma.—Mr. A., typical growth on left cheek, in region of malar bone; of five years' duration.

He began treatment on March 4, 1902. From six minutes on that day the length of exposure was rapidly increased to twelve minutes. That length of time was through the next six treatments. Then dermatitis developed and the time was shortened to eight minutes. The reason for continuing the treatment, after dermatitis developed, was to carry away more of the rapidly disappearing waxy edges. March 21, exposures were discontinued. Sixteen exposures were given.

In the discussion there was brought out the necessity for careful observation of patients and compilation or results, that the foundation of *x*-ray therapy may be as accurate and reliable as possible for the future development of this promising branch of science.

NEW YORK OBSTETRICAL SOCIETY.

Regular Meeting, held April 8, 1902.

Dr. Malcolm McLean in the Chair.

Specimen of Ectopic Pregnancy (Tubal Abortion) with the Fetus in the Unruptured Membranes.

DR. HOWARD C. TAYLER presented this specimen. At the time of operation the right tube was found to be unruptured, its

outer end being distended and occupied by the fetal sac, which was partly in the tube and partly against the pelvic wall.

Retro-Peritoneal Echinococcus Cyst.

Dr. Tayler also presented this specimen and said that the history of the case went back to 1893 when Dr. Tuttle, at the Roosevelt Hospital, removed an echinococcus cyst of the omentum. Three months later Dr. I. Cragin operated upon an echinococcus cyst of the spleen; eight ounces of doughy cysts were evacuated by him and they continued to be discharged for several months later; subsequently the sinus closed and gave no further trouble. In 1901 the patient was again admitted and an echinococcus cyst was located behind the peritoneum and to the right of the rectum and was entirely independent of the uterus and its appendages. Six months after the last operation no trace of the disease could be noted.

Vesical Calculus from a Woman.

Dr. Egbert H. Grandin showed this specimen because of its extreme rarity; this was the second one he could recall. The first he saw three years ago and had, as its nucleus, a silkworm gut suture which had not been removed after the repair of a vesico-vaginal fistula. As a rule, in women, a foreign body of some kind is found as a nucleus of a calculus.

Dr. Malcolm McLean said that it was a well-recognized fact that idiopathic calculi requiring removal by operation were rare, but the last woman he operated upon was such a one; there being no nucleus of foreign substance.

Specimens from Three Recent Cases of Early Ectopic Gestation.

Dr. Abram Brothers presented these specimens. The first showed the fetus and ovum intact. In this case the chorionic villi had simply grown through and perforated the peritoneal coat of the tube and caused a fearful hemorrhage. The second specimen was an unruptured tubal pregnancy. The ovary removed with the tube did not show any corpus luteum, showing that the ovum was derived from the opposite ovary through transperitoneal migration. The third specimen showed the well-known form of ruptured tubal pregnancy. On the upper surface of the tube was a gash about one-half an inch long. The accompanying ovary showed very beautifully the corpus luteum. Dr. Brothers said he wished to accentuate the fact that the largest hemorrhages occurring in the early part of ectopic gestation may not come from a true rupture of the tube but from the outgrowth of the chorionic villi which are so vascular that when they have once penetrated the peritoneal coat they cause large hemorrhages.

Dr. McLean asked if some such hemorrhage could not come from the contiguous vessels of the tube.

Dr. Bandler said he had seen several cases where only two, three or six villi were found to have perforated the peritoneal covering; not only the ends of the villi but the placental sea, or intervillous space, was involved and thus enough blood entered the peritoneal cavity to produce symptoms of a profound intraperitoneal hemorrhage. Openings only microscopic in character may close and, after days or weeks, another perforation occur at the same, or at another, point.

Colon Bacillus Infection of the Female Genital and Urinary Systems.

Dr. Albert H. Ely read this paper. He said that the virulency of the infection from the colon bacilli seems to be due to their associated pyogenic organisms, for we often find the colon bacilli present in large numbers in the urine without at times giving any symptoms. Again, when other pyogenic organisms have disappeared, the colon bacillus will remain as the organism which produced a most intractible type of disease; therefore he concluded that a suitable nidus was necessary for their propagation and action. Histories of three cases were narrated. The first showed the normal type of pelvic inflammation followed by evident colon infection, as shown by frequent cultures. The second and third cases illustrated the virulency and persistency of the colon bacilli infection, and how much more active these bacilli became when a suitable nidus for their propagation was afforded. He felt warranted in deducing the following conclusions: 1. There exists as much necessity for thorough cleansing and rendering as aseptic as possible the rectum and colon, as the field of operation, especially when that operation is performed per vaginam. That in all cases of election the routine treatment of mild mercurial catharsis, followed by a saline and irrigation of the colon with salt or boracic acid, should be employed. 2. To reiterate a warning—the best results can be obtained when the intestines receive the minimum degree of trauma from handling and especially from the careless use of retractors, in cases where, for cosmetic effects or fear of hernia, too small incisions are made to permit of operation by sight rather than by touch.

Dr. Brothers stated that he had had a series of pus cases in which, by microscopic examinations, colon bacilli were found in only the minority of the cases and he could not recall a single case in which the colon bacillus was the only bacteriologic element present.

Dr. Ely was surprised at the remarks made by Dr. Brothers. The point he wished to bring out was, if colon bacilli are found, as reported by bacteriologists, even in arthritic joints, why did they vary so much in intensity and intractibility.

TRI-STATE MEDICAL SOCIETY (IOWA, ILLINOIS AND MISSOURI).

Proceedings of the Tenth Annual Meeting, held in Chicago, April 3 and 4, 1902.

The Society convened at the Great Northern Hotel, under the Presidency of Dr. John C. Murphy of St. Louis, Mo.

Ligation of Arteries; Cocain Anesthesia.

Dr. B. Merrill Ricketts, Cincinnati, Ohio, made a plea for a more general use of cocain for local anesthesia, especially in operations upon the head, neck and extremities. It is more efficacious, more desirable and less dangerous. It has a wide scope of usefulness, although as yet it had been applied to but a limited degree. Reference was made to its application to operations of any character on the extremities, and especially to its application of those involving the blood vessels. Cocain anesthesia would not only permit of the ligation of the more important blood vessels, but celiotomy for various purposes as well. The removal of various neoplasms, malignant and benign, plastic operations upon nerves, cutaneous, muscular and bony structures in a healthy or pathologic state, removal of foreign bodies, or amputation of any part of the upper or lower extremities were advised under cocain anesthesia. Amputation at the shoulder-joint had been successfully accomplished with cocain as a local anesthetic by Crile and, while there was no recorded case for demonstration, there was no reason why amputation at the hip-joint should not now be accomplished in this manner. Resection of ribs and amputation of the breasts should be more frequently done under cocain. Dr. Ricketts advised a 0.5 to 1.5 per cent. solution, and said that an amount of solution containing from 0.5 to 1.5 grains of cocain need not be exceeded in performing any operation.

The great advantage of this method of anesthesia is its freedom from any danger, if it is properly used, and it can be thus applied, which is more than can be said of ether, chloroform, nitrous oxid or any of their combinations. Nausea, vomiting, cephalalgia, nephritis, bronchitis, pneumonia and shock are absolutely avoided.

Dr. H. A. Leipziger, Burlington, Iowa, did not believe any surgical operation nowadays was a minor matter. Since the acceptance of bacteriologic factors and the danger attending all surgical procedures, he believed the word minor should be entirely dropped.

Dr. Flavel B. Tiffany, Kansas City, Mo., had had some experience in the use of cocain in ophthalmologic operations. He almost always adds adrenalin to the solution and then no hemorrhage results. He had never had bad results from its use, except when he had employed it on mucous membranes.

Dr. Harold N. Moyer, Chicago, said that the question of cocain as a local anesthetic was still *sub judice*, and, person-

ally, he would prefer to take his chances in the hands of a good anesthetist with chloroform or ether rather than have cocain injected into his spinal cord. He thought the infiltration method of Schleich had been disappointing in many respects, in part due to difficulties in sterilization.

DR. RICKETTS, in closing the discussion, condemned spinal anesthesia, saying that he had never had the courage to resort to it. As to the use of adrenalin, there were some advantages to be obtained from combining it with cocain.

Technique and Possibilities of Endo-Vesical Operative Procedures.

DR. LOUIS E. SCHMIDT, Chicago, mentioned the important points in connection with operative cystoscopes and showed their differences.

1. *Nitze Operative Cystoscope.* Here the lamp, prism and window are on the concave surface of the beak. In front of the space between the lamp and the window the operative appliances are placed. The operative appliance carries in its hollow shaft the optical apparatus. The latter is movable, so that the operative appliance can be brought to different distances and positions from the cystoscope part. These mechanical appliances are the galvano-caustic snare, cautery, small forceps and lithotriptic forceps.

2. *The Casper Operative Cystoscope* differs from the Nitze instrument in that the lamp, window and prism are on the same plane, so that the whole optical apparatus is straight. The operative part is practically similar to the Nitze. Both of these cystoscopes compel the operator to work under indirect vision.

3. *With the Kolischer Operative Cystoscope* the operator works under direct vision. The lamp and window are situated on the convexity of the beak. To the under part of the cystoscope is attached a canal through which the different instruments are introduced into the viscus. Their working end appears just below and in front of the window.

Prenatal Syphilis.

DR. OHMANN-DUMESNIL, St. Louis, Mo., detailed a case of prenatal syphilis. He condemned the use of the terms hereditary or congenital syphilis. He prefers to use the word prenatal, believing that it is more comprehensive and more clearly defines the condition which exists.

Sporadic Infantile Myxedema Resulting in a Cretinoid Condition.

DR. JAMES FREDERICK CLARKE, Fairfield, Iowa, reported a case. The patient, aged 20 when first seen, a marked imbecile of typical cretinoid condition, with a negative family history. The degeneration began at the end of the first year, and was shown by a series of photographs taken every few years through life. Thyroid feeding for the nine months to date showed an increase of two and three-quarter inches in height and a marked transformation as to intelligence and physiognomy. This was illustrated by a series of photographs, taken every two months during treatment. The patient has been taking thyroid tablets in dosage equal to 60 grains of fresh gland every day.

DR. FRANK P. NORBURY, Jacksonville, Ill., said that a boy, aged 9, seen by him in consultation, was fed on thyroidin and the result was satisfactory and pleasing. He said the results of thyroid feeding had been satisfactory in the treatment of such cases.

Pathologic Specimens.

DR. ISAAC A. ABT, Chicago, exhibited some interesting pathologic specimens, including a specimen of diaphragmatic hernia from an infant; a glioma of the cerebellum of the right side from a child of 6 years; intussusception from a marantic baby of 21 months; a picture of the brain and spinal cord from a case of epidemic cerebellar spinal meningitis; adenoma of the liver from a 21-month-old baby, and a photograph showing the location of a spina bifida during life.

Cholecystectomy versus Removal of the Mucous Membrane of the Gall-Bladder.

DR. EMIL RIES, Chicago, presented this paper, confining his remarks to two methods, cholecystostomy and cholecystectomy, the former being a method, practiced by Kehr and Mayo, of stitching a rubber tube into the contracted gall-bladder and making the joint water-tight by a suture around the rubber tube. As an emergency operation, cholecystostomy is satisfactory, but it is not an ideal method. An operation to be compared with cholecystectomy was Mayo's operation of removal of the entire mucous membrane of the gall-bladder and leaving the gall-bladder in place. While this operation seems very reasonable and had been performed by Mayo and others with success, the author considered it open to serious objections. He then reported a patient who had been troubled with gallstones for 27 years upon whom he operated three months ago, removing a small contracted gall-bladder.

Plastic Surgery in Ophthalmology.

DR. F. B. TIFFANY, Kansas City, Mo., spoke of the use of large skin grafts, to restore lids destroyed by lupus, burns, cancer, etc., taken from remote parts without a pedicle. These grafts embrace the entire skin, are transplanted directly without being passed through any medium, and are put upon a granular surface where they grow without sloughing.

In cases of distichiasis and trichiasis that have been previously operated on and there is no integument to spare, von Milligan's operation is recommended, which consists in splitting the edge of the lid at the mucous line and transplanting a strip of mucous membrane from the lip of the patient, vagina, or from the conjunctiva of a rabbit's eye. In ordinary cases of entropion he uses the electro-cautery, incising the integument near the margin of the lid from one canthus to the other two or three millimeters distant from the margin of the lid; then, from cicatrization the margin of the lid is turned away, correcting the entropion. For ectropion he makes a similar operation, cutting with the electro-cautery the conjunctiva from near the punctum of the outer canthus at a distance of two or three millimeters from the margin of the lid. Sometimes he makes two or three longitudinal incisions. If more than one or two, a third is made at the retrotarsal fold or cul-de-sac. Probably 95 per cent. of all cases that have come to his clinic and private practice of entropion and ectropion within the last three years have been corrected by electro-cautery treatment.

For congenital ptosis, where there is absence of the levator palpebræ superioris, he makes Panas' operation, which gives better results than any other operation that has ever been made up to the present time. The steps of this operation were described and pictures presented of a boy, aged 10, with complete congenital ptosis, in whom there was the absence of the levator palpebræ superioris of each lid. The result was excellent, as shown by the photograph taken subsequent to the operation.

Differential Diagnosis of Smallpox.

DR. J. C. SULLIVAN, Cairo, Ill., emphasized the point that whenever a patient complains of severe and persistent backache, followed by fever and a pustular eruption affecting the palms of the hands and the soles of the feet, protruding from beneath the outer skin, there is a case of smallpox to deal with, no matter how insignificant or mild it may appear, and confluent or even hemorrhagic smallpox may be contracted from it. Hence the necessity of immediate vaccination of all parties exposed and of strict quarantine or isolation in each case. There are but two diseases that produce these phenomena, namely, syphilis and smallpox. The former should not be confounded with the latter, as a history of chancre would suffice for the differentiation. From measles it may be differentiated by Koplik's sign, when found, which consists in the appearance of little white pearly bodies on the inside of each cheek before the faucial redness of early measles. The typical lobster rash, strawberry tongue and persistent white line of that most eccentric of all diseases proclaims scarlet fever; a multiform punctated and individual crescentic rash, rötheln; the successive crops of vesicles affecting the shoulder-blade, probably chicken-pox. A pustule stuck on the surface of the skin, impetigo, lichen planus and papular eczema may be at first confounded with smallpox; but the pustular eruption of the palms of the hands and soles of the feet makes the diagnosis of smallpox positive. The essayist did not believe there

was such a disease as Cuban or Porto Rican itch. The adherents of the theory of a third or intermediate disease similar to rötheln, measles and scarlet fever have strongly fought the idea that modified smallpox could be a true disease, but by repeated examinations and diagnoses the most eminent specialists have named it smallpox. Many admit its contagiousness, but fail to quarantine. In this respect they err, for when a disease, no matter what its name or nature, is contagious, it is the duty of every physician before it becomes endemic or epidemic, to report it to the health authorities and work in concert with them to see that it is at once quarantined until all danger of its communication to others shall have passed.

Conglomerated Cystic Kidney.

Dr. J. F. Herrick, Ottumwa, Iowa, narrated a case of conglomerated cystic kidney and gave the autopsy findings.

Ligation of Common Iliac or of External and Internal Iliacs Preliminary to Amputation of Lower Extremity at Hip-Joint.

Dr. Augustus C. Bernays, St. Louis, Mo., said that in many cases Senn's and Wyeth's methods left much to be desired, if it seemed necessary to save the patient from even a small loss of blood. He reported an operation and presented photographs of a case of myxosarcoma of the thigh reaching above Poupart's ligament, in which the ligation of the common iliac enabled him to perform an almost absolutely bloodless operation. The ligation was done through a small abdominal incision made exactly over the brim of the pelvis on the affected side. Dr. Bernays claimed that the aseptic ligation of the iliacs could in no way add to, but would probably lower, the percentage of mortality in those cases in which the ablation of the lower extremity was indicated. He strongly recommended the method in suitable cases. His case recovered in a few weeks.

Hemorrhage After Tonsillotomy.

Dr. H. A. Leipziger, Burlington, Iowa, said that tonsillotomy is one of the so-called minor operations, but one which becomes very formidable in case of hemorrhage. Even if there is no fatality, the apparent danger, continuance of bleeding and frequently the inability of the surgeon to arrest the same, create a degree of anxiety for doctor and patient, and a liability to censure and reproach for the doctor alone which should stimulate all surgeons to cease regarding the operation as minor. The patient should be informed of the dangers and examined before operation at least as carefully as before a life insurance examination, which never involves more than a limited amount of money. The operation should never be done in the physician's office, but by preference in a well-appointed hospital. Bleeding will follow a tonsillotome as well as a knife. The commonly advised styptics and methods of arresting the bleeding do so when the bleeding is insignificant; when it is severe they all fail. Even tying the common carotid has failed. There seems to be underlying the parenchymatous oozing some nervous or vasomotor influence which is excluded by syncope or unconsciousness. The latter is obtained by hypodermics of morphin, which were used in the writer's case with sufficient effect to make him believe it arrested the bleeding when all other means had failed.

Psychology as Applied to Modern Medicine.

Dr. G. H. Eiskemp, Washington, Iowa, read a paper with this title, referring to the delusions under which a large number of people are laboring. The sudden rise and rapid spread of the religious vagaries and scientific absurdities taught by Eddy, Dowie, Schlatter, Schweinfurth and others form curious chapters in the mental history of our age. How to counteract these modern unwholesome tendencies is the question. Criticism will not do it. Ridicule will not suffice. Such movements are strengthened by denunciation. They fatten on persecution. He thought the death-blow to all such scientific, philosophic and religious vagaries was struck when the truth was shown concealed behind the fallacy. It is at this point that medicine has failed in the performance of her duty. While Eddyism has swung to one extreme, medicine has swung to the other. If the followers of Mrs. Eddy had laid sole emphasis on the psychic, ignoring the physical, the physician, on the other hand, was tempted to confine himself to the physical, leaving out of account the mental. Had physicians studied the psychic side of life as they ought, applying psychologic principles to the treatment of disease, there could be no reasonable doubt that much could have been done to counteract these delusions. Why should the physician leave this interesting and important field to the untrained quack to make of it a matter of merchandise? That many human ailments are of mental origin and can be healed by purely psychologic means, there can be no question. Into many others the psychic entered as a very important element. This being so, in order to successfully treat the human body, one must know something of the human mind, its laws and methods of working. Without this knowledge, accurate diagnosis of disease, in some instances, is impossible. When carefully diagnosed, it might turn out that the patient needed the good offices of a clergyman, a psychologist, or a neurologist. At all events, the physician must be able to make the diagnosis, whoever effects the cure.

Man was something more than a bundle of nerve cells, bones, blood vessels and various kinds of tissue. Therefore, the successful practitioner must interest himself in something besides physical symptoms and matters of organic function. So long as man is made of body and mind, so long as these continue to influence one another, just so long will the study of the psychic side of human nature be a valuable part of the equipment of him who ministers successfully to its physical side. That a new emphasis would be put upon the psychologic element in the future, the author had every reason to believe. It was his firm conviction, arising from a conception of the profound need of such investigation, that the time was ripe for a forward move in this direction.

(To be continued.)

Medicolegal.

South Dakota Statute Compliance with Law Presumed.—In the case of Webster vs. Lamb, an action brought to recover for professional services, to which a general demurrer was interposed, the Supreme Court of South Dakota says that it was not necessary to allege in express terms that the party suing had obtained a license from the board of health and had duly recorded the same. It therefore affirms an order overruling the demurrer. It says that the general presumption that every man is innocent of crime renders it unnecessary, in a civil action, to plead or prove compliance with statutes of this character, and a sued party desiring to put the point in issue must do so by way of answer.

Cause of First Fracture that Also of Rebreaking Leg.—In the personal injury case of the Postal Telegraph Cable Company vs. Hulsey, as it is now entitled, but which was brought by the latter party, it appeared that during the time he was confined to his bed from his broken leg and was not able to sit up, he had something like colic one night, accompanied with vomiting; that he went to turn over on his side, to keep from vomiting on his bed, and felt something like a sting in his thigh. The evidence tended to show that at that time the leg was rebroken, or the fracture disunited after it had begun to unite. There was no pretension that the leg was rebroken by any conscious fault of his. Under these circumstances, the Supreme Court of Alabama holds that, if the leg was rebroken, it was a natural result, or one liable to happen from the cause of its being broken in the first instance, having immediate and causal connection therewith. But for the original breaking, it says, the rebreakage could not have occurred.

Examinations Made by Experts for State.—In the homicide case of the State of Connecticut vs. Rathbun complaint was made of the refusal of the trial judge to give the jury an instruction framed for the evident purpose of discrediting the evidence of the state concerning the results of certain chemical and medical examinations. The requested instruction was to the effect that such evidence, being of examinations made not in the presence of a representative of the accused, should be carefully considered in view of the possibility of a failure to

seek for or develop facts and conditions to the advantage of the accused which an impartial and complete investigation would have disclosed. Such instructions, involving an insinuation, if not assumption, that the examinations in question were not impartial or complete, the Supreme Court of Errors of Connecticut holds, the accused was clearly not entitled to have. The judge, it says, told the jury to give all the evidence calm and conscientious consideration. There is no rule of law which compelled him to single out this particular evidence of the state for special caution as evidence coming from a tainted source, as in the case of the evidence of an accomplice.

Entitled to Hearing Before Board of Health Itself.—A New Jersey law requires the consent of the municipal authorities and local board of health to the location or enlargement of any cemetery, and provides that in case of the refusal of the municipal authorities and local board of health to grant such consent, application may be made to the state board of health. Under this provision, if the municipal authorities consent, and the local board of health refuses to grant permission to the location of a cemetery within the municipality, the Supreme Court of New Jersey holds, in the case of State (Dodd and others, Prosecutors) vs. State Board of Health, that this is a refusal to grant consent, within the meaning of the act, and application may be made to the state board of health to reverse such action of the local authorities. But what is of still more general interest, the court holds that, in hearing an application in such a case, the state board of health acts judicially, and persons interested have a right to be heard before that board. For example, in this case, when the application to locate a cemetery was presented to the state board of health, it was referred to the standing committee on cemetries, burial, and transportation of the dead, for investigation and report. That committee consisted of the president of the board, ex officio, and two other members. An investigation of the site of the proposed cemetery was made by the medical inspector of the board and one of the members of the committee, and the result of the examination submitted to the board by the medical inspector, and a hearing given by the same committee. At that hearing two members were present. The committee seems to have made a report to the board, but no other hearing was actually held by the board itself. The court says that the board of health was acting judicially upon the application before it, and all who were interested in that application were entitled to be heard by the board in a legally organized meeting of the board. The delegation to a committee to examine and report upon facts was within the power of the board, but the parties were entitled to be heard by the board upon the significance of those facts, and the legal questions which the situation gave rise to. The prosecutors were freeholders and taxpayers in the township, and, as such, were entitled to be heard before the state board of health. Because no proper hearing was given, the court sets aside the action of the state board of health in the case.

Salicylic Acid in Fruit Syrup Under Pure Food Law.—The Supreme Court of Pennsylvania says, in the case of Commonwealth vs. Kevin, that the purpose of the "Pure Food Law" of that state was to prevent the adulteration of food, the term "food" including all articles used for food or drink by man. In case of food, an article shall be deemed to be adulterated within the meaning of this act, for one thing, it is provided therein, "if it contains any added substance or ingredient which is poisonous or injurious to health." Here, however, where the prosecution was for selling raspberry syrup containing salicylic acid, it was contended that, if the jury should find from the evidence that the single bottle actually sold did not contain salicylic acid in sufficient quantities to be poisonous, or injurious to health, there should be an acquittal. But the Supreme Court does not adopt that construction of the law. It says that it is not a poisonous or injurious compound resulting from the addition of a foreign ingredient that the clause quoted declares to be an adulterated article. The terms of the clause declare against a compound that is formed by the addition of a poisonous or injurious ingredient. The guilt of the accused, therefore, did not depend upon the nature or character of the compound resulting from the addition of the salicylic acid to the fruit syrup, but was to be determined solely upon the poisonous or injurious qualities of the acid which was the ingredient added to the food. And the court affirms a judgment of conviction. Nor does it consider that the above clause offends against any provision of the constitution of the commonwealth. It says that it does not prevent the admixture of pure articles as a food, nor prohibit the addition of a healthful ingredient as a fruit preservative. It is directed against the introduction into a food product of a substance foreign to it, and of a poisonout or injurious nature. The evidence in the case would justify no other conclusion than that salicylic acid is poisonous and injurious to the human system.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Hyperemia of the Conjunctiva.

Drs. Wood and Woodruff, in *Med. Standard*, recommend the following treatment of hyperemia of the conjunctiva: Remove the cause if possible and apply cold locally to the closed eyelids three or four times a day. In a few cases hot water is more effective than cold water. Following the application of cold or hot water, several drops of a soothing, non-irritating solution should be instilled into the conjunctival sac as follows:

℞. Acidi borici ..... ʒss 2
Sodii biboratis ..... ʒss 2
Aquæ rosæ ..... ʒii 8
Aq. destil. q. s. ad ..... ℥ii 60
M. Sig.: Instill locally into the eye.

If the lids are gummy or show a tendency to adhere in the morning a little simple ointment should be gently rubbed on the eyelashes at night. Sometimes a more stimulating lotion is desired, as follows:

℞. Zinci sulph. ..... gr. i-ii 06-12
Aq. destil. ..... ℥i 30
M. Sig.: Apply locally once or twice daily.

In the same journal they advise the following in the treatment of ophthalmia neonatorum:

℞. Hydrastin sulph. ..... gr. v 30
Acidi boracici ..... gr. v 30
Sodii biboratis ..... gr. v 30
Tinct. opii ..... ʒss 2
Aq. destil. ..... ℥i 30
M. Sig.: To be instilled into the eye every hour.

Other solutions may be used as follows:

℞. Potassii permanganatis ..... gr. i 06
Aquæ destil. ..... ℥viii 240
M. Sig.: To be dropped into the eye once or twice a day; or:

℞. Hydrarg. bichloridi ..... gr. ss 03
Aquæ destil. ..... ℥viii 240
M. Sig.: Drop into the eye daily.

According to them, chlorin water is very efficient when much pus is secreted:

℞. Aquæ chlori ..... ʒvi 25
Aq. destil. ..... O. i 480
M. Sig.: Apply locally.

Cuprol in Conjunctivitis.

According to von Sicherer, as stated in *Ther. Month.*, cuprol is a new remedy employed in the treatment of conjunctivitis which he claims has proven to be of great value in numerous cases treated by him. Cuprol represents an organic combination of copper and nucleinic acid and contains about six per cent. of copper. It is readily soluble in water, especially in hot water, and forms a clear solution, even with albuminous substances, producing no coagulation. In the presence of alkalies no precipitate takes place. He employs a 10 per cent. solution prepared in warm water. He states the following principal ad-

vantages of this preparation over the other organic preparations of copper: 1. A 10 per cent. solution causes no pain or only very slight pain. 2. The tissues are but slightly irritated. He employs the remedy chiefly in cases of acute and chronic catarrhal conjunctivitis, but it may also be employed in the treatment of phlyctenular conjunctivitis.

Uncontrollable Vomiting.

The following outline of treatment is recommended by *Jour. de Med. de Paris* for checking persistent vomiting in pregnancy or from other causes:

℞. Cocainæ hydrochlor. .....gr. ii |10
Antipyrin .....gr. xv 1|
Aq. destil. q. s. ad.....ʒiiiss 100|
M. Sig.: One teaspoonful every half hour; or:
℞. Cocainæ hydrochlor. .....gr. viii |5
Aquæ destil. .....ʒiss 6|
M. Sig.: Six drops, repeat in one hour, then in three hours; after this three or four drops before each meal.

As a local application to the cervix in vomiting of pregnancy or acute metritis:

℞. Cocainæ hydrochloratis. .....gr. xv 1|
Ext. belladonnæ .....gr. iv |25
Vaselini .....ʒiiss 75|
M. Sig.: Apply locally once a day on a tampon.

Suppurating Wounds.

Schwarz, in *New York Med. Jour.*, recommends the following as a local application in suppurating wounds:

℞. Pulv. iodoformi |
Salol |
Bismuthi subnit. |
Pulv. charcoal |
Pulv. cinchonæ |
Pulv. benzoini, āā.....ʒii 8|
M. Sig.: Apply locally once daily.

Quinin as a Dressing.

J. Read, according to the *Med. News*, recommends a mixture of quinin and cod-liver oil in the treatment of various skin troubles, combined as follows:

℞. Quininæ sulphatis .....ʒi 4|
Olei morrhuæ .....℥viii 240|
M. Sig.: Shake well and apply locally.

He employs it in the treatment of tertiary and rheumatic ulcers of the leg, gangrene of the skin, burns in which large surfaces have sloughed away. He states that it has the advantage of supplying the system with an oily food and a tonic drug.

AS A WASH IN TREATMENT OF CHANCROID.

℞. Creosoti .....m. iii |20
Hydrarg. bichloridi .....gr. iv |25
Glycerini .....ʒii 60|
Aquæ rosæ .....℥iii 90|
M. Sig.: Apply frequently as a wash.

To Relieve Tympanites.

The following is of great service to relieve the distress caused by gas collecting in the lower bowel:

℞. Mag. sulph. .....ʒii 60|
Spts. terebinthinæ .....ʒi 4|
Tinct. asafoetidæ .....ʒiss 45|
Mucilag. acaciæ .....ʒii 60|
Aq. destil. q. s. ad.....O. i 480|
M. Sig.: As an injection by a high rectal tube.

Scarlet Fever.

Ames, in *Phys. and Surgeon*, emphasizes the following points in the eradication of scarlet fever: 1. Every suspected case of scarlet fever should be isolated until a conclusion is reached. 2. The family should be instructed to maintain isolation until all signs of peeling have disappeared. 3. All members of the family who desire to leave the house, should do so on the first day after their clothing has been disinfected by exposure to formaldehyd gas for six hours. 4. The attending physician should have as little contact with the patient as possible; cleanse his hands thoroughly with a bichlorid solution and disinfect his clothing. He states that formaldehyd, ten ounces to 1000 cubic feet, will destroy all germs.

For the Itching in Scarlet Fever.

The following combination is recommended to relieve the itching in scarlet fever:

℞. Ung. picis liq. .....ʒi 4|
Ung. zinci oxidi .....℥ss 15|
Vaselini albi q. s. ad.....℥ii 60|
M. Sig.: Apply locally once or twice a day.

Neuralgia of the Fifth Nerve.

Barber, as noted by *Amer. Med.*, states that he effected a cure of trifacial neuralgia of three years' duration by the administration of one granule, containing 1/10 of a milligram of aconitin, every four hours for three days, followed by:

℞. Ferri sulphatis (exsic.) |
Ext. anthemis, āā .....gr. viiss |
M. Ft. pil. No. ii. Sig.: Two such pills daily for two weeks.

As an Antineuralgic Ointment.

Menier, according to the *New York Med. Jour.*, recommends the following formula as a local application in the treatment of the different forms of neuralgia:

℞. Pulv. opii .....ʒss 2|
Ext. belladonnæ |
Liq. petrolati, āā.....ʒiii 12|
M. Sig.: Rub in thrice daily, continuing the frictions for five or ten minutes at each application.

Local Treatment of Rheumatic Arthritis.

℞. Methyl salicylatis .....ʒiii 12|
Spts. chloroformi .....ʒii 8|
Menthol .....ʒss 2|
Lanolini .....℥iv 120|
M. Sig.: Apply locally to the affected joint night and morning.

General Toxemia.

Shelton, in *Clinical Rev.*, recommends as the most efficient measure in the treatment of those poisons generated in the alimentary canal, the following:

℞. Fel bovis (oxgall) |
Guaiacol carb., āā .....gr. ii |12
M. Ft. cap. No. i. Sig.: One such capsule before each meal; or:
℞ Fel bovis (oxgall) |
Benzonaphthol |
Pancreatin, āā.....gr. ii |12
M. Ft. cap. No. i. Sig.: One such capsule before each meal.

Worms.

According to Scholl, in *Jour. Med. and Surgery*, the best treatment for expelling worms is santonin, which is prescribed probably more than any other drug. He recommends that it be given in powder form on bread and butter or in the form of lozenges; and sometimes he combines it with calomel. He states that it is destructive to both the thread and round worms and their ova. He always combines or follows the administration of the santonin with a purgative, as it assists in the expulsion of the worms and ova. The best plan is to give the anthelmintic at night and follow with the laxative the following morning. Overdoses should not be given.

Bursae of the Knee.

Bjorkman, in *Merck's Archives*, recommends the following local applications in the treatment of bursæ of the knee where surgery can not be employed:

℞. Ichthyoli .....ʒi 4|
Ung. kalii iodati .....℥i 30|
M. Ft. Unguentum. Sig.: Rub in well three times daily; or:
℞. Ichthyoli .....ʒi 4|
Olei ricini .....ʒss 2|
Spts. etheris .....gr. xlv 3|
Acidi salicylici .....gr. xv 1|
Collodii q. s. ad.....℥iss 45|
M. Sig.: Apply with a small brush once or twice a day.

Indications for the Use of Phosphoric Acid.

Martinet, as quoted by *Ther. Month.*, describes a number of cases to support his statement that hypo-acidity of the urine, accompanied by an abnormally large amount of phosphates, is

frequently the index of hyperchloridia in the stomach. On the other hand, hyperacidity of the urine and a small proportion of phosphates suggest hypo-acidity in the stomach, with hypo-acid dyspepsia, stasis of the food, acid fermentation, etc. In such cases, he states, the administration of phosphoric acid may promote digestion and check the acid fermentations by its eupeptic and antiseptic action.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, April 12.

1 *State Care of the Insane. L. J. Morton.
2 A Case of Round-Celled Sarcoma of the Stomach, with Secondary Manifestations in the Already Adenomatous Thyroid. John McCrae.
3 *Reflections on Some of the Causes for the High Death-Rate and High Venereal Non-Efficiency of the Tropics. P. R. Egan.
4 *The Mammary Glands in Primiparæ. Theresa Bannan.
5 *The Management of Cases of Cephalo-Pelvic Disproportion by the General Practitioner. Edward A. Ayers.
6 *Surgical Shock from a Clinical Standpoint. Eugene Boise.
7 A Case of Sarcoma of the Tonsil. Arthur G. Root.
8 A Phenomenon Observed on the Tongue in Acute Malarial Infection. Lucien Lotton.

Medical Record (N. Y.), April 12.

9 *The Traumatisms of Pregnancy. Denslow Lewis.
10 *A Clinical Report Relating to (a) Hemorrhage Persisting Notwithstanding Curettage, and (b) Secondary Hemorrhage Following Abdominal Section. Egbert H. Grandin.
11 *General Treatment of Measles. Louis Fischer.
12 Rhinoliths and Foreign Bodies in the Nose. J. M. Ingersoll.

American Medicine (Philadelphia), April 12.

13 *What Can We Diagnosticate in Acute Appendicitis? Willy Meyer.
14 *Rheumatic Appendicitis—A Study of the Relation of Rheumatism to Appendicitis. Willim A. Edwards.
15 *Indications for the Mastoid Operation. Philip Hammond.
16 The Epidural Method and Its Indications. Dudley Tait.
17 Acute Lymphatic Pseudoleukemia: With Report of a Case and Autopsy. John L. Heffron.
18 Gastrotomy for Removal of Foreign Bodies. George F. Inch.
19 *Palmar and Plantar Syphilids. William F. Bernart.
20 Spontaneous Rupture of the Heart. Don D. Grout.

Boston Medical and Surgical Journal, April 10.

21 *The School in Its Effect upon the Health of Girls. E. G. Brackett.
22 *The Health of School Girls. Robert W. Lovett.
23 *Statistics Regarding Health of School Girls. Edward M. Hartwell.
24 *The Effect of Public School Education upon the Health of the College Girl. Jane K. Sabine.

Philadelphia Medical Journal, April 12.

25 *Rubella and the "Fourth Disease." J. P. Crozer-Griffith.
26 *A Case of Intermittent Claudication, Terminating in Gangrene. I. Harris Levy.
27 *Ophthalmia Neonatorum. Reynolds Wilson.
28 Adenoid Vegetations and Their Influence on the Palatal Arch. Frederick H. Millener.
29 Vaccination. T. F. Campbell.
30 *The Relation of the Tubercle Bacillus to Pseudoleukemia (Sternberg's Disease). (Concluded.) Joseph Sailer.

Medical News (N. Y.), April 12.

31 *On Amebic Abscess of the Liver. William Osler.
32 Spa Treatment of Gout. Charles C. Ransom.
33 *On the Early Diagnosis of Pleuritic Effusions. James K. Crook.
34 Report of a Case of Removal of the Gasserian Ganglion. John F. Erdmann.
35 *The Etiologic Classification of Varicose Veins of the Legs. William S. Terriberry.
36 A Peculiarity of Vision, with Illustrative Cases. Frederick C. Riley.
37 *The Misleading Significance of Ovarian Pain. C. Lester Hall.

Cincinnati Lancet-Clinic, April 12.

38 When I Studied Medicine. Geo. J. Monroe.
39 Gonorrheal Rheumatism. J. Douglas Westervelt.

Northwestern Lancet (Minneapolis), April 1.

40 Report of a Case of Spinal Sarcoma. O. C. Strickler.
41 A Continuance of the Discussion of the Technic in Abdominal Operations. A. W. Abbott.
42 The Place of Specialism in the Education of the Undergraduate. Frank C. Todd.
43 Osteitis Deformans. O. A. Fliesburg.
44 Whooping Cough and Quarantine. E. S. Strout.

The Medical Age (Detroit, Mich.), March 25.

45 A Mixed Clinic in a Colored Hospital—Mumps, Emphysema, Conjunctivitis, Lobar Pneumonia, Lung Inflammation, Hysteric Aphonia and Hemiplegia. Louis F. Bishop.
46 *Surgical Treatment of Hypertrophy of the Prostate. Max Ballin.
47 The Modern Therapy of Gonorrhea in the Male. William C. Martin.

Medical Review of Reviews (N. Y.), March 25.

48 Diagnosis of the Infectious Exanthemata. F. C. Curtis.

St. Paul Medical Journal, April.

49 Henry J. Bigelow; A Sketch. T. W. Thorndike.
50 Remarks on Typhoid Fever. William S. Thayer.
51 Prostatectomy. C. H. Mayo.
52 Dropsy Without Albuminuria. F. M. Manson.
53 A Brief Description of the Hospitals of Manila, with a Few Notes on Plague. Harry Morell.
54 Intestinal Obstruction. Acute Appendicitis. Warren A. Dennis.
55 Old Hip-Joint Dislocation. C. P. Thomas.

International Medical Magazine (N. Y.), March.

56 *Clinical and Pathologic Observations of Enteroptosis. John C. Hemmeter.
57 *Enteroptosis, with Special Reference to Displacement of the Colon. Fenton B. Turck.
58 Nephroptosis. A. L. Benedict.
59 The Ultimate Results of Nephrorrhaphy. Charles P. Noble.
60 Nephropexy for Prolapse of the Kidney. Austin H. Goelet.
61 Gastroptosis. Allen A. Jones.
62 Overflow Facial Contraction from the Orbicularis Palpebrarum in Paralysis Agitans and Spastic Conditions of the Face. (Preliminary Note.) D. J. McCarthy.
63 Movable Kidneys; Their Effect upon the Gastric and Intestinal Functions. Boardman Reed.

Louisville Monthly Journal of Medicine and Surgery, April.

64 Optic Neuritis in the Young, with Report of Five Cases. William Cheatham.
65 Three Cases of Acute Nephritis. H. E. Cottell.
66 The Treatment of Goiter. James S. Chenoweth.
67 The Pathology of Appendicitis. James B. Bullitt.
68 Report of a Case of Complete Procidentia of Uterus with Cystocele and Enterocele, Twenty-six Years' Duration. John K. Freeman.
69 Gonorrheal Conjunctivitis with Involvement of the Mucous Membrane of Nose and Upper Lip. J. D. Kiser.

Illinois Medical Journal (Springfield), April.

70 *Lymphatic Leukemia. James B. Herrick.
71 Three Points in the Treatment of the Deformities of Infantile Paralysis. John L. Porter.
72 Sequestration and Other Dermoids. L. L. McArthur.
73 *Suggestive Therapeutics. Arthur E. Prince.
74 Electrolysis—The Only Successful Treatment in a Certain Variety of Granular Eyelids. P. Dombrowski.
75 Surgical Cell Activity. James E. Coleman.

Maryland Medical Journal (Baltimore), April.

76 A Consideration of the Bottini Operation for Enlargement of the Prostate, with Report of Some Cases. George Walker.
77 A New Combined Electro-cautery Incisor for the Bottini Operation for Prostatic Obstruction. Hugh H. Young.
78 Upton Scott, M.D., of Annapolis. Eugene F. Cordell.

Annals of Gynecology and Pediatry (Boston), April.

79 Surgery as a Last Resort. Florus F. Lawrence.
80 A Case of "Habit Tic" in a Child Two Years and Three Months of Age. John H. W. Rhein.
81 A Case of Anencephalus. Amzi W. Hon.
82 The Outlook for Hysterectomy for Cancer. A. Lapthorn Smith.
83 Shoulder Presentation Occurring Twice in the Same Patient. Frank C. Hammond.
84 The Vermiform Appendix. John B. Murphy.

University of Pennsylvania Medical Bulletin (Philadelphia),

85 *The Surgical Treatment of Sterility Due to Obstruction at the Epididymis, Together with a Study of the Morphology of Human Spermatozoa. Edward Martin, J. Berton Carnett, J. Valentine Levi and M. E. Pennington.
86 Student Life in the Middle Ages. Roswell Park.
87 Melanosis of the Cerebrospinal Meninges. D. J. McCarthy and Mazyck P. Ravenel.

Colorado Medical Journal, February.

88 The Evolution of Medical Institutions in Colorado. C. D. Spivak.
89 Clayton Parkhill, Citizen-Soldier. General Irving Hale.
90 Clayton Parkhill, Anatomist and Surgeon. J. N. Hall.
91 Smallpox and Pregnancy. A. C. Magruder.

Fort Wayne Medical Journal-Magazine, March.

92 On the Borderline of Surgery. Bayard Holmes.
93 Early and Accurate Diagnosis and Prompt Operation in Appendicitis. C. A. Daugherty.

The Physician and Surgeon (Detroit and Ann Arbor, Mich.), January.

94 Smallpox, with Special Reference to the Cases at Ann Arbor and Bronson. James R. Arnell.
95 *The Management of Crossed Eyes in Children. Walter R. Parker.
96 *Bacilli Which Resemble the Bacillus Tuberculosis. David M. Cowie.
97 *The Diagnosis and Treatment of Incipient Tuberculosis. Johnson W. Hagadorn.
98 The Therapeutic Status of Animal Extracts. William R. Chittick.

Toledo Medical and Surgical Reporter, April.

99 Chronic Nephritis. P. George Tait.
100 The Eye as a Factor in Medical Diagnosis. Charles Lukens.

101 Juvenile Cataract with Especial Reference to the Lamellar Form—Report of Cases. Francis W. Alter.
102 Ten Hysterectomies. Charles Betts.

Proceedings of the Pathological Society of Philadelphia, March.

103 Saccular Aneurysm Arising from the Ascending and Transverse Parts of the Arch of the Aorta. H. A. Hare and Randle C. Rosenberger.
104 Streptococcus Mucosus (Howard) and Its Relation to Micrococcus Lanceolatus. Walfield T. Longcope.
105 Primary Carcinoma of the Liver. H. D. Jump and J. D. Steele.

Vermont Medical Monthly (Burlington), March 25.

106 Remarks on the Etiology and Pathology of Nephritis. M. J. Wiltse.
107 Chronic Gastritis and Its Treatment. G. G. Marshall.
108 *Notes on the Value of Veratrum Viride. A. T. Woodward.
109 The Etiologic Relation of Nephritis to Cardiac Disease. H. Edwin Lewis.

Dominion Medical Monthly (Toronto), March.

110 Duties of a Nurse in Abdominal Surgery. Herbert A. Bruce.
111 Vomiting in Infancy and Childhood. B. E. Hawke.
112 The Anatomic Factor in the Production of Baldness. George Elliott.

New Orleans Medical and Surgical Journal, April.

113 *Enuresis. E. M. Dupaquier.
114 *When Not to Operate in Anomalies of the Extrinsic Muscles of the Eye. E. A. Robin.
115 Epistaxis: Its Causation and Treatment. Gordon King.
116 Thyroid Extract in Urticaria. J. N. Roussel.

Columbus Medical Journal, March.

117 Beri-beri. Starling S. Wilcox.
118 Retroflexion of the Uterus, a Sequence of Pelvic Inflammation. Treatment and Results of Surgical Replacements. James U. Barnhill.
119 Some Truths Concerning Alcohol. Francis W. Blake.
120 Enlarged Turbinals. Ola S. Hendrixson.

Texas Medical Journal (Austin), April.

121 *Reply to a G. U. Critic. Winfield Ayres.
122 *What Shall We Do with Our Consumptives? C. H. Wilkinson.
123 Accouchement Forcé. W. J. Matthews.

Medical Summary (Philadelphia), April.

124 Treatment of Burns. Frank R. Brunner.
125 The Mission of Surgery in Obstetrics. H. Wm. Wormley.
126 Observations About Variola. L. G. Doane.
127 A Few More Remarks on the Treatment of Premature Alopecia. Ross H. Skillern.
128 The Theory of La Grippe and of the Exhaustion Following the Same. Joseph E. Harris.
129 Cancer Cured with Induction-Galvano-Faradism—Incontrovertible Evidence. Wm. A. Armstrong.
130 The Management of Chordee. J. A. De Armand.
131 Calcium Sulphid. W. H. Bentley.
132 Practical Notes (Dysentery, etc.). J. F. Griffin.

Nashville Journal of Medicine and Surgery, March.

133 *Analgesia by Intra-spinal Cocainization. R. E. Fort.

International Journal of Surgery (N. Y.), April.

134 Some Abdominal Tumors Which Require Operations. W. L. Estes.
135 Aortic Aneurysm, with Report of a Case. Wilbur F. Sterman.
136 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
137 The Surgical Assistant. Walter M. Brickner.
138 Epilepsy Due to a Large Exostosis of the Skull—Recovery from Operation and Improvement in the Epileptic Attacks. H. T. Miller.
139 A Case of Extensive Burns. A. J. Bradbury.

Medical Times (N. Y.), April.

140 Compatible Medication, or the Physical Forces in Scientific Formulation. E. C. Hebbard.
141 The Nature of Continued Fevers. M. Heineberg.
142 Puerperal Eclampsia and Septicemia, with Report of Cases. J. B. Mooney.
143 Foreign Body in the Eye. T. C. Evans.
144 Management of Smallpox to Curtail Its Spread. D. S. Humphreys.

---

1. **State Care of the Insane.**—Morton's paper covers the general subject of treatment of the insane, favoring state care to a certain extent, holding that many cases, however, can be cared for at home. On account of the prejudice against public institutions, he advises the sending of patients that can not be cared for at home to private institutions at first. He does not think that the asylum physician should have more than 50 patients to care for and does not favor the bed treatment as especially necessary. He is conservative in regard to the use of hypnotics and sedatives.

3. **Tropical Diseases.**—Egan comments upon the high death rate in the tropics and describes the striking neglect of ordinary sanitary precautions in Porto Rico. The death rate in that island has been about twice the birth rate and is largely attributed by the author to the neglect of sanitation. The two greatest causes of death are anemia and tuberculosis, the former twice as common as the latter, and he doubts the importance of ankylostoma as a factor in its production. He finds the parasites present in a very large percentage of all patients. He says that if Porto Rico were not naturally one of the most healthy countries in the world all the people would have been dead long since from one cause or another. Concerning venereal disease in the army he approves of the British plan of depriving a soldier of his pay for every day that his services are lost to the government through his immorality. Only a certain proportion of the cases really require hospital treatment, and yet all who are ordered to hospital by the line officers—sometimes through syphilophobia—must go. He speaks particularly of the handicap the army surgeon has in having orders carried out if the line officers in command do not choose. He thinks a reform is necessary in this regard and claims that the proportion of venereal cases in hospital, which sometimes is 20 per cent., could be reduced to 1 or 2 per cent. by discharging those for whom the only necessity is that they report regularly for medicine and dressing.

4. **The Mammary Gland in Primiparae.**—After describing the anatomy and physiology of the gland, Bannan mentions the hygienic treatment before delivery, and insists on its importance. She believes mothers should nurse their children and says that it has a healthful reflex influence. In the treatment of cracked nipples, if only one is affected it should be relieved of its duty; if both are affected a compromise system should be followed, and only the one least affected used. Massage and bandaging is the most satisfactory treatment. The importance of the breast binder in primiparæ is emphasized. Whatever principles of surgery are thus outraged, it is better than suspending the function altogether and trusting the babe to the doubtful issue of artificial feeding.

5. **Pelvic Deformities.**—Ayers' paper takes up the question of what shall be done in such deformities as will prevent the birth of a living child. He says that when the deformity leads to the employment of version, forceps or craniotomy, a large percentage of still births is the result. Cesarean section and symphysiotomy are discussed and he insists on the greater ease and security of proper preparation for symphysiotomy in the ordinary surroundings and says: "In considering this operation, I do not refer either to the suprapubic and postpubic Italian method of operating, or to the open anterior French method, but to my subcutaneous method heretofore described. In order to secure thoroughly satisfactory conditions for operation, the following are needed: A scalpel, bistoury, steel male urethral sound, a soft-rubber retention catheter, two china wash-bowls, forceps, absorbent cotton, adhesive plaster, and clean hands of at least one individual—the operator. No needles, sutures, sterilized cloths, or dressings are required. The genital region is washed with soap and water, then with bichlorid solution. The instruments are placed in a solution of either carbolic acid or lysol. The urethra is held to one side, the symphysis severed by introducing the bistoury under the clitoris upon the face of the joint, as heretofore described, while hemorrhage is prevented by pressing a wet wad of cotton on the small opening. The child is delivered with the forceps, the after-birth removed, the catheter inserted (after bringing the pubic bones together), the wings of the pelvis are strapped with adhesive plaster, and the wound completely closed by bringing the knees together and binding them. In the after-treatment, such a sling as Dickinson's can be readily set up, if my hammock-bed is not available. The manipulations which may have preceded this operation need not affect its results, as the wound is above the vaginal orifice and away from its discharges. In one of my cases, in which infection of the genital tract followed a sloughing of the posterior vaginal wall from an old cicatrix, the joint wound healed by first intention." The recent greatly improved results in Cesarean section are due not only to improved method but to early performance; he points out, however, that the mortality in late years is greater than in symphysiotomy. There are probably many more craniotomies being performed to-day than

Cesarean sections or symphysiotomies because there have not been proper opportunities for the general practitioner to prepare for major obstetric operations and he has been justified in his conservation of maternal life at the expense of the infant.

6. **Shock.**—The explanation of shock given by Boise is that there is a tetanoid condition of the heart and peripheral arteries, both together producing a low arterial pressure, from lessened blood supply, and he believes that the cause of the whole is due to over-irritation of the entire sympathetic system; it is not a paresis of the secretory nerves, but an overstimulation. The remedies which he suggests are nitrite of amyl and nitroglycerin, and he considers strychnin—at present the most popular drug—as positively dangerous. The use of normal salt solution of rather high temperature, 115 to 118, given intravenously is also recommended in preventing shock, though if it is simply intended to supply the blood loss by hemorrhage the subcutaneous method will suffice.

9. **Traumatisms of Pregnancy.**—Lewis' article is a lengthy review and discussion of a large number of cases. He favors abdominal section as an easy course and one that relieves the patient more often than does trusting to chance. If no sufficient lesion is found it can not be said that it adds materially to the risk.

10. **Uterine Hemorrhage.**—Several cases are reported by Grandin of persistent hemorrhage from the uterus and of hemorrhage following abdominal section. He believes that, after an elective abdominal section, the word shock means hemorrhage. If internal hemorrhage occurs within twenty-four hours after such operation, as in his patient, it is sufficient to warrant us in re-opening the abdomen. He contends also that vaginal section will enable us to settle this question, which is of vital moment to the patient and to our reputation. We should free our minds, however, of the thought of that bugbear, shock, remembering that the symptomatology is essentially different and that the free use of morphin ought to make a differential diagnosis for us.

11. **Measles.**—The hygienic, dietetic and medicinal treatment of measles is described by Fischer. The first consists in guarding the child from any unnecessary exposure to heat or cold, with thorough disinfection of discharges from the nose, ears and mouth, and securing rest and quiet. If there is an exanthema, mild diaphoretic treatment may be indicated. He advises the use of liq. ammon. acetat in half dram or dram doses every one or two hours to produce diaphoresis. If the temperature is below 102 no further drug treatment may be required. It is important to watch the stomach and bowels, hence stimulation of the emunctories will be urgently demanded in this pre-eruptive condition. All the body functions must be carefully watched. For the medicinal treatment he suggests one-drop doses of tincture of aconite when it is necessary to have both the antipyretic and diaphoretic effect. In very weak or rickety children great care should be used, and where convulsions are likely to occur hot mustard foot baths and the ice bag or cold applications to the head used and bromid of sodium in 10-gr. dose given by the mouth if the nervous symptoms are severe. For vomiting he would give the stomach rest, resorting to rectal alimentation and medication if necessary. Great care should be taken in the use of purgatives. Phosphate of sodium in 10 to 30 gr. in water is a useful laxative and so are small doses of citrate of magnesia. Very small doses of calomel, 1/10 gr., two or three times a day may also be used. We should remember that intestinal catarrh is one of the dangers of the disease. Water should be given liberally; fruit juice may be added to it. When the nose and the pharynx discharge freely and irritate the child, irrigation with some bland antiseptic, such as 1 per cent. boric acid solution, is useful, but if there is a catarrh involving the nose and throat as well as the bronchial mucous membrane and the accumulated secretion is annoying, an emetic is advised. Most children cough and swallow their expectoration and a dose of castor oil may be useful. For emesis he suggests the compound syrup of squills every half hour or syrup of ipecac in dram doses, but when neither of these are effective he finds sulphate of copper in one-half or one grain doses in the same intervals valuable. For the distressing cough, especially at night, steam, impregnated with eucalyptus or oil of thyme and small doses of codein can be employed. Two or three grain doses of chloral hydrate can be used for a child three years old. He has had little good from heroin and sometimes unfavorable symptoms. The complication of pneumonia requires symptomatic treatment. High fever may require tepid sponging or local tepid pack, but cold baths and cold packs do not seem so well borne as in other febrile diseases. The oiled-silk jacket, if the case is not an abnormal febrile type, covering the whole thorax and applied next the skin is very valuable. Dry cups applied posteriorly are useful for dyspnea. He has used antipneumococcic serum in one case, but of course no conclusions can be drawn. The child made a perfect recovery. If diphtheria is a complication the usual treatment is required. Antitoxin should be considered as early as the diagnosis is made. He does not believe, however, in immunizing doses of antitoxin during the course of measles to protect from possible diphtheria. If the child is nursing, breast milk is the diet to be used. In case of bottle-fed babies the greatest care must be exercised in feeding. With gastric symptoms the interval should be increased and a smaller quantity administered. When violent gastric symptoms prevail in spite of all precautions, absolute rest of the stomach is necessary and rectal feeding should be used if required. In older children buttermilk may be substituted for milk and concentrated foods such as cream and butter may be given. Thus a small quantity of cream rather than a large quantity of milk if the stomach will tolerate it will be beneficial. Soups, broths, eggs and paps of oatmeal and milk are indicated. In older children calf's-foot jelly, chicken jelly, raw scraped steak and oysters in addition to broths and milk and cream may be allowed. Fruit and fruit juices may be given ad libitum. The convalescence and restoration to the normal condition depends on the nutrition rather than on drugs.

13. **Appendicitis.**—The question of how to diagnose appendicitis is the subject of Meyer's article. While he believes it always a surgical disease, he asks whether it is possible to prophesy what course may be followed. As regards the refinements of diagnosis he mentions that it is often possible to locate the position of the acutely inflamed appendix within the first days of the disease by going over the right half of the abdomen with the tip of one finger. Although McBurney's point will invariably be found to be painful to the touch, still more intense pain can often be elicited on pressing a spot above or below the omphalospinous line or posteriorly to the caput coli in the lumbar region. In a case of unmistakable acute appendicitis the greatest pressure pain is found not on but somewhat above this line and along the crest of the ileum or, if it is principally marked in the right lumbar region, we shall rarely go wrong in assuming that the appendix is situated posterior to the caput coli. Dr. Meyer has never been disappointed in this sign. If, on the other hand, digital examination by the rectum or vagina demonstrates the greatest tenderness or a painful mass on the right side of the pelvis, we shall, almost without exception, find the appendix in its normal position. He believes that attempts to directly palpate the acutely inflamed appendix throughout its length are usually unsuccessful and he here gives Meltzer's method of examination as follows: Under normal conditions the appendix should rest in the right iliac fossa, that is to say, on the ileopsoas muscle, from which it is separated by the parietal peritoneum, the extraperitoneal or transversalis fascia and the ileopsoas fascia. Active contraction of this muscle will, of course, increase the volume of the belly of the same and therewith raise the appendix thus situated upward toward the anterior abdominal wall. If now the examining fingers are pressed gently but deeply down into the iliac fossa at or near McBurney's point, and the patient is directed to slowly lift his straightened and outwardly rotated lower extremity so as to form nearly a right angle with the trunk; in other words, if we direct him to thus make flexion at the hip, such an appendix will thereby be subjected to increased direct pressure and hence become still more painful than before. It will also in this way sometimes become more or less distinctly palpable. If, on

the other hand, the result of this kind of an examination is negative, I should think we might be justified in concluding that the appendix is not resting on the ileopsoas muscle, but running in a different direction. Elsberg claims also that: by accepting McBurney's point as the base of the organ, its further course might be determined by the spot of greatest *subjective* pain, as repeatedly pointed out by the patient upon being questioned regarding the same. The doctor stated that in this manner he had succeeded in correctly diagnosing the position of the organ in 49 out of 58 cases. Should further experience prove this method too to be reliable in the greater majority of cases, it may frequently prove of value to the surgeon. If the patient persistently locates the principal subjective pain to the left side of the lower abdomen in a case of undoubted acute appendicitis, we may infer that the vermiform is long and hangs down into the small pelvis. Vaginal or rectal palpation will frequently verify such an assumption. But this diagnosis of location and possibly also of the length of the inflamed appendix is of practical importance to the operator only because it tells him where to incise, while for the general practitioner it is of little value. With him it is not a question of direction, but of recognizing the clinical seriousness of the attack. He further asks if we can conscientiously claim to be able to diagnosticate at the present time with regard to the pathologic lesion of the appendix in its acute inflammation during the first two or three days of the disease, as long as the inflammation is still confined, in its principal part at least, to the appendix as such, and as long—he emphasizes this point—as no tumor of any kind is palpable in the region of the appendix. From the basis of his experience covering hundreds of cases during sixteen years he is obliged to answer in the negative, and he doubts whether we will ever be able to do this. He does not, however, wish to have it understood that we should discontinue our efforts to sharpen our diagnostic capabilities in regard to these points. He advises then in the interest of our patients, that we be satisfied with our ability to diagnose the given case: 1, as one of acutest inflammation, which has already transgressed the border lines of the appendix and involves the peritoneal cavity to a greater or lesser extent, in consequence of a macroscopic perforation of the organ, or without the presence of same; or 2, as one of acute inflammation, that is most probably still confined to the appendix as such, although its immediate neighborhood appears more or less involved; or 3, as one of subacute inflammation. Let us allow such diagnosis to furnish the indication for or against prompt operation. Let us continue to tell the general practitioner to go on diagnosing acute appendicitis first of all on these lines. It is often by no means an easy task for the average man, and in some instances for the specialist, to render the differential diagnosis between acute appendicitis and other acute inflammatory lesions within the abdominal cavity. Let us, therefore, not complicate matters still more by expecting the physician to also diagnose the exact anatomic lesion of the organ before deciding whether or not prompt surgical intervention be needful. As a third division of his subject, he asks what we can diagnose in the degree and extent of a complicating peritonitis. He remarks that in the great majority of cases acute appendicitis is accompanied by localized peritonitis. Localized palpable tumor in the region of the appendix means pus formation or the deposition of plastic lymph with tendency to pus formation in the great percentage of cases. While pressure pain over the left lower abdomen speaks for a more intense, often spreading peritonitis, paresis of the large intestine, tympanitis, continued vomiting, general abdominal and rectal tenderness, dulness on percussion of the right iliac fossa and over the whole lower abdomen suggest a spreading or fully developed general peritonitis with or without effusion. An important sign is pain on pressure in the left lumbar region, the part farthest away from the usual seat of disease—if we exclude the subdiaphragmatic space. With chill and the other symptoms mentioned and pain in the left lumbar region, the diagnosis will then be found to be correct. He gives a point as regards the diagnosis of subacute and acute appendicitis during the interval and says: If a patient was suddenly taken sick with pain in the lower abdomen and consecutive localization of the same in the right groin, but without the simultaneous occurrence of a number of stools, especially of loose diarrheal stools; and more important still, if nausea and vomiting accompanied the trouble, if gas and feces could not be passed for hours or days, if an increased pulse rate, localized pressure pain and, possibly, rise of temperature were noticed, such a disease was most probably—at least in the male—an attack of acute or subacute appendicitis. If a right movable kidney is present and the attack occurred independently from the advent of menstruation, the probability of the disease having been an attack of acute or subacute appendicitis, gains ground also in the female sex. Further direct examination must clear up such a case. If gynecologic examination be negative, if gallstones can be excluded, if urinary analysis does not point to disease of the kidney, and if we are able to palpate a painful cord, corresponding to the location of the appendix, our diagnosis promises to be correct. He has had little faith in the palpation of appendicitis, and admits his inability to do what is claimed by some authorities. He suggests the danger that palpation may cause rupture of the focus into the general peritoneal cavity or the re-awakening of slumbering processes.

14. **Rheumatic Appendicitis.**—Going over the authorities and replies received to questions sent to physicians concerning appendicitis in the distinctly rheumatic individual, Edwards remarks that the testimony is almost unanimously against the existence of a condition styled rheumatic appendicitis. He would therefore summarize by saying that, 1, the present state of our knowledge does not warrant the use of the term rheumatic appendicitis; 2, there seem to be but two conditions in which rheumatism can at all be considered in etiologic relation to appendicitis, and these are when a rheumatic endarteritis of the single appendicular artery exists and the blood supply is greatly diminished thereby. It seems to be conceded that the entrance of fecal matter of itself does not necessarily give rise to appendicitis, but it is probable that the inflammation may have its origin in the micro-organisms conveyed to the interior of the organ by the fecal matter. Even if rheumatism is an infectious disease and the infection is due to staphylococci, whose seat is in the gastro-intestinal tract, it may be probable that the feces in these cases are unusually toxic, but this again is far from proved, so that when considering a so-called rheumatic appendicitis we must resort to the old Scotch verdict—"not proven."

15. **Mastoid Operations.**—The main points discussed in regard to mastoid operations are summarized in the paper by Hammond as follows: 1. Mastoiditis is always subsequent to purulent inflammation of the middle-ear. 2. Tenderness of the bone is an important symptom when present, but the mastoid may be full of pus, with absolutely no tenderness. 3. Bulging of the canal wall is a most important symptom. 4. The absence of temperature is no guide whatever. 5. Improvement in the hearing is usually indicative of subsiding inflammation in the middle-ear. 6. The operation is safe, and delay may be dangerous.

19. **Palmar and Plantar Syphilids.**—Bernart finds that in 200 successive cases, eliminating patients who had forgotten their history, 17.5 per cent. suffered from either palmar or plantar syphilids or both sometime during their disease. He gives details of some of the cases. He thinks that while this percentage may be larger than that found elsewhere it indicates that such lesions are found more frequently than ordinary observation would lead us to believe. In cases where it occurred, in nearly 60 per cent. both surfaces were diseased; the palms alone followed next with about 35 per cent., while the plantar surfaces were alone affected in only about 1 per cent. Nearly 50 per cent. more of soft and tender hands were affected as compared to others; this shows that irritation and friction do not play an important part in the production of palmar lesions.

21. **The Health of School Girls.**—Brackett finds from statistics that females make up the larger number of applicants for hospital treatment of physical developmental defects. It impresses the physician who sees a large number of children to

observe the large number of girls that are anemic and nervous, and the very marked difference between their condition and that of the boys at the developmental stage. Much of this trouble he lays to the overstrain of our present system of school education and holds that the school is responsible for very many of the conditions in so far as it demands interference with the necessary amount of sleep and outdoor play and it does not sufficiently recognize the difference between boys and girls and between different individuals.

22. **The Health of School Girls.**—Lovett's article follows the same general line, reviewing the facts so far as known and giving such data from his own investigations as he has been able to obtain. He finds that the number of pupils that leave school on account of their health, especially in the high and normal schools, is much greater among females than males. There is no consensus of opinion that girls leave school with their health improved over that at the time of their entrance and some teachers were definite in their statement that the girls were not as well on the average. He thinks the remedy lies in the development of physical training in a proper school gymnasium under proper conditions. For this purpose a gymnasium is imperative as exercises in the school room are not effective. This seems to be the general consensus of opinion among teachers. At present the general health of the school girl at puberty is far from what should be desired and what seems to be the result of school work plus outside demands.

23. **The Health of School Girls.**—Hartwell's article is more confined to statistics than the others and he does not find from his figures that a disproportionate number of girls are obliged to leave the Boston public schools because of impaired health. It is only in the high and Latin schools that the losses are considerable, and if overpressure exists there is where we should expect to find evidence of it. He holds the medical profession fully responsible as educational authorities for the present neglect of school hygiene and the undeveloped state of vital statistics relating to the school population, but he admits that physicians are somewhat more alive than the teachers to the needs of the situation.

24. **The Health of the College Girl.**—Sabine, in taking the statistics of 2000 students in finishing schools and colleges, finds that there is a defect and that the college girl does not represent exactly the type that she should in the physical point of view.

25. **Fourth Disease.**—Griffith considers that it would be a calamity if Duke's fourth disease could be proven to exist. From his study of the subject he says there is no reason for and every reason against its existence. He thinks that every infectious disease is liable to variation in its type both in the individual and the epidemic, and that aberrant cases and forms and even aberrant epidemics occur. We can not give separate names to every such form. The history of rubella shows that it is particularly liable to vary. We have yet to see rubella scarlatiniforme, as generally understood, fail to protect from an attack of rubella morbiliforme or vice versa.

26. **Intermittent Claudication.**—The case reported by Levy was an apparently complicated one showing some of the typical symptoms of Charcot's disease and also some of those of erythromelalgia. He thinks we are warranted in called it one of those mixed cases which show the close relation between these disorders and Raynaud's disease. The appearance of felons is also mentioned as being analogous to such conditions in Morvan's disease.

27. **Ophthalmia Neonatorum.**—According to Wilson the demands of treatment and prophylaxis of this disease are: 1, the antepartum care of the birth canal; 2, the scrupulous cleansing of the lids following expulsion of the head and constantly thereafter in suspicious cases; 3, the noninvasion of the palpebral sac by separation of the lids before the appearance of typical discharge; 4, prompt and absolute isolation upon the appearance of conclusive signs of specific inflammation; 5, thorough and systematic irrigation; 6, astringent application of silver nitrate in cases of prolonged suppuration. In conclusion, as an important adjunct to local treatment attention should be given to the general condition of the child in cases of debility and malnutrition. The measures directed toward the care of the infant are comprised in cod-liver oil inunctions, small doses of whisky internally and breast feeding. At the same time the mother should receive some form of tonic treatment.

30. **Pseudoleukemia.**—Sailer's paper, which was commenced in the last issue, is ended in this. He reviews Sternberg's cases and comes to the conclusion that we can not speak dogmatically as to the tubercular origin of this condition. None of the evidence heretofore presented can be regarded as decisive, but the gradual accumulation of positive facts, as Pinkus says, and the absence of entirely satisfactory negative evidence, rather tends to confirm the supposition that the majority of cases of pseudoleukemia, if not all, will ultimately be recognized as tubercular.

31. **Hepatic Abscess.**—Five cases of hepatic abscess of amebic origin are reported by Osler which are of interest as showing the latency of symptoms and the liabilities to error in diagnosis. In one case the abscess was not large and the symptoms were negative, with absence of fever, chills, sweats and leucocytosis until just before the operation. There was, however, a marked diffuse cyanosis that is still unexplained and localized swelling above the right costal border which was found to be associated with adhesions between the liver and costal margin with no signs of abscess pointing in this direction. In another case the symptoms led to a diagnosis of malignant disease, and still another, of empyema. Osler calls attention to the leucocytosis which was particularly absent in three of the cases. They contradict the statement, made by some, of the invariable presence of this condition in hepatic abscess. In one case there was no ulceration of the intestine, though there may have been dysentery months before which had healed.

33. **Pleurisy.**—Crook describes first a hypothetic case with symptoms diagnosed as pneumonia, but the patient does not pass through the ordinary course of the disease and fails to get well. It is possible the physician may now recognize the true nature and give the diagnosis as pleuropneumonia and save his reputation, but it is not always the case, and sometimes because the condition is not early enough recognized the patient is lost. He emphasizes certain distinguishing points and says the initial chill and subsequent temperature range are not reliable guides; we should hesitate in diagnosing pneumonia without rusty sputum. The variation in the respiration and pulse ratio is important. If the respiration is so increased that the ratio is 3 to 1, 2 to 1 or perhaps 1 to 1, the case is probably pneumonia. A marked increase of the circumference of the affected side may be taken as absolute evidence of accumulation of fluid, but the contrary does not always hold good, for it may force its way upward instead of sideways. Displacement of the viscera, especially the heart, is of the utmost value in effusion, and it should be borne in mind that the border of the percussion dulness does not always show an exact hydrostatic level. In some cases it may even rise to the summit of the lung. It requires a good deal of care to look after these patients. If we are still in doubt we should not hesitate to employ the exploring needle. It is only by this means that we are able to determine positively whether an effusion be of a serous or of a suppurative character, or to diagnose with certainty the presence of encysted accumulations.

35. **Varicose Veins.**—An etiologic classification of varicose veins is made by Terriberry with a distinction between those cases which occur with a predisposing cause and those in which there is no acquired or congenital defect in the vascular apparatus. Further, with or without predisposing cause, all cases of varicose veins may be placed in three groups: 1, those due to regurgitation following stenosis above the saphenous valves; 2, those cases due to regurgitation with stenosis inferior to the saphenous valves, and 3, those cases due to stenosis without regurgitation.

37.—This article has appeared elsewhere. See abstract in The Journal of March 15, ¶102, p. 734.

46. **Prostatic Hypertrophy.**—The history of operations is reviewed by Ballin, whose conclusions are as follows: 1. The regular use of the catheter in hypertrophy of the prostate gland is dangerous, as it causes inflammatory processes in bladder and kidneys. 2. Therefore prostatic hypertrophy with retention of urine, which would necessitate the use of the catheter several times a day and placing the catheter in the hands of the patient, ought to be treated by operation. 3. Bottini's operation is preferable and sufficient in most cases; some cases are better treated by prostatectomy. 4. A good diagnosis of the kind and shape of prostatic enlargement and of all complicating factors—cystitis, nephritis, etc.—is essential for the selection of the suitable operation, and also for its successful performance.

56. **Enteroptosis.**—Hemmeter finds the etiology of enteroptosis one of the difficult questions. He is rather in favor, however, of the theory of Rosengart that it is a pathologic reversion of the location of the abdominal organs to an embryonic state, at least in congenital cases. He insists that the best means of diagnosing are the finger, the sight and the hearing. He deprecates too much dependence nowadays on technical and artificial methods to the exclusion of the more natural ones which are often more effective in many cases. He mentions especially the change of sound in the stomach containing liquid, the splashing sound and Stiller's sign of the floating tenth rib, which he has found present in 78 out of 130 cases. The introduction of the rectal Langdon tube or sound is of value, and he believes that it can be introduced clear up to the cecal opening. Still another method is distension of the colon by air or water; air alone blown in by bellows will frequently give the desired information without the necessity of the more troublesome method of using water. The treatment of enteroptosis should be directed to strengthen the general constitution by proper diet, hygiene, use of air, electricity, arsenic, massage and baths, all of which have their share of usefulness. The correctly applied plaster bandage laid on the nude figure in strips and a special straight-front corset, which has a tendency to press the intestines upward, thereby making a cushion for the stomach, colon and kidneys to rest on is also very useful. If the patient is emaciated, a fattening cure should be undertaken. Surgical interference is to be avoided.

57. **Enteroptosis and Displacements of the Colon.**—Turck's article deals especially with displacements of the colon, which he considers largely due to the following general etiologic factors: 1. Any condition that induces an increased capacity in the abdominal cavity. 2. Constriction of the thorax. In many cases there are no symptoms, and in some cases of coloptosis the symptoms disappear after treatment, but ptosis remains. There are, however, permanent mechanical disturbances due to prolapse, viz., dragging on the mesentery, pressure on the kidney and weakness of the visceral muscles, producing chronic irritation of nervous symptoms and hysteria and neurasthenia. As regards treatment something might be done for the prophylaxis provided we control the heredity. We are not yet, however, able to do this. For the girl, the advantages of open-air life should be enjoyed and constriction of the thorax should be avoided. As regards the enteroptosis occurring after childbirth he believes that if proper hygienic habits had existed before, artificial support would hardly be required. The principal indications for treatment of colonic displacement are, 1, atony and dilatation; 2, vasomotor disturbance of the splanchnic vessels; 3, lax conditions of the abdominal walls. The methods are similar to those for gastro-enteroptosis combined with fresh air, exercise and dress reform, gastric lavage, abdominal support, rest, abdominal exercises, drugs, nux vomica and laxatives, rectal enemata and abdominal douches. In his own treatment Turck obtains just the same results as in washing out the stomach contents, by the use of a thin rubber bag attached to the end of the tube. This produces a much more effective gymnastic exercise of the pyloric end, and a still more effective method is to use hot or cold air instead of water. The use of the gyromele produces, as Ewald states, a thorough cleansing of the membrane and its adherent mucus, and, naturally, also a strong stimulation of the gastric wall. Lavage of the stomach in the morning is also useful as Fleiner remarks. Large rectal enemata are harmful as they stretch the intestine and increase atony. Small quantities of water are better. Gymnastic exercises of the colon correspond with those used in the stomach, details of which can be found in other papers by the writer. The treatment of lax abdominal walls by exercise (International Clinics, Volume II, 11th series) has proven very satisfactory and where there is a separation of the rectus muscles, which is considered the cause by Webster, the operation he recommends is the best for the condition, with continued prolonged after-treatment.

70. **Lymphatic Leukemia.**—This condition is described by Herrick, who holds that it is probably not so rare as generally supposed, and that the more carefully the blood is examined the more frequently will some of the cases of supposed pseudo-leukemia be found to be genuine lymphatic leukemia. It is a well-known fact that in many pseudo-leukemias a slight relative increase in lymphocytes is met and at times a sudden transformation of the blood, the blood being flooded with lymphocytes. This is the so-called transformation of the pseudo-leukemia into the true lymphatic leukemia. Some authors, including Pinkus, take the ground that there is practically no sharp dividing line between the two conditions and that many transitional forms are met. Herrick also suggests that probably some of the severe anemias, in some cases classed as scurvy and purpura, may show similar blood conditions; the impression is also conveyed that these cases of acute leukemia are acute infections or virulent toxemias. He remarks on some of the peculiarities in the cases that he has seen.

73. **Suggestive Therapeutics.**—Prince's paper is an interesting one, giving an account of a number of cases where he used suggestion with decided advantage, especially in morbid conditions of the eye. He lays especial importance on the operator finding out the key to the patient's delusions, without which it may be impossible to effect a cure even if the entire confidence of the patient is gained.

85. **Sterility.**—This article by four authors reviews the microscopic characters and the morphology of spermatozoa and gives experimental studies and clinical observations of their vitality. The conclusions, which they consider to be fully determined by their study of the subject, are: "In sterile marriages the fault certainly lies with the husband in from 10 to 15 per cent. of cases; probably in a still larger percentage. Though absence of motile spermatozoa is a proof of sterility, their presence does not necessarily demonstrate that the semen is fertile. Microscopic study shows that spermatozoa, although they are alike in general characteristics, differ greatly, even in the same individual, in conformation, size and color reaction. In spite of these differences, it seems possible to recognize the normal and probably fertile organisms. In their passage through the epididymis the spermatozoa undergo developmental changes so marked as to be easily recognizable; hence, it is probable that the epididymis is not a mere conduit. The prolongation of motility is a better index of fertility than the mere fact of motility. The commonest local cause of sterility in the male is obliterating bilateral epididymitis of urethral origin. Bilateral epididymitis is comparatively rare. Permanent obliteration of the tube of the epididymis is its exceptional rather than its usual termination, and is most effectually avoided by prolonged treatment. When the obliteration persists it is in the tail of the epididymis. Azoöspermia resulting from obliteration in the tail of the epididymis can be easily and safely overcome by forming an anastomosis between the head or body of the epididymis and the vas. Ejaculations following this anastomosis swarm with motile spermatozoa. Whether these be fertile and whether the vaso-epididymal anastomosis will persist, can be determined only by prolonged observation." An extensive bibliography is appended to the paper.

95. **Strabismus in Children.**—Parker points out the im-

portance of early treatment of strabismus and, in young children who can not yet use glasses, he advises removal of all books, pictures and toys that require close observation, substituting for them, wagons, hobbyhorses, balloons, etc., which do not tax the vision. The child should not be sent to kindergarten, and if these measures do not prevent the squint from developing, a weak solution of atropin, one grain to the ounce, should be instilled into the eyes once or twice daily to partially suspend the power of accommodation. In this way the child may be cared for until old enough to wear glasses, which can be used by some children as early as three years. The shadow test and other means make the fitting of glasses to children perfectly reliable after the complete suspension of accommodation by mydriatics, and a full correction of the refractive errors should be given to be worn constantly. The eyes should be retested once a year and refitted if necessary to decrease the strength of the glass as given to correct farsightedness. The use of glasses will frequently cure the squint, but should they fail, cover the good eye for an hour, twice daily, thus enforcing the use of the squinting eye. By this means the vision may be improved and the loss of co-ordination corrected. The stereoscope can often be used for older children; by marking corresponding points on the two pictures, and asking the patient to interpret them, one can tell which eye or if both eyes are being used. By the variation of pictures the child is not only being treated but entertained. The vast majority of cases, however, will not be cured by means other than surgical, and if at the sixth or seventh years the squint is permanent and constant with or without glasses, surgery should be resorted to. If each test, however, shows a different error, indicating that the abnormal condition is not fixed, it is advisable to wait until the eyes and muscles are more fully developed. A premature operation may lead to a turning out of the eye, while neglect may lead to impaired vision. Success requires the study of each individual case.

96. **Pseudo-Tubercle Bacillus.**—Cowie mentions certain forms of bacilli closely resembling the tubercle bacillus, such as Hanson's bacillus and the smegma bacillus. The only reliable test is animal experimentation for the smegma bacillus, but the catheter test comes next in value. It is made by thoroughly sterilizing the parts, using a sterile catheter and collecting the urine in a sterile receptacle. After this the sediment is examined by staining with hot carbolic fuchsin, washing, immersing in 15 to 25 per cent. nitric acid solution and then immediately transferred without washing to absolute alcohol, where the specimen remains a short time until excessive redness is gone. The alcohol is washed off and the specimen counterstained in methylene blue, mounted in water and examined. Any acid-resisting bacilli present are probably tubercle bacilli.

97. **Incipient Tuberculosis.**—Hagadorn lays much stress on the temperature curve in incipient tuberculosis as a diagnostic sign. He regards a temperature that is normal or practically so after 5 or 6 p. m. of great diagnostic importance. The temperature is usually normal between 7 p. m. and 10 or 11 a. m., but as a rule there is a rise between 2 and 5 p. m. of from one to two degrees. The pulse acceleration is also of importance and also gastric disturbance. The physical signs should also be looked for, such as a slightly lessened movement in the supraclavicular or infraclavicular region, diminished expansion of one side of the chest, breathing slightly diminished in intensity, especially during inspiration. The following method he considers very important: The patient's hand is placed on the opposite shoulder. The physician then listens over the portion thus uncovered by the scapula, just above and external to the giving off of the bronchial tubes, where there will be heard prolonged tubular breathing and fine râles on coughing, which is one of the principal signs of phthisis, making diagnosis possible weeks before other signs are present. Contrary to many authors he believes that rheumatic diathesis, when the white fibrous tissue is involved, predisposes to tuberculosis. The hygienic and medicinal treatment are reviewed.

108. **Veratrum.**—Woodward believes in the value of veratrum, especially in inflammatory conditions, and insists on the importance of a tincture of fresh roots. In a given case of decided phlogistic tendency we should commence with not more than four drops of Norwood's tincture. If at the end of an hour the heart's action is not reduced in frequency or otherwise, give 5 drops and so on increasing one drop an hour until the pulse shows a change. He has such belief in the drug that he says he feels it almost his duty to take off his hat to it "in profound respect for its value."

113. **Enuresis.**—Dupaquier advocates general treatment in the main, directing attention first to the examination of the urine, to the detection of some disease of the blood, from bacterial, metabolic or diathetic source, and depends on the use of water, hygiene, diet and exercise to ameliorate the system first and then the use of local treatment in persistent cases. While belladonna is almost universally recommended, it has to be given in such large doses that it sometimes produces unpleasant and alarming effects.

114. **When Not to Operate in Strabismus.**—Any cause of muscle imbalance, says Robin, whether a tendency to incorrect turning of the eye, aphoria, or an actual malposition, atropia, requires before operation, 1, a thorough study of the patient's age (actual, not in years), employment, general health, social position, character and psychologic state, both habitual and at the time he applies for relief; 2, careful measurement under atropin of all errors of refraction and the constant and persistent wearing of glasses correcting as nearly as possible the total amount of defect; 3, the patient and persevering endeavor in esophoria or esotropia to re-establish balance by enforced rest of the accommodation with atropin and in exophoria or exotropia by muscle gymnastics, general tonics, outdoor exercise and a suspending of all eye work at the near point.

121. **Mercurol.**—Ayres replies to Lydston's criticism in a former issue of the *Texas Medical Journal*, holding that mercurol, while not a drug that will control every case, is the most reliable and easily borne preparation of mercury that he has ever used. It can not, however, be given in solution for it oxidizes quickly, a point which has not been mentioned elsewhere than in his former article. He gives it in the form of tablets in 1 gr. dose, three times a day, adding one more grain per day every fourth day until a slight salivation or looseness of the bowels is apparent. Every grain of mercurol contains 1/10 of a grain of pure mercury which, of course, is a large dose.

122. **Tuberculosis.**—Wilkinson points out the climatic advantages of western Texas for the consumptive.

133. **Intraspinal Cocainization.**—Fort believes that this method of producing anesthesia is usually without serious post-operative symptoms, is not contra-indicated by any condition, and claims its use is imperative when general anesthesia is contra-indicated.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), April 5.

1 *The Causation of Death During the Administration of Chloroform. (To be continued.) E. H. Embley.
2 *A Contribution to the Study of the Presence and Formation of Agglutinins in the Blood. M. Armand Ruffer and M. Crendiropoulo.
3 *Progress Report upon the Biologic Test for Blood as Applied to Over 500 Bloods from Various Sources. George H. F. Nuttall.
4 *The Diagnostic Value of the Variations in the Leucocytes and Other Blood Changes. Leonard Rogers.
5 *The Condition of the Blood in Filariasis. G. Lovell Gulland.
6 Observations on the State of the Vascular System After Death by Asphyxia and by Cardiac Failure. J. A. MacWilliam.

The Lancet (London), April 5.

7 *The Comprehensive Study of Thoracic Phthisis. F. T. Roberts.
8 *The Etiology of Typhoid Fever and Its Prevention. W. H. Corfield.
9 *Results of the Vaccination of 1060 Adults. H. Sinigar.
10 The Surgery of Non-Malignant Gastric Ulcer and Perforation. (Concluded.) C. B. Keetley.
11 *The Supposed Infectivity of Desquamation in Scarlet Fever. C. Killick Millard.
12 *The Topical Application of Mucin in Certain Affections of the Nose, Throat and Ear. William Stuart-Low.

Indian Medical Gazette (Calcutta), March.

13 *Some Practical Suggestions for the Prevention of Malarial Fevers. G. T. Birdwood.

14 Cocain as an Intoxicant and Its Demoralizing Effects. K. C. Bose.
15 The Therapeutics of Semi-Carpus Anacardium. Hem Chandra Sen.
16 Notes on the Prevalence of Filariasis in the Calcutta Police Force. C. R. M. Green.
17 Observation of the Clotting Power of the Blood in Plague Patients. Alice M. Cothorn.
18 *An Unusual Form of Bubonic Plague. J. Chaytor White.
19 Quartan Fever in Calcutta and Dacca. (Continued.) U. N. Brahmachari.
20 Some Cases of Cerebrospinal Meningitis. J. Rutter Williamson.

Intercolonial Medical Journal of Australasia (Melbourne), February 20.

21 An Analysis of Seven Hundred Consecutive Confinement Cases. H. Osburn Cowen.

Gazette Hebd. de Med. (Paris), March 20 to April 3.

22 The Permanent Sound in Treatment of Urinary Infections. H. Berthier.—"Du drainage par la sonde urétro-vesicale à demeure dans la thérap. des inf. urin."
23 Primary Infantile Atrophy and the Soluble Ferments. L. Concetti.
24 Gold Wire and Some New Instruments for Operating on Inguinal Hernia. J. Tansini (Palermo).
25 Sudden Luxations of the Hip Joint in Incipient Coxalgia. Jouon.
26 Pneumococcus Meningitis. Results of Lumbar Puncture. Ch. Achard.
27 Distribution of Human Actinomycosis in France. A. Poncet.
28 (Case Reports) Varicellic Arthritis. Lacasse.—Acquired Hydrocephaly Consecutive to Gastro-Enteritis.

L'Obstetrique (Paris), 1902, 2.

29 *Intervention in Cases of Deformed Pelvis. P. Bar (Paris).—"Dans le cas de viciatiou pelvienne."
30 *Natural Utilization of the Extra-Embryonal Part of the Ovum. L. Bouchacourt (Paris).—"De l'utilization de la partie extra-embryonnaire de l'oeuf."

Presse Medicale (Paris), March 22 to April 2.

31 Sexual Anomalies. H. Roger.
32 Study of Sero-Agglutination in Tuberculosis. E. Rumpf (Friedrichsheim).
33 *Treatment of Neurasthenia. R. Romme.
34 Morphinomania. Auto-Observatiou of a Physician. Reported by Debove.
35 Prophylaxis of Purulent Conjunctivitis. A. Trousseau.
36 Simultaneous and Independent Cancer on Both Lips. H. Morestin.
37 Aspirin in Therapeutics. E. Guihal.
38 Passage of Agglutinin from Mother to Fetus in Typhoid Fever. A. Rouslacroix (Marseilles).
39 Prophylaxis of Venereal Diseases. G. Fischer (of the Army).
40 Why and When Should Quinin be Administered? A. Martinet.

Semaine Medicale (Paris), March 26.

41 Suppurations in the Sub-Phrenic Zone. F. Lejars.—"Les sup. de la zone sous-phrénique."

Centralblatt f. Chirurgie (Leipsic), March 29.

42 *Further Experience with the Ether "Rausch" in Operating. P. Sudeck (Hamburg).—"Ueber das Op. im Aetherrausch."

Centralblatt f. d. Grenzgebiete (Jena), March 18.

43 *Round Ulcer of the Duodenum; Review of the Literature from 1891 to 1900. R. Laspeyres (Bonn).—"Das runde Duodenalgeschwür." Commenced in No. 1.

Centralblatt f. Inn. Med. (Leipsic), February 15 to March 29.

44 *Serum Treatment of Acute Infectious Diseases. E. Walger (Erbach).
45 *Differentiation of Cystitis and Pyelitis. G. Rosenfeld (Breslau).
46 Connection Between Dyspeptic Disturbances and Affections of the Female Genitalia. A. Sommer (Graz).
47 *Curative Effect of Anesthetics. G. Spiess (Frankfurt a. M.).
48 Contrast Staining of the Blood. R. May (Munich).—"Ueber Blutfarbungen."
49 Statistics of Pleuritis. J. A. Grober (Jena).
50 Case of Bacteriuria Vesicalis Post-Gonorrholca Due to Bact. Lactis Acrogenes. B. Goldberg.

Deutsche Med. Wochenschrift (Leipsic), March 27.

51 *Technic of Examining the Pupil. O. Schirmer (Greifswald).—"Zur Methodik der Pupillenuntersuchung."
52 Best Methods of Outlining the Heart. G. Grote (Nauheim).—"Wie orientiren wir uns am besten ueber die wahren Herzgrenzen."
53 *Means of Combating Meteorism. A. Oppenheim (Berlin).—"Beitrag zur Bekämpfung des Meteorismus."
54 (Case Reports) Psammoma in Brain. Lunz.—Unusual Operation for Cataract. Hirschberg.

Muenchener Med. Wochenschrift, March 25.

55 Differences Between Fetal and Maternal Blood Serum and the Action of Normal Serum in Checking Agglutination and Precipitation. J. Halban (Vienna).
56 *Incising the Kidney in Acute Pyelonephritis with Miliary Abscesses. Wilms (Leipsic).—"Ueber Spaltung der Niere bei ak. Pyel. mit mil. Absz."
57 *Experimental Suprarenal Diabetes. L. Metzger (Frankfurt a. M.).
58 Albumin Preparations in Feeding the Sick. J. Hoppe (Ucht-springe).
59 *Intra-Ocular Galvano-Cauterization. A. Roscher (Breslau).
60 *Position of Homeopathy in respect to Modern Medicine. Kunkel (Würzburg).

Therapeutische Monatshefte (Berlin), March.

61 The Waves of Epidemics and Diphtheria Serum Treatment. O. Rosenbach (Berlin).—"Die Wellenbewegung der Seuchen und das Diphtherieserum."
62 Dionin in Affections of the Respiratory Organs. A. Scherer (Ruppertshain i. Th.).
63 *Treatment of Rheumatic Heart Affections. R. Bensen (Bad Eilsen).—"Zur Beh. der rheum. Herzaff."
64 Ichthargan in Treatment of Gonorrhea. E. Saalfeld (Berlin).—Ibid. B. Goldberg.

Therapie der Gegenwart (Berlin), February.

65 *Practical Application of Artificially Induced Hyperemia. A. Bier (Greifswald).—"Ueber prakt. Anwendung kunstlich erzeugter Hyperaemie."
66 *Myogenic Pseudo-Angina Pectoris. O. Rosenbach (Berlin).—"Ueber myog. Pseudostenocardie."
67 *Effective Treatment of Septic Endocarditis. K. F. Wenckebach (Gröningen).—"Eine wirksame Beh. der sept. End."
68 *Olive Oil in Treatment of Stenosis of Pylorus and Duodenum. P. Cohnheim (Berlin).—"Die Heilwirkung grosser Dosen von Olivenöl bei org. und spast. Pylorus- und Duodenalstenosen und deren Folgezuständen."

March.

69 *Pain. C. L. Schleich.—"Ueber den Schmerz."
70 Physiologic Dosage of Digitalis. A. Fraenkel (Heidelberg).
71 *Treatment of Laryngeal Tuberculosis. E. v. Tovolgyi (Budapest).—"Ueber die Beh. der Kehlkopftub. mit Rücksicht auf die neueren Heilmittel."
72 Vulvo-Vaginitis Infantum. A. Buschke.
73 Treatment and Care of Consumptives; Collective Review. F. Klemperer.
74 A Death After Antitoxin Treatment of Tetanus. H. di Gaspero (Graz).

Hospitalstidende (Copenhagen), February 19 to March 19.

75 Omodynia and Its Pathogenesis. F. Sadolin.
76 *Bilateral Total Paralysis of the Recurrent Nerve. H. Mygind.
77 Points in Hygienic and Dietetic Therapeutics. C. Jurgensen.—"Nogle Fragmenter til den hyg. saerligt den diet. Ter. Praxis.
78 X-Rays in Diagnosis of Stones in Kidney or Urinary Passages. J. Mygge.—"Roentg. Anvendelse til Paavisning af Sten i Nyr. og i Urinlederne."
79 *Method of Sterilizing Catgut. M. Claudius.—"En Metode til Ster. af Katgut."

Wiener Klin. Rundschau, March 23.

80 Plague on an Austrian Steamer. A. Strauch.—"Die Pestfälle a. d. Ost. Dampfer Gundulic."
81 *Bacteriologic Tests of Current Disinfectants for the Mouth. J. Pelnar (Prague).—"Bact. Vers. ueber die Wirkung unserer Mundwässer."
82 *Relations Between Obesity and Glycosuria. Kalinczuk (Marienbad).—"Ueber gewisse Beziehungen zwischen Adiposität und Glycosurie."

Wiener Klin. Wochenschrift, March 27.

83 *Operative Treatment of Rhinophyma. P. Rusch (Innsbruck).
84 Action of Bactericidal Immune Sera. F. Wechsberg (Vienna).
85 Case of Repeated Extra-Uterine Pregnancy. W. Philipowicz.
86 Automatic Syringe. S. Spiegel.

Janus (Amsterdam), March.

87 *Antiquity of the Bubonic Plague. W. Ebstein (Göttingen).

Memorabilien (Heilbronn), xliv, 5.

88 *Cause and Treatment of Phlyctenular Conjunctivitis. R. Hilbert (Sensburg).—"Aet. und Ther. der phlyc. Bindehaut-Entzündung."
89 Hygiene and Dietetics of the Stomach. Schilling (Leipsic).—"Hyg. und Diaet. des Magens."
90 Adenoid Vegetations. V. Rimscha (Riga).—"Ueber ad. Veg."

Giornale della Accad. di Med. (Turin), February.

91 Influence of the Central Nervous System on the Organic Transformations. O. Modica.
92 *Analysis of the Urine in Determining the Age of Neonatorum. O. Modica.
93 Study of the Urine in Measles. F. Nicola (Turin).—"Sulla glicociamina e glicociamidina e sulla ptomaina delle urine dei morbillosi."
94 *Nature of Blood Serum. E. Buffa (Turin).
95 *Phototherapy of Ozena. I. Dionisio.
96 *Alteration of Cutaneous Sensibility in Case of Visceral Lesions. E. Tedeschi (Turin).
97 New Model of Ophthalmotonometer. M. de Cristofaro.
98 Effect of Heated and Moist Air on the Respiratory Interchanges. V. Grandis (Buenos Ayres).

Rivista di Pat. Nerv. e Ment. (Florence), February.

99 *The Nerves of Taste. G. Fasola.—"Contributo clin. alla conoscenza dell' innervazione gust."
100 *Infantilism from Pellagra. C. Agostini (Perugia).—"Infantilismo distrofico e infantilismo mixoedematoso da eredopellagra."
101 Traumatic Astasia-Abasia in Epileptic Child. U. Gabbi (Messina).

Lo Sperimentale (Florence), lvi, 1, 1902.

102 *Study of Alimentary Infection. G. Galeotti (Florence).
103 *Experimental Research on Intestinal Peristalsis. G. Fasola.
104 Cadaveric Fauna. C. Biondi.
105 Digestion of Caseinogen. G. Rotondi.
106 Study of Formation of Corpse-Fat. L. Borri (Modena).—"Contributo alla conoscenza del processo di saponificazione dei cadaveri."

107 Diffusion of Proteolytic Enzymes in Animal Kingdom. C. Fermi (Sassari).
108 Influence of Heating and Food on the Rapidity of the Heart Beat in Fasting Animals. A. Pugilese (Bologna).
109 Biologic Study of Vanadium. R. Luzzatto (Sassari).

Cronica Med. Mexicana (Mexico), March 1.

110 *Treatment of Tuberculosis with Sulphid of Allyl. L. F. Guerra. (Oaxaca).—"Trat. de la tub. por el sulfuro de alila."
111 *Treatment of Convulsions. E. P. Lamicq.—"Las enfermedades convulsivas."

Hygiea (Stockholm), January to March.

112 Practical Non-Toxicity of Phosphorus Sesquisulphid. C. G. Santesson.—"Ar fosforseskvisulfid giftig?"
113 Suggestions for Collective Inquiry in Regard to Cancer in Sweden. A. E. Ekblom.
114 Surgery of Liver. G. Naumann.—"Lefverkirurgi."
115 Bubonic Plague at the Cape in 1901. E. Levin.
116 Koplik's Spots in Measles. I. Wickman.—"Om de Koplikska fleckarna vid messling."
117 Prophylaxis of Venereal Diseases. P. J. Wising and others.
118 Importance of Hyperplastic and Tubercular Processes in Pharyngeal Tonsils. B. Floderus.—"Om betydelsen af hyp. och tub. processer i farynxtonsillen."
119 Venereal Disease as Cause of Blindness. V. J. Widmark.—"Om de ven. sjukd. betydelse som orsak till blindhet."
120 Structure of Archiplasma of Tumor Cells. N. Sjöbring.—"Om arkiplasmats strukur i svulsteeller."
121 Micro-organisms of Vaccine. Ibid.—"Vaccinans mikroorganism."
122 Principles for Treatment of Leg Ulcer. J. A. Hedlund.

Tiddsskrift f. d. N. Laege f. (Christiania), February 15 to March 15.

123 *Absorption of Iron. E. Poulsson.—"Bemerkninger om jernets resorption."
124 *Nitropropiol or Indigo Test of Sugar in Urine. J. Thesen.—"Om Hoppe Seylers indigoreaktion til paavisning af sukker i urinen."

---

1. **Death from Chloroform.**—The lack of a satisfactory explanation of deaths in the early stage of chloroform anesthesia has incited the research here reported by Embley, who summarizes the different views that have been given and gives elaborate details of his method of experimentation. The present installment of the article includes only the effects on the heart isolated from the central nervous system. He finds, 1, that "chloroform has an immediate and progressively paralytic effect upon the heart muscle. There is no preliminary period of stimulation. There is no abrupt change in the rate of efficiency of the heart. 2. Heart muscle is very sensitive to the poisonous effect of chloroform—a tension of chloroform in blood corresponding to 0.8 per cent. chloroform vapor in the air inhaled kills the isolated mammalian heart in sixteen minutes. 3. In the administration of chloroform by inhalation to the intact animal, the vapor tension of chloroform in the blood only slowly reaches that of the inspired air."

2. **Agglutinins in the Blood.**—The following are the conclusions of the paper by Ruffer and Crendiropoulo: "1. The cultures of a microbe freed from that microbe by filtration, dialysis or centrifugalization have a distinct though feeble agglutinating effect on that particular microbe. The age of the culture and the constitution of the medium are important factors in determining the quantity of agglutinins present in such cultures. 2. The red blood corpuscles of non-immunized and immunized animals contain no trace of agglutinins. 3. On the other hand, the polynuclear leucocytes of non-immunized animals always possess an agglutinating power greater than, or more rarely equal to that of the serum. They may therefore be rightly considered as the producers, or at any rate the carriers of the agglutinins. 4. In immunized animals the specific agglutinins appear in the polynuclear leucocytes and are therefore probably formed in them. The quantity of agglutinins begin to increase 30 to 48 hours after the injection and goes on increasing up to the tenth day or thereabouts. They then pass into the serum, the agglutinating power of which increases correspondingly. 5. The formation of specific agglutinins in polynuclear leucocytes and in the serum is preceded and accompanied during the first three or four days after the inoculation of a given microbe by an increase of agglutinins for other microbes. This latter increase is of short duration and stops suddenly, whereas the increase of specific agglutinins persists for a much longer time."

3. **Biologic Test for the Blood.**—Nuttall makes a progress report of the reaction of serum of the blood in different species of animals. He has tested some 46 bloods of apes and monkeys by means of the "antihuman" serum, the results being in accord with those previously published, that is, the bloods of the *simiidæ* give a precipitum apparently equal in quantity to that of human blood, the bloods of *cercopithecidæ* give less precipitum, while the least precipitum is given by the bloods of *hapalidæ* and *cebidæ*. The "antihorse" serum has been tested with negative results in 409 bloods, only the bloods of the horse and donkey reacting. "Antidog" serum has given precipitum with bloods of eight species of *canidæ*, but not with other bloods. The "antiox" and "antisheep" serums continue to give reactions the same as those of the other reports, that is, they act upon the bloods of other true ruminants and to a greater degree upon the bloods of more closely allied species. One of two "antipig" serums proved to be specially powerful, producing a marked clouding in a number of other mammals' bloods, including man, special species of monkeys, bear, dogs, raccoon, cat, coati, genet, stoat, rat, mouse, antelope and deer. A faint clouding was also noticed in bats and certain species of edentates and marsupials. This seems apparently to contradict the relatively specific character of these antiserums, but Nuttall remarks that this is not the case. He finds that a powerful antiserum for any mammalian blood will produce a varying amount of clouding in all mammalian bloods. This he calls the mammalian reaction. These slight reactions would never be mistaken for a full reaction, such as a homologous blood gives. "Antifowl" and "antiostrich" serums are found to act to a greater or less degree on all bird bloods, but not on other forms of bloods, and somewhat similar results are obtained with reptile serum. He describes in detail the method of measuring the degree of reaction, for which the reader will have to be referred to the original and illustrations. He is inclined to believe that with care we shall be able to measure species with this method and find out determinable degrees of blood-relationship which can be formulated.

4. **Leucocytosis and Blood Changes.**—The conclusions of Rogers' article are summed up as follows: "The percentage of the different forms of leucocytosis counted in a stained blood film is of great diagnostic value in differentiating typhoid and malarial remittent fevers, and is easily ascertained. 2. An increase of the lymphocytes to 40 per cent. or over, without any increase in the large mononuclears to about 12 per cent. and upwards, especially during the remissions of the temperature, strongly indicates malaria as against typhoid fever. This change is of great value when parasites are absent from the blood. 4. The presence of myelocytes in any number, such as from 1 to 5 per cent., points to malaria as against typhoid fever. 5. A high degree of anemia, such as a reduction of the red corpuscles to below 3,000,000 per c. mm., is much more frequently met in malarial than in typhoid fever. 6. A very great reduction in the total leucocyte count, such as to below 2000 per c. mm., is much more frequently met with in malarial than in typhoid fever, while the proportion of white or red corpuscles in malaria is not frequently less than 1 to 2000, which is rare in typhoid fever. 7. Leucocytosis can be detected by the presence of a great excess of white corpuscles, upwards of 80 per cent. of which are polynuclears, in a stained blood film, and is often of service in excluding malaria in intermittent fever due to liver abscess or other local inflammation."

5. **Filariasis.**—Gulland has investigated the blood in one case of filariasis and finds a marked leucocytosis and eosinophilia, which he thinks is bringing filariasis into line with other parasitic affections, such as trichiniasis, which have been known to be accompanied with an extreme degree of eosinophilia. It has been found by Cabot and Brown that extreme filariasis may be present in trichiniasis, etc., which he says seems to show that eosinophilia is concerned in protecting the body from parasitic toxins, whether these are absorbed from the intestines or are actually elaborated in the blood. That the other varieties of leucocytosis have also to do with this would seem to be indicated by the general leucocytosis occurring in his case with the increase of filariasis, but observations are wanting in regard to other parasites.

7. **Pulmonary Phthisis.**—The second Lumleian lecture by Roberts sums up the morbid conditions in the air passages, lungs, pleura, pleural cavity, mediastinal structures, thoracic walls and diaphragm. He sums up the chief practical effects of the various lesions met as follows: "1. There is temporary interference with the action and functions of the respiratory organs, by consolidation and associated changes, or by pleural effusion, which afterwards clears up. These may occur at an early period or during the course of a case and for the time being are often serious. The heart may also be more or less disturbed in its action by such conditions. 2. There is absolute destruction and consequent uselessness, either of a limited area or of extensive tracts, of the pulmonary tissues, thus permanently impairing in various degrees the respiratory function. Even when the phthisical process is arrested after cavities have formed, and the fibrosis has taken place, the involved portion of the lung can be of no further service, though other parts of the organ may take on compensatory work. 3. Morbid products of different kinds are formed, often purulent and of a wasting or exhausting nature and usually discharged as expectoration. Any kind of pleural effusion which has to be removed again and again, as well as empyema, also deserves mention under this head. 4. There is formation and absorption of toxins or other deleterious products—associated with tubercle bacilli, tubercle and its changes, pneumonia, suppuration, etc. It is to these agents that the pronounced general and remote effects of thoracic phthisis appear to be mainly due; no doubt this is a most important pathologic aspect of the disease. 5. Physical embarrassments of different kinds occur, the morbid conditions producing them not being in themselves of an active or serious nature, but being often of much consequence from this point of view, as exemplified by fibrotic changes, extensive pleural adhesions, pericardial adhesions, rigidity of the chest-wall and great muscular wasting. These conditions often materially interfere with breathing power as well as with the acts of coughing and expectoration. They may also embarrass the heart, obstruct the venous circulation, or interfere with particular veins, tubes or nerves. 6. There occur accidental lesions, usually grave in themselves, especially hemorrhage and pneumothorax, for which certain phthisical lesions afford highly favorable conditions. In not a few instances the pathologic effects just indicated are more or less combined in the same case of thoracic phthisis. *Remote morbid conditions.*—In these lectures I am only immediately concerned with the pathologic changes and conditions which are associated with the chest in cases of thoracic phthisis. It must never be forgotten, however, that in this disease other structures are often—indeed, it may be said usually—affected and contribute more or less to its clinical manifestations. Without entering into any discussion it must suffice to state that these remote lesions are either of a tuberculous nature, are well-known secondary non-tuberculous results of phthisis, or belong to the category of accidental or independent complications or complaints."

8. **Typhoid Fever.**—The second of the Milroy lectures reviews the etiology of typhoid, giving numerous illustrative cases showing the effects of water-borne infections.

9. **Vaccination.**—The summary of vaccination results given by Sinigar emphasizes, he thinks, the innocuousness of aseptic vaccination and shows that vaccination is a better protection against smallpox than smallpox is against vaccination. While a staphylococcus was found in the lymph used he points out that in spite of this the majority of arms showed only normal reactions of vaccinia. It is unsatisfactory to note that there are worthless lymphs on the market as it is a source of grave danger to public health and to the reputation of vaccination.

11. **Scarlet Fever.**—Millard argues against the infectivity of desquamation in scarlet fever. He sent out a number of letters to hospital authorities and practitioners and has received a large proportion of answers. The great majority of these admit that they can give little evidence that desquamating epithelium is, per se, a source of infection and that the patient may continue to desquamate for some time after he has ceased to be infectious. Of those who still believe in the infectivity of scarlatina one or two are a little dubious on the point and can almost be counted on the other side. He sums up the arguments against the supposition that desquamation is infectious, as follows: "1. The absence of evidence supporting it. It is difficult to believe but that, if the old supposition were correct, strong evidence of it would ere this have been forthcoming, as is now the case with discharges from the nose and ears. 2. The fact that infectivity begins prior to the onset of desquamation and frequently continues long after desquamation has ceased. 3. The fact that scarlet fever wards, although abounding in desquamating epithelium, are not a danger to neighboring houses. 4. The fact that the proportion of "return cases" does not appear to be increased among patients sent out from hospital still desquamating. On the other hand, the principal argument in favor of the view that desquamation is infectious is the fact that patients still desquamating, but otherwise apparently free from infection, have frequently been known to convey the disease to others. The whole force of this argument disappears, however, when we consider that patients apparently quite free from infection and in whom desquamation has entirely ceased have also been known to convey the disease; moreover, patients still desquamating have frequently mixed freely with others without untoward results."

12. **Mucin.**—Stuart-Low has utilized mucin as a bactericidal and emollient application in certain cases of aural and nasal disorders, starting with the idea apparently of replacing by something similar to the suppressed natural secretion the arid conditions that often exist in these cases. He has had distinctly encouraging results.

13. **Malaria.**—Birdwood suggests a number of sanitary provisions to be employed in malarial settlements: Among them are a crusade against the obvious anopheles breeding pools and better drainage, providing, for example, smaller drains with cement or stone to prevent stagnant points where anopheles can breed, and using similar preventives in irrigation ditches. There are also many non-obvious localities where anopheles breed which should be looked after. Unsanitary crowding of natives in malarial portions of the tropics is important and especially of servants of Europeans, and he would also provide gauze doors and windows for the barracks of European troops and advise fumigation of rooms and houses. Quininizing the community as advocated by Koch is impossible, of course, in crowded districts, but he thinks quinin should be used more freely. Instructions should be given as regards the cause of malaria and every medical man should be able to make blood films and prepare specimens. Of course, the impossibility of quininizing a whole community, the presence of rice fields, the abundance of anopheles pools are serious matters, but they need not be discouraging.

18. **Plague.**—White reports a case of bubonic plague with a rather peculiar course. A sailor on a line steamer became ill 15 days after leaving Capetown with fever, and swelling in the left inguinal region. He attributed his trouble to a strain received in wrestling. He had a continued temperature, the bubo suppurated and the pus burrowed along the flank. Plague was not suspected and the ship was given pratique. The man was sent to the general hospital at Southampton, where his case was suspected, he was sent to the floating plague hospital for safety, and examinations were made and the bacillus pestis found. The case is one that abused all the ethics of the disease. The man was fifteen days out when he became ill. The bubo suppurated for about ten days, and when the man was almost convalescent from plague the bacillus pestis was found in the profuse discharge.

29. **Intervention in Deformed Pelvis.**—Bar disapproves of induction of premature labor when the pelvis is less than 80 mm. in diameter, and rejects it even with a pelvis of 80 to 85 mm. But he regards it as a good operation with a diameter of 86 to 90 mm., and excellent both in the immediate and the remote results when the pelvis is over 90 mm. The fetus is usually well developed when the diameter is more than 85 mm. and the infants soon compare favorably with the normal standard. Cesarean section and symphysiotomy are still very seri-

ous operations and premature delivery is much to be preferred in case of a pelvis of this size. The mortality of the children is no greater than in deliveries at term. Cesarean section offers prospect of success only when done at the commencement of labor, when the patient is neither prostrated nor infected. Disregard of these indispensable conditions has rendered the statistics more unfavorable than the facts deserve. The same applies also to symphysiotomy, which should never be attempted if there is a chance that the patient is already infected. If she is much prostrated, has temperature and a fetid discharge, both of these operations are contra-indicated and the vitality of the child is already compromised, consequently embryotomy should be preferred. Even in cases in which the mother does not seem to be infected, if the fetal heart beat is indistinct and irregular and the discharge is stained with meconium, there is every probability that the child is no longer viable and embryotomy should be preferred to the dangers of section or symphysiotomy. The latter operation is liable to be followed by prolapse of the uterus, urinary disturbances, with or without laceration of the urethra, and even permanent separation of the pubes. Bar has performed the operation on 25 women. All were sound and the children were healthy. There was no mortality, but serious tardy troubles occurred in a number. Bar adds that 6000 women still die every year of puerperal infection in France, by far the largest majority in the country and small towns. The multiplication of lying-in hospitals where the major operations can be undertaken at need will reduce the mortality from this cause and also the number of necessary feticidal interventions.

30. **Utilization of the Extra-Embryonal Part of the Ovum.**—Bouchacourt has been studying for years the natural utilization of the extra-embryonal part of the ovum in various animal species. He thinks that placentophagia is a natural instinct, a kind of opotherapy, and traces its history through the ages as observed in animals and in various folk customs. After establishing on himself the absolute harmlessness of the ingestion of placentæ derived from the hospitals or from sheep, he administered the extract to 12 patients with deficient secretion of milk. The results indicate that placentophagia favors the establishment of the secretion, but is unable to induce it when the glands are much atrophied. He noticed that the placentæ of sheep had a decided laxative effect.

33. **Treatment of Neurasthenia.**—Romme accepts De Fleury's division of neurasthenia into the two classes, with arterial hypertension and with hypotension. The subjects of the first group have an intoxicated nervous system. Their entire organism is loaded with the refuse of interstitial nutrition. The heart is exhausted and has become hypertrophied in the effort to overcome the resistance in the peripheral vessels. The stomach is hyperpeptic. The great indication is to clean out the organism, the blood and the tissues. A milk diet will afford great relief in a few days. The milk should be given at first about seven times a day, mixed with one-third of some alkaline water. Massage, hot douches and static baths will be found useful, possibly supplemented by exercise, steam baths and pilocarpin to stimulate the functions of the skin. If the stomach proves rebellious, 50 to 100 gm. of artificial serum may be injected subcutaneously every day or alternate day. In both these groups the meals should be taken without a beverage of any kind. In the neurasthenia with hypotension the indications are to augment the strength. Four light meals should be taken, and repose should be enforced instead of exercise. The patients sleep better at night after a nap during the day. Among the tonic measures recommended are salt and sulphur baths, cold or hot douches, deep massage, inhalations of oxygen, ozone and compressed air. But the tonic par excellence is the subcutaneous injection of small amounts of a saline solution increasing from 1 or 2 gm. at first to 4 or 10 gm. He prefers the formula: 1 gm. each of sodium sulphate, sodium chlorid and sodium phosphate in 100 gm. of water, with 50 cg. of phenic acid. These injections are particularly beneficial in amyasthenia, genital asthenia with hyposecretion and in cases of a tendency to torpor, fear or melancholy.

42. **Operating in the First Stage of Ether Anesthesia.**—Sudeck's experiences with operations undertaken during the analgesia that occurs after the first few whiffs of ether, have been confirmed by Teweles and by his own further experience. The condition that follows the first few whiffs is a sort of tipsiness like that following the drinking of alcohol. The subjects still retain their consciousness, but are more or less affected and the sensation of pain is entirely abolished. Sudeck states that it is possible to perform all brief operations in this stage. It has none of the dangers nor inconveniences of profound narcosis and is fully as effective. The patients may resist and scream, but they state afterward that they experienced no pain. He announces that this method is indicated for all operations in which absolute quiet and complete relaxation of the muscles are not indispensable. There is no danger of syncope and the patients are ready for dinner with their usual appetite. In case of failure from any cause the operation can be concluded under general narcosis. Kronacher has recently advocated the cutting short of the ether narcosis, arresting it abruptly at the beginning of the phase of agitation, and announces that the anesthesia thus obtained is ample for the majority of operations. He commences to operate at the stage in which Sudeck is completing his operation. Teweles uses ether from flasks holding only 10 c.c. He administers 30 or 40 c.c. at first and then keeps the patient under its influence with an additional 10 c.c. from time to time as needed. Sudeck now operates almost exclusively under the "ether Rausch" and found it perfectly satisfactory in resection of a callus of the median nerve requiring suture of the nerve, in arthrotomy of the shoulder joint for a tuberculous process, extirpation of a lymphoma on the neck, an arthrotomy requiring thirty minutes, tendoplasty, etc. During these long operations the patient sometimes becomes restless, but in the briefer interventions the operation proceeds without disturbance in most cases. The patients who are most excited before the intervention are the most difficult subjects to operate on and the surgeon should aim to tranquillize them beforehand as far as possible.

43. **Round Ulcer of the Duodenum.**—Laspeyres states that the records show that a large proportion of ulcers of the duodenum cause no symptoms until perforation occurs or hemorrhage. Oppenheimer reports 24 of such cases and Perry and Shaw 91 out of 151. When pain occurs, Boas has noticed that it develops several hours after eating and is located mostly in the right hypochondrium, about 2 cm. below the gall-bladder. In other cases the pains commence earlier, sometimes in a half hour after eating. Occasionally the pain is increased by reclining on the right side, and unlike gastric ulcer, it is not relieved by vomiting. Collin has described a paroxysmal dyspnea simulating pericarditis, observed in one case. The reflex complications of ulcer of the duodenum may be neuralgias, palpitations, shortness of breath, etc. Boas mentions that there is no parallelism between the character of the food and the pains. The latter may develop when the stomach is empty and last into the night, or commence after the patient has retired. Several have noticed that the pains which appeared about two hours after breakfast were banished by ingestion of a little wine and temporarily relieved by the same means after dinner. Boas ascribes this effect of the wine to the dilution of the food in the duodenum and thinks that any fluid would answer the same purpose. Milk and the white of egg bind the hydrochloric acid and might thus be even more beneficial than the wine. The pains are irregular, sudden and like colic at times. The painful region is also sensitive to pressure, but the condition and location varies from time to time and may prove misleading. Boas discovered in several cases a circumscribed tenderness to the right of the spine, close to the twelfth thoracic vertebra. Vomiting is a comparatively rare symptom and is not characteristic unless hemorrhagic. Oppenheimer found that it was noted in only 17 out of 100 cases. It usually occurs at the height of the paroxysm of pain and seems to have no connection with the fulness or emptiness of the stomach. Pagenstecher therefore attributes

it to reflex action, a manifestation of spasmodic contraction or possibly of peritoneal irritation as in the so-called gallstone colic. In 18 cases on record laparotomy was performed on account of acute, general peritonitis, but the operator failed to trace the inflammation to its true source in the duodenal ulcer and all the patients died. The published statistics indicate that 25 to 33 per cent. of all operated cases of ulcer in the stomach or duodenum have been saved. The mortality was only 39 per cent. of the cases operated within twelve hours of the perforation. There are only 3 cases on record in which the ulcer was diagnosed and gastro-enterostomy done before perforation occurred. All of these patients were practically cured and have had no troubles since, for more than five years in one case. One of the patients died of tuberculosis later and the ulcer was found well cicatrized. But there is always the liability that the gastric juice will come in contact with the ulcer after the gastro-enterostomy, and it is still a question whether this operation offers better prospects on the whole than internal treatment.

44. **Treatment of Acute Infectious Diseases with Specific Serum from Convalescents.**—Walger has been continuing his researches in this line and states that he will soon have important results to announce. For the present, he describes the mechanism of the action of these specific sera. The exanthem or infiltration of the lung, etc., in acute infectious diseases are merely the efforts of the organism to eliminate the toxins and the toxin-producers. The production of the toxins raises the temperature by the chemical processes involved. Another factor in the elevation of the temperature is the efforts of the organism to accomplish the chemical transformation of the toxins into harmless substances and then eliminate them in the secretions and excretions. The stimulus to this transformation process is supplied by the micro-organisms themselves. As soon as the toxins have undergone this transformation, the further activity of the micro-organisms is checked. No further toxin is elaborated and the disease process comes to an end. This can be artificially accomplished by injecting the already transformed toxins from another organism which has passed through the various phases of the disease reaction and reached the final phase of transformed toxins and consequent arrest of the morbid activity of the disease germs. The specific serum thus injected arrests the activity of the disease germs in the same way as if the serum had been elaborated in the organism into which it has been injected. But it does not confer subsequent immunity like the latter process. The subject is cured of his disease, but is not henceforth immune as if the recovery had been natural. He is liable to contract measles, for example, as if he had never had the disease.

45. **Differentiation of Cystitis and Pyelitis.**—Rosenfeld states that differentiation is possible by the reaction of the urine, the shape of the corpuscles in the urine, and by the proportions between the pus and albumin. The urine is acid in uncomplicated pyelitis. It may even remain acid in acid cystitis as in tuberculosis or urates. The white corpuscles are round when they are derived directly from the blood, but when they come from the renal pelvis they have an irregular, ameboid outline. The reds are also degenerated when they come from the kidney, while they are well preserved when derived directly from the bladder. In cystitis the amount of albumin is never more than .1 to .15 per cent. The proportion is much larger in case of pyelitis. With an inch of pus in a liter glass the average proportion of albumin in case of cystitis is .1: in pyelitis .3. With .5 cm. of pus, in cystitis, .06; in pyelitis, .2. With only 1 to 2 mm. of pus, in cystitis traces; in pyelitis .1. In the case of a patient recently observed the urine was acid, the whites ameboid, the reds degenerated and the albumin was in the proportion of .175 per cent.

47. **Curative Effect of Anesthetics.**—Spiess noted that inflammatory processes healed with striking rapidity when the subjects had been submitted to anesthesia for any cause. He therefore has been studying for years the connection between the anesthesia and the curative action which he has never missed in all his tests. He thinks that the effect is due to a reflex action of the anesthetic on the vasomotor nerves, inducing changes in the circulation of the inflamed parts.

51. **Technic of Examining the Pupil.**—Schirmer deplores the usual lack of uniformity in the examination of the pupil reflexes by the general practitioner, which renders comparison impossible. He has established that the diameter of the pupil is always the same in the maximal adapted eye with light of 100 to 1100 candle power. Tange asserted in his thesis at Amsterdam last year, based on the measurement of 1000 pupils, that the physiologic diameter of the pupil is between 2 and 4 mm., but in the overwhelming majority it is between 2.5 and 3 mm. Schirmer points out the disturbing influence of passing clouds on the light that reaches the eye in examination at a window. He also states that the adaptation of the eye is unable to follow the diminishing light in approaching twilight; hence examination at this time is unreliable, even although the light may still be more than 100 candle power. He announces that we can assume some disturbance in the centrifugal fibers on one side when the pupils are of unequal diameter when both eyes are illuminated, and also when the pupil of one eye, tested alone, reacts more sluggishly to the light than the other pupil, with either direct or indirect stimulation. We can assume a unilateral lesion of the centripetal fibers, 1, when the light reaction of both pupils is extremely feeble in response to stimulus from that side, while stimulus applied to the other eye induces the normal light reflex; 2, in the cases in which the physiologic diameter of the pupil is abnormal, that is, more than 4 or less than 2 mm.; 3, when the pupil is physiologically wider on this side than on the other. This larger size of the pupil is sometimes the only sign of some anomaly in the centripetal fibers, at a time when the modification in the pupil reflex is still too slight to be perceptible. The pupil reflex is always more sluggish in the elderly than in youth. Schirmer examines both pupils first at 1 m. from a light window for inequality. He then covers one eye and has the subject fix on an object in the distance. After allowing two or three minutes for convergence, accommodation and adaptation, he applies the scale without shading the eye with his head. The other eye is then examined in the same way. This examination of one eye at a time reveals disturbances in the centripetal part of the reflex system impossible to determine in any other way. In one case, for instance, he found the pupil on one side 3.25 mm. and on the other 6 mm., while with both eyes open the pupils were always 3.5 mm. The case proved to be one of unilateral papillitic atrophy. The reflex excitability is then tested on each eye separately. The diagram for each subject mentions: 1, the pupil diameter with both eyes open; 2, of each eye separately, and 3, the direct and consensual reaction of each. He considers other details superfluous in general practice.

53. **Means of Combating Meteorism.**—Oppenheim suggests a means of preventing heart failure in cases of ileus or peritonitis, which he deduces from his experimental researches. The intestines and stomach of animals were inflated by blowing air into the rectum. The diaphragm was forced up and the heart action was fatally interfered with in many instances. In some of the animals he evacuated the air by puncture and administered physostigmin. The results confirmed the experience of veterinarians that this drug is a powerful and certain means of inducing peristalsis. The action is uneven and a large dose may entail torsion of the intestine on its axis or even rupture. The unstriped muscles of the bronchi also experience the specific effect of the drug; this may arrest the respiration when the lungs are compressed by the forcing up of the diaphragm. Froehner has recently published the contraindications for physostigmin in veterinary practice. He says in regard to atropin that the effect is more marked in proportion as the brain of the animal is developed. Young animals bear it much better than older ones. Intestinal peristalsis is promoted by small doses of atropin, which evidently paralyze the splanchnic nerves that inhibit the movements of the intestines. Larger doses paralyze the intestines and induce tympanitis and obstruction. Atropin is rapidly eliminated, but physostigmin has a cumulative action. The former coun-

teracts to a certain degree the effect of the latter. Oppenheim urges further study of this subject as he fears that we are entering upon a period in which the time is wasted on such measures until the ileus or peritonitis may pass the point when the patient might have been saved. His experiments indicate that physostigmin should be suspended when the meteorism has lasted a certain length of time. It has no action on muscles stretched to the point of atony. In his experiments, therefore, he did not inject it until the intestines had been punctured and the distension relieved. He suggests that this technic might be tried as a last resource in desperate cases in order to prevent mechanical heart failure from the upward pressure of the diaphragm.

56. **Incising the Kidney in Acute Pyelonephritis with Miliary Abscesses.**—Wilms relates a case in which the patient was restored to perfect health by slitting the kidney in the course of an acute urethritis, cystitis and ascending pyelonephritis. In order to have as little hemorrhage as possible, the kidney was not cut open as recommended by some, but a small incision was made in the middle and the two halves were then separated by the fingers and a blunt instrument. The kidney was thus slit with the minimum use of the knife and the hemorrhage was trifling. An inflamed kidney can be split in this way much more easily than a sound organ. All of the accessible abscesses were evacuated and the pelvis drained, the gauze drains left inside the kidney as well as around it. Temperature was permanently normal after two weeks. The drains were gradually removed in the course of three weeks and the fistula had healed by the end of the eighth week. The success in this case of small disseminated abscesses shows that suppurative infiltration is curable by this measure. The failures reported by some writers are possibly due to the fact that they sutured the kidney immediately afterward. Free drainage seems to be indispensable.

57. **Suprarenal Diabetes.**—In Metzger's experiments injection of suprarenal extract induced hyperglycohemia in dogs and rabbits. Whether the action was by the mediation of the pancreas or of the liver, is still undetermined, but indications point to the latter. The injected substance seems to act on the pancreas and inhibit the functioning of the cells of the organ. The largest proportion of sugar was observed in rabbits injected immediately after both kidneys had been ablated.

59. **Intra-Ocular Galvano-Cauterization.**—Roscher announces that this method of treating infected wounds and panophthalmitis deserves more general adoption. It was first proposed and successfully performed by Van Millingen at Constantinople. He reported preservation of the sight and arrest of the process in three cases of incipient panophthalmitis. The edges of the wound were canterized in narcosis and the wire loop was introduced through the wound in the sclerotic into the vitreous body and was then twisted around, bringing it into contact with the entire length of the wound and all the injured tissues. The current can be turned on before or after it is inserted. The operation was complete in three or four seconds, and the instrument was introduced to a depth of 4 to 8 mm. The conjunctiva was then sutured over the hole in the sclerotic, atropin instilled and the eye dressed. The injury of the sclerotic in each case had been followed by severe infection, intense pain, edema of the lids, chemosis and hypopion. All recovered after this single intervention, with vision of 3/6, 6/6 and 5/25. Roscher describes another case of injury of the sclerotic from which protruded a plug of purulent vitreous humor. The plug was pulled out and cut off, the cold loop introduced and the vitreous body and edges of the wound thoroughly cauterized. Narcosis was not induced and the conjunctiva was not sutured. The eye healed perfectly in a short time and vision has remained at 5/5 during the six months since. Eversbusch found the operation equally effective in a case of post-operative infection. Three similar cases have been reported by Bäumler and Van Millingen and Roscher adds another. He also describes two hopelessly doomed cases in which he attributes the preservation of a good shaped stump to the arrest of the infection by intra-ocular galvano-cauterization.

60. **Position of Homeopathy in Modern Medicine.**—Petitions have been presented to the authorities in some of the German states asking for the establishment of a chair of homeopathy in the medical colleges. Kunkel defines the present status of homeopathy and affirms that it would be "the worst of crimes, sinning against truth," to lead youth into such paths. He adds that not one of the innumerable achievements and forms of progress in scientific and practical medicine have ever been the work of a homeopath. The general public health in Germany is on a higher level now than at any other period in history, but the homeopaths have not contributed the slightest share in this progress, based on the study of the causes of disease. He points out that the minute doses of homeopathy never induce any reaction in frogs or rabbits, and that the result of their administration in man must be accepted as the effect of suggestion, never as that of the medication.

63. **Treatment of Rheumatic Heart Affections.**—Bensen calls attention to the remarkable influence of the exhalations from natural sulphur waters on the heart action. The sulphuretted hydrogen gas retards the pulse and proves effective in treatment of heart affections consecutive to rheumatism. He found that the pulse was slower by four to ten beats in healthy persons after they had spent an hour or two in the inhaling rooms over the sulphur springs. He thinks that this course of inhalation treatment deserves a prominent place in the treatment of recent rheumatic heart affections and in cases of arrhythmia and the resulting disturbances. The gas has a certain bactericidal effect, but this can not explain the benefits derived in these cases. He is inclined to attribute it to a paralyzing action on the sympathetic or on the pulse-accelerating mechanism of the heart. He reports twenty cases thus treated and all completely cured in the course of six weeks. In certain cases he supplemented the inhalations by sulphur baths two or three times a week. He ascribes the infection of the heart in many cases to the penetration of disease germs directly from the air passages, and urges the necessity of thorough rinsing of the mouth with disinfectants and gargling in every case of follicular sore throat.

65. **Practical Application of Artificially Induced Hyperemia.**—Bier details the technique of artificially inducing hyperemia, both the active by heated air and the passive congestion by constricting bandages. He urges the use of simple apparatus for the hot-air treatment, such as can be obtained by every practitioner—an ordinary box, coated with soluble glass inside and out, a lamp and flaring elbow pipe entering the box. The passive congestion promotes the formation of bone and connective tissue. It is bactericidal and arrests or attenuates pain in a most remarkable manner. It has also a dissolving action but there is no re-absorption while it lasts, and consequently it must be followed by massage in deforming joint affections persisting extravasations, etc. He applies the constriction in such cases for eight to ten hours. This is followed by massage and the limb is then raised for an hour or two. Similar and even more powerful results can be obtained by a modification of Junod's boot—a metal cylinder with rubber airtight curtains at each end. It is put on over the joint and the air is aspirated until the subject experiences pain. The air is then allowed to re-enter and is again aspirated to the limit of endurance, every five minutes for twenty minutes a day. The congestion induced by this means is much more effective than by constriction alone. He has found the dissolving action of the artificially induced hyperemia, both active and passive, remarkably effective in curing morbid deposits and adhesions. Some of his patients of this class have been under treatment for four years. The benefits of the passive congestion are most strikingly apparent in painful tuberculous joint affections. He usually applies it as long as improvement is manifest, then alternates it with immobilization and local injections. The hyperemia induced by constriction must stop short of causing pain. The congested part must be warm, a bluish red and edematous. Cold congestion is injurious. The application should be made intermittently to allow the edema to subside before the hyperemia

is again induced. It has proved exceptionally valuable as a means of treating gonorrheal, pyemic and rheumatic joint affections. It is applied in these cases during the day, removed at night, and the limb elevated. All pus and effusions must be evacuated before the passive congestion is induced, the application and the elevation of the limb then alternating hour by hour. Bier reiterates emphatically that it is certainly the best means at our command for the treatment of gonorrheal joint affections. It has also attenuated and abbreviated the course of recent erysipelas in the 20 cases in which he has applied it. It is of course contra-indicated in all cases in which gangrene is threatened. Skilfully applied, it may abort a phlegmon. An elastic band around the neck induces passive congestion in the head, and he has by this means permanently cured a number of cases of chorea. Congestion can be induced on the trunk by a cupping and aspirating appliance on the same principle as above described. He has had ten years' experience with heated air as a measure to promote re-absorption in elephantiasis, chronic local edema, etc., and the results have been extremely satisfactory. Perhaps its most welcome effect is the relief of neuralgia and of pains in the joints. The heated air has a marked stimulating and gymnastic action on morbid blood vessels, varicose veins, etc. The antibacterial action is probably due to the heat. Deep-seated processes are frequently aggravated; active hyperemia is therefore contra-indicated in tubercular joint affections. After the application the patients are rubbed dry; they then put on dry clothes and rest in a warm room for an hour.

66. **Myogenic Pseudo-Angina Pectoris.**—Rosenbach describes four varieties of myogenic affections: myopathic migraine, a pseudo-pleural myogenic affection, myopathic cardialgia, gastralgia and myogenic asthma, besides the muscular pseudo-angina pectoris. The symptom-complex in the latter suggests true angina pectoris, but it is distinguished by the peculiar sensitiveness of the ensiform cartilage, the sternum and of certain portions of the intercostal, neck and shoulder muscles. Also by the fact that the patients feel most comfortable in the dorsal decubitus. The pulse is never accelerated nor retarded, and when the attack subsides the subjects are completely restored and can run, climb, etc., without disturbance. Massage is effective when the muscles involved are superficial. Diaphoretics are also useful. The induction current with large electrodes often proves effective. But the magic effect of the antirheumatic remedies, one-fourth to a gram of antipyrin or phenacetin, will differentiate the myogenic origin of the pains. Functional myopathy of the muscles of the abdomen or back is one of the most frequent and most often misunderstood causes of paroxysmal abdominal pains. They are usually ascribed to a stomach affection.

67. **Effective Treatment of Septic Endocarditis.**—Wenckebach proclaims that his experimental and clinical research and experiences have demonstrated that Credé's soluble silver has the property of hastening certain reactions in the organism which usually occur slowly and gradually. Under the influence of intravenous injections of a 1 or 2 per cent. solution of the silver they pass through all their phases with lightning rapidity. The bactericidal property of the blood is enormously increased. The silver is rapidly eliminated and hence the injections have to be frequently repeated. He was amazed at its efficacy in the cure of septic endocarditis in a lad of 15 and in a young woman, the only cases of the kind that have come under his observation since he began using the collargol.

68. **Olive Oil in Treatment of Stenosis of Pylorus or Duodenum.**—Cohnheim reports 11 cases of stenosis which he was on the point of referring to the surgeon as all internal treatment had failed, when olive oil was tried as a last resort. About 100 to 150 c.c. of warmed olive oil were taken in the morning before breakfast, after which the patients reclined on the right side for fifteen to twenty-five minutes and ate nothing for an hour. If the pains persisted an additional 50 c.c. were taken on retiring. After the first, one or two tablespoonfuls were taken a half-hour before meals. All the patients took the oil without repugnance and no inconveniences were observed in any case. No nausea nor diarrhea. They were all relieved from their discomfort and the stagnation and the cramp-like pains were abolished. Some of the patients took 50 c.c. of the oil one hour before eating or it was introduced through a sound. The oil answers three purposes: it arrests the pains, obviates friction and serves also for nourishment. It has no action on purely nervous or hysteric stomach cramps and thus serves to differentiate them. This oil treatment renders surgical intervention unnecessary in many cases, even with pronounced gastrectasia. It is especially effectual in relieving stenosis not due to an organic obstacle. Cases of cicatricial stenosis of the pylorus or duodenum are relieved and have no further discomfort with observance of ordinary precautions. The oil in these cases acts mechanically by diminishing the frictional resistance. Cases of relative stenosis clinically manifested by continuous hypersecretion and spasm of the pylorus a few hours after the principal meals, are also materially improved or completely cured by the oil. It should be given a thorough trial in all cases before operating.

69. **New Principles for Combating Pain.**—Schleich compares the neuroglia and neurolemma to the insulating wrapper of an electric cable. When there is a defect in either, some of the current is lost, and in the case of the nerve, the escaping current and resulting short circuit is experienced as pain. If a point painful on pressure can be discovered along the course of a nerve trunk in a painful affection, the injection of some indifferent fluid, or better still, an anesthetic, will loosen the fibers of the insulator and by the edema it induces close the defect and restore the intact conductibility of the nerve. Jürgens has found that the injection of oil answered the purpose, but Schleich prefers his anesthetic mixture. The same end is attained by Bier's passive congestion and other measures which induce this therapeutic edemization of the insulating sheath. He therefore urgently advocates that when points very painful on pressure can be discovered along the course of a nerve trunk, an anesthetic solution should be injected. Pure neuralgia and the intercostal and trigeminal, also sciatica, occipital headache and peri-articular pains are promising affections for the application of this measure. Injection of any indifferent fluid may prove useful in the same manner in chronic inflamed tissue in which constricting processes include the nerve trunk or pull on it, and in cases of neuroma and peri-articular atrophic conditions. The hydraulic loosening of the fasciculi may release the nerve and cure the pain. In incipient inflammation cold applications are most useful in controlling pain on account of their contracting action on the vessels, thus diminishing the pressure on the tissues. But when the tissue is already loosened by the inflammation, warmth is more effective on account of the hyperemia induced. The relief experienced by rheumatic subjects in a hot bath is due to the hyperemia which augments the inhibiting function of the neuroglia. Local application of heat to the spine has a remarkable effect in the same way in relieving pain even at a distance, by the enhanced inhibiting function. Schleich has found that pain may be relieved when the patient lies on two long narrow bags of hot sand, one on each side of the spine. This induces local hyperemia of the spinal insulator, and consequent exaggerated inhibition. The same effect can be obtained by inhalation of an anesthetic. He reports twelve cases of violent biliary or renal colic relieved instantaneously by inhalation of his anesthetic mixture, not sufficient to induce narcosis, but merely to abolish pain while the consciousness is retained. The patient becomes drowsy as the pains subside and falls asleep for several hours. He has found this initial stage of anesthesia exceptionally effective in relieving severe rheumatic pains. He therefore recommends it unhesitatingly for all very painful affections as less dangerous than morphin and more certain in its effects. His mixture is a combination of 2 parts ethyl chlorid, 4 parts chloroform and 12 parts ether; the whole representing a boiling-point of 38 C. He states that there are now on record 10,000 profound narcoses obtained with it, and only one death has been reported, and in this fatal case his explicit directions in regard to the pupil signs had been disre-

garded by the operator. He ascribes the analgesic effect of the anesthetic to the vasomotor exaggeration of the inhibiting function by the hyperemia of the neuroglia of the posterior horns.

71. **Treatment of Laryngeal Tuberculosis.**—Tovolgyi has been making a special study of the new remedies advocated for the treatment of this affection. His experience tends to demonstrate that a combination of several is most effective: phenol sulforicinum during the stage of diffuse infiltration and intense inflammation, orthoform oil to combat the dysphagia and lactic acid as the process is subsiding.

76. **Bilateral Total Paralysis of Recurrent Nerve.**—Mygind adds another to the sixteen cases of this condition published in the literature. In his patient the examination of the larynx revealed a hitherto unsuspected carcinomatous stricture of the esophagus. Cancer of the esophagus or thyroid was noted in eight of the other cases; sarcoma and struma in two others. Pericarditis, aneurysm of the aorta or diphtheria were mentioned in the others. There is only one case known in which the vocal cords regained their function.

79. **Method of Sterilizing Catgut.**—Claudius recommends the method of sterilizing and preserving catgut which has been thoroughly tested and is now currently used in Bloch's surgical service. Ordinary raw catgut is wound loosely on glass spools, two threads on a spool. The spool is then placed in a solution of one part iodin and one part potassium iodid in 100 parts water. The jar is labelled with the date, and in eight days the catgut is ready for use. It is kept in the iodin solution until wanted, when it is transferred to another vessel containing a carbolized solution. The length of thread desired is cut off under the surface of the solution and the spool is returned to the iodin solution. This iodized catgut is black, completely sterile, and has a peculiarly appropriate consistency, not mucilaginous nor sticky, but plastic, elastic, and it ties like a fine soft copper wire. He reports tests which demonstrate the perfect sterilization of the catgut and also the harmlessness of the iodin, which has the property of being a powerful antiseptic while it does not irritate the tissues. It seems to have the tendency to form a harmless combination with the organic fluids. Catgut left for five months in the iodin solution was as perfect in every respect as that freshly prepared. If left for twenty-four hours in the carbolized solution the iodin dissolves out and the catgut loses its peculiarly fine consistency and becomes like the catgut sterilized by ordinary methods.

81. **Bacteriologic Tests of Disinfectants for the Mouth.**—Pelnar's tests demonstrated that none of the widely advertised mouth washes are more bactericidal than ordinary water to which a little alcohol has been added. Gargling, even for ten minutes, with a 6 per cent. solution of "odol," etc., as directed, is utterly useless from a bacteriologic point of view. The microbes are not destroyed nor even checked in their growth. Even more concentrated solutions applied directly to cultures produced no effect in less than several hours.

82. **Relations Between Obesity and Glycosuria.**—Kalinezuk has observed a number of cases at Marienbad in which obese persons exhibited a glycosuria which disappeared as the weight was reduced to physiologic limits. He is inclined to attribute the glycosuria in these cases to fatty degeneration of the liver, as the restoration of the liver to normal was rapidly followed by the vanishing of the glycosuria. One or more courses of mineral waters reduced the obesity and banished the glycosuria in every case in his extensive experience at Marienbad. The alkaline saline waters answer several indications in these cases and are preferable to mere dieting of the obesity. The normal limits of fat for each individual can be determined by daily examination of the urine and the patients must repeat the course of mineral waters as often as needed to keep within these limits.

83. **Operative Treatment of Rhinophyma.**—Wedge excision and suture is only applicable in exceptional cases of this condition. Subcutaneous excision of the connective tissue is liable to result in necrosis of the flaps, but both of these methods of treatment have the advantage of rapid healing. Rusch prefers peeling off the outer layers and excrescences, leaving a foundation of skin tissue beneath, which soon heals over to restore the defect. In his cases the healing of the operated portion was accompanied by the disappearance of the acne elsewhere on the face. This may have been due to the relief of the congestion by the loss of blood during the intervention. There has been no recurrence in either case during the one and two years since. Transplantation of flaps is not necessary. The raw surfaces soon heal over.

87. **Antiquity of Bubonic Plague.**—Ebstein asserts that no reliable mention of the bubonic plague has been discovered in the medical lore of ancient India. The first description of it is found in the writings of the medical men of Alexandria, the famous Egyptian medical school, during the first century before Christ.

88. **Phlyctenular Conjunctivitis.**—Hilbert investigated 100 children affected with phlyctenular conjunctivitis and found swollen scrofulous glands in 73, scrofulous eruptions in 22, and rachitis and scrofula in 5. This association with scrofula can not be a mere coincidence, and he proclaims that treatment of the conjunctivitis should aim first to cure the scrofulous condition. He has found cod liver oil, iodin, baths, etc., the best general measures and supplements them by insufflation of calomel into the eye once a day. The eye is rinsed out several times a day with a tepid solution of boric acid. In case iodin is being taken internally, the calomel can not be used on account of the danger of the formation of sublimate. He therefore substitutes a salve of the yellow oxid of mercury in five parts of vaselin. Caustic remedies are distinctly injurious. Under this combined treatment the affection is cured in six to ten days.

91. **Influence of Central Nervous System on the Organic Transformations.**—In this communication from Lombroso's Institute of Legal Medicine and Psychiatry, Modica states that the removal of the frontal lobes in animals had a marked effect in diminishing the elimination of nitrogen and the total phosphates in the urine, while the earthy phosphates almost entirely disappeared. Further tests—removing or destroying portions of the occipital or parietal lobes—failed to demonstrate any influence of this kind on the organic transformations. He is now engaged in studying the changes in the metabolism after destroying separate portions of the brain by scalding with boiling water forced through a two-way sound. The necrosis that results is accompanied by the minimum of disturbance in the adjacent tissues.

92. **Analysis of Urine in Determining Age of Neonatorum.**—The presence of chlorids in the urine is not indicative of the age nor of the possibility of extra-uterine life. The phosphates, on the other hand, are valuable from this point of view. In 109 analyses of urine from 25 infants it was impossible to detect the phosphates in the urine before two complete days of extra-uterine existence, and the traces were not distinct until the third and fourth days.

94. **Nature of Blood Serum.**—Buffa points out the difference between the behavior of the serum and of the urine, for instance. When ice forms on urine representing merely 12 per cent. of the water contained in it, there is an increase of more than .006 in the density of the urine below. But ice can form on blood serum to a thickness representing 35 per cent. of the total fluid, without altering the density of the fluid below nor of the ice itself. The serum, therefore, does not obey the laws of an ordinary solution. The water and the salts are evidently combined with the proteid molecules.

95. **Phototherapy of Ozena.**—Dionisio reports eight cases all remarkably improved and some radically cured under a course of phototherapy. If the benefit derived proves to be permanent, the results encourage the widespread application of this treatment. He reflected the light into the nose in some cases and in others introduced a small electric lamp with water circulating in its walls, or used a larger electric lamp

placed in the back of the mouth. The transparency of the facial bones and nasal fossæ allowed the penetration of the light. Still another method he found useful was the concentration of a powerful light on a glass tube in the nostril.

96. **Cutaneous Sensibility in Case of Visceral Lesions.**—Tedeschi's research confirms Head's assertions on this subject. He found that the hyperalgesia in appendicitis was most marked in the tenth dorsal zone, while the twelfth dorsal zone was the seat of the maximum of hyperalgesia in case of salpingitis. The painful region extended from a point above the crural arch to about half its length. This difference in the location of the hyperalgesia may serve to differentiate the two affections in dubious cases.

99. **The Nerves of Taste.**—In two cases operated upon by Biondi for neuralgia by the Krauss-Hartley method, Fasola has studied the course of the taste fibers in the tongue; he concludes that the trigeminus has really its own gustatory fibers, which pass to the anterior marginal parts and to the point of the tongue either directly by the lingual branch of this nerve or by passing in the chorda tympani from some more central point, for example, across to the branch of the otic ganglion. Admitting that the chorda contains a part of these gustatory fibers of trigeminus origin does not exclude that they may also contain others coming from elsewhere, for example, by the intermediation of the nerve of Wrisberg and the glosso-pharyngeal. We thus admit in the chorda the existence of fibers of various origin to explain the persistence in the first days after the operation of a certain taste sensibility and the return of complete, or certainly very conspicuous, sensibility at a later period. These conclusions, he remarks, agree in part with the views of Schiff, but not absolutely.

100. **Infantilism from Pellagra.**—From a study of his case Agostini concludes: 1. That intoxication by the poisoning of diseased maize in the parents, especially in the mother during pregnancy, can produce in children a condition of precocious exhaustion of vitality with degenerative characteristics and retardation of organic development. 2. That in these hereditary pellagra cases we find a high percentage of mortality, a predominance of degeneracy characteristics, especially of cranial anomalies, and quite usually arrest and delay of the development of the body to a point of true dystrophic and myxedematous infantilism and the extinction of procreative power. 3. That the thyroid disturbances found in the cases described of hereditary pellagrous arrest of development are frequently met with in pellagra patients, showing the ready morbidity of this gland in the presence of the specific poisoning and explain the dystrophic or myxedematous phenomena and tend to the aggravation of the symptoms of pellagra intoxication.

102. **Study of Alimentary Infection.**—Galeotti tabulates the various cases of established infection from food which have been published, with details of symptoms, etc. It is evident that putrid meat and infected mollusks are capable under certain circumstances of causing infection which develops with ordinary gastro-intestinal symptoms and signs of general intoxication. The micro-organisms causing the infection may be saprophytes acquiring pathogenic power from some modification in their host or from the lack of resistance of the person who ingests them. He then describes a serious epidemic disease traced to a certain kind of fish, ordinarily eaten with impunity. He was able to isolate a toxic bacterium from these fishes and reproduce the symptoms in animals. The tests were renewed a year later under the same conditions except that the epidemic of the year before had not been repeated. He succeeded in isolating again the same bacterium, but at this time it had no pathogenic power and the tests on animals were invariably negative.

103. **Experimental Research on Intestinal Peristalsis.**—Fasola concludes from the extensive research described that true antiperistaltic contractions never occur, either in physiologic or in pathologic conditions.

110. **Treatment of Tuberculosis with Sulphid of Allyl.**—Guerra has used sulphid of allyl—better known as oil of garlic—in 17 cases of tuberculosis, and is convinced that it possesses marked antitoxic properties while it is a powerful tonic and stimulant. All of his patients were clinically cured. He followed the directions given by Sejournet of Rheims with slight modifications, injecting 1 c.c. of the following solution: 1 gm. each of sulphid of allyl and sulphuric ether; 20 gm. of eucalyptol and 100 gm. of olive oil. The injections were made under the skin of the back or leg, every fourth day, increasing each time by .5 c.c. until the dose of 3 c.c. was reached and then suspending treatment for a week or two. The sulphid of allyl is eliminated by the lungs; to disguise the garlic odor he has the patients rinse the mouth with an aromatic solution before and after eating and on retiring. He announced from his experience that while it is not a specific, yet this treatment is the most rational of all modern methods on account of its influence on the general health, the appetite and digestion.

111. **Treatment of Convulsions.**—Lamicq distinguishes between convulsions due to some affection of the nerve centers and those due to an intoxication of the organism. The latter should be treated by hastening the elimination or neutralizing the toxic substance. The convulsion itself does not require direct treatment unless it assumes a dangerous phase. Ordinarily the convulsion occasions an abundant elimination of the toxin causing the disturbance, and is thus directly beneficial and should not be combated. The hypo-algesia or anesthesia noted before the convulsions disappears afterward in many cases. Paralysis, uncontrollable vomiting or any persisting hysteric trouble is liable to vanish during the course of the convulsive attack and sometimes permanently. Gilles de la Tourette has even suggested the advisability of inducing convulsions by compression of a hysterogenic zone or other measure, as a last resort in treatment of rebellious hysteric manifestations.

123. **Absorption of Iron.**—Poulsson recommends the standard liquor ferri albuminati of the Norwegian pharmocopeia as the best means of administering iron. It is inexpensive and contains the least alcohol of any of the usual preparations of iron. The latter fact commends it particularly for children.

124. **Nitropropiol or Indigo Test for Sugar in Urine.**—Thesen places a high value on Hoppe Seyler's indigo reaction as a method of determining the presence of sugar in urine. It is based on the fact that indigo is formed from ortho-nitrophenyl-propiol acid by the reduction of sugar in an alkaline solution. The test is simple, inexpensive and deserves more general adoption. It has been much simplified by the recent improved nitro-propiol tablets which have been put on the market for the purpose.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The Practical Medicine Series of Year Books, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume VI. Gynecology, Edited by Emilius C. Dudley, A.M., M.D., Professor of Gynecology, Northwestern University Medical School. With the Collaboration of William Healy, A.B., M.D. March, 1902. Cloth. Pp. 212. Price, $1.25. Chicago: The Year Book Publishers.

Some Thoughts on the Principles of Local Treatment in Diseases of the Upper Air Passages, Being Two Lectures at the Medical Graduates' College and Polyclinic, on October 2 and 9, 1901. With an Appendix Consisting of Two Letters Published on November 23, 1901, and on January 11, 1902, in the British Medical Journal. By Sir Felix Semon, M.D., F.R.C.P., Physician Extraordinary to H. M. the King. Cloth. Pp. 130. Price, $1.00. London: Macmillan & Co., Ltd. 1902.

Genito-Urinary Diseases and Syphilis. For Students and Practitioners. By Henry H. Morton, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital. Illustrated with Half-tones and Full-page Color Plates. Pp. xii-372. Price, extra cloth, $3.00 net. Philadelphia: F. A. Davis Company, Publishers.

Transactions of the National Association for the Study of Epilepsy and the Care of Epileptics, at the First Annual Meet-

ing, Held in Washington, D. C., May 14 and 15, 1901. Edited by William P. Letchworth, LL.D. Paper. Pp. 221. Price, $1.00. New York: C. E. Brinkworth. 1901.

THE UNITED STATES ARMY, GENERAL HOSPITAL, Presidio, California, During the Years 1900 and 1901. Reports of Its Commanding Officer, Lieut.-Col. Alfred C. Girard, Deputy Surgeon-General, U. S. A., to Brigadier General Geo. M. Sternberg, Surgeon-General, U. S. A. Paper. Pp. 110.

MANUAL OF CHILDBED NURSING, WITH NOTES ON INFANT FEEDING. By Charles Jewett, A.M., M.D., Sc.D., Professor of Obstetrics and Diseases of Women in Long Island College Hospital. Fifth Edition, Revised and Enlarged. Cloth. Pp. 84. Price, $0.80. New York: E. B. Treat & Co. 1902.

THE CAUSES OF DEATH AMONG THE ASSURED IN THE SCOTTISH WIDOWS' FUND AND LIFE ASSURANCE SOCIETY. From 1874 to 1894 Inclusive. Reported by Cland Muirhead, M.D., F.R.C.P.E., Medical Officer of the Society. Cloth. Pp. 81. Edinburgh: R. & R. Clark, Ltd. 1902.

ANOMALIES AND DISEASES OF THE EYE. By Flavel B. Tiffany, A.M., M.D., Professor of Ophthalmology and Otology in the University Medical College of Kansas City, Mo. Cloth. Pp. 619. Price, $3.00. Kansas City, Mo.: Hudson-Kimberly Publishing Co. 1902.

EXPERIMENTELLE UNTERSUCHUNG UND MENSCHEN neber den Einfluss der Muskelarbeit auf den Stoffverbrauch und die Bedeutung der einzelnen Nährstoffe als Quelle der Muskelkraft. Von Prof. H. Newton Heineman, M.D., aus New York. Cloth. Pp. 36. 1901.

MANUAL OF ANTENATAL PATHOLOGY AND HYGIENE. THE FOETUS. By J. W. Ballantyne, M.D., F.R.C.P.E., F.R.S. Edin., Lecturer on Midwifery and Gynecology, Medical College for Women, Edinburgh. Cloth. Pp. 527. Edinburgh: William Green & Sons. 1902.

TRANSACTIONS OF THE KENTUCKY STATE MEDICAL SOCIETY. New Series, Volume IX. Forty-sixth Annual Meeting, Held at Louisville, May 22, 23 and 24, 1901. Cloth. Pp. 272. Louisville: John P. Morton & Co. 1902.

INTRODUCTION TO MATERIA MEDICA AND PRESCRIPTION WRITING. By O. T. Osborne, M.A., M.D., Professor of Materia Medica and Therapeutics at Yale Medical School. Cloth. Pp. 64. New York: Stettiner Bros. 1900.

WHAT A WOMAN OF FORTY-FIVE OUGHT TO KNOW. By Mrs. Emma F. Angell Drake, M.D., Graduate of Boston University Medical College. Cloth. Pp. 211. Price, $1.00. Philadelphia: The Vir Publishing Co.

REPORT OF MAJOR W. C. GORGAS, Chief Sanitary Officer of the City of Havana, Report of the Chief Surgeon of the Department, Report of the Superintendent, Department of Charities. Paper. Volume IV.

TEXT-BOOK OF ANATOMY AND PHYSIOLOGY FOR NURSES. Compiled by Diana Clifford Kimber, Graduate of Bellevue Training School. Cloth. Pp. 275. Price, $2.50. New York: The Macmillan Co. 1902.

TRANSACTIONS OF THE IOWA STATE MEDICAL SOCIETY. Volume XIV. Fifteenth Annual Session, 1901. Cloth. Pp. 478. Cedar Rapids, Iowa: Record Printing Company. 1901.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 3 to 9, 1902, inclusive:

Julien R. Bernheim, contract dental surgeon, now at San Francisco, Cal., will report for transportation to Manila, P. I., for duty in the Division of the Philippines.

William N. Bispham, lieutenant and asst.-surgeon, U. S. A., leave of absence for one month granted, to take effect on his arrival in the United States.

James B. Ferguson, contract surgeon, former orders so amended as to require him to proceed to Boise Barracks, Idaho, for duty at that post.

Edward T. Gibson, captain and asst.-surgeon, Vols., recently appointed and now at San Francisco, Cal., to report for temporary duty in the Department of California, and for assignment on a transport when a vacancy occurs.

Willis S. Home, contract surgeon, former orders revoked; he is relieved from further duty in the Division of the Philippines and assigned to temporary duty in the Department of California.

Paul C. Hutton, lieutenant and asst.-surgeon, U. S. A., leave of absence extended ten days.

Frank J. Ives, major and surgeon, U. S. A., member of a board at Fort Sheridan, Ill., to examine officers of the Army for promotion.

James P. Kimball, colonel, assistant surgeon-general, retired from active duty on account of disability incident to service, to date from April 7, 1902.

Arthur M. Line, lieutenant and asst.-surgeon, U. S. A., former orders amended so as to direct him to report for duty at Fort Riley, Kan.

James E. Meade, captain and asst.-surgeon, Vols., recently appointed and now at San Francisco, Cal., to proceed to Manila, P. I., for assignment in the Division of the Philippines.

George H. Richardson, lieutenant and asst.-surgeon, U. S. A., member of a board at Fort Grant, Ariz., to examine officers of the Army for promotion.

Charles F. Smith, contract surgeon, member of a board at Fort Sheridan, Ill., to examine officers of the Army for promotion.

William J. S. Stewart, captain and asst.-surgeon, Vols., from temporary duty at Fort Slocum, N. Y., to San Francisco, Cal., for temporary duty in the Department of California and assignment to a transport when a vacancy occurs.

Paul F. Straub, captain and asst.-surgeon, U. S. A., member of a board at Omaha, Neb., to examine officers of the Army for promotion.

Charles W. Thorp, contract surgeon, leave of absence extended for one month.

Hugo A. Wahl, contract surgeon, leave of absence for two months granted, with permission to go beyond the sea.

Charles K. Winne, lieut.-col. and deputy surgeon-general, member of a board at Omaha, Neb., to examine officers of the Army for promotion.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending April 12, 1902:

Surgeon T. A. Berryhill, granted sick leave for six months.

Medical Inspector E. Kerchner, retired, commissioned medical inspector on the retired list from April 2, 1902.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended April 10, 1902:

Surgeon H. W. Austin, to proceed to the Delaware Breakwater and Reedy Island Quarantine Stations as inspector of unserviceable property.

Surgeon A. H. Glennan, to report at Washington, D. C., for special temporary duty.

A. A. Surgeon S. H. Hodgson, granted extension of leave of absence for ten days from March 30.

A. A. Surgeon J. M. Jackson, granted leave of absence for three days from April 9.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 11, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, March 22-29, 7 cases.

Colorado: Denver, March 22-29, 4 cases.

Illinois: Chicago, March 29-April 5, 9 cases; Danville, March 29-April 5, 3 cases; Peoria, March 1-31, 17 cases.

Indiana: Evansville, March 29-April 5, 4 cases; Indianapolis, March 29-April 5, 18 cases; Terre Haute, March 22-April 5, 1 case.

Iowa: Ottumwa, March 1-29, 32 cases.

Kentucky: Covington, March 30-April 6, 18 cases.

Louisiana: Shreveport, March 29-April 5, 14 cases.

Maryland: Baltimore, March 29-April 5, 2 cases, 1 death.

Massachusetts: Boston, March 29-April 5, 23 cases: Brockton, March 29-April 5, 2 cases; Cambridge, March 29-April 5, 3 cases, 1 death; Everett, March 29-April 5, 5 cases; Holyoke, March 15-April 5, 11 cases; Melrose, March 5-April 5, 2 cases, 1 death; New Bedford, March 29-April 5, 1 case; Newton, March 29-April 5, 3 cases; Quincy, March 29-April 5, 3 cases; Somerville, March 29-April 5, 1 case.

Michigan: Detroit, March 29-April 5, 15 cases; Ludington, March 29-April 5, 9 cases.

Nebraska: Omaha, March 29-April 5, 24 cases.

New Jersey: Camden, March 29-April 5, 4 cases; Elizabeth, March 22-29, 1 case; Newark, March 29-April 5, 20 cases, 3 deaths.

New York: New York, March 29-April 5, 75 cases, 20 deaths.

North Carolina: Charlotte, March 1-31, 30 cases, 1 death.

Ohio: Cincinnati, March 28-April 4, 13 cases, 1 death.

Pennsylvania: March 29-April 5, Altoona, 1 case; Johnstown, 1 case; Philadelphia, 26 cases, 6 deaths.

Rhode Island: Providence, March 29-April 5, 2 cases.

South Dakota: Sioux Falls, March 29-April 5, 1 case.

Tennessee: March 29-April 5, Memphis, 15 cases; Nashville, 1 case.

Utah: Salt Lake City, March 29-April 5, 1 case.

Virginia: Roanoke, March 1-31, 32 cases, 1 death.

Washington: Tacoma, March 23-30, 5 cases.

West Virginia: Wheeling, March 29-April 5, 1 case.

Wisconsin: Green Bay, March 28-April 6, 2 cases.

SMALLPOX—INSULAR.

Porto Rico: Ponce, March 15-22, 6 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, March 15-22, 11 cases, 6 deaths.

Brazil: Rio de Janiero, Feb. 16-March 16, 21 deaths.

Canada: Winnipeg, March 22-29, 1 case.

China: Hongkong, Feb. 16-March 1, 8 cases, 8 deaths.

Colombia: Cartagena, Feb. 15-22, 1 death.

France: Paris, March 15-22, 2 deaths.

Great Britain: Glasgow, March 22-28, 10 cases, 6 deaths; London, March 15-22, 449 cases, 53 deaths; North Shields, to March 15, 21 cases, 2 deaths; South Shields, March 15, 8 cases.

Italy: Palermo, March 8-15, 9 cases, 2 deaths.

Mexico: March 16-23, 3 cases, 2 deaths; Vera Cruz, March 15-29, 2 cases.

Russia: Moscow, March 8-15, 2 cases, 2 deaths; Odessa, March 15-22, 3 cases, 2 deaths.

Uruguay: Montevideo, Feb. 22-28, 71 cases, 5 deaths.

YELLOW FEVER.

Brazil: Rio de Janiero, Feb. 16-March 16, 128 deaths.

French Guiana: Cayenne, March 27, present.

Mexico: Vera Cruz, March 15-29, 6 cases, 3 deaths.

CHOLERA.

China: Shekiung, March 31, sporadic; Tung Kun, March 31, sporadic.

Straits Settlements: Singapore, Feb. 15-22, 2 deaths.

PLAGUE.

Brazil: Pernambuco, April 4, declared infected; Rio de Janeiro, Feb. 16-March 16, 1 death.

China: Hongkong, Feb. 15-March 1, 1 case, 1 death; Tsang Shing, March 31, 20 deaths.

Japan: Nagasaki, March 12, 1 case on S. S. *Taichu Maru*, from Formosa.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, MAY 3, 1902. No. 18.

Original Articles.

THE FUNCTION OF THE SOLUBLE FERMENTS OF THE BLOOD IN INTRACELLULAR DIGESTION.

ALFRED C. CROFTAN, M.D.

PHILADELPHIA.

METABOLISM COMPARED TO COMBUSTION.

The constituents of the food, viz., the proteids, fats, carbohydrates and salts are indifferent to oxygen outside of the animal organisms but readily combine with oxygen within the body. As a certain amount of heat is generated and a certain amount of energy liberated during the passage of the food-material through the body, the whole process has been rather crudely compared to a combustion, life to a flame and the body to a machine that burns the fuel that is fed to it. This conception is inaccurate, for it merely considers the most superficial manifestations of the life-process, the initial and the terminal stages of a most intricate process, the finer, intermediary mechanism of which we are just beginning to understand.

If we determine the quantity of oxygen inspired within a stated time-unit and the quantity of oxygen excreted (in gaseous, liquid or solid combinations) through the various emunctories of the body in the same time-unit, we will find that nearly 19 per cent. (that is, nearly one-fifth) more oxygen leaves the body than enters it in the inspired air. This can be explained only in one way, viz.: some of the oxygen (one-fifth) contained in the excreta must be derived from another source than the air we breathe and that other source can only be the food. We can go a step further and say that the oxygen present in the food must be torn out of its combinations by a process that is akin to fermentation in its broader sense, and that consists in cleavage of proteid, fat or carbohydrate molecules; this process, moreover, must occur without the intervention of free oxygen; must, in other words, be anaërobic and take place in a reducing medium.

As a matter of fact, it can be shown that the assimilation and dissimilation of food occurs in two stages, 1, an anaërobic stage, in a reducing medium in the absence of oxygen, in the interior of the cell; 2, an aërobic stage in the presence of free oxygen (hemoglobin) at the periphery of the cell, i. e., chiefly in the blood and lymph stream. Both processes, it appears, are inaugurated by the intervention of soluble, chemical, unorganized ferments that the cells secrete. So-called "vital" processes are only indirectly concerned in these metabolic changes; for the present we are still forced to use the term merely to designate the power of cells in two directions, viz.: 1, their power to build up active, functionating protoplasm from simpler, inert compounds; 2, their power to secrete enzymes with specific properties. Much that was heretofore considered "vital" has been robbed of this dignity by recent discoveries relating to the rôle of enzymes in "intracellular digestion."

The term "intracellular digestion" is employed in contradistinction to extracellular digestion to designate those processes of digestion or destructive metabolism that occur in all the tissues of the body other than the gastro-intestinal tract—in reality it does not even exclude the processes going on in the mucosa and walls of the digestive canal, but merely those that occur in its lumen. As the material contained in the mouth, stomach and intestine is not really within the body, intracellular digestion is essentially synonymous with general metabolism.

Leaving the fate of the inorganic constituents of the food out of our consideration, we will briefly study how the molecules of proteid, fat and carbohydrate material are rent asunder by the ferments, how the smaller torn-off molecules are recombined to form new compounds, how these are again disassimilated to simpler complexes until finally some unfortunate atoms got out of their orbit, so to say, become chained to oxygen and stumble into compounds that have to be eliminated.

THE THEORY OF RECONVERSION.

The fermentative changes occurring within the intestinal tract are essentially physical in character, i. e., the proteids, fats and amylaceous portions of the carbohydrates are hydrolyzed to compounds that can diffuse through animal membranes. The proteids are converted to albumoses and peptones (and in very small part to amido-products), the fats to fatty acids and glycerin, the starches to soluble sugars. That this hydrolysis is merely intended to enable the entrance of the original bodies into the organism proper is manifested by the fact that in their passage through the intestinal wall they are reconverted. Within and behind the intestinal wall, i. e., in the blood of the mesenteric veins and the lacteals we never, consequently, encounter peptone or albumose but only serum-albumin; the same in all probability applies to the fats; glycerin and fatty acids being recombined to neutral fat in their passage through the intestinal wall. Whether or not the sugars enter the blood and lymph directly is not positively determined; a great portion of these sugars certainly reaches the liver as glycogen and is deposited there as such.

This process of reconversion has recently been shown to be due to enzyme-action. It appears that the same ferments that can split fat, e. g., into glycerin and fatty acids possess the power of recombining glycerin

and fatty acids to neutral fat. This process also occurs *in vitro* by the action of lipase, the ordinary fat splitting ferment of the pancreas (steapsin). The discoverers of this "reversion" process determined, moreover, that lipase is concerned in bringing about a condition of chemical equilibrium between the fat molecule (and water) and the products of its hydrolysis; in other words, that it forms a certain proportion of fatty acids and glycerin if neutral fat is present in excess, but that it is also inversely capable of forming a certain proportion of neutral fat from glycerin and fatty acids provided the latter bodies are present in excess in the solution.

The one objection to this theory is the fact that we can not identify ferments in any other way than by their manifestations; we have, moreover, no way of isolating them from the organ-extracts in which they are dissolved. It is not impossible, therefore, that pancreatic extract, or even so-called "pure" lipase contains two ferments, the one that splits fats into glycerin and fatty acids, the other that recombines the two to fat. This objection is strengthened by the observation that a ferment other than pepsin or trypsin, namely, rennet, seems capable of reconverting albumoses and peptones to coagulable albumin. If egg-albumin or fibrin are digested with artificial gastric juice (pepsin-HCl) and the albumoses and peptones that are formed removed by dialysis (a process analogous to the removal of these products from the intestine by osmosis through the intestinal wall) and if to the dilute clear solution of albumose-peptone some rennet is added, a flocculent coagulate of albumin will reappear. As rennet is a normal constituent of the gastro-intestinal mucosa, it seems probable that this ferment is concerned in the regeneration of serum-albumin from albumose-peptone.

DIGESTION LEUCOCYTOSIS.

The question arises, where do these processes occur? In the mucosa, the muscularis, the serosa, the lymph or blood stream? Presumptive evidence is overwhelming in favor of the supposition that the leucocytes in the blood and lymph capillaries of the intestinal wall are in some way concerned in this process (digestion-leucocytosis). We will revert to the rôle of these cells as ferment-carriers later on and show that disintegration of leucocytes, as a rule, precedes the inauguration of many fermentation processes, a disintegration that probably precedes and is accompanied by a liberation of enzymes. We will also attempt to ascertain the source and origin of the ferments that the leucocytes harbor in their interior and that they carry to any portion of the body where they are needed to establish chemical equilibrium. All the ferments are so toxic when circulating freely and are still so universally present that we can only assume that mobile cells, like the leucocytes, bear them in a harmless form through the blood and lymph-stream to their ultimate destination.

Of the food-albumin that circulates in the blood and lymph stream as serum albumin only a very small proportion is built up directly into living protoplasm. The cell protoplasm seems endowed with considerable longevity, so to speak, for only 16 to 20 gr. of cell-protoplasm die in twenty-four hours—a remarkably small proportion in an organism weighing from 70,000 to 75,000 grams (70-75 Kg.). From these figures we know that only 16 to 20 gr. of the circulating serum albumin are directly incorporated into the cell body, are endowed with life and become living protoplasm to take the place of that moiety of protoplasm that dies and is cast off into the blood stream.

The great bulk of the albumin, fat and carbohydrate, is simply food for the cells, and the source of the energy they require. With the aid of the enzymes the cells secrete, they split the large molecules. This process occurs in two stages; the first stage is a reduction and like every reduction requires heat; the result is the formation of numerous compounds that possess greater affinity for oxygen than the original bodies; the second stage is an oxidation in which the chemical affinities are satisfied and heat is developed. The result is the formation of highly oxidized end-products that are excreted.

The whole process, then, is a vicious circle—the heat that is converted into chemical affinity is derived from the oxidative processes that satisfy the chemical affinity—once inaugurated, the process goes on indefinitely, provided sufficient potential energy is introduced with the food that can be converted into kinetic energy.

This chemism is altogether analogous to similar processes occurring in the inorganic world. In order to reduce oxid of potassium, e. g., with carbon, heat is required; the result is metallic potassium that possesses great affinity for oxygen; if potassium is oxidized again the same amount of energy is liberated that was originally required for the reduction. We need not postulate any specific "vital" force. The universal laws of the conservation of matter and of energy operate in the same way in the organic as in the inorganic world. Living plants and animals merely possess specific powers of combining and converting matter and of transmuting energy into specific forms of motion that we call vital.

It would lead us too far were we to follow the stepwise degradation of the albumin, fat and carbohydrate molecules in detail; it may suffice to study the principal products of the first anaërobic, reducing stage, and of the second aërobic, oxidizing stage, and to elucidate, as far as we are able, the ferment mechanism of these conversions.

ANALOGOUS PROCESSES IN BIOLOGY.

A clear insight into these processes can be gained by drawing analogies with similar bio-chemic reactions that are carried on by unicellular micro-organisms. The animal body, after all, is merely a conglomeration of numerous unicellular micro-organisms, in which each cell is a special micro-laboratory and leads an independent existence while at the same time contributing its share to the maintenance of the whole. Unicellular organisms are so small compared to complex multicellular organisms and the metabolic changes they bring about in the media they grow in are so colossal in comparison to their bulk, that we are apt to overlook the fact that these metabolic processes are merely incidental, and certainly subservient, to the biologic needs of the cells. The character of the protoplasm of bacteria and of our body cells, moreover, is different only in distribution and not in character.

As a prototype of anaërobic life, as an illustration of the first *reducing* stage of metabolism, the life processes of *tyrothrix urocephalum*, a bacterium that has its natural habitat in putrefying milk, may be studied. This germ, when grown on milk, attacks the proteids of the milk alone and leaves the fats and carbohydrates intact. If oxygen is excluded, it splits the proteid molecule; combines some of the carbon with some of the oxygen, and generates CO_2; combines hydrogen with oxygen and forms water; secretes a proteolytic enzyme that converts other portions of the proteid molecule

into peptones and then into urea, fat, ammonia compounds, tyrosin, a variety of ptomaines and certain intermediary acids. This germ requires some oxygen, but it can derive it from the oxygen atoms contained in the proteid molecule—the oxygen is needed, not for the metabolic processes that are carried on by the enzyme the bacterium secretes, but for the maintenance of the scanty life-processes of the cell.

Altogether analogous processes are carried on by the cells of the animal body. If a piece of muscle is kept in a vacuum at body temperature CO_2 will be developed and water will be formed. There is evidence to show that the fats and carbohydrates are not disassimilated in this first stage, but that the proteid molecule alone is attacked as in tyrothrix and that it is converted into urea, glycogen and fat, ammonia products, leukomaines and a large variety of intermediary bodies. These processes have been studied particularly in the liver, but it can readily be shown that similar processes occur in other organs of the body; it is probable that this form of activity is a universal property of all our cells.

INTERMEDIARY PRODUCTS ARE TRANSIENT.

During life all these intermediary products are immediately oxidized so that it is a very difficult task to detect them. In certain diseases and intoxications, however, in which the aëration of the blood is interfered with, in dyspneic states, in the agonal stage, or immediately after death when the individual cells still live although the blood no longer circulates, these products accumulate very rapidly in the tissues and can be detected there. The reducing properties, finally, of nearly all the organs of the body have been repeatedly demonstrated by coloring methods (Ehrlich) and by feeding- and injection-experiments with iodates, indigo, certain pigments, etc.

The end products of this first stage are carbon dioxid (CO_2), water, urea, creatin, etc., on the one hand, and a large number of intermediary products on the other. The former must be considered "rests," waste products, so to say, that have to be eliminated. Many of the intermediary products travel to the liver and are there forced into new combinations; some form urea, some uric acid, etc., but the majority of the fats, carbohydrates, hydrocarbons, amido acids, together with the original fats and carbohydrates of the food undergo oxidation in the blood stream.

FUNCTIONS OF VARIOUS FERMENTS.

Whereas we have so far been unable to demonstrate experimentally that the cells of our body, like certain bacteria, of which tyrothrix urocephalum is the prototype, secrete enzymes that bring about the processes of proteolytic anaërobic fermentation that we have discussed, we are able to show experimentally that the second, oxidative stage of dissimilation of fats, carbohydrates, etc., is due to the action of numerous soluble ferments that are present in the blood and lymph.

If blood or lymph is allowed to flow directly into a sterile vessel and the vessel allowed to stand for a number of hours at body temperature a progressive loss of the blood sugar will be observed. Occasionally a slight increase in the titre for dextrose will be noticed during the first half hour, followed, however, by a rapid decrease during the hours following. This preliminary increase only occurs when the blood contains some glycogen, and is explained by a preliminary conversion of glycogen to dextrose. Here, then, we see the action of two ferments, one that can convert glycogen to sugar (an amylolytic ferment), one that can destroy sugar (a glycolytic ferment). We can go still further. If we analyze the sugar that is formed from glycogen in the blood, we will find that it consists in part of maltose (a double sugar), in part of dextrose (a simple sugar). By allowing blood to flow into alcohol and leaving the coagulate that forms in contact with alcohol we destroy the power of the blood to form dextrose, and only maltose is formed from glycogen. In other words, the blood contains both a maltase and a glycase, i. e., a maltose- and a dextrose (glycose)-forming ferment, the latter being destroyed by contact with alcohol (Bial).

If chylous fat is mixed with blood or lymph and if the mixture is allowed to stand at body temperature some of the fat will be destroyed and converted into unidentified bodies (possibly fatty acids and glycerin) that, in contradistinction to fat, are in large part insoluble in ether and are dialysable.

Another ferment called oxidase is present in the blood and lymph that possesses the power of oxidizing a number of organic substances; besides, pepsin and trypsin in appreciable quantities, not to speak of the so-called fibrin-ferment, are all found in the blood and lymph.

ORIGIN OF FERMENTS IS OBSCURE.

The question arises, in what constituent of the blood do we find these ferments, in the serum, the red or the white blood corpuscles; where do they come from; what is their ultimate fate?

If the blood is centrifuged and serum and corpuscles examined separately, it will be found that the serum possesses neither diastatic, glycolytic, nor lipolytic properties; an extract made from the corpuscles, on the other hand, does possess these properties to a marked degree. If a piece of one of the veins of a large animal is ligated in two places and excised, then suspended in the ice chest for twenty-four hours, coagulation of the blood does not occur and under favorable conditions red corpuscles, white corpuscles and serum can be aspirated separately. It will be found that the ferment power is inherent in the white and not the red cells. When we consider in addition that the lymph possesses still greater glycolytic and lipolytic powers than the blood, when we remember the phagocytic action of the leucocytes towards all poisons (and the ferments are very toxic) we will agree that these ferments are carried by the leucocytes. As a matter of fact leucocytes possess distinct digestive powers towards bacteria. Finally, if chemotactic bodies are added to the blood that promote rapid disintegration of leucocytes, the ferment-powers of the blood are more rapidly developed—all of which seems to justify the conclusion that the ferments are carried by the leucocytes and that disintegration of leucocytes must precede the liberation of the ferments.

Some investigators claim to have found the ferments in the serum, and as a matter of fact they are frequently there—but only after the leucocytes have begun to degenerate, an accident that can hardly be avoided when the blood is subjected to such manipulations as defibrination, centrifugation, etc. The origin of these blood ferments is obscure; there are three possibilities. They can either be formed in the leucocytes themselves, they can be formed in all or many of the tissues and organs of the body, i. e., by protoplasm in general, or they can be derived from internal secretions of the digestive glands. It is altogether impossible at present

to decide this question. In view, however, of the tendency to specialization that becomes operative in any large congregation of individual cells, the latter view is the most plausible—the digestive glands would then furnish enzymes both for extra- and intra-cellular digestion.

FINAL DESTINATION OF FERMENTS.

Whether the blood ferments after they perform their function are destroyed, eliminated, re-inclosed in leucocytes, arrested in the digestive glands to be re-excreted, or finally are held by such dis-intoxicating organs as the suprarenals, the thyroid and the liver it is impossible to say. As the urine nearly always contains some of the ferments, as they are nearly always present in the liver, and as they certainly must suffer the ultimate fate of all the other constituents of the body, it is probable that all these processes can and do occur.

It has been objected that the ferments are present in such minute quantities in the blood that they can not possibly be credited with an important rôle in intracellular digestion; but this objection is invalid. In the first place they are present in minimal quantities in the extracts we prepare because they are not intended to be present in large quantities at any time nor to be copiously excreted like the digestive ferments. When we prepare our extracts we destroy the cells and force the ferments into solution; besides, we work with small quantities of blood and consequently very small numbers of leucocytes. In studying the action of such an extract, moreover, we see only a small portion of the power that would have been expended had the cells remained intact, had the blood remained alive. I can best illustrate this by comparing the action of the ferment extracted out of a kilo of yeast-cells and the action of a kilo of living yeast-cells. The ferment solution will develop less power by far than the living cells, as in the latter new ferment is continuously being formed; in other words, the action of the ferment accumulating during an hour is only a small proportion of the hourly action of the cells. The ferment solutions from the blood only contain the remnant that is not utilized during life.

Furthermore, nearly all ferment extracts from the blood are made after defibrination or alcohol-coagulation, and it is a well-known fact that fibrin and coagulates retain ferments with a tenacity that makes it almost impossible to separate the two—in this way, too, a large proportion is lost.

From very recent investigations it appears that the ferments are chemically (if they are chemical entities at all!) nucleo-proteids, i. e., derivatives of the cell-nuclei. They are in general so akin to protoplasm both i their chemical reactions and their behavior to various physical and chemical agencies that they must be considered closely related to living protoplasm. As a matter of fact all protoplasm has some ferment-power—ferments seem to be fragments of protoplasm, and living protoplasm can do all that ferments can do and more besides in other directions, viz., it has the power of regeneration (see above) and of "assimilation."

REGENERATION OF PEPSIN BY FIBRIN.

Some investigations that I am at present engaged in seem to point to a still closer connection between ferments and living protoplasm even in its most "vital" properties. If 0.01 gr. of pepsin is dissolved in 95 c.c. of 2.75 per cent. HCl and 5 gr. of fibrin or egg-albumin added, the fibrin will be digested within twenty-four hours and the fluid will become clear; of this fluid 10 c.c. are mixed with 85 c.c. of the HCl solution and 5 gr. of fibrin are added again; this, too, will be digested. This process of dilution can be repeated many times and the digestion of fibrin will proceed almost as rapidly as in the beginning; not until the 9th or 10th dilution will an appreciable retardation become noticeable. If we calculate the dilution, we will find that 1 part of pepsin seems capable of digesting many million parts of fibrin. If these same dilutions of pepsin solution are made without adding fibrin and permitting digestion for twenty-four hours, it will be found that no solution of the fibrin occurs after the dilution is greater than 1 to about 30,000 to 50,000. (This applies to the particular pepsin I am using). The whole process resembles a regeneration of pepsin by contact with fibrin—in other words, a growth in a suitable medium. In the absence of pabulum no growth occurs.

If these findings can be verified and amplified and extended to other ferments, they promise to carry us several steps forward into the borderland that lies between dead and living protoplasm.

EPILEPSY, ITS ETIOLOGY, PATHOLOGY AND TREATMENT BRIEFLY CONSIDERED.*

WILLIAM P. SPRATLING, M.D.

Medical Superintendent of the Craig Colony for Epileptics, N. Y.; Secretary of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.

SONYEA, N. Y.

In the United States one person in every 500 suffers from epilepsy. In continental Europe the proportion is thought to be somewhat less, though this may be an error due to imperfect statistics; in England the ratio is about the same as in this country.

Epilepsy is one of the oldest diseases of which we have any record. Five centuries before Christ it was described by Greek physicians with much clinical accuracy.

It may be in the infant at birth, or develop immediately after, or its coming may be deferred until man has passed the milestone of life that marks to his credit threescore years and ten.

It comes irrespective of race, environment, occupation, social condition or position; affecting alike the poverty-stricken dweller of the tenement along with the rich who live in palaces.

American statistics show it to be slightly more common in males than in females, while European observers find the opposite true. In some the attacks may occur daily for years and yet produce only the slightest enfeeblement of any of the mental faculties, while in others a few attacks may, in a year's time, largely destroy all the faculties of the mind, producing in the end epileptic dementia. Its seizures may develop with sudden, shock-like violence, striking its victim to earth in the twinkling of an eye, or they may come and go with only the blanching of the face and a momentary void in the operations of the mind. In the same individual we may witness its manifestations hundreds of times in the space of twenty-four hours, at one period of the disease, and we may see months or even years intervene between its paroxysms at another period of the disease. It has no distinctive or pathognomonic symptom, for we find its two most prominent ones—convulsions and the impair-

* Read before the College Medical Society, College of Physicians and Surgeons, Baltimore, Dec. 6, 1901.

ment or loss of consciousness—in many other conditions and due to many other causes. Its causes are legion and its varieties numerous.

Like insanity, we can not satisfactorily define epilepsy in terms. It is a nervous affection, generally characterized by some impairment or loss of consciousness, coincident with some impairment or loss of the power of motor coördination, with or without convulsions; the paroxysms being generally abrupt in appearance and short and variable in duration.

NOMENCLATURE OF SEIZURE TYPES.

As yet epilepsy has no fixed nomenclature for its various types, which leaves us free to present for your consideration two classifications; one based on symptomatology, the other, as far as possible, on etiology; and whichever is elected for use must be a matter of individual choice. The old symptomatic classification of grand mal, petit mal, psychic and Jacksonian is clear and concise and expresses all that is essential when speaking from a symptomatic standpoint only; but it is less scientific and far less valuable for purposes of study than a classification based on causes.

By grand mal we mean a fit of the most severe type, one in which both the body and the mind are profoundly affected, the entire body being convulsed and consciousness entirely lost.

By petit mal we mean a fit of the same general character as grand mal, but much less severe. In this form the faculties of the mind may be disturbed but consciousness not lost, the body being somewhat convulsed, but the patient does not necessarily fall.

By psychic epilepsy we mean that form in which the faculties of the mind suffer almost to the exclusion of the body. In this there is a discharge of nerve force in the regions of the brain that govern and control the intellectual acts, the feelings, emotions, memory and the will. When such attacks are purely mental, we refer to them as psychic epilepsy or psychical epileptic equivalents, i. e., they are equal to and take the place of epileptic convulsions of another kind. It is this form that is followed by the condition we term automatism. The individual is automatic, he acts like a machine; going about after the fit for hours and even for days, performing ordinary acts, but having no knowledge of what he is about.

By Jacksonian epilepsy we mean convulsive movements confined to one leg, one arm, one side of the face, or a single group of muscles; in reality, a mono-spasm due to a circumscribed irritative lesion affecting some part of the motor area of the brain. In this form consciousness as a rule is not lost and oftentimes it is not even disturbed, the patient in some instances being the witness, so to speak, of his own seizure. Jacksonian is a partial epilepsy only and we must be careful not to confound it with epileptiform convulsions due to an irritative lesion somewhere in the periphery and affecting the brain reflexly. Generally speaking, we may differentiate between the two by ascribing Jacksonian epilepsy to proximate causes, that is, causes acting primarily within the brain, and epileptiform convulsions to distal causes, or those acting first in other parts of the body, then on the brain, affecting that organ reflexly. But the lines that separate epileptic phenomena are of necessity loosely drawn and this must be so when we remember how intimately associated are all the parts of the body with the brain and how much more intimately associated are all the parts of the brain the one with the other. A knowledge of cerebral localization in the study of epilepsy is an absolute necessity; for not only should we know the seat of the lesion in the brain in every type of convulsion, but we should know the form the convulsion will take, the order in which it will progress when the nervous discharge travels to contiguous areas, spreading from center to center, finally involving the entire organ. What should interest us most is the site, the primary condition, and the manner in which the fit starts, for it will be through studies of these that we will be most apt to find the cause.

These four types, then, grand mal, petit mal, psychic and Jacksonian, make up the classification based on symptomatology. Until we understand the commoner forms of epilepsy, the simpler we make our classification, based on etiology, the better. Once understanding the main forms, we may elaborate all we like.

At present I know of no better way to attempt a practical classification of this kind than to make three age periods, as follows: 1, up to the age of 20 years; 2, during adult life; 3, after the beginning of senility. Such a plan is at once simple and direct and arranged in the order of the importance of these periods, because most cases of epilepsy develop before the 20th year. Gowers says that three-fourths of them begin before then, while our own studies, based on over a thousand cases, show an even larger proportion.

Bearing in mind the fact that this is the developmental period and that transmitted defects generally come to light during this period, we group its epilepsies under two heads: primary or developmental and accidental. The latter also occurs during the adult period, but with far less frequency. Two kinds of heredity must be considered, similar and dissimilar, the former meaning the transmission of the same disease from parent to child; the latter meaning that alcoholism, insanity, tuberculosis, chorea or a kindred affection in the parent is changed in type in transmission so as to appear as epilepsy in the child. Dissimilar heredity is recognized by Moreau de Tours, Hammond, Nothnagel, Féré and others and it constitutes one of the problems that science may investigate in the future.

It is the epilepsies of the primary or developmental group that we are apt to carelessly designate as idiopathic, which means that we do not know the cause; while, as a matter of fact, a little persistent study of every case from all possible standpoints might make it hardly necessary for us to clothe our ignorance in that way. In a study of some 1100 cases of epilepsy that have come under our observation during the past six years, we found that 16 per cent. were due to similar heredity, 15 per cent. of the males and 17 per cent. of the females directly or indirectly inheriting the disease. In the same cases we found that alcoholism in the ancestors caused it in 16 per cent. of the males and 12 per cent. of the females. Insanity in the ancestors was definitely established in 7 per cent. of the males and 10 per cent. of the females. Tuberculosis existed in the family in 15 per cent. of the males and 12 per cent. of the females, making an average of 14 per cent. It seems that alcoholism in the father is more likely to produce epilepsy in the child than when the mother is alcoholic and that insanity in the mother more often causes epilepsy in the child than when the father is insane. Taking all hereditary factors together, we found either similar or dissimilar heredity to have been the cause of epilepsy in 56 per cent. of the entire number of cases studied, leaving only 44 per cent. due to other causes.

Accidental forms come next. These include the large number of cerebral palsies, amounting all-told to 117, or over 11 per cent. of the entire number of cases we studied. Other cases due to trauma—comparatively common in childhood; to accidents incidental to birth; to the poisons of specific diseases, like scarlet fever, measles, diphtheria and whooping cough; to the toxemias of intestinal origin, and to certain chemical poisons, which latter are not so active here as later in life, belong to the accidental group. We do not mean that whooping cough *per se* may cause epilepsy; but that it may produce a condition out of which convulsions may arise. Accidental forms are also met with in adult life; but they are rare as compared with the earlier period.

Primary or developmental epilepsy after 20 years is probably never met. After this age it is due to syphilis or traumatism, either of which at first produces epileptiform convulsions only; to alcoholism; to ptomain poison, and rarely to some chemical poison, like lead, which produces the so-called saturnine epilepsy. The accidents incident to maternity may cause epilepsy. The third period, marked by the beginning of senile changes, has fewer epilepsies still; those that do occur being due to arteriosclerosis; to organic heart disease; to intestinal toxemia in favorable subjects, and to traumatism. We should be loth to say that a single convulsion, occurring for the first time in an individual who had reached adult life, was epileptic. It is better not to so stigmatize the patient until the diagnosis can be made beyond doubt.

PATHOGENESIS OF EPILEPSY.

If we should regard epilepsy as a functional instead of an organic disease, it would be better to use the word physiology in place of pathogenesis in speaking of the histologic changes that are thought to occur at the time of a fit. But so far as we now know, both may be admissible. There is some difference of opinion as to the immediate cause of a fit and the manner in which it occurs; but the theory that finds most favor is based on the assumption that convulsions are due to sudden discharges of nerve force in the sensory-motor cells of the brain.

Inhibition is the highest faculty of the human mind, and there are reasons for believing that the sensory or angular cells in the second layer of the brain exercise a power of control over the motor cells in the layer above. When these sensory cells become weakened or destroyed, they lose their power of control and the motor cells explode; that is, they suddenly and violently give off nerve force at irregular intervals. This is true of all the epilepsies, no matter of what form or in what part of the brain they occur. It has also been thought that overproduction of nerve force by the large motor cells, together with molecular instability, causes these periodic discharges or overflows of nervous energy. If we could more closely analyze the condition of inhibitory insufficiency, or the lack of power of self-control found in these sensory cells, we would probably find them structurally incomplete, too small in capacity for the work they have to do, poorly insulated or impaired through other causes, congenital or acquired.

It will not be out of place in this connection to speak of the functional divisions of the nervous system made by Hughlings Jackson into lowest, middle and highest levels—"fit levels" they have been called. The lowest level corresponds practically with Marshall Hall's "spinal system," and includes the gray matter in the spinal cord in its upward prolongation in the brain as far forward as the oculo-motor nucleus. The centers in the cord, like those of the other levels, are sensori-motor; they are automatic in action and control reflex acts that do not rise into consciousness, such as deglutition, respiration, intestinal peristalsis, vasomotor and cardiac action and perhaps highest of all, reflex movements of the pupils. The middle level is more complicated and less easily defined; but broadly speaking it includes the motor area of Ferrier, most of the temporo-sphenoidal lobe, the gyrus fornicatus and the inferior parietal lobe. This level is also sensori-motor in character. The centers of the highest level include the anterior or prefrontal lobe and the posterior or occipital lobe, embracing the organs of the mind.

While these divisions are more or less anatomically distinct, functionally they bear the most intimate relationship one with the other and especially is this true of the two highest levels, located wholly within the brain. Fits that originate in one level and that are at first distinctive of that level, inasmuch as they indicate the function and kind of nervous tissue involved, almost invariably spread so as to more or less affect all the levels and it is a question as to how far we should go in a study of epilepsy based on these rather artificial divisions of the cerebro-spinal nervous system.

PATHOLOGY.

As yet the pathology of epilepsy is wrapped in considerable obscurity. Being a disease that affects the brain, we must examine that organ for whatever pathologic changes our present methods of investigation enable us to detect.

Marinesco and Serieux claim to have noted three specific lesions after paroxysmal discharges in uncomplicated epilepsy, as follows: 1, a partial disappearance of the tangential fibers of the cortex, the "neurons of association," so-called, and similar to lesions described in cases of general paralysis; 2, an infiltration of nerve cells by leucocytes; 3, the disappearance of the fine granules in the protoplasm of the cell substance of the cortical nerve cells. The latter are probably due to bio-chemical changes dependent on nutritive processes.

In epileptic insanity Bevan Lewis has noted changes in the cortical cells of the second layer. This change begins in the nuclei, which have a bright, refractive, spherical body of a fatty nature in the center, and which spreads until it occupies the whole cell, the cell protoplasm itself eventually showing signs of degeneration and breaking down completely.

Physiologically, it is known that the cell nucleus plays an important part in the functional activity of the cell and that its absence or impairment is a constant accompaniment of brain disturbances indicated by loss of control. The small pyramidal cells of the second layer are assumed to be mostly sensory in function and to be closely connected with the deeper cells, which are probably less sensory. It is also assumed that the cells of the upper layer exercise an inhibitory control over those of the deeper layer and, when this control is destroyed or impaired through disease, the discharge of the latter will be subject to changes in nutritive rhythm. This view, however, is substantially differed from by Gowers and Jackson. The former seems to consider epilepsy to be essentially a disease of the inhibitory fibers. He regards the tangential fibers of the gray matter, the neurons of association, to be more at fault than the cells themselves.

Still another view of the essential lesion is held by Hughlings Jackson, who believes that the presence of

epilepsy may be explained on the basis of increased nutrition, which in turn causes exaltation of function, issuing periodically in strong discharges. Primarily, Jackson thinks the fault is an arterial or venous one and only secondarily nervous and then due to vascular changes. He seems to imply that the true pathologic cause is to be sought in nutritive disturbances probably caused by a change in the circulation due to the occlusion of a vessel in the arterio-cortical area, which is capable of giving rise to a discharging lesion.

When death is due to status epilepticus, there is an intense congestion of all the viscera, and especially of the brain. Macroscopically, the veins and sinuses are deeply engorged, meninges injected, the white substance of the brain filled with punctiform hemorrhages and the gray matter darker or slightly pinkish in color. We are unable, however, at this time to say how far these grosser pathologic conditions may be the result instead of the cause of epilepsy.

THE COURSE AND PROGNOSIS.

Epilepsy tends to shorten life. Any epileptic may die suddenly at any time. I am of the opinion that more epileptics die as the result of a single fit than is generally supposed. When death comes suddenly, it is due to asphyxia, caused by the severe and prolonged contractions of the muscles about the throat and chest.

The gravest danger to which epileptics are exposed is the condition we term status epilepticus, which is likely to develop in any form of epilepsy at any time, and it is the cause of death in about 25 per cent. of all fatal cases. Epileptics are also especially prone to diseases of the heart and lungs. In 95 deaths at the Craig Colony, occurring in 6 years, 24 per cent. of them were from pulmonary tuberculosis, 10 per cent. from organic diseases of the heart and 8 per cent. from pneumonia.

Under proper treatment, that is, under conditions that enable us to absolutely control all the habits of the patient, from 8 per cent. to 10 per cent., if taken in time and treated long enough, may be made to recover.

The most discouraging symptom in the course of the disease is seen when it affects the mind and those most apt to suffer in this way inherited the epilepsy or a strong predisposition to it. The forms of mental impairment are numerous and include feeblemindedness, imbecility, idiocy and various forms of insanity, some of them stable and some not. Most epileptics who become permanently insane have epileptic dementia. Delusional insanity in epilepsy is rare, but some form of mental impairment may be looked for in fully 90 per cent. of all cases in which the disease has existed some years.

In Jacksonian epilepsy, where the convulsions are mostly confined to the motor portions of the brain, the individual may live to old age and have a fairly good mind to the end.

THE EPILEPTIC AURA.

The word "aura" signifies "breath," and it is defined as a "sensation like a gentle current of air rising from the limbs or body to the head, a frequent forerunner of an epileptic attack." It is also applied to "any slight symptom preceding an attack of any disease or paroxysm"; but it is most commonly applied to the great variety of sensations that epileptics experience just before a seizure. The aura is really a symptom, a part of the fit and bears the same relationship to the convulsion that convulsions do to the disease, for the convulsion is not the disease, but a symptom only.

We may give the most common forms of aura, regional classifications, according to their anatomical location in the body. Thus, those from the abdominal and chest cavities are either epigastric, laryngeal or cardiac, the two former being closely associated and probably due to the same cause. The auras of the special senses, including gustatory, meaning a peculiar taste in the mouth; auditory, a buzzing or ringing in the ears; visual, including flashes of light or of various colors passing in succession before the eyes; olfactory, the smelling of unusual odors; cephalic, such as giddiness and headaches; and psychic, including disturbances of the emotions, dreamy states, etc. You will meet with many anomalies in these forms and occasionally see others of a rare nature. The epigastric aura is the most common of all, ocurring in about 20 per cent. of all cases, and is due, Mercière thinks, to the fact that in primordial life the stomach and epigastrium was the earliest and most important seat of pain and pleasure.

A close study of the auras is important, for they probably indicate the seat of the irritative lesion that produces the convulsion, or the seat in the brain of the primary discharge of nerve force.

DIAGNOSIS.

In making a diagnosis, you will ordinarily have but little trouble, if you are able to see the patient while in a seizure; without this, errors are always possible.

The convulsions of hysteria closely resemble epilepsy and certain toxic and symptomatic convulsions may be mistaken for epilepsy. Hysterical patients do not bite the tongue nor fall regardless of injury; while they exhibit the most violent muscular contractions, they are yet coördinate, i. e., they throw themselves about, kicking and striking and rolling over and do not have tonic followed by clonic muscular spasms common to epilepsy. Sometimes we find epileptic and hysterical convulsions in the same individual, attacks of one kind alternating with the other.

We found on studying the temperature laws of epilepsy, based on 1000 observations, that a rise of temperature follows about 55 per cent. of all attacks, the temperature going highest, as a rule, after grand mal seizures, in which muscular contractions were greatest; but also going sometimes up to 102 or over, in petit mal and psychic attacks, probably indicating in the latter case the disturbance of the thermal centers in the brain. Bourneville has said that the temperature is augmented after every seizure, but our observations do not agree with those of this distinguished physician. Hysterical convulsions rarely give rise to temperature elevation, and the thermometer may be of value in making a diagnosis between convulsions due to hysteria and those of genuine epilepsy.

TREATMENT.

The treatment of epilepsy demands that the epileptic and his disease be considered as a unit and treated as such. If we neglect one, it must be at the expense of the best interests of the other.

Forms of treatment must vary to meet individual requirements, and to do this we group them under four heads: Medical, surgical, dietetic and moral. The first three may be employed successfully by every physician and so may the fourth, where the patient is so placed as to be under the physician's full control.

The first thing a patient will look for, after coming under your care, will be a reduction in the frequency and severity of his attacks and you can best gratify him in this respect by putting him on some anti-spasmodic. Among these may be mentioned camphor, opium and its

derivatives, valerian and belladonna. The opium-bromid treatment of Fleschig, popular a few years ago, is valuable in some cases. It consists in the administration of opium for six weeks, beginning with one-half to a grain three times a day, increasing up to 10 to 15 grains a day, when it is suddenly stopped and bromid given in doses of 90 to 120 grains a day. Codein may be substituted for opium. Bechterew used the bromids in conjunction with adonis vernalis with gratifying results, finding the latter better than digitalis, which it resembles. Simulo, a South American plant of the hyssop family, has been found useful in certain cases. It is given in the form of the tincture, ʒi to ʒii at a dose.

Bromipin, a brominized oil of sesamum, has lately come into use and is a good substitute for the bromids. It is a heavy oil and in some cases you may find it difficult of digestion. It is best given in the form of an emulsion, which makes it more palatable and which is prepared as follows:

℞. Bromipin ..... 4 oz.
Simple syrup. ..... 4 oz.
Spts. peppermint ..... 4 dr.
Mucilage acacia, enough to make ..... 16 oz.

Of this the dose is one to two or three tablespoonfuls three times a day, an hour or so after meals.

Its advantages are many. It does not produce the disfiguring bromic acne and, given in the form of an emulsion, it is nutritious, generally increasing the weight, making it especially valuable in feeble and esthenic cases. It may be used hypodermically in status patients, without producing local abscess like that following the hypodermic use of the bromid salts. One disadvantage of its use at the present time is its cost, being about five times that of the bromids.

If you use the bromid salts, you will get better results by the hypochlorization method, i. e., withdrawing all sodium chlorid from the patient's food and salting it with the bromid of sodium. By this you will greatly enhance the action of the bromid, 10 or 15 grains of the sodium salt given in this way being equal to 30 or 40 given in the ordinary manner.

If you have a case of status to treat, the best formula for stopping the attacks is the following:

℞. Potassium bromid ..... 2 oz.
Chloral hydrate ..... 5 dr.
Morphia sulphate ..... 2 gr.
Tincture opii deodorata ..... 60 m.

Add enough water to make 16 oz. and give the patient one oz. after he has had six attacks in rapid succession. If the first dose is not effective, it may be repeated in two hours.

The epilepsies due to self-intoxication call for special treatment and it is important that we regulate the diet of such patients as promptly as possible, for the intoxication comes from putrefactive changes in the alimentary canal. Beta-naphtol or salol in 5 gr. doses are useful in overcoming conditions of intestinal toxemia. In some cases the thyroid extract can be used to advantage, and the best results from its use have come from cases in which there were evidences of arrested mental development. I have seen marked improvement follow its use in the higher grades of idiocy.

The dietetic treatment of epilepsy is no less important than its medical. We can not specify in this brief paper all the food articles prohibited or allowed, no more than we can mention all the drugs that are of value, and it must suffice to say that all rich foods, such as pies, pastry, cake, things fried in grease or highly seasoned, as well as pork, veal and cabbage, should be proscribed, the dietetic principle being that the epileptic should live on the lightest and most nutritious foods obtainable, including milk, eggs, cereals thoroughly cooked, and fruits. Of meats he should eat sparingly, then take beef, lamb, chicken, fish or game, and then only at noon. The evening meal should always be light.

As to the benefits of surgical intervention, our experience does not enable us to take a very hopeful view. In a study of over forty cases that were trephined, four of which were done at the Colony by Dr. E. A. Sharp, second assistant physician, there was no permanent benefit in any case. Some went for several months after the operation without a seizure; but in every case they eventually came back. The chief fault we have to find with such operations, when done for injuries to the brain, is that they are delayed too long after the receipt of the injury. In the meantime, the epileptic habit has become firmly established. If the injury is recent and clearly causes the convulsion, we should operate. If it is old and we are in doubt as to the advantages of an operation, it may be well to operate in some cases any way, both for the temporary benefit the patient may enjoy and for the gratification it will give the patient and his friends. But before doing the operation, make every possible effort to exclude heredity as a cause of the disease and be sure that convulsions did not exist before the infliction of the injury.

The moral treatment of the epileptic is urged because he is so often the victim of a vitiated stamina, acquired as a heritage, which makes him need a power other than his own to help him overcome his unfortunate condition.

Because of his disease he is exiled from society; denied the acquisition of trades, when his affliction comes in youth; and is kept from the public schools; the use and enjoyment of all of which, for most epileptics and to some degree, is essential for his welfare. Since his malady denies him the right to make use of all these things, and since, as such things ordinarily exist, they are not in the best form for his use, special institutions, in the way of colonies properly designed and constructed, should be created for him.

BLACKWATER (HEMOGLOBINURIC) FEVER,

WITH A REPORT OF TWO FATAL CASES OCCURRING IN THE U. S. A. MILITARY HOSPITALS AT MANILA, P. I.*

JOSEPH J. CURRY, M.D.

Captain and Assistant-Surgeon, U. S. Vols.; Member of the Board of United States Army Medical Officers Appointed to Investigate the Diseases of the Philippine Islands.

[From the Army Pathological Laboratory, Manila, P. I.]

CASE 1.—Charles E. B., private, H Company, 12th U. S. Infantry; age, 27; service, 3½ years; born in Pennsylvania; admitted to First Reserve Hospital, Manila, P. I., 5 p. m., Nov. 9, 1901.

History: Arrived in Philippine Islands with troops March, 1899; was in good health at this time and remained so until January, 1901, when he had chills and fever of moderate severity, which were controlled by quinin. He has had no chills or fever for some months.

Present Illness: This man was performing duty up to within two days of admission to the First Reserve Hospital. He came from Tarlac, Luzon, November 9 (the day of admission to hospital) to await transportation to the United States, time of service drawing to a close. The corporal who brought him to the hospital states that patient was slightly jaundiced at time of leaving Tarlac. Jaundice increased on way to Manila; he passed "bloody" urine twice on way to hospital. Further history obtained through Asst.-Surgeon Mc-

* Paper read before the Army Medical Lyceum, Dec. 3, 1901, at Manila, P. I.

Andrews: patient had chill at Tarlac, November 7 (two days before admission). I saw the case one hour after he arrived in the hospital, 6 p. m., November 9, through the courtesy of Dr. Beal, Asst.-Surgeon, U. S. A.

The man was markedly jaundiced at this time, the scleræ of a deep yellow color and skin of the same hue. He was conscious.

Patient, nervous, with anxious expression, stated that he had had no chill or fever, save that two days ago, for a number of months, and that he had been "doing duty" up to the day before leaving Tarlac. He started for Manila, not to go into hospital, but to await transportation to the United States. After getting on train (Tarlac is about 60 miles from Manila, on Manila and Dagupan R.R.), he felt worse, and on journey passed "bloody" urine twice. He had taken 24 grs. of quinin sulphate in capsules since chill (two days ago). He describes his urine as dark red-brown. He states that he passed bloody urine after chill before he took quinin. Temperature at time I saw him, 6 p. m., November 9, was 101.5. Fresh blood examination made in ward at this time was negative for malarial parasites; there was, however, considerable of a leucytosis, as shown by the presence of one or more leucocytes in each microscopic field (1/12 obj., No. 1 oc.) He had not passed much urine. Dried blood films were made; these stained by eosin and methylene blue. A careful search was made for malarial parasites in the stained specimens, but none were found.

November 10: Patient spent a bad night; did not sleep; vomited frequently clear, greenish fluid; bowels moved three times; stools loose and contained much blood; there was a constant dripping of bloody urine from urethra during night; he was catheterized at 11 p. m. and 4 c.c. dark, chocolate-red urine withdrawn (which was sent to Army Pathological Laboratory for examination).

On the evening of the 9th, shortly after admission, he was given a 1/30 gr. strych. sulphate subcutan., and quinin hydrochlor., 0.65 gm. subcutan. every hour for 4 doses (i. e., 2.60 gms., 40 grs., of quinin given subcutan. the night of admission). He remained delirious the greater part of the time until death. His temperature at 10 a. m. was 99.4; pulse, 104; respiration, 20; at 4 p. m., 101.5, 120 and 26 respectively. Pulse was very weak at 3 p. m., and patient had convulsion. Nitroglycerin subcutan. and strych. sulph. given subcutan. with slight effect. Patient had another convulsion at 5:30 p. m., and died at 6 p. m.

Urine examination: Quantity about 4 c.c.; reaction slightly acid; color dark smoky; albumin approx. .25 per cent. by weight; sediment considerable in amount, brownish in color and microscopically is made up chiefly of a brownish granular detritus; there were many brown granular casts and an occasional red blood cell. Test for hemoglobin positive, hematin crystals obtained.

Autopsy Record.—Body that of a man apparently between 25 and 30 years of age, well developed and well nourished; rigor mortis marked; marked general icterus; subcutaneous fat normal in amount, and icteric.

Few pleuritic adhesions, both lungs adhering to costal pleuræ; right lung shows some edema throughout, left only slightly so.

Heart, weight, 345 gms.; muscle pale and flabby; valves and cavities normal.

Liver, weight, 1880 gms.; slightly enlarged, pale, swollen and brownish-yellow in color; on section blood vessels engorged; no pigmentation of organ.

Spleen, weight, 450 gms.; markedly enlarged; soft, dark chocolate in color, pulp much increased.

Kidneys, weight, combined, 330 gms.; dark-red in color; on section cortex is swollen and markings of kidney obscured by intense congestion.

Bladder was empty; apparently normal.

Blood of spleen and liver negative for malarial parasites. Cultures negative, save for colon bacillus, after 4½ days.

Anatomical Diagnosis: Direct and immediate cause of death acute nephritis; hemoglobinuria; acute hepatitis; general icterus; acute splenic tumor. Indirect and determining cause undetermined.

Case 2.—Charles T., civilian, had served as a private in A Company, 24th Infantry, up to August, when he was discharged, term of enlistment having expired. Up to recent'y he was employed as teamster, Q. M. D. (Admitted to Hospital 3, November 7.)

Past History: He has been in the Philippine Islands since arrival with 24th Infantry, in June, 1899. He had (malarial) fever in northern Luzon, November, 1900. No chills or fever since then, up to day before admission, when he had slight chill, followed by fever and profuse sweating; vomited frequently and had severe pains in right side, hip and shoulder. After chill passed dark "blackberry" colored urine. He came in with temperature of 98.8. Soon after admission vomited considerable greenish, bile-stained fluid.

November 7: Blood examination for malaria was negative. Urine examination gave sp. gr. 1.015; red-brown color; acid.

Blood count showed: red cells, 1,900,000; white cells, 22,000. Urine: sp. gr. 1007; color, smoky; albumin, trace; sugar, negative; acid, reaction; microscopic examination shows specimen to be filled with a brownish granular detritus; there were many brown granular casts and an occasional decolorized red-blood corpuscle.

November 11: Urine, sp. gr. 1011; smoky; albumin, .5 per cent.; sugar, negative; sediment, practically same as last sample, an occasional blood cell, much brown granular detritus and moderate number of brown, granular casts; test of urine for hemoglobin positive. Examination for malaria repeated every day (no quinin given) was negative for parasites in both fresh and stained specimens.

November 11, treatment had been directed toward producing diaphoresis and flow of urine; hot packs; saline catharties and stimulation by nitroglycerin. Patient passed but little urine, and this of a smoky to dark chocolate color. Patient died at 11:40 a. m. Clinical diagnosis: Acute parenchymatous nephritis; uremia.

Autopsy Record.—Autopsy 3½ hours after death, by Capt. J. J. Curry, asst.-surgeon, U. S. V.

General appearance: Body that of a colored man, apparently 27 years of age, medium height, well nourished; conjunctivæ and mucous membranes moderately jaundiced.

Lungs bound to costal pleuræ by easily broken adhesions; otherwise, apparently normal. Heart is normal in size, muscle pale and flabby, valves and cavities normal.

Liver is much enlarged, pale-yellow in color; on section pale, yellowish and cloudy; capsule covered with a thin, fibrous exudate. Gall-bladder moderately distended with a viscid, dark-brown bile. No pigmentation of liver. Spleen is moderately enlarged; firm; no pigmentation. Kidneys are enlarged, firm and of a yellowish tint; contain numerous, punctate subcapsular hemorrhages; on section substance is acutely congested and contains numerous hemorrhagic infarcts. Appearance like subacute kidney on which acute process is implanted.

Stomach is normal; contains a small amount of yellow, bile-stained mucus.

Intestines are apparently normal.

Postmortem Microscopic Findings: Blood and pulp from spleen and kidneys negative for malarial parasite. Cultures negative; no growth after 4½ days.

Anatomical Diagnosis: Direct and immediate cause of death, hemoglobinuria; acute nephritis; acute hepatitis; general icterus; acute splenic tumor. Indirect and determining cause undetermined.

Hemoglobinuric, or blackwater fever, was first described by French naval surgeons stationed off the northwest coast of Madagascar (Manson). These names are applied to a fever, generally spoken of as non-contagious, which is characterized by the presence of hemoglobin in the urine, and by a marked jaundice. This same condition has also been reported under the names, "bilious remittent fever" and "West African fever." Many investigators in the field of tropical medicine regard it

to be of malarial origin. Koch and others, however, believe that blackwater fever arises from other cause or causes than malaria.

These terms, blackwater fever, hemoglobinuric fever, etc., describe but one symptom, which symptom may occur in a number of conditions. Therefore it is not to be wondered at that such a wide difference of opinion should exist among investigators. Blood pigment in the urine occurs not only in the course of malarial fever, but it may also occur in a number of septic, or toxic fevers. It occurs in rheumatic, typhoid and typhus fevers, and in scarlet fever; also, in yellow fever, and in poisoning by phosphorus and some other chemicals.

It is well to bear in mind all this as well as the fact that, in the tropics there has, up to very recently, been but little scientific or accurate work done in study on the etiology of disease.

The word "malaria," too, has been much abused in the tropics, as it has been elsewhere. While the malarial fevers are very common in the tropics—one of the two most common diseases (dysentery the second in frequency) occurring in the Philippines as shown by sick report—still there are many other diseases of frequent occurrence. We meet here a large proportion of the various diseases found in temperate zones, and in addition there are many unrecognized and imperfectly described conditions.

There is a tendency among many tropical disease authorities to make "malaria" responsible for the great lion's share of all ailments. It is undoubtedly responsible for the majority of ailments in many tropical districts, but this does not apply by any means to all the tropics. It certainly does not apply to the Philippine Islands.

In certain districts of these islands there exists the most virulent type of tropical malarial fever, but this is not the rule. The type here is generally comparatively mild, and yields readily to treatment. I believe the same holds true of many other tropical countries.

In explanation of the above remarks I wish to repeat what I have said before: that while I realize that malarial fever is a very important factor in the production of a large and serious sick report, in these islands as well as in other tropical countries, still I think that, as a rule, its importance is magnified at the expense of other very important and serious conditions. Malaria has been for years a refuge, a cloak for our ignorance. Even the best are prone to fall back on "malaria," especially here in the tropics. Truly, "malaria" covers a multitude of sins.

I have found many cases, diagnosed malarial fever here, to have tubercle bacilli in their sputum, and I have also many times found at autopsy in such cases pulmonary or general tuberculosis. We are especially liable to be too easily satisfied with the diagnosis of malaria, forgetting that many other conditions found here simulate, especially in the chronic type, the malarial fevers. Then, too, even when undoubted malarial fever exists, it is very frequently only the minor factor in producing the symptoms in the sick man.

Malarial fevers are prone to occur in men sick from other diseases, especially in diseases running a subacute or chronic course. Thus in the course of dysentery and of tuberculosis it is common. It occurs frequently in the convalescence from typhoid fever, and in the subacute or convalescent stage of Malta fever.

I have seen often men coming into the First Reserve Military Hospital (Manila, P. I.) from all parts of the islands with diagnosis of "malaria," who had typhoid fever or dysentery and a number with acute tuberculosis. In only 9 cases out of 255 which came to autopsy at that hospital was malarial fever the primary cause of death, and in but 8 others were there evidence of chronic or recent malarial fever (pigmented organs or parasites in splenic pulp). In the same series, 10 deaths were due to pulmonary tuberculosis, 40 to typhoid fever and 98 to dysentery.

We hear but little of tuberculosis in the tropics, while it is one of the most important and fatal diseases here, ranking next, and close in fatality to dysentery, among the natives, and standing high up among the list of fatal diseases among the Americans and others of the white race. During the last 11 months we have found at the Army Laboratory, in the sputum of officers and men, tubercle bacilli in 43 cases out of a total of 237 cases examined. Most of these cases were thought to have malaria in the beginning. Tuberculosis is commonly diagnosed calentura by the native doctors, and almost as frequently "malaria" by his white confrère.

Geographical Distribution.—Blackwater fever is practically confined to the tropics and subtropics, though it does occur occasionally farther north, cases having been reported in Georgia and other Southern U. S. States. This fever is very common in equatorial Africa, especially on the west coast where it is well known under the name of West African Fever. Copeman mentions that on the Gold Coast (West Africa) no less than 38 per cent. of the Europeans residing in certain settlements are annually attacked with this fever. Blackwater fever also occurs in Java, New Guinea and in districts in some of the South American countries. Marchiafava and Bignami mention that it occurs in Sicily and Sardinia.

Manson reports this fever to have been observed in southern China, in parts of the Eastern Peninsula and in the Malay Archipelago; also in India. It is strange that until recently the writers on Indian diseases have never mentioned it. Manson thinks that possibly this disease is of recent introduction into India. He says: "It is difficult to believe that it could have escaped the attention of these capable and acute observers.

In general its geographical distribution corresponds with the distribution of estivo-autumnal malaria, whether in the tropics or temperate zones. Marchiafava and Bignami are responsible for the statement that it is very rare in the Roman Campagna, where estivo-autumnal fever is common.

Etiology.—Hemoglobinuria, as mentioned above, occurs in the course of a number of toxic and septic infections, and after poisoning by certain chemicals, as well as in malarial fevers. Marchiafava divides these hemoglobinurias into several groups. He says: "Given the imperfection of our present knowledge we are obliged to divide the hemoglobinurias occurring in malarial subjects into several groups, and as the criterion for such distinction, we take in the first place the action of quinin, and in the second place the presence or absence of the malarial parasites in the blood. In the first group he places those cases in which quinin appears to be the exciting agent of the attack—quinin hemoglobinuria. In the second group he places all cases which occur without our being able to ascribe the attack to the toxic action of quinin, and in whom active malarial parasites are present, or where the malarial fever has run its course. This class he calls "malarial hemoglobinuria." Marchiafava and Bignami say little of the hemoglobinurias other than

those of malarial origin. They point to the frequency of the occurrence of attacks of hemoglobinuria in connection with the malarial fevers, and they believe there is an intimate relation between hemoglobinuria and the estivo-autumnal infection. Marchiafava and Bignami, as well as many other investigators, fail to explain the large class of hemoglobinurias which occur without any evidence of the malarial infection. They use frequently the indefinite term "malarial influence."

There have been reported during the past few years, by competent observers in Africa and elsewhere, a number of cases of blackwater fever in which there was no evidence of a malarial infection as the cause. We have in our two cases evidence that blackwater fever does occur without any evidence (either during life or at postmortem) of a malarial infection.

Symptoms.—The attack of hemoglobinuria comes on suddenly without any characteristic prodromata. Generally the attack begins with a marked chill which is accompanied by more or less vomiting of green bile, the vomiting being usually severe. Following the chill in a very short time the patient voids dark smoky, or blood-colored urine. Coincidently, or within a few hours, he becomes jaundiced, the icterus in grave cases becoming rapidly more and more marked. The degree of the icterus indicates, as a rule, the gravity of the attack. In mild cases the icterus may be slight. The attack lasts from 4 to 6 days; it may be shorter (24 hours or less), and occasionally it is prolonged beyond six days.

Physical Examination.—In severe cases there is marked physical depression, headache and either somnolence or delirium. Abdominal symptoms present are, tenderness on pressure in the epigastric, hypochondriac and lumbar regions, and often marked tympanites. The liver is appreciably enlarged, also the spleen. The temperature rises, as a rule, rapidly to 103, or over; exceptionally the fever does not go over 100.8. The fever then continues with irregular remissions to the end.

Termination.—The prolonged cases are usually grave, but exceptionally there is spontaneous recovery. Death may occur during the attack, with symptoms of cardiac paralysis. In other cases the patient falls into a coma, the urine decreases progressively in amount, and death follows a period of anuria. According to F. Plehn, thrombosis of the heart is the cause of death in the greater number of cases. Death is due in a large percentage of cases to acute nephritis and uremia.

Urine.—In the urine we find the characteristic data, from which the disease is named. In mild cases the urine is not diminished in amount, and may even be increased. In severe cases, however, the patient passes with considerable pain and tenesmus a small quantity of urine, 50 to 100 c.c., or even less, in 24 hours. Sometimes after a few hours of onset the renal function ceases entirely. The color of the urine varies from claret-red to almost black. Reaction is generally acid. Albumin is present in varying quantities, generally considerable in amount, from 0.25 to 0.5 per cent. by weight or more.

Spectroscopically, the bands of methemoglobin or of oxyhemoglobin are found. Marchiafava and Bignami report the occurrence of the methemoglobin in the greater percentage of cases. The sediment is usually considerable in amount, varying in color from claret-red to dark-brown. Microscopically it is made up in the greater part of a brownish or reddish yellow, granular detritus. There occurs an occasional changed red blood cell. There are but few red blood cells present and these may be entirely absent. In addition to the mass of brownish granular material there are hyaline and granular casts, usually stained brown, renal cells, swollen and degenerated, and leucocytes.

In cases which recover, the albumin, in small amounts, persists for some days after the urine has cleared. In mild cases the hemoglobin may almost if not entirely disappear in a few hours after the beginning of the attack, and the urine resume its normal appearance.

Treatment.—Quinin has been given in hemoglobinuric fever on the supposition that the hemoglobinuria and fever are due to the action of the malarial parasites. Some writers, as Stendal, Kucher and others, advocate the treatment of this condition with large doses of quinin; others, among them Tomaselli, the Plehn brothers and Koch, attribute the fatal issue or the grave course in many hemoglobinuric attacks to the obstinacy of physicians in the tropics in giving quinin (Marchiafava and Bignami). These latter writers hold that the conduct of physicians in the matter of the administration of quinin should be regulated by the result of the blood examination. They say: "In cases where active malarial parasites are present in the blood during the attack, and where the hemoglobinuria comes after a succession of malarial attacks, then quinin should be given." These writers state further that "hemoglobinurias without quinin are much milder than those treated with quinin." Manson regards quinin, in this condition (blackwater fever), as comparatively useless in all cases, and that it exerts no effect in cutting short the duration of the attack. Plehn, who has had an extensive experience with blackwater fever in the Cameroons, believes that quinin in this condition tends to aggravate the hemolysis. He deprecates altogether the use of quinin during a hemoglobinuric attack. He suspends the administration of the drug during the attack, resuming it subsequently after the attack has subsided. Plehn's results are far more favorable than are those of the physicians who give heroic doses of quinin.

The treatment of hemoglobinuric fever (aside from quinin), resolves itself into the treatment of symptoms. In severe cases where vomiting is persistent, resort may be had to nutrient enemata, and to intravenous injections of normal salt solution. In uremic cases, administer diaphoretics, chloral hydrate, etc. Often cracked ice and small amounts of brandy or champagne will be retained when it is impossible to give anything else by mouth. Inhalations of chloroform are advised by Marchiafava, and some French writers, where there is agitation with cyanosis and dyspnea. Stimulants, inhalations of oxygen and the administration of opium and chloral hydrate are recommended by various writers for the same symptoms. Among other drugs advocated by various men are ergotin, methylene blue, tannic acid, sodium salicylate and arsenic.

Manson suggests if the malarial parasites are present in the blood the use of moderate doses of quinin hypodermically (5 grs. every 3 or 4 hours), preceded by a large dose of calomel. When the urine becomes much diminished in amount and tends to be suppressed, diuretics must not be given, with the idea of stimulating the kidneys, but hot fomentations to loins and plenty of bland diluents administered, and the patient put on a strict milk diet, which should be continued until all albumin has disappeared from the urine. He regards these as the only rational and safe methods of treating blackwater fever. He further states that antipyretics, as antipyrin and phenacetin, are dangerous.

Koch, as well as Plehn and others, believe that quinin is positively harmful in hemoglobinuric fever, and advises strongly against its use. Plehn, Marchiafava and Bignami, and other observers, state that the hemoglobinuric paroxysm often subsides spontaneously without treatment.

Résumé.—We have in our two cases the classic picture of blackwater fever as described by various writers. In both cases there was the history of previous attacks of fever with chills. Each case began suddenly, without any prodromata, with a chill followed closely with hemoglobinuria and marked icterus. We have the characteristic symptoms and the characteristic urine.

Case 1 had "chills and fever" ten months previously; he had been in these islands two years and seven months when his attack of hemoglobinuria came on. Case 2 arrived in the Philippines two years and three months ago. He had "chills and fever" one year ago.

The question is, whether the previous attacks of chills and fever in these cases were attacks of malarial fever. In the last attack (i. e., the chill and fever accompanying the hemoglobinuria), in each case we have no evidence, either during life or at postmortem, that the malarial parasites were responsible. During life repeated blood examinations were negative, and at postmortem the evidence was negative, i. e., there was neither pigmentation of organs, nor parasites in cover slips from spleen, liver and kidneys.

It might be said by some that the chills and fever in our cases, as well as the hemoglobinuria, were due to the malarial "poison"; that these are cases of "post-malarial" hemoglobinuria. This is a very unsatisfactory explanation.

In many tropical districts three-fourths of the white residents would have had malarial fever at some time during a two or more years' stay. How would it sound to call a dysentery in such individual a post-malarial diarrhea, or to call a typhoid diarrhea by the same name? Where malarial fever is so common as in the tropics, nearly all other diseases could, in a sense, be called post-malarial.

It may be possible that malarial fever does leave a poison, or to speak more clearly, may alter conditions in the body and body fluids which predisposes to, or at times brings on an attack of blackwater fever.

But if blackwater fever is a malarial or post-malarial affection, why is it that only in a very small percentage of cases of estivo-autumnal malarial fever does it occur? In the autumn of 1898, while on duty at the General Hospital at Fort Meyer, Va., I observed some 300 men of the 5th Army Corps, returned from Santiago. Many of these men had estivo-autumnal malarial fever, among them many very severe cases, but no case of blackwater fever occurred. In the Philippines the writer has seen many cases of estivo-autumnal fever among the patients in the military hospitals, and never met with a case of blackwater fever before.

Many hemoglobinurias without doubt occur during malarial paroxysms, and the malarial parasites of the estivo-autumnal type seem to be the exciting cause in such cases, but there is a large class of hemoglobinurias, of which our two cases are types, occurring in the tropics which appear to have no relation to malarial fever.

To Major R. H. Zauner, Surgeon U. S. Volunteers, I am indebted for the report of a case of hemoglobinuria following on an attack of dengue: This patient, a soldier on duty in northern Luzon, had a typical attack of dengue, with rash and all the characteristic symptoms. He was in the hospital for about ten days, during which time blood examinations were negative for malarial parasites. The man returned to duty in ten days. He performed duty for three days, when he returned to the hospital with moderate icterus and passing dark-red, smoky urine. No parasites were found in the blood at this time. He was given small doses of quinin and got well after a moderately severe attack. Some weeks later malarial parasites (estivo-autumnal) were found in his blood. Quinin was given in moderate dosage and the patient made a good recovery from his malarial attack, without hemoglobinuria or other noteworthy symptoms.

This case may have been a malarial hemoglobinuria. The parasites may have been present in, or before the hemoglobinuric attack, in small numbers in the peripheral circulation and have escaped detection. If so it is curious why hemoglobinuria should have accompanied the first attack and not the second, which was undoubtedly malarial and which followed the first in the course of a few weeks.

The etiology of blackwater fever is certainly obscure. We know that this fever originates most commonly, if not always in "malarious" districts, where the estivo-autumnal type is common.

On the other hand in many similar districts blackwater fever is unknown. Then again, it may occur during the course of one malarial attack in an individual, and be absent in preceding and subsequent malarial attacks in the same individual. The evidence is very strong that some other factor or influence besides that of the action of the malarial parasites is necessary to produce blackwater fever.

Diagnosis.—Yellow fever is probably the only disease presenting symptoms similar enough to those of blackwater fever which give any great difficulties in differentiating. The invasion of each disease is marked by somewhat similar symptoms, but after a few hours there is usually not much difficulty in making a correct diagnosis. (This all depends, however, on whether we see the case from the beginning of the disease through to the end. Given a case of either disease several days after commencement, it might be difficult for the time to make a diagnosis.) As noted above, in hemoglobinuric fever the icterus and hemoglobinuria comes on practically coincidentally, in a very short time following the initial chill.

Albuminuria always accompanies the hemoglobinuria, consequently albuminuria is one of the earliest symptoms. It appears on the first day, at the very start of the disease.

In yellow fever, on the contrary, albuminuria does not occur usually until the third day (from the second to the fourth day). The jaundice of yellow fever is not intense at the beginning, and increases as a rule gradually, especially with the secondary rise of temperature. While hematuria, and even hemoglobinuria may occur in the course of yellow fever, still this is not so very common, especially the latter, and if it does occur it is one of the later manifestations.

In yellow fever we have a most characteristic symptom described by Faget of New Orleans (Osler): "The slowing of the pulse with a steady or even a rising temperature."

The liver and spleen in blackwater fever are appreciably enlarged, while in yellow fever there is usually no noticeable enlargement of these organs. The vomit in blackwater fever consists of a greenish, bile-stained mucus, which appears early in the attack, instead of the

"coffee-ground" vomit of yellow fever. Then, too, hemoglobinuric fever is endemic and not epidemic.

It can readily been seen that under some circumstances, for instance in the field where examinations of the blood and urine can not be made, that for a time at least it might be difficult to make a diagnosis. Still, even here after a few days the difficulty would be cleared away.

Of course, the finding of active malarial parasites in the blood during the paroxysma would at once show that the attack was one of malarial hemoglobinuria.

Pathologically, postmortem, in yellow fever we have an intense fatty degeneration of the liver, and the mucous membrane of the stomach is markedly injected and contains usually blackish, changed blood. The liver in yellow fever is pale in color and friable; the spleen is soft but not much enlarged, whereas in blackwater fever there is marked enlargement of spleen and liver, and these organs are usually hyperemic.

In one of our cases, however, the liver was pale-yellow in color, not much enlarged and gave the same appearance, both macroscopically and microscopically, as yellow fever.

It is worthy of special note that the Stegomyia fasciata, the mosquito shown by Major-Surgeon Reed, Act. Asst. Surgeon Carroll, and others, to be the common, if not the only disseminating agent of yellow fever, occurs in large numbers in Manila and vicinity, and in many districts here in the Philippines. The writer has caught many specimens himself in the Army Laboratory, at his quarters on Calle Nozeleda, Manila, and in Hospital No. 3. Many specimens of this mosquito are found in the collections sent in to the laboratory for identification by the army surgeons from posts throughout the islands. Fortunately yellow fever has never been known in the Orient.

It is possible with out fast transports and merchant ships to bring infected mosquitoes or infected men to these islands.

The Stegomyia fasciata, as shown recently by Reed, will not survive longer than five days without water, and even with water under favorable conditions usually dies quickly. It must be born in mind, however, that the mosquito is capable, as shown by Reed's experiments of transmitting the disease 72 days after the insect has bitten a case of yellow fever, and that it takes much less time for steamships to make the voyage (even from New York) to the Philippines.

Treatment of Cases.—Case 1 had taken, according to his own statement, 24 grains of quinin in the course of the two days prior to his entrance into the hospital. At the time of his admission to the First Reserve Hospital, on November 9, he was passing small amounts of "blackberry" colored urine. He was given at once (one and one-half hours after entrance), quinin hydrochlor. grains 10 (.65 gms.) hypodermically. This same dose was repeated three times, at intervals of one hour, so that 40 grains (2.65 gms.) were given in three hours hypodermically. He was perfectly rational before treatment was begun; he was weak and depressed but his mind was clear and he answered all the questions put to him intelligently.

Soon after the first injection of quinin he became delirious. The man remained in this condition until his death, which occurred 25 hours after his entrance to the hospital—a little less than 24 hours after the first dose of quinin was administered. There was practically suppression of urine during this 24 hours; aside from the small amount passed involuntary drippings only 4 c.c. of urine was obtained by catheter.

Case 2 had no quinin before his entrance to the hospital, and none in the hospital. He came in with the same symptoms as Case 1. His scleræ were markedly jaundiced. He passed his urine freely; there was no tendency toward suppression at first. The amount was little less than normal on the first day. The quantity of urine gradually decreased in amount. The man retained his consciousness for the first three days. He died in uremic coma on the fourth day. Autopsy showed that this man had an "old," subacute (chronic diffuse) nephritis, on which an acute process was implanted. From the course of this case it would seem that if it were not for chronic nephritis he might have recovered from the hemoglobinuric attack.

Summary.—Here we have one case of blackwater fever treated vigorously with quinin, and the other symptomatically without quinin. The first case went from bad to worse promptly after the first administration of quinin, the man dying in 24 hours with practically suppression of urine.

Case 2 gave promise to weather the attack, but his damaged kidneys were too much of a handicap to overcome.

Quinin in the first case was distinctly harmful. From this limited experience it would be unwise for us to draw any extreme or sweeping conclusions. Our cases are additional evidence as to the harmful effects of quinin, and go toward confirming the views of such investigators as Plehn, Koch and others.

CONCLUSIONS.

The part played by quinin in such cases is obscure. Whether it acts as a direct irritant on the kidneys, or on the blood itself is not clear.

Quinin acts differently in the same individual in different malarial attacks. Sometimes it apparently produces hemoglobinuria, then, in a subsequent attack, has no such action (Marchiafava). The whole question of blackwater fever needs much more investigation. At present we can only theorize as to its causation.

The relation between hemoglobinuric fever and the malarial fevers is not clear.

Quinin during a hemoglobinuric paroxysm appears to be distinctly harmful.

COMPARATIVE VALUES OF CYCLOPLEGICS.

C. H. BAKER, M.D.

BAY CITY, MICH.

Much that we accept as settled fact in medicine has been received from so-called authorities, and we daily put up with the annoyances and inconveniences of imperfect means or instruments for lack of the time or disposition to seek out better. Since the time of Donders, atropin has been the chief reliance of ophthalmologists as a cycloplegic, but its obvious failure as an ideal substance for this use has led many investigators to look afield for a better.

As a result we now have atropin, homatropin, scopolamin, duboisin, hyoscyamin and hyoscin, contending for the chief place, while cocain, ephedrin, euphthalmin, etc., divide the honors as mydriatics.

An ideal cycloplegic should possess the following characteristics: 1. First of all, it must be safe. 2. It must be sure. 3. Its effects must be of short duration. I am assuming that we are using the drug for refraction pur-

poses only. 4. It must be prompt of action. 5. Its exhibition must consume the least possible time. 6. It must be inexpensive. 7. Its solutions must keep well.

Atropin, discovered in 1833 by Mein, and independently by Geiger and Hesse, was scientifically tested by Donders, and following his lead its use became general. It possesses but three of the qualities of an ideal cycloplegic. It is cheap, keeps fairly well in solution, and is sure. The latter quality is so well marked that it has become the standard for comparison for all its rivals.

It lamentably fails in the matter of safety, for we all know and have seen the bad results which may follow its exhibition, such as local and systemic irritation or symptoms of actual poisoning. We are especially warned of the danger of glaucoma and so marked is the tendency to the latter that we are practically debarred from its use past the age of 45 years. Neither are the effects of short duration, as a single drop of 1 per cent. solution may cause accommodative disability to last fifteen days. It is slow to act, requiring one or two days' use to bring out all latent spasm.

Homatropin, derived from atropin by the action of acids, sprung into sudden popularity because it was said to be safe and its effects passed away so rapidly. Although safer than atropin it is not free from danger. Gifford[1] reports a case of glaucoma with retinal hemorrhage from its use, and quotes a case from Sachs and another from Shears of the same accident.

On the question of surety there seems a great diversity of opinion. Coleman[2] quotes Oliver, Chisholm, Savage, Jackson, Randall, Starkey, Risley, Wood and Ayers as favorable or enthusiastic advocates of its reliability, while Stewart, Holt, Cotton, Risley, Noyes, Webster and Agnew insist equally strongly on its unreliability. One case is known to me personally in which four discs of homatropin and cocain exhibited during two hours left the patient with ability to read No. 1 Snellen. She subsequently showed hyperopia 1.50 D. under the use of hyoscin hydrobromate.

For the matter of ease of exhibition little need be said, as efficient use of solutions requires a drop every five minutes for an hour, which is a severe tax on the time of a busy man.

In an article on "Chemistry of the Atropin Alkaloids," Pinner[3] claims that in the several solonaceæ, atropia, hyoscyamus, datura, mandragora and anisodus, there are two alkaloidal bases, namely hyoscyamin, which by the action of alkalies is converted into atropin or inactive atroscin, and second, hyoscin identical with scopolamin. Duboisin, he says, is a mixture of hyoscin, atropin and unknown alkaloids.

Duboisin, doubtless from its mixed composition and uncertain proportions, has in the hands of several observers proved too violent and erratic to be recommended for use. It also violates the third requirement, short action, as its effects last from four to eight days.

According to Pinner[4] scopolamin is identical with hyoscin. Schmidt and Merck also claim identity. In the few cases I have so far tested the two simultaneously, I have the impression that scopolamin is feebler than hyoscin. I have certainly found it a trifle slower in action, and after the accommodation was suspended by hyoscin in one eye it still showed action in the fellow eye under the same strength of scopolamin.

There is also confusion between hyoscin and hyoscyamin, some writers using the two terms interchangeably. Merck and Schmidt claim identity between them. They are isomers, the only difference chemically being that the double salt of hyoscin and gold is less soluble than the similar salt with hyoscyamin.

An unfortunate prejudice has arisen against hyoscin and hyoscyamin on the ground of dangerous action, due, no doubt, to the use of too strong solutions, but the same might be urged against any drug of their class.

To test the relative action of atropin and hyoscin, instillations were made of 1 per cent. atropin sulphate in one eye and hyoscin hydrobromate .5 per cent. in the other simultaneously. This was done with patients who by skiascopy and subjective tests were found to have eyes approximately alike in refraction and presumably in muscular strength also.

Similar tests were made with hyoscin and scopolamin, but at present the number is too small to have scientific value except as an indication. My conclusions from these cases I have already stated.

A small pointed dropper was used and a single drop, about one-half minim, placed inside the lower lid. When possible the lid was kept on the stretch for a few seconds to allow for local absorption, but quite as often this was not practicable, and I was never able to detect any difference in the result when this was omitted. From fifty cases tested in this way the following observations and averages are drawn:

In children and light-complexioned persons, absorption goes on more rapidly; in adults, especially of darker complexion, more slowly. Mydriasis begins in from six to twelve minutes, an average of nine, for hyoscin, while atropin averaged eight minutes later.

Mydriasis was complete for hyoscin in fifteen to eighteen minutes, for atropin an average of twenty-five. Difficulty in accommodating for hyoscin commenced in fifteen to eighteen minutes, and there was complete cycloplegia in thirty to forty-eight minutes.

Difficult accommodation began under atropin in twenty-nine to thirty-five minutes, and there was complete cycloplegia only at the end of several hours.

Returning accommodation was noticed with hyoscin in six to twelve hours, complete in forty-eight to sixty hours, while with atropin there was seldom lessening of paralysis in less than four to six days, and complete return of accommodation was often delayed fifteen days.

For the sake of convenience in some cases it has been found necessary to drop hyoscin into the eyes in the afternoon and wait until the following morning to refract. In persons with very strong ciliary muscles and in the young, it is common to find slight evidences of accommodative effort when this has been done, rendering a second instillation necessary; otherwise a single drop suffices to secure complete cycloplegia.

The results of the use of hyoscin hydrobromate for the past fifteen years, and for eight or ten almost to the exclusion of atropin, has given me more and more confidence in it. My records show between 2500 and 3000 cases in which it was used for refracting and I have yet to see a serious bad result from its employment.

In children and light-complexioned persons, when actively absorbed, it occasionally produces flushing of the face, dryness of the fauces, a feeling of fulness in the head and some dizziness on attempting to walk, the last due, I believe, to the sudden suspension of accommodation. I formerly used 1 per cent. solution, but now the .5 per cent., with the result that the above symptoms seldom appear. There is neither pain, reddening of conjunctiva, nor congestion of choroid as sometimes follows

1. Ophthalmic Record, July, 1900.
2. Coleman: Annals of Ophthal., January, 1893.
3. Pinner: Centralblatt f. Prakt. Augenh., January, 1898.
4. Pinner: Loc. cit.

some of the other cycloplegics, although some patients with accommodative spasm occasionally have headache until the accommodation is totally suspended. There is rarely some drowsiness manifested also.

I am unable to find any record of cases of glaucoma following its use, and if for any reason it became necessary to use a cycloplegic in an eye liable to glaucoma, I should consider it the safest one to use.

Hyoscin therefore fulfills the first requisite of safety. At first I was accustomed to use atropin in all cases of doubt as to whether hyoscin had brought out as much latent hyperopia as from my other tests I had estimated to exist; also in all patients returning dissatisfied with glasses I had given them, or those having persisting spasm after being refracted; and in fact, in all cases that could possibly be due to incomplete cycloplegia. In no instance could I find any greater variation in the findings than want of mental acuteness in the patient, or possibly too great haste in refracting would account for, the errors favoring each about alike.

In a word, then, I have never found hyoscin to fail in showing every particle of refractive error that could be discovered with any other cycloplegic. Hyoscin, therefore, fulfills the second requirement: It is sure.

Examination of the accompanying table shows that with the possible exception of homatropin, its effects are the shortest in duration; that it is the most prompt in its action; that, as it requires only one drop, its exhibition consumes the least possible time, and for the same reason its use is inexpensive.

Lastly, its solutions have remarkable keeping qualities, as after almost three years one lot contained only a minute amount of vegetation, which was filtered out, and the filtrate used with no difference perceptible in action from that of the fresh solutions. The drug seems, indeed, to inhibit the growth of micro-organisms.

In tests of this nature great accuracy is not possible, such as the exact minute when mydriasis begins, nor indeed, is it necessary to know the particular hour when returning accommodation first shows itself, but when variations in activity are between testing an hour after exhibiting a remedy and waiting a day and a half to do so, or when the question of disability for a busy patient is between two days and a possible fifteen, then such tests possess sufficient accuracy to enable us to select the best out of the candidates for cycloplegic honors, namely hyoscin hydrobromate.

	Atropin sulphate.	Homatropin hydrobromate.	Hyoscin hydrobromate.	Scopolamin hydrobromate.
Average number of instillations.	1	6 to 10	1	1
Average strength	1 per cent.	1 per cent	.5 per cent.	.5 per cent.
Beginning mydriasis . . .	14 to 20 min	15 to 20 min	6 to 12 min.	8 to 12 min.
Complete mydriasis. . .	25 " 35 "	40 "	15 " 18 "	15 " 20 "
Beginning cycloplegia . .	29 " 35 "	30 " 50 "	15 " 20 "	15 " 20 "
Complete cycloplegia. .	36 hrs.	1 " 2 hrs.	30 " 48 "	45 " 60 "
Beginning return of accommodation.	3 " 6 dys.	. . . . .	6 " 12 hrs.	28 " 36 hrs.
Complete return of accommodation.	8 " 15 "	12 to 48 hrs.	48 " 60 "	90 "

Fatal Effects of Chloroform Following Influenza.—William Caldwell draws attention to the importance of obtaining a history of recent influenza before the administration of anesthetics, especially chloroform; there have been many deaths from chloroform administration, especially during influenza epidemics; very suspicious cases have occurred which were clearly explained by the depressed condition of the nervous system and of the heart.—*Dental World.*

THE SURGICAL TREATMENT OF ASCITES DUE TO CIRRHOSIS OF THE LIVER.*

M. L. HARRIS, M.D.
PROFESSOR OF SURGERY, CHICAGO POLICLINIC.
CHICAGO.

The surgical treatment of the ascites of cirrhosis of the liver is based upon the assumption that the ascites is due to an abnormal increase in the blood pressure in the portal radicles, which in turn is produced by the peculiar changes in the liver, causing an obstruction to the passage of the blood of the portal system to that of the general system. The portal system at one time was thought to be a closed circulation, but it has been known now for some time that a number of small anastomoses exist between some of the radicles of the portal system and those of the vena cava which permit a certain amount of the portal blood to reach the general circulation without passing through the liver. Under normal conditions the amount of portal blood thus reaching the vena cava is comparatively small, but in the presence of an obstruction to the flow of blood through the liver these anastomoses become considerably enlarged and the collateral circulation thus materially increased. This collateral circulation is also still further increased by the adhesions which often spontaneously develop between certain of the visceral and parietal surfaces. In this manner the blood pressure in the portal radicles, even in the presence of considerable obstruction to the circulation through the liver, is maintained below the point at which transudation takes place. When the obstruction to the circulation in the liver reaches a certain degree, the collateral circulation is no longer able to maintain an equilibrium in the blood pressure in the portal radicles, and the pressure thus rises to a point at which transudation takes place and ascites develops. This may be called the mechanical theory of the cause of ascites in cirrhosis of the liver. That it is not the only cause will be shown later.

Based upon this mechanical theory and in an endeavor to imitate Nature's method it occurred independently to Talma in Germany, and Morrison and Drummond in England, to increase the collateral circulation, and thus decrease the blood pressure in the portal system, by artificially inducing adhesions between certain of the abdominal viscera, namely, the liver and spleen, and the omentum and the abdominal parietes. Considerable experimentation has been done in this connection, which is of much interest both from a surgical and physiological point of view, and which it would be necessary to consider in an exhaustive treatment of this subject; but owing to the limited time at our disposal it will be necessary to pass over these points and proceed at once to the practical side of the question, and consider what has actually been accomplished thus far by the surgical treatment of this condition.

Let us, then, direct our attention to the clinical results. The first 22 cases have been collected from the literature, and arranged in tabular form by Packard and Le Conte.[1] These cases will not be reproduced here, and the reader is referred to their article for the details of those cases.

Since the appearance of Packard and Le Conte's article I have been able to find in the literature some additional cases, and can add four unpublished cases, two of which were operated on by myself, and one each by my colleagues, Drs. Lee and Oswald, at the Alexian

* Read before the Chicago Medical Society, February, 1902.
1. Am. Journ. of the Med. Sciences, 1901, vol. cxxi, p. 251.

Brothers' Hospital. Brief abstracts of these cases follow. They are not arranged in chronologic order.

Commandini and Salvolini[2] report two cases, the details of which are not at hand. One of the cases died on the fourteenth day, while in the other no improvement followed, as rapid recurrence of the ascites occurred.

Schiassi[3] reports three cases:

CASE 1.—Man, age not given, with pericardial adhesions producing bi-veinous congestion of liver with cirrhosis. Ascites was marked. After operation ascites returned, but gradually disappeared as collateral circulation became established. Ascites had not returned in two years. Amelioration of symptoms considerable.

CASE 2.—Man, aged 23, was affected since age of 13 with "cirrhosis nodulaire infectieuse" accompanied with ascites, which returned after tapping. S. thinks one of the nodules of sclerosis compressed one of the larger ramifications of the portal vein, or perhaps the trunk of the vein itself after entering the liver was the seat of thrombosis. After operation ascites reformed rapidly until from the fifth to the tenth day, when the fluid leaked through the operation wound. Wound, however, cicatrized and the patient increased in weight from 54 to 66 kilograms. Some ascites remained present.

CASE 3.—Female, age not given. Cirrhosis probably of malarial origin with abundant ascites: Result of operation was not so good. S. thinks because omentum was not sutured between peritoneum and muscles, and because cirrhosis was too far advanced. Some amelioration of condition was noticed. Patient able to carry on occupation. Time of observation not stated.

Grissow[4] reports the following:

Female, aged 49. In May, 1899, acute ascites developed. Paracentesis abdominis was performed in June, July, and August 3. August 25, celiotomy. Nothing abnormal was found; no tuberculosis; no carcinomatosis. Abdomen was closed without doing anything. Paracentesis was done again in September, October, and twice in November. Edema of the extremities developed, the urine became scanty and the general condition bad. November 28, abdomen again opened—median incision to peritoneum, which was incised transversely and the omentum drawn through and sutured—wound closed. Peritoneum curetted to favor adhesions to small intestine. Ten days after operation abdomen began to refill, but under diuresis the fluid slowly decreased. Seven weeks after operation when reported patient was still suffering. No diagnosis was made and nothing abnormal could be felt about the liver. Grissow suggested the possibility of thrombosis of the portal vein.

Ssokolow[5] reports a case:

Man, aged 37, had ascites for three years. Cause was not stated. Twelve liters of fluid removed by puncture. Two months later 17½ liters. Four days later celiotomy—omentofixation; one month after operation 10 liters of fluid were removed by puncture. At the end of four months ascites had disappeared. No symptoms on the part of the nervous system

Brown[6] reports the following case:

Man, aged 43, had during past few years increasing symptoms of cirrhosis with ascites; required repeated tapping. General condition was rapidly deteriorating. September 2, 1899, operation was made by Dr. Tuttle; median incision six inches long. Omentum was thickened, contracted and lumpy, and adherent about umbilicus to parietal peritoneum. Veins were enlarged and distended. Round ligament was thickened and hard. Liver was small, hard, hobnailed. Spleen was twice the normal size. Surface of liver, spleen and peritoneum was rubbed vigorously with dry gauze. Omentum was sutured with catgut. Upper wound was closed. Glass drain was passed through small incision lower down into pelvis. Drainage was profuse. After two weeks drainage nearly ceased. On 23d day glass drain was changed for smaller one; on 28th day removed entirely. November 1 both wounds were healed. January 5, 1900, four months after operation, patient felt well.

Scherwinski[7] had the following case:

Woman, aged 38 years, had been sick for nine months. She was not a drinker; father was an alcoholic. Omentofixation. Four months later patient felt well, except weakness continued Nothing was said about ascites, nor about the condition of the liver.

Benissowitsch[8] reports two cases:

CASE 1.—Young woman, aged 22 years, drank for seven years. On account of a diagnosis of tubercular peritonitis she was twice laparotomized without benefit. Liver was enlarged, spleen small. Third operation after Talma. Two months later she was tapped, "whereupon patient felt very well."

CASE 2.—Man, aged 56 years, was drinker for thirty years; tapped twice, then operation after Talma. Patient felt well for eleven days, when heart weakness appeared and in three days more he died; no autopsy.

Jelks[9] reports one case:

Man, aged 56 years, when first seen, Sept. 1, 1900, had abdomen greatly distended with fluid. Treatment was for a few weeks without benefit; tapped and three gallons of fluid withdrawn. Next day, Dec. 20, 1900, operation was made. Incision four inches long midline between umbilicus and ensiform cartilage. Peritoneum was rubbed with gauze for a distance of four inches around incision. Same surface curetted with sharp curette. Surface of liver also was rubbed. Omentum was stitched to parietal peritoneum. Incision was closed without drainage; primary union. No history later than eight days after the operation.

Roberts[10] reports two cases:

CASE 1.—Man, aged 49 years, of temperate habits, had ascites three months standing, with jaundice. Operation was Dec. 4, 1900. Omentum was fixed to parietal peritoneum by four chromic catgut sutures, which passed through the abdominal wall. One month later there was less ascites but more dropsy. Death occurred in six weeks. A nodule taken from the omentum and examined resembled spindle-cell sarcoma.

CASE 2.—Man, aged 54 years, heavy drinker, had ascites for eight months. He was tapped eight times; emaciated and jaundiced; he had edema in both feet. Urine contained albumin and hyaline casts. November 26, 1900, he was tapped—six pints. Eight days later omentofixation was done. Two-inch incision below umbilicus was made, but omentum could not be reached. Second incision was made above umbilicus; omentum was found, pulled down and fixed with two chromic catgut stitches each side of incision, which passed through entire thickness of abdominal wall. He died next day in uremic coma. At autopsy it was found that three of the stitches had pulled out.

McArthur[11] reports one case:

Man, age not stated, had been hard drinker for years, and developed the characteristic hobnailed liver of the alcoholic, and was admitted to hospital Oct. 23, 1900, with abdominal effusion of large amount. He was tapped and 14 quarts of fluid removed. In the course of eight weeks he was tapped three times. Operation was made Dec. 3, 1900. Peritoneum was rubbed with dry gauze. Omentum was stitched to parietal peritoneum with four fine-silk sutures each side of incision. Wound healed without drainage. On the ninth day ascites was so marked that it was thought it would be necessary to tap, but on the tenth day the tension had diminished some, and by the end of three weeks patient had lost eleven inches at the greatest circumference. Peptones were found in patient's urine after operation, which were not there before. Patient dis-

2. Gaz. Deg. Ospedali e delle Clin., Nos. 147 and 150; Ref. Deutsch. Med. Woch., 1901, Lit. Beilage No. 1.
3. La Sem. Med., 1901, No. 19.
4. Deutsch. Med. Woch., 1900, Ver. Beilage, No. 26.
5. West. Chir., 1900, July 1, Ref. Centralb. f. Chir. 1901, No. 2.
6. Med. and Surg. Reports of the Presbyterian Hospital, New York, January, 1900.
7. Ref. Centralb. f. Chir., 1900, No. 35.
8. Wratsch, 1901, Nos. 6 and 7, Ref. Centralb. f. Chir., 1901, p. 792.
9. Med. Record, 1901, p. 454.
10. Phila. Med. Jour., 1901, vol. vii, p. 163.
11. Annals of Surg., 1901, vol. xxxiii, p. 653.

charged from hospital feeling well. (Personal communication, January, 1902: Dr. McA. says patient is still feeling very well and there has been no recurrence of the ascites.)

Ito and Omi[12] report five cases:

Case 1.—Man, aged 26 years, not a drinker, had no syphilis. Six years before, he acquired malaria in Formosa. This persistent and severe case entered hospital June 6, 1900; somewhat jaundiced. Heart and lungs were normal; abdomen was somewhat distended. Upper border of liver at fifth rib in mammillary line, lower border normal. Spleen was considerably enlarged. No ascites was demonstrable. Repeated attacks of fever occurred, but no plasmodia could be found in the blood. In July ascites was present, which increased up to October 8. At operation, liver was found nodular and somewhat hard; spleen was enlarged. Adhesions had formed between the right lobe of the liver and the parietal peritoneum near suspensory ligament, also between omentum and abdominal wall midway between ensiform cartilage and umbilicus. No other changes were found in peritoneum. The surface of the liver and spleen and the opposite-lying peritoneum were rubbed with dry gauze, the parietal peritoneum about the incision scraped with a sharp spoon, and the omentum fixed thereto with sutures. Wound was closed; no drainage. Ascites returned and attacks of fever continued at intervals until Jan. 19, 1901, when he died.

Case 2.—Boy, 13 years old, with no hereditary trouble; had measles and diphtheria in childhood. For three years he had complained of palpitation and dyspnea on exertion, and for a year of a sense of fulness in the epigastric region. Night-sweats and gradual wasting occurred. He entered hospital Oct. 10, 1900, poorly nourished and anemic, with lymph glands of neck enlarged. Heart was normal. Pulmonary expiration prolonged over apex on right side. Liver extended from fifth rib, mammillary line to 1 cm. below costal arch. Spleen could not be felt. No ascites was demonstrable. November 1, operation was done, same as in Case 1. Liver was slightly nodular and felt firm. Spleen was slightly enlarged. Small amount of ascites was present. November 16, he left hospital feeling better. One year later he was feeling well and ascites had not returned.

Case 3.—Man, 53 years of age, had syphilis at 35, and malaria 6 years ago. He was a hard drinker of *sake*, an alcoholic drink made from rice. He entered hospital Nov. 7, 1900, with considerable ascites. Neither liver nor spleen could be felt. He had not been feeling well for about 3 years, but was worse in last few months. November 9 he was tapped and 5700 c.c fluid withdrawn. November 10, operation was done under Schleich's local anesthesia with eucain B. Liver was small, hard and nodular. Spleen was slightly enlarged. Operation was same as in other cases, except a gauze drain was left in the lower part of the incision. Drain was removed next day, as the excessive flow of fluid disturbed patient. He gradually sank and died on the fifth day.

Case 4.—Man, aged 42, acquired syphilis at age of 23 and was badly affected by it; entered hospital Jan. 20, 1901. He was poorly nourished, greatly emaciated, jaundiced; all lymph glands were enlarged. He had marked ascites. He was tapped and 6000 c.c. fluid withdrawn. February 5, operation was made under chloroform. Liver was atrophied, hard, granular. Spleen was enlarged, hyperemic. Operation was similar to previous ones. February 18, there was tapped 4500 c.c. February 27, abdomen again was much enlarged and jaundice increased, with edema of extremities. March 1, there was tapped 5600 c.c. He was tapped seven times up to June 14, and on June 20 died.

Case 5.—Man, aged 53 years, had syphilis at 23. About one year ago began to have edema of extremities, which increased until November; then it disappeared and abdomen became enlarged. From this time on abdomen was tapped twice a month. He entered hospital March 25, 1901. March 29, operation was made under chloroform and ether narcosis. Liver was a little enlarged and contained large, unequal nodules. Whitish scar-like depressions were present between the nodules. Spleen hyperemic with uneven surface. A part of the omentum was adherent to the upper surface of the left lobe of the liver. Operation was same as before. Death occurred on the fourth day, with subnormal temperature.

12. Deutsch. Zeitsch. f. Chir., 1901. Band 62. S. 141.

To these cases from the literature I can add the following two cases by permission of the operators. The operator of Case 1 was Dr. J. W. Oswald, at the Alexian Brothers' Hospital, Chicago.

Case 1.—Charles H., aged 37, married, German and a hard drinker. Venereal history was denied. December, 1900, he had severe cough for some time. In April, 1901, he developed an umbilical hernia. About Oct. 1, 1901, he began to feel weak and feet swelled. He has occasionally passed a little blood at stool. Skin has recently become yellowish.

Conjunctivæ were distinctly yellow. Left pupil was not perfectly round and did not react properly to light. Harsh respiratory sounds and râles were diffusely scattered over back. Heart dulness existed above second interspace. Apex beat was in nipple line in fourth interspace. There was apical systolic murmur. Diffuse heaving pulsations of heart were visible. Veins of chest, abdomen and right leg were enlarged. Tongue was normal. Breath was of sweetish odor. Abdomen was distended. Physical findings of ascites. Liver dulness was not distinct. Umbilical hernia and hernia through left rectus two inches above umbilicus—both were easily reducible. There were external hemorrhoids. Uranalysis was negative. Operation was done Nov. 26, 1901, under ether. Incision five inches in length was made so as to include both herniæ. Hernia sacs were dissected out. Omentum was sutured with catgut to parietal peritoneum, which had been rubbed with sponges and scraped with a curette. Wound was closed without drainage. Primary union took place. December 30, 1901, three gallons of fluid were tapped. After this his strength failed quite rapidly, and he died Jan. 7, 1902.

Autopsy was made Jan. 7, 1902, by Dr. Tower.

Body generally emaciated, abdomen greatly distended. Veins marked on chest and abdomen. Large scar on abdomen from ensiform toward umbilicus. There were no pleural adhesions on the left side; slight pleural adhesions generally on the right side. Lungs were slightly congested. Pericardium and heart were negative; valves normal.

Abdomen was distended with about three gallons of clear, yellow serous fluid. Intestines were very pale. Appendix was negative; extends upward and outward and backward behind head of colon. Epigastric, mammary, mesenteric vessels and vessels in coronary ligament and on the under surface of the diaphragm were very much enlarged. Strong adhesions containing a great many small blood vessels bind the abdominal wall, omentum, diaphragm, liver, stomach, colon (transverse) and spleen in one mass.

Liver is very small, contracted, irregular and has a rough surface. It is covered with a whitish-yellow deposit of fibrous material, which is firm and dense and irregular in thickness, being an eighth of an inch thick in some places. The liver cuts with increased resistance and has on section a brownish-yellow mottled appearance. Both kidneys are greatly enlarged, the left rather more than the right. Capsule strips easily. Cortex is thin. Pyramids are dark. Interpyramidal and pelvic tissue is increased. Section has a dull, grayish color. Spleen is enlarged and covered with a dense, white capsular deposit, similar to that on the liver, being rather thicker, reaching one-quarter of an inch in places. Connective tissue in the spleen is very much increased. The splenic tissue is unusually dark in color.

The operator of Case 2 was Dr. E. H. Lee, at the Alexian Brothers' Hospital, Chicago.

Case 2.—Louis V., age 52, married, Belgian, storekeeper. He entered hospital Sept. 2, 1901. He smokes, and drinks alcoholics freely. He had malaria when young, but no venereal disease. One year ago he noticed swelling of the feet, which extended first up one leg, then the other. Eight months ago abdomen began to enlarge and is now greatly distended. He has recently lost considerably in weight. No other troubles are complained of. Appetite is good.

On physical examination, lungs elicited tubulo-vesicular breathing anteriorly, and subcrepitant râles posteriorly. Heart

apex was displaced upward; sounds were distinct and normal, and pulse rapid. Superficial veins were distended. There was distinct caput Medusæ. Arteries were normal. Abdomen was filled with fluid and greatly distended. Liver and spleen were not outlinable. Urine gave sp. gr. 1006; acid reaction; urea 1.2 per cent. Albumin was present; also indican, granular casts, blood cells, leucocytes and uric acid crystals.

September 3, 1901, he was tapped; three gallons fluid. Operation was made Oct. 10, 1901, under ether, with median incision above umbilicus. Parietal peritoneum was scarified and scraped, as was also the surface of the omentum. Omentum was sutured to parietal peritoneum. Wounds were closed; primary union November 4, two gallons fluid were tapped. Patient left hospital feeling somewhat better, but gradually failed and died on the last of December, 1901.

The following two cases were operated on by the author:

CASE 1.—D. H. M., Englishman, aged 56 years, married, liveryman, was admitted to the Policlinic Hospital March 28, 1900. Mother, one brother and two sisters died of tuberculosis. He had had most of the children's diseases. He had been quite a hard drinker of strong alcoholics for some years, with no history of syphilis. Up to a year ago patient felt comparatively well. At this time he had a severe epistaxis, which lasted three days. Vomiting also occurred, and he became very weak. He had to remain in bed three weeks. About a month later he had a similar attack, not so severe as the first. December 1, 1899, he had a third attack. About this time jaundice appeared, and two months ago his abdomen became distended. He was tapped and 11 quarts of fluid withdrawn. Since the first tapping he has been tapped eight times at intervals of about six days. Appetite is good; no vomiting. Bowels are constipated. He lost 25 pounds during the past year.

Physical examination showed jaundice quite well marked. Heart was displaced upwards, but sounds normal. Lungs were normal, except compression of lower border. Respiration was labored, accelerated, becoming dyspneic on exertion. Arterial sclerosis was marked in temporals and radials. Abdomen was so much distended with fluid that liver and spleen can not be accurately outlined. Uranalysis showed: Urine dark brown, acid; 1032; no albumin; no sugar; bile; urea 3 per cent. Leucocytes and oxalate crystals were present.

Diagnosis was cirrhosis of liver with ascites.

Operation was done March 30, 1900, by median incision above umbilicus. Omentum was found very much thickened and congested. Liver was small, hard and nodular on surface—typical hobnailed liver. Spleen was enlarged. Parietal peritoneum was scraped with scalpel and omentum stitched with catgut over as large an area as possible. Wound was closed without drainage; primary union occurred.

April 3, abdomen was so distended that it was thought best to tap to reduce tension; six and one-half quarts of fluid removed. On April 11 about five quarts were tapped. Patient felt quite well, jaundice disappearing. On April 12, he left hospital. He was able to be up and around after reaching his home, which was in a neighboring state. The ascites did not return sufficiently to require another tapping. On April 22 he suddenly became unconscious and died. At the autopsy the cause of death was found to be a large cerebral hemorrhage. The omentum was firmly adherent to the abdominal wall, and the blood vessels in the adhesions were quite large.

CASE 2.—John R., German saloonkeeper, aged 55, was admitted to Alexian Brothers' Hospital July 10, 1901. Mother died of tuberculosis. He drank on an average of from 10 to 15 glasses of beer and four to eight glasses of whisky a day. There was no history of venereal history. He had gastritis 18 years ago, but had been in fairly good health up to June, 1901, when his abdomen began to enlarge and felt tense. Some distress was noticed after eating. About July 1 the ankles began to swell, and the swelling gradually extended up the legs. The skin was slightly jaundiced, and tongue coated.

Aortic sounds were accentuated. Arteriosclerosis was very marked. Radials were so hard that it was almost impossible to feel pulse wave. Lungs were negative.

Abdomen was enlarged and greatly distended with fluid. Spleen area was enlarged. Liver was not definitely outlined on account of the ascites. Superficial veins over abdomen were enlarged. Edema of lower extremities extended up to the knees.

Diagnosis was alcoholic cirrhosis of liver. He left the hospital on July 1, and returned on October 28 feeling much worse. Oct. 31, 1901, operation was done, with median incision above umbilicus. Liver was found small, hard and distinctly hobnailed. Spleen was enlarged. Parietal peritoneum was scraped with scalpel and omentum stitched to it with catgut over as large an area as possible. Wound was closed without drainage. Primary union ensued.

He was tapped November 9, 23, and December 22, about eight quarts of fluid being removed each time. He was up and around for a time, but did not gain in strength. Bowels moved with difficulty. For some time after the operation he lay in bed and seemed rather drowsy. Urine was dark brown, acid, 1026, with no albumin, no sugar, no peptone or albumose, no casts, no blood, bile present. He gradually failed and died Dec. 25, 1901. No autopsy.

These cases, with the 22 collected and reported by Packard and Le Conte, make a total of 46 cases at our disposal for analysis. Some of the cases are so lacking in essential details as to be practically of no value. We also find that the cases cover quite a range of pathologic conditions, and are therefore not comparable. Thus, we find represented alcoholic cirrhosis with atrophy of the liver; cirrhosis with enlargement of the liver; cirrhosis due to malarial infection; changes in the liver of syphilitic origin; cirrhosis of unknown origin; cirrhosis attributed to chronic heart disease; cirrhosis of infectious origin; ascites due to chronic peritonitis; ascites probably due to tuberculous peritonitis; ascites associated with probable sarcoma of omentum, and ascites supposed to have been due to thrombosis of the vena portæ.

In some cases, complications were present, such as marked arteriosclerosis, chronic nephritis, chronic inflammatory changes in the peritoneum, etc. The cases are thus of such an heterogeneous mixture that it is almost necessary to consider each one by itself.

If we consider first the largest group, namely, alcoholic cirrhosis with atrophy, we find 23 cases. Of this number 7, or 30 per cent., died within fourteen days, 5 more died within two months, and one died at six months. Of the remainder, two were living two years after operation, no recurrence of ascites. One was living one year after operation, no recurrence of ascites. One was living, time not stated, no recurrence of ascites. One was living six months after operation, improved, trace of ascites. One was living four months after operation, improved, trace of ascites. One was living four months after operation, improved, trace of ascites. One was living three months after operation, tapped twice. One was living, time not stated, improved, trace of ascites. One was living, time not stated, unimproved.

As the object of the operation is the cure of the ascites, the result has reference to this symptom in particular. Summarizing this group we find that 30 per cent. of the cases were dead in fourteen days; 52 per cent. of the cases were dead in two months; 56 per cent. of the cases were dead in six months. Of the late deaths ascites had returned in practically all of them; 13 per cent. may be said to have recovered from the ascites at the end of a year or longer. The remaining 30 per cent. were either unimproved, had to be tapped or were reported improved with some ascites still present, but the time was so short after the operation that the improved cases could not with any justification be termed "cures."

The pathology of the remaining cases is varied, and the number so small that satisfactory grouping is not possible: One of syphilitic cirrhosis, died on the fourth day. One not stated, died on the fourth day. One of sarcoma omentum, died in six weeks. One of malarial cirrhosis, died in three months, with no improvement. One of syphilitic cirrhosis, died in four months, with no improvement. One of large, smooth, pale liver, not cirrhotic, died in nineteen months; frequent tapping was required. There were 2 cases of cirrhosis secondary to chronic peritonitis, with no improvement. The pathology of one case was not stated. One case, thrombosis vena portæ. In one case of cirrhosis of unknown origin, after cholecystotomy, ascites returned slowly. In one case, not stated, tapped in one month, there was, four months later, no ascites. In one, of malarial cirrhosis, no time stated, improvement was doubtful. In one case of cirrhosis due to infection, no time stated, ascites was still present. One case, not stated, felt well four months later. In one case of unknown origin, one year later, there was no ascites. In one of enlarged liver, with probable tuberculous peritonitis, there were three operations; two years later was well, with no ascites. One case of cirrhosis of pericardial adhesions, two years later, showed no ascites. In one case no cirrhosis, with operation for intestinal hemorrhage, hemorrhage ceased and was well two years later. One case was reported on the eighth day, too early to determine result.

In the cases unaccounted for the facts at hand were too meager to warrant any statements.

Summarizing this group of mixed cases we find that 10 per cent. were dead in four days; 25 per cent. were dead in four months. In 40 per cent. no improvement was apparent, and 10 per cent. reported too early to state result. About 15 per cent. may be said to have been "cured" of the ascites for one year or longer and 5 per cent. "cured" of intestinal hemorrhages, no ascites having been present at any time.

In considering the operation itself, we find that various methods have been employed, according to the fancy of the operator. The omentum alone has been stitched to the parietal peritoneum with catgut, silk and silkworm-gut. The parietal peritoneum has been scarified and denuded of its endothelium by rubbing with dry gauze sponges, the use of the curette, scalpel, etc. The surface of the liver, spleen and diaphragm have been irritated, with the intention of causing more extensive adhesions. Incisions have been made longitudinally, transversely and T-shaped. The omentum has been placed in pockets between the peritoneum and the muscles and in the subcutaneous tissue, each operator thinking his particular method the best.

From the small number of cases at hand it can not be shown that the particular method employed has had any special influence in determining the result.

The experiments of Tillmans seem to demonstrate that large anastomosing blood vessels are more quickly formed when the peritoneum has been denuded of its endothelial covering by scraping with a curette or scalpel. Drainage, either tubular or capillary, does not seem to be desirable, as aside from the great annoyance to the patient the danger of infection is always present, and the results thus far do not appear to have been influenced by its use.

When we consider the clinical results, respectively the relief of ascites, that have followed the Talma operation, it can not be said that they have thus far been very flattering. One reason for this is the fact, as already shown, that the operation has been performed in a variety of pathologic conditions, some of which precluded the possibility of a favorable result. Even if we consider only the cases of true atrophic cirrhosis of alcoholic origin, we find the results have not been as favorable by any means, as one would like to see.

In considering the reasons for this it is necessary to turn to the cause of the ascites. As stated in the preliminary remarks, the Talma operation is based on the theory that the ascites is due to an increased tension in the portal system, and is therefore a pure pressure transudation. The author is of the opinion that this view is not correct, and for the following reasons: 1. Atrophic cirrhosis may proceed to a fatal termination without the appearance of ascites. 2. Increased tension may exist in the portal system, as made manifest by gastric and intestinal hemorrhages, without the development of ascites. 3. In many cases of cirrhosis, edema of the feet and legs may precede the appearance of ascites by several weeks or even months, and in the absence of any apparent kidney disease. One of the most important reasons, however, according to the author's opinion, is the fact that in these cases of cirrhosis a chronic inflammation of the peritoneum occurs, which must contribute materially to the development of the ascites, both by increasing the amount of fluid furnished by the peritoneum and by decreasing the rate of absorption. This chronic peritonitis does not seem to have attracted the attention sufficiently of the pathologists. That it occurs in the form of a perihepatitis has long been observed, but that the process occurs practically throughout the peritoneum does not appear to have been noted.

The peritoneum covering the liver is found enormously increased in thickness, the thickness in many places equaling 3 to 4 mm. The changes consist in an extensive hyperplasia of the connective tissue with round-cell infiltration. There is also a proliferation of the endothelial cells, but this layer is often lost in the preparation. These changes are not limited to the peritoneum covering the liver, but sections taken from the parietal layer, from the mesentery of the small intestine, from various portions of the diaphragm, etc., show that the changes are quite universal throughout the peritoneum. The peritoneum covering the diaphragm is well known to be extremely active in its power of absorption. The changes herein described could scarcely fail to materially diminish this power. That the chronic peritonitis is instrumental in producing the ascites is also shown by the fact that the osmotic tension of the fluid is at times greater than the osmotic tension of the blood, indicating its inflammatory nature.

There are many other points of interest and importance in this connection, such as the toxic condition of the blood, the changes in the arteries, the state of the kidneys, etc.

What, then, may we conclude regarding the present state of the surgical treatment of ascites in cirrhosis of the liver?

1. While the increased tension in the portal system is an important factor, it is not the only one concerned in the production of ascites.

2. Talma's operation in itself is quite simple and practically devoid of danger, as the deaths have been due to complications or to the advanced stage of the disease.

3. As the chronic inflammatory changes in the peritoneum are materially instrumental in maintaining the ascites, the operation should be performed early, in a pre-ascitic stage if possible, in order that the reduction

of tension in the portal system may delay the appearance of these changes and secondarily the ascites, as long as possible.

4. In a few cases the ascites has apparently been favorably influenced by the operation, but such has not been the rule, nor does it appear that the operation has in any way modified the usual course of the disease.

ROENTGEN RAYS IN PULMONARY DISEASE.*

ALBERT ABRAMS, A.M., M.D.
SAN FRANCISCO, CAL.

The brief time allotted to me in this symposium permits only a hurried survey of the advanced data in lung skiascopy. The possession of an *x*-ray apparatus does no more in postulating a knowledge of skiascopy than the possession of a microscope, of microscopy. The errors perpetrated by the microscopist are no less grave than those of the skiascopist. Skill in the use of the Roentgen rays for purposes of diagnosis can only be attained by the elimination of errors and this requires much experience. One should be prepared at the outset of an examination to see nothing, so that the expectant mind does not transfer to the ocular sense a function which should be reserved for judgment. The *x*-rays have not supplanted the conventional physical signs of thoracic disease; on the contrary, the later signs have advanced in value since the advent of the former. It is my custom to initiate a clinical examination with the Roentgen rays and to corroborate or enhance their revelations by the physical methods of examination, after the same manner as we employ the low powers of our microscope for a general view of the architecture of a specimen, reserving the high objectives for detail study. The proper interpretation of an *x*-ray examination coupled with correct technique means essentially a study of chiaroscuro. This study of light and shadow effects is an elementary task only to the tyro whose celerity in diagnosis is only eclipsed by his marvelous discoveries. An *x*-ray examination is practically an autopsy conducted during life, with the advantage that the functional activity of the organs accelerates diagnosis on the principle that a clinical is often more easy of achievement than an anatomic diagnosis.

NORMAL LUNGS.

No resistance is offered to the rays by the normal lungs. They apear on the fluorescent screen brighter during inspiration than expiration. The brightness of the lungs is, however, only a relative term and is dependent so much on the thickness of the thoracic coverings and the degree of lung inflation, that I doubt even with ingenious apparatus like the densitometer and similar instruments, whether we are able at the present time to establish standards of comparison. The apparatus in question measure the penetrating quality of the rays as much as they do the density of the tissues which they traverse.

There are certain situations in the region occupied by the lungs where shadows may normally be encountered. The most important situation is the apical regions. Here the muscles of the shoulders may cast a distinct shadow, yet the integrity of the apices may be preserved. Raising and lowering the arms will increase or diminish the area and intensity of the shadow, hence the origin of the umbra may be referred to the muscles of the shoulders. In the region corresponding to the vertebral borders of the scapulæ the muscles may cast a linear shadow in front as well as behind, but the genesis of the umbra may be referred to its true source by noting its disappearance when the position of the scapulæ is changed. In very muscular persons, other muscles, notably the serratus magnus, may throw a shadow.

In this connection, it is specially with lung inflation that I wish to speak, for, if there is any one condition above all others which misguides us in our *x*-ray interpretation, it is this. The physiologic principles involved in respiration are not always strictly in accord with clinical observation. Some of the apodictic utterances of the physiologist have been disproved by the Roentgen rays. For instance, physiology has always taught that with each inspiration the diaphragm becomes flatter in consequence of its contraction. This is not true. When viewed in action its curve is always maintained and its excursions resemble the up and down plunging of a piston. Physiology also teaches that the lungs, even at the end of expiration, are in a stretched condition. This physiologic dictum may be true in relation to primeval man, but civilized man has so subverted primeval respiration by attire and modes of living that what is now regarded as physiologic is essentially pathologic. For many years I have sought to prove, by experimental investigations and observations that the lungs even in a state of health do not fully occupy the thoracic cage. On the contrary, there are circumscribed lung areas which yield a dulness or even a flatness on percussion, areas which I have denominated atelectatic zones. I have also shown in numerous contributions that these areas may involve a lung apex, a lung lobe, or even the entire lung. It is gratifying for me to add that these observations have been accepted by Cabot, Kernig, and others. The *x*-rays have furnished me with indisputable evidence of my contention that such atelectatic patches will cast shadows on the screen, and that the shadows thus cast are of greater area than percussion would seem to indicate, and further, that the Roentgen rays will determine the presence of such atelectatic patches which elude percussional investigation. It is chiefly as an aid to percussion that the rays are operative. A percussion blow is propagated from 1½ to 2½ inches on the surface and to a depth of about 2½ inches, hence it is easy to understand why the *x*-rays supplement percussion when the object is beyond the reach of the latter method. My object in emphasizing this question is to show that a lung not distended to its physiologic capacity offers an obstacle to the transmission of the rays, and consequently the appearance on the screen of shadows. Now it is the conventional practice to interpret all shadows cast on the screen as evidence of pulmonary or pleural disease and the mistakes that are bound to occur are almost as egregious as that committed by Holme's young physician whose stethoscope lodged the spider and the couple of imprudent flies. I maintain with all seriousness that any physician who places sole reliance on shadows cast on the screen as evidence of pulmonary disease, notably phthisis, without an attempt to eliminate their probable origin, will make the diagnosis of phthisis in more than fifty per cent. of the cases coming to him for examination.

Before an *x*-ray examination of the chest is attempted an effort must be made to eliminate unemployed lung areas. As a rule, deep forced inspirations conducted before and during the examination will suffice to maintain lung distension. Very often this will not suffice and then recourse must be had to inducing what I have

* Read before the San Francisco County Medical Society, Feb. 11, 1902.

called the lung reflex. This reflex may be discharged most effectually by directing a spray of ether over the skin of the chest in the specific region investigated. When the latter is not at command, the skin may be vigorously rubbed with the hand or a towel. The result of this expedient is a momentary lung dilatation contiguous to the irritated skin area. Not infrequently this method is not efficient and recourse must be had to the

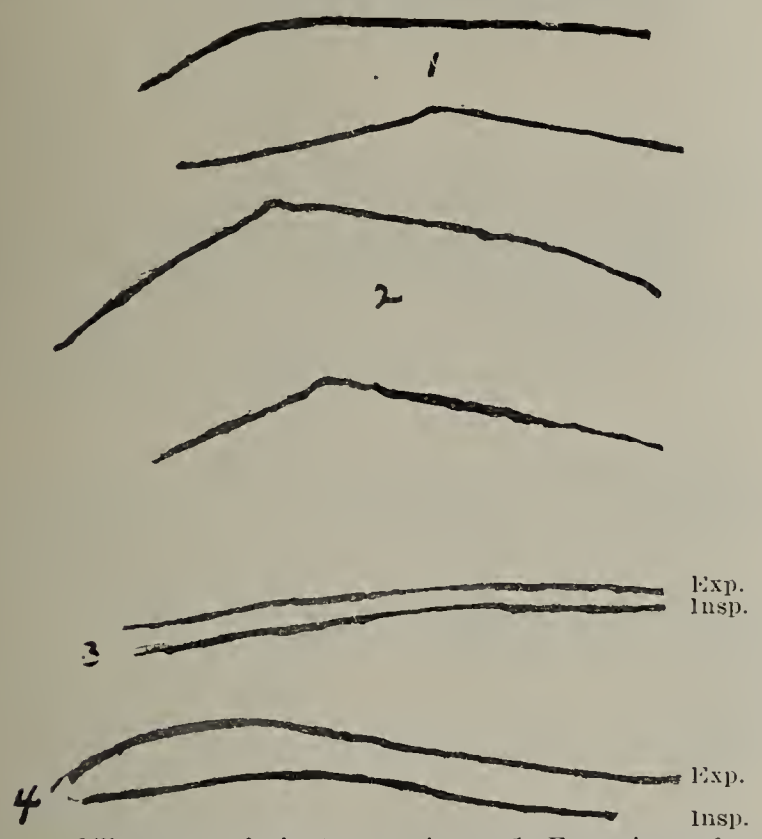


Fig. 1.—Silhouettes of chest excursions. 1. Excursions of anterior chest wall, patient standing. 2. Excursions of anterior chest wall, patient in recumbent posture. 3. Excursions of posterior chest wall, patient standing. 4. Posterior chest wall excursions, patient in prone position.

inhalation of compressed air. Recently I have been investigating the effects of such inhalations while the rays were traversing the chest and I have noted the enormous mechanic distension of the lung alveoli by such inhalations. During an examination of the lungs,

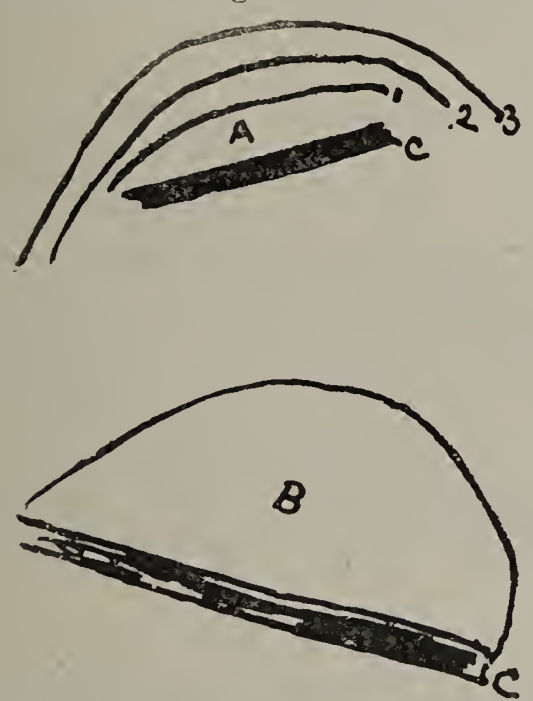


Fig. 2.—A, c, Clavicle. 1. Area of apex in normal breathing. 2. Apical area in deep breathing. 3. Apical area after elicitation of lung reflex. B, c, Clavicle. Apical area after strapping the lower chest.

the position of the patient is of the greatest importance. I can not at this time enter into a complete discussion of this subject, but will limit myself to a simple object lesson. Only recently a young man was sent to me by a colleague for a chest examination. He had a persistent cough and above his cardiac region was a diffused patch of dulness which was likewise evident at a similar point on the posterior surface of the chest. This dulness did not disappear after forced inspirations, nor after induction of the lung reflex, yet the absence of auscultatory signs convinced me that the patch in question was only atelectatic. An *x*-ray examination demonstrated a shadow which corresponded to the area elicited by percussion. When the patient assumed the recumbent posture, dulness was no longer in evidence and the *x*-rays in this posture showed no shadow. But when the erect

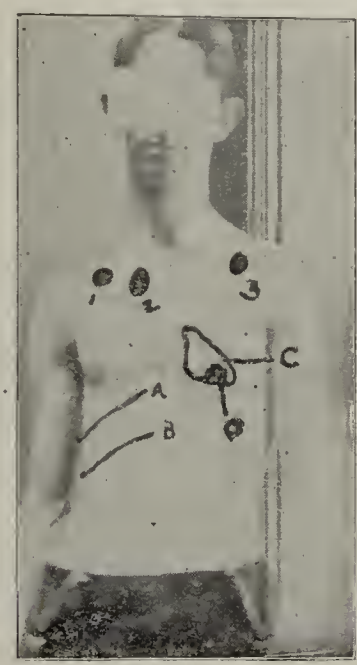


Fig. 3.—Emphysema co-existing with atelectatic zones in an individual with early phthisis. 1, 2, 3, Atelectatic zones. *A*, Normal line of hepatic dulness. *B*, The line of hepatic absolute dulness in this individual. *C*, Normal area of cardiac dulness, which is represented in this person by the dark area, *D*.

position was resumed, dulness and shadow reappeared. This object lesson prompted me to investigate the respiratory activity of the lungs contiguous to the anterior surface of the chest in different postures. By means of my stethophonometer, which enables me to gauge the intensity of respiratory as well as cardiac sounds, I elicited the important fact that, in the recumbent posture, the lungs adjacent to the anterior chest wall were twice as active as in the erect posture. I further corroborated

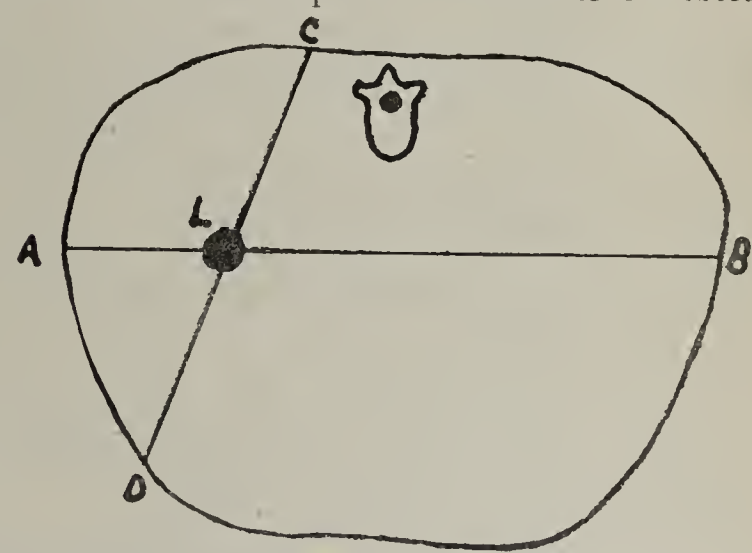


Fig. 4.—*A*, *B*, *C*, *D*, Points on chest indicating location of shadows. *L*, Location of lesion.

this auscultatory investigation by stethographic measurements with a simple method, which I here show you. By means of this ground glass inclosed in a frame, I can silhouette the chest and its excursions more perfectly than by any other method. The accompanying illustrations are from a healthy individual and show that the excursions of the anterior chest wall are greater when the patient is on his back than when standing in the erect position and similarly when he adopts the

SKIASCOPIC TABLE OF THORACIC DISEASE.—ABRAMS.

DISEASE.	X-RAY APPEARANCE.	DIAPHRAGM.	HEART.	GENERAL REMARKS.
Abscess of lung.	Site of abscess indicated by dark shadow, usually found in lower lobe of lung. Shadow may disappear when abscess cavity is emptied.	Excursions usually limited on affected side.	No dislocation of the viscera.	If abscesses are multiple, shadows are small and diffuse.
Thoracic aneurysm.	If involving descending arch, shadow to left of sternum and above heart; if of the ascending aorta, shadow to right of sternum. Large aneurysm may throw a shadow on both sides of sternum. Pulsation visible if sac is not too thick or filled with clots.	Excursions may or may not be restricted.	Heart usually displaced downward to left. Left ventricle may be enlarged.	Shadow in aneurysm of ascending aorta nearer the front chest; if of descending aorta it is near back of chest. Simple dynamic throbbing of aorta and dislocation of artery by displaced vertebræ must not be confounded with aneurysm. In aneurysm also search for pulsation and shadow in region of left scapula behind.
Asthma.	Lungs brighter than normal and extend higher and lower in chest.	Lies low and excursions retarded.	Position of heart lower and moves less during inspiration than normal. Right ventricle enlarged and outlines of heart unusually clear, owing to bright lungs.	After a paroxysm, normal brightness of lungs and diaphragmatic excursions reappear unless emphysematous lung changes have become permanent.
Atelectasis (collapse of the lung)	Shadows correspond to areas of collapse. If collapse is extensive, shadows are correspondingly so. If occurring as a complication of bronchitis, shadows will appear corresponding to areas implicated.	Excursions restricted as a rule.	Normal.	Forced breathing will dissipate shadows. Rubbing skin of chest or spraying with ether will cause shadows to disappear. (Lung reflex.)
Bronchiectasis.	No shadow unless lung adjacent to bronchiectasis is solidified; then shadows are usually found in middle and lower thirds of lung posteriorly.	If emphysema complicates affection, excursions are restricted and midriff lies low.	The right ventricle may be enlarged as a complication. The occurrence of fibrosis may dislocate heart.	If chest is examined before a bronchiectatic cavity is emptied by coughing, distinct shadow corresponding to cavity is evident and is superseded by a bright area when contents are expectorated.
Bronchitis.	Normal lung brightness, but perhaps a shade less bright when free secretion is established. In latter instance diffused cloudiness is usually limited to the lower two-thirds of the lungs.	Excursions normal unless smaller tubes are obstructed, then they are restricted. Coughing by removing secretions may restore normal excursions.	Position unchanged. In chronic cases, right ventricle may be dilated.	In the bronchitis of influenza, a localized shadow or shadows may be caused by complicated foci of lobular pneumonia. Shadow confined to apex suggests bronchitis of tubercular origin.
Bronchopneumonia.	Circumscribed shadows widely scattered through the lung. Coalescence of foci of inflammation increases area of shadows. Shadows usually limited to middle and lower lobes.	Movements very much restricted and diaphragm may be high, especially during inspiration.	Unchanged as a rule.	Shadows due in part to areas of lung collapse, in which instance coughing and deep breathing will cause their evanescence, but shadows caused by foci of inflammation persist.
Congestion of the lungs.	Bases of the lungs cast a faint shadow. The rest of the lungs are from temporary over-distension unusually bright.	Midriff lies low, is not as clearly discernible as normal and shows restricted excursions.	Position unchanged as a rule, although it may lie low. Right side of heart distended.	If congestion be dependent on cardiac incompensation the use of cardiac tonics will soon dissipate shadow.
Emphysema.	Pulmonary area of increased brightness which extends higher and lower in the chest.	Low and restricted in movements.	Area clearly defined; lies low. Right ventricle and auricle are enlarged.	If tuberculosis complicates emphysema, abnormal lung brightness is marked by shadows usually confined to apices.
Empyema.	Vide, pleurisy with effusion. Displacement of the heart and liver is greater in empyema than with the same quantity of serous effusion. In pulsating form of pleurisy (usually in empyema) the heart movements transmitted to fluid may be seen as diffuse undulation if patient is motionless.			
Pericardial effusion.	Cardiac area enlarged, but differs from shape of mere cardiac enlargement by being rounded. Pulsations of heart no longer evident.	In sitting posture, position of left diaphragm can not be followed so far toward median line as in health. Movements restricted.	Cardiac area low.	Best skiascopic view is often obtained from back when lung is not too compressed. Then the conical appearance of apex is lost. Triangular space behind heart is obliterated.
Pleurisy with effusion.	Diffused shadow on affected side; dark area changes with position of patient. As effusion is absorbed, a lighter area increases from above downward.	On affected side outline less defined or obliterated.	Heart displaced to right or left side according to side affected. Liver displaced downward in large effusions only.	Any lung visible on affected side is darker than on healthy side, owing to compression by effusion.
Pneumonia (croupous).	Affected lobes cast dark shadows. Middle portion of lung usually affected (between second and fourth ribs).	May be obliterated; excursions very much restricted.	Usually enlarged on right side, and displaced toward unaffected side.	Shadow of affected area persists until complete resolution occurs. Persistence of shadow may indicate complications or thickened pleura.
Pneumothorax.	Affected side very bright and area of clearness increased.	Low and shows no movement.	Outlines clearly defined and dislocated toward unaffected side.	The degree of dislocation of heart and liver dependent on intrapleural pressure.
Pneumohydrothorax and Pneumo-pyothorax.	When patient is in sitting posture there is a very dark area below and a very light one above on the affected side. Level of dark area (fluid) rises with inspiration.	Obliterated and no movements seen.	Heart displaced toward unaffected side.	The degree of dislocation of heart and liver dependent on intrapleural pressure.
Subphrenic abscess (containing air).	Dark shadow limited to lower thorax; above which is a very light area (air) and above this a slightly dark area caused by compressed lung.	Obliterated and no movements.	Heart displaced toward unaffected side, but not to same degree as in pneumohydrothorax.	Level of dark area changes on change of position of patient and when patient is shaken by the shoulders splashing of fluid is observed.
Tuberculosis (pulmonary).	Apex of affected side darker than normal and area of same does not increase with inspiration. In acute miliary tuberculosis lung shows discrete shadows embedded in a light environment (over-distended lung). Cavities, if filled with mucus or fluid, show circumscribed shadows, but when empty appear as light areas if not surrounded by consolidated lung.	Excursion very much restricted, especially on side affected.	May be dislocated in extensive disease toward unaffected side. In chronic cases, right side enlarged.	Progression or retrogression of lesions may be determined by repeated examinations. An apex not fully inflated may cast a shadow even in the absence of disease. (*Vide* atelectasis).

SKIASCOPIC TABLE OF THORACIC DISEASE.—ABRAMS.

DISEASE.	X-RAY APPEARANCE.	DIAPHRAGM.	HEART.	GENERAL REMARKS.
Tumors.	Shadows are cast by intrathoracic growths. They are circumscribed as a rule and are commonly confined to the middle or upper part of chest. If they pulsate, pulsation is an up-and-down movement and not expansile as in aneurysms.	Normal, as a rule, in position and excursions.	Heart may be dislocated by large growths.	Locate site of all lesions as follows: Point *x*-ray tube in direction of the anterior, posterior and lateral chest walls respectively, and on these different aspects mark with pencil the location of shadow. Next determine form of chest with cyrtometer and transfer this form on paper. Connect sites of shadows as perceived on different surfaces of chest by lines, and at the intersection of the latter the lesion will be situated.

DISEASES OF THE DIAPHRAGM.—In *spasm*, diaphragmatic movements are practically suspended on affected side. Suddenly diaphragm contracts and descends several inches below its normal descent. Singultus may accompany the descent, while cyanosis and dyspnea become intense (personal observation). In *paralysis*, movements of diaphragm on affected side are suspended; during inspiration, midriff rises. In *diaphragmatic pleurisy*, movements of diaphragm very much restricted or even suspended. Lungs in upper part of chest brighter than usual, owing to over-distension.

NORMAL LUNGS are brighter during inspiration than expiration.

AVERAGE NORMAL EXCURSION OF DIAPHRAGM in quiet breathing: 1½ centimeters; between full inspiration and expiration, 6.7 cm. on the right side and about 7 cm. on the left side. In long-chested persons, diaphragm excursions are greater than in short persons with deep chests.

WIDTH OF NORMAL HEART.—(Screen about 75 cm. from tube with target directed toward a point where median line is crossed by fourth rib) Right heart measures 3 cm. from median line, and left heart, 8.5 cm. from median line; total, 11.5 cm.

prone posture, the excursions on the posterior chest wall are greater when the body is inclined forward than in the standing posture. To demonstrate the inflation capacity of the lung apex, let me direct your attention to a fluoroscopic reproduction of the apex in a normal individual. Note the area of luminosity represented by the apex in tranquil breathing. Observe how this area is augmented after forced deep breathing and again after elicitation of the lung reflex. Observe the extraordinary increase in luminosity after strapping the lower chest, which permits of breathing in the upper chest only. A word of caution is necessary to those who are desirous of confirming the latter observation. Owing to the extraordinary respiration in the upper chest area, the clavicles by their elevation obscure the luminous apical area, hence the latter area should only be gauged when the patient practices forced expiration which will permit of a complete descent of the clavicles.

In certain thoracic situations, the pleural sac is larger than the lung volume and forms spaces known as pleural or reserve spaces. Of these different spaces, I want to direct your attention to the largest, known as the sinus phrenico-costalis, which is located at the lower outer lung border at a point where the costal passes over into the diaphragmatic pleura. This space is clearly defined when the patient leans over to one side during the *x*-ray examination. It is at this point that we can best observe the play of the diaphragm and the condition of the pleura and the picture is tantamount to an *x*-ray dissection. First we note the coverings of the thorax, then the ribs and then the pleura. The normal condition of the latter is evidenced by the negative results of the examination in other words, if there are no pleural adhesions nor pleural thickening we see nothing. This situation is the best as far as my observations go for studying pleural disease.

PRECARDIAL AND RETROCARDIAL REGIONS.

In front of and behind the heart are two important regions which have not received the attention they deserve in the thoracic disease. They are best seen when the rays are directed through the chest from side to side. They correspond respectively to the anterior and posterior mediastina. Growths and enlarged glands in the former space may be determined, whereas in the latter region disease of many important structures like the trachea, bronchi, esophagus and bronchial glands are possibly of early detection.

EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

The early recognition of this disease gives promise of its successful treatment, for, if there is one fact which the phthisiologist has demonstrated for curative medicine, it is the curability of phthisis. To-day the words of Brehmer are verified: *"Tuberculosis primis in stadiis semper curabilis."* The presence of shadows on the screen as determined by the rays is a sign equally as tardy as the recognition of tubercle bacilli in the sputa. We are here concerned only with skiascopic evidence which betrays the disease at its very incipiency even before physical signs are manifest. In this respect the rays are of undoubted importance and we possess a means which permits of the very earliest possible diagnosis. Many of us in our practice meet with the phthisiophobiac and we are now in the possession of means that will often rid that unfortunate individual of his fear. Of course, to depend on the rays alone for purposes of diagnosis would be to invite exclusivism which would be fraught with danger to the catholic foundation on which diagnosis rests. There are two early signs to which I wish to direct your attention, viz., restriction of the excursions of the diaphragm, and the emphysematous *x*-ray appearance of the lungs. The physiologic diaphragmatic excursions vary according to whether the breathing is quiet or forced. In quiet breathing, the extent of movement is about 1.8 cm. on the right, and 1.5 cm. on the left side; whereas, in forced breathing, the difference in the position of the diaphragm between forced inspiration and expiration, averages 6.7 cm. on the right and 7 cm. on the left side. Individuals with long thoraces show greater excursions of the midriff than deep-chested persons. The restricted diaphragmatic movements must be regarded as a very suspicious sign of phthisis, other things being equal. This sign first referred to by Williams of Boston has received universal confirmation, but, to my knowledge, no theory has been advanced to explain its existence. I have sought elsewhere an explanation for this curious phenomenon and I will briefly summarize my investigations which gave birth to the theory that an emphysematous condition of the lungs exists in phthisis. Rokitansky noted that too voluminous lungs coupled with a small heart characterized the phthisical habitus. No one seemed to have contradicted this observation and as a result it was soon relegated to oblivion. Brehmer revived and vigorously defended this hypothesis. The too voluminous lungs of Rokitansky and Brehmer

are lungs which are practically the lungs of emphysema. In health, the percussion note of the lungs is resonant during inspiration and dull or even flat during expiration. In emphysema, the percussion note is unchanged during the two phases of respiration. This unchanged percussion note heretofore recognized in pulmonary vesicular emphysema is pathognomonic of lungs predisposed to tuberculosis, and in lungs already affected. Associated with the unchanged percussion sound there is an extension of the lung borders manifested by downward lung dislocation and diminution to the extent of obliteration of the cardiac and splenic areas of absolute dulness and diaphragmatic immobilization. As a rule, this lung emphysema in phthisis is limited to the lower lobes and is dependent on the fact that the air entering the respiratory tree travels in the direction of least resistance. Not infrequently, as in the accompanying illustration, the emphysema is associated with atelectatic zones. If the physician were to depend on percussional dulness as an evidence of early phthisis, the affection would never be recognized; lung resonance, not dulness, is the early physical sign of phthisis. The rays are invaluable in the recognition of the emphysematous condition. The lungs seem too large for the chest, the diaphragm is low and its excursions restricted. The lungs appear permanently bright, not alternately so as in their normal condition, and "statuesque" is about the best word to describe their appearance. It is interesting to observe parenthetically, how such lungs contribute to the development of phthisis. Defective pulmonary elasticity means some defect in the pulmonary elastic tissues. It may mean a congenital defect as Cohnheim has observed in a large number of cases of emphysema. A loss of pulmonary elasticity eliminates an important factor, not only in lung nutrition, but in the nutrition of the entire organism.

PNEUMONIA.

In this disease the rays are of service in detecting and locating pneumonic areas which resist the conventional physical methods of examination. In differential diagnosis, as for instance in deciding between a pleural effusion and pneumonia, the rays are indispensable. The recognition of the condition of the lungs after apparent recovery from pneumonia is one of the most important but neglected problems of the physician. Here the rays subserve a useful purpose. The sequelæ of unresolved pneumonia are many. I have learned one lesson of which I am proud and that is to observe and treat the lungs after apparent recovery from an attack of pneumonia. Cases of apparently protracted bronchitis in children as well as adults are in reality cases of broncho-pneumonia, the discrete patches of which disease are made evident by the shadows thrown on the screen.

EMPHYSEMA.

I have already referred to the appearance of the lungs in this affection. Inasmuch as an emphysematous lung will interfere with topographic percussion of the heart, spleen and liver, the rays offer no obstacle to the correct demarcation of these organs. The co-existence of emphysema with pulmonary tuberculosis not infrequently masks the dulness on percussion elicited in the latter disease, an error which the rays will eliminate.

BRONCHITIS.

In this affection I have noted no particular skiascopic changes unless the disease was complicated by broncho-pneumonia, in which instance I have been able to demonstrate shadows limited to the broncho-pneumonic patches.

PLEURAL EFFUSIONS.

When these are present, the diaphragm is in slight evidence or is not seen at all. The dark area represented by the fluid casts, as a rule, a more distinct shadow than is observed in most affections of the thorax and the shadow may change on the patient's position being altered. Dislocation of the heart may readily be seen when it exists. In encysted pleurisies, the usual physical signs must yield in a diagnostic sense to the rays. Unsuspected complications of pleurisy, such as tuberculosis and pneumonia, may be determined when the conventional physical signs lead us into error. There is one point which I have noted in pleural effusions, that the heart is dislocated long before there is any displacement downward of the diaphragm. This is in accordance with the fact that the diminished pulmonary suction on the affected side will cause the heart to be drawn over by the greater suction of the opposite side. Now the pressure on the abdominal side of the diaphragm being positive, it is only when the pressure in the pleura becomes more positive that any downward dislocation of the diaphragm occurs. Even in the presence of large effusions on the left side, I have obtained the tympanitic percussion note of the stomach as high up as the sixth rib in the mammary line. In searching for small effusions, the angular spaces on either side situated between the outer portion of the diaphragm and the chest wall should be examined. Pleural thickening, which may often be confounded with small effusions, may be differentiated by a careful study of the angular spaces referred to. Any change in the darkened area, as indicated by changes in the position of the patient, speaks for effusion. If pleural adhesions are present their presence is indicated by limited excursions of the diaphragm.

PNEUMOTHORAX.

In this affection the x-ray appearance shows an unusually large area of brightness. The diaphragm lies low and is restricted in its movements. The heart is dislocated toward the opposite side. I lay particular stress on the low position of the diaphragm for it is usual for text-books to teach that the pressure in gaseous effusions into the pleura can not be sufficiently positive to dislocate the diaphragm until the occurrence of liquid effusions.

TUMORS OF THE LUNG.

Neoplasms of the lung are indicated by shadows. Their presence may be determined when the usual physical signs are negative. A mere shadow is, of course, only suggestive evidence of a tumor, but the rays enable us to make a diagnosis by exclusion after weighing all the other facts elicited by the skiascopic appearance of the thorax. Enlarged bronchial glands may be detected when all other evidence fails.

The definite localization of an abscess of the lung by means of the rays is an important aid to the surgeon.

ASTHMA.

In this affection I have had frequent opportunity of observing a paroxysm while the rays traversed the chest. Often I was able to provoke a paroxysm by packing the nostrils with cotton. The apearance of the lungs is practically that of emphysema with immobilization of the diaphragm. Cessation of the attack is evidenced by mobility of the diaphragm and restoration of the lungs to their natural brightness.

The majority of lung affections, if demonstrable by the rays, throw shadows on the screen. The trained eye

may, by the density of the shadow cast and their situation, determine to a limited degree only, the nature of the anatomic condition. Thus, the presence of fluid in the pleura or a tubercular lung casts more pronounced shadows than a thickened pleura, a lung abscess or a broncho-pneumonic patch. A lung shadow gives one the impression of density and is circumscribed, whereas a thickened pleura yields a less dense and more diffuse shadow. Shadows limited to the center of the lung can not be pleurogenic and this shadow localization is not only of great importance in diagnosis but furnishes an index to the site of the operation in lung surgery, whether the object to be attained be the drainage of a bronchiectatic cavity, opening of an abscess or the location of a foreign body.

Numerous methods have been advocated for focal diagnosis. The simplest aim to determine whether the lesion is located near the front or the back of the chest will depend largely on the general principle, that the nearer the lesion which casts the shadow is to the screen, the less exaggerated and more clearly defined will be the shadow. The respiratory method is available with reference to the chest. The shadow cast in respiration and expiration will not differ materially in position nor in clearness of outline if the lesion is situated near the screen; if, however, it is distant from the screen, the shadows will be greater in extent and their contours will be indistinct. In executing an examination for focal diagnosis, the patient must be examined with the light in front and behind him. Another expeditious method is to mark with a pencil the different points on the anterior, posterior and lateral aspects of the thorax, the location of the shadow; then with a cyrtometer, determine the form of the chest and transfer it to a sheet of paper. Next unite the location of shadow by lines and at the point of intersection of these lines, the lesion may be located (Fig. 4).

I have by no means exhausted in this brief communication all the facts concerning the importance of skiascopy in pulmonary diseases. Allow me to add that x-ray diagnoses must be based on examination of the entire chest and not of a single organ and the x-rays must only be regarded as an adjunct to other methods of examinations, although no physical examination can be considered as complete without their employment. In conclusion, I have a few brief remarks to make with reference to lung development. I have investigated various prolix methods recommended for such development, employing the methods while the rays were traversing the chest. Many of them have been found faulty; in fact, they produced the original defect which they were designed to correct. I have no time to dwell on these methods at the present time, but simply suggest that the rays be employed after this manner for determing the correctness of a method which has for its object the promotion of inspiration or expiration and further, whether certain methods are of avail in promoting resorption of alveolar or pleural exudates or the relief of lung congestion in valvular cardiac lesions. I am busy at present with a study of these problems, the solution of which are reserved for a later contribution.

Discovery of Original of Galen's Work.—The Vienna *Med. Blaetter* announces the discovery of the Greek original of Galen's work called the *Sermo Adeasus Empiricost*, hitherto know only in the Latin translation. It was found at Milan by Privatdocent H. Schoene, of Berlin, who has been commissioned to catalogue the medical manuscripts in the libraries of Italy.

AN ANALYSIS OF FIFTY-TWO CASES OF TETANUS FOLLOWING VACCINIA.

WITH REFERENCE TO THE SOURCE OF INFECTION. 1839-1902.*

ROBERT N. WILLSON, M.D.
PHILADELPHIA.

The following analysis of a large number of instances of tetanus in the course of or following vaccinia, was prompted by the occurrence of a case in the practice of the writer, and by its fatal termination in spite of an early diagnosis and heroic treatment. During the five months that have succeeded the report of this case before the Philadelphia County Medical Society an attempt has been made to ascertain the details of such a number of similar cases, both in recent and past years, as would warrant a conclusion as to the source of the tetanus infection.

The proportions of this task can be realized only in part even by those who have engaged in similar work. There is abundant indication that tetanus has occasionally appeared in the course of and following vaccinia from the time of Jenner down to the present day, and it will be noted that the cases included in this paper date back as far as 1839. Many such cases, however, have for one reason or another only rarely reached the attention of the profession. While some physicians have desired the truth at any cost, others, through an unwise zeal for the protection of vaccination from discredit, have joined with many firms that manufacture vaccine to suppress and discourage reports of this unfortunate complication of a most beneficent measure. One well-known medical representative of a vaccine firm ventured in an attempt to dissuade the writer from his task on the ground that he (the writer) would incur the risk of an unwilling and unjustified association of his name with a particular commercial interest. Perhaps, therefore, in the beginning of such an analysis as is proposed, and with a view to clearing his person of any such possibility, real or imagined, it may be well for him to state in unqualified terms that he not only is not connected in any way, personal or financial, with a commercial interest of any description, but that he has at no time contemplated such a business connection. While in certain cases these obstacles have resulted in a less complete and systematic marshalling of the facts necessary to prove one or other possible source to be the real origin of the tetanus infection, the clinical histories and statistics cited below are in the main fairly comprehensive and full, and offer an opportunity to everyone for unbiased study and self-conviction. The object of this analysis is to prove:

1. The source of the tetanus infection; whether the virus, or some other medium.
2. The time of infection; whether synchronous with the vaccination, or subsequent to it.
3. If a secondary infection (not carried by the virus); then due to what circumstances, and preventable by what means.

Brief histories of fifty cases occurring between the years 1839 and the present time are submitted, withholding in all cases the name of the physician, and usually at his own request based upon obvious and honorable reasons. A number of other cases have been found in the newspaper literature and through correspondence, but with such meager data and indefinite facts as to render them unsuitable for use in such a connection.

* Read at a meeting of the Philadelphia County Medical Society, April 23, 1902.

CASE 1.—Seen for the first time on July 31, 1839. Isabella, negress slave, on Orange Grove Plantation. Date of vaccination not given. Suppurating ulcer at site of vaccination. Difficulty of deglutition, rigidity of muscles of face, and sensation of stricture at top of sternum. Rigidity of all extensor muscles of the extremities. Two days later twitching of the extremities, rigidity of the jaws, inability to protrude the tongue, arm sore from cauterization with $AgNO_3$, and a lye poultice. Eschar the size of a dollar. . . . Two weeks from commencement of attack twitching of muscles has almost entirely ceased. Patient opens mouth easily. August 25, at work and well. Treatment: Cups to spine, enemas of lobella and opium (ʒli of solid opium, and 2 lbs. of laudanum in the enemas) during the course of the tetanus.

CASE 2.—Seen at Lowell, Mass., in October, 1845. One of two children, vaccinated by the mother from a child's arm with a darning needle. The child from whom the virus was taken was perfectly healthy, though the mother noticed that the lymph was thick and yellow. Case 2 was 5 years old. In a few hours it became sick, nervous and prostrated. Convulsions set in, and the child died in about 24 hours after the vaccination. At the site of vaccination there was a dry and angry-looking wound, without an areola, and apparently extending through the true skin.

CASE 3.—Aged 7 years. Vaccinated by mother at same time with preceding case, and in same manner. This child also suffered from severe nervous symptoms and prostration,. also from convulsions, but ultimately recovered. A dry angry ulcer was also to be seen at the site of this vaccination. Gradual recovery presumably lasted over months. The coincident occurrence of two infections, one violent and fatal, the other severe but prolonged and ending in a tedious convalescence, and the fact that both cases were marked by the presence of an angry vaccine ulcer, as well as by convulsions, evidently due to infection through the wound; all these circumstances point to the strong probability of a tetanus infection in Cases 1 and 2, though trismus is not mentioned and evidently was not observed.

CASE 4.—Edw. K., 3½ years old. Never ill since early infancy. Vaccinated on or about May 15, 1879, by German midwife, with virus inserted at two points on the left arm. At one of these sites is a normal-looking almost dry crust, and at the other a highly inflamed ulcer from which the "crust had evidently been torn." Seen June 5 and found suffering with tetanus, from which he died before 8 a. m. the following morning. During the day he exhibited a peculiar expression of face, and an occasional elevation of his shoulders and arms culminating in a pronounced convulsion in which he fell from his chair to the floor. Two other spasms quickly followed. Sardonic grin pronounced and trismus extreme; several convulsions during the physician's visit. These recurred with increasing severity until death supervened.

CASE 5.—J. McL., aged 9, healthy personal and family history. Vaccinated Jan. 6. 1882, in Auburn, N. Y., with "bovine quill" virus, "other lymph from the same source had been extensively used with generally satisfactory results by the vaccinating physician." January 26, on going to bed, complained of stiff neck. Next morning he could not open jaws. During night had chills, and during day following pain at pit of stomach, shooting to the back and thence to the whole body, and accompanied by tonic spasms. When seen marked opisthotonos was present. On touching him "shooting spasms" pervaded all the contracted muscles, including the facial. Pulse 90, temperature 98.5 F.; mind clear. Vaccinated arm showed a large irregularly-shaped ulcer, one half covered with dark incrustations, edges excavated, large dingy granulations, bits of pus adherent. Arm swollen, with erythematous inflammation. Axillary glands enlarged and tender. No other lesion on the body. Had used a privy in an attached but unwarmed building, had "taken cold," and the symptoms of tetanus promptly developed. Death on 10th day from commencement of the tetanus. Lower limbs became somewhat involved in the tetanoid contractions, the upper not at all. Large doses of morphia were used. The physician states that there were many other severe ulcers from the use of the virus, but no other cases of tetanus.*

CASE 6.—D. M., aged 40. Tall, healthy man. Vaccinated in Maryland, about the middle of January, 1882. Some days later exposed to cold. Arm soon became much swollen and the skin around the vaccine wound much inflamed. On February 8, when seen, exhibited a large deep ulcer, size of a silver dollar, and no other lesion was found on the body after a careful search. For several days had slight bronchitis and vague fugitive pains in the back. February 7, first noticed slight stiffness of jaw muscles. On the 8th could only separate teeth to a slight degree. Reflexes exaggerated, slight photophobia; considerable hyperesthesia. Pain from irritated region if skin is brushed. Body bathed in perspiration. Muscular spasms in lower extremities. February 9, convulsions were excited by breath of air or movements of patient's body. Marked trismus. Temperature 100.4 F., resp. 28, pulse 110. From this time on opisthotonos well marked. Coma on February 12; temperature 102 F., resp. 36, pulse 140. Up to death on February 13, slightest irritation produced convulsions. Constipation persistent. Treatment, chloral and potassium bromid in large doses.

CASE 7.—B. J., mulatto boy, aged 5. Vaccinated at Columbia, S. C., Feb. 9, 1882, on the left arm, and at the insertion of the deltoid. The virus was carefully selected humanized lymph. On March 8, one month later, he had pain in the stomach and inability to open mouth. When sitting his body and neck were bent backwards, the muscles of the back, chest, the masseters, internal pterygoids, were in a state of partial rigidity. There was incomplete trismus and some embarrassment of respiration. The ulcer was healthy-looking and painless. On March 10 the ulcer was "bathed in healthy pus," and the tetanus more pronounced. Trismus was marked and the muscles of the lower extremities involved paroxysmally. The boy lived 15 days, when death ensued. Treatment, potassium bromid, physostigma and chloral.

CASE 8.—Carlos C., white, aged 2, was vaccinated in the month of April in Cuba. The vaccination was successful and ran a normal course. Inflammation then commenced at the site of the vaccination pustule, converting the latter into an ulcer, which, when first seen, had burrowed deep into the tissues. There were typical symptoms of tetanus. No other lesion was to be found on the surface of the child's body. Large doses of chloral and laudanum were employed, but in spite of active treatment the child died on the fourth day.

CASE 9.—G. E. B. (from Report of Royal English Commission), was vaccinated by the public vaccinator by the arm to arm method, from a child whose vaccination ran a normal course. Six others were vaccinated from the same child, all running a normal course. On 8th day the vaccination appeared normal. No dressing is mentioned as having been used up to this time. On the 9th day redness appeared, extending about an inch around the vesicles. Later a bluish appearance, purulent discharge, and the arm was bathed with oatmeal water, dressed with zinc ointment on red rags, and a shield superimposed. The discharge was thick and offensive. On October 1 the mother poulticed the arm. Next day the mouth was "drawn tight." Marked tetanic symptoms followed, paroxysms of opisthotonos, in one of which the child died on October 5. Poultry and tame rabbits were kept in the yard, close to the door; and at a house one-half mile distant an infant, 10 days old, died about the same time from umbilical tetanus.

CASE 10.—Dionisio G., negro, male, aged 9 months, was vaccinated in Cuba at a municipal dispensary, on July 12, 1891. He was found in a cot covered by a dirty quilt, and the room and the walls and floor were covered with dirt. On the 16th the vaccination was successful. On the 18th, 19th and 20th he had a little fever, which soon entirely disappeared. During this time he continually crawled around the room and the yard on his hands and knees as usual. On the 31st of July he had a sudden convulsion, lasting but a short time; on August 1, another, at which time trismus was present. The characteristic and classic symptoms of tetanus rapidly asserted themselves, and the child died in 32 hours from the beginning of the attack.

CASE 11.—M. D. W., was vaccinated on Nov. 6, 1893; a white child, female, aged 5½ years. Strumous diathesis, with suppurating cervical adenitis. Child neurotic, of weak vitality, slight ailments always affecting her profoundly. Vaccinated with fresh ivory point of bovine virus, using alcohol and clean towel in preparation of the field of operation. The latter was covered with Lister's green protective and bandaged. On November 24, 18 days later, the wound was "not doing well." Vaselin had been taken from a partly used bottle, into which those who used it had dipped their fingers, and a quantity had been set aside in the closet for the purpose of dressing the wound. When first seen the child was indisposed, temperature 100.5 F. The ulcer on the arm was the size of a half dollar, deep, and contained a quantity of sanious pus of a very fetid odor. The child had been at play every day since vaccination, and had at no time suffered any inconvenience. Child now became depressed, thirsty, apprehensive, and had slight strangling attacks. On December 2 some rigidity of the cervical muscles and pains in the back. Constipated, with suppression of urine. Arm appeared healthy at this time, temperature and pulse normal. Aphthous stomatitis and several badly decayed teeth present. At midnight a convulsion, opisthotonos, apnea. Marked trismus of risus sardonicus. On December 4, typical convulsions. On December 5 râles at base of left lung posteriorly, and later in the right lung also. Six more slight convulsions and death followed. It was learned that the father had taken the child for a walk on November 30, and in the stiff breeze she complained of sharp pain in the "right throat," posteriorly to the angle of the jaw. She had at this time aphthous stomatitis, with ulcerative lesions on the lips and tongue.

CASE 12.—A. P., school-girl, white, and 7 years of age. Was vaccinated on Oct. 2, 1896, in Philadelphia, by one of the official vaccine physicians, who used upon this as well as the following case, "fluid vaccine" from Milwaukee. This vaccine was at a later time diluted with glycerine, but, according to the physician, this was not true up to the time of vaccination of these cases. No other cases of tetanus developed from its use to his knowledge. When first seen the site of vaccination showed a cup-shaped ulcer ¼ inch deep, ¾ inch wide, and 1 inch long, discharging pus, and the immediate vicinity slightly swollen and indurated. Trismus marked, temperature 100.5 F., pulse 120, resp. 20. On October 10 risus sardonicus also marked, and three slight convulsions. On the 11th opisthotonos extreme, temperature 101.2 F., pulse 120, resp. 36. From then until the 15th the same condition, with profuse sweating. Opisthotonos relaxed at this time, but returned upon the slightest disturbance. Muscles of abdomen, chest, and all of the extremities in marked contraction, and continually bathed in cold perspiration. Perfect control of urine and feces and was fed by means of small rubber catheter, and for a few days by nutrient enemata. On the 17th patient was able to open mouth ½ inch, tongue very swollen and coated and a terrible stench coming from the mouth. Trismus gradually relaxing. On the 26th, tongue much swollen and covered with mucous white ulcers about the size of a dime. Gums swollen and spongy; slight bleeding. On November 2 there had been a pustular eruption on the face, neck and buttocks for two days, which now spread to the arms and thigh, and was quite painful. Several crops appeared in the next two weeks. By December 1 the child was perfectly well. The treatment was local antisepsis, together with the use of chloral and bromids. On October 10 two coverslip spreads from the wound showed large numbers of staphylococci and streptococci. No cultures were made.

CASE 13.—E. S., white, male, aged 8. Vaccinated October 3, by the same physician, and with the same fluid vaccine. Until then perfectly well. When seen on Oct. 23, 1896, the boy was slightly feverish (101 F.), resisted inspection of the throat, which was persisted in, however, and a whitish, more or less necrotic appearance noted. The tonsils and uvula were swollen. The masseter muscles were contracted and there was present the risus sardonicus, when he tried to contract the muscles of expression. The reflexes were active, the muscles of the neck and the back stiff. A culture was taken from the throat and a mixed growth of diphtheria bacilli found, of virulent type, causing characteristic postmortem appearances in guinea-pigs. The child's arm about ten days after vaccination had become ulcerated in appearance and had grown steadily worse since that time. When seen was necrotic, a depressed ulcer being present with some purulent secretion. Antitoxin was administered on the next day. Frequent convulsions had occurred during the night, sleep intervening. Temperature 100.4 F. Condition on the following day the same. Trismus extreme. Mouth foul. This condition continued until October 30, when he became more relaxed, and on October 31 he could open his mouth slightly and take a little food. Recovery was slow, but eventually complete.

CASE 14.—A. K., private in 3rd Nebraska Regiment, 1st Division, 7th Army Corps, U. S. A. Died at Havana, Cuba, in 1899, "from tetanus resulting from infection from vaccination." No details of the clinical history obtainable, and evidently no record preserved.

CASE 15.—C. R., colored soldier, private, Company A, 24th Regiment, U. S. I. Vaccinated July 17 with glycerinated virus. Careful asepsis at time of operation. August 3 reported at sick-call, complaining of pain in his neck and stomach. Had been sick all night. Diagnosis of tetanus made on August 4, when trismus was marked. Convulsions appeared, increasing in frequency until they occurred every two minutes at 11:30 a. m. Temperature at 1 p. m. 99.6 F. Could not swallow. Retention of urine. Ineffectual attempt at passing catheter over two strictures. Hot water bags produced voluntary micturition later. Convulsions and opisthotonos almost continuous until death occurred at 1:30 a. m., on August 5. The vaccine wound presented throughout an ulcer half the size of a half dollar, with no surrounding swelling or injection of the tissues. The patient was conscious at all times, and complained of great pain in the neck and abdomen. Temperature at time of death 107.4 F., and one-half hour later 108.5 F. The treatment consisted of large doses of chloral and morphia.

CASE 16.—Female, aged 10, white, was vaccinated in Brewster, New York, about Oct. 1, 1899, aseptically and with glycerinated lymph. The reaction was severe, with much pain and swelling from the fourth day after the operation. Three days before the development of the tetanus these symptoms had greatly increased. The physician states that there were three sources of infection other than the vaccination, of which the most probable was the application of fish lard exactly 18 days after the vaccination, and synchronous with the exaggeration of the inflammation. The case ran a typical course of tetanus and terminated fatally.

CASE 17.—Native Porto Rican child, male, was vaccinated by the American authorities during 1899, in San Juan. The tetanus appeared a number of days after the child was vaccinated. The virus was on a dried point, and had been produced at a vaccination station established by the military government of the island. "The case received thorough investigation, with the conclusion that the vaccination primarily had nothing to do with the secondary disease." Unfortunately the records of this case were lost, but Lieut.-Col. Van R. Hoff writes in a personal communication: "Among the details that had to be considered was the question of secondary infections which are very apt to occur in tropical countries, especially tetanus, which you will observe by looking at the records of the Superior Board of Health is the cause of considerable mortality in Porto Rico. It was determined to investigate every case reported. The one referred to . . . was the only case brought to our attention . . . As to source of infection, the lower classes in Porto Rico are no more cleanly than elsewhere, and very little care was taken by them to keep the parts clean. Asepsis was followed in the operation, but it is not believed that it was maintained and secondary infection might have occurred in many ways. The patient died." About a million vaccinations were executed during the period referred to (1899-1900) by the American military authorities in Porto Rico. In investigating the question of possible cases in the records of the War and Navy Departments the following reply was received to an inquiry on the subject, from Surgeon-General Rixey, of the U. S. Navy: "During the last five calendar years there have been three cases of tetanus in the naval service, and one death from that cause. None of these cases was associated with vaccination. In accordance with U. S. Navy Regulations, each person is vaccinated immediately on enlistment. During the last five years there have been 63,465 persons enlisted in the Navy and Marine Corps. . . . During the last five fiscal years there have been distributed from this bureau 70,253 vaccine points. Additional virus has been obtained from time to time, in emergencies, by cruising ships on foreign stations."

The cases cited in this series include the few cases recorded in the files of the War Department, of tetanus following vaccinia.

CASE 18.—M. E. A., female, aged 8, was vaccinated about Nov. 27, 1900, with ivory points, in Paris, Tenn. At the same time several other members of the family were vaccinated, and all had very sore arms. There was no other case of tetanus in the family. The scab was knocked off from the child's arm by a schoolmate, and the mother dressed the sore "with some wadding removed from an old quilt, and this cotton was allowed to remain on the arm until the tetanus was discovered (10 days)," about three weeks after the vaccination. Tetanus antitoxin was ordered from Memphis, but never used. The case died.

CASE 19.—Male, white, aged 8, was vaccinated Jan. 3, 1901, with glycerinated lymph at Kalamazoo, Mich. Aseptic precautions used at time of operation, and shield used until the arm was dry, when it was removed and the mother instructed to keep the clothing clean and use no dressing. The vaccinia was normal until the 14th day, when the scab was torn off at school. The ulcer was filled with watery granulations, and there was considerable watery discharge. Mother now instructed as to aseptic dressing, but the instructions were not carried out. On January 27 tetanus developed. The arm was found in a filthy condition, also the shirt-sleeve over it. There was no dressing over the ulcer, which was filled with unhealthy granulations. Symptoms of tetanus were classic. Slight improvement followed the use of antitoxin. Morphin and chloroform also used. The boy died on January 31, five days after the first symptoms of tetanus. Twenty-four days had elapsed from the date of vaccination to the development of tetanus, and ten days previous the scab had been torn from the wound.

CASE 20.—Female, aged 21, was vaccinated unsuccessfully. Revaccinated on the leg on March 8, 1901, with calf's lymph supplied by the Health Board of the City of Glasgow, Scotland. The limb was carefully cleansed and after the operation a "large adhesive thick felt or bunion plaster was then applied around the vaccination mark, and was kept in position by a strip of adhesive plaster." The vaccination was successful, though the symptoms were quite insignificant. On the 18th she experienced a severe draught, complaining at the time. On the 20th pain in the back and stiffness in the neck and jaws. No sore throat. Adhesive plaster had never been removed since the first application (13 days), and when crust and plaster were removed the ulcer did not look particularly healthy." Covered by a grayish-colored slough and a discharge of thin, dirty yellow pus. Bread poultice used, and on the 21st day the wound healed completely. March 22 the jaws became stiffer, till by evening the patient could only open them with difficulty. Head distinctly retracted, much rigidity of the muscles of the neck, and some of muscles of the abdomen. Hysteria considered, but no stigmata found. Temperature normal, pulse 68, and regular. Varying improvement and retrograde until the 24th. Feet then so strongly flexed as to continue the line of the legs. Consultation with Sir Hector Cameron and Prof. T. K. Munro, and diagnosis of tetanus made. Until end of April intermittent fever and gradual improvement. April 6-22, spasms of muscles upon any sudden movement. Could not chew owing to rigidity of jaws. Sat up in bed by the end of the first week in May. Trismus was the last symptom to disappear. The arms were never involved. Perfectly well by the end of June. Treatment by means of large doses of chloral. This was the only patient of a large number vaccinated on the same day to develop tetanus.

CASE 21.—Mary E. R., white, aged 12, was vaccinated for the first time in her life in Burlington, Vt., with dry points. Tetanus developed on Oct. 21 (vaccinated Oct. 2), 1901, and several days prior to its appearance the girl had assisted in taking up and potting plants from the garden, although with a large angry ulcer at the site of vaccination. Dr. B. H. Stone, bacteriologist of the State Laboratory of Hygiene, cultured six samples of earth, taken from various streets, alleys, and gardens of the city. From all, and from the garden earth at the residence of this case, pure cultures of the tetanus bacillus were obtained, "which killed white mice in several hours. The animals developed typical tetanic spasms."

CASE 22.—Female, also aged 12 years, and never vaccinated before. Vaccinated on the arm with dry points in Burlington, Vt., in October, 1901. Twenty-one days later tetanus developed. This girl also had a large ulcer at the site of vaccination, and neither she nor the preceding case "had the vaccination wound protected until some time after a scab, which had formed, had been removed, accidentally or otherwise, and then the dressing was done at home." These were the only cases among over 8000 vaccinations in the town with the same virus. The culture experiments noted in the last case were made in reference also to this.

CASE 23.—F. I. K., white, female, aged 11 months. Vaccinated at Rosemont, Pa., 28 days before she was seen by the writer. A sister was vaccinated at the same time and had a severe ulcer, but tetanus did not develop. The father is a coachman, and the family lived over a stable. When first seen the wound was angry and foul smelling. The inflamed area corresponds closely to that covered by the shield, which had not been removed since the vaccination. No dressing had been worn over the perforated shield. Symptoms rapidly increased, in spite of large doses of carbolic acid, used hypodermically, and antitoxin administered within the first 24 hours and repeatedly after. Chloral and bromids were also used in full doses. Trismus was marked, opisthotonos almost continuous and the child died in a convulsion 36 hours after the beginning of the attack. The wound, which was thoroughly curetted, was full of indurated tissue and covered by a mass of coagulated pus and lymph. Cultures gave a profuse growth of staphylococcus albus on all the media. No growth of the anaërobic bacteria could be obtained. (This case has been reported in full at a previous date.)

CASE 24.—W. J. B., male, white, aged 7, vaccinated in Camden, N. J., on Oct. 12, 1901, with glycerinated virus, marked good until Dec. 26, 1901. Aseptic care was used in the operation. About November 1 the scab was lost off while at play, and, according to his playmates, he picked it up from the ground, replaced it in the wound, and bandaged or tied it in place. Tetanus developed on November 1. Trismus and opisthotonos were present; the case grew rapidly worse and died Nov. 3, 1901. The boy's brother was vaccinated with the other half of the virus from the same tube, and at the same time. His vaccination was successful, and ran a usual course free from tetanus.

CASE 25.—L. E. C., female, white, aged 16, vaccinated in Camden, N. J., on Oct. 14, 1901, with dry points, marked good until Dec. 10, 1901. Asepsis was observed in the operation. A shield was worn and allowed to remain in place until it became glued fast to the surface with the excessive discharge. There was an open sore, large and irregular in shape. Trismus appeared on Nov. 8, 1901, and at first the tetanus seemed to run a mild course. After a short time the symptoms increased in severity and the patient died with opisthotonos and convulsions on Nov. 15, 1901.

CASE 26.—E. S., female, aged 6, vaccinated with glycerinated points on Oct. 19, 1901, at Rosemont, Pa. Aseptic care used during the operation. A shield was applied perforated in the surface to admit the air. The father was a stableman, and the house adjoined the stable. The child had been playing continually in the garden, and had been seen with a playmate shortly before, both throwing earth at one another. Tetanus appeared on Nov. 10, 1901, and convulsions began the next evening. The next day well-marked stiffness in the jaws and back of the neck. Symptoms all increased, with locked jaw and opisthotonos, and death from exhaustion on November 19. The vaccination wound was clean, granulating and healthy, during the nine days of illness, and during the same time there were present two decayed and bleeding teeth and a stomatitis that was almost gangrenous, that had been neglected. The treatment consisted of the usual depressomotors and no antitoxin. The same physician had attended ten cases of tetanus (no others in the course of vaccinia), of which four were treated with antitoxin, two recovering and two resulting in death. Of the remaining six (treated without antitoxin) only the case under discussion failed to recover.

CASE 27.—A. M. W., white, female, aged 11, healthy and of large build, was vaccinated on Oct. 19, 1901, with glycerinated tube lymph, marked good until Dec. 10, 1901. Residence, Camden, N. J. Aseptic care employed in the operative procedure and a papier-mache shield superimposed and left in place until October 26. The wound then looked healthy, the vaccination appearing normally successful. She was next seen by the physician on November 6 (17 days after vaccination), when she appeared very nervous and excited. She had headache, and back and limbs were sore, with sharp lancinating pains in the neck, masseter muscles and the larynx. On attempting to eat a piece of candy shortly before she had a spasm of the facial muscles. The vaccination wound was purplish red, soft and boggy, and had a hard core in its center. A thick sanguinous discharge was oozing from the ulcer. The core was removed and found to be about a half inch in depth. The shield had been discarded seven days before and a coarse rag tied on the arm. November 8 frequent localized convulsions, and later of whole body. During the evening of this day coma set in. Many severe convulsions and almost continuous opisthotonos through the night. Complete loss of control over the bowels and urine. Death

on November 9 in terrible agony. Treatment, potassium bromid, chloral and morphia.

CASE 28.—J. G., male, white, aged 11, was vaccinated in Bristol, Pa., on Oct. 19, 1901, with tube virus. Aseptic care of the operative surface, but no care taken with the wound subsequently. Playmates state that patient, while refereeing a game of basketball on November 9, took the bandage from his arm and threw it on the ground, afterwards replacing it upon the arm. The ulcer had been very severe from the beginning, but when seen on November 10 in Philadelphia, where he was taken for treatment, it was badly infected. Tetanus had appeared 24 hours previous. The actual cautery was applied and formalin injections used, and on the following day intracerebral injections of antitoxin were resorted to. There was marked and almost continuous opisthotonos and severe convulsions followed the slightest disturbance. Death took place on November 11, about 28 hours after admission to the hospital.

CASE 29.—B. R., female, white, aged 7, was vaccinated in Camden, N. J., about Oct. 1, 1901, with dry points, and upon the left arm. Her sister, also a child and two other children, were vaccinated at the same time and with the same virus. All four had severe and deep ulcerative processes, one requiring six weeks before it healed, another about nine weeks, and a third not having completely healed at the time of writing this record (over five and one-half months). The patient's arm was equally inflamed. A shield was applied over the wound and retained in place for three weeks. The arm was then so swollen and inflamed that the shield was removed, a deep ulcer being present, discharging fetid pus. At this time an attempt was made to care for the wound aseptically, with a boric acid wash, and an ointment applied. At one time a flaxseed poultice was applied, and over the wound linen rags were placed after boiling. Instead of healing the ulcer burrowed deeper, and seven weeks after vaccination the mother noticed at dinner time that the child's mouth would not open properly for the reception of food (Saturday). On the same afternoon, however, the patient walked to the center of Camden (two miles) to have her picture taken. She slept poorly through the night and next morning could not walk straight. Stood "like an old woman" as she herself said. On the following day, while lying on the sofa her back suddenly arched and she had a severe convulsion. At this time the jaws were tightly locked and the muscles of the back and neck were rigid, as also those of the abdomen. Opisthotonos was not constant, but increased in frequency throughout the week, with occasional convulsions until Saturday (the 8th day) when she died. The mind was clear during the entire period, and just before the final convulsion she talked with her mother. She was fed throughout by enemata. Antitoxin was not used. During the time from the vaccination to the development of tetanus there was neither an abrasion of the skin at any other point on the body than the vaccine sore, nor even a decayed tooth. The child had always been healthy and well since infancy, when she suffered from malnutrition. Her mother attended the child during the time of her illness and gave the above intelligent and clear statement. The physician refused all information on the subject, so that the treatment could not be learned. Case 35 occurred within a few streets of the home of this case.

CASE 30.—A. B. C., white, female, aged 8, was vaccinated in Camden on Oct. 21, 1901, with glycerinated tube lymph. A papier-mache shield was used continuously until the 28th, when a fresh shield of a different pattern was applied. The vaccination then appeared healthy. During the evening of November 11 she called at my office and complained of headache, feverishness, etc. Did not sleep well during the night. Next morning was nervous, had pain all over body, and especially in the muscles of the back of the neck. Next morning there were trismus, opisthotonos, and convulsions rapidly increased in severity until 7 p. m. She then became unable to swallow and was fed by enemata. She died in a convulsion shortly before 3 a. m., on November 14. The treatment employed was counter-irritation along the spine, morphia, and four injections of antitoxin (each 500,000 units). Nitrite of amyl was also used. Her schoolmates state that the patient frequently fingered the wound, and exhibited it to them.

CASE 31.—W. B., white, male, aged 16, was vaccinated in Camden, N. J., on Oct. 14, 1901, with glycerinated virus, marked good until Dec. 26, 1901. Asepsis was employed in the operation. A shield was applied and had not been removed nor the arm cleaned until he complained of stiff neck on Nov. 4, 1901. This shield was a simple bunion plaster. When seen the arm was swollen, and the wound was dry and black, emitting a bad odor. The wound was curetted and dressed. Opium and the depressomotors were used, and later antitoxin. The physician who vaccinated the patient stated that the latter was not well when the operation was done. He also denies that the case was one of tetanus. According to the attending physician, who reported the case, the symptoms were unmistakable, including trismus, convulsions, incontinence of urine, and subsequently marked paralysis of the limbs. After four days the trismus relaxed and convalescence was steady from that time.

CASE 32.—E. H., male, white, aged 11, was vaccinated in Camden, N. J., on Oct. 23, 1901, with glycerinated points. Asepsis was carefully followed throughout the operation. No dressing had been used over the wound, and when seen on November 13 there was a large ulcer on his arm, the size of a half dollar, and in this was matted the sleeve of a new merino gray shirt that had never been washed. The shirt had been worn since the 13th, and no care had been taken of the wound. On November 11 the boy said to his father that his jaws seemed stiff. He slept all night, but in the morning felt stiff all over. His mother carried him down to breakfast. About one hour later she noticed that his head was drawn back, though he could talk plainly. He was seen by the physician about 10 a. m., on November 12, at which time trismus was so marked that he could barely get his tongue between his teeth, and could not talk. Convulsion soon set in, with marked opisthotonos, and the boy died at 4:30 a. m., November 13. Treatment, chloral and bromids. Rectal feeding.

CASE 33.—F. C., white, male, aged 5, was vaccinated in Camden, N. J., on Oct. 25, 1901, with glycerinated tube virus. Aseptic cleansing of the arm was carried out. For a greater part of the time no dressing had been worn upon the wound. About a week before the development of tetanus the boy had ridden on an ice wagon and had torn his arm upon the ice hook. Neither this wound nor the vaccine ulcer was attended to properly. The case was first seen by the physician on the evening of November 8, when he complained of a stiffness in his cheek muscles. He was seen again at 5 a. m., next morning, when the symptoms of tetanus were distinct. The case was unusually severe with opisthotonos and convulsions from the start, and died at 3 p. m., of the same day. The boy's home was within a few feet of a stable, not very clean, where he played much of the time. His brother, three years his junior, was vaccinated at the same time, and with the same virus; the vaccination was successful and gave no bad results.

CASE 34.—M. W., white, female, aged 8, was vaccinated in Camden, N. J., on Oct. 26, 1901, with glycerinated tube virus, marked good until Jan. 5, 1902. Asepsis had been employed in the operation. The vaccination had taken, but never was severe and when called to see the case the physician found the vaccine wound entirely negative. This was on November 15, at which time tetanus was well marked by trismus, rigidity of the muscles of the neck and jaws, as well as of the abdomen. The case ran a mild course, however, and has since slowly recovered. No information can be obtained as to the treatment.

CASE 35.—G. O., colored, female, aged 9, was vaccinated in Camden, N. J., on Oct. 26, 1901, with dry points (statement also made in another report of Camden Health Board that the virus was in the form of glycerinated points), and asepsis was observed in the procedure. The vaccination was done at the City Dispensary. No dressing was worn over the wound for most of the time. The vaccine wound was a severe one, but when seen by the physician it had a healthy appearance, though still open and discharging a mucopurulent material. There was also an open sore on the inside and corner of the lower lip. The case at first ran a mild course, though there was marked trismus and rigidity of the neck and facial muscles. Depressomotors were used and the case seemed to respond to treatment until November 26, when active convulsions appeared and the child died during the course of the morning. The patient's brother was vaccinated at the same time and with the same virus and had no bad results, though the vaccination was successful. Case 29 occurred within a few streets of the above.

CASE 36.—F. H., white, female, aged 4, was vaccinated in Philadelphia, on October 26. A tube of glycerinated virus was equally divided between the arm of the patient and that of an older sister. The latter had been successfully vaccinated four years previous and the revaccination was of no effect. The patient was healthy at the time of vaccination. Her home is a brick house without a cellar, and connected with a stable by a single door. Both the stable and the house are untidily kept. In 5 or 6 days a typical vesicle formed and the vaccination ran a normal course. On November 13 (18 days), when seen, the wound was not scabbed over; was angry looking; and there was a small surrounding zone of inflammation. Patient complained of pain in the thigh, muscular rigidity in the neck, back and thigh, and great fear that she might get her tongue between the teeth and bite it off. Opisthotonos was pronounced over portions of two weeks, the muscular rigidity and contractures remaining much longer. Recovery was not complete until some time during the latter part of December, when she was active and well. The treatment included the use of local measures, as well as bromids and opium. No antitoxin was used. This was the only case among a large number of vaccinations to develop tetanus.

CASE 37.—H. P., white, male, aged 7, was vaccinated in October, 1901, at the Atlantic City Hospital, N. J., with glycerinated virus. A shield was applied and worn three days. A rag was tied around the arm. The child played constantly in an adjacent yard where a house-mover kept his lumber, some of which was in a bad state of decay. When seen the vaccine sore was not particularly in evidence, the pain and soreness being entirely confined to the lumbar region. On the second visit the stiffness of the jaws and neck were marked. He was then removed to the hospital (22 days after vaccination). Opisthotonos grew very marked with repeated convulsions, until the child died on the third day after admission. The treatment consisted of antitoxin injections, chloral and bromids.

CASE 38.—A. T., Jr., white, male, aged 12, was vaccinated in Bristol, Pa., on Nov. 3, 1901, with glycerinated tube lymph. A shield was placed over the scarification, but allowed to remain for days until it finally became filled with the discharges from the sore. The shield was finally removed and a fresh one applied. With the shield came away a large quantity of pus and also the scab. The next day the jaws were set (November 24). At this time there was a deep ulcer at the site of vaccination. The tetanus was severe, with opisthotonos; muscular rigidity that was quite general, and convulsions. Trismus lasted without intermission until death on November 27. There were no other lesions on the boy's body at any time after vaccination up to the time of death. Cannabis indica was used in large doses, but with no benefit. No antitoxin was used.

CASE 39.—J. T., white, male, aged 10, was vaccinated Nov. 4, 1901, with glycerinated points in Bridgeton, N. J. No dressing was used and on November 22 the scab came off, the dressing from this time on being a rag. His playmates state that prior to the loss of the scab it had been his habit to pound the arm violently with his fist, apparently to show them that it did not hurt. It was also his habit to finger the wound and exhibit it to his playmates. He had at first worn a shield, which had not been entirely removed nor the arm cleansed until the scab came away (22 days). Directly in the rear of his house is a stable, about 40 feet away, where there is a horse kept by the father of the boy, and where the latter sometimes played. Tetanus first appeared on November 27 (23 days after vaccination). Trismus on the next day was well marked and the general appearance of the boy was one of distress and anxiety. At first the case seemed of the subacute type. The closure of the jaws was never complete, and the patient was able to take food until 24 hours before death. On the day before death there was a sudden exaggeration of all the symptoms, and in the frequency and length of the convulsions. Death occurred from exhaustion on the evening of November 30, about 5 days after the onset of the initial symptoms. The treatment comprised carbolic acid injections, and large doses of chloral and bromids. No antitoxin was used. This was the first death from four or five thousand vaccinations in the city.

CASE 40.—A. H., white, female, aged 13, was vaccinated in Camden, N. J., about November 4, by a sergeant of police (also said to have been by a druggist). Form of virus not known. Trismus, and rigidity of neck and body were very marked. There was an ulcer at the site of vaccination about the size of a quarter-dollar-piece, with a thin layer of pus on the surface. Induration ½ inch in all direc-

tions. Tetanus developed on November 25, trismus being marked and the contractures and spasms violent from the beginning. The child died on the following day (November 26) in a convulsion. The child had been washing dishes a few days after the vaccination with her sleeves rolled up, had then played with the dogs (kept in the house) on the floor, and then dressed her wound (herself), as usual, with a rag. This was not an unusual performance. The entire indurated area, with the ulcer, was excised, the parts disinfected as far as possible, and the patient injected with 5,000,000 units of antitoxin above the wound and in the back. Bromids and chloral were also given, but with no effect, death taking place in 36 hours.

Case 41.—Mrs. A. D., white, aged 24, was vaccinated in Philadelphia about Dec. 9, 1901, with glycerinated tube lymph. Her arm became very sore and a crust formed at the site of the vaccination. The physician did not clean the arm, and heated his scarifying needle over a common lamp, according to the story of the patient. No dressing was applied over the wound. Seen for the first time on Jan. 1, 1902, at St. Joseph's Hospital, a large ulcer being present at the site of vaccination. No other lesion on the body. One week ago the muscles of the back became tender, though not stiff at that time. Four days ago the muscles of the back and neck were tender and rigid, and one day later the muscles of the jaw were fixed. There was on January 1 rigidity of the localities mentioned. Muscles were in a constant state of contraction, with occasional aggravation of the continuous spasms. No anesthesia or hyperesthesia. Visual field slightly contracted. On January 4 the abdomen was distended and its muscles rigid. January 6 to 9, clonic spasms greatly decreased. Muscles of the back of the neck rigidly contracted. Could almost open mouth to full extent. Heavy antitoxin dosage. Developed erythema of chest and legs, also a few pustules scattered over the surface. January 11, 12 and 13 showed a steady though slow convalescence. Slightly delirious at night. Left the hospital against advice Jan. 14, 1902. Treatment consisted in the use of antitoxin, chloral and bromids.

Case 42.—————, white, aged 8, was vaccinated in Chicago during 1900, with "city virus." An investigation of this and of the following case showed that the children had badly infected arms from lack of care and cleanliness. In this case a narrow bandage was placed around the arm, by the mother, soon after the child was vaccinated, and allowed to remain until the sore and bandage became so offensive to the smell that they sought the advice of a physician, who dressed and cleaned the arm. This was five weeks after the performance of vaccination. A few days later tetanus appeared. Ten thousand other children were vaccinated with this same lot of vaccine without any bad results.

Case 43.—— — —, white child, was vaccinated in Chicago, during 1900, with "city virus." Three other children were vaccinated in the family at the same time and with the same lymph, all had typical vaccinations and no bad results. The bed in which this child slept was filthy, and the arm was infected through a total want of cleanliness. The vaccine lymph is tested by the Chicago Health Department, both as to its potency and its purity in the department laboratory before using. A number of other cases occurred at the same time in children who had not been vaccinated.

Case 44.—Miss S., adult, white, vaccinated in 1901, in Cleveland, with glycerinated lymph. Careful aseptic precautions were taken, and a shield was applied. Tetanus developed on the 15th day following vaccination and terminated fatally. The physician had many other very severe wounds from this lymph, but no other cases of tetanus. Antitoxin was used in large doses, but to no avail, the patient dying on the 7th day.

Case 45.—E. T., white, male, aged 6, was vaccinated on Feb. 1, 1883, in Auburn, N. Y., by the City Health Board. Twenty days later (February 20 and 21) he had headache, stiffness in the neck and back, and spasms with grimacing and setting of the jaws. Pain in the stomach. The vaccine ulcer when seen was ½ inch in diameter, had clean-cut edges, and an inert surface. Patient for some days had had pains in front of arm and forearm, and lately cramps in this hand. Feverish and tendency to urinate frequently. Had slept none since the 20th. Temperature in axilla 102.3 F. From this time stiffness of the jaws continued. Convulsions every 15 minutes, at which time jaws were firmly set, opisthotonos present, and child screamed with pain. Upper extremities not involved. Calomel and whisky in large doses had a marked quieting effect. In 36 hours patient took about two quarts of whisky. Became rational, had no more severe convulsions, though there was a tendency to twitchings unless the whisky intoxication was pushed. On February 25 was rational. Hand was cramped and little finger and thumb crossed. Symptoms of needles sticking him in temples and pain in top of head. Then gradual subsidence of all symptoms. Coarse râles over both lungs. Extreme exhaustion and long, tedious convalescence until March 12, when complete recovery seemed sure. In May, 1882, this patient had been treated by the same physician for tetanus following a wound in the foot. He was treated in the same manner with complete success. Both attacks were severe until the intoxication was secured by means of the whisky.

Case 46.—"Case of tetanus after vaccination was seen by me, 7 years ago and in consultation. The tetanus developed a couple of weeks after inoculation. The vaccination wound was large and ugly-looking, with much swelling. The child was a boy of about 10 to 12 years, and gave all the usual symptoms of tetanus, and died in the third week after vaccination by bovine lymph. Of course, cleanliness was not then well understood and bacteriology in its infancy."—(Letter from consulting physician.)

Case 47.—J. H., male, white, aged 38, an inmate of the insane department of the Philadelphia Hospital, was vaccinated on Nov. 18, 1901, with dry points. No dressing could be kept in place over the wound. On November 19 the arm was swollen red and painful, with a necrotic patch in the middle of the site of vaccination. This was excised and the arm dressed. November 25, difficulty experienced in eating breakfast. When examined at this time the jaws opened about one inch with difficulty, neck stiff, and back rigid. Area of vaccination excised and cauterized. Condition became rapidly more pronounced during the day, and swallowing impossible. Fed by rectum. Treated with carbolic acid, cocain, atropin, and morphia. Urine drawn by catheter. Temperature 97.4, pulse 93, and respirations 24; ranged to 98.4 F., 109 and 30. November 26 (1:30 a. m.), had first convulsion, and five more before 6 a. m. Then a series of lighter spasms, and death at 8 a. m.

Case 48.—L. B., male, white, aged 45, an inmate of the same department, was vaccinated on Nov. 8, 1901, with dry points, the vaccination being successful on the 14th. November 26, patient was reported with swollen painful arm. The dressing had been worn for a short time only. Necrotic patch in center of vaccine ulcer, greenish in color. Wound cauterized and dressed. Antitoxin (1,000,000 units) given as immunizing dose. November 27, a. m., jaws stiff, less and less controllable, and soon immovable. Neck stiff same evening. November 28, neck rigid, jaws rigid and ½ inch apart, abdomen tense. Swallowing almost impossible. Risus sardonicus present. Antitoxin (3,000,000 units) at 9 a. m., and again at 2 p. m. During the next 36 hours 16,000,000 units were given. Fed by rectum. Rallied only once after injection of serum. Constipated; retention of urine which showed evidence of nephritis. November 29 two convulsions, each about ½ minute in length. Died from exhaustion at 6:15 a. m., on November 30. Total antitoxin used 25,000,000 units.

Case 49.—John W., white, aged 6, was vaccinated in Massachusetts on Sept. 10, 1901, under strict aseptic precautions. A light gauze sponge and a gauze bandage were applied, and strict directions given to return the child if the arm became sore. Three weeks before the physician was called to see the child he had a fully developed attack of tetanus. Attempts to discover the anaërobic germs in cultures and on the coverslip failed. There was a large ulcer, bathed profusely in pus. The arm had been grasped by some one during the second week following vaccination and the pustule broken. The mother had also substituted for the dressing one of her own, and when the child was seen the dressing had not been changed for a week, was "soaked in pus, stinking and dirty in the extreme." The tetanus symptoms continued at first with severity in spite of the use of antitoxin, but at length subsided and the boy slowly recovered. From the same lot of virus 40 children were vaccinated, of whom the only one to develop tetanus was the above. No other lesion or cause of entrance of the micro-organism could be found.

Case 50.—M. McG., white, female, aged 5, was vaccinated on the arm with glycerinated points on or about June 7, in Philadelphia. No dressing was worn over the wound which was soon covered by a scab. The latter had been scraped off in some manner not ascertainable, and when seen by the physician there was a large suppurating ulcer at the site of vaccination. The arm had been very painful and much inflamed for some days. Tetanus developed on June 29, a. m., and the symptoms were very severe from the start, including trismus, rigidity, opisthotonos, and severe convulsions. Thirty-six hours before death (10 p. m., June 30) the child could walk, but complained of being stiff. Antitoxin, chloral, and bromids were used, but without seeming effect. The child lived near and played often in a stable. The autopsy showed no other lesion on the body. Congestion of the spinal cord was noted, but no other pathologic change was evident.

Case 51.—M. K., white, male, aged 31, an inmate of the insane department of the Philadelphia Hospital, was vaccinated on Nov. 11, 1901, with dry points. Vaccination successful November 28. Dressing was retained on arm for short time only. On December 4 patient had stiffness of legs, and discomfort in eating breakfast. No stiffness of neck, but jaws could only be opened about one inch. While getting into bed had first convulsion, with opisthotonos. Sodium bromid and carbolic acid were used throughout the day (the latter gr. ii, hypodermically). Morphia and atropin hypodermically. During December 4 abdomen and back more and more rigid. Retention of urine. Two convulsions during the night. December 5 to 8, condition about the same, urine showing presence of carbolic acid. On December 9 jaws opened wider (1¼ inches). Abdomen very rigid. Patient exhausted. Pilocarpin ointment rubbed into loins. General condition better. December 14 jaws again stiffer, general condition the same. Lungs becoming involved. December 17 to 19, delirious at times and while being examined had acute maniacal attack, with an epileptiform convulsion, cyanosis, and death with a temperature of 99.2 F. The autopsy showed passive congestion and edema of the lungs. Slight broncho-pneumonia of the right side. Parenchymatous nephritis. Hydronephrosis with dilatation of both ureters. Nutmeg liver. The left (vaccinated) arm showed an ulcer surrounded by a livid area. No other marks on body.

Case 52.—J. McC., male, white, aged 38, inmate of same department, was vaccinated on Oct. 27, 1901, with dry points of a different production from those used in the other three cases. Vaccination successful on November 2. Dressing had been worn for short time only. On November 12 was sent to the ward with a painful, swollen arm, the vaccine wound angry with a dark, gray slough in the center. Slough excised and arm dressed. Arm at this time slightly stiff. On November 15 marked stiffness or arm, jaws, but not of neck. No fever, no convulsion. Antitoxin (2,000,000 units). Wound again excised and cauterized, and curetted. November 16 antitoxin (4,000,000 units) at 10 a. m., and again at 12 m., 4 p. m., and 7 p. m. Carbolic acid hypodermically. During night of November 16 jaws tightly locked, the neck stiff, and swallowing almost impossible. Urine showed albumin and casts retention. Had three convulsions on the 16th and died at 12:05 a. m., on the 17th. All the convulsions were characteristic of tetanus. Total antitoxin given was 18,000,000 units, carbolic acid grain 1, and cocain grain 1. The patient had worked every day in a yard the soil from which had previously given a culture of tetanus bacilli. He admitted often scratching his vaccine sore.

The above series does not include 18 cases that had "stiffness of the neck and jaws with a bad arm and whose symptoms disappeared under full doses of serum" that occurred also in the Philadelphia Hospital, and at about the same time. Two of the cases were in resident physicians who even excised their vaccine wounds. The symptoms were indefinite and may or may not have been tetanus, but in all probability were not. The writer saw such a case in a student who applied to him several days after vaccination with seemingly increasing stiffness of the jaws. He had read of some of the foregoing cases

and was convinced that he was also a victim. He was given a large immunizing dose of antitoxin at his own request and the symptoms rapidly disappeared. This case was also probably not one of tetanus, and in any event it is improper to include such in a serious analysis of the disease.

(To be continued.)

GLIMPSES OF THE PRACTICE OF MEDICINE AND SURGERY IN BRITISH AND SPANISH HONDURAS.

N. SENN, M.D., PH.D., LL.D.
PROFESSOR OF SURGERY, RUSH MEDICAL COLLEGE.
CHICAGO.

(Concluded from page 1081.)

SPANISH HONDURAS.

Puerto Cortez, the principal seaport town on the Atlantic side of Spanish Honduras, is reached from Belize by boat in twelve hours. On the downward trip the steamers of the United Fruit Company make a short stop at Port Barrios. The larger part of the voyage is made in what is practically an inland sea made by the numerous islands, or keys, as they are called, situated some distance from the coast, constituting as they do a broken seawall. Port Barrios is a small dilapidated village notwithstanding it is the Atlantic terminus of the Guatemala Railroad. The cornerstone laid for a public building by the late General Barrios remains as he left it, but is beginning to show the effects of the ravages of the elements and the gradual decay of old age. Puerto Cortez is a strange little city, lining as it does the shore for more than two miles. It has only one street, which serves as a public highway and roadbed for the Honduras Railroad and mule cars. It has the bay in front and mangrove swamps in the rear. The population is made up of a few whites, negroes, Indians, Caribs and a mixture of the different races, the negro element being the predominating one.

Honduras is the largest of the republics of Central America. It was liberated from the Spanish yoke in 1821, and since that time amid many a revolutionary storm has maintained a republican form of government. It is sparsely settled, its entire population not exceeding 375,000. In its palmy days it had a number of cities with a population of over a hundred thousand, flourishing cities which are now only a heap of ruins or have their sites marked by little villages. The interior is mountainous, the coast fringed by fertile lowlands or mangrove swamps. It is in the latter locality that malaria does its deadly work throughout the entire year. The soil is fertile and yields a rich harvest from the coast to the mountain peaks. Its agricultural resources are immense and only await the intelligent and energetic tiller of the soil to bring prosperity to the country noted for its poverty. At an elevation of 2000 to 4000 feet the climate is equable and exhilarating, resembling June weather of the Middle States.

WHERE ONLY MAN IS VILE.

Nature has done everything for Spanish Honduras to make it a productive, prosperous country, but the inherent indolence of the natives has inhibited progress and financial prosperity. Teguaigalpa, with a population of 15,000, is the largest city. Puerto Cortez has a large floating population, its inhabitants ranging at different times and seasons of the year from 1000 to 2000. The modern buildings are few, most of the buildings being small, one-story shanties, without a trace of paint. The public buildings are a disgrace to the government. The house occupied by the highest official, the commandante, would be looked at with disfavor by the citizens of Chicago's Ghetto. The wharf is in such rickety condition that the captains of the steamers which touch here are very cautious in reaching the wharf for fear that if the vessel should strike it with any degree of force the whole structure and the adjoining warehouse might lose their foundation, as some of the pilings have been reduced to the size of a broom-stick by the destructive barnacles.

San Pedro, the principal city on the Honduras Railroad, is situated 36 miles inland from Puerto Cortez. If the train makes good time the journey is made in four hours. The iron rails of the little railroad have done service since 1868, which might account for the slow speed and the unmerciful jolting and bumping of the two passenger coaches in the rear of the freight cars. San Pedro has 7000 inhabitants, and is quite an important business center. The present governor of the province has carried into effect many progressive ideas which will prove of lasting benefit to the city. The city hall is a creditable building facing the new park; the ground floor of the building is occupied by the barracks and the provincial jail. The railroad extends from here to Piomenti, its western terminus, a distance of 18 miles. The principal article of export from this part of Honduras consists of the perennial yield of the numerous and productive banana fields.

A PARADISE FOR SPORTSMEN.

The sportsman finds here a genuine paradise. From the different stations he is within easy reach of monkeys, deer, parrots, tapirs, peccaries, wild hogs, armadillos, tigers, and a great variety of birds of plumage. This country is rife for a period of awakening which will be realized with the introduction of more northern capital and energy and the establishment of a more stable government. The frequent revolutions and the weak government are responsible for the delay of modern progress and the poverty of the people. The requirements of the natives are few; their ambition is limited. The scanty clothing is a matter of small expense, the forests and banana fields furnish them with food which they can obtain with little or no exertion. Man, like animals, adapts himself to his environments. The climate of the lower altitudes is depressing, which, coupled with the ever-present chronic malarial intoxication, antagonizes energy and limits the desires of the average natives to the very necessities of life.

PHYSICIANS.

Spanish Honduras has 97 licensed practitioners, including natives and graduates from the medical colleges of the United States and from almost all of the countries of Europe. The license to practice is obtained from the Board of Medical Examiners appointed by the government. All candidates must be graduates of a medical school. For the last two years there has been a medical school connected with the university in the capital city. As this city has only 15,000 inhabitants, it is very evident that the clinical advantages of the medical department must necessarily be inadequate. The better class of medical students obtain their professional education in the United States. It must be a source of regret to the practitioners of this country as well as to the outside medical world that so far no medical society has been organized. The limited railway facilities and the irregularity and inadequacy of the coast steamer service may explain the lack of any attempt to organize the medical profession upon a permanent basis. It is to be hoped, however, that efforts in this direction will be made in the near future. Many of the practitioners of this remote country are in possession of a clinical experience which if published would add much valuable material to our medical literature. I have never failed to find, in the different tropical countries that I have visited, many cases that were a complete puzzle to me, and I am sure our southern colleagues have had the same experiences when they visited the hospitals and clinics of the northern part of the United States. A trip to Central America or any other part of the tropics by any of our medical men can not fail in enlarging their fund of knowledge in everything pertaining to tropical diseases. For this and many other reasons it is very desirable that a closer relationship should be cultivated between the medical profession of the United States and of our Southern republics. A number of the most successful practitioners in Honduras are graduates from the medical colleges of the United States. Most of them are young men who have left their homes and their families with high expectations of reaping in a short time a financial success which would overshadow their hardships and recompense them for the additional risk to which they expose their lives. From what I have seen in the different parts of Central America of our graduates and their work

I find no reason to encourage our young men to seek this part of the world in search of fame or wealth. As long as the different countries remain in the dormant condition in which they are at the present time there is no incentive for such a haphazard undertaking. The few men who have done fairly well would have done much better in any of our prosperous cities in the North. With an increased influx of American capital and labor the conditions for the medical men will be improved.

NATIVE DOCTORS.

By native doctors I do not mean the natives who have obtained their medical education either at home or abroad, but the native medicine men, who lack not only a knowledge of medicine, but who are devoid of anything akin to education of any kind. These natural or lay medicine men are to be found everywhere in the larger cities and in every hamlet. They control the bulk of medical practice. The lower classes of Hondurians, regardless of their racial origin, are exceedingly superstitious. They believe in witchcraft and superhuman power in dealing with disease. The medicine men are shrewd in taking advantage of this weakness of their fellowmen and practice deception to an extent unrivaled by their kind during any part of the world's history, past or present. These men do not devote their whole time and attention to the healing of the sick. In common with their neighbors, they cultivate a little banana patch or take care of a few coffee shrubs, but they are always in readiness to answer a sick call by day or night. The charges for their services are commensurate with their lack of medical knowledge. Two reals (10 cents) is considered by them a liberal fee for anything they are called upon to undertake. The capital invested for plying their trade is small. Charms of the cheapest kinds and a few herbs gathered in the jungles is all that is required to establish their business. They are general practitioners and have no use for specialists. They cover the entire field of medicine, surgery, gynecology and obstetrics. It will suffice if I quote a few instances of the practice of these native medical men. On one occasion in a hamlet not far from Puerto Cortez, a laborer became afflicted with a severe attack of panaritium or felon. The distal phalangeal end of one of the fingers became seriously involved and it became a question whether or not it could be saved. The treatment pursued was powerless in arresting the ravages of the disease. The doctor as well as the patient became satisfied that the only proper treatment would consist in sacrificing the diseased part of the finger. The native physician undertook the task, but failed in making the necessary preparations to complete the undertaking. An ordinary pocket knife was sharpened and with it the soft tissues were incised on the proximal side of the disease down to the bone by a circular cut. The unexpected difficulty now arose—the bone had to be divided. A search through the entire village failed to produce an instrument suitable for this part of the primitive operation. The native doctor did not lose his sense of original tact under such perverse circumstances. He had no difficulty in securing a machete, the national weapon and universal implement, which constitutes an essential part of the outfit of every native. This implement is made of the best of steel. When called into requisition for such an unusual requirement it was sharpened with especial care. The patient was requested to place the part of the finger he had consented to lose upon a block. The sharp edge of the machete was laid upon the part of the phalanx which had to be divided in order to complete the amputation. A sharp blow upon the back of the extemporized amputating instrument severed the bone and the operation was completed. The wound was washed with a solution of permanganate of potassium and dressed in a most primitive way, The patient was promptly relieved from his suffering and it is related that the resulting stump was an excellent one.

On another occasion the services of the native doctor in the same locality was requested for a difficult obstetrical case. The woman had been in labor for three days without any appreciable progress. The layman obstetrician found the head impacted in the pelvis. After examination he came to the conclusion that the distended perineum was the principal cause of the delay in the delivery of the child. He had no instruments with which to deal effectually with the mechanical obstruction. He regarded the case as one of special importance in which the instrument to be employed to secure the much-needed relief should be one made of precious metal. He found, after a long search, an old Spanish silver coin. One-half of its circumference was sharpened and with this instrument he incised the perineum in the median line with the result that soon after a living child was born. He sutured the wound with an ordinary sewing needle armed with cotton thread and found his patient two weeks later attending to her usual household duties. The natural healer in Honduras has before him a wide sphere of action, but his cash income is a very limited one, as the people gauge his services without reference to learning or skill, but on the basis of ordinary labor.

A native house.

Only street in the City of Puerto Cortez.

HOSPITALS.

There are only two small hospitals in the whole country, one in San Pedro and the other in the capital city. The Hospitale Generale del Norte at San Pedro is a two-story frame building formerly used as a protestant school for children. It can accommodate thirty patients. The large ward on the first floor is occupied by male patients. The furniture is of the simplest kind, iron bedsteads, seagrass mattresses, with a blanket and pillow and no linen. The male ward contains 24 cots and the adjoining female ward six. The operating room is supplied with a rough wooden table, no instruments or facilities for aseptic work. No provision is made for private patients. The physician in charge is appointed by the government and receives a small salary. He occupies the second story of the building. There are no

trained nurses, the convalescents do what they can for those who are confined to bed. The second hospital is located in the capital city. Its capacity is larger, but the facilities are in all probabilities of the same primitive character.

Spanish Honduras makes no provision for the insane. As long as the lunatics are harmless they are permitted to roam about and when they become dangerous they are imprisoned with criminals of all sorts.

A HONDURIAN MILITARY HOSPITAL.

The Hondurian soldier does not lead a life of luxury. He stands low in the social scale. He does not feel like a soldier; at any rate, he manifests no indications of a martial spirit. He enters the service of his country not by his own free will. Every able-bodied man of military age is drafted and must perform military duty three months every year, and when he becomes a reserve he must drill every Sunday morning until he reaches the age of forty-five. The reasons for the unpopularity of the military service in Honduras are very apparent. In the first place, the natives lack that essential quality of a good soldier—patriotism. The soldier's pay is so insignificant that it could be no inducement whatever to enter the service. The privates are paid ten cents a day and with this beggarly salary he must fight starvation the best he knows how, as he receives no rations. When he enters the service he receives a uniform made of cheap blue cotton cloth embellished by blood-red strips of cloth of the same quality, and when this is worn out he must clothe himself. The consequence of this miserly treatment of the soldier by the government is that in the barracks and upon the streets he makes the appearance of a beggar or tramp and not of a soldier. The army has no distinctive head dress. The cheapest straw and felt hats and all kinds of caps are worn, which, with the bare feet and faded, ragged clothes, makes a picture not well calculated to infuse love for the country or to inspire a military spirit. The weapon used is a single breech-loader of ancient pattern kept in a most dilapidated condition. The dozen cartridges each man carries are kept in a small bag which is tied to the barrel of the rusty musket. The soldiers are distributed all over the country, seldom more than one hundred being at any one place. I was very much amused one Sunday morning at San Pedro where I had an opportunity to witness one of the weekly drills of the reserves. The men, all of them from thirty to forty-five years of age, came in their civilian Sunday clothes. None of them presented a church-going appearance. A more motley crowd it would be difficult to imagine. Most of them were supplied with wooden guns of their own make. The pieces, none of them alike, faintly resembled the outlines of a real gun. Others, who had not taken the time or pains to prepare a toy gun, drilled with sticks, some were empty-handed and only a very few were in possession of rusty guns that had done service years ago, but which in the present state would not prove more harmful in active service than the wooden imitations. No wonder the Hondurian soldiers have to be pressed into service and when in the military grasp of the country often seek relief by desertion or by feigning disease. The government makes no provision for the sick soldier. In case of illness he must take care of himself and when this is out of question he has to depend on the mercy of his comrades, sick and well. The Hondurian Military Hospital I intend to describe is located in Puerto Cortez. It is the refuge for the sick of the local military force, which does not exceed one hundred men. It is an old, one-story, delapidated frame building, raised from the ground by piling. The stilts of wood which support the building are rotten and ready to give way under the slightest unusual provocation. The wooden stairs to one of the front doors have disappeared long ago. The same fate awaits any day the remaining access to the interior of the building. One thing this building does not lack, that is free ventilation. The many cracks and holes in the floor, ceiling and walls furnish free and multitudinous avenues for the entrance and escape of air. The front room is occupied by the guard. Here I found at the time of my visit two rusty muskets with fixed bayonets, each of them supplied with a little bag of ammunition fastened to the piece with a string. A large shelf, four feet from the floor, with a slight inclination and divided into six equal compartments by boards four inches in height with a smooth round block of wood at the head of each compartment answers the purpose of beds for the men in charge of the invalids. In the next room are beds of similar construction for the sick. This room was occupied by six patients, one of them in the midst of a severe malarial chill. There were no signs of blankets, sheets, pillows, towels or any other of the necessary conveniences of a sick room. When I stepped into the back room the floor threatened to give way. This room serves as a kitchen and dining room. A little pile of stones with a glimmering fire on top constituted the stove. I could find no trace of food supply. A rough table was the only article of furniture. No operating room and no dispensary existed. We were informed by the inmates of the hospital that the only medicines used in this hospital are castor oil and quinin. All of the patients were anemic and showed other signs of malarial intoxication.

A Hondurian Military Hospital.

PREVALENT DISEASES.

The prevailing diseases of Spanish Honduras are the same as those of British Honduras, as there is a great similarity of soil and inhabitants in both countries. Typhoid fever is almost unknown. The frequency with which dysentery and bowel affections occur would naturally lead us to expect that appendicitis is very common. This is, however, not the case. Dr. Austin, of Puerto Cortez, who has lived in Honduras for nine years and who has had an unusually large experience, never saw a case of appendicitis during this time, and his observation must be accepted as correct, as elsewhere he has had a very large experience with this disease. Tuberculosis in its various forms is rapidly decimating the natives. Diphtheria is almost unknown on the Atlantic coast. A case recently occurred at Rio Blanco, a village on the railroad between Puerto Cortez and San Pedro, and this was the only case that occurred in that part of the country. The patient was a little girl, white, five years of age. The diagnosis was confirmed by the paralysis of the soft palate which followed as a sequel to the membranous inflammation of the tonsils and pharynx. For a time the disease threatened laryngeal invasion. Fifteen units of the antitoxin was promptly followed by improvement and complete recovery. The little patient was isolated and no other cases developed. The source of the infection could not be traced. Pneumonia is of a comparatively mild type. Rheumatism and bronchitis are common diseases. The pernicious form of malaria is treated by the subcutaneous administration of heroic doses of quinin. Dr. Austin informed me that it is not unusual for him to administer 300 grains in the course of twelve to twenty-four hours.

STRYCHNIN TREATMENT OF SNAKEBITES.

Dr. Austin has great faith in the subcutaneous use of large doses of strychnin in the treatment of the bites of poisonous snakes, in fact he considers this remedy in the light of a specific, provided the treatment is commenced in time. The snake poison paralyzes the heart's action and in preventing this effect by the use of strychnin time is gained for the elimination of the poison. He injects subcutaneously one-twentieth grain of the drug every fifteen or twenty minutes until the

paralytic effect of the poison is neutralized. A moderate single dose of whisky or brandy is given during the beginning of the treatment.

In conclusion, I desire to thank Mr. Henry M. Keith, Drs. Eyles and Harrison, of Belize, Dr. Austin, of Puerto Cortez, and Drs. Waller and Hunter, of San Pedro, for the many courtesies extended to me and my companion during our short and pleasant visit in British and Spanish Honduras.

THE PROPOSED CONSTITUTION AND BY-LAWS FOR STATE SOCIETIES.

A Committee on Constitution and By-Laws was recently appointed by the President of the American Medical Association, Dr. John A. Wyeth, in accordance with a resolution adopted at the meeting of the Association at St. Paul last June, to coöperate with the committees on reorganization that have been or may be appointed by the various state societies. There has been an expressed desire on the part of the officers, members and committees of nearly all the state societies to comply with the recommendations of the American Medical Association in regard to a more uniform organization of the state bodies. The committee has thought best to prepare a constitution and by-laws for state societies that shall incorporate the general principles recommended to and adopted by the American Medical Association and it submits below such constitution and by-laws.

The committee desires it to be understood that this is only suggestive. While it believes that, as a rule, practically all the articles, chapters and sections can be adopted by most of the state societies, at the same time local conditions may make it advisable to modify them in various ways.

As will be noticed, the word "association" has been adopted as applying to the state body and the word "society" applying to the county. This is a minor detail and yet one of more or less importance. It has been adopted by Alabama and by some of the other state organizations.

In Article IV the committee has made no provision for honorary or associate members.

In Chapter IV, Section 2, provision is made for an apportionment of one delegate for every one hundred members. This may be too high in those states in which there are no large county societies. The object is to make the legislative body as small as is consistent with conditions, and in those states in which there is a large county society, a high apportionment makes it impossible for the large societies to get a controlling interest in the legislative body.

The name "House of Delegates" has been adopted in this constitution, but it is not necessarily to be followed, the name being immaterial.

The committee desires especially to call attention to the "council" provided in Chapter VII of the by-laws. As will be noted, this council is to be composed of men from various parts of the state, so that each part shall be fairly represented in this important body. It presupposes the division of a state into say ten districts, and in each of these districts a district society may be formed if it is thought best. Each individual councillor will have certain definite duties to perform. First, he is the censor for his district; all disputes between members, between societies and between societies and members should be referred to the councillor and it will be his duty to settle such disputes if he can. It will be his duty to organize societies in counties in which none exist and to stimulate to active work societies now existing, or that may be created, and to visit each society at least once annually. If the right men are selected for the position of councillor, it will probably do away with the necessity of employing a paid organizer. The committee is earnest in its belief that such councillors should be paid their actual expenses in this work, believing that it will be money well invested from a financial point of view, and especially believing that medical men ought not to be asked to do such work for nothing and pay their own expenses. The majority of the committee believe that this council should have greater duties than have been given in this constitution; that it should be also the executive committee of the state society—in fact, that it should act for the state society during the interval between meetings. This suggestion is made, but it will be noticed that it is not incorporated in the by-laws. The committee believes that there should be a more or less continuous body in each state association. The probability is that the House of Delegates may be made up of entirely new members some year from what it was the year previous, and hence the necessity of a continuous body in the House of Delegates. The council is therefore made a part of the House of Delegates and its members are elected for five years. It is asked that this idea of a council be given special thought by the committees on reorganization representing the state societies.

The committee regards the creation of such a council made up of the truest, most unselfish, most willing, and most capable physicians in each state as of the very highest importance in the scheme of perfected organization. The council can, if in good hands, accomplish wonders for the profession. We beg that each state will give this innovation its most serious attention. It may be added that in those states in which it has been tried in part it has worked excellently well.

Attention is asked to the fact that the constitution is made very short and that it contains the essential features of the new mode of organization. The by-laws, on the other hand, contain the superstructure of regulations that have been built upon the constitution as a foundation. The committee believes that the provisions of the constitution are fundamental, and recommends that the state societies adopt them with just as little change as may be necessary to adapt them to local conditions. In the by-laws the committee has included much that is perhaps to be regarded as suggestive and more that is educational in its purpose. It follows then that the by-laws may be considerably modified in each state without damage to the uniformity of state organization which the American Medical Association has declared to be desirable.

There are sections in the by-laws that can be left out without difficulty, and beyond doubt many of the state committees will be able to suggest points that should be covered in the by-laws in order that the medical profession may be harmoniously and strongly organized. The

committee especially requests that each state committee, after full consideration of the documents herewith submitted, will transmit to this committee promptly those modifications which to them appear desirable. In this way the work of organization may be kept going with equal facility and simultaneously in all parts of the country, and by this means each state can be given the early opportunity of taking under consideration the ideas and plans of its near and distant neighbors. It will then be perceived that this committee regards it as highly important to the general welfare that all the state societies should in all things work in mutual harmony, and should be furnished the facilities for the ready intercommunication of views. Up to this time each state medical society has been an isolated community working along similar lines, but each compelled to meet the same difficulties without the great advantage of having at hand the record of experience of sister societies under like circumstances. The new scheme of medical organization has as one fundamental principle the federating together of the state societies. The execution of this ideal will never be of greater service than under present conditions, when each state is anxious to perfect its mode of organization.

Section 8 of Chapter IV of the by-laws is objected to by some, but the principle expounded is indubitably correct; the method of execution can no doubt be improved upon by the state committees. The same remarks hold true as to Section 12 of Chapter XII, and again the principle is one that is too important to be overlooked.

The committee has suggested that the annual dues be two dollars. The profession can profitably employ all the funds that can be raised without putting a burden on its members, but there must be a sufficient amount to render effective the work of the association. Money is essential to the success of any sort of organization, and physicians should learn that liberal contributions to well-conducted medical societies will bring tenfold benefit. Each society might well contemplate the creation of an endowment fund to be held, invested, used in emergencies of legislative contest or scientific research, or the interest applied to special purposes. Massachusetts has accumulated in this way $47,200. Other states can readily make a beginning and the value of such a fund as a factor in stability and as a help in emergency is simply incalculable. Above all, medical societies should gather funds to assist scientific research by direct grant of funds or by offering rewards. By doing this we will aid the forward movement of medical science, and will also convince the general public that our protestations of concern for the general welfare are genuine.

Much in the by-laws submitted may be regarded as "preaching," but it is inserted advisedly, with the sole object of arousing in the minds of each medical society member a desire for the accomplishment of greater ends than has been permitted by the customs and forms of the past. The committee earnestly desires that the state committees will continue the work of perfecting organization, actuated by that love for our profession that its ideals demand. With the medical profession well organized, medical science will more rapidly step to its appointed high place, and the profession which lives in its atmosphere will have that power and respect in the community that is its right.

J. N. McCormack, Bowling Green, Ky.,
P. Maxwell Foshay, Cleveland, Ohio,
George H. Simmons, Chicago, Ill.
Committee.

CONSTITUTION.

Article I.—Name of the Association.

The name and title of this organization shall be the ———— State Medical Association.

Article II.—Purposes of the Association.

The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of ————, and to unite with similar Associations in other States to form the American Medical Association; with a view to the extension of medical knowledge, and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of state medicine; so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

Article III.—Component Societies.

Component Societies shall consist of those county medical societies which hold charters from this Association.

Article IV.—Composition of the Association.

Section 1. This Association shall consist of Members, Delegates and Guests.

Sec. 2. Members. The Members of this Association shall be the members of the component county medical societies.

Sec. 3. Delegates. Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component county societies in the House of Delegates of this Association.

Sec. 4. Guests. Any distinguished physician not a resident of this State may become a guest during any Annual Session upon invitation of the Association or its Council, and shall be accorded the privilege of participating in all of the scientific work for that Session.

Article V.—House of Delegates.

The House of Delegates shall be the legislative and business body of the Association, and shall consist of (1) Delegates elected by the component county societies, and (2), *ex-officio,* the officers of the Association as defined in this Constitution.

Article VI.—Sections and District Societies.

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councillor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

Article VII.—Sessions and Meetings.

Section 1. The Association shall hold an Annual Session, during which there shall be held daily not less than two General Meetings, which shall be open to all registered members, delegates and guests.

Sec. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

Article VIII.—Officers.

Section 1. The officers of this Association shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and ten Councillors.

Sec. 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary, Treasurer and Councillors shall be elected for terms of five years each, the Councillors being divided into classes so that two shall be elected each year. All of these officers shall serve until their successors are elected and installed.

Sec. 3. The officers of this Association shall be elected by the House of Delegates on the morning of the last day of the Annual Session, but no Delegate shall be eligible to any office named in the preceding section, except that of Councillor, and no person shall be elected to any such office who is not in attendance upon that Annual Session and who has not been a member of the Association for the past two years.

Article IX.—Funds and Expenses.

Funds for meeting the expenses of the Association shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publications. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Sessions, for publication, and for such other purposes as will promote the welfare of the Association and profession.

Article X.—Referendum.

The General Meeting of the Association may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the membership of the Association for a final vote; and if the persons voting shall comprise a majority of all the members, a majority of such vote shall determine the question, and be binding upon the House of Delegates.

Article XI.—The Seal.

The Association shall have a common Seal, with power to break, change or renew the same at pleasure.

Article XII.—Amendments.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session, and that it shall have been sent officially to each component county society at least two months before the session at which final action is to be taken.

BY-LAWS.

Chapter I.—Membership.

Section 1. All members of the Component County Societies shall be privileged to attend all meetings and take part in all of the proceedings of the Annual Sessions, and shall be eligible to any office within the gift of the Association.

Sec. 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered county society which has paid its annual assessment, shall be *prima facie* evidence of his right to register at the annual session in the respective bodies of this Association.

Sec. 3. No person who is under sentence of suspension or expulsion from any component society of this Association, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take any part in any of its proceedings until such time as he has been relieved of such disability.

Sec. 4. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of his society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member or delegate shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Chapter II.—Annual and Special Sessions of the Association.

Section 1. The Association shall hold an annual session at such time and place as has been fixed at the preceding annual session (or as fixed by this Constitution and By-Laws).

Sec. 2. Special sessions of either the Association or House of Delegates shall be called by the President at his discretion or upon petition of twenty delegates.

Chapter III.—General Meetings.

Section 1. The General Meetings shall include all registered members, delegates, and guests, who shall have equal rights to participate in the proceedings and discussions; and, except guests, to vote on pending questions. Each General Meeting shall be presided over by the President, or in his absence or disability, or by his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President and the annual orations, and the entire time of the Session so far as may be shall be devoted to papers and discussions relating to scientific medicine.

Sec. 2. The General Meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved of by the House of Delegates.

Sec. 3. Except by special vote, the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed.

Sec. 4. No address or paper before the Association, except those of the President and Orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject.

Sec. 5. All papers read before the Society shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

Chapter IV.—House of Delegates.

Section 1. The House of Delegates shall meet annually at the time and place of the annual session of the Association, and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Association, or with the meeting held for the address of the President and the annual orations, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But if the business interests of the Association and profession require, it may meet in advance, or remain in session after the final adjournment of the General Meeting.

SEC. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every 100 members, and one for each major fraction thereof, but each county society holding a charter from this Association, which has made its annual report and paid its assessment as provided in this Constitution and By-Laws, shall be entitled to one delegate.

SEC. 3. A majority of the registered delegates shall constitute a quorum, and all of the meetings of the House of Delegates shall be open to members of the Association.

SEC. 4. It shall, through its officers, Advisory Council, and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

SEC. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public-health legislation, and to diffuse popular information in relation thereto.

SEC. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality, and shall continue these efforts until every physician in every county of the State who can be made reputable has been brought under medical society influence.

SEC. 7. It shall encourage-post-graduate work in medical centers, as well as home study and research, and shall endeavor to have the results of the same utilized and intelligently discussed in the county societies. (With these ends in view, five years after the adoption of these By-Laws no voluntary paper shall be placed upon the annual program or be heard in the Association, which has not first been read in the county society of which the author is a member.)

SEC. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body in such a manner that not more than one-half of the delegates shall be elected in any one year.

SEC. 9. It shall, upon application, provide and issue charters to county societies organized to conform to the spirit of this Constitution and By-Laws.

SEC. 10. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies, and these societies, when organized and chartered, shall be entitled to all the privileges and representation provided herein for county societies, until such counties may be organized separately.

SEC. 11. It may divide the counties of the State into ten Councillor Districts, and, when the best interest of the Association and profession will be promoted thereby, organize in each a district medical society, to meet midway between the Annual Sessions of this Association, and members of the chartered county societies, and none others, shall be members in such district societies. When so organized from the presidents of such district societies shall be chosen the Vice-Presidents of this Association, and the presidents of the county societies of the district shall be the vice-presidents of such district societies.)

SEC. 12. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

SEC. 13. It shall approve all memorials and resolutions issued in the name of the Association before the same shall become effective.

SEC. 14. It shall present a summary of its proceedings to the last general meeting of each annual session, and shall publish the same in the Transactions.

CHAPTER V.—ELECTION OF OFFICERS.

SECTION 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect.

SEC. 2. The House of Delegates on the first day of the Annual Session shall select a Committee on Nominations consisting of ten delegates, no two of whom shall be from the same councillor district. It shall be the duty of this committee to consult with the members of the Association and to hold one or more meetings at which the best interests of the Association and of the profession of the State for the ensuing year shall be carefully considered. The Committee shall report the result of its deliberations to the House of Delegates in the shape of a ticket containing the names of three members for the office of President and of one member for each of the other offices to be filled at that annual session. No two candidates for President shall be named from the same county.

SEC. 3. The report of the Nominating Committee and the election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the General Session.

SEC. 4. Nothing in this article shall be construed to prevent additional nominations being made by members of the House of Delegates.

CHAPTER VI.—DUTIES OF OFFICERS.

SECTION 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and, as far as practicable, shall visit by appointment the various sections of the State and assist the Councillors in building up the county societies, and in making their work more practical and useful.

SEC. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of his death, resignation or removal, the Council shall select one of the Vice-Presidents to succeed him.

SEC. 3. The Treasurer shall give bond for the trust reposed in him whenever the House of Delegates shall deem it requisite. He shall demand and receive all funds due the Association, together with the bequests and donations. (He shall, under the direction of the House of Delegates, sell or lease any estate belonging to the Association, and execute the necessary papers; and shall, in general, subject to such direction, have the care and management of the fiscal affairs of the Association.)

He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands. He shall charge upon his books the assessments against each component county society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him.

Sec. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the programs for and attend all meetings of the Association and of the House of Delegates, and he shall keep minutes of their respective proceedings in separate record books. He shall be custodian of all record books and papers belonging to the Association, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Sessions. He shall keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councillors in the organization and improvement of the county societies, and in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall act as Chairman of the Committees on Scientific Work and on Publication. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

In order that the Secretary may be enabled to give that amount of time to his duties which will permit of his becoming proficient, it is desirable that he should receive some compensation. The amount of his salary shall be fixed by the House of Delegates.

Chapter VII.—Council.

Section 1. The Council shall hold daily meetings during the annual session of the Association and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councillors. It shall meet on the last day of the annual session of the Association for re-organization and for the outlining of work for the ensuing year. At this meeting it shall elect a Chairman and Secretary, and it shall keep a permanent record of its proceedings. It shall, through its Chairman, make an annual report to the House of Delegates at such time as may be provided.

Sec. 2. Each Councillor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each annual session of the House of Delegates. The necessary traveling expenses incurred by such Councillor in the line of the duties herein imposed may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expense in attending the annual session of the Association.

Sec. 3. Collectively the Council shall be the Board of Censors of the Association. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a county society, upon which an appeal is taken from the decision of an individual councillor. Its decision in all such cases shall be final.

Sec. 4. The Council shall have the right to communicate the views of the profession and of the Association in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the chairman and secretary of the Council, as such.

Chapter VIII.—Committees.

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.
A Committee on Public Policy and Legislation.
A Committee on Publication.
A Committee on Nominations.
A Committee on Arrangement, and such other Committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary shall be a member and Chairman, and shall determine the character and scope of the scientific proceedings of the Association for each session, subject to the instructions of the House of Delegates or of the Association, or to the provisions of the Constitution and By-Laws. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented, which shall be adhered to by the Association as nearly as practicable.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and enforcing legislation in the interest of the public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence of the profession to promote the general influence in local, state and national affairs and elections. Its work shall be done with the dignity becoming a great profession and with that wisdom which will make effective its power and influence. It shall have authority to be heard before the entire Association upon questions of great concern at such time as may be arranged during the annual session.

Sec. 4. The Committee on Publication shall consist of three members, of which the Secretary shall be one and Chairman, and shall have referred to it all reports on scientific subjects, and all scientific papers and discussions heard before the Association. It shall be empowered to curtail or abstract papers and discussions, and any paper referred to it which may not be suitable

for publication in the Transactions may be returned to the author. The Committee shall have authority to arrange for the publication and distribution of the Transactions after receiving competitive bids, and shall use diligence in getting them into the hands of the members. All papers read before the Association shall be the property of the Association.

SEC. 6. The Committee on Nominations shall be appointed and perform its duties in accordance with the provisions of Chapter —— Sec. —— of these By-Laws.

SEC. 7. The Committee of Arrangements shall consist of the component society in the territory in which the annual session is to be held. It shall, by committees of its own selection, provide suitable accommodations for the meeting-places of the Association and of the House of Delegates, and of their respective committees, and shall have general charge of all the arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

CHAPTER IX.—ASSESSMENTS AND EXPENDITURES.

SECTION 1. An assessment of two dollars per capita on the membership of the component societies is hereby made the annual dues of this Association. The Secretary of each county society shall forward its assessment together with its roster of all officers and members, list of delegates, and list of non-affiliated physicians of the county to the Secretary of this Association thirty days in advance of each Annual Session (or on or before some specified date).

SEC. 2. Any county society which fails to pay its assessment, or make the reports required, on or before the date above stated, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association or of the House of Delegates until such requirements have been met.

SEC. 3. All motions or resolutions appropriating money shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates on a call of the ayes and noes.

CHAPTER X.—RULES OF CONDUCT.

The principles set forth in the Code of Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

CHAPTER XI.—RULES OF ORDER.

The deliberations of this Association shall be governed by parliamentary usage as contained in Robert's Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XII.—COUNTY SOCIETIES.

SECTION 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, upon application to the House of Delegates, receive a charter from and become a component part of this Association.

SEC. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

SEC. 3. Charters shall be issued only upon approval of the House of Delegates and shall be signed by the President and Secretary of this Association. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

SEC. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the Councillor for the District if necessary, and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

SEC. 5. Each county society shall judge of the qualification of its own members, but, as such societies are the only portals to this Association and to the American Medical Association, every reputable and legally registered physician who is practicing, or who will agree to practice, non-sectarian medicine shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

SEC. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right of appeal to the Council and to the House of Delegates.

SEC. 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a Board and as individual councillors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

SEC. 8. When a member in good standing in a component society moves to another county in this State, his name, upon request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

SEC. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

SEC. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

SEC. 11. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do post-graduate and original research work, and to give the society the first benefit of such labors. Official position and other preferments shall be unstintingly given to such members.

SEC. 12. At (some meeting in advance of the annual session of this Association) each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each (one hundred members) or fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Association, at least ten days before the annual sessions.

Sec. 13. The secretary of each county society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. He shall furnish an official report containing such information, upon blanks supplied him for the purpose, to the Secretary of this Association, thirty days in advance of each annual session, and at the same time that the dues accruing from the annual assessment are sent in. In keeping such roster the secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Chapter XIII.—Amendments.

These By-Laws may be amended at any annual session by a majority vote of all the delegates present at that session, after the amendment has laid upon the table for one day.

New Instrument.

A NEW ASEPTIC THROAT MIRROR.

ALLEN T. HAIGHT, M.D.
CHICAGO.

In presenting this aseptic throat mirror, made out of polished metal, it seems like a return to the time of flourishing Pompeii, when highly polished brass was used for hand-mirrors. The instrument is manufactured from German silver, highly nickel-plated. The handle is universal, is made out of steel, and the joint between the mirror and the handle is

a spring ball and socket, allowing mirrors of different sizes to be used. Being of solid metal, it can be rendered thoroughly aseptic by carbolizing or boiling without any deteriorating effect upon its polished surface. The mirror being nickel-plated, no acid will attack or corrode it provided the mirror is quickly cleansed after using.

Moist chromic acid, to the surface of the nickel-plate, has absolutely no effect. A metal throat mirror was first used by Dr. von Stein, of Moscow, in his clinic and private practice, his instrument being of polished steel. The steel was afterward nickel-plated, but neither of these proved a success. While in London this summer I had a set of instruments made after the pattern I suggested, making the mirror out of solid German silver highly polished and nickel-plated. I have been using the set in my office the last two months and have found the mirror satisfactory in every respect.

The advantages of this throat mirror over the ordinary one of glass are many. Besides those above mentioned, the ball and socket joint is of distinct benefit as the mirror is easily adjustable to any position or angle; there is no rim of metal to interfere with a perfect image being obtained from any part of its surface.

Mirrors are made with the plain or the concave surface. The latter mirror will be used more extensively by dentists. The expense of repolishing and nickeling these mirrors will be slight, and one set should last for many years.

In using the instrument the fingers must be kept away from the surface, and soft chamois skin should be used in polishing the surface before warming. When the mirror is to be used it should be adjusted to the proper angle, then dipped into hot water for a moment and the water allowed to run off and the instrument used before wiping it.

I believe this will be a valuable instrument not only for nose and throat specialists, but also for dentists. With it there can be no possible excuse for not having an absolute aseptic mirror.

Clinical Thermometry.—A trained nurse was recently talking in confidence about the ways of medical men and remarked among other things that nothing could exceed their carelessness in the use of the clinical thermometer. If one comes to think of it and to observe the ways of the average practitioner, one is compelled to acknowledge that the accusation has more truth than fiction in it. In the first place the sins of uncleanliness have to be mentioned. Thermometers ought to be washed after removal from the mouth, or rectum, or elsewhere. That all doctors acknowlegde. But how many cleanse their instruments in soap and warm water, with a final rinse in running, cold water and an hour's sojourn in 1-500 bichlorid? If this is said to be impossible, and the patient (best plan of all) is not able to provide his own, the doctor could at least carry two or three thermometers in his satchel or pocket, and not use the same one on two patients (except in emergency) on the same trip. Then there are the errors of observation. The thermometer is sometimes not shaken down before using. Or, believing the fond statement of the seller, the doctor thinks he has a "one minute" thermometer, and wonders again and again why so many of his patients have a subnormal temperature. As a matter of fact, for all mouth temperatures five minutes at least is required when the general American type of thermometer is used; and if the patient has recently been out in the cold, or has eaten ice-cream or drunk cold water, or is having a chill, the temperature of the mouth, as indicated by the instrument, will continue to rise for ten or twelve minutes after the thermometer is put under the tongue. Axillary temperatures are still more unreliable. In case the patient has no rectal inflammation or congestion, rectal temperatures are most desirable. Far above all other indications, however, in clinical thermometry is the indication to use one's common sense in interpreting results.—*Pediatrics.*

Drug Eruptions.—There is scarcely any medicine which is not liable at some time to induce a cutaneous eruption, Bernard states in the *Gazette des Hôp.* Such eruptions assume all kinds of manifestations and generalization, but they can usually be differentiated by the absence of general symptoms commensurate to the severity of the cutaneous affections. Mercurial eruptions may be febrile and even malignant. Calomel is the most active in this respect. Fournier always tests the susceptibility of the patient to calomel before instituting vigorous treatment with it. Potassium iodid is liable to induce a multiple eruption exhibiting almost all the elementary cutaneous lesions. It may cause acne (especially in dyspeptics and persons inclined to acne), boils, pseudo-carbuncles, purpura, edema, vegetating pemphigus and primary or secondary gangrene, bunches resembling syphilitic gummata, ophthalmic zona, etc. Antipyrin may run the whole gamut of drug eruptions, but has one peculiar variety, the "stationary erythemato-pigmented eruption" with persisting brown patches. Gaucher has observed a fatal case of hemorrhagic copaiba erythema.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, MAY 3, 1902.

SCHOOLS IN THEIR EFFECTS ON THE HEALTH OF GROWING GIRLS.

To the physician with a family practice, especially in the town or city, the effects of school life upon the health of girls is always a subject of great interest. Every year he is called on to combat the evil results of too much study and too little recreation. In children under nine or ten years of age, boys and girls have about equal endurance and there is no reason for employing different methods in their education. There is but little danger of overstudy at this time and the children usually exercise freely out of doors and obtain sufficient sleep. From about the tenth year, with the beginning of puberty, until development is complete at perhaps the eighteenth to the twentieth year, boys and girls should be dealt with educationally on quite different plans. During this period when the girl is finishing grammar school and is in high school, the most important thing is not to develop her brain to an extreme degree, but to develop her muscular system, her heart and lungs and to give her as nearly perfect digestion as possible. During this time of growth and development physical culture should be sought and given the first place in every consideration. The degree of physical perfection which is attained while the girl is passing through this period of physical growth will determine in a large measure her future health and usefulness. The mind can be cultivated later, and, since the mind matures later than the body, this is the natural sequence. Dr. Jane Kelly Sabine points out that menstrual irregularities are present in 75 per cent. of the women in finishing schools and colleges. These defects date to the time when menstruation first takes place, when habit neuroses are most easily formed, and the reconstruction in the girl's education must be made in the preparatory school. William H. Byford, in speaking of this matter many years ago, very aptly said: "Six hours' study and two hours' play should be reversed; it should rather be eight hours' unrestrained exercise and two hours' study." Laws have been enacted in many states to regulate the hours of labor for minors. If we calculate the hours spent in study in and out of school by many of the pupils in high school, the time would be far in excess of that allowed by law for the labor of minors; moreover, the work is more trying and fatiguing than mere physical labor.

A series of articles[1] on "The School and the Health of School Girls," recently written by four Boston physicians, makes profitable reading. The writers seem to agree that, during the time of puberal development there is a tendency to force the mental development of girls at the expense of the physical and that such a course leads to only bad results. The first step in correcting such a state of things is to locate the factors which unite to produce it, and here we find that blame rests upon both the school and the home. In the school there are too long hours, too much work required outside of school hours, lack of adaptation to the individual, competition among the scholars in examinations and systems of ranking.

In the home physical labor is very rarely of such a nature or quantity as to be injurious to the girl. More often harm comes from late hours with insufficient sleep. In girls who are older, social duties, parties, etc., with undue excitement, may be very detrimental. It is very difficult for a physician to convince parents of the evil results almost sure to follow if these various factors are allowed to operate upon the growing and developing girl. When a little later she becomes hysterical and unable to perform the duties belonging to a woman, people wonder why girls are not as strong as their grandmothers were. Parents are usually pleased when the school-teacher picks out their child as particularly bright and gives her extra work so that she may make two grades instead of one in a year. What difference does it make to a girl whether she graduates from grammar school or high school one or two years sooner or later? It does, however, make a vast difference whether she graduates with a well-developed and healthy body, ready to take up the serious duties of life or with a broken-down, nervous system which will require years to recuperate or which will handicap her during the remainder of life.

To remedy such a complex condition will not be easy. After physicians have pointed out the faults in the present system of education as applied to girls, it remains for educators to devise means for their correction. In educational matters, the opinion of a physician has much weight in a community, and he should make every effort to place school hygiene upon a proper scientific basis. This is one of the public duties which clearly devolves upon physicians because of their special training, and it can not be relegated to anyone else. Besides this, public duty to the girls of a community, the physician must also face the question as it applies to the individual girl. The family physician must never cease to warn parents of the dangers to which developing girls are exposed from overstudy, insufficient out of doors life and deficient sleep and he must make every effort to obtain as good physical development as possible for every girl, knowing that in so doing he is also making the best provision for mental growth and equilibrium.

1. Boston Medical and Surgical Journal, April 10, 1902, 375; abstracted in THE JOURNAL A. M. A., April 26, pp. 1109-1110.

THE BACTERIOLOGY OF SYPHILIS.

Notwithstanding the probability that syphilis is dependent upon a bacterial cause, and despite the utmost industry in the search therefor, it can not be said with certainty that the specific agent has yet been isolated. The local invasion, the glandular enlargement, the period of incubation, the constitutional phenomena, the cutaneous eruptions, the gummata, all are the marks of an infectious disease. So many points of resemblance to other diseases of this group does syphilis present that it is likely often to be confounded with them unless one be constantly on his guard. By keeping this fact always in mind and by acquiring familiarity with the distinctive character of the lesions, the likelihood of error may be reduced to a minimum. The diagnosis once made, the treatment fortunately is clear and we have in mercury and iodin, alone or together, one of the few forms of specific medication. The need for serum-therapy does not, therefore, exist here as it does in connection with other infectious diseases. Nevertheless, the discovery of the micro-organism of syphilis would be a distinct advance, whose practical value can in the present state of knowledge scarcely be appreciated.

Some recent observations by Drs. Joseph and Piorkowski[1] are therefore worthy of attention in this connection. As they point out, a syphilitic but apparently healthy man, free from symptoms, may infect a healthy woman, as well as the embryo, in the act of impregnation. The likelihood of such infection is the smaller as the period from the beginning of the disease is the longer and the treatment employed has been the more active. For this reason the conclusion was reached that the syphilitic virus is contained in the seminal fluid, even when not discoverable elsewhere. Accordingly, a systematic study of this secretion was undertaken. For physiologic reasons, inoculation upon normal sterile placenta was practiced. Upon this medium there developed in 22 cases of syphilis seen at periods varying from 5 weeks to 3½ years after the primary infection, plump bacilli from 4 to 8 microns long and from 0.2 to 0.3 micron thick, with bulbous extremities, staining well with carbolized fuchsin and gentian violet. The organism grew less well on syphilitic placenta. Cultivation upon bouillon and agar proved unsuccessful; nor could the bacilli be found upon uninoculated placenta. On the other hand the bacilli grown on placenta were susceptible of inoculation upon agar and especially upon urine-agar and upon blood serum. The bacilli coagulated milk and rendered it acid. They did not generate gas, but they formed indol in bouillon. They grew best at the temperature of the body and they gave rise to a moist, white, glistening deposit upon the surface of potato. The bacilli could not be found in the seminal fluid from four non-syphilitic men, nor in that from four syphilitic men examined from three to ten years after infection. In one case, however, bacilli were found five years after infection, but here cutaneous lesions were still present. In experimental observations the bacilli failed to survive the spermatozoa, nor could the organisms be found when the seminal fluid contained no spermatozoa. The bacilli were found in the blood in two cases, namely one of azoöspermia and one of recent infection. They exhibited agglutination with the blood-serum of infected individuals and they could not be isolated from the lesions of chancroid. Further, they failed to induce disease in mice, guinea-pigs and rabbits, although suspicious lesions developed in inoculated swine.

It is impossible to decide as to the value of the foregoing observations without further evidence and, while the proof seems inadequate and the facts unconvincing, a final judgment must be reserved until the results recorded, together with their interpretation, are confirmed or refuted.

1. Berliner klinische Wochenschrift, March 24 and 31, 1902.

THE PROPOSED CONSTITUTION FOR STATE SOCIETIES.

We print this week the constitution and by-laws outlined for state societies by the Committee on Organization of the American Medical Association. As is intimated in its introduction, there has been an expressed desire on the part of officials and committees of many of the state societies to coöperate in the work of uniform organization and to adopt a new constitution in conformity with the recommendations of the American Medical Association. But while the general principles recommended were appreciated, it seems to be difficult for some of the committees to embody these principles in the constitution and by-laws. Others seem to magnify the importance of some of the principles and to minimize the value of others. For these and other reasons there promises to be as much lack of uniformity in the future as there has been in the past, in spite of the universal desire that the opposite should be the case. With the constitution and by-laws now presented it is possible for all the state associations to have one plan, whose uniformity is so desirable, in fact so necessary, in performing the active work outlined for the future. While we do not doubt that each state association will be able to modify this constitution and by-laws in minor details to better fit local conditions, at the same time we believe that it is applicable even as it is to practically all the states. There are, of course, certain sparsely settled states and territories, such as, for instance, those of the western Rocky Mountain region, where organization by counties—and in some instances even by districts—is not only impracticable but unnecessary.

For the sake of emphasis we quote a paragraph from the committee's introductory, because it calls attention to a most important matter, the federation of state societies and as a result, coöperative work among them:

> The committee especially requests that each state committee, after full consideration of the documents herewith submitted, will transmit to this committee promptly those modifications which to them appear desirable. In this way the work of organization may be kept going with equal facility and simul-

taneously in all parts of the country, and by this means each state can be given the early opportunity of taking under consideration the ideas and plans of its near and distant neighbors. It will then be perceived that this committee regards it as highly important to the general welfare that all the state societies should in all things work in mutual harmony, and should be furnished the facilities for the ready intercommunication of views. Up to this time each state medical society has been an isolated community working along similar lines, but each compelled to meet the same difficulties without the great advantage of having at hand the record of experience of sister societies under like circumstances. The new scheme of medical organization has as one fundamental principle the federating together of the state societies. The execution of this ideal will never be of greater service than under present conditions, when each state is anxious to perfect its mode of organization.

We hope those of our readers who are interested in the work of organization now in progress—which should include all who are interested in medicine—will read the report of the committee carefully and grasp the full meaning of all the provisions of the constitution and by-laws submitted. A thorough appreciation of these provisions will convince anyone that the profession of a state adopting these will have a machinery by which they can thoroughly organize themselves and, when organized, assist and coöperate with each other for the mutual good in various ways, and that by the adoption of the same machinery in adjunct states, the same coöperative work and mutual assistance can be carried on and on until we have an organized profession extending from the Atlantic to the Pacific and from the Canadian line to the shores of the Mexican gulf.

HIGH STANDARDS—A LAY OPINION.

To see ourselves as others see us is not always discouraging. The danger, in fact, is that sometimes it may give us too good a conceit of ourselves. Country doctors are not by any means always William McClures, but we think it probable that there are many of them who feel that they deserve some of the halo of saintship given him by the gifted Scotch clergyman. This is not profitable; self-consciousness of virtue has its ethical drawbacks. On the other hand, the current pessimism of some members of our profession is equally bad and sometimes worse. A physician who believes that the profession is going to the dogs is in danger of becoming reconciled to the belief and conducting himself accordingly, for humanity is weak and tends to adapt itself to its environment or what it believes it to be. A cynical pessimism has the very worst ethical prognosis and even a certain amount of priggery, which is by no means always hypocrisy, is in every way to be preferred, though it may be offensive.

We talk of commercialism pervading the profession and sometimes make ourselves believe that it predominates and that to the majority our code of ethics is obsolete both in letter and in spirit. That this is not the case no one ought to know better than ourselves, but outsiders sometimes emphasize this truth. In the last issue of one of the most widely circulated lay periodicals of this country—*The Youth's Companion*—we find a grateful testimony to this effect which we can take to our comfort and profit. The editor says:

> A young woman doctor was recently invited to become house physician of a woman's ward in a projected hospital. A large salary was assured to her, and opportunity for advanced experimental work in surgery. Investigation showed that the hospital was a purely money-making concern, based on extensive advertising. "Reputable physicians," was her brief comment, "have higher ideals than a large salary." Another physician, of assured standing, was recently approached by a pill company with an offer of a handsome sum of money if he would prescribe its pill once a day to each of his patients. "Show the gentleman out," was all the reply that was made to the suggestion. The family doctor is more and more giving way to the specialist, but it may be truly said that the ethics and standards of physicians and surgeons were never higher nor more unselfish than they are at the present day.

This is the honest judgment of a lay observer who takes a comprehensive view of us at our best. We ourselves know that abuses and evils exist and it would be foolish to ignore them if we wish to combat them. But there is a vastly greater amount of good if we would only see it; sometimes it is most prominently seen from the outside. Within the profession we have our view more or less obscured by the littleness and selfishness we see about us—they sometimes blind us to the many estimable qualities that exist even in those we criticise. It is well, therefore, to be reminded now and then that to outsiders the medical profession as a whole is still advancing toward its high ideals.

THE ESKRIDGE-PARKHILL MEMORIAL.

The Denver and Arapahoe Medical Society has published and sent out a beautiful memorial pamphlet to Drs. Parkhill and Eskridge, giving the addresses and remarks at the memorial meeting of the Society. It is fitting that this tribute to the leading neurologist and surgeon of the mountain regions should have been thus conceived and executed, and it will be so considered by the profession throughout the country. Drs. Parkhill and Eskridge were both men of mark and of far more than local reputation, and both in their personal and professional character well worthy the remembrance of their countrymen and colleagues.

COLORADO'S ATTITUDE TOWARD CONSUMPTIVES.

THE JOURNAL has in the past noted editorially the popular agitation—as shown in newspaper articles, etc.—to exclude consumptives from certain states and territories. This has aroused, it seems to us needlessly, the indignation of the health officers of Colorado, who have come out with a statement that no such rule has been contemplated in that state or even suggested by responsible citizens. We accept this correction as far as it is a correction and believe that the good sense of the legislators will prevent any such measures, which we have already been sure had no support from the responsible health officials of the state. Nevertheless it is a fact that such laws have been talked of; as Dr. John Inglis says in a communication to THE JOURNAL of March 1, there are many in Colorado who have gone

there for their health and regained it "who now advocate the passage of laws restricting others from regaining their health in the same way." It is only one of the evidences of the weakness of human nature.

THE FOURTH DISEASE.

It is almost two years since Clement Dukes called attention to what he designated[1] the "fourth disease." He believes this disease to be distinct from scarlatina, measles and rubella. Since the publication of Dukes' paper, the subject has been much discussed among British clinicians and the writers have been divided into two sets, one denying the existence of the "fourth disease" as an entity and recognizing the cases so described as only erratic instances of the well-known diseases, especially of scarlatina and rubella, while the followers of Dukes are equally convinced that the disease is a distinct and separate one. It is probably impossible to come to a conclusion of the controversy at present. The clinical course of the various eruptive diseases is so variable that different phases or forms of one disease might be looked upon as separate diseases, and every practitioner knows how difficult it is to be certain of the character of certain atypical cases, especially at the beginning of an epidemic. This fact is brought out in a recent article by Griffith.[2] The description of the "fourth disease" is so strikingly suggestive of scarlet fever that it would be safe for the present to class it as such and especially to employ all the prophylactic measures used in the latter disease. Until we are able to separate the eruptive disease by detecting the specific agent in each or by a specific biologic reaction, there will probably be cases which different observers will not agree to call by the same name.

SANITARY MISCONCEPTIONS.

The head of the health department of the city of Cleveland, Dr. Martin Friedrichs, recently gave a graphic and complete account of the method used by him in combating an epidemic of smallpox in that city last year. This was contributed to a popular monthly, as well as to medical journals, and has excited attention both on account of the novelty of some of the measures and their success. As is usually the case with medical matters described and discussed in non-medical publications, the newspapers have taken this up and drawn their own, sometimes erroneous, deductions therefrom. The disinfection and cleansing methods which were so effective in freeing infected localities from the active contagion have even been utilized by the anti-vaccinationists as an argument that smallpox is exclusively a filth disease and that compulsory vaccination was therefore not essential in combating the disorder. This seems to be the view taken by a St. Louis daily in a recent editorial, which is a fair sample of the style of quotation of authorities by anti-vaccinationists. It ignores the fact that vaccination had been general, but the virus was not always satisfactory and had aroused prejudice and resistance, and that the cleansing and formaldehyd fumigation was taken up as a last resort for the riddance of smallpox infection where it existed. Dr. Friedrichs admits that the danger still exists and will exist till general immunity is secured by vaccination. A Chicago paper likewise shows the same tendency in one editorial while it rebukes it in another. On April 21 it called attention in a very sensible way to its St. Louis contemporary's fallacy and the next day spoke itself of "Cleveland, where Dr. Martin Friedrichs is battling against smallpox with a disinfectant as a substitute for vaccination." The ways of the lay journal in dealing with medical facts are often past finding out—at least beforehand.

1. Lancet, July 24, 1900.
2. Phila. Med. Jour., April 12; see abstract 25, p. 1110, Jour. A. M. A., April 26.

THE TREATMENT OF SCARLET FEVER WITH THE BLOOD-SERUM OF CONVALESCENTS.

It does not seem unreasonable to hope that in the progress of time we may be provided with sera or antitoxins for the treatment of the various self-limited infectious diseases. Notwithstanding industrious examination, the exciting factors of the exanthematous diseases have as yet eluded detection. Until these are known it will be impossible to establish immunity artificially in such a way as to permit of the production of agents possessed of specific curative properties. Inasmuch, however, as the diseases under consideration terminate spontaneously, probably as a result of the generation and action within the body of antitoxic substances, and as one attack usually confers immunity against subsequent attack, it has been thought that curative effects could be obtained by the employment of the blood-serum of those convalescent from those diseases. Observations along this line have been made for several years at the clinic of Ernst von Leyden[1] in Berlin in the treatment of pneumonia, measles and scarlet fever, and the results, so far as they go, have been measurably satisfactory. The observations have been interrupted from time to time on account of lack of material, as either enough serum could not be accumulated or the cases came under notice at long intervals. Opportunity was afforded, however, for the treatment of a series of 16 cases of scarlet fever, principally in adults, the youngest patient being 12 years old. At first but 10 c.c. of serum was employed by subcutaneous injection, then 12 c.c., and finally, as it was found free from danger, 20 c.c. In three of the cases the results were brilliant, while in the remainder they were less positive. In general the course of the disease was shortened. This plan of treatment hardly commends itself on account of the natural difficulties in the way of obtaining the serum in sufficient amount and activity to be of practical and general utility. It is mentioned here only to mark one phase in the evolution of the important subject of serum-therapy.

SUGAR AND PROGRESS.

The statistics of the sugar consumption of the United States reported by the statistical bureau of the Treasury Department are striking enough to call for comment. From 33 pounds in 1870 the per capita consumption has risen to 68 pounds in 1901, an increase of more than double. This does not seem to take into account the other forms than cane and beet sugar; the immense

1. Deutsches Archiv für klinische Medicin, 73 B., p. 616.

amount of glucose preparations, together with the fruit sugars, are apparently not reckoned. The average of sixty-eight pounds per citizen means that a very large number, probably a great majority, use a considerably larger proportion daily, the larger the number who take less, the larger the amount consumed individually by the remainder. It has been calculated that one-quarter of a pound of sugar per diem is about as much as can be safely included in a healthy diet, but this figure may be found too low. The progressive increase, as shown by the statistics of the last thirty years, if it continues a few years more, will bring us well beyond such a limit, and as it is, it is probably exceeded by hundreds of thousands at the present time. Their systems appear to be fairly able to dispose of it, so far as any definite information has been received. There may be some indigestion of saccharin origin, but diabetes mellitus and glycosuria are not notably on the increase. It is probable that an active person can safely get away with a very large amount of sugar in his diet and the noted fondness of the Anglo-Saxon people for sugar has been correlated by some authorities with their specially energetic race characteristics. The Western world got along without sugar for many centuries, but they were not the centuries of progress. The passing away of the dark ages coincided with the introduction of sugar into the diet of the European peoples, and there may be more in the connection than at first appears; it may have had its humble but still important share in the change. The unexampled progress of the nineteenth century may find part of its causation in the cheapness of sugar and the great extension of its dietetic use. This deduction may be far fetched, but not more so than some other conclusions drawn from statistics.

Medical News.

CALIFORNIA.

More Plague in San Francisco.—Another fatal case of plague was reported, April 20, in San Francisco, credited as having come from Davisville.

Good Samaritan Hospital.—Eight lots have been purchased recently at Los Angeles, to be used as a site for a new building for the Good Samaritan Hospital. The building and land will cost about $64,000.

New Chief Surgeon.—Dr. Walter B. Coffey, who has been assistant to Dr. Gardner, chief surgeon of the Southern Pacific and Market Street railways, has been promoted to chief surgeon of the United Railways Company of San Francisco.

State Organization of Health Boards.—Representatives of various health boards in the state assembled at San Francisco, April 14, and effected a permanent organization with Dr. E. Von Adelung, Oakland, president, and Dr. J. A. Emery, San Francisco, secretary. A committee was appointed to formulate the rules of the new organization, whose purpose will be the betterment of sanitary and health conditions in all parts of the state.

Do "Indian Doctors" Need License?—It is reported from San Jose that W. Mohawk, "Indian medicine man," who was tried, April 9, before a jury in that city on a charge of practicing his profession without a certificate, was acquitted. The defendant could produce no authorization from the State Board of Medical Examiners, but was able to show to the satisfaction of the jury that the treaty existing between the United States and Indian tribes allowing those of the latter race to sell medicines prepared by them on their premises, exempted him from liability under the state law.

GEORGIA.

Passed for the Army.—Dr. W. Hal Moncrief, Atlanta, who served as assistant surgeon during the Spanish-American war, has successfully passed his examination for the medical department of the Army.

School Medical Examiners Organize.—The medical examiners of the Atlanta public schools met, April 15, and organized, with Dr. Luther P. Stephens, president; Dr. Arthur G. Hobbs, vice-president, and Dr. L. L. Landrum, secretary.

Georgia Pasteur Institute.—The board of governors of this institute met in Atlanta, early in April, to hear the semi-annual reports of officers. The physician's report showed 39 cases treated, with no deaths. The patients came from the following states: Georgia, 27; Louisiana, 7; Alabama, 3; South Carolina, 1; Tennessee, 1.

New Hospital Car.—The Plant System shops in Savannah have turned out a hospital car for the use of the system, which is one of the most completely furnished cars of its kind in this part of the country. It will be stationed in Waycross and will form a part of every wrecking train sent out from that point. The car is divided into several compartments in which are placed an operating table, a hanging bed, so adjusted that the motion of the car will not be felt by the patient, a case for instruments and medicines, several stretchers, and, in fact, every appliance that might be of service in taking care of the injured.

ILLINOIS.

Personal.—Drs. James H. Finch, Champaign, and Samuel M. Wylie, Paxton, sailed for Europe, May 1.——Dr. W. L. Karcher, Freeport, has returned from Philadelphia, and will be associated with Dr. Joseph H. Firestone.——Dr. Lewellyn B. Ashton, Quincy, has been appointed surgeon in the Illinois Naval Militia, with the rank of lieutenant (junior grade).

Senate vs. House.—In the sundry civil bill passed recently by the senate an appropriation was recommended for a new hospital building for Rock Island Arsenal, to cost $16,500. The house committee did not decide favorably on this recommendation. The matter now goes to a conference committee, which it is hoped will pass this much-needed appropriation.

County Must Pay.—The Attorney-General has given a decision in the highly interesting contention as to the liability for smallpox charges which arose at the meeting of the supervisors, at Galesburg, recently. His opinion is against the supervisors, who believe that the charges should be paid by the townships in which the cases occur. The Knox County Board, in 1896, passed a rule that contagious diseases should be a township charge and that the county would not be liable therefor. The Attorney-General holds that the county can not pass such a rule for the purpose of relieving the county from liability and imposing the same upon the township.

Chicago.

Senn on Fenger.—Dr. Nicholas Senn delivered an address before the students of the medical department of the University of Chicago, April 23, commemorative of the life of Christian Fenger.

To Aid Hospitals.—A musical and dramatic entertainment was given at the residence of Mrs. Potter Palmer, April 23, in aid of Maurice Porter and St. Luke's hospitals, which netted between $600 and $700 each for these institutions.

Medicine Chests for Park Police.—It is announced that Lincoln Park policemen are to be equipped with medicine chests that victims of accidents may be given aid quickly. The chests will be attached to the bicycles of the men.

Structure of the Lung.—Prof. W. D. Miller, of the University of Wisconsin, who has made special research in lung anatomy and circulation, lectured before the students and medical profession of the city at the Northwestern University Medical School, May 2, on "The Structure of the Lung and Its Blood and Lymph Supply."

The Officer-of-the-Day Once More.—The supply of recommendations is evidently being rapidly exhausted, but still the officers-of-the-day at Cook County Hospital during the past week have recommended: 1. That an additional ward be established for scarlet fever and diphtheria cases. 2. That each house physician and surgeon be clad in spotless white duck uniforms. 3. That a dressing-room be established in connection with the examining room. 4. That the wards be brightened by pictures. 5. That the system of ward cooks, recently inaugurated, be continued.

Personal.—Dr. Nicholas Senn, surgeon-general of Illinois, has been given leave of absence, and sailed, May 1, for Havre on *La Savoie*. He goes to Russia as a delegate to the International Red Cross, which meets in Moscow, this month.——Dr. Edmund

R. Moras was given a verdict against the West Chicago Street Railway Company of $45,000 for injuries sustained by him six years ago, which resulted in the amputation of his left arm at the elbow.——Dr. William G. Stearns, formerly medical superintendent of the Illinois Eastern Hospital for Insane, Kankakee, and recently connected with the neurologic departments of Northwestern University Medical School, and the College of Physicians and Surgeons, has been appointed superintendent of the Sanitorium at Lake Geneva, Wis.——Dr. Cyrille Vermeren sailed for Antwerp, April 23, on the *Kensington*, for a four months' trip to Belgium, France and Germany.

KENTUCKY.

In Memory of Dr. Cox.—The Breathitt County Medical Society at its session in Jackson, April 21, passed resolutions of sympathy regarding the sudden and untimely death of Dr. Braxton D. Cox, Jr.

Dinner to Dr. Kelly.—In celebration of the success of the recent operation on Dr. Clinton W. Kelly's eyes, members of the medical profession of Louisville gave Dr. Kelly a dinner at the Pendennis Club, April 11.

St. Anthony's Hospital Dedicated.—The formal dedicatory exercises of St. Anthony's Hospital, Louisville, were held, April 15. The building contains 12 wards, 47 private rooms, 2 operating rooms, etc., is thoroughly equipped and has cost about $100,000. The wards were opened for patients, May 1.

Sale of Poisons Restricted.—The druggists of Kentucky are in receipt of a communication from the State Board of Pharmacy, which calls their attention to recent legislative enactments of which they were not aware. The board encloses with its letter a copy of the pharmacy law of Kentucky as amended, March 17, 1902. The circular calls attention to the enforcement of the law against cocain, and expresses the emphatic determination of the board to stamp out the cocain evil. It then calls attention to section 11 of the law, which restricts the sale of poison to such an extent that it will be a difficult matter hereafter for anyone to purchase a deadly draught unless he can show good reason for its use. The section also rules against abortifacients, which have had a large sale.

MARYLAND.

Johns Hopkins Endowment Fund.—A meeting was held, May 2, at the Merchants' Club, Baltimore, to devise means to raise the balance of the $1,000,000 needed for the endowment of the Johns Hopkins University. About $700,000 has been raised, largely conditional on the raising of the balance of the $1,000,000, which must be raised by July.

Commencements.—The College of Physicians and Surgeons held its annual commencement, April 29. There were 57 graduates out of a class of 63.——Baltimore Medical College held its commencement, April 29. The graduating class numbered 92. The address was delivered by Rev. Dr. Lewis, president of Western Maryland College, Westminster.

Medical and Chirurgical Faculty of Maryland, at its one hundred and fourth annual session, April 22, 23 and 24, elected the following officers: Dr. William T. Howard, president; Drs. Samuel T. Earle and Wilmer Brinton, vice-presidents; Dr. J. Williams Lord, secretary; Dr. Thomas A. Ashby, treasurer; Drs. Harry Friedenwald, J. McPherson Scott, and Samuel Theobald, with the president, secretary and treasurer ex-officio, executive committee. Dr. J. W. Chambers was elected a member of the board of trustees. The annual banquet was held at the close of the evening meeting, on April 24. Dr. E. Miller Reid was toastmaster. The title of Dr. James Tyson's annual address was: "The Present State of Our Knowledge of Diabetes Mellitus."

Personal.—Dr. Frank Cline Ferguson has resigned his position as assistant resident physician at Spring Grove Asylum for the Insane, and has gone to his home in Greenville, S. C., to practice.——Mrs. Louise Brack, who died recently in Baltimore, bequeathed $1000 to St. Joseph's German Hospital.——Dr. and Mrs. Henry Barton Jacobs have returned to Baltimore and will spend the summer in Europe.——Dr. Leonard K. Hirshberg, of the graduating class of the Johns Hopkins Medical School, will sail for Europe, June 10. He will spend six months in German and French hospitals.——Dr. Joseph B. Saunders, coroner, Baltimore, fell and broke his right ankle, in attempting to reach the dead body of a boy who had fallen from a bridge.——Dr. T. E. Dwinelle is seriously ill from a fall received recently. ——Dr. Arthur D. Mansfield sailed to-day for a summer tour of Southern Europe.

MISSOURI.

Hospital Board Selected.—The following board of managers has been selected for the new $25,000 hospital, which A. R. Levering is building for Hannibal: Cyrus Albertson, George D. Clayton, John L. Schnitzer, P. D. Fisher, L. P. Munger, T. G. Dulany, Dr. John N. Baskett, J. T. Hoole, Jr., and Matthew Quirk.

Measles Epidemic.—The city physician of St. Louis reports that there are several hundred cases of measles in St. Louis, and that more deaths have resulted from the malady in the past few weeks than from smallpox during the entire time of its prevalence in the city. He recommends that houses where the disease prevails be placarded as a warning to the public.

Refused Vaccination.—Warrants were issued at Jefferson City, April 22, for the arrest of Foreman A. H. Boiles and fourteen men employed by the H. F. Balch contracting firm at work grading the Colorado Railroad in this county, for defying the State Board of Health in refusing to be vaccinated. Smallpox developed recently in the railroad camps in Miller and Cole counties and the Board of Health of Cole county, backed by the State Board, ordered a general vaccination of all persons in the infected district.

Abortion Advertisements.—After a paper by Dr. John W. Kyger, read before the Kansas City Academy of Medicine on "The Decadence of the American Race," (see page 1185 of this issue) the Academy appointed a committee to draft resolutions expressing the feeling of the regular medical profession in regard to the abatement of one of the causes of this condition and asking for the co-operation of the profession throughout the United States. These resolutions, after commenting on the decrease in the American birth-rate, continue:

WHEREAS, Without a special effort to investigate, it must have been observed by the most indifferent with what flagrant violation of all sense of delicacy the public press gives place to advertisements of nostrums and means intended to prevent or cut short pregnancy; these advertisements appearing in a column of the paper set apart for such purpose under the name of "Personal Medical Advertisement," and referred to as "Guarantees," "Sure Relief," "Sure Prevention," etc., occupying in some Sunday editions of reputable papers as much as two columns, destined to fall into the hands of all classes, and

WHEREAS, We recognize the press as a most potent factor in the education of the masses, be it

Resolved, By the Academy of Medicine of Kansas City, Mo., that we respectfully recommend that a censorship over the public press should be exercised to the end of correcting such practice of publishing advertisements as those referred to in our whereases. Be it further

Resolved, That it should be deemed of sufficient moment for the attention of the Postoffice Department of the United States of America restricting or prohibiting the distribution of such papers, periodicals or magazines through the United States mail if they continue to so prostitute their columns with such matter.

These resolutions are being sent to all the state medical associations.

Gregory Banquet.—Representative medical men of the middle west, numbering 350, assembled at the Planters' Hotel, St. Louis, on April 17, to celebrate the 78th birthday anniversary of Dr. Elisha Hall Gregory, of that city, and to honor him on the completion of fifty years of service as a teacher of medicine. The occasion was most felicitous. An editorial on the subject will be found in THE JOURNAL of April 26. The program of toasts was as follows:

"The Physician as a Citizen," Dr. A. M. Dockery, Governor of Missouri.
"An Organized Profession," Dr. Jonathan E. Tefft, Springfield, Mo.
"Greetings from Chicago," Dr. Harold N. Moyer, Chicago.
"The Evolution of Surgery," Dr. De Forest Willard, Philadelphia.
"American Surgery," Dr. Warren B. Outten, St. Louis.
"The Medical Press," Dr. George H. Simmons, Chicago.
"Our Teacher," Surgeon General Walter Wyman, Washington, D. C.
"The Teacher in Medicine," Chancellor W. S. Chaplin, St. Louis.
"The Medical Profession of Missouri," Dr. Jefferson Davis Griffith, Kansas City.
"The St. Louis Medical Society," Dr. Norman B. Carson, St. Louis.
"Ethical Ideals," Dr. William G. Moore, St. Louis.
"Dr. Gregory as a Friend," Simon Pollak, M.D., St. Louis.

Dr. Charles H. Hughes, St. Louis, presented the honored guest with a handsomely bound memorial containing the signatures of all those present. He said that it contained "the sign manual of tender and loving hands, inscribed in affectionate remembrance of your personal regard for many of us in days agone, when some of us especially needed friends. It attests also their appreciation of your personal and professional worth and fidelity, in all the varying demands of your dutiful life."

Dr. Gregory responded to the toast, "Our Guest." He said: "This is a banquet of good humor—a love feast. I am now in the midst of my great students, their renown international. Your pleasure is my happiness; your success, my pride; your gratitude, my jubilee. How intimate the relationship of pupil and preceptor; their wishes, their sympathies, their successes are inseparable. The successful teacher must have docile pupils. Instructor and learner share alike—reciprocal. Gifted students make famous colleges." Dr. Gregory then emphasized that character is a necessary foundation in the pupil for the teacher to build upon. He contrasted old and new methods of teaching, and his words gave many an insight into his own character and personality.

Governor Dockery said, among other things: "Doctor Gregory was my friend in the days of young manhood; indeed, the friend of every man, notably the young man, struggling to achieve success in life. His example and his counsel lighted up many a dark place in life's young pathway."

Chancellor Chaplin thanked Dr. Gregory "for his services as a citizen, his pure life, his high ideals, for his honest efforts. They have made him a valuable citizen in this community. Then we thank him for his manner—manner is much of the man—his ready sympathy, his full appreciation, his hearty stimulation and encouragement. These have made him dear to us. I have never hear a man say an unkind word of Dr. Gregory. I have never heard Dr. Gregory say an unkind word of any human being. We thank him, then, for what he has done and for what he is doing. We thank him for what he has been and for what he is."

Dr. W. C. Moore asked: "What is the magnet that has drawn men from hundreds of miles away, leaving their business, leaving their demands and occupations, to be present at this board to-night? Is it that he is a great surgeon? There are surgeons who can do, and have done, and will do, all that he can with the scalpel and ligature. Is it that he is a great teacher? There are other teachers dividing honor and affection with him. Is it that he has for fifty years been a teacher and practitioner in our midst? There are others as old and older than he. It is for these and one other glorious reason and that is that during all this time he has dealt justly, loved mercy, and walked humbly in the sight of God."

These brief extracts were the burden of all the words of praise which came from the hearts of the loving pupils and friends of Elisha Hall Gregory. The occasion was one long to be remembered by all present.

NEBRASKA.

Omaha Medical College held its twenty-first annual commencement exercises, April 24, graduating a class of 38. Rev. E. H. Jenks, D.D., delivered the address to the class.

Niobrara a Health Resort.—Fort Niobrara is to be an established health resort for invalid soldiers of the army for the present. Only one company of infantry will be stationed at that post, the remaining portion of the quarters being given over to the medical department of the Department of the Missouri.

Personal.—Dr. J. H. Crabbs, Fremont, has opened an office at Leavitt.——Dr. Edward E. Fauver, Julian, has sold his property and practice to Dr. U. S. Yeager and will take postgraduate work in Chicago.——Dr. Ray H. Burrell, Ashland, has located in Lynch.——Dr. Edith Hayman Saunders has been appointed physician to the State Industrial School for Women at Milford.——Dr. J. R. Buffington, Nelson, has moved to Wilbur, Wash.

NEW YORK.

Solarium for Saratoga Hospital.—Mrs. Henry B. Hyde, New York City, has provided the Saratoga Hospital with a full equipment of sun parlors.

Board of Health Organized.—The newly-appointed Board of Health of Ilion has organized, with W. W. Gay as president and Dr. John H. Hunter as health officer and registrar.

Hospital May Close.—A special meeting of the board of managers of the Cortland Hospital Association was held, April 21, to consider the advisability of closing the institution, owing to the lack of financial support.

Albany Hospital for Incurables has received $5000 from the John G. Myers estate, $1000 from Miss Jermain, and $6000 from other sources, all of which has been applied to the building fund. The management urges that further subscriptions be made, whereby the new building so much needed may be put up without delay.

New York City.

Dr. Herman Biggs has been appointed medical officer of the Board of Health at a salary of $5000 a year.

Engagement.—Dr Maxwell Benjamin announces his engagement to Miss Nettie Greenhood of New York City.

Rainbow Cot Endowed.—A service was held in the chapel in St. John's Hospital, Brooklyn, April 17, to present $3000 for the endowment of the Rainbow cot in the children's ward.

St. Mark's Hospital in Straits.—It is reported that St. Mark's Hospital is in the hands of the sheriff, and that unless more funds are quickly forthcoming, the hospital must close its doors.

Hospital Donations.—By the will of Ernest von Pape, $5000 is bequeathed to the German Hospital.——In response to appeals, nearly $1600 has been subscribed to the Memorial Hospital for Women and Children, Brooklyn.

A Woman Ambulance Surgeon.—Dr. Emily Dunning, a graduate of the Cornell Medical College last year, has the distinction of being the first hospital interne here to do duty on an ambulance. She was appointed, after competitive examination, on the house staff of the Gouverneur Hospital, and the work as an interne will include a tour of duty on the hospital ambulance.

Mount Sinai Hospital Needs Money.—Appeals have been sent out by Isaac Wallach, president of Mount Sinai Hospital, in an effort to secure $300,000 which is needed to complete its new hospital. The directors, by personal efforts, have obtained subscriptions to the building fund amounting to $1,300,000, but the additional sum is still required to cover the entire cost of ground and construction.

Automobile Ambulance Service.—Several gifts of money have been made to Mount Sinai Hospital to establish and maintain an electric ambulance service. Murry Guggenheim, one of the directors, has given $20,000, the income of which is to be the nucleus of a permanent fund to be used when the hospital moves into its new building. Henry R. Ickelheimer has given an ambulance to the hospital and Jefferson Seligman will pay for the maintenance of one so long as the hospital remains in its old quarters.

Buffalo.

Dr. Lewis S. McMurtry, Louisville, Ky., addressed the Section of Obstetrics and Gynecology of the Buffalo Academy of Medicine on "The Prophylaxis of Uterine Cancer Clinically Considered."

Dinner to Dr. Bissell.—A complimentary dinner was tendered Dr. William G. Bissell, at the Saturday Club, by the members of his class of practicing physicians to whom he has given a course in bacteriology.

Personal.—Dr. George Mills has been transferred as physician from the Manhattan State Hospital to the Buffalo State Hospital.——Dr. Jacob M. Kraus was appointed physician to the Erie County Penitentiary at a salary of $600 per year.

Law Regarding Coroners.—By a recent act of the legislature the office of coroners for Erie County, with its associated office of postmortem examiners, has been abolished and a medical examiner at a salary of $3000 and an assistant medical examiner at a salary of $2000, who are to act in conjunction with the district attorney's office, have been instituted. Dr. Earl G. Danserth, late coroner, has been appointed medical examiner, and Dr. John D. Howland has been appointed assistant medical examiner by the Board of Supervisors.

University of Buffalo Commencement.—The Alumni Association of the University of Buffalo held its twenty-seventh annual meeting in Alumni Hall of the University Building, May 2. The classes of '52, '62, '72, '82 and '92 each held a class reunion. At the regular session of the association a symposium on "Gunshot Wounds" was presented, in which Major Louis A. La Garde, M.D., U. S. A., Lieut-Col. G. Sterling Ryerson, M.D., R.A.M.S. South African Contingent, Toronto, Canada; Major William P. Kendall, M.D., U. S. A., Fort Porter, Buffalo; Roswell Park, professor of surgery, Buffalo, N. Y.; William Warren Potter, M.D., Buffalo; William C. Phelps, M.D., Buffalo; William H. Bergtold, professor of pathology, Denver, Col.; Herbert M. Hill, Ph.D., Buffalo, and Willis H. Mosher, Ph.D., Buffalo, N. Y., participated. The commencement exercises took place in Teck Theater, at 11 a. m. Rev. David J. Burrell, D.D., of Greater New York, delivered the address to the graduates.

OHIO.

Dr. J. S. Shaffer, of the graduating class of the Miami Medical College, has just been appointed house physician at the Toledo State Hospital, at a salary of $700 per year.

Illegal Practitioner Fined.—For practicing medicine in Lowellville without first having supplied himself with a certificate from the State Board of Medical Examiners, "Dr." Robert Erskine was fined $20 and costs, April 21.

Memorial to Dr. Kitchen.—The Jackson County Medical Society, at a meeting held April 8, at Wellston, adopted resolutions expressive of the loss sustained by its members, his patients and society at large by the death of Dr. Benjamin F. Kitchen.

New Doctors.—Cincinnati College of Medicine and Surgery graduated a class of 20, on April 30. The college will then go out of existence because, as the officers claim, the rigidity of the preliminary qualification under the new law is so great that the school can not be conducted on a self-sustaining basis. The college was established in 1851.——Cleveland College of Physicians and Surgeons, Medical Department of Illinois Wesleyan University, holds its commencement exercises this evening, when a class of thirty will be graduated.——Ohio Medical University, Columbus, held its tenth annual commencement exercises, April 15. Dr. David N. Kinsman, Chancellor of the University, delivered the introductory address, after which Rev. John Henry Barrows, D.D., president of Oberlin College, discussed the practice of medicine from the Christian and humanitarian view-point. Dr. John Edward Brown then addressed the graduates on behalf of the faculty, after which Hon. Fred J. Heer, president of the board of trustees, conferred medical degrees on a class of 61.——Starling Medical College, Columbus, graduated a class of 32, April 10. Hon. P. W. Huntington, president of the Board of Trustees, conferred the degrees and delivered the address of the evening, and Dr. Starling Loving, dean of the faculty, spoke for the body.——The graduation exercises of the Toledo Medical College were held April 24. Ten students received diplomas from Judge D. R. Austin, president of the college; Dr. Edmund C. Brush delivered the address of the evening on "The Place and Work of the Medical Profession," and Dr. Park L. Myers addressed the graduating class on behalf of the faculty.

TENNESSEE.

Hamilton County Hospital.—The County Court has made an appropriation of $8600 for building an addition to the present county insane hospital at Chattanooga and for remodeling the old building.

Dr. Happel's House Burned.—Dr. T. J. Happel, Trenton, secretary of the State Board of Medical Examiners and president of the Board of Trustees of the American Medical Association, suffered loss by fire of his house and its contents, including valuable papers, April 22.

Grant Medical Commencement,—The Medical Department of Grant University, Chattanooga, held its graduating exercises, April 14. The graduating class consisted of 41. The diplomas were presented by President John H. Race. Dr. John R. Rathmell delivered the address to the graduating class, and the dean, Dr. Edward A. Cobleight, announced the honors.

Condemn Water Meter System.—The Memphis and Shelby County Medical Society, at its meeting, April 15, passed the following resolutions by a unanimous vote:

Resolved, That it is the sense of this society that the free use of pure water is essential to the proper sanitation of any city, and especially so of Memphis, and that we condemn the meter system as it tends to check its full and necessary use.

Resolved, further, That the city council be respectfully solicited to oppose their introduction by the water company on any rate.

Knoxville's New Hospital.—The new City Hospital, Knoxville, erected at a cost of $75,000 through the efforts of a few women of the city, was formally opened, April 14. The medical board is composed of the following physicians: Consulting—Drs. John M. Boyd, Michael Campbell, Chalmers Deadrick and John M. Kennedy; practice—Drs. Benjamin D. Bosworth, William R. Cochrane, William Delpuech, Charles P. McNabb and David H. Williams; surgery—Drs. Benjamin B. Cates, Thomas Ap. R. Jones, Henry J. Kelso, Samuel R. Miller and Walter S. Nash; gynecology—Drs. James M. Black, J. I. Garrard, Samuel M. Miller, and Robert P. Oppenheimer; obstetrics—Drs. Samuel L. Jones and William A. McCallie; eye, ear, nose and throat—Drs. Claudius M. Capps, Charles H. Davis, John H. Kincard and Benjamin F. Young; children—Drs. Howard I. Ijams and Ernest R. Zemp; dermatology—Drs. William S. Austin and James F. Scott, Jr.; pathology—Dr. William R. Lockett. The board, at a recent meeting, elected Dr. John M. Boyd, chairman; Dr. Benjamin B. Cates, vice-chairman, and Dr. William R. Cochrane, secretary.

GENERAL.

Personal.—Samuel H. Wainwright, M.D., medical missionary at Kobe, Japan, has returned to the United States to remain for one year and take a much-needed rest.

Physician for Lepers Wanted.—The Hawaiian Board of Health has removed Dr. Richard Oliver from his position as resident physician at the leper settlement on Molokai, on grounds of cruelty to a leper and serious neglect of duty. The board was unanimous in its action. The superintendent was also removed for neglect of duty in not preventing the cruelty mentioned. A physician is desired to fill the vacancy. The remuneration is $250 a month.

Vigorous Sanitation in Manila.—The Board of Health of Manila is entering upon some of the details of sanitation in the outline previously mentioned in these columns. The native huts in some quarters, built on lowland tracts of great filth, are to be destroyed. To render the city of Manila immune to the plague all natives are being inoculated with Kitosato's serum. Cholera figures show in Manila 555 cases and 449 deaths, and in the provinces 1599 cases and 1169 deaths.

No Yellow Fever in Havana.—This encouraging report of Major Gorgas is very welcome to the contiguous coast of the United States, and is a great tribute to the efficient sanitation. The report says: "The number of deaths from contagious diseases has been exceedingly small; from typhoid fever, only 3; scarlet fever, 1; diphtheria, 1; smallpox, none. Not a case of the last-named disease has occurred since July, 1900. The prospect for escaping reinfection from yellow fever grows more and more hopeful as the months pass, and each month strengthens the claim that is made that this disease has been eradicated from Havana. At the end of February, five months had elapsed since the last case occurred, and when we consider that for a hundred years Havana has never been free from yellow fever for a single month, this claim seems very strong. We feel confident now that Havana will have no more yellow fever until it is introduced from some infected point outside of Cuba."

Hygiene in Havana.—The health officer of Havana, Major W. C. Gorgas, Surgeon U. S. A., had a sanitary census of the city taken, which shows the existence of 1187 cases of tuberculosis, according to the *British Medical Journal.* The patients have been urged to apply to dispensaries for relief, to sleep with bedroom windows open, to avoid confining occupations, and to take proper precautions relative to the disposal of the sputa. Special attention has been given to the cigar manufactories in this respect, particularly since tubercle bacilli were found in cigars which had been made by a consumptive. Cigar workers are now required, in finishing cigars, to moisten the tips with sponges, instead of with the lips, as was formerly done. The public reader—a peculiar institution common to all Cuban cigar factories—who is hired to read newspapers, novels, etc., to the hands while at work, will in future be required to devote a portion of his time to reading matter relating to elementary hygiene and the prevention of disease. The work is essentially educational and persuasive rather than coercive and is meeting with hearty support from the Cubans.

The Association of American Medical Colleges will meet in Saratoga, Monday, June 9, at 10 a. m. The morning program will be on educational subjects and open to visitors. The members of the Association of Southern Medical Colleges are invited to be present and take part in the discussion. The business session of the Association will be taken up at 3 p. m. of the same day. The educational program opens with the president's address, by Prof. Victor C. Vaughan. There follows a symposium on the amount of knowledge of French, German, Latin, mathematics, biologic sciences, physics and chemistry that should be demanded of applicants for admission to colleges of medicine. Among the speakers are Hon. James Russell Parsons, Jr., secy. Board of Regents, Univ. of N. Y.; and Drs. George M. Kober, Georgetown University; Robert Rayburn, dean of Howard University; W. H. Earles, Milwaukee Medical College; Joseph T. Smith, Woman's Medical College, Baltimore; John L. Heffron, Syracuse Medical College; E. A. De Schweinitz, dean, Med. Dept., Columbian University; O. U. B. Wingate, Wisconsin Medical College; R. L. Whitehead, dean, Med. Dept., Univ. of N. C.; and G. W. Hubbard, dean, Meharry Medical College. Among the amendments proposed is one to strike out the provision for credit for time to graduates in dentistry, pharmacy or veterinary medicine.

Smallpox.

Connecticut: Citizens of Waterbury have requested that one of Montreal's medical health officers come to that city and settle a dispute concerning a disease which exists there. The city authorities are sending people to an isolation hospital, on the ground that they are suffering from smallpox. A number of French-Canadian citizens do not believe that the disease is smallpox at all, but only chicken-pox, and that view is supported by their doctors. Under those circumstances, they appealed to the Montreal Hygienic Committee for assistance. Dr. C. N. Valin accordingly left for Waterbury, April 23.

Illinois: The Chicago Department of Health reports that thirteen new cases of smallpox, one from Iowa, in the highly contagious stage, were discovered during the week and removed to the isolation hospital, from which eleven were discharged recovered, none died and forty-five remained under treatment at the close of the week. Since January 1 and up to April 26, inclusive, there have been 153 cases of the disease treated, 107 discharged recovered and one death. Not a single one of the 153 had ever been properly vaccinated. The most serious group developed among unvaccinated bridewell prisoners. Six cases developed among unvaccinated inmates of Zion college, one of the Dowie institutions. The lesson of Chicago's smallpox experience during the last three years amply confirms the tenets of the department's "Vaccination Creed": True vaccination always and surely protects against smallpox; nothing else does or can. Peoria County has agreed to pay one-third of the claim made against it by the city of Peoria, on account of smallpox, which amounts to $21,000.

Minnesota: The smallpox report of the State Board of Health for the week ended April 14, shows a smaller number of new cases than have been reported for any previous week this year. The report shows 161 new cases, in 37 counties, and 51 localities, and no deaths. The previous week's report showed 205 new cases, in 40 counties, and 63 localities and 3 deaths. Minneapolis reports 12 new cases, and the only other locality in the state reporting more than 10 cases is St. Cloud, with 14 new cases. St. Paul reports 1 case. Smallpox bills for the care of non-resident patients, aggregating $5000, were passed on yesterday by the board and a report of the smallpox situation in the state since 1899 was presented. To April 14, 15,224 cases of smallpox, and 96 deaths from the disease were reported to the state board. In 1899 there were 257 cases, and 11 deaths; in 1900, 1371 cases, and 22 deaths; in 1901, 8485 cases, and 43 deaths, and in 1902, to April 14, 5111 cases, and 20 deaths.

Montana: Seven cases were reported in one family a few miles south of Billings, April 18.

Pennsylvania: In his annual report Director of Safety English of Philadelphia highly recommends an act of the legislature compelling vaccination and revaccination, a public record being kept of such vaccination, and providing that revaccination be required every five years or whenever the authorities may deem it necessary.

South Dakota: About 150 persons submitted to compulsory vaccination in the Buffalo Hump and Gold Mine saloons in Lead, at the hands of the County Board of Health, backed by the sheriff and several deputies, April 24. Cases of smallpox had been found in the saloons.

Canada: A second case of smallpox has been located among the students of Trinity Medical College, Toronto, and the college authorities are taking every precaution to see that there are no further cases. A report of the Civic Board of Health, of Montreal, shows that from last October to April of this year, 361 cases were admitted for treatment at the Hospital. Of this number 322 had never been vaccinated, 28 had been vaccinated many years ago, and bore poor marks, eight others had been vaccinated a good many years and bore good marks; while only three, or 1 per cent. of the whole, had been successfully vaccinated in seven years, and the marks in their cases showed that the vaccination had been done by amateurs, and unsatisfactorily.

CANADA.

The Free Consumptive Hospital at Gravenhurst, the gift to the National Sanitarium Association by Mr. W. J. Gage of Toronto, which will accommodate fifty patients, has been opened.

Ontario Cancer Statistics for 1900.—The total deaths recorded for this disease were 1055. There were 1041 and 975 in the two preceding years. The following gives the numbers for the past ten years, commencing with 1891: 579, 676, 678, 621, 620, 731, 927, 975, 1041, 1055. These figures show an increase of 100 per cent. between 1891 and 1900.

The Ontario Birth Rate.—According to the annual report of the Registrar-General of the Province of Ontario which has just been handed to the profession, the total number of births recorded in 1900 were 46,127 as compared with 44,705 in 1899, showing an increase of 1422 and giving a rate of 19.8 on the estimated population of 1900, or 21.1 on the actual population of the census of March 31, 1901. This rate compares favorably with that of 1891, when with a population but 68,621 less, the total births were 44,754, or 21.1 per 1000.

Closing Exercises at Bishop's, Montreal.—The ceremonies in connection with the annual convocation of the medical and dental faculties of Bishop's College were held last week, Dr. F. W. Campbell, the dean of the medical faculty, submitted his annual report. This showed that the attendance at the college was the same as last year, the students being mostly drawn from the eastern provinces of the Dominion and the neighboring states. A building fund has been instituted during the year and it now amounts to $2000. The valedictory of the medical faculty was delivered by Dr. D. K. H. Cowley.

Personal.—Dr. D. M. Anderson, house surgeon at the Toronto General Hospital and Dr. J. M. Jory of St. Catherines, Ont., have been appointed medical officers to the fourth Canadian contingent to South Africa. They sail from Halifax May 7. ——Dr. H. A. Beatty, M.R.C.S., Toronto, has had a cable from the distinguished surgeon, Mr. A. H. Tubby, offering him the surgical registrarship of Westminster Hospital, London, England. Dr. Beatty, who has just returned home after spending four years abroad in post-graduate work, had lately been senior house surgeon to the Westminster Hospital.——Dr. J. E. Tremblay of Labrador is visiting the hospitals of Montreal.

FOREIGN.

Japanese nurses, in most cases, work but eight hours a day in private cases as well as in hospital work, according to the *Am. Jour. of Nursing.* The way nurses are overworked in this country is deserving of the attention of physicians.

Campaign Against Charlatans in Germany.—The Prussian authorities have prohibited the advertisement in railroad stations and like public places of charlatans and secret remedies, to take effect after present contracts have expired.

Unna's prize this year for the best work on the finer architecture of primary carcinoma of the skin and the relations between proliferation of the epithelium and the resistance of the connective tissue, has been awarded to Drs. S. Beck and C. Krompecher, of Ofen-Pest.

The Cinematograph Operation.—Side shows in France are exhibiting the alleged cinematograph pictures of the operation on the Hindoo twins. Doyen writes to the French medical journals that the true films have never left his possession and have been exhibited only once. He has applied for legal injunction on the exhibitors in the side shows.

The Battle of the Clubs.—The physicians of Magdeburg have notified a large local sick insurance company that the 123 physicians on its list will retire and no others take their place, unless public retraction is made of an insulting speech delivered by one of the principal officers of the company at a public meeting. He is a well-known socialist and spoke very disparagingly of physicians in general.

Municipal Sanitation.—The German Public Health Association will hold its annual meeting in Munich, September 17 to 20. Among the matters to be considered are Supervision of Water Courses; Sanitation of Rural Districts; Influence of Quackery on the Health and Life of the Population; Damp Dwellings; Cause, Influence on Health and Measures for Amelioration; the Baking Trade from a Hygienic Point of View.

Congress on Venereal Diseases.—The second International Congress for the Prophylaxis of Syphilis and of Venereal Diseases will be held, as already announced, at Brussels, Sept. 1-6, 1902. Among the subjects for discussion are: What measures of public prophylaxis, under the form of legal provisions, should be taken against venereal diseases, specially with reference to the prostitution of minors, and with reference to procurers and bullies. The organization of measures of relief for sufferers. Contagion by wet nurses, midwives, arm-to-arm vaccination and instruments of labor. Penalties for transmission. Means of enlightening the youth and the general public on the social and individual dangers and on the methods of contagion. Basis for uniform statistics in all countries.

Organization of the Profession in France.—The "Association Générale des Médecins de France" was founded in 1858 for the purpose of assisting physicians in pecuniary distress, and has gradually assumed the functions of an insurance against

old age, disease and death. One of its features is that it guarantees to pay the premiums on the life insurance of its members when they are temporarily incapacitated from doing so. Brouardel has recently been elected president, and a bimonthly bulletin is to be issued to contain nothing but the news of the association. The premiums range from 12 to 96 francs a year. The latter sum entitles one to a pension of 1200 francs after 60 years of age, if commenced at 25. A premium of 54 francs insures against sickness, and entitles to a pension of 1200 francs in case of incurable illness. The association is making great efforts to induce young physicians to become members. The local associations are the branches of this general organization, which has now a capital of 2,473,066 francs, and disbursed last year 89,800 francs in pensions, etc.

The German Surgical Congress, held in Berlin on April 2-5, was well attended. After the president's address, the subject of "First Dressing of Wounds on the Battlefield" was opened by Professor von Bruns, of Tübingen. He prefers a paste for dressing bullet wounds as it will aid in the formation of a scab and will absorb the exudation. Bertelsmann of Hamburg and von Bergmann of Berlin said that bullet wounds often heal without suppuration. Others in the discussion showed sterile wound dressings ready for instant use on the field. Voelher of Heidelberg reported cases of fractures treated by suture, and recommended the procedure in cases where reposition of the fragments is difficult and where two bones are simultaneously broken. The "Etiology of Cancer" was the subject opened by Gussenbauer of Vienna. Although he was prepared to believe in the parasitic nature of carcinoma, no parasites had as yet been demonstrated in the growth which could be accepted as causal organisms. Von Kahlden of Freiburg held that recurrence was only possible when endothelial cells were left at the site of operation, or when the vascular system contained actual carcinoma cells. A cancer might exist in more than one location, and, after the removal of one focus, develop from another which had not before been recognized. Petersen of Heidelberg reinforced the above statement and regarded the giant cell as a protective cell which the organism used to kill off the cancer cells. Professor von Mikulicz of Breslau discussed 146 cases of carcinoma and sarcoma of the intestines. He considered that this form of new growth frequently remained latent for a longer period than others. In 83 cases not complicated by intestinal obstruction mortality was 30 per cent. after operation. He operated in two stages to prevent peritonitis. Hochenegg of Vienna reported 282 cases of carcinoma of the large intestine, 237 being rectal. In 25 per cent. lasting cure resulted from operation. Kronlein of Zurich discussed 264 operations he had made for gastric cancer and advised operation in all possible cases. Noske of Leipzig argued that every parasite failed of proof that it was either of usual occurrence or causal. Doyen of Paris and Schuller described certain parasites. Oscar Israel of Berlin denied that any parasite had aught to do with cancer, and the president humorously asked if any other gentleman happened to have any cancer parasites. Peritonitis and perityphlitis were considered by Korte of Berlin, Rehn of Frankfurt, Sprengel of Brunswick and others. Rehn urged that delay in operating when suppuration existed in the abdomen was dangerous, and that all deaths after operation are not due to the operation. Sonnenburg of Berlin discussed lung complications of appendicitis. In his experience pneumonia was uncommon, but emboli were frequent. He found no ground for blaming anesthesia or cold, but considered circulatory defects to blame. Bunge of Königsberg described his modification of Talma's operation for the relief of ascites. He sutures the omentum and other organs to each other and to the abdominal wall to lessen the pressure on the portal system. An instructive discussion on gastric ulcer followed. Kummel of Hamburg described the value of determining the freezing point of urine before operating on the kidney. When the freezing point rises above 0.6 C., it is not safe to operate. The normal is 0.56 C. One evening of the congress was devoted to lantern pictures. Among these were skiagraphs of anomalies of the patella by Joachimsthal of Berlin; a new instrument for examining for renal calculi by x-rays, shown by Shonberg of Hamburg; method of crippling the feet of Chinese women, shown by Perthes of Leipzig; cinematographic representations of operations by Doyen of Paris, including the severing of the Hindoo twins. These were very interesting and greatly enjoyed by the congress.

LONDON LETTER.

Hard Facts for the Antivaccinationists.

The number of cases in hospital is 1437 against 1567, 1526 and 1522 in the 3 preceding weeks; 274 new cases were admitted during the week, against 449, 389, 376 in the 3 preceding weeks. A most important analytical table of the deaths which have occurred from the epidemic has been issued by the Registrar-General and is a severe blow to the antivaccinationists. The deaths number 1015. Of these, excluding 66 cases in which vaccination or revaccination was not performed until after the patient's infection by smallpox, there was only one death within 10 years of the patient's vaccination. Moreover, this death occurred in an infant aged 13 months who was certified to have been imperfectly vaccinated. Of 457 deaths of persons vaccinated only in infancy not one occurred until the attainment of the tenth year and only 5 between 10 and 15. Of 398 deaths of unvaccinated persons 56 occurred under one year, 112 between 1 and 5 years, 58 between 5 and 10, 37 between 10 and 15. The table further shows that of persons under 20 years of age who were not protected by vaccination, 348 died of smallpox, while only 22 deaths occurred among those of the same age who were vaccinated in infancy. At ages over 20 there were 103 deaths of unvaccinated persons and 448 deaths of persons who had been vaccinated in infancy (including 13 who had been revaccinated only after infection).

The Investigation of Cancer.

The scheme for the investigation of cancer, to which we have previously referred in The Journal, is now taking definite shape. A fund of $500,000 is to be raised to promote investigation into the causes, prevention and treatment of cancer. Steps will be taken to, 1, equip laboratories to be devoted exclusively to cancer research; 2, encourage researches on cancer within the United Kingdom or British dominions beyond the seas; 3, assist in the development of cancer research departments in various hospitals and institutions approved by the executive committee; 4, provide means for investigation in various other directions into the causes, prevention and treatment of cancer. Should the object of the fund be attained by the discovery of the cause and nature of cancer and of an effective method of treatment, the Royal Colleges, with the consent of the trustees, shall be empowered to utilize the fund either for equipping with the necessities for such treatment such hospitals as they may select or for forwarding research into other diseases. The fund will be administered by a president, vice-presidents, five trustees, honorary treasurer, general committee and executive committee. Of the first trustees three may be nominated by the donors of sums of $5000 and one each by the Royal Colleges of Physicians and Surgeons. The general committee will consist of one member to be nominated by the local Government Board, one nominated by the colonial office, one nominated by the Royal Society, one nominated each by the Royal College of Physicians of Edinburgh, Royal College of Surgeons of Edinburgh, Faculty of Physicians and Surgeons of Glasgow, Royal College of Physicians of Ireland, and Royal College of Surgeons of Ireland, the Veterinary Colleges of London, Edinburgh and Dublin, and donors of sums of $5000 and upwards. The executive committee may make contributions towards the development of the cancer research department of the Middlesex Hospital or a similar department of any other hospital if established. The working staff will consist of a general superintendent of the investigation, who may be the director of the central laboratory, assistants and other persons who may be appointed to make special investigations. There will also be a consulting staff consisting of persons skilled in scientific investigation, representatives of the various home and colonial government departments, physicians and surgeons attached to hospitals, statistical experts and others appointed by the executive committee.

Correspondence.

The Roentgen Rays in Detecting False and True Gems.

Sterling, Ill., April 21, 1902.

To the Editor:—About one year ago, in conjunction with a local jeweler, I exposed a number of gems, both real and imitation, to the x-rays. On developing the plate, we found that the image or shadow of the real gems was very dim and indistinct, while the shadow of the false gems was dark and very sharp, showing a well-marked difference in all instances: on carrying the experiments further we found that the shadows of all the stones we examined—and we examined all the more familiar ones—were invariably faint and indistinct, while the shadows of all the imitation ones were well marked and bold. We paid no particular attention to these experiments, as, while neither of us had ever seen any mention of this use of

the Roentgen rays, we thought that surely some persons had made this discovery before. But now after a year has elapsed and we have not seen any allusion to this method of determining the difference between true and imitation gems, I take the liberty of stating these facts to you, for if it is not known (which I can hardly believe), it is well worth bringing to attention, and if it is known it will do no harm to bring it into notice again. Yours respectfully,

HARRY E. SMALL, M.D.

Brigadier-General George M. Sternberg.

PHILADELPHIA, April 24, 1902.

To the Editor:—Believing as I do that our Committee on National Legislation is engaged upon a most important work in behalf of the medical profession and the people of this country, it appears to me that every member of the American Medical Association should do whatever lies in his power to loyally uphold the hands of the committee and to assist it in attaining its objects. Acting entirely upon my own responsibility, I beg to respectfully suggest to my fellow members of the Association that an opportunity is afforded, at the present time, for displaying our full confidence in the committee and also of doing an act of justice to an ex-president, who is one of our most distinguished and honored colleagues, Brigadier-General George M. Sternberg, U. S. A. A bill has been submitted to Congress that will, if it passes, enable the President to appoint General Sternberg a major-general of the United States Army for the purpose of placing him upon the retired list. This bill has received the hearty endorsement of the Committee on National Legislation. To come to the immediate object of the present communication, I would ask each member of the Association, in all parts of the country, to at once communicate with the representatives from his district, or state, announcing the fact that this bill has the hearty support of the American Medical Association, and that its passage would be received as a marked act of favor to the profession and especially to the writer of the letter. As General Sternberg's time expires on June 8, the necessity of immediate action is evident. Very truly yours,

FRANK WOODBURY.

218 South 16th St.

To Congressmen and Senators.

ST. LOUIS, April 24, 1902.

To the Editor:—Copies of the following letter have been sent to our congressmen and senators. Very truly yours,

C. H. HUGHES, M.D.

ST. LOUIS, April 19, 1902.

My dear Sir:—You would, I am sure, please the medical profession of the country by favoring a broad representative bill for a National Board of Health, representing the whole profession, as well as the Army, Navy and Marine-Hospital Service, with its chief eligible to a place in the President's cabinet.

The presidents of the Academy of Medicine and American Medical Association might be members, and one member might be nominated by the Senate and one by the House of Representatives for the people and states to make up the composition of the first board. One representative might come also from the American Association for the Advancement of Science. The present board scheme is too much and too exclusively Army, Navy and Marine. Very truly yours, C. H. HUGHES, M.D.

Married.

WILLIAM A. DAVIS, M.D., to Mrs. Bertha Winter Davis, at Baltimore, April 9.

CARL G. SWENSON, M.D., to Miss Christine Johnston, both of Chicago, April 17.

WALTER A. RUSSELL, M.D., to Miss Mary H. Quinn, both of Providence, R. I., April 15.

HENRY A. KORNEMANN, M.D., to Miss Angeline Schulte, both of Newark, N. J., April 17.

WILLIAM G. DICE, M.D., Xenia, Ohio, to Miss Gertrude McClure of Toledo, Ohio, April 7.

J. T. SNIDER, M.D., Jewells, Ga., to Miss Della Graves Nisbet of Riverdale, Ga., April 10.

WILLIAM DOUGLASS, M.D., Macon, to Miss Mary Eleanor Johnson, at Charlottesville, Va., April 9.

JEREMIAH N. MARTIN, M.D., Mamaroneck, N. Y., to Miss Edyth Connery of New York City, April 12.

EUGENE B. SANGER, M.D., Surgeon-General of Maine, Bangor, to Miss Ethel Field, also of Bangor, April 16.

HERBERT R. DREWRY, M.D., Lambert's Point, Norfolk, Va., to Miss Annie B. Purnell of Raleigh, N. C., April 17.

THOMAS GREAR DUNLAP, M.D., Louisville, Ky., to Miss Ida Elizabeth Berd of Atlantic City, N. J., April 11.

GEORGE E. HILGARD, M.D., captain and assistant surgeon, I. N. G., to Miss Laura Ropiequet, both of Belleville, April 8.

EDWARD GARNETTE HANK, M.D., Tannerscreek, Va., to Miss Bessie Virginia Guy of Salem, Norfolk County, Va., April 16.

WILLIAM CHURCH GRISWOLD, M.D., formerly of Nassau, but at present an assistant surgeon in the Army, under orders to proceed to the Philippines, to Miss Helen Ruth Stout of Albany, N. Y., April 17.

Deaths and Obituaries.

Meredith Clymer, M.D. University of Pennsylvania, 1837, died at his residence in New York City, April 20, aged 85. He was a grandson of George C. Meredith, one of the signers of the Declaration of Independence. After graduating in medicine he studied in Dublin, London and Paris, and then located in Philadelphia, where he was consulting physician-in-chief to the Cholera Hospital and professor of practice of medicine in the Hampden-Sidney Medical College, Richmond, Va. In 1851 he moved to New York, and was given the chair of practice in the University of the City of New York. At the outbreak of the Civil war he offered his services and was made surgeon of volunteers and later medical director of the Department of the South. In 1871 he was made professor of nervous and mental diseases in Albany Medical College. He was an accomplished teacher and writer. His contributions to medical literature were numerous, both in the way of original matter and as editor of various works. His latest original contribution appeared in 1874, on "The Legitimate Influence of Epilepsy Upon Criminal Responsibility." He was a member of the New York County Medical Society and twice served as president of the New York Neurological Society. He also served three terms as senior vice-president of the Alumni Association of the Medical Department of the University of Pennsylvania. He was associate editor of the *Journal of Nervous and Mental Disease* for a number of years.

Theodore Walser, M.D. Jefferson Medical College, Philadelphia, 1851, assistant sanitary superintendent of the Department of Health, Richmond Borough, died at his home in New Brighton, April 23, after an illness of three weeks, aged 77. Dr. Walser was the Nestor of the medical profession on Staten Island, having practiced there since 1857. He was a native of Germany. He held many public offices. In the early sixties he was deputy health officer of the port of New York. For many years he was health officer of the old village of New Brighton and held that position up to the time of consolidation. During the smallpox epidemic in New York years ago he volunteered his services to the state, and during the cholera scare he did good service on Hoffman and Swinburne islands. Dr. Walser was one of the founders of the Smith Infirmary.

Cephas L. Bard, M.D. Jefferson Medical College, Philadelphia, 1866, the first American physician to locate in Ventura, Cal., a member of the American Medical Association, a member and some-time president of the Southern California Medical Society and of the Medical Society of the State of California, and one of the most prominent men of Southern California, died at the Elizabeth Bard Memorial Hospital, Ventura, April 20, from malignant disease, aged 59. The hospital in which he died was established by his brother, United States Senator Bard, and himself, in memory of their mother, and his death was the first to be noted on the hospital records.

Julius Wise, M.D. University of Michigan, Ann Arbor, 1872, formerly city physician of Cincinnati, who during the yellow fever epidemic in Memphis in 1878 had charge of the quarantine camps, and did noble volunteer work, as a result of which his health became so impaired that he was unable to resume practice, died at the Baptist Hospital, Chicago, April 19, after a short illness, aged 51.

Franklin B. Tuttle, M.D. Yale University, New Haven, 1863, for nearly forty years a practitioner of Naugatuck, Conn., some-time president of the New Haven County Medical Association and of the Naugatuck Medical Association, and member of the legislature, died at his home in Naugatuck, April 21, from neuralgia of the heart, aged 60.

Charles Wirgman, M.D. Jefferson Medical College, Philadelphia, 1877, a well-known physician of Philadelphia, a trustee of Jefferson Medical College and visiting physician at the Children's Howard and Orthopedic hospitals, died at his residence, April 19, after a long illness, aged 55.

D. R. Walker, M.D. Medical College of Indiana, Indianapolis, 1873, died, April 16, from congestion of the brain and stomach, at his home in Reese Mill, Boone County, Ind. He had never fully recovered from a stroke of paralysis in St. Augustine, Fla., in January last.

Alexander H. Henderson, M.D. University of Nashville, 1873, prominent as a physician in Starke County, Ind., who had represented that county at every Republican State Convention since 1872, died suddenly at his home in Knox, April 21.

George F. Hulbert, M.D. Washington University, St. Louis, 1886, a prominent physician of St. Louis, formerly in the United States Marine-Hospital service, died at St. John's Hospital, St. Louis, after a prolonged illness, April 22, aged 47.

James E. McDavitt, M.D. Washington University, St. Louis, 1855, one of the oldest practitioners of Western Illinois, died suddenly at his home in Quincy, from uremic coma, April 22, aged 75. He retired from active practice in 1898.

Henry Allen, M.D. Rush Medical College, Chicago, 1865, one of the earliest settlers on the Otoe Reserve, who had practiced medicine in Nebraska from that time until 1892, died at his home in Odell, April 16, aged 78.

Harry P. Hinchliffe, M.D. University of Pennsylvania, Philadelphia, 1894, a popular physician of Elkton, Md., died, April 19, two days after an operation for appendicitis, at his home in Elkton, aged 30.

Nathaniel M. Freeman, M.D. Yale University, New Haven, Conn., 1852, a wealthy retired physician of New York City, died suddenly from heart disease at the Aschenbrodel Club, in that city, April 18, aged 81.

Yancey L. Poole, M.D. Atlanta (Ga.) Medical College, 1889, an esteemed practitioner of Union County, S. C., died from appendicitis at his home in Union, April 21, after a short illness, aged 35.

Edward A. Maris, M.D. University of Maryland, Baltimore, 1841, a venerable and prominent practitioner of Baltimore, died at his home in that city, April 20, after an illness of two weeks, aged 81.

E. Harold Williams, M.D. College of Physicians and Surgeons, Baltimore, Md., 1888, died at his home in Hamilton, Ga., April 19, from consumption, after an illness of one year.

Abram Harshberger, M.D. University of Pennsylvania, Philadelphia, 1868, a native of Zion, Centre County, Pa., died suddenly at his home in Philadelphia, April 10, aged 62.

William H. Masterson, M.D. Detroit College of Medicine, 1893, a colored physician of Madisonville, Ky., died in his office in Madisonville, Ky., April 21, after a short illness.

William H. Keyes, M.D. University of Michigan, 1879, died suddenly at West Bay City, Mich., from heart disease.

Edwin A. McArthur, M.D., died at his home in Columbus, Ohio, from blood poisoning, April 14.

Association News.

Railroad Rates for Saratoga Meeting.

The Committee on Transportation has been making every endeavor to secure a railroad rate of one fare for the round trip with a thirty-day time extension, but has been unable to have the railroads grant the request. The Trunk Line Association, which in this instance under railroad regulations has the deciding of the matter of rates, etc., has finally decided to grant a rate of a fare and a third on the certificate plan, with an extension time limit to July 2, and make a fifty-cent charge on all tickets extended beyond June 16, that is to say, those beginning their return journey not later than June 16 will not be charged the fifty-cent fee extra, but in all cases where the return trip is begun after June 16, and on or before July 2, a fifty-cent fee will be charged. In purchasing tickets to this meeting it is necessary to secure at the time the ticket is purchased a certificate entitling the holder to the reduction on the return ticket. All certificates must be presented to Dr. William E. Swan at Saratoga for his visé and the stamp of the railroad agent detailed at the meeting, on either June 11, 12 or 13, before presentation to the local ticket agent for the reduced rate returning. Those who desire the time extension beyond June 16, in addition to having their certificates viséed and stamped as herein directed, must also deposit their certificates with the railroad agent and make application for the desired extension, paying the fifty-cent fee. The trunk lines have agreed to extend the rate to the American Academy of Medicine which meets at Saratoga, June 7 to 9, and accept the visé of Dr. Swan on their certificates, as herein indicated, and the same time extension will be granted that society, therefore tickets to either meeting will be on sale in the Trunk Line Territory for the going trip from June 4 to June 12 or 13. At this writing none of the other passenger associations have concurred in this rate except the New England Railroad Association and the Central Passenger Association. It is expected, however, that the other associations will eventually agree to the rates and terms of the trunk lines and will sell tickets in their territory at a date early enough to permit arrival at Saratoga three days before the opening of the combined meetings. Later information in the matter of rates will appear regularly in The Journal.

H. L. E. Johnson, M.D.,
Chairman Committee on Transportation.

Special Report of the Committee on National Legislation.

The following communication has been sent to the delegates who attended the third annual conference of this committee and to the secretaries of the medical societies of the several states and territories. All members of the American Medical Association are requested to assist this committee in their efforts to secure favorable action by Congress on the various matters mentioned:

The Third Annual Conference of the Committee on National Legislation, held at Washington, D. C., April 10-11, decided to publish in The Journal of the American Medical Association, a synopsis of its work, and each delegate was requested to present the same to his society at the earliest opportunity. Please refer to The Journal of April 19, pp. 1023-25 for said report, to which I hereto add the special recommendations for the U. S. Navy which were approved by the conference, but which by error do not appear in the synopsis published, viz.: S. Bill 4112, providing for an increase in the medical corps of the navy; H. R. Bill 8194, equalizing the pay of officers of the line, medical corps, pay and chaplin corps of the navy with officers of corresponding rank in the army and marine corps; the bill providing for a navy hospital at Annapolis, and the bill increasing the naval hospital corps. Your attention and that of your society is especially called to the bill proposed by the conference, which promotes and honors Surgeon-General Sternberg, Ex-President of the American Medical Association, known as S. 5213, and H. R. 13725, the Gallinger-Grosvenor Bill, providing for the selection and retirement of medical officers in the army. The Committee on National Legislation hereby requests each member of your society to write immediately to his own senator and representative, and also to Senator Gallinger and Congressman Grosvenor, urging the immediate passage of S. Bill 5213 and H. R. Bill 13275.

Very truly yours,
[Signed] H. L. E. Johnson, M.D., Chairman.

Societies.

COMING MEETINGS.

American Medical Association, Saratoga Springs, N. Y., June 10 to 13.

Nebraska State Medical Society, Omaha, May 6-8, 1902.
Texas State Medical Association, Dallas, May 6-9, 1902.
Kansas Medical Society, Lawrence, May 7-9, 1902.
American Therapeutic Society, New York City, May 13, 1902.
Utah State Medical Society, Salt Lake City, May 13-14, 1902.
Oklahoma Territory Medical Association, Oklahoma City, May 14, 1902.
Arkansas Medical Society, Little Rock, May 13-15, 1902.
New Hampshire Medical Society, Concord, May 15-16, 1902.
Illinois State Medical Society, Quincy, May 20-22, 1902.

American Surgical Association, Albany, N. Y., June 3-5, 1902.
Medical Association of the State of Missouri, St. Joseph, May 20-22, 1902.
Kentucky State Medical Society, Paducah, May 7-9, 1902.
Arizona Medical Association, Tucson, May 21-22, 1902.
Medical Society of West Virginia, Parkersburg, May 21-23, 1902.
Medical Association of Montana, Anaconda, May 21-22, 1902.
Iowa State Medical Society, Des Moines, May 21-23, 1902.
Indiana State Medical Society, Evansville, May 22-23, 1902.
American Pediatric Society, Boston, May 26-28, 1902.
American Laryngological Association, Boston, Mass., May 26-28, 1902.
American Gynecological Society, Atlantic City, May 27, 1902.
Connecticut Medical Society, New Haven, May 28-29, 1902.
Ohio State Medical Society, Toledo, May 28-30, 1902.
American Laryngological, Rhinological and Otological Society, Washington, D. C., June 2-4, 1902.
Louisiana State Medical Society, Shreveport, June 3-5, 1902.
Medical Society of the State of North Carolina, Wilmington, June 3-7, 1902.
Maine Medical Association, Portland, June 4-6, 1902.
Wisconsin State Medical Society, Milwaukee, June 4-6, 1902.
Rhode Island Medical Society, Providence, June 5, 1902.
South Dakota State Medical Society, Scotland, June 4-5, 1902.
Association of Military Surgeons of the United States, Washington, D. C., June 5-7, 1902.
American Orthopedic Association, Philadelphia, Pa., June 5-7, 1902.
American Academy of Medicine, Saratoga Springs, N. Y., June 7, 1902.
American Association of Life Insurance Examining Surgeons, Saratoga Springs, June 9, 1902.
National Confederation State Medical Examining and Licensing Boards, Saratoga Springs, N. Y., June 9, 1902.
Association of American Medical Colleges, Saratoga Springs, N. Y., June 9, 1902.
American Climatological Association, Los Angeles, Cal., June 9-11, 1902.
American Proctological Association, Saratoga Springs, N. Y., June 10, 1902.
Medical Society of Delaware, Newark, June 10, 1902.
Massachusetts Medical Society, Boston, Mass., June 10-11, 1902.
Colorado State Medical Society, Pueblo, June 17, 1902.
American Medico-Psychological Association, Montreal, June 17-20, 1902.
Minnesota State Medical Society, Minneapolis, June 18, 1902.
Medical Society of New Jersey, Atlantic City, June 24-26, 1902.
Washington State Medical Society, Tacoma, June 24-26, 1902.
Michigan State Medical Society, Port Huron, June 26-27, 1902.

Kankakee Valley District Medical Society.—This Society will meet at Knox, Ind., May 6.

Plains (Texas) Clinical Society.—This Society, which was organized at Amarillo, in January, with a membership of 16, held its regular monthly meeting at Amarillo, April 9. It now has a membership of 23.

American Climatological Association.—The nineteenth annual meeting of this Association will be held in Los Angeles, Cal., June 9-11, at the Westminster Hotel, under the presidency of Dr. Samuel A. Fisk, Denver.

Carbon County (Pa.) Medical Society.—At the annual meeting of this Society, at Mauch Chunk, Dr. P. D. Keiser, New Mahoning, was elected president; Dr. David R. Davis, Lansford, vice-president, and Dr. James B. Tweedle, Weatherly, secretary and treasurer.

Ohio State Pediatric Society.—This Society, which holds its next annual meeting on May 27 and 28 at Toledo, announces that in addition to the regular program a special address will be given by Dr. F. X. Dercum, Philadelphia, on "Mental Disorders of Children."

Boone County (Ark.) Medical Society.—At the annual meeting of this Society, held in Harrison, April 8, Dr. Charles L. Burns, Harrison, was elected president; Dr. James R. Potts, Bellefonte, vice-president; Dr. Hugh L. Routh, Batavia, treasurer, and Dr. Ezra L. Evans, Harrison, secretary.

Tarrant County (Texas) Medical Association.—The physicians of Fort Worth met on April 14 and organized a county medical society, with the following officers: Dr. James T. Feild, president; Drs. James L. Cooper, Robert B. Grammer and Charles P. Brewer, vice-presidents, and Dr. Barber, secretary and treasurer, all of Fort Worth.

Hartford County (Conn.) Medical Society.—The one-hundred-and-tenth annual meeting of this Society was held at Hartford, April 16. Dr. Nathan Mayer, Hartford, was elected president; Dr. Howard O. Allen, Broadbrook, vice-president; Dr. William G. Craig, Hartford, clerk; Dr. Walter R. Steiner, Hartford, county reporter, and Drs. Philo W. Street, Suffield, Charles D. Alton, Hartford, and Joseph A. Kilbourn, Hartford, were elected censors.

Hampden District (Mass.) Medical Society.—This Society held its annual meeting and banquet at Springfield, April 15. The following officers were elected: Dr. Stephen A. Mahoney, Holyoke, president; Dr. James W. Hannum, Ludlow, vice-president; Dr. Harry C. Martin, Springfield, secretary and treasurer; Drs. George L. Woods, Springfield, Carl A. Allen, Holyoke, Harvey W. Van Allen, Springfield, Robert P. M. Ames, Springfield, and Daniel E. Keefe, Springfield, censors, and Dr. J. Philip Schneider, Palmer, commissioner of trials.

Pennsylvania Society for the Prevention of Tuberculosis.—The annual meeting of this Society was held in Philadelphia, April 9. Requests received from various parts of this country and Canada for information show an increasing interest in the subject. Dr. Guy Hinsdale, after three years of service as president, declined re-election, and Dr. Howard S. Anders was elected. The laity has a good representation in the management of the Society. Among the vice-presidents are Drs. J. Solis-Cohen, Benjamin Lee, S. A. Knopf, William Moss, Samuel G. Dixon, and Lawrence F. Flick. The secretary is Dr. Alexander H. Davisson.

Mississippi Valley Medical Association.—The Chairman of the Committee of Arrangements for the twenty-eighth annual meeting of this Association, Dr. A. H. Cordier, Kansas City, has announced the dates of the next meeting in Kansas City as October 15 to 17. The president, Dr. S. P. Collings, Hot Springs, Ark., has announced the orators for the meeting: Dr. C. B. Parker, Cleveland, to deliver the address in surgery and Dr. Hugh T. Patrick, Chicago, the address in medicine. A cordial invitation is extended every physician in the United States, but especially of the Valley, to attend this meeting and take part in its proceedings. Titles of papers should be sent the secretary, Dr. Henry Enos Tuley, 111 W. Kentucky Street, Louisville, Ky., at as early a date as possible.

New Mexico Medical Society.—The twenty-first annual session of this Society was held at Albuquerque, April 16. The meeting was called to order by President Dr. George W. Harrison, Albuquerque, and the hospitality of the city was offered to the members by Mayor Charles F. Myers. Dr. James H. Wroth welcomed the visitors on behalf of the profession of Albuquerque, and Dr. William R. Tipton, Las Vegas, responded for the Society. The president's address was on "Medical Organization." Among the most important papers presented was one by Dr. George C. Bryan, Alamagordo, president of the Territorial Board of Health on "Licensure of Physicians in New Mexico." This evoked extended discussion and a resolution was finally adopted recommending that the Territorial Board of Health prepare a list of medical colleges whose graduates would be accepted without re-examination. The election of officers resulted as follows: Dr. Walter G. Hope, Albuquerque, president; Drs. George C. Bryan, Alamagordo, Thomas P. Martin, Taos, and Edwin B. Shaw, East Las Vegas, vice-presidents; Dr. J. Frank McConnell, Las Cruces, secretary, and Dr. George W. Harrison, Albuquerque, treasurer. The Bernalillo County Medical Society entertained the members at a banquet in the evening.

TRI-STATE MEDICAL SOCIETY (IOWA, ILLINOIS AND MISSOURI).

Proceedings of the Tenth Annual Meeting, held in Chicago, April 3 and 4, 1902.

(Concluded from p. 1103.)

The Society convened at the Great Northern Hotel, under the Presidency of Dr. John C. Murphy of St. Louis, Mo.

Acute Delirium.

DR. FRANK P. NORBURY, Jacksonville, Ill., read this paper and said that acute delirium is an etiologic problem upon which the leading authorities do not agree. It may not be regarded as an entity, but a combination of pathologic conditions, chief of which is an encephalitis more or less intense and almost invariably fatal. The tendency is of late to regard the disease as an infection, but as yet no pathogenic bacteria family group have been isolated. The Russian school, following the lead of the Italians, have made reports, conclusive in their deductions, endorsing the infection theory. From a clinical study of three cases, one of which came to autopsy, Dr. Norbury endorses the infection theory, and says the disease is comparable in its clinical history to other of the severe infections. The question of differential diagnosis is aided by laboratory methods.

Diagnosis of Cancer of the Breast.

DR. ALFRED ROULET, St. Louis, Mo., read a paper with this

tit'e. He said there is no doubt that in its early stages every cancer of the breast is a strictly localized condition and that its successful treatment depends entirely upon early diagnosis and immediate radical extirpation of the malignant focus. In advanced cases the diagnosis is easily made, but in the early stages it is often exceedingly difficult to distinguish cancer from abscess, syphilis, tuberculosis, sarcoma, cysts and the benign tumors. Text-book distinctions do not hold in practice. The diagnosis can only be made after most thorough physical examination and a searching investigation of the history.

Multiple Neuritis.

Dr. Daniel R. Brower, Chicago, said, in a paper on this subject, that the diagnosis of multiple neuritis in its classical form was very simple, but at the bedside there were few classical cases, so that errors in diagnosis were frequent. As the prognosis of multiple neuritis is usually favorable under proper treatment and the prognosis of the diseases with which it was usually confounded is very bad, a correct diagnosis is of great importance. The principal poisons producing a multiple peripheral neuritis are alcohol, lead, arsenic and the toxins of the various micro-organisms, especially those that produce diphtheria, influenza, typhoid fever, gonorrhea, syphilis, leprosy and beri-beri.

In the typical cases of multiple neuritis there is symmetrical localization of motor, sensory and vasomotor symptoms. In the earlier stages the symptoms are the result of irritation of the nerve; while the later symptoms are those of destruction. In the beginning there are muscular cramps and spasms, shooting pains and paresthesia. Later on, paralysis and anesthesia.

The diagnosis of alcoholic neuritis was based upon the evidences of chronic alcoholic poisoning, found in the digestive, circulatory and nervous systems. The onset was usually insidious, weeks or months being necessary for its full development. The earlier symptoms were numbness, tingling, muscular cramps, tremors and vasomotor disturbances, such as cold or clammy hands or feet, or a hot and burning sensation in the same extremities. In a few cases there was marked psychic disturbance.

Arsenical neuritis greatly resembles alcoholic neuritis. The differentiation from alcoholic neuritis was made in the few cases he had seen by the absence of any evidences of alcoholism, by the edema of the eyelids, pigmentation, epigastric pain and nausea. These cases were the result of the continued use of large doses of Fowler's solution and the tremors were more marked than in alcoholic neuritis. The knee-jerks and typical reflexes were present. Some cases were the result of the combined action of alcohol and arsenic, as evidenced by the remarkable epidemic that occurred in Manchester, England, in 1900, from beer. The source of arsenic was traced to sugar used in brewing. Recent investigation by Ross would seem to indicate that arsenic may be the principal etiologic factor, although hitherto it has been regarded as microbic.

The treatment of the several forms of neuritis has in common, rest, the relief of pain and insomnia; also the use, in the early stages, of the constant galvanic current of low amperage, applied daily to the nerve trunks involved, and attention to elimination by skin, bowels and kidneys. The alcoholic patients require the bromids, with codein in such doses as necessary to secure a reasonable degree of comfort, and the use of nerve tonics, of which strychnia is the most serviceable. In alcoholic neuritis it is very essential to withdraw at once and entirely alcoholic stimulants. In the treatment of beri-beri, it is the opinion of physicians who had had much experience with the disease that the patient must be moved from the locality where the disease was contracted, must have absolute rest in bed, mild laxatives, diuretics, tonics and anodynes. When cardiac failure seemed imminent, strychnia and nitroglycerin give the best results. After the acute stage of the several forms of multiple neuritis has passed, the patients require vigorous restorative treatment.

The diet throughout must be carefully regulated to suit the digestive condition of the patient. As soon as the acute pain has disappeared, the use of the galvanic current of a proper amperage, interrupted so as to produce muscular contraction, is indicated. The séances should be short; not more than three or four contractions of each group of muscles by a current of the least possible amperage should be made daily. Gentle massage should be commenced at the same time and the severity of this treatment should be increased as muscular soreness subsided. This exercise of the atrophied muscles will ordinarily result in their slow development and after a time they will respond to the Faradic current, which should then be substituted. Much benefit may be had by the hypodermic use of strychnia daily, beginning with 1/60 and gradually increasing it to a full physiologic dose. If the case did not yield, hypodermic injections of the chlorid of gold and sodium, gr. 1/24, may be added to the daily treatment. As soon as possible the patient should be encouraged to make frequent voluntary muscular movements. Many cases of multiple neuritis in the beginning of treatment are discouraging and the physician is apt to consider them hopeless too soon. Some of the most satisfactory results that the writer had obtained were in cases of long-standing neuritis which had been abandoned by physicians as incurable.

Intemperance and Life Insurance.

Dr. C. F. Wahrer, Fort Madison, Iowa, contributed a paper with this title. The author holds, despite many conflicting opinions on the use of alcohol, that two things are certain: all scientists agree that even its moderate use is not beneficial and may easily be harmful, and that all insurance companies regard drinkers as belonging to the class of hazardous risks. Drinkers easily fall victims to such diseases as nephritis, heart disease, pneumonia, typhoid fever and cirrhosis of the liver, and since intemperance is most frequently found among the lewd and vicious, they are particularly liable to gonorrhea and syphilis. Once attacked, their chances for recovery are greatly lessened by the life they have led. Men following hazardous occupations are liable to injuries and, if intemperate, they stand operations poorly and their chances for recovery are relatively small.

Since intemperance plays such an important rôle in life insurance, it is well to note the fact that the children of drinkers are poorer risks than those whose ancestors led pure and temperate lives. There are two kinds of risks, the standard, embracing those who pass a satisfactory examination and receive an unmodified policy at usual rates; and the substandard, who, on account of an unsatisfactory examination, are given a modified policy.

The author suggests the establishment of a new class, the super-standard class, in which, beside possessing the good qualifications of the standard risk, the applicant must be a teetotaler. He thinks it just that these should not pay for the shortcomings of others and that there is a sufficient number of them to justify the creation of a separate class to whom policies should be issued at reduced rates.

Treatment of Malignant Tumors by the X-Ray.

Dr. William Allen Pusey, Chicago, read a paper on this subject, illustrated by stereopticon.

Medical Education.

This was the subject of the president's address by Dr. John C. Murphy, St. Louis, Mo. A man who aspires to teach others should himself have a thorough understanding of what he attempts to teach and should be chosen on account of his special knowledge of some particular subject, and not on account of his ability to buy stock in the college. It is only by concentration in some particular channel that one can hope to become a peer among his fellows and rise above mediocrity. The medical teacher should have a proper preliminary training. No man can hope to turn out a finished product unless he himself is finished. The professor of medicine is not preparing his pupil to become a mere artisan; he is fitting him for the noblest work of mankind; to alleviate human suffering, to be the mediator between life and death. He is God's architect, who gives him the solid ground of man's intellect, to erect thereon a monument that will endure for all time, for good or evil. Great responsibility rests upon the medical educator. If his work is well done, as he approaches the end of his

career and takes a retrospective glance down the vista of his life, he sees here and there young intellectual giants of his own creation, ready to continue the work he has so well begun, to perpetuate his name, and enjoy and transmit the heritage of his genius.

The medical student is the very center of the arch; the keystone of the structure, without which all must fall. This age abounds with many opportunities for the earnest worker along the various avenues of science, but there are none which offer greater opportunities for renown than the science of the saving of human life. Men should be famous for the good they do to others. There are more heroes in the medical profession than in all the armies of the world; men who every day risk their lives amidst scenes of pestilence and disease that others may live. The man who goes forth to wage war on disease is a greater hero than Alexander the Great or Julius Ceasar.

He would say to the prospective medical student: "Let him think well of what he is about to undertake; before he begins to dissect others, let him, metaphorically, dissect himself, and see if he possesses the moral and intellectual attributes necessary to success."

"The world of the microscope alone is only half explored, and holds many secrets for future generations to unfold. If there are to be other Virchows, other Senns, other Kellys and other Oslers to take their places when they are gone, it remains for the medical colleges of to-day to furnish the material out of which they are to be evolved. The whole future of medicine and surgery for centuries to come depends on the medical educators of to-day. The training of a doctor is like the training of an infant, it must begin with his ancestors, in order to be successful. The parent from whom he comes must be healthy in mind and body if the offspring will be likewise. The course of four years in college is to the student what the period of prenatal existence is to the infant, a time of development and preparation for an independent life. What does the term *alma mater* signify but loving mother? If we would have our children do us credit, we must have a care as to the kind of material we select for their making. We must not be like the fishermen who let down their drag-nets and gather in all that are caught in their meshes. Unfortunately, too many colleges pursue this method, and cast their nets in the form of enticing literature to tempt the smith from his forge and the husbandman from his plow, where nature intended them to remain. They come, they see, but they conquer not. Their cherished hopes are blasted; their desires unsatisfied; their time wasted. All they have to show for their endeavors is a worthless piece of parchment bestowing a worthless title. The great percentage of them must go back to the forge and the plow or starve." Dr. Murphy referred to a college commencement where 214 students were graduated with the degree of M.D. There had been no failures. He did not believe that such a number of men gathered in from the highways and byways could successfully pass an examination of any severity. What is the secret? It is the commercialism which has crept into the medical colleges. Graduates are turned out who have no ability themselves and they become mere drummers for the college professors. The more half-educated men graduated, the better it is for Professor Laparotomy and the other distinguished specialists. If the graduates were well educated gentlemen, it might work a hardship on the professors' bank accounts, but what a boon it would be to the eighty millions of unsuspecting public! When all medical colleges become departments in endowed universities and the professors are paid for their services, the sooner will commercialism be eliminated and we will soon have fewer colleges and better doctors. And the medical profession will not be long in again establishing itself upon the high pedestal of honor it once occupied. The march of disease will be stayed and as a people we will become as were the ancient Greeks, marvels of beauty and powers of moral, intellectual and physical strength; and we as physicians will have the welfare of a grand and glorious nation in our keeping.

Cataract Operation in the Very Old.

DR. A. B. HALE, Chicago, read a paper on this subject. He spoke of trying to overcome the prejudice among the laity against cataract operation in the very old. The eye is more amenable to surgical interference in these cases than other organs of the body. He reported six cases of operation in patients aged 80 to 100 years and makes the following conclusions: 1. Tissues in the old are apt to be friable and the cataract over-ripe. 2. Vision need not necessarily be impaired. 3. Patients stand the operation surprisingly well and with little reaction. 4. Every case of cataract in the very old, if the retina and nerve seem to functionate well, should be given the chance of operation. 5. Emergencies should be anticipated and met at once. 6. Repair proceeds slowly, but as securely as at an earlier age.

Splanchnoptosis.

DR. FRED BYRON ROBINSON, Chicago, made a few remarks on this subject, which were illustrated by charts.

Tetanilla.

DR. J. W. HANNA, Winfield, Iowa, detailed a case of tetanilla. This name was applied to a peculiar neurosis characterized principally by paroxysmal tonic convulsions of certain groups of muscles. The disease attacks by preference children and young adults, varying in age from fifteen to thirty.

The Hygiene of the Pregnant and Puerperal States.

DR. C. E. PADDOCK, Chicago, read this paper and emphasized these points: Pregnancy borders so closely upon a pathologic condition that a physician's advice is necessary. Careful examination of the urine must be made frequently, and at least once a month a twenty-four-hour specimen is to be had. The prophylactic treatment of eclampsia lies in strict attention to this, and also in the use of the daily bath. The physician who carries out a systematic treatment of his cases has fewer mortalities and fewer conditions of morbidity.

DR. FLORENCE PATRICK, Burlington, Iowa, followed with a paper in which she covered essentially the same ground as that outlined in the paper of Dr. Paddock.

Infections of the Puerperal State and Their Surgical Treatment.

DR. EMORY LANPHEAR, St. Louis, Mo., the author of this paper, said that the fatality from puerperal infection attended by midwives was appalling. The mortality arose from several things, first, non-familiarity with the various causes of puerperal infection; second, inappreciation of asepsis; third, gross carelessness; fourth, meddlesome interference with natural processes; fifth, the spread of venereal diseases.

The Pathologic Status of Retroverted Uteri.

DR. WILLIAM A. TICHENOR, Chicago, read a paper on this subject. The author thinks there are certain grave pathologic conditions found in the uterus and adnexæ in which the first step is backward displacement. Among the more grave is prolapsus. Practically, all cases of prolapsed uteri are first displaced backward, for it is practically impossible for a uterus to slide down the vaginal canal if the cervix is well back toward the sacrum and the fundus well up against the pubes. In this position the organ lies across the axis of the vaginal outlet, and will not prolapse; but when the fundus is in the hollow of the sacrum the organ is in the most favorable position for gravitating toward the vaginal outlet. The retroverted position militates against the expulsion of menstrual and other secretions. This position retards venous circulation, thereby favoring the growth of any pathogenic bacteria that may find lodgment. It lessens the woman's ability to bear children by decreasing the chances of conception and increasing the chances of abortion. He thought about one-third of all gravid uteri abort. The retrodisplaced uterus is a prominent etiologic factor in prolapsed ovaries. Retroverted uteri and prolapsed ovaries are in the most favorable position to be irritated and injured by the passage of hard feces, and during the act of coitus.

Officers for the Ensuing Year.

The following officers were elected: President, Dr. Alexander Hugh Ferguson, Chicago; First Vice-President, Dr. Flavel B. Tiffany, Kansas City, Mo.; Second Vice-President, Dr. J. C. Sullivan, Cairo, Ill.; Secretary, Dr. W. B. La Force, Ottumwa, Iowa; Treasurer, Dr. Emory Lanphear, St. Louis, Mo. Place of meeting, Hannibal, Missouri.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Throat Affections.

Dr. R. Browning, in *New York Med. Jour.*, recommends the use of iodin in all forms of angina from whatever origin. He, however, does not use it in the form of the pure tincture, in which form it may be applied, but dilutes it with glycerin and water according to the following formula:

℞. Tinct. iodi ..... ʒss 2
Pot. iodidi ..... gr. viiss 5
Acidi carbol. ..... m. v 3
Glycerini ..... ʒii 8
Aquæ q. s. ad ..... ℥ii 60

M. Sig.: Apply locally with a swab.

The application of the foregoing should be preceded by an astringent spray of hydrogen dioxid. Care must be observed in applying the iodin solution in order that none of it drops into the larynx.

Specific Iritis.

The following combination is recommended by the *Med. Rev. of Reviews*, to be given internally in specific iritis:

℞. Hydrarg. biniodidi ..... gr. vi 35
Potassii iodidi ..... ʒiss 6
Aq. destil. q. s. ad ..... ℥iii 90

M. Sig.: One teaspoonful in water after each meal.

Neurasthenia.

Dr. Wharton Sinkler, of Philadelphia, in *Internat. Med. Mag.*, says: Arsenic, if it does not disturb the digestion, is of value and may be administered in the form of the solution of bromid of gold and arsenic. Phosphorus alone or in combination is indicated in small doses and many patients who suffer from great nervousness, restlessness and irritability are very much helped by the administration of asafetida and the valerianates. He regards the compound sumbul pill of great value. The formula for this pill, as recommended by Dr. William Goodell, is as follows:

℞. Extracti sumbul ..... gr. i .06
Ferri sulph. (exsic.) ..... gr. i .06
Asafetidæ ..... gr. ii .12
Acidi arsenosi ..... gr. 1/40 .0015

M. Ft. pillula No. i. Sig.: One such pill three times a day, increasing to five or six a day.

He advises the use of sodium bromid in the depressed, restless and physically nervous cases. This may be given in liquid form, combined as follows:

℞. Sodii bromidi ..... ʒiiss 10
Tinct. nucis vom. ..... ʒiss 6
Infusi gentianæ q. s. ad ..... ℥ii 60

M. Sig.: One teaspoonful three times a day. He emphasizes the danger from keeping up the bromid for any length of time in these cases. Nevertheless, if given at intervals, great good may be accomplished by its use.

Vaginismus.

The general treatment of vaginismus, according to the *Med. News*, consists of avoidance of intercourse and in taking exercise and warm alkaline baths of soda and starch, using a bath speculum in the vagina. A stimulating diet should be avoided and bromids with valerian or valerianates administered. The local treatment may consist, first, of warm vaginal washes of mercuric bichlorid (1-5000), liquor plumbi subacetatis (1-240), or tincture of calendula (1-20); second, of suppositories containing one of the following ingredients: cocain gr. ii (.12), extract of belladonna gr. ii (.12), extract of hyoscyamus gr. v (.30); third, local applications of iodoform disguised with iodin or ichthyol. Medicated glycerin tampons or a vaginal dilator may be worn at night. Direct applications to the parts of solutions of carbolic acid may be made. If these means fail operative dilatation must be resorted to.

Inhalations in Tuberculosis.

Dr. J. E. Stubbert, in the *Post-Grad.*, recommends the following combinations for inhalation in addition to the general and systemic treatment:

℞. Olei camphoræ ..... ʒiiss 10
Terebene
Eucalyptol, āā ..... ʒi 30

Sig.: Two to ten drops to be placed in an inhaler and used once or twice daily; or:

℞. Menthol
Camphoræ, āā ..... gr. xv 1
Liq. alboleni q. s. ad ..... ʒi 30

M. Sig.: To be used in the nebulizer once or twice daily; or:

℞. Creosoti ..... ʒi 4
Liq. alboleni q. s. ad ..... ℥i 30

M. Sig.: In the form of an inhalation. He states that for two or three hours after the use of either of these inhalations the breath gives the odor of the drug used, showing that the bronchial mucous membrane must have been tolerably well saturated.

Prostatic Congestion.

Stordeur, in *Progrès Méd.*, recommends the following suppository in relieving prostatic congestion from any cause:

℞. Pot. iodidi ..... gr. v .30
Ichthyol ..... gr. iii .20
Morphinæ hydrochlor. ..... gr. 1/6 .01
Ext. daturæ ..... gr. 1/6 .01
Ol. theobromæ, q. s.

M. Ft. suppository No. i. Sig.: One or two daily.

Disinfection of a Room.

The following method of disinfection of a room and its contents after scarlet fever or other of the infectious diseases is recommended by the *Cleveland Med. Gaz.*: 1. All cracks or openings in plaster or floor and about the door and windows should be closed by cotton or strips of cloth. 2. The linen, quilts, blankets, carpets, etc., should be stretched out upon a line in order to expose as much surface as possible to the action of the disinfectant. They should not be thrown into a heap. 3. The walls and floor of the room and the articles in it should be thoroughly sprayed with water. 4. For each 1000 cubic feet of space, 150 centimeters (five ounces) of formalin should be placed in the distilling apparatus and distilled as rapidly as possible. The keyhole and spaces about the door should then be packed with cotton or cloth. 5. The room should then remain closed for at least ten hours. If there is much leaking of gas into surrounding rooms a second or third injection of formaldehyd at intervals of two or three hours should be made.

Ecchymosis.

Periocular ecchymosis or what is termed "black eye" is best treated, according to Wood in *Med. Standard*, by the application of ice compresses if seen soon after the injury, or with an evaporating lotion composed of the following:

℞. Liq. plumbi subacet. ..... ʒi 4
Alcoholis ..... ʒi 4
Aq. destil. q. s. ad ..... O i 480

M. Sig.: Apply locally to the affected parts.

Where a definite blood clot has formed within the palpebral tissues, the common practice of incising the skin and allowing the blood to escape or applying two or three leeches to the orbital margin is a good one. An antiseptic dressing should be subsequently applied. Unless treatment is resorted to within two days, no remedy will be of use.

Chronic Gastric Catarrh.

C. A. Ewald, as noted in *Medicine*, states, in the treatment of gastric catarrh, that two conditions are to be met: 1. A diminution of hydrochloric acid and pepsin; 2, lessened motility of the stomach. As a result of these two factors fermentation occurs, the character of which is determined by the kind of micro-organisms present. The disturbance of the secretory function of the gastric mucous membrane is best met by the administration of as much acid as the patient can tolerate, administering it at intervals of ten minutes after meals. In some cases in which the stomach tube is well borne, a 0.2 per cent. solution of hydrochloric acid may be introduced directly into the stomach;

this amount corresponds with the normal quantity. Bitter tonics directly excite and increase the secretion and activity of the cells. The best tonic to produce such secretory effects is condurango. And to increase the motility strychnia or nux vomica is the best. The latter is best given in the form of the tincture; massage and electricity are useful adjuncts. In treating fermentations the stomach should always be washed out. A weak antiseptic solution consisting of boric or salicylic acid in 2 per cent. strength should be employed. Fermentations may be inhibited by the following:

℞. Resorcin (resublimed)	gr. viiss	5
Bismuthi salicylatis	ʒiiss	10
Natrii bicarbonatis	ʒiv	15
Sacchari albi	ʒiv	15

M. Sig.: A small teaspoonful every two hours.

According to his statement no recovery is possible without a proper regulation of the diet. The patient should thoroughly masticate the food. White meats are more digestible than red meats. Fat meats should be entirely avoided. A limited amount of white meat may be taken, such as poultry, which is more digestible than the red meats. Eggs are sometimes agreeable to the patient's stomach. Milk is the best diet when agreeable to the patient. The starches should be converted into dextrin if possible. Vegetables are very well taken and digested, especially if cooked in salted water. However, vegetables such as cabbage, peas and beans are, as a rule, not well borne.

Medicolegal.

Neglect of Injured Employe While Being Taken Home.—The Supreme Court of Rhode Island holds, in the case of Bresnahan vs. the Lonsdale Company, that a cause of action was sufficiently stated in the allegation that the company undertook to convey a certain person to his home after his injury, and neglected to take the proper precautions to cover and protect him while so doing, in consequence of which exposure complications ensued, causing his death. If the taking home of the party after his injury was a duty assumed by the company, the fellow-servant doctrine contended for by it, probably to the effect that the negligence being that of fellow servants it would be a risk assumed by the injured employe and not something for which the employer would be responsible, the court holds did not apply.

Duty of City to Pay County Health Officer.—The Court of Appeals of Kentucky says that the object of the case of Blair vs. the City of Middlesboro was to recover $600 for services rendered by a physician as member of the County Board of Health, whose services as health officer were rendered in the city in the midst of a smallpox epidemic. The court says that it seems to it that sections 2059 and 2060 of the Kentucky statutes made it the duty of the city to procure and have rendered such services as the party suing rendered for it. It might, doubtless, by proper proceedings, have established a board of health, and placed such board of health or health officer in charge, and caused them to have rendered the service which was rendered in this case. But it appeared that no such steps were taken. On the contrary, the city, through its council, accepted and practically ratified the action and services and accepted the same at the hands of the party suing. Under which circumstances, the court is of the opinion that the city was legally bound therefor.

Aggravation of Injury by Not Observing Instructions.—The Supreme Court of Michigan says that there was testimony in the personal injury case of Zibbell vs. the City of Grand Rapids that the party suing, after receiving the injury, called a surgeon to treat her limb, and that he advised rest for the knee. There was also testimony that she did use her limb to some extent. The trial judge instructed the jury that the party was not entitled to recover any damages for any disability, suffering, or expense that resulted from her own failure to exercise proper and reasonable care after she received the injury of which she complained, which aggravated her condition, by failure to observe the instructions of her physician, and that the city was not to be held responsible for damages resulting from such neglect on her part. This instruction, the Supreme Court holds, correctly embodied the law. But it holds that it was error, when counsel attempted to argue this question to the jury, for the judge to stop him with the statement that he would charge that there was no act of the party which aggravated her condition. The testimony, it says, was for the jury, and, while it might not have been very convincing that she had been guilty of any imprudence, it should not have been wholly withdrawn from the consideration of the jury.

Wisconsin Law in Confusion—Use of Title of Doctor.—The Supreme Court of Wisconsin says, in the appealed case of Schaeffer vs. State, that the statutes in relation to persons practicing medicine and surgery in that state are in considerable confusion. Nor does it attempt to untangle them in this case. This was a prosecution under sections 1436 and 4603a of the Revised Statutes of Wisconsin of 1898. The first section mentioned provides, in substance, that no person practicing physic or surgery shall have the right to collect fees for his services or testify in a professional capacity in any case "unless he, before the 20th day of April, 1897, received a diploma from some incorporated medical society or college, or shall since said date have received a license from the state board of medical examiners." Section 4603a provides that any person prohibited by section 1436 from testifying in his professional capacity as a physician or surgeon, who shall assume the title of doctor under circumstances detailed therein, shall be punished by fine or imprisonment, and the burden of showing his right to use any such title shall be upon the accused. The complaint in this case charged that the party in question unlawfully used the title of doctor without having obtained a license from the state board of examiners. The Supreme Court holds that this did not describe an offense under the statutes. It says that the offense consists in assuming the title by one not having a diploma or license. The offense charged was that of having no license. Certainly this did not describe the offense prescribed in the statute.

Testimony by Patient—Physician Accompanying Another.—The Supreme Court of Wisconsin does not uphold the contention in the personal injury case of Green vs. the Town of Nebagamain that, because the party suing testified in her own behalf as to her condition while she was attended by a certain physician after her injury, she had thereby waived her right to exclude him from testifying on the same subject. It says that if such a rule were to prevail, it would destroy the privilege secured by the statute, or preclude the patient from testifying in her own behalf. There may be adjudications in other jurisdictions, under different or even similar statutes, holding otherwise, but, if so, this court declines to follow them. Then, too, there was in this instance a physician called from another place to treat this party for her injuries. On reaching the town where she was, he requested a physician there, who had been her physician but who had sold out his business with the view of moving away, to accompany him upon his proposed examination. This the latter did, and in his presence, that is, as the court says, in the presence of one who was thus called in as another physician, the physician who was summoned to treat the case made an examination, and prescribed for the party as her physician. The accompanying physician made no examination, and did not remain at the house after the other left. Now, it is very obvious, says the court, that had the physician called to treat the case been offered as a witness on the other side, his testimony as to what he learned upon the examination might have been properly excluded upon the same theory as that of the physician first mentioned in the case. It holds that the same was also true in respect to the proposed testimony of the accompanying physician just mentioned. It says that he had "been called in as another physician" by an attending physician. And it says that it must hold that he was, on account of this, an attending physician, and hence precluded from disclosing any information thus acquired, against the object of the patient.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, April 19.

1 *Cholelithiasis, Cholecystitis and Cholangitis. William H. Thomson.
2 Hematuria. William K. Otis.
3 *Some Reasons Against the Public Registration or Notification of Cases of Phthisis Pulmonalis. E. L. Shurly.
4 *Effects of Osteitis of Knee on Growth of Limb. Henry L. Taylor.
5 Gunshot Wounds on the Isthmus of Panama. Raymond Spear.

American Medicine (Philadelphia), April 19.

6 *Dry Points versus Glycerinated Virus, from a Bacteriologic Standpoint. M. J. Rosenau.
7 *Ocular Affections Associated with Glycosuria, with Especial Reference to Central Amblyopia. Walter L. Pyle.
8 Sinus Thrombosis Depending on Middle-Ear Disease, with Report of a Case Following Acute Sore Throat. George F. Cott.
9 *Tonsillar and Peritonsillar Suppuration. Henry J. Hartz.
10 A Fatal Case of Acute Primary Infectious Pharyngitis, with Extreme Leukopenia. Philip K. Brown.
11 *Hemostasis in Disarticulation of the Hip-Joint. John G. Sheldon.
12 Maxillary Antral Suppuration, with Report of a Case. Linn Emerson.

Medical News (N. Y.), April 19.

13 *Compulsory Vaccination Essential: The Example of Porto Rico. Azel Ames.
14 *Clinical Expression of Chronic Myocarditis. J. H. Musser.
15 *The Sanitary Condition of Street Cars in New York. George A. Soper.
16 *General Anesthesia in the Plethoric. M. L. Maduro.
17 *A New Method of Approximately Estimating the Number of Blood Corpuscles from Stained Specimens. Max Einhorn and George L. Laporte.

Philadelphia Medical Journal, April 19.

18 *The Haines Case and the Medicolegal Relations of Arsenic. Henry Leffmann.
19 *Perineal Prostatectomy. John B. Deaver.
20 *The Prevention of Neurasthenia After Surgical Operations. Charles W. Burr.
21 Four Cases of Estivo-autumnal Malarial Infection at West Point, N. Y. Thomas W. Jackson.
22 *The Bacteriology of Erysipelas. G. E. Pfahler.
23 Rational Therapeutics. Brace W. Loomis.
24 Twin Pregnancy in a Uterus Bipartitus. Charles W. Doughtie.
25 A Case of Moist Gangrene; Its Treatment. Lucien Lofton.

Medical Record (N. Y.), April 19.

26 *Instances of Spontaneous Cure in a Leper Family. Douglass W. Montgomery.
27 *A Contribution to the Study of Peritonsillar Abscess. Donald M. Barstow.
28 Mind and Body. J. Allen Gilbert.
29 *On the Penetration of the Human Body by Ordinary Actinic Light. William S. Gottheil and Milton W. Franklin.
30 Suprapubic Cystotomy. Donald Kennedy.
31 *Asepsis in Dental Surgery. William J. Lederer.
32 The Indications Calling for Operative Interference in Gallstones. Carl W. Strobell.
33 Death Following an Enema. Thomas H. Curtin.
34 Bile Burns in Anesthesia. Frederic Griffith.
35 A Case of Respiratory Tinnitus. Philip D. Kerrison.

Boston Medical and Surgical Journal, April 17.

36 *Papers on the Diagnosis of Appendicitis. Maurice H. Richardson.
37 *Vaginal Hysterectomy for Carcinoma of the Uterus. William R. Pryor.
38 Pathology and Pathologic Diagnosis of Carcinoma of the Uterus. T. Leary.
39 *Abdominal Hysterectomy for Uterine Cancer. J. C. Irish.
40 *The Surgical Aspects of Carcinoma Uteri, Complicating Pregnancy, Labor and the Puerperium. Charles G. Cumston.
41 *The Treatment of Cases of Carcinoma Uteri Not Justifiably Treated by Radical Operation. Albert H. Tuttle.

Cincinnati Lancet-Clinic, April 19.

42 *Phases of Progressive Medical Organization. Charles A. L. Reed.
43 *Ligation of Arteries (Cocain Anesthesia). B. Merrill Ricketts.

St. Louis Medical Review, April 12.

44 The Neuropathologic Aspects and Neurotherapy of Marasmus Infantilis. Charles H. Hughes.

Pediatrics (N. Y.), April 1.

45 *Middle-Ear Inflammations in Childhood and Their Relation to Deaf-Mutism. Gordon King.
46 *Enlargement of the Breasts in Acute Tuberculosis. W. F. Boggess.

Medical Fortnightly (St. Louis), April 10.

47 Relations and Treatment of Suppuration of the Middle-Ear. (To be continued.) A. E. Prince.
48 Birth-marks. Davis W. Reid.
49 *Some Observations on the Recognition and Treatment of Trachoma of the Female Tract. John A. Hale.

Northwestern Lancet (Minneapolis), April 15.

50 The Pelvic Floor and Its Injuries. William E. Ground.
51 The Time to Operate in Appendicitis. Christian Johnson.
52 Two Cases of Sarcoma, with Amputation of the Extremities. F. A. Dunsmoor.
53 Lead Deposits in the Corneæ. H. A. Beaudoux.
54 Acute Yellow Atrophy of the Liver. Oscar A. Ellesburg.

Journal of Nervous and Mental Diseases (Nyack, N. Y.), April.

55 A Case of Metastatic Carcinoma of the Spine and Meninges. Albert C. Buckley.
56 A Case of Intracranial Disease Involving the Chiasm and Also Producing Profound Mental and Nervous Disturbances. B. C. Loveland and F. W. Marlow.
57 A Case of Multiple Lesions of the Spinal Cord and Cranial Nerves with Amyotrophy, Due Probably to Syphilitic Infection. Max H. Bochroch and Alfred Gordon.
58 Observations on Fifty-four Cases of Locomotor Ataxia, with Special Notes on Etiology. Dudley Fulton.

Albany Medical Annals, April.

59 *Tendon Transplantation in the Treatment of Paralytic Deformities. Arthur W. Elting.
60 An Unusual Case of Abscess of the Liver. Edgar A. Vander Veer.
61 Report of a Case of Embolism of the Popliteal Artery, Following Pneumonia. R. H. Irish.

The Post-Graduate (N. Y.), April.

62 *What Can We Diagnosticate in Acute Appendicitis. Willy Meyer.
63 The Induction of Labor. George L. Brodhead.
64 Lobular Pneumonia in Infants. Herman B. Sheffield.

New York State Journal of Medicine (N. Y.), April.

65 Smallpox and Its Treatment. S. Dana Hubbard.
66 *What Constitutes Efficient Vaccination? Frank S. Fielder.
67 *The Relation of Intestinal Toxemia to Arteriorenal Disease. Charles E. Quimby.
68 *The Therapeutic Value of Alcohol as Understood at the Beginning of the New Century. Frank W. Dennis.
69 *The Use and Abuse of the Obstetric Forceps. Edward A. Ayers.

American Medical Compend (Toledo, Ohio), April.

70 Dysmenorrhea in a Woman Suffering from Chronic Endometritus Complicated by Cystic Ovaries and a Myoma in the Anterior Uterine Wall. E. E. Montgomery.
71 Dysmenorrhea, Oviductus, Endosalpingitis, Myosalpingitis, Perisalpingitis. Byron Robinson.
72 The Medicinal Treatment of Some Common Gynecologic Conditions. Davis E. Bowman.
73 Functional Gastro-enteric Disturbances. W. W. Grube.

Bulletin of the Johns Hopkins Hospital (Baltimore), April.

74 *The Treatment of Vesico-Vaginal and Recto-Vaginal Fistulæ High Up in the Vagina. Howard A. Kelly.
75 *Cyclic Albuminuria. Wm. E. Huger.
76 On a Cyst Originating from the Ductus Thyroglossus. G. Canby Robinson.
77 Catarrhal Otitis Media (Non-Suppurative) as a Factor in the Etiology of Facial Paralysis. H. O. Reik.
78 A New Method of Teaching the Macroscopical Anatomy of the Central Nervous System. Arthur P. Herring.
79 Sorcery, Medicine and Surgery in Ancient Mexico. Zella Nuttall.
80 Preliminary Note. The Extent of Gastric Digestion in Cases of Carcinoma of the Stomach. Charles P. Emerson.

Medical Bulletin (Philadelphia), April.

81 Rosacea. John V. Shoemaker.
82 One Thousand Ophthalmic Operations. (Concluded.) L. Webster Fox.
83 Psilosis (Sprue) Among American Soldiers Serving in the Philippines. Frank T. Woodbury.

Archives of Otology (New Rochelle. N. Y.), February.

84 *Does Early Treatment of Acute Inflammation of the Middle-Ear Prevent the More Serious Complications. E. L. Meierhof.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), April.

85 Cancer of the Skin. J. A. Fordyce.
86 Two Cases of Blastomycetic Dermatitis, One of Which Was Cured by Iodid of Potassium. Francis J. Shepherd.
87 A Case of Litholapaxy Under Cocain. G. K. Swinburne.

Southern Medical Journal (La Grange, N. C.), April.

88 Facial Paralysis. J. M. Aikin.
89 The Hemorrhagic Diathesis. D. D. Wood.
90 Facial Expression in Disease. W. W. Gilbert.
91 A Case of Nephrotomy, with Drainage for Tuberculosis of the Right Ureter—Secondary Nephrectomy—Apparent Cure. H. McC. Johnson.
92 A Case of Suppurative Tubercular Peritonitis. A. B. Anderson.

Georgia Journal of Medicine and Surgery (Savannah), March.

93 Diagnostic Acumen in the Skilled Practitioner. Edgar H. Nichols.
94 Doctors and Doctors. Ralph M. Thomson.
95 Fissure of the Anus in the Nursling. Edgar H. Nichols.

Medical Mirror (St. Louis), March.

96 Specific Medication. Andrew H. Smith.

New Yorker Medicinische Monatsschrift, March.

97 Zur Hygiene und zur Diagnose des Abdominaltyphus. Richard Stein.
98 Ein Beitrag zur Lehre von der Vererbung. Ad. Cohn.

Kansas City Medical Index-Lancet, April.

99 *On the Decadence of the American Race. John W. Kyger.
100 Prevention of Phthisis Pulmonalis. William A. Wood.
101 *Food Preservatives, Their Use, Misuse and Toxicology. J. Robert Moechel.

Hot Springs Medical Journal, March.

102 Typhoid Fever. William Cantrell.

Atlanta Journal-Record of Medicine, April.

103 Digitalis, Etc. C. A. F. Lindorme.
104 The Mosquito. Ennlon G. Williams.
105 Further Observations on the Treatment of Summer Complaint. C. C. Cronkhite.
106 Some Remarks on Conservative Gynecology. E. C. Davis.
107 Medical Inspection of School Children. M. D. Hoge, Jr.
108 Iritis, Varieties of, Diagnosis, Differential Diagnosis, Causation, Treatment. F. Pierce Hoover.

Memphis Medical Monthly, April.

109 *Amebic Dysentery, with Report of a Case Complicated with Malaria. J. B. McElroy.
110 *Further Considerations in the Pathology of Malarial Methemoglobinuria. Wm. Krauss.
111 *The Continued Fevers of the Mississippi Delta. H. L. Sutherland.
112 *The Continued Fevers of the South. W. A. Evans.
113 The Treatment of Abortion. F. J. Runyon.

Mississippi Medical Record (Vicksburg), March.

114 Intestinal Indigestion. J. C. Ballard.
115 Liquid Thyroid. William Cheatham.

Texas Medical News (Austin), April.

116 Medical Organization. Walter Shropshire.
117 College-Bred Women: Their Relation to the Welfare of the Country. Ben H. Brodnax.
118 Abuse of the Curette. V. P. Armstrong.

Therapeutic Monthly (N. Y.), March.

119 The New Remedies of 1900 and 1901. V. Coblentz.
120 *Remarks on the Physiology and Therapeutic Application of Bicycle Riding. L. Zuntz.
121 *Changes of Substance in the Organism. J. W. Wainwright.
122 Recent Observations on New Methods of Treatment. Louis Van Hoesen.
123 Thuja Occidenalis. James M. Brown.

---

1. **Cholelithiasis, Cholecystitis and Cholangitis.**—Thomson remarks that scarcely one out of twenty, or in his experience one out of thirty, of those who suffer from gallstones will ever need to undergo operation. The difference between renal calculus and gallstone is that the former is a stone and the latter is a soluble material which in many cases is disintegrated and carried away. Oils readily dissolve biliary calculi outside the body, and it is possible to believe that something analogous takes place within the body. There are only three ways in which the offending gallstone can be disposed of. The least common one is for the calculus to be discharged into the intestine. The second one is for it to float back into the gall-bladder and remain there, as 95 per cent. of the gallstones do. The third is that the bile itself in time dissolves the calculus into a detritus, which is finally expelled without notice. The last process he thinks is more common than generally supposed, and if so, one of the chief indications in the treatment is to increase as much as possible the flow of common bile. Gallstones do not come out of the liver, and are not formed of bile. The first indication in the treatment of cholelithiasis is to prevent bacterial invasion from the intestines: the commonest condition which favors this infection is chronic constipation. He thinks this is the reason many saline laxative waters have gained such reputation in the treatment. Weekly or bi-weekly mercurial purgatives taken at night are also of the greatest value for intestinal antisepsis and he never fails to employ them. We may safely rate sodium salicylate and sodium benzoate as true cholagogues. He gives these together in doses of 10 gr. each one hour after meals. In old persons with thickened arteries and weak hearts four or five grains of sodium iodid is a good addition to the sodium salicylate. Olive oil properly administered is the most efficient agent against gallstones, but the old idea of its action is wrong. The way it acts is to cause a watery flow from mucous membranes. Its action in cholelithiasis he conceives to be this: in the first place it is a food oil, and if taken in a small quantity, not over one or two ounces at a single dose, it excites an increased flow of normal secretions, viz., the biliary, the pancreatic and the secretions of Brunner's glands. Not more than an ounce or two is needed or required. In patients with cholelithiasis the dose is taken for ten consecutive nights, then intermitted for about a week to avoid gastric disturbance, and then resumed again for ten more nights. The result is not immediate relief, but a progressive amelioration of symptoms with the paroxysmal attacks becoming lighter and fewer until they cease permanently. The gastric conditions accompanying cholelithiasis require careful treatment. On general principles the patient should avoid what he finds difficult to digest. If the gastric digestion is in a fair condition rigid dieting is uncalled for. For subacute gastritis he has found 1/20 of a grain of bichromate of potassium and three grains of bismuth half an hour before meals, with five grains of resorcin in solution half an hour after meals, very serviceable. The chief dangers of cholelithiasis are a violent sepsis causing suppuration and ulceration. Some of these call for surgical interference. Among the danger signals he would put continued fever first; the marked irregularity of sepsis being conjoined with the continuousness of true sepsis. It is mainly from infective processes and not from gallstones *per se* that these perils supervene, hence the diagnostic value of fever. Febrile states, cholelithiasis accompanying, are of serious importance. In impacted gallstones the symptoms are usually definite enough. Cholecystitis is next mentioned; whatever its form, it is usually due to infection and in the chronic form the local tenderness is more persistent and not in such definite points as in cases of cholelithiasis. Acute cholecystitis may come on as suddenly as gallstone colic, with severe paroxysms, pain, vomiting, chills and high fever. The tenderness, however, is more diffused than in gallstones and commonly involves the epigastrium, which often projects like a tumor. The liver also becomes large and tender. Jaundice may be absent or insignificant. In mild cases the fever subsides early. Contrasting with these are the forms called fulminating cholecystitis. The patient rapidly shows signs of general poisoning and may become moribund within thirty or forty hours. Suppurative cholangitis is almost always an accident supervening on chronic cholangitis caused by retained gallstones. It is fortunately not a very common affection and not absolutely fatal, though such has been to some extent its reputation. Rare cases may recover.

3. **Notification of Phthisis.**—Shurly thinks that tuberculosis is not specially contagious or is only made communicable through neglect. He does not have much faith in house infection. He points out a number of objections to notification. In the first place, it can not be kept secret and would create embarrassment and often serious hardship to patients. If an erroneous diagnosis had been made, which is quite possible, great injustice would be done and it would cost the state an immense sum of money to support and pay damages to the sequestrated people. Our statistics are far from being accurate, but ordinarily phthisis pulmonalis is not as fatal as cancer, pneumonia or infantile diarrhea; not so prevalent as influenza or typhoid fever and not so dangerous to the public health as smallpox, scarlet fever, diphtheria and syphilis.

4. **Osteitis of the Knee.**—From the results of his studies Taylor concludes: 1. Gonitis in childhood usually causes lengthening of the affected limb when approximately straight: this may persist for eight years or more. 2. This lengthening is mainly due to overgrowth of the femur, and may often be detected within six months of the onset. In adolescents and adults, after cessation of active disease begun in childhood, the femur and limb may be considerably shortened. 3. The tibiæ are usually equal in length in the early stages; afterward the affected tibia may be slightly longer for a time, but is more often shorter, even in the first two years; this shortening increases in the older cases, and after subsidence of inflammation. 4. With limbs of equal length and duration of disease of several years, the femur of the affected side will be found longer, the tibia shorter than its mate. 5. The feet and patellæ show a difference in favor of the sound side after a year's duration and often before. 6. Stimulation of growth at the lower end of the affected femur and, more rarely and in less degree, at the upper end of the tibia is usually accompanied by retarded growth in other parts of the limb; growth in the femur itself is finally retarded, and the final result, after many years, may be considerable shortening of the femur, tibia and limb.

6. **Dry Points vs. Glycerinated Virus.**—Rosenau has investigated the bacteriology of dry points vs. glycerinated virus from various manufacturers to determine which is freest from impurities. He describes his methods of examination; the summary of his results is as follows: "Of 41 dry points examined

we found an average of 4807 bacteria per point. Of 51 glycerinated tubes and capsules we found an average of 2865 bacteria each. This is in excess of what a good glycerinated virus should contain. This difference in numbers does not justify the confidence placed in the glycerinated virus over the dry points as found upon the market, judging from the limited number of counts made. So far as the kinds of organisms are concerned, we found pus cocci in both the dry points and the glycerinated virus. We think we have demonstrated that some of the glycerinated virus on the market is "green"—that is, not kept a sufficient length of time before it is sold. From our studies we have concluded that we ought not to discredit glycerinized virus, for we consider the superiority of the virus amply demonstrated, but to condemn the practice of manufacturers who place an unripe product on the market. Much of the vaccine sold must have a high initial contamination to contain an average of 2865 bacteria per tube, and it is evident too great a reliance is placed upon the glycerin."

7. **Ocular Affections of Diabetes.**—The findings of Pyle's article are summed up by him as follows: 1. Diabetes mellitus or any other disturbance of carbohydrate metabolism may affect any portion of the visual apparatus. 2. The ocular changes may be produced by chemic or physical means, or indirectly through the associated general debility. 3. They may vary in intensity from slight failure of accommodation to a formidable hemorrhagic retinitis and total optic nerve atrophy. Minor visual disturbances are often aggravated by fatigue or increased cardiac action and may improve after rest or decrease of the vascular tension. 4. The intra-ocular disturbances may be exclusively unilateral and there is never seen ophthalmoscopically inflammation of the optic nerve—important differences from the changes in albuminuria, syphilis and other blood-dyscrasias. 5. Albuminuria does not infrequently co-exist with glycosuria and the retinal changes may present a mixed picture or a typical albuminuric retinitis may occur in diabetes. 6. Central amblyopia may exist in glycosuria entirely independent of the toxic influence of alcohol and tobacco, or in habitual users these may become a prominent factor in the causation. In these cases the initial lesion may be in the retinal ganglion cells; the inflammation of the "papillomacular fibers" of the temporal half of the optic nerve being secondary. 7. In chronic glycosuria, with the exception of cataract, ocular symptoms are often present when the constitutional and urinary symptoms are not marked. 8. The ocular symptoms may be the first to lead the patient to seek medical advice, therefore glycosuria should be suspected in the following conditions: (*a*) Premature presbyopia. (*b*) Unexplained mydriasis or cycloplegia. (*c*) Sudden change in the refraction; particularly, marked development or increase of myopia past middle age, without cataractous changes. (*d*) Intractable iritis. (*e*) Cataract in young or middle-aged persons. An examination of the urine is advisable even in cases of senile cataract, as the etiology has a bearing on the prognosis of operation. (*f*) Retinitis, particularly of the hemorrhagic variety. (*g*) Unexplained optic nerve atrophy. (*h*) Sudden and marked amblyopia, particularly central, without visible fundus changes. 9. The prognostic significance of ocular disturbance is not definitely established on account of the great difficulty in pathogenesis, severity and ultimate issue of the various forms of glycosuria. In well-marked cases many forms of eye lesions may improve and the patient's general health may be restored. The ocular symptoms do not progress according to any rules. Hemorrhagic retinitis and amaurosis preliminary to coma are the most serious symptoms. The ophthalmoscopic observation of greatest value in the prognosis is the state of the retinal vessels, as this may be taken as an index to the patient's general vascular condition.

9. **Suppurative Tonsillitis.**—After discussing the subject and describing the parts and condition, Hartz summarizes as follows: The obstruction of the orifice of the supratonsillar fossa and the orifices of the crypts of the tonsils predisposes to circumtonsillar suppuration directly, and any vulnerable part of the organism remotely. Early incision should be done at the point of origin, which is usually within the supratonsillar fossæ or within the crypts of the tonsils. Chronic latent tonsillar abscesses may initiate an infection developing pneumonia, pleurisy, pyemia or septicemia. The cocous variety of germs may be temporarily encapsuled within a wall of connective tissue. Articular rheumatism, consecutive to tonsillitis, is a suppurative process produced by invasion of cocci through lymph or blood channels. Uricacidemia does not cause suppuration, but may predispose to it.

11. **Hemostasis of the Hip-Joint Disarticulation.**—The method described by Sheldon is offered by him as a modification of Senn's, consisting in a primary disarticulation of the head of the femur, followed by the introduction of an artery forceps into the wound behind the femur and cramping the femoral vessels. The several steps are given as: 1, disarticulation of the femur; 2, freeing the upper part of the femur from its muscular and ligamentous attachments; 3, clamping the femoral vessels; 4, formation of the flaps and removal of the limb; 5, ligation of vessels and closing of the wound. The operation is described in detail. The advantages he claims for it are that it is more rapid than any other method, any size or shaped flaps desired can be cut, no constrictor is present to obstruct the field of operation and only the simplest instruments are required.

13. **Vaccination in Porto Rico.**—Ames describes the methods in Porto Rico and the practicability and advisability of compulsory vaccination. In October, 1898, smallpox was endemic, in December it was epidemic, in January, 1899, it had honeycombed the island; in February there were 3000 cases and the disease was spreading. Systematic compulsory vaccination was begun in February and carried on for four months until July 1, when 860,000 vaccinations had been made in a population of 960,000, with 87.5 per cent. of successes. The disease then had practically disappeared. In the two and a half years that have since passed the former average death rate of 621 per annum has been reduced to 2 in a population of over 1,000,000.

14. **Myocarditis.**—Musser relates the symptoms of chronic myocarditis, narrates cases and says that there may be no symptoms in the advanced stage of the disease. It may make its appearance during the course of an infection. The clinical expression also may be effaced or obscured by the phenomena of primary valvulitis, nephritis, an emphysema, or an arteriosclerosis. The clinical expression may also be a symptom of senility. The cardiac symptoms he discusses are heart tire, by local anemia, digestive disturbances, renal insufficiency, breathlessness, edema of the feet, syncopal attacks or anginal weakness, tachycardia, small and feeble pulse, etc. The symptoms of cardiac dilatation also soon appear as well as angina pectoris, which may occur only once with fatal results. The patient who has had one attack of angina pectoris is almost invariably doomed. He would say that eight to twelve months was the average duration of life after the first attack.

15. **The Sanitary Condition of Street Cars in New York.**—Soper notes the dangers of street cars, their overcrowded condition, proof of inefficiency of ventilation, the bacterial condition of the air of the cars, the condition in tunnels and subways, in which not only tuberculosis, but other infections, such as measles, scarlet fever and diphtheria, are liable to be conveyed. The principal objects, toward which efforts to improve the sanitary condition of street cars should be directed, are the reduction of overcrowding, prevention of spitting and the proper ventilation of cars.

16. **Anesthesia in the Plethoric.**—Madnro states that the object of his paper is to prove that there are dangers connected with the administration of anesthetics in the plethoric which can usually be overcome by care. The combination of anesthetics, nitrous oxid first and ether following, or chloroform finally if necessary, is suggested. Pharyngeal stertor is sometimes observed and while alarming is usually overcome by pulling the jaw forward and should give no concern. Where the heart's action becomes enfeebled from hemorrhage or vomiting we should look for proper drainage of the mouth and be sure

of deep narcosis before the beginning of the operation. Fear on the part of the patient is usually an element to be considered, and many plethoric individuals think they will not be able to stand the anesthetic on account of difficulty in breathing; thus the natural difficulty is exaggerated by fear. The patient should be assured that deep and regular breathing ensures good results. The narcotic to be used should abolish consciousness quickly and should be followed up by one that is the best cardiac stimulant, like ether.

17. **Counting Blood Corpuscles.**—The various difficulties in counting the blood corpuscles and estimating their number from stained specimens are noticed by Einhorn and Laporte, who give their own methods. In obtaining the blood it should flow our naturally, should not be pressed out and should be evenly stained. Preparations made by spreading the blood on a slide by means of a spreader or by allowing the blood to spread out by force of capillarity between two cover-glasses are not suited to the purpose on account of the uneven distribution of the corpuscles. All their specimens were stained for two minutes by means of the Jenner stain, which is a universal one, bringing out all the various forms. They have found the medium dry objective (DD or E of Zeiss or 5, 6, or 7 of Leitz) with a weaker and stronger eyepiece most practicable. The method of giving the count is as follows: "After preparing the cover-glass specimen and selecting a suitable area, as described above, we count with objective DD and eyepiece 2 all leucocytes visible in the field. After changing eyepiece 2 for eyepiece 4, into which we have placed our blood-counting diaphragm, all the erythrocytes visible in the entire square aperture or some part of it are counted, without having moved the specimen. Now we reinsert eyepiece 2 and move the slide for the width of one field. This procedure is repeated until about six square millimeters (25 fields) have been counted. From these figures the number of leucocytes and erythrocytes in one square millimeter of the cover-glass specimen is calculated. The number of leucocytes in one square millimeter is found by simply dividing their total number counted by the number of square millimeters counted. With the red we proceed in the same manner except that we have to multiply the resulting quotient by the number which indicates how many times the field of eyepiece 2 is larger than that of the field embraced by the square aperture of the blood-counting diaphragm in eyepiece 4. In our case this number was 20.3. All we have to do now in order to obtain the number of corpuscles in a cubic millimeter is to multiply the numbers counted in one square millimeter by the average factors (500 for the red and 400 for the white cells). Lately we have modified the blood-counting diaphragm by substituting a glass disk for the metal part, leaving the arrangement for the square (3 mm.) as before described, the square being formed by lines cut in the glass disk. In this way the blood-counting diaphragm enables us to count the white and the red cells without change of eyepiece."

18. **Medicolegal Relations of Arsenic.**—This special article by Leffmann discusses a recent murder case in New Jersey in which, according to reports, the first trial ended in the conviction of the prisoner and in the second acquittal was obtained on the basis of the possibility of the introduction into the body after death of arsenic, zinc, etc. He thinks we should take more notice of the modern custom of undertakers and regulate the use of arsenical fluids—at least enough to prevent embarrassing medicolegal inquiry. He says that to prove death by arsenic some pathologic condition characteristic of its action must be shown. It can not be now assumed that 2 gr. of arsenous oxid will cause death in an adult, nor that the mere finding of arsenic in the abdominal viscera proves that the poison was introduced before death.

19. **Perineal Prostatectomy.**—After an elaborate description of the anatomy of the prostate and its relation to the genito-urinary organs, Deaver reviews the methods for the relief of its hypertrophy, first comparing methods of castration. Vasectomy and castration are practically becoming obsolete, though they are still worth trying in cases seen too late and where a more radical procedure would be unjustifiable. Suprapubic prostatectomy has its disadvantages in requiring work to be done through the bladder wall, in many cases blindly, where thick abdominal walls and contracted bladder exist. In certain cases, however, it may be indicated. Bottini's operation is also conducted in the dark and its statistics do not show it to be an unusually valuable one. He declares perineal prostatectomy to be based on sound principles, sound anatomically because the posterior portion of the prostatic urethra is removed, thus allowing easy access to the new growths. The base of the bladder and the internal sphincter are not damaged, and free drainage is secured; the capsule of the gland, to which the supports of the bladder are in a great measure attached, is left, and, what is most important, the entire seat of the trouble and all new growths are certainly and radically removed. Septic cystitis, unless pre-existing, is not likely to follow because the bladder is not injured. Even the danger of the sudden relief of a distended bladder may be obviated if we are careful not to encroach upon the internal sphincter. The operation is an extensive surgical procedure, and is described in detail. It necessarily destroys the procreative powers of the individual—a fact which must be considered before operation is attempted—but on the whole he thinks the method more suitable to earlier cases than those in which periprostatitis has made operation difficult and prolonged sepsis from cystitis and pyelitis has rendered the patient unfit for any major surgical procedure.

20. **Post-Operative Neurasthenia.**—The subject is thought by Burr to be of sufficient importance to be considered by surgeons, and he calls attention to some special points. He thinks that shock and disease are both responsible for it, but the really important question is the propriety or necessity of preliminary treatment of a woman suffering from chronic, especially pelvic disease, more or less serious but not immediately disastrous to life, in order to shorten the convalescence and hasten recovery. Many of these cases produce neurasthenic symptoms which are increased by hasty operations without preparation of the patient. The removal of the organic disease does not immediately make the patient well. It is often better to put the patient through a course of general treatment and operate later. He therefore advises the use of the rest cure, with close medical supervision for every indication that may appear, for some weeks before operation, regulation of the nature and amount of the diet, exercise by proper massage and Faradism. In this way the shock of the operation will be lost and recovery secured. Sometimes operation may be avoided entirely.

22. **The Bacteriology of Erysipelas.**—Pfahler describes the diplococcus on which he published an article in the *Philadelphia Medical Journal* of Jan. 13, 1900, and which he has since further investigated, making a series of 98 cases altogether. In a number of these, aseptic applications had been previously made which had probably affected a number of foreign organisms on the surface of the skin, but the diplococci were found in 86 of the 98 and in pure culture in 66. The cocci were spherical, usually occurring in pairs, often singly, rarely in fours. They stained readily by anilin, gentian-violet, carbolfuchsin and by Gram's method, but did not stain well with Loeffler's alkaline solution of methylene blue and still less with a saturated aqueous solution or with Gabbett's solution. The microbe grows in the presence of oxygen and at room temperature, but better at 31 C. It is non-motile. Cultures in bouillon show a cloudiness at the end of twelve hours, which increases from day to day, but which tends to clear after several weeks, leaving a sediment. It also forms minute opaque colonies in glycerin-agar at the end of twenty-four hours and a more luxuriant growth on blood serum. Gelatin is not liquefied and there is no evidence of gas production. The inoculation experiments produced, as a rule, a perfect area of erysipelatous inflammation. In only one case did inoculation fail in rabbits. In guinea-pigs and white rats it seems ineffective. He claims that Koch's postulates have been demonstrated with reference to this organism as follows: 1. It was found in the diseased tissues of 86 different cases of erysipelas. 2. It was grown upon artificial media in each case. 3. The disease was produced in 24 rabbits by subcutaneous inoculations. 4. The

same organism was obtained from the diseased tissues of the inoculated animals.

26. **Leprosy.**—Montgomery reports an interesting history through three generations. The parents were missionaries in the Sandwich Islands. The father's death was possibly from blood poisoning and his family was markedly neurotic, one sister, it is said, having become permanently insane. There was no history of disease in the missionary's wife or in her family. Of eight children five were females, four of them healthy; one a maculo-anesthetic leper who recovered. Of the three males, one died in youth, another died at six months from perforating ulcer of the wrist, the third had maculo-anesthetic and possibly tuberculous leprosy with recovery. The one female leper bore five healthy children. Three of these were lepers and recovered. Another healthy member of the family had five children, one of them a leper. The one male leper had two sickly children that died in infancy, two healthy children and one healthy grandchild. The cases are given in detail. The recovery seemed to have been sufficiently marked to warrant the designation. The author does not believe in the heredity of the disease in these cases; there were evidences enough of possible contagion.

27. **Peritonsillar Abscess.**—Barstow wishes to draw attention to the treatment used by him in 10 of his cases during the past two years which has thus far given good results. Two of the patients have had complete immunity from the attacks for two years, one for one year, two for six months and one case failed. Five have been lost sight of. The object of the treatment is, briefly, to open up the supratonsillar recess so widely that it will drain itself freely, repair its diseased mucous membrane and cease to be a catch-all for germs and débris. This result is accomplished as follows: A 4 per cent. solution of cocain is injected from a hypodermic syringe into the body of the tonsil and into the peritonsillar region, through several points in the anterior pillar. This gives a degree of anesthesia quite sufficient for the operation. Then, with a bistoury, a curved incision is made from above downward, dividing the plica triangularis at its base from the anterior pillar. Next, with a Myles tonsil punch, the entire upper part of the tonsil is removed piecemeal, together with a part or the whole of the plica triangularis. If the instrument be sharp and in good order, the operation is entirely painless. A dull instrument, however, pulls like a dull pair of barber's scissors and this is exquisitely painful. The earlier part of the operation is quite easy. Toward the end, however, it becomes necessary to burrow quite deeply between the pillars, and there is danger, on the one hand, of failure to accomplish the desired end; on the other hand, of wounding one of the pillars and causing hemorrhage. If, however, the tongue be smartly depressed, the patient, in gagging, turns the stump of the tonsil forward toward the operator, and the operation can be finished, step by step, under his eye. When neatly and carefully done, the operation is quite painless and the resulting sore throat very trifling. It is not always possible to avoid wounding the pillars of the fauces, and when this happens there is always soreness and there may be hemorrhage. Dr. R. C. Myles has shown that hemorrhage after tonsillotomy is very rare, except when the pillars are wounded, for the tonsillar arteries are small terminal twigs and there is no vessel which passes through the tonsil to supply other structures. Only very rarely, and with an unusually restless patient, it is necessary to divide the operation into two sittings. The usual time consumed is less than fifteen minutes, and most patients bear the strain without much trouble. Should it, however, be necessary to remove both tonsils, it is better not to attempt both on the same day.

29. **Penetration of the Body by Actinic Light.**—Gottheil and Franklin have experimented with the effects of ordinary actinic light by the violet end of the spectrum and offer the following conclusions: 1. Light, in proper concentration from a source of sufficient actinic power, can be made to penetrate the entire thickness of the human body, including both surfaces of the skin; hence all the internal organs are accessible to its influence. 2. Since no portion of the interior of the body, however, can be more than half the thickness of the frame from a cutaneous surface, and much of it is much closer, the time required for efficient actinic penetration to any depth is only a fraction of that employed in the experiments; conversely, if the time employed is equal, the chemotaxic effect will be far greater. 3. The proof of the penetration of actinic light to and through the internal organs apparently opens a field for its successful employment as a therapeutic agent in internal maladies, in view of its admitted efficacy in a number of external affections.

31. **Asepsis in Dentistry.**—Incited by the remark of a New York surgeon that no New York dentists paid any attention to asepsis, Lederer gives his methods in dental practice and thinks the speaker will not feel justified in repeating his remark. The hands, he says, are cleansed with hot water and green soap. If a patient turns up who is suspected of specific infection, he makes it a practice to use finger cots, sterilized before and after using. Forceps and all larger instruments are sterilized by boiling in formaldehyd solution before and after use. Hypodermic needle, nerve broaches and engine drills are passed through alcohol and burned off, then, before being introduced, are dipped in carbolic acid, full strength. For syphilitics, a separate set of instruments is employed. He describes the details, to illustrate his method of aseptic dentistry, in four cases, one of extraction, one of caries, one of pyorrhea alveolaris and a case of alveolar abscess.

36. **Appendicitis.**—Richardson's article is devoted to the diagnosis between appendicitis and thoracic conditions, and says that it is possible to make glaring errors. In all right-sided conditions of the thorax the symptoms may be so atypical that unless the surgeon makes thoracic examinations an invariable rule, he may be liable to explore the appendix in cases of pleurisy or pneumonia. He illustrates this by cases. The possible quick infection of the pleura from an appendicular lesion must also always be considered. The real cases of appendicitis or general peritonitis as compared with those of atypical typhoid or pneumonia or some other simulating condition are about 100 to 1. If, in cases of doubt, the rule is to operate, more lives will be saved than if the rule is not to operate. The diagnosis between acute thoracic and acute abdominal disease is always easy when the characteristic signs of either are apparent. The chief difficulty in making a decision is to recognize that the necessity for that distinction exists, as the thoracic symptoms are always masked by the more conspicuous and distressing abdominal ones. When once the attention is drawn to the possibility of a thoracic cause the diagnosis is easy.

37. **Carcinoma of the Uterus.**—Pryor notes the essentials of the operation for uterine carcinoma, first, parametrium and upper third of the vagina being removed in all cases of cancer of the cervix and in case of cancer of the body the parametrium only. There are two great dangers facing the surgeon, he either keeps too close to the cancer in avoiding a wound of the ureter, and is therefore not thorough, or in trying to be thorough he risks wounding the ureter in his attempts to keep away from the cancer. He believes in the majority of cases of young women or those under 50 years of age the abdominal operation is greatly to be preferred. He has lost but one woman under that age from preventive ligation and abdominal ablation. In no case has there been recurrence in one year. In the aged, with degenerate vessels and a tendency to less active progress of the disease, operation can be made through the vagina. In case of cancer of the body of the uterus the statistics from vaginal hysterectomy are sufficiently good, but he thinks it is a question whether it is not advisable in younger women to approach cancer of the corpus through the abdomen as in these recurrence is apt to be most rapid. The second requisite in operation—met equally well by both operations—is that no injury should be inflicted on the involved field during its removal; in abdominal operations the adjacent absorbents are cut off before any force is applied to the organs to be removed, hence there is less danger of pressure of the cancer elements into them. Extraneous circumstances having been considered, he describes the technic of the vaginal operation for

cancer of the corpus and find there is a distinct indication for vaginal hysterectomy in cancer of the cervix, but in a limited percentage of cases. It is, however, the operation of choice in cancer of the body of the uterus in nearly all cases, excepting young women with pus foci and those with cancer associated with fibroids.

39. **Abdominal Hysterectomy for Uterine Cancer.**—Irish believes that vaginal hysterectomy should be discarded in cancer of the cervix and that abdominal hysterectomy is the only resource left, that abdominal hysterectomy fulfills all operative requirements and whatever advance is made in treatment must be outside of the matter of operation. The only improvement we can hope for in the operative way is in wider dissection of pelvic lymphatics and glands than many surgeons now make.

40. **Carcinoma Uteri Complicating Pregnancy and the Puerperium.**—Cumston sums up as follows: If the carcinoma can be radically removed, the life of the mother alone is to be considered. Up to the beginning of the sixth month of pregnancy vaginal hysterectomy is the operation of choice, but after this period is passed, abdominal hysterectomy or Duhrssen's vaginal Cesarean section, followed by hysterectomy, are indicated. When the neoplasm is inoperable, the life of the child must be considered, but if the progress of the growth is such that the mother rapidly becomes cachetic, thus compromising the fetal vitality, pregnancy should be interrupted. Palliative treatment only should be instituted, because partial operations on the neoplasm usually produce miscarriage and the mother is not materially benefited by them. Cesarean section at term may be done, but when the uterus is left there is danger of septicemia, consequently Porro's operation is the one of choice if the peri-uterine tissues are not infiltrated to such an extent as to render this procedure dangerous.

41. **Treatment of Unremovable Carcinoma Uteri.**—All we can hope for in cases of unremovable uterine cancer is to keep down cauliflower growths and painful granulations by surgical and local treatment, purify the secretions, prevent auto-infection, allay irritation and as far as possible keep a clean granulated condition of the ulcerative surface. Curetting the urethra with sharp instruments is advised if the patient's strength admits. Hemorrhage is an early as well as a late manifestation, and is, as a rule, treated with the curette and cautery. The bladder complications are distressing and treatment is really of little avail. Under the circumstances one can do little more than keep the patient half-way dry, grease the parts and skin exposed to irritation with a soothing ointment and administer opiates. The bowels should be kept open by salines. Stricture of the bowel with complete occlusion, though frequent in cancer originating in the bowel, is very rarely a complication of uterine cancer. For marked infiltration into the vaginal tissues, when they are fissured and extremely sensitive, hot fomentations and mild unguents are suggested.

42. **Progressive Medical Organization.**—Reed's address congratulates the Physicians' Club of Dayton on the overcoming of prejudice and the general union of honorable and desirable physicians.

43. **Ligation of Arteries.**—Ricketts pleads for the value of cocain anesthesia in the ligation of arteries and in minor operations of this sort, giving special points in detail of the injections into the nerves supplying different parts.

45. **Middle-Ear Disease in Deaf-Mutism.**—King's article is largely a plea for early attention to oral disease in children and to preserving the power of speech in case the hearing is lost.

46. **Tubercular Enlargement of the Breast.**—Boggess calls attention to enlargement of the breasts during tuberculosis. He says it is not uncommon and is possibly more frequent in males than in females. It is correctly stated in the older books that this condition occurs more frequently on the side of the affected lung. The case he reports was in a little girl in whom there was an appearance of inflammation and threatening suppuration, which, however, did not occur.

49. **Trachoma of the Female Genital Tract.**—Hale believes that certain conditions of the female genital tract are entirely analogous to if not identical with trachoma. He says, "with the pathognomonic indications of a thin, watery discharge, no history of specific infection, the peculiar rice-grain surface of the mucosa from enlarged papillæ and bleeding fissures, the persistent vaginismus, the increasing constitutional nervousness from peripheral nerve involvement in the new tissue formation of denuded surfaces, and in well-developed cases of cicatricial formation, oftentimes demanding surgical interference, is it not well to suspect that we have the same condition as is frequently met in conjunctival trachoma and to at least so diagnose this condition until the microscopists throw more light on this affection as well as on that of the ocular mucosa." He has found this state of affairs existing at all ages and remarks that the urethral mucous membrane also is frequently involved because of its proximity. The treatment he advises is thorough cleansing with warm water slightly impregnated with hops, wiping dry with a pledget of aseptic cotton, followed by liberal and oft-repeated applications of hydrogen peroxid rubbed well into the tissues and wiped thoroughly dry. Following this he uses protargol which he finds the most efficient remedy in the proportion of protargol 10 parts, glycerin 40 parts and water 50 parts, applied on a pledget of aseptic cotton. Two cases are reported.

59. **Tendon Transplantation.**—After noticing the literature of tendon transplantation, Elting mentions the various methods by which this is performed: 1. The severed tendon of a healthy muscle is attached to a paralyzed muscle. This has the objection that it sacrifices the normal function of the transplanted tendon. 2. The tendon of the paralyzed muscle is divided and its peripheral portion is attached to the tendon of a healthy muscle. 3. The tendon of a healthy muscle is split and a part is transplanted upon that of the paralyzed muscle. This is the most logical, and when possible, the most satisfactory method. 4. This method consists in attaching the transplanted tendon directly into the periosteum. The advantages claimed are: 1, a more secure attachment of the tendon is obtained where a healthy tendon is sutured to one that is paralyzed and, 2, the greater freedom is allowed in the attachment of the transplanted tendons. The usual method of suturing is that of the Goldthwait, in which the paralyzed tendon is split and the transplanted tendon, having been scored along its edges to promote rapidity of union, is passed through the paralyzed tendon and fastened to it by quilted sutures. Catgut, kangaroo tendon and silk are used as suture material, but silk seems to be the most satisfactory. The lengthening of the tendons is a more desirable procedure than tenotomy, because the continuity of the tendon is not destroyed. In most cases the results are gratifying. A weak muscle can not be made to do normal work, but when it works advantageously it tends to grow stronger and more efficient. In the great majority of cases voluntary control of the new function of the transplanted muscles develops. The cortical cells connected with the muscle divide their activity in such a way as to produce normal control. Where this is lacking, the transplanted tendons tend to hold the foot in a normal position by their mechanical action and the involuntary contractions will furnish the necessary stability. A number of cases are reported.

62.—This article has appeared elsewhere. See THE JOURNAL for April 26, ¶13, p. 1108.

66. **Vaccination.**—Fielder, from his studies of the statistics and authorities, concludes that multiple vaccination is a much better protection than that afforded by a single vaccination scar. He holds that after five years or more the protection is lost and that therefore revaccination should be as symmetrically and as conscientiously performed as primary vaccination.

67. **Arteriorenal Disease.**—The principal point of Quimby's article is the effect of toxemia, largely intestinal, on the renal circulation, producing kidney disease; he holds that the persistent disturbance of the normal ratio between solids and fluids in the urine, whether constant or variable, is the earliest symptom of toxemia, and indicates conditions which, if continued,

are certain to develop more or less rapidly cardiorenal disease. The propositions are given as follows: 1. That intestinal toxemia is one of the most common but least appreciated causes of arteriorenal disease. 2. That its more common occurrence in patients of abstemious habits and correct lives, together with the established custom of attributing all chronic renal disease to gout or alcohol, and all arterial fibrosis to high tension or syphilis, have caused us to overlook the symptoms of primary toxemia and to regard the renal and arterial degeneration as primary processes instead of the final stage in a general disease.

68. **Alcohol.**—Dennis' article is a strong exposition of the evils of alcohol, of which he has very little good to say in any way.

69. **Obstetric Forceps.**—The summary of Ayers' article is given as follows: "Use the 'classic' blades whenever they will accomplish delivery without fetal injury. Select the time of application nearest the obstetric moment—completion of cervical dilatation and head molding—permissible by the character of the patient's expulsive powers. Apply the blades to compel anterior rotation of the occiput. In tractions make the first aim delivery of the head through the cervix, rather than its descent into the pelvic brim. Remember that tractions are similar to convulsions in their effect on the fetus, which, prolonged, provoke asphyxiation. Keep the shafts off the perineum during the tractions high up. Remove and reapply the blades at studied intervals in prolonged and difficult cases. Extend the limbs when the head reaches the vulva. Remove the blades when the hands control the head. Keep constant watch of the fetal pulse."

74. **Vesico- and Recto-Vaginal Fistulae.**—The method suggested by Kelly consists in putting the patient in a properly-supported knee-chest position, thorough cleansing of the vagina, opening the vault in the line of the transverse scar through and into the peritoneum, by making a small incision in the attenuated septum. As this is done the air rushes in and the viscera drop towards the diaphragm. This little opening is then extended as widely as possible from side to side, destroying the vaginal vault and setting the bladder free. Next a large gauze pad with a stout thread attached is thrust down into the peritoneum and by pulling on this the bladder is crowded toward the vaginal outlet while the peritoneal cavity above is protected. It is important to wipe out the cavity of the bladder from time to time in order to avoid the escape of any of its contents onto the peritoneum. The margins of the fistula are now split, separating the vagina from the bladder, or if preferred, the fistula is denuded on all sides. An ordinary scalpel or a bistoury can not be used for this; a short-bladed thick knife, set at an angle to the handle and sharpened on both edges, which is illustrated in the paper, is used by Kelly. When the edges are split and the bladder wall set free, the bladder is sewed up separately by means of a row of buried sutures of fine silk or of catgut, uniting the muscularis alone, turning the vesical edges into the cavity of the bladder. The vaginal section is then united with a row of fine silkworm-gut sutures which may be continued up into the peritoneal surface of the bladder, easily and securely covering that part of the fistula which under previous methods was less likely to heal. There must be no dead space left between this and the buried row of sutures. The silkworm sutures are cut off at about 4 cm. from the knot. The fistula being now closed the pack is withdrawn. In order to get rid of the air in the peritoneum, the cavity is filled through a tube with normal saline solution, which, as it rises, displaces the air. When the patient is turned in the dorsal position all the water escapes. A little suturing at each angle and a drain of washed-out iodoform gauze in the middle completes the operation and the dressing. It is best to keep a catheter in the urethra from 7 to 9 days following the operation. Kelly says he has closed several fistulæ of this group by opening the peritoneum, but has not as yet made the wide lateral dissection proposed here. The same principle can be applied still better to recto-vaginal fistulæ situated high up in the vagina. In this case the absence of the uterus is not needed to facilitate the exposure of the fistula, as it is only necessary to open the peritoneal cul-de-sac behind the cervix widely from side to side and along the side of the rectum to gain the great advantage of increased mobility of the bowel, including an area above the fistula which can also be turned in by sutures so as to cover in the upper angle of the opening. He prefers in these cases to sew up the bowel separately with fine silk sutures in one or two layers and then he does not attempt to close the vaginal wound over the bowel, but puts a little iodoform gauze drain between the edges and allows the wound to close by granulation. An opening should be left in the peritoneum wide enough to admit a small iodoform gauze drain.

75. **Cyclic Albuminuria.**—Huger's conclusions are as follows: "The cyclic albuminuria, like the recognized pathologic albuminuria, is due to one or perhaps all of three causes: 1, inflammatory and degenerative changes in renal structure, as evidenced by the findings of casts (there is every reason to think that, by careful searching, casts will be found far more often than previous reports lead us to believe); 2, alterations in the quality of the blood which render its serum-albumin more diffusible (there is nothing to prove an inferior diffusibility in these cases, but the patients are almost always anemic); 3, alterations in the degree of blood-pressure, here due to a mechanically-increased pressure on the renal veins. Having learned that occasionally these cyclic cases pass into Bright's disease, but that by far the majority have gotten well and that many have been followed for years and then lost sight of still in the same condition, it must be admitted that Moxon and Arnozan were right in dividing them into two groups: 1, those few which develop a continuous albuminuria, and, 2, the vast majority which get well. Continued rest in bed for a prolonged period should always be urged, because at any rate it removes the exciting cause. One of my cases remained free from albumin for three months after being in bed for three weeks. I believe that, by a very careful examination, a large percentage of cases will be found to contain casts, and that the serious prognosis given because of their presence will be modified."

84. **Middle-Ear Inflammation.**—Meierhof remarks in this paper that early operation, that is, incision of the drum before rupture tends to prevent later complicatons. There are some cases where early opening of the drum is not sufficient, and where early opening of the mastoid will belong to the prophylaxis of destroying ear disease. The indications for such operation will be found in a much larger number of cases than has been believed. In his experience minor treatment has been sufficient in most cases. Very few cases require major operation where the patient has had the benefit of early expert treatment.

99. **American Decadence.**—Kyger's article follows the lead of Engelmann in claiming that there is a marked decrease in fecundity in the native stock, and calls for reform.

101. **Food Preservation.**—Moechel has continued his experiments with formaldehyd and finds that it has little bad effect on human digestion, at least on pancreatic digestion. All the modifications of formaldehyd have active reducing qualities and exhibit tendencies to combine with proteids. The addition of formaldehyd to milk causes a formation of compounds, but these did not cause a perceptible loss of food value, for the pancreatic digestion causes their complete solution. This, of course, is speaking of combinations in the proportion of 1 to 20,000 or 1 to 40,000. Sulphurous acid and its salts are detrimental, and laws to regulate the use of sulphur and sulphites are imperative. They are distinctly toxic and injurious and should be prohibited in beer, cider, and especially in meat, and only used in wines in definite quantities, under the supervision of a responsible person. The use of fluor preparations should be condemned and prohibited. Salicylic acid, if used at all as a food preservative, demands legislative interference. As regards benzoic acid and sodium benzoate, while perhaps not so objectionable as some other agents, their indiscriminate use should be prohibited by law. Beta-naphthol and hydro-naphthol should not be used as food preservatives. The present state of our knowledge of saccharin does not justify recommendation or condemnation. Pyroligneous acid has not yet received study

upon these lines, but meat preserved with it should not be sold as smoked meat.

Amebic Dysentery.—McElroy gives the symptoms and history of amebic dysentery and insists on the importance of microscopic examination of stools, especially in cases resistant to treatment.

110. **Malarial Methemoglobinuria.**—This paper of Krauss' is intended to cover such points as have appeared since the last joint paper of Dr. Goltman and himself. He has modified some of his views. He finds that the estivo-autumnal parasite is sometimes the cause of fever and, therefore, it can not be excluded. It is not merely a "plus infection." The index to determine the administration or non-administration of quinin, instead of being as stated, is simply this: so long as sporulating parasites are in the peripheral blood there is no hematuria, therefore push quinin to the limit. He reiterates the conclusion, however, that when hematuria is once begun, quinin has no place. This, however, does not apply to the use of it in tonic doses in the post-hematuria period. At present Krauss does not believe that quinin hematuria is different from the malarial form. The effect of quinin on susceptible individuals seems to him to be due entirely to the amount of the hemolytic body stored up. This varies in different individuals. Some set free their storage after a single dose of quinin; subsequent doses can obviously do no further harm. Some, however, seem never to lose it, as in the cases in which all treatment has to be suspended. How much the liver has to do with this perverted metabolism is not clear, but the previously announced pathology, so far as it has reference to the liver, is clearly erroneous. The record he now gives is of 16 cases treated by the eliminative method to prevent inspissation of urine by using salt solution for injections under the skin. The treatment for the symptoms is morphin fortified with atropin for the tranquillizing effect, strychnin in free dosage, keeping the skin active with tentative doses of pilocarpin, woolen covering, together with the avoidance of drafts and stimulating diuretics. These 16 cases with no deaths contrast favorably with the former report of 12 cases with 9 deaths. Any patient whose kidneys become obstructed necessarily dies. Quinin therapy is not always fatal for reasons given. In one case the continued use of quinin for three days merely resulted in a practical exsanguination of the patient. Salt solution, bone marrow and pepto-mangan were the only agents used after suspension of the quinin; no blood could be obtained at the time and no attempt was made to get it.

111-112. **Continued Fevers of the Mississippi Delta.**—The paper by Sutherland points out the general characters and the species of the continued fevers occurring in the Mississippi delta and the difficulties met in their diagnosis. He thinks there is a partial immunity in these regions against not only typhoid but diphtheria and some other diseases, but he believes that typhoid is not uncommon. He has noticed that non-cinchonization with enormous doses of quinin is not a reliable test and that it is more difficult to cinchonize typhoid cases in the sense of producing deafness than cases of malarial fever. Evans' article discusses the following questions: 1. Is there a continued form of malarial fever? He answers, yes. 2. Is there a continued fever properly designated as typho-malarial. There have been many cases reported of mixed infection, but it is merely a dispute over names as to whether they should be called typho-malarial or not. 3. Are not some of the conditions ordinarily known as continued fever merely mistakes in diagnosis and due to leukemia, pernicious anemia, septic endocarditis with valvular implantations, tuberculosis, secondary syphilis, trichinosis, etc.? He reviews the conditions of bacterial endocarditis and tuberculosis and mentions certain others, such as secondary syphilis, and finds that there is a bacterial blood infection that is fruitful of errors of diagnosis. Many of the difficult cases, in his opinion, also belong to secondary syphilis or septic infection otherwise than in the blood. As regards the question whether typhoid fever has not caused most of these conditions, he says the symptomatic diagnosis of typhoid fever is rather difficult, but the keynote is the Widal reaction. He finds that there is no unknown or unnamed fever in which neither malarial or typhoid germs take part, and most of the cases of the supposed group are typhoid modified by malaria. He is not prepared to state whether this modification is in the germ or in the human body itself. The post-malarial continued fevers are usually malaria pure and simple, and the continued fevers left after the above have been subtracted are the following: tuberculosis, pulmonary miliary intoxications, anemia, leukemia and diarrheas.

120. **Bicycle Riding.**—Zuntz says that bicycle riding is contra-indicated in persons with heart defects or arteriosclerosis, though it may serve as a remedy in some disease of the heart as shown by Siegfried of Nauheim. Increased respiration and increased consumption of oxygen induced by its use make it advantageous for persons with undeveloped thorax, with phthisic habit or with pleuritic adhesion. In incipient phthisis it may be considered dangerous and advanced phthisis contra-indicates it. The effect on bronchitis is dependent on the avoidance of the inhalation of dust; the question whether cycling may not favor the occurrence of emphysema by the constant expansion of the chest should not be lost sight of. In all forms of nephritis it is contra-indicated and the urine should be carefully watched where there is any tendency in this direction. The reports in regard to gynecologic affections are contradictory. It is certainly to be avoided in all acute inflammations on account of the invariable tugging at the affected organs. It is also unwise during the menstrual period and pregnancy. An unfavorable effect upon the external genitalia may be exerted in either sex by an inappropriate form of saddle.

121. **Changes of Substances in the Organism.**—Wainwright's article is a very long one and highly technical, but the general conclusion seems to be that the most significant alteration of the chemicals in the body is in the production of inert and harmless substances. A law of special significance in pharmacy is the effort of the body to transmute an active substance into an acid. The acids which are produced by pairing or oxidization are resistant to change or, in other words, are inert and this acidifying quality of the organism is of fundamental importance in the synthesis of drugs.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), April 12.

1 *A Series of Cases of Fractures of the Semilunar Cartilages of the Knee, Together with Other Cases of Operation for Loose Cartilage. A. W. Mayo Robson.
2 *The Composition and Nutritive Value of Biltong. W. D. Halliburton.
3 Four Cases of Rodent Ulcer Treated by X-Rays. John W. Pugh.
4 Five Cases of Moniliform Hair Associated with Alopecia Areata. David Walsh.
5 Case of Complete Baldness from Alopecia Areata. Balmanno Squire.
6 *The Causation of Death During the Administration of Chloroform. (Continued.) E. H. Embley.

The Lancet (London), April 12.

7 *Abiotrophy. W. R. Gowers.
8 Some Abnormal Physical Conditions in Children. George F. Still.
9 *The Etiology of Typhoid Fever and Its Prevention. W. H. Corfield.
10 *Surgical Treatment of Obstruction in the Common Bile Duct by Concretions. A. W. Mayo Robson.
11 On a Case of Pneumococcic Gastritis and General Infection, with Some Remarks on the Infection of Mucous Membranes by Diplococcus Pneumoniæ. Alexander G. R. Foulerton.
12 The Treatment of Gonorrhea, with Special Reference to Bladder Irrigation. F. Swinford Edwards.
13 An Analysis of a Series of Operations for the Extraction of Cataract. R. H. Elliot.

Journal of Tropical Medicine (London), April 1.

14 Principles Determining the Geographical Distribution of Disease. (Continued.) Louis W. Sambon.
15 Note on the Spread of Yellow Fever. C. Christy.
16 Water Itch, or Sore Feet of Coolies. William E. L. Elliott.

The Practitioner (London), April.

17 *Bronchiectasis: A Clinical Study. Theodore D. Acland.
18 *Infantile Ophthalmia. E. Treacher Collins.

Bulletin de l'Acad. de Med. (Paris), March 25 and April 1.

19 Variolation in the French Colonies. Hervieux.
20 *The Biologic Blood Test. G. Linossier.
21 Chloroform and Ether Anesthesia. General Discussion Continued.
22 *Frequency and Prognosis of Actinomycosis in Man. A. Poncet.

23 Improved Aspirating Apparatus for Thoracentesis in Pneumothorax. L. E. Bertrand.
24 Suggestions for the Blind—Development of the "Sense of Obstacles." Javal.

Echo Medical (Lille), February and March.

25 Suggestion for Boards of Public Health in Affiliation with the Universities. H. Surmont (Lille).
26 Experimental Research on Toxicity of Intestinal Mucosa. J. Druebert.
27 *Asphyxia of Extremities a Symptom of Renal Insufficiency. L. Ingelrans (Lille).

Nord Medical (Lille), April 1.

28 *Evolution of Instrumentation and Medical Technic and Its Clinical and Therapeutic Consequences. G. Lemoine (Lille).

Revue Medicale du Canada (Montreal), February 26.

29 *Oil in Abdominal Operations. M. T. Brennan (Montreal).

Berliner Klin. Wochenschrift, March 17 and 24.

30 Serodiagnosis of Tuberculosis. F. De Grazia (Genoa).
31 *Dilatation of Esophagus Without Anatomic Stenosis. T. Rosenheim.
32 Myogenic Rigidity of Spine. Cassirer. (Concluded from No. 10.)
33 *Streptococcus Toxin. A. Marmorek (Paris).
34 African Arrow Poisons. L. Brieger (Berlin).
35 Marie's "Osteoarthropathie hypertrophiante." Schittenhelm.
36 Aetoxyl, a New Form of Arsenic, in Dermatology. W. Schild (Berlin).
37 Bacteriology of Syphilis. M. Joseph (Berlin).
38 Mechanical By-Effects of the Respiration and Circulation. Buttersack.
39 Case of Unusual Myeloid Leukemia. Hirschfeld.

Centralblatt f. Bakt. (Jena), February 27.

40 A Rabbit Disease. R. Volk.—"Ueber eine Kaninchenseuche."
41 Fowl Plague. E. Centanni (Ferrari).—"Die Vogelpest."
42 Danysz's Rat Bacillus. G. Markel (Vienna).
43 *The Etiologic Significance of Bacillus Dysenteriæ (Flexner), as Tested by the Agglutinative Reaction with the Serum of Patients Suffering from Dysenteric Symptoms. A. G. R. Foulerton (London).
44 Immunization with Immune Substances. R. Kraus (Vienna).
45 Cultivation of Trichophyton in Situ. H. C. Plant (Hamburg).
46 Agglutination. A. Altobello (Florence).—"Ueber die Erscheinung der Agglutination."

March 3.

47 No General Infection from Intact Conjunctiva. K. Hirota (Halle).—"Ueber die Inf. vom unversehrten Bindehautsacke."
48 On the Difference in Action of the Homeoplasmatic and Heteroplasmatic Toxins Produced by the Diphtheria Bacillus. G. E. Cartwright Wood (London).
49 Pigeon Epizootic Due to Heterakis Perspicillium. T. Kasparek (Prague).
50 Pulm. Tuberculosis in a Bear. K. Geisenberg (Königsberg).
51 *Duration of Life of Tubercle Bacilli in Cheese. F. C. Harrison (Guelph).
52 Cell Inclusion, Cell Degeneration and Endocellular Parasites in Malignant Tumors. F. Sanfelice (Cagliari).
53 Oxyurides in Douglas' Pouch. R. Kolb.—"Ueber den Befund von auf dem Peritoneum des Cavum Douglasii angewachsenen Oxyuriden."

March 12.

54 Etiology of Pertussis. L. Vincenzi (Sassari).
55 Negative Attempts to Convey Lepra to Animals. Y. Tashiro.
56 Acid Proof Microbes. J. Baraunikow (Charkow).—"Säurefesten Mikroben."
57 The Smegma Bacillus. A. Moeller (Belzig).
58 Comparative Tests of the Danysz and a New Bacillus Pathogenic for Rats. M. Grimm (St. Petersburg).
59 Dissemination of Ameba Enteritis. A. Ucke (St. Petersburg).
60 Revision of My System for Bothriocephalides. M. Lühe.
61 Bloch's Hymenolepis Lanceolata as a Human Parasite. F. Zschokke (Basle).
62 Burette for Sterile Fluids. S. Epstein (Prague).

Centralblatt f. d. Grenzgebiete (Jena), 5 to 7.

63 *Hemoglobinuria. W. Stempel (Breslau). Collective Review.

Deutsche Med. Wochenschrift (Leipsic), April 3.

64 *Healed Bullet Wounds of the Head. E. v. Bergmann (Berlin). "Geheilte Schädelschüsse."
65 *Technique of Examining for Appendicitis. E. Rose (Berlin). —"Die Untersuchungsmethode Bauchkranker auf Wurmfortsatzentzündung."
66 *Transplantation of Testicle in Scrotum. J. Wolff.—"Ueber die blutige Verlagerung des Leistenhodens in das Skrotum."
67 *Surgical Treatment of Ascites in Case of Cirrhosis. H. Kuemmell (Berlin).—"Die chir. Beh. des Asc. bei Lebercirrhose."
68 *Cure of Osteomalacia in a Nullipara by Castration. E. Hollaender (Berlin).
69 *Vibrating Urethral Sound. Lankowski (Berlin).—"Die Vibrirsonde."
70 Report of Official Tests of Baccelli's Treatment of Foot and Mouth Disease. Loeffler and Uhlenhuth.

Klin. Therap. Wochenschrift (Vienna), 13 and 14,

71 *Clinical Importance of Seborrheic Eczema. G. Bonne (Klein-Flottbek).
72 Bacteriology of Syphilis. Von Niessen (Wiesbaden).

Muenchener Med. Wochenschrift, April 1.

73 *Surgical Treatment of Puerperal Pyemia. F. Trendelenburg (Leipsic).—"Ueber die chir. Beh. der Puerp. Pyämie."
74 *Regeneration of Long Bones in Case of Osteomyelitis and Tuberculosis. F. Berndt (Stralsund).—"Ueber Exstirpation und Reg. langer Röhrenknochen bei Ost. und Tub."
75 Recovery After Op. Treatment of Multiple Abscesses in Liver. M. Wilms.
76 *Bacterial Invasion of Circulation One Cause of Urethral Fever. R. Bertelsmann (Hamburg).
77 *Insufficient Tension of Muscles and Its Treatment. F. Lange (Munich).—"Ueber ungenügende Muskelspannung und ihre op. Beh."
78 Treatment of Erysipelas in Red Light. H. Krukenberg (Liegnitz).—"Ueber die Beh. des Erys. im rothen Zimmer."
79 Finsen's Light Treatment. A. Sack (Heidelberg).

Zeitschrift f. Klin. Med. (Berlin), xliv, 5-6.

80 Heart Failure from Diphtheria Toxin. K. v. Stejskal (Vienna).—"Klin. und exp. Untersuch. um den Herztod in Folge von D.-toxin."
81 *Traumatic Affections of the Heart. W. Ercklentz.
82 Diet in Kidney Disease. Kaufmann (Frankfurt a. M.).
83 *Intestinal Putrefaction with Varying Diet and in Various Physiologic Conditions. W. Backman (Jakobstad, Finland).

xlv, 1-2.

84 *Gastric Achylia. L. Kuttner.—"Zur Frage der Ach. gast."
85 The Will. A. Adamkiewicz (Vienna).—"Wie verrichtet der Wille mechanische Arbeit?"
86 *Influence of Antipyresis on the Agglutinating Power of the Blood in Typhoid Fever. M. Benlasch.
87 Identity of the Ozena and Rhinoscleroma Bacilli with Friedlaender's. F. Klemperer.
88 (Case Reports.) A Leukemioid Affection. L. Michaelis.—Peculiar Pneumothorax. G. Jochmann.

Anales de Oftalmologia (Mexico), March.

89 *Ocular and Visual Disturbances Induced by Tobacco. Juan Santos Fernandez (Havana).
90 Phorometric Mirror. E. F. Montano (Mexico).—"Nota acerca de un modelo de espejo forométrico."

Gazzetta degli Ospedali (Milan), March 30 and April 6.

91 Enzymes in Tetanus Cultures. M. Collina (Bologna).
92 Path. Anat. of Sarcomata in Brain. V. Giovanni (Crema).
93 *Antithermic Therapeutics. Maragliano (Genoa).
94 *Pathogenesis of Exophthalmic Goiter. E. Tedeschi.
95 Therapeutic Value of Acetopyrin. A. Beretta (Bologna).
96 (Case Reports.) Calculosis in Female Urethra. Natale.—Wound in Lung. Stella.—Unsuccessful Sympathectomy for Glaucoma. Fabris.—Two Cases of Hydrocele in Women. Montini.—Three Cases of Diffuse Hyperostosis in Hereditary Syphilis. Casavecchia.
97 Operative Treatment of Painful Chronic Metritis. G. Ruggi. "Resezione verticale della materia in sostituzione dell' isterectomia nei casi di metrite cron. dolorosa."

Sei-I-Kwai (Tokio, Japan), xxi, 1.

98 *On the Propagation of Vaccine from Calf to Calf. S. Umeno.

---

1. **Internal Derangements of the Knee.**—Robson reports a large number of cases and gives his views in regard to the condition. The operation which he advises is one of the simplest. An oblique incision is made from the interior border of the lower end of the patella downward and backward, down to and through the synovial membrane so as to open the joint freely without dividing either the ligamentum patella or the internal ligament. If the external cartilage be displaced, the incision is, of course, on the outer side of the joint. On retracting the edges of the incision and flexing the knee, displacement at once appears. To seize the loose portion of the cartilage and snip it off by means of scissors is the work of a few minutes, after which the synovial membrane, the capsule of the knee and the skin are separately sutured, the strictest asepsis being observed throughout. It is unnecessary and undesirable to insert the finger into the joint or to syringe the articular cavity. Formerly he used to try to fix the cartilage in position by sutures, but has abandoned this and simply cuts it away and has never seen any inconvenience result from the loss. From his experience he would advise in case of recent injury with signs of internal derangement, treatment of the case as if it were a fractured bone; first replacing it by the ordinary method long ago described by Hey and then fixing the knee in a splint until all the effusion has subsided, afterwards applying plaster or starch bandage and allowing the patient to either rest completely for a month or six weeks or to go about on a Thomas knee splint and later, securing a return of function in the knee by massage and gentle movements. If, after this thorough treatment, there should be any tendency to weakness or recurrence of the displacement he would unhesitantly advise operation. If thorough treatment has not been adopted in the first place and recurring displacements have called the attention of the physician from the first, he advises operation at once.

2. **Biltong.**—This is the name given by the South Africans to

a dried meat which Halliburton has investigated as to nutritive qualities. He finds it readily digestible in artificial mixture in a flask. As digestion in the body is still more efficient his experiments show that it is a valuable nutritive substance.

6. **Death from Chloroform.**—This installment of Embley's article discusses the relations of the vagus inhibition as the cause of cardiac failure. Experiments, made as in the former article, are described and the tracings given. The summary of conclusions as to the effect of chloroform upon cardiac and inhibitory mechanism is given as follows: "It was soon found that the sensitiveness of the inhibitory mechanism varied greatly with the methods employed for preparing the animals for connection with the manometer, etc., and that if the animal had been anesthetized by chloroform without morphin in order to perform the surgical work, normal vagus control was more or less completely abolished by the time the record was started. On the other hand, when morphin alone was used prior to the establishment of the connection with the manometer, the vagus control was found to be unimpaired. One hundred and twenty experiments were made to ascertain the part played by vagus inhibition in chloroform poisoning. In 54 cases vagus inhibition embarrassed the circulation to a more or less dangerous extent, and in 33 experiments was the immediate cause of death. To sum up: 1. A heart which has been poisoned by inhalations of chloroform of strength of 2 per cent. and upwards can always be permanently inhibited by stimulation of the vagi with the faradic current when the blood pressure has fallen to about 40 to 50 mm. of mercury pressure. 2. Chloroform raises the excitability of the vagus mechanism, particularly in the early part of the administration. 3. The increased excitability of the vagus mechanism is due to the action of chloroform on the vagus centers, and the inhibitory action is more intense from being exercised upon a heart whose spontaneous excitability is diminished by the action of the chloroform upon it. 4. Chloroform administered to morphinized dogs in air containing not more than 1.5 per cent. of the vapor, after a period of mild excitation, slowly depresses vagus excitability. The excitability may again be raised with more or less readiness, according to the duration of the administration and the endurance of the vagi, by increasing the percentage strength of the chloroform, or by asphyxia. 5. Vagus inhibition is, in dogs, the great factor in the causation of sudden death from chloroform. 6. Dangerous inhibition is liable to occur whenever the strength of chloroform in the air inhaled rises above 2 per cent."

7. **Abiotrophy.**—This is the name given by Gowers to the gradual degeneration or failure of vitality as shown in various conditions, such as baldness or falling out of the hair, diseases of the muscles like muscular atrophy and specially the neuronic failure characterized by sclerosis, the interstitial tissue having apparently an inverse vitality. When the nerve elements decay the connective tissue overgrows. The various forms of degenerative nerve derangements, due to a lack of vitality, which he calls abiotic are noticed, such as infantile atrophy, optic atrophy, spastic paraplegia, Friedrich's disease, paralysis agitans, tabes and paresis.

9. **Typhoid Fever.**—This second lecture by Corfield continues the discussion of the causation of typhoid, particularly the infection by water and milk.

10. **Bile-Duct Obstructions.**—Robson finds that out of some hundreds of cases of cholelithiasis, on which he has operated, the common bile duct has been attacked in one out of every five or six cases. In a few cases the concretion can be manipulated backward into the gall-bladder and then extracted, but this can be done only when the cystic ducts are dilated. He has been able thus far to clear the ducts on 10 occasions. Occasionally a small stone may be pressed into the duodenum, but this is unadvisable, as it may be pushed into the diverticulum of Vater and be missed. In patients too old or too ill to bear choledochotomy, a rapid cholecystotomy may be performed to relieve the jaundice and also permit solvent injections to be employed, but his experience with this has not been very favorable. Crushing concretions by pressure of the finger and thumb through the duct walls has been used with some success, but it is only available in soft concretion and may leave fragments that will cause further trouble. Cholecystenterostomy, or short-circuiting the obstruction, should never be performed for gallstones as it leaves the cause untouched and the small opening is apt to contract and to lead to speedy recurrence of symptoms. This has actually occurred in his own practice and in that of other surgeons. If the patient is too ill for choledochotomy, the gall-bladder can be very readily united with the colon with very little disturbance of adhesions: this is a means of giving relief quite as efficacious as the more difficult operation of uniting the gall-bladder and duodenum. This, however, is only possible when the gall-bladder is dilated, which is unusual in cholelithiasis. He has twice united the dilated duct to the intestine and once drained the dilated duct onto the surface, with recovery. Reaching the common duct through the duodenum seemed an ideal operation at first, but he thinks there is a great danger of sepsis by this method owing to the necessary enterotomy and, since his modified operation, he has abandoned it. The only method which is, as a rule, worth relying upon is choledochotomy, and he gives his technic. It requires the help of but one assistant, no special apparatus and the time involved is much reduced. He puts a firm sandbag under the back opposite the liver, which presses the spine and common duct forward so that it is several inches nearer the surface and acts as a Trendelenburg position in pelvic surgery by letting the viscera fall away from the field of operation. He says: "I then make a vertical incision over the middle of the right rectus, the fibers of which are separated by the finger, which I find to be the most expeditious and the most effective method of exposing the gall-bladder and bile ducts; but when it is necessary to open either the common duct or the deeper part of the cystic duct, instead of prolonging the incision downward, as was formerly done, I now carry it upward in the interval between the ensiform cartilage and the right costal margin as high as possible, thus exposing the upper surface of the liver very freely. It will now be found that by lifting the lower border of the liver in bulk (if needful, first drawing the organ downward from under cover of the ribs) the whole of the gall-bladder and the cystic and common ducts are brought close to the surface, and as the gall-bladder is usually strong enough to bear traction, the assistant can take hold of it by fingers or forceps and, by gentle traction, keep the parts well exposed, at the same time that, by means of his left hand with a flat sponge under it, he retracts the left side of the wound and viscera, which would otherwise fall over the common duct and impede the view. It will now be observed that, instead of the gall-bladder and cystic duct making a considerable angle with the common duct, an almost straight passage is found from the opening in the gall-bladder to the entrance of the bile duct into the duodenum and, if adhesions have been thoroughly separated, as they should always be, the surgeon has immediately under his eye the whole length of the ducts with the head of the pancreas and duodenum. So complete is the exposure that, if needful, the peritoneum can be incised and the common duct can be separated from the structures in the free border of the lesser omentum, but this is not necessary except where a growth has to be excised. The surgeon, whose hands are both free, can now, with his left finger and thumb, so manipulate the common duct as to render prominent any concretions, which can be cut down on directly, the edges of the opening in the duct being caught by pressure forceps. The assistant can now take hold of the forceps with his left hand, and that instrument with the sponge will form a sufficient retractor—since the duct is so near the surface. When the duct is incised, there is usually a free flow of bile which, it must be remembered, is probably infective, but a sponge in the kidney pouch and the rapid mopping up of the flowing bile by means of sterilized gauze pads will avoid any soiling of the surrounding parts; if necessary, the bulk of the infected bile can be drawn off by the aspirator either from the gall-bladder or from the common duct above the obstruction before the incision into the duct is made. After removing all obvious concretions, the fingers are passed behind the duodenum and along the course of the hepatic

ducts to feel if other gallstones are hidden there, then a gallstone scoop, the only special instrument that I use, is passed up quite into the primary division of the hepatic duct in the liver and quite down to the duodenal orifice of the common bilt duct, and, if thought necessary to insure the opening into the duodenum being patent, a long probe is passed into the bowel. The incision into the bile duct is now closed by an ordinary curved round needle held in the fingers without any needle holder, a continuous catgut suture being used for the margins of the duct proper and a continuous fine green catgut or spun celluloid thread being employed to close the peritoneal edges of the gut. In such cases, where the pancreas is indurated and swollen from chronic pancreatitis and is likely to exert pressure on the common duct for a time, I insert a drainage tube directly into the duct and close the opening around it by a purse-string suture, the tube being fixed into the opening by a catgut stitch, which will hold for about a week, but where this is not done I usually fix a drainage tube into the fundus of the gall-bladder in the same way, as this drains away all infected bile and avoids pressure on the newly sutured opening in the duct." After the operation he usually inserts a gauze drain through a slit drainage tube, bringing it out either through a stab wound in the loin or forward by the side of the gall-bladder drain. The wound is closed in the usual way by continuous catgut sutures, first to the peritoneum and deep rectus sheath and lastly to the skin. In these operations hemorrhage either immediate, consecutive or secondary can not be ignored as a danger and shock, apart from hemorrhage, has next to claim our attention. Sepsis is no longer a special bugbear with modern methods. Robson thinks there is no doubt that in all cholemic conditions the blood becomes so altered that coagulability becomes seriously diminished. He has used Professor Wright's researches on the coagulability of the blood, and in the last two years has employed chlorid of calcium in apparently heroic doses to obtain the real value of the drug, using 30 gr. doses by the mouth and afterwards 60 gr. doses by the rectum twice daily for several days. It is important to ligate all the bleeding points and not to trust simply to forcipressure and, while in non-jaundiced patients adhesions may be simply separated, in these cases he prefers to divide adhesions between ligatures where practicable. Where there is much oozing of blood he prefers tampons of sterilized gauze and perhaps a solution of suprarenal extract to the bleeding surfaces. The best treatment of shock is preventive. The patient should be protected as far as possible from loss of blood, the operation performed on a heated table, the patient well protected from chill and large enemas of normal saline solution with or without stimulants given from 15 to 20 minutes before. The administration of strychnia subcutaneously just before anesthesia is useful and rapidity of operation is important. Choledochotomy should occupy from one-half to one hour and perhaps a little longer if complicated, but two, three or four hours indicate lack of skill or judgment. After operation a pint of saline solution with one ounce of brandy is given by enema. Strychnia subcutaneously every two hours for several hours is called for. The mortality of his whole series of 60 choledochotomies is 16.6 per cent., while those subsequent to January 1, 32 in number, show 7.1 per cent. of deaths, which were, he believes, from unpreventable causes, in one case heart disease, another pulmonary congestion and shock; ether anesthesia by the old rubber bag apparatus—since discarded, he thinks having much to do with the case.

17. **Bronchiectasis.**—Acland says his "conclusion is inevitable that, in the adult, bronchiectasis, when once fairly established, is, except in very rare instances, incurable by any method of treatment at present available. In some of the more acute cases in young persons, cure may occasionally result. In chronic cases the distress of the condition can often be greatly relieved and, if the exciting cause of the disease is not progressive, life can frequently be greatly prolonged."

18. **Infantile Ophthalmia.**—The measures which at the present time seem best qualified to reduce the amount of blindness are summarized by Collins as follows: "1. Compulsory notification of cases of ophthalmia neonatorum by all persons attending women in labor other than medical men. 2. Instruction as to the importance of the universal adoption of prophylactic measures (preferably Credé's method, or the use of a sublimate solution, 1 in 2000, or protargol 20 per cent.) by all lecturers and writers of text-books on midwifery. 3. The appointment of ophthalmic surgeons to maternity institutions, more especially those which provide for attendance of women at their own homes. 4. The provision in all midwifery bags of a drop bottle labeled 'drops for the eyes.' 5. The better training of monthly nurses in the methods of aseptic cleanliness."

20. **Biologic Test for the Blood.**—Linossier denies that the reaction to the serum in the biologic test for the blood is specific, as was assumed at first. Although it is not specific, yet it occurs with greater rapidity and distinctness in the homologous serum, and it is possible, by diluting the blood to be examined, to reduce it to such a point that only the homologous serum has any action upon it. This has generally been done unconsciously in the tests as only minute quantities of the blood were used. The precipitum obtained is smaller in amount the more remote the animals in the scale of living beings from the one whose serum was used to prepare the rabbits for the test. The serum of a rabbit, for example, that had been prepared by intraperitoneal injections of human serum, ascitic fluid or pleuritic effusion, precipitated in a 10 per cent. dilution human, beef, horse, dog, sheep, pig, guinea-pig and fowl serum. But the intensity of the reaction diminished progressively from the first to the last. Another rabbit inoculated with serum from a heifer, precipitated in the same dilution, heifer, horse, sheep, man, pig, dog and fowl serum in progressively diminishing intensity. It precipitated the heifer serum at 1 per 5000, the horse serum at 1 per 300 and human serum at 1 per 50. Linossier noticed that a 1 per 1000 dilution of the blood to be examined gave the reaction with the homologous prepared serum, while no other serum had an influence upon it at this dilution. The fact that this reaction is only apparently and not actually specific does not detract from its medicolegal value if the possibility of error from this source is recognized and measures taken to prevent it by adequate dilution of the blood to be examined. The diluting fluid for the blood should be neutral or slightly alkaline.

22. **Frequency and Prognosis of Actinomycosis in Man.**—Poncet mentions that only 146 cases of actinomycosis in man have been published in France, and these all come from the large medical centers: Paris with 33, and Lyons, his home, 47. At other points the affection is evidently unrecognized, as it is absurd to suppose that it is restricted to the counties with medical schools. Duvau's 1902 thesis is based on the study of 257 cases. The affection proved fatal in those in which deep-seated organs were involved. The mortality has been 2 per cent. for the cutaneous forms; 10 per cent. in the superficial cervico-facial forms; 30 per cent. in the deep temporo-maxillary lesions; 65 per cent. in the abdominal variety; 85 per cent. in the thoraco-pulmonary form and 100 per cent. when in the liver or brain. Poncet has been very successful in treating it with the curette and drainage, supplemented by large doses of potassium iodid as if for a severe case of syphilis. He commences with 4 gm. and increases to 5 or even 8 gm. with intermissions. He states that this treatment is more effective the more recent the lesion, before mixed infection is established.

27. **Asphyxia of Extremities a Symptom of Renal Insufficiency.**—Ingelrans presents arguments to prove that local asphyxia of the extremities is due to hyperexcitability of the vasomotor system determined by insufficiency of the kidneys. The latter causes the retention of multiple poisons, some of which have a decided vasoconstricting action. When Raynaud's disease and nephritis co-exist, the former is the result of this cause. The nephritis is the primary affection.

28. **Evolution of Instrumentation and Medical Technic and Its Consequences.**—This is the presidential address delivered at the recent French Medical Congress. Lemoine, while reviewing and lauding the wonderful progress in the technic of diagnosing by means of perfected instruments, etc., pointed out

the disadvantages that have resulted. One is the shortening of the distance between the elite of the profession and the empiricists. The physician of the present is inclined to rely too much on his technic and neglect clinical observation. It seems also as if the simplification of instruction had entailed a corresponding loss of effort on the part of the student, so that general culture loses rather than gains by this learning-made-easy. Our predecessors in medicine based their diagnosis on an accumulation of small signs for which they were ever seeking the general connecting links. This pathologic philosophy is the key to many otherwise inexplicable phenomena and its neglect nowadays is a loss. Another of the tendencies of the day is the contempt for the theoretical foundations of medicine. Lectures on this subject are neglected while the students flock to the clinics to observe merely isolated facts. One of the principal factors in curing disease is the faith inspired by the superior intellectuality of the physician. The patient is cured by the physician's words as much as by his remedies, but these words must convey an authority to impress and convince the patient. Any descent from the high classic culture of the past is a menace to this superiority and to the rôle of suggestion expected of the physician. The best means of restoring the prestige of the profession is for the physician to be as far as possible above the level of his contemporaries. He concluded with the prophecy that the reign of the pharmacopeia is almost at an end. The future of therapeutics in the twentieth century is entirely in the line of organic serums, antitoxins and physical measures.

29. **Oil in Abdominal Operations.**—Brennan has been using olive oil for twelve years to prevent the formation of adhesions after abdominal operations. The oil also serves to soothe existing inflammation and ward off recrudescence and, as it is absorbed, it aids in the nourishment of the patient. He believes that it checks the development of germs. Another advantage of its use is that gauze drains, etc., can be removed later without sticking. The oil is even more effective in this respect than hydrogen dioxid. He sterilizes it under a 15-pound pressure at 250 F. He uses a variable quantity, sometimes as much as 600 c.c. and soaks all the draining wicks in it. Even when he does not drain, he pours a little oil into the abdomen or applies it on a pad, spreading it with the fingers to all the pelvic organs, especially those with raw surfaces or exudation. He believes that it has been the chief factor in the cure of many of his serious cases. It has proved exceptionally beneficial in severe inflammation of the adnexa and appendix, with suppuration and adhesions and in peritonitis.

31. **Dilatation of Esophagus Without Anatomic Stenosis.**—Rosenheim has observed four cases of this so-called idiopathic dilatation of the esophagus. One patient was a man of 55 and treatment of the spasm only aggravated the pre-existent esophagitis. Recovery was rapid when mild local treatment of the inflammation was instituted with rest in bed, hydrotherapy and injection of a 1 per cent. solution of silver nitrate in the upper third of the esophagus and 4 per cent. cocain below. The patient was dismissed in five weeks entirely relieved of his troubles. Another patient was much benefited by forcible dilation with sounds. The reaction of the cardia to the contact of the sound is not a reliable criterion to determine its functional capacity.

33. **Streptococcus Toxin.**—Marmorek announces that all streptococci, whatever their origin, produce the same toxin. It belongs to the group of diastases which succumb to a temperature of 70 C. The serum derived after inoculation with one kind of streptococcus is effective against the toxin elaborated by all the other varieties.

43. **Agglutination of Dysentery Bacillus.**—Foulerton found that the agglutinative reaction with the bacillus dysenteriæ was the same with serum from home cases of dysentery as with that from cases occurring abroad. He found the test positive in six out of seven at a dilution of 1 to 40 and even 1 to 100 in some instances. There was no agglutination with the typhoid bacillus.

51. **Duration of Life of Tubercle Bacilli in Cheese.**—Harrison reports that no tubercle bacilli can be found alive in Canadian Cheddar cheese after ten weeks at the utmost.

63. **Hemoglobinuria.**—Stempel reviews 151 articles on this subject with 14 additional on the infectious and 31 on the toxic variety. There has been scarcely a single case of paroxysmal hemoglobinuria reported which proved fatal or in which there were evidences of any permanent injury of the kidneys. But the infectious and toxic varieties were almost universally fatal. This was due in part to the more complete obstruction of the tubules with masses of hemoglobin and the resulting uremia, and in part to the frequently associated acute nephritis. The elimination of albumin and tube casts may persist for weeks in the infectious and toxic forms. The regeneration of the blood proceeds much more rapidly and perfectly in the paroxysmal variety. Toxic hemoglobinuria has been induced by hemoglobin itself, as in cases of extensive burns or freezing in which large amounts of the reds were destroyed. This fact has been confirmed experimentally and in practice, as after the transfusion of lamb's blood, etc. Other substances liable to induce hemoglobinuria are snake venom, the mushroom *helvella esculenta* under certain conditions, sulphuric, hydrochloric, oxalic and pyrogallic acid and anilin oil. Among the medicines which have produced hemoglobinuria is potassium chlorate. Stempel observed a fatal case in a robust young person after ingestion by mistake of a solution of this substance recommended for a gargle. An infant with thrush also died of hemoglobinuria in a few days after its mouth had been wiped out several times with the powder. Carbolic acid and the allied benzol combinations are also liable to induce hemoglobinuria as the principal symptom of intoxication, both when ingested or applied to a large superficial area. Schellenberg has reported 30 cases of toxic hemoglobinuria from the use of a 10 per cent. emulsion of glycerin and iodoform. In the mild cases the urine was reddish for four hours, with slightly accelerated pulse and temperature. In the severe forms the symptoms are more intense and may entail anuria and death, with indications of recent inflammation in the kidneys. The toxic dose he found to be 10 gm. for children and for adults 20 to 25 gm. The walls of an abscess cavity absorb very slowly and in very small amounts, but absorption is rapid in the serous membranes of a joint and on the surface of a recent wound. Various gases are able to induce hemoglobinuria, sewer gas and the products of the consumption of illuminating gas. A gas stove without outlet for the products of combustion was installed in Stempel's operating room, and he found that he was having hemoglobinuria which was finally traced to this source. Examination of the air over the stove showed the presence of acetylene gas. He warns against the use of illuminating gas in an operating room, among other reasons on account of its possible union with chloroform to form a toxic combination. Two cases have been reported of hemoglobinuria consecutive to the reabsorption of large intra-abdominal hemorrhages. In regard to quinin, it seems to be established that one form of hemoglobinuria in malaria can only be cured by quinin, while another form is directly induced by the quinin. Koch recommends copious drinking of fluids during a malarial attack when no parasites are to be found in the blood, in order to prevent the formation of infarcts of hemoglobin. If the parasites are present in the blood he advises very small amounts of quinin or better still to substitute it with 1 gm. a day of methylene blue.

64. **Healed Bullet Wounds of the Head.**—Von Bergmann describes some cases to sustain his opinion that it is better to refrain from trying to extract the bullet when it is of the ordinary 5 to 9 mm. caliber from a small weapon. The wound soon heals if kept aseptic, and it is possible for even very severe symptoms to subside in a short time. On the other hand, it is sometimes impossible to locate the bullet, even with the aid of skiagraphy, and the traumatism resulting from the search for it is more injurious than the effect of the bullet left to itself.

65. **Examining for Appendicitis.**—Rose reiterates his conviction, which experience has more and more confirmed, that an otherwise healthy person should not and does not die of ap-

pendicitis unless operation is deferred until too late. The indications are the same as for an incarcerated hernia. He is amazed at the number of instances in which the appendicitis was unrecognized, as in a case he describes at length which was reported as a fatal traumatic abdominal affection. The autopsy disclosed recent, acute diphtheritic appendicitis and diffuse peritonitis without adhesions. This violent form of appendicitis is usually fatal in less than eight days, before there is time for a palpable tumor to develop, and before the appendix has perforated. The toxins generated in the appendix are able to penetrate its walls and induce the peritonitis in such cases. Many persons have succumbed to this affection, which has been erroneously designated peritonitis, disregarding the primary focus of infection in the appendix with its apparently intact walls. The intestines must be emptied before it is possible to palpate them understandingly. Just as an ulcer on the foot requires cleansing and removal of the crusts before disinfection is possible, an ulcerating intestine should be freed from stagnating fecal matters by small doses of castor oil or, in case of typhoid, large doses of calomel. After the intestines are empty and the patient restricted to a milk diet, the characteristic painful point must be sought with gentle pressure, regardless of the absence of spontaneous pain. The more systematically and scrupulously this is done, the less frequent will become the cases of "latent" or "masked" appendicitis. In the very violent forms, the slightest touch to the specific painful point causes intense pain, and the earlier this is discovered the better the chance for successful surgery. The appendix lies in such a sheltered spot that this characteristic painful point does not come in contact with anything external that elicits the pain, and thus it is ignored unless carefully sought or some traumatism occurs. This explains why appendicitis in many cases is referred to a traumatism. The contusion elicited the characteristic pain for the first time, but it could have been produced before if it had been sought. The simultaneous appearance of continuous vomiting and slight fever should be the signal for operating without waiting for the development of dulness or a perityphlitic tumor. The dangers of appendicitis are still underestimated.

66. **Transplantation of the Testicle in the Scrotum.**—This article, by the late Professor Wolff, is based on his experience in five cases, the patients 3, 4, 10, 18 and 20 years old. The transplantation of the testicle is as effective as its extirpation in the treatment of cryptorchidism, while the moral effect on the patient is far better. In his five cases, although the testicle was usually higher than normal after it was transplanted, there was no inflammation even during the stress of military service. There is no case on record, he states, in which a malignant neoplasm developed in the transplanted testicle. It is much more liable to this in its ectopic position. The technic of transplantation from the inguinal region is extremely simple. In all his cases the testicle increased in size after its removal, although it never became as large as its mate. Retention of the testicle should be treated in this way without waiting for disturbances to develop, except in the cases in which spontaneous descent is still possible, aided perhaps by manipulative measures. Extirpation should be reserved for suspected cancerous degeneration. The same rules apply to the testicle retained in the abdomen or inguinal region as to a normal testicle, and it should not be sacrificed any sooner.

67. **Surgical Treatment of Ascites in Case of Cirrhosis.**—Kümmell doubts whether the establishment of a collateral circulation in case of cirrhosis of the liver will ever result in a complete cure. But it relieves the patient of the most distressing symptom, the ascites, and reduces the size of the liver and spleen and thus enables him to resume his occupation for a longer or shorter time. In one of his seven cases thus treated the operation was done unconsciously during a laparotomy for the relief of an assumed hydatid cyst. The omentum kept protruding through the wound in spite of all efforts to reduce it and was finally sutured in the wound. This was in 1887. When the patient was seen again three years later, there was a network of congested veins around the wound. The ascites and liver tumor had vanished and the patient had been permanently restored to business. This inexplicable success was not comprehended until Talma's recent announcements of the benefits to be derived in such cases from fastening the omentum to the abdominal wall to establish collateral circulation. The Talma operation was combined with herniotomy in another case, curing the patient of the ascites at the same time as of the liver tumefaction. He died of an intercurrent erysipelas five days later, and the abdomen was found free from ascites. One of the most successful operations was on a man of 54, who was in an almost moribund condition when operated on. The increasing ascites rendered the reduction of an old hernia impossible, and the liver extended nearly to the rim of the pelvis. There was occasional delirium. The operation was followed by threatening collapse the seventh day and a brownish ascitic fluid trickled from the wound. The general health began to improve the fourteenth day and the patient could get up the thirtieth, and was dismissed ready for work twelve weeks after the intervention.

68. **Cure of Osteomalacia in a Nullipara by Castration.**—Holländer adds another to the three cases of osteomalacia in nulliparæ cured by castration. The pains disappeared immediately after the operation and the patient can now take long walks. The osteomalacia was not so pronounced as in the puerperal form, but the gait and pains were characteristic. The patient, aged 36, had been treated for nearly ten years for supposed rheumatism. The diagnosis was confirmed by radioscopy.

69. **The Vibrating Sound.**—Laskowski attributes the beneficial effects of the sound in urethral affections to the massage which it induces. He has succeeded in materially increasing the amount of massage by constructing a sound on the principle of vibration instruments. After numerous trials of various devices he recommends a large metal sound fitted into the rolled end of a wide metal spring, wider and stronger than a watch spring. The end of the spring holding the sound is screwed flat between two narrow metal plates fastened together with two thumb screws and nuts. The sound is inserted in the urethra and slight blows are struck on the projecting coil of the spring with a padded mallet. The vibration thus induced is not disagreeable and is not followed by any inconveniences. It can be repeated every second or third day or even daily if necessary. The sound used is as large as can be introduced without pain, as the walls of the urethra respond better to the vibration when they are stretched. The effect was favorable in cases of over-stimulation as well as in those of relaxation. Abnormal sensations in the urethra were banished. Incontinence of non-central origin was cured, and the effect was most excellent, or at least satisfactory in all cases of sexual neurasthenia, phosphaturia and prostatorrhea. Recent inflammation and the presence of gonococci are contra-indications. At first the suppuration and filaments seem to increase, but this is merely the cleansing effect of the procedure, and is soon followed by thinner secretions and decreasing numbers of filaments. (See cut in original.)

71. **Clinical Importance of Seborrheic Eczema.**—Bonne emphasizes that the coincidence of Unna's eczema seborrhoicum with adenoids and the lymphatic constitution is not casual, but that the former is the causal basis of this constitution. This variety of eczema is also directly related to the uric acid diathesis and certain forms of asthma and possibly, in connection with the uric acid diathesis, favors the development of carcinoma. The eczema is in every case the direct cause of the so-called scrofulous tendency. Infants should be protected against infection from seborrheic mothers, nurses and attendants, and strengthened by hygienic measures of all kinds and moderation in eating. Adenoids and enlarged glands should be removed without delay. All manifestations of eczema and of catarrh of the mucous membranes should be thoroughly treated. These measures should be supplemented by the occasional internal use of tar-water, which he considers the best of all remedies for the tendency to eczema. In his experience, every patient with carcinoma was or had been affected with

eczema, and he is convinced that further research will confirm this connection between them and indicate new lines for prophylaxis.

73. **Surgical Treatment of Puerperal Pyemia.**—Trendelenburg refers only to that form of pyemia of uterine origin due exclusively or principally to septic thrombosis of the veins of the uterus. The success of operative treatment of otitic pyemia, by evacuating the sinus transversus and ligating the inferior jugular vein, inspired him to attempt a similar procedure in puerperal pyemia. The conditions are much less favorable in the latter as the vein trunks are more numerous and less accessible, but it is possible to overcome all difficulties and operate outside of the peritoneum. The first chill in pyemia is the signal that the enemy is installed and has opened fire. If no other cause can be assigned for the chill and a second follows, it is more than likely to be due to pyemia and operative intervention is indicated at once. Bimanual investigation will reveal on which side the thrombosis is located or whether it is bilateral. In the autopsies of 21 cases the thrombosis was single in only 7, and on both sides in 14. In 5 it was limited to the veins of the parametrium and in 9 the vein trunks were involved. The uterine was affected twice as often as the ovarian. It is therefore advisable in doubtful cases to ligate the uterine on both sides, ligating the ovarian later if need be. Even in long-established cases the ligation of these veins is liable to have a decidedly favorable effect on the infection. Trendelenburg reports one case in which a vi-para, 35 years of age, unmistakably owed her life to the ligating of the uterine vein on the right side, followed by that of the ovarian. Fever and daily chills, from three-quarters to two hours in length, followed an abortion at three months. A tumor the size of a small egg, painful on pressure, was discovered in the right parametrium. It was evacuated through the vagina after a futile exploratory laparotomy on the mistaken diagnosis of a pyosalpinx. The abscess was in the broad ligament and the pus contained streptococci. The chills continued, one or two a day, two hours long, and the twenty-third day after the first operation the right uterine vein was divided between two ligatures just above its junction with the external iliac. The vein below was discolored, but there were no evidences of thrombosis. The wound above Poupart's ligament was partially closed and drained with gauze. There were no further chills during the next ten days, and the patient felt subjectively much better. The chills then recurred, at first short, but gradually increasing in length and frequency and the strength rapidly declined. One month after the first intervention the ovarian vein was exposed through an incision on a level with the lower pole of the kidney, the incision carried downward from the tip of the eleventh rib. About 5 cm. of the vein was resected. The lower portion was obstructed with a grayish-yellow thrombus, while the upper portion was free. The thrombus contained quantities of cocci. There were no further chills; merely an occasional chilly feeling until the sixteenth day, when a metastatic abscess in the right scapular region was opened, after which the patient recovered her health and weight, although irregular fever persisted for a long time. She was dismissed in satisfactory condition December '18. The abortion occurred, August 31. This is the first case of puerperal pyemia cured by ligating the veins. It suggests that prompt surgical intervention may prove effective even in the acute form.

74. **Regeneration of Long Bones in Osteomyelitis and Tuberculosis.**—Berndt observed in all of his 40 cases of osteomyelitis and tuberculosis during the last five years that the primary focus was in the bone marrow. After evacuation of the surrounding pus, this small focus generally healed spontaneously. In the cases in which the severe symptoms persisted after evacuation, and amputation seemed inevitable, he succeeded in curing a number by complete extirpation of the bone affected. He found that in every instance new bone tissue formed, thus preserving a good limb, only slightly shorter than normal. In the first patient the entire tibia except the lower epiphysis was involved in the osteomyelitic process. The pus had perforated into the knee. One year after the operation the boy, now 8, is in perfect health. The leg is 4 cm. shorter than the other. In a girl of 15 the entire lower half of the femur was removed. It regenerated slightly in excess of normal. The other cases were equally satisfactory. In one the clavicle was removed and regenerated, in another the entire humerus, on account of a recurring tuberculous lesion. The indispensable conditions are the retention of the periosteum and the non-closure of the wound. The periosteum requires a certain irritation to stimulate it to bone formation. The bone did not regenerate in the cases in which the wound was closed at once. Radiographs are appended showing the almost normal aspect of the bones.

76. **Urethral Fever Due to Penetration of Bacteria into Blood.**—This communication from Wiesinger's service at Hamburg describes the particulars of three cases of fever from a stricture in the urethra. Catheterization was probably responsible for the penetration of the bacteria into the blood in some. Lengthwise erosions were noted in one case. In others, the efforts at urination probably forced the urine accumulated above the stricture directly into the tissues and thence into the blood. The penetration of the germs into the blood causes the chill and urethral fever in a certain proportion of cases. The germs may vanish from the blood and all symptoms rapidly disappear, or they may lead to sepsis or septic endocarditis. The milder variety of urethral fever is probably due to the invasion of non-pathogenic germs. Lenhartz has reported that out of 38 cases of malignant endocarditis in his experience, 7 had been preceded by catheterization or other manipulation of the urinary passages. In one of the rapidly-recovering personal cases described, the proteus was found in enormous quantities in the blood and 60 colonies of streptococci were derived from 15 c.c. of blood in the other. He distributes this amount of blood in 6 tubes of liquefied agar, from which he makes a plate culture. Thousands of colonies of staphylococci and colon bacilli were derived from 15 c.c. of blood, as well as from the urine of a third patient. The first chill and fever were followed by comparative recovery for twelve days, after which the symptoms recurred with greater intensity and the staphylococcus was found in pure cultures. The autopsy disclosed a septic endocarditis of about a week's duration, corresponding to the severer symptoms. The patient had been catheterized three times in the course of the bacteriemia. His condition did not permit surgical intervention. The article concludes with the warning that dilation of strictures requires the most extreme care. Lenhartz's experience confirms the dangers of the procedure, as also a case of sepsis after catheterization described in the *Wien. Klin. Woch.*, 1896, 18. The bladder should be disinfected beforehand, if possible, or at least afterward. Bougies with guides are safer than others. In severe cystitis a permanent catheter is perhaps advisable. Salol or urotropin should be given immediately after the dilation and, if possible, beforehand. By observing these precautions Wiesinger has reduced the number of cases of urethral fever in his service to 2 out of 18 patients with strictures submitted to multiple catheterization, while in 1900 he had 8 cases of it in 6 out of 16 patients. The patients have usually been more or less infected before reaching the hospital. The practical conclusions from his experience are that when a violent chill follows careful catheterization or the blood contains bacteria, the stricture should be excised at once without delay, afterward reuniting the anterior wall of the urethra according to König.

77. **Insufficient Tension of the Muscles and Its Treatment.**—Lange reiterates that a lack of elasticity or excess of length is responsible for insufficient function of muscles and tendons in many cases in which it is erroneously referred to other causes. He reports a number of cases treated on this principle by shortening the muscle. In one patient bilateral pes calcaneus, existing for twelve years after Little's disease, was completely corrected by taking a tuck in the tendo Achillis. The threads suppurated out in one foot, but the desired result was obtained in both. The gastrocnemius in this case behaved as if paralyzed, while in fact the trouble was merely the excessive length of the tendon. He usually shortens a tendon by

weaving a silk thread lengthwise through it and back again in parallel stitches. When the thread is drawn taut and the ends tied, the tendon is shortened and the straight edge becomes wavy. Lange advocates this method for the treatment of traumatisms or deformities of tendons or muscles. Intervention to shorten unduly long muscles promises as excellent results as tenotomy for unduly short ones.

81. **Traumatic Heart Affections.**—Ercklentz has collected and reviews 18 cases of rupture of the heart from a contusion and 5 of tissue degeneration from the same cause. He reports six cases of traumatic affections of the heart personally observed. One patient was a woman of 60, and an old caseous tubercular focus was found in the lung at the autopsy. The traumatism had evidently crushed it and released the bacilli which had then settled on the pericardium and had induced a fresh tubercular pericarditis, fatal in less than ten weeks. In another case a febrile acute endocarditis developed in a young person after contusion of the thorax. He has witnessed three cases of chronic endocarditis, the patients being a man of 30 and boys of 12 and 17. The aortic valve was lacerated in one patient. In all his personal cases the injury had been caused by a passing wagon.

83. **Intestinal Putrefaction with Varying Diet.**—Backman reports tests which confirm the facts that the carbohydrates do not seem to have much influence on putrefaction in intestines. It is proportionate to the amount of albumin in the food. An exclusive or predominant milk diet materially diminishes the putrefactive processes.

84. **Gastric Achylia.**—Kuttner deprecates the separation of gastric achylia from the ordinary disturbances in secretion in the course of catarrhal or atrophic processes in the gastric mucosa. If there is a special nervous foundation for the condition we have no means yet of proving it.

86. **Influence of Antipyresis on Agglutinative Power of the Blood.**—Beniasch attributes the discredit into which the antipyretics have fallen of late, as merely the reaction to the exaggerated enthusiasm of twenty years ago. If the febrile temperature is, as some assert, a necessary weapon in the struggle of the organism with the infection, it is a two-edged sword, as it entails a series of most unwelcome phenomena. It is subjectively experienced as a very severe symptom, and objectively it induces a number of threatening manifestations on the part of other organs, especially of the heart and nervous system. The artificial lowering of the temperature by the antipyretics did not diminish the agglutinating power of the blood in the twenty-three cases of typhoid fever examined. If any effect was perceptible it seemed to be rather an increase.

89. **Ocular and Visual Disturbances Induced by Tobacco.**—Santos Fernandez announces that disturbances of this kind are comparatively rare in Havana, notwithstanding the widespread use of tobacco. Conjunctivitis produced by floating particles in tobacco factories is extremely rare and mild. There are 150 tobacco factories and they employ between 12,000 and 13,000 employees, but the buildings are not constructed so airtight as in colder climates, and Havana tobacco, he adds, contains only 2 or 3 per cent. nicotin, while French and American tobacco has 8 to 9 per cent. This is probably the reason why nicotin amblyopia is so much less frequent than in Europe, notwithstanding the incessant smoking. His experience includes 36,000 inscribed patients and 200,000 consultations in his ophthalmologic practice. Asthenopia is more frequent, and he also mentions the predominance of hypermetropia in Cuba in contrast to other countries in which myopia generally prevails.

93. **Antithermic Therapeutics.**—Maragliano calls attention to the individual thermic resistance of each patient, that is, the resistance which his organism opposes to the means we apply to reduce the fever. It varies with the age, sex, etc., and at different periods of the disease in the same subject, but it is an important factor in the result attained by therapeutic and physical measures. The thermic resistance of each patient must be determined in order to secure the best results from baths in the treatment of the fever. The first bath should be of moderate temperature and its influence on the rectal temperature carefully noted. This will establish a standard for succeeding baths, raising or lowering the temperature as indicated by the reaction to the first bath. If the temperature falls below 37 C., the water was too cold; if the drop is less than one or three degrees C. the water was not cold enough. The temperature of the bath should thus be adjusted to the thermic resistance of the patient as determined by the first bath at a moderate temperature. The thermic resistance is always most marked in erysipelas and typhoid fever. Attempts to regulate the temperature of the bath by the peripheral temperature of the patient, he considers rank empiricism. As the aim of the bath is to promote the elimination of heat, this should be favored as much as possible by stimulating the cutaneous circulation by friction during and after the bath, and by the administration of a certain amount of alcohol before the bath. This has the property of stimulating the cutaneous circulation, while at the same time it induces a slight degree of vasomotor paralysis. Antipyrin has practically the same effect, but alcohol is not so dangerous a poison for the protoplasm as antipyrin. The patient should be covered warmly with blankets after the bath to promote still further the cutaneous circulation, unless it is already active and the skin red, when the blankets can be dispensed with. It is advisable to supplement the action of the bath by a cloth tucked around the trunk from the inguinal to the axillary region, kept moistened with cold water. In case hydrotherapeutic measures are impracticable and the physician has to use chemicals, quinin then ranks first. Its action is not apparent before eight hours, but it is equally effective in all kinds of fevers. The only problem is to proportion the dose to the disease. When more rapid action is desired pyramidon, antipyrin and phenacetin are the least harmful of the chemical group.

94. **Pathogenesis of Exophthalmic Goitre.**—Tedeschi has established that a lesion of the restiform body is able to induce in rabbits and dogs not only exophthalmus and tachycardia, but a generalized tremor, polyuria, glycosuria and salivation. This occurred invariably in his experimental research when the lesion was in the anterior portion of the restiform body, directly behind the auditory tubercle.

98. **Inoculation of Vaccine from Calf to Calf.**—Umeno is chief of the official vaccine laboratory of Japan. He became convinced that the reason for the failure of calf-to-calf inoculation was that the virus was used in too concentrated a form. By diluting it to one-twelfth he found that it could be passed through fifty calves in turn, gaining instead of losing in effectiveness. He inoculates an area of 2.5 sq. cm. to the kilogram of the animal, and the pustule matures after the same interval as when humanized lymph is used.

Queries and Minor Notes.

SHOULD THE PHYSICIAN CHARGE?

LAFAYETTE, IND., April 24, 1902.

To the Editor:—Suppose the unmarried daughter (over age) of a physician long since dead, and who is worth considerable property is treated by a physician and dies, is the doctor justified in presenting a bill against her estate? Should not the doctor charge for treating the daughter of a deceased doctor who has married a man outside the medical profession? SUBSCRIBER.

ANS.—Yes, in both cases.

New Patents.

Patents of interest to physicians, April 8 and 15:

697,336. Tongue scraper. Ida Hagerty, Austin, Texas.
697,209. Device for facilitating taking pills. Benno Koppenhagen, Unterneubrunn, Germany.
697,412. Syringe nozzle. Robert L. McMurran, Portsmouth, Va.
697,164. Abdominal support. Isaac E. Palmer, Middletown, Conn.
697,181. Instrument for cooling or for warming internal portions of the human body. Roy E. Smith, Portland, Ore.
697,117. Pocket inhaler. Harry J. Valentine, Hempstead, N. Y.
697,825. Nursery milk warmer and night lamp. John M. Fisk, Malone, N. Y.
697,637. Shield for vaccinations, etc. John E. Lee, Conshohocken, Pa.
697,731. Making lithophone. Iens P. Lihme, Cleveland, Ohio.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 10 to 16, 1902, inclusive:

George M. Decker, contract dental surgeon, leave of absence for fifteen days, to take effect on his arrival in the United States.

Basil H. Dutcher, captain and asst.-surgeon, U. S. A., member of a board at West Point, N. Y., to examine the cadets of the graduating class at the U. S. Military Academy.

Douglas F. Duval, lieutenant and asst.-surgeon, U. S. A., is relieved from duty on the transport *Thomas* and from further duty in the Division of the Philippines; on arrival of the transport at San Francisco, Cal., he will report for duty at Fort Williams, Me.

Charles L. Heizmann, lieut.-col. and deputy surgeon-general, relieved from duty as chief surgeon, Division of the Philippines, to take effect about June 1, 1902, when he will proceed to San Francisco, Cal., and report by telegraph to the Adjutant-General of the Army for orders.

Walter D. McCaw, major and surgeon, U. S. A., president of a board at West Point, N. Y., to examine members of the graduating class at the U. S. Military Academy.

James E. Mead, captain and asst.-surgeon, Vols., leave of absence for one month granted, taking effect from April 10, 1902.

Alexander N. Stark, captain and asst.-surgeon, U. S. A., member of a board at West Point, N. Y., to examine cadets of the graduating class at the U. S. Military Academy.

Albert E. Truby, lieutenant and asst.-surgeon, U. S. A., on his arrival from Cuba to report for duty at Fort Wadsworth, N. Y.

Henry S. Turrill, major and surgeon, U. S. A., on his arrival at San Francisco, Cal., to report at Omaha, Neb., for duty as chief surgeon of the Department of the Missouri.

Sanford H. Wadhams, lieutenant and asst.-surgeon, U. S. A., leave of absence for one month granted.

Charles K. Winne, lieut.-col., and deputy surgeon-general, relieved from duty as chief surgeon, Department of the Missouri, to take effect April 30, 1902, and to proceed to his home to await retirement from active service.

During the week boards were appointed to meet at certain military stations on May 1, 1902, for the examination of such candidates for the Military Academy as might be authorized to appear before them. The following medical officers were constituted members of these boards:

At Fort Warren, Mass., George W. Mathews, lieutenant and asst.-surgeon. At Fort Ethan Allen, Vt., Charles B. Mittelstaedt, contract surgeon. At Fort Columbus, N. Y., William H. Corbusier, major and surgeon, and Eugene H. Hartnett, lieutenant and asst.-surgeon. At Fort Porter, N. Y., William P. Kendall, major and surgeon. At Fort McHenry, Md., William F. Lippitt, Jr., captain and asst.-surgeon. At Fort Thomas, Ky., William W. Gray, major and surgeon, and Francis M. Wall, contract surgeon. At Fort McPherson, Ga., William D. Crosby, major and surgeon. At Fort Sheridan, Ill., Francis J. Ives, major and surgeon, and Charles F. Smith, contract surgeon. At Jefferson Barracks, Mo., Francis A. Winter, captain and asst.-surgeon, and Alva R. Hull, contract surgeon. At Fort Logan H. Roots, Ark., Carle E. Bentley, contract surgeon. At Jackson Barracks, La., Henry C. Fisher, captain and asst.-surgeon. At Fort Snelling, Minn., Elbert E. Persons, lieutenant and asst.-surgeon. At Fort Leavenworth, Kan., Henry P. Birmingham, major and surgeon, and David Baker, lieutenant and asst.-surgeon. At Fort Sam Houston, Tex., Charles F. Mason, major and surgeon. At Fort Logan, Colo., John L. Shepard, contract surgeon. At the Presidio of San Francisco, Cal., Henry S. Greenleaf, lieutenant and asst.-surgeon, and Milton E. Lando, lieutenant and asst.-surgeon.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending April 19, 1902:

Asst.-Surgeon W. L. Bell, ordered to Pocatello, Idaho, on recruiting duty.

Asst.-Surgeon R. M. Young, detached from the *Rainbow* and ordered to the Cavite Naval Station.

Dr. F. M. Munson, appointed asst.-surgeon, April 5.

P. A. Surgeon M. S. Guest, detached from the Cavite Naval Station and ordered to the *New Orleans*.

P. A. Surgeon H. D. Wilson, ordered to duty with the Marine brigade, Philippine Islands.

Asst.-Surgeon R. C. Holcombe, ordered to proceed home via *Manila*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended April 17, 1902:

Surgeon C. E. Banks, granted leave of absence for five days from April 14.

Asst.-Surgeon M. J. White, to proceed to Reno, Nev., for special temporary duty.

A. A. Surgeon B. W. Goldsboro, granted leave of absence for seven days.

A. A. Surgeon R. T. Walker, granted leave of absence for 18 days from May 1.

BOARDS CONVENED.

Board convened at Baltimore, Md., to inspect steam tug *Neptune*. Detail for the Board: P. A. Surgeon H. D. Geddings, M.-H. S., and Chief Engineer H. W. Spear, R.C.S.

Board convened at the Bureau April 14, for the physical examination of candidates for appointment to grade of second assistant engineer, R.C.S. Detail for the Board: Surgeon L. L. Williams, chairman, and Asst.-Surgeon S. B. Grubbs, recorder.

Board convened at New Orleans, La., April 14, for physical examination of an officer of the Revenue Cutter Service. Detail for the Board: P. A. Surgeon C. P. Wertenbaker, Chairman, and Asst.-Surgeon J. W. Schereschewsky, recorder.

Board convened at Marine Hospital Office, San Francisco, Cal., April 21, to examine officers of Revenue Cutter Service. Detail for the Board: P. A. Surgeon W. G. Stimpson, chairman, and P. A. Surgeon H. S. Cumming, recorder.

Board convened at Marine Hospital, Port Townsend, Wash., April 21, to examine an officer of the Revenue Cutter Service. Detail for the Board: P. A. Surgeon C. H. Gardner, chairman, and Asst.-Surgeon M. H. Foster, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 18, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, March 29-April 5, 9 cases; San Francisco, March 30-April 6, 9 cases.

Colorado: Denver, March 28-April 4, 8 cases.

Illinois: April 5-12, Chicago, 14 cases; Freeport, 1 case.

Indiana: April 5-12, Evansville, 5 cases; Indianapolis, 13 cases; Terre Haute, 2 cases.

Kansas: Wichita, March 29-April 12, 9 cases; one case imported from Oklahoma.

Kentucky: Covington, April 6-13, 7 cases.

Louisiana: April 5-12, New Orleans, 1 case imported from Mississippi; Shreveport, 7 cases.

Maine: Portland, April 5-12, 9 cases, 1 death.

Maryland: Baltimore, April 5-12, 1 case.

Massachusetts: April 5-12, Boston, 13 cases, 3 deaths; Brockton, 2 cases; Cambridge, 2 cases; Everett, 1 case; Lawrence, 1 death; Lowell, 2 cases; Malden, 1 case; New Bedford, 1 case; Quincy, 2 deaths; Somerville, 3 cases.

Michigan: April 5-12, Detroit, 18 cases; Ludington, 19 cases.

Minnesota: Winona, April 5-12, 2 cases.

Missouri: St. Louis, March 30-April 6, 50 cases.

Montana: Butte, March 30-April 13, 7 cases.

Nebraska: Omaha, April 5-12, 24 cases.

New Jersey: Camden, April 5-12, 4 cases; Hudson County, including Jersey City, March 30-April 6, 30 cases, 9 deaths; Jersey City, March 30-April 6, 24 cases; Newark, April 5-12, 42 cases, 10 deaths.

New York: New York, April 5-12, 66 cases, 12 deaths.

Ohio: Cincinnati, April 4-11, 16 cases; Dayton, April 5-12, 1 case; Hamilton, March 9-April 5, 5 cases; Toledo, April 5-12, 2 cases; Youngstown, April 5-12, 1 case.

Pennsylvania: Altoona, April 5-12, 2 cases; Johnstown, April 5-12, 1 case; Philadelphia, April 5-12, 35 cases, 4 deaths; Pittsburg, March 29-April 12, 10 cases; York, March 5-April 5, 7 cases, 3 deaths.

Rhode Island: Providence, April 5-12, 5 cases.

South Carolina: Greenville, March 29-April 5, 4 cases.

South Dakota: Sioux Falls, April 5-12, 3 cases.

Tennessee: Memphis, April 5-12, 8 cases.

Utah: Ogden, March 1-31, 4 cases; Salt Lake City, April 5-12, 1 case.

Washington: Tacoma, March 30-April 6, 7 cases.

Wisconsin: Green Bay, April 5-12, 7 cases; Milwaukee, March 29-April 5, 1 case.

SMALLPOX—INSULAR.

Porto Rico: March 1-22, Arecibo, 61 cases; Ciales, 6 cases; Fajardo, 1 case; Humacao, 1 case; Ponce, 12 cases; San Juan, 6 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 15-29, 13 cases.

Barbados: March 30, 10 cases.

Belgium: Antwerp, March 22-29, 10 cases, 4 deaths.

Brazil: Pernambuco, Feb. 14-28, 27 cases, 27 deaths.

Canada: Belleville, March 31-April 7, 1 case; Quebec, March 29-April 12, 48 cases, 1 death.

France: Paris, March 22-29, 1 death; Rheims, March 16-30, 51 cases, 4 deaths.

Great Britain: Birmingham, March 22-29, 1 case; Dundee, March 22-29, 1 case; Glasgow, March 28-April 4, 13 cases; Leeds, March 22-29, 2 cases; Liverpool, March 22-29, 4 cases, 1 death; London, March 22-29, 389 cases, 61 deaths; North Shields, March 15-22, 7 cases; Sheffield, March 15-22, 1 case; South Shields, March 22-29, 2 cases.

India: Bombay, March 4-18, 19 deaths; Calcutta, March 1-15, 14 cases; Karachi, March 2-16, 8 cases, 6 deaths; Madras, March 8-14, 4 deaths.

Italy: Caserta, March 24, many cases; Milan, Feb. 1-28, 5 cases, 3 deaths; Naples, March 15-22, 7 cases, 1 death; Palermo, March 15-29, 37 cases, 4 deaths; Santa Maria Capuavetere, March 24, many cases.

Mexico: Mexico, March 23-30, 2 cases, 3 deaths.

Netherlands: Rotterdam, March 22-29, 2 cases.

Russia: Moscow, March 15-22, 18 cases, 3 deaths; Odessa, March 22-29, 2 cases, 1 death; St. Petersburg, March 15-29, 14 cases.

Switzerland: Geneva, March 8-15, 1 case.

YELLOW FEVER.

Dutch Guiana: Paramaribo, Feb. 1-28, 7 deaths.

French Guiana: March 31, Mana, infected; St. Jean, infected; St. Laurent, infected.

CHOLERA.

China: Honan, April 10, epidemic; Hongkong, March 4, 1 case.

India: Bombay, March 4-18, 41 deaths; Calcutta, March 1-15, 258 deaths.

Turkey in Asia: Djiddah, to March 27, 38 deaths; Mecca, to March 27, 788 deaths; Medina, to March 27, 381 deaths; Rebuk, to March 27, 1 death.

PLAGUE—INSULAR.

Philippine Islands: Manila, Feb. 1-22, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

China: Shuitung, Feb. 10, 300 deaths; Yeung Kong, Feb. 10, prevalent.

India: Bombay, March 2-18, 1635 deaths; Calcutta, March 1-15, 963 deaths; Karachi, March 2-16, 167 cases, 147 deaths; Madras, March 8-14, 1 death.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, MAY 10, 1902. No. 19.

Original Articles.

LESIONS OF THE CONUS MEDULLARIS AND CAUDA EQUINA.

A CONTRIBUTION TO THE STUDY OF SPINAL LOCALIZATION.

BERTRAM W. SIPPY, M.D.

ASSISTANT PROFESSOR OF MEDICINE, RUSH MEDICAL COLLEGE.

CHICAGO.

It is only within the past few years that lesions of the conus medullaris and cauda equina have attracted the attention of medical writers. In 1895 Raymond collected 29 cases of spinal disease, in which either one or the other of these structures were involved. Since then Clemens, Schiff, Church, Koster, Mueller, Sachs and a few others have reported similar conditions. The symptoms produced by disease of the conus medullaris and cauda equina are well defined and, as a rule, easy of recognition. Experience shows, however, that unless one has learned to search directly for them, they may be readily overlooked. My chief aim in presenting this paper is to further the recognition of the clinical picture indicative of disease of these important structures.

The conus medullaris occupies a position in the spinal canal directly behind the first lumbar vertebra. Upon exposing the spinal cord, the conus is completely hidden from view by a mass of firm and coarse fibers, constituting the beginning of the cauda equina. Anatomically, its upper limit has not been accurately defined. Text-books on anatomy and neurology, if they refer to the conus medullaris at all, usually describe it as that conical portion of the spinal cord below the lumbar enlargement. Clinicians, in describing cases, have pleased their own fancy relative to its boundaries. Thus, Braütigam places its upper limit at the lower part of the lumbar enlargement. Valentini and others have described, as conus lesions, disease involving the whole sacral cord. Raymond, Müller and others who have written on the subject recently are inclined to limit the conus medullaris to that portion of the cord represented by the third, fourth and fifth sacral and the coccygeal segments. The recent studies of Müller relative to the histology of the lower end of the spinal cord appear to justify such an anatomical limitation.

The clinical picture produced by lesions of the conus medullaris thus anatomically restricted is characterized by well-defined sensory and motor disturbances. Sensation is impaired in an area symmetrically distributed, which involves the integument of the penis, scrotum, perineum, anus, inner aspect of the buttocks and posterior surface of the thighs. The sensibility of the mucous membrane of the penis and rectum may also be dulled. If the lesion is sufficiently destructive, the muscular power of the bladder and rectum may be seriously impaired, sexual power lost, and bedsores may develop.

Lesions of certain fibers of the cauda equina may produce a clinical picture very similar to that of conus disease. To be able to recognize and differentiate the two conditions is not only scientific, but extremely practical from the standpoint of treatment. While it is not probable that focal lesions of the conus will ever be amenable to surgical treatment, a limited number of cases of caudal disease have already been reported successfully treated by operation. Focal disease of either the cauda equina or conus medullaris may exist alone or in connection with disease elsewhere. Disease of both structures may coexist.

During the last three years it has been my fortune to observe nine cases in which disease of either the conus or the cauda was present, one of which came to autopsy. The lesions represented in these cases included focal myelitis, tumor of the conus and disturbances of function of these structures due to the following conditions: Injury to the vertebral column, tumor of the vertebræ, and tubercular spondylitis. I have also observed one case of tabes dorsalis in which the symptoms of a conus lesion were present.

THE WORK OF STARR AND KOCHER.

That the case may be studied more understandingly I wish before reporting them in detail to refer briefly to the work of Starr and others on spinal localization. Starr was one of the first to recognize the importance of the fact that focal lesions of the different spinal segments were accompanied by sensory disturbances confined to certain areas of the skin. After an extended study of the cases reported, and of his own, both antemortem and postmortem, he elaborated a chart relative to the lower extremities, to which the reader is now referred. According to Starr, disease of the third sacral segment is accompanied by anesthesia of the area marked S3; similarly, disease of other segments gives rise to anesthesia of areas designated by the corresponding segment number. Subsequently, Head constructed a chart based chiefly on his study of herpetic eruptions and areas of cutaneous tenderness present in visceral disease. The gaps in the cutaneous areas not affected by visceral disease, such as that from the second to the fourth lumbar segments, inclusive, were filled in by him from a study of cases, the result of disease or injury. The result of Kocher's work on spinal localization is shown in an accompanying chart representing the lower extremities only. Wichmann's chart for the lower extremities shows marked overlapping of many of the segments. His conclusions are based on a consideration of nerve distribution combined with clinical cases. The dissimilarity in the results obtained shows that either

cutaneous distribution is not constant, or that knowledge on the subject is imperfect. It is hoped that a study of the following cases may contribute something to the subject of spinal localization.

CASE 1.—Illustrating Myelitis or possible Spontaneous Hemorrhage, involving the Conus Medullaris:

J. M., male, aged 40, was admitted to the hospital, Oct. 4, 1898. When 17 years of age, had chancre, followed by secondary lesions. Several years ago used alcohol to excess. Claims that he drinks moderately of late. Two days previous to admission, while drunk, patient was exposed to cold and wet and slept all night in his wet clothing. The next day patient suffered with headache, nausea and weakness of legs. He was able to work all day. That night he slept well; next morning went to work as usual and continued until noon. About 1 p. m., after returning from dinner, the patient sat down and upon attempting to arise found that he could not, on account of weakness of his legs. He was brought to the hospital and after his arrival walked a short distance. The same evening patient noticed he was unable to retain his urine. No sensation was felt in the bladder or urethra, as it

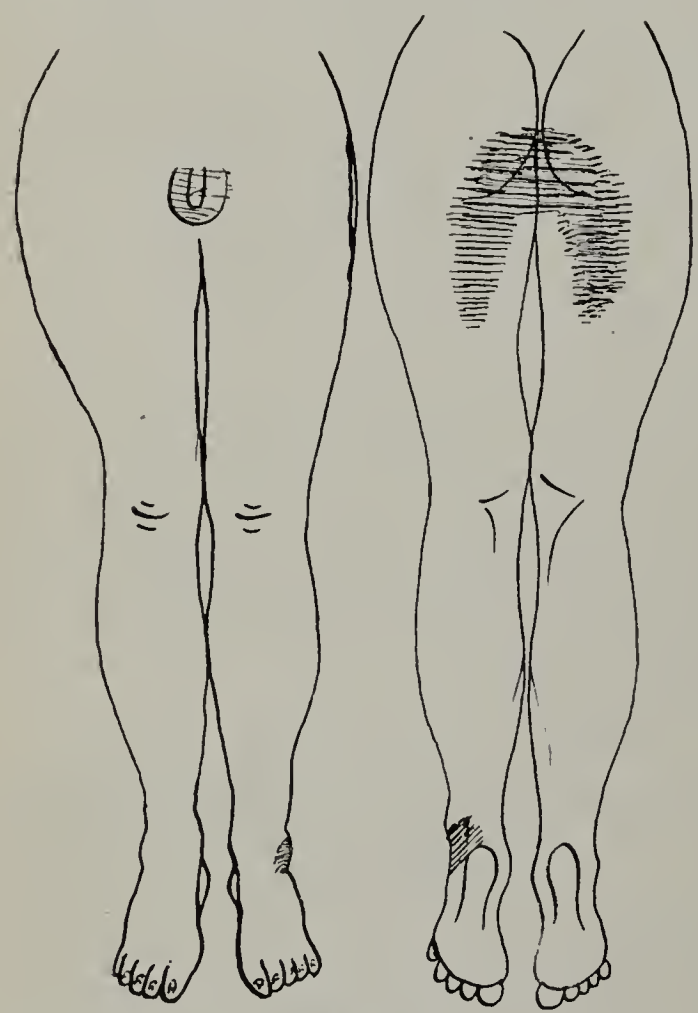


Figure 1.

dribbled away from him. He was then able to control his bowels. Numbness of the skin about the gluteal and anal regions was noted by the patient. Superficial examination disclosed areas of partial anesthesia and analgesia on the posterior aspect of the buttocks and thighs. Sensation elsewhere normal. Patellar reflexes slightly exaggerated. Temperature normal. Bladder palpable two inches above pubes. Gait was very unsteady. No painful sensations experienced by the patient. For two days the bowels did not move. Magnesium sulphate was given and followed by involuntary bowel movements.

Examination on October 11, one week after admission, revealed the following condition: No symptoms referable to the cranial nerves, upper extremities or trunk. The lower extremities are somewhat weakened, especially both peroneal groups of muscles. Patient is able to support his weight on his toes. Extensors and flexors of the right foot slightly weaker than those of the left. Fibrillary twitchings are not observed; no atrophies; normal response to electricity. Patellar reflexes slightly exaggerated, more on the left. Achilles reflex absent, both sides. Both plantar reflexes present, but abdominal and cremaster absent. No incoördination. The gait is slightly spastic—paretic. Patient is able to walk better than when he entered the hospital and says his legs feel stronger. Bladder is distended; the urine dribbles away and bowels move without producing any sensation. No pain has been experienced. Sexual power is lost. Sensory disturbances: Hyperesthesia of scrotum, penis and areas outlined in Fig. 1. In these areas the temperature sense is almost completely lost; a superficial pin-prick does not give the sensation of pain; a deep pin-prick is recognized. Slight anesthesia about the outer side of the left ankle. The process probably extends upwards as high as the lower portion of the first sacral segment. The testicles are tender on pressure. The anal sphincter is relaxed. The urethral mucous membrane is anesthetic to the passage of a sound. There is very little resistance offered by the membranous portion of the urethra.

The patient gradually improved in strength and on October

Figure 2.

21 the bowel movement was controlled. On November 2, it is recorded that the patient can retain urine and can feel it as it is voided. The patient was discharged Dec. 28, 1898. The area of hyperesthesia remained about the same in outline, although not as pronounced as on admission. The patient had gained full control of his bladder and rectum.

Clinical Diagnosis: Myelitis or possibly spontaneous hemorrhage, involving the conus medullaris; influence of lesion at onset extending as high as the fifth lumbar segment. The differential diagnosis between conus and caudal disease will be considered at the close of the article.

According to Sherrington, the skin of a given locality is supplied by a higher root than the muscles lying directly beneath that area, with the exception of the posterior surface of the thigh. Only the pilomotor fibers of the sympathetic ganglion and the sensory cutaneous areas of the corresponding spinal ganglion coincide in their distribution. According to Langley, the secretory fibers of the sympathetic ganglion correspond in a like manner. It may be noted that in this case the statement of Sherrington does not appear to agree with the

findings. Relative to the exact location of the lesion in the cord, it may be safely stated that in the early stage the lesion extended high enough to influence decidedly the fourth and fifth lumbar segments, and possibly slightly higher, since the patellar reflex was exaggerated. Subsequently, the effect of the lesion was confined to the sacral segments. The upper limit of the permanent lesion reached the level of the lower part of the first sacral segment. Whether it extended downward to the tip of the cord may not be stated. The lower limit of cord lesions is always difficult to ascertain, the chief aids being the reaction of degeneration, and the condition of the reflexes.

CASE 2.—Illustrating myelitis or hemorrhage in the conus and adjacent cord: L. S., female, aged 17, was admitted to the hospital, May 24, 1901. Three weeks before admission the patient began to have pain in the small of the back during the regular menstrual period. Did not sleep much that night. The next day felt as well as usual. Three days later she began to have pain in the back and knees. While on an errand, her

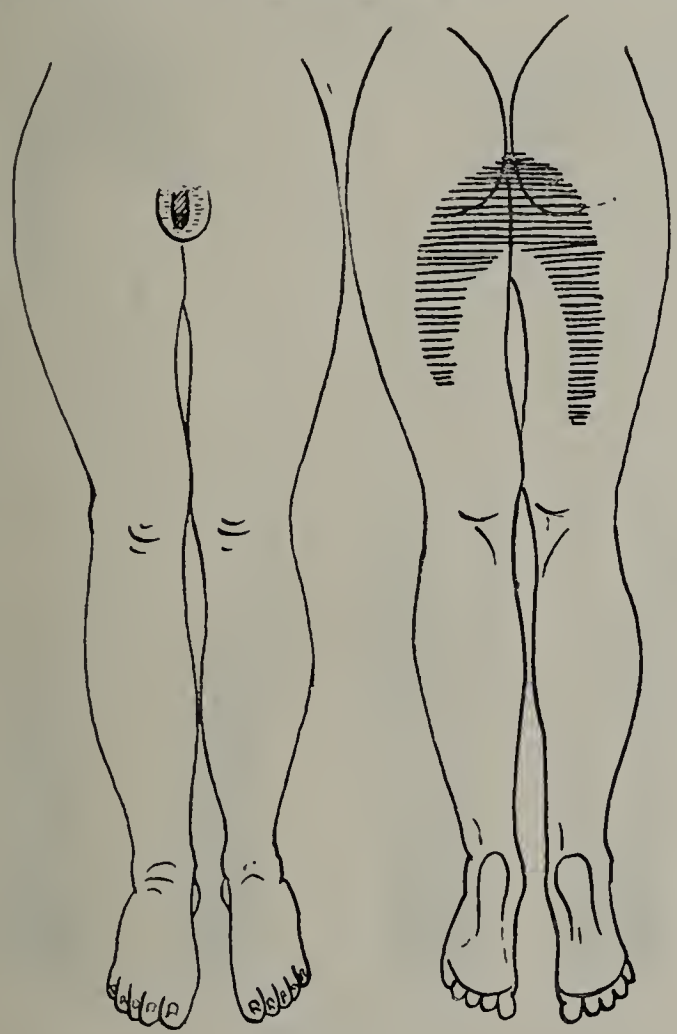


Figure 3.

knees suddenly gave way and she fell to the ground. She was unable to get up and was carried to her bed. Pain was felt in the legs, especially in the calf muscles. The pain was sharp, intense, cramp-like in character and continued for five or six days. Some tenderness of the posterior thigh muscles developed. Patient cried out when the legs were moved. Pain was increased on pressure. One week after onset of paralysis, incontinence of urine developed. Bowels were all right for one week after onset, when constipation began. Bowels were moved by cathartics. These soon failed, and the strongest became futile. Enemas also had little effect. Patient did not feel feces passing the sphincter. No fever, nausea or vomiting was present. Three weeks after onset a large bedsore suddenly developed. Family history negative. Patient had not recently been ill.

Examination May 26 shows no spinal deformity or tenderness. Bedsore in the sacral region the size of the hand. Bladder distended. Some weakness of quadriceps muscles. Legs may be drawn up and flexed on the thigh with considerable exertion. Plantar and dorsal flexion of the feet is impossible. The patient is unable to move the toes or evert either edge of the foot. Peroneal group totally paralyzed. Outward and inward rotation of the hip is paretic. Unable to voluntarily force the thighs backwards. Levator and sphincter ani relaxed. Detrusor muscle paretic. Mucous membrane of the vagina and rectum slightly dulled to touch and pain sense. Muscle sense absent. Sensation disturbed in the areas outlined in figure 2. There is complete loss of sensation of pain, temperature and touch in the areas outlined about the buttocks and perineum. The same is true of the more deeply shaded areas about the feet and the outer side of the legs. The inner side of the legs was hypesthetic. The loss of the temperature and pain sense was more sharply outlined and extended slightly beyond the areas of cutaneous anesthesia. Areas that showed slight hypesthesia were analgesic to superficial pinprick, and temperature could not be distinguished.

It was necessary to catheterize the patient for several weeks.

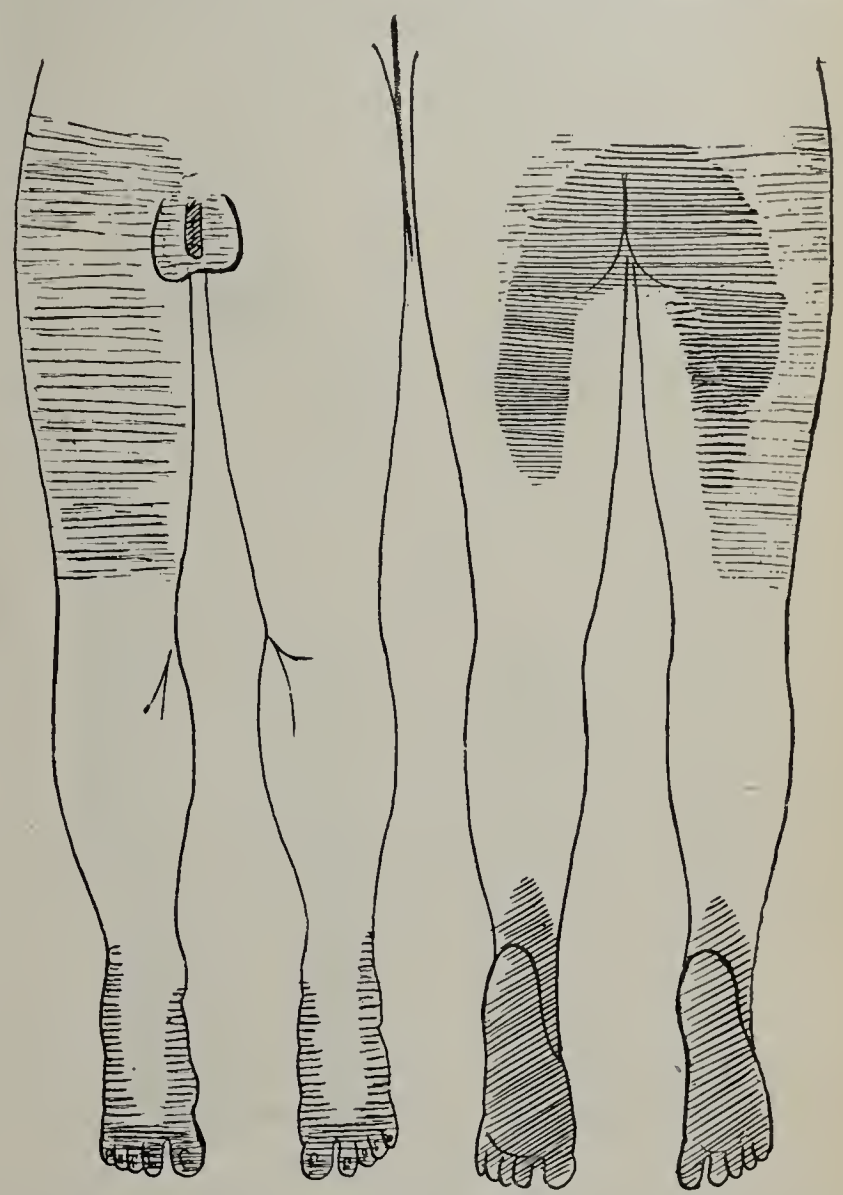


Figure 4.

The pain in the legs had disappeared when the patient came to the hospital. After about two weeks, it reappeared, but not as severe as at the onset. It came in paroxysms, lasting about fifteen minutes, returning about every hour. This continued for about two weeks, and has not since returned. The bedsore has persisted, although it is growing smaller. The condition at last examination, Oct. 21, 1901, was very little changed, except that the bedsore was nearly healed, and the patient was gaining some control over the bladder and rectum.

Since pain in the legs was an important symptom at two different times during the early history of this case, it is not improbable that the cord lesion was accompanied by a slight meningeal affection. A myelitis is often associated with slight meningeal inflammation. Intra- and extra-medullary hemorrhage not infrequently take place at the same time. On the other hand, it is doubtful whether in such cases one is justified in assuming that a meningeal lesion coexists, since irritation of the sensory paths in the cord may be accompanied by

radiating pains and hyperesthesias. (Berndt, Vix, Kocher and Gowers.) In a given case the nature of the process and the severity of the pain would count for much in determining whether the meninges were involved.

CASE 3.—Illustrating Lesion of the Cauda Equina: C. S., male, aged 35, walked to the hospital and was admitted Oct. 22, 1899. The first symptom noted by the patient was pain in the right lower extremity and soon afterward in the left. The pains gradually became more severe, and the patient began to lose in weight. Before his admission to the hospital he had been treated for sciatica. Upon admission to the hospital pain in the thighs and legs was very severe, but not increased on pressure. Power of the lower extremities somewhat impaired. A tumor having its apparent origin in the lower

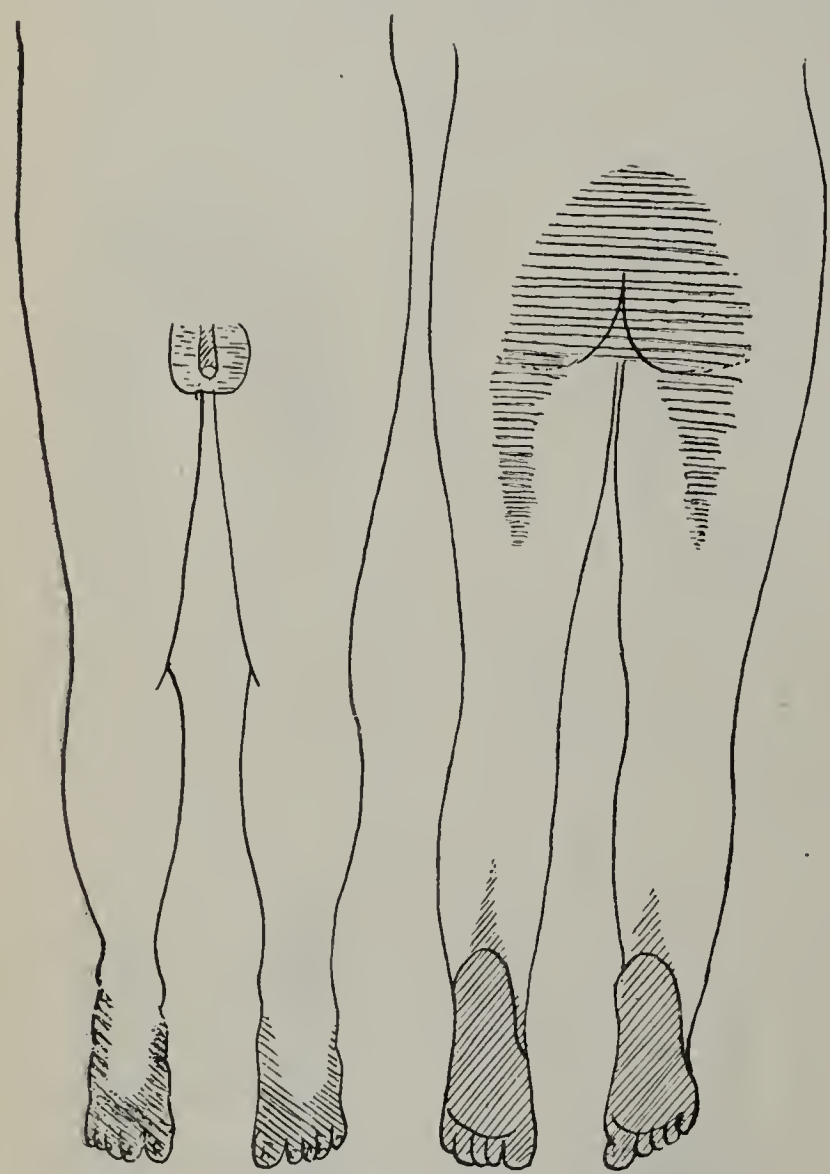


Figure 5.

lumbar spine was readily palpable through the abdominal walls. An area of hypesthesia corresponding to shaded portion of figure 3 was detected. During the following two months the hypesthetic areas became anesthetic, analgesic and thermesthetic. The patient lost control of his bladder and bowels. The anal sphincter became relaxed. The mucous membrane of the penis became anesthetic to the passage of a sound. Notwithstanding these symptoms, the patient could move his legs with considerable freedom. Their movement was restricted apparently by the increased pain produced. The electrical reactions were unchanged. At first the patellar reflex was slightly exaggerated.

At the time the patient was discharged, the reflexes were about normal. The tumor had increased rapidly in size and apparently involved the bodies of the vertebræ in the middle and lower thirds of the lumbar spine. It was probably a sarcoma. Unfortunately, the patient moved from the city, and I am not able to give the subsequent history of the case.

From the location of the tumor the lesion was probably compression of the cauda equina in the lower lumbar region. It will be noted, however, that the distribution of the anesthesia, and the bladder and rectum disturbances indicate that the fibers coming from the third, fourth and fifth sacral segments, or, in other words, the fibers coming from the conus, were much more seriously affected by the compression than the remaining fibers of the cauda equina. The fibers from the conus hang in the center of the whole bundle of fibers constituting the cauda equina, and there is no apparent reason why they should suffer greater injury from compression than those immediately surrounding them. Thorburn, however, has previously made similar observations relative to compression of the cauda equina. In his book on surgery of the spinal cord, he writes:

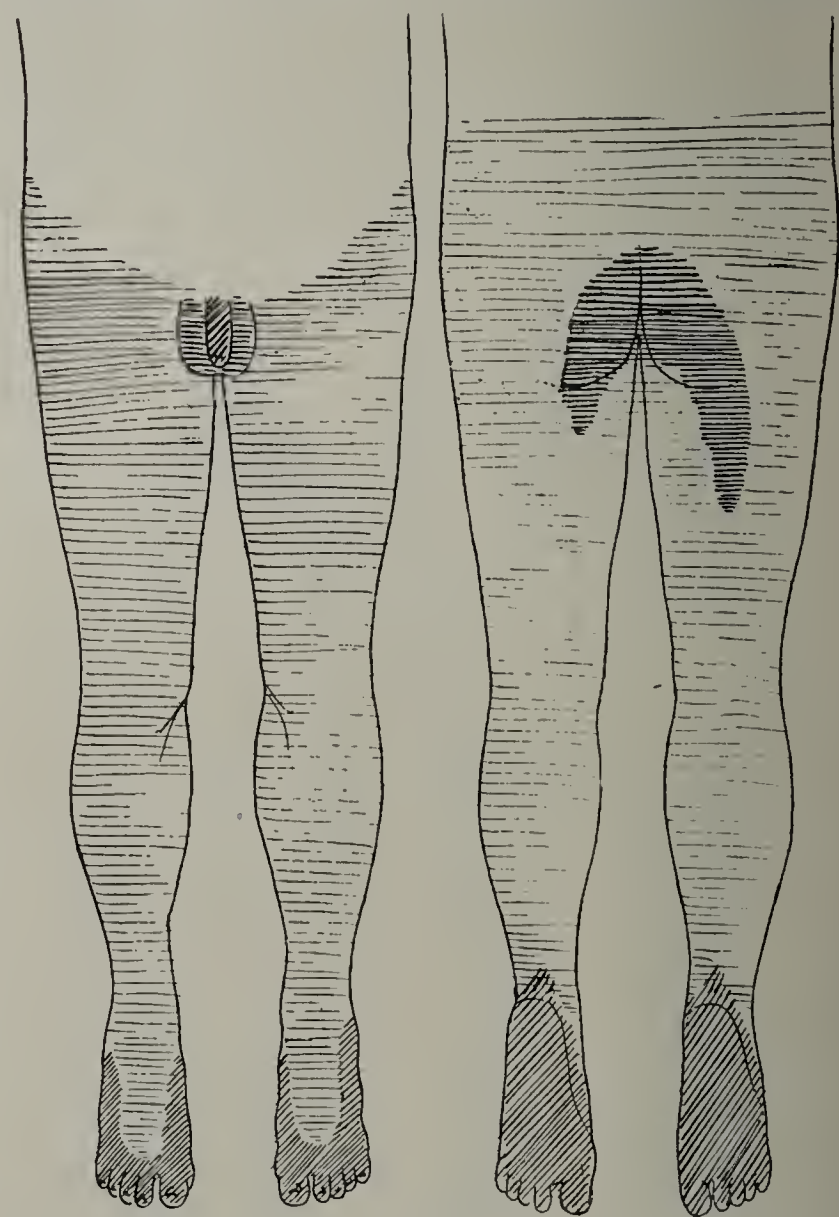


Figure 6.

"In a pressure lesion of the entire cauda equina the central fibers are more seriously injured than those surrounding them."

CASE 4.—Illustrating traumatic Myelitis of the Conus and adjacent Cord: J. S., male, aged 40, was admitted to the hospital May 21, 1900. Patient fell a distance of ten feet, striking on his shoulders, doubling his spine. He immediately felt numbness in the right lower extremity, and pain in the small of the back. He could move his legs, but could not get up on account of pain in his back. No pain was felt in his lower extremities. No pricking nor tingling sensations were experienced. Before arriving at the hospital the patient noted that the penis and scrotum were anesthetic.

Examination, May 25: Slight angular deformity present at the first lumbar vertebra. Two small blebs on either side of the gluteal fold, about four inches above the anus. Excoriation about the head of the penis. Both lower extremities are weak, but all their movements, including flexion, extension and rotation, can be executed. No atrophies. Reflexes-patellar, Achilles, plantar, cremasteric and abdominal absent. Reflexes of upper extremities normal. Retention of urine exists, and

when the bladder is overfilled the patient experiences dull pain. The passing of a catheter is not felt. The anal sphincter offers slight resistance. The patient is not conscious of the examining finger, except in the region of the prostate. Rectal tube is not felt until the sigmoid flexure is nearly reached. No pain along the course of the nerves. Muscular sense everywhere intact. Sexual power lost. Sensation is disturbed in the areas outlined in figure 4. The areas shaded heavily corresponding to the cutaneous distribution of the second, third fourth and fifth sacral segments were anesthetic to touch and to ordinary pin-prick. A deep thrust of the pin produced the sensation of pressure and slight pain. Temperature sense lost. The areas shaded lightly were uniformly anesthetic to the camel's hair brush. It will be noted that the cutaneous area supplied by the first, second, third, fourth and fifth sacral segments are affected on both sides equally. In addition, on

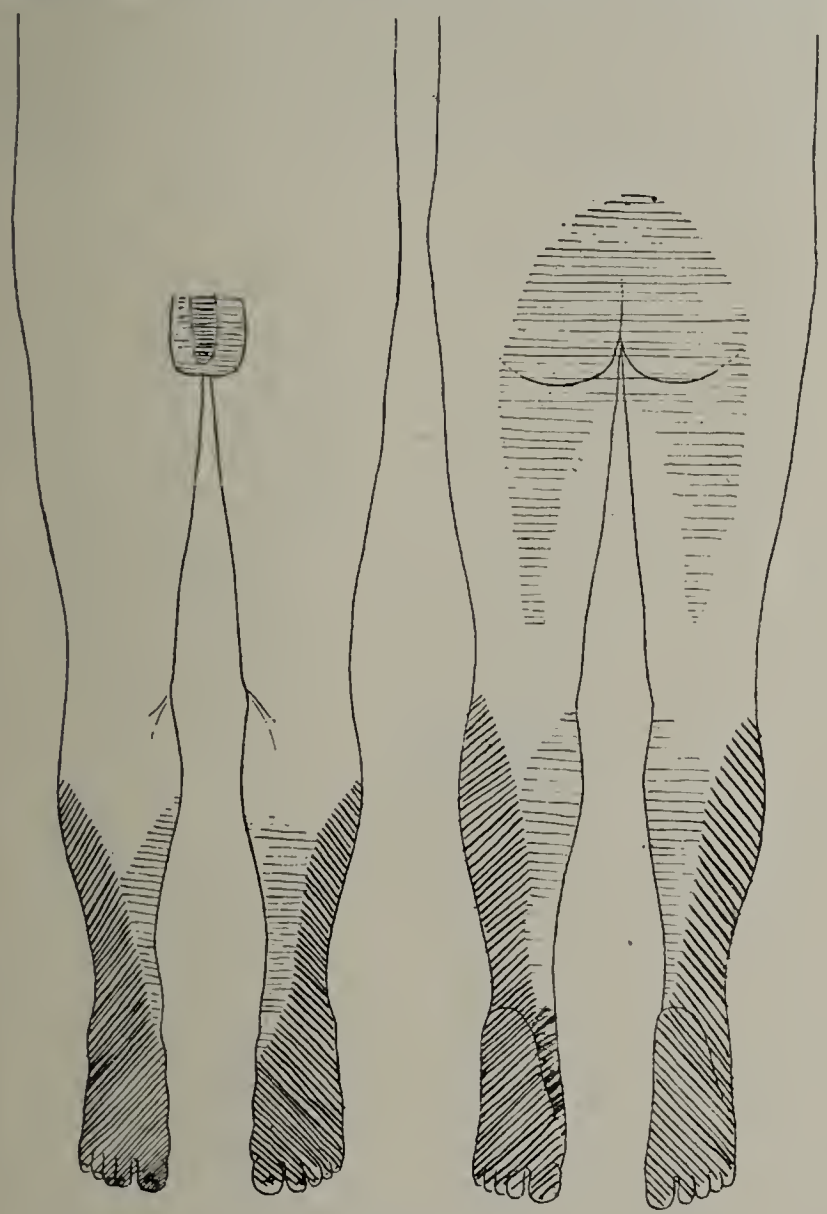


Figure 7.

the right side the cutaneous distribution of the twelfth dorsal, first, second and third lumbar segments are involved. Electrical reaction normal.

Diagnosis: Traumatic myelitis involving the conus medullaris, influence of lesion extending as high as the twelfth dorsal segment. Etiology: Dislocation or fracture of the first lumbar vertebra. Subsequent course: Patient was seen last Oct. 21, 1901. He was able to walk and do some work. Areas of anesthesia confined to the distribution of the sacral segments. He had regained control of the bladder and rectum.

Since the fibers of origin of the cauda equina completely surround the conus medullaris, one might expect more serious symptoms referable to the cauda in a traumatic lesion of the conus, such as we assume exists in this case. Relative to this point, however, Oppenheim, Schultz, and Sarbo have each reported a case, with autopsy, in which the conus was destroyed by trauma, and the fibers of the cauda remained intact. When one compares the relatively delicate structure of the conus with the coarse fibers of the cauda that surround it, it is easy to understand how a sudden and temporary displacement of the bodies of the vertebræ from fracture or dislocation might seriously injure the conus and produce few or no symptoms referable to the cauda equina. That simple compression of both of these structures may result in disturbing the function of the conus without affecting the fibers of the cauda equina is well illustrated by the following case of tubercular spondylitis:

Case 5.—Illustrating uniform Compression of the Conus from Spondylitis: J. O'M. came to Dr. Preble's clinic, complaining of pain in his back. Examination showed slight deformity and tenderness in the region of the first lumbar vertebra. There was little or no loss of power in his legs. There was a sharply defined area of hypesthesia corresponding to the shaded outline in figure 5. It will be noted that there was dulled sensibility in the cutaneous area supplied by the whole sacral cord. The function of the bladder and rectum was undisturbed. The sexual power was intact. No painful sensations were experienced, with the exception of tenderness at the

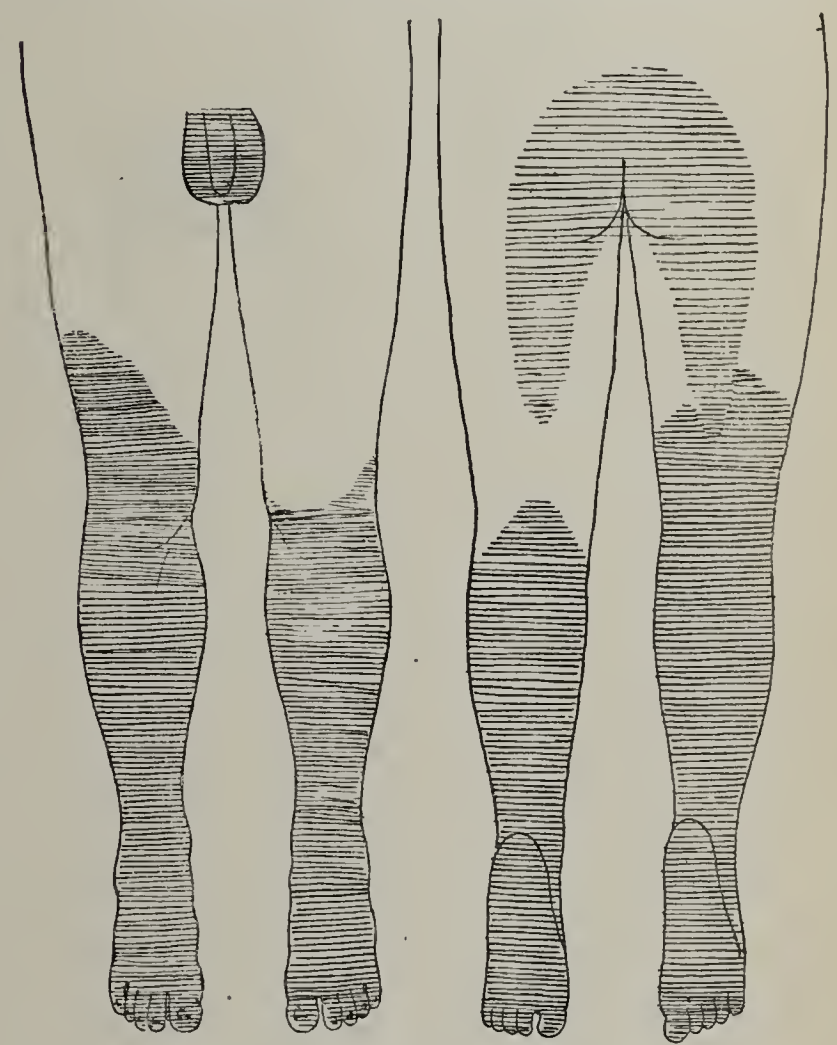


Figure 8.

seat of the spondylitis. The patient gradually improved, so that he is now able to work. The deformity in the lumbar region has nearly disappeared. No trace of the cutaneous anesthesia is to be found. It is fair to presume that the hypesthesia was due to compression of the conus by the inflammatory exudate of the spondylitis, and that as the exudate was absorbed, the conus hypesthesia disappeared.

Case 6.—Illustrating traumatic Myelitis or possibly Hemorrhage involving the Conus and adjacent Cord: R. received an injury to his dorso-lumbar spine, resulting in sudden paralysis of the legs, bladder and rectum three years ago. The patient is now able to work and has regained control of his bladder and rectum. Fig. 6 represents the sensory disturbances still present as the result of the injury. The lighter shades are intended to indicate hypesthesia, the darker shades anesthesia to a camel's hair brush. Pain sense was dulled and temperature sense lost in the area of darker shade. It will be noted that the sensory disturbances indicate that the lesion which now remains is symmetrical, and involves the cord as high as the twelfth dorsal segment. The function of the whole sacral cord, as shown by the cutaneous anesthesia, is more

seriously disturbed than that of the adjacent portion of the spinal cord.

CASE 7.—Illustrating Contusion of the Spinal Cord with possible Hemorrhage into its Substance: J. K., aged 44. On June 19, 1897, patient fell from a bridge, 23 feet high, striking on his buttocks. He was not rendered unconscious, but could not arise on account of weakness in his legs. He experienced pain in his back, but none in his legs or thighs. A feeling of numbness was present in his legs, and he was unable to move them. It was necessary to catheterize him. His bowels did not move without an enema. No pain was felt when the catheter was passed. In four months the patient was able to walk with the aid of crutches. During the last two years there has been no improvement in muscular power. He can control the bowels, but can not retain urine more than one hour. Sexual power is lost. Pain was not experienced at any time, except that felt in back immediately following injury.

Examination, Oct. 20, 1901, revealed the following: No

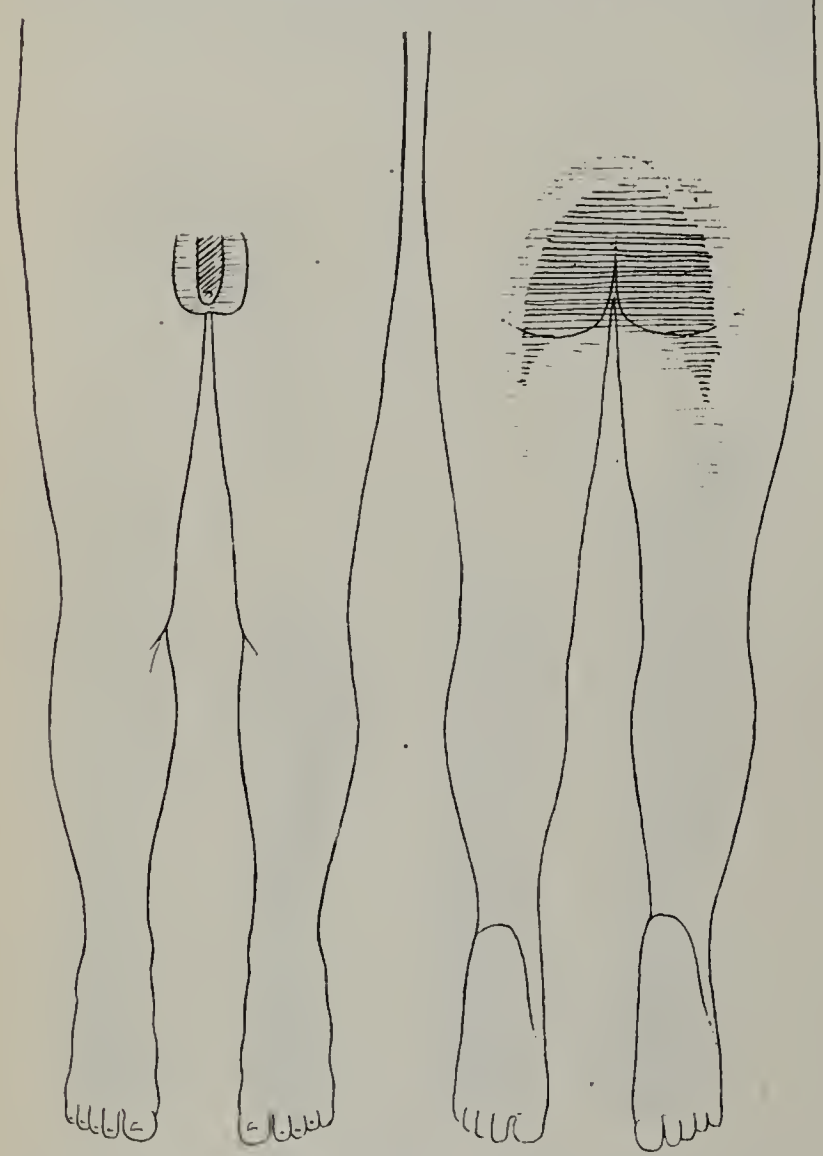
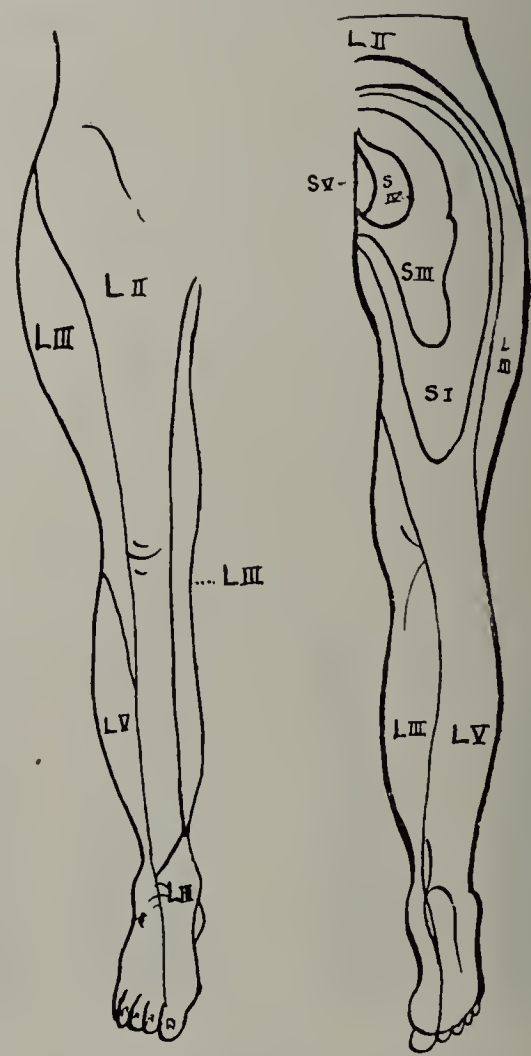


Figure 9.

spinal deformity; patient walks with the aid of a cane; gait paretic and slightly spastic. Toes were flexed upon the foot in the hammer-toe position; tendency to footdrop. Feet and legs were slightly swollen, but no edema. No individual atrophy present, although the peroneal group appeared somewhat flabby. The patient was unable to move his toes or flex his foot upon the leg. The power of extension somewhat impaired. Was able to bend both knees and rotate both legs. Abduction and flexion of hip normal. Quadriceps and abductors possessed fair degree of power. Anal sphincter was intact. Perineal muscles responded to volition. Patellar reflexes were normal. Ankle clonus marked. Plantar reflex normal. Muscular sense in toes entirely lost. Sensation disturbed, as shown in Fig. 7.

CASE 8.—Illustrating Tumor of the Conus and adjacent Cord: W. T., aged 19, was admitted to the hospital June 14, 1898. One year previous, tubercular glands had been removed from the neck. Three weeks before the patient was admitted, he had some difficulty in walking. Examination of lungs negative. Apex of the heart in the mammary line. No murmurs. Abdomen negative. Abdominal reflex normal. Arms negative; legs, area of imperfect tactile, thermic and pathic sensation can be found on the right leg, but can not be exactly outlined. Small area of anesthesia found on the outer side of the right knee. Patellar reflex can not be obtained on either side. Other reflexes appear normal. Romberg's symptom well marked. The patient complained of pain in the thighs and legs. The case was looked upon as a probable peripheral neuritis, and the patient was about the ward, apparently comfortable, for several weeks, when he showed signs of rapid decline. Pulmonary râles developed, and evidence of slight fluid appeared in the peritoneal cavity. The temperature was elevated.

Examination of the nervous system, August 27, one day previous to death, revealed the following condition: Marked hypesthesia of shaded areas (Fig. 8) of the whole penis and scrotum. Mucous membrane of the penis hypesthetic. Perineum hypesthetic; likewise shaded portion of the gluteal region. In these localities a moderate pin-prick was imperfectly felt. Camel's hair brush was not noticed. Deep pin-prick produced dull pain. Partial thermesthesia existed in these areas. The center of the shaded part of the thigh was totally anesthetic; its border hypesthetic. Anesthesia was profound to the sense



Starr's chart.

of touch, pain and temperature in the shaded areas of both legs, extending slightly above the knees, as outlined in the figure. Here and there a deep pin-prick was felt by the patient. No tenderness on pressure; muscles of the leg soft and flabby; no individual atrophy. Motor power of feet and toes lost. Right patellar reflex absent. Left gave very slight response. Ankle clonus present on both sides. Small blebs containing serous hemorrhagic fluid on the plantar surface of the left foot. A bleb the size of a silver dollar was present on the dorsum of the same foot. Patient complained of pain in the thighs, which was not increased on pressure. Was not able to move the feet, but could draw the knees up slightly. Not able to control the bowel movements, if he waited long after desire to stool was felt. Normal feeling when bowels moved. Control of bladder same as rectum. Sexual power lost since short time after entering hospital. Sensation in other parts of the body normal. A careful test of the movements of the thigh muscles was not made, on account of the patient's condition. The patient died on the following day, before further examination was possible.

The diagnosis made as to disease of the nervous system was progressive lesion of the conus medullaris and adjacent cord, with probable involvement of the nerve roots. The great pain present, referred to the thighs and legs, could not well be produced by a pure cord lesion, and no pain on pressure being present, nor individual sensory disturbances, a meningeal or root process was probable. The ankle clonus, in association with loss of patellar reflex on one side and diminished patellar reflex on the other side, was very striking. Possibly the lesion destroyed the center for the patellar reflex and irritated the center for the tendo-Achilles reflex, or perhaps the lesion cut off the upper segment control of the tendo-Achilles reflex. It is also to be noted that the sexual power was lost, while the function of the bladder and rectum was fairly well preserved.

Autopsy showed miliary tuberculosis the immediate cause of death. A tubercular tumor was found occupying the upper sacral and lower lumbar cords. The upper limit of the lesion was at the lower part of the second lumbar segment, higher on the right than on the left side.

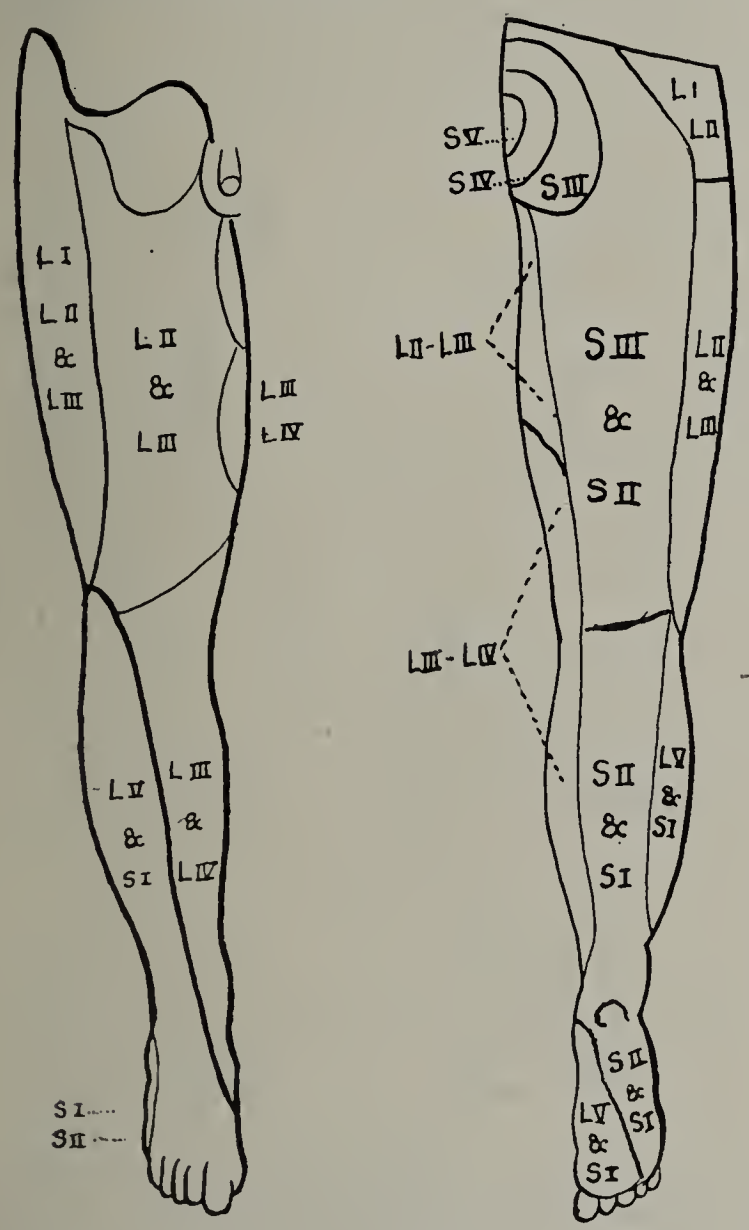
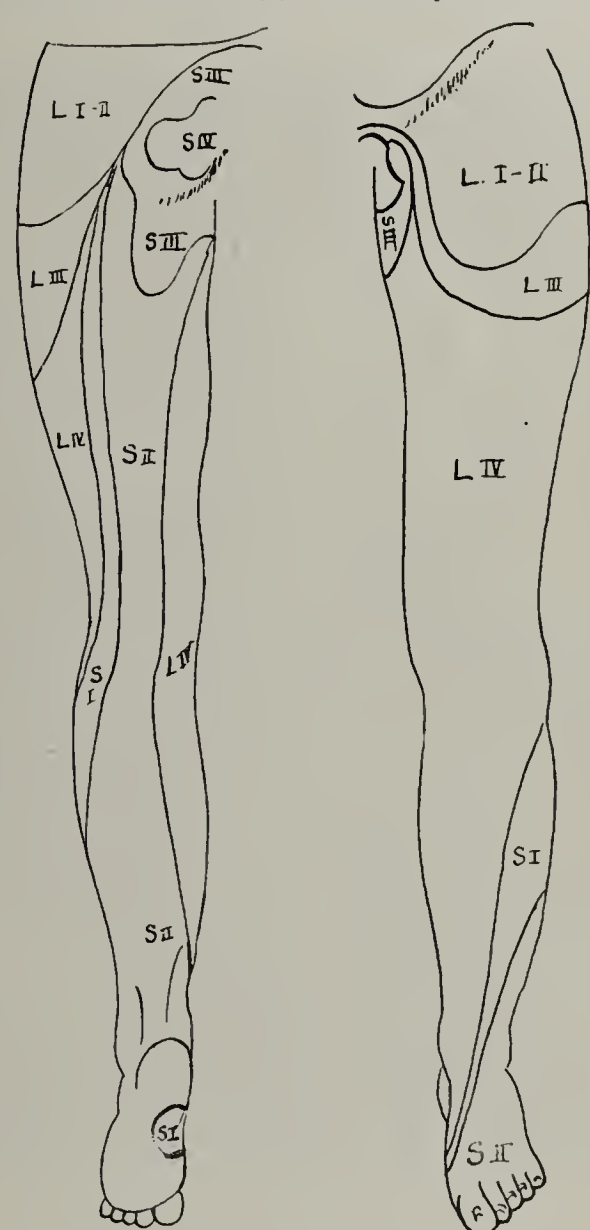


Chart after Wichmann.



Rocher's chart.

Figure 9 represents an area of cutaneous hypesthesia found in a case of tabes dorsalis. This was among the first manifestations of the disease.

In all the cases of this series the disturbance in temperature and pain sense was more sharply defined and, as a rule, extended slightly beyond the areas of cutaneous anesthesia. Areas in which tactile sensibility was only slightly dulled often showed analgesia and thermesthesia. Such observations have been previously made by Starr, Thorburn and others who have given attention to these particulars.

Sherrington's experiments on the posterior spinal roots show a marked overlapping of the cutaneous distribution. Cutting one root was accompanied by no loss in the sensation of touch. Such great overlapping was present that in order to map out the area of distribution of a given root, it was necessary to divide five roots above and five below the one investigated. Head claims that the areas of distribution mapped out by him on the basis of herpetic eruptions and tenderness in visceral disease do not overlap and that they correspond fairly closely to the areas of Sherrington, determined by a study of posterior root distribution. He also claims that the great difference between the root and the cord supply is that the root supply overlaps greatly, while the cord supply does not. Finally, Head concludes that the mechanism for touch sensation in the spinal cord overlaps, and that the mechanism for pain and temperature and trophic influences does not overlap, or at least not to the same extent as the overlapping of the touch sensation. His conclusions receive support from a study of this series of cases. It was also noted that the pain and temperature areas approximately coincide. Referring again to the charts of Starr, Head, Kocher and Wichmann, it will be observed that Wichmann's chart shows greater overlapping of areas than any of the others. This would naturally result from the basis upon which the outlines were constructed. The distribution of peripheral nerves was consulted largely and it is known that they overlap to a marked degree. Although these charts differ considerable in detail, they resemble each other coarsely and for clinical purposes any one of them would certainly be approximately correct. Viewed from the standpoint of accurate physiology, they probably do not represent final knowledge on the subject. Indeed, it will not be possible to draw hard and fast lines descriptive of cutaneous areas of spinal segment distribution until a great many cases have been studied in connection with autopsies. I be-

lieve a study of this series of cases contributes certain points relative to the physiology of the sensory distribution of the lower cord.

It will be observed that there is great similarity in the outline of the shading representing the areas of anesthesia about the posterior thighs, buttocks, perineum, penis and scrotum. These areas are fairly symmetrical, and correspond very closely to the areas said by Starr and Kocher to represent the distribution of the third, fourth and fifth sacral segments. Figures 3 and 9 show pure types of conus anesthesia. The area mapped out resembles somewhat the patch on saddle-breeches. Since this peculiar area is repeated in every one of the nine cases and in many others in the literature, it is fair to presume that lesion of a certain portion of the cord or cauda equina is regularly accompanied by such an area of anesthesia. From a study of these cases and those reported, especially the cases collected by Starr and Kocher, I believe the areas outlined in Figures 3 and 9 are due to disease of the third, fourth and fifth sacral segments, or to disturbance in function of caudal fibers leading to those segments. In case the lesion extends higher in the cord, involving the second sacral segment, this same area is extended so as to conform very closely to that outlined by Starr under the first, third, fourth and fifth sacral segments. (Figures 1, 2, 5, 7, 8 and the deeper shades on the buttocks of 4 and 6.) Thus far the outlines in this series agree perfectly with Starr's chart.

I wish now to call attention to the peculiar slipper-shaped area of anesthesia about the feet in figures 4, 5 and 6. By referring to the charts, it will be seen that Head has outlined such an area. Figure 1 shows an area of anesthesia about the left outer ankle, suggesting the beginning of the slipper-shaped area. Head has shown reasons for believing this area to be supplied by the first sacral segment. These cases furnish good evidence in support of the existence of such an area and it seems very probable that the cord segment which supplies it lies directly above that for the saddle-breeches area. According to Head, lesions of the fifth and fourth lumbar segments produce sensory disturbances on the outer and inner sides of the leg respectively. Cases 2 and 7 are completely in accord with such a distribution. It may be noted that the outlines in the nine cases here reported corroborate very closely the work of Starr about the buttocks, perineum, penis, scrotum and posterior thighs, and that of Head about the feet and legs. It is also worthy of note that in connection with the saddle-breeches area the anesthesia of the posterior thighs did not extend downward as far as the bend of the knee, except in Cases 4 and 8. In Case 8 it is probable that disease of the second and third lumbar segments caused the anesthesia of the legs to become continuous with the anesthesia of the thighs. In Case 4, injury to the second and third lumbar segments caused an extension of the anesthesia downwards beyond the bend of the knee. This series of cases confirms splendidly the work of Starr relative to the posterior thighs, and does not at all conform to the charts of Head, Kocher and Wichmann. Head extends a strip downward from the buttocks to some distance below the knee. Kocher and Wichmann extend a continuous strip from the buttocks down the posterior thigh and leg to the feet. These cases show such uniformity in outline that one is compelled to alter somewhat the charts previously constructed relative to the lower extremities. I feel justified in offering a new provisional chart based upon a study of this series of cases in connection with those previously reported. It is to be understood that as new cases are recorded, no doubt still further alterations in the areas outlined will be made.

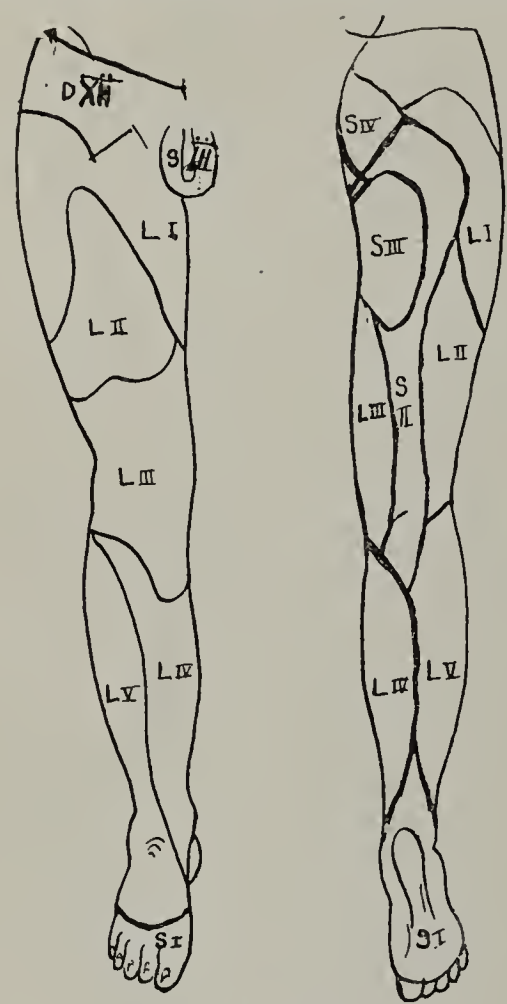
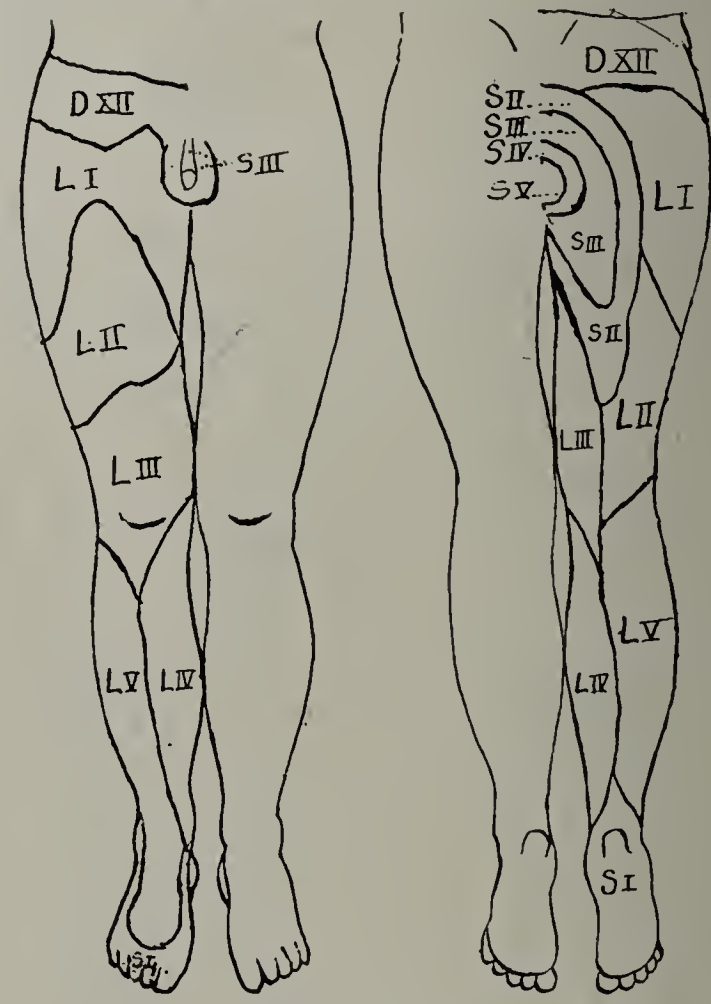


Chart after Head.



Author's chart.

DIFFERENTIAL DIAGNOSIS BETWEEN LESIONS OF CAUDA EQUINA AND CONUS MEDULLARIS.

When disease of the cauda equina is accompanied by typical symptoms, there may be no difficulty in recognizing it. Except when due to trauma, disease of the

cauda usually develops slowly, producing symptoms more or less characteristic of root disease. The patient first experiences pain upon movement of the lower extremities; later the pain becomes spontaneous and persistent, with exacerbations. Subsequently, anesthesia begins and when the lesion is a uniform compression of the cauda, it has been observed in a few cases that the function of the central fibers was the first disturbed. Bladder and rectum symptoms may appear early and are usually present before anesthesia becomes pronounced. Muscular weakness is present in proportion to the pressure on the motor fibers and, as a rule, does not appear until pain has become a prominent feature. The paralysis is characterized by loss of muscular tone. An early examination may show exaggerated reflexes. Later they are diminished and finally lost. Atrophies develop. The electrical reactions may be altered. Decubitus has been noted. In reference to the height of the caudal lesion, if no local signs relative to the spine are present, to aid in locating the lesion, it is fair to presume that the upper limit of the lesion is just above the exit of the highest nerve that is disturbed in its function.

Disease of the conus is characterized by the sensory and motor symptoms described in the beginning of this article. In addition, the symptoms are likely to develop rapidly. Sensation may not be disturbed alike for all qualities. The pain and temperature sense is likely to be more seriously affected than the touch sense. Provided the conus lesion does not exert an influence on the caudal fibers, severe pain is absent. Decubitus is more likely to occur than in caudal disease. Above all, that which characterizes disease of the cauda equina is pain. A conus lesion may be associated with pain, provided the cauda or meninges are also involved. That which speaks directly for a conus lesion in a given case is the absence of pain. Differential diagnosis of the two conditions is important, as disease of the cauda equina may often be amenable to surgical treatment.

I am very greatly indebted to members of the Attending Staff of Cook County Hospital, who have so kindly placed their cases at my disposal.

BIBLIOGRAPHY.

Kocher: Mittheilungen aus den Grenzgebieten der Medic., 1 Bd., 4 Heft.
Valentini: Zeitschrift f. Klin. Medicin. xxii, 1893.
Schultze: Deutsche Zeitschr. f. Nervenheilk., Bd. v, 1894.
Müller: Deutsche Zeitschr. f. Nervenheilk., Bd., xiv, 1899.
Eisenlohr: Neurolog. Centralblatt, 1884, Nr. 4.
Thorburn: Brain, 1888.
Oppenheim: Archiv f. Psychiatrie, 1889, 1.
Lachmann: Ibid., Bd. xiii.
Kirchoff: Ibid., Bd. xv.
Rosenthal: Wien. Medic. Presse, 1888, Nr. 18-20.
Bernhardt: Berlin. Klin. Wochenschr., 1888, Nr. 32.
Huber: Wien. Medic. Woch., 1888, Nr. 39 u. 40.
Osler: Medical News, 1888.
Eulenberg: Zeitschrift f. Klin. Med., 1891, Bd. xviii.
Sarbo: Arch. f. Psychiatrie, 1893, Bd. xxv.
Raymond: Nouv. inconogr. de la Salpêtrière, 1895. Lécons sur les maladies du système nerveux. 1896.
Schiff: Zeitschrift f. Klin. Medic., 1896, Bd. xxx.
Higier: Deutsche Zeitschrift f. Nervenheilk., 1896, S. 185.
Clemens: Deutsche Zeitscr. f. Nervenheilk., 1897.
Koster: Ibid.
Bregmann: Neurolog. Centralbl., 1897.
Schlesinger: Wien. Klin. Wochenschr., 1897.
Hirschberg: Deutsche Zeitschr. f. Nervenheilk., Bd. xvi.
Bechterew: Ibid., Bd. xv.
Head: Brain, vol. xvi.
Starr: Am. Jour. Med. Sciences, July, 1892, and June, 1895.
Sherrington: Proc. Roy. Soc., vol. lii.
Wichmann: Die Rückenmarksnerven und ihre Segmentbezüge, Berlin, 1900.
Thorburn: Surgery Spinal Cord, London, 1889.

Singular Fatality.—A little girl, aged 12, met with a singular death at Brighton, England, recently. In biting an apple she broke a tooth, a splinter from which penetrated near the throat, setting up such profuse hemorrhage that the child succumbed.—*Brit. Jour. Dent. Sci.*

PLASTIC SURGERY, WITH CASES.—FORMATION OF NEW CHEEK.

C. E. RUTH, M.D.
Professor of Anatomy and Clinical Surgery, Keokuk College of Physicians and Surgeons.
KEOKUK, IOWA.

Plastic surgery principally concerns the repair of skin or mucous membrane defects. Direct approximation of edges, by undermining and stretching, fixed by sutures, is easy and sure of satisfactory results if tension is not too great and the tissue healthy. This method may be aided by lateral subsidiary incisions to facilitate sliding, the lateral clefts being left to granulate and cicatrize, or are closed by grafts placed at once, or as soon as good healthy granulation tissue has formed.

Flap formation, with or without twisting of the pedicle, will in some cases serve a useful purpose. Marginal connection of flaps from a distant part of the body, released from pedicle connection later, has a very limited field. The confinement is most irksome; besides, the vitality of the disconnected flap is feeble for a long time. In all cases where the new skin can be made to rest upon an underlying, healthy fresh wound, free from blood, or upon a granulating surface throughout, the chances of success are certainly good—especially if even a very moderate blood supply can be obtained for the flap. Where no base exists upon which to rest the flap, where subtegumentary connective tissue, skin and mucous membrane are lost, as in cases of cancrum oris, or the much more common deformity of almost total loss of one side of the face resulting from the use of cancer paste to remove carcinoma, real or imagined, the difficulties are increased a hundredfold.

Figure 1.

Case 1.—Such a case was presented at my clinic in September, 1900, in the person of Mr. R., of McCausland, Iowa, referred by Dr. F. C. Smith. He gave a

history of carcinoma of the lip and cheek twice operated upon; it quickly returned, but was subsequently treated by a so-called cancer specialist, and presented the appearance partly indicated in the photograph which I herewith present as Fig. 1. More than the right half of the upper lip, all of the cheek from the nose to one-third inch from the right eye, to three-fourths inch from the ear, and to the lower portion of the jaw were gone, together with part of the malar bone, and all of the external portion of the right superior maxillary with most of its alveolar process, leaving the entire right side of the mouth and tongue exposed, as well as a considerable opening into the nasal cavity and a recess two inches deep extending back to the posterior internal wall of the maxillary sinus. Saliva constantly discharged from the lowest part of the opening. Strange to say, this enormous gap had cicatrized, all bone was covered, and the surface had every appearance of being healthy. I was informed that it had been in this condition for one year.

Figure 2.

To close this enormous defect I raised a flap, as indicated in the above cut, No. 1, by the heavy ink lines, and sutured it in position. A small flap from farther down the neck was used to close the front of the defect made by removing the large flap. The other borders were undermined and the flap space narrowed sufficiently that twelve grafts entirely closed the large wound in ten days so as to leave almost no deformity on the neck. I was compelled to disregard the source of blood supply much more than I liked, but raised considerable subtegumentary tissue to increase the number of vessels to the flap. A small portion of the flap sloughed by the side of the nose, and the suture bite was lost under the eye. The portion of the flap which failed to secure connection rapidly contracted and became inverted, and in a few weeks had formed an almost complete epithelial lining on the inner side of the remaining portion of the flap. The amount gained by the first operation is shown by the heavy ink line on Fig. 2, all being closed practically from below to this line.

The next step consisted in cutting loose the remaining left half of the upper lip from the nose, undermining its attachments far out upon the cheek, and drawing it so far to the right as possible, where it was anchored. The lower lip was then loosened extensively by undermining far down over the chin. It was not possible to unite the old cheek flap to the upper lip as I had hoped. To meet this difficulty, I divided the lower lip vertically and extended the right side upward between the old flap and the end of the upper lip, and with it nicely filled in the space between them and sutured all in position. At the point where I divided the lower lip vertically I was compelled to make the temporary right angle of the mouth, stitching the lip securely in place; the result was all that could be expected, as union was obtained throughout. The mouth was, however, drawn far to the left side by muscular action and was very small. Fig. 3

Figure 3.

shows by the ink line the defect at the side of the nose yet to be closed.

Three weeks later the course of the right temporal artery was carefully outlined and a flap raised with the artery running directly through its center. The flap was made large enough to close the remaining space, with one-half to three-fourths of an inch to spare, at all points on the margin. The margins of the gap were then freshened by splitting the integument, and a continuous cut made one-eighth to one-fourth in from the margin and the inner side inverted so that it could be sutured on the inside of the flap margin. The edge of the flap proper was carefully sutured to the skin surface or edge with which it was to be continuous. The bearing contact surface of the flap margin was thus increased at least twice or three times what it ordinarily would have been. The pedicle of the flap was left attached at its base; one week later the integument was

removed from beneath the pedicle and the latter was sutured in position, while a portion of the tissue removed from beneath the pedicle was used to form a new lower

Fig. 4.—Appearance two weeks after last operation.

Fig. 5.—Appearance five months after last operation.

eyelid. Twenty-eight grafts were used to close the defect left by the removal of the flap from the temple and forehead along the course and on each side of the anterior branch of the temporal artery. The right angle of the mouth was now extended to the margin of the new temporal flap. Fig. 4, taken one week after the last grafting was done, gives a better explanation than words.

Figure 6.

Fig. 7.—After removal of one-half of tongue, two inches of lower jaw and submaxillary glands, etc.

Case 2.—Mr. Albert R. was referred to me by the party who used the caustic. A history was furnished of a growth which was supposed to have started from the

right tonsil and was three times operated upon, and lastly was eaten off by my erstwhile friend of the guarantee-cure fame of Dubuque. The result is tolerably well shown in Fig. 6.

The body of the right superior maxilla was almost entirely gone with all of the soft parts over it, part of the upper lip and the lower lip to the lower margin of the inferior maxilla. The inferior maxilla was gone at one point, and surmounting the point of solution of continuity in the inferior maxilla, and involving the right side of the tongue was an epitheliomatous mass more interesting than agreeable to contemplate. With the head very low an incision was made wide of apparent deposit around the outer side of the growth, and an incision was extended from this point downward to the cornua of the thyroid cartilage on the right side. The integument was separated on each side. A needle was then thrust through the center of the tongue, immediately above the hyoid bone, armed with a silk loop; the needle was then carried out on the right side in front of the external

Figure 8.

carotid above the facial and lingual arteries, and a strong iron tinned wire was carried through by the silk loop so as to bring, when tightened, the entire blood supply to the right half of the tongue perfectly under control. The right side of the tongue was now removed with little difficulty and slight loss of blood. About a two-inch piece was removed from the inferior maxilla, together with the submaxillary gland and submaxillary lymph glands. Microscopic examination showed the growth to be an epithelioma, and that nearly all of the tissue removed was involved by malignant infiltration. The large surface left to granulate was carefully watched, and any suspicious points were cauterized with the thermocautery after testing with the arsenic-alcohol solution. This plan was followed until cicatrization was practically complete in about six weeks. Figs. 7 and 8 show condition at this time.

Under chloroform anesthesia the remaining part of the upper lip was severed from the nose and other bony attachments far out upon the left cheek, the lower lip and soft parts over the chin were likewise undermined, so as to glide as nearly as possible into the normal positions for such structures, and to reach to the flap to be raised for closing the main defect. The cicatricial tissue which extended to the lower part of the jaw below the angle of the mouth was detached along the tegumentary margin and turned upward, remaining attached to the upper border of what was left of the jaw in front, and was sutured in place as a reinforcement to the new flaps and as an epithelial graft on the inner side of the new cheek. The main flap to fill in the remaining defect was obtained principally from in front of the ear with the pedicle extending down on to the neck. The marginal union was effected as in the former case, by turning in the skin edge all along the margin to act as epithelial grafts on the margin for the inner surface of

Fig. 9.—Two weeks after operation.

the new cheek, as well as to protect the raw contact surface. Union was prompt, complete and perfect, except a very small sinus at the ala nasi. The defect in front of the ear left by removing the flap was narrowed as much as possible at the time of operation, and a week later was grafted from the arm, about twelve grafts being required. Fig. 9 illustrates the condition two weeks after forming the new cheek, and one week after the grafting was done for closing the defect left by the removal of the flap from the cheek. For six days and nights heat was applied to the cheek as near 125 Fahrenheit as possible. I take pleasure in presenting this case now, two and a half months after operation. I prefer to leave the pedicle connected at its base of original attachment as furnishing a much safer blood supply to meet the results of accident and cold than would be possible where marginal nutriment alone was depended upon.

In making skin or mucous membrane grafts to close

defects of skin or mucous membrane, care must be taken to include only the skin or mucous membrane proper without any fat; and usually a piece is transplanted three-sixteenths inch by one-fourth inch and always transferred at once to its final resting-place on a fresh, raw or healthy granulating surface, and after being secured in position is not disturbed for at least three days. Perfect draining opportunities must, however, be provided, and strict aseptic precautions must be maintained throughout. If only the epithelial layer is used as a graft the resulting cicatrix is feeble, and from slight irritation the surface recently closed is likely to lose all the protection the physician was able to procure in weeks of patient toil.

Case 3.—In March of this year a little girl 7 years of age was referred to me by Dr. Tobin of Mt. Sterling, Iowa, for cicatricial contraction and flexion, to an extreme degree, of the ring and little fingers of the right hand from a burn produced eight months before by a rope being drawn rapidly through the hand. Previous experience had convinced me of the folly of attempting to cure the case while the mass of cicatrix remained. I carefully removed all the scar tissue, at points exposing the flexor sublimus and profundus tendons, until the fingers could be easily and perfectly straightened, except a slight defect at the last joint of the little finger. The entire palmar surface of each finger was denuded. Two pieces of skin were next carefully removed from the forearm of the same limb of sufficient size to nicely cover the defects after allowance was made for shrinkage. The pieces removed were one-third by two and one-half inches. These large pieces or grafts were carefully sutured in place with fine silkworm gut tailings, as I could not trust a child of her age to leave the dressings entirely undisturbed. The hand was kept wrapped in an abundance of cotton and resting for six days and nights on a hot-water bottle at 125 Fahrenheit. Union was complete throughout on the little finger. Slight slough took place in the center of the ring finger flap, but not enough to be serious. The fingers were kept extended by splint for three weeks. The tendency to contraction was very slight indeed when last reported. This is the first case in which I have attempted to transplant bodily so large a piece of skin, and the first in which I know of sutures being used to retain a graft.

The plastic face cases are by far the heaviest and most extensive I have undertaken, and the worst I know to have been closed by any form of plastic procedure.

A NEW DRY SURGICAL DRESSING.

ALBERT C. BARNES, A.M., M.D.

Late of Pharmacological Institute, University of Heidelberg: Member of American Therapeutic Society.

AND

HERMANN HILLE, Ph.D.

Late of Chemical Institute, Heidelberg; Formerly Assistant, Physiological Institute, Würzburg.

PHILADELPHIA.

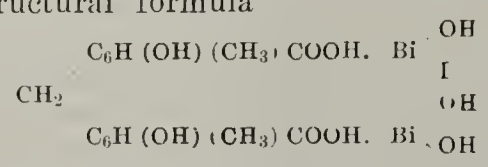
Whatever interest the manifold substitutes for iodoform may have for the surgeon or dermatologist, they are too similar in chemical construction and attributes to claim the serious attention of the scientific pharmacologist familiar with the laws of the relationship between chemical constitution and physiologic activity; the latter knows that clinically they must be of practically identical worth and have all the same limitations, disadvantages or dangers. Surgeons employ the odoriferous, toxic, non-antiseptic iodoform in the treatment of infected wounds because they know that not one of the substitutes is of equal value in cleaning the wound of the products of septic and necrotic processes and in stimulating healthy granulation. Aside from the stigmatizing odor of iodoform, the need of a substitute therefor has received additional emphasis by the fact that within comparatively recent times surgeons everywhere have frequently recorded more or less severe forms of headache, with or without anuria or albuminuria, which were clearly ascribable to the local use of but moderate quantities of iodoform.

Practically all of the iodoform substitutes thus far proposed belong to one or the other of two classes and have, therefore, certain advantages and disadvantages. The first group comprises those which, like iodoform, depend for their activity upon the presence of iodin loosely combined chemically so that free iodin is eliminated by contact with the wound secretions. The best known of these is aristol (dithymol diodid), which is of certain value in a limited number of cases but which is too easily decomposed and too expensive to employ even if it fulfilled the requirements of a satisfactory dressing. Clinically the antiseptic and granulation-stimulating properties of free iodin are desirable, but there are other striking indications for treatment in infected wound surfaces which are not met by these iodin-bearing powders.

To the second group of iodoform substitutes belong the large number of bismuth compounds, depending for their activity upon bismuth which, as is well known, acts as a protective and diminishes secretions. Kocher of Bern employed and recommended bismuth subnitrate as a dressing for wounds attended with pus formation and excessive secretions. Hans Meyer of Marburg showed that the drying effect of bismuth is due to the mechanical plugging of the blood and lymph capillaries by minute particles of bismuth and that, anatomically considered, the effect is analogous to the healing which takes place under a scar. The newer organic bismuth compounds are of value clinically because they diminish wound secretions in the manner above indicated, but are possessed of but feeble, if any, antiseptic power and have no stimulating effect upon granulation; this is true not only of dermatol (subgallate) but also of the host of other bismuth compounds that have been offered under fanciful names.

By application of the newest procedures of synthetic chemistry, the writers have endeavored to produce a substitute for iodoform that would chemically, pharmacologically and clinically, possess the attributes which the teachings of modern surgery assert are necessary to meet the indications for treatment in infected wounds. Such a powder should be antiseptic, astringent, sedative, desiccating, stimulating to granulation and non-toxic. From a chemical standpoint the first step is to combine, synthetically, bodies which will gradually dissociate when brought in contact with wound secretions and thereby unfold their chemical and physiologic effects. We produced a series of compounds, all entirely new definite chemicals, and studied their chemical, pharmacologic and clinical properties. The essential features of one of these compounds, monoiodid-di-bismuth-methylene-dicresotinate produced for the first time by ourselves, are herewith briefly presented. This body is synthesized from cresotinic acid, formaldehyde, bismuth hydroxid and iodin in the following manner: Creosotinic acid, the least toxic and strongest antiseptic of the phenol group, is treated with formaldehyde and the thereby resulting methylene-dicresotinic acid is chemically com-

bined with iodin and bismuth hydroxid. This yields monoiodid-di-bismuth-methylene-di-cresotinate which has the structural formula



This body is a pink, impalpable, odorless, tasteless and insoluble powder containing 45 per cent. of bismuth, 15 per cent. of iodin and 3 per cent. of formaldehyde. It is a well-known chemical law that when iodin and formaldehyde are combined, as they are in this body, they are dissociated in *statu nascendi* from their combination under the chemical and physical conditions present on wound surfaces. This evolution of free iodin and free formaldehyde takes place *gradually,* as can be easily demonstrated. The effects of this powder on a wound are those of bismuth, iodin, formaldehyde and cresotinic acid, i. e., antiseptic, astringent and alterative. The clinical use of the powder was preceded by bacteriologic tests and experiments on animals. Administered to dogs in doses of two grammes (30 grains) three times daily, it produced no toxic symptoms; the only effect noted was the production of constipation. The organisms of pus, as well as cultures of colon and typhoid bacilli, kept at 40 C. for from three hours to two days in contact with the powder, show no growth upon transplantation to fresh culture media; this fact illustrates the long-continued antiseptic power due to the gradual splitting off of the constituents.

For six months past the powder has been in constant daily use in several hospitals as a dressing after operations and in the general class of out-patient surgical cases in which are present active inflammatory processes accompanied by disorganization of tissue and excessive discharges. In the post-operative cases, union by adhesion or first intention was obtained in every case. Its use in infected wounds (burns, scalds, abscesses, suppurating surfaces, leg ulcers, etc.) showed remarkable effects in checking pus formation, drying secretions and in promoting granulations. In the out-patient surgical department of the Pennsylvania Hospital where the powder has been tried side by side with iodoform, aristol and several other dusting powders, it was noted that it uniformly cleans a wound better than any of the others, has an equal if not greater influence on granulation and induces more rapid healing. In no case have toxic effects of any kind resulted nor has it been necessary to discontinue its use because of disagreeable symptoms. This powder is interesting from a purely scientific standpoint because it is a new synthetic compound; clinically it is interesting because it is a compound of bismuth, iodin and formaldehyde so combined chemically that its active constituents are slowly split off, so that their effects are long drawn out and are not irritating or toxic. A detailed clinical report of the cases treated with the powder will be published later.

Ice or Heat for Local Application.—*Memorabilien* quotes Ewart to the effect that he has frequently found ice effective in painful articular rheumatism, arthritis and other affections which were aggravated or at least not improved by the application of heat. He rubbed the aching part with a smooth piece of ice and found that this gentle massage and cold cured a number of cases of acutely painful rheumatic arthritis of the hip-joint which had resisted all medicinal treatment and even baths of hot air. He also found that it relieved at once the severe pleuritic pains at the base of the lung in a number of cases of acute pneumonia.

NEW METHOD OF ANCHORING THE KIDNEY—A PRELIMINARY REPORT.

BYRON B. DAVIS, M.D.

Surgeon to Immanuel Hospital, Professor of Principles of Surgery and Clinical Surgery, Omaha Medical College, etc.

OMAHA, NEB.

If a multiplicity of methods is an indication of unsatisfactory results, nephropexy must be the least satisfactory operation known to the surgeon. Dozens of methods have been exploited, each with a claim of superiority, but all based on four cardinal principles.

1. In April, 1881, Hahn reported his first cases of nephrorraphy for movable kidney. The sutures were passed through the fibrous capsule proper, the kidney being fastened to the edges of the deeper structures of the lumbar wound. Many slight modifications of this method have been made, but the principle of all has been the same as that originally used by Professor Hahn.

2. The method of decortication. Tuffier was the first to practice this method. He dissects off a portion of the posterior surface and convex border of the proper capsule of the kidney, and the organ is held into the wound by sutures, thus obtaining direct union between the deep muscles and fascia and the parenchyma. Jacobson modified this operation by dissecting off a flap of the fibrous capsule and stitching it to the lumbar fascia and muscles. Others make a double flap of proper capsule and suture each flap to the respective wound edges.

3. Senn's ingenious method, by which the kidney is held in position by a sling of gauze about the upper and lower poles, and the whole wound allowed to heal by granulations, is now one of the recognized principles of treatment of this troublesome disease.

4. Vulliet's method of making use of a strip from the tendon of the erector spinæ muscle to underrun the fibrous capsule, the free end of the strip of tendon being then attached to the muscle, illustrates a fourth principle in the treatment.

DISAPPOINTMENT FROM ALL METHODS.

Surgeons have been much disappointed in the results of all these methods. Relapses are frequent and the more carefully one follows up the after history of his cases, the less confidence he is likely to have in his results. I know of some of my cases that have relapsed and have been impressed with the number of cases that have come to me with freely movable kidneys and bearing the scar of a previous operation done by well-known skilful surgeons. The adhesions between the true capsule and the lumbar structures are not likely to be firm. They become stretched in time and the kidney is likely to become as movable as before. The same may be said of the Senn method. No matter how firmly the kidney is held in place by the cicatricial tissue at first, we all know the later history of cicatricial tissue and there is no reason to suppose that in this region it will behave in any different manner than usual. All know the fate of large numbers who were subjected to the McBurney operation for hernia a few years ago, the plug of cicatricial tissue acting well for a time, but finally softening and stretching, allowing relapse of the hernia. Another theoretical objection to the Senn method is the effect of so much scar tissue upon so delicate an organ as the kidney.

Flaps of the true capsule stitched into the wound have appealed to me as being the best of the tried methods. But even here we have to trust to the adhesion between capsule and wound structures remaining intact without

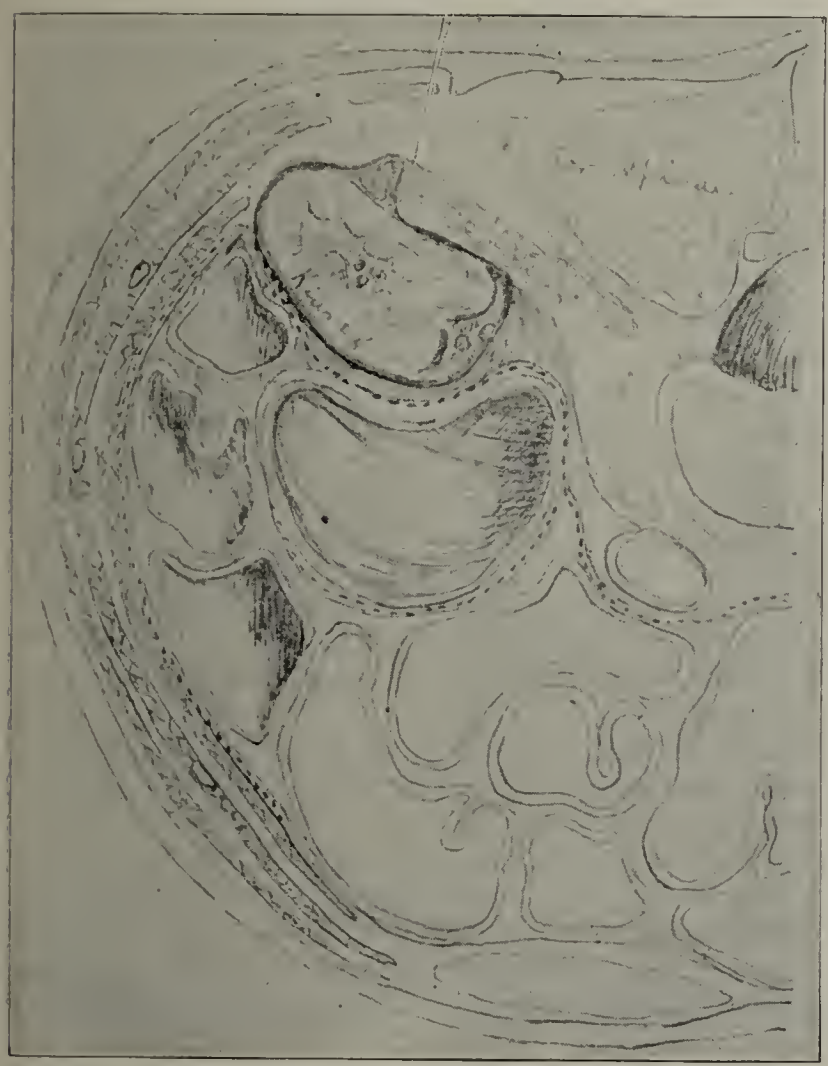
stretching. Results show that even after this operation there are frequent relapses.

NEW METHOD BY MUSCULAR ATTACHMENT.

The use of a tendon of the erector spina appeals to me as better than the others described, except that it is difficult of execution and there is a question whether the free end will remain firmly fixed to the muscles. The method I wish to propose can best be explained by a report of the only operation yet done by this technique.

A. J., an unmarried female, aged 21, has frequent gastric crises and constant lumbar pain, especially on the right side. She lost 25 pounds in weight during the past year and is very anxious for relief. On examination, the right kidney is found freely movable, falling so low that the upper pole can be felt on bimanual examination. The left kidney is also somewhat movable. She entered Immanuel Hospital Nov. 9, 1901, and an operation was performed on the right side November 11.

Quadratus lumborum.



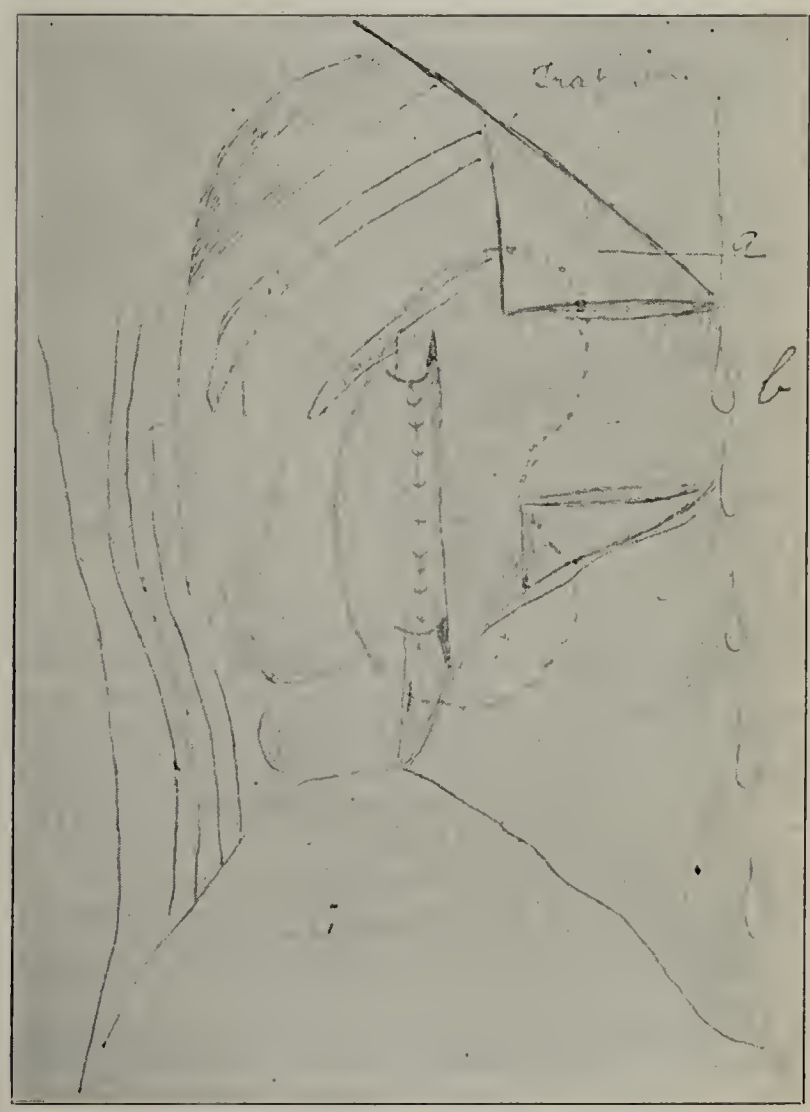
The incision extended from the lower rib to near the crest of the ilium, a hand's breadth to the right of the spinous processes of the vertebræ. The fatty capsule was reached just anterior to the outer border of the quadratus lumborum and was opened and a large part of it trimmed away. The kidney was pushed into place by a cylindrical pad placed under the abdomen.

DETAILS OF THE PROCEDURE.

When the kidney was well exposed, an incision was made through the proper capsule from two cm. below the upper pole to a point two cm. above the lower pole. This incision was placed vertically on the posterior surface near the convex border. The capsule was stripped loose from the kidney substance for a distance of three-fourths of an inch anteriorly and posteriorly to the incision in the capsule. From the upper and lower extremities of the vertical incision a perpendicular incision three-fourths of an inch long was made through the capsule, this giving two flaps of capsule three-fourths of an inch wide by about two and one-half inches long.

Next a strip—the thickness of a little finger—of the other border of the quadratus lumborum muscle was split from the remainder of the muscle, the fibers being separated by the handle of the scalpel. This separation extended from the muscular attachment to the twelfth rib downward for two and one-half inches, or the slip in the muscle was made as long as the length of the capsular flaps before described.

An artery forceps was passed through the slit in the muscle, made to grasp the free border of the posterior flap of the kidney capsule and then withdrawn, bringing the flap of the kidney capsule through the slit in the muscle. The two capsular flaps were next brought together over the bundle of muscular fibers thus isolated from the border of the quadratus lumborum, and stitched



a, Erector spinæ. *b*, Quadratus lumborum.

together with a running suture of fine chromicized catgut, the needle being allowed to penetrate the muscular bundle at two or three places. The lumbar wound was next closed by tier sutures of catgut, the skin wound being closed with horse-hair. Aside from a slight infection, the wound did well.

The patient never had a temperature above 99 2/5 degrees, was up on the twenty-second day and the kidney thus far is in place and the patient freed of her former symptoms. It is, of course, too early to predict the final results.

This method is reported because it seems to me to represent a new principle in treatment. We have here a portion of muscle which can not become loosened from the kidney, and which continues its own physiological function. I can see no way of the kidney thus anchored becoming loosened.

It has occurred to me that possibly the contraction of the muscle may give rise to pain or inconvenience. Inasmuch as by all the older methods, the effort has been made to effect as close an organic union as possible between the kidney and the deep lumbar muscles and fascia, and the more close the union the better the results were considered, I can see no objection to the method here proposed.

After writing the above, I found in the *New York Medical Journal* of Dec. 7, 1901, a short article by Carl Beck, New York, "On a New Principle in Nephropexy," which I take the liberty of quoting: "The principle of this—as it seems to me—new procedure consists in suspending the kidney after having buttonholed it, on the fibers of the nearest muscle. I may be permitted to give the following preliminary report: In a woman of 24, the right movable kidney, after being exposed by a lumbar incision, was perforated near its lower pole by a trocar of moderately large size, a procedure which caused but little hemorrhage. The margin of the spinalis dorsi muscle was incised then and a bunch of fibers, just large enough to pass the renal buttonhole, mobilized. By a Pean forceps, this band-like muscular flap was drawn through the renal hole made by the trocar. Then the end of the flap was fastened somewhat below its former muscular bed by iodoform-silk sutures. Thus the kidney was held *in situ* only by living tissue. There was no reaction and the operation seems to be a success."

The principle of this method is the same as my own, an effort to hold the kidney in its fixed position by living muscular tissue. But in my method there is, first, not so much traumatism to the kidney substance as in Beck's; second, in my method the muscular fibers are none of them cut, but remain intact and able to perform their functions as before.

NOTE.—After the publication of an abstract of this paper I received a reprint of an article published in the *Medical Record* by Dr. J. F. Baldwin of Columbus, Ohio. I had not heard of his method of anchoring the kidney and his article had been overlooked. My method is so similar to his that I am glad at this time to acknowledge his priority, though the method devised by me was entirely independent of his work along this line. B. B. D.

THE WORK OF THE DIGESTIVE GLANDS (PAWLOW) AND ESTIMATION OF PEPSIN DIGESTION BY MODERN INSTRUMENTS OF PRECISION.

FRANZ A. R. JUNG, M.D.
WASHINGTON, D. C.

One of the most noteworthy contributions in the line of investigations of the digestive process is without doubt Pawlow's recent book, "The Work of the Digestive Glands." It is originally written in Russian and translated into German by Dr. Walter, "Die Arbeit der Verdauungsdrüsen."

An English translation has not yet appeared; it may not, therefore, be out of place to mention briefly some of Pawlow's main achievements. He resorted to an original method of research by forming a sack from part of a dog's stomach, fastening it outside the abdomen and taking care to keep the innervation perfectly intact. Processes going on in the stomach could be observed in the sack without being interfered with by the presence of food. He found that there exists a perfect relation between the amount of food taken and the quantity of gastric juice secreted; the more food, the more juice.

The secretion of gastric juice and pancreatic juice occurs in the form of a curve gradually increasing and then decreasing. The glands furthermore produce a juice of a different chemical composition with more or less pepsin ferment or with a variable amount of different ferments as is the case in the pancreatic gland. On the other hand, the degree of acidity of the gastric juice is constant and does not vary. Oscillations occur with an increased quantity of the juice and with neutralization by mucus. A specific action of the gastric glands is observed after a mixed diet as well as after feeding on a single article of food. This specific action pertains to the properties of the juice, to its quantity, its course and duration of secretion. After eating bread the juice shows the greatest peptic strength; next in order comes meat and at last milk. The so-called gastric bread-juice contains four times as much ferment as gastric milk juice and is four times as concentrated.

The acidity is highest for meat and lowest for bread. The hourly intensity of the work of the glands is about the same for milk as for meat and is much smaller for bread. But bread requires a longer time for work. A characteristic change in the properties of the juice takes place with every variety of food. Also a certain hourly process of secretion is observed to correspond to the kind of food ingested. With meat there is a maximum of secretion during the first or second hour, the quantity of juice being alike in both hours. With bread there is a maximum during the first hour, and with milk during the second and third hour. The juice is strongest during the first hour after meat has been taken, after bread during the second and third, and after milk it becomes strongest after the third hour. After bread a more concentrated juice is secreted, thus avoiding an increase of the quantity of the juice and thereby an excess of HCl. The total quantity of juice after bread diet is not much larger than after milk, but it is extended over a much longer time, so that the hourly amount of juice after bread is one and one-half times less than after milk or meat. HCl, as is well known, would prevent the conversion of starch.

In order to obtain pancreatic juice a piece of the duodenum containing the pancreatic duct was sewed into the abdominal wound.

The pancreatic juice varies like the stomach juice in regard to its quantity. It contains its three ferments in different percentages after different foods. Milk pancreatic juice has the largest amount of albumin ferment, whereas there is less in bread and meat pancreatic juice.

Amylolytic ferment shows the highest figures in bread juice, less in milk and meat juice. But bread pancreatic juice contains less fat ferment, while milk juice is rich in fat ferment. Meat pancreatic juice holds a medium position.

Vegetable albumin calls for the largest amount of ferment from the pancreatic gland as well as from the stomach, whereas milk albumin calls for little. The stomach pours a concentrated ferment over the bread, the pancreas a very diluted one.

Without any doubt there is a distinct adaptation of the juice to the food. Starchy food gets more amylolytic ferment and fatty food more fat ferment.

The next part of Pawlow's work shows that the nervous vagus possesses secretory fibers for the stomach and pancreas. At the same time, it also has an inhibitory influence. Pawlow proved furthermore that after cutting the esophagus and feeding the dog, a flow of gastric juice occurred just as if the food had reached the

stomach. This flow, however, did not occur after the cutting of the nervi vagi. If the dog with a cut esophagus is fed on stones, sand, acids, etc., no stomach secretion takes place. This proves that the appetite, the desire for food and the feeling of satisfaction during its consumption helps to promote the flow of gastric juice. This flow occurs even when the meat is only shown to the dog but is not actually swallowed by him. Appetite is the equivalent of a certain quantity of gastric juice at the beginning of the meal.

The continuance of the flow of gastric juice is not a simple result of mechanical irritation. Meat juice, bouillon and extract of meat proved to be powerful promoters of secretion, and to some extent even water had its influence. When bread or eggs are eaten without appetite, they lie like stones in the stomach without any digestion taking place. The appetite-juice is the initiative of the secretory process; this first juice produces the setting free of chemical substances contained in the albumin of the bread and has the same effect as meat extract, etc. Those extractive substances cause the further flow of gastric juice and finish the digestion. Fat diminishes the flow and the digestive power. Egg albumin alone and starch alone do not cause any secretion of gastric juice.

With the exception of the psychic secretion, the secretory work is a reflex act in which the promoters of secretion irritate the peripheral ends of the centripetal nerves. HCl causes the flow of the pancreatic juice by reflex action as soon as it appears in the duodenum. Starch does not stimulate the pancreatic secretion but increases the percentage of amylolytic ferment. Fat promotes secretion of pancreatic juice and increases the percentage of fat ferment. Sleep does not inhibit the action of the pancreas. Water produces a distinct secretion in the pancreas as well as in the stomach. Alkalies diminish the pancreatic secretion. Pawlow explains the action of amara (bitters) as appetizers. Table decorations, pleasant odors of the food, etc., are helpful as appetizers. Food as well as water must have a pleasing appearance, flavor and taste in order to cause psychic digestion.

Bouillon as a first course is the most important chemical promoter of secretion. Acid as medicine promotes pancreatic secretion. Milk is an exceptionally good food because it needs an extremely low degree of digestive work. Alkalies retard digestion, thereby producing times of rest for otherwise continually working organs.

Pawlow published about a year ago a second paper: "The Experiment as a Timely and Uniform Method of Medical Investigation." Again, he emphasizes the complete adaptation of the work of the digestive glands to the food. In regard to the salivary glands, he found that the mucin glands secreted a thin watery saliva with only traces of mucin upon the introduction of any indigestible substance, whereas eatable things caused the secretion of a more tenacious saliva with much mucin in order to make the food slippery. Further, the drier the food, the more saliva there is. Stones, ice water, etc., will not promote saliva. No purely mechanical or chemical stimulus will promote saliva. But give the dog sand or acids and large quantities of saliva will flow because the sand can not be swallowed otherwise and the acids will not be diluted without it.

Pawlow speaks of a psychology of the salivary glands. By sentiments, wishes and thoughts, often almost unconsciously, we influence the constant physiologic functions of the body. Water, acids, raw eggs and cooked starch do not influence the flow of bile, but fat increases the amount of bile, as do the extractive substances of meat and the products of albumin digestion. The value of the bile lies in the fact that its addition doubles and triples the action of the pancreatic juice. It is especially the fat ferment which thus becomes strengthened. Bile stops the action of pepsin. Pepsin is dangerous to the ferments of the pancreas. Bile favors the action of the pancreas; it introduces the intestinal digestion. The juice of the smaller intestines proved to be an additional help to the action of the pancreatic juice; it increases the action of all the ferments, but especially that of the albumin ferments. The acid foods having passed the pylorus, produce by reflex a temporary closing until they have become neutralized. Those evacuation movements cease while the dog is actually feeding or has food shown him.

Catarrh of the stomach, experimentally produced by nitrate of silver solutions, showed a condition of asthenia and irritable weakness. The production of gastric juice was at first higher than normal and later on much lower. The average juice production was only two-thirds of the normal. The gland is made irritable and tires more readily. Pawlow recommends, therefore, according to his findings, the use of meat extracts and alkalies.

Before considering the results of Mett's method of determining the amount of pepsin digestion by means of capillary tubes, I would like to briefly mention the method of Hammerschlag: Fifteen grams of albumin are dissolved in 1000 c.c. of warm water and filtered. Then HCl is added until 100 c.c. contain 0.394 HCl (18 c.c. of HCl P.G. to one quart). Use two Esbach tubes, mix 10 c.c. of Hammerschlag's solution with 5 c.c. of gastric juice. Take 10 more c.c. of Hammerschlag's solution and mix with 5 c.c. of water. Fill each tube to the letter U; place the tubes for one hour in the incubator; then fill the tubes to the letter R with Esbach's solution; let the tubes stand for 24 hours. The difference in the amount of precipitated albumin corresponds to the amount digested.

Schüle, Gintl, Kövesi, Troller, Bachmann and Schiff have published their experience with this method. There have been several criticisms of this method, all of which have been repulsed by Schiff. Yet there is no doubt that the method can only have the value of an estimation. In cases of very feebly digesting juices, the presence of albumin in the gastric juice itself will give too high a figure, so that a weak digestive power will not be recognized. Schiff admits this.

The normal figures showing the percentage of pepsinogen with Hammerschlag's method and according to various authors are as follows: Gintl, 85-96 per cent.; Troller, 75.90 per cent.; Schiff, 60.68 per cent.; Schüle, 44.78 per cent.; Kövesi, 50.60 per cent. The opinion of Gintl in regard to the pepsinogen secretion is as follows: "A decided diminution of the value of free HCl to zero and even to negative values does not necessitate a similar condition of pepsin. With a deficit of HCl, there can yet be a comparatively high value of pepsin. He finds no characteristic pepsin secretion in ulcers, cancer, etc. Values from zero to normal may be found under these circumstances.

Kövesi finds between HCl and pepsinogen secretion there is no parallel. In sub- and an-acid juices, the quantity of the pepsinogen with few exceptions is smaller, but not quite proportional and adequate to the quantitative diminution of HCl. Destructive processes of stomach tissue influence the pepsinogen secretion less

than that of HCl. He finds the pepsinogen secretion normal in ectatic and atonic conditions but not in cancer. Troller says: In cases of chronic anacidity we can yet find a moderate pepsin and rennet production. Schiff considers that there is no parallelism between HCl and pepsin secretion. The latter is able to resist disease much longer than the secretion of HCl. In hypo- and ana-chlorhydria he finds no parallelism. His three cases of achylia gastrica simplex showed no pepsin digestion. In cases of cancer he always found severe diminution of pepsinogen production. In hyperchlorhydria he found normal, not increased values of pepsin. If we do not consider minor differences, we find that all investigators begin to realize that HCl secretion differs from pepsinogen secretion. The former is much more oscillating. We now speak of a pepsin question.

Pawlow's assistants do not make use of Hammerschlag's method. They prefer that of Mett, which I wish to describe here in Pawlow's own words: "The methods used for analysis of the digestive juices were as follows: The albumin digestive power of the juice was tested according to Mett. This method has been perfected in our laboratory and has since been in constant use. Glass tubes with a lumen of 1-2 mm. are filled by suction with liquid egg albumin, which is then coagulated at a temperature of 95 C. Then the glass tube is cut into small pieces; these are soaked in 1-2 c.c. of the liquid which is to be tested. These preparations are placed for 10 hours in a thermostat at the temperature of 37 or 38 C. If the albumin dissolves, this process occurs at the two ends of the glass tubes. At the end of the 10 hours, one measures by the aid of a millimeter scale and a low-power lens, the length of the entire tube and the length of the column of coagulated albumin which has not been digested. The difference in numbers expresses in millimeters, or its fractions, the length of the digested albumin column. This method leaves nothing to be desired in facility of its use, objectivity and a precision of its results. Special experiments by Dr. Ssamojloff have shown that the digestion of the albumin columns within the first 10 hours by using the juices at our command, corresponded absolutely with the duration of the digestion proper. This was the case even if the juice had the greatest digestive power. This experiment weakens the very natural suspicion that the digestion of albumin in the glass tube could not take place with equal rapidity at the different depths of the tube, owing to the greater or smaller collection of digestive products filling the lumen. Consequently we obtain an accurate measure of the digestive power of the different juices by the length of dissolved albumin in the cylinder at the same given time.

Borrissow in making his experiments in the laboratory of Professor Tarchanoff with this method clearly proved the underlying relation existing between the length of the digested albumin cylinder and the amount of pepsin contained in the examined juice. The following law resulted. In the digestive juices under observation the quantity of pepsin is like the square of the rapidity of digestion, that is, like the square of the millimeters of albumin cylinder, which were dissolved in equal time by the juices. We will illustrate this law by an example. If one juice has digested 2 millimeters and the other during the same given time, 3 millimeters, the relative quantities of pepsin of these juices are not expressed by figures 2 and 3, but by their squares, namely, 4 and 9. The difference is clear; according to the millimeter scale calculation, the second juice would contain one and one-half times more ferment than the first; according to our law, however, in taking the square of the digestive numbers the second juice is two and one-quarter times stronger than the first. Naturally many experiments have been made with exact artificial pepsin solutions before deducting the above law.

Borrissow arrived at his conclusions independently of Schutz, who had published before him his experiments, which, although entirely different, yet gave the same result. Schutz made polarimetric determinations of quantities of pepsin as resulting from the digestion of albumin. The absolute similarity of the results with such entirely different methods of investigation furnish a guarantee of the exactness of this law. Here I wish to express my regret that the method of Mett, although published and advocated as long ago as 1889, has not yet found the widespread use and appreciation which it so well deserves. How easily could it be made the universal method of determining albumin-digestive ferments, in order to make all experiments with these ferments capable of comparison, and no one will deny that this would be highly desirable.

With such a universal method, all juices of the different animals or men could be represented by a universal scale, and this might lead to important conclusions relative to the oscillations of ferments of different individuals, species and genera. We have yet to state that with Mett's method, the different diameter of the lumen of the glass tube is without consequence, and also that egg-albumin is of sufficiently stable composition to warrant its use as a test effect.

Linossier, who has examined the Pawlow-Mett method carefully to test its usefulness, considers it by far the best. He does not think the fine subdivisions of the scale into 0.01 mm. desirable, and prefers a scale indicating only 0.5 mm. Of the egg albumin he only uses the more liquid portion. For the closing of the glass tubes he recommends paraffin.

Roth allows the juice to work on the albumin for 24 hours. As shown above, Pawlow gives good reasons for preferring 10 hours; Schiff, therefore, criticises Roth's results, which are: average duration of digestion 4.5-5 mm. He does not agree with Pawlow and Linossier in pronouncing the method absolutely exact; yet he admits that it gives the best results. Oscillations of 2 mm. maximum are rare. His objection to Hammerschlag's method is that differences of one-half pro mille can be the fault of the method as well as the result of correcting the digestion. With Mett's method 0.1 mm. shows digestion beyond any doubt. Roth also admits that the digestion is only, very generally speaking, proportionate to the quantity of HCl, yet there are cases of sub- and an-acidity with a comparatively better pepsin digestion, although Oppler states the contrary.

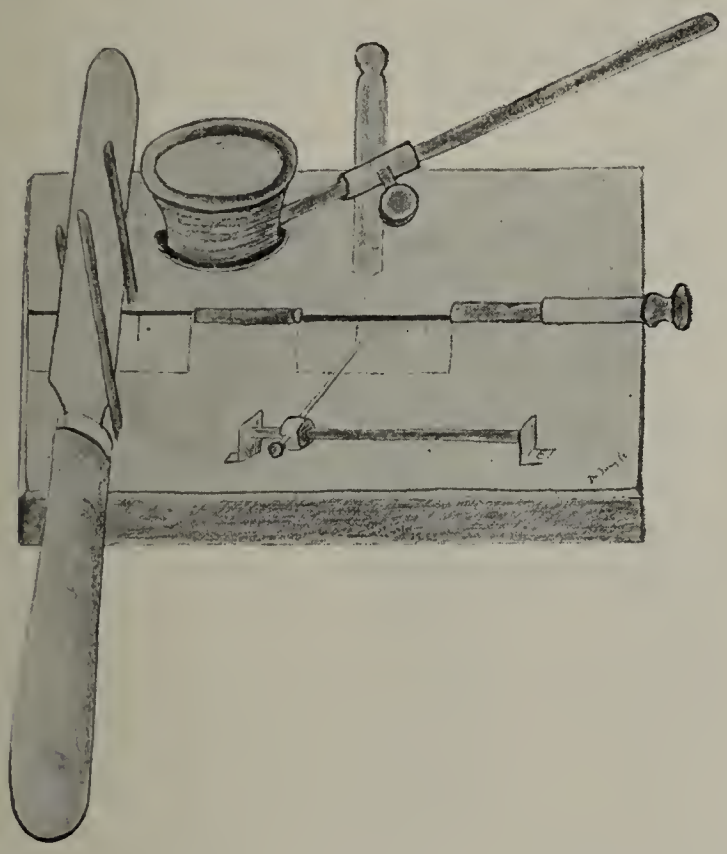
Roth found juices which surpassed the normal digestion. In three of his cases, this was the only pathologic finding to account for the dyspeptic symptoms. This author states that uncomplicated cases of hyperchlorhydria show no special increase of pepsin, yet two of his values for superacidity lie above the normal maximum. For purposes of therapy, Roth considers the method of Mett of importance. In order to improve the digestive values, he tried to give the normal acidity to the juices under examination, but he did not succeed in all cases and Schiff blames the method.

I would like to state here concerning the cases enumerated, that all figures of atrophic catarrh (7), all those of gastritis chronica (4) with only one exception

(3), all figures of carcinoma (15) with one exception (14), are either raised or not altered. All gastric crises are altered until correct (5), and in 17 atonics there are only 4 mistakes (13). I would say that in superacidity, we are not able by the mere addition of alkalines to raise or diminish the figures of pepsin. This corresponds to the recently discovered fact that the pepsin digestion need not correspond to the values of HCl.

Roth gave in 18 out of 94 cases Hammerschlag's figures, but he drew no comparison, and says that an accurate comparison can not be made since Hammerschlag's method is only one of estimation. I believe Dr. Schorlemmer of Berlin will soon publish a series of comparative pepsinogen estimation with both methods, which will serve to determine their relative value. For absolute precision and from a mathematical point of view the method of Mett must be considered a better one.

Pawlow says that the lumen of the tubes should be 1-2 mm. I have tested tubes of 4 different sizes and thought at first that capillary tubes with very fine canals would show a finer graduation. This was not so. The following figures will show that tubes below 1 mm. indicate rather low numbers. The reason for this seems to be the difficulty of the outflow of the digested albumin. The area of a circle varies as the square of the radii: a : a = r^2 : r^2; therefore, 0.4 : 1.0 : 1.5 : 2.0 = 4 : 25 : 55 : 100.



A glass tube with 1 mm. lumen therefore has a capacity for outflow more than 6 times greater than a tube with 0.4 mm. diameter. On the other hand, a tube with 1.5 mm. lumen has only double the outflowing capacity of a tube with a 1 mm. lumen.

0.4 mm. lumen.	1 mm. lumen.
1st case 1.8 to 1.6	2.1 to 2.2
2d " trace	0.4
34 " 0	0.2

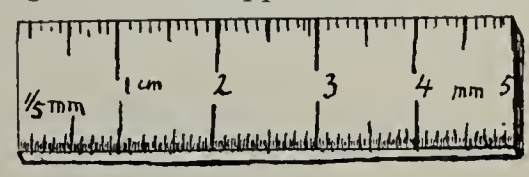
Then I tested tubes with apertures of 1 and 1.5 mm. The result showed that both worked practically alike:

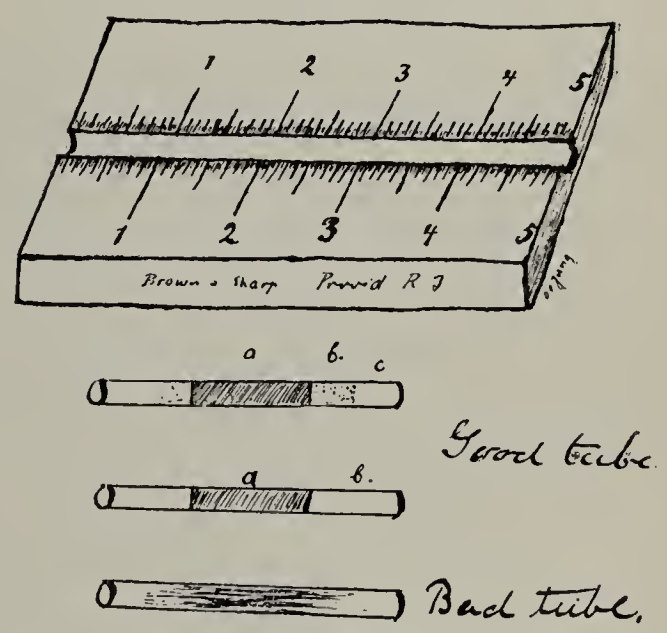
	1 mm.	1.5 mm.
1st.....	1.6 + 1.8 = 3.4	2 + 1.4 = 3.4
2d.....	0 + 0 = 0	0 + 0 = 0
3d.....	1.8 + 1.8 = 3.6	1.6 + 1.6 = 3.2
4th....	0.8 + 0.8 = 1.6	0.8 + 1.2 = 2.0
5th....	3 + 2.6 = 5.6	2.6 + 2.8 = 5.4
6th....	2 + 2 = 4	2 + 2 = 4

These six random cases show that 1 mm. tubes give practically the same results as 1.5 mm. tubes. There was noticed, however, a difference in albumin only two days old and albumin one week old:

1.5 mm. 2 days old.	1.5 mm. 7 days old.
2 + 2 = 4	3 + 3 = 6
1 + 0.8 = 1.8	1.4 + 1.2 = 2.6

Dr. Schorlemmer of Berlin has constructed a suitable apparatus and allowed me very courteously to have it duplicated by Hermann Rohrbeck in Berlin, which kindness is hereby gratefully acknowledged. The advantages of this instrument are that one can both measure and cut with it. On the left is a knife with a scale underneath, enabling one to cut off pieces of exactly 3 mm., which after digestion has taken place can be measured on a graduated glass scale. The tubes are kept in place by a spring. In order to distinguish 0.5 mm. a lens of 2 or 3 times magnifying power is applied. I found it difficult to get always the best light on the scale, which also seems to be too short, being only 3 mm. in length. If it happens that a tube is a few fifths of a millimeter longer than the ruler, the measuring on one side will not be correct unless one reverses the ends. Since the knife has always a slight inclination to oscillate it does not always cut off exactly a piece 3 mm. in length. In order to overcome this difficulty, I resorted to a simpler arrangement where the graduation is not made upon a glass slide, but upon steel, which is indestructible and can be cleaned. Furthermore, it is 5 cm. long, divided into 0.2 mm. and the scale is plainly visible by simply placing the tube into a rounded depression made for this purpose and reading the markings of both ends through a magnifying glass. I even use a simple steel ruler with 0.2 mm. graduation which I place on a black background and put the tube alongside of it. These instruments were made to my satisfaction by the firm of Messrs. Brown & Sharp Manfg. Co., Providence, R. I.





As soon as a glass tube filled with coagulated albumin has been opened, the atmospheric influences begin to work and destroy the solidity of the albumin column. It is necessary to use an egg albumin of equal consistency for filling the tubes. It ought to be either the more liquid part or the more solid part, care being taken

not to mix both in the same tube. The tubes should not be opened before they are 3 days old. They should be kept well closed at both ends either with cotton or rubber caps. Just before use, a tube is cut into suitable pieces, care being taken to use only tubes free from air bubbles. I prefer after all experiments a tube with a lumen of 1.5 mm., which shows, as we have seen, the same measurement of the digested parts and has the advantage over the 1 mm. tube of being more easily read. The larger tubes show sharper markings, because the digested portion of the albumin column can flow out more readily. This difficulty was well marked with 0.4 mm. tubes; if the edges are not sharp the albumin column has not been of equal consistency. The best tubes show 3 zones: 1, albumin, sharply cut; 2, a fine hazy cloud; 3, clear glass; or 2 zones: 1, albumin, sharply cut; 2, clear glass.

Two tubes are always placed into 0.5 c.c. gastric juice and the average digestion of both is taken as the result. A ruler of the finest graduation of fifths of millimeters being employed, the accuracy of measurement to millimeters and even half millimeters is guaranteed.

Case No.	Diagnosis.	Mathieu. c.c.	Total acid	Free HCl.	HCl Def.	Mett. Diameter. 1 mm.	Mett. Diameter. 1.5 mm.	Hammerschlag.	Rennet. Zymogen.
1	Enteroptosis		60	24	.	. . .	3.8		
2	Gastroptosis, eructatio nervosa	. .	56	24		. . .	2.2		
3	Catarrh ventri, chronic	. .	58	14	.	. . .	. . . .	57	
4	Catarrh chronicus, atonia	240	16	0	.	. .	. . . .	17	pos. 1:160
5	Cat. chronic, insuff., mitral, atonia	200	22	0	32	. . .	0.1	25	pos. 1:80
6	Epilepsy, atonia, pylorospasmus(?	292	48	22	.	. . .	9.5	46	
7	Enteroptosis, catarrh chronicus		34	0	18	. . .	0.5	20	
8	Atonia, catarrh. chronicus	230	30	8	.	. .	0.25	16	
9	Enteroptosis, superacidity	. .	96	58	.	. . .	10.	70	
10	Enteroptosis, colitis chronica, ovaries removed	86	34	.	.	. . .	4.7		
11	Superacid. nervosa	96	66	.	.	. . .	5 6		
12	Enteroptosis	82	22	.	.	. . .	2.8		
13	Catarrh chronicus	. .	48	12	.	. . .	1.5	50	
14	Colitis membran., subacid. nervosa	. .	48	12	.	. . .	0.7	50	pos 1:160
15	Ectasia	274	44	8	.	. .	0.8		
16	Catarrh ventr		14	0	54	. . .	0.1		
17	Superaciditas nervosa	. .	74	32	.	4	6.		
18	Enteroptosis, constipatio chronica	. .	52	26	.	2 4	3.4		
19	Catarrh chronicus, vomitus matutinus	. .	35	15	.	3.4	3.4		
20	Subacid. nervosa, enteroptosis	. .	42	6	.	3.6	3.8	33	
21	Dyspepsia nervosa	. .	78	30	.	. . .	. . . .	47	
22	Dyspepsia nervosa, superacidity		74	60	.	. . .	. . . .	80	
23	Superacidity		84	52	.		11.	43	
24	Achylia gastrica	. .	16	.	58	0.2	0.2	17	
25	Gastrosuccorrhea superacid	340	54	42	.	. . .	10.8	67	
26	Atony	191	70	38	.	.	10.		
27	Tuberculosis pulm., catarrh ventr	. .	40	10	.	. . .	1.5		
28	Catarrh ventr. chronic	. .	62	8	.	. . .	0 4		
29	Atonia, subacidity	291	46	16	.	. . .	. . . .	50	
30	Diarrhea nervosa	. .	110	32	.	. . .	6.	60	
31	Chlorosis atonia	191	70	30	.	4.	3.6		
32	Catarrh ventr., chronic	. .	70		50	1.6	2.	75	pos. 1:160
33	Superacid. nervosa		92	64	.	5.6	5.4	59	
34	Atonia, superacid	182	94	56	.	3·6	3.5		
35	Superacid. nervosa	. .	72	30	.	. . .	1 0		
36	Superacid. nervosa	. .	100	66	.	. .	5.	67	
37	Gastroptosis, anemia	. .	82	32	.	2.	2.3		
38	Atonia, superacid	180	84	44	.	. . .	3.1		
39	Colitis chronica		74	42	.	. . .	5.2		
40	Atonia, superacid	230	82	46	.	. .	4.2		

I.

SUPERACIDITY CASES; METT'S METHOD.

Case No.	Total Acidity.	Free HCl.	Mm.
9	96	58	10
10	86	34	4.7
11	96	66	5.6
12	82	22	2.8
17	74	32	6.0
23	84	52	11.0
25	54	42	10.8
26	70	38	10
30	110	32	6
31	70	30	3.6
33	92	64	5.4
34	94	56	3.5
35	72	30	1.0
36	100	66	5
37	82	32	2.3
38	84	44	3.1
39	74	42	5.2
40	82	46	4.2
18 cases.			11 to 1 mm., average 5.5.

II.

CASES OF SUB- AND AN-ACIDITY; METT'S METHOD.

Case No.	Total Acidity.	Free HCl.	H.A. Def.	Mm.
5	22	. .	32	0.1
7	34	. .	18	0.5
8	30	8	. .	0.25
13	48	12	. .	1.5
14	48	12	. .	0.7
15	44	8	. .	0.8
16	14	. .	54	0.1
19	35	15	. .	3.4
20	42	6	. .	3.8
24	16	. .	58	0.2
27	40	10	. .	1.5
28	62	8	. .	0.4
32	70	. .	50	2.0
13 cases.				0.1 to 3.8 mm., average 1.9.

III.

METT'S METHOD; NORMAL ANALYSIS.

Case No.	Total Acidity.	Free HCl.	Mm.
1	60	24	3.8
2	56	24	2.2
6	48	22	9.5
18	52	26	3.4
4 cases.			9.5 to 2.2 mm., average 5.9.

IV.

SUPERACIDITY CASES; HAMMERSCHLAG'S METHOD.

Case No.	Hammerschlag.
9	70
21	47
22	80
23	43
25	67
30	60
33	59
. .	. .
. .	. .
. .	. .
7 cases.	80 to 43 mm., average 60.

V.

SUB- AND AN-ACIDITY.

Case. No.	Hammerschlag.
3	57
4	17
5	25
7	20
8	16
13	50
14	50
24	17
29	50
32	75
10 cases	75 to 16 mm., average 45.

VI.

HAMMERSCHLAG'S METHOD, NORMAL CASE.

Cases No.	Total Acidity.	Free HCl.	Hammerschlag.
6	48	22	46

VII.

Case No.	Mm.	Hammerschlag.	Diagnosis.	Total Acid.	Free HCl.	HCl Deficit.
23	11	43	Superacidity.	84	52	. .
25	10.8	67	Superacidity.	54	42	. .
6	9.5	46	Atonia nervosa.	48	22	. .
9	10	70	Superaciditas.	96	58	. .
30	6	60	Superaciditas nervosa.	70	30	. .
33	5.4	59	Superaciditas nervosa.	92	64	. .
36	5	67	Superaciditas nervosa.	100	68	. .
20	3.8	33	Subaciditas nervosa.	42	6	. .
32	2	75	Catarrh. chronicus.	70	0	50
13	1.5	50	Catarrh. chronicus.	48	12	. .
14	0.7	50	Subaciditas nervosa.	48	12	. .
7	0.5	20	Catarrh. chronicus.	34	0	18
8	0.25	16	Catarrh. chronicus.	30	8	. .
24	0.2	17	Achylia gastrica.	16	0	. .
5	0.1	25	Catarrh. chronicus.	22	0	. .

15 cases.

Case. No.	Hammerschlag.	VIII. Mm.	Free HCl.	HCl deficit.
32	75	2	..	50
9	70	10	58	..
25	67	10.8	42	..
36	67	5	66	..
30	60	6	32	..
33	59	5.4	64	..
13	50	1.5	12	..
14	50	0.7	12	..
6	46	9.5	22	..
23	43	11	52	..
20	33	3.8	6	..
5	25	0.1	..	32
7	20	0.5	..	18
24	17	0.2	..	58
8	16	0.25	8	..

15 cases.

From the above list, the following conclusions are drawn:

1. The normal values for the pepsin digestion are, according to Mett's method, 5.5 to 5.9 mm. (List I and III.)

2. With Mett's method, sub- and an-acidity have lower values than normal or superacidity (1.9 mm. is the average). They do not reach the average values of superacidity.

3. The diminution of pepsinogen does not run proportional with that of HCl. Even with a deficiency of HCl, the value of pepsin can be higher than that of mild subacidity. (List II.)

4. Superacidity, generally speaking, has high and highest values of pepsin, yet there are cases of unusually high HCl figures with disproportionately low pepsin values. This points distinctly to a pepsin question. Large quantities of HCl after a Boas test breakfast do not always include a free secretion of pepsin.

5. According to the method of Hammerschlag, 60 seems to be the normal figure of pepsin secretion. (List IV.)

6. With Hammerschlag's method in opposition to Mett, the values of sub- and an-acidity reach the average of that of superacidity. The average values approach each other more with Hammerschlag's method.

5.5 Superacidity: 1.9 Subacidity Mett.
60 Superacidity: 45 Subacidity Hammerschlag.

7. Besides, with Hammerschlag, we see no proportion of the HCl diminution and the pepsin secretion in cases of subacidity. (List V.)

8. The methods of Hammerschlag and Mett show the same proportions in 66 per cent. of the cases. (Lists VII and VIII.)

9. In five cases out of 15 the two methods give different results. In Cases 6 and 23 it is question of normal and superacidity. Hammerschlag's figures do not correspond to the high millimeter readings but only show medium values. On the other hand, Cases 32, 13 and 14 have proportionately high Hammerschlag figures with low millimeter values. The corresponding HCl values are subnormal. In other words, in all those cases in which Mett's method differs from Hammerschlag's, the former seems to approach closer to the values of HCl. Generally speaking, this may be considered as an advantage of Mett's method.

10. It will be necessary in future to examine not only sub- and an-acid juices for their digestive strength, but also superacid juices which heretofore were considered as having *eo ipso* good digestive capacity.

BIBLIOGRAPHY.

Oppler: Beitrag zur Kenntniss vom Verhalten des Pepsins bei Erkrankungen des Magens. Archiv für Verdauungskr., 1896, ii, page 40.
Ssamojloff: Determination du pouvoir fermentatif des liquides contenant de la pepsin par le procédé de M. Mett. Arch. des Sciences biologiques de St. Petersburg.
Pawlow: Die Arbeit der Verdauungsdrüsen. German by Dr. Walther, Wiesbaden.
Pawlow: Das Experiment als Zeitgemässe und einheitliche Methode medizinischer Forschung, by the same.
Hammerschlag: Ueber eine neue Methode zur quantitativen Pepsinbestimmung. Intern. Klin. Rundschau, 1894, N. 39.
Hammerschlag: Untersuchungen ueber das Magencarcinom. Archiv für Verd. Kr., ii, Heft 1.
Roth: Zur Frage der Pepsinabsonderung bei Erkrankungen des Magens. Zeitschrift für Klin. Medicin, 1900, Bd. 39.
Linossier: Recherche et dorsage de la pepsine dans le contenu gastrique des dyspeptiques. Journal de Physiologie et de pathologie générale, vol. i, 2, 1899.
Schüle: Ueber Pepsinabsonderung im normalen Magen. Zeitschrift für Klin. Med., Bd. 33.
Gintl: Ueber das Verhalten des Pepsins bei Erkrankungen des Magens. Archiv für Verd. Krank., Bd. iv, Heft 3.
Kövesi: Untersuchungen aus dem Gebiete der Magenpathologie. Archiv f. V. K., Band v, Heft 2.
Troller: Zur Pepsinfrage bei Achylia gastrica. Ibidem.
Bachmann: Experimentelle Studien ueber die dietetische Behandlung bei Superaciditäit. Archif f. Verd. Krank., Band v, Heft 3.
Schiff: Beiträge zur Physiologie und Pathologie der Pepsinsecretion und zur medicamentosen Beeinflussbarkeit der Magesaftsecretion durch Atropin und Pilocarpin. Archiv für Verd. Krank., Band vi, Heft 2.

A VOLUNTARY BOARD OF NATIONAL EXAMINERS.

WILLIAM L. RODMAN, A.M., M.D.

Professor of the Principles of Surgery and Clinical Surgery in the Medico-Chirurgical College, and Professor of Surgery and Clinical Surgery in the Woman's Medical College of Pennsylvania.

PHILADELPHIA.

At the recent meeting in Washington of the Committee on National Legislation representing the American Medical Association, the subject of reciprocity between the several states was very generally discussed, and considered practically impossible with so many states and territories, each with its own standard and no two alike. More than half of the states were represented at the conference and the interchange of opinion was free. The committee appointed one year ago made a majority report through its secretary, Dr. Emil Amberg, advising against reciprocity, and in favor of a National Board of Examiners. The committee had, however, been working upon the hypothesis that such a board could be created and sustained by act of Congress. Letters read from Senator Burrows and others caused the committee to drop the idea of a national board created by act of Congress as such legislation would certainly be unconstitutional and in conflict with the several states. The states are sovereign and can not be coerced by the general government.

There is, however, nothing to prevent, or seriously in the way of a Voluntary National Board of Examiners, whose examinations shall be of such a character and high standard as to command the respect of the several states and cause them to issue license to any one who has successfully passed such an examination. To fail to do so, as was said by Professor William Welch in the discussion, would make such state ridiculous. I therefore offered this amendment to the report of the committee, which was promptly accepted and unanimously approved after full discussion. I then suggested that this board consist of six members, viz., the Surgeons-General of the Army, Navy and Marine-Hospital Service and three equally representative civil practitioners; two to be elected by the House of Delegates of the American Medical Association and one by the American Congress of Physicians and Surgeons. A seventh might be added to represent the National Board of Examiners. This board would at once have the confidence of the profession as it would be comprised of able men absolutely above suspicion. The time of

meeting should be from June 1 to July 1, so as to accommodate the graduates of all schools.

The examination should be both theoretical and practical. Applicants should be taken into the wards of hospitals and be given opportunities to make diagnoses and examine urine, sputum and blood, as well as outline courses of treatment.

The place of meeting should, as a rule, be in Washington; provided its hospital facilities are adequate. It is desirable, however, to vary the place of meeting from time to time so as to make the board truly a national one, and to subserve the interests of the greatest number of applicants.

The fee should be not less than $25, or the maximum amount charged by a state board, so as not to bring the national into too great competition with any state board.

Now, what would be the inducement to graduates to go a distance, assume greater expense possibly than they now do, only to get a diploma which *need* not be recognized by the states? My answer is that as every state and territory in the Union now recognizes the commission of medical officers of the Army, Navy and Marine-Hospital Service, so they would be glad to recognize the certificate or diploma of any one passing an examination conducted by able and distinguished men representing all sections of the country. A man with such a diploma should be permitted, like the Constitution, to follow the flag and practice medicine and surgery anywhere within our possessions. Now, if a man moves from Pennsylvania to New Jersey he must pay $25 additional for the privilege, and in other states pass another examination as well. This is manifestly unfair to men who are excellent practitioners, but necessarily rusty in the theoretical branches, such as anatomy, physiology, chemistry, etc.

There would be another inducement to young men to appear before the national instead of a state board: there are many positions within the gift of the federal government, such as contract surgeons in the Army, Navy and Marine-Hospital Service; physicians to Indian agencies and members of pension boards of examiners in all parts of the country, requiring the services of more than average men. Any one holding the diploma or certificate of such a national board would at once have the advantage over any one else less fortunate. In truth, in nearly all such cases, a further examination could, with perfect justice to the government, be waived. So manifest are its advantages that each year there would undoubtedly be a larger number of applicants; and in time sub-boards would be necessary to accommodate the number applying—each to meet in some large city with abundant hospital facilities and accessible to many applicants.

There is but one serious question involved, and that is whether or not the expenses of such a board could be met for a year or two out of the fees of applicants. There would be only three or four examiners to pay, as I was told by each of the Surgeons-General that they would act, or detail some one from the service, gratuitously.

There is also, I take it, little doubt that suitable quarters for conducting the examinations could be furnished by the bureau of health which is almost certain to be established by this Congress.

Should the fees be insufficient to secure the services of the best men, the American Medical Association could well afford to pay for the two members appointed by it. Certainly, this great organization, with money in its treasury to spare, can well afford to give something to a cause having behind it the best elements in the profession. It is unfair to ask that any one worthy of the appointment as examiner should give a month, possibly longer, to even so excellent a cause without compensation. So could the American Congress of Physicians and Surgeons provide, if necessary, for its appointee.

A voluntary board is better for the profession than a compulsory one, for its standard can reasonably be made higher, and its certificates be a diploma *cum laude*. Moreover, the profession will be elevating and purifying itself and not trusting to legislation to accomplish the purpose which under our form of government is impracticable, even though it were desirable.

I have little doubt, however, that the fees would be sufficient to pay the examiners well even the first year. If the examinations should be held in Washington it would be very accessible to all of the eastern schools, representing, we will say, a thousand graduates. There will be more, as Philadelphia alone has each year about 400. The eastern schools are of such standard that they would encourage their graduates to go before the Voluntary National Board, and it would be safe to count upon 10 per cent. (100) of the graduates of Washington, Baltimore, Philadelphia, New York, Richmond and Charlottesville (University of Virginia), and other cities adjacent to the capitol doing so. Twenty-five hundred dollars should thus be assured; the expenses would be nominal and all over and above expenses would be divided between the three examiners. I am informed that the officers representing the three public services would be estopped from accepting compensation. This 10 per cent. could be probably doubled by the board meeting in Washington a week, and then spending a week in each of the three large cities adjacent to it, viz., Baltimore, Philadelphia and New York. The medical schools in these cities would willingly furnish quarters and facilities for conducting the examinations, and the hospitals furnish all necessary clinical advantages. This plan has been unanimously endorsed by the delegates from the several states meeting with the Committee on National Legislation and will be recommended to the House of Delegates at the coming meeting of the American Medical Association. It is to be hoped that it will be carefully considered and either it or a better plan at once inaugurated, as something should be done to encourage a higher and better medical education and to give in return something in the way of privileges and professional standing to those possessing it.

THE NEUROLOGIST'S ART.

JOSEPH COLLINS, M.D.

Professor of Nervous and Mental Diseases in the New York Post-Graduate Medical School.

NEW YORK CITY.

Knowledge is an excellent drug.—Montaigne.

There is a widespread belief that the recognition, interpretation and treatment of diseases of the nervous system offer peculiar obstacles, and that many of them are entirely unamenable to therapeutic measures. Now and then it comes to the ear of the neurologist that when he has made the diagnosis his usefulness ends. It is often said, half in jest but more in earnest, "To what end is all your diagnostic acumen and your skill in differentiation when your prognosis is so gloomy?"

The physician who has had wide experience in the treatment of nervous diseases knows that there is no

ground for these calumnious imputations. He knows that diseases of the nervous system, organic and functional, yield as readily to therapeutic measures as the majority of functional and organic diseases. He knows that if the same care, perseverance and skill are brought to the patient suffering from nervous disease that is bestowed on the victim of other and comparable bodily diseases that the results of treatment will be quite as satisfactory.

NERVOUS DISEASES CONTRASTED WITH OTHER DISEASES.

To bring the truth of this home to those who have been burdened with the belief that neurological therapeutics is a myth and that the neurologist is therapeutically impotent, it is only necessary to contrast the results of the neurologist's work with that of the physician who devotes himself to internal medicine. How much does therapy avail in the curative treatment of any kind of hepatic cirrhosis? With what degree of confidence can one say to the sufferer from cholelithiasis after an operation for gallstones that medical treatment and régime will prevent the reformation of calculi? In what measure has the prognosis of the different forms of Bright's disease and of the various degenerative cardiopathies been altered by therapy in the last generation? Are we more successful in combating gout, arthritis deformans and psoriasis than were our forefathers? These are not the interrogations of one who has been made morbidly sensitive by the imputations that are sometimes cast upon the branch of the therapeutic art that he has espoused, but a simple catechsim to show that the neurological therapist has as much right to be optimistic as has his brother practitioner. That there are some diseases of the nervous system that are quite beyond the reach of all therapeutic measures everyone must admit. Such are general paresis, syringomyelia and paralysis agitans, but these are uncommon ailments and they constitute an extremely small proportion of the diseases that come within the neurologist's scope. Nor should the incurability of such diseases make our attitude toward them one of complete despair and therefore unworthy the effort of seeking for something in nature or in art that will successfully cope with them. One must pursue the search for an adequate remedy just as assiduously as he does for means of combating infantile diabetes, pseudo-leukemia, Addison's disease, pemphigus or any of the other diseases that still resist treatment. Face to face with any of these diseases there are few who can reconcile it with their consciences and their sense of duty to fold their hands and do nothing. That there are some who do this I know, but they do not accord with my own conception of the best type of physician.

The study of medicine as an abstract science has done much to give it the high position that it holds amongst the sciences. and such study should be encouraged, but the duty of the general practitioner is the treatment of disease. Because a disease has been found in his inherited or acquired experience, to pursue its course to a fatal end, there is no valid reason why he should not bend every effort to the determination of means that shall shape its course otherwise. In this way alone the value of thyroid feeding in myxedema, arsenic in leukemia and quinin in malaria was determined.

The attitude of great neurologists at the zenith of their career toward therapeutic possibilities has always seemed to me particularly inspiring and I recall the closing words of an address on neurological therapeutics a few years ago by Sir William Gowers: "I have been surprised at the amount of good that can be done in affections commonly looked upon as intractable—relief, arrest, restoration. With each successive year's experience it seems to me greater and more distinct and to elicit more gratitude from the patients to whom it is applied."

THE NEUROLOGIST'S ART.

Does the physician especially trained in the recognition of nervous disease enjoy any special privileges which lead to such conclusions? I think not. Wherein, then, lies the neurologist's art?

1. In recognizing that the vast majority of diseases that he encounters can be influenced by treatment.

2. In having in his mind, when face to face with disease whose course he desires to influence favorably, a clear picture of the pathological process constituting the basis of the disease.

3. In appreciating that the successful treatment of nervous diseases requires the most scrupulous attention to detail in the application of measures that experience has shown to be of value.

4. In utilizing judgment and skill in the selection and application of measures that have been found useful, empirically and experimentally.

5. And finally, in realizing from the outset that a disease or disturbance of function which is either the expression of a prenatal defect, or of many years' duration can not be overcome in a few weeks, or even a few months of treatment even though the hand that administers it be both masterful and magical.

You will remark that nothing is said of a knowledge of human character, of the possession of tact and an unlimited fund of sympathy, of personal determination tempered with a full recognition of human limitations —these constitute the neurologist's endowment, not his art.

THE CURABILITY OF NERVOUS DISEASES.

To prove the first proposition, viz., that the majority of diseases encountered by the neurologist are susceptible to treatment that will cause cessation, amelioration or cure of the disease process, it might be necessary, if my auditors were hostile to the acceptation of this proposition, to cite individual cases, and numbers of them, but this being not the case it is necessary only to state the proposition and to reiterate that the treatment of diseases of the nervous system is no more the cultivation of a barren acre than the treatment of disease of other systems of the body.

Failure to conform to the tenets of the second proposition, i. e., to have in mind a clear picture of the pathological process which one wishes to overcome is responsible for many failures in the treatment of nervous diseases and for the unscientific way in which such treatment is often instituted and carried out. In no other way than conforming to it can one gain a clear conception of the limitations put upon one's efforts by nature. For instance, in the treatment of one of the common organic diseases of the nervous system, locomotor ataxia, one can not possibly conceive of the usefulness of galvanic electricity to the spine, the administration of strychnin, the utility of the system of exercises and mental gymnastics known as the Fraenkel movements unless he knows that the anatomical basis of the disease is a primary, slowly progressing decay of the posterior spinal roots beginning in that segment of their distribution which is between the spinal ganglia and the posterior columns of the cord and extending peripherally and centrally, but particularly in the latter direction until finally their intraspinal representation is quite wiped

out, constituting so-called sclerosis of the posterior columns. If it is not recognized that this process is primary, one may be tempted to employ measures that might be supposed to influence the process to which it is secondary. Indeed, ergot was formerly given in this disease with the hope that it would, by exercising its physiological effects upon the blood vessels of the spinal cord, cause a lessening of the vascular condition to which the degeneration of the posterior columns was thought to be secondary. To-day we hold that ergot is injurious in the treatment of tabes. Mercury and the salts of iodin given in doses sufficient to act as an antisyphilitic are in the same category. Although four out of every five cases of tabes occur in persons who have had syphilis, and although there seems to be no doubt that tabes would practically cease to exist if syphilis could be wiped off the earth, still the morbid process constituting the disease has nothing of a syphilitic nature in its constitution, nor are there any evidences that there has been at any time in the course of the disease any pathological process which could in any way be construed as syphilitic. If the physician who encounters cases of tabes but rarely, and who can not therefore be very familiar with the disease practically were to have this in mind one would see less often tabic patients in whom symptoms of the disease had been accelerated by the vigorous administration of antisyphilitics.

In what other way can the great importance of absolute rest, of the administration of medicines that contribute to it, and of the application of ice-bags to the spine in acute anterior poliomyelitis be conceived of than by having in mind a distinct picture of the exudative, destructive inflammation going on in very perishable structures, viz., the cells of the anterior horns of the spinal cord and which will run its course in a few days. Yet I venture to say that in comparatively few cases are these measures instituted. If they were the results I believe would be evidenced by milder sequelæ of the disease. The same may be said of the treatment of Sydenham's chorea. The majority of cases are treated by the administration of arsenic, quinin, antipyrin, or whatever so-called anti-choreic is in vogue at the time or is being puffed most in the journal that the practitioner reads. Yet that same practitioner would not treat a case of rheumatism by giving the salicylates alone without saying a word about the dietary, about the necessity for alkalinizing the excretions, for rest and retirement until the acute manifestations of the disease had passed. Chorea is a rheumatic, infectious disease of the blood which causes in turn a functional perversion of the cerebral cortex, principally the motor cortex. This perversion of function is manifested principally by the conspicuous symptom of the disease—dance movements. Rarely has the disease any organic basis, but when it has it consists of a slight encephalitis. The blood disease of which it is an epi-phenomenon results from infection just as rheumatism in the majority of instances is an infection due to divers but particular organisms as shown by the researches of Poynton and Paine,[1] Achalme,[2] Riva,[3] Apert and Triboulet,[4] to mention no others, to be a self-limiting disease. The most important feature in the treatment of chorea is rest and if this can be secured medication is rarely necessary. In fact, whatever medicine is given is with a view of securing rest and of overcoming the impressions made upon the blood by the acute disease. For instance, exalgin, one of the most reliable anti-choreics, owes its efficacy entirely to its capacity to cause motor sedation. It does not seem to me that further emphasis or illustration is needed to carry this point, but if there were we could cite no better illustration than the successful treatment of neurasthenia based on a conception of the pathogenesis of that neurosis.

1. Lancet, Sept. 22 and 29, 1900.
2. Annales de l'Institut Pasteur, 1897.
3. Centralblatt f. Innere Med., 1897, p. 825.
4. Comptes rend. Soc. de Biol., 1898, vol v, p. 128.

DETAIL IN THE TREATMENT OF NERVOUS DISEASES.

More important than everything else in the successful treatment of nervous diseases is conformation to the principles of my third proposition, viz., that successful treatment requires the most scrupulous attention to details in the application of the measures that experience has shown to be of value. I venture to say that in nearly every instance in which the general practitioner fails to get as satisfactory results from the treatment of any nervous disease as the neurologist, the failure can be traced to neglect of this cardinal principle. If I have interpreted aright the impressions received from an extensive acquaintance and intercourse with general practitioners as represented by my classes in the New York Post-Graduate Medical School, the failure to get gratifying results in the treatment of even the commoner neuroses is directly due to the fact that they pin their faith to specifics—of which by the way there are none in neurology—and expect everything from the administration of medicine. A patient comes under treatment for epilepsy. In nine cases out of ten the physician contents himself, I fear, with writing a prescription for a mixture of the bromid salts and in giving some perfunctory directions concerning the diet, particularly the consumption of meat. The result in the vast majority, in fact practically in all cases, is most unsatisfactory to the patient and physician alike. How could it well be otherwise in a disease in which the moral and hygienic treatment, including diet, discipline, education, occupation and recreation, are of far greater importance than the medicinal treatment. It has been demonstrated again and again that in nearly every case of epilepsy the number of attacks can be reduced one-half by conformation to these requirements. Whereas, if they are neglected and the bromids alone are relied upon, no such results follow.

In the same neurosis how often is care taken to determine the dose of the one real anti-epileptic drug, the salts of bromin? It is quite impossible to say what the dose of a bromid salt should be before considerable experimentation is made. There is no more dosage of bromid according to weights and measures than there is of alcohol for a patient with typhoid fever. The dose is the amount the patient can dispose of. For one patient it may be a scruple twice a day, for another it may be a dram or two drams; it is necessary to make an individual study of each case. It is as ridiculous to say that the dose of bromid for an epileptic is 20 grains three or four times a day as to say that the dose of quinin for a patient with malaria is 5 grains three or four times a day.

If what I have been saying about the necessity for precision and particularization is true for the treatment of epilepsy it is much more true for the treatment of neurasthenia, hysteria, sciatica, tic douloureux and a number of other functional diseases, particularly those which consist in, and depend upon primary alterations in the molecular nutrition of the nerve elements, manifested by disturbance of their function, either transient, or so persistent as to imply alteration of structure, i. e., the functional and nutritional diseases.

Is it probable that so many cases of sciatica would become chronic, and so many victims of this disease be incapacitated if the same care was meted out to them when they are acutely ill as they would receive were they ill of pneumonia? Here again the attitude of the practitioner often conveys the absurd belief that there is some specific called the salicylates, gaultheria, turpentine, aconitin, gelsemium or what not that will battle with this disease of divers and multitudinous causation and hurl the diseased nerve, sheath, or functionally perverted fibers back to health. Is this not an appalling absurdity? It is like treating all cases of lameness by fitting each one out with boots for flat feet and expecting recovery. One out of twenty perhaps will recover, for that may be the proportion of lameness that is due to flatfoot, but the other nineteen must go elsewhere for relief. The case of the patient suffering from sciatica is exactly a parallel one. Particularization is the first requisite in the treatment ,then precision in the application of the particular indication for treatment.

The necessity of attention to detail in the successful treatment of nervous disease is never so apparent as in the treatment of that mysterious disease which we call neurasthenia and which consists in an acquired, or an inherited and acquired enfeeblement of all the nerve centers, the clinical picture varying as one set or another of such centers manifest the weakness most conspicuously. In one case the emotional side of the individual's make-up is most upset, in another the mental side, in a third the spinal centers, sometimes the sympathetic centers, but usually features of all these appear in the clinical picture, which is too familiar to you all to necessitate a verbal sketch. It is a species of disease that causes as much mental and physical misery as one can readily imagine and to encompass its cure, deep study, careful thought, tact, perseverance and untiring care are required. I suppose that there are few diseases that the rank and file of practitioners treat with less satisfaction. And yet, save in the rudimentary forms, that is to say, in the forms founded on an inherited disequilibrium of the nerve centers occuring early in life as an expression of this prenatal deficiency, and not the variety dependent upon exhaustion, intoxication and stress, it is not a difficult neurosis to cure if one attacks it with the same determination and treats it with the same scrupulous care and watchfulness that one gives an attack of typhoid fever or of gout.

MERIT OF THE REST TREATMENT—EFFICACY OF DRUGS.

It is in such care that the merit in great part of the so-called rest treatment, properly carried out, lies. Mere drugging is not sufficient. To treat such a case satisfactorily one must use all those non-medicinal agents, of which we shall speak further on, that make for the elimination of injurious products from the system, for constructive metabolism, and for the production of neural energy and functional equilibrium. The most that we can expect drugs to do in such a case is to aid in overcoming contributory causes of the disease, such as auto-intoxication, and to assist the secretions and the excretions. Drugs do not cause or even assist materially constructive metabolism, the one all-important element in the restoration of health, but massage, hydriatics, rest, food, exercise and mental suggestion do. The use of these in systematic fashion, according to rule and method, subject to variation for the individual, not in a haphazard and desultory fashion cures them all unless the condition is so ancient that structural change which knows no restitution has taken place. The failures that result when such treatment is essayed are more often to be laid at the door of the patient than of the physician, for in my own experience these are the cases in which treatment has not been thoroughly tested. I have rarely had impressed upon me so strongly as in a recent experience the apparent antipathy which some of us have to the necessity of conforming to details in the treatment of cases in which the results of assiduous treatment do not seem to be readily apparent. We all know what a sad picture the patient with the remains of anterior poliomyelitis presents. Everyone who has treated many of these cases believes that persistent treatment contributes a little to the restoration of function and the preservation of some of the muscular fibers in the atrophying part. Every little gained counts so much. I saw in the early part of the present season a child 4 years old who had had, nine months before, a mild attack of anterior poliomyelitis which had as a result an atrophied, paralyzed left leg with compensatory deformity in the right foot. She was put under careful treatment consisting of daily intramuscular injections of nitrate of strychnin beginning with 1/100 grain and increased up to 1/20 grain, massage, as much resistance exercises as possible, faradic electricity and local warmth by means of flannel covering of the leg during the day and repeated artificial warming and dry heat at night. At the same time she was sent to an orthopedic surgeon who fitted her with braces. In six weeks there was very perceptible improvement. I wrote the family physician (who by the way had not sent the patient to me) telling him what I had done and expressing a hope that he would see fit to carry out some such treatment when the child returned home, as it had been shown to be of such service. Fearing that the dose of strychnin might seem to him rather large I said that 1/40 grain seemed to me about the proper dose for him to give. A few days ago I got a letter from the mother of the patient saying that the doctor told her that he could not find it in his heart to kill her child with strychnin as I had advised him, that he would give her a pill of 1/100 grain and that she could buy a battery and use it herself, and that the child "would grow out of it." That represents a keen perception of the necessity for detail in the treatment of nervous diseases and a fine effort to conform to it. I am sorry to say that I could recount a number of similar experiences.

THE USE OF NON-MEDICINAL MEASURES IN TREATING NERVOUS DISEASES.

Skill in the selection and application of measures that have been shown experimentally or empirically to be serviceable in the treatment of nervous disease is a large part of the neurologist's art. These measures include not only drugs but massage, electricity, the external use of water, mental suggestion, rest and occupation, exercise, vibration and a number of other means. I am a believer in the efficacy of drugs and I await hopefully and confidently the discovery of means to combat all the ills that man suffers, even though he be not heir to them. I believe that Nature provides an antidote, if it can be discovered, for every ill that art inflicts and that the highest known form of evolution should have its final transformation at three-score years and ten into another form of energy by a process of natural decay and not be disease. While anticipating this discovery and assisting in the search we must do the best we can with the means at hand. Drugs constitute one of these means. The measures enumerated above constitute far more important ones and, in my experience, it is a working familiarity with

them that the general practitioner often lacks and not skill in the use of drugs. Therefore I shall devote my attention to a brief consideration of some of these measures. I appreciate fully that nothing particular can be said of them in an address of this scope.

THE THERAPEUTIC VALUE OF ELECTRICITY.

Two of the most useful measures in the treatment of nervous diseases in my experience are massage and hydriatics: two of the least useful are electricity and hypnotism. Many hold the reverse of this. But they base their opinions, I fear, on the frequently repeated statements of a few who never offer satisfactory substantiation of their statements. I am far from denying the therapeutic value of electricity in the treatment of nervous diseases. Its value in facilitating restoration of integrity and function of inflamed nerves, such as in peripheral facial paralysis, lead palsy and other forms of neuritis, can not be gainsaid. It is also of some service as a pain reliever and an excitant of sluggish muscles. Neurological therapeutics would be deprived of much if electricity were taken from it. That which I am endeavoring to maintain here is that electricity is not a curative agent of great importance and compared with hydriatics and massage it is of small value. The best proof of this I think is that neurologists whom I have seen at work and with whom I have been at some pains to talk, use it very little as a therapeutic measure. As an aid to diagnosis and as a means of estimating the prognosis of diseases of the nerves and muscles it is of great importance. That this view is not shared by general practitioners is amply testified to by the batteries in various stages of decrepitude that can be unearthed in their offices. It would be interesting indeed to learn if they, as the supporters of the battery-making industry, can show results in the shape of amelioration or cure of disease to justify the expenditure. When I talk with general practitioners on this score they usually inform me that although they have one or more batteries (which, as a rule, are not in working order) and that they have used electricity frequently they do not feel that they have the skill in applying it or the requisite experience in its use to justify them in expressing an opinion. I feel that they are too modest because the only skill which is needed is a knowledge of the elementary principles of electricity as a force and which is taught in every high school. Professors of the art do not know more. It requires no more skill to give electricity therapeutically than it does to give digitalis. The skill is displayed in knowing when to use it and what to expect from it. The former is taught in every text-book on medicine and nervous diseases, the latter I am making an effort to put before you.

THE FIELD OF HYPNOTISM.

Hypnotism is another agency used in the treatment of nervous diseases that could be spared and never missed. Yet that which is at the basis of hypnotism and the entire superstructure around which it has been built is the very essence of the neurologist's art, as it is of every therapeutist. That something which makes the real physician a whole sun of illumination and a Gibraltar of hope to the despairing invalid is the subjective condition of the patient which markedly favors the operation of anything that the physician may do or say. Thus comes the immediate mending that follows reassurance, the uplifting that hangs on an assuring grip or an encouraging glance. It is this state of favorable subjectivity that so-called hypnotism causes. Purposeful suggestion accomplishes that which the physician does *secundem artem*. In so far as we are concerned as therapeutists there is nothing in hypnotism that transcends ordinary human understanding or that necessitates flight to the occult or mysterious for its comprehension. Yet I venture to say that nine persons out of ten do not take this view of it. I would not be understood as saying that the phenomena of hypnosis from a physiological and a psychological standpoint are fully comprehended, but they are quite as well understood as that of normal sleep, and who thinks nowadays of standing half in wonder, half in awe, before a sleeper, even though the sleep has come to him while his attention is fixed upon one who is laboring to save his soul and telling him about it in a droning monotonous monologue. Yet this is the feature of the hypnotic performance that fills the spectator with awe, and perhaps with a little of the feeling that the person who can accomplish it must be more god than man. I do not tremble for my reputation as a prophet when I say that the day of the hypnotist—i. e., one who allows it to be believed that he is endowed with a peculiar and supernatural possession and whose manner of using it, weird and bizarre, can contribute only to such a belief—has passed. The memory of it, however, remains and many unfortunately refuse to avail themselves of the aid that it offers in the treatment of both functional and organic nervous diseases because of the stench of charlatanism that still clings to it. One word more on this subject. I have many inquiries, personal and by letter, as to where the art of hypnotism may be acquired. You have all seen the pictures and the addresses of those "professors" who are willing to teach it for a consideration. Mental suggestion as a therapeutic aid can be acquired just as a well-modulated voice, a pleasing address, an assuring expression, or any other element of a successful "bedside manner," but the more it is artificial and borrowed from another the more worthless and useless it is. The physician who is able to gain the respect and the affection of his patient will never know the need of hypnotism, and if Nature has not endowed him with the qualities to do this he might as well pray to St. Anthony for them as to hope to learn from a professor.

THE USE OF WATER: AN ESTIMATE OF ITS VALUE.

Does anyone deny that water of different degrees of temperature applied to the surface of the body is beneficial in almost every disease attended with lowered vitality and impaired nutrition? I think not. Then why is it not more universally used? When I ask this question of my friend the family doctor he usually responds "because I haven't got the apparatus and because I do not understand the technique of its application." Although I tell him that to obtain most of its beneficial effects scarcely any apparatus is necessary, and that the technique can be acquired by a little experimentation upon himself and his patients, I fear that his future conduct does not convey flattering testimonial to belief in my veracity. Still I go on trying to promulgate the view hoping, like the patent medicine vendor, if I say it often enough and conspicuously enough that someone will believe it. If one can have the conveniences of a fully equipped hydriatic establishment or the services of a nurse who has had much experience in giving douches, packs, ablutions and tubbings, it is very agreeable. It is also very agreeable to have some one to make your night calls. But because you have not this assistance the patient does not have to lie in suffering all night or the woman complete her labor unattended. I maintain that the most successful application of water in the treatment of nervous diseases is an art that can be ac-

quired only by experience. But in this does it differ from any other branch of therapeutics? Not at all, and I know of no other way of acquiring the experience than by going hard at it. With a number of treatises on the subject in every language, with full consideration of the subject of hydriatics in every book on nervous diseases and therapeutics the earnest seeker after knowledge should have little trouble in possessing himself of all the experience that an adept can hand over to a novice.

MASSAGE AND THE OPERATOR.

Massage does not occupy a very exalted place in the therapeutics of nervous diseases, nor does it have, needless to say, any specific action in counteracting pathological states of this system. But in many diseases it is one of the most valuable agencies that we possess. For instance, in the treatment of hemiplegia there is nothing that compares with it. It is one of the indispensable auxillaries in the treatment of neurasthenia. It can rarely if ever be dispensed with in the treatment of neuritis, single or multiple, anterior poliomyelitis, or certain forms of progressive muscular atrophy. Indeed it is one of the most important of the non-medicinal measures: hydriatics, electricity, exercise and dietetics. The fact that it requires no apparatus or paraphernalia for its use and that any intelligent person can soon acquire the dextral proficiency, providing he has the strength necessary for its application, is one of its leading recommendations. The professional masseur, and his feminine counterpart who has so often used it as a mantle to pander to vice are largely responsible for the disrepute of massage. We may congratulate ourselves that we are not responsible for its unmerited disuse as we are, I am afraid, for hydrotherapy.

A professional masseur who endeavors to impress his patients with his superior knowledge, resorting to claptrap means for this purpose, may be a good rubber but he is a most undesirable person to have about a nervous patient and not infrequently has an unwholesome effect which offsets the benefit that follows the rubbing. The mode of applying massage is not all-important, as the graduates in the art maintain that it is, although naturally there is a right way and a wrong way. If one has in mind what he wishes to accomplish by massage he will have no difficulty in applying it himself or teaching any fairly intelligent person of strength how to use it. Its usefulness is restricted to quickening the lymph and blood circulation, to stimulating tissue metamorphosis, secretions and excretions and combined with passive motion to the prevention of adhesions. To accomplish these one makes use of stroking, frictions, kneading and tapping and it depends entirely on what one wishes to accomplish which of these he will use. My message to you particularly is, however, that massage is not a mystery and that although men and women are still being humbugged into paying large sums of money to learn it, and dishonest men and knaves are quacking with it, it is still a simple mechanical process whose use enables your patient to consume and assimilate the enormous quantities of food required to build up bodily tissues and repair bodily strength, which is the basis of cure in almost all cases of chronic invalidism, especially, of the functional variety.

THE PATIENT FIRST; THEN THE DISEASE. WORKING OVER THE PATIENT.

I have had a great deal to say about the individualization of therapeutic procedures because I think it is too much neglected. At the same time I have not forgotten that after all it is for the individual patient that we should reserve our keenest discernments. Scarcely any two cases of functional nervous disease can be treated in the same way. This is particularly true of neurasthenia which forms such a preponderance of the functional nervous ailments as seen by the general practitioner. Although there are certain requirements that must be conformed to in every case, such as getting the patient out of the immediate environment in which she has developed her symptoms or had her evil habits fostered by over-zealous relatives and friends (which by the way does not necessarily mean sending her away, except perhaps to a neighboring boarding house or hotel), and the selection of a suitable nurse who is able or can learn how to give massage and hydrotherapy, even the method of accomplishing these and carrying them out is subject to much variation. But no two cases can be treated in exactly the same way, even with the non-medicinal therapeutic measures. And to the extent of determining just what means must be adopted to bring about desired results a certain amount of experimentation must be made with each patient. It does not contribute to the patient's comfort or well-being to share in this knowledge. For instance, one patient stands every form of hydrotherapy most indifferently. Another can not abide electricity, and so on. This being the case, one easily sees what would result if every patient were subjected to routine treatment without any variation. It is this study of the individual that enables the physician to interpret the case psychologically just as an examination and consideration of his various tissues and organs allows him to interpret it physiologically.

These fragmentary remarks would ill-represent the writer's attitude toward the treatment of disease if something were not said of that all-important element in neurological therapeutics—working over one's patient; working untiringly, hopefully, full of confidence that reward will be be vouchsafed in the shape of partial or complete restoration, even though manifestations of it be despairingly delayed. This was the art of that great master of therapeutics, the younger Seguin, to whose memory I respectfully make my homage. One could not watch him toil painstakingly with a case of peripheral facial paralysis, of epilepsy or of Grave's disease, day by day and month by month without becoming possessed of the belief that here was one at work who knew wherewith he toiled and whereof he builded. The success that rewarded him in the treatment of nervous disease justified his labor and his determination, and the lesson should not be lost upon us. The physician who thinks to balance the sympathetic nervous system manifesting the symptom complex of angio-neurotic edema or erythromelalgia with a few doses of strychnin or by regulating the functions of the alimentary canal, deserves commiseration, for life has in store for him but a succession of disappointments. The individual who believes that any disease save the self-limited diseases, can be dislodged after a few more or less desultory encounters, as the devil was dislodged in medieval times by priestly exorcisms, should be labored with as patiently as the missionary labors with the heathen, that he may see the error of his ways, and come into the fold of the righteous.

OUR LIMITATIONS.

Finally, a word must be said concerning the importance of our 5th proposition, viz.: Realization that a disease which is the expression of a prenatal defect, or of many years' development can not be overcome in a few

days or weeks. This I am sure is generally conceded, but I am not sure that our conduct of the cases is always in keeping with our convictions. It is often necessary for the patient to appreciate it as keenly as the physician. A patient seeks relief for the symptoms of that mysterious neurosis known as exophthalmic goiter or Grave's disease. She may complain only of palpitation and a feeling of agitation, symptoms that seem to her trifling, and she expects relief from them as she would from cough or headache. The fact that she has a nervous organization that is congenitally unstable and that for years she has been poisoned by depraved secretions of the thyroid gland is entirely unknown to her, but she must in some way be made to appreciate it before she will take kindly to the tiresomeness of treatment. How else will she be reconciled to lying on her back for from one to three months suffering what seems to her the cruelties of the rest treatment with its concomitants of overfeeding, massage and electricity. But if she can be made to appreciate what her disease stands for and the natural way out of it how much easier it is for us to assist Nature in restoring her to health. This is not only true of Grave's disease but of almost every disease of the nervous system.

Another very necessary thing for us to do in our battle with nervous disease is to recognize limitations. The real nerve tissue, the parenchyma of the nervous system, the nerve unit or the neuron once destroyed is never regenerated. In this respect it does not differ from other specialized tissue cells. No one expects new liver cells to grow or new muscle cells to spring up to take the place of old. Nerve cells may, however, undergo much integral change before they decide to give up the ghost, and inherent and functional restitution occurs in nerve tissue that has been the seat of very decided alteration. Although our hands are not infrequently tied from the start in our encounter with nervous diseases, by virtue of the death of neurons, this should be by no means the signal for despair and retreat. We may find plenty of opportunity in saving other neurons from decay and in delaying the process in those that are fated to die. Let us take, for instance, locomotor ataxia. A man comes to us when he is 40 years old with symptoms that indicate the beginning of the disease. It is almost absolutely necessary that he should know the nature of his disease in order that he may avoid experiences that are bound to be injurious, and that he may coöperate with the physician in delaying the disease process. Although the outcome of tabes has not been altered by our present-day therapeutic resources it is beyond question that its course is materially delayed by treatment. So that we may say to our patient with a great deal of confidence that from 15 to 20 years of usefulness may still be his which will bring him up to an age when, if he has read his philosophy aright, he should be able to contemplate transformation with some resignation. During this period, which in many cases is much more protracted, he has not only time to put his house in order but to provide for his dependants. Treatment that can accomplish this can not be passed over lightly, nor is the making of a diagnosis of tabes when this potency is held in reserve quite equivalent to the signing of his death-warrant in the common acceptation of that term.

After all has been said the neurologist's art is but the conspicuous characteristic of every skilful physician, who believes in the curability of disease and who feels that he is but an agent shaping the course through which Nature effects her cures.

32 West 38th Street.

AN ANALYSIS OF FIFTY-TWO CASES OF TETANUS FOLLOWING VACCINIA.

WITH REFERENCE TO THE SOURCE OF INFECTION. 1839-1902.*

ROBERT N. WILLSON, M.D.
PHILADELPHIA.

(Concluded from p. 1152.)

In order to study the question in a judicial manner, and to weigh the evidence for and against an infection carried by the vaccine virus, several points must at once be considered, and in their association and grouping rather than separately. Among these are to be included:

1. The manner of preparation of the virus, the suddenness and proportions of the demand for the same, the care used in testing such virus before being placed upon the market, and finally, the bacteriologic and inoculation experiments that have been possible either before or after infection.

2. The method of vaccination; whether executed in an aseptic fashion, and with such precautions as to prevent unnecessary exposure of the wound during and after the operation.

3. The after-care of the wound, up to and after the time of perfect healing and the dressing employed.

4. The incubation period of the tetanus, always allowing (with a view to thoroughness in our investigation), until there is reason to think otherwise, that the infection has been introduced at the time of vaccination.

5. The clinical symptoms, whether severe or mild; the grouping of the cases as to locality and frequency of occurrence; and the outcome, whether fatal or benign.

6. Any possible and probable source of infection other than the vaccine wound and the vaccine virus.

In considering these questions we must admit in advance that the tendency has been to lay the credit for the tetanus at the door of the vaccine virus, in spite of an overwhelming array of circumstantial evidence that the infection may have been by other agencies. In presenting this mass of evidence for intelligent study, therefore, it has been thought advisable to tabulate the several details under discussion in the accompanying diagram, opposite the number and date of vaccination of each case.

With regard to the first point, the manner and cleanliness of preparation of the virus, it will be necessary to consider three periods in the history of vaccination: that period prior to the knowledge of the infectious nature of tetanus; that subsequent to this discovery, but during which human virus was largely in use; and, that recent period in which bovine virus has been mainly employed.

During the period prior to the knowledge of the infectious nature of the disease (Nicolaier-Rosenbach, 1885-6) reference to our table will show that we have recorded seven cases, two of which (2 and 3) were not certainly, though probably, tetanus. Vaccine material at this time (1839-1885) was largely that obtained from the arm of a human being. As early as 1850 this was at times diluted with glycerin. In all but one of the cases included in this period, as far as could be ascertained at all, the virus used was human lymph. Only one of the seven cases was known to have been vaccinated with "bovine quill" virus. Case 9 followed shortly after and was vaccinated by the "arm to arm" method as before, from a child that was healthy before and after the use of its lymph.

* Read at a meeting of the Philadelphia County Medical Society, April 23, 1902.

During the second period, or that subsequent to the discovery of the infectious nature of tetanus, but during which human lymph and crusts were still in use, we have in this country records of no cases; but in England (where humanized virus to-day is freely in use) we have Case 9, and a long series of other cases that may or may not have been tetanus, of which a list is appended. All of these were noted in the report of the Royal Commission on Vaccination appointed by the English Parliament in 1889, and many bear the criticism of the Commission that the attending physician was not satisfied as to the nature of the case. (Appendix ix, part i-ii.)

CASE 1.—Female, 6 months old. Arm to arm. Vesicles opened to abstract lymph. None of this used. No other history. Death on seventh day after vaccination from convulsions.

CASE 2.—Male, 8 weeks. Death from convulsions three weeks after vaccination. Virus not known.

CASE 3.—Female, 4 months old. Convulsions on the 18th, and death on the 20th day. No redness or swelling of arm. Arm to arm vaccination.

Case 5.—Female, age unknown, arm to arm, symptoms of meningitis; greenish scab, poulticed; bronchitis, convulsions 11 days after vaccination, and death.

CASE 6.—Male, age unknown, arm to arm, no surrounding inflammation. Died five days after vaccination. Refused food for two days before death, convulsions.

CASE 7.—E. P., female, age unknown. Child teething at same time. Several convulsions prior to one that caused death.

CASE 8.—T. R., 4 months, female, tube lymph. Eleven days after vaccination death occurred, mouth drawn to one side, unable to make any effort at swallowing, condition of arm satisfactory.

CASE 10.—Vid. Case 9 in above series. Undoubted case of tetanus.

CASE 13.—Child, sex and age not given, tube lymph, from another child. On 8th day slight vomiting and diarrhea. Next day convulsions and death. Vaccination normal.

CASE 23.—Female, 3 months; cellulitis of arm 9 days after vaccination. Lymph from child used. Vesicles became rubbed and red and were poulticed. Swelling on the 14th day. Convulsions and death. A padded shield had been used.

CASE 47.—Female, 4 months, arm to arm. Two months after vaccination convulsions and death. Vesicles had been pricked, and arm inflamed. Large ulcer at site of three vesicles.

CASE 51.—Male, tube lymph from child. Normal vaccination until the 15th day. Bread and milk poultices. Vesicles over the face, hands, extremities, and mucous membranes. Convulsions on the 35th day; death on the 37th day.

CASE 54.—Male, 2 months, arm to arm, vaccination normal to 9th day, then arm red and swollen. Child refused breast. Brawny swelling to shoulder. Convulsions, and death on the 17th day.

CASE 55.—Female, age unknown. Arm to arm. On the second day convulsions lasting 6 days, and then death. Two other children vaccinated at same time did well. Hare-lip needle used, point tarnished "but clean." Ivory spatula used for rubbing on lymph.

CASE 64.—Female, 5 months. Arm to Arm. Normal vaccination until 18th day, then neither redness nor swelling. Convulsions on 24th day. Death in 24 hours.

CASE 96.—Male, 12 months, convulsions one month after vaccination, and death.

CASE 99.—Male, 3 months, calf lymph, vesicles pricked on 8th day. On 11th day vaccination normal, bronchopneumonia. Later convulsions and death on the 19th day. Eczema or intertrigo over body for 6 days.

CASE 102.—Male, 3 months, lymph unknown. On 27th day convulsions, and died on following day. Vaccination had healed. No other history.

CASE 109.—Male, 3 months, humanized lymph; erysipelas on 21st day. $AgNO_3$ applied until raw and sore. On 27th day convulsions and death. Shield used that had been previously in use.

CASE 117.—Male, 3 months. Lymph from child, 8th day erysipelas, inflammation from shoulder to elbow, then to both arms, trunk and extremities. Scabs separated, leaving deep sores. Convulsions, and death on the 26th day.

CASE 127.—Female, 9 months, calf lymph, one other vaccination from same tube normal. During 6th week scabs fell off naturally. Swelling then began at three points. Twelfth week abscess at this point. Nineteenth week abscess in axilla. Twentieth week, and previously, violent convulsions, and death. Tube of lymph had been opened the day before.

Case 133.—Male, 5 months. Child lymph. During second week vaccination became inflamed, with abscess in axilla. Convulsive attack and death on the 32d day.

CASE 144.—Female, 6 months. Calf lymph. Vesicles pricked on 8th day. Next day child sick, and on 16th day gangrene of the arm. Poultice applied. Convulsions and death on the 20th day.

CASE 158.—Female, 9 months. Calf lymph. Another child, vaccinated with the same tube, normal. Ninth day convulsions and death. Lancet had point broken and was slightly rusted when inspected.

CASE 168.—Female, age unknown. Virus from child. Two children vaccinated from this patient and both did well. On 8th day vesicles pricked, on 9th day redness and swelling, vaccination dressed with fresh cream. Operator "known not to be careful in cleansing his lancet." Erysipelas prevalent. Yard filthy. Convulsions and death.

CASE 174.—Female, 5 months. Calf lymph on points. On 9th day vaccination became red and inflamed from shoulder to elbow. Profuse postvaccinal eruption over buttocks and knees. Convulsions and death on 30th day. Vaccinator used sewing needle, and had attended an erysipelatous patient that day.

CASE 177.—Male, 2 months. Arm to arm, from child who had normal vaccination. On 9th day arm swelled from shoulder to wrist, became red and angry, then blistered, and became black. On the 12th day, convulsions and death.

CASE 181.—Female, 7 months. Lymph from calf. One other child vaccinated with the same tube had a normal vaccinia. After one month the scars had healed. Eczema of face, scalp and neck. Four months from vaccination convulsion and death.

CASE 183.—Male, 7 months. Arm to arm, and vaccination until scabs knocked off. Began to "take food badly and directly after vaccination." Twenty-four days later convulsions and death. Child had crack over ear; general surroundings filthy, dung-heap beneath window. Two others vaccinated from the same lymph had normal processes.

CASE 187.—Male, 19 years. Arm to arm. Four others vaccinated at the same time and all did well. No dressing on arm. Nine days after vaccination, vomiting, prostration, and double convergent strabismus. On 25th day drowsiness, tenderness of scalp, spasm of right arm. Thirtieth day diplopia, convulsions, death. Diagnosis made of cerebral tumor. No autopsy.

CASE 193.—Male, 5 weeks, calf lymph. On 18th day large ulcer at vaccination site. Offensive discharge. Twenty-third day failed to take its food. Had three convulsions and died a few hours later. Child very dirty and vaselin used on the wound.

CASE 195.—Female, age unknown. Five vaccinated from same arm, and all normal. On the 8th day normal. On the 10th redness over neck and back to the other arm. Parts hard and blisters formed (erysipelas?). Child refused food, had convulsions, and died on the 25th day. Poultice used on the 9th day. Closets and gutters in house unsatisfactory.

CASE 199.—Female, 4 months. Tube lymph from child; vaccination normal until the end of the second week. Then redness, swelling of arm to fingers, and of trunk and extremities. No blisters or sores. Vaccinator known to be unsatisfactory in his methods. Erysipelas prevalent in neighborhood.

Of the above, Cases 8, 22, 117, 177, 183, 187, and 195 were very probably, and all were possibly, examples of tetanus, though they can only be used as evidence of questionable value in this regard. They have, however, an important bearing upon the point next to be considered, i. e., that of the method of vaccination, preparation of the site, and the subsequent care of the wound. Many were admittedly vaccinated in a careless manner, and not one was properly cared for during the course of the vaccinia.

During the third period, or that recent time throughout which in this country bovine virus has been widely used, though in England and on the continent to a lesser extent, we find the great number of our cases; and it is with these that we will have mainly to deal. The fact that human virus, carried directly from one arm to another, has undoubtedly caused a large number of severe ulcers, following which tetanus has developed, will be referred to at a later time, and employed as one of the links in a chain of evidence that grows in length as the study proceeds.

Vaccine virus of former years must then, except for the recent period extending to to-day, be looked upon as mainly of the human variety, and therefore free from any infection other than that already in the system of the child or upon its skin surface. Further than the cleansing of the arm and the lancet (often this was dispensed with) there was no preparation of the virus or the patient, and only one form of virus was used. Only one conclusion is allowed therefore for this period: that the infection came from other sources than the lymph itself, and that abundant opportunity was offered for its transmission. Beginning with the Civil war, or thereabouts, bovine virus came gradually into use in this country, and with its employment the gradual organization of business enterprises to furnish large quantities in convenient forms. Undoubtedly for a long period this production was carried on in a more or less careless manner, especially when large armies were to be vaccinated in a short time. But strange to say, this period records far fewer cases of tetanus in the course of and following vaccinia than the more recent ones in which extreme care is supposedly employed. Our Civil war records, for example, mention not one case of so-called vaccine tetanus. It is not stated, however, and evidently has not been considered, that the cases of tetanus that occurred in the Union Army were in men every one of whom had been vaccinated more or less recently, and that many of

Case.	Locality.	Date of Vaccination.	Color, Age, Sex.	Virus Used. Place on Body.	Dressing Used at Time of Vaccination and Later.	Possible Means of Infection Other Than the Vaccine Virus.
1	Plantation near New Orleans.	July 31, 1839.	Adult negress. .	Arm..	Presumably none.	No statement made except as to work in the fields as slave.
2	Lowell, Mass.. . .	October, 1845.	White, 5 years . .	Arm to arm.. . . .	" "	Vac. by mother with darning needle.
3	Lowell, Mass.. . .	" "	White, 7 years . .	Arm to arm.. . . .	" "	Vaccinated by mother with darning needle; same virus.
4	Southern part of U. S. A.	May 15, 1879..	White, male, 3½ .	Arm..	" "	Crust torn away; vaccinated by midwife; large ulcer formation.
5	Auburn, N. Y.. . .	Jan. 6, 1882	White, male, 9 . .	"Bovine-quill"; arm.	" "	Large ulcer, excavation, lymphangitis, etc.
6	Maryland..	Middle of January, 1882.	White, male, 40. .	Arm..	" "	Extensive ulcer and surrounding inflammation.
7	Columbia, S. C.. .	Feb. 9, 1882	Colored, male, 5 .	Humanized virus; arm.	" "	Small ulcer "bathed in healthy pus" at site of vaccination.
8	Havana, Cuba . .	May 29, 1886..	White, male, 2 . .	. . . . .	" "	Deep ulceration of the tissues.. . . .
9	England.	Sept. 10, 1889	White, female, 2 months.	Arm to arm. . . .	Red rags, ointment, poultice, shield. Bathed with oatmeal water.	Extensive slough, large ulcer; uncleanly dressing; case of tetanus in neighborhood.
10	Cuba	July 12, 1891.	Negro, male, 9 months.	. . . . .	Presumably none.	Crawling constantly on hands and knees in dirt of yard.
11	Long Island. . . .	Nov. 6, 1893	White, female, 5½	Bovine virus, dry point; arm.	At first a sterile dressing; then rags and soiled vaseline.	Deep ulcer and uncleanliness in care of vaccine wound; aphthous stomatitis present.
12	Philadelphia.. . .	Oct. 2, 1896	White, female, 7 .	"Fluid vaccine"; arm.	No dressing used at any time.	Deep ulcer; child played continually in stable adjoining house.
13	Philadelphia.. . .	Oct. 3, 1896	White, male, 8 . .	"Fluid vaccine"; arm.	No dressing used at any time.	Necrotic condition of tons. and uvula (B. Klebs-Löffler); large vac. ulcer.
14	Vaccinated in U. S. A.; died in Havana, Cuba.	1899; exact date not given.	White, male. . . .	. . . . .	Presumably none.	Exposure and carelessness of soldier's life.
15	United States. . .	July 17, 1899.	Colored, male, adult.	Glycerinated virus; arm.	Sterile gauze at beginning. No later statem't as to care	Careless and generally uncleanly habits of soldier's life.
16	Brewster, N. Y . .	October, 1899	White, female, 10.	Glycerinated lymph.	Fresh lard applied 18 days after vaccination.	Lard used in form of dressing; deep ulcer.
17	Porto Rico	—, 1900.	Child, native . . .	Dry point.. .	Asepsis in beginning; later no care as to dressing.	No history of wound obtainable. . .
18	Paris, Tenn.. . . .	Nov. 27, 1900.	White, female, 8 .	Ivory point; arm..	Dressed with old quilt wadding until tetanus appeared	No dressing; scab knocked off; then dressed with waddi'g from old quilt.
19	Kalamazoo, Mich.	Jan. 3, 1901	White, female, 8 .	Glycerinated lymph; arm.	Shield used until arm was dry; then no dressing.	Scab torn off; arm and shirt sleeve filthy at time tetanus developed.
20	Glasgow, Scotland	March 8, 1901	White, female, 21.	"Calf's lymph"; leg.	Bunion plaster and strip of adhesive plaster.	Adhesive plaster not removed for 2 weeks; ulcer covered with greenish slough; poultices applied,
21	Burlington, Vt .	Oct. 2, 1901	White, female, 12.	Dried point; arm.	No dressing for considerable portion of time.	Scab removed; wound then dressed at home; large ulcer.
22	Burlington, Vt . .	October, 1901	White, female, 12.	Dried point; arm.	No dressing for considerable portion of time.	Scab removed; extensive ulcer formation; wound dressed at home.
23	Suburbs of Philadelphia.	Oct. 9, 1901	White, female, 11 months.	Glycerinated point; leg.	Celluloid perforated shield, adhesive strips.	Shield not removed until the 28th day and tetanus had developed; full of pus; child lived over stable.
24	Camden, N. J . . .	Oct. 12, 1901.	White, male, 7 . .	Glycerinated virus; arm.	No dressing.	Scab lost during play; fell on the ground and was then replaced on the wound.
25	Camden, N. J. . .	Oct. 14, 1901.	White, female, 6 .	Dry point; arm.. .	Shield only.	Excessive discharge from large ulcer collected without removing shield.
26	Suburbs of Philadelphia.	Oct. 19, 1901.	White, female, 6 .	Glycerinated points.	Celluloid shield only.	Child lived over stable; children had been throwing dirt at one another; gangrenous stomatitis.
27	Camden, N. J. . .	" " "	White, female, 11.	Glycerinated lymph; arm.	At first a shield; later no dressing but a rag.	Severe ulcer exposed to sleeve and atmosphere.
28	Bristol, Pa	" " "	White, male, 11. .	"Tube virus"; arm.	Bandaged with "cloths.". . .	Severe ulcer; threw bandages on ground and replaced them on arm.
29	Camden, N. J. . .	About Oct. 1, 1901. .	White, female, 7 .	Dry point; arm. .	Shield only; later an ointment and boiled rags.	Shield left in place for over 3 weeks; large, deep ulcer; flaxseed poultice, ointment and rag dressing.
30	" " . .	Oct. 21, 1901.	White, female, 8	Glycerinated lymph; arm.	Papiermache shield	Child known to have exhibited vac. to several pupils on way to school.
31	" " . .	Oct. 22, 1901.	White, male, 16. .	Glycerinated lymph; arm.	Bunion plaster covered by adhesive plaster.	Shield not removed until tetanus developed, 9 days later; large ulcer.
32	" " . .	Oct. 23, 1901..	White, male, 11. .	Glycerinated point; arm.	None...	Ulcer size of half dollar in which was matted a gray merino undershirt sleeve.
33	" " . .	Oct. 25, 1901.	White, male, 5 . .	Glycerinated virus; arm.	. . . . .	Large ulcer at site of vaccination; boy lived within 15 feet of a stable.
34	" " . .	Oct. 26, 1901.	White, female, 8 .	Glycerinated virus; arm.	. . . . .	Severe ulcer at site of vaccination; open sore on lip.
35	" " . .	" " "	Colored, female, 9.	Glycerinated point; arm.	. . . . .	Severe ulcer; home separated only by a door from a stable.
36	Philadelphia.. . .	" " "	White, female, 4 .	Glycerinated point; thigh.	. . . . .	Large ulcer; boy played continually in lumber yard with the horses.
37	Atlantic City, N.J.	October, 1901	White, male, 7 . .	Glycerinated virus; arm.	Shield for 3 days; then rag tied around arm.	Large ulcer and lymphangitis; large collection of pus in shield.
38	Bristol, Pa	Nov. 3, 1901	White, male, 12. .	Glycerinated virus; arm.	Shield allowed to remain till filled with pus for days.	Scab lost on 22d day and rag worn from that time.
39	Brighton, N. J . .	Nov. 4, 1901	White, male, 10. .	Glycerinated point; arm.	Shield not removed for 18 days; full of pus; rag then placed around arm.	Scab lost on 22d day; rag worn from that time.
40	Camden, N. J. . .	About Nov. 4, 1901. . .	White, female, 13.	Arm..	No dressing used until later; a rag; unclean surroundings.	Severe ulcer and surrounding inflammation.

Interval Between Vaccination and Tetanus.	Duration and Main Symptoms of the Tetanus.	Treatment.	Result.	REMARKS.
. . . . .	Over 2 weeks; trismus, rigidity, convulsive twitchings.	Large doses of opium.	Recovery . . .	No dates given except that of first visit by physician. Cottmann: New Orleans Med. and Surg. Jour., May, 1855.
Few hours.	24 hours; convulsions, prostration. .	. . . . .	Death..	Editor: Ohio Med. and Surg. Jour., Sept., 1848.
" "	24 hours; prolonged convulsions and prostration; long convalescence.	. . . . .	Recovery . . .	Loc. cit.
3 weeks.	10 days; trismus, severe convulsions, risus sardonicus.	. . . . .	Death..	Ross: Southern Clinic, September, 1879.
20 days	10 days; trismus, severe convulsions, opisthotonos.	Morphia. . . .	"	Many other severe ulcers from use of same lymph, but no other cases of tetanus. Dimon: St. Louis Courier of Med., April, 1882.
About 3 weeks . .	7 days; trismus, convulsions, risus sardonicus, opisthotonos and coma	Chloral, potass. bromid; lg. doses	"	Berkeley: Amer. Med. Jour., Oct. 1, 1882.
25 days	15 days; trismus, spasm of muscles marked.	Potas. bromid., ex. phys. fl., chloral	"	Bates: Transactions So. Car. Med. Association, 1882.
At least 30 days. .	4 days.	Chloral and landanum, enemata.	"	Rijo: Cron. Medico-Quir. de la Habana, 1886, II.
21 days	3 days.	. . . . .	"	Case of umbilical tetanus died shortly after in neighborhood; poultry and rabbits kept in yard next to door of house; bad surroundings. Report of Royal Commission, 1889–1897, Appendix IX.
19 days	32 hours; trismus, convulsions. . . .	. . . . .	"	Surroundings and coverings all uncleanly and unhygienic. Ruiz: Cronica Medico-Quir. de la Habana, 1891, XVII.
25 days	5 days; marked trismus, risus sardonicus, opisthotonos, convulsions	Bromids and chloral, ice, chloroform.	"	Ulcer deep and full of pus; no dressing used for a short time; sponge used to cleanse wound, also rags; aphthous stomatitis present. Toms: Med. News, N. Y., Feb. 24, '94.
7 days..	Over 1 month..	Chloral and bromids.	Recovery . . .	No care of wound at any time before tetanus developed. Stable adjoining house. Reported for first time by permission of Drs. Steugel and Kelly.
About 20 days. . .	. . . . .	Antitoxin, calomel.	" . . .	Reported for first time by permission of Dr. Stengel.
. . . . .	. . . . .	. . . . .	Death..	Patient volunteer in Spanish war; troops had little or no care; vaccination by wholesale. Report of Surg.-General U. S. A., June 30, 1900.
At least 16 days. .	Less than 3 days; trismus, opisthotonos, convulsions.	Morphin, chloral	"	Loc. cit.
21 days	. . . . .	. . . . .	"	Reported for first time by permission of Drs. Steugel and Salmon.
"Several days." .	. . . . .	. . . . .	"	Of about 1,000,000 vaccinations this one alone developed tetanus. No data obtainable. Reported for first time by permission of Deputy Surg.-Gen. Van R. Hoff.
3 weeks..	. . . . .	. . . . .	"	Reported for first time by permission of Drs. Abernathy and Corum.
24 days	5 days.	Antitoxin, chloroform, morphin.	"	Reported for first time by permission of Dr. Rockwell.
14 days	Over two months before recovery; trismus, twitchings, etc.	Large doses of chloral, potass. bromid.	Recovery . . .	Only patient of a large number vaccinated on same day to develop tetanus. Drs. Findlay: Lancet, Feb, 22, 1902.
19 days.	. . . . .	. . . . .	Death.. . . .	Child assisted in taking up potted plants while open ulcer was at seat of vaccination; cultures from earth in several places near her house gave pure growths of tetanus bacilli. Drs. Caverly and Beecher: Vermont Medical Monthly, Jan. 25, 1902.
21 days	. . . . .	. . . . .	"	Earth from numerous localities near child's home gave cultures of tetanus bacilli; these two were the only cases out of several thousand. Loc. cit.
28 days	36 hours; trismus, opisthotonos, convulsions.	Antitoxin, carbol. acid injections, bromids, chloral	"	Child slept in bed with father, who had charge of horses in stable below; sister also was vaccinated, with no untoward symptoms. Am. Med., Dec. 7, 1901. (Writer's case.)
19 days	3 days; trismus, rigidity, convulsions.	. . . . .	"	Boy's brother vaccinated from *same tube;* his vaccination was successful and no tetanus followed. Report of Camden Board of Health, Nov. 29, 1901, and correspondence.
25 days	7 days; trismus, convulsions, rigidity.	. . . . .	"	Loc. cit., and communications.
22 days	9 days; trismus, opisthotonos, exhaustion.	Depressomotors. .	"	Reported for first time by permission of attending physician
18 days	3 days; trismus, opisthotonos, convulsions.	Potass. bromids, chloral, morphia	"	Child attended masquerade with open wound exposed to red calico domino, the shield having been removed. Reported in full for first time by permission of Dr. Grier.
22 days	About 48 hours; trismus, opisthotonos, convulsions.	Cautery, cerebral injec. of antitox.	"	Reported in full for first time by permission of physicians.
At least 7 weeks. .	7 days; trismus, opisthotonos, convulsions.	. . . . .	"	Physician states that tetanus infection was not through the vaccine, but refuses all information. Another case occurred in the immediate vicinity. Three other children in the same family escaped tetanus. Reported for first time by permission of mother of patient.
22 days	2½ days; trismus and convulsions. .	Counter-irritation to spine; antitoxin, morphin.	"	Reported in full for first time by permission of Dr. Grier.
9 days.	6 days; trismus, protracted convulsions.	Symptomatic, later antitoxin.	Recovery . . .	Physician who vaccinated the boy states that he was not well when vaccinated, and that he did not want to perform the operation. Also that the case was not tetanus but "meningitis," though the diagnosis was a contrary one. Reported by Dr. Kelchner, No. Branch Phila. Co. Med. Soc., 1902.
20 days	About 36 hours; trismus, opisthotonos.	Bromids and chloral.	Death..	Undershirt had never been washed. At time of appearance of tetanus this was glued fast to ulcer by means of discharge. Reported in full for first time by permission of Dr. Bushey.
14 days	About 36 hours; trismus, opisthotonos.	. . . . .	"	Patient had "caught his vaccinated arm on the hook of an ice wagon, tearing the skin," etc., one week before tetanus developed. His physician refuses all information. Report of Camden Board of Health and correspondence.
19 days	"Tetanus symptoms" well marked,.	. . . . .	Recovery . . .	Physician refuses information. Report of Camden Health Board, and correspondence.
23–4 days	Trismus, opisthotonos, convulsions .	Bromids and chloral.	Death..	Brother vaccinated at same time and with same virus; no tetanus developed. Report of Camden Health Board and correspodence.
18 days	12 days; prolonged convalescence, trismus, opisthotonos.	Bromids and morphia.	Recovery . .	Older sister vaccinated from *same tube*; unsuccessful "take," and no tetanus. Reported for first time by permission of Dr. Hanna.
20 days	4 days; trismus, opisthotonos, convulsions.	Bromids, chloral, antitoxin.	Death..	Reported for first time by permission of Drs. Chew and Joy.
21 days	3 days; trismus, opisthotonos	Cannabis indica .	" . . .	Reported for first time by permission of Dr. Purcell.
23 days	5 days; trismus, convulsions.	Carbolic acid injections, chloral, bromids, morphia.	"	Playmates state that prior to loss of scab the boy frequently "pounded his vaccinated arm with his fist to show it did not hurt." Forty feet from his house was a stable. Reported for first time by permission of Dr. Moore.
20–21 days	36 hours; trismus, convulsions, opisthotonos.	Chloral, bromids and antitoxin.	"	The case was vaccinated by a policeman and was not under the care of a physician at any time until tetanus developed. Reported in full for first time by permission of Dr. Benjamin.

Case.	Locality.	Date of Vaccination.	Color, Age, Sex.	Virus Used. Place on Body.	Dressing Used at Time of Vaccination and Later.	Probable Means of Infection Other Than the Vaccine Virus.
41	Philadelphia....	About Dec. 9, 1901...	While, female, 24.	Glycerinated virus; arm.	No dressing applied.....	Severe ulcer at site of vaccination for over 2 weeks before tetanus.
42	Chicago, Ill....	"Since 1899.".....	White, child...	Arm.....	At first none; later a bandage.	Bandage remained over wound until both were foul (5 weeks).
43	" " ...	"Since 1899.".....	White, child...	Arm.....	None.....	Child's bed filthy; severe ulcer.
44	Cleveland, Ohio .	1901.....	White, female, adult.	Glycerinated lymph.	Shield used.....	Severe ulcer exposed to infection.
45	New York City...	Feb. 1, 1883.....	White, male, 6..	Arm.....	Presumably none.....	Large ulcer; former infection by tetanus.
46	Auburn, N. Y....	1885.....	White, male, 10-12	Bovine lymph; arm.	Probably none.....	Large angry ulcer and surrounding inflammation; no aseptic care.
47	Philadelphia....	Nov. 18, 1901.....	White, male, 38	Dry point; arm..	None after first few hours...	Large necrotic ulcer at site of vaccination; no care of wound.
48	" " ...	Nov. 8, 1901.....	White, male, 45.	Dry point; arm..	None after first few hours..	Large necrotic ulcer at site of vaccination; no care of wound.
49	Massachusetts..	Sept. 10, 1901.....	White, male, 6..	Arm.....	Sterile gauze and bandage at first; then dressed by mother.	Trauma to arm; dirty dressing retained for days.
50	Philadelphia....	June 7, 1901.....	White, female, 6.	Glycerinated point; arm.	No dressing.....	Large suppurating ulcer exposed to clothing and atmosphere.
51	" " ...	Nov. 11, 1901.....	White, male, 31..	Dry point; arm..	None after first few hours...	Open vaccine ulcer; exposed to contamination.
52	" " ...	Oct. 27, 1901.....	White, male, 38..	Dry point; arm.	None after first few hours..	Necrotic ulcer at site of vaccination: no care of wound.

them are known to have carried open vaccine ulcers (vid. "Med. History of Civil war") for months, and that probably a certain percentage of the cases was due to infection through the vaccine wound as likely as any other. It is stated, however, (Part III, pp. 634-5), that "The presence of smallpox among the troops raised a demand for vaccine virus, which was supplied in the form of crusts by the medical dispensaries in the northern cities. This stock was wholly from infants, and each crust was accompanied by a certificate bearing the name of the dispensary, that of the child from whom it was procured, and the date of its removal": and again, "A small percentage of the virus used was furnished by Dr. E. Cutter of Massachusetts, who raised crusts from the calf by vaccinating with human virus." On the same page it is noted that "In at least one-half the cases a phlegmon of greater or less size was developed instead of the characteristic vesicle" (Report of Surg. C. Allen). "In many cases a violent erysipelatous inflammation with deep abscesses, destroying the subcutaneous tissues and burrowing under the muscles of the parts affected, producing serious constitutional disturbance" (Report of Surg. W. H. Grimes). And on page 647: "Here we have in the locality some thousands of vaccinations made with the same virus at the same time. In one class a large majority had ulcers; in the other only one experienced any unpleasant effect. It is plain that the men and not the virus furnished the *origo mali.* From other localities the same history came."

The foregoing is not cited at this point to demonstrate either that an infection may or may not be introduced with the virus. Rather to show that during the Civil war large bodies of men were vaccinated with human virus and experienced severe ulcers, and that as a rule no dressing was employed in the care of vaccinated arms. That at the same time in this body, cases of tetanus (505) were noted from various wounds (246, 712 in all) in men who also carried a deep vaccine ulcer; and that very probably some of these cases were similar to those studied in this analysis. Certainly we must arrive at the same conclusion as the reporting surgeon "That the men and not the virus furnished the *origo mali*" as far as the ulcerative condition was concerned. It is then worthy of consideration that a million and a half of men, all with vaccine ulcers exposed for a greater or less time to conditions so favorable to tetanus infection, could have failed to contract a single case of tetanus through this means of entrance, when 500 and odd cases of the infection (about 2 per thousand) actually did occur from all causes in this body. Certainly, until a recent day the occurrence of tetanus as a complication or sequela of vaccinia has not been recognized by distinguished writers, and even in the most recent text-book (Nothnagel's Encyclopedia, American Edition, 1902) there is no reference to the possibility of its occurrence.

The method of production of the vaccine virus is today such a different one from that of 30 years ago, and our methods of observation and publication of our findings so prompt, that we can sometimes arrive at more definite conclusions than our fathers seem to have done. But we are in no way their superiors in the matter of clinical intelligence considering the difference in the facilities at our command, and we have sufficient proof, in the fact that they have never associated the appearance of the tetanus with the introduction of the virus, that they believed the clinical symptoms to indicate otherwise. We now suspect the virus as a natural thing because it is manufactured for profit, and once a salable article can be accused of a flaw there are hundreds ready with the accusation. Nearly the entire output is diluted with glycerin, a small portion only being used in the form of dried points. Recently, just as in the Civil war, an enormous quantity has been called for without sufficient warning to avoid the carelessness of technique that appears inexcusable to-day, but would have been considered scrupulous overcare at the time of the Rebellion. The producers claim that no tube, or point, or dried point leave their laboratories before the lot of virus from which it has been charged has been thoroughly tested upon susceptible animals. Whether this is strictly true in all instances must be left for the individual incredulity to digest. At least in such cases as the recent epidemic of smallpox throughout the United States there has been reason to believe that not only has the virus (non-

Interval Between Vaccination and Tetanus.	Duration and Main Symptoms of the Tetanus.	Treatment.	Result.	REMARKS.
20–21 days	Nearly 3 weeks; trismus, rigidity, contractures.	Ammon., bromid, chloral, asafetida, antitoxin.	Recovery . . .	Reported for first time by permission of Dr. Hulshizer.
"Several weeks.".	"Typical tetanus.".	. . . . .	Death..	"Ten thousand other children vaccinated with the same lot of vaccine without any bad results." Reported for first time by permission of Dr. Spalding.
"Several weeks."..	"Typical tetanus.".	. . . . .	"	Three other children vaccinated at the same time with the same lymph and no bad results. Reported for first time by permission of Dr. Spalding.
15 days	Trismus, opisthotonos, convulsions..	Antitoxin.	"	Reported by courtesy of Dr. Runyon.
20 days	5 days; trismus, opisthotonos, convulsions and long convalescence.	Large doses of whisky and calomel.	Recovery . . .	Eight months previously, had also bad tetanus from wound of foot. Same treatment. Hobart Cheesman: N. Y. Med. Record, May 8, 1886.
2 weeks..	Less than 1 week; trismus, opisthotonos, convulsions.	. . . . .	Death..	Reported for first time by permission of Dr. W. S. Cheesman.
7 days.	24 hours; trismus and convulsions.	Carbolic acid, cocain, atropin, morphia.	"	Patient in insane ward of almshouse. Many others vaccinated and remained free from tetanus infection. Reported for first time by permission of Dr. Hughes.
19 days	3 days; trismus, risus sardonicus, convulsions.	Antitoxin (immunizing and later in treatment.)	"	Reported for first time by permission of Dr. Hughes.
21 days	Typical picture of severe tetanus; long convalescence.	Antitoxin, repeated injections.	Recovery . .	Forty other children vaccinated with same virus. No other cases of tetanus developed. Sharp: Indiana Med. Jour.. Feb., 1902.
20–21 days	36 hours; trismus, opisthotonos, convulsions.	Antitoxins, bromids, chloral.	Death.. . .	Among 12,000 cases of vaccination with the same virus, and by same physician, no other cases of tetanus developed. Reported for first time through courtesy of the coroner's physician.
23 days	15 days; trismus, convulsions, exhaustion.	Carbolic acid, morphia, atropin, whisky.	"	Patient in insane ward of almshouse. Others vaccinated and remained free from tetanus. Several other tetanus cases in hospital. Reported for first time by permission of Dr. Hughes.
About 16 days. . .	5 days; trismus, rigidity and convulsions.	Carbolic acid and antitoxin.	"	Patient frequently at work shoveling in yard where tetanus bacilli had been found in rich culture; known to have repeatedly scratched his vaccine wound. Reported for first time by permission of Dr. Hughes.

glycerinated and glycerinated) been contaminated in a manner that was unwarranted, but that the virus itself was at times so dilute as to render a typical vaccination rather improbable than likely. These are, however, not questions that should detain us long. We know that an attempt, honest or superficial, has been made to supply pure virus to the public at a time when more has been needed than could easily be furnished; but it requires more than the affidavit of an interested party to convince that the virus was pure, in the light of the bad results that have ensued. We have not, therefore, been compelled to rely solely upon bacteriologic and culture experiments, and inoculations, to convince us of the presence or absence of micro-organisms or their toxins. When tetanus began to make its appearance, however, another and more serious question was involved than that of the discomfort and inconvenience, and the conviction required prompt and scientific proof as to where the blame should fall. Up to the present time many experiments have been carried out with a view to discovering the presence of the tetanus spores in the vaccine virus, and especially in the glycerinated form. It has never been seriously considered that the tetano-toxin could be present in the virus, which when introduced into two children, both healthy, from the same capillary tube, seemingly produced tetanus in the one, while the other escaped infection. Only one resort was left; that the tetanus organisms were introduced, or their spores, and remained idle or quiet, for three weeks or more, finally breaking out into an acute and vicious attack of the typical tetano-infection; this, of course, only in the event that the virus was associated at all with the tetanus. In none of the experiments published up to date, however, has success followed the effort to discover the organisms. Many other, and nearly all, of the pus-producing organisms have been obtained and isolated, but the tetanus bacillus never; and so far as this evidence is concerned, it must weigh against their presence. The work in this line has been carried out not only by the writer, but by a number of others whose ability and conscientiousness can not be questioned. The personal experiments of the writer included anaërobic cultures in all the media and finally a series of tests by the bouillon method recently employed by Levy and Bruns (*Deutsche Med. Woch.*, Feb. 20, 1902), by means of which they obtained tetanus bacilli and their spores in 4 out of 7 specimens of gelatin bought on the market. Bouillon tubes (100 c.c.) were inoculated with specimens of the various makes of vaccine virus (all dated at the same time as the virus used in the Philadelphia and Camden tetanus epidemic), and heated for a time at 75 C., in order to destroy all other bacteria possible without inhibiting the growth of the tetanus germs. The tubes were then kept in the oven at body temperature for 10 days and examined for the tetanus bacilli, and with negative results in every case. Inoculation experiments then remained as the only resort, and were looked upon as conclusive evidence not only of the absence of the micro-organisms, but of their toxin as well, if that were needed. A number of experiments on white rats and guinea-pigs had been carried out by the City Health Board of Camden, N. J., also by the New Jersey State Board, and by numerous individuals (Pitfield, Board of Health of Pennsylvania, *Amer. Med.*, Jan. 25, 1902, et al.) in the city of Philadelphia, all with negative results, not one of the animals developing the disease. My own inoculation experiments upon white mice gave identical results. Of ten white mice injected, two with pure virus as obtained on the market; two with scrapings from a dried ivory vaccine point, and six with specimens from the bouillon culture tubes (into the peritoneal cavity of each 0.5 c.c.), the following results were obtained: In none of the animals did tetanus develop. Of the four vaccinated on the abdomen in the ordinary way, all recovered perfectly from a local inflammation, non-characteristic in type. Of the last six (injected into the abdominal cavity) two died after three days with lesions of peritonitis, and four recovered from an evident indisposition. These results were looked upon as conclusive, but an unusual opportunity was forced by necessity upon the writer and two colleagues of inoculation tests upon the human being. It had appeared that out of some hundreds of thousands of vaccinations performed in Philadelphia and Camden 17 had

developed tetanus within four months' time. Of these some had been vaccinated with the virus of one prominent producer, some with that of another; some with glycerinated lymph, some with glycerinated points, and a number with dry virus on ivory points. The virus of one producer seemed to have been associated with the greater number of cases of tetanus. The results of the tests of these makes have already been mentioned, in one case a portion of one of the tubes that had actually been used being cultured, with negative results. At the same time a regulation was put in force by the City of Philadelphia requiring the successful vaccination of all students of the University of Pennsylvania in whom this was possible, or in whom such successful vaccination had not been obtained within five years. There was no choice but to employ one or all of the "suspected" forms of virus, and as there was little fear of the result in the minds of those responsible, that production was used almost exclusively, which had seemed most unfortunate in the series of Camden cases. The only exceptions were those in which the students bought and supplied their own special choice of virus, this privilege, of course, having been freely extended. All of the students who took advantage of this opportunity, that came under the personal care of the writer, chose for themselves the dry points made by another firm whose dry points had also been used in two of the Camden tetanus cases. The virus used by Drs. Swan, Robrecht, and the writer, who together carried on the work, was obtained at the time when the tetanus epidemic was still in evidence, so that it must have been produced at the same time, approximately if not exactly, with that used in the Camden epidemic. Many of the tubes of lymph bore the same date as those known to have been used in the Camden cases of tetanus. Of the 3000 and odd students all were vaccinated except those that filled the above requirements, and all unsuccessful vaccines were revaccinated at least once, and in several instances as many as eight times. As nearly as could be calculated about 1600 vaccinations were performed. Nearly the same methods of vaccination were employed by the three operators, including a careful sterilization of the skin surface of the arm and the application of a sterile dressing completely excluding the wound from the atmosphere, and renewed at least once daily. The results were the same throughout the student body. Not one case of tetanus developed, although Philadelphia produced in all seven or more cases, all of which are included in the series considered in this paper. In only rarely exceptional instances was there a severe sore at the site of the vaccination. The writer also vaccinated himself with the same virus, and experienced a severe ulcer that healed only after 9 weeks of the most painstaking care. The severity of the process was ascribed either to some infection at the time of the operation or to an unusual susceptibility caused by a lapse between vaccinations of over thirteen years. Reference will be made in the summary at the conclusion of the paper to this series of human inoculations, note simply being made here as to the synchronicity between the latter, those performed upon the lower and susceptible animals, and the cases of tetanus following vaccinia; also to the practical, if not absolute, identity of the virus used in all three instances.

One of the most difficult questions to answer offhand would appear to be that regarding the occurrence of two or more cases of tetanus in the practice of one physician. In the above series Cases 23 and 26 were vaccinated by the same physician, also Cases 24 and 31 by one man, and finally Cases 27 and 30 by still another. The disease appeared in groups, however, also with regard to time and to place, and far more with respect to the locality. In all these instances many others had been safely and successfully vaccinated by the same men. In a number of instances the same tube of lymph was divided between two children, one of whom died of tetanus, and the other thrived. No one can doubt in such an instance that in one case there was a secondary infection of the vaccine wound by tetanus germs not in the vaccine virus; while in the other only a vaccine ulcer was present that failed to be infected. Such evidence as the foregoing is unusual both as to amount and quality, and is unobtainable in cases that date back even for a few years. In England no such tests were made, and evidently no suspicion was entertained that the virus might have caused the infection. It is interesting in this connection to note that in no case recorded in the literature have tetanus bacilli or their spores been obtained from the vaccine wound, either on the cover-glass preparation or in the culture tube, though many attempts have been made. With regard to the method of vaccination we are also intimately concerned. It is as well known that former methods were dangerous and liable to introduce infection as the fact that to-day most vaccinators realize the responsibility of their task, and take proportionate care in the preparation of the site, and throughout the entire process of vaccination. The larger the surface scarified the greater the surface exposed to possible secondary infection. But apart from a seeming lack of thoughtfulness upon this point we may say that to-day only rarely does a case suffer from the carelessness of the operator. There seems to be no question that Case 41 is an example of just such carelessness, not only in the operative procedure itself, but in the lack of care in the matter of instructing the patient as to the dressing of the wound. Such cases are as rare as they are criminal, and the absence of such a coincident influence in any of the other recent cases reported in this city or in Camden, or in fact throughout the country, is one that is a subject for congratulation. The fact that tetanus appeared after and during vaccinia in the days when vaccination methods were careless, and there was no subsequent care of the wound; and at a time when the healthy virus was carried directly from one arm to another, rather indicates that the same causes operate now as did then, and that if the infection occurs at all it is during or after the operation. Remove the possibility of uncleanly surgical procedure, and there is but one alternative remaining.

The subsequent care of the wound presents a field for thought that comes much closer to the question of tetanus infection than any yet touched upon. In every instance, in the series of cases included in this paper, in which any information could be obtained whatsoever, there has been found (vid. case histories) some gross breach in the care of the wound; and usually the presence of some active influence that would offer more than a likely means of entrance for the tetanus or any other infection. Probably no extensive series of vaccinations has been executed with such studied aseptic care, and with such similar methods as that already cited, in the case of the students of the University of Pennsylvania and probably no such favorable results have ever been obtained from vaccination. The successfulness and effectiveness of these vaccinations were evidenced by the fact that out of the entire student body only one con-

tracted smallpox, and he the son of a homeopathic physician who was at that time and for weeks previous, in attendance upon a case of virulent, confluent smallpox. He had refused to allow his son to be vaccinated until required to do so by the University authorities, and the operation was done so late that it fell far within the ordinary incubation period of smallpox. Of the cases studied in this paper, many wore no dressing upon the arm until tetanus appeared. In fact, until a recent time no dressing was considered necessary; and to-day many men refuse to look upon the surface which they scarify as a surgical wound. Nearly every case showed for days a large open ulcer, burrowing deep into the tissue. Two cases were those of soldiers, sleeping anywhere and everywhere, and looking on a bath as a luxury. Several lived over, and next to, and played continually in stables, the hotbed of the tetanus bacillus. One slept in bed every night with her father who had charge of the horses. Two, at least, are known to have forcibly maltreated the vaccine wound. Many removed the scab for inspection. Two threw or dropped the scab on the ground and replaced it in the wound, one wearing it for hours. One threw his bandage upon the ground and replaced it on the arm at a later time. Several wore a shield over the wound without cleansing or removing until it was full of pus and dirt, and foul to the smell: one of these reached the 18th day, and the writer's case the 28th day with the shield still in place. One, when tetanus developed, exhibited a merino shirt sleeve that had never been washed, matted in the vaccine wound. Two Glasgow physicians in recently reporting a case (*Lancet*, March 22, 1902) sarcastically comment upon the conclusions of the Camden Health Board, and yet they themselves in searching for a "subsequent infection of the vaccine wound" (which they declare impossible) forget that they placed over and around it a "bunion plaster" covered with adhesive strips, and that this was not removed for two weeks. One need not even accuse the skin of furnishing the tetanus infection under such circumstances. For fairness' sake, if they did their duty by the skin, as we are convinced they did, it should be considered as less likely than the "bunion plaster" to have been to blame. One child had been throwing dirt at another shortly before tetanus had appeared. A very few cases had ulcerative lesions on the lips or mouth, or on other portions of the body. Not one had even an approximately aseptic treatment throughout more than a small portion of the time from vaccination to tetanus. Only one was excluded from the chance of outside infection at any time in the course of the vaccinia, and this time was probably so short that it can hardly be considered. And with this point we conclude our investigation of the possibility of outside infection. Because tetanus has occurred in surgical conditions and in operations in which the technique has seemed flawless, no care is too great if the disease is to be prevented. The writer well remembers a series of deaths from puerperal tetanus that occurred in the hospital service of one of his professors during his graduating year and was caused by a bichlorid vaginal douche that carried the tetanus spores. Bauer (Ziemssen's "Cyclopedia") cites many cases of tetanus in which there was no injury to the surface of the body. Tetanus has been known to follow the extraction of a tooth, the application of cupping glasses, the sting of a bee, the catching of a fishbone in the throat, the application of a blister, the hypodermic use of drugs, and during the last year there has been reported a case in which the only abnormality in the body was the presence of ascarides in the intestine. In the *Medical Times and Gazette*, 1854, p. 376, etc., a long series of cases is cited of tetanus following burns. It seems hardly likely that anyone will consider it probable that the scorching substance introduced the tetanus bacillus or its toxin. Such occurrences indicate that the micro-organisms are always at hand, and that, as with Shiga's and Flexner's bacillus of dysentery in uremia and chronic diseases, the opportunity is all that is needed to start the attack. The bacillus is always to be found in the dirt of the street as has been shown by repeated experiments. Moreover, its distribution varies in localities in such a way as to warrant the statement by Bauer that, "According to the report of Holland the disease is rare in Iceland, while upon the neighboring Island of Heimacy the population would die out if it were not recruited by immigration, since almost all the children die of tetanus." Long Island is an especially afflicted portion of our own country. In the garden soil, the manure, the tetanus bacillus is particularly at home, and there is no doubt that the skin every day, and perhaps always, is the habitat and resting-place of not only some of that dirt, but the tetanus bacillus. Chantemesse and Widal have obtained pure cultures from the vagina. It does not seem probable that the infection, even in most cases, must come from the skin as suggested by the Drs. Findlay; nor that the proximity of the vaccine wound to the ground had more than a passing influence. They themselves suggest shortly after that the wound was completely sealed from the atmosphere, and in this way they deny their own proposition. In only two of the cases in our series was the vaccination known to be on the leg (Cases 20 and 23), and one of these being a baby was hardly likely to sweep the dirt from the ground 'with its skirts." In Cases 24 and 28 the infection almost certainly did not come from the skin, but directly from the ground to the wound. Such opportunities for infection of the vaccine wound as have been cited in the above series would not be considered doubtful in the case of a typical surgical wound. Not even a shield can be looked upon as protection for the vaccine wound. A surgeon would be drummed out of the profession who allowed such opportunities for infection to occur, and by his patients if not by his colleagues. Neither should we hesitate here in fixing upon the probable means of entrance of the tetanus bacillus. Closely allied in its weight of evidence is the period of incubation. Of 50 cases, in which the period of time between the vaccination and the appearance of tetanus was known, in 44 fourteen days or more elapsed, in 31 twenty days or over, in 6 twenty-five or over, in 1 twenty-eight days, in 1 seven weeks, and in 1 eight months. In only 5 cases was there any resemblance to the period of incubation ordinarily ascribed to acute tetanus. Two cases (2 and 3) appeared and terminated in a few hours. These cases were vaccinated by the arm-to-arm method and by a darning needle. Graetzner ("Der Krampf. insbes. der Wundstarr. Krampf.," 1828) has noted a patient whose leg was amputated, and who developed typical tetanus the moment the crural nerve was included in a ligature, and died of tetanus in six hours. Robison (quoted by Bauer) records a case of a negro who wounded his finger with a piece of porcelain and developed tetanus one-half hour later. Ward of Manchester, a case developing tetanus 10 weeks after injury; Friedreich, one three months after injury, and Morgan one two months after the wound had healed. In the latter case the autopsy showed a splinter of wood in the cicatrix (all

loc. cit. Bauer). It has already been shown in a previous article that the incubation period in tetanus may vary from a few minutes to many weeks. That of the large number of cases in the Civil war averaged eight days. But there is no variance in the opinions of writers on the subject that the usual incubation period of tetanus, and invariably that of the fulminant or acute type, is comparatively short, averaging about ten days and often amounting to a few hours. In the series now considered there has been an almost invariable occurrence about the 20th day following the vaccination. It has been previously pointed out that this is the time when most often the vaccine wound is exposed through loss or injury of the scab; and also the time when the patient is most likely to be careless of the healing wound. Still more cogent is the fact that it is at just this time that tetanus would be expected if it occurred as a secondary infection of the vaccine wound at the acme of the vaccinia. It must not be forgotten that the tetanus organism may rarely be introduced in substances such as the splinter in the case cited above, and at length be liberated. This, however, can not have been the order of things in the cases under discussion, since no foreign body is introduced in the operation of vaccination that would harbor the tetanus organism other than the glycerin, which is itself a powerful hypodermic irritant, and would tend to accelerate rather than to retard the action of the tetanus process. Two interesting cases have been reported of tetanus infection through a chronic ulcer of the leg, approaching the picture in vaccinia better than any other example offered. The one is noted by Greenwood (*Lancet,* April 30, 1898), and the other by Garnier (*Presse Medicale,* No. 75, 1898), neither ulcer having been cared for, and one being on the leg of a tramp who, presumably, often slept upon the ground. The second was a varicose ulcer. In neither of these cases was any other lesion discoverable upon the body. Such cases are not needed, however, to witness self-evident facts.

The clinical symptoms in 51 out of the entire number of cases when ascertainable have been found to be of the most severe type. In all except Cases 1 and 2 there was well-marked trismus, and if we are correct in thinking that those cases actually were of tetanus, this symptom may have been present. The report is too meager to be of much value. In some cases there were repeated convulsions; in 25 opisthotonos. In all, when the symptom was mentioned at all, there was rigidity of the abdomen, and in many of the whole body. In 11 the course of the tetanus lasted only a few hours; in 24 for under five days; in only 9 for over a week; and the latter cases ultimately recovered after a mild attack. The termination was a fatal one in 41 cases, and recovery followed in 11, giving a mortality of 78.8 per cent., as against 50-60 per cent. as an average mortality in tetanus under all forms of treatment. In the chronic type such as must have been present if the vaccination caused the infection, the prognosis is always fairly good, a large number of, if not most, cases recovering. This feature has been commented upon at such length in a former article that it seems unnecessary to dwell further upon it. If then, we add to the acuteness and severity of the course the general fatality of the series, there seems to be still less ground for doubting the presence of a secondary acute infection. The mortality of tetanus in the Civil war was 89.3 per cent. There remains for discussion only a few minor considerations such as the age, the sex, the time of year, the grouping of cases, the frequency of occurrence, and the final outcome of the case. Forty-one cases occurred in childhood, and 11 in adult life. Of these 4 were under 5 years, 24 between 5 and 10 years, 12 between 10 and 20 years, and 8 above 20. The large majority of cases of ordinary traumatic tetanus occur in boys or men, and for obvious reasons of exposure, etc. In this series there seems to be little difference between the two sexes (male 28, female 22, sex not stated in 2) in this regard, and perhaps for the equally obvious reason that at the age (childhood) when vaccination is most often performed, both sexes are equally exposed to moderate violence and to contamination from soiled clothing, and uncleanliness of person.

It is noteworthy that in the entire series of cases more than half (and all cases of the recent epidemic) occurred between October 1 and March 30. This is contrary to the old belief which gave the summer the greater number of cases. Solly and Simon (*Med. Times and Gaz.,* June 17, 1854) have noted this same autumnal or winter occurrence in a long series of cases. No rule can hold, however, when a requisite condition is the furnishing of a number of external wounds for the entrance of the infection. July 4 in America will cause more cases in the summer than smallpox in the winter, and we must look upon the occurrence of the tetanus simply as being synchronous with the cause that prepares the way. Bauer states, however, that "in one and the same place there are variations in the frequency of tetanus at different times"; that "statistics with regard to certain districts in Europe also show differences in the frequency with which tetanus occurs in these various places."

There has been no well-marked groupings of cases following vaccination previous to the Camden epidemic. Glycerinated points and tubes, dry points, arm-to-arm vaccination, all methods are represented in the above list of cases, and the first three were used in the Philadelphia-Camden outbreak. It has already been mentioned that many of the cases were vaccinated with the virus from one producer. It seems unnecessary to conclude that this was more than a coincidence due to the fact that one production of virus was almost generally in use throughout the eastern portion of the country, and that in this way a far larger number of cases of vaccination were present for infection by the tetanus or any other organism than was the case with any other virus. Wells of Chicago has shown (*Phila. Med. Journal,* June 16, 1900; and *N. Y. Med. News,* June 1, 1901) that the firearms, the cartridges, and the wadding of the same, are not the origin of the July 4 tetanus infection, except as they carry into the firearm wounds means of infection already on the person, and this by a most elaborate and convincing series of experiments. His conclusions are that in all cases the infection has probably been from the skin, and that the wound merely opened the surface to the organism. He also states that in Cook County, Ill., between June 25 and July 14, 1900, there were 27 deaths from tetanus. During the same period in 1899 there were 17 deaths, all in boys (the series upon which his bacteriologic experiments were carried out). Two hundred blank cartridges were examined, representing all the makes used, and in none were the bacilli, their spores, or toxins found. Six samples of street dirt from different places in Chicago all gave cultures of virulent tetanus bacilli. Similar experiments were carried out by Taylor (*N. Y. Med. Journal,* July 20, 1901). He arrived at the same conclusions. Certain parts of Long Island, Chicago, and (judging from the records of the Health Board of our

own city) Philadelphia as well, have annually a long list of tetanus cases. During the year 1901 there occurred in Philadelphia alone 29 cases of tetanus from causes other than vaccination, and during the period Oct. 1, 1901, to Jan. 1, 1902 (the time including the tetanus epidemic), there were in all 12 cases independent of vaccination. In short, there are more cases of tetanus in Philadelphia from other causes during the same period, than from nearly a million open wounds due to the operation of vaccination. During 1899 there were 73 deaths in New York City, and in 1901 there were 32 deaths in Baltimore, all independent of vaccination. Twelve of the latter number occurred at one time. Six occurred in August, 6 in September, and 8 in October (the identical months of the Camden outbreak). Twenty-five of the 32 cases occurred in children under 21 days old, and all were in charge of midwives, none developing in physicians' hands. Twelve cases occurred within a few blocks of one another and under the care of one midwife. Traumatic cases were reported in Camden, Pittsburg, Trenton, and in fact, all of the cities neighboring upon Philadelphia at the same time with those associated with vaccination. No case of tetanus has ever followed vaccination in the District of Columbia, though there have been occasional cases due to trauma. On the other hand, Craig mentions several cases following vaccinia in Brooklyn (1896-1901), though the records can not be obtained. Seven cases have been reported in the newspapers as occurring in Cleveland during 1901 with regard to which no information can be elicited. One case was noted in St. John, Neb. The result of treatment in the cases analyzed in this paper only bears out the evidence already collected. In some cases death was the outcome, although the incubation must have been one of three weeks to have connected the infection with the virus, an unheard-of combination of an invariably long incubation with an acute course and a fatal result.

CONCLUSIONS.

Infection has taken place in most if not all cases at the site of the vaccination. We have found that the exact time of infection and the exact means are impossible of absolute and scientific proof; and that the grouping of a large number of cases in a certain locality, and following the use of a certain production of vaccine virus, would tend at first sight to speak for a primary infection, carried in with or by means of the vaccine virus into the system.

On the other hand, we find that a secondary infection, and one occurring as a rule about the time of the acme of the vaccinia, is indicated by the otherwise discordant chronic incubation period and acute symptoms, by the almost uniformly fatal termination, by the severity of the course of the disease, by the millions of normal vaccinations with the same virus, by the simultaneous deaths from tetanus known to be due to other causes, by the diminution in the number of such cases now that continued aseptic care is more generally exercised, by the fact that in every case in which particulars are known over-abundant opportunity was offered for such secondary infection, and finally and most important, by the absolute failure of all bacteriologic and inoculation experiments on the lower animals and man to indicate the presence of the tetanus micro-organisms or their toxin in the virus.

There is neither time nor space to admit of a discussion of the nature of the tetanus itself, or its treatment except to note the fact that out of 13 cases treated with antitoxin 10 died and 3 recovered (mortality 76.9 per cent.). In all of these cases the usual treatment was employed in conjunction with the serum. Seven cases recovered under the customary routine of chloral, bromids, opium, cocain, and more rarely physostigma; and 32 died (mortality without antitoxin 82 per cent.). Of the entire number of cases 11 recovered and 41 died (mortality 78.8 per cent.). It would certainly seem as if the glycerinated virus, as well as the vicious influence of the shield, was disposed to present a more extensive ulcerative surface and a greater tendency to sloughing than the dried virus, or the arm-to-arm method. The latter is to-day an impossibility on account of the ever-spreading syphilization of the masses. But if it eventually proves true that, as time goes on, glycerinated virus opens a better avenue to the tetanus germ than the less cleanly but safer dried point, we will have to beat a retreat until we discover a substitute for the glycerin that does not carry its disadvantages. Our whole series of cases seems to prove that the infection is one that depends somewhat upon the susceptibility of the person. Otherwise, it must needs be a much more frequent disease. Also that the tetanus micro-organism or its spores must frequently be present upon the skin, and ready to take advantage of an opportunity of entrance. How much more likely this must be the case when the patient is uncleanly, or lives or plays in the street, garden, or stable, needs hardly a word to direct the attention.

A paper such as this would have failed of its mission if it omitted in closing to repeat the statement that the vaccine wound is a surgical condition that requires as skilful care as an abdominal incision. And that the responsibility rests no more with the physician than with the patient to carry out strict asepsis in the care of the same until the perfect continuity of the surface is restored. Otherwise, let the one who relaxes suffer the blame if tetanus develops; and be it doctor or patient that lets down the bars, his carelessness may cost a life and will almost as certainly as the disease develops. The symptoms of tetanus are the sealing of the death warrant, not the beginning of the infection. Fatality may rarely be averted, but the odds are too great to allow the risk. Tetanus in the course of or following vaccinia appears to be no more inevitable or necessary than hemorrhage after the tying of an artery. And if proper precautions be taken, only such cases as are predestined to bleed or to contract in a tetanic spasm will confront the physician. That vaccine virus could be infected with tetanus no one will deny. But that it has been, and in such cases as here come to view, deserves the full denial that has been given by the clinical symptoms and by a careful scientific study. It would appear that tetanus in the course of vaccinia is sometimes an unavoidable accident, due to the indiscretion or wilfulness of children, old or young; but with the principle laid down that the wound shall be treated aseptically from start to finish tetanus will disappear from the pages of the medical books as a complication of vaccination. And had the facts been realized sooner, the condition would never have found a place there.

The writer would acknowledge most cordially the assistance rendered by many physicians in the attempt to secure full clinical details of the cases included in this paper, and especially by Drs. Alfred Stengel, H. G. Wells, F. J. Runyon, and C. Hampson Jones.

A telephone may be used to supply the current in electrical probing for foreign metallic bodies.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, MAY 10, 1902.

TO THE MEDICAL PROFESSION OF THE UNITED STATES:

The necessity for a thorough organization of the medical profession was never more urgent than at the present moment, nor has the appreciation of this necessity ever been more keenly felt than at this time.

The American Medical Association, which will hold its fifty-third annual session at Saratoga on June 10, 1902, being the only national representative association of the medical profession in the United States, is entitled to and claims the earnest support of every medical practitioner who has at heart the highest and best interests of the profession. An organized profession represented in this great central body with affiliated and influential state and territorial associations extending through their subdivisions into all the districts or counties, is the only real guarantee of the protection of the public health and of the medical profession. The enactment and enforcement of rigid medical laws; the establishment of reciprocity or interstate comity by which a uniform standard of requirements for the practice of medicine in the various states, which without any sacrifice of the very highest requirements, would permit a physician, having gone before a competent board in one state, to practice in another without being subjected to a second examination; the establishment of a National Department of Public Health; the support of the medical staff of the United States Army in their effort to maintain their rights; to prevent unjust restrictions upon animal experimentation which has proved to be one of the most important methods of research and of the most lasting benefit to humanity, can be accomplished in no other way than by thorough organization of the profession in the American Medical Association.

JOHN A. WYETH, M.D., President.

THE NEXT SESSION OF THE AMERICAN MEDICAL ASSOCIATION.

Considerable space is taken up this week with matters connected with the next meeting of the Association. That part which refers to Saratoga shows that village to be an ideal spot for such a large gathering as the coming session promises to be. The hotel accommodation is more than ample and all who attend can be cared for without crowding or inconvenience. The places in which to hold the section meetings will be found satisfactory. Above all, the hotels and meeting-places are all near to one another, and three minutes' walk will reach the extreme points.

The programs speak for themselves. They show that, from a scientific point of view at least, the Saratoga meeting will be a decided success. They indicate that the best men in the profession of this country will be heard, as well as some from abroad. The ophthalmologic section is to be congratulated on having secured Professor Haab of Zurich to read a paper before that section.

The coming meeting will be the first under the reorganization. The House of Delegates will relieve the general meetings of the legislative functions, and, as these general meetings—except the first and last—will be held in the evening, they will not interfere with the morning meetings of the sections, thus giving more time for scientific work. We look for a marked increase in the value of the papers and discussions and consider that it will be largely owing to this fact. Indeed, the section meetings should decidedly gain in interest from this time on if the increased opportunities are duly utilized and thereby the reputation of the Association as a scientific body will be enhanced. The social features, which are an important side issue in meetings of this kind, will also encroach less upon the regular work without being themselves neglected.

It is worth bearing in mind that this first meeting of the House of Delegates will be an innovation on all previous assemblies of the kind as giving the example of a truly representative body in the medical profession. It is not for this reason in any respect a doubtful experiment; on the other hand, it is only the realization of a long-needed reform, but none the less unique even in this respect. We believe that the coming session, as did the last meeting, in which the reorganization was effected, will take its prominent place among the landmarks of the Association.

A VOLUNTEER NATIONAL EXAMINING BOARD.

A history of the movement for the regulation of the practice of medicine and for the elevation of the standard of medical education in the United States is an interesting one. First a few and later practically all of the states enacted laws which granted a right to practice to those holding diplomas from any chartered medical college; then this right was limited to those who had graduated from colleges with a specified standard. This standard was usually one of time required to complete the course. At first, two years was sufficient, then three years was necessary, and ere long four years was demanded. Medical colleges have followed by gradually extending their time requirement, so that to-day only two colleges grant the diplomas on less than four years' attendance.

But while the standard has been raised through increasing the time so that it is double what it was a quarter of a century ago, another movement has taken place. Those who were earnestly active in the move-

ment of elevating the scientific and educational standard of the medical profession have always realized that so long as medical colleges were private institutions and conducted on commercial lines they were not to be depended on to decide who were qualified to practice. This has resulted in the enactment of laws in many states creating boards of examiners and requiring all applicants to pass an examination before these boards. At the present time thirty-eight states require examination and nine others require either an examination or a diploma from a recognized college and the number of such colleges in some of these states is very limited. Efforts are being made in those states that do not now require examination to have this substituted for the present plan of licensing on diploma, and we may expect very shortly to find that the ordinary college diploma is not recognized as a sole qualification in any state.

This condition of affairs is very satisfactory from the view point of a better qualified profession, but it has a most unsatisfactory phase—at least to those who desire to remove to another state to practice. Since there are fifty states and territories, including the District of Columbia, a physician desiring the right to practice anywhere in his own country must get fifty licenses. The average young graduate does not know where he will locate; while he is yet well up in all the fundamental branches he would like to go through the ordeal of passing all the examinations so that he can go anywhere he pleases in his own country. But he finds it impossible. Hence he selects his field, conforms to the law of the state and settles down to practice. In a few years he concludes he can do better in some other state, but the ordeal of an examination looms up. He is rusty in most of the fundamentals, and he has made no attempt to keep up in many of the branches: thus to move to another state is to him a serious matter.

A remedy has been suggested in reciprocity, but, as we have stated before in these columns, reciprocity is impracticable. The licensing boards of a few of the states have already grouped together for mutual exchange of courtesies, but reciprocity will never be acceptable to even the majority of the states until there is more uniformity in the laws that now prevails, or is likely to prevail for many years. But even a uniformity of law will not suffice: there must be a uniformity in tests and standards which is impossible under present conditions, wherein the members of most of the examining boards are appointed through political influence and not through the selection of men qualified for the position of examiners in scientific medicine.

In an editorial in The Journal last January[1] we advocated the creation of a national board of examiners as the most satisfactory solution of the difficulty. We recognized at that time that "the constitution of the United States does not place the regulations of the practice of medicine among the functions of the general government, and consequently the practical carrying out of the idea of a national board is met by obstacles not easily overcome, provided the idea is to compel recognition of certificates from such a board by the various states. The constitutional objections would not apply to such a board as we suggest below. At least the obstacles are no greater here than in carrying out the idea of reciprocity so-called. In either case there must be a voluntary relinquishment of rights on the part of the state, and the state can only give its examining or licensing boards the privilege of accepting the credentials of a corresponding board of another state."

At the recent meeting of the Committee on National Legislation, Dr. W. L. Rodman of Philadelphia brought the subject before the committee and urged the advisability of a volunteer national examining board. The committee, which is representative and national in character, after considering the subject, heartily endorsed the idea and in its report to the House of Delegates will urge that body to take up the subject. We print elsewhere a communication from Dr. Rodman and ask our readers to give it consideration.

If the certificate, diploma, degree or whatever it may be called, of the proposed national examining board is to be accepted by all the states it will be necessary that the board be composed of men of such high standing in the profession and of such scientific attainments, that they will command the respect and confidence of all. The board must be of such a character that to be a member of it will be a high honor; but the remuneration must be sufficient to offset any sacrifice of time the members would have to make to attend to the duties. The fees would without doubt bring in a sufficient sum to meet all expenses, but under no circumstances should the remuneration of the board depend on the fees.

If possible, the creation of the board should be recognized by Congress. As we suggested in our former editorial the board might be created ostensibly to examine applicants for the three arms of the service; at the present time applicants for the medical departments of the Army, Navy and Marine-Hospital Service are examined by boards representing the respective services. While ostensibly the functions of the proposed board would be to pass on the qualifications of those desiring to enter these services, the acknowledged function would be to grant certificates or diplomas which should be a guarantee of a thorough and practical general and medical education. However, it is not absolutely necessary that the board be created by Congress; the degree-conferring bodies of Great Britain, such as the Royal College of Surgeons, the Royal College of Physicians, and the Apothecaries' Hall, of England, and the similar bodies in Scotland and Ireland, while chartered by the government, are private institutions.

The examinations by this board must be rigid, broad, and practical; as suggested by Rodman, the applicants must demonstrate their knowledge in hospitals at the bedside. Above all a thorough general education must be demanded, but not necessarily an academic degree.

1. Journal A. M. A., January 11, p. 108.

The board should meet three or four times a year in as many different parts of the country.

It will, of course, be recognized that such a board would not help those now in practice, as but an extremely small percentage of these would be able to pass such an examination, unless after special preparation for it. It is for the future, for the young men who are ambitious, who want something more than an ordinary M.D., or a state license. The state boards would still exist, as probably only a minor portion of those entering the profession would be qualified, or have the ambition, for the national diploma.

We earnestly commend this idea of a voluntary national examining board to our readers and ask for a free expression of opinion pro and con. The subject will certainly be brought before the House of Delegates at Saratoga in June, and that body will undoubtedly be glad to have the opinion of the profession on the subject.

MASSAGE AND GYMNASTICS AS THERAPEUTIC MEASURES.

That massage and gymnastics in skilful hands constitute valuable and efficient therapeutic measures of a large range of applicability is no longer questioned by those who have studied the matter conscientiously. In many of the European countries these forms of mechanical therapy are receiving much more attention and encouragement than seems to be the case in America. In Stockholm there has existed for years a fully equipped, legally authorized and regulated institution—"The Central Institute"—for the instruction and training of properly qualified men and women in massage and gymnastics for therapeutic purposes. In order to enter this institute the applicant must possess the degree of bachelor of arts and the course of instruction and training extends over two or more years. In Berlin we undestand that these forms of mechano-therapy are represented by a regularly constituted chair in the university.

Graduates from the Central Institute in Stockholm and from other reputable institutes have settled in various parts of the world and successfully practiced their calling, thus becoming in many instances the pioneers in introducing scientific massage and gymnastics. Not a few have found their way to the larger American cities, but up till the present time American physicians have not been sufficiently impressed with the varying degrees of qualification possessed by those who have established themselves as masseurs and gymnasts, and there is no doubt that lack of discrimination may have delayed proper recognition of the value of massage and gymnastics as therapeutic means. It is probable, too, that the general failure of the medical profession to properly interest itself in scientific massage and gymnastics had not a little to do with the development and spread of the peculiar form of quackery known by the anomalous term of osteopathy, which in a large measure simply represents massage run wild and without the proper control of physicians. The osteopath endeavors by false pretensions to push massage and gymnastics beyond their proper limits, and, although devoid of adequate medical training, he boasts of his skill in treatment of various diseases whose nature he can not understand. He consequently is merely a quacksalver. The educated masseur and gymnast, on the other hand, recognizes that his true position is that of helper of the physician and surgeon without whose advice and recommendation he does not undertake the treatment of patients. No doubt the lack of proper interest in massage and gymnastics on the part of physicians is traceable in large part to the complete absence until recently of any effort to teach students either didactically or practically so much as even the fundamental principles of mechano-therapy.

We have had since the beginning of medical teaching in this country regular courses of lectures on "materia medica and therapeutics," in which there have been marshalled before the bewildered student a vast array of mostly unimportant information concerning the habitat and origin, Latin naming, modes of preparation and doses of medicinal preparations, together with extensive lists of diseases and conditions in which the various preparations, frequently obsolete, have been used with more or less empirical success. Only the other day the candidates for internships in one of the largest general hospitals in the country were asked to give Latin or official names of some 25 substances used in materia medica, among them being such potent and powerful substances as slippery elm bark. It is high time that this sort of teaching is abandoned. Medical students have enough to remember of importance without being compelled to memorize literally the many useless facts of "materia medica and therapeutics" as ordinarily taught. Now the real place for teaching therapy is the clinic, stationary and ambulatory; it is here that massage and gymnastics, for instance, should be introduced to a greater extent than now seems to be the case; and for two reasons, first, because of the real service of massage and gymnastics when properly used in certain suitable cases, and second, in order that medical students, graduate as well as undergraduate, may observe the practical application of mechano-therapeutic measures by properly-trained persons and witness the actual results thus secured.

THE BALANTIDIUM COLI (STEIN) IN INTESTINAL DISEASES.

The balantidium coli is a normal inhabitant of the large intestine of the hog. It is also occasionally found in the feces of other normal animals, as the dog and cat, but these animals probably become infected by dirt or food previously contaminated by the feces of swine. It is sometimes found in human feces in connection with disease of the intestine, as diarrhea and dysentery, but probably never in the healthy intestine. About thirty instances of infection in man have been reported, mostly from northern Europe, a number from Sweden. Strong

and Musgrave[1] reported a case from Manila. In The Journal[2] reference was made to a case described by Solowjew. The parasite is believed by most writers to be accidentally present and, while finding favorable conditions for growth in the diseased intestine, to probably have no etiologic relation to the diarrhea.

This view is opposed by other observers. Strong, Musgrave and Henschen believe in the pathologic importance of the parasite. In most of the cases which have been examined postmortem, lesions have been found which are very similar to those in amebic dysentery. Solowjew demonstrated the balantidia coli in the walls of the colon from a case showing marked dysenteric lesions. He believed that the balantidia, by virtue of their active, independent movement, might penetrate the mucosa, passing between the glands, and reach the mucosa, giving rise to necrosis and ulceration. Strong and Musgrave also demonstrated the parasites in the intestinal wall, most abundant in the submucosa, and penetrating for a short distance between the muscular layers.

Of interest in this connection is the description by Harlow Brooks[3] of an epidemic of dysentery caused by the balantidium coli, occurring among the apes of the New York Zoölogical Park. Five apes were affected with a severe dysentery. Two of the animals died after a few days and the bodies were examined postmortem. The principal changes were located in the cecum, in the lining of which were extensive ulcerations, irregular in contour and with undermined borders. Microscopic sections through the ulcers showed a destruction of the mucous and submucous coats, the floor of the ulcer being the muscular coat; in others the destructive process extended down to the peritoneum. Extensive undermining of the bordering mucous membrane was one of the chief characteristics of the ulcers. Local inflammatory infiltrations were not frequent. The balantidia coli were found in great numbers in the sections, filling the floor and sides of the ulcerations. From the floor and sides of the ulcers, the infusoria extended outward, being found in the muscular coats, apparently penetrating along the course of lymphatic and blood vessels. The parasites appeared to enter the submucosa from the bases of the crypts of Lieberkühn, in which glands they are often present. While the diarrhea was present, the feces of the apes contained the balantidium coli, but as soon as the animals recovered and the stools became formed the infusoria disappeared. Relapses after apparent recovery were frequent and each relapse was accompanied by the presence of the balantidia in the feces. The location of the infusoria deep in the glands of the intestine may explain the difficulty of reaching and completely destroying them, and so the liability to relapse. Brooks has not succeeded in reproducing the disease experimentally, but he has been unable to employ apes because of their expense. These cases in apes with so many of the clinical and anatomic characteristics of amebic dysentery, are most interesting. The demonstration of the parasite in the intestinal tissues, extending outward in advance of the destructive changes, furnishes as convincing proof of its etiologic relation to the intestinal lesions as do similar demonstrations in the case of the ameba coli in amebic dysentery. Since Stiles has shown the balantidium coli to be very abundant in the feces of pigs in Iowa, it seems likely that cases of infection by it might be observed there. As this infection will naturally occur in the country, the cases will come under the notice of country practitioners, and it is to them that we must look for their detection. It is not unlikely that the more general examinations of feces which seem about to be carried out will disclose cases of infection with balantidium coli in this country.

Brooks' observations also call attention to the fact that the study of disease in the animals most closely related to man may be of much value in helping to clear up certain obscure problems in human pathology.

1. Bulletin of Johns Hopkins Hospital, February, 1901, 31.
2. Jour. A. M. A., Aug. 24, 1901, 518.
3. N. Y. Univ. Bulletin of the Med. Sciences, January, 1902, 1.

THE OHIO MEDICAL LAW.

The last issue of *American Medicine* contains an editorial commenting on a recent decision of the Supreme Court of Ohio in which it sees a nullification of the medical practice laws of that state. At the same time it points out that, viewed from this standpoint, it also practically amounts to nihilism in the administrative departments of the government of Ohio. If such is the case, we do not see the necessity of the forebodings of our contemporary. The Supreme Court has, in such case, evidently made a mistake and will utilize its first opportunity to correct it. Court decisions on constitutional questions are not—like the laws of the Medes and Persians—altogether beyond the reach of auto-revision; if the interpretation of the constitution in one case seems to nullify an act of the legislature, it does not necessarily follow that the same result will follow in another. Certainly, the constitution does not commit inevitable suicide by annihilating the executive part of the government. As we read the decision it does not essentially nullify the medical practice act which certainly furnishes standards enough apart from the mere will of the examining boards. Nor can we see how it need necessarily affect the examination provisions of the law. Undoubtedly the quacks and other opponents of medical laws will utilize this decision as much as they are able, but we reserve a serious doubt of their success. It would be a pity if the medical law of Ohio, which has so far worked so well, at least apparently, could be overthrown by the side wind of a decision on an entirely different act. The medical board in that state deserves credit for effectively executing the law, as is shown, for example, in an item in our news columns of last week, in which notice was given of the prospective suspension of one of the medical colleges of the state on account of the rigidity of the preliminary qualifications required. If a medical college—a professional school—can not exist without admitting those who have not even a decent high school education, it ought not to exist. There are, how-

ever, many such and they exist and flourish because our state laws too often ignore preliminary qualifications or, it may be, because state boards are lax in the enforcement of the requirements.

HAVANA'S EXCELLENT SANITARY RESULTS.

The published report of Maj. W. C. Gorgas, chief sanitary officer of the City of Havana, is an interesting document. It includes only the period ending Dec. 30, 1900, but in this some of the most striking results of the introduction of proper sanitation into a district where it had been notably neglected were apparent. Aside from the question of yellow fever, the etiology and prophylaxis of which were practically settled during the period, the results with other diseases are also remarkable. Tuberculosis, which during the decade 1890 to 1899, had a mortality of 1683 annually, or 7.5 to each 1000 of the population, was reduced to 5.39 in 1899 and 3.40 per 1000 in 1900. If there could be any doubt as to the effect of proper sanitation on the prevalence of this disease the progressive reduction here produced ought to settle it, supporting as it does the facts given from other localities. It shows, moreover, that conditions, not contagion, are chiefly responsible for its mortality. The fatality of other disorders due to unsanitary conditions was also reduced, enteritis dropped from 1163 deaths in 1899 to 560 in 1900 and typhoid fever from 240 to 90. Yellow fever, on the other hand, not being affected by general sanitation, increased in 1900, largely on account of the immigration of non-immunes, but the demonstration of its method of infection made that year has since enabled the authorities to furnish one of the most striking examples of the control of a pestilential disease afforded in the history of medicine. If the Spanish war did no other good, this result would have been worth all its cost, and more, to the world. It is to be hoped that the incoming Cuban government will continue with like success the sanitary measures instituted by the military authorities during the American occupation. It is what they are bound to do under the conditions enforced as a matter of self-protection by the United States, and the world generally will watch with interest how they meet the responsibility.

THE PARATHYROID GLANDS.

The embryology and physiology of the parathyroid glands have been studied extensively by various observers, but practically nothing is known so far concerning the pathologic changes that may occur in these structures. A beginning is made by Benjamins,[1] however. He finds that in man these glands generally occur in pairs, one on each side, and that they develop probably from the fourth branchial clefts. Kohn and others observed a duct-like passage in connection with the parathyroids; Benjamins regards this duct as analogous to the thyroglossal duct, and he proposes for it the name ductus parathyroideus. It would not be surprising were this duct to become the seat of cystic dilatation in cases of incomplete obliteration, thus forming an additional variety of cyst in the neck. Benjamins noted that the usual regressive changes occur in the parathyroid glands as in other organs; in a case of general miliary tuberculosis tubercles were found throughout the parathyroids. These structures do not seem to undergo any special or specific changes in goiter. So long as we are not adequately informed in regard to the functions of parathyroid in man, surgeons would act wisely by leaving them behind whenever that is possible in thyroidectomy. They are found mostly on the posterior free margins of the lateral lobes of the thyroid near the branches of the inferior thyroid artery. Experienced observers will probably have but little difficulty in recognizing the parathyroid, but at first it is very difficult, if not impossible, to distinguish them from small lymph nodes, more particularly hemolymph nodes, which may occur in this region. Benjamins fully describes a tumor of parathyroid structure developing in a man of 57. It grew slowly until it reached the size of a child's head, was irregularly nodular, and surrounded by a fibrous capsule. Microscopically, it proved to be of papillary structure, the epithelial cells greatly resembling those of the parathyroid with small clumps of colloid here and there between the cells. Undoubtedly other instances of tumor growth in connection with the parathyroid will be described soon now that attention has been directed to this possibility.

1. Ziegler's Beiträge, 1902, xxxi, 143-182.

ABILITY AND THE SIZE OF THE HEAD.

The relation of the size of the head to size of brain and correspondingly to the grade of intellect is generally accepted as a fact by the public and to a large extent by scientific men. It has its basis in the well-known facts of microcephaly, but within the reasonable limits of head size as carried by average rational individuals there have been no absolutely certain data for the solution of the question. Some great men have had small heads and vice versa. Professor Karl Pearson, the English mathematical biologist, has attacked the question in a communication to the Royal Society (abstracted in *Nature,* April 10) in his own special way, utilizing the records and measurements of the honor men at the Cambridge University examinations as compared with the average, and also the figures from schools. He considers in these cases the ability as shown in various ways, the judgment of teachers, the results of examinations and the subject's own estimate of himself, and compares these factors with the data as to size and shape of the head, utilizing strict mathematical methods in the investigation. The ultimate result reached by him is that there is no appreciable or necessary relation between ability and the size and shape of the head—that is, of course, within the average range as heads are met with. This finding will, of course, not be conclusive as regards special cases, for there will always be evidence that, exceptionally at least, large cranial and brain development attend marked ability. The mental makeup, moreover, is so complicated that no absolute criterion of ability can be established, the brain balance may fail in some essential point and a "mute inglorious Milton" the result. Indeed, it seems possible that ability in any line is to a certain extent an accident and it may perhaps be occasionally even pathologic. The equal development of brain and its faculties to a very high grade is almost an impossibility, hence the small, well-

balanced organ may show better functional results than the larger but somewhere or other less perfectly adjusted one. There is abundant good reason to accept Professor Pearson's result as stating the rule, to which, however, as with other rules, there may be notable exceptions.

Medical News.

CALIFORNIA.

Fatality in Hospital Fire.—The north wing of the King's Daughters' Home for Incurables, Oakland, was destroyed by fire, April 28. Despite the heroic efforts of the matron, nurses and attendants, one inmate was fatally burned and another will probably die from injuries received.

Cooper Medical College Commencement.—On April 29, Cooper Medical College, San Francisco, graduated a class of 25. Rev. Frederick W. Clampett, D.D., delivered the address to the class, and Dr. Albert H. Taylor, the faculty valedictory. The degrees were conferred by Dr. Charles N. Ellinwood.

Illegal Practices and Practitioners.—The jury system seems to work hardships to the efforts of the State Medical Society to punish unlicensed practitioners. In a recent case the jury returned the verdict: "We, the jury in the above-entitled action, hereby agree to disagree."——Sylvester W. Richmond, a "trance-physician" of Los Angeles, was convicted of practicing without a license.——C. J. Schmidt and Genaro P. Yglesias, "worm doctors" of San Diego, who have been in trouble before on account of "knife-plays" and illegal practices, have again been arrested.

Change in Medical Course.—The faculty of the University of California has adopted a new pre-medical course, by the terms of which students will no longer be allowed to receive the degrees of M.D. and B.S. upon the completion of six years in the University, three in the academic and three in the medical department, as heretofore. However, on the completion of the new pre-medical course in the College of Natural Sciences and of the first two years in the medical department students may be granted the degree of B.S. on recommendation of the faculty of the College of Natural Sciences. This change is a result of the reorganization and extension of the medical department, which will no longer allow students who have taken the three years' pre-medical course at Berkeley to be admitted to the school.

COLORADO.

Emergency Hospital, Denver, will be reopened in its permanent quarters at Curtis and Fourteenth Streets about May 15.

Pesthouse Burned.—An incendiary fire destroyed the isolation hospital of Victor, April 24. The loss was $1200, with no insurance.

New Hospitals at Victor.—The new private hospital of Drs. McKenzie and Welles was formally opened May 3.——The new Teller County Hospital is to be opened to-day.

Gift to Glockner Sanatorium.—Otto Young of Chicago has given $5000 to the Glockner Sanatorium, Colorado Springs, for the purpose of erecting an addition to the institution, conditional on liquidation of the debt on the sanatorium.

Maternity Hospital Dedicated.—The Denver Maternity Hospital was dedicated with appropriate ceremonies, April 20. Dr. Horace G. Wetherill, president of the Hospital Association, delivered an address in which he explained the need for the establishment of the hospital. Bishop Warren, Rev. R. F. Coyle and Dean Hart of St. Johns' Cathedral participated in the dedicatory exercises.

DISTRICT OF COLUMBIA.

Howard University Graduates.—The Medical Department of Howard University, Washington, held its commencement exercises, May 6, graduating a class of 27.

For an Isolation Hospital.—The district commissioners have received from the Senate district committee a copy of an amendment to the District appropriation bill, intended to be proposed by Senator Gallinger, providing that the commissioners are empowered and directed to acquire Analostan Island, in the Potomac river, at a cost not to exceed $125,000, or by condemnation proceedings conducted in accordance with the terms of the act which provided for the securing of an eligible site for the new city postoffice building. The island is to be the site of the isolation hospital for the District.

To Amend Virus and Serum Bill.—The District Commissioners received, April 21, from the Medical Society, a report by its executive committee inviting attention to a bill pending in Congress to regulate the sale of viruses, serums, toxins and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes (S. 4960 and H. R. 13392). The committee recommends that section 4 of the pending bill, which provides for the promulgation of regulations by the Secretary of the Treasury on the recommendation of the supervising surgeon-general of the Marine-Hospital Service be stricken out and the following inserted in its place:

Section 4. That the surgeon-general of the army, the surgeon-general of the navy, the supervising surgeon-general of the marine-hospital service, the chief of the bureau of animal industry of the Department of Agriculture and the health officer of the District of Columbia be, and they are hereby, constituted a board, with authority, subject to the approval of the Secretary of the Treasury, to promulgate from time to time such rules as may be necessary, in the judgment of said board, to govern the issue, suspension and revocation of licenses for the maintenance of establishments for the propagation of viruses, serums, toxins, anti-toxins and analogous products, applicable to the prevention and cure of diseases of man, intended for sale in the District of Columbia, or to be sent, carried or brought for sale from any state, territory or the District of Columbia into any other state, territory or the District of Columbia, or from the United States into any foreign country, or from any foreign country into the United States: Provided, that all licenses issued for the maintenance of establishments for the propagation and preparation in any foreign country of any virus, serum, toxin, anti-toxin or product aforesaid, for sale, barter or exchange in the United States, shall be issued upon condition that the licentiates will permit the inspection of the establishments where said articles are propagated and prepared, in accordance with section 3 of this act.

Section 5. That the Secretary of the Treasury be, and he is hereby, authorized and directed to enforce the provisions of this act, and of such rules and regulations as may be made by authority thereof, to issue, suspend and revoke licenses for the maintenance of establishments aforesaid, and to detail for the discharge of such duties such officers, agents and employes of the Treasury Department as may in his judgment be necessary.

The executive committee recommends that this bill, amended as suggested above, be indorsed by the Medical Society, and that the executive committee be authorized to take whatever action may be necessary to secure its enactment.

ILLINOIS.

Reckless Extravagance.—At a special meeting of the Litchfield City Council, April 15, the members of the Board of Health were granted a salary of $2 for each meeting, the salary not to exceed $10 a year.

Appalling Prevalence of Abortion.—At the meeting, May 1, of the Livingston County Medical Society resolutions were adopted, that it regarded the crime of feticide as cowardly murder, that it was determined to bring to justice the perpetrators of this crime and that it strongly deprecated all means taken to lessen the birth-rate.

Personal.—Dr. J. W. Robinson, Atlanta, has located in Tonica.——Dr. Marcus S. Fletcher, Ridge Farm, has been appointed physician of Vermilion County to succeed Dr. William A. Cochran, Danville.——Dr. I. W. Blake, Rock Falls, has moved to Ladysmith, Wis.——Dr. Samuel A. Graham, Waynesville, has been appointed to the staff of the Illinois Eastern Hospital for the Insane.——Dr. Ralph Hanson, Lewistown, has moved to Spokane, Wash.; Dr. Samuel A. Oren, Lanark, succeeds to his practice.

Blessing Hospital Staff Named.—The annual meeting of the staff of Blessing Hospital, Quincy, was held April 30. Dr. Levin H. A. Nickerson was elected president, and Dr. Edmund B. Montgomery, secretary. The following were elected to the staff: Physicians—Dr. Ernst Zimmermann, attending; Drs. Henry Hatch and John H. Rice, consulting; surgeons—Dr. Robert J. Christie, Jr., attending; Drs. Edmund B. Montgomery and William W. Williams, consulting; gynecologists—Dr. Sarah Vasen, attending; Dr. William S. Knapheide, consulting; obstetricians—Dr. Melinda C. K. Germann, attending; oculists and aurists—Dr. Frederic M. Pendleton, attending; Dr. Frank E. Tull, consulting; anesthetizer—Dr. Clarence A. Wells; advisory board—Drs. Levin H. A. Nickerson, Edmund B. Montgomery and John H. Rice.

Chicago.

New Building for Dunning.—The county board decided, May 3, to erect a building for general purposes at Dunning, to cost $20,000. The building will accommodate 100 patients.

Osteopath Fined.—A Chicago osteopath named Young, was fined $25 at Valparaiso, Ind., May 1, for violation of the state

law requiring a license to practice medicine. An appeal to the Circuit Court was taken.

Hospital for Aged Jews' Home.—Mrs. Morris Rosenbaum has donated $25,000 to the Home for Aged Jews, to be spent in the erection of a fireproof 40x60 hospital, which will be outfitted by the daughter of Mrs. Rosenbaum.

Dowieite Elder Seeks Vaccine.—The object lesson of smallpox in "Zion" has apparently had a salutary effect on the *ci-devant* anti-vaccinationists of the Dowie cult. On April 29 Dr. Speicher called on the Health Department for protection from a case of smallpox on the South Side, near a colony of Dowieites.

Colonel Wilcox Transferred.—Lieutenant-Colonel Timothy E. Wilcox, chief surgeon, Department of the Lakes, Chicago, has been ordered to Vancouver Barracks, Washington, for duty as chief surgeon, Department of the Columbia. He will be succeeded by Lieutenant-Colonel C. L. Heitzman, who is now on his way home from the Philippines.

Public Health Good.—Aside from scarlet fever the public health conditions are fairly satisfactory and a continuous decrease of mortality during the next two months is anticipated. The highest number of deaths, 19, from scarlet fever during the present epidemic was reported last week. With inadequate hospital facilities and the carelessness of too many parents, and even of physicians, in the matter of isolation and disinfection there is little prospect of the epidemic subsiding until the material is exhausted.

Death Rate Lowered.—For the second time this year the Department of Health reports the total deaths recorded as fewer last week than for corresponding weeks of last year and for the first time since May 15, 1897—nearly five years—no death was reported from typhoid fever. The total deaths last week numbered 504—an annual death rate per 1000 of 14.44—being 46 fewer than the week previous and 62 fewer than a year ago. These figures represent a decrease in the death rate per 1000 of 8.2 and 13.8 per cent. respectively.

The Recommendation Supply Waning.—During the past week only four recommendations have been added to those heretofore chronicled as emanating from the officers-of-the-day at the County Hospital. These are: 1. That a bulletin board be established for announcing unusual and interesting cases treated by internes, that other internes might discuss the cases and criticise the treatment. 2. That a wardrobe be established to provide clothing for needy persons dismissed from the hospital. 3. That the city establish an especially-constructed hospital for contagious diseases, which could be so operated as to pay expenses. 4. That Recommendation 3 be carried out.

Nurses' Convention.—The fifth annual convention of the Nurses' Associated Alumnæ of the United States adjourned, May 3, after electing Miss Mary Riddle, Boston, president; Misses Harriet Fulmer, Chicago, and Sarah Rudden, Philadelphia, vice-presidents, and re-electing Miss Tamar Healy, Brooklyn, treasurer, and Miss Mary E. Thornton, New York, secretary. One of the most important matters considered was the securing of legislation providing for the registration of nurses and their recognition by the state. Already two states are organized for such effort with the legislatures—New York and Illinois—and the result of the report and discussion at this meeting will probably be similar organization in other states. This will mean in time the establishment of a universal curriculum and an extension of the course of study from two years to four in all training schools.

Spectacle-Fitting Not Practice of Medicine.—The Appellate Court of the Second District of Illinois, in the case of Smith vs. People, has decided that an itinerant oculist and spectacle-fitter is not engaged in the practice of medicine. The appellant advertised as the "Great Chicago Eye Expert," and his advertisements also contained the following: "If you have blurring, dizziness, neuralgia, headaches, spots before the eyes, inflammation, granulation, winking, trembling spells, cataract, burning and smarting of the eyes, various brain affections entailing not only positive injury to the sight, but untold misery, call immediately." The court reasons that this is not the practice of medicine; "the defendant did not cure any of these ailments, that whenever his patrons ceased using the glasses defendant had supplied to them, their prior troubles returned." The case has been carried to the Supreme Court.

INDIANA.

Union Hospital Staff Feasts.—The annual banquet of the staff of the Union Hospital, Terre Haute, was given, April 24. Dr. Stephen J. Young officiated as toastmaster.

Greene County Medical Board was reorganized at Switz City, April 17, with Dr. Elmer Shirts, Lyons, president; Dr. James E. Tallbot, Linton, vice-president, and Dr. C. B. Mallott, Linton, secretary.

The Physicians' Defense Company has filed articles of incorporation at Fort Wayne, showing a capital stock of $100,000. Its purpose is to aid and protect members of the medical profession from prosecutions in civil malpractice suits. The company will contract to defend physicians for a certain consideration for a certain period.

Medical College of Indiana Commencement.—The thirty-second annual commencement exercises of this institution were held at Indianapolis, April 24. The address of the evening was delivered by Rev. George Harris, LL.D., president of Amherst College, who spoke on "Ideals and Progress." Hon. Addison C. Harris, president of the University of Indianapolis, then conferred degrees on a class of 75.

Ober a Fugitive.—Dr. George McD. Ober, who conducted a so-called medical institute in Indianapolis until last winter, when he was arrested, charged with practicing medicine with a fraudulent license, and who afterward went to Madison, where, at the instigation of the Jefferson County Medical Society, he was again arrested on a similar charge and released on bonds, failed to appear for trial. Judge Bear of the Circuit Court thereupon spoke of the numerous complaints of the citizens in various parts of the county of the manner in which the defendant had served them, they claiming that Ober would agree to bring about a cure for $50 and would take their note for the amount negotiable at a bank and leave a bottle of medicine and never be seen by them again and would sell their notes. He said the citizens of the county were entitled to protection from such traveling doctors, that the able physicians of the county, who had paid out large sums of money in fitting themselves up for this important duty, were also entitled to protection, and that no one should be entitled to practice in this territory unless he were legally licensed. He thereupon ordered that Ober's bond be raised to $500, a new warrant issued for his arrest, and the case continued until the next term of court.

IOWA.

Drake Medical College, Des Moines, held its commencement, April 21, graduating a class of ten. Chancellor W. B. Craig of the university conferred the diplomas.

Dr. Middleton's Will.—The will of the late Dr. William D. Middleton, Davenport, has been filed for probate. It leaves his entire estate to his wife, who is made sole executrix without bond.

Sioux City College of Medicine graduated a class of ten at its twelfth annual commencement, April 30. Dr. William Jepson delivered the doctorate address, and Dr. George W. Beggs, president of the board of trustees, presented the diplomas to the class.

Personal.—Dr. Harry J. Watson, late of Ottumwa, has been placed in charge of a brigade hospital in the Philippine Islands. He has recently been recommended for promotion for distinguished bravery.——Dr. Allen L. Bryant, Marshalltown, has moved to La Moille.——Dr. Charles L. Stubbs, La Moille, will locate near Walla Walla, Wash.——Dr. John P. Harrel has been appointed health officer and city physician of Burlington.

Will Build.—The board of regents of the University of Iowa held its annual meeting at Iowa City, April 5. It was decided to erect a medical building to cost $200,000 on property given by the citizens to the university several years ago if reasonable prices for land desired could not be obtained. To locate the medical building thus will close up a street that has been kept open by the university.

MARYLAND.

Baltimore.

Endowment Fund Increased.—At the meeting held, May 2, to increase the Johns Hopkins endowment fund, $60,000 was contributed.

Fraternity Reunion.—The annual reunion of Maryland Chapter Alpha, of the Phi Beta Kappa Society, was held at Baltimore, May 2.

Reunion and Banquet.—The University of Maryland class and hospital staff of 1892 held a reunion and banquet May 3, Dr. John Turner being toastmaster.

Banquet.—The second annual banquet of the Alumni Association of the Baltimore Medical College was held, April 28,

about 200 attending. An address was delivered by Dr. Robert W. Johnson. The alumni gold medal for the best thesis was presented to Dr. Arthur P. Herring.

The Maryland Woman's Quarter Club is meeting with success in collecting subscriptions for the building of a sanitarium for consumptives in the mountains of Western Maryland. The subscription books will be gathered in May 14. About $1400 is now in hand, and 1000 new subscription books have been issued, returnable November 15.

Health Wardens.—The health commissioner appointed the following as health wardens: Drs. F. Caruthers, J. A. Schulte, C. M. Schulte, Thomas Sudler, F. A. Sauer, A. C. Hearn, A. S. Gage, J. W. France, H. T. Westbrook, J. F. Hempel, Claude Van Bibber, T. L. Richardson, D. S. Williams, A. G. Barrett, J. L. Ridgely, M. K. Warner, C. F. Flautt, R. A. Warner, M. G. Smith, H. J. Hahn, E. C. Garee, A. T. Chambers, H. Lee Franks, and L. J. Turlington.

Library of the Medical and Chirurgical Faculty.—The annual report shows a very prosperous condition of the collection. During the year the additions have been 926, including 100 rare old volumes purchased abroad by Dr. Osler and the Upton Scott collection of 114 volumes presented by Dr. Clotworthy Birnie. There are 144 journals regularly received. There have been 3897 readers during the year, and 2057 books loaned out to 229 members. This now really valuable collection of 14,000 volumes is becoming the constant resort of a large number of the profession, not only of Baltimore, but of Maryland, and the comfortable Frick quarters with the easy chairs and the long oaken tables are a great boon to many. The benefits derived are seen in the improved character of the papers read before the local societies and published in the journals. From statistics it appears that this library is attended and used as much as others of much larger size.

University of Maryland School of Medicine.—The graduates of the University of Maryland School of Medicine, 76 in number, have been announced. Dr. A. M. Shipley won the gold medal. The following appointments have been made: Assistant resident physicians—M. L. Price, M. R. Thomas, and B. B. Ranson; assistant resident surgeons—Nathan Winslow, A. M. Shipley, H. L. Rudolph, and S. R. Donahoe; assistant resident gynecologists—M. V. West and J. F. Hanes; assistants at Bayview Asylum—Charles D. Grover and Philip L. Traverse. The meeting of the Alumni Association was held May 2, the address being by State Comptroller Hon. Joshua W. Hering, M.D., class of 1855. Dr. John T. King was elected president for the ensuing year. A badge was adopted and a committee of ten appointed to make arrangements for the centennial of the university, which will occur in 1907. The annual commencement was held May 5, Governor Montague of Virginia being the orator.

MASSACHUSETTS.

Alleged Doctor Fined.—Edward E. Willard, colored chiropodist, was found guilty of the unlawful practice of medicine at North Adams, April 30, and was fined $100, or in default will serve four months in jail.

The Lynn Medical Fraternity tendered a complimentary dinner, April 30, to Dr. William S. Gottheil of New York City, who addressed the fraternity on "Diseases of the Skin, and Syphilis," illustrated by stereopticon.

Harvard Medical School.—Harvard College has now entered into formal possession of the site for its new medical school. The title is taken by the president and fellows of the institution, and the consideration given is $606,008. The land which comprises the site of the new medical school was conveyed to the trustees representing the college in August, 1900. It is a very large tract, comprising 1,128,824 feet of land.

Hospital Appointments.—Franklin County Hospital Medical Board has elected Dr. Augustus C. Walker, president; Dr. Enoch G. Best, vice-president, and Dr. Benjamin P. Croft, secretary and treasurer, all of Greenfield.——Dr. Charles A. Shackford has been re-elected chairman, and Dr. J. E. Blaisdell elected secretary of the medical board of Frost Hospital, Chelsea.——Dr. J. Clark Hubbard has been elected superintendent of the Holyoke City Hospital, vice Dr. Charles O. Carpenter, deceased.

Changes in Faculty of Tufts Medical College.—New appointments on the faculty and boards of institution of Tufts College Medical School, Boston, are as follows: Edward O. Otis, M.D., professor of pulmonary diseases and climatology; Francis D. Donoghue, M.D., instructor in clinical surgery; Henry S. Warren, M.D., assistant in orthopedic surgery; J. Sheppard May, M.D., assistant in clinical medicine and obstetrics; Charles H. Winn, M.D., Arthur W. Fairbanks, M.D., John P. Treanor, M.D., and H. F. R. Watts, M.D., assistants in clinical medicine; James W. Hinckley, M.D., assistant in obstetrics; L. Mary Belle Holt, B.L., assistant in anatomy; Florence Gilman and Frank H. McElroy, assistants in general chemistry; Arthur H. Makechnie and Walter W. Kingsbury, assistants in medical chemistry and toxicology; Freeman A. Tower, assistant in physiology, and John A. Whittle, assistant in histology.

MICHIGAN.

The Honored Dead.—The board of control of Lansing City hospital has passed resolutions regarding the death of Dr. Charles N. Hayden, Lansing.——The physicians of Berrien County met at Benton Harbor, April 10, to pay tribute to the memory of Dr. John Bell of Benton Harbor.

Michigan College of Medicine, Detroit, held its fourteenth annual commencement, April 24, graduating a class of thirteen. Rev. John McCarroll, D. D., delivered the address to the class on "Medicine, Law and Religion." Dr. Lewis E. Maire presented the class to Dr. William I. Hamlen, who administered the Hippocratic oath and presented the diplomas; Dr. John F. Bennett delivered the doctorate address, and Dr. Abram Goodfellow the valedictory.

NEW YORK.

The Stony Wold Association, which has for its object the establishment of a sanitarium in the Adirondacks for the treatment of as many as possible of the 20,000 tuberculosis sufferers in the tenement districts, in its first year has raised more than $50,000 for the furtherance of this object.

New State Hospital Needed.—Owing to the overcrowded condition of the State hospitals and the yearly increase in the number of patients, it is more than likely that a new hospital will be planned, and the district to be selected will undoubtedly be that including Saratoga, Washington, Essex, Clinton and Warren counties. The Commission in Lunacy will possibly this summer examine into the availability of any sites offered in the counties mentioned and bring the matter to the attention of the legislature of 1903.

Nurses' Movement for Registration.—The New York State Nurses' Association completed its organization at the annual meeting in Albany, April 15: The officers elected are: President, Miss Isabel Merritt, Cherry Valley; vice-presidents, Miss Julia Bailey, Rochester, and Miss E. J. Keating, Buffalo; secretary, Miss E. C. Sanford, Rochester; treasurer, Miss Mary Brooks, Saratoga. The society is now ready to consider seriously the question of legislation for registration, which will ultimately place training schools for nurses under the supervision of the regents, establishing thereby a more uniform basis of nursing education in the state, and eventually making trained nursing a recognized profession. The nurses of Illinois and New Jersey are already organized for this purpose, with Colorado, North Carolina, Pennsylvania and Massachusetts agitating. The movement is also strong in England.

New York City.

Tragedy in a Physician's Family.—The 2-year-old baby of Dr. M. B. Lewis, East Hampton, picked up from the floor of its father's office some strychnin pills that had been dropped and swallowed them. The child died as its father reached home.

Bellevue Training School Loses Superintendent.—Miss Agnes S. Brennan, superintendent of the Bellevue Training School for Nurses, after having been connected with that institution for about twenty years, has resigned in order that she may take a long and much-needed vacation. Her successor is Miss Delano.

Commitment of Insane to Bellevue Hospital Illegal.—An order has been issued from the special term of the Supreme Court directing the release of one Peter McKenna from confinement in the Manhattan State Hospital, on the ground of illegal commitment. The decision is of importance, because it makes the present procedure of commitment to Bellevue Hospital illegal.

Medical Student a Suicide.—Daniel D. Rosenberg, a young medical student in his third year at the College of Physicians and Surgeons, was found dead in a bathhouse, having swallowed carbolic acid and inhaled illuminating gas. His health had failed after an attack of appendicitis, and various complications had undermined his health, and in a fit of despondency he ended his life.

Reception to Dr. Lange.—A reception to Dr. Frederick Lange, who sails for Europe May 15, was given May 2, by his friends, all of whom had earned academic degrees in Germany. According to the customs of old "color-students" the banquet was an old-fashioned "Kommers." Dr. Lange intends to settle near Lonkoisz, West Prussia, to take charge of his estate there, which is an heirloom in his family.

A Modern Day Nursery.—The Virginia Day Nursery, the oldest place of its kind in this city, has just moved into a beautiful new building at 632 East Fifth Street. The structure is fireproof, is well supplied with light and air, has cement floors and white enamel furniture, a ventilating room for the children's clothes and two playgrounds on the roof, an open one for nice weather and one enclosed in glass for cold or wet days.

Dr. A. Jacobi Retires from Professorship.—After thirty-two years of active teaching, Dr. A. Jacobi, at the ripe age of 72, retires from the College of Physicians and Surgeons, full of years and honor. In 1860 the first chair of diseases of children was established in America, in the New York Medical College, with Dr. Jacobi as professor, and in 1865 he became clinical professor of that subject in the College of Physicians and Surgeons.

Buffalo.

The Buffalo Ophthalmological Club has been organized.

Bed Endowed.—The Transportation Club of Buffalo has given $1000 to the Buffalo General Hospital for the endowment of a bed.

The consumption hospital which was built to replace the one destroyed by fire two years ago is completed. The building cost $49,900, and its equipment $5000 more. It has accommodations for 54 patients, which can be increased to 70. The building is two stories in height.

Emergency Hospital Changes.—Dr. J. H. Dewees, house surgeon, has resigned and will practice in Buffalo. Dr. Charles Southworth, medical officer, becomes house surgeon. Dr. McKay Hull, ambulance surgeon, is made medical officer. Dr. Gallagher, a recent graduate of the University of Buffalo, will be made ambulance surgeon.

University of Buffalo Commencement.—The fifty-sixth annual commencement of the medical department of the university was held May 2. Dr. John Parmenter presented the class, which numbered 38, to Chancellor, the Hon. James O. Putnam, who conferred the degrees. Dr. Matthew D. Mann administered the Hippocratic oath. Rev. David J. Burrell, D.D., New York, delivered the address on "The Doctor's Creed."

PENNSYLVANIA.

Crusade Against Unregistered Doctors.—A crusade against unregistered physicians in Allegheny county has been begun. There are 112, it is said, all of whom are to be prosecuted.

Gift to Sanitarium.—After visiting the White Haven Sanitarium of the Free Hospital for Poor Consumptives and seeing for himself the admirable work which is being done there in behalf of sufferers from tuberculosis, Henry Phipps, a member of the Carnegie Company, presented the Hospital with $2500.

Epidemic Disease.—Homestead has from 150 to 200 cases of typhoid fever, for which the Monongahela river water is blamed.——Clifton has so serious an epidemic of scarlet fever and has paid so little attention to sanitary precautions that the State Board of Health has threatened to place the entire town in strict quarantine.

Philadelphia.

Samaritan Hospital's Corner-Stone Laying.—Interesting exercises characterized the laying of the corner-stone of the new building for the Samaritan Hospital, at Broad and Ontario streets, May 3. Addresses were made by Rev. Floyd W. Tompkins, D.D., Rev. Russell H. Conwell and others.

The commencement exercises of Jefferson Medical College will be held in the Academy of Music, May 29. The Alumni Banquet will take place the previous evening at the Art Club. The Commencement exercises of the Medico-Chirurgical College occur May 24 at the same place. The Rev. Dr. Harris, President of Bucknell College, will deliver an address.

Reception at Medico-Chirurgical Laboratories.—The informal opening of the new laboratory of the Medico-Chirurgical College took place May 1. Ex-Justice Paxson, president of the Board of Trustees, and Professor E. J. Houston, Professor L. Webster Fox, chairman of the Building Committee, and the deans of the various departments delivered short addresses. All the faculty and a large number of the students and their friends were present and inspected the handsome and well-equipped building. The new building has 100 feet front on Cherry Street and 78 feet on Eighteenth Street, and is five stories high. On the fifth floor is the anatomy and histology laboratory. On the third, chemistry; second, dental dispensary; first, general medical and surgical dispensaries. The basement will be furnished as a gymnasium, college club and reading rooms. The chemical laboratory is said to be one of the finest in the United States. The building has cost, so far, more than $125,000, and still more must be expended on it before it is opened for the students in the fall. Arrangements have been made to give instruction to 700 students in the three departments.

GENERAL.

For Indian Service Physician.—A civil service examination will be held in St. Louis, June 3, for the position of physician in the Indian Service. From the eligibles resulting from this examination it is expected that a vacancy at White Earth Agency in Minnesota will be filled, at a salary of $900 per annum.—*St. Louis Republic.*

National Health Bill.—The Senate Committee on Public Health and National Quarantine directed a favorable report upon the Perkins Bill Monday, after very careful consideration. This is the bill making the U. S. Marine-Hospital Service a National Board of Health. Some few amendments were made, which did not affect the value or character of the bill.

Smallpox.

Illinois: Springfield has at present 12 houses under quarantine and 24 patients at the isolation hospital.

Chicago: Through the statement of the smallpox situation published in the latest issue of the United States public health reports, the Chicago health department is enabled to show the result of the campaign against this disease, begun last February, in the 600,000 square miles, and among the 25,000,000 inhabitants of the territory immediately tributary to Chicago. The statement covers the 17 weeks between Dec. 28, 1901, and April 25, 1902.

At the preliminary conference of railway managers and surgeons held at the instance of the commissioner January 31, it was shown that in the thirty days following Dec. 28, 1901, there had been an increase, compared with the corresponding period of 1900-1901, of more than 900 per cent. in the number of cases of smallpox reported in the group of 10 states of which Illinois is the southern center. In the remaining 33 states and territories reporting, the increase was only 26 per cent.

Between January 31 and April 25 of this year the statement shows a total of 10,598 cases reported in the Chicago territory, as against 10,464 during the corresponding period a year ago—an increase of little more than 1¼ per cent. during the last 13 weeks, as compared with the 911 per cent. increase of the first four weeks.

That this marvelous reversal of figures is due to the work so intelligently and vigorously prosecuted by the railway managements and many of the health authorities is demonstrated by the fact that during this last period of 13 weeks there have been reported 7901 smallpox cases in the remainder of the country outside the field of this work, as against 6793 cases last year—an increase of 16 per cent.

The commissioner tenders his congratulations to those who have made this showing possible by their co-operation in carrying out the details of the plan formulated at the January meeting—the essence of which was a propaganda of true vaccination, as defined in the "Vaccination Creed" of the department.

Only five new cases of smallpox were discovered in the city last week, three of them being imported from Des Moines, Iowa, Whiting, Ind., and Oak Park, Ill., respectively. During the week 17 were discharged, recovered, from the Isolation Hospital, and 33 remain under treatment. Between January 1 and April 26 there were 153 cases in Chicago, with one death.

Indiana: A railroad contractor's camp, at Grant, has been quarantined on account of two cases of smallpox.——The health authorities of Terre Haute have decided to prosecute physicians who fail to comply with the law in regard to smallpox cases. Several instances of such violation have come to the notice of the board and it is felt that an example should be made of the offenders.

Pesthouses were denounced by Dr. Newton A. Wagner, Indianapolis, at the smallpox conference recently held there. He said that he had been all over the country and had not seen a pesthouse fit to keep a sick dog in. No one would want

his wife or children to be confined in a pesthouse with a lot of dirty, lousy vagrants.

Iowa: Several additional cases have appeared in Davenport.

Kentucky: The Kentucky State Board of Health, at a meeting April 25, decided that, unless the Indiana health authorities take prompt and vigorous measures to stamp out smallpox, which is now prevalent in that state, it would establish a quarantine at the Ohio river and allow no one to cross to the Kentucky side unless vaccinated. The meeting was the result of a conference at Indianapolis yesterday between the Indiana and Kentucky boards of health, at which nearly all the health officers from the former state were present. The situation, as shown by yesterday's conference, is most alarming. In 60 of the 92 counties in Indiana, smallpox is prevalent, and in one county—Delaware—there are said to be 500 cases of the disease. To make the situation worse the Indiana State Board of Health is entirely without funds to attempt to prevent its spreading, and the state has no "epidemic fund," as is provided for by statute in Kentucky.

Maryland: A man suffering from smallpox was taken to quarantine April 29. The health commissioner estimates that each case of smallpox costs the city nearly $300. The case must be taken to quarantine, and there fed and nursed. His bedding and clothing must be burned and replaced. The house must be quarantined and a guard stationed there. Those in the house must be fed, and all in contact with the case provided with new clothes, so that those worn may be burned.——Smallpox has broken out among the soldiers at Fort Howard, at North Point on the Patapsco, below Baltimore, a case developing May 1.——Dr. C. L. Cunningham, Cresaptown, has the smallpox, having contracted it at Pinto, where there are nine cases.

Massachusetts: In the case of J. H. Mugford, East Boston, summoned for refusal to allow his child to be vaccinated, the defendant was found guilty as charged. The case was appealed to the Supreme Court.——Two new cases have appeared in Athol. Neither patient had been vaccinated.

Michigan: Smallpox was present at 126 places in the state during the week ended April 19.——At Ionia, only six cases now remain, all of which are strictly quarantined.

Minnesota: Seven cases were discovered at South Stillwater, April 28.

Missouri: Foreman A. H. Boles of H. F. Balch & Co., contractors for the Colorado railroad, with 14 of his men, will be arrested Wednesday and brought to Jefferson City for trial for again refusing to obey the quarantine regulations of the county board of health. County Physician Dr. J. L. Thorpe stated that all in the quarantine district had been vaccinated except Boles and his force, and that warrants would be issued at once for them. Boles and three of his men were fined a few days before for refusing to obey the quarantine regulations, but they returned to work, defying the order of the board, and they will again be arrested for this offense.——Greene County now has 18 cases under quarantine.

Nebraska: Reports have been received at West Point from Lincoln township that the inhabitants of that community are having a serious seige of smallpox. All persons living in the stricken district have been ordered vaccinated and all families are under strict quarantine.

The smallpox report for the week ended April 26 shows but 45 cases of the disease in the emergency hospital at Omaha and throughout the city.

New York: The State Department of Health Bulletin reports smallpox in the Adirondacks as follows: At Old Forge and Partlow, Herkimer County, 5 cases; Tupper Lake and Dickinson, Franklin County, 25; Hopkinton and Edwards, St. Lawrence County, 16; Crogan, Lewis County, 2; Newcomb, Essex County, 4; Champlain, Chazy, Plattsburgh and Saranac, Clinton County, 8, and 4 or 5 in the towns of Albion and Richland, Oswego County—about 75 cases in all. During April 5 cases occurred at Mt. Vernon, Tarrytown, Mamaroneck and Islip, near New York City; 12 cases have developed in Albany and 2 at Troy, and 1 at Auburn.

Olean reports 4 cases and Islip, Long Island, has several cases.——Between January 1 and April 26 there were 895 cases of smallpox in New York City, with 175 deaths.

Pennsylvania: Pittsburg now has more patients than at any time during the past year. The patients now number 38.

South Dakota: Oldham has 15 cases in town and a number in the surrounding country. Quarantine is contemplated.

Canada: The Montreal *Sun* makes editorial comment on the value of vaccination as follows: The great value of vaccination has been proved in a striking manner by a report, issued by the Medical Health Officer, as to the outbreak of smallpox in this city. The disease broke out last autumn and from that date till April of this year there have been over three hundred cases of smallpox. Of this entire number only three had good vaccination marks on their arms. In fact only 1 per cent. of those who have been vaccinated contracted the disease. Could anything be more striking than this? The outbreak has cost the city tens of thousands of dollars, and besides this valuable lives have been sacrificed; and the cause of this is entirely due to the antipathy, on the part of unnumbered persons, against vaccination. Surely the history, as to wonders vaccination has worked during the past century and a half ought by this time to have impressed the entire civilized world with the truth that vaccination is a direct preventive against one of the most dreadful scourges that afflict humanity.

Porto Rico: There are about 150 cases of the disease at Arecibo at present, and an effort will be made to quarantine all as soon as discovered. It is thought that it will be impossible to get the epidemic under control until all cases are isolated. The hospital was finished April 22, and has a capacity of 60 beds. A building next to the regular hospital will also be used as a varioloid hospital. It will accommodate 26 patients.

CANADA.

An Editor's Resignation.—It is understood that Dr. H. B. Anderson has handed in his resignation as editor of *The Canada Lancet*.

Winnipeg General Hospital.—The number of patients treated in the Winnipeg General Hospital during the week ending April 26 was 218, of whom 133 were men, 58 women and 27 children.

Personal.—Dr. Dryer has been added to the hospital staff of the City Hospital, Vancouver, B. C.——Dr. Rose, who has been house surgeon at the St. Boniface Hospital, Winnipeg, for the past year, has commenced practice at Gladstone, Man.

Western University, London, Ontario.—The results of the examinations in the Medical Faculty of the Western University at London, were posted on May 1. Fifteen will receive the degree of M.D. The past session has been a successful one and has given great satisfaction to the faculty.

Compulsory Vaccination.—The Provincial Board of Health of Quebec has again called upon the City of Montreal to pass the obligatory vaccination by-law under compulsion of a heavy fine. It is understood that Alderman Ames has one ready, which will shortly be brought before the city council.

Undesirable Immigration.—The Canadian Immigration Act is being amended to provide for the prohibition of certain diseased immigrants. The clause reads: "Such prohibition may be absolute or may be accompanied by permission to land for medical treatment only, for a period that may be determined by the order or proclamation."

Mortality of Infants in Montreal.—During July and August of last year there were times when two hundred babies died per week. In order to prevent a repetition of this excessive mortality steps are being taken to organize a local society for the purpose of instructing young mothers as to the care of their infants. Dr. Laberge, the medical health officer, will take a prominent part in this movement.

Dalhousie University, Halifax.—Convocation at Dalhousie University was held on the afternoon of April 29. The past session has seen the largest class in medicine in the history of the university; 27 young gentlemen received their M.D. and C.M. degrees. Mr. A. R. Cunningham, a son of Dr. Cunningham of Dartmouth, N. S., won the gold medal in the primary examination, while Mr. S. A. Fulton of Truro received the gold medal in the final.

Two New Sanitariums.—As a result of the recent tuberculosis conference held at Ottawa, two gentlemen have offered to build two sanitariums at their own expense. One is Sir William Macdonald of Montreal, and the institution will probably be situated in the neighborhood of that city; the other is the newly-elected president of the association, Mr. W. C. Edwards, M. P., of Ottawa, whose sanitarium will be in the neighborhood of the capital.

A Montreal Physician Honored.—Dr. James Stewart, who holds the Chair of Medicine and of Clinical Medicine at McGill University, has been elected president of the Association of American Physicians, which met in Philadelphia, recently. Dr. Stewart is a graduate of McGill and a licentiate of Edinburgh. He was professor of materia medica at McGill from 1883 until 1891, when he was promoted to the chair which he at present holds.

Samaritan Free Hospital, Montreal.—The annual meeting of the Samaritan Free Hospital for Women was held last week in Montreal. The past has been a prosperous year. One hundred and thirty-three patients received treatment, an increase of twenty over the previous year. Outside the hospital two hundred patients were supplied with remedies and advice. Of the total number treated, there were five deaths, a decrease in comparison with the previous year. According to the report of the treasurer the year commenced with a balance of $455.52. The receipts amounted to $3,733.74, while the expenditure was $3,149.75.

A Deadlock Re Civic Hospital, Montreal.—Montreal does not seem to know where it is at with regard to the erection of a new contagious diseases hospital. A short time ago it was given out that the matter had been finally and ultimately adjusted, but the archbishop would not accept for the Catholics a single institution; so now there is a proposition before the city council to the effect that the Notre Dame Hospital and the Royal Victoria Hospital erect smallpox hospitals and receive a stated sum per annum for the care of such patients. The hygienic committee will make no recommendations until the above is settled by the city council.

FOREIGN.

Suit Against a Russian Surgeon.—Dr. Modlinski was condemned by the court at Moscow to seven days' imprisonment for performing an operation without the consent of the patient. He appealed to a higher court, which has confirmed the sentence.

Death of Hans von Hebra.—The famous professor of dermatology at Vienna, Hans von Hebra, died in that city, April 13, in his fifty-fifth year. He was the worthy son of the founder of the chair of dermatology at Vienna, Ferdinand von Hebra, and was the author of more than 30 articles and works, principally on this specialty.

Nature-Healer Endowment.—The will of a recently deceased official at Vienna bequeaths $100,000 for the construction and endowment of a nature-healing sanatorium. Only nature-healers are to be in charge and all graduated physicians are to be excluded. The authorities at Steiermark, where the sanitarium is to be erected, have made no objections, but the local physicians have entered a formal protest against the project and appealed to the Minister of the Interior.

The Riberi Prize.—The Turin Academia di Medicina announces that the Eleventh Riberi Prize of about $4000 will be awarded for the best work produced during the years 1902-1906 in the field of the medical sciences. Other points being equal, the preference will be given to works which have in view the amelioration of the hygienic conditions of Italy. Competing works must be in French, Italian or Latin, and must be received by the secretary, B. Silva, before the close of 1906.

Other Deaths Abroad.—Vienna has also lost J. Habart, who died, April 19. His name is best known by his works on military surgery. The death is reported of Dr. G. Inzani, ex-professor of pathologic anatomy at Parma: B. Robert, professor of clinical medicine at Barcelona; H. Schobl, professor of ophthalmology at Prague; E. Fazio of Naples, editor of the *Rivista Internazionale d'Igiena* and author of numerous works on hygiene and bacteriology. The Paris medical school has also sustained a severe loss in the death of B. Rendu, professor agrégé, whose name is familiar to the readers of current medical literature.

Thomas Moore Madden, M.D. (Hon. Causâ) Texas Med. Col., M.R.C.P. Ire., F.R.C.S. Edin., M.R.C.S., Eng., who was for many years one of the prominent practitioners of Ireland, died April 16, at Tinode, aged 64, after a long illness. He had served as attending physician to Rotunda Lying-in Hospital, and Mater Misericordiæ Hospital, consultant to the Children's Hospital and National Maternity Hospital; vice-president British Gynecological Society, president of the Obstetrical Section of the British Medical Association, Fellow of the Obstetrical Society of Edinburgh, corresponding member of the Gynecological Society of Boston, examiner at Queen's University of Ireland, Royal University of Ireland, Royal College of Surgeons in Ireland and Apothecaries' Hall of Ireland, etc. He was the author of numerous books and other contributions to medical literature and as well some historical and literary works. He was a highly-esteemed and honored surgeon and a popular teacher. His personality will long be missed from Dublin medical circles.

Von Leyden's Anniversary.—The Germans celebrated Von Leyden's 70th birthday with much ceremony, April 20. The session of the Congress of Internal Medicine at Wiesbaden, April 16, was an actual Leyden festival. His efforts in founding the Committee of Cancer Research, in promoting the founding of sanatoria for consumptives and his well-known achievements in the pathologic anatomy of spinal affections and multiple neuritis have carried his fame far and wide. His name is connected with that of Charcot in the Charcot-Leyden crystals; he has devoted immense energies of late years to the development of hygieno-dietetic therapeutics. The celebration of his birthday was not confined to the profession and the appreciation of official and lay participators, as one exchange remarks, is an encouragement for all humble practitioners to live up to their high ideals as preachers and promoters of hygiene and protectors of the public welfare. An endowment was founded in Leyden's name for the encouragement of medical research, another for seaside sanatoria for children and a third for a foundling asylum. A portrait bust was also unveiled, to be placed in the grounds of the Charité, where a bust of Griesinger was recently installed.

LONDON LETTER.

The Smallpox Epidemic.

There are 1431 patients in the metropolitan smallpox hospitals, against 1526, 1522 and 1437 in the three preceding weeks; 328 new cases were admitted in the week against 389, 376 and 274 in the preceding weeks.

Smallpox in Scotland.

In Scotland for the quarter ending March 31, 614 cases of smallpox occurred, of which 391 were in Glasgow. The monthly figures are as follows: January, 75; February, 207; March, 322. From April 1 to 15, inclusive, the number was 75, of which Glasgow contributed 31.

Revised Classification of the Causes of Death.

The Registrar-General has issued a new official list of the causes of death, which contains the most important modifications which the advance of science has rendered necessary. Up to the end of the last century—for a period of 60 years—the list of causes of death used was that compiled by the father of English vital statistics, the celebrated Dr. Farr. With the beginning of the new century the list was revised in accordance with the "Nomenclature of Diseases" of the Royal College of Physicians, and a copy is now being issued to all medical practitioners. Such time-honored titles as "zymotic," "miesmatic," "constitutional," "developmental" and "dietetic" have been discarded and the diseases classed under these names have been aggregated under the heading of "General Diseases." In the grouping of these general diseases there are several important improvements. Thus, malignant disease has been subdivided into (1) carcinoma, (2) sarcoma and (3) such cases as cannot with certainty be assigned to either class, for which the term cancer may be used. Italics are used for names which are to be discouraged, but the use of which is at times unavoidable. Thus the College of Physicians is convinced that the terms "gastro-enteritis," "muco-enteritis," "gastric catarrh," etc., which are commonly employed to designate the disease officially known as epidemic diarrhea, are misleading and cause the specific nature of the disease to be ignored. The confusion of terms renders impossible the accurate determination of the prevalence of the disease at special times and places. But as physicians are loth to use the term diarrhea on death certificates, probably because the public regard it as implying a mild disease insufficient to cause death, the term epidemic enteritis or zymotic enteritis is authorized. Dropsy must not be returned as a cause of death without some indication of its probable origin in disease of the heart, liver, kidneys, etc. The term puerperal fever should no longer be used: pyemia, septicemia, or sapremia in a puerperal woman should be substituted. Phthisis is condemned as an ambiguous term which sometimes denotes other wasting diseases than tuberculosis: tuberculous phthisis or pulmonary tuberculosis should be used. Similarly, tabes mesenterica should not be used, as it frequently denotes other diseases than tuberculous peritonitis, which is the authorized term. In returning hydrocephalus those cases due to tuberculosis should be distinguished. Congenital hydrocephalus should always be returned as such. It is hoped that the indefinite term "convulsions" will be restricted to those cases in which the true cause can not be ascertained. At present more than 11 per cent. of the total deaths of infants under one year are referred to convulsions simply. The classification of deaths would be much simplified, it is said, if brain paralysis were always distinguished from paraplegia. The terms "hemiplegia" and "apoplexy" are condemned as only denoting symptoms. They should be replaced by such as signify definite lesions, e. g., "cerebral hemorrhage." Three

different kinds of pneumonia—lobar, broncho-, and epidemic now appear. A wish is expressed that the use of the term "croup" to designate non-diphtheritic affections of the larynx or trachea should be abandoned.

New Regulations for the Naval Medical Service.

The new regulations are similar to those recently introduced for the army and described in The Journal. The entrance examination is made more practical and clinical. A competent knowledge of operative surgery will be essential for candidates and will be tested by operations on the dead body. Rank as staff surgeon will be granted to surgeons 12 years from the date of entry, provided they pass the requisite examination eight years after entry. The subjects of this examination will be medicine, surgery, pathology, general hygiene and naval hygiene. The rates of pay are considerably improved. Thus on entry a surgeon receives per annum $1270, after four years' service $1550, after eight years $1825; a staff surgeon $2190, after four years' service $2460; a fleet surgeon $2735, after four years' service $3010, after eight years' service $3285; a deputy inspector-general $3830, an inspector-general $6500. Every officer will have the option of retiring after 20 years' service on a pension of $5 a day. Every medical officer must undergo a post-graduate course of three months at a metropolitan hospital once in eight years.

The Eradication of Malaria.

Major Ronald Ross has submitted a very satisfactory report on the anti-malaria work of the expedition to West Africa, despatched from the Liverpool School of Tropical Medicine. At Freetown, Dr. Logan Turner, employing about 70 men, has drained nearly the whole of the most pestilential parts of the town. The areas dealt with were formerly full of hollows, pits and ill-made drains which in the rainy season contained stagnant pools breeding swarms of mosquitoes. A gang of men was also employed to collect old tins, bottles and other rubbish from the houses, and 2257 cart-loads of such refuse have been removed and 16,295 houses visited. In Dr. Ross' opinion the possibility of ridding Freetown and therefore any town of mosquitoes has been demonstrated. The change in the demeanor of the Europeans is striking. Two and one-half years ago, when Dr. Ross visited the town, he never saw a more gloomy place. The inhabitants felt as if a sword were hanging over their heads. All this is changed and they are as cheerful as the Europeans in India. Arrangements have been made for Dr. Taylor to proceed to Cape Coast in order to start anti-malaria work there, as the mortality is very high.

Cancer Research.

To carry out the scheme of cancer research which has been described in The Journal, an appeal, signed by Sir William Broadbent, Sir Douglas Powell, Sir Thomas Smith, Mr. A. Balfour, First Lord of the Treasury, and other prominent social personages, has been published. Five hundred thousand dollars are required. Of this sum $100,000 has been paid or promised. As soon as $150,000 are collected the scheme can be put into force. As it is thought that the investigation must extend over a considerable number of years, in order to secure continuity of research, a capital of $500,000 is required.

Correspondence.

Puerperal Infection in Private Practice.

Chicago, April 22, 1902.

To the Editor:—Your editorial in The Journal of April 19 on "Puerperal Infection in Private Practice" calls attention to a very important subject and one that will bear much discussion to bring and keep it properly before the profession. A careful inspection of the mortality reports of the various city boards of health will confirm the content of your statement, which I believe is also in agreement with the impression of physicians who are particularly interested in obstetric work: that puerperal infection in private practice is still much larger than it should be and not on the decline. In your statement of the causes of this unfortunate state of obstetric practice, however, it may be that you have not dwelt with sufficient fulness nor with sufficient emphasis on the chief factors. At any rate further consideration of these factors is desirable if we expect to bring about any improvement.

I can not hope, in a brief letter, to enter into a comprehensive discussion of this subject, but I wish to call attention to two or three points that have an important influence in retarding the development of universal clean obstetrics. The first is the general lack of preparation for managing a case of labor. A clean bed, well protected with rubber sheets or clean oilcloth, plenty of clean sheets and towels to prevent the soiling of the bed, clean basins and pitchers, with clean soap and nail brush and file and sublimate tablets for use in cleaning the physician and the patient, plenty of sterilized gauze and cotton for dressings in the puerperium, are needed for the proper management of a labor case. How often does the physician neglect to order or provide for these necessary preparations and rues their lack when he comes to the case and finds no impervious covering for the bed or no clean soap or bowl that he can use in washing his hands. Especially in pathologic or operative cases are these preparations necessary. In postpartum hemorrhage, an unlimited supply of hot water for douches, with a rubber sheet to act as a drain, are necessary, and their lack may cost the life of the patient or be an important element in a subsequent infection. In operative cases a table (kitchen) and a good light are necessary, beside the necessary instruments for repair, etc. It is well known that most of the cases of bad infection are the operative cases. This is largely due to the fact that operations are undertaken without proper preparation. Operations are made on the bed without a good light, without anesthesia, under conditions that make any good work absolutely impossible because of the failure of the physician to properly prepare what a surgeon would absolutely demand as essential for a much less important case. The results are dangerous risks and unnecessary infection.

A second cause of poor obstetric work is the hurry in which the work is done, the desire of the obstetrician to get through the case as soon as possible. Many physicians dislike to remain quietly with a case and watch it proceed undisturbed, interfering only when dangerous symptoms demand interference. They feel that their time is wasted unless they are doing something to help on the labor. This attitude of mind leads to imperfect sterilization of the hands and preparation of the patient, frequent examinations, efforts at manual dilatation of the cervix, premature rupture of the membranes, premature application of forceps without dilatation of the cervix or proper indication for artificial delivery, hasty extraction or expression of the placenta and superficial inspection of vulvar and vaginal wounds to avoid the repair of probable lacerations. This haste in the management of labor, this impatience for nature's processes, whether it proceeds from the pressure of other engagements or from the inadequate remuneration, works to the great danger of the patient and is no doubt one of the most important causes of puerperal infection.

Closely allied to the subject of hasty obstetric work is that of the insufficient compensation which is almost universally given physicians for the management of cases of labor. This has an important bearing on the quality of work done and thus on the question of infection. There is no doubt that obstetric fees are in general ridiculously low and made on a very harmful basis. The common practice of taking charge of a case during pregnancy, labor and child-bed for a certain fee is unjust both to the patient and the physician. Why should one agree to take charge of a case for a certain fee not knowing whether the labor will last two hours or two days? The result of this practice is to induce the physician to hasten the labor with the results just alluded to. How can a physician be expected to watch a case carefully and patiently when he knows that his fee for twenty hours of work which have kept him from his sleep and his office and other practice will be $10, this also including his compensation for previous and subsequent visits? It is no doubt true that much of the obstetric work pays less than 50 cents an hour, less than the wages of a carpenter or plumber. A more reasonable compensation for obstetric work and a more just basis of compensation for such work is a very important condition of an improvement in its character.

Any particular proposition to improve obstetric practice must take into consideration these factors of poor work. It will be seen that an important sociologic problem is involved—one that is of great interest to the profession at the present

time—for its solution depends upon the success of medical organization. Yours truly,

C. S. BACON.

SO. NORRIDGEWOCK, MAINE, April 29, 1902.

To the Editor:—In your issue of April 19, you voice the sentiment, editorially, that the "mortality, in private practice, from puerperal sepsis is greater to-day than in the pre-aseptic period."

It seems to me that this statement is altogether too sweeping in its nature, and that a careful investigation will not bear out the allegation.

For one, I can say that in five years in this field of 1800 people, with three practitioners, neither better nor worse than the average country doctor, there have been no deaths from puerperal sepsis, nor from any diseases that might have resulted from even a slight sepsis. I am very much inclined to think that Dr. Wiggin's statement and your editorial comment are overdrawn. E. GARD EDWARDS.

Unfair Deductions from Statistics.

DAVENPORT, IOWA, April 28, 1902.

To the Editor:—In the volume of papers and reports just issued by the American Public Health Association, the deaths from typhoid fever during the years 1898, 1899 and 1900 in 135 municipalities are given under the misleading title, "Typhoid Fever Death-Rates in American Cities." In the interest of accurate statistics and the fair fame of many of the cities misrepresented by this title, I wish to enter a vigorous protest against the article in question.

The rates given are based on but three years' data, and those are the least representative of local conditions that could possibly have been selected. In them was observed, all over the Union, a marked increase of enteric fever due to no change in local conditions, but scattered broadcast by returning soldiers from the Spanish war. It is unjust to select this particular brief period to show the typhoid death-rate of American cities; and it is unfair to use these rates, as has been done, in a comparison of methods of water filtration.

If, instead of three we take ten years, ending with 1900, the typhoid death-rate for this city has been but slightly over 21 instead of 32 per hundred thousand, as given. With an average population since 1900 of at least 32,000 our typhoid deaths in the ten calendar years have been but 68, making our rate as above 21.25. Even this figure is too large for our average rate inasmuch as it includes the abnormal importation period of the war. Respectfully, C. H. PRESTON, M.D.

Miscellany.

Causation of Beri-Beri.—In the reports of sick for January and February, 1902, recently received at the Surgeon-General's office, Washington, D. C., from the prison and beri-beri hospital at Lingayen, Pangasinan, P. I., Captain Harry A. Littlefield, asst.-surgeon, U. S. Vols., has the following interesting note on the causation of beri-beri: Since the establishment of this prison until February 1 of this year, the native prisoners have been supplied with Chinese white rice. During this time beri-beri has been markedly endemic in the prison. The records of this office show that the number of deaths have averaged five monthly, while the number of new cases monthly averaged twenty. When prisoners reported sick with beri-beri they were removed from the prison to a building about one-half mile from the prison, the upper story of the building used for a hospital. The difference between conditions existing at the beri-beri hospital and the prison being only the higher elevation of the former; the diet supply was the same at both places. Many of the cases at the beri-beri hopital continued to grow worse and died. The majority of those who did recover, did so after a very long illness and many of them suffered from numerous relapses. During the month of January there were thirty-five cases in the beri-beri hospital and as many who were slightly affected in the prison. The sanitary conditions were excellent. In the civil prison, not more than one-quarter of a mile distant, there were confined a large number of natives, the sanitary condition not as satisfactory as those of the military prison, they were more crowded, in poorer buildings and not in the open air any more than the natives confined in the military prison. In this civil prison there were no beri-beri cases, the only difference existing in favor of the civil prison being that the ration was purchased in the open market. At the beginning of February of this year, upon the recommendation of the prison surgeon, the use of the Chinese white rice supplied by the commissary was discontinued and native rice from the open market purchased in its place. Since that time no new cases of beri-beri have developed and no death has occurred. Of the 29 cases remaining in hospital on the last of January, 16 have been returned to duty; 8 released, greatly improved; 5 remaining, greatly improved and still improving. The mild cases in the prison have all recovered. This marked change occurred in the space of one month, the only apparent difference existing during this period and in the previous times being that of the rice supply. From these facts it would seem that the cause of beri-beri in this prison has been brought about by the use of the Chinese rice, white variety.

The Recent Operation on the Xiphopagous Twins.—The Orissa twins have long attracted the interest of scientists. Baudouin published an illustrated description of them in the *Semaine Medicale*, in 1892, p. 474. He stated that 9 cases of this kind are known, all girls except the Siamese twins. Three of the pairs died soon after birth; 3 were successfully operated on with the survival of one or both twins, and since 1892 Chapot-Prevost and Doyen have each performed the operation of separating xiphopagous twins with the survival in health of one twin. The mother of the Orissa twins had previously borne five children, the oldest now 28, and since the birth of the twins, in 1889, has passed through another pregnancy. Her other children are normal. It is a curious fact that 3 out of the 9 known cases came from Southern Asia. Doyen presented the details of his operation at the Paris Académie de Médecine, April 8. He mentioned that the twins had not been united by any supplementary tissue. The union was as if an incision had been made in two normal children from the ensiform cartilage to the umbilicus, and the corresponding raw surfaces of liver, diaphragm, ensiform cartilage and skin had been approximated and sutured together. The pedicle was merely the result of traction. At the back it was no more than a groove, but in front it was 5 or 6 cm. wide by 10 or 12 in height. When the twins faced about the pedicle acted like a hinge, the back becoming a groove and the front stretching to the above size. The umbilicus was in the center of the lower edge of the pedicle. The presence of three large arteries in the hepatic pedicle in Doodica and the fact that Radica seemed always to thrive at the expense of her sister, and that the latter exhibited much greater resistance immediately after the separation, seemed to corroborate the assumption that Radica received arterial blood in abundance from Doodica while she returned to her only venous blood. The operation was performed to save Radica's life, as Doodica was in an advanced stage of tuberculous peritonitis. The former had exhibited tuberculous ganglia before the latter's peritonitis developed. The methylene blue test, made on Doodica before the operation, showed that the interchanges were very rapidly accomplished. Doodica's temperature was 102.4, while Radica's was only 99, which fact is another refutation of the "humoral theory" in regard to fever. Doyen believed that the least loss of blood would have been fatal and safely avoided it by the application of his "ecraseur" which crushed and clamped the stump of the liver on both sides. The stump was sutured with the wall, leaving two wicks of gauze in each wound to warn off hemorrhage. The results were perfectly satisfactory. The autopsy of Doodica, who succumbed to her peritonitis, showed that all the organs were in normal position. Radica has gained more than 12 pounds since the operation, February 9. The tuberculous ganglia in neck and axilla have been extirpated and she seems to be thriving, although affected with pronounced lateral curvature in the dorso-lumbar region of the spine. This curvature is evidently due to the constrained position which she had

been forced to assume, and is an argument in favor of early intervention in such cases, before the complete development of the skeleton. The accounts of the operation in the lay press all slyly add that champagne was given in abundance after the intervention was finished, referring to the original source of Doyen's wealth, his father's champagne vintage. For those interested in xiphopagi we refer them to the Institut de Bibliographie, Paris, Boul. St. Germain 93, which makes a specialty of loaning its collection of photographs, cuts, etc., with or without the accompanying abstracts, to any part of the world. It announces that it has pictures of 50 typical specimens of such monstrosities. Chapot-Prevost's operation was described and illustrated in THE JOURNAL, XXXV, p. 1248, 1307 and 1379. The surviving twin was in good health when she called recently at the office of the *Brazil-Medico*, at Rio.

Association News.

Railroad Rates for Saratoga Meeting.

At this writing, May 3, all of the railroad associations except the Southwestern Passenger Bureau have agreed to the following rate for the Saratoga Meeting of the American Medical Association, viz.: one fare and a third on the certificate plan, with return limit July 2 on payment of a fifty-cent execution fee and deposit of certificates with Saratoga railroad agent, not later than June 17. To those beginning the return trip not later than June 17, no fifty-cent extra fee will be charged. This rate has been extended to the American Academy of Medicine, which meets at Saratoga, June 7 to 9, therefore tickets will be on sale in the Trunk Line territories and proportionately early in other territories from June 4 to June 13. Those attending the meeting must secure a certificate from the local railroad agent when they purchase their ticket to the meeting, and the certificate thus obtained, in order to be honored for return trip reduction, must be presented to Dr. William E. Swan, at Saratoga, on either June 11, 12 or 13 for signature and endorsement. Members failing to observe this precaution will not be granted any reduction in the cost of the return ticket. From recent correspondence with the Southwestern Passenger Bureau the committee feels confident that that association will agree shortly to the rate of the other associations herein quoted. The Transportation Committee has been in active correspondence with the several passenger associations on the subject of rates for the Saratoga Meeting since January last, but has been unable before this date to receive positive assurances in the matter of rates.

H. L. E. JOHNSON, M.D.,
Chairman Committee on Transportation.

New Members.

The following is a list of new members for the month of April, 1902:

ARIZONA.
Feuner, H. W., Tucson.
Piath, O. E., Phœnix.

ARKANSAS.
Deaderick, W. H., Marianna.

CALIFORNIA.
Mansou, J. I., San Francisco.
Glaser, E. F., San Francisco.
Fraukenhelmer, J. B., San Francisco.
Montgomery, Juo., San Francisco.
Russell, T. G., San Francisco.
Rinne, F. A., San Francisco.
Moore, W. G., San Francisco.
Deardorff, A. G., San Francisco.
Tyler, H., Redlands.
Weil, Conrad, San Francisco.
Kiefer, H. A., Los Angeles.

COLORADO.
Hamilton, G. L. A., Denver.
Godsmau, P. G., Burlington.

CONNECTICUT.
Crowell, G. B., Bridgeport.

DELAWARE.
Worthington, E., Wilmington.

DISTRICT OF COLUMBIA.
Jung, F. A. R., Washington.

FLORIDA.
Anderson, L. M., Jasper.
Hargis, J. W., Pensacola.

ILLINOIS.
Church, A., Chicago.
King, O. A., Chicago.
Kreissl, F., Chicago.
Prendergast, Jos., Chicago.
Williams, H. B., Chicago.
Boettcher, H. R., Chicago.
McKiniock, J., Chicago.
Conley, P. H., Chicago.
Sleber, F. A., Chicago.
Konzelman, A., Chicago.
Courtright, C. W., Chicago.
Welfeld, J., Chicago.
Kerr, E. K., Oak Park.
Rogers, R. F., Shelbyville.
Montgomery, J. T., Charleston.
Maxwell, J. B., Mt. Carmel.
Zeigler, W. T., Canton.
Barnes, W. S., Chicago.
Friedman, W. H., E. St. Louis.
Blim, Chas., Crete.
Kingsbury, G. C., Mt. Carmel.
Babcock, H. S., Danville.
Bebb, W. S., La Grange.

INDIANA.
Shilling, John, Ft. Wayne.
Bowers, L. G., Richmond.

IOWA.
Laughlin, J., Ledyard.
Rich, G. C., Sioux City.
Burke, E. W., Iowa Falls.
Weaver, A., Cumberland.

KANSAS.
May, J. W., Kansas City.

KENTUCKY.
Rankin, J. N., Winchester.
Biedsoe, R. W., Covingtou.
Howell, I. B., Paducah.

LOUISIANA.
Gaudet, A. B., New Orleans.

MARYLAND.
Reeder, J. D., Baltimore.
Garrett, R. E., Catonsville.

MASSACHUSETTS.
Martin, H. C., Springfield.
Noyes, W. F., Pittsfield.
Brown, O. M., Everett.
Thorndike, Paul, Boston.
Cushing, E. W., Boston.
Darling, E. A., Cambridge.
Holbrook, G., Lowell.
Lothrop, H. A., Boston.
Brown, R. E., Everett.

MICHIGAN.
Lockart, E. P., Norway.
Shilling, F. F., Nashville.
Robertson, F. D., Grand Rapids.
Good, C. A., Ann Arbor.
Varney, H. R., Detroit.
Hirschman, L. J., Detroit.

MISSISSIPPI.
Hunter, J. F., Jackson.

MISSOURI.
Hardin, C. B., Kansas City.
Taylor, E. P., Fairfax.
Miller, A., Kansas City.
Booth, D. S., St. Louis.
Van Ravenswaag, C. H., Boonville.
Hanks, Jas. X., Brashear.

MONTANA.
Sullivan, T. J., Butte.
Donovan, J. A., Butte.

NEBRASKA.
Wilson, J. S., Johnson.
Gardner, A. J., Alliance.

NEW HAMPSHIRE.
Von Tobel, F., Lebanon.
Fiske, G. H., Northwood Ridge.

NEW JERSEY.
Keller, F. J., Paterson.
Costill, H. B., Trenton.
Richman, E. M., Newark.
Emerson, L., Orange.
DeMeritt, C. L., West Hoboken.
Broderick, J. J., Jersey City.

NEW YORK.
Sullivan, W. E., Brooklyn.
Smith, H. M., Brooklyn.
Shepard, A. W., Brooklyn.
Lucas, D. F., Brooklyn.
Hancock, J. C., Brooklyn.
Chapman, W. L., Brooklyn.
Fraser, H. E., Brooklyn.
Jewett, F. A., Brooklyn.
Joerg, Oswald, Brooklyn.
Reb, J. H., Brooklyn.
Rathbun, N. P., Brooklyn.
Alleman, L. A. W., Brooklyn.
O'Gorman, F. M., Buffalo.
Lothrop, E. P., Buffalo.
Taylor, W. G., Buffalo.
Colton, A. J., Buffalo.
Dittrich, E. W., New York City.
Baidwin, F. A., New York City.
Broquet, E., New York City.
Alexander, S., New York City.
McMurdy, W. S., New York City.
Zweighaft, B., New York City.
Landsman, S. M., New York City.
Delavan, D. B., New York City.
Grohl, H. M., New York City.
James, C. S., New York City.
Hogan, E. J., New York City.
Downes, W. A., New York City.
Luckett, W. H., New York City.
Maier, Otto, New York City.
Pascal, H. S., New York City.
Aspell, J., New York City.
Hadden, J. W., New York City.
Nicoll, H. D., New York City.
Moeller, H., New York City.
Fletcher, C. L., New York City.
Darlington, T., New York City.
Strauss, S., New York City.
Thompson, Von B., New York City.
Teschuer, J., New York City.
Purdy, H. R., New York City.
Dougherty, D. S., New York City.
Van Etten, N. B., New York City.
White, W. A., New York City.
Loughran, F. W., New York City.
Ressegule, F. J., Saratoga Springs.
Thompson, A. W., Saratoga Springs.
Wickware, M. M., Saratoga Springs.
Strong, S. E., Saratoga Springs.
Sweet, J. J., Unadilla.
Blanchard, R. N., Jamestown.
Neary, P. M., Cortland.
Shaw, C. E., Hoosick Falls.
Cavana, M., Oneida.
Kathan, D. R., Corinth.
Hulse, W. A., Bay Shore.
Huehne, F., Rondout.
Hulett, H. L., Allentown.
Hutchison, J. C., Troy.
Curtis, D. F., Rochester.
Curtis, P. C., Round Lake.
Gay, C. B., Syracuse.
Carpenter, W. J., Katanah.
MacPherson, W. A., LeRoy.
Kimball, G. N., Poughkeepsie.
Stoney, F. E. X., Brooklyn.
Becker, A. A., Jamestown.
Fish, G. H., Saratoga Springs.
Young, A. M., Salem.
Meyer, G. L., Stone Arabia.
Grove, B. H., Buffalo.
Smith, F. A., Corinth.
Van Wirt, J. D., Johnsonville.
Hogeboom, W. L., Troy.

NORTH CAROLINA.
Morse, L. B., Asheville.
Sawyer, C. J., Elizabeth City.

OHIO.
Perkins, R. G., Cleveland.
Friend, J. M., Cleveland.
Ballard, H. C., Cleveland.
Upson, G. D., Cleveland.
Osborn, W. O., Cleveland.
Clapp, H. T., Cleveland.
Luck, H. C., Cleveland.
Perrier, J., Cleveland.
Rosewater, N., Cleveland.
Alderdyce, W. W., Cleveland.
Rosenberg, E., Cleveland.
Clarke, Ida, Youngstown.
Andrews, J. H., Goshen.
Jones, D. J., Lisbon.
Dale, G. P., Dayton.
Davis, Carrie C., Sandusky.
Smith, H. H., Sharonville.

OKLAHOMA.
Bartle, P. J., Carmen.
Blesh, A. L., Guthrie.

OREGON.
Pettit, J. A., Portland.
Panton, A. C., Portland.
Brooke, J. M., Portland.
McKay, H. F., Portland.

PENNSYLVANIA.
Steele, J. D., Philadelphia.
Francine, A. P., Philadelphia.
Coles, S., Philadelphia.
Breneman, P. P., Lancaster.
Hakes, S. P., Tioga.
Mountain, W. S., Confluence.
Wainwright, J. M., Scranton.
Kunkle, W. F., Williamsport.

RHODE ISLAND.
Chapman, W. L., Providence.
Sprague, F. B., Providence.
Sweet, C. L., Pawtucket.
Welch, S. A., Providence.

SOUTH CAROLINA.
Lyon, Jno., Ninety-six.

SOUTH DAKOTA.
Parsons, J. G., Brookings.
Rhoden, J. C., Elk Point.

TENNESSEE.
Winston, A. L., Memphis.
Applegate, W. R., Chattanooga.
Bachman, J. S., Bristol.
Bogart, W. M., Hill City.

TEXAS.
Dean, J. J., Waco.

WASHINGTON.
Powell, J. L., Tacoma.
Brandeburg, H. A., Huntington.

WISCONSIN.
Becker, W., Milwaukee.
Fitzgerald, J. J., Eagle.

Preliminary Programs of the Sections of the American Medical Association, Saratoga Meeting, June 10-13, 1902.

The following is a list of papers to be read in the various sections. The programs as arranged below must be considered as preliminary, and the order given not necessarily to be followed in the official program.

The official program will not be ready for distribution till the meeting.

Write to the Secretary of the Section in regard to any changes, corrections, etc., and not to THE JOURNAL.

Section on Practice of Medicine.

Chairman, Frank A. Jones, Memphis, Tenn.; Secretary, Robert B. Preble, Chicago.

Opening Address by the Chairman, Frank A. Jones, Memphis, Tenn.

The Autogenous Diseases, Victor C. Vaughan, Ann Arbor, Mich.

Some Clinical Points in the Diagnosis and Differentiation of Ascites, Arthur R. Edwards, Chicago.

Appendicitis from a Physician's Standpoint, James Tyson, Philadelphia.

Amebic Dysentery in Michigan, George Dock, Ann Arbor, Mich.

A Case of Scurvy with Unusual Poverty of the Blood, James E. Talley, Philadelphia.

The Origin of the Vesicular Respiratory Sound, C. F. Hoover, Cleveland, Ohio.

Etiology of Chronic Nephritis, A. R. Elliott, Chicago.

Malarial Nephritis, with Report of a Case, W. Britt Burns, Memphis, Tenn.

Classification of Chronic Nephritis, James B. Herrick, Chicago.

The Diagnosis of Chronic Nephritis, A. O. J. Kelly, Philadelphia.

The Early Circulatory Indications of Chronic Bright's Disease, L. F. Bishop, New York City.

Uremic Aphasia, David Riesman, Philadelphia.

The Prognosis and Treatment of Chronic Nephritis, DeLancey Rochester, Buffalo, N. Y.

Clinical Observations on Transposition of the Viscera, Congenital and Acquired, J. R. Arneill, Ann Arbor, Mich.

Notes of a Case of Cardiac Thrombosis, J. H. Musser, Philadelphia.

Some Instructive Errors in Cardiac Diagnosis and Treatment, Richard C. Cabot, Boston.

Venesection, H. B. Favill, Chicago.

The Employment of Digitalis and Aconite in the Treatment of Cardiac Diseases, H. A. Hare, Philadelphia.

Tuberculous Myocarditis, J. M. Anders, Philadelphia.

Some Cardiac Phenomena as Revealed by the Roentgen Rays, Albert Abrams, San Francisco.

The Occurrence of Gout in the United States with an Analysis of Thirty-six Cases, T. B. Futcher, Baltimore.

A Summary of Recent Investigations by the Author into the Causes and the Treatment of Diabetes, A. C. Croftan, Philadelphia.

On the Association of Graves' Disease and Glycosuria, Heinrich Stern, New York City.

Syphilis of the Liver, Chas. G. Stockton, Buffalo, N. Y.

Syphilis of the Stomach, Max Einhorn, New York City.

Syphilis of the Serous Membranes, Alfred Stengel, Philadelphia.

Endocarditis as a Complication of Pneumonia, E. F. Wells, Chicago.

The Treatment of Croupous Pneumonia, E. Fletcher Ingals, Chicago.

An Analysis of 65 Cases of Gastroptosis, J. Dutton Steele, Philadelphia.

The Etiology of Rheumatism and the Significance of Purpura, George W. Webster, Chicago.

Etiology and Prophylaxis of the Cardiac Manifestations of Articular Rheumatism, Joseph M. Patton, Chicago.

Primary Rheumatic Endocarditis, Judson Daland, Philadelphia.

The Salicylates in Acute Rheumatism, J. J. Walsh, New York City.

The Present Status of Serumtherapy, Frederick A. Packard and Robert N. Willson, Philadelphia.

Obstetrics and the General Practitioner, M. H. Fussell, Philadelphia.

The Open-Air Treatment of Tuberculosis; Tent Life in Arizona, R. W. Craig, Phœnix, Ariz.

Lung Compression in the Treatment of Tuberculosis, A. F. Lemke, Chicago.

The Causal Relation of Blood Poverty to Gastric Ulcer, with Report of an Illustrative Case with Atypical Findings, Robert N. Willson, Philadelphia.

The Influence of Electric Ozonation Upon the Blood, G. Lenox Curtis, New York City.

Section on Obstetrics and Diseases of Women.

Chairman, J. H. Carstens, Detroit; Secretary, C. L. Bonifield, Cincinnati.

Chairman's Address, J. H. Carstens, Detroit, Mich.

Treatment of Retroversion and Retroflexion of the Uterus, J. W. Cokenower, Des Moines, Ia.

Vaginal Celiotomy and Vagino-fixation of the Uterus. A. Goldspohn, Chicago.

Surgical Treatment of the Utero-sacral Ligaments Through the Vagina in Retroversion of the Uterus, J. Wesley Bovée, Washington, D. C.

Electrothermic Hemostasis, A. J. Downes, Philadelphia.

Drainage in Abdominal and Pelvic Surgery, A. Palmer Dudley, New York City.

Technic of Abdominal Hysterectomy for Cancer, W. R. Pryor, New York City.

High Amputation of the Cervix versus Hysterectomy for Operable Carcinoma of the Cervix, C. C. Frederick, Buffalo, N. Y.

Operation for Recurrence of Cancer After Hysterectomy, E. W. Cushing, Boston.

Some Cases of Ureteral Stricture, H. A. Kelly, Baltimore.

Plastic Surgery of the Female Urethra, with Report of a Unique Case, H. P. Newman, Chicago.

Repair of the Perineum, C. A. L. Reed, Cincinnati.

Deflected Presentation in Labor, Gustav Kolischer, Chicago.

What Cases of Placenta Previa Can Be Best Treated by Cesarean Section? Francis D. Donoghue, Boston.

Massage and Exercise in the Management of the Puerpera, C. S. Bacon, Chicago.

The Results of Abdominal Section for the Various Forms of Septic Inflammation Following Labor and Abortion, B. C. Hirst, Philadelphia.

Etiology and Pathology of Ectopic Pregnancy, Henry D. Ingram, Buffalo, N. Y.

Cesarean Section Made Necessary by a Ventrofixation, William M. Findley, Altoona, Pa.

Is Laparotomy or Vaginal Section Justifiable or Indicated for the Relief of the Single Symptom of Sterility? J. R. Goffe, New York City.

The Influence of Prolapse of the Kidney on the Production of Pelvic Disease in the Female, A. H. Goelet, New York City.

Movable Kidney and Its Remote Results, A. H. Cordier, Kansas City.

Pathologic Conditions of the Omentum as a Surgical Factor; the Best Method of Treatment, Henry O. Marcy, Boston.

Treatment of Umbilical and Ventral Hernia, Wm. Wathen, Louisville, Ky.

Critical Remarks on the Methods of Operations in Vogue for Cystocele with or without Prolapse of the Uterus, C. O. Theinhaus, Milwaukee, Wis.

Some of the Complications of Gonorrhea in the Female, J. Taber Johnson, Washington.

The Evolution of the Treatment of Pelvic Inflammation, E. E. Montgomery, Philadelphia.

The Mortality Following Operation for Pus in the Pelvis, Hunter Robb, Cleveland, Ohio.

Drainage Versus Radical Operation for Suppuration in the Female Pelvis, C. P. Noble, Philadelphia.

The Advantage of the Vaginal Route in Obese Patients, W. H. Humiston, Cleveland, Ohio.

Uterine Myomata, Thomas S. Cullen, Baltimore.

Post-Operative Intestinal Paresis, F. H. Wiggin, New York City.

Post-Operative Phlebitis, J. G. Clark, Philadelphia.

Conservative Operation Upon the Ovary, L. H. Dunning, Indianapolis.

Hematoma of the Ovary, A. L. Beahan, Canandaigua, N. Y.

Ten Years in a Gynecologic Clinic, David J. Doherty, Chicago.

Surgical Treatment of Internal Hemorrhoids from the Standpoint of the Gynecologist, Wm. F. Metcalf, Detroit, Mich.

Section on Surgery and Anatomy.

Chairman, DeForest Willard, Philadelphia; Secretary, James B. Bullitt, Louisville.

Chairman's Address.

The Surgical Treatment of Pulmonary Abscess Following Lobar-Pneumonia, Floyd W. McRae, Atlanta, Ga.

A Contribution to the Surgery of the Lung as Based Upon Original Observations, Horace J. Whitacre, Cincinnati.

Climate as a Factor in the Management of Genito-Urinary Tuberculosis, Chas. A. Powers, Denver.

Tubercular Peritonitis; Its Relation to Tuberculosis of the Female Genitalia, John B. Murphy, Chicago.

Two Cases of Tubercular Peritonitis in Young Women; Free Incision, Drainage, Enclosure of Oxygen in the Abdominal Cavity by Hermetical Sealing of the Wound, Maurice H. Richardson, Boston.

Report of a Case of Encysted Dropsy of the Peritoneum, Tubercular in Character, with Hernia of a Portion of the Cyst; Operation: Recovery. Light as a Curative Agent in Tubercular Peritonitis, Miles F. Porter, Fort Wayne, Ind.

Low Lateral Pharyngotomy for Approach to the Lower Portion of the Pharynx, Upper Portion of the Esophagus and Posterior Surface of the Larynx, with an Illustrative Case, Joseph D. Bryant, New York City.

Further Experiences with a Modified Method for the Cure of Relapsing Talipes Equino-Varus, A. F. Jonas, Omaha, Neb.

The Treatment of Acetabular Disease of the Hip-Joint, E. H. Bradford, Boston.

The Prevention of Deformity, Wisner R. Townsend, New York City.

The Value of Manual Training in Mechanics to the Surgical Student, S. D. Van Meter, Denver.

Gunshot Wounds of Cavities: Civil Side, Wm. L. Rodman, Philadelphia.

Gunshot Injuries of the Chest and Abdomen, from the Military Standpoint, L. LaGarde, Washington, D. C.

Gunshot Wounds of the Large Joints, J. D. Griffith, Kansas City, Mo.

Treatment of Gunshot Wounds of Large Joints: Military Practice, George Ryerson Fowler, Brooklyn.

A Contribution to Surgery of the Pancreas, C. H. Frazier, Philadelphia.

The Surgical Aspects of Acute Pancreatitis and Fat Necrosis, William J. Mayo, Rochester, Minn.

Surgery of the Gall-Bladder and Bile Ducts, Alexander Hugh Ferguson, Chicago.

Why Not Treat the Gall-Bladder as We Do the Appendix Vermiformis? Roswell Park, Buffalo, N. Y.

Gallstones in the Common Duct, Martin B. Tinker, Baltimore.

Appendicitis; a Critical Review of 416 Cases Operated on at the German Hospital During 1901, John B. Deaver and Geo. G. Ross, Philadelphia.

Appendicitis; a Brief Report of the Author's Nine Fatal Cases, with Comments, Parker Syms, New York City.

Some Anomalies in Appendicitis, Ernest Laplace, Philadelphia.

Obstructions of the Bowels by Meckel's Diverticulum, James E. Moore, Minneapolis.

Prostatic Obstructions to Urination; Indications for Operative Procedures for Its Removal, J. W. S. Gouley, New York City.

Infra-Pubic Section for Prostatotomy and Prostatectomy, E. Wyllys Andrews, Chicago.

Drainage of Extra-Vesical and Extra-Peritoneal Suppurations of the Male Pelvis, Eugene Fuller, New York City.

External Urethrotomy from the Standpoint of the General Surgeon, John C. Munro, Boston.

The Symptomatology of Renal and Ureteral Disease, C. L. Leonard, Philadelphia.

Essentials in the Construction of Hospitals for Great Cities, A. J. Oehsner, Chicago.

Shock, Edward Martin, Philadelphia.

Anatomy for the Practitioner, C. M. Jackson, Columbia, Mo.

Treatment of Fractures of the Neck of Femur, C. E. Thomson, Scranton, Pa.

Anatomic Treatment of Fractures of the Femoral Neck, C. E. Ruth, Keokuk, Ia.

Ununited Fractures, S. H. Weeks, Portland, Me.

Simple Periosteo-capsular Approximation with Buried Sutures vs. Wiring or Osseous Suture in Treatment of Fractured Patella, with Report of Cases, Rudolph Matas, New Orleans.

Treatment of Fracture of the Patella by Subcutaneous Purse-String Suture, John B. Roberts, Philadelphia.

Acquired Non-Malignant Stricture of Rectum; Causes, Symptoms, and Treatment, W. Duff Bullard, New York City.

Removal of the Entire Scapula, Edwin Field, Red Bank, N. J.

Surgery of the Heart (Experimental), with Stereopticon Illustrations, B. M. Ricketts, Cincinnati.

Fractures of the Lower End of the Radius, Illustrated by Lantern Slides, Carl Beck, New York City.

Traumatic Rupture of the Abdominal Viscera, Daniel N. Eisendrath, Chicago.

The Remote Results of the Non-Surgical Treatment of Peritonitis, H. D. Niles, Salt Lake City.

Some Clinical Observations in Intestinal Surgery, A. Morgan Vance, Louisville, Ky.

A Study of the Relative Merits of the Various Methods of Intestinal Anastomosis, R. C. Coffey, Portland, Ore.

The Improvement of General Anesthesia on Basis of Schleich's Principles, with Special Reference to Anesthol, Willy Meyer, New York City.

One Thousand Personally Conducted Cases of Ethyl Chlorid Narcosis, Martin W. Ware, New York City.

Medullary Narcosis, A. W. Morton, San Francisco.

A Contribution to Ureteral Surgery, with Report of a New Operation for the Cure of a Double Uretero-Vaginal Fistula, X. O. Werder, Pittsburg, Pa.

Section on State Medicine (Hygiene and Sanitary Science).

Chairman, Arthur R. Reynolds, Chicago; Secretary, H. M. Bracken, Minneapolis, Minn.

TUBERCULOSIS.

Relation of Bovine to Human Tuberculosis, papers by D. E. Salmon, U. S. Bureau of Animal Industry, Washington, D. C., and R. R. Dinwiddie, U. S. Agricultural Experiment Station, Fayetteville, Ark.

Sanitarium Treatment of Tuberculosis, S. C. Bonney, Denver.

The U. S. Sanitarium and Hospital for the Treatment of Pulmonary Tuberculosis, D. M. Appel, Ft. Bayard, N. M.

State and Municipal Sanitaria—the Present Aspect of the Tuberculosis Problem in the United States, S. A. Knopf, New York City.

Sanitarium Treatment for Tuberculosis, Based on the Experience at Fort Stanton, P. M. Carrington, Ft. Stanton, N. M.

Climatic Treatment of Tuberculosis, David R. Fly, Amarillo, Texas.

Treatment of Pulmonary Tuberculosis from the Sanitarium Standpoint, J. Evans Stubbert, Liberty, N. Y.

The Care of the Skin in Pulmonary Tuberculosis, J. Frank McConnell, Las Cruces, N. M.

Individual and Municipal Prophylaxis of Tuberculosis, Arnold C. Klebs, Chicago.

Sanitary Measures for the Prevention of Tuberculosis in New York City and Their Results, Herman M. Biggs, New York City.

Are Milk and Meat Sources of Seed Supply for Human Tuberculosis? Lawrence F. Flick, Philadelphia.

VACCINATION AND SMALLPOX.

Some Facts About Vaccination, Heman Spalding, Chicago.

Laboratory Inspection of Vaccine, Adolph Gehrmann, Chicago.

INFLUENZA.

The Sociologic Relations of Influenza, James G. Kiernan, Chicago.

A Further Contribution to the Bacteriology of Influenza, F. E. Wynekoop, Chicago.

Influenza and the Nervous System, Smith Ely Jelliffe, New York.

PNEUMONIA.

Pneumonia—Its Increasing Prevalence and Fatality, with Suggestions for Individual and Communal Prophylaxis, Edward F. Wells, Chicago.

Epidemicity and Increasing Fatality of Pneumonia, James J. Walsh, New York.

MISCELLANEOUS.

The Use of the Microscope in the Diagnosis of Scarlet Fever, W. K. Jaques, Chicago.

Sanitation and Politics, Walter Wyman, Washington, D. C.

The Drainage Canal of the Valley of Mexico, Henry O. Marcy, Boston.

Among those to discuss the foregoing are: William Osler, Johns Hopkins; Benjamin Lee, Pennsylvania; Victor C. Vaughan, Michigan; A. C. Cotton, Illinois; William M. Welch, Pennsylvania; W. A. Evans, Illinois; Mazyck P. Ravenel, Pennsylvania; George Dock, Michigan; Wyatt Johnston, Canada; E. S. St. B. Sladen, Cambridge, Eng., and others.

Section on Ophthalmology.

Chairman, Frank Allport, Chicago; Secretary, C. A. Veasey, Philadelphia.

Address of the Chairman, Frank Allport, Chicago.

Blepharitis Marginalis, Dudley S. Reynolds, Louisville, Ky.

Sub-Conjunctival Inflammations, Henry Gradle, Chicago.

The Treatment of Serpiginous Ulcer of the Cornea, Chas. J. Kipp, Newark, N. J.

The Nature and Treatment of Pterygia, John O. McReynolds, Dallas, Texas.

Triosinamin in Corneal Opacities; Experiences and Clinical Results, Geo. F. Suker, Chicago.

Address: The Removal of Foreign Bodies from the Eye, Prof. O. Haab, Zurich, Switzerland.

Foreign Bodies in the Eye, Wm. M. Sweet, Philadelphia.

A Report of Some Cases of Foreign Bodies in the Eye; Where Haab's Magnet Was Used, Myles Standish, Boston.

An Operation for the Restoration of a Cul-de-Sac for the Wearing of an Artificial Eye, with Report of Cases, John E. Weeks, New York City.

The Relative Indications for Enucleation and the Mules Operation, N. J. Hepburn, New York City.

On the Symmetry of Our Visual Apparatus as a Dual Organ. Plea to Modify the Customary Notation of the Ocular Meridians, Herman Knapp, New York City.

Concerning the Symptomatology and Etiology of Certain Types of Uveitis, Geo. E. de Schweinitz, Philadelphia.

An Analysis of Thirty-seven Cases of Uveitis, with Special Reference to, 1, Etiology; 2, Relapses; 3, Rare Early Symptoms and Ophthalmoscopic Changes; 4, Importance of Perimetric Examinations, Hiram Woods, Baltimore.

The Diagnostic Significance of Keratitis Punctata, Harry Friedenwald, Baltimore.

Injuries of the Eye Productive of Diseases of the Uveal Tract, Howard F. Hansell, Philadelphia.

The Pathology of Uveitis, W. H. Wilder, Chicago.

Pilocarpin Injections in Diseases of the Uveal Tract, T. A. Woodruff, Chicago.

The Treatment of Uveitis, W. B. Marple, New York City.

Exhibit of Early American, British and Colonial Ophthalmologic Literature, by a Committee Consisting of Dr. Casey A. Wood, Chicago, Chairman; Dr. A. R. Baker, Cleveland, Ohio; Dr. A. A. Hubbell, Buffalo; and Dr. Harry Friedenwald, Baltimore. Address by the Chairman of the Committee.

Neuro-Epithelioma Retinæ (Glioma), with Report of Cases; Illustrated, C. R. Holmes, Cincinnati.

Detachment of the Retina, R. L. Randolph, Baltimore.

The Most Rational Methods of Asepsis in Ophthalmic Surgery, Joseph A. White, Richmond, Va.

Cataract Extractions, with Remarks, David Webster, New York City.

The Disappearance of Opacities of the Crystalline Lens, Walter Pyle, Philadelphia.

The Anatomy of the Ocular Muscles and Their Accessory Structures, J. Elliott Colburn, Chicago.

The Physiology of the Ocular Muscles, with Demonstrations, E. C. Ellett, Memphis, Tenn.

Principles Controlling Operative Interference in Heterophoria, E. J. Gardiner, Chicago.

Principles Controlling Non-Operative Interference in Heterophoria, Including the Use of Prisms and Prism Exercise, S. C. Ayres, Cincinnati.

Principles Controlling Operative Interference in Strabismus, Edward Jackson, Denver.

Principles Controlling the Non-Operative Treatment of Strabismus, G. M. Gould, Philadelphia.

Jacques Daviel, and the Beginnings of the Modern Operation of Cataract; An Address Commemorative of the 150th Anniversary of the Publication of the First Description of the Operation, A. A. Hubbell, Buffalo.

The Use of a Mydriatic After Forty-five Years of Age, H. M. Starkey, Chicago.

The Decentering of Lenses for Near Work, G. C. Savage, Nashville, Tenn.

The Need for Correcting Ametropia After Middle Life, C. M. Culver, Albany, N. Y.

Lessons Learned from a Recent Case of Chronic Myopia, Chas. A. Oliver, Philadelphia.

The Clinical Aspects and Non-Operative Treatment of High Myopia, S. D. Risley, Philadelphia.

Associated Movements of the Eyes and Head, Wm. C. Posey, Philadelphia.

Test Objects and Test Letters, Elmer G. Starr, Buffalo, N. Y.

Should the General Practitioner Have a Working Knowledge of the Ophthalmoscope and Trial Lenses? A. R. Baker, Cleveland, Ohio.

Teaching Ophthalmology to Undergraduates, F. C. Todd, Minneapolis, Minn.

Metastatic Sarcoma of the Choroid, Meyer Weiner, St. Louis.

Section on Diseases of Children.

Chairman, H. M. McClanahan, Omaha, Neb.; Secretary, Frank X. Walls, Chicago.

Lessons from Current Pediatric Literature, H. M. McClanahan, Omaha.

Adenoids in Infancy, Herman Jarecky, New York City.

Adenoids, W. Freudenthal, New York City.

Recognition and Prompt Removal of Post-Nasal Adenoids in Children, Louis J. Lautenbach, Philadelphia.

Visual Hygiene, L. K. Baker, Cleveland.

Management of Foreign Bodies in the Air Passages of Children, Wm. Jepson, Sioux City, Iowa.

Retro-pharyngeal Abscess in Infancy, John Lovett Morse, Boston.

Doubtful Fevers of Infancy, J. L. Duenas, Havana, Cuba.

Cerebrospinal Fever, J. P. Crozier Griffith, Philadelphia.

The Efficacy of Recent Vaccination, W. M. Welch, Philadelphia.

A Case of Typhoid Fever in an Infant, E. F. Brush, Mount Vernon, N. Y.

The Clinical Features of Some of the Anemias of Childhood, W. C. Hollopeter, Philadelphia.

Tubercular Peritonitis, Thos. Morgan Rotch, Boston.

The Propagation of Tuberculosis by Means of Children, Paul Paquin, Asheville, N. C.

Alcoholism in Young Children, Samuel McClintock Hamill, Philadelphia.

Report of a Case of Bulbar Paralysis, A. C. Cotton, Chicago.

Care of Child in Utero, C. E. Paddock, Chicago.

Relation of Bacteria in Milk to Children Over Two Years, Wm. H. Park, New York City.

Physiology of Infant Digestion, J. C. Waterman, Council Bluffs, Iowa.

Acute Gastro-enteritis of Infants, Margaret Taylor Shutt, Springfield, Ill.

Milk Idiosyncrasies in Children, Louis Fischer, New York City.

Improvement of Breast Milk and Prolongation of Lactation, Thos. S. Southworth, New York City.

Infant Feeding, Alex. McAlister, Camden, N. J.

Diseases of the Hip in Uric Acid Diathesis, A. Vanderveer, Albany, N. Y.

Synostosis of the Skull with Universal Calcification of the Arteries in a Boy Three Years of Age, David Riesman, Philadelphia.

Hemorrhages in the New-Born, I. A. Abt, Chicago.

Dermoid Tumors in Children, S. W. Kelley, Cleveland, Ohio.

Flat Foot in Children, Diagnosis and Treatment, Robert W. Lovett, Boston.

Cretinism, Rosa Engleman, Chicago.

Chlorosis, C. F. Wahrer, Fort Madison, Iowa.

Limitations of Childhood, Arthur De Voe, Seattle, Wash.

Report of Two Cases of Sudden Death from Lymphatism, A. P. Ohlmacher and F. X. Walls, Chicago.

Inanition Fever, Frank P. Norbury, Jacksonville, Ill.

Surgical Treatment of Deformities, V. B. Gibney, New York.

Section on Stomatology.

Chairman, A. H. Peck, Chicago; Secretary, Eugene S. Talbot, Chicago.

Chairman's Address, A. H. Peck, Chicago.

The Embryology of the Dental Pulp, R. R. Andrews, Cambridge, Mass.

The Histology of the Pulp, Vida A Latham, Chicago.

Notes on the Preparation of Teeth for the Microscope, Martha Anderson, Moline, Ill.

Evolution of the Pulp, Eugene S. Talbot, Chicago.

A Comparative Study of the Attachment of Teeth, Frederick Noyes, Chicago.

Permanent Benefit Resulting from the Correction of Irregularities of the Teeth Due to Interstitial Gingivitis, M. H. Fletcher, Cincinnati.

Observations on Some Recent Cases of Orthodontia, with Illustrations, E. A. Bogue, New York City.

General Nervous Manifestations in Relation to the Jaws and Teeth, G. V. I. Brown, Milwaukee, Wis.

Electric Ozonation Upon Neuralgia, G. Lenox Curtis, New York City.

Diagnosis, Jonathan Taft, Cincinnati.

The Modern Dentist from a Medical Standpoint, Wm. Knight, Cincinnati.

Chancre of the Lip, G. T. Carpenter, Chicago.

Oral Hygiene, G. F. Eames, Boston.

The Legal Status of the Term "Reputable" as Applied to Dental Colleges, Chas. Chittenden, Madison, Wis.

Auto-Infection of the Mouth, G. L. Parmele, Hartford, Conn.

Dento-Facial Orthopedia, W. E. Walker, New Orleans.

Section on Nervous and Mental Diseases.

Chairman, Richard Dewey, Wauwatosa, Wis.; Secretary, F. Savary Pearce, Philadelphia.

Address of Chairman, Richard Dewey, Wauwatosa, Wis.

Memorial to Dr. J. T. Eskridge, Charles K. Mills and Frank P. Norbury.

After-Results in Some Cases of Alleged Trauma to the Nervous System, Haldor Sneve, St. Paul, Minn.

Educational Exercise in Locomotor Ataxia, J. H. W. Rhein, Philadelphia.

Symmetrical Gangrene (Raynaud) Versus Endarteritis Obliterans, Jas. D. Morgan, Washington, D. C.

Prognosis of Mental Diseases, Frank P. Norbury, Jacksonville, Ill.

Alcoholic Epilepsy, T. D. Crothers, Hartford, Conn.

The Babinski Phenomenon in Insane Epileptics (Results of a Thousand Observations), J. M. Keniston, Middletown, Conn.

Exceptional Forms of Pressure Palsies, J. D. McCarthy, Philadelphia.

Concerning Morphin Addiction and Its Treatment, C. B. Burr, Flint, Mich.

Static Electricity in the Treatment of Morphinism, A. J. Pressey, Cleveland, Ohio.

The Diagnostic Value of Lumbar Puncture in Certain Cases of Brain Injury (Report of Cases), G. W. McCaskey, Fort Wayne, Ind.

Peripheral Neuritis as a Complication of Whooping Cough, A. A. Eshner, Philadelphia.

A Résumé of Pathologic Findings in Fifty-one Cases of Insanity, E. G. Carpenter, Columbus, Ohio.

Huntington's Chorea, Harold N. Moyer, Chicago.

Some Conditions with Which Migraine May be Associated; Their Value as an Indication for Treatment, Joseph Sailer, Philadelphia.

Paretic or Paranoiac—A Study in Diagnosis, C. A. Drew, Bridgewater, Mass.

Cases Illustrating Involuntary Movements in Ataxia, J. H. W. Rhein, Philadelphia.

Dementia Paralytica in Children, Sydney Kuh, Chicago.

Locomotor Ataxia Complicated by Thrombosis of the Pontine Arteries, etc., S. D. Hopkins, Denver, Colo.

Encephalic Localization, Especially with Reference to Osteoplastic Operations for Brain Tumors, Charles K. Mills, Philadelphia.

The General Principles of Symptoms in Nervous Diseases, Herman Gasser, Platteville, Wis.

Intoxication Insanities, W. A. Jones, Minneapolis.

SYMPOSIUM ON EPILEPSY (SECOND DAY—AFTERNOON).

Etiology and Pathogenesis of Epilepsy, F. Savary Pearce, Philadelphia.

Diagnosis, Symptomatology, Anomalous Forms, Relation to Hysteria, Migraine, Etc., C. W. Burr, Philadelphia.

Psychopathology and Medicolegal Relations. H. A. Tomlinson, St. Peter, Minn.

Treatment, Medicinal, Hygienic and Surgical, D. R. Brower, Chicago.

Institutions for the Epileptic, Wm. P. Spratling, Sonyea, N. Y.

Discussions to be opened as follows:

(*a*) Etiology, Etc.: F. W. Langdon, Cincinnati.
(*b*) Diagnosis, Etc.: H. N. Moyer, Chicago.
(*c*) Psychopathology, Etc.: A. B. Richardson, Washington, D. C.
(*d*) Treatment: F. Savary Pearce, Philadelphia.
(*e*) Institutions: Frederick Peterson, New York City.

N. B.—Papers are limited to 20 minutes. Discussions are limited to 5 minutes. *Abstracts* of papers should be sent to the Secretary at once. Those members of the Association intending to attend the dinner of this Section will confer a favor by writing an acceptance that we may know early for how many to provide.

Section on Cutaneous Medicine and Surgery.

Chairman, Henry W. Stelwagon, Philadelphia; Secretary, R. R. Campbell, Chicago.

Chairman's Address, Henry W. Stelwagon, Philadelphia.

Syphilis as a Causative Factor of Pyorrhea Alveolaris, A. H. Ohmann Dumesnil, St. Louis.

Pathology of Chromidrosis, with Lantern Slide Demonstration, M. L. Heidingsfeld, Cincinnati.

Exhibition of Wax Models of Unusual Types of Skin Diseases, J. Frank Wallis, Philadelphia.

Dermatitis Repens, Milton B. Hartzell, Philadelphia.

Report of Four Cases of Syphilis Mistaken for Smallpox, with Differential Diagnosis, J. F. Schamberg, Philadelphia.

Dermatitis Hiemalis, William Thomas Corlett, Cleveland.

Atrophoderma, with Report of Two Cases, A. Ravogli, Cincinnati.

Rest in Skin Diseases, R. Abrahams, New York.

Report of a Case of Recurrent Bullous Eruption and Sarcoma of the Skin; a Study of Five Cases, W. S. Gottheil, New York.

Pityriasis Rosæ, L. Weiss, New York.

Parasitic Fungoid Diseases, Jay F. Schamberg, Philadelphia.

Venereal Prophylaxis that Is Feasible, Ludwig Weiss, New York.

Sarcomatosis Cutis, David Lieberthal, Chicago.

The Relation of Lupus Erythematosus to Tuberculosis, Henry G. Anthony, Chicago.

A Contribution to the Subject of Radiotherapy and Phototherapy in Carcinoma, Tuberculosis and Other Diseases of the Skin, James Nevins Hyde, Frank Hugh Montgomery and Oliver S. Ormsby, Chicago.

Etiology of Psoriasis, William L. Baum, Chicago.

Treatment of Skin Diseases By Means of the X-Rays, Louis E. Schmidt, Chicago.

Syphilis of the Larynx, C. M. Robertson, Chicago.

Glanders in Man, L. Blake Baldwin, Chicago.

Section on Laryngology and Otology.

Chairman, G. Hudson Makuen, Philadelphia; Secretary, J. F. Barnhill, Indianapolis.

Address of Chairman, G. Hudson Makuen, Philadelphia.

Some Practical Suggestions Concerning the Use of Tuning Forks in the Diagnosis of Ear Diseases, Wm. L. Ballenger, Chicago.

The Early Appearance, Diagnosis and Treatment of Tuberculosis of the Upper Air Tract, Walter F. Chappell, New York City.

Transillumination of the Accessory Sinuses During Acute Coryza, C. M. Cobb, Lynn, Mass.

A Case of Severe Syphilitic Laryngitis Complicated by Pulmonary Involvement, P. S. Donnellan, Philadelphia.

The Diagnosis of Carcinoma of the Larynx, O. T. Freer, Chicago.

An Unusual Case of Sero-Sanguinous Exudation from Both Ears, M. A. Goldstein, St. Louis.

A Case of Sarcoma of the Maxillary Sinus, Partial Excision of the Upper Jaw and Remarks, Joseph S. Gibb, Philadelphia.

Rhinitis Caseosa, A. C. Getchell, Worcester, Mass.

Development of the Organ of Hearing; Illustrations, C. R. Holmes, Cincinnati.

Turbinotomy; Its Indications and Technic, Chevalier Jackson, Pittsburg, Pa.

A Case of Laryngectomy, E. Fletcher Ingals, Chicago.

Oleum Pinus Pumilionis as a Valuable Aid in Lessening the Irritating Effects of Anesthetics, D. Braden Kyle, Philadelphia.

A Case of Brain Abscess, Geo. F. Keiper, LaFayette, Ind.

The Treatment of Chronic Otitis Media Purulentia, D. A. Kuyk, Richmond, Va.

Atresia of the External Auditory Canal, with Report of Cases, John O. McReynolds, Dallas, Texas.

Remarks Concerning the Management and Treatment of Rhino-Pharyngeal Tonsils, by the General Practitioner, Robert C. Myles, New York City.

The Degenerate Tonsil, E. Pynchon, Chicago.

Prophylaxis of Sinus Disease, D. Bryson Delavan, New York City.

The Teeth as a Cause of Pathologic Conditions in the Throat, Nose and Ear, Kate W. Baldwin, Philadelphia.

Angio-Neurotic Edema of the Pharynx and Larynx, Chas. W. Richardson, Washington, D. C.

Is the Operation for the Removal of Adenoids a Justifiable Surgical Procedure, and If So, Shall It Be Done in Accordance with the Principles of Surgery? Geo. L. Richards, Fall River, Mass.

Notes on Aural Vertigo, B. A. Randall, Philadelphia.

An Unusual Case of Nasal Syphilis in a Child and a Consideration of Syphilitic Nasal Tumors, Clement Theisen, Albany, N. Y.

The Diseased Middle Turbinal, Chas. H. Baker, Bay City, Mich.

Anomalies of Lateral Sinus, Mastoid Emissary Veins and Internal Jugular Veins, Emma E. Musson, Philadelphia.

Benign Tumors of the Naso-Pharynx, Francis J. Quinlin, New York City.

Conditions Complicating the Asch Operation for Deviations of the Cartilaginous Nasal Septum, Emil Mayer, New York City.

A Contribution to the Pathologic Histology of Syphilitic Ethmoiditis, J. L. Goodale, Boston.

Fibrosis of the Larynx and Trachea, Ralph W. Seiss, Philadelphia.

The Correction of Nasal Deformities by the Author's Sub-Cutaneous Method, John O. Roe, Rochester, N. Y.

Foreign Bodies in the Air Passages, W. Scheppegrell, New Orleans, La.

Section on Materia Medica, Pharmacy and Therapeutics.

Chairman, George F. Butler, Alma, Mich.; Secretary, C. S. N. Hallberg, Chicago.

Address of Chairman, George F. Butler, Alma, Mich.

The Importance of and Place in the College Curriculum: (*a*) Materia Medica, Warren B. Hill, Milwaukee, Wis.; (*b*) Pharmacy, J. Allen Patton, Chicago; (*c*) Therapeutics, Hobart Amory Hare, Philadelphia.

The U. S. Pharmacopeia of 1900; Its Importance to Practitioners, Joseph P. Remington, Philadelphia.

The Goat in Ancient and Modern Medicine and Therapy, Frank W. Jay, Chicago.

The Relative Toxicity of Brucin and Strychnin, Leon L. Solomon, Louisville, Ky.

The Mydriatic Drugs and Their Active Principles: (*a*) Chemistry of the Tropeins, Albert B. Lyons, Detroit; (*b*) Physiologic Action, Horatio C. Wood, Jr., Philadelphia; (*c*) Ophthalmologic Relations, Charles A. Oliver, Philadelphia.

The Cardiac Stimulants, Jos. M. Patton, Chicago.

The Cardiac Sedatives. L. Faugeres Bishop, New York City.

Pneumonia: Venesection and Counter-Irritation, James Tyson, Philadelphia.

Pneumonia: Its Drug Treatment, Arthur A Stevens, Philadelphia.

Wintergreen Oil in Constitutional States, Gustav Fütterer, Chicago.

Intra-organic Treatment of the Pneumonic Lung, W. Byron Coakley, Chicago.

Diabetes, Diet: Rationale and Practical Limitations, Arthur L. Benedict, Buffalo, N. Y.

Glycosuric Symptom of Disease and Its Medicinal Treatment, Heinrich Stern, New York City.

Some New Sugar Tests, Albert B. Lyons, Detroit.

Diuretics: Their Comparative Value; William L. Baum, Chicago.

Alcoholics in Therapy, J. Moore Soniat, New Orleans.

American Mineral Springs, George H. Fish, Saratoga Springs, N. Y.

Constipation; Its Therapeutic Significance, James G. Kiernan, Chicago.

Cutaneous Therapy: Some of the Newer Methods, Charles W. Allen, New York City.

The External Preparations and Their Therapy, Carl S. N. Hallberg, Chicago.

The Organic Mercury Compounds Compared with the Inorganic, Thomas J. Mays, Philadelphia.

Antitoxin in Diphtheria, Thomas L. Coley, Philadelphia.

The Uterine Tonics, John N. Upshur, Richmond, Va.

Nerve Nostrums and Their Dangers, William P. Spratling, Sonyea, N. Y.

Hypnotics, Analgesics and Resultant Drug Addictions, Smith Ely Jelliffe, New York City.

Dosage of Liquid Medicines: A Simple Plan for Greater Accuracy and Metric Measures, Carl S. N. Hallberg, Chicago.

Section on Physiology and Pathology.

Chairman, Frank B. Wynn, Indianapolis; Secretary, Joseph McFarland, Philadelphia.

The Pathology of Asthma, with Special Reference to Its Vicious Circles, George N. Jack, Depew, N. Y.

Skin Lesions of Smallpox, J. F. Schamberg, Philadelphia.

Some Comparative Studies in Tuberculosis, E. A. de Schweinitz, Washington, D. C.

The Histologic Changes in the Tissues in Banti's Disease, Joseph Sailer, Philadelphia.

Present Status of the Blood Plates in Physiology and Pathology, George T. Kemp, Champaign, Ill.

A Case of Perforation of the Normal Intestine by an Ascaris Lumbricoides; Specimen; Literature. Louis C. Ager, Bay Ridge, N. Y.

Ankylostomiasis in the South. Report of Cases and Presentation of Specimens. Claude A. Smith, Atlanta, Ga.

The Clinical Application of the Thyroid Gland, L. Breisacher, Detroit, Mich.

Recent Investigations of the Mechanics of Digestion, W. B. Cannon, Boston.

The Chest-Pantograph; Its Physiologic Significance and Its Clinical Application, Winfield S. Hall, Chicago.

A Demonstration of the Movements of the Stomach and Intestines, W. B. Cannon, Harvard, Boston.

The Laboratory Method of Teaching the Medical Sciences, Accompanied by Exhibit of Some New Physiologic Apparatus, W. T. Porter, Boston.

Exhibit of Some New Physiologic Apparatus, W. T. Porter, Boston.

The Influence of Tuberculosis Upon the Respiratory Quotient, T. M. Alderhold, Chicago.

Identity of Nerve Force and Electricity, J. Emmet O'Brien, Scranton, Pa.

On Some Rare Forms of Chronic Peritonitis Associated with Productive Fibrosis and Hyalin Degeneration, A. G. Nicholls, Montreal, P. Q.

Post-Mortem Examinations, W. D. Haines, Cincinnati.

Discussion: The Best Methods of Teaching Pathology, Ludvig Hektoen, Chicago; F. F. Wesbrook, Minneapolis; Frank B. Wynn, Indianapolis; Joseph McFarland, Philadelphia.

Paper (promised), Alfred Stengel, Philadelphia.

Paper (promised) F. F. Wesbrook, Minneapolis.

The Clinical and Pathologic Aspects of Rabies, D. J. McCarthy and M. P. Ravenel, Philadelphia.

A Case of Typhoid and Meningitis with Pseudo-Diphtheria Bacillus in the Brain, A. P. Ohlmacher, Chicago.

Points Relative to Precipitins, W. A. Evans and Adolph Gehrmann, Chicago.

Observations on the Absorption of Albumins and Globulins, Charles T. McClintock, Detroit, Mich.

Bacterial Poisons, Victor C. Vaughan, Ann Arbor, Mich.

A Note on the Chemical Diagnosis of Hypernephroma of the Kidney, A. O. J. Kelly and A. C. Croftan, Philadelphia.

Case of Endothelioma of Pleura, W. E. Robertson, Philadelphia.

SYMPOSIUM UPON CARCINOMA.

On Lepidomata and Hylomata, George Adami, Montreal.

Cell Implantation in the Production of Tumors, Leo Loeb. Chicago.

A Contribution to the Study of the Production of Endothelioma of the Dura and Brain, D. J. McCarthy, Philadelphia.

Endothelioma of the Gall-Bladder, W. Becker, Milwaukee, Wis.

The Growth of the Tubercle Bacillus and Other Organisms Resembling the Tubercle Bacillus upon Fruits and Vegetables, M. J. Rosenau, Washington, D. C.

Clinical Methods of Determining Blood-Pressure, Joseph Erlanger, Baltimore.

THE SARATOGA SPRINGS MEETING

SITUATION.

Saratoga Springs has become the favorite convention town of the United States for national organizations of every kind. It owes this distinction partly to its natural advantages and partly to its unequaled—indeed, we might say, its unapproached—facilities for the entertainment of such gatherings. Nature has made it the great health resort of this continent and one that is not surpassed in its comforts and attractions anywhere in the world. Situated on a plateau at the end of the foothills of the Adirondacks, a region deservedly famed for its salubrity, it has an elevation of three hundred and twelve feet above tide water level and is swept by the breezes of the great northern forests. The celebrity of Saratoga is, however, largely owing to its natural mineral waters.

HOW TO REACH SARATOGA.

Saratoga Springs is readily accessible from the south and west by the lines of the Vanderbilt system, the New York Central and the West Shore and Boston & Albany roads, bringing their passengers to Albany and Schenectady, from which points the Delaware & Hudson have but a short run to the Spa. From the north, the Delaware and Hudson gives connection with the Canadian lines and with several New England systems. By the Boston & Maine, Massachusetts and other parts of New England find easy access directly to the village. The fine river steamers plying on the Hudson, both by day and by night, afford a charming trip to those who choose to travel by water. Arrangements for reduced rates have not been perfected as yet, but it is absolutely assured that a concession of a fare

PART OF REGISTRATION ROOM.

and a third will be given, with the possibility that a further reduction in the rate may be granted.

MINERAL SPRINGS.

The mineral springs of Saratoga have a world-wide fame. There are more than forty of them and they are not more remarkable for their number than they are for their variety. They embrace many kinds of mineral waters, saline, alkaline, chalybeate, sulphur, lithia, etc., with a wide range of both hygienic and therapeutic action. It will be an additional matter of interest to the members of the convention to have the opportunity to familiarize themselves with these marvelous fountains of health and become acquainted with the special virtues of each one of them.

WINDSOR HOTEL.

WORDEN HOTEL.

HOTELS.

There are no summer resort hotels anywhere that can be compared with the caravansaries of Saratoga. They are not the frail combustible structures one generally associates with the idea of the accommodations at a watering place, most of them and all the larger ones being solid, practically fire-proof buildings of brick, stone and iron. Some of them cover all, or practically all of a block, with courtyards which are really parks of several acres, with forest trees, fountains and flowers, broad walks and large greenswards, which are as unique as they are beautiful. Some of these great hostelries often accommodate as many as two thousand guests at the same time. One of these, the United States, will be the headquarters of the Association, where a band of music will give open air concerts morning and evening and where a grand reception and ball will be given on Wednesday evening of the convention week. There are, in addition to these large hotels, more than 150 smaller hotels and boarding houses, accommodating comfortably over 10,000 guests.

KENSINGTON HOTEL.

Saratoga Springs is so compactly built that most of these houses are in the vicinity of Convention Hall, where the general sessions will be held, and none of them is more than three minutes walk away. This is a matter of great importance, facilitating the interchange of friendly visits, and promoting that social intercourse which is one of the most charming features of such a gathering.

ADELPHI-AMERICAN.

Below we give a list of the important hotels of Saratoga Springs, with prices. Besides those mentioned there are a number of boarding houses whose rates vary

from $1 to $2 per day. The chairman of the committee on hotels is Dr. J. R. Swanick, Saratoga Springs, who will be glad to engage rooms in advance for those who will write to him:

Hotels.	Accommodations.	Single rooms.	Single rooms, with bath.	Double rooms.	Double rooms, with bath.
Grand Union	1500	$4 00 up	$6 00 up	$8 00 up	$10 00 up
United States	1200	4.00-5.00	6 00-7.00	8 00-10 00	10 00-12.00
American-Adelphi	300	3.00-4.00	4.00-5.00	6.00-8 00	8 00-10.00
Kensington	500	3.00-4.00	. . .	6.00-7 00	8.00-10 00
Columbian Hotel	250	3.00	. . . . .	5 00	
Worden Hotel	250	3.00	. . . . .	6 00	
Everett House	200	2 50	. . . . .	4 00	
Huestis House	200	2.00	. . . .	4.00-5.00	
The Commercial	150	2 50	3 00	4 00	5 00
Hotel Continental	150	2.00	. .	3.00	
Franklin House	150	1 50-2.00	. .	3.00	
Vermont House	125	2 50	. . . .	5 00	
The Carlsbad	100	2 00	2 50	3 00	4.50
Woodbridge Hall	100	2.00	. . . .	3.00	
Elmwood Hall	100	1.35	. . . .	2 00	
The Waring	75	2.00	. . .	3 00	
Spencer House	75	2 00	. . . .	3.00	
The Linwood	50	2.50	. . . . .	4 00	
The Washburne	50	2 00	. .	3 00	
The Moriarta	50	3 00	Suite.	6.00	Suite.
The Ashton	50	2 50	. .	4.00	
Broadway House	50	2 50	. . . . .	4 00	
Pleasant Home	40	2 50	. . .	4 00	
Washington Hall	35	2 00	. . . .	4.00	
Summer Rest	35	2 00-2 50	. . . .	4.00	

PARKS AND PLEASURE GROUNDS.

Saratoga is itself a splendid park, with broad shaded avenues, with hundreds of elegant villas and spacious

GRAND UNION HOTEL, BROADWAY FACADE.

mansions to delight the eye of the visitor. But there are special grounds set apart for the enjoyment of guests. One of these, the Congress Spring Park, almost immediately joins the Convention Hall. It is ten or fifteen acres in extent, with handsome spring pavilion and a long colonnade, a miniature lake over which a music stand is built and where a band concert will be given on Wednesday morning. The grounds are diversified with hill and dale, there is a trout pond and deer paddock; altogether it is said to be the finest park of its size in the world. Adjoining the village limits on the north is the famous Woodlawn Park, the country seat of the late Judge Henry Hilton of New York. These magnificent grounds, open to the public, comprise over two thousand acres, with lake, forest, fine villas, and over twenty miles of smooth solid roadways. The views through vistas are wonderful in their sweep. To the east one can see the Green Mountains; to the south the Catskills are visible, and to the west are the lovely and picturesque Kayaderosseras Hills, a spur of the Adirondacks. East of the village, a drive of one mile from the Convention Hall brings one to the Saratoga Racing Park, upon which more than $250,000 has been expended since last summer, making it the most splendid racing park in either Europe or America. It can be visited by carriage or, if one prefers, on foot, as there is a paved sidewalk extending all the way to the entrance gates. Immediately east of the park lie the magnificent grounds of

CONVENTION HALL.

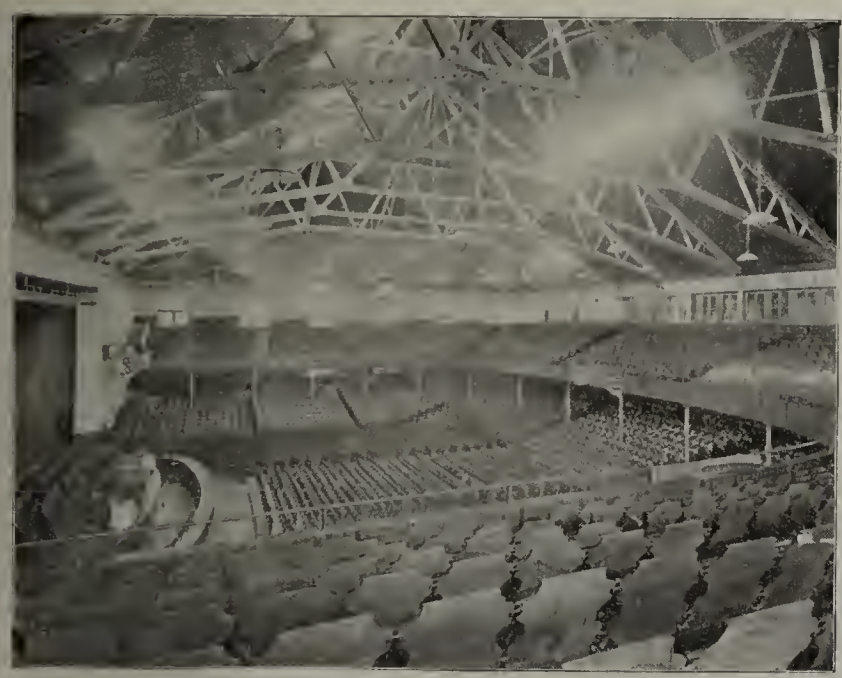
"Yaddo," the country home of Mr. Spencer Trask, the New York Banker. These grounds are open also to carriages or pedestrians. The great stone mansion, with its lofty and spacious terrace and the finest rose garden in America will be found of surpassing interest.

TOWN HALL.

OTHER ATTRACTIONS IN THE VICINITY.

Extending east and west, a couple of blocks north of the racing park, is the recently completed speedway. It is an extension of one of the village streets, over a mile in length, with a roadway for speeding sixty feet wide and a carriage drive thirty feet wide on either side, separated from the speedway proper by strips of lawn, set out with forest trees. Four miles east is Saratoga Lake, reached by a wide avenue and also by a trolley

line. This is a lovely sheet of water, with picturesque shores, on which are many hotels famed for their fish and game dinners. Saratoga Lake has been the scene of many regattas, including those of the Intercollegiate Rowing Association, where no less than fourteen crews once contested for supremacy. The lake is supplied with steam launches, which may be chartered by excursion parties, some of them also making regular trips through the lake, which is nine miles long and three



INTERIOR OF CONVENTION HALL.

miles wide at the widest part. It is a great fishing ground and rowboats may also be secured with fishing outfits for those fond of piscatorial sport. South of the village, one mile away, is the remarkable group of gey-

UNITED STATES HOTEL. HEADQUARTERS.

sers, or spouting springs, which may be visited by carriage or trolley. Just to the west of the village and reached by a fine drive are the beautiful grounds of the Saratoga Golf Club, by many said to be, for their extent, the most perfect links in the United States. The club is always glad to extend its courtesies to transient guests and to those who remain for any length of time it extends the privilege of temporary membership under proper restrictions.

Close to the golf links and a little to the north, the Saratoga Polo Association has its beautiful grounds. Although this association is not old in years, it has already achieved distinction in the polo world and under its direction this year, from July 28 to August 9, there will be held the championship contests of the country.

EXCURSIONS.

Saratoga offers many delightful excursions. To the north, six miles distant, is Mt. McGregor, on whose sum-

CONGRESS HALL.

mit Gen. U. S. Grant spent the closing days of his life. The cottage in which he died is in charge of a government custodian and is kept unchanged, as it was while Gen. Grant occupied it. It is open to visitors and is accessible by a good carriage road. On the western side of the mountain, along which the Hudson River flows,

IN "YADDO."

is the great dam across this historic stream. From this waterpower, electric machines are to be operated for supplying the motive force for manufacturing establishments within a radius of fifty miles.

Some thirty miles to the north lies Lake George, renowned for its grand scenery and historic associations. This may be reached by steam or trolley railroad. An excursion to Lake George will be made during the convention.

Luzerne, a thriving village with falls in the Upper Hudson and a remarkably pretty lake, is only one hour away by the Adirondack railroad. East of Saratoga, a half hour by rail, is Schuylerville, where a noble battle monument overlooks the scene of Burgoyne's surrender, and the Burgoyne battlefield near by. The points where the decisive struggle for American Independence was made are plainly marked by tablets suitably inscribed.

Among the excursions contemplated from Saratoga Springs following the meeting is a nine days' trip, starting June 13, through Lake George and Lake Champlain, passing historic "Fort Ti," reaching Burlington, the "Queen City" of Vermont, and taking an electric car ride to the U. S. Army Post; then to Montreal, Saturday morning visiting the famous Lachine Rapids and the sights of the city, and Sunday p. m., a sail down the St. Lawrence to Quebec. Monday evening the party will go by special train to the White Mountains and stop there until Wednesday, when the party will journey past many points of interest to Poland Springs, stopping there on invitation of the proprietors; thence to Boston, where a reception will be tendered and a carriage drive about the city given. Further information in regard to this trip can be obtained by addressing Dr. Edward R. Campbell, Bellows Falls, Vt.

ON THE LINKS.

IN SARATOGA SPRINGS.

There are many interesting features in the village itself. Among these is the Pompeia, adjoining the Convention Hall. This is an exact reproduction of the "House of Pansa." The rooms, furniture, decorations, statues, etc., are of exceeding interest. The hotels and the many mineral springs will be found filled with interest. The Saratoga Baths, one of the finest bath houses in the United States, will be found exceedingly interesting to all members of the convention. Saratoga's fine water supply and modern system of sewage disposal are well worthy of attention.

MEETING PLACES.

The feature of the Saratoga meeting which will unquestionably meet with the favorable consideration of those who are in attendance and will redound to the credit of Saratoga as a convention city will be found in the close proximity of the various places of meeting. Three minutes' walk is the outside time measurement required to walk between the most remote sections. The places of meeting are as follows:

General Sessions, Convention Hall, Broadway.

Post-office, General Exhibits, Bureau of Registration, Bureau of Information. Hathorn Spring Building, Spring St.

Practice of Medicine, Grand Union Parlors.

Pathologic Exhibits, Congress Hall ballroom. Broadway and Spring St.

Obstetrics and Diseases of Women, Theater Saratoga, Philadelphia St., just east of Broadway.

Surgery and Anatomy, Patterson Spring Building, Philadelphia St., opposite Theater.

Hygiene and Sanitary Science, United States Hotel, Broadway and Division St.

Ophthalmology, Laryngology and Otology, Y. M. C. A. Building, Broadway, opposite Caroline St.

Diseases of Children, Parish House, 17 Washington St.

Stomatology, G. A. R. Hall, Post-office Building, opposite U. S. Hotel.

Nervous and Mental Diseases, Grand Union Hotel.

Cutaneous Medicine and Surgery, American Hotel, Broadway, opposite Philadelphia St.

Materia Medica, Pharmacy and Therapeutics, Grand Union Hotel.

House of Delegates, Supreme Court Room, Town Hall.

Trustees, Judicial Council, United States Hotel.

The Convention Hall, where the general meetings will be held, is in the heart of the village. It is one of the largest and best-equipped places for great assemblages in the United States. It has seats for five thousand people, with stage, telegraph facilities, committee rooms and everything else required for the speedy and successful dispatch of business.

The General Exhibit will be displayed in the Hathorn Springs Building, an immense room on the ground floor, within a block of Convention Hall. Under the same roof will be found the Post-office, Telegraph Office and the Bureaus of Information and Registration. The various sections will hold their sessions in hotel parlors and halls, in close proximity to each other.

SCHEDULE OF ENTERTAINMENT.

The entertainments include the following:

Tuesday evening, June 10, Piazza Concert at the United States Hotel. Mr. Thomas Impett, the celebrated Troy tenor and a quartette will sing a number of selections.

Wednesday morning, Concert in Congress Spring Park.

Wednesday afternoon, carriage drive about village and reception at "Yaddo."

Wednesday evening, Reception and Ball at United States Hotel. The large interior court of the hotel will be brilliantly illuminated with colored lanterns, as though prepared for a garden party.

Thursday morning, June 12, Excursion to Lake George for the ladies.

Thursday evening, President's Reception at the United States Hotel.

To fully appreciate the unique interest of these entertainments and excursions, the reader should notice the descriptions of Congress Spring Park, Yaddo, Lake George, etc., in preceding paragraphs of this article.

The Committee of Arrangements for this meeting has been fortunate in having the warm support of the Saratoga Business Men's Association and of the community at large in its efforts to make adequate preparation for the coming of the American Medical Association.

Under the direction of the officers of the A. M. A. great care has been exercised in making the plans for the entertainment of our guests. It was early impressed upon the committee that the scientific work of the meeting must have first place and that nothing should be permitted to interfere with this, the primary object of the meeting. For this reason, certain features which have appeared on the programs of entertainment heretofore, have been eliminated this year and, so far as the Committee has received information from members of the Association, this action has been most heartily commended. It need not be feared from the foregoing explanation, however, that there will be any lack of the elements which go to make up the social features which add so greatly to the pleasure of the annual gatherings.

Any special or further information will be promptly and cheerfully supplied by addressing

Dr. Geo. F. Comstock,
Chairman, Committee of Arrangements.

Precautions Necessary with Hydrogen Dioxid.—Two professors at Lyons, France, have recently called attention to the ready absorbability of hydrogen dioxid and the consequent danger of fatal gaseous embolism from bubbles of oxygen forming in the blood after absorption, when it is applied to an open wound or to detach an adherent dressing. In contact with the blood, as with pus, the effervescence continues. The oxygen is disposed of by the oxyhemoglobin in the blood if the amount is small, and no harm results. Inflamed tissues are peculiarly active in decomposing the dioxid, and absorption is always slow and gradual in all cases. Crolas advises rendering the dioxid alkaline by adding a saturated solution of sodium borate, a drop at a time, until litmus paper, first reddened by the dioxid, regains its blue color. Even aside from the fear of gaseous embolism the dioxid should always be neutralized, as it is liable to contain more or less sulphuric, phosphoric, or other acids, It should never be used stronger than eight to ten volumes, and always fractioned and in moderate amounts. With these precautions there need be no fear of the slightest evil effects from its use.—*Pacific Medical Journal.*

Alcohol Corrodes.—Physicians who have read that absolute alcohol is used at Johns Hopkins Hospital for sterilizing and those who have found that its use is corroding will be interested in a statement from *Science.* The action of alcohol on metal is peculiar. Dr. Malmejac in his experiments used 95 per cent. alcohol, which left no residue on evaporation. The metals, copper, iron, tin, lead, zinc and galvanized iron, were corked up with alcohol in glass flasks and kept at ordinary temperatures for six months. The copper was entirely unacted upon, but in all the other flasks there was a deposit on the bottom and the metal was covered with a similar deposit. In the case of tin, lead, zinc and galvanized iron the deposit was white; that from the iron was red, resembling iron rust. All of the liquids, except that in which the lead had been placed, filtered clear; the latter retained a milky appearance after repeated filterings through double filters. The clear filtrates from iron, lead, zinc and galvanized iron gave much residue on evaporation, while the residue from tin was hardly appreciable. In the former cases it is clear that not only had the metal been oxidized, but a considerable quantity had entered into the solution. These experiments have an important bearing on the storing and shipping of alcohol.

Married.

GUSTAV KOEHLER, M.D., to Miss Alma Lewert, both of Chicago, April 24.

JAMES J. MOONEY, M.D., to Miss May Cronyn, both of Buffalo, N. Y., April 29.

NUMA T. WESTON, M.D., Colfax, Iowa, to Mrs. Evalyn Swan, at Jewell Junction, Iowa.

DAVID H. COOMBS, JR., M.D., to Miss Mayme Beeler, both of Charlestown, Ind., May 7.

STANLEY SMITH, M.D., Allegheny, Pa., to Miss Sophia Lavens of Bradford, Pa., April 24.

HARRISON JOSEPH TRASK, M.D., to Miss Clara Azelia Wells at St. Joseph, Mich., April 11.

JOHN E. COULTER, M.D., to Miss Fannibelle Bradley, both of De Smet, S. Dak., April 28.

JAMES T. MCGOVERN, M.D., to Miss Teresa Jene Lennon, both of Rochester, N. Y., April 21.

JOHN M. ADAMS, M.D., Ritzville, Wash., to Miss Myrtle M. Graham of Spokane, April 17.

JOHN T. COBB, M.D., Buchanan, Ga., to Mrs. Hoppie Weaver of Polk County, Ga., January 26.

LEDRA HEAZLITT, M.D., Auburn, N. Y., to Miss Norma R. Smith of Dundee, N. Y., April 23.

OTTO J. STEIN, M.D., Chicago, to Miss Evelyn Deming Daugherty of Dubuque, Iowa, April 29.

CHARLES R. HAMMAT, M.D., to Miss Hazel H. Taylor, both of Portsmouth, Ohio, at Vanceburg, Ky., April 24.

HARRY BAPTIST, M.D., Joy Depot, Albemarle County, Va., to Miss Margaret Esther Boyle of Fredericksburg, Va., April 21.

FRANK M. HERMAN, M.D., New York City, to Miss Jessie L. Stockton of Buenos Aires, Argentine Republic, at Boston, Mass., April 30.

Deaths and Obituaries.

Frederick A. Castle, M.D. Bellevue Hospital Medical College, New York, 1866, a widely-known physician of New York City, died at Roosevelt Hospital in that city after an illness of six months, aged 59. Dr. Castle was a student in Bellevue when the Civil war commenced. Without waiting to take a degree, he, with a number of other young men, formed the Medical Cadet Corps, which was sent to the front as a part of the Medical Department of the Army. He later left this organization and served for two years in the navy. Toward the close of the war he returned to Bellevue, where he was graduated. He became widely known in the profession through his editorial work in connection with numerous medical journals. For a time he occupied the chair of therapeutics at Bellevue, and was later visiting physician at the Presbyterian Hospital. He was largely interested in the building of the Academy of Medicine, and was once its treasurer.

George King, M.D. College of Physicians and Surgeons, New York, 1847, the oldest physician of Franklin, Mass., died at his home in that place, April 25, from heart disease, after a week's illness, aged 80. For nearly three years he served in the Civil war as surgeon of the Sixteenth and the Twenty-ninth Massachusetts Volunteer Infantry. He was taken prisoner at Petersburg, Va., and confined in Libby Prison. He was a member of the Massachusetts Medical Society, the Norfolk County Medical Society and the Thurber Medical Society.

Joseph W. Holland, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1874, prominent as a railway surgeon, ex-president of the Southwestern Iowa Medical Association, member of the International Association of Railway Surgeons and of the Iowa State Medical Society, for more than 25 years a practitioner of Osceola, Iowa, died at a hospital in Chicago, April 25, after an illness of two weeks, aged 58.

Pembroke R. Thombs, M.D. Rush Medical College, Chicago, 1862, a well-known physician of Pueblo, Colo., and for a number of years superintendent of the State Hospital for the Insane, died at his home in Pueblo, April 28, after an illness of two weeks, aged 62. He served as surgeon through the Civil war and at its close located in Colorado.

William V. Hazeltine, M.D. Long Island College Hospital, Brooklyn, N. Y., 1883, a practitioner of Warren, Pa., since 1869, one of the organizers and one-time president of the Warren County Medical Society, and a member of the Medical Society of the State of Pennsylvania, died at his home in Warren, April 23, from pneumonia, after a short illness, aged 62.

Charles Abner Phelps, M.D. Harvard University, 1844, who practiced in Boston for a time, but afterward devoted his attention to politics, serving as member and speaker of the house, and senator and president of the senate, surveyor of the Port of Boston, consul at Prague, etc., died in Boston, April 27, aged 81.

Charles H. Dougal, M.D. University of Pennsylvania, Philadelphia, 1864, a well-known practitioner of Milton, Pa., died at his home in that place from apoplexy, April 26, aged 67. He was a medical cadet during the Civil war, and was captured and confined in Libby Prison.

James Nott Moore, M.D. Medical College of the State of South Carolina, Charleston, 1859, for many years a practitioner of Spartanburg, S. C., and during the Civil war a surgeon in the Confederate service, died at his residence in Columbia, S. C., April 25, aged 65.

Jacob Deutsch, M.D. University of Budapest, 1867, a member of the American Medical Association, Tri-State Medical Society and Tennessee State Medical Society, died at his home in Memphis, April 19, aged 62.

Matthew H. Molloy, M.D., M.R.C.S. England, 1867, medallist of the Carmicheal School of Midwifery, Dublin, a practitioner of Roxbury for about ten years, died at his home in that place, April 23, aged 62.

Charles Angell, M.D. Castleton (Vt.) Medical College, 1846, who had practiced in Pittsburg, Ind., for fifty-six years, and was a veteran of the Civil war, died at his home in Pittsburg, April 18, aged 79.

Samuel S. Wiest, M.D. New York University, 1854, one of the oldest practitioners of Lancaster County, died at his home in Schoeneck, Pa., April 27, from valvular heart disease and dropsy, aged 74.

Alexander J. McCullough, M.D. Western Reserve University, Cleveland, 1882, died at Spencer Hospital in Meadville, Pa., after a short illness, from congestion of the brain, April 26, aged 49.

Calvin A. Mann, M.D. Washington University, St. Louis, 1858, of Chester, Ill., a veteran of the Civil war and a prisoner in Libby Prison, died recently and was buried at Chester, April 19.

Cornelius A. Johnson, M.D. University of Michigan, 1889, division surgeon of the Grand Rapids and Indiana Railway, died at his home in Marcelona, Mich., April 28, after a long illness.

Otis O. Whittington, M.D. Missouri Medical College, St. Louis, 1897, of Coffeen, Ill., died at his father's home near Herrick, Ill., April 13, from hemorrhage of the lungs, aged 32.

James Taylor, M.D. Jefferson Medical College, Philadelphia, 1851, the oldest practitioner in Westmoreland County, Pa., died at his home in West Fairfield, April 30, aged 85.

Leonard P. Holden, M.D. Pennsylvania Medical College, Philadelphia, 1858, for nearly thirty years a practitioner of Boston, died at his home in that city, April 20, aged 78.

Philip F. Fulmer, M.D. University of Pennsylvania, 1853, of Dingman's Ferry, Pa., died suddenly from heart disease at Middletown, N. Y., April 29, aged 80.

James P. Lytle, M.D. Washington University, St. Louis, 1874, a former resident of Princeton, Ill., died at Anna, Ill., from cerebral hemorrhage, April 19.

William L. Grim, M.D. Western Reserve University, Cleveland, Ohio, 1875, died from pneumonia at his home in West Washington, Pa., April 24, aged 63.

Henry Harrison Arnold, M.D. University of Heidelberg, Germany, died at his home in Washington, D. C., April 20, after a long illness, aged 54.

F. Antes Canfield, M.D. Rush Medical College, 1872, the pioneer physician of Juneau County, Wis., died at his home in Necedah, April 22, aged 71.

Fernando C. Gay, M.D. St. Louis College of Physicians and Surgeons, 1888, of Alto Pass, Ill., died after a prolonged illness, April 26, aged 54.

J. Walter Rowland, M.D. Kansas City (Mo.) Medical College, 1895, of Herndon, Kan., was shot and killed by an unknown person, April 28.

Edward T. Tinch, M.D. Medical College of Ohio, Cincinnati, 1878, died at his residence in Freetown, Ind., April 20, after a long illness.

James H. Crain, M.D. College of Physicians and Surgons, New York, 1850, died at his home in Beechwood, Ill., April 28, aged 74.

Levi E. Pickett, M.D. Rush Medical College, 1897, died at his home in Lineville, Iowa, April 22, after a short illness, aged 28.

John W. Roe, M.D. Omaha Medical College, 1884, died at the Presbyterian Hospital, Omaha, April 24, after a long illness, aged 74.

William M. Wilson, M.D. Southern Medical College, Atlanta, Ga., 1887, died at his home in Cleveland, Tenn., April 18.

E. Fred Russell, M.D. Rush Medical College, a physician of Poynette, Wis., died at Madison, Wis., April 29, aged 68.

Joseph P. Turner, M.D. Jefferson Medical College, 1878, died at his home in Trenton, N. J., April 27, aged 79.

Societies.

COMING MEETINGS.

American Medical Association, Saratoga Springs, N. Y., June 10 to 13.

American Therapeutic Society, New York City, May 13, 1902.
Utah State Medical Society, Salt Lake City, May 13-14, 1902.
Oklahoma Territory Medical Association, Oklahoma City, May 14, 1902.
Arkansas Medical Society, Little Rock, May 13-15, 1902.
New Hampshire Medical Society, Concord, May 15-16, 1902.
Illinois State Medical Society, Quincy, May 20-22, 1902.
Medical Association of the State of Missouri, St. Joseph, May 20-22, 1902.
Arizona Medical Association, Tucson, May 21-22, 1902.
Medical Society of West Virginia, Parkersburg, May 21-23, 1902.
Medical Association of Montana, Anaconda, May 21-22, 1902.
Iowa State Medical Society, Des Moines, May 21-23, 1902.
Indiana State Medical Society, Evansville, May 22-23, 1902.
American Pediatric Society, Boston, May 26-28, 1902.
American Laryngological Association, Boston, Mass., May 26-28, 1902.
American Gynecological Society, Atlantic City, May 27, 1902.
Connecticut Medical Society, New Haven, May 28-29, 1902.
Ohio State Medical Society, Toledo, May 28-30, 1902.
American Laryngological, Rhinological and Otological Society, Washington, D. C., June 2-4, 1902.
American Surgical Association, Albany, N. Y., June 3-5, 1902.
Louisiana State Medical Society, Shreveport, June 3-5, 1902.
Maine Medical Association, Portland, June 4-6, 1902.
Rhode Island Medical Society, Providence, June 5, 1902.
Wisconsin State Medical Society, Milwaukee, June 4-6, 1902.
South Dakota State Medical Society, Scotland, June 4-5, 1902.
Association of Military Surgeons of the United States, Washington, D. C., June 5-7, 1902.
American Orthopedic Association, Philadelphia, Pa., June 5-7, 1902.
American Academy of Medicine, Saratoga Springs, N. Y., June 7, 1902.
American Association of Life Insurance Examining Surgeons, Saratoga Springs, June 9, 1902.
National Confederation State Medical Examining and Licensing Boards, Saratoga Springs, N. Y., June 9, 1902.
Association of American Medical Colleges, Saratoga Springs, N. Y., June 9, 1902.
American Climatological Association, Los Angeles, Cal., June 9-11, 1902.
American Proctological Association, Saratoga Springs, N. Y., June 10, 1902.
Medical Society of Delaware, Newark, June 10, 1902.
Massachusetts Medical Society, Boston, Mass., June 10-11, 1902.
Medical Society of the State of North Carolina, Wilmington, June 10-14, 1902.
Colorado State Medical Society, Pueblo, June 17, 1902.
American Medico-Psychological Association, Montreal, June 17-20, 1902.
Minnesota State Medical Society, Minneapolis, June 18, 1902.
Medical Society of New Jersey, Atlantic City, June 24-26, 1902.
Washington State Medical Society, Tacoma, June 24-26, 1902.
Michigan State Medical Society, Port Huron, June 26-27, 1902.

Association of Central-Railway-of-Georgia Surgeons.—At the annual meeting of this Association in Savannah, April 15, Dr. James B. Morgan, Augusta, was elected president.

Delta County (Mich.) Medical Society.—The annual meeting of this Society was held in Gladstone, April 23. Dr. David N. Kee, Gladstone, was elected president; Dr. H. W. Long, secretary, and Dr. Andrew Nelson, Escanaba, treasurer.

New Haven County (Conn.) Medical Society.—At the semi-annual meeting of this Society, held in Ansonia, April 17, Dr. P. Frederick Metz, formerly a practitioner of New Haven, was formally expelled from the Society on account of illegal practices.

Mercer County (Ill.) Medical Society.—At a meeting of physicians at Aledo, April 17, preliminary steps were taken to form a county medical society. Dr. George Irwin, Aledo, was made temporary chairman and Dr. Albert N. Mackey, Aledo, temporary secretary.

Bristol North District (Mass.) Medical Society.—At the annual meeting of this Society, April 18, Dr. Charles S. Holden, Attleboro, was elected president; Dr. W. Y. Fox, Bristol, vice-president and treasurer; Dr. Ralph D. Dean, secretary, and Dr. H. B. Baker, librarian.

Rockland County (N. Y.) Medical Association.—This Association held its annual meeting at Suffern, April 16. Dr. Gerrit F. Blauvelt, Nyack, was elected president; Dr. Daniel B. Van Wagenen, Suffern, vice-president, and Dr. Norman B. Bayley, Haverstraw, secretary.

Austin Flint Medical Association.—At the annual meeting of this body held at Osage, Iowa, April 15, Dr. J. Clinton Powers, Hampton, was elected president; Dr John C. Wright, Clear Lake, Iowa, vice-president, and Dr. Lester C. Kern, Waverly, Iowa, re-elected secretary.

Hill County (Texas) Medical and Surgical Association.—This body met at Hillsboro, April 14, and elected Dr. James J. Robert, Hillsboro, president; Dr. James A. Adams, Hillsboro, vice-president; Dr. J. M. Martin, Massey, secretary, and Dr. Allen J. Gilbert, Hillsboro, treasurer.

Fond du Lac County (Wis.) Medical Association.—At a meeting of physicians held in Fond du Lac, April 23, it was decided to form a county medical organization. Dr. Stephen E. Gavin, Fond du Lac, was elected temporary president, and Dr. Guy T. Boyd, temporary secretary.

Middlesex County (Conn.) Medical Society.—This Society, at its one hundred and tenth annual meeting, held in Middletown, April 23, elected Dr. Frank E. Potter, Portland, president; Dr. Charles H. Hubbard, Essex, vice-president, and Dr. Frank K. Hallock, Cromwell, clerk.

Windham County (Conn.) Medical Society.—This Society convened for its one hundred and ninth annual session at Willimantic, April 10. Dr. Frank H. Coops, Danielson, was elected president; Dr. Henry R. Lowe, Putnam, vice-president, and Dr. James L. Gardner, Central Village, clerk.

Detroit Medical Society.—The annual meeting of this Society for election of officers was held, April 30, at which the following officers were elected: Dr. Frank B. Tibbals, president; Dr. Willis S. Anderson, vice-president; Dr. Louis J. Goux, secretary, and Dr. H. Wellington Yates, treasurer.

Johnson County (Ill.) Medical Association.—About twenty physicians of Johnson County met at Vienna, April 24, and organized a county association with the following officers: Dr. John McC. Damron, president; Dr. Newton J. Benson, vice-president, and Dr. Thomas E. McCall, secretary and treasurer.

Blue Earth County (Minn.) Medical Society.—This Society was reorganized at Mankato, April 21, along the lines suggested by Dr. Thomas McDavitt, secretary of the Minnesota State Medical Society. Officers were elected and Dr. J. Francis Shefcik, Mapleton, was elected a delegate to the State Society.

Macon County (Mo.) Medical and Surgical Society.—The annual election of this Society, held at Macon, April 22, resulted as follows: Dr. Charles W. Reagan, Macon, president; Dr. George F. Brewington, Bevier, vice-president; Dr. George B. Rush, Macon, secretary, and Dr. Benjamin J. Milam, Macon, treasurer.

Tolland County (Conn.) Medical Society.—The annual meeting of this Society was held at Rockville, April 15. Dr. Eli P. Flint, Rockville, was elected president; Dr. Alonzo L. Hurd, Somers, vice-president; Dr. Edwin T. Davis, Ellington, secretary and treasurer, and Dr. Cyrus B. Newton, Stafford Springs, county reporter.

Macoupin County (Ill.) Medical Society.—This Society convened in Carlinville for its semi-annual session, April 22. The following officers were elected: Dr. Harry W. Gobble, Carlinville, president; Dr. Noah A. Crouch, Chesterfield, vice-president, and Dr. J. Palmer Matthews, Carlinville, permanent secretary and treasurer.

Plymouth District (Mass.) Medical Society.—This Society held its annual meeting at Brockton, April 16, and elected the following officers: Dr. Jesse H. Averill, Campello, president; Dr. William P. Chisholm, Brockton, vice-president; Dr. Frank H. Burnett, Brockton, secretary, treasurer and reporter, and Dr. Charles E. Lovell, Whitman, librarian.

Knox County (Ill.) Medical Society.—At a meeting of Knox County physicians at Galesburg, April 22, a county society was organized with the following officers: Dr. Louis

Becker, Knoxville, president; Dr. Guy A. Longbrake, Galesburg, vice-president; Dr. George S. Bower, Galesburg, secretary, and Dr. Frederick G. Hall, Galesburg, treasurer.

Eastern Ohio Medical Society.—This Society, at its regular spring meeting, held in East Liverpool, April 24, took the initiatory step in a movement for the establishment of a state hospital for the treatment of tuberculosis and passed resolutions very strongly indorsing such an institution.

American Academy of Medicine.—The twenty-seventh annual meeting of the Academy will convene at the Kensington, Saratoga, June 7, and continue during Monday, June 9. A feature of the meeting will be an address by Edward T. Devine of the United Charities of New York, on "Co-operation of the Medical Profession in Charitable and Social Reform."

Brainerd District (Ill.) Medical Society.—The twenty-fifth annual and silver jubilee meeting of this society was held at Mason City, April 24. The following officers were elected: President, Dr. W. P. Walker, Mason City; vice-president, Dr. William V. Guttery, Middletown; secretary, Dr. James L. Lowrie, Lincoln, and treasurer, Dr. Charles C. Reed, Lincoln.

Guilford County (N. C.) Medical Society.—The organization of a county medical society was perfected at Greensboro, April 19. Dr. Millard F. Fox, Guilford College, was elected president; Dr. David A. Stanton, High Point, first vice-president; Dr. Albert R. Wilson, Greensboro, second vice-president; and Dr. Charles L. Scott, Greensboro, secretary and treasurer.

Worcester North District (Mass.) Medical Society.—The forty-fourth annual meeting of this Society was held at Fitchburg, April 22. Dr. Charles E. Bigelow, Leominster, was elected president; Dr. H. Porter Hall, Leominster, vice-president; Dr. Walter F. Sawyer, Fitchburg, secretary; Dr. Eustace L. Fiske, Fitchburg, treasurer, and Dr. Atherton P. Mason, Fitchburg, librarian.

District Medical Society of Hunterdon County, N. J.—This Society held its annual meeting in Flemington, April 22. The following officers were elected: Dr. Howard Servis, Junction, president; Drs. William H. Schenck, Flemington, and Leon T. Salmon, Lambertville, vice-presidents; Dr. I. S. Cramer, Flemington, secretary; Dr. Obadiah H. Sproul, Flemington, treasurer, and Dr. George N. Best, Rosemont, reporter.

District Medical Society of the County of Middlesex, N. J.—The annual meeting of this Society was held in New Brunswick, April 18. Dr. Edward E. Haines, South Amboy, was elected president; Dr. William E. Ramsay, Perth Amboy, vice-president; Dr. David Stephens, New Brunswick, secretary; Dr. David C. English, New Brunswick, treasurer, and Dr. Arthur L. Smith, New Brunswick, reporter.

Windham County (Vt.) Medical Society.—The physicians of Windham County met at Brattleboro and organized a county medical society, electing the following officers to serve until the annual meeting in September: Dr. Edward R. Campbell, Bellows Falls, president; Dr. Frederick L. Osgood, Townshend, vice-president; Dr. G. R. Anderson, Brattleboro, secretary, and Dr. Ansel I. Miller, Brattleboro, treasurer.

Association of Medical Officers of the Army and Navy of the Confederacy.—This Association held its annual meeting at Dallas, Texas, April 24. The following officers were elected: Dr. William J. W. Kerr, Corsicana, Texas, president; Drs. D. H. Key, Monroe, La., Jones C. Abernathy, Birmingham, Ala., Joseph S. Tipton, Roanoke, Va., and Joel C. Hall, Anguilla, Miss., vice-presidents, and Dr. Deering J. Roberts, Nashville, secretary and treasurer.

Jo Daviess County (Ill.) Medical Society.—This Society celebrated its second anniversary at Elizabeth, April 24. Dr. Henry T. Godfrey, Galena, was elected president; Dr. George E. Miller, Hanover, vice-president; Dr. Domer G. Smith, Elizabeth, secretary; Dr. Thomas J. Stafford, Stockton, treasurer; Dr. Alfonso C. Czibulka, Warren, delegate to State Medical Society, and Dr. James C. Egan, Hanover, alternate. The Society was tendered an elaborate banquet by Drs. William Hutton and Domer G. Smith, Elizabeth.

Clark County (Ohio) Medical Society.—A joint meeting of the Clark County Medical Society and the Springfield Academy of Medicine was held at Springfield, April 24, for the purpose of amalgamating into one society on the lines laid down by the American Medical Association. The meeting lasted until midnight, when the consolidation was effected as the Clark County Medical Society. The meeting was presided over by Dr. Read L. Bell, Springfield, and Dr. J. C. Easton, Springfield, acted as secretary.

Litchfield County (Conn.) Medical Society.—The one hundred and thirty-eighth annual meeting of this body was held at Winsted, April 23. Dr. Jerome S. Bissell, Torrington, was elected president; Dr. David R. Rodger, Woodbury, vice-president; Dr. Albert E. Cobb, Falls Village, clerk; Dr. William S. Richards, Winsted, county representative, and Drs. William L. Platt, Torrington, George H. Knight, Lakeville, Jerome S. Bissell, Torrington, and Albert E. Cobb, Falls Village, members of the consulting staff of Litchfield County Hospital, Winchester.

New York County Medical Association.—At the annual meeting of this Society, held April 21, Dr. Charles Warrenne Allen presented a paper on "Treatment of Cancer by the X-Ray," illustrated by lantern slides and also by a number of patients. The election of officers resulted as follows: Dr. Alexander Lambert, president; Drs. Wilbur B. Marple and Frederick P. Hammond, vice-presidents; Dr. Ogden C. Ludlow, secretary; Dr. Frederic W. Loughran, corresponding secretary; Dr. Charles E. Denison, treasurer; Dr. Parker Syms, member of executive committee, and Dr. E. Eliot Harris, member of nominating committee, Fifth District Branch.

Public Health Association of California.—Health officials, sanitarians and inspectors from various cities in California met, April 14, at San Francisco, with local officers to organize a state association and arrange for a regular annual convention. About thirty were present. The plan of organization was placed in the hands of a committee, who reported in favor of a permanent association and recommended plans, which were adopted. The election of officers resulted as follows: President, Dr. Edward Van Adelung, Oakland; vice-presidents, Drs. Sylvester B. Davis, Stockton, and William Simpson, San Jose; secretary and treasurer, James A. Emery, San Francisco.

South Carolina Medical Association.—This Association held its fifty-second annual meeting at Spartanburg, April 16 and 17, about 100 physicians being in attendance. The annual address was delivered by Dr. William T. English, Pittsburg, Pa., on "The Negro Problem from the Physician's Standpoint." The annual election of officers resulted as follows: President, Dr. Manning Simons, Charleston; vice-presidents, Drs. A. Frank Darby, Columbia, Peter L. Horn of St. Georges, and Peter G. Ellison, Newberry; recording secretary, Dr. T. Prioleau Whaley, Charleston; corresponding secretary, Dr. Augustus B. Knowlton, Columbia, and treasurer, Dr. Barnard E. Baker, Charleston. The Association will meet in 1903 at Sumter, April 15 and 16.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

Sixteenth Annual Meeting, held at Atlantic City, April 29-30, 1902.

President, William T. Belfield, M.D., Chicago, in the Chair.

Prostatectomy.

The first day was almost entirely devoted to the prostate gland and its removal. Dr. John P. Bryson, St. Louis, described the technic of prostatectomy and illustrated by cases and specimens. Dr. Charles H. Chetwood, New York City, spoke on the indications for operation.

Choice of Operation.

DR. HENRY H. MORTON of Brooklyn reported a case in which Bottini's operation had been performed.

Dr. Charles L. Gibson, New York, presented a specimen of a "Removal in Toto of All Three Lobes of the Prostate by Suprapubic Cystotomy," for the purpose of emphasizing how easily the prostate, or portions of it, can be removed, without destruction of tissue or hemorrhage provided one only enters the essential line of cleavage.

After discussion by Drs. Eugene Fuller, New York; Francis S. Watson, Boston, and George Chismore, San Francisco, Dr. Bransford Lewis of St. Louis discussed "Operative Treatment." The conditions favorable for the several operations in vogue were summed up as follows:

FAVORABLE FOR THE SUPRAPUBIC ROUTE: 1. General enlargement of the prostate, with extreme intravesical projection of the median or lateral lobes, diminishing their accessibility from the perineum. 2. Marked pedunculation of the intravesical tumors, with absence of obstruction from other sources.

Favorable for the Perineal Route: 1. General hypertrophy, involving the lateral lobes, without extreme intravesical projection. 2. Large or very thick bar formation. 3. Severe compression of the urethra between massive lateral lobes. 4. Excessive development of the prostate in the direction of the rectum. 5. In most cases where the patient is in good general condition, is not too aged, and there is not a special indication favoring one of the other procedures.

Favorable for the Bottini: 1. Cases of extreme debility, or of extreme age, unable to stand one of the severer operations. 2. Cases of bar or median sessile obstruction, of not too great dimensions. 3. In complete collar formations. 4. Horwitz says it should be employed as a prophylactic against further obstructive tendency, at the beginning of catheter life.

Dr. Francis S. Watson, Boston, read a paper on "The Phloridzin Test in Determining the Functioning Capacity of the Kidneys."

Dr. F. L. Sturgis, New York, said that the removal of the prostate and ejaculatory ducts prevented the flow of the prostatic secretion, which was so essential to the vitality of the spermatozoa, and therefore tended to render the male sterile. On this account he believed that some partial operation, like the Bottini, was preferable.

Drs. Eugene Fuller and F. Tilden Brown of New York, and H. H. Young, Baltimore, and William T. Belfield, Chicago, continued the discussion.

The first day's session closed with a paper on "The Detection of Stone in the Kidney by Skiagraph, with Specimen," by Dr. James Bell, Montreal.

The second day was largely devoted to Genito-Urinary Tuberculosis.

Renal Tuberculosis.

Dr. F. Tilden Brown, New York City, said that at the Presbyterian Hospital, during the past ten years, out of the 1427 necropsies, 258 (18 per cent.) showed tuberculous lesions somewhere in the body; 48 (18.5 per cent.) showed renal tuberculosis. Of these 48, 32 were males and 16 females; 39 had lesions in both kidneys, 9 in one kidney, 5 being in the right and 4 in the left kidney. In the 258 tuberculous bodies the kidneys were more commonly involved than the spleen, liver or adrenals. During the same time, there were in the hospital 78 cases diagnosed as renal tuberculosis; 13 (16 per cent.) had nephrectomy performed, with but one death occurring two months after the operation; at the autopsy the other kidney was found to be involved. The vast majority of autopsies showing tuberculous lesions in the kidney are of the disseminated miliary type. With such a class of patients, of course, surgeons have not to deal. At necropsies as high as 3 or 4 per cent. of healed pulmonary tuberculosis have been found; whereas it was of the rarest occurrence to find any evidence of Nature's efforts to cure renal tuberculosis. From a surgical standpoint he did not believe any surgeon would hesitate to perform an immediate nephrectomy if he were sure that one kidney contained the only appreciable focus of the tuberculosis.

Tuberculosis of the Seminal Tract.

Dr. Hugh H. Young, Baltimore, presented an exhaustive résumé of the literature, and his conclusions were as follows:

Pathology.—The disease may begin primarily anywhere in the tract, but it usually starts in the epididymis. The bacilli which are being constantly carried up with the testicular secretion along the vas deferens very soon localize in the ampulla of the vas, the ejaculatory duct, the seminal vesicle and the adjacent portion of the prostate. The testicle is very seldom the point of primary origin and it becomes involved secondarily generally much later than the seminal vesicles, though it seemed not to be so immune as formerly supposed. Tuberculosis frequently travels from the kidney to the prostate and from there involves the testicle, but it is almost never primary in the bladder.

Treatment.—There are to be found in literature 35 cases in which the seminal vesicles have been removed for tuberculosis; of these 14 will not be considered because the operator failed to state ultimate results. Of the 21 which were followed, 6 died, 5 had recurrences and 10 were classed as well. Only 8 cases were followed over one year and, of these, 2 died, 2 had perineal fistulas and 4 were classed as cured. In only one of the six fatal cases was pulmonary involvement present before operation. Considering, then, that both seminal vesicles were involved in but 12 cases, the infrequency of lung and bladder tuberculosis, these 35 cases were not the most intensive, and with cures claimed in less than 50 per cent. and with only eight followed more than one year, the results obtained by operative removal of the tuberculous seminal vesicles were indeed unsatisfactory, and apparently not nearly so good as where a partial operation upon the external disease in the testicle alone is attempted.

Dr. Paul Thorndike, Boston, discussed Tuberculosis of the Testicle.

An Analysis of Ninety-Six Operations for the Relief of Tuberculosis of the Testicle.

Dr. Orville Horwitz of Philadelphia presented the following conclusions to his paper: 1. A primary tubercular infection of either the epididymis or testicle may occur, the former being by far the more common. 2. A primary infection of the epididymis, secondarily that of the testicle, is more common than the descending one. 3. Primary involvement of either the epididymis or testicle usually takes place through the circulation; the soil being predisposed to the location of the tubercle bacillus either by a slight traumatism or by some infecting condition which has given rise to inflammation of the organ; most commonly an attack of gonorrhea. 4. Secondary tubercular involvement of the epididymis or testicle sometimes follows a primary focus of the disease in other portions of the body, more commonly in those organs that are in a direct anatomic connection with the sexual glands, such as the seminal vesicles, the prostate, urethra, bladder, ureter or kidney. 5. The invasion of the testicle may be rapid, associated with acute inflammatory symptoms, an abscess soon developing; or the onset may be slow, the symptoms simulating those of either chronic syphilitic orchitis or malignant disease of the organ. 6. The tuberculin test should always be employed in doubtful cases where only one focus of the disease is known to exist. 7. In doubtful cases associated with hydrocele, the fluid should be examined for the tubercle bacilli and inoculating experiments made. 8. The injections of either emulsions of iodoform or of sulphate of zinc into the diseased part are not to be recommended. 9. In all cases of encapsulated caseous nodules quiescent in the epididymis, epididymectomy should be performed. 10. Epididymectomy, together with resection of the vas deferens, is not attended by either atrophy of the testicle or sexual weakness. 11. The drainage of tubercular abscesses followed by the use of the curette is only to be employed where radical treatment is not permissible as it is attended with more or less danger and is generally unsatisfactory in its results. 12. In instances where the epididymis alone is involved, a resection of the diseased structure is all that is required; whether a partial or complete resection of the vas deferens is to be undertaken is still undecided. 13. Double orchectomy should be performed when both glands are diseased, provided there is not extensive co-existing tubercular infection of other organs. 14. Whether infected seminal vesicles should always be removed at the time that the epididymis or testicle is resected is a question open for discussion. From the fact that in a large majority of cases the removal of the primary seat of the disease is followed by a subsidence of the tubercular involvement of the vesicles, it is deemed wiser, as a rule, to wait and remove the vesicles later if necessary. 15. Hygienic and climatic influence play as important parts after operation in fortifying the constitution against further invasion as they do in other tubercular conditions. 16. The anti-tubercular remedies are of great value in controlling the disease and should be employed in conjunction with whatever surgical procedure may be deemed necessary.

Gangrene of Penis. Teratoma of Testicle.

Dr. James B. Hayden of New York reported one case of each of these unusual conditions with photographs.

DR. RAMON GUITERAS, New York City, read a paper on "The Surgical Treatment of Chronic Nephritis."

Officers for the Ensuing Year.

The election of officers resulted as follows: President, Dr. Paul Thorndike, Boston; vice-president, Dr. Edwin C. Burnett, St. Louis; secretary and treasurer, Dr. John Vanderpoel, New York City; council, Drs. William T. Belfield, Chicago, and James R. Hayden, New York City. The next place of meeting will be Washington, D. C.

WESTERN OPHTHALMOLOGIC AND OTO-LARYNGOLOGIC ASSOCIATION.

Proceedings of the Seventh Annual Meeting, held at the Auditorium Hotel, Chicago, April 10-12, 1902, under the Presidency of Dr. Christian R. Holmes, of Cincinnati, Ohio.

Thiosinamin and Electrolysis in the Treatment of Tubal Obstruction.

DR. J. C. BECK, Chicago, read this, the first paper. His observations in treating fourteen cases led him to conclude that without mechanical treatment the injections of thiosinamin did not materially improve the condition; but, after use in conjunction with electrolysis, a simple bougie could be passed with greater ease and inflation was more free and all the cases treated improved in all respects, as regards hearing, tinnitus aurium, general condition, etc. He also says that before using thiosinamin careful inquiry should be made for possible contra-indications to its use, such as existing chronic tuberculosis, malignant tumors and scars which support the abdominal organs in the abdominal wall, such as are found after laparotomy. The drug may be used with just as good results—though it is not as rapid in its action—by mouth administration as hypodermically.

Value of Electrolysis in the Eustachian Tube.

DR. NORVAL H. PIERCE, Chicago, epitomized the history of electrolysis and presented a brief review of the anatomy of the Eustachian tube, explaining certain points noted in the use of the electrical bougie in the tube which have been otherwise interpreted or understood. He reported 20 cases, in only two of which could any results be ascribed to the electric bougie. These were both cases of subacute disease, with recurrent attacks of defective audition and tinnitus, with diminishing intervals, with soft infiltrated membrano-cartilaginous tube near the isthmus. In both of these the benefit to audition and the subjective symptoms were marked, immediate and lasting, and these results were obtained after the usual method of injection, massage, etc.

He concludes: 1. In sclerotic disease electrolysis is useless. 2. In the great majority of cases of catarrhal disease it has no advantage over other methods of treatment. 3. In a few cases, where there is probably a soft exudate near the isthmus, it may be regarded of value.

President's Address.

DR. CHRISTAIN R. HOLMES, Cincinnati, Ohio, in lieu of the customary stereotyped presidential address, gave an illustrated lecture on the development of the ear from the lowest animal up to man.

Neighboring Parts of the Middle Ear and Their Infection.

DR. OTTO J. STEIN, Chicago, read this paper, the object of the contribution being simply to renew acquaintance with the anatomic surroundings of the middle ear. He reviewed the manner and avenues through which infection reaches the neighboring parts of the middle ear, and the manner in which involvement of such parts takes place. He mentioned two ways: first, by continuity of tissue, and, second, by way of the blood and lymph channels, independent of or associated with but not dependent upon any previous ear trouble, as in cases of syphilis and tuberculosis. Involvement by direct continuity of tissue might take place through carious destruction. This was probably the most frequent means of implication, especially in the adult, and almost always in chronic cases. In the acute forms and in children, this was probably less so. Other means of involvement were numerous. It might take place by way of numerous emissary and communicating blood channels, or by way of the lymph or nerve channels, etc. In the case of the antrum and mastoid cells, the aditus furnishes the avenue through which infection travels. Finally, the parotid gland on the lateral wall of the pharynx may become implicated in an infective process from the middle ear, owing to its anatomic relationship to the fissure of Glasseri.

DR. B. ALEXANDER RANDALL, Philadelphia, delivered a lantern lecture, by invitation, in which he pointed out the relation of the facial nerve to the tympanum, especially in tympanic excoteration.

Principles of the Treatment of Otorrhea.

DR. WILLIAM L. BALLENGER, Chicago, read a paper on this subject. The treatment of suppurative processes of the middle ear and mastoid spaces should be based upon three principles: first, the establishment and maintenance of free drainage of pus and secretions; second, the removal of all morbid material, whether it be pus, débris, or sequestra of bone; third, the maintenance of asepsis of all parts. He discussed the treatment of suppuration limited to the middle ear proper, saying that it might be successfully accomplished by simple local treatment through the external meatus. But as to the middle ear attic, and antrum, the narrowness of the aditus materially interferes with the free drainage of the antrum, hence treatment through the external auditory meatus is usually inadequate. In a certain number of cases the removal of the malleus and incus, with the drum-head, affords ample drainage and enables the principles of treatment to be carried out. In cases of suppuration involving the middle ear, attic, antrum and mastoid cells, he said it was often necessary, in addition to other treatment, to resort to the radical mastoid operation in order to eradicate the disease.

DR. M. A. GOLDSTEIN, St. Louis, Mo., discussed the postoperative management of cases of intra-nasal surgery.

The Best Means of Removing Nasal Obstructions.

DR. J. W. MURPHY, of Cincinnati, Ohio, followed with this paper. He finds himself resorting to the cautery less and less each year, since his experience has been that more damage results from repeated cauterizing than follows a clean surgical operation along the under-surface of the bone, where the glands are few and the hypertrophied tissue is most marked. The operation which he has practiced for several years consists in removing the redundant tissue by means of saw and scissors. He always aims to remove a very small portion of the under-edge of the bone. Often this sliver of bone is so small that it is scarcely perceptible, but the success of the operation consists in getting a linear scar along the entire under edge of the turbinate body, since it is by means of this scar that the permanency of the opening is to be maintained, and the blood supply cut off from the underlying connective tissue. During the past ten years he has had occasion to do this operation 263 times on 155 patients, and in about 2 per cent. of his cases there has been a regeneration of tissue at the site of operation. In the removal of the middle turbinate, he finds the scissors devised by Dr. C. R. Holmes admirably adapted for this purpose.

The advantages of operating with the saw and scissors are that the technique is simple, the instruments required are few and inexpensive and no cauterizing outfit is necessary. The parts operated upon are constantly under the eye and direct control of the surgeon and as much or as little tissue as is necessary can be removed. The operation requires but a few moments, is painless, bloodless and, as a rule, the results are permanent. He has operated upon a number of medical men and they have all experienced permanent relief. Indeed, the operation has been so satisfactory, both to himself and patients, that he seldom resorts to any other method.

DR. G. V. I. BROWN, Milwaukee, Wis., discussed "The Dynamics of Nasal Disease in Relation to the Maxilla."

The Faucial Tonsil and Submerged Tonsil.

DR. E. O. SISSON, Keokuk, Iowa, contributed a paper on "The Hypertrophied Faucial Tonsil; with a Report of the Morbid Histology of the So-called Submerged Tonsil." He discussed the various forms of hypertrophy of the faucial ton-

sil and the treatment of the same. The paper included a report on the morbid histology of the so-called "submerged tonsil," first described by Pynchon, where the originally hypertrophied tonsil has become partially atrophied and largely submerged, the submersion being as much due to pillar hypertrophy as to tonsil atrophy.

A microscopic examination of a large number of specimens of such tonsils furnished the author by Dr. Pynchon showed a great increase of connective tissue. It formed broad bands throughout the gland, leaving little islands of lymphoid cells scattered through it, and in some cases formed large numbers of well-defined alveoli containing lymphoid cells, causing the specimens to assume the appearance of a scirrhus carcinoma, the lymphoid cells taking the place of the epithelial cells. The blood vessels in the connective tissue were much larger than those seen in the normal condition. The laminated epithelial covering was a good deal thickened. Beneath the epithelium the mucosa was seen to be increased by the extra development of lymphatic cells, some of which in places insinuated themselves between the epithelial cells. The acinous mucus glands naturally present in the tonsil had disappeared in the majority of specimens examined.

In treatment, the following conclusions were given: 1. Only the surgical treatment yields satisfactory results. 2. No one method is applicable to all cases. 3. The danger from hemorrhage is slight and should not deter one from taking operative steps in all cases where they are indicated.

The Misuse of Glasses.

Dr. F. C. Hotz, Chicago, delivered an address on this subject. The careful adjustment of glasses for the accurate correction of errors of refraction has achieved so many brilliant results that refraction work is now a very prominent, if not the most prominent, part of ophthalmic practice. But neither science nor common sense can approve the prescribing of glasses for slight refraction errors in cases where the apparent asthenopia is plainly due to conjunctivitis, blepharitis or other local or general disorders.

Section and Exsection of the Rectus Muscle in Case of Paralysis, for Cosmetic Purposes.

Dr. A. E. Prince, Springfield, Ill., advocated the division of the muscle or exsection of a greater or less portion of the muscle in cases of paralysis in which an advancement was not indicated. His experience is that all attempts at correcting the deformity of confirmed paralysis of the rectus will be failures unless the muscle is weakened to correspond with the paralyzed muscle.

Dr. J. Elliot Colburn, Chicago, read a paper in which he discussed the present state of our knowledge concerning so-called partial or graduated tenotomies and the heterophorias.

Dr. Derrick T. Vail, Cincinnati, Ohio, reported a case of sympathetic ophthalmia, with complete recovery of both eyes. His principal object was to lay especial stress upon the value of the one great therapeutic agent—total darkness—complete rest for the retina and accommodation, in the treatment of sympathetic ophthalmia and allied affections of the eye.

Dr. A. Alt, St. Louis, Mo., followed with a lantern lecture on epithelial intra-ocular tumors.

Dr. C. L. Minor, Springfield, Ohio, discussed "Refraction; Its Difficulties, and How to Overcome Them."

Dr. J. O. Stillson, Indianapolis, Ind., reported cases of bleaching or distinct pallor of the temporal segment of papulomacular bundle of optic nerve fibers, due to other causes than tobacco and alcohol.

Dr. Dudley S. Reynolds, Louisville, Ky., followed with a paper on "Toxic Amblyopia," selecting for purposes of illustration a case of nearly total blindness, the result of drinking essence of cinnamon; a typical case of autotoxemia, and four cases of tobacco amblyopia in persons who had never taken alcohol.

Is the Dislocation of the Lens into the Vitreous Ever Justifiable?

Dr. George F. Suker, Chicago, summed up the most salient points of his paper as follows:

1. The percentage of failures in the class of cases in which depression can be performed is no larger, on the contrary less, than in the same cases operated upon by extraction.

2. Do not depress a lens in cases with choroiditis or retinitis.

3. Consider depression in all cases where one eye has been lost by extraction, and its fellow must be operated upon.

4. Depression of the lens must not be indiscriminately performed, but only in such cases where the contra-indications of extraction outweigh its own objections.

Finally, the writer considers reclination of the lens as an exceptional procedure, and can only regard it as unquestionably indicated in such a class of cases as he had alluded to, when the general constitution of the patient, or the previous experience with the fellow eye, unhesitatingly points to a failure if the extraction method were resorted to.

Dr. O. A. Griffin, Ann Arbor, Mich, read a paper on "Transient Astigmatism."

Ocular Affections Secondary to Syphilis.

Dr Randolph Brunson, Hot Springs, Ark., read a paper on this subject, in which he said that syphilis is probably responsible for a greater number of ocular affections than any one disease known. Secondary syphilitic ulcers may occur on the eyelids from the breaking down of a gumma originating in the skin or in the subcutaneous tissue and cartilage. The most frequent location of the lesion is in the skin near the lid margin or below the inner canthus, although it may occur on the conjunctival surface of the lid. The conjunctiva is very rarely affected primarily, but inflammation usually occurs when the iris and ciliary body are involved the edema observed in these cases being caused by an obstruction of the return-flow of circulation.

The lachrymal sac and duct are frequently invaded by syphilis through the nose. In all the cases of stricture of the lachrymal canal, due to syphilis, which had come under his notice, he had always been able to find the cause in the nose. Syphilitic rhinitis, both acute and chronic, is very common, and when there was great destruction of the nasal bones and membranes, dacryo-cystitis usually occurs, with varying severity. The iris and ciliary body are perhaps more often invaded by syphilis than any one part of the globe, and syphilis is frequently the common predisposing cause of iritis. About 70 per cent. of all cases of iritis are caused by this disease. The author has found in examining the histories of 1500 cases of syphilis, that iritis occurred in over 3 per cent. of all cases.

He mentioned a number of characteristic signs which enable one to recognize the etiology of the disease, the most conspicuous of which are the papules, small raised masses in the iris, usually not exceeding three in number, and generally located in the pupillary zone, but may be seen at the periphery of the anterior chamber, or elsewhere.

Interstitial keratitis had its origin in syphilis, and in perhaps 60 per cent. or more of all cases of this variety of disease of the cornea it is hereditary. He had never seen a case caused by acquired syphilis, and believes the cases reported as such have simply been produced by iridochoroiditis, which has involved the deeper layer of the cornea. Disseminated choroiditis is caused by syphilis in perhaps 80 per cent. of all cases.

Enucleation of Blind Eyes Caused by Traumatism.

Dr. C. D. Wescott, Chicago, urged this measure.

Ever since his pupillage in ophthalmology he has had a prejudice against hopelessly blind eyes, made so by traumatism, or inflammation of the anterior segment of the globe. The fact that there is a well-known difference of opinion as to what ophthalmologists should do or recommend in such cases is his excuse for speaking on the subject. As an illustration of what may happen in consequence of leaving a blind eye from traumatism, in spite of the fact that the eye is quiet, not shrunken, not painful, not tender, he recounted two or three cases in which sympathetic ophthalmitis destroyed the well eye.

Dr. Wescott's treatment in this and other cases was endorsed, in the discussion, by Drs. Eugene Smith, A. Alt and George F. Suker.

Estimation of Damages in Eye Injuries.

DR. H. V. WUERDEMANN, Milwaukee, Wis., read a paper entitled "Epicritic Remarks upon Methods for Estimating the Economic Damage from Accidental Injuries to the Eyes." Earning ability is economically synonymous with visual earning ability for the majority of trades and professions. Injury to vision generally necessitates loss of earning powers. The economic value of vison is equivalent to the wages of the individual. After injuries involving loss of earning ability, the loss of wages may be reckoned from experience in examining large numbers of individuals, or the probable loss in any given case may be found by reckoning the percentage of damage to the normal function and applying this to the calculation of the probable pecuniary loss. A mathematical formula may be made for this purpose in which the several factors comprising vision should be properly related, and this formula for working vision should be modified by the ability to use the eyes for gainful purposes, the whole forming a formula for the earning ability. By this means a percentage of the loss to the earning ability may be figured and this percentage applied to the probable wages and duration of working life in the individual who has received the accident. Damages to ambition, to hopes and plans can not be considered. We must deal with the station in life, and expectation of wages and life which belongs to the individual at the time of the accident. Compensation for injuries from accidents to the eyes should be based upon the economic damage modified by the present rulings of American courts in allowing an empiric amount for pain, suffering and mental anguish and for philanthropic or punitive purposes, or for contributory negligence; the latter amounts being only of forensic importance. By the rules of Magnus and Würdemann, the economic damage may be calculated in a manner fair and just to all interested parties.

DR. HANAU W. LOEB, St. Louis, Mo., reported a case of rapidly fatal carcinoma of the epipharynx. He went extensively into the ilterature of carcinoma of the epipharynx, epitomized the histories of 27 cases which he had found and gave the symptomatology.

Pneumatic Massage in Aural Practice.

DR. EDWIN PYNCHON, Chicago, read this paper. Through its favorable effect upon the cause—middle-ear adhesions, etc. —pneumatic massage is often beneficial. It assists greatly in the correction of itching of the external auditory canal and is generally instrumental in increasing the secretion of wax when the canal has become too dry, both conditions being concomitant with chronic catarrhal otitis media. Additionally, in hypertrophic cases, inflation by the Politzer method soon becomes more easy of execution.

With reference to the value of pneumatic massage in acute inflammatory troubles of the middle-ear, authorities differ. Pneumatic massage has proved of value in suppurative conditions of the middle-ear, particularly in cases of long-standing, and when employed in addition to the usual line of treatment will often greatly expedite a cure, owing to its mechanical effect in jarring or drawing down discharges from the attic.

The Significance of Aphonia in Aneurysm of the Arch.

DR. WILLIAM PORTER, St. Louis, Mo., believes that early diagnosis and proper care will increase the life expectancy and comfort of the patient. Pressure on the recurrent nerve does not always produce aphonia. Sometimes there is arytenoid compensation and the crossing of the median line by the one cord, while the other is in the cadaveric position. Unilateral congestion, or loss of symmetry of movement, is always suggestive. The laryngeal evidences of pressure may also be sequences of interference with nerve function by tumors or enlarged glands.

Officers for the Ensuing Year.

These officers were elected: President, Dr. Wm. L. Ballenger, Chicago; first vice-president, Dr. J. O. Stillson, Indianapolis, Ind.; second vice-president, Dr. J. Morrison Ray, Louisville, Ky.; third vice-president, Dr. Edwin Pynchon, Chicago; secretary, Dr. Derrick T. Vail, Cincinnati, Ohio; treasurer, Dr. O. J. Stein, Chicago. Indianapolis, Ind., was selected as the place for holding the next annual meeting.

CHICAGO NEUROLOGICAL SOCIETY AND CHICAGO MEDICAL SOCIETY.

Joint Meeting, held April 2, 1902.

President, Dr. Daniel R. Brower, In the Chair.

Definition and Pathology of Multiple Neuritis.

DR. ARCHIBALD CHURCH spoke on the definition of neuritis, reviewed the etiology and described at some length the pathology.

DR. SYDNEY KUH discussed the "Symptomatology, Diagnosis and Differential Diagnosis of Neuritis."

Treatment of Neuritis, Other Than Surgical.

DR. ELBERT WING read this paper. The objects of treatment are removal of the cause and restoration to normal conditions. Relief of pain is imperative in all acute cases of severity. For this purpose hot cloths properly applied along the course of the nerve often are of great effectiveness. Counter-irritation may answer, but should never be applied in the area of distribution of the affected nerve. In chronic cases the actual cautery is the best counter-irritant. In acute simple cases, sand bags, slings and splints have a useful function. They may promote relief of pain through limitation of motion and prevent and correct deformities. In most severe primary cases morphin is needed for the relief of pain. The coal-tar preparations rarely suffice. If used, the doses must be large, frequently repeated, and acetanilid should never be used for this purpose. Morphin, cocain and other analgesics are most effective when placed, by means of a hypodermic syringe, in the immediate proximity of the affected nerve. Stretching of the nerve, in simple sciatic cases, by forcible flexion of the trunk upon the extended lower extremities, or of the extended extremity upon the trunk, the body supine, is at times remarkably successful, both in relieving pain and promoting recovery. The same is true of efficient massage. The use of the electrostatic currents and the Roentgen ray have a useful future in the relief of pain in probably all cases of neuritis.

In the list of general tonics, the salts of strychnia rank first. As in any other chronic condition, the form of tonic used must be occasionally varied. In the chronic forms of simple neuritis the use of one grain of blue pill, two or three times daily, and for long periods, produces favorable results, not simply chronologic. In polyneuritic cases, massage, skilfully used, the proper use of splints and electricity, together with voluntary exercise of muscles, bring about cures even in the worst cases. As a rule, in alcoholic neuritis, alcohol may be withdrawn at once.

The causes of death in the fatal cases indicate clearly the special care which is needed, cardiac and pulmonary weakness being induced both directly by the special cause in each case and by the auto-intoxication which may arise in any case.

Surgical Treatment.

DR. WELLER VAN HOOK discussed this phase of the subject, saying that surgery is in a position to be of service in the treatment of the consequences of neuritis rather than in the management of the actual disease itself, whether acute or chronic. Surgical means are indicated where pressure upon a nerve is inducing neuritis, especially where fractures primarily or secondarily involve large nerve trunks, or plexuses. Other conditions are compression by periostitis, or tumors of a non-malignant character.

When paralysis is a consequence of neuritis, surgery offers relief in many cases by transplantation of nerves or of tendons. Results obtained by this modern method of treatment are very gratifying. French surgeons, at the head of whom is Chipault, have of late shown much enthusiasm in the management of many cases of peripheral nerve disease, particularly of the trophic varieties, by stretching. It is claimed by Chipault that *mal perferant* of the foot can be favorably influenced in many instances by the stretching of the nerves of the leg. It is particularly in cases where the sciatic has been injured, or where it has been involved in inflammations of the thigh, that nerve stretching has seemed to be of service in *mal perferant.*

Sciatica.

DR. L. HARRISON METTLER referred to sciatica being in some recent text-books still classified under several heads, as, for

instance, primary and secondary. The primary are divided into the idiopathic and the special forms of neuritis. He thought this was a mistake. He could not conceive of a secondary sciatica in the sense of a mere pain of the nerve caused by some extraneural pressure. If there is disease of the bone, tumor or other condition causing secondary disease, either of an inflammatory or degenerative type, in the sciatic nerve, it might seem to be a secondary sciatica, but it is only secondary etiologically. It is really a sciatic neuritis; hence he thought so-called secondary neuralgia, or sciatica as a special class, should be dropped from the books. Almost all the cases he had seen of sciatica exhibited more or less the symptoms of sciatic neuritis. The symptoms which usually accompany so-called ordinary idiopathic neuralgia of the sciatic nerve were those that are characteristic of sciatic neuritis.

As to the treatment in cases of sciatic neuritis, where there was a rheumatic diathesis, he obtained the most favorable results from the use of the salicylates, pushing them until he got a decided physiologic effect. He had not seen such favorable results from the use of mercury or antisyphilitic treatment. Sciatica was not usually caused by syphilis.

Dr. Daniel R. Brower had had within three months two cases of neuritis of the fifth nerve, both syphilitic. It was rare in his experience for this nerve to be attacked by the syphilitic poison, but these cases, coming so close together, were interesting as well as instructive.

Dr. C. P. Pruyn said that dentists had a good deal to do with neuralgia of the fifth nerve. He was a little surprised on being told by a prominent neurologist that neuralgia of the fifth nerve was seldom caused by tooth irritation. Frequently the patients consult dentists for relief after they have gone through the gamut of the general treatment by physicians, and tooth irritation is found to be the cause. Often there is calcification of the tooth pulp, sometimes complete, at other times simply a calcified nodule, which caused the whole disturbance. The removal of this nodule effects a cure.

Dr. O. B. Will, Peoria, believes that in the acute or primary form of neuritis, where the patient was suffering much from neuralgia, the best treatment was the administration of chloroform or ether. He used this altogether in his own case, and his professional friends had adopted it, with good results.

Dr. A. W. Baer had used the salicylates in the rheumatic form of neuritis, with beneficial results, especially if not pushed to the point of interfering with the functions of the stomach. He had never obtained much benefit or relief in these cases from external application, outside of heat and cold, except from the effects of rubbing oil on the parts affected. If the neuritis was of traumatic origin, the interrupted galvanic current was by all odds the best, and he had obtained some excellent results from it. Sparks from the static current in cases of toxic neuritis had given excellent results.

Dr. Julius Grinker said diphtheritic paralysis was nothing but a neuritis following diphtheria infection manifesting itself by motor disturbances principally, the sensory disturbances taking a back ground or perhaps not being noticed. He thought possibly many cases of sudden death after diphtheria were due to vagus involvement, the neuritis having developed and progressed rapidly and involved the vagus, killing the child, the nature of the trouble being unnoticed by the physician. Symptoms should be looked for in every case of diphtheria that has apparently recovered. He urged that the reflexes be tested, as the first symptom noted after diphtheria of oncoming neuritis was absence of reflexes. When the reflexes are diminished or absent, one should look out for neuritis. He narrated a case of paralysis of almost all the ocular muscles occurring after diphtheria in a child whom he cured by giving 1/30 gr. of strychnia, t. i. d.

Dr. G. W. Hall said it was important to remember, in making a diagnosis, that sensory disturbances do not necessarily have to be present. He emphasized the great difference as to the presence and absence of sensory disturbances in the different forms of neuritis, saying that in neuritis following lead poisoning the sensory disturbances were very slight as compared with the motor. In neuritis following alcoholism it was very rare that we did not have sensory disturbances present to a greater or less extent. He believes in many cases paralysis comes on almost simultaneously with sensory disturbances.

Dr. Liston H. Montgomery would not care to use such large doses of strychnia as mentioned by Dr. Grinker. Diet was a very important feature in the treatment of many cases of neuritis.

Dr. Grinker did not consider the thirtieth of a grain of strychnia, administered to a child of eight or twelve years of age, a large dose. He had used it in such doses in several cases, with excellent results.

Dr. I. A. Abt believed that strychnia is frequently given to children in too large doses, and related a case. During the infantile period he believes great caution should be exercised in the administration of this drug.

Dr. James W. Walker mentioned the use of the Paquelin cautery, saying that he had obtained excellent results in the relief of pain, but he could say nothing regarding its effect upon the inflammatory process in acute neuritis. It seemed formidable to the average practitioner to see it used. The lightest possible touch was all that was necessary. It could be used once daily, or once every other day, two or three strokes being made in the vicinity of the painful joint or nerve.

Dr. Thomas L. Gilmer said he had been a sufferer from neuritis, especially of the sciatic form. Dr. McArthur's prescription for local application did him more good than any one thing he had used for a number of years. This prescription is: Menthol, 8 grams; oil of gaultheria, 30 grams; creosote, 2 grams.

Dr. Kuh, in closing the discussion, agreed with Dr. Montgomery that rheumatism and a number of other causes might produce neuritis, Bright's disease among others. With reference to the patient of Dr. Grinker, if there was paresis of the lower extremities, associated with total paralysis of the movements of the eyeballs, Dr. Kuh thought the patient probably did not suffer from a diphtheritic neuritis. Total paralysis of all of the extrinsic muscles of the eyeballs could hardly occur in neuritis.

MEDICAL SOCIETY OF CALIFORNIA.

Thirty-second Annual Meeting, held in San Francisco, April 15-18, 1902.

President's Address.

At the opening session, the chairman of the committee on arrangements welcomed the members to San Francisco, after which Dr. William J. G. Dawson, St. Helena, president of the society, presented his annual address, reviewing the progress of medical science during the past year. He spoke of the usefulness of state societies and their work, and referred to the new plans of the American Medical Association. In closing he paid a tribute to the members who had died during the last year. Dr. Curtis G. Kenyon, chairman of the committee on revision of constitution and by-laws, made an extended report.

Hydrotherapy.

At the afternoon session, Dr. George A. Hare, Fresno, read a paper on "Hydrotherapy," and gave a short history of the development of this method, a report of some original experimental work and briefly discussed the physiologic bearings of the subject. He said that in no other branch of medical research had there been so many valuable and beneficial results. The use of heat and cold, simple in themselves, had become a scientific principle in increasing and diminishing blood supply, and he thought that hydrotherapy might well displace venesection. Dr. Frank L. Adams, of Oakland, then read a paper in which he discussed "Hydrotherapy in Typhoid Fever," giving statistics from 1786, when the first successful use of the method was made, up to the present time. The statistics of hospital and private physicians, he said, showed a mortality of from 4 to 7.5 per cent. under hydrotherapy, while, under other forms of treatment, the mortality was as high as from 14 to 26 per cent.

Hindrances to Care of Insane.

Dr. Alden M. Gardner, Belmont, read a paper on the "State Hospital Care and Treatment of Acute and Convalescing Insane," in which he stated that the staffs of physicians in state

hospitals could not accomplish the best results under the existing circumstances of political influence and false economy. At the evening session papers on special topics of ophthalmology, laryngology, rhinology and otology were presented.

The morning session of April 16 was devoted to papers on obstetrics, puerperal diseases and pediatrics; the afternoon session to gynecologic papers.

Bone Grafting; Angiotribe; Appendicitis.

At the evening session surgery and surgical anatomy were the subjects discussed. Among the papers of interest read in this section were one by Dr. Morton, of the City and County Hospital, on "Bone Grafting," and one by J. Henry Barbat, San Francisco, on "Appendicitis." The latter showed the difficulties that sometimes confuse the diagnostician, reported several cases and contended for immediate operation. This paper, of course, provoked a lively discussion. Dr. Oscar J. Mayer, San Francisco, then read a paper on "The Use of the Angiotribe as Replacing the Ligature in the Routine Work of General Surgery," with an exhibition of his modification of the angiotribe.

Revision of the Constitution.

At the morning session on April 17, various papers were read. The special committee on the revision of the constitution and by-laws made its final report, which proposed for the association the plan adopted by the American Medical Association. This was approved.

The report of the committee on medical education, submitted by the chairman, Dr. William F. McNutt, San Francisco, called forth a spirited discussion in which charges against a local medical college were vigorously made and the college as vigorously defended by its friends.

DR. GEORGE A. HARE, Fresno, introduced a resolution declaring it the sense of the society that a man, to receive a medical license in California, should have had a good preliminary academic education, but inasmuch as the new law of the state contains this provision, the resolution was not pressed.

The afternoon session was largely devoted to routine business, reports of boards, officers, etc. The following resolutions condemning the action of the mayor of San Francisco in removing the local board of health, and expressing confidence in the board of health recently removed were passed:

WHEREAS, The mayor of the city of San Francisco has seen fit to remove the so-called old board of health, and

WHEREAS, The chief executive of the city has stated that he has determined after a prolonged personal investigation that bubonic plague has never existed in San Francisco, and

WHEREAS, The position is absolutely unsupported by any competent, unprejudiced physician who has made personal examination of suspects or alleged cases of plague before or after death, or who has examined the bacteriologic evidence presented, and is further in direct conflict with the findings of the Federal Government experts and special commission, therefore, be it

Resolved, That the Medical Society of the State of California emphatically condemn this action on the part of the mayor of San Francisco and at the same time endorse the position always maintained by the old board of health in its sanitary defense of the people of the city of San Francisco and of the country at large.

Resolutions were also adopted in favor of the general vaccination law and of the establishment of a vaccine farm.

The election of officers began with tabling the report of the nominating committee, and a spirited election followed, with the following result: President, Dr. Frank B. Carpenter, San Francisco; vice-presidents, Drs. Charles C. Wadsworth, and David A. Hodghead, both of San Francisco; secretary, Dr. George H. Evans, San Francisco; assisting secretaries, Drs. Z. Taylor Malaby and E. M. Bixby, San Francisco; treasurer, Dr. Elmer E. Kelly, San Francisco; board of examiners, Drs. Dudley Tait, San Francisco, David Powell, Marysville, Daniel E. Osborne, St. Helena, Walter S. Thorne, San Francisco, and R. L. Wilbur, San Francisco; board of trustees, Drs. Charles W. Nutting, Etna Mills, Thomas Ross, Sacramento, Frank L. Adams, Oakland, Philip M. Jones, San Francisco, Andrew W. Morton, San Francisco, George L. Cole, Los Angeles, George A. Hare, Fresno, W. S. Fowler, Bakersfield, Curtis G. Kenyon, San Francisco, Julius Rosenstirn, San Francisco, and W. LeMoyne Wills, Los Angeles.

Santa Barbara was selected as the meeting place for 1903.

The association was tendered a banquet by the San Francisco County Medical Society, at which about two hundred were present, Dr. John C. Spencer acting as toastmaster.

MEDICAL ASSOCIATION OF ALABAMA.

Annual Meeting, held in Birmingham, April 15-18, 1902.

First Session, April 15.

DR. CUNNINGHAM WILSON, on behalf of the Jefferson County Medical Society and the local physicians, welcomed the visitors to Birmingham. Hon. E. L. Dickey extended a welcome on behalf of the mayor, W. W. Drennen, who was obliged to be absent.

The President, DR. EDWIN L. MARECHAL, Mobile, in his address, gave a brief history of the association. It was organized in 1849 and held annual sessions until 1856, when it ceased to exist until after the Civil war. In 1868, the association was reorganized at Selma. Of those present on that occasion only three are living, namely, Drs. Richard F. Marechal and Jacob Huggins of Alabama, and Dr. T. C. Osborne of Texas. The address concluded with recommendations for the future of the association.

Organization.

DR. JAMES N. MCCORMACK, secretary of the State Board of Health of Kentucky, and chairman of the Committee on Reorganization of the American Medical Association, was then introduced by the state health officer, Dr. William H. Sanders. The reports of the officers for the previous year were presented.

At the evening session, Hon. J. B. Duke, Lafayette, read a paper on "The Relations of the Medical and Legal Professions" and Dr. Glenn Andrews, Montgomery, a paper on "The Prevention and Spread of Infectious Diseases."

Sleep—The Annual Oration.

The morning and afternoon sessions of April 16 were devoted to the discussion of papers and in the evening the historian's address was presented by Dr. Samuel W. Welch, Alpine. Dr. J. Huggins, Newberne, then made his report as monitor, and the annual oration by Dr. Edwin B. Ward, Selma, followed. The author discussed sleep, its causes, remote and direct, the reason for sleep and the best conformation of habits to obtain normal sleep. These include exercise in the open air to the point of fatigue, avoidance of heavy and late meals and avoidance of severe mental strain before retiring. He impressed on the audience the danger of the habit of taking drugs to produce sleep, as artificial sleep does not satisfy the body. As the phenomena of sleep point to the readjustment of energies, the habits of life should be so conformed as to secure the necessary amount of normal healthy sleep.

Incurable Conditions Relieved by Surgery.

One of the most interesting papers of April 17 was by Dr. James T. Jelks of Hot Springs, on "Incurable Conditions Amenable to Surgery; Three Operations Followed by Relief of Cirrhosis of the Liver, Hypertrophy of the Prostate and Bright's Disease." Dr. Jelks asserted that Bright's disease was no longer incurable; many cases have been cured through surgical interference. He specially mentioned the work of Mr. Reginald Harrison of London, and the brilliant results of the New York surgeons.

Failures in Treatment of Morphin Habit.

DR. GEORGE E. PETTEY, Memphis, Tenn., presented a paper in which he gave some reasons for failures in the treatment of the morphin habit. He asserted that the direct cause of the failure of cures in the past was that the mind was not treated as well as the body. The three methods formerly in universal employment were the sudden withdrawal, the rapid withdrawal and the gradual withdrawal of morphin from patients. He pointed out that in all three of these methods the patient had been left without the habit, but that the mental condition was not treated; he averred that if the mental cure were carried on at the same time the patient would be left strong, not only in body, but also in mind. This paper elicited an animated discussion.

Milk and Infant Mortality.

During the discussion of the paper of Dr. Thomas D. Park on the "Causation of Infantile Mortality in the State," Dr. John C. LeGrand, Birmingham, said that many dairies tended to enlarge the mortality by furnishing impure or polluted milk for infant food. He urged that stringent laws be passed

whereby dairymen could be more carefully watched, and spoke of the general failure of mothers to sterilize milk before feeding to infants. He then narrated his personal observations on the fatal results following the use of polluted milk as infant food.

General Business Session.

The greater part of the session of April 18 was devoted to the reports of the censors, counsellors, correspondents and other officers and revision of the rolls of the county societies. The report of the committee on the Jerome Cochrane monument was also received, which stated that the committee was now ready to receive contributions and asked the active co-operation of all members. Reference was made in the report of the senior censor to a bill now pending before Congress which seeks to change the Marine-Hospital Service. The censor objected to this, but the association decided to refer the matter back to the censors until next meeting. The other recommendations of the senior censor in reference to state laws were adopted.

Election of Officers.

The election of officers resulted as follows: President, Dr. Glenn Andrews, Montgomery; vice-president, northern division, Dr. Andrew McA. Stovall, Jasper; orator, Dr. Lewis C. Morris, Birmingham; alternate orator, Dr. George S. Brown, Birmingham; and members of the board of censors, William H. Sanders and Dr. Henry A. Moody, Bailey Springs. Dr. Glenn Andrews, Montgomery, president-elect, resigned as member of the board of censors and William E. B. Davis, Birmingham, was elected to fill the vacancy.

The association adjourned to meet at Talladega next year.

Entertainment.

The entertainment provided by the local physicians consisted in a reception by members of the Jefferson County Medical Society at the Hillman Hotel, a luncheon by the local medical society at the Country Club, and a buffet luncheon given by Dr. George Brown.

UNIVERSITY OF CHICAGO MEDICAL CLUB AND RUSH MEDICAL SOCIETY.

Joint Meeting, held April 7, 1902.

Dr. Donaldson in the Chair.

Dr. George Shambaugh read a paper on "Bone Cyst of the Middle Turbinated Body," of which the following is an abstract:

A cyst lined with epithelium and having thin bony walls is occasionally found in the anterior end of the concha media. Such cysts are, as a rule, empty, air-containing cavities, but are occasionally found to be the seat of a mucocele or an empyema.

The cyst represents a greatly enlarged ethmoid cell. The concha media is a part of the ethmoid bone. It represents the median extension of one of the partition-plates of the ethmoid labyrinth, analogous to the unciform process and the bulla ethmoidalis. The bulla is usually the seat of an ethmoid cell and occasionally such a cell is found in the unciform process. In a similar way the base of the concha media is not infrequently the seat of an ethmoid cell. It is the excessive enlargement of such a cell that produces the bone cyst of the concha media or concha bullosa.

The enlargement may, in some cases, be the result of suppuration in the cell, the outlet of which has become closed, but, as a rule, such cysts are not associated with any inflammatory discharge, while the opening is usually very large and not easily closed by inflammatory swelling. The enlargement, in most cases, is probably not the result of an inflammation, but represents an anatomic variation, the result of a developmental anomaly. Such variations are common among the other cells of the ethmoid labyrinth, sometimes only two very large cells filling the entire labyrinth; at other times the space being occupied by a great many small cells.

Dr. Davenport read a paper on "A Quantitative Study of Variation in Scallops." This paper was read earlier before the American Morphological Society of Chicago and was reported with the report of that organization in *Science*, April 5, 1902.

Both papers were discussed by Dr. Donaldson and Dr. Barker.

FLORIDA MEDICAL ASSOCIATION.

Twenty-ninth Annual Meeting, held in Tampa, April 9-11, 1902.

Opening Session.

Dr. George H. Altree, Port Tampa City, called the meeting to order and Mayor F. L. Wing delivered the address of welcome, to which response was made by Dr. J. Harrison Hodges, Gainesville.

The president's address was read to the assembly by Dr. J. D. Fernandez, Jacksonville, in the absence of Dr. A. Judson Wakefield, Jacksonville. The remainder of the session was taken up by the reports of committees and of the county medical societies. A reception was tendered the visiting members by Dr. Louis A. Bize, Tampa.

Charges Against Dr. Porter Unfounded.

The charges preferred against Dr. Joseph Y. Porter, Key West, by the Hillsboro Medical Society, that he had quarantined against Tampa for yellow fever, and that on a similar occasion he had not quarantined another place, but had concealed a case, had been referred to a committee, which reported that the matter had been thoroughly investigated and found to be absolutely without foundation. The report was adopted by the association.

Annual Banquet.

The annual banquet was held at the Café Poleca, at which Dr. Edward N. Liell, Jacksonville, delivered an address on the "Progress of Medicine in Florida," and Dr. J. D. Fernandez, Jacksonville, responded to the toast "The Florida Medical Association."

Officers Elected.

The election of officers resulted as follows: President, Dr. J. Harris Pierpont, Pensacola; vice-presidents, Drs. Edward N. Liell, Jacksonville, and John MacDiarmid, De Land.

St. Augustine, April 8, 1903, will be the place and date of the next session.

MISSISSIPPI STATE MEDICAL ASSOCIATION.

Thirty-fifth Annual Meeting, held at Jackson, April 16, 1902.

The President, Dr. James M. Buchanan, Meridian, in the Chair.

Opening Session.

The association was welcomed to the city by the Hon. J. B. Sterling and response was made for the association by Dr. Julius Crisler, Jr., Jackson. After the usual reports of the committees, a resolution was adopted appointing a committee to look into the advisability of reorganization of the state and county societies on the lines suggested by the American Medical Association. The following committee was accordingly appointed: Drs. Joel C. Hall, Frank Jones, William Payne, J. Augustus Crisler, and H. L. Sutherland.

Hygiene and Sanitation.

Dr. William M. Krauss, Memphis, Tenn., then read a paper on "X-Rays in Medicine and Surgery." Dr. Hyman M. Folkes, Biloxi, made a report of "Infant Mortality, Its Cause and Prevention." Dr. Harris A. Gant, Jackson, president of the State Board of Health, presented a paper on "Hygiene and Sanitation." He made a number of valuable suggestions, among which were isolation in tuberculous disease; the establishment of a state tuberculosis sanatorium on the cottage plan for the poor; restrictions of spreading of disease by proper hygienic precautions, among which he mentions the disinfection of telephone receivers, and the aseptic management of infectious fevers and pneumonia. In conclusion he stated that Mississippi was in need of thorough sanitary overhauling and urged the physicians and public generally to unite in the attainment of this object.

Department of Public Health.

The second day's session resolved itself into a meeting of the Department of Public Health, of which Dr. Carroll Kendrick, Kendrick, was made president, and Dr. K. P. Perkins, Batesville, secretary. A resolution was passed favoring a bill for the collection of vital and mortuary statistics and the appoint-

ment of a physician from each county society to co-operate with the county health officer.

The regular work of the association was then resumed and a number of interesting papers read and discussed.

Insanity and Care of Insane.

The president, in his annual address, spoke of the care of the insane and showed the evolution of the present method of treating insanity, and the growth of all rational theories from that of demoniacal possession to the theory that all insanity is the result of physical derangement, which may in many cases be discovered and successfully treated. As much can be accomplished through moral agencies as by medicines, and to this end patients in state hospitals for the insane should have as much home-like environment as possible. The asylum should be placed on a purely medical basis. Superintendents should have secretaries to relieve them of much of the excessive non-medical work. The assistant physicians should be progressive men and should devote their time to study of the patients and to pathologic work. The internes should record cases, copy notes, etc., and at least one physician should devote his time to original investigation. He further urges the establishment of training schools for nurses of the insane.

Election of Officers.

The association adjourned after electing the following officers: Dr. H. L. Sutherland, Rosedale, president; Drs. J. H. Roby and Joseph T. B. Berry, Brandon, vice-presidents; Dr. Clifford H. Trotter, Northfield, secretary; Dr. Benjamin L. Culley, Jackson, assistant secretary; Dr. David S. Humphreys, Greenwood, corresponding secretary; Dr. John F. Hunter, Jackson, treasurer; Drs. W. M. Paine, Aberdeen, K. P. Perkins, Batesville, W. H. Scudder, Mayersville, Charles D. Mitchell, Pontotuc, John R. Tackett, Meridian, Hyman M. Folkes, Biloxi, and Louis D. Dickerson, McComb City, members of executive committee; Dr. Joel C. Hall, Anguilla, delegate to the American Medical Association, and Dr. W. M. Paine, Aberdeen, alternate. Greenville was selected as the place of next meeting.

OMAHA (NEB.) MEDICAL SOCIETY.

Regular Meeting, held April 8, 1902.

President, Dr. F. E. Coulter, in the Chair.

Floating Kidney.

DR. A. F. JONAS, in presenting this subject, said that the furor for fixation of the kidney was now as great as had been that for the removal of various organs. He said that the normal kidney floats and gave a résumé of the anatomy, illustrating it with colored diagrams. No kidney is fixed, every one is movable. It is purely arbitrary to say when this movement is abnormal, because there is no standard of normality. The abdominal organs act as a source of support to the kidney; when the liver and the stomach are displaced there is ptosis of all the abdominal organs, often including the kidney.

Dr. Jonas exhibited a very unusual specimen, a sacculated and tubercular kidney with five divisions. It was found in the pelvis and was about nine inches long and weighed about four pounds. The patient suffered no pain. Dr. Jonas then gave a résumé of the etiology and symptomatology of floating kidney.

He emphasized the fact that nephropexy will not furnish relief to those cases in which there is general splanchnoptosis. One must be very cautious in promising relief to such cases. The low abdominal bandage alone will afford the greatest amount of relief in these cases. All bandages designed to keep in place a floating kidney fail in their purpose. In operative procedures, the suggestion of Edebohls that the decortication should be extensive and that the lumbar muscles should be split, not cut, and the sutures passed through the capsule and the muscles, and the muscles then brought together has seemed to him of the greatest possible value. He now brings the decorticated part close up to the fascia of the quadratus lumborum muscle and there firmly attaches it. Another improvement of equal value is the actual delivery of the kidney through the lumbar incision in every case where it is possible, and it is possible in all cases except those few in which the renal vessels are abnormally short. The diagram of a bipolar kidney furnished the best possible illustration of the wisdom of delivery of the kidney in all cases where possible. In his first operation upon this case, he had brought the kidney up to the incision, but not out of it, had inspected the presenting surface which seemed to be entirely normal and finished the operation. The patient returned in a short time with all conditions as bad as ever. He again operated, this time delivering the kidney and finding it of the bipolar variety, which explained his failure. He decorticated both poles of the kidney and sutured them firmly with most happy results.

MEDICAL ASSOCIATION OF GEORGIA.

Fifty-third Annual Session, held in Savannah, April 16-18, 1902.

General Business Sessions.

The addresses of welcome were made by Hon S. B. Adams and Hon. Walter G. Charlton, Dr. Virgil L. Hardon, Atlanta, responding for the visiting members. The rest of the morning session was devoted to the reports of committees and the reading of papers. In the evening a smoker was given to the delegates at the Savannah Yacht Club.

The second day's session consisted of the reports of the secretary and treasurer and various papers, notable among which were those by Dr. Ludwig Amster, Atlanta, "On Medical Aspects of Life Insurance"; by Drs. Theodore E. Oertel and Eugene E. Murphey, Augusta, on "A Case of Diabetes Mellitus, with Autopsy"; by Dr. Elmore C. Thrash, Oakland, on "Reasons Why We Should Have a State Board of Health"; and by Dr. William P. Williams, Blackshear, on "Preventive Medicine."

The report of the committee on necrology paid fitting tributes to eleven active and honorary members of the society, who had died since the last annual convention.

The chairman of the committee on new members, Dr. Willis F. West Moreland, Atlanta, reported that since the establishment of this committee four years before, the membership had increased from 125 to more than 700.

Election of Officers.

The election of officers resulted as follows: President, Dr. Charles Hicks, Dublin; vice-presidents, Drs. Joseph A. Guinn, Conyers and Willet W. Binion, Benevolence; Dr. Alpheus B. Simmons, Savannah, was elected a member of the board of censors, and Drs. Floyd W. McRae, Atlanta, and James B. Morgan, Augusta, were elected delegates to the American Medical Association. Columbus was unanimously accepted as the next place of meeting, for April 16, 1903.

In the afternoon the members enjoyed an oyster roast at Tybee Island.

Therapeutics.

Glycero-Phosphates.

Glycerino-phosphoric acid, according to A. C. Prentice, in *Med. Rev. of Reviews*, is chemically the glycerin ester of phosphoric acid. The neutral salts are most frequently used, are directly assimilable and have a remarkable effect upon nutrition, since the acid represents, chemically, exactly that form in which phosphorus is taken up into the human system. The following is the physiologic action: 1. It accelerates chiefly the nitrogenous exchanges and favors the assimilation of albuminoid substances, increasing the excretion of nitrogen. 2. It does not greatly influence the formation of uric acid, but the increase in the nitrogenous elimination often lowers the proportion of uric acid to urea. 3. It acts on the sulphur metabolism, increasing the oxidation of the broken-up sulphur products. 4. It has no marked effect on intestinal fermentations. 5. It increases elimination of sodium chlorid and hence this corresponds with the clinical fact of improved appetite. 6. It favors the assimilation of the phosphates in the food by the nervous system, exerting an economic action by saving up-

combined sulphur. 7. It increases the change of osseous substance without materially influencing that of phosphorus. He recommends it in the treatment of rachitis, phosphaturia, gout, anemia, chlorosis and in general functional and asthenic states of the nervous system. In the anemias, the iron preparation of the glycero-phosphato acts pre-eminently as a blood builder.

Dysentery Treated with Peroxid of Hydrogen.

Rocaz, as noted in *Med. Rev. of Reviews*, states that he has derived great benefit from the use of this agent in treatment of dysentery in ten cases ranging in age from two to twelve years. Lavage of the rectum with the hydrogen peroxid was practiced two or three times a day; the effect was speedy and marked. Within two or three days the character of the stools was materially changed; blood and mucus disappeared, the stools became less frequent and the sphincter regained its tonicity. It is necessary to continue medication some days after subsidence of the symptoms.

Gastropathies of Cardiac Origin.

Cardiac lesions are often complicated by gastric troubles of more or less gravity, which, as stated by Vallentin in *Med. Rev. of Reviews*, appear in about 20 per cent. of the cases. According to his statement these disturbances appear in order of frequency in mitral, aortic, myocarditic and pericarditic lesions. In the majority of these cases the symptoms are anorexia, obstinate vomiting and sometimes hematemesis; which in turn may aggravate a heart lesion. A milk diet, under such circumstances, should be resorted to and the following bitter stomachic and tonic administered:

℞. Tinct. nucis vom.	ʒi	4
Tinct. gentianæ	ʒii	8
Tinct. rhei co.		
Aq. laurocerasi, āā	ʒv	20
Aq. menth. pip. q. s. ad	℥iii	90

M. Sig.: One teaspoonful in weak tea before eating. During the gastralgic attack the following preparation is of benefit:

℞. Cocainæ hydrochlor.	gr. viii	50
Aq. aurantii	ʒi	30
Aq. chloroformi	ʒiiss	75
Aq. destil.	ʒiss	45

M. Sig.: One to three teaspoonfuls in soup at the beginning of the attack.

Pain Previous to Menstruation.

The *New York Med. Jour.* recommends the following in treatment of premenstrual pain:

℞. Codeinæ	gr. ¾	05
Chloral hyd.		
Ammon. brom., āā	gr. xii	75
Aq. camphoratæ	ʒi	30

M. Sig.: To be taken at one dose at bedtime.

Eczema.

℞. Cocainæ hydrochlor.	gr. iii	20
Atropinæ sulphatis	gr. i	06
Morph. sulphatis	gr. ii	12
Ung. acidi carbol	ʒi	30

M. Sig.: Apply locally once or twice a day; or:

℞. Bismuthi subnit.	ʒiv	15
Zinci oxidi	ʒi	30
Acidi carbol. liq.	m. xxx	2
Vaselini albi	ʒii	60

M. Sig.: Apply locally night and morning.

Dandruff.

The following has been recommended in treatment of dandruff, first cleansing the scalp thoroughly with tar soap and carefully drying the hair:

℞. Sulphuris precip.	ʒiss	6
Lanolini	ʒi	4
Adipis benzoatis q. s. ad	ʒi	30

M. Sig.: Apply thoroughly to the scalp by rubbing in well. The same procedure may be repeated every four or five days.

Pneumonia.

E. D. Chesebro, as stated in *Ther. Monthly*, emphasizes the following points in the management of pneumonia: 1. Carefully regulate the diet, guard against constipation and insist on the liberal use of pure water. 2. Early in the course of the disease, employ counter-irritants, particularly in the bronchopneumonia of children. 3. Relieve distressing cough by inhalations and, if necessary, by the use of opium or its derivatives. 4. Relieve pleuritic pain by the intermittent use of hot or ice poultices or by the subcutaneous use of morphin. 5. Reduce temperature, if necessary, by bathing. 6. Stimulate the heart with strychnia and, in selected cases, with alcohol, digitalis and normal salt solution. It is possible that venesection, which may be followed immediately by the injection of normal salt solution, is indicated in certain cases of engorged heart and if boldly done may be the instrument in saving life. 7. Employ large and frequently repeated doses of antipneumococcus serum in desperate cases, particularly in those with a tendency to extension of the inflammatory process.

Scabies.

The following is Herxheimer's treatment of scabies:

℞. Birch tar		
Sulphuris precip., āā	ʒiiss	10
Tinct. saponis viridis		
Vaselini, āā	ʒv	20

M. Ft. unguentum. Sig.: Apply locally, covering the affected region once a day for three or four days following the last application by a warm bath; or:

℞. Balsami Peruvianæ		
Liq. storacis, āā	ʒiv	15

M. Sig.: Apply once daily for three days and then remove with alcohol. Either method is said to be destructive to the acarus.

Synovitis.

The following is recommended in treatment of synovitis, from any cause:

℞. Chloral hydratis	ʒiv	15
Acidi carbolici	ʒss	2
Aquæ q. s. ad.	Oi	480

M. Sig.: Apply, as hot as possible, upon layers of lint, changed every hour and covered with oil silk.

Preventive Treatment in Diphtheritic and Scarlatinal Angina.

L. Kürt, in *Ther. Monthly*, states that he endeavors to stimulate the salivary glands by means of sugar, candy or fruits. By these means he has attained remarkable results. The hypersecreted saliva is swallowed and is thus brought in contact with the pharynx. He recommends even awakening the patient at night every half hour to give a piece of sugar in order to stimulate the salivary secretion. He states, by this method, a beginning angina can be successfully combated and, even in pronounced cases, marked improvement will become manifest within two or three days. In those cases, thirty in all, in which this method has been employed by him, recovery followed within a week. Laryngeal complications were never observed, and in diphtheria, antitoxin was not used in conjunction with the foregoing treatment.

As to the diet in scarlet fever N. S. Davis, in "The Sys. of Phys. Ther.," recommends, during the few days of fever, cool drinks—water, lemonade and seltzer in large quantities. The food must be liquid. Milk is the best, which can be varied by gruels, oranges, baked apples and stewed prunes. If the throat is in such a condition as to prevent swallowing, rectal alimentation must be employed. Care should be taken that enough fluid be administered per rectum to maintain good elimination by the kidneys.

Ice cream can often be swallowed with comfort when fluids give pain. As nephritis occurs more frequently in scarlet fever than in any other eruptive disease, such a diet should be prescribed as will avert it. It is said by Jacoud that scarlatinal nephritis can always be avoided by a rigorous milk diet if persevered in until after the third week. The smallest possible amount of albuminous and nitrogenous diet should be given in order to relieve the kidneys of all the work possible. After the third week, a greater variety of nourishment may be given, such as fish, creamed codfish, oysters or clam broth, squab and breast of chicken. In case acute inflammation of

the kidneys develops, the regimen must be that of nephritis rather than of scarlet fever.

Medicolegal.

State Board of Health and Compulsory Vaccination.—The principal question before the Supreme Court of Kansas, in the case of Osborn vs. Russell, was whether the authority granted to the State Board of Health by Section 4 of Chapter 129 of the Laws of Kansas of 1885 vested in the board power to make a regulation that "no person until after being successfully vaccinated shall be admitted into public or private schools." That act provided that "the State Board of Health shall supervise the health interests of the people of the state," and "the State Board of Health shall adopt and publish such rules and order of business as may be necessary to make this act effective." By recent legislation the powers of the State Board of Health have been greatly extended, and the court does not intend anything said in this case as an intimation with reference to the present scope of such powers. But what it holds in this case is that, under the provisions quoted, the State Board of Health had no power or authority to adopt such a regulation, and that its order did not invest a board of education with the authority to deny admission to the public schools of unvaccinated pupils. The court says that the question was not before it, but that it is assumed that the legislature has authority to enact such laws as are requisite for the preservation of health, and to prevent infection from contagious diseases, and it may well be that such power can be delegated. The courts have usually sustained specific regulations intended to prevent the further extension of an epidemic, or to prevent the same when danger thereof appears imminent, and authority given to cities to establish quarantine in such cases has been uniformly upheld. Lastly, the statute requiring the maintenance of a system of free common schools in each city of the second class in the state, "which shall be free to all children residing in such city between the ages" specified therein, the court holds that, in the absence of a lawful regulation prescribed or authorized by the legislature, a board of education of a city of the second class has no authority, at a time when the disease of smallpox does not exist in or near such city, to deny a child of school age, resident therein, admission into the public schools because such child has not been vaccinated.

Limiting Privilege to Physicians of State.—Section 3649 of the General Statutes of Colorado provides: "A physician or surgeon duly authorized to practice his profession under the laws of this state, shall not without the consent of his patient be examined as to any information acquired in attending the patient, which was necessary to enable him to prescribe or act for the patient." The question was raised, in Head Camp, Pacific Jurisdiction, Woodmen of the World vs. Locher, as to the effect to be given the words, "duly authorized to practice his profession under the laws of this state." It was urged that the words should not be construed in the sense of limiting or restricting the class to which the statutory privilege applied, but rather in accord with what it was contended was the policy and intent of the enactment as expressed in the preamble, which recites that "there are particular relations in which it is the policy of the law to encourage confidence, and to preserve it inviolate," etc. In other words, it was insisted that the words in question should be entirely eliminated from the statute, thereby making it apply to all physicians, authorized or unauthorized to practice, licensed or unlicensed. But the Court of Appeals of Colorado does not see how, under any authority or rule of construction, a court would be permitted to pursue that course in this case, where it was conceded that the witness, a physician resident in New Jersey, was not authorized to practice his profession under the laws of Colorado. It says that the provisions of the statute as it now reads are clear, intelligible, and easily understood, can not be said to be in any sense unreasonable or absurd, are subversive of no legal private rights, and are not inconsistent with themselves or with any other law. Under such circumstances, however fully the court might agree with counsel that they should be extended and broadened, the courts are without power in that regard. The remedy is with the legislature alone. That no state has a similar law—one containing the restrictive words under consideration—the court says, is not an argument that they were improvidently used, and that the courts of Colorado should disregard them. Rather, if the fact has any bearing upon the question at all, it would tend to support the contention that they were inserted advisedly, and for a specific purpose. The statute was enacted in 1883. This was the legislative session immediately succeeding the one (1881) in which the legislature first adopted the law providing regulations for the practice of medicine in Colorado, and prohibiting it without a party having been first authorized under its provisions. It may well be that the legislature placed these words in the later statute with the deliberate purpose of carrying out and aiding the policy which it had adopted in the prior one. Wherefore the court holds that the physician referred to was not rendered incompetent to testify as a witness because of this statute.

Skill Required in Specialist—Inadmissible Evidence.—The Appellate Court of Indiana says, in the malpractice case of Baker vs. Hancock, that the measure of the duty of a general practitioner is that he does not undertake absolutely to cure, but is bound to possess and exercise the average degree of skill possessed and exercised by members of the profession practicing in similar localities, and having regard to the advanced state of the profession at the time of treatment. A specialist, as the term was here used, is understood to mean a physician or surgeon who applies himself to the study and practice of some particular branch of his profession. Scientific investigation and research have been extended and prosecuted so persistently and learnedly that the person affected by many forms of disease is of necessity compelled to seek the aid of a specialist, in order to secure the results thereof. The local doctor, in many instances, himself suggests and selects the specialist whose learning and industry have given him a knowledge in the particular line which the general practitioner, in rural communities especially, has neither time nor opportunity to acquire. Being employed because of his peculiar learning and skill in the specialty practiced by him, it follows that his duty to the patient can not be measured by the average skill of general practitioners. If he possessed no greater skill in the line of his specialty than the average physician, there would be no reason for his employment; possessing such additional skill, it becomes his duty to give his patient the benefit of it. So the court holds that the party sued, if he held himself out as a specialist in the treatment of cancer, was bound to bring to the discharge of his duty to patients employing him as a specialist that degree of skill and knowledge which is ordinarily possessed by physicians who devote special attention and study to the disease, its diagnosis and treatment, having regard to the present state of scientific knowledge. This was the degree of skill which, by holding himself out as a specialist, he represented himself to have; and, the court adds, it did not lie with him to assert, after securing employment and compensation on that basis, that his representation was not true. The main fact upon which liability was made to depend in this case being whether or not the party sued negligently failed to diagnose the disease, and so failing negligently made a local application, because of which the nose of the party suing was eaten off, the court holds that the latter could not introduce witnesses to prove that the party sued had pronounced certain ailments of theirs cancers, and sought to treat, and in one case did treat, them for such disease, while the sores, so diagnosed as cancers, got well by the application of simple remedies. There being no connection between the offered proof and the diagnosis and treatment given the party suing, the court holds that it was, therefore, collateral and inadmissible. Likewise, it holds inadmissible evidence introduced by the party sued, relating to his treatment of various other persons, and entirely disconnected from the treatment of the party suing. It says that it could make no difference as regards the admissibility of such evidence whether the result was good or bad. It was inadmissible in either event.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine (Philadelphia), April 26.

1 *Pneumonia: An Acute Self-Limited Systemic Infection. Stephen S. Burt.
2 *Marrow and Spleen Cells, Considered in Their Relation to the Blood-Cells. Edward T. Williams.
3 Principles of Hydrotherapy. Otto Lerch.
4 *A New Method of Bisecting the Uterus. Charles H. Richardson.
5 Anomalous Position of Cecum and Colon from Failure of Rotation. W. L. Grant.
6 A Case of Extreme Gastroptosis. E. T. Rulison.
7 *The Serum Treatment of Pneumonia. Joseph Eichberg.
8 *The Examination of the Blood in Relation to Surgery of Scientific, but Often of No Practical Value, and May Misguide the Surgeon. J. M. Baldy.

New York Medical Journal, April 26.

9 On Blood Pressure Under the Influence of Acute Overstraining of the Heart. Theodor Schott.
10 *A Further Contribution to the Study of Summer Diarrhea. Charles G. Kerley.
11 *Acute Joint Diseases of Infancy. T. Halsted Myers.
12 *A Peculiar Symptom in Typhoid Fever. W. C. Doane.
13 The Mission of Societies for the Prevention of Consumption in the Antituberculosis Crusade. S. A. Knopf.

Medical Record (N. Y.), April 26.

14 Abdominal Echinococcus Cysts. Frank Hartley.
15 *Treatment of Pneumonia. Stephen S. Burt.
16 *Questions of Priority in the Surgical Treatment of Chronic Bright's Disease. George M. Edebohls.
17 *The Modification of Breast Milk by Maternal Diet and Hygiene. Thomas S. Southworth.

Philadelphia Medical Journal, April 26.

18 A Correspondence Between Dr. Regis and Dr. Spitzka; Reply to the Article by Dr. E. C. Spitzka, Entitled "Regenticides Not Abnormal as a Class," Which Appeared in the Philadelphia Medical Journal, Feb. 8, 1902.
19 *The Danger to the Public from the Ambulant Consumptive. J. O. Cobb.
20 A Branchial Cyst, the Wall of Which Contained a Small Hemangioma. W. M. L. Coplin. Clinical History. J. Coles Brick.
21 A Case of Adiposis Dolorosa. John B. Roberts.
22 Diseases of the Lachrymal Apparatus. Wm. Campbell Posey.
23 *Report of Several Cases of Corneal Complications in Conjunctivitis Due to the Koch-Weeks' Bacillus. Edward A. Shumway.
24 A Case of Diaphragmatic Hernia. W. Moser.

Medical News (N. Y.), April 26.

25 *The Diagnosis and Operative Treatment of Prostatic Hypertrophy, with Remarks on the Complications Before and After Operation. Ramon Guiteras.
26 *The Indications for and Limitations of the Bottini Operation. Louis E. Schmidt.
27 *Gonorrhea of the Prostate. Ernst R. W. Frank.
28 *Prostatic Hypertrophy. Lewis Schooler.

Boston Medical and Surgical Journal, April 24.

29 *The Serum Test for Blood. E. S. Wood.
30 *Notes on the Production of the Test Serum in Rabbits. W. F. Whitney.
31 *Notes on X-Light. William Rollins.
32 Osteosarcoma of the Elbow. Robert B. Osgood.
33 An Unusual Family History of Tuberculosis. A. H. Williams.
34 A Case to Illustrate the Advantages of the Correction of the Deformity of Pott's Disease. H. S. Warren.
35 Excision of the Hip for Congenital Dislocation. W. E. Blodgett.

Cincinnati Lancet-Clinic, April 26.

36 Address Before the Medical Department of Vanderbilt University. N. P. Dandridge.
37 Diseases of the Sigmoid Flexure. George B. Evans.

Medical Age (Detroit, Mich.), April 10.

38 The Diagnosis of Pericarditis. Arthur R. Edwards.
39 Prophylaxis and Treatment of Bubonic Plague. S. J. S. Rogers.
40 The Treatment of Chronic Gastritis and Gastro-Intestinal Catarrh. William Wormley.

The Journal of Tuberculosis (Asheville, N. C.), April.

41 Light—Its Therapeutic Importance in Tuberculosis as Founded upon Scientific Researches. J. Mount Bleyer.
42 *Operative Intervention in Laryngeal Tuberculosis. W. Freudenthal.
43 Nutrition in Pulmonary Tuberculosis. A. W. Perry and Albert Abrams.
44 *Intratracheal Medication in Disease of the Respiratory Tract. Joshua L. Barton.
45 Culture Products in the Treatment of Tuberculosis. F. M. Pottenger.

Cleveland Medical Journal, March.

46 Nitrous Oxid and Oxygen as an Anesthetic. John F. Stephan.
47 Observations upon the Relative Progress of Surgery in America and Europe. Dudley P. Allen.
48 Foreign Bodies in the Esophagus. N. Stone Scott.
49 Medical Legislation in Ohio—A Remedy for the Difficulties Met with in the Enforcement of the Present Law. Frank Winders.
50 Purulent Ophthalmia of the New-Born. Edward Lander.
51 The Surgical Treatment of Cancer of the Stomach. F. E. Bunts.
52 Arsenical Paralysis from Arsenic Administered Medicinally. D. N. Kinsman.
53 The Southwest for Pulmonary Tuberculosis. Guy H. Fitzgerald.

Medicine (Detroit, Mich.), April.

54 Some Results of Hearing-Tests of Chicago School Children. D. P. MacMillan.
55 *Operative Treatment of Hemorrhoids. Charles F. Nassau.
56 Uterus, Gross Specimen and Sections; Also Sections of the Liver, Kidney and Bladder, from a Case of Puerperal Sepsis Due to Mixed Infection by the Cocci of Suppuration and the Bacillus Coli Communis and Other Organisms; Also a Preliminary Consideration of a Morbid Process Affecting Unstriped Muscle (Particularly the Elastica) Not Heretofore Described. W. M. L. Coplin.
57 Case of Aneurysm of the Sinus of Valsalva, with Rupture into the Pericardium. J. Allison Scott.
58 Parasitic Hemoptysis—The Paragonimus Westermanii; Its Pathologic Significance in Men and Some of the Lower Animals. Wm. E. Magaziner.
59 Bullet-Wound of the Orbit; Eye Destroyed by a Fragment of Bone—A Clinical and Pathologic Report. Charles W. LeFevre.

Medical and Surgical Monitor (Indianapolis), April 15.

60 The Treatment of Wounds. A. J. Banker.
61 Peritonsillar Suppuration. John J. Kyle.
62 Clinical Significance of the Tongue. Samuel E. Earp.
63 Diagnostic Points in Digestive Diseases. Simon P. Scherer.

American Journal of Obstetrics (N. Y.), April.

64 *Deciduoma Malignum. Louis J. Ladinski.
65 *Anatomy of the Menstruating Uterus. Palmer Findley.
66 *A New Symptom in the Diagnosis of Dystocia Due to a Short Umbilical Cord. Samuel M. Brickner.
67 *Selected Cases of Appendicitis. W. P. Manton.
68 Phleboliths of the Ovarian Veins Simulating Ureteral Stones. John G. Clark.
69 Obstruction of the Ureter Caused by an Enlarged Spleen Lodged in the Pelvis. Lindsay Peters.
70 Vaginal Hysterectomy for Cancer with Four-Months' Pregnancy. J. F. Baldwin.
71 Fibrosarcoma of the Uterus. J. Riddle Goffe.
72 Acute Yellow Atrophy of the Liver as It Occurs in Women. George T. Harrison.
73 *The Significance of Albuminuria Occurring in Pregnancy. E. E. Morse.

Medical Herald (St. Joseph, Mo.), April.

74 The Distal Arterio-Ureteral Crossing. Byron Robinson.
75 The Warrior Microbe; Or, the Gonococcus at Waterloo. B. F. Gillmor.
76 Etiology and Treatment of Infantile Diarrhea. C. L. Lawless.
77 Blood Examination: Its Value as a Diagnostic Measure. Frank O. Reynolds.

American Practitioner and News (Louisville, Ky.), April 1.

78 *Treatment of Tuberculosis of Testicle and Epididymis. Irvin Abell.
79 Organic Stricture of the Urethra, with Supplemental Treatment. Henry Orendorf.

Canada Lancet (Toronto), April.

80 How to Live to Prolong Life. James Grant.
81 Some of the Diagnostic and Therapeutic Uses of the Roentgen Rays. James Third.
82 Infection and Contagion. E. B. Shuttleworth.
83 Multiple Uterine Fibroids Complicated by a Three Months' Fetus. John M. MacDonald.
84 A Case of Jacksonian Epilepsy. Frank W. Hall.
85 Notes on Beri-Beri. Colin A. Campbell.
86 The Cardiac Complications of Gonorrhea. H. B. Anderson.

Archives of Pediatrics (N. Y.), April.

87 *Pyloric Stenosis in Infants, with a Report of Cases. E. W. Saunders.
88 *The Leucocyte Count in the Diagnosis of Diseases of Children. George D. Head.
89 *Enlarged Bronchial Lymph Nodes in Children. Alfred Friedlander.
90 A Note on the Treatment of Gastrointestinal Hemorrhage in the Newly-Born by Suprarenal Extract. L. Emmett Holt.
91 A Case of Mongolian Imbecility. Philip F. Barbour.

Denver Medical Times, April.

92 *Report of a Case of Acute Hemorrhagic Gangrenous Pancreatitis. Leonard Freeman.
93 Exegesis of Medical Ethics. R. G. Woodworth.
94 La Grippe. W. B. Parsons. (See No. 127.)
95 "Thou Shalt Suffer No Witch to Live." James Weir, Jr.
96 Report of Surgical Cases. (Intestinal Obstruction, Etc.) I. B. Perkins.

Annals of Surgery (Philadelphia), April.

97 *An Experimental and Clinical Research on the Temporary Closure of the Carotid Arteries. George Crile.
98 Stereoscopic Radiography. Alexander B. Johnson.
99 *Prostatectomy by the Perineal Route. Parker Syms.
100 *Intestinal Obstruction from Meckel's Diverticulum. Albert E. Halstead.
101 *Meckel's Diverticulum Patent at the Navel. Joshua C. Hubbard.
102 Hernia of Meckel's Diverticulum. R. E. Webster.
103 Bone Cysts—A Case in Which the Humerus Was Involved, with the X-Ray and Microscopic Findings. Eugene R. Corson.

Western Medical Review (Lincoln, Neb.), April 15.

104 *The Use of the Gall-Bladder to Restore a Prolapsed Liver. A. F. Jonas.
105 Hysteria: Its Etiology and Management. Joseph M. Aikin.
106 Personal Experience with Contused, Gunshot and Stab Wounds of the Abdomen. J. E. Summers, Jr.
107 A Simple Method of Extension in Fracture of the Metacarpal Bones, and Oblique Fracture, Simple or Compound, of the Forearm. W. W. Grant.
108 Our Hospitals. H. D. Niles.
109 An Old Shoulder Luxation—Report of a Case. J. Rudis-Jicinsky.

Annals of Otology, Rhinology and Laryngology (St. Louis), February.

110 *Perforation of the Septum Narium, from a Study of Twenty-five Cases with Regard to Etiology and Pathologic Significance. Charles W. Richardson.
111 A Case of Isolated, Unilateral, Latent Empyema of the Sphenoidal Sinus with Delirium and Mental Symptoms. Recovery. Jonathan Wright.
112 Superheated Compressed Air in the Therapeutics of Chronic Catarrhal Otitis Media. George W. Hopkins.
113 The Recording of Ear Cases. B. Alex. Randall.
114 *Salient Points in the Treatment of Syphilitic Lesions of the the Nose and Throat. Carolns M. Cobb.
115 *Treatment of Laryngeal Tuberculosis. J. Price Campbell Brown.
116 *A Year's Experience in the Treatment of the Eustachian Tube by Means of the Electro-Bougie. Thomas J. Harris.
117 Contribution to the Study of Antrectomy. Olivier Lenoir.
118 Hysterical Mutism in History. Raoul Leroy.

Merck's Archives (N. Y.), April.

119 Some Methods and Combinations Which Have Proved Particularly Valuable in My Personal Experience. William J. Robinson.
120 A Study of the Effects of Alcohol upon Longevity. J. M. French.
121 Convulsions in Children. J. H. Spiegelberg.

International Medical Magazine (N. Y.), April.

122 A Report of a Case of Tertian Estivo-Autumnal Malarial Fever and Two Cases of Hemoglobinuric Malarial Fever. W. E. Fitch.
123 *Fistula in Ano: Its Relation to Phthisis. Samuel G. Gant.
124 *The Laboratory Diagnosis of Typhoid Fever. A Robin.

Medical Sentinel (Portland, Ore.), April.

125 Insanity and Crime. W. T. Williamson.
126 Eye-Strain a Cause of Persistent Headache. Adolph Blitz.
127 La Grippe. W. B. Parsons. (See No. 94.)

Alabama Medical Journal (Birmingham), April.

128 Some Points in Diagnosis of Diseases of the Stomach. Cabot Lull.
129 Roentgen Rays in Medicine. J. D. Gibson.
130 Medical Jurisprudence. M. H. Collins.
131 Report of Case. (Superfactation.) R. C. Bankston.
132 The Tubercular Diathesis. E. O. Williamson.
133 Gonorrheal Rheumatism. J. Douglas Westervelt.
134 Report of Health Officer of Jefferson County. J. M. Mason.

Journal of Medical Research (Boston), April.

135 Coccidium Infection of the Rabbit's Liver. E. E. Tyzzer.
136 *Molluscum Contagiosum. Charles J. White and William H. Robey, Jr.
137 *Culture Experiments with Malignant Tumors, 1900-1901. Oscar Richardson.
138 Four Pathogenic Tornlæ (Blastomycetes). Joseph D. Weis.
139 *The Relation of Blastomycetes to Cancer. Edward H. Nichols.
140 Cell Inclusions in Cancer and in Non-Cancerous Tissue. R. B. Greenough.
141 *Summary. Edward H. Nichols.

New England Medical Monthly (Danbury, Conn.), April.

142 Autobiography of the Late J. Milner Fothergill, M.D., London, Eng. (Continued.)
143 Clinical Notes. (Differential Diagnosis of Appendicitis and Typhoid, Etc.) Charles Jewett.
144 Toxemia as a Factor in the Prognosis of Typhoid Fever: Report of a Case Having a Very Low Temperature and Fatal Results. Daniel E. Keefe.
145 Creosotal in the Treatment of Acute Non-Tubercular Disease of the Respiratory Organs of Nurslings and Children. Wilhelm Meitner.
146 Rheumatoid Meningitis. O. Henley Snider.
147 An Effective Treatment for Septic Endocarditis. K. F. Wenckebach.
148 Common Mistakes in Dermatologic Diagnosis. J. Abbott Cantrell.

---

1. **Pneumonia.**—Burt's essay summarizes as follows: "Pneumonia is an acute, self-limited, systemic infection, whereof the concomitants, though various, are chiefly pulmonary; it is endemic, occasionally pandemic, in many countries, and it occurs everywhere sporadically; regarding the lung tissue, the affection seems more in the nature of an exudation than an inflammation; the frequency of detection of the diplococcus in living blood in pneumonia suggests that by improved technic it will be found, like the plasmodium in malaria, invariably; infection of the heart muscles with resulting degeneration has more to do with heart failure than mechanic obstruction; the exact significance of pathologic leucocytosis requires further elucidation; preëxisting fertility, as to the condition, determines the degree of infection, rather than the number of microbes, which are in quality unchangeable; although neglect of personal hygiene and of sanitation predisposes to pneumonia, unqualified good health, on the other hand, is a protection therefrom."

2. **Marrow and Spleen Cells.**—Williams finds that the marrow cells are basophilic, a fact which has hitherto been unnoticed. He has tested this by reagents and satisfied himself that the marrow cells are identical with the so-called large lymphocytes of the blood whose origin has been hitherto in dispute. The large lymphocyte is the true myelocyte of the blood. The oxyphile myelocytes of Cornil and Ehrlich, found only in diseased blood, are probably degenerated forms. He agrees with the statement of Clarkson that the marrow cells are capable of movement and finds that they are in all probability the progenitors of the multinuclear leucocytes, a view also held by Boehm and von Davidoff. The spleen cells are predominantly red corpuscles. White corpuscles are far less common in the spleen than in the marrow. The obvious conclusion from his study is that red corpuscles are elaborated by the spleen. The spleen seems to have a less important tendency in the formation of leucocytes than the marrow and lymph glands and very little share in the production of multinuclears. It probable does contribute a few of the large uninuclear leucocytes designated by Virchow as splenocytes. This can, however, be practically of little value as they can not well be distinguished from the true basophilic myelocytes.

4. **Bisection of the Uterus.**—The method of bisecting recommended by Richardson is described by him as follows: Instead of making the incision in the median line, it is made on either side, beginning near the horn of the uterus, and carried down through the tissues of the walls of the uterus and cervix; so when completed one section contains practically the whole body of the uterus with its cavity, and the other only a narrow strip of the wall. A little practice will teach one to keep within the walls of the uterus. The hemorrhage is a trifle more profuse from the narrow strip than when divided in equal parts, but this is of minor importance. It will be seen at once that this method of bisection allows all the advantages of median bisection, but admits of no danger of infection from the uterine cavity, the heretofore principal objection of its opponents.

7. **Pneumonia.**—Eichberg favors the use of anti-pneumococcic serum in pneumonia and shows by statistics of various hospitals that the mortality is rather high in the ordinary treatment and certainly well above that reported with serum treatment by Pane and other authorities. He considers the method harmless and thinks that the large amount used should not weigh against it, as it causes only a temporary inconvenience. He reports several cases, and calls attention to the relief of cough and expectoration soon after the administration of serum. The process of resolution is apparently accomplished without any liquefaction, for no moist sounds were heard. Efforts to make blood counts failed on account of the prompt clotting of the blood in the counters.

8. **Blood Examinations.**—Baldy's article is a polemic one in reply to that of Willson, who criticised his views. He says that Willson's article really admits what he claims—that blood examinations are of scientific use, they are often of no practical value and they may misguide the surgeon.

10. **Summer Diarrhea.**—Kerley gives his experience with summer diarrhea in out-patients and has come to believe that its large mortality in infants is avoidable. Nevertheless, every case of summer diarrhea is dangerous and should be treated vigorously no matter what the initial symptoms may be. Acute streptococcal or colon bacillus infection plays, he thinks, no large part in the beginning symptoms. A case of so-called dyspeptic diarrhea, with continued milk feeding, will soon become a virulent infection. The first thing to be done is to stop the milk and for a substitute he uses barley or rice water with chicken, beef or mutton broths in small quantities to prevent too much laxative effect. The white of egg mixture

he has discontinued, because it does not appear to digest readily in many children and forms as good a putrefactive culture medium as milk. Fever is always present and he quotes Hutchinson as stating that the leading characteristic of fever is increased destruction of nitrogenous tissues, but the apparent indication that we must supply proteids is not correct as it is impossible to bring about a condition of nitrogenous equilibrium in acute fevers in this way and it increases the strain upon the kidneys—thus aggravating the condition. The loss of fluid by the intestines in summer diarrhea makes the urine more concentrated, hence, more toxic to the kidney structure, and, as Hutchinson says, we must see that proteid sparers are more abundantly represented in the diet as well as a liberal supply of carbohydrates. The by-products of these are thrown off through the lungs as carbon dioxid and thus the body is sustained and the kidneys rested. The condition of the intestinal contents is changed from putrefaction to fermentation and is less favorable to the growth of dangerous pathogenic organisms. He finds that dextrinized gruels have a useful field in the diets for summer diarrhea. The patient is to be kept in the largest room and, if febrile, sponged with water at 80 F. for fifteen minutes several times a day. The resumption of the milk diet should be gradual while the patient convalesces. For drugs Kerley uses calomel in cases of vomiting, giving 1/20 to 1/10 of a grain by hypodermic injection. Castor oil is given in acute septic cases with infrequent stools and without stomach involvement, in which a prompt washing out of the small intestine is desired. In all cases, bismuth in large doses was given every one or two of the waking hours, but to be serviceable it must produce black stools. In a few cases it goes through the bowel unchanged and exerts no influence. He credits this to absence of sulphuretted hydrogen in the intestine, due doubtless to the absence of pancreatic digestion. In such cases he gives a grain of precipitated sulphur with each dose of bismuth. Opium is indicated where there is severe pain or tenesmus, and very frequent stools. Four or five stools a day he considers not too many; simply maintain proper drainage. When the case is one of intestinal infection, with infrequent foul discharges or none at all, active laxatives constitute the only medication. Many children are sacrificed because of the notion that the diarrhea must be completely stopped. Irrigation of the colon has been overdone. It does not follow that, because a child has diarrhea, irrigation should be used. Ten or twelve loose, watery discharges wash out sufficiently without requiring anything further. Patients that are benefited by irrigation are those that have a moderate number of green mucous stools with or without blood. Cases to be irrigated are those in which there is something to be washed away. He usually employs for such cases normal salt solution, or, if there is blood, a 1 per cent. solution of tannic acid, although he questions its special value. It is applied lukewarm, and, if there is a high fever, he uses it at 60 or 70 F.; in the very weak, with subnormal temperature and marked prostration, the solution is used at 110 F. The method of irrigation is described. As regards the medical management, a great deal rests with the proper education of the mother and prophylaxis. The child should be properly fed and great care should be taken to prevent infection of the bottle and nipple; the mother should be told to wash her hands with soap and water before preparing the baby's food. Municipalities should establish milk laboratories and stations where sterilized milk and cereal gruels should be furnished free to the poor, and at small cost to others. The educational program should be thoroughly carried out.

11. **Joint Disease of Children.**—The different forms of joint disease occurring in children are reviewed for diagnosis by Myers, who finds the complete blood examination of considerable value in determining whether abscess exists or not. The treatment of the different types is also mentioned, including the mechanical treatment. We should act not only for the immediate relief of the symptoms, but also with regard to the ultimate results. For instance, early incision only can save the head of the femur in acute epiphysitis. If this is not saved, the ultimate result resembles congenital dislocation, but is worse because reposition is impossible. Sometimes, however, dislocation does not occur and in these cases a very useful limb results. If the medullary cavity of a long bone is to be cleaned out, care should be taken not to destroy the living shell or to fracture it. The diaphysis should not be removed entire in a case of acute necrosis, but should rather be left as a splint until the bone forms. Myers says not to operate too quickly and completely in dactylitis, if we wish always to save the shape of the finger. Osteomyelitis about the knee-joint is very apt to be followed by partial subluxation of the joint or atrophy of one condyle. Of course, the proper use of splints will do much good in preventing deformities. As regards medical treatment, he speaks particularly of good diet, hygienic surroundings, etc.

12. **Typhoid Fever.**—Doane recalls the statement by Trousseau that unilateral deafness occurring in typhoid is of grave import, while a similar bilateral condition is a favorable sign. He has found this a valuable point in the prognosis. The cause of the condition is unexplainable to him, but he offers the fact to the profession as of some interest.

15. **Pneumonia.**—The recapitulation and substance of Burt's article is given as follows: "Pneumonia primarily owes its shortness and self-limitation to the perishability of its microparasite; the type of the disease depends upon the condition of the individual; pneumonia simply as pneumonia requires no interference; diplococci thrive best at the normal human temperature; fever inhibits the growth of the parasite and is therefore beneficial; high fever indicates extensive infection, meantime varying degrees of reactive ability; low fever either inability to react or else moderate infection; specific medication is unnecessary in pneumonia, if not pernicious; it is imperative to disinfect dejecta and expectoration; aconite and its congeners are injurious; bleeding is seldom required; opium, checking renal activity, in large doses is contra-indicated; in old persons opium is exceedingly dangerous; oxygen is useful, but not indispensable; alcohol is valuable as food, and it conserves energy; strychnia, ammonia, alcohol and nitroglycerin in large doses, as stimulants, should be reserved for emergencies; subcutaneous infusion of a physiologic saline solution is invaluable for renal elimination of poisonous accumulations; last, though not least, specific remedies at best are but makeshifts, prevention of infection is the desideratum."

16. **Bright's Disease.**—Edebohls argues for his priority over A. Rose in the matter of surgical treatment of chronic Bright's disease, and reviews the literature in support of his opinions.

17. **Breast Milk.**—The point made by Southworth is the importance of instructing mothers in regard to the value of their diet and hygiene so as to be able to successfully nurse their infants. His directions are simple, such, for example, as the addition to plain sensible food of cornmeal gruels and the disuse of coffee and tea and substitution of cocoa. He insists on the importance of mothers nursing their children and thinks there would be little difficulty if they would sacrifice social dissipation and unsuitable food for the sake of the child.

19. **The Ambulant Consumptive.**—This article deals with the importance of care as to the sputum, cough, etc., on the part of the consumptives. The author takes what might be considered rather extreme views. The greatest danger to the public in his opinion is because consumptives do not die quick enough. He thinks it would be a blessing if the disease were a rapid one and carried them off quickly. A large part of his paper is devoted to the description of portable cuspidors. He speaks positively in regard to spitting, saying it is a crime to spit on the floor or ground and should be treated as such, and all receptables and public cuspidors should be done away with. Tobacco chewers deserve no consideration, and we have met all the needs of the consumptive when we give him a practical, easy and efficient way to handle the sputum.

23. **The Koch-Weeks Bacillus.**—From these cases here reported Shumway deduces the following conclusions: 1. The Koch-Weeks bacillus conjunctivitis is apparently becoming more common in Philadelphia than has been hitherto observed. 2. It may present itself in a particularly severe form, and be complicated by phlyctenules and even by corneal ulceration.

3. These cases are especially contagious, and extra precautions should be taken to prevent their spreading, particularly among school children. 4. As a rule, they are controlled by the use of mild astringent lotions and applications of 2 per cent. solutions of nitrate of silver. We have not tried protargol, but equally good results have been obtained by other observers, when the solutions used have been of sufficient strength, viz., 10 to 20 per cent.

25. **Prostatic Hypertrophy.**—Guiteras notices the diagnosis, indications for operation, choice of operation and indications for each. He rather favors prostatotomy or the Bottini method, but shows that prostatectomy, according to one or other of the methods used, has its advantages in many cases. His conclusions are: 1. That the general practitioner should be educated to palpate the prostate and to use the other simple means of diagnosis employed in determining the shape and size of the organ. In default of previous training in rectal palpation, he should at every opportunity familiarize himself with the feel of a normal prostate, and should thus educate his touch for prostatic diagnosis. 2. That the prostate corresponds pathologically in the male to the uterus in the female, and that its examination is just as important as uterine palpation, in which the general practitioner is, as a rule, far more expert. 3. That in prostatics the care of the bladder before operation is a prime factor. The importance of training such persons to observe the minutiæ of catheter life, of making the kidneys as active as possible, and of rendering the urine as nearly normal as possible before prostatic operations, can not be overestimated. 4. That every prostatic operation should be preceded by a thorough general examination, including an examination of the heart, the arteries, the urine, the bladder (for possible presence of stone or tumor) and of the urethra (for possible presence of a stricture), as well as by palpation of the kidneys. 5. That the statistics of the results of prostatic operations demonstrate that the successful cases belong most frequently to the class having a small amount of residual urine and a moderate prostatic enlargement. An early diagnosis is, therefore, of paramount importance. 6. That the choice of the operation must be based upon the lines drawn here, according to the age, the resisting power of the patient, and the size and shape of the prostate, with special reference to the seat and extent of the hypertrophy, as well as the condition of the kidneys and bladder. 7. That in the conduct of prostatotomy as well as prostatectomy the prime object is to avoid so far as possible the occurrence of shock and to prevent the congestion of the kidneys by proper precautions during and by proper treatment after the operation.

26. **The Bottini Operation.**—The contra-indications for the Bottini operation are by Schmidt not considered so general as some have held. He says that good results have been obtained in some cases under conditions against which we have been specially warned, such as nephritis, morbid conditions of the kidneys, ureters and bladder, general arteriosclerosis and pyemia. Still, we must take these things into consideration. He emphasizes, however, that if thorough cystoscopic examination can not be made, it is best not to undertake the operation. He thinks the objection that cicatricial contraction results is not warranted by facts—provided that the method be correct. Poor technic is responsible for a large number of complications. He would not, however, be understood to declare the Bottini operation an easy one or that anyone can perform it. It is on account of such ideas that we hear of bad results. We should always be able to recognize any accident that may occur or complications that may arise subsequently and it must not be forgotten that the after-treatment plays an important part in the results. The conclusions which he draws are that good results of operation will depend: 1. On careful selection of cases. 2. On proper technic of the operation and proper after-care. 3. On immediate correction of errors or mishaps.

27. **Gonorrheal Prostatectomy.**—Frank holds that adequate therapeutic measures limit the frequency of involvement of the prostatic urethra and says that in the majority of cases that he has examined he finds gonococci in the prostatic juice. He calls attention to the possibility of infection dwelling in this part while the apparent conditions are those of recovery. His method of examination of the prostatic secretion is as follows: "After thoroughly washing the posterior and anterior urethra with a solution of protargol, I insert a sterile endoscopic tube to the end of the membranous portion and cleanse the mucosa in the field of absolute dryness. This cleansing is done with sterile cotton tampons. I then take from the tube the juice obtained by massage and examine it. In some cases I limit my work to thorough washing of both urethral divisions and avoid expelling the juice removed from the prostate by massage, by pressure upon the pendulous portion, as is often done. By this latter manipulation the contents of the glands and lacunæ of the anterior urethra are expressed and the results obtained are consequently not free from objectionable features. Even without pressure upon the pendulous portion, prostatic secretion almost invariably presents at the meatus several moments after prostatic massage. The examination by means of the tube must always be followed by washing of the anterior and posterior urethra. The fact that of 37 cases I examined in this manner one was affected with epididymitis fourteen days later, shows that no danger to the patient is incurred thereby." He explains the cystic changes that may occur from the continuance of the condition. It is only by the finger that the proper diagnosis can be made. Rigid instruments are inadequate and may have bad results. If gonococci are present he finds the use of a silver preparation advisable; protargol is best. If other bacteria be found, a mild solution of corrosive sublimate is of use for irrigation. It is important when other bacteria than the gonococci are present to give attention to thorough asepsis of the lowest portion of the intestinal canal, and he considers local treatment by massage injurious when there is any elevation of temperature. As a prophylactic method against the occurrence of gonorrheal prostatitis he has adopted the following plan: "After the microscopic diagnosis is made, the patient is ordered to urinate. If the second urine be clear, the anterior urethra is gently irrigated with a 0.25 per cent. solution of protargol until the solution flows off clear. If the patient be hypersensitive, the urethra is cocainized with a weak solution (1 to 200), to which some protargol is added as a precautionary measure. Then, closely following Janet's directions, a copious irrigation is applied to both urethræ with the same protargol solution. The fluid is allowed to enter the bladder until the patient experiences a desire to urinate; this requires about .25 to .5 of a liter. The patient then empties his bladder. This procedure is repeated on the two following days. After the first twenty-four hours have elapsed, the discharge, which was purulent and abundant, has become sparse and serous and in most cases gonococci can not be found. Leucocytes disappear in a similar manner and the specimen shows only an abundance of epithelia and fibrin. If, however, gonococci persists to the third day, it shows that the disease has not been aborted. The cause of the failure is that the prostate was already infected, or that para-urethral passages exist, in which gonococci are beyond the reach of treatment, or deformities of the urethral mucosa, folds, or valves may be the cause of the failure. In the latter cases slight surgical intervention brings immediate relief." He has treated 60 cases in this manner with very good results, showing that in a large number of the cases rapid disappearance of the gonococci can be secured by this abortive method if undertaken sufficiently early.

28. **Prostatic Hypertrophy.**—The symptoms and diagnosis are first noted by Schooler. The prognosis depends on the early diagnosis and prompt treatment. He has no confidence that drugs will affect the growth. Massage, he thinks, is also useless and may be harmful. Catheterization, while palliative, is almost invariably liable to produce infection. Dilatation has its best results in incipient cases and better effects will be obtained if the patient is made to understand the necessity of frequent seances and their long continuance. Cystotomy is a temporary or procrastinating procedure and is most useful where the bladder is affected or cystitis exists as a complication and it also offers a chance for better examination. He thinks we need a better knowledge of the anatomy of the

gland. Its pathology calls for an advance in our therapeutic resources for something more than to temporarily relieve the constant threat to the life of the patient.

29. **Blood Serum Test.**—Wood briefly reviews the history of blood antisera as a test and describes the method of preparing rabbits to obtain the serum. He has recently applied the serum test in a murder case now on trial and obtained positive results.

30. **Blood Serum Test.**—Whitney has tried two parallel series of experiments with hydrocele serum and blood serum and finds a better reaction of one in one case and of the other in the other. He thinks that further experiments are necessary before it can be decided whether the hydrocele fluid or the ordinary blood serum is most effective. The only indication that we have beforehand whether a rabbit will yield a strong antiserum is the apparent slowness of the coagulability of the blood in those that have given the best reactions in his observation. If this is more than a coincidence it might be used in selecting the animal for injection. He insists on the importance of the blood serum test in medicolegal cases.

31. **X-Light.**—Rollins first describes certain apparatus and criticises the patent law under which previously published methods or appliances have been patented. He believes that we should use much more powerful apparatus and have it at greater distance in therapeutic work. All kinds of *x*-light may produce burns. The kind should depend on the seat of disease. For superficial disease we should use radiation from a tube of low resistance which is most easily absorbed by these tissues; if we wish to treat internal diseases, we should use the radiation from a tube of high resistance, which is less absorbed by the superficial tissues and is more available for affecting the internal organs. He says we need powerful apparatus and should encourage experimenters who are working to produce such. At the present time the most important problem is to find instruments for measuring the intensity of *x*-light. One of the required instruments should quickly show the therapeutic power of the *x*-light and another should tell its full photographic intensity, which, until we get an actinometer, should be judged by a tungstate of calcium screen and not by one of platinocyanid of barium. Until we get *x*-light powerful enough to take instantaneous photographs of the heart and other organs we should not slacken our endeavors to construct and use more powerful apparatus.

42. **Laryngeal Tuberculosis.**—Freudenthal reports the results of 29 cases on which he has operated; only about one-half the total number. Of these 29 thoroughly recorded, 7 showed slow amelioration and 4 almost immediate improvement. Of the 18 unimproved cases, 13 were in advanced stages of pulmonary phthisis, 5 were in the earlier stages. None of them received any benefit from curettement, and the majority, indeed, thought their health was hurt by the operation. In many of the cases he was of the same opinion himself. From his results he is led to believe that patients do just as well without curettement and are perhaps better off. He has applied this idea for one year without doing any curettement and remains of the same opinion. There are two conditions to be met when we operate—intense pain and dyspnea. He leaves the covered infiltrations alone as long as possible to avoid producing ulcers, but treats topically in most instances with his orthoform-menthol emulsion described in The Journal of March 16, 1901. This will usually relieve the patient if it can reach the spot. Where we can not apply it, however, he would recommend curettage in some cases when no other means will relieve the pain of the patient, though admitting that relief will be very temporary. In case of laryngeal dyspnea we must in some way relieve the condition. The question is, what are we to do? He never recommends tracheotomy except in very urgent cases. Laryngofissure would be more advisable, but most patients can not stand such an operation. The only thing left is curettage. In the last two years he has done very little in the way of operating in these cases, but considers there are a few cases in which endolaryngeal procedures are of some benefit.

44. **Intratracheal Medication.**—Barton holds that the objections to intratracheal medication of its interference with respiration and excitation of severe cough are fallacious. The sensitiveness is largely confined to the larynx and what goes below that produces little trouble and often immediate relief. His wider experience has led him to hold such objections groundless. The ordinary aspirating syringe holding 2 drams, with curved endolaryngeal tube seven inches in length, can be introduced by the physician, the patient sitting with his tongue drawn out and head thrown back. The tube should be introduced in the median line, carrying the curved portion over the base of the tongue, raising the elbows high enough to insure the point of the tube passing under the edge of the epiglottis. The patient is instructed to avoid swallowing, to keep the tongue well drawn out, and to take a deep inspiration. As he inspires, the contents of the syringe is thrown quickly into the larynx, the ingoing current of air causing it to pass directly into the trachea, producing almost no laryngeal irritation. The intratracheal medication probable has some of its good results by affecting the nerve system of the whole body, as it is probable that the action can not be confined entirely to the part. It excites the vasomotor and trophic systems and at the same time it acts as a local treatment to the dilated mucous surfaces. He does not offer it as anything like a real cure for tuberculosis but is a powerful adjunct to other treatment.

45. **Serum Treatment of Tuberculosis.**—Pottenger concludes that culture products do have a specific action upon tuberculous foci. The early unfortunate experience with tuberculin has obscured this fact by its use in too large and frequent doses and in unsuitable cases and it was held responsible for all postmortem findings. The field of usefulness for culture products is where recent tubercles are found, especially in incipient cases. If used in advanced cases they will help to remove areas of recent infection, but must not be expected to remove dead, decaying or newly-formed tissue. Where used they should be reinforced by every measure at command, proper hygienic and dietetic measures prescribed and the patient's health attended to. If properly managed and used the proportion of cures is greater than when they are not employed and they produce an immunity protecting the patient from relapse and make a permanent cure more often than hygienic and climatic treatment alone, which facts should be sufficient to warrant their employment.

55. **Hemorrhoids.**—Nassau describes the method he learned while assistant to Halsted in the Johns Hopkins Hospital. It consists essentially in slight stretching of the sphincter, not paralyzing the muscle, putting a gauze tampon well up into the bowel with the speculum and then making a circular incision just within the margin of the skin. This incision includes more than one-half the anal circumference and is carried into the wall of the rectum until the fibers of the external sphincter are reached, which latter must not be injured and, as a rule, can be easily stripped from the rectal wall. The bowel can then be readily pulled down until the dissection is carried above the hemorrhoidal area. During the operation, bleeding vessels must be caught as soon as they are cut or previously where this is possible. Before the incisions are closed all bleeding points caught by the artery forceps should be tied. In this method of operating, secondary hemorrhage never occurs, providing the bleeding vessels are ligated. As a rule, it is not necessary to include the whole circumference of the bowel, if care has been taken to leave the healthiest portion uninciseed. At this stage the hemorrhoids are cured, that is, the blood supply is completely cut off. Three interrupted subcutaneous silk sutures are placed in position to anchor the bowel to the skin. Each stitch includes the walls of the bowel, but does not puncture the mucous membrane. The redundant hemorrhoidal tissue is then cut away by transverse incision, the bleeding points are ligated and the skin and mucous membrane are closely approximated by interrupted sutures of fine silk. If a complete circular incision is required, the anchoring sutures are introduced and the remaining work finished before the introduction of the final stitches. To obliterate any "dead space" a one-half inch rubber tube four inches long is wrapped in gauze until it has a diameter of one inch and then covered with boric acid ointment and placed in

the rectum so that it protrudes slightly. This should be done with the speculum. A cord should be passed through the protruding end of the rubber tube to facilitate removal. This rectal plug should be removed in six to twelve hours, though he has left it longer. An opium and belladonna suppository will relieve tenesmus. On the fourth day the bowels are moved by divided doses of calomel or by enemas of cotton-seed oil followed by soap and water. The patient may get up on the sixth day and be discharged on the tenth. The operation can be performed under local or general anesthesia. Full asepsis of the parts, thorough washing and sponging, preliminary cleansing of the bowel are, of course, required. He asserts that the advantages of the operation are as follows: "1. The sphincter is not injuriously dilated; 2, the wound is not open to infection from the bowel; 3, the blood supply to the pile-bearing area is obliterated; 4, in the majority of cases little and in some no tissue is excised; 5, healing is rapid; 6, recurrence is a rarity."

64. **Deciduoma Malignum.**—Ladinski reports a case of this disorder and analyzes the symptoms. He considers it a special form of malignant disease associated with the reproductive function and different from the ordinary malignant uterine growths. The clinical features which should aid us in reaching a diagnosis are: "1. History of recent parturition or abortion, especially if a hydatid mole has been discharged or placenta retained; 2, profuse hemorrhage occurring at irregular intervals, without apparent cause, not amenable to the ordinary means of treatment and which recurs in spite of repeated curettages, there being a constant sanguineous discharge during the intervals between hemorrhage; 3, a persistently large and hyperplastic uterus and cervix, with a patulous os; 4, pain in the pelvis; 5, anemia, rapid loss of flesh and strength and cachexia; 6, characteristic nodule in interior of uterus in the early stage; 7, the presence of metastatic deposits, especially in the vagina and lungs, the latter producing cough and bloody expectoration." The prognosis is bad though there are records of 51 recoveries out of 124 cases. It should be remembered that recoveries are reported where only the immediate results of treatment are recorded and the mortality loss would probably be much increased if the data were complete. The causes of death in these cases were metastases in other organs in 47 cases, labor and exhaustion in 20, perforation of the uterus and uterine hemorrhage in 4 cases, operation, shock and sepsis in 2 cases. The lapse of time between the termination of pregnancy and death as it occurred after mole, labor at term or abortion were from three days to six years in mole, and two weeks to one and one-half years in abortion cases and from one to nine months after labor at term. The average was from four to six months. The only treatment is the operative; especially in any case of hydatid mole the pregnant uterus should be emptied as soon as possible after the character of the pregnancy is ascertained. If microscopic examination of the cyst shows any atypical proliferating cells or if there are any symptoms of malignant degeneration of the uterus, he thinks it is within the limits of conservatism to agree with Neumann that the uterus should be extirpated. Every patient whose history is the least suspicious should be submitted to a microscopic examination and thorough exploration at the earliest possible opportunity. The paper ends with summaries of 132 authentic cases and an extensive bibliography.

65. **The Menstruating Uterus.**—From a study of the subject and the literature, Findley concludes that menstruation is shown to be not a shedding process; the loss of epithelium is purely accidental and limited. Previous observations which indicate it otherwise were at fault in the selection of material which had undergone cadaveric and degenerative changes.

66. **Short Cord.**—Brickner calls attention to a symptom of short cord, consisting of frequent, jerky discharge of urine in the intervals of the pains of the second stage, which is easily interpretable, significant of the condition and of no other, and logically explainable. He summarizes the diagnostic points of short cord in the order of their importance as follows: "1. Recession of the head in the intervals of pains; 2, urination in small quantities in the intervals of pain after the establishment of the second stage; 3, arterial bleeding during and between uterine contractions; 4, pain over the placental site, especially during a uterine contraction or during the application of the forceps; 5, a desire of the patient to sit up; 6, uterine inertia."

67. **Appendicitis.**—From a microscopic study of selected cases of appendicitis Manton concludes that: "1. Appendicitis is never an uncertainty, never a doubtful condition. 2. It is in all its forms a serious disorder, fraught with the gravest dangers to somatic health and life itself. 3. It is always a surgical disease and, as such, should not be subjected to the dangers and insufficiencies of medical treatment."

73. **Albuminuria in Pregnancy.**—The significance of albuminuria in the urine in pregnancy is considered less important by Morse than it is usually held. The weight of evidence, he thinks, seems to be against the reliability of albuminuria as a symptom of serious importance and careful urinary analyses show definite relation between urea and the development of toxic symptoms.

78. **Tuberculosis of the Testicle.**—This article is a review of the literature and of the various opinions of authors. Abell finds the following deductions warranted: The epididymis is the most frequent starting point of urogenital tuberculosis. It is usually secondary to some other focus, but may be a primary deposition. The testicle is rarely primarily affected, but as a rule secondarily so from the epididymis. When the epididymis is primarily infected through the blood supply, the process is probably an intratubular one; the same is the case when it is secondary to other urogenital foci in other parts of the genital tract, and even distant lesions do not necessarily contra-indicate operation, since, when operated early, there is evidence that the foci in the genital tract recover as a rule and frequently healing of a distant lesion has been observed following the operation. Castration should be limited to those cases in which the process has invaded the testicle proper. Epididymectomy with high resection of cord after the method of Villeneuve is to be practiced in all other cases.

87. **Pyloric Stenosis.**—The symptoms of this condition are described by Saunders and several cases reported. He notes the intermittent character of the symptoms in some cases and suggests a spasmodic action of the pylorus with secondary hypertrophy as held by Thomson and Pfaundler. The treatment should be the use of some drug that will overcome the violent contraction of the pylorus, as such he recommends belladonna, bromids and chloral. Opiates should not be given, as they impair the function of the stomach. For the treatment of secondary gastric irritation, the stagnated contents should be washed out and rectal feeding resorted to from time to time; nothing but water being given by the stomach for twenty-four hours or more. When oral feeding is again resumed, the stomach should be washed out occasionally to remove a possible residuum of undigested food. The diet should consist of food which forms no coagulum in the stomach, and this has not been sufficiently emphasized. Milk or any food containing undigested casein will not answer, therefore breast feeding by the mother is usually unsuitable, while the milk of a wet nurse in advanced lactation may succeed. Whey or peptonized milk or a mixture of both is generally the best food. The deficiency in fat should be supplied by cod liver oil, and a very small percentage of cream may be gradually added. The end to be accomplished is hypertrophy of the gastric wall without dilatation, hence the quantity of food should not be large. Gaseous distension of the stomach should be prevented. When the infant is failing in spite of rational treatment, surgical intervention should be advised.

88. **The Leucocyte Count in Children's Disease.**—Head, from his study of the subject, concludes that the blood count in sick children from two years upward is as noticeable and fixed as in adults suffering with the same diseases, and the information furnished is as reliable. The procedure should be followed more generally by physicians.

89. **Enlarged Bronchial Lymph Nodes.**—Friedlander finds this to be a very frequent condition. In 123 autopsies made at the New York Foundlings' Hospital, tubercular lymph nodes

were found in every case irrespective of the cause of death. The mechanism of the introduction of bacilli to the parts is explained; it is frequently from adenoids. The outcome, however, is generally favorable if properly treated. The principal early symptom is a peculiar paroxysmal cough, with frequent attacks at night and dyspnea without cardiac lesions. The physical signs may be lacking at this stage. Broadly stated, the physical signs of enlarged bronchial lymph nodes are always those of compression; inspection and palpation may afford suggestive facts. Percussion and auscultation may often be of value as may be dulness over the sternum and exaggerated respiratory murmur in the interscapular region. Cough without known cause, anemia, indigestion, etc., especially after the acute exanthemata, must be suspected. The main articles of diet should be milk, eggs and meat, with plenty of butter. An excess of starchy foods should be avoided. The patient should be kept in the open air and taken from school. The bowels and kidneys should be kept active. Three drugs are of special value, iodid of iron, cod liver oil and creosote. Creosote itself has apparently a specially good effect on the enlarged nodes. We must be prepared to arrest definitely a localized tuberculosis before general infection has ensued.

92.—See abstract in The Journal, xxxvii, p. 853.

97. **Compression of Carotids.**—In 18 cases reported by Crile, one or more carotids were closed, both in 10; one common carotid in 5; and one external carotid in 3. In all there were 28 closures of individual vessels. The ages of the patients varied from 7 months to 69 years. There were no deaths attributable to the temporary closure of the arteries and no later cerebral effects. Less anesthetic is necessary with closed arteries, especially in the cases in which common carotids are closed; there may be an embarrassed respiration. There were no appreciable late effects upon the vessel walls at the point of clamping. The operating time was much diminished on account of the freedom from blood, and the amount of blood lost was very much less. The application of the clamp may be accomplished through a very small incision and in several minutes. The proper interpretation of a slowed or of an accelerated pulse or of reflex inhibition of the heart from mechanical stimulation of the vagus or its branches by the use of atropin and cocain, the safe and absolute control of hemorrhage by temporarily closing the carotid arteries render operative procedure of the head and neck so much safer as to greatly increase the surgical possibilities. The compressing clamp blades were covered with rubber tubing, and the walls only approximated, not compressed.

99. **Prostatectomy.**—Syms describes his method and experiments and holds that prostatectomy is a primary and practical surgical procedure in suitable cases. It should be employed early. He believes prostatectomy by the perineal route to be the safest method thus far proposed for the radical cure of these great sufferers.

100. **Intestinal Obstruction from Meckel's Diverticulum.**—Halstead reports a case and describes the different methods in which the diverticulum may produce intestinal obstruction. He has collected 69 cases from the literature showing the treatment and operation in these cases. It is notable that among the last few cases reported, mostly by Chicago operators, the recovery rate was greatly in excess of the average in the literature of this condition.

101. **Meckel's Diverticulum at the Navel.**—This paper by Hubbard describes the origin of diverticulum patent at the navel, discusses the diagnosis, treatment and prognosis and reports a case of his own observation which was operated on with success. The existence of fistula discharging fecal material at the navel is essential for the diagnosis. The history is of importance to distinguish it from abscess and umbilical hernia caught in the ligature about the cord and left as a fistula by the falling of the cord. Umbilical hernia also protrudes on coughing or straining, which a diverticulum is said not to do and its outside is covered by serous, not mucous membrane. In the later stages the diagnosis may be more difficult. An open urachus must also be distinguished. The direction taken by the probe and the character of the discharge are the main points of difference. Spontaneous cure is a rarity. Compression should be made as soon as the diagnosis is complete, but in complicated cases operation seems to afford the only chance of cure.

104.—This article appeared in The Journal of March 29, p. 803.

110. **Perforation of the Nasal Septum.**—This condition is not infrequent, it may occur at all periods of life and Richardson thinks it possible that it may be congenital. The most frequent type is that from syphilis. The characteristic local lesions of the disease, of course, must be noted. There are certain cases, however, where there is no pathologic evidence of organic disease. Among them are probably rare congenital cases. All cases where the perforation is slightly within the osseous septum involving the cartilage and bone, in which trauma, tuberculosis and lupus could be excluded, Richardson would without hesitation regard as syphilitic, even without history or evidence of constitutional taint. The possibility of producing perforation by boring with the finger-nail against the septum is hardly to be considered as tenable. All the theories advanced are enumerated by the author, and except Rosenfeld's, have in common a localized change taking place in the arterial supply to a limited area of the septum. It may be due to irritation, by drying of the mucosa, etc. He himself is inclined to believe in a destruction of the innervation of the cartilaginous septum whereby the resisting power of the structure is so impaired that an ulceration with molecular destruction of the cartilage takes place. Preponderance of perforation of the cartilaginous septum in persons affected with tuberculosis or with strong tubercular histories is rather more than a simple coincidence and he thinks that these infections are liable to produce a lack of resistance which may lead to degenerative changes with or without the characteristic histologic elements of tuberculosis.

114. **Syphilitic Lesions of the Nose.**—The salient points here noted by Cobb are summed up as follows: "1. Internal medication should be pushed to the limit of toleration for the individual case. 2. Prolonged hot baths are of use in bringing the patient quickly under the influence of antisyphilitic medication. 3. In syphilitic lesions of the nose and throat, we have infection by other bacteria and must therefore use antiseptics freely. 4. The local use of mercurials renders these lesions as amenable to treatment as external syphilitic ulcerations in other parts of the body."

115. **Laryngeal Tuberculosis.**—Brown has used intratracheal injections for chronic laryngitis and laryngeal pulmonary tuberculosis in a number of cases with advantage, using the same material as is used for stimulating sprays, viz., 1 to 2 per cent. menthol, .5 to 1 per cent. thymol, and 1 per cent. guaiacol and creosote solutions. Every patient that has been treated thus far has experienced benefit.

116. **Treatment of the Eustachian Tube by the Electro-Bougie.**—Harris draws the following conclusions from his experience as regards the use of the electro-bougie in morbid conditions of the Eustachian tube: "1. The electro-bougie has a place in our aural therapy—though a less important one than was at first supposed. 2. It should be used after and not before other methods of treatment. 3. It will be most liable to fail if any associated internal ear disease is present. 4. Its results are not always permanent—the stricture may reform—we may hope rather for a diminution than a disappearance of the tinnitus. Two cases were totally and 2 partially relieved out of 25. 5. Its use is not without danger—a proper knowledge of the anatomy of the parts and of the technic is essential. 6. It is a question whether the process is a true electrolytic one, or if in many instances the obstruction is a true fibrous stricture."

123. **Fistula in Ano.**—The following are the points made by Gant in regard to the relations of fistula in ano to tuberculosis: "1. Tubercular fistula of the anus is usually secondary to phthisis. 2. Pulmonary tuberculosis is rarely, if ever, secondary to anal fistula before or after operation. 3. Tuberculosis of the anal region should be dealt with as radi-

cally as when it attacks other organs. 4. When the patient's condition permits we should operate on fistulæ irrespective of kind. 5. We should not decline operations in persons suffering from chronic phthisis, nor in those who give a family history of tuberculosis. 6. Patients operated on for tubercular fistulæ complicated by phthisis and patients who are non-tuberculous but suffer from some involvement of the lung, and who rapidly decline and die after the operation, do so from an inflammation of the lungs induced by the anesthetic, especially ether. Such accidents have not followed operations in my practice where local anesthesia was employed. 7. Lastly, I believe we are justified in discarding the teachings of writers who teach that the cure of fistulæ will result in the development of phthisis."

124. **Typhoid Fever.**—Robin describes his method of preparing active cultures of typhoid germs for the Widal test and for Ehrlich's diazo-reaction. We have not space to reproduce the details here.

136. **Molluscum Contagiosum.**—From a careful study of the growths in this condition, which includes examination of several hundred sections in tumors, and of the literature, White and Robey conclude that no one has ever demonstrated any parasitic body in the growth and that the change is not a colloid or hyalin degeneration, but rather an extraordinary metamorphosis of rete cells into keratin.

137. **Malignant Tumors.**—From the results of culture experiments which are tabulated Richardson confirms the finding of his previous experiments that it was impossible to cultivate from the tissues and fluids of malignant new-growths anything which can be regarded as a specific infecting organism.

139. **Relation of Blastomycetes to Cancer.**—From experiments reported and a study of the results obtained by others, Nichols finds that certain blastomycetes can live and multiply in human and animal tissues, produce local lesions and metastases in the internal organs, that is, they are pathogenic. The lesions produced in animals by spontaneous infection are acute inflammations and abscesses or nodules of peculiar granulation tissue. This proliferation of epidermis is not analogous to the proliferation of epithelium seen in cancers, since no epithelial metastases occur. Blastomycosis in human tissues is rare. The lesions produced in animals are, with the exception of Sanfelice's "successful" cases, inflammations or nodules of peculiar granulation tissue. He describes Sanfelice's results as being in direct opposition to other writers and logically explained by coincidences and not as results. Blastomycetes, as a rule, cause marked proliferation of tissue and little infiltration with leucocytes; their toxic powers are small. They primarily extend along lymphatic clefts and vessels, rarely in human beings, and more often in spontaneously infected animals blastomycetes may be taken into the blood vessels, carried through the body, and produce a general infection and metastases. The secondary nodules have the same general character as the ordinary ones. The morphology of so-called "cancer bodies" is not identical with that of the blastomycetes, and they are not constantly present in human malignant tumors and cancers. Even if they do occur in human cancers they are not in such numbers and in such a relation to the anatomic lesion as to justify the belief that they are the cause of the disease. All the facts lead to the ultimate conclusion that there is no evidence that blastomycetes have anything to do with the production of human cancers.

141. **Cancer.**—Nichols offers the following summary as the result of the lines of work pursued during the past year under the direction of the Cancer Commission: "1. The lesion produced by the coccidium oviforme is essentially a process of chronic inflammation and is not analogous to the lesion seen in cancer. 2. The lesion in molluscum contagiosum is characterized by certain changes in the epidermis, is not due to the action of a protozoön and is not analogous to cancer. 3. The so-called "blastomycetes" (saccharomycetes) of Sanfelice and Plimmer are torulæ. 4. The lesions produced by these blastomycetes are essentially nodules of peculiar granulation tissue and not cancerous, not in any sense true tumors. 5. Blastomycetes are not constantly present in human cancers. 6. The peculiar bodies seen in the protoplasm of cancer cells are not parasites, nor the cause of the lesions, but probably are, in part at least, atypical stages of the process of secretion by glandular epithelium."

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), April 19.

1 A Series of Cases of External Operations on the Larynx. A. Marmaduke Sheild.
2 *Some Observations on Thirty-five Cases of Chronic Suppuration of the Maxillary Antrum. Herbert Tilley.
3 *The Treatment by Asch's Operation of Deviations of the Nasal Septum. Eugene S. Yonge.
4 *The Influence of Nasal and Nasopharyngeal Obstruction upon the Development of the Teeth and Palate. A. L. Whitehead.
5 Foreign Body in the Esophagus. John McKenzie.
6 *The Causation of Death During the Administration of Chloroform. E. H. Embley.

The Lancet (London), April 19.

7 Some Abnormal Psychic Conditions in Children. George F. Still.
8 *The Comprehensive Study of Thoracic Phthisis. F. T. Roberts.
9 *Organotherapy. Arthur T. Davies.
10 A Case of Purulent Peritonitis Associated with Empyema; Recovery. Henry Ashby.
11 Two Cases of Paralysis Agitans in the Same Family, in Which Improvement Followed the Administration of Hyoscin. Judson S. Bury.
12 *On Cardiac Inadequacy. Alexander Morison.
13 Pyrexia of Gastrointestinal Origin During the Puerperium. Ethel M. N. Williams.
14 Primary Carcinoma of the Ampulla of Vater. F. De Havilland Hall.

Glasgow Medical Journal, April.

15 *The Antitoxin Treatment of Diphtheria in the City of Glasgow Fever Hospital, Belvidere, During Six and a Half Years. John Browniee.
16 Some Cases from Rothesay Cottage Hospital. J. N. Marshall.
17 *On Obstruction of the Coronary Arteries. John M. Cowan.
18 Surgical Diseases of the Kidney: Their General Symptomatology and Physical Diagnosis, with Illustrative Cases. (Continued.) David Newman.

Australasian Medical Gazette (Sydney, N. S. W.), March 20.

19 Address in Medicine, Intercolonial Medical Congress. James Jamieson.
20 Address in Obstetrics and Gynecology. Ralph Worrall.
21 Address in Surgery. Louis E. Barnett.
22 Address in Public Health. Thomas Cherry.
23 Notes on Intussusception, with a Case in Which Three Inches of Bowel Were Removed for Gangrene—Recovery. Eneas J. McDonnell.
24 Trichina Spiralis. E. Angas Johnson.
25 The Treatment of Middle-Ear Suppuration. Richard Arthur.
26 The Light Treatment of Staphylococcus Pyogenes Aureus. J. Cappie Shand.

Praktitchesky Vratch (St. Petersburg), i, 7 to 12.

27 *Pleuritis from Malignant Disease. N. D. Titoff (Moscow).—"O rakovykh pleuritakh."
28 Two Cases of Defective Development of Uterus. I. E. Tchernomordik.
29 Treatment of Acute Poisoning by Opiates. Velyamovitch.
30 Surgery in Country Practice. Archangelskaya.
31 Cystoscopy and Catheterization as Differentiating Measures. I. E. Hagen-Thorn.
32 Asthma Dyspepticum. M. Einhorn (New York).

Annales d'Hygiene Publique (Paris), xlvii, 1 to 4.

33 *Diseases and Accidents Which May Simulate Poisoning. P. Brouardel (Paris).
34 A Few Instances of Medical Responsibility. M. Maxwell.
35 Industrial Accidents in Germany. E. Galebowski.
36 Mental Forms of Alcoholic Intoxication. L. Mayet.
37 Canned Meats. Report of Committee.
38 Amnesia from Medicolegal Standpoint. P. Garnier.
39 Alcoholism in Morocco. L. Raynaud.
40 The Family of Consumptives. E. Mosny.
41 Plague Bacilli Found in Mosquito in Sick Room. La Bonnardière.
42 Text of New Public Health Law in France.
43 Rations for Cavalry and Infantry. A. Baliard.

Annales de l'Inst. Pasteur (Paris), March.

44 Streptococcus Toxin. A. Marmorek (Paris).
45 Unity of Streptococci Pathogenic for Man. Ibid.
46 Study of Mushrooms. G. Bertrand.—"Sur le bleuissement de certains champignons du genre boletus."
47 Malaria in Algeria. A. Billet.
48 Study of Utilization of the Ternary Aliments by Vegetables and Microbes. P. Mazé.

Bulletin de l'Acad. de Med. (Paris), April 8.

49 Fine Effect of Injections of Antistreptococcus Serum in Three Cases of Smallpox. Schoull (Tunis).
50 *Hospitals and Universities in the U. S. P. Kahn.
51 *Goat's Milk for Infant Feeding. Barbellion (Paris).
52 *Resolutions on Preventive Serotherapy of Diphtheria.

Progres Medical (Paris), March 29 and April 5.

53 Transverse, Supramalleolar Fracture of the Tibia. P. Laurens.

54 *New Process of Dental Analgesia by Means of Electricity. Regnier and H. Didsbury.
55 *Alimentary Treatment of Glycosuria, Albuminuria and Hemorrhages with Gelatin. M. Laffont.
56 *The Question of Parasyphilis. Leredde.

Revue Mens. Mal. de l'Enfance (Paris), March.

57 *Medicated Milks—Iodized Milk. M. Flamini (Rome).
58 Case of Lymphocythemia. Rocaz.—"Lymphocythémie aigue avec hypertrophie du thymus chez un enfant de quatre ans."

April.

59 Non-Suppurative Meningitis. Hutinel.—"Méningisme, Méningites séreuses."
60 *Harmlessness of Epidural Injections in Children. F. Cathelin.
61 Rare Forms of Tetanus in Children. S. A. Roger.

Revue de Chirurgie (Paris), April.

62 *Posterior Gastro-Enterostomy. F. Terrier.
63 *Thoracoplasty for Chronic Purulent Pleurisy. A. Mignon.
64 Existence in the Horse of an Affection of the Bones Analogous to Paget's Disease. L. Dor (Lyons).
65 *Congenital Luxation of Patella. G. Zesas (Berne).

Allg. Med. Cent.-Ztg. (Berlin), March 26 to April 12.

66 Action of Heroin. I. I. Grinewitsch.
67 Urethral Discharges. A. Seelig.—"Ueber Harnröhrenausflüsse."
68 *Aspiration of Perimetritic, Paranephritic and Peritonitic Exudates by the Fallopian Tubes. E. Below.
69 Chinosol. F. Kipp.
70 Luxation of the Humerus Complicated by Tearing Off of the Greater Tuberosity. Illustrated. G. I. Turner.
71 Disturbances in Evacuation of Urine. A. Seelig.—"Ueber Störungen der Harnentleerung."
72 Review of Recent Works on Path. and Ther. of Affections of the Cecum.
73 Breeding Healthy Human Beings. Heddaeus.

Beitraege zur Klin. Chir. (Tuebingen), xxxiii, 1.

74 *Caput Obstipum. F. Volcker (Heidelberg).—"Das Cap. ob.—eine intrauterine Belastungsdeformität."
75 Gas Phlegmons in Man. A. Stolz (Strassburg).
76 Case of Gangrenous Umbilical Hernia Cured by Resection of Liver. H. Rothe (Breslau).
77 *Incarcerated Hernia. Ibid.—"Beitrag zur Statistik der Inc. Hernien."
78 *Solidity of Cicatrix After Laparotomies. R. Pichler (Breslau).—"Die Festigkeit der Bauchdeckennarbe nach Lap. bei der primären Naht und bei der Mikulicz-Drainage."
79 Remote Results of Langenbeck's Operation for Hemorrhoids. L. Talke (Köulgsberg).
80 Wounds from Firearms. P. Linser.—"Ueber die in der Tuebinger Chir. Klinik, 1891-1901, beobachteten Schussverletzungen."

Centralblatt f. Chirurgie (Leipsic), April 5 and 19.

81 *Very Early Symptom of Pleuritis with Effusion. B. Przewalski (Charkow).
82 *Improved Method of Resecting the Knee. W. Sykow (Moscow).—"Zur Frage der Kniegelenkresektion."
83 *Manual Reduction of Luxations Without Narcosis. F. Roloff (Halle).—"Man. Reposition von Lux. ohne Nark."

Deutsche Med. Wochenschrift (Leipsic), April 10.

84 *Diagnosis of Pentosuria. M. Bial (Kissingen).
85 *Granular Degeneration of Red Corpuscles. W. Loewenthal.
86 *Chronic Appendicitis. R. Lenzmann (Charlottenburg).—"Weitere Beob. ueber Appendicitis chron."
87 Congenital Fissure of the Neck of the Femur. C. Helbing.—"Ueber cong. Schenkelhalsfissur."
88 *Treatment of Ulcus Ventriculi. C. Pariser (Homburg).
89 Extragenital Syphilis in Vienna. Neumann.
90 Extensive Varices on Trunk Consecutive to Pneumonia. L. Lipman-Wulf.

Muenchener Med. Wochenschrift, April 8.

91 *The Bone Marrow in Infections Diseases. E. Fraenkel (Hamburg).
92 Study of Rhodan Combinations. G. Treupel (Freiburg i. B.).—"Untersuchungen ueber Rhodanverbindungen."
93 Subluxations in Congenital Dislocation of the Hip-Joint. W. Walther (Hof).—"Ueber Sublux. bei der angeb. Hüftver."
94 *Rinsing the Stomach with Nitrate of Silver Solutions. F. Ehrlich (Stettin).—"Ausspülungen des Magens mit Höllensteinlösung-ein therapeutisch und diagnostisch wirksames Cholagogum."
95 *Production of Nerve Stimulants by the Organism. Adler (Breslau).—"Darstellung von Energeticis durch den Org."
96 Anomalies in Gait and Attitude in Hysteria. J. Riedinger.
97 Primula Obconica as Cause of Disease. Dreyer (Cologne).
98 Changes in Color of Hair. W. G. Weinberg (Dortmund).
99 Modern Sanatoria for Infants. F. Sieger (Strassburg).—"Mod. Säuglingsheilstätte u. ihre Bedeutung f. d. Aerzte."

Zeitschrift f. Heilkunde (Vienna), xxiii, 1.

100 Vaginal Tuberculosis. C. Springer (Prague).—"Zur Lehre von der Genese der Vag.-Tub."
101 Branchiogenic Carcinoma. G. Joannovics (Vienna).—"Ueber branch. Carc. und auf embryonale anlage zurückzuführende cystische Tumoren des Halses."
102 *Bacteriemia. R. Kretz (Vienna).—"Ueber Bacteriämie."
103 Ankylosis of Spine. F. Reuter (Graz).
104 Case of Perforation of Bladder by Papillomatous Excrescence from a Dermoid Cyst in Left Ovary. C. Muench (Geneva).

xxiii, 2.

105 Glycosuria in the Insane. E. Raimann (Vienna).
106 Urine of Human Fetus. T. Panzer (Vienna).
107 Akataphasia as Result of Focal Affection. A. Pick (Prague).—"Ueber Agrammatismus als Folge von Herderkr."
108 *Clin.-Therap. Study of Tetanus. T. Pfeiffer (Graz).
109 Acetonuria in Typhoid Fever. R. Bernert (Vienna).—"Ueber Acetonurie bei Typhus Abdominalis."

L'Egypte Medical (Alexandria), January.

110 Colpotomy in Pelvic Suppuration. J. Roger (Alexandria).—"De la colp. dans les sup. pelv."
111 *Artificial Post-Operative Lagophthalmos in Egypt. A. Osborne.—"Le lag. artificiel post-op. en Egypte."
112 Note on a Septicemic Disease of Certain Animals in Zoological Gardens of Cairo. W. St. C. Symmers.

February.

113 Hysterectomy in Puerperal Infection. Mauclaire (Paris).
114 *Surgical Aspects of Bilharzia of the Rectum. F. Madden (Cairo).
115 Serotherapy of Streptococcus Affections. Voronoff (Cairo).—"Sérothér. des aff. strept."

March.

116 Modern Lithotrity. Kallionzis (Athens).—"La lithotritie mod."
117 Mercurial Injections in Syphilis. Trekaki (Alexandria).—"Les inj. merc. dans la syph."
118 Modified Thoracoplasty for Liver Abscess Perforated into Bronchus. Goebel.—"Modif. du procédé de Schede-Estlander."

Prager Med. Wochenschrift, March 13 to April 10.

119 Electrotherm Compresses. E. Lindemann (Berlin).—"Elektrisch erwärmte Umschläge."
120 Explanation of Irregular Pulse. H. E. Hering. (Commenced in No. 1.)
121 Bacteriologic Diagnosis of Diphtheria. Salus and Others.
122 Treatment of Articular Rheumatism with Electric Light Apparatus. E. Lindemann.—"Behandlung mit Glüh- und Bogenlichtapp."
123 (Case Reports.) Lues Cerebri. Gruenberger.—Hereditary Ataxia. Stein.

---

2. **Antral Disease.**—After first describing the anatomy and variations of the maxillary antrum, Tilley passes to its affections. His experience leads him to believe that dental caries is by far the most frequent cause of chronic antral empyema. Although the crown of the tooth may seem healthy, there may be disease at its roots, carrying infection to the antrum. Abscess may be present between the roots of a tooth which possesses a healthy crown. The supposition that the dental trouble is secondary is hardly reconcilable with the histories of the cases. In some of his cases on which this paper was based, the ethmoidal, sphenoidal and frontal sinuses were also involved. The symptoms are diverse and the frequency of their variation is one of the striking features of chronic antral suppuration. A straightforward case manifests itself by purulent nasal discharge, the patient only being conscious of an offensive smell. There may be also a congested or polypoid state brought on in the nasal mucosa and various degrees of nasal obstruction. During sleep the discharge tends to pass back into the pharynx, producing, on awakening, hawking and sniffling in the morning. Still more serious symptoms that call the patient to seek relief are headache and neuralgia—which may be intense; and the gastric symptoms due to gastritis from swallowing septic matter. Pharyngeal and laryngeal irritation may occasionally be present, and in less frequent cases aural symptoms also occur. In one of his patients the symptom that led him to seek relief was the occasional discharge of blood into the mouth from the back of the nose. Taken altogether, he believes that antral suppuration is more common than is generally assumed and that many cases are overlooked. In making the prognosis, we must consider the original infections. The purely dental cases are the most hopeful. The period of time which has elapsed and the consequent degenerative changes, the general health of the patient, the persistence and regularity with which he will follow the prescribed treatment are also to be considered in the prognosis. If, with the symptoms mentioned, purulent discharge is seen in the middle meatus which accumulates after removal when the head has been held for a few minutes so as to drain the ostium and on transillumination the suspected antrum is less translucent than its fellow, the diagnosis is aided. Finally, intranasal exploration and irrigation of the antrum will give conclusive proof. In using transillumination we should remember that it is the infra-orbital translucencies rather than those of the cheek which must be compared. The opacity is due to a thickened mucous membrane of the antrum and not to an accumulated discharge and there is the possibility of mistakes from a tooth plate left in the

mouth. Intense opacity in an adult extending from the orbit to the lower part of the cheek, and associated with pain and distension of the cheek, should suggest malignant disease. The treatment comprises two methods: the first is by drainage and irrigation through the opening in the alveolus, kept patent by a silver tube. The opening is generally made through the socket occupied by the first molar or the second bicuspid. The tubes should be removed twice daily, and some simple antiseptic lotion like boracic solution or Condy's fluid injected by a suitable syringe. The best form of the latter is a modification of Higginson's enema syringe. These injections may be less frequent as the discharge diminishes; even after the interval of a week, if no discharge returns with the lotion, the tube may be removed and the case considered cured. Occasionally the hemorrhage following alveolar puncture may be a little troublesome; neuralgia has been caused by too large a tube. In 34 of the 35 patients this was the method of treatment. In but one case was the second method employed, namely, the radical operation or exposure of the anterior surface of the antrum through an incision made along the gingivo-labial fold extending from the level of the first molar to the canine tooth, and removal of a portion of the antral wall the size of a sixpence followed by curetting of the diseased mucous membrane lining the sinus. A counter-opening is made into the inferior meatus of the nose, which should be as large as the other. After thorough disinfection of the parts the sinus is plugged with a strip of antiseptic gauze, the proximal end of which is passed through the naso-antral opening and cut off level with the nostril. The bucco-antral wound is united by fine sutures, or allowed to close by granulation as rapidly as possible. The packing is removed from the nose in forty-eight hours and irrigation is kept up through the naso-antral opening for some three or four weeks, by which time the discharge should have ceased. He believes the alveolar method should be advised in the first instance because of its simplicity, drainage from the most dependent part, and the ease and shortness of the operation. The only exception he would make would be with a patient whose circumstances demand as short a treatment as possible and in whom one found the nasal mucosa in the middle meatal region in such a state of advanced polypoid degeneration as rendered it practically certain that a similar condition was present in the antrum where the only chance for success would be careful curettage followed by free drainage. He mentions the infrequency of this operation because it has been recommended as a general operation by other authors.

3. **Asch's Operation.**—Yonge reports his experience with this method and finds that it is one of considerable value, which runs the risk, however, of being very imperfectly carried out. The operation should be very carefully performed and the surgeon satisfied that recalcitrant segments are thoroughly broken at their bases. The patient must not be allowed to look after himself, but be carefully watched for at least ten days and the surgeon should make sure that the septum is solid in its new position.

4. **Palatal Deformities.**—Whitehead's article reviews the theories of the agency of nasal and pharyngeal disease in the production of palatal deformities and holds that no single one is sufficient to fully explain their mode of production. It is certain, however, that interference with nasal respiration is capable of producing serious and extensive degeneration of the teeth and jaws, and that, by the restoration of nasal breathing, this disfigurement of the maxilla can be prevented, and, if seen at an early stage, alleviated, the constant stream of air developing and expanding the upper jaw.

6. **Chloroform.**—This final article by Embley reviews the cause of the fall of blood pressure in chloroform administration. He finds that the drug causes a diminution in the vascular tone of arterioles. This is most obvious when it is practically kept out of the brain. The central vasomotor system is stimulated, at any rate for a time, by chloroform and the cause of the fall of blood pressure from the administration of chloroform is paralysis of the muscle cells of the heart and of the arterioles (provisional). The fall may be further augmented by slowing of the heart's rate, or suddenly brought to zero by vagus inhibition. The relation of asphyxia to syncope and the causes of respiratory failure are also investigated and the following conclusions deduced: Failure of respiration is mainly due to fall in blood pressure. With a good blood pressure, failure of respiration by inhalation of chloroform is practically impossible. Restoration of failed respiration is dependent upon restoration of blood pressure. Failure of respiration occurring in the induction or early period of anesthesia happens as frequently after as it does before the heart stops. The effects of chloroform vapor breath upon the respiration are summarized as follows: "1. The blood of the lungs, by once traversing the pulmonary capillaries, does not attain to nearly the same vapor tension of chloroform as that of the air inspired. 2. The vapor tension of chloroform in the arteries is the important practical question. As this rises and falls with the volume of chloroformed air inspired, also with variation in vapor tension of the chloroform in the air, it follows that the effects of chloroform upon the animal will vary with the depth and rate of the respirations, just as much as with the percentage strength of chloroform vapor in the air administered. 3. Chloroform in arterial blood is largely discharged into the tissues at first—that is, the vapor tension of chloroform in the venous blood is equal to that of the tissues. As the arteries continue to pour more chloroform in, the vapor tension of chloroform in the tissues and venous blood would gradually approximate that of the arteries. 4. The range of percentage of chloroform vapor in the air inspired, for inducing chloroform anesthesia in the same period of time in different dogs, varies between 0.8 per cent. and 2.5 per cent. 5. Two per cent. or upwards of chloroform vapor in the air inhaled is liable to bring on dangerous vagus inhibition." The general conclusions, which are briefly discussed, are that the heart muscle is very sensitive to the poisonous effects of chloroform. Chloroform raises the excitability of the vagus mechanism, particularly in the early part of the administration. The central medullary vasomotor system is stimulated, at any rate for a time, by chloroform and the failure of respiration in inhalation experiments is mainly due to fall in blood pressure. With a good blood pressure such fall is impossible and restoration of respiration is dependent upon restoration of blood pressure. The practical application of these results is not here considered, but one obvious moral is, use only weak vapor of chloroform (less than 1 per cent.) in the early stages, until the initial increased excitability of the vagus mechanism has given place to diminished excitability; in other words, take time in putting the patient under the influence of chloroform.

8. **Thoracic Phthisis.**—Roberts' third lecture reviews the various modes of onset, symptomatology, method of examination, both physical and general, including sputum examinations, tuberculin tests, agglutination tests, Roentgen rays, etc. The details are too numerous to be here given. He submits the following general propositions in regard to thoracic phthisis: "1. The natural tendency of phthisical mischief involving the lung, especially if definitely tubercular, is to be progressive, and even an early and limited lesion gives cause for anxiety with regard to the future. 2. There is no foundation whatever for the supposed 'three stages' of the complaint from a clinical point of view, corresponding to the pathologic states of consolidation, softening and cavity. This is a popular error which the profession should do its utmost to suppress. 3. In not a few cases the progress of thoracic phthisis is very insidious, without any prominent local symptoms; this may happen even in acute and rapid cases, as well as in those of a chronic type. 4. It is very remarkable how, in certain acute cases of pulmonary phthisis, if not too advanced, arrest of the disease takes place, sometimes ending in a practical cure, especially if the patient can be placed under favorable conditions. In other instances, after rapid progress, it settled down into a chronic and limited form of phthisis. Acute pleuritic cases of definitely tuberculous nature are, as a rule, very unsatisfactory in their progress, but some striking exceptions are met with. 5. While recognizing the tendency of phthisical lesions to advance progressively, we must always be fully alive to the wonderful efforts of nature to

oppose and withstand them, to check their progress and to repair the damage which they have caused, even when the morbid changes are definite, extensive and of a destructive nature. The more chronic the case, the more likely are these results to happen. At the same time unaffected portions of pulmonary tissue may become developed and utilized for respiratory purposes, a development which it should be our business to encourage and to help. 6. It is extraordinary sometimes to note the combinations of chronic conditions affecting the chest with which patients may not only live but even get on fairly comfortably, especially when their circumstances and surroundings are satisfactory and they are prepared to exercise moderate care. As to cavities which are generally regarded with such terror, there are thousands upon thousands of persons who go about with these lesions, many of whom do excellent work, public as well as private, and all must be familiar with such cases. 7. Phthisical cases are always liable to variations in their progress, improvement or even apparent arrest of the disease taking place, followed by exacerbation and further activity. A considerable number of cases of winter-cough are really of a phthisical nature. However quiescent a case may be, or even after a practical cure, the mischief is liable to start afresh, though it may be after a long interval; this is not an uncommon experience after a supposed cure by the open-air treatment. Accidental complications, sudden or acute, not uncommonly interrupt the course of events, being either serious for the time, but ultimately recovered from, or leading to an unexpected fatal termination very speedily or within a short period. 8. We must always be prepared for striking changes in the clinical aspect and phenomena of cases of thoracic phthisis during their progress, not only local, but also in relation to the various remote complications which may supervene. Hence a case often entirely alters in its features before the end comes. The final scene varies considerably in its characters, and may be very distressing; but in many instances the end is calm and peaceful, while the patient is, as is well known, generally buoyed up with hope even to the last. Sudden syncope is sometimes the immediate cause of death. Acute mania may supervene toward the close of life in chronic phthisis. 9. Another important point to be borne in mind is that sometimes a phthisical patient lingers on indefinitely when apparently almost moribund, especially when kept alive by devoted nursing and care. And further, an individual in advanced consumption who appears to be rapidly approaching the end occasionally rallies and picks up in a wonderful way, living for a long time afterwards, and, it may be, improving considerably. I remember several cases of this kind brought to the Brompton Hospital, their friends thinking that they had relieved themselves of all further responsibility, but the patients were afterward returned to their hands vastly improved, sometimes much to their disappointment." He suggests that we should be very cautious in the prognosis of these cases, especially as regards the future of the disease, as affecting the communities as well as individual cases. The "optimistic platitudes" now widely and dogmatically expressed are, in his opinion, doing serious mischief in various ways. Nevertheless, we should recognize the practical findings which have been made in the treatment, and the real diminution in the prevalence and mortality of the disease. He would warn the practitioner against anything like a definite opinion as to the duration of the disease.

9. **Organotherapy.**—Davies has reviewed the whole subject of organotherapy, giving the different extracts, etc., and the findings as to their therapeutic value.

12. **Cardiac Inadequacy.**—Morison reports cases of cardiac inadequacy of a heart small though hypertrophied, in which the defect under special conditions was, in part at least, the cause of the general decay and death of the organism. He thinks that, bearing in mind the underlying inadequacy or adequacy of cardiac action, we shall find the key to some of those circumstances of success or failure in the management of diseases and disorders of the heart which so frequently afford food for thought, and explain to some extent the secondary phenomena of cardiac failure.

15. **Diphtheria Antitoxin.**—The results of the antitoxin treatment in the Glasgow City Hospital are given here in tabulated form and discussed. The mortality at all ages has been greatly lowered, but Brownlee notices especially that the improvement has become more marked as the age period increases from 1 to 10 years. He also gives comparative tables of mortality in other localities in the pre- and post-antitoxin periods showing a similar reduction.

17. **Obstruction of the Coronary Arteries.**—The résumé of Cowan's article is given as follows: "1. The coronary arteries may be obstructed (*a*) at their origin; (*b*) in their course. 2. If the obstruction involves a main artery and the closure is gradual, compensatory enlargement of the other artery may prevent damage to the cardiac muscle, but perfect compensation is rare, and necrosis or fibroid change commonly ensues; if, however, the closure is rapid, sudden death is the usual result. 3. If the obstruction involves a small artery, no compensatory arrangement is possible, and the nutrition of the cardiac muscle will suffer, whether the closure is rapid or gradual. 4. (*a*) If the obstruction is partial, some of the muscle may degenerate (granular or fatty degeneration) and may ultimately disappear and be replaced by fibrous tissue. (*b*) If the obstruction is complete, some of the muscle will become necrosed (infarct) and the patient may die from slow cardiac failure or from rupture of the heart; if, however, the infarct is of small size, healing may take place, and a fibroid scar be ultimately formed."

27. **Malignant Pleuritis.**—Titoff describes four cases of cancerous pleuritis. The special points in diagnosing were the age—all of his patients were over 40 years old—the persisting pains on the same side as the lesion, the rapid reaccumulation of the exudate after puncture, the gradual transformation of the exudate from a serous to a sero-sanguine and hemorrhagic fluid, and most significant of all, metastases in the supraclavicular glands. This latter sign may not appear until very late. Other points are the discovery of bunches of cancer cells in the exudate. They were frequently found in his cases. The persistence of the pain is almost pathognomonic. In tubercular or rheumatic pleuritis the pains and dyspnea may be severe, but they always subside after puncture. In these cases the amount of the effusion remained about the same even after puncture. In none of his cases was the cancer complicated by pulmonary tuberculosis. In one patient the malignant character of the pleuritis was diagnosed at the second puncture, the fifth day after the patient had been received. It was founded on the rapid reassembling of the fluid after puncture, the slight fever and the absence of articular lesions and of tubercular bacilli in the sputa. The patient was well nourished and her appetite had been good, with no dyspeptic troubles. This case illustrates the difficulty of tracing a metastatic cancer to its primary focus. The autopsy disclosed an unsuspected scirrhus of the stomach involving one-third of the organ. About the only measures that afford relief are morphin or compresses of a 10 per cent. alcoholic solution of menthol. Puncture gives no material or permanent benefit.

33. **Diseases and Accidents which May Simulate Poisoning.**—Brouardel's extensive experience contains many remarkable instances of sudden death from auto-intoxication or from rupture of a viscus which deceptively simulated the symptoms of acute poisoning. He has known albuminuria and diabetes to run a chronic course unsuspected by the subject. A crisis resulting in death in a few hours may be the first revelation of the evil. Sometimes the toxic accidents of an incipient infectious disease are so violent that they mask the more familiar symptoms and suggest poisoning. Disturbance in the circulation in the intestines from an internal strangulation, hernia or impacted gallstone or fecal scybala may induce sudden fatal symptoms. Socquet found 800 gm. of impacted feces in one such case and 8 kgm. in another. Brouardel has himself observed 5 cases of unsuspected cylindric stricture and retention of feces which caused sudden death, 1 of tubercular peritonitis and 1 of a sarcoma of the mesenteric glands. The examining physician should look for and exclude an over-production of

alkaloids or interference with their elimination before assuming exogenous poisoning. He cautions always to think of the kidney in cases of sudden death. The inability to eliminate the toxins elaborated after an unusually hearty meal or alcoholic excess is the cause of many deaths under the circumstances which suggest poisoning. In a fourth or third of all cases of sudden death no lesion can be discovered to which it can be referred.

50. **Hospitals and Universities in the United States.**—Kahn has been visiting the hospitals and universities of this country on a "mission gratuite" from the French Department of Public Instruction. He has only words of the highest praise for the hospitals which receive pay patients and have a certain number of free beds. But he calls our public hospitals "rudimentary." He mentions Bellevue, New York, as a type, and observes that such institutions have less financial support than the others and are frequently dirty. He deplores the fact that France has nothing to compare with the admirable system of trained nurses here.

51. **Goat's Milk.**—Barbellion has for years been an ardent advocate of the introduction of goat's milk for infant and invalid diet. He describes tests which show that the coagulum is soft and very soluble, like that of human and asses' milk, while the coagulum from cow's milk is much more compact and difficult to digest. Comparative tests with gasterin showed that while cow's milk was scarcely affected by it during twenty hours, human, goat and asses' milk was completely digested. He reports a number of cases showing the remarkable manner in which infants thrive on goat's milk. The Académie voted in favor of his conclusions as to the advisability of establishing numerous goat milk depots throughout the city. One of the principal advantages of the goat for this purpose is that it is refractory to tuberculosis.

52. **Resolutions on Preventive Serotherapy of Diphtheria.**—The conclusions deduced from communications by Netter and others, reviewed in THE JOURNAL of April 19, p. 1045, were voted as resolutions by the Académie. Preventive injections were recommended as harmless and effective, and indicated in families and especially in boarding schools, hospitals, etc., when a case of diphtheria has developed. Even in the absence of a case of diphtheria, the preventive injections may be indicated in measles and scarlet fever wards. The preventive action is less positive in cases of measles. The dose must be larger and must be repeated more frequently. Preventive injections do not by any means enable one to dispense with disinfection and isolation. They merely render these measures easier and more effectual.

54. **New Process of Dental Analgesia by Electricity.**—Regnier, chief of the laboratory of electrotherapy at the Charité, Paris, and Didsbury, dentist to the hospitals, announce that the means of obtaining the analgesia of a living tooth has been discovered. It is the application of the high frequency current to the gum and tooth for three to five or possibly eight minutes. They use a current of 150 to 300 milliamperes with electrodes of "stent" lined with tin foil. The gum must first be washed with permanganate and alcohol and the chair be entirely free from any metal parts. Teeth can be extracted or scraped without pain during the analgesia thus induced.

55. **Alimentary Gelatin Treatment of Glycosuria, Albuminuria and Hemorrhages.**—Laffont and Lombard have already proclaimed their opinion that albuminuria, glycosuria and capillary hemorrhages all owe their origin to a single factor, some modification of the blood, which can be revealed by cryoscopy. Normal blood does not injure the liver, kidneys, etc., but if the composition of the blood becomes altered, the scene changes, and their experience has shown that if the blood can be restored to its normal composition, the glycosuria, albuminuria or capillary hemorrhages observed soon vanish. Whenever some nutritional disorder modifies the composition of the blood and its cryoscopic properties, the physician and the patient are warned of the change by albuminuria, glycosuria or a hemorrhage. Whether this syndrome is accompanied by an anatomic lesion or not, the condition is reparable if the cause which has produced and is maintaining it can be suppressed. Gelatin is able to accomplish this if taken in the amount of 15 gm. a day. It is a harmless means of treatment and there are no contra-indications. None of their numerous patients objected to the gelatin or found their digestion disturbed. It can be added to soups and other dishes or eaten as a jelly. In mild cases of diabetes the cure is the rule in ten to fifteen days. In all cases, the proportion of sugar to the liter decreases by about 10 gm. The length of treatment required in albuminuria is more variable. It should be kept up long after the subsidence of the symptoms. In case of hemorrhage from the uterus, the gelatin should be continued longer than for any other symptom, reducing it gradually to the ten days preceding the menses.

56. **The Question of Parasyphilis.**—This term—coined to denote affections of syphilitic origin but not of syphilitic nature—is denounced by Leredde, who thinks that it obscures the proper conception and treatment. Tabes and general paralysis can be referred to syphilitic antecedents in fully 90 per cent. of all cases, but the touchstone is the fact of their curability by intensive specific treatment. The half-hearted treatment instituted by most practitioners is of course ineffective, but the cure is almost certain when treated in the early stages by an injection of calomel every six weeks, with occasional intermissions of one or two months, and this treatment continued for three years. The longer the delay before instituting these vigorous measures, the greater the liability to secondary lesions and degenerations.

57. **Organic Medicated Milks.**—Flamini reviews the various attempts to produce a medicated milk by administering a drug to a cow or other milk-giving animal. The chief objections have been the uncertainty of the dose and the impairment of the health of the animal. Potassium or sodium iodid have always been the drugs experimented with, administered by the mouth. Flamini has been very successful in his experience with subcutaneous or endomuscular injections of a 5 per cent. oily solution of metallic iodin. The oily solution holds more of the iodin than an aqueous, while it is less irritating, and the elimination of the iodin in the urine proceeds much more gradually. He demonstrated that the drug was eliminated in the milk and in the urine, with twice as large a proportion in the urine. After the rabbit or goat was once saturated with the iodin, the elimination could be kept practically constant by injection of small doses at regular intervals of a few days. With these small doses the maximum of iodin in the milk was .12 gm. to the liter. A large proportion of the iodin in the milk is in combination with albuminoids, but more than half is in an organic combination. The composition of the milk does not seem to be altered by this addition of the iodin and the health of the animal does not suffer. His tests were made with rabbits and goats.

60. **Harmlessness of Epidural Injections in Children.**—Cathelin's technic for epidural injections of cocain, etc., has been already described in THE JOURNAL, xxxvii, p. 150, 793, etc. They have been found extremely useful in the treatment of sciatica, lumbago, neuralgia of trunk and viscera, tabic crises, incontinence of urine, lead colic, etc. He has applied them on eleven children between 7 and 15 years of age. He injected 5 to 15 c.c. of physiologic serum or a .5 per cent. solution of cocain. One child received as much as 19 cg. of cocain without the shadow of any inconveniences. He asserts that children bear these epidural injections perfectly and they can be used without fear or danger. Owing to the extensive network of intraspinal veins absorption is remarkably rapid, but these epidural injections are chiefly valuable as an anodyne and as a practical method. The child is placed in the Sims' position and the postero-inferior orifice of the sacral canal is easily found. It is comparatively larger in children than in adults.

62. **Posterior Gastro-Enterostomy.**—Terrier's mortality in 22 cases, in which he performed Hacker's transmeso-colic gastro-enterostomy, has been 4.54 per cent. Hacker has reported a mortality of 36.8 per cent., Mehler 65.2 and Haberkant 42.8

per cent. in 49 operations. Terrier ascribes his success in large measure to his practice of lavage of the stomach at the first indications of regurgitation, vomiting and fever. He describes his cases in detail and calls attention to the extremely grave condition of 7 patients who yet made an uneventful recovery. He thinks that we should discriminate between those lesions which oppose a mechanical obstacle to the gastric functions and those which determine a kind of general infection. Every stricture of the pylorus, organic or not, may rapidly entail an extremely serious condition. Alimentation becomes difficult or impossible and intervention is indicated regardless of the patient's serious condition. But in case of lesions which act by intoxication and generalization, whose development is almost fatally slow, a serious general condition may contra-indicate intervention. Even under these circumstances, however, the intervention may achieve an unexpected success as in 3 cases he describes. The various stages of the operation as he has slightly modified it are illustrated and described at length. He always orders lavage of the stomach and artificial serum beforehand but no purge, a rectal injection at the most. The operating room should be exceptionally warm and the abdomen covered with a warm cloth. He prefers chloroform and takes every precaution to keep the patient warm with hot cloths and bottles of hot water as soon as the operation is concluded, even before he awakes. No food is given for twenty-four hours. The mouth should be frequently rinsed with a solution of boric acid or natural Vichy water. Antisepsis of the mouth and frequent gargles are an important protection against infection of the parotid glands and septic broncho-pneumonia. He does not hesitate to apply lavage of the stomach whenever the tongue is dry and the patient has acid or bitter regurgitations and temperature. He repeats the lavage several times if necessary and always accustoms the patient to it beforehand. The post-operative diarrhea is combated by lavage of the stomach and large intestine, bismuth and laudanum. There have never been any evidences of the *circulus vitiosus* in his cases.

63. **Thoracoplasty for Chronic Purulent Pleurisy.**—The principles that have guided Mignon in this intervention were to drain the cavity and to fasten the outer to the inner wall of the pleural abscess. The drainage must be permanent, wide and thorough. It should extend across the entire width of the lowest portion of the cavity. The exact size and shape of the pleural abscess can be determined only by digital exploration. The shape of the thorax has to be altered to correspond. The ribs must be resected to the height required by the size of the pocket, and each rib resected for a distance a little longer than the transverse diameter of the corresponding portion of the abscess. In one case described, four operations were necessary before complete recovery. The abscesses shaped like a pyramid are liable to be most difficult to treat. He never curettes but brushes the walls of the thorax with dry gauze, rinses with hydrogen dioxid, drains with tubes and protects the surrounding skin with zinc oxid salve.

65. **Congenital Luxation of the Patella.**—Zesas has collected 64 cases of congenital luxation of the patella. Other members of the family were affected in the same way in 6. The age varied from a newborn infant to a man of 71. The luxation was bilateral in 31. It was complete and intermittent in 13; complete and permanent in 29. The tabulated cases show that all of the various methods of treatment devised to meet different conditions have been successful. The surgeon has only to choose for the individual case.

68. **Aspiration of Exudates by Fallopian Tubes.**—Below is convinced that the tube alters its position at times in order to aspirate exudates in the vicinity. He describes a recent instance in which he purposely elicited this function on the part of the tube. The patient was a woman of middle age, healthy except for rare attacks of renal colic. The pains at one time became unbearable and followed the right ureter, while a long tumor developed in the region of the ovary with indications of painful perimetritis. The vagina and uterus felt hot and dry. The latter behaved as if it contained placental debris, the os tightly closed. The urine was full of pus cells, the temperature febrile and the chills and pain had reduced the patient so that an operation was impracticable. He deliberately called upon the aspirating function of the tube under these conditions by inserting a glycerin tampon in the cervix after administering a senna purge. In a few hours the cervix was dilated and a large quantity of aqueous or purulent fluid was evacuated through the uterus, with the disappearance of the tumors and complete restoration of the patient, who was soon able to resume her usual occupation as the renal pains subsided under lithion.

74. **Caput Obstipum.**—The arguments and numerous cuts in this article seem to sustain Volcker's theory that wry-neck is due to a sideward deflection of the fetal head in the uterus. The ear on the lower side of the head is pressed against the shoulder, while the other ear is compressed by the uterine walls. Study of such cases shows that all the lines that unite corresponding points of the two sides of the head converge toward the side of the deformity. All the unpaired points of the head lie in a curved plane whose center of curvature is also on this side. The conditions can be restored approximately to normal if this conception is accepted and appropriate treatment instituted at once, massage and passive reduction, re-enforced by a simple starch cravat.

77. **Incarcerated Hernia.**—Rothe states that Mikulicz allows taxis only within the first twenty-four hours in case of crural and small inguinal hernia. In case of a large inguinal hernia with comparatively wide opening, cautious taxis may be attempted as late as the second or even the third day. He believes that a timely operation is incomparably less hazardous than taxis done too late. This article reviews 12 cases in which taxis alone was successful, and 97 requiring herniotomy, with 35 additional in which there was gangrene. In one of the latter cases the patient has been in perfect health since the intervention three years ago. The hernia was the size of a child's head and the small intestine was gangrenous at several points. It was resected for a length of 2.15 meters. The details of all the cases are given.

78. **Solidity of Cicatrix After Laparotomies.**—Pichler has lately re-examined the patients treated with and without Mikulicz's improved drainage. He finds that this drainage—even long continued—does not affect the ultimate cicatrix that forms. The results depend on the presence and the extent of the inflammation. When the drainage was applied merely as a preventive measure, only 30 per cent. of the patients displayed a tendency to hernia later, while only 30 per cent. are exempt out of those tamponed on account of an existing abscess or cystic cavity. The later rupture usually occurred within a year of the operation. The improved drain which Pichler urgently recommends is a square of gauze with a long, strong silk thread passed through the center. The gauze is folded from the center like an umbrella and the point is placed with forceps at the deepest point to be drained. A second and still another of these long pouches are inserted beside the first or nearer the surface. The loose ends of the gauze project from the wound, which is closed above and below. When the tampon is to be removed the folds of the gauze are lifted and loosened in turn while traction is exerted on the deepest portion by pulling on the thread in the center. This loosening is repeated several times before the gauze is actually removed, copiously irrigating the drain between the folds with a tepid aseptic fluid under weak pressure. The infectious secretions with which the drain is impregnated are thus washed out. About 10 to 20 gm. of pure or 5 per cent. carbolized glycerin are allowed to trickle between the folds of the tampon, or a 2 per cent. solution of hydrogen dioxid. It was applied merely as a prophylactic measure in 26 out of 62 cases drained in this way. He describes the cases in detail and also the anatomic conditions which render this method of drainage so effectual in the formation of a resistant cicatrix.

81. **Early Symptom of Pleuritis with Effusion.**—Przewalski noticed in 14 cases of pleuritis with serous effusion and in 5 with a suppurative, that the intercostal spaces were invar-

iably narrower and exhibited considerable resistance on the affected side. This symptom was most manifest in children and in the very early stages of the affection. The ribs seem to draw nearer together over the lesion, analogous to the contraction of the muscles in the course of articular lesions, mentioned in the text-books as the "fixed attitude of the members." He suggests that the reason why this "fixed attitude" of the ribs has not attracted attention hitherto, is that it is not very pronounced, and hence this reflex contracture of the internal intercostal muscles has been overlooked.

82. **Resection of the Knee.**—Sykow considers the results of surgical intervention on a tuberculous knee quite satisfactory if the limb is left in a normal position, the ends of the bones grown together and the limb not more than 3 or 4 cm. shorter than the other, with the use of it in 3 or 4 months. THE JOURNAL has mentioned the excellent results he obtained in a case of extensive defect in the lower jaw by cutting out a slab from the jaw on one side and slipping it across the breach until it rested in a recess cut out for it in the other side of the jaw. He has applied this same principle of autoplastic restoration of the defect to the treatment of a tuberculous knee after resection of the diseased joint. He counted in this case as in the first on the regeneration of the so-called intermediate or congenital callus. Its formation is promoted by the introduction of a foreign body between the ends of the bone marrow. The patient was a young man of 18. After resection of the knee a semicircular segment of bone was sawed out of the lower third of the femur. It was inserted between the sawed ends of the femur and tibia and covered with periosteum from the femur. The patient was able to walk on the limb in three months. It is no shorter than its mate, and skiagraphy shows the two bones firmly welded together. The patient walks easily and has recovered his health.

83. **Manual Reposition of Luxations Without Narcosis.**—Roloff has been very successful in reducing dislocations of the shoulder by applying slow, gradual extension. The patient lies on the floor on his back. The arm is slowly pulled, gradually increasing the traction but never making it vigorous. At the same time the arm is gradually abducted, until it is in an almost vertical position, parallel to the axis of the body. The traction should not require much effort. By the time the abduction is complete the head is already in its socket and the arm can be slowly lowered, supporting the head in its place from the axilla. When correctly done this maneuver causes no pain, but the extension is experienced as relief by the subject. The attention of the patient is always diverted, and all manipulation of the parts and reflex contracture is avoided. The patients were all robust workmen in his experience and in the one case in which it failed, the reduction was accomplished later under chloroform. About three to thirteen minutes are required for the intervention. It is on the same principle as Stimson's extension by weights, but dispenses with all apparatus. The traction should simulate that of a weight.

84. **Differentiation of Pentosuria.**—Bial emphasizes the necessity of differentiating between pentosuria and diabetes. In all the cases of the former that have been published, the condition was mistaken for diabetes, and the patients were subjected to annoying restrictions of diet which were absolutely useless. He has modified the orcin test so that the practitioner can test the urine for pentose in a few moments with absolute precision. No boiling is required. He keeps the pentose reagent ready mixed and adds 4 or 5 c.c. to 2 or 3 c.c. of the urine to be examined. He heats the mixture until the first bubbles begin to rise, when green flakes are precipitated or the fluid merely turns green, according to the proportion of pentose. Normal or diabetic urine is not colored green by the reagent. The formula is 1 to 1.5 gm. orcin to 500 gm. fuming hydrochloric acid. About 25 to 30 drops of a 10 per cent. solution of ferric chlorid are then added, and the reagent is ready for use. It is also valuable for the determination of glykuronic acid with slight modification.

85. **Granular Degeneration of Red Corpuscles.**—Loewenthal remarks that guinea-pigs are so sensitive to external conditions that the granular degeneration of the red corpuscles noted after intraperitoneal injection of tin chlorid, etc., can not be attributed exclusively to the injections. He observed granular degeneration when the animals were kept in the cellar without medication. The reds resumed their normal composition after the animals were placed in the open air, but the granulation was again apparent when they were returned to the cellar. The granular degeneration also appeared out of doors when the weather was cold and damp.

86. **Chronic Appendicitis.**—Lenzmann has had occasion to observe two more patients who had suffered for two and eight years with severe attacks of pain in the stomach, umbilicus and liver region and constipation. They had been treated for gallstone colic without effect. All the organs seemed to be sound. Palpation revealed a slightly enlarged appendix and it was possible to elicit by pressure the specific pains previously experienced. The pains and constipation were permanently banished by removal of the appendix, which was found in a condition of chronic inflammation. The nerves of the region had probably shared in the inflammation and induced the neuralgia in the stomach, etc., which characterized both cases—evidently true neuralgia of the abdominal sympathetic.

88. **Treatment of Gastric Ulcer.**—Pariser unconditionally enforces rest in bed as the primary requisite in the treatment of a gastric ulcer. He has derived great benefit from a mixture of chalk and talcum with or without magnesia which he orders in the place of the more expensive bismuth. The mixture is fully as effective as the latter in forming an aseptic crust over the ulcer. He does not use a sound, but has the patient drink 60 gm. in a glass of water on an empty stomach and then lie quietly on his back for three-quarters of an hour.

91. **Bone Marrow in Infectious Diseases.**—Fraenkel relates in detail the findings in a large number of infectious diseases in which he found the familiar germs in certain parts of the bone marrow during the corresponding disease. They were found most constantly in the red marrow of the vertebræ, less frequently in the ribs. The number of bacteria in the blood did not always parallel the number to be found in the marrow. The pyogenic staphylococci and streptococci were frequently found in the marrow even in the simplest local as well as in general affections, in peritonitis, putrid bronchitis, phlegmons, otitis media and ulcerative pulmonary tuberculosis. The bacteria which make their way into the marrow are the cause of various anatomic changes in it, such as hemorrhages, accumulations of pigment, fibrinous exudates and myelitic and necrotic foci.

94. **Cholagogue Effect of Rinsing the Stomach with Nitrate of Silver.**—Ehrlich proclaims that after rinsing the stomach according to his technic with .5 liter of a hot 1 per 1000 solution of silver nitrate, on alternate days, the liver commences to increase in size, greenish diarrheic stools follow for a time, and in case of cholelithiasis, gallstones are liable to be voided. After a few days the diarrhea and tumefaction of the liver subside, and with them all the disturbances. This treatment is indicated in all severe cases of chronic cholangitis or cholelithiasis, especially when the latter is complicated with cholangitis or cholecystitis. The contra-indications are the same as for simple lavage of the stomach. The benefit is due partly to the mechanical and thermic effect of the filling and emptying of the stomach in the preliminary rinsing with hot water at 110 to 122 F. The solution of the nitrate is left in the stomach .5 to 2 minutes and is then evacuated. This procedure is repeated once and then the stomach is rinsed with pure hot water until the fluid is clear. The patient can eat immediately without injury. A small amount of the nitrate solution escapes into the duodenum, as evidenced by the inevitable diarrhea. As it passes the orifice of the bile duct the mucosa of the duct is irritated and the lumen narrowed. At the same time the secretion of bile is increased by reflex action, as is shown by the swelling of the liver. As the inflammation in the bile duct subsides and the lumen is clear once more, the accumulated bile escapes under high pressure and sweeps out the gallstones. Experience on patients has shown that the same effect can be

attained by administering the silver nitrate per os, but the results are not so constant as by the technic recommended, and the metallic taste in the mouth is disagreeable and takes away the appetite. He has applied the rinsing technic on 75 patients, with no untoward effects except slightly increased nervousness in 3. Of the 22 followed to date, 63 per cent. were cured without recurrence; 31.8 per cent. with recurrence, and 4.5 per cent. were not affected. In one case he had an opportunity to inspect the mucosa of the stomach in a patient who had been treated in this way shortly before. It was much congested, but there was no trace of scab formation. The intervention is useful to differentiate gallstones or carcinoma in the gall-bladder. In one case no trace of a tumor could be discovered, until after twelve rinsings of the stomach the liver was reduced in size to such an extent that a hard tumor in the gall-bladder could be palpated and the operation confirmed the diagnosis of carcinoma. The benefit derived from the measure in cholelithiasis and its failure in case of gastric ulcer is another instance of its value as a differentiating measure. The rinsing requires ten to fifteen minutes at a time, and as severe intoxication would follow if a large amount of the nitrate solution were left in the stomach, he always accustoms his patients to the procedure by preliminary lavage of the stomach until convinced that they will allow the rinsing to be completed. One of his patients voided 3 gallstones the size of a bean and another 33 the size of a hazelnut. Both have been completely cured.

95. **Production of Nerve Stimulants by the Organism.**—Adler suggests that the internal secretion of certain organs must act on other organs by the intermediation of the nervous system. Consequently their secretion is a nerve stimulant.

102. **Bacteriemia.**—Kretz observes that the invasion of the blood by disease germs may assume various clinical aspects. In one form the blood may become infected without an initial local effect, as in malaria, Malta fever and relapsing typhus. In another form there may be typical infection of the blood from a local point of invasion, as in anthrax and typhoid fever. The germs may be carried into the blood by the leucocytes, as in gonorrhea and probably also in lepra, or swept into the lymph current, as in infection from strepto- and diplo-cocci, or penetrate through some vascular lesion, as in tuberculosis or plague, etc. The invasion of the blood may be secondary to another infection, as in smallpox, measles or scarlet fever. The old terms sepsis and pyemia should be discarded and substituted by local infection with toxemia, metastatic inflammation, etc., reserving the term bacteriemia to express a condition for which we have no name at present.

108. **Tetanus.**—Pfeiffer reports 22 cases of tetanus and has collected 93, which he reviews. He states that the mortality of the cases treated by Behring's antitoxin is 52.7 per cent. while it is only 36.3 per cent. in 88 cases treated by Tizzoni's antitetanus serum. It seems evident, he remarks, that tetanus in Italy runs a milder course than elsewhere. Omitting the 21 cases reported by Italian physicians, the mortality is 46.2 per cent. In 14 of his personal cases in which no specific treatment was instituted, the mortality was 50 per cent.

111. **Artificial Post-Operative Lagophthalmos in Egypt.**—Osborne states that trichiasis is frequent in Egypt, and barbers and old women have a way of treating it identical with that described in the seventh century. They pinch a fold in the lid and clamp it in a slit in a piece of a reed. In the course of two weeks the skin becomes necrotic and drops off. Osborne has had a number of patients come to him in this condition, the operation having removed too large a portion of the lid, thus leaving the eye exposed. He pleads for the organization of "flying squadrons" of ophthalmologists to carry aid to the many sufferers from ocular affections throughout the country. These "flying squadrons" have been extremely successful in Germany and Russia in the campaign against trachoma. They are especially needed in Egypt to save the many sufferers from the practices of the ignorant.

114. **Surgical Aspects of Bilharzia of the Rectum.**—Madden recommends palliative operative measures to relieve the patient of the most distressing symptoms. He removes the mass in the lower rectum, irrigates with lysol and inserts a morphin and belladonna suppository. The bowels must be kept confined for three days, after which they are assisted to act by a saline aperient or glycerin enema. This intervention must be repeated as the symptoms recur.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The Practical Medicine Series of Year-Books, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume V. Obstetrics, Edited by Reuben Peterson, A.B., M.D., Professor of Obstetrics and Gynecology in the University of Michigan, and Henry F. Lewis, A.B., M.D., Instructor in Obstetrics and Gynecology in Rush Medical College. April, 1902. Cloth. Pp. 226. Price, $1.25. Chicago: Year-Book Publishers.

Disinfection and Disinfectants. A Treatise upon the Best Known Disinfectants, Their Use in the Destruction of Disease Germs, with Special Instruction for Their Application in the Commonly Recognized Infectious and Contagious Diseases. By H. M. Bracken, M.D., Professor of Materia Medica and Therapeutics, University of Minnesota. Second Edition. Cloth. Pp. 129. Price, $1.00. Chicago: Trade Periodical Company. 1901.

A Manual of Toxicology. A Concise Presentation of the Principal Facts Relating to Poisons, with Detailed Directions for the Treatment of Poisoning. Also a Table of Doses of the Principal and Many New Remedies. By Albert H. Brundage, A.M., M.D., Ph.D., Professor of Toxicology, Physiology and Hygiene, in the Brooklyn College of Pharmacy. Cloth. Pp. 354. Price, $2.00 net. Brooklyn: Henry Harrison Co. 1901.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume IV. Illustrated by Chromolithographs and 859 Half-tone and Wood Engravings. Cloth. Pp. 872. Price, $6.00. New York: Wm. Wood & Co. 1902.

Photographic Atlas of the Diseases of the Skin. A Series of Eighty Plates, Comprising More Than One Hundred Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y. Part X. Philadelphia and London: J. B. Lippincott Co. 1901.

Contributions to Practical Medicine. By Sir James Sawyer, Knt., M.D., Lond., F.R.C.P., Lond.; F.R.S. Edin.; F.S.A.; Senior Consulting Physician to the Queen's Hospital. Third Edition. Revised and Enlarged. Cloth. Pp. 209. Price, $0.50 (in England). Birmingham: Cornish Bros. 1902.

First Report of the New York State Hospital for the Care of Crippled and Deformed Children, for the Ten Months Ending Sept. 30, 1901. Hospital Located at Tarrytown, N. Y., 1901. Paper. Pp. 22. Albany: J. B. Lyon. 1902.

Hare-Lip and Cleft Palate. By R. W. Murray, F.R.C.S., Surgeon, Davis Lewis Northern Hospital, Liverpool. Cloth. Pp. 29. Price, $0.75 (in England). London: J. & A. Churchill. 1902. Philadelphia: P. Blakiston's Son & Co.

Report of the Vital Statistics of the Cities of Havana and Guanabacoa, Made by Brigadier-General Leonard Wood, U. S. A., Military Governor. February, 1902. Major W. C. Gorgas, Medical Corps, U. S. A., Chief Sanitary Officer.

Fifty-third Annual Report of the Board of Trustees and Superintendent of the Central Indiana Hospital for Insane, for the Fiscal Year Ending Oct. 31, 1901. Paper. Pp. 95. Indianapolis: Wm. B. Burford. 19002.

U. S. Department of Agriculture, Seventeenth Annual Report of the Bureau of Animal Industry for the Year 1900. Cloth. Pp. 642. Washington: Government Printing Office. 1901.

Selected Essays and Addresses by Sir James Paget. Edited by Stephen Paget, F.R.C.S. Cloth. Pp. 445. Price, $5.00. London, New York and Bombay: Longmans, Green & Co. 1902.

Official List of Legally Qualified Physicians, State of Illinois. March, 1902. Paper. Pp. 271. Published by the State Board of Health. Springfield: Illinois State Register. 1902.

Transactions of the North Dakota State Medical Society for the Year 1901, and List of Members. Paper. Pp. 63. Valley City, N. D.: The Times-Record. 1901.

Transactions of the American Climatological Association, for the Year 1901. Volume XVII. Cloth. Pp. 414. Philadelphia: Printed for the Association. 1901.

Eighteenth Report of the State Board of Health and Vital Statistics of Minnesota, 1899-1900. Cloth. Pp. 667. St. Paul, Minn.: Pioneer Press Co. 1901.

Proceedings of the Orleans Parish Medical Society. Issued April 1, 1902. Paper. Pp. 28. Published by the Society. New Orleans: L. Graham Co., Ltd.

Clayton Parkhill, M.D., and J. T. Eskridge, M.D. A Memorial Published by the Members of the Denver and Arapahoe Medical Society. Paper. 1902.

Annual Report of the Milwaukee County Hospital, for the Year Ended Dec. 31, 1901. Paper. Pp. 115. Milwaukee: Edw. Keogh Press. 1902.

The Medical Treatment of Gallstones. By J. H. Keay, M.A., M.D. Cloth. Pp. 126. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1902.

THE PENNSYLVANIA SOCIETY FOR THE PREVENTION OF TUBERCULOSIS. Report for the Year Ending March 1, 1902. Paper.

REPORT OF ST. VINCENT'S INSTITUTION FOR THE INSANE for the Year 1901. Paper. Pp. 29.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 17 to 23, 1902, inclusive:

Raoul A. Amador, contract surgeon, now at Chattanooga, Tenn., is relieved from further duty in the Department of Cuba and assigned to duty with the 7th Cavalry, at Chickamauga Park, Ga.

William C. Gorgas, major and surgeon, U. S. A., previous orders revoked; on the discontinuance of the Department of Cuba he will take station at Havana, Cuba, to continue his investigations into the relationship between yellow fever and the mosquito.

John D. Hall, lieut.-col. and deputy surgeon-general, member of a retiring board at San Francisco, Cal.

Henry F. Hoyt, major and surgeon, Vols., now at San Francisco, Cal., is relieved from duty in the Division of the Philippines and will report for temporary duty at Fort Douglas, Utah.

Jefferson R. Kean, major and surgeon, U. S. A., leave of absence for three months granted, to take effect on his return from Cuba.

Preston S. Kellogg, contract surgeon, from Fort Missoula, Mont., to accompany troops to Alaska.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a retiring board at San Francisco, Cal.

Clarence J. Manley, lieutenant, asst.-surgeon, U. S. A., leave of absence for one month granted.

John N. Merrick, contract surgeon, now at Columbus, Ohio, is relieved from further duty in the Division of the Philippines and assigned to duty at Fort Missoula, Mont.

Joseph Pettyjohn, contract surgeon, now at San Francisco, Cal., is relieved from further duty in the Division of the Philippines and will proceed to Vancouver Barracks, Wash., reporting for duty in Alaska.

Henry D. Snyder, captain and asst.-surgeon, U. S. A., member of a board at Fort Columbus, N. Y., vice Major William H. Corbusier, surgeon, U. S. A., for the examination of candidates for admission to the U. S. Military Academy, West Point, N. Y.; also, detailed to represent the Medical Department of the Army at the American Congress of Tuberculosis, to be held in New York City, May 14 to 16, 1902.

Arthur C. Stokes, contract surgeon, former orders directing him to proceed from Omaha, Neb., to San Francisco, Cal., en route to Manila, P. I., revoked.

Halsey L. Wood, contract surgeon, leave of absence for one month and fifteen days granted.

Appointments, Promotions, Retirements, Etc.,

of Army Medical Officers, recorded in the Adjutant-General's Office, between March 15 and April 15, 1902:

Regular Army, Retirements.—Col. Charles P. Kimball, assistant surgeon-general, April 7, 1902, for disability incident to the service, Section 1251, Revised Statutes; First Lieutenant Marshall M. Cloud, asst.-surgeon, March 25, 1902, for disability incident to the service, Section 1251, Revised Statutes.

Volunteers, Appointments.—To be asst.-surgeons, with the rank of captain: James E. Mead of Michigan, contract surgeon, Feb. 10, 1902; Herbert M. McConathy of Kentucky, contract surgeon, Feb. 12, 1902; James B. Pascoe of New York, contract surgeon, Feb. 19, 1902; Edward A. Southall of New York, contract surgeon, Feb. 20, 1902; Edward T. Gibson of Minnesota, contract surgeon, Feb. 28, 1902; Joseph L. Sanford of Virginia, contract surgeon, March 1, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending April 26:

Asst.-Surgeon F. M. Munson, ordered to duty at the Naval Hospital, Norfolk, Va.

P. A. Surgeon D. N. Carpenter, detached from Naval Hospital, Newport, R. I., and ordered to the *Illinois*.

Asst.-Surgeon A. M. Fauntleroy, detached from the *Illinois* and ordered to the Naval Hospital, Newport, R. I.

Asst.-Surgeon R. W. Plummer, detached from the *New Orleans* and ordered home to wait orders.

Pharmacist C. O'Leary, detached from the Torpedo Station, Newport, R. I., and ordered home to wait orders.

Pharmacist W. H. Huntington, detached from the *Constellation* and ordered to the Torpedo Station, Newport, R. I.

The following order was issued from Headquarters, Department of Cuba, April 14, 1902: Surgeon John W. Ross, U. S. N. (retired), will be relieved from further duty in the Sanitary Department of the City of Havana, May 20, 1902, and will accompany the Department Commander to Washington.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the United States Marine-Hospital Service for the seven days ended April 24, 1902:

P. A. Surgeon W. G. Stimpson, to proceed to Mendocino and Napa, Cal., for special temporary duty.

Asst.-Surgeon S. B. Grubbs, relieved from duty in the Hygienic Laboratory and directed to report to Surgeon J. H. White for special temporary duty; then to proceed to Gulf Quarantine Station, relieving Asst.-Surgeon J. T. Burkhalter. Granted leave of absence for 10 days from April 23.

Asst.-Surgeon W. C. Hobdy, to proceed to Brunswick Quarantine and assume temporary command of the service during the absence, on leave, of Acting Asst.-Surgeon R. E. L. Burford.

Asst.-Surgeon J. Goldberger, upon being relieved at Reedy Island Quarantine, to proceed to Tampico, Mexico, for duty in the office of U. S. Consul.

Asst.-Surgeon C. W. Vogel, granted leave of absence for 15 days from May 12.

Asst.-Surgeon C. E. D. Lord, detailed to represent the service at the annual session of the State Medical Association of Texas, at Dallas, May 6-9.

Asst.-Surgeon J. T. Burkhalter, upon being relieved by Asst.-Surgeon S. B. Grubbs, to report to him for duty and assignment to quarters.

Asst.-Surgeon J. S. Boggess, relieved from duty at Philadelphia and directed to proceed to Reedy Island Quarantine Station and report to medical officer in command for duty and assignment to quarters, relieving Asst.-Surgeon J. Goldberger.

Acting Asst.-Surgeon F. M. Clarke, granted leave of absence for 20 days from April 14.

Acting Asst.-Surgeon J. T. McCormac, Department letter of March 15, granting 15 days' leave of absence, amended so that said leave shall be for 6 days from March 30.

Acting Asst.-Surgeon R. T. Walker, granted leave of absence for 18 days from May 1.

Junior Pharmacist Carl Stier, to proceed to Memphis, Tenn., and report to medical officer in command for temporary duty and assignment to quarters.

APPOINTMENT.

Carl Stier, of Alabama, appointed junior pharmacist April 23, 1902.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 26, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, April 5-12, 4 cases; San Francisco, April 6-13, 15 cases.

Colorado: Denver, April 5-12, 9 cases.

District of Columbia: Washington, April 12-19, 1 case.

Florida: Jacksonville, April 12-19, 9 cases.

Illinois: Belleville, April 12-19, 1 case; Chicago, April 12-19, 14 cases; Galesburg, April 12-19, 1 case.

Indiana: Evansville, April 12-19, 2 cases; Indianapolis, April 12-19, 22 cases, 1 death.

Kansas: Wichita, April 12-19, 2 cases.

Kentucky: Covington, April 13-20, 10 cases.

Louisiana: Shreveport, April 12-19, 7 cases.

Maine: Portland, April 12-19, 1 death.

Massachusetts: Boston, April 12-19, 9 cases, 4 deaths; Chelsea, April 12-19, 1 case; Malden, April 12-19, 2 cases; Somerville, April 12-19, 1 death.

Michigan: Detroit, April 12-19, 10 cases; Grand Rapids, March 29-April 19, 4 cases; Ludington, April 12-19, 5 cases.

Nebraska: Omaha, April 12-19, 33 cases.

New Jersey: Camden, April 12-19, 1 case; Newark, April 12-19, 29 cases, 4 deaths.

New York: New York, April 12-19, 56 cases, 8 deaths.

Ohio: Cincinnati, April 11-18, 17 cases; Cleveland, April 12-19, 2 cases; Dayton, April 12-19, 1 case; Toledo, April 12-19, 2 cases.

Pennsylvania: Altoona, April 12-19, 4 cases; Columbia, April 14-21, 6 cases; Erie, April 12-19, 8 cases; Johnstown, April 12-19, 2 cases; Philadelphia, April 12-19, 26 cases, 1 death; Pittsburg, April 12-19, 5 cases.

Rhode Island: Providence, April 12-19, 2 deaths.

South Carolina: Greenville, April 5-12, 2 cases.

South Dakota: Sioux Falls, April 12-19, 1 case.

Tennessee: Memphis, April 12-19, 13 cases; Nashville, April 12-19, 1 case.

Vermont: Burlington, April 5-12, 1 case.

Washington: Tacoma, April 6-13, 5 deaths.

West Virginia: Wheeling, April 5-12, 1 case.

Wisconsin: Green Bay, April 13-20, 10 cases; Janesville, April 6-13, 2 cases; Milwaukee, April 12-19, 3 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 29-April 5, 5 cases, 1 death.

Belgium: Antwerp, March 29-April 5, 9 cases, 3 deaths.

Canada: Winnipeg, April 5-12, 6 cases.

China: Hongkong, March 1-8, 4 cases, 2 deaths.

Colombia: Cartagena, March 29-April 6, 1 death.

France: Marseilles, March 1-31, 2 deaths; Paris, March 29-April 5, 3 deaths.

Great Britain: Birmingham, April 5-12, 1 case; Dundee, March 29-April 5, 4 cases; Glasgow, April 4-11, 18 cases, 2 deaths; Leeds, March 29-April 5, 2 deaths; Liverpool, March 29-April 12, 7 cases; London, March 29-April 5, 376 cases, 54 deaths; Plymouth, April 5-12, 1 case.

India: Bombay, March 18-25, 8 deaths; Calcutta, March 15-22, 11 deaths; Karachi, March 16-23, 13 cases, 4 deaths.

Italy: Naples, March 22-April 5, 20 cases; Palermo, March 29-April 5, 6 cases, 2 deaths.

Mexico: Mexico, March 31-April 6, 1 case, 1 death; Vera Cruz, March 29-April 12, 4 cases, 3 deaths.

Russia: Moscow, March 22-29, 21 cases, 3 deaths; Odessa, March 29-April 5, 5 cases, 1 death; St. Petersburg, March 29-April 5, 8 cases, 2 deaths.

Turkey: Smyrna, March 2-30, 1 death.

YELLOW FEVER.

Dutch Guiana: Paramaribo, to March 1, 31 cases, 21 deaths.

French Guiana: Cayenne, to March 27, 1 case, 1 death; Mana, to March 27, 1 case, 1 death; St. Laurent, to March 27, 32 cases, 21 deaths.

Mexico: Vera Cruz, March 29-April 12, 6 cases, 5 deaths.

PLAGUE.

India: Bombay, March 18-25, 751 deaths; Calcutta, March 15-22, 420 deaths; Karachi, March 16-22, 90 cases, 79 deaths.

CHOLERA.

China: Hongkong, March 1-8, 1 case, 1 death.

India: Bombay, March 18-25, 9 deaths; Calcutta, March 15-22, 86 deaths.

Straits Settlements: Singapore, March 1-8, 2 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, ILLINOIS, MAY 17, 1902. No. 20.

Original Articles.

THE EVOLUTIONARY ASPECT OF INFECTIOUS DISEASES, WITH ESPECIAL REFERENCE TO THE LOCAL VENEREAL DISEASES.*

G. FRANK LYDSTON, M.D.

Professor of the Surgical Diseases of the Genito-Urinary Organs, Medical Department, State University of Illinois; Professor of Surgery, Chicago Clinical School; Surgeon to St. Mary's Hospital.

CHICAGO.

The evidence of evolution in general and of infectious micro-organisms in particular, has been so overwhelming during the last decade that it is surprising that teachers of science who renounce the doctrine of evolution can still be found. A few weeks since, however, I heard a distinguished teacher of physiology say that the theory of evolution was untenable and unscientific, and that Darwin was not a scientist. This despite the facts that manifold and indubitable proofs of organic evolution exist, and that evolutionary law controls and binds together all the natural sciences and is the very cornerstone of sociology, and indeed, all else of human interest. But the experimental and laboratory craze is upon us and we are worshipping the new gods instead of weighing their potentialities and assigning to each its proper place in scientific medicine. Experimental facts are valuable in so far as they lead to a more rational philosophy and method in medicine. In the abstract they are well-nigh valueless. It is not to be denied that the great man in medicine to-day is often he who discovers a lot of things which, as Josh Billings says, "aint so." A single intelligent working theory is worth a bushel of useless or misapplied "facts." Facts, both experimental and clinical, have often been stumbling blocks in the way of progress. Facts which are fruitful in philosophy are the guiding stars of science. Barren facts are unprofitable and available chiefly as curiosities.

The view of infection which I assumed twenty years ago and have since published from time to time,[1] had as its basis the belief that infectious diseases may arise spontaneously—a view old-fashioned enough to command respect. Inasmuch as the specific germ entity had then come to the fore and the theory of spontaneous generation had long since been apparently overthrown, the generation of infectious diseases *de novo* seemed impossible—and it was so ordered by my critics. To my mind there was but one way out of the difficulty—the application of an evolutionary law, so familiar and simple that it is a matter of surprise that it should be necessary to mention it in connection with germ diseases. This law is, that all living organisms must adapt themselves to their environment. With such adaptation necessarily comes differentiation of type and species. *Pari passu* with such differentiation a modification of properties develops. Such modification of properties may be favorable or unfavorable to the germ; favorable or unfavorable to the animal or vegetable organism which it infests. The law and its effects thus bears not alone upon the germ, but also upon the victim upon which it feeds. There are not separate laws for parasite and host—one great omnipotent law governs the organic history of both. The life history of the germ is but an epitome of all things organic. The alternative of this view of disease is obvious—primordial specific creation.

It was with some difficulty that I was able to make some of my critics understand that I was not upholding the theory of spontaneous generation of germs, but the spontaneous generation of new and virulent properties in hitherto innocuous germs, and a natural variation of type and pathogenic effect of germs supposed to be invariably specific.

The laboratory investigator has been witnessing the operations of the law of germ adaptation year by year, but the profession has just begun to grasp it, and the average laboratory worker has been unable to "see the woods for the trees." Did the earlier, and for that matter do some of the latter-day laboratory workers believe that man can add to or subtract from the phenomena of nature? They have been very much in the position of the fly on the chariot wheel in the ancient fable, who exclaimed: "See what a dust we raise." Anything which can be accomplished in the laboratory must needs depend upon the operations of a law many times more potent in the life history of the germ in its normal habitat than in the laboratory.

The theory of the spontaneous development of infection has been combated, through ignorance of evolutionary law, on the ground that the theory of spontaneous generation was long ago upset—which had nothing to do with the case. Now I do not wish to be understood as supporting that apparently exploded theory, nor is expatiation upon it essential to the treatment of my subject, but I nevertheless wish to make a few remarks upon it as showing that even it is a question which is not susceptible to dogmatism. Harvey's law, *"Omne vivum ex ovo,"* or its modification, *"Omne vivum ex vivo,"* established by the labors of Spallanzani, Schulze, Schwann, Sehröder, Dusch, Hoffmann, Chevreul, Bonnet, Cohn, Tyndall, and most conclusively by

* Lecture delivered by invitation before the Buffalo Academy of Medicine, Jan. 21, 1902, and Creighton Medical College, Omaha, Neb., March 5, 1902.

1. Evolution of the Local Venereal Diseases, Western Med. Reporter, vol. ii, 1889, and vol. xii, 1890. Lecture before the St. Louis Academy of Medicine, 1889. Paper read before the Chicago Academy of Medicine, 1892.

Pasteur, is generally believed to have closed the question of spontaneous generation. Tyndall, e. g., showed that living organisms in decomposing fluids are explained either by pre-existence of similar forms in the fluid, or access of air containing them. Pasteur's experiments later confirmed Tyndall's position. But, what have we to say of Huxley, who, with true scientific agnosticism, says in effect, "We know nothing of the beginnings of life, and are not justified in assuming premises which demand for their support and rational formulation a foreknowledge of such beginnings." It is hardly scientific for us to assert that, inasmuch as we have no positive evidences of spontaneous generation either in the past or at the present day, it does not occur and never could have occurred in the history of the world. As Huxley says, "we know nothing of the beginnings of life." Time was when the stellar system was limited. With telescopes of increased power came a broadening out and amplification of the maps of the heavens. Perchance microscopy is as crude to-day as was telescopy in its earlier years. Improvements in optical apparatus and teachings may one day open up to study biologic worlds yet unconquered, analogous to the recent observations of the formation of stars and suns from nebulæ; a substantiation of La Place's views which at least places them upon a higher plane than mere theory.

Accepting the nebular hypothesis of the origin of the solar system it is evident that life first appeared upon our earth under conditions differing widely from those now existing, differing more especially as respects atmospheric oxygen, light and heat. It is noteworthy that some species of bacteria are at present capable of existing in the absence of free oxygen, without light and at a temperature relatively high. No other organism can duplicate this life history, and this fact alone should shed some light upon the beginnings of life. Taking into consideration the fact that the primal terrestrial conditions must have been peculiar as compared with those now existing, who shall say that the inorganic might not have become organic. We certainly are not justified in formulating biologic laws to fit aforetime, or, rather, we are presumptious in putting limits upon primal evolutionary possibilities, especially in view of the inexorable law that the rapidity and degree of differentiation of living organisms are inversely to their complexity of organization. The higher the type the less the organism is swayed by evolutionary law, and vice versa.

I will assume, then, that the evolutionary history of certain germs may have begun far back in the history of the earth, at a period so remote that we can not even guess at their environmental conditions. Such germs might well be as insensitive to existing influences as is the host upon which they prey. It is by no means impossible that the environmental conditions necessary to the spontaneous generation of living entities exist and are operating about us even now. That definite germ types as we observe them are interchangeable along evolutionary lines is susceptible of proof. The fact that typically specific micro-organisms are not immediately interchangeable is no evidence against the operations of evolutionary law, any more than is the unchangeableness of highly differentiated organic types. As already remarked, the rapidity and extent of progression along evolutionary lines is inversely to the degree of differentiation already attained.

Evolution in its relation to disease is of necessity a double-purposed law. It controls and modifies the host and must have at least an equal influence upon the parasite. If the law already formulated be correct, evolution influences some parasites even more profoundly than it does the host. The influence of evolution upon disease so far as the host is concerned has long been recognized. The history of measles is an illustration. You are all familiar with the history of this disease among the Sandwich Islanders. A disease which, with the whites, is usually a trivial affair, proved extremely fatal among the Kanakas. Among the whites, evolutionary adaptation and heredity have had full sway. The Kanakas, however, were not so protected. Smallpox is a very fatal disease among the negroes as compared with the whites. Both measles and smallpox among the whites, however, are occasionally very severe. I venture the suggestion that such cases are atavistic. I have elsewhere[2] expressed the opinion that the progressive decrease in the virulency of syphilis is susceptible of an evolutionary explanation. The human race has become fairly well syphilized by this time, and hereditary immunity should count for something in a disease which in its active period so seldom kills as to permit the race to secure the full benefit of hereditary immunity, if such there be. Precocious, or malignant, syphilis I believe to be evidence of atavism of micro-organisms combined with atavism of susceptibility.

The influence of evolution on the host has been so long understood among progressive medical thinkers that it is remarkable that its influence upon the parasite should have attracted so little attention. Hereditary immunity is met with in vegetable life. The cotton plant is subject to a parasitic disease known as wilt. Certain plants are not susceptible to it, others attacked by it, survive. The primary immunity of the former and the acquired immunity of the latter are transmitted to their descendants. Advantage has been taken of this and, ere long, wilt will no longer menace the cotton planter.

Disease is incident to the life of every animal. Disease is largely dependent upon living micro-organisms. As we study the evolution of the animal so should we study the evolution of the disease germs that affect it. Every phase of organic evolution is subject to adverse as well as favorable elements of various kinds. Each organism is relentlessly pursued by foes of a higher or lower order of evolutionary development and differentiation. Even the germs of disease themselves are, in some cases, pursued by other germs which destroy them. How much of this phase of organic evolution is manifest in infectious diseases of a mixed type science has not yet determined. We know that some germs prepare a favorable field for other germs. The converse seems also to be true. The paucity of the bacillus icteroides and the presence of innumerable colon bacilli and pus cocci in many fatal cases of yellow fever may mean more than we at present realize, and are no argument against the accuracy of Sanarelli's views. It is unfortunate that the human system should be the battle ground of the warring micro-organic factions. Man, with his superior power born of the forbidden fruit—knowledge—has been able to contend pretty successfully against most of the elements unfavorable to him. He has not acquitted himself so brilliantly as regards those apparently insignificant little foes, the germs of disease. Evolutionary law he may not abrogate, though he may sometimes direct and modify its operation.

As man himself has become differentiated through environmental influences, so have his foes become differ-

2. Lectures on Syphilis (Monograph), 1884.

entiated. As a consequence of adaptation upon both sides, man has become more susceptible to the attacks of some disease germs and more resistant to others. It may well be that certain varieties have become extinct, whilst others have sprung up by virtue of vicious evolution of primarily innocuous germs, becoming so modified as to bear no resemblance to the parent stock. By careful research along these lines we may eventually find that many diseases, at this epoch markedly dissimilar, may have become so through germ differentiation. Perchance also we may discover and control the circumstances upon which such differentiation depends. Herein may be the seed from which the medical science of the future will spring.

As bearing upon the question of the upspringing of hitherto unrecognized infectious diseases the history of epidemic cerebrospinal meningitis is very interesting. Practically, if not entirely, unknown until within the last hundred years, its character and ravages have come to be only too well recognized. The recognition of an identical epidemic disease in horses is of especial interest as suggestive of evolutionary possibilities.

Early in 1884, in the course of a correspondence with Dr. De Gorrequer Griffith of London, my attention was called by him to what he termed "The Unity of Poisons in Disease." He subsequently sent me his pamphlet on the subject and was good enough to associate with me in an article published several months later.[3] As showing his position I will quote briefly:

"In the year 1875, I first observed that what is termed scarlatina in the puerperium is frequently not really scarlatina. I believe that there are two forms of scarlatina: the orthodox, viz., that contracted from a person infected by scarlatina, and the septicemic, or toxemic, viz., that evoluted or generated *de novo,* by autogenetic blood-poisoning, such as occurs in puerperal cases, or as a consequence of heterogenetic blood-poisoning, such as arises (where no scarlatina had existed before) from drains, sewers, imbibition or ingestion of deleterious articles of food; and from decomposing animal or vegetable substances.

"While carrying on this investigation, I was struck with the unity of origin in certain cases of puerperal fever and typhoid. Pursuing the inquiry I found that from the same source would spring erysipelas, scarlatina, typhoid and puerperal fever, diphtheria, sore umbilicus in infants, sore eyes, sore mouth and sore throats, embracing a very wide area of inflammation and inflammatory conditions of palate, tonsils and pharynx; passing still further on in the respiratory tract, the larynx, the bronchi, the pleura and even the lung would be involved; so that toxemic or septicemic laryngitis, bronchitis, pleurisy, pneumonia, and pleuropneumonia, attacking a variety of persons, all, as in the cases of the other forenamed ailments, viz., toxemic, typhoid, etc., as I call them to distinguish them from the orthodox, may be traced to the same causes. The same is true of hepatitis, diarrhea, dysentery, cholera, enteritis, and a large number of affections hitherto considered to be utterly distinct and independent diseases. Hence I formulated the view of unity (as regards origin) of poison in the diseases enumerated and in many others usually considered to be separate and entirely distinct.

"Intercurrent symptoms occurring in the course of an affection such as scarlatina—symptoms ordinarily termed complications—may become primary motors of disease, originating a fresh epidemic; it may be fresh inasmuch as it would differ from that in the course of which it was itself evolved. For example, diphtheria not unfrequently is met as a complication of scarlatina (I would say it was part and parcel of the scarlatina), which, in this instance, would be spoken of as the primary disease, the other as being secondary. The diphtheria might be conveyed to a number of persons, even to such a number as to constitute a fast-spreading epidemic. Then this diphtheria would cease to propagate itself, or would cause something quite different to be evolved in the person exposed, or in the course of these evolutions it would revert to that which set it going, viz., scarlatina. There often originate or evolute in a number of the exposed, certain other symptoms, usually considered sequelæ, but not actually part of the scarlatina. Here an outburst of something apparently altogether different from scarlatina and diphtheria takes place. This sometimes causes another new evolution; or again, reverts to scarlatina or diphtheria or both combined. Were it to leap forward it would cause to be evolved, in a certain number of cases, a very ulterior sequela of scarlatina—say rheumatism or rheumatic fever, and heart or pericardiac affections. Nephritis (the scarlatinal form) may be evolved without any other intermediate symptoms being noticed.

"By unity of poison I mean, not that the poison is always the same, but that the one poison—whatever it may be—often originates several so-called different affections, apparently so widely different as to be considered in every respect specific."

In the joint article mentioned I took the liberty of suggesting that the mass of clinical facts as collected by Dr. Griffith was incoherent and had no tangible bond of continuity. I suggested, moreover, that his theory had an untenable, entirely chemical basis which served to make confusion worse confounded. I then expressed the view that if he had taken the living disease germ as his starting-point, following it through its evolutionary phases and taking into consideration the varying susceptibility of the host, some tangible view of the corelation of the infectious diseases might have been developed. Both Dr. Griffith and myself were ignorant of the now well-recognized possibilities of mixed infection, whilst he apparently adjured the germ altogether. Our joint article, however, was the foundation of the more mature conception of germ evolution which I published shortly afterwards, and which has served as the basis of the present lecture.

The frequent difficulty of differentiating etiologically processes which clinically seem unequivocally specific has long been familiar to the profession. Note, for example, the varying phases of septic infection, phlegmon, erysipelas, septicemia, puerperal fever, pyemia—who can tell always where the etiologic line of demarcation begins or ends? The apparent identity of origin of these processes, the type forms of which are so dissimilar clinically, is a matter of common experience, despite varying bacteriologic observations. The precise relative weight of the putrefactive toxi-proteid and micro-organic elements in such conditions is very difficult of determination. The microscope has done us yeoman service, but has it explained all? Is there not a great beyond which has thus far defied our present optical resources? Is not the truth to be found rather in the direction of bio-chemical research and observation along evolutionary lines rather than in the study of specific microscopic forms alone?

A beautiful illustration of the confusion that exists as to the germ etiology of supposedly different diseases

3. Journal A. M. A., vol i.

is hemorrhagic septicemia. Hueppe groups under this heading a number of diseases once supposed to be separate pathologic entities, such as the rabbit septicemia of Koch,[4] the wildseuche and rinderseuche of Bollinger and others, and the schweineseuche of Löffler. It is just beginning to dawn upon some of these observers that they have perhaps been studying and classifying the varying evolutionary phases of the same disease germ.

The views expressed in this present paper necessarily conflict with the dominant school of germ pathology, of which Koch is the acknowledged leader. The theory of specific constancy of germs owes its popularity to the atavistic tendency of the human mind to revert to the primitive conceptions of savages and children, who explain phenomena by the dominance of a living entity. The savage with his gods and demons and the child with his Santa Claus and fairy tales are on a psychic parity. Such explanations are simple and once advanced are fondly clung to. When renounced it is with all the pain incidental to the renunciation of an easy-going pet idea. It may savor of boldness, not to say presumption, yet I am constrained to say that Pasteur, and following him, Koch and his school, while they have done much for the material accuracy of medicine, have nevertheless played an active part in deranging the substratum of rational philosophy upon which rests the entire superstructure of medical science.

The results obtained in our laboratory modification of infectious germs depend largely upon degenerative changes in the micro-organism, the species growing not only less virulent but more feeble. In certain instances, however, the micro-organisms lose their pathogenicity while remaining as vigorous or more vigorous than ever. The loss of pathogenic properties and a transformation into mere saprophytes have been observed. Careful observation has shown that the properties of pigment formation, development of toxins and fermentive power in micro-organisms are dependent upon the quality of adaptation. The micro-organism is versatile because swayed by evolutionary law. Koch's doctrine of the immutability of specificity in pathogenic micro-organisms is no longer tenable. Accepted ten years ago, his dictum has not borne the cross-fire of laboratory observation. Personally, I have never believed in the primal specific creation of micro-organisms any more than of any organism, and of necessity have always been skeptical as to their immutability.

The theory of specific constancy of infectious micro-organisms at first gave rise to the most optimistic views of therapeutic possibilities. Having discovered the germ, the sole remaining requirement was to find a remedy which would kill it and thus cure the disease. The lay mind is even now dominated by this fallacious belief. As time went on, however, the profession began to appreciate the insuperable obstacles often found in the way of specific therapeutics. This I will formulate as the law that the resistancy of organisms, like their rapidity of multiplication and development, is inversely to their degree of differentiation. The operations of this law are at once obvious. The cells of the host, more complexly organized and more highly differentiated than the parasitic microbe, yield to destructive influences which are resisted by the latter. Herein was our first defeat. Not until the life history of the microbes of disease began to be better understood was there any marked improvement in therapy as an outcome of our knowledge of the specific properties of germs. And then came serum-therapy, the rationale of which is explicable along strictly evolutionary lines. Even our views of local antisepsis have been so modified that the supplying of conditions unfavorable to germ development, rather than an attempt to destroy the germ, dominates modern surgery—evolutionary principles again.

The believer in the specific creation of micro-organisms or even in the present existence of unvarying micro-organic entities has, of course, demanded the missing link. He, like his anti-Darwinian prototype, can not be convinced without it. It must be remembered, however, that the visible complete physical transformation of even a single species is not necessary to prove the evolutionary progression and differentiation of microbes, nor is it consistent with evolutionary law in general. Unicellular organisms probably hew as closely to the line as do the more highly differentiated and more complex organisms, in which the cell is not the whole but merely the unit, albeit the basic element. The germ shows progression along evolutionary lines within its own biologic range, and adheres to its own physical type—so far as our present methods enable us to determine—whatever the variation in its properties may be. Its properties of specific pathogenesis, culture, color reactions and varying degrees of virulency, may be the result, on the one hand of atavism, and on the other of environmental adaptation, but it is always a variation of type, not of species. The fact that microbes of certain specific diseases are unvarying in kind in their pathogenic properties does not controvert the evolutionary view of infectious diseases. *Per contra,* it is evidence of the strongest kind that microbes are subservient to evolutionary law. The type in such cases has become so fixed that, while a variation in degree of pathogenesis may occur, there can be no variation in kind. Far back in their life history, however, a number of specific germs may have had a common root stock. Just here the co-relation of vaccinia and variola is strongly suggestive. Along the same lines does not the possibility of a remote relationship between *la dourine*—so-called animal syphilis—and *lues* suggest itself? To be sure there is a wider difference between the human and animal syphilis than exists between vaccinia and variola, but experimental inoculation and serum-therapy with human syphilis and *maladie du coit* might lessen this difference. Besides, the period of time past covered by the evolution of syphilis and *la dourine* may be immensely greater than the period of existence of variola and vaccinia. Then, too, we should not expect precisely similar evolutionary results of disease germs in dissimilar animal species. Apropos of the possible animal origin of human syphilis it might be well to recall the fact that Martineau, nearly a quarter of a century ago, claimed to have syphilized a monkey. The case was presented to the Parisian Academy of Medicine and appeared to be quite clearly defined. It was, however, rejected by the Academy as a demonstration of animal susceptibility to syphilis. The extraordinary susceptibility to the *Simiadæ* to tuberculosis is suggestive along these lines. I will also again refer you to the co-relation of human and equine cerebrospinal meningitis.

So far as the influence of evolutionary law is concerned, it is of little importance whether micro-organisms in general, and pathogenic germs in particular, belong to the animal or to the vegetable kingdom. The operations of the law are the same. The practical importance of the question lies in the fact that if micro-

4. Hueppe: Principles of Bacteriology.

organisms are neither animal nor vegetable, but of a lower, more indeterminate type than either, they are still more susceptible than either to evolutionary law, for the rapidity and degree of evolutionary variation is inversely to the degree of differentiation already attained.

If the evolutionary relation of the most primitive animal and vegetable organisms be proven, the primal root stock must of necessity be of a lower, indeterminate type. Those whose fame rests upon classification may protest if they will; this is the law. Overthrow or controvert it, and the warp and woof of evolutionary doctrine falls to the ground, for the theory can show no beginning. The beginning or primary impulse must operate along evolutionary lines, else we must needs either assume a position of complete scientific agnosticism or accept the mosaic cosmogony as a basis for biology. The view of the intermediary position of bacteria between animals and plants was held and taught by me to my classes twenty years ago. It is gratifying to me to note the confirmation of that somewhat immature view by so eminent a teacher as Hueppe,[5] who says, "Bacteria are able to construct their body substance out of various kinds of nutrient materials, and also to produce organic pigments, fermentation products or poison characteristic of individual species, and are able to do this analytically or synthetically with almost equal ease. This ambidextrous metabolic power exists among bacteria as among no other living things. These organisms consequently occupy morphologically, and, still more, physiologically, a place intermediate between animals and plants."

I am still more pleased with Hueppe's summing up of the question of specificity: "Koch's belief that the constancy of specific disease-producing bacteria renounces at the outset a scientific explanation. With the abandonment of Koch's position—which has been made inevitable by the discoveries of the last ten years—bacteriology has progressed beyond the natural history stage and become scientific." The interchangeability of the properties of distinctly vegetable non-pathogenic micro-organisms and those of a distinctly pathogenic type is worthy of consideration along evolutionary lines. The vegetable molds, which are not ordinarily capable of producing infection, but produce superficial surface diseases, may become saprophytic and produce internal infection. A case was recorded by Wagner where the oidium albicans of thrush entered the circulation viâ a wounded vein, and produced fatal cerebral mycosis. Several varieties of mucor and aspergillus—usually non-pathogenic organisms—have been shown to be transformable into saprophytic infectious parasites by adaptation.

Laboratory proofs of bacterial evolution are not wanting. The life conditions of micro-organisms have been experimentally changed. Obligatory anaërobic parasites have been adapted to aërial life and obligatory aërobes to an anaërobic environment. Hueppe has cultivated as an aërobe the spirillum rubrum, which normally produces its red pigment in the absence of oxygen. He has also compelled the comma bacillus—a strict aërobe—to adopt anaërobiosis, and has altered the life conditions of the actinomycosis fungus. Kitt has cultivated aërobically the obligatory anaërobic bacillus of symptomatic anthrax. Both Hueppe and Scholl have shown that the comma bacillus develops more toxicity in the absence of air than in its presence and that the poisons produced by anaërobic saprophytic micro-organisms are destroyed by oxidation. Hueppe produced typic cholera diarrhea in animals, with artificially bred anaërobic comma bacilli. Cholera germs that have become anaërobic by culture lose their virulency rapidly when exposed to the air. Cultures of the pneumonia coccus take the same course. Cholera germs have been found to change spontaneously. When young they are virulent. Exposure to the air and advancing age render them impotent. Although aërobic they do not have time or the proper medium to enable them to become adapted to ordinary atmospheric conditions. The adaptation of pathogenic germs to environment is shown in pure cultures of certain anaërobic types upon gelatin and agar. They become accustomed to metabolism of oxidation, and the pathogenic products are oxidized as fast as formed. Virulency is thus lost.

(To be continued.)

5. Hueppe: Op. cit.

A PRELIMINARY REPORT ON THE TRANSMISSION OF PATHOGENIC GERMS BY THE COMMON HOUSE-FLY.

JACOLYN MANNING, M.D.
EAU CLAIRE, WIS.

William Hamilton Gibson, the naturalist and artist, called attention to a troublesome parasite of the house-fly, the microscopic, red, false scorpion. A careful scrutiny of a sheet of adhesive fly-paper in use will show many victims of this inconvenient little handicap, which, once anchored to the fly's leg, remains there, an animated and persistent tag.

A more serious and fatal enemy is the fly fungus, which "silences more house-flies than all the traps and poisons devoted to their extermination." This germ-scourge of flies kills them swiftly, and continues to grow with such rapidity that it perforates the body of its host and spreads around him on the wall or window-glass a white shroud of mold, from which spores are wafted, to the peril of next year's flies. That the house-fly acts as host to this fungus is apparent to any one who will examine with a hand lens one of the suspended and inanimate forms seen often during the fall months.

The habit of affording house room, whether willingly or unwillingly, to all comers, brought Musca domestica prominently before the profession in the last decade, when he fell under suspicion as a carrier of infection in acute intestinal diseases.

The investigation of the Army Medical Commission during the Spanish-American war practically established the fact that the fly is an important factor in the dissemination of typhoid fever.

Victor Vaughan, a member of that commission, stated that flies undoubtedly served as carriers of typhoid infection, giving as reasons for his belief: "They swarmed over fecal matter in the latrines. They visited and fed on food prepared for the soldiers in the mess tents. In some instances, when lime had been recently sprinkled over the contents of latrines, flies, with their feet whitened with lime, were seen walking over the food. Officers, whose mess tents were protected by means of screens, suffered less proportionately from typhoid fever than those whose tents were not so protected. Typhoid fever gradually disappeared in the fall of 1898, with the approach of cold weather and the consequent disabling of the fly."

This possibility had been foreseen, for Surgeon-General Dr. Sternberg issued a circular in April, 1898,

giving careful directions concerning hygiene, stating: "No doubt typhoid fever, camp diarrhea and probably yellow fever are frequently communicated to soldiers in camps through the agency of flies, which swarm about fecal matter, . . . and directly convey infectious material attached to their feet, or contained in their excreta, to the food which is exposed while being prepared at the common kitchen, or while being served in the mess tent."

An Italian scientist, Celli, demonstrated in 1888 that flies fed on the pure cultures of bacillus typhi abdominalis were able to transmit virulent bacilli into their excrement; and the agency of flies in the transmission of the spirillum of Asiatic cholera has been observed by many scientists.

Dr. L. O. Howard, of the U. S. Board of Agriculture, recently published the results of experimental work with the house-fly and other diptera extending over a period of five years. He considered that from a scientific and practical viewpoint there was needed a careful investigation of the insect fauna of human excrement, and especially of the flies that breed in human excrement, or are attracted to it. Of the 71 species of diptera that were found breeding in, or frequenting human excrement, the common house-fly (Musca domestica) is reported "abundant;" as also its near relatives, the little house-fly (Homalo-myia canicularis) "moderately abundant," and the stable-fly (Muscina stabulans). To ascertain the practical bearing of this fact, numerous collections were made of the diptera frequenting kitchens and pantries. "In all, 23,087 flies were examined which had been caught in rooms in which food supplies were ordinarily exposed, and which may safely be said to have been attracted by the presence of these food supplies." Of this number 98.8 per cent. were the common house-fly, while the little house-fly and the stable-fly composed one-half of the remainder.

Dr. Howard gives an opinion: "That Musca domestica, . . . in such cities and towns, or in such portions of cities, as are well cared for and inhabited by a cleanly and respectable population, may not be considered an imminent source of danger; it is . . . under other conditions, a factor of the greatest importance in the spread of intestinal diseases."

Of the biting fly (Stomoxys calcitrans) Dr. Howard states: "They resemble the house-fly very closely. The fact that they enter houses before storms gives rise to the common expression, 'Flies begin to bite before a rain.' From their biting and blood-sucking habits, this insect has been suspected, in common with the true horse-flies, of carrying the bacillus of anthrax, or malignant pustule, and there is no reason why it should not transfer any blood-inhabiting micro-organism from domestic animals to man, or from one man to another."

Of another very minute fly (Hippelates flavipes) Dr. Howard says: "The flies are very abundant, especially in the South, where they are found swarming about the eyes of animals and human beings. They are said by Hubbard to be responsible for the transmission of the disease known as 'pinkeye,' occasionally prevalent, especially among school children in Florida. The . . . species is perhaps often responsible for the carriage of putrefactive germs to open wounds, and is indirectly the cause of blood poisoning."

From the foregoing statements may we not expect to find the ever-present house-fly a direct factor in the transmission of the micro-organisms of wound infection?

It has been said that the mosquito carries with her the most perfectly constructed of inoculators, and the house-fly has, in the specialized structure of each terminal tarsus, a well-adapted brush for the transmission of adhering germs. The pads, or so-called suction discs, on each foot, are rayed with minute hairs, which again terminate in more minute discs; and Chambers states that the last named "exude a liquid substance which probably serves to make adhesion more perfect." In experimenting it was found that every footprint of an infected fly on sterile culture media was followed by a discreet colony of the germ; 30 to 40 distinct colonies sometimes appearing after one journey of the fly across the surface of the culture media.

In the experiments that follow common house-flies were used. They were caught in the kitchen of a dwelling-house, in a physician's office, and in one instance in a lying-in chamber. They were confined separately under reversed tumblers placed on note paper. A watch glass containing a small portion of the infected material was thrust under the tumbler, and when curiosity had taken the fly across the material, he was seized with a sterile forceps wrapped with cotton, and liberated just at the mouth of a tube of sterile blood serum. One stroll across the culture media and the tube was inverted over the flame of an alcohol lamp, which incinerated the fly and sterilized mouth of tube. The cotton plug and rubber cap of the tube being adjusted, it was placed in an incubator at 37 C. for twelve hours.

The tubes of sterile culture media were obtained prepared for use, from a well-known laboratory.

On September 7 the dressings from an infected hand were obtained, the dressings were soaked with blood serum, there were several areas of greenish and bright green pus, and an offensive odor diffused on opening them. The surgeon stated the wound had shown an obstinate phlegmonous extension, with localized edema. A portion of the dressing was placed under an inverted tumbler and two flies confined with it. They immediately lighted on the dressing, crossing it repeatedly before preparations were completed for removing them. In a few moments they moved slowly and appeared quite stupid.

Fly A was assisted into a tube of sterile blood serum with sterile forceps.

Fly B walked into a second tube through a perforation in the note paper over a tumbler.

In each case, after the fly crossed the surface of medium, the tube was inverted over an alcohol flame, destroying the fly; the mouth of tube and cotton plug were flame sterilized, the plug and rubber cap adjusted, and the tubes placed in incubator. After eighteen hours these tubes were removed from the incubator and presented practically the same appearance; the surface of medium was freely dotted with small brown colonies, the upper surface of medium presented a pale-greenish tint. Three days later inspection showed the colonies entirely coalesced, the upper one-half of media in each tube was a deep bluish-green, the lower one-half a dull orange; liquefaction of the media had begun at lower end of slant. Cover spreads made from these cultures and stained with Loeffler's alkaline methylene blue showed a pure culture of a small bacillus with rounded ends.

In following out the necessary cultures on different media for diagnosis, in every instance the pure culture, as transmitted by the original flies, was obtained.

A slant culture on glycerin agar-agar and one on nutrient agar-agar, made on September 9, developed

typical colonies in twenty-four hours and showed the fluorescent stain of the media, which later developed to a deep bluish-black.

A stab culture in blue litmus gelatin gave an acid reaction in forty-eight hours, the lower portion of the medium turning pink, while at the same time the upper portion became the pleasing translucent green.

A stab culture in nutrient gelatin, in four days, showed liquefaction in funnel form, with fluorescence of upper portion of medium.

All of the cultures, when opened, emitted an offensive and purulent odor. From all of these characteristics the germs were identified as the bacilli of green pus. The bacillus of green pus, Gessard's micrococcus pyocyaneus, or the bacillus des grün-blauen Eiters, is a widely distributed germ, found in purulent and serous wounds, and in the viscera of human cadavers. It is an aërobic, facultative anaërobic, liquefactive, motile, chromogenic and pathogenic germ; in its chromogenic function two pigments are formed, one fluorescent green, the other blue pyocyanin.

The satisfaction felt on coming into possession of a germ, so easily identified and tenacious of existence, has increased each week, as other experiments much less satisfactory were undertaken.

September 25 two flies were segregated with pus from a case of salpingitis; a cover-slip spread of the pus showed many streptococci and a few large, fat bacilli. Each fly was induced to walk across a tube of blood serum, and then one of nutrient agar-agar, and the tubes were incubated twelve hours. An interruption of ten days followed, during which time the tubes were left in cold storage. On examination, October 7, one blood serum and one agar tube were fuzzy with many colored molds; the second tube of nutrient agar showed nine colonies of a viscid, discrete, whitish growth. The blood serum tube showed many larger colonies, and three communities of the orange sarcinæ.

From the colonies on agar, cultures were made on all the various diagnostic media.

A stab culture in glucose gelatin presented large slanting bubbles of gas along the line of growth in three days. There was no liquefaction of media in any of the gelatin cultures.

A stab culture in blue litmus gelatin gradually turned the blue color of the media to a clear claret red. Cover-slip preparations made and stained showed an almost pure culture of a fat bacillus, which, from its appearance and manner of growth, was identified as the colon bacillus.

Welch states that "one of the leading rôles of this germ is to invade territory already occupied by other bacteria, or previously damaged;" and by its vigorous growth it had almost exterminated the streptococci that were numerous in the infective material.

On October 7 three flies were confined with a watch-glass containing a small amount of typhoid stool, from a typhoid whose temperature had just dropped to normal. Each fly was introduced separately into sterile tubes of blood serum, and promptly dispatched after crossing media. At the end of seventy-two hours two of the tubes presented many small round, moist, grayish colonies, while the third one was fuzzy with gray mold. A cover-glass spread from cultures showed many small bacilli with rounded ends, and a few faintly staining cocci. In a hanging drop preparation from the blood serum culture, the bacilli were seen to be actively motile, spinning and shooting about in a surprising manner. When grown in blue litmus gelatin there was no change in the color of the media; and in glucose gelatin there was no production of gas. There was no liquefaction of media in the various cultures in gelatin. The clump reaction was not tried, but the growth responded to all the other tests for identification of the bacillus typhi abdominalis.

On September 20 ten tubes of sterile blood serum were used. In each tube a common house-fly which had no known acquaintance with infectious material, was introduced and left in tube one minute, or until it had crossed surface of medium. After twelve hours in the incubator five of the tubes showed many minute colonies while five showed no growth. At the end of seventy-two hours eight of the tubes showed diffuse and varied growths, while two of the tubes were apparently sterile. Of the eight infected tubes three presented a noticeable appearance. No. 10 (1) showed over 100 colonies dotting the blood serum at irregular distances, the colonies were minute, discreet, raised, moist, color of medium. No. 10 (2) presented thirty-three colonies, irregular in outline, crenated edges, depressed centers, a light brownish yellow. In No. 10 (3) the surface of medium was covered with a moist, irregular, creamy-appearing growth.

I regret to say that these experiments were not carried on to the determination of the germs present. They will be repeated with an investigation of the pathogenic qualities of the bacteria present, at an early opportunity.

On November 2 a fly was confined with some sputum from a case of bronchitis in its fourth week. A cover-glass spread of the sputum showed diplococci, tetrads, and many stapylococci and streptococci. Two tubes of blood serum were infected by the fly, and after forty-eight hours' incubation showed manifold and surprising growths. Prominent among the colonies were several of a golden-yellow color and glistening surface. From these colonies cultures were made on the various diagnostic media. A streak culture on Loeffler's blood serum made a rapid growth, the growth elevated with wavy edges, and a shining golden surface. A streak culture on Koch's blood serum developed less color and sunk into the medium, channeling a bed for itself, otherwise the medium did not liquefy. On nutrient agar the growth was rapid, of a creamy-white color, with yellow at margin of growth. A gelatin stab culture showed a cloudy liquefaction following stab. Stained cover-glass spreads of the blood serum cultures showed masses of small cocci, which were identified as the staphylococci pyogenes aureus.

Two tubes inoculated with flies taken from a lying-in chamber early in September, showed after incubation, one sterile tube and one tube containing many colonies of orange and white sarcinæ; these germs are non-pathogenic and appeared sooner or later in a majority of the cultures produced by fly infection.

On one of the tubes—fly infected from the case of salpingitis, a single colony of bacillus prodigiosus appeared. This germ grows with the production of a brilliant orange-red pigment and is the origin of the miracle of the supposed bleeding wafers. It is non-pathogenic, but its chemical products are toxic and form a part of the Coley sarcoma mixture.

Molds grew so rapidly on many of the fly-infected tubes that only a few are presentable for inspection, suggesting the probability that flies are often fungus-ridden whether transmitting pathogenic germs or not.

The molds appeared more rapidly and certainly the last month than the first, and also during the past four weeks the flies have walked less briskly across the surface of media, but dragging across; the colonies were not discreetly rounded.

During the experimentation 44 culture tubes have been subjected to fly infection; of this number 41 tubes showed colonization at the end of 48 hours, 3 tubes remaining apparently sterile.

The following germs have been transmitted by fly infection, isolated and pure cultures obtained: Pathogenic germs—bacillus pyocyaneus, staphylococci pyogenes aureus, bacillus typhi abdominalis, bacillus coli communis. Non-pathogenic—bacillus prodigiosus, sarcinæ aurantia, sarcinæ alba, molds and fungi.

THE FIXATION OF A MOVABLE LIVER AND REPORT OF A CASE OF HEPATOPEXY.

J. H. CARSTENS, M.D.
DETROIT, MICH.

On account of the great rarity of floating or movable livers, I have looked over the literature and have had others help me at it. I find that only about 98 cases have been reported, from which we are able to draw some conclusion in the etiology, symptoms and management of this class of cases. As far as I have been able to find the record of cases is as follows:

A. Catini[1] reports a case with severe nervous symptoms, in a patient aged 54. The organ could be replaced.

R. Piatelli[2] reports a case of a woman aged 56. A bandage could not be worn.

E. A. Meissner[3] gives a case of a married woman of 39, a displaced liver apparently following pregnancy. She was much improved by wearing bandage.

G. Barbotta[4] states a case of a woman aged 37, also caused by parturition.

F. Vogelsang[5] reports a case in a very quarrelsome woman, middle-aged, of a floating, movable liver, which was caused by tight lacing.

F. N: Winkler[6] reports a case of a woman of 29. There was general ptosis, following the lifting of a heavy burden, and stabbing pain in the right side. It could be moved to the left side.

P. Muller[7] states a case of a woman aged 57, with a movable liver complicated with an ovarian tumor. It was verified by autopsy.

Salomone-Marino[8] gives a case of a woman aged 50, who had pain only on turning on left side. He also reports a second case in a woman aged 48, of movable liver, the result of a fall.

G. Leopold[9] states a case in a woman aged 54, who was poorly nourished. It never could be replaced.

C. Vicoli[10] gives a case of a woman aged 70, with the cause given as excessive lacing.

W. Sutugin[11] reports a case of a married woman at the age of 41, which was much relieved by wearing bandage.

G. Tempini[12] states a case of a woman aged 72, accompanied by heart lesion; the kidney could be replaced and kept there by hands.

N. P. Wassiljew[13] gives a case, aged 39, where the spleen was very movable and a movable kidney on the right side. He also reports a second case, a coachman aged 31, who was taken with a violent pain on the right side after great exertion. A third case of a carpenter, aged 47, seemed to be caused by severe cough.

L. Concato[14] tells of a case, woman, aged 60, who had pain. She was a very tight lacer and was relieved by bandage. She finally died, but there was no autopsy made.

F. Chovstek[15] gives a case of a married woman of 53, mother of 12 children. Labors were always very difficult. She was ordered to wear bandage.

L. W. Blet[16] reports two cases without giving age or histories. Both died from heart lesion.

F. Koehler[17] states a case. Married woman of 54 had falling of the womb, which was relieved by a pessary. Liver could be replaced and held with the hand. She had no pain.

W. Pepper[18] states a case in a married woman, 41, occurring after childbirth; it was accompanied by flatulency.

J. W. Legg[19] reports a case of a man aged 36, with decision apparently due to coughing. It was verified by autopsy.

F. Chovstek[20] reports a case in a woman aged 68, accompanied by dropsy and swelling of the lower extremities.

C. Hochhalt[21] gives a case of a man who had raised a heavy sack, then sank down senseless. Elastic bandage and pad were given as relief.

H. Rodsewitch[22] reports a case of a woman of 18. Tight lacing during pregnancy caused movable liver.

F. Chovstek[23] gives a case in a man of 45, who was a great beer-drinker and led a sedentary life. After gymnastic exercise he found floating liver. He had little trouble from it.

J. W. Runeberg[24] reports a case. In session of May 7, 1881, Runeberg showed a woman with floating liver and also spoke of another case reported by him. Pippingskold spoke of a case of liver dislocated observed by him many years since in a woman of 50 years, which was brought on after severe puerperal peritonitis; she died afterwards of carcinoma of the uterus and the dislocation was confirmed at the postmortem.

F. Schott[25] gives a case of a married woman of 40. Jaundice existed for five or six years; during this time she had repeated attacks of vomiting, diarrhea, constipation, general weakness and was greatly emaciated. She had catarrh of the stomach, bronchitis, etc. A floating liver was found and a bandage with a pad was ordered. After ten months patient was much improved and stronger.

J. Trush[26] reports a case of a widow aged 68. Movable liver followed a severe fall. It was verified by autopsy.

Nicola de Dominicis[27] reports that he observed some years ago a woman who had a wandering liver, in whom, having married and then become pregnant, the liver was returned to the normal place by the pregnancy and was not again displaced.

F. Schwartz[28] gives a case of a man aged 38, with fever and chills occasioned by jaundice. He returned to the hospital a number of times.

Julius Kranols[29] reports a case in a married woman of 38, accompanied with dropsy. Postmortem showed cancerous liver.

J. Penna, diagnosed by J. B. Arini,[30] reports a young girl. Her clothes were too small around the body. Floating liver was diagnosed and confirmed by Arini. It was relieved by special corset.

J. Maack[31] gives a case of a single woman of 35. Had a tumor in the right side in the ileo-cecal region, which was found to be a liver and could not be relieved by bandage.

G. Kispert[32] states a case in a married woman of 43, who had severe labors followed by fever. Afterwards

tumor was found; in fact, two, with an hourglass contraction.

S. Salome-Marino[33] reports a case. Single woman, with middle body causing trouble when she walked; was attacked with peritonitis in 1873, which caused fixation of the liver in the right ileo-cecal region. He reports a second case in a washerwoman of 49, who died of hemiplegia. Another woman, aged 33, had severe tympanites. Another woman, aged 44, died of sarcoma of the jaw; an autopsy was held. Another case was that of a man aged 55. There was a history only of intermittent fever with tympanites. He also reports a case of a married woman aged 34. There was poor digestion brought on after her sixth confinement. Another case of a woman aged 21, a silk-worker, was caused by lifting a heavy weight. He reports the case of a woman aged 27, apparently followed after dancing until she was exhausted five or six evenings in succession.

A. Perrone[34] gives a case of a married woman aged 58, who fell downstairs. Kidney was very movable.

H. Rosenkranz[35] states a case of a married woman aged 48, who was seized with severe vomiting, and pain in the abdomen. This was followed by ascites in the edema of the legs. This disappeared after two months. Dislocated liver was found, which could be turned without trouble on its sagittal axis.

R. Pichevin[36] states a case of a movable lobe of the liver and a floating kidney.

K. Szigethy[37] gives a case of a man of 42, with difficulty of breathing, jaundice and ascites caused by wandering liver.

E. H. Parker[38] reports a case of a child, 10 months old, with a tumor, which he thought was a movable liver, but was pronounced sarcoma of the kidney by others.

E. Maragliano[39] reports the case of a woman 51 years old, with movable liver, evidently accompanied or caused by cancer.

George Curtius[40] gives a case of a married woman aged 41, with very movable liver, which was relieved by wearing a flannel bandage.

M. Einhorn[41] states the case of a carpenter aged 57, who had always been healthy; it came on suddenly, with severe chill and dizziness, accompanied by vomiting and pain.

Gonterman[42] reports a case of a girl nearly a year old, taken with whooping cough complicated with peritonitis. She was later taken with diarrhea and meteorism and became greatly emaciated. After this a tumor was noticed. Sudden death occurred, which was supposed to be due to twisting of the pedicle, although no postmortem was made.

S. Salome-Marino[43] gives a case of a wandering liver which suddenly appeared in a girl of 5 years without producing severe symptoms.

J. F. Binnie[44] reports a case of a single woman aged 47, a music teacher. She had a tumor on the right side three years, and an attack of jaundice six months before; an exploratory laparotomy was made. On opening the abdomen, a floating liver, rotated and freely movable, was found. On its surface were nodules like hepatic carcinoma.

Schtscherbakow and Rudow[45] give a case of a woman aged 35; after eleven births it occurred, apparently, by getting up too soon after severe confinement. She wore a bandage.

G. N. Kreider[46] reports a case of a veteran of the War of the Rebellion; it was thought that the liver was loosened by lifting heavy casks. The patient declared that he suffered no inconvenience from the organ.

Richelot[47] reports a case of painful movable tumor in the right iliac fossa, which proved to be the displaced liver. He operated and three months later the relief was still complete.

Dr. V. Poli[48] reports a case of movable liver in a woman aged 29. He operated with success.

M. Albert Mathien[49] reports a floating liver in a woman aged 53; he operated; the patient recovered.

J. Buchholz[50] records a case of floating liver in a widow aged 50; abdominal bandage was applied, with complete recovery.

Dr. S. Weissenberg,[51] of Jelissawetgrad, reports a case of hepar migrans s. mobile, as follows: F. H., female, aged 43; abdominal bandage gave temporary relief. Operation refused; patient died later.

Prof. W. Leube,[52] of Wurzburg, Germany, reports a case of floating liver as follows: S. H., peasant's son, aged 17; operation; recovery.

Dr. Benjamin Hellier, M.R.C.S.,[53] reports a case of enlarged gall-bladder, with inguiform appendix of the liver, in a married woman aged 32. Exploratory incision was made. Patient made excellent and rapid recovery.

Bastianelli[54] operated in a case of floating liver in a woman aged 37. A diagnosis of cancer and displacement of kidney had been made. Good recovery occurred.

Lannelongue and Faguet,[55] of Bordeaux, operated in a case of floating liver, diagnosed as tumor of the large intestine, with good recovery.

Dr. J. E. Graham, London, reports three cases of movable liver. Case 1. Female, aged 62. Abdominal bandage was used; patient made rapid recovery. Case 2. J. R., aged 32; patient died from other causes; postmortem revealed floating liver. Case 3. M. T., boy, aged 17, with transposed and movable liver. Treatment was not stated.[56]

Bobroff reports a movable liver in a woman aged 50 years; laparotomy was performed; there was marked improvement.[57]

Glubinsky[58] reports a case of movable liver in a female aged 38; operation, with complete recovery.

Dr. Frederick A. Packard reports a case of floating liver in a male laborer aged 40. Exploratory puncture was made, with recovery.[59]

Pean records a case of movable liver in a female aged 29 years; operation, with complete recovery.[60]

Dr. Felix Franke reports two interesting cases of floating liver as follows: Case 1. A. Sch., woman, aged 23; operation and subsequent good recovery. Case 2. H. W., widow, 41 years old; laparotomy, with good recovery.[61]

Areilza[62] reports a floating liver in a male aged 20 years; laparotomy, followed by recovery.

Delagenière[63] records a case of floating liver in a female aged 30 years; operation and complete recovery followed.

J. Lucas Championnière reports floating liver in a female aged 35; median laparotomy and recovery.[64]

R. Crawford reports a case of "anteverted, wandering liver," in a woman aged 65; postmortem revealed above condition.[65]

Blanc reports an interesting case of movable liver in a woman aged 35; vertical incision was made, with perfect success and rapid recovery.[66]

P. Ferrari reports a singular case of floating liver in a girl 24 years old; operation and recovery.[67]

Dr. H. McNaughton-Jones reports a case of complete laparotomy in a female aged 38. There was splendid recovery.[68]

Dr. Aristide Muratori reports a case of movable liver, the result of probably carcinoma, in a male laborer aged 61. Operation was made, with recovery.[69]

Professor Einhorn, of New York, reports five cases of movable liver, as follows: Case 1. Sarah D., aged 37; abdominal bandage was employed, with rapid improvement. Case 2, aged 50; abdominal bandage and rapid improvement. Case 3, female, aged 55, with abdominal bandage, improved immediately. Case 4. David L., aged 41; abdominal bandage ordered, with marked improvement. Case 5. A. S., 25 years; full diet and bandage were ordered; marked improvement resulted.

Einhorn reports four other cases of movable liver, diagnosed incorrectly; three were pronounced cancer of stomach; the fourth as appendicitis or gallstone. Bandage relieved all symptoms. Among five other cases, wrongly pronounced gallstone colic, was that of a man aged 60. Adjustment of bandage resulted in great relief.[70]

Dr. N. O. Nisbet, of Charlotte, N. C., reports movable liver in a woman aged 45. Abdominal bandage relieved all symptoms.[71]

These cases enable us to see with reasonable certainty that the cause of a movable liver is always an injury, severe fall, heavy lifting, or, in a few cases, the development of a malignant growth in the liver.

The symptoms of a floating liver are a distress and feeling of weight in the region of the liver. Often a good deal of tympanites and symptoms of intestinal indigestion. The action of the bowels seems to vary, even in the same individual; sometimes diarrhea and sometimes constipation is present. The nervous symptoms can not be all enumerated; they are as numerous as we get in hysteria. They are (as we find in all reflex nervous condition of other organs), headaches, restlessness, hypochondriasis, gastric disturbances, etc. Quite a few of these cases cause no symptoms except the sensation of weight, and patients were quite comfortable when wearing a bandage.

Few attempts have been made so far to relieve this condition by operative interference. In the case of Dr. Binnie, a simple exploratory operation was made and the diagnosis cleared up. Others made exploratory operations, but few attempts at a radical cure. Richelot was the first, I think, who deliberately operated to cure.

In cases of general enteroptosis the abdominal bandage will be valuable, as recommended by Einhorn. In such cases operation will be of no benefit, as we have to deal with a general condition of the system. My case is as follows:

Mrs. R. Elkhart, Ind., a patient of Dr. Mast, aged 48, passed the menopause; married a second time, but never had children. She is a hard-working woman, weighs about 220 lbs., never has been seriously ill, but has had the usual symptoms of the menopause well marked. During the last year she has been troubled with pain in region of the liver extending down to the pelvis, a sensation of fulness and distress; sometimes she was obliged to keep in bed for a half day to two days; occasionally she was jaundiced for a few days. All symptoms indicated some diseased condition of the liver, but no symptoms of gallstones, no severe colic; simply a feeling of fulness and distress. She was inclined to be constipated; her digestion was good, although she complained a good deal of gas. The nervous symptoms were also well marked, especially hypochondriasis and despondency, as is often found in disturbances of the digestive system.

EXAMINATION: The woman being heavy and stout, it was difficult to make a positive diagnosis of abdominal trouble. Percussion on the right side down to the pelvis indicated a tumor, or solid mass, the character of which could not be made out; it might be an enlarged liver, tumor of the kidney, an ovarian tumor developed in that direction, or possibly a long pedicled fibroid. It might also be a malignant growth, although the general appearance of the patient would discredit such condition, or one of those very rare tumors, such as a hydatid or a cyst of some other organ attached to the right side. The growth did not seem movable. I did not express an opinion of its character, but suggested an exploratory operation.

OPERATION: She was operated on April 24, 1900. An incision made at the outer edge of the rectus two inches below the ribs and downwards for two and a half inches. After cutting through a thick layer of fat and opening the peritoneum, the enlargement proved to be the liver. The right lobe was much enlarged and hanging down to the brim of the pelvis. It could be easily replaced in its normal position and then projected about two inches below the ribs. There were no gallstones. All other abdominal organs seemed normal.

It seemed to me that the only thing to do was to fix the liver as near as possible in its normal place. I therefore scraped as thoroughly as I could the anterior side of the liver and the anterior wall of the peritoneum, so as to get it thoroughly denuded of epithelium and to allow adhesions to take place. I then brought the raw surfaces together, grasped the coronary ligament and brought it forward and stitched it to the upper angle of the wound. I then closed the abdomen with dry sterilized catgut in layers and dressed the wound as usual. The patient made an uninterrupted recovery. Nearly all her symptoms had disappeared when she left the hospital on the 20th day. I heard of her three months later, still much improved, but occasionally troubled with gas.

I report my case for the purpose of calling attention to the condition, which is certainly rare, and still, by being on the lookout for it, perhaps, a good many more cases would be found than we suspect, especially in these chronic abdominal troubles with no marked symptoms.

I also report it for the purpose of calling attention to the fact that operative procedure will offer a radical method of cure.

BIBLIOGRAPHY.

1. Ann. Univ. do Med., Milano, 1866, cxcviii, 373.
2. Riv. Clin. di Bologna, 1868, vii, 239-243.
3. Schmidt's Jahrb., Leipz., 1869, cxci, 107-114.
4. Morgagni, Napoli, 1870, xii, 848.
5. Memorabilien, Heilbron, 1872, xvii, 67-69.
6. Arch. f. Gynaek., Berlin, 1872, iv, 145-156.
7. Deutsches Arch. f. Klin. Med., Leipzig, 1874, xiv, 146-149.
8. Osservatore Med., Palermo, 1874, 3 S., iv, 185-224.
9. Arch. f. Gynaek., Berl., 1874-5, vii, 152-168.
10. Morgagni, Napoli, 1875, xvii, 852-854.
11. Arch. f. Gynaek., Berl., 1875, viii, 531-533.
12. Gazz. Med. Ital. Lomb., Milano, 1875, 7 S., ii; 233; 242; 249.
13. St. Petersb. Med. Wchns., 1876, i, No. 30.
14. Riv. Clin. di Bologna, 1876, 2 S., vi, 65-68.
15. Wien. Med. Presse, 1876, xvii, 10; 885; 921; 976; 1008.
16. Etude sur le foie mobile, Paris, 1876.
17. Beitraege zur Casuistik der Wanderleber, 8. Greifswald, 1877.
18. Med. and Surg. Reporter, Phila., 1877, xxxvii, 350.
19. St. Barth. Hos. Rep., London, 1877, xiii, 141-148.
20. Allg. Wien. Med. Ztg., 1877, xxii, 330.
21. Med. Chir. Central., Wien., 1879, xiv, 554.
22. St. Peters. Med. Wochenschr., 1879, iv, 324.
23. Wien. Med. Bl., 1880, iii, 755; 784.
24. Finska iak. Salisk. Handl., Helsingfors, 1881, xxiii, 279.
25. Deutsche Med. Ztg., Berl., 1882, iii, 247; 259.
26. Obst. Gaz. Cincin., 1882, v, 337-343.
27. Manuale di semiotic fisca ad uso dei giovani o dei medici practici. 8. Napoli, 1883, pt. 1, 113, note.
28. Wien. Med. Bl., 1883, vi, 695-700.
29. Zur Casuistik der Wanderleber. 8. Stuttgart, 1884.
30. An. dei Cerc. Med. Argentine, Buenos Ayres, 1884, vii, 131-136.
31. St. Petersb. Med. Wchnschr., 1884, n. F., i, 410.
32. Berl. Klin. Wchnschr., 1884, xxi, 372-375, with woodcuts.
33. Studi di Clin. Med., 8. Palermo, 1885, 185-224.
34. Morgagni, Napoli, 1886, xxviii, 585-593.
35. Berl. Klin. Wochenschr., 1887, xxiv, 715.
36. Progrès Méd., Paris, 1888, 2 S., vii, 253.
37. Pest. Med.-Chir. Presse, Budapest, 1889, xxv, 1013.
38. New York Med. Jour., 1889, xxix, 656-658.
39. Riforma Med., Roma, 1889, v, 2; 8; 14; 20; 26; 74; 80; 374; 380.
40. Symptome und Aetiologie der Wanderieber in Anschluss an einen solchen Fall. 8. Halle a. S., 1889.
41. Med. Monatsschr., N. Y., 1889, i, 351-353.

42. Deutsche Med. Wochenschr., Leipzig, 1890, xvi, 1043.
43. Lavori d. Cong. di Med. Int., Milano, 1891, iv, 338-341.
44. Internat. Jour. Surg., N. Y., 1892, v, 332.
45. Ibid., page 86.
46. Med. News, Phila., 1893, lxii, 436.
47. L'Union Méd., Aug. 5, 1893-94.
48. Riforma Medica, vol. ix, 7., 105, 1893-94.
49. Gaz. des Hôpitaux, Oct. 24, 1893-94.
50. Norsk Magazine for Laegevidenskaben, vol. viii, 1893-94, p. 994.
51. Deutsche Med. Wochenschrift, Nov. 30, 1893-94.
52. Münchener Med. Wochenschrift, Jan. 23, 1894.
53. Brit. Med. Jour., May 4, 1895.
54. Il Policlinico, Rome, April, 1895.
55. La Semaine Médicale, Aug. 7, 1895.
56. Canadian Practitioner, 1895, vol. xx, p. 399.
57. Wratsch, 1895, No. 46, p. 1299.
58. Voiyeny Med. Jour., Nov., 1895.
59. University Med. Mag., 1896-97, vol. ix, 9, 266.
60. Congrès de Chirurgie, Paris, Oct., 1896.
61. Centralblatt für Chirurgie, 1896, vol. xxiii, p. 775.
62. Rivista di Medicina y Cirurgia Pratica, 5 Jiullet, 1896, p. 24.
63. Archives Provinciales de Chirurgie, 1897.
64. Gaz. des Hôpitaux, April 1, 1897.
65. Lancet, Nov. 6, 1897.
66. La Loire Méd., Dec. 15, 1897.
67. Centralblatt für Chirurgie, 1897, vol. xxiv, p. 1301.
68. Med. Press and Circular, May 18, 1898.
69. Gaz. Degli 6 Spedali e delle Cliniche, 1898, Nov. 20.
70. Zeitschrift für Diatätische und Physikalische Therapie, Leipzig, 1900.
71. The Carolina Med. Jour., Feb., 1901.

SOME ACUTE DISEASES OF THE EAR; THEIR DIAGNOSIS AND TREATMENT.*

PHILIP HAMMOND, M.D.
Assistant in Otology, Harvard University; Assistant Aural Surgeon, Massachusetts Charitable Eye and Ear Infirmary, etc.
BOSTON, MASS.

It is my purpose in presenting this paper to call to your attention some of the more common conditions which confront us when we have occasion to examine the ear. The two most frequent symptoms which drive the ordinary person to seek medical attention for this organ are pain and deafness, and to treat either successfully we must remember that we have to deal with symptoms and not diseases. Take the pain, for instance, and we find that it may come from an abscess of the middle ear, from an ulcerated tooth, from a furuncle in the canal, or perhaps tonsillitis or rheumatism, or some other general disturbance is at the bottom of it. We learn to recognize that deafness, too, is but a symptom, and that it may come from one of many causes.

In examining a case of earache, we thoroughly inspect the drum, noting in the first place the presence or absence of normal appearances. If we detect any congestion we at once conclude that here is sufficient cause for pain and proceed to treat it. In the absence of any inflammation, we know that it is not possible for such an ear to give rise to pain, and we must look elsewhere for the cause. The most common cause of earache, aside from actual inflammation of the ear itself, is due to the presence of a carious tooth, and this is usually found to be a lower molar on the affected side.

The presence of a furuncle is usually easily demonstrated, as we have a sharply localized swelling in the canal which is extremely sensitive to the touch, and which renders examination rather difficult. In the early stages the drum can be seen, and the fact that it is not inflamed aids us in the diagnosis. Very rarely the furuncle will assume such proportions as to simulate a mastoid swelling, the ear standing out from the side of the head, and there may even be fluctuation behind the ear. Diagnosis in these cases is often difficult and it may take a day or two to clear up the question.

Treatment should be directed toward giving the patient comfort. Repeated hot applications, the use of a tight tampon of cotton, dipped in a 4 per cent. solution of carbolic acid in glycerin, placed in the canal, and in extreme cases of a long, slim flaxseed poultice, curved about the ear in the shape of a horseshoe, have given the best results in the writer's practice. Incision should be resorted to only when the furuncle is pointing. Premature opening apparently does no good, and many think that it favors the formation of more infected areas. The patient's general health should be attended to, and tonics given. Above all, any scratching or fingering of the ear should be prohibited.

Children are the most frequent sufferers from earache, and perhaps the majority are subjected to all kinds of home treatment before the physician is called. Their unusual susceptibility is due to the fact that there is a certain amount of adenoid tissue in the naso-pharynx of almost every child, and in some this is abnormally developed, with the result that the child is continually getting head colds. With each cold nasal respiration is more or less blocked, the growth swelling so as to obstruct the naso-pharynx, and in this way the Eustachian tube becomes involved. As a direct result we have one of two things. The child may have severe pain with development of an abscess, or it may become deaf from closure of the Eustachian tube and subsequent exudation of serum into the ear cavity. The first is due to invasion of bacteria along the inflamed membrane, the second to the complete occlusion of the tube. We will take up the discussion of the latter condition first, leaving the suppurative inflammation of the middle ear for a few minutes.

Acute closure of the Eustachian tube is painless, and usually begins with a stuffy sensation in the head, followed by a more or less marked deafness. In the case of a child this may be attributed to stupidity. Sounds within the head appear to be very much louder than they really are, and to the patient his own voice sounds as if he were speaking with his head in a barrel. Inspection of the drum shows a darkened, retracted membrane, without any injection of the vessels. If the disease has progressed so far that there is already fluid within the ear, we may be able to make out its upper level through the drum.

In slight cases where there has been no exudation, the natural tendency is toward spontaneous recovery with the passing of the cold which caused the trouble. Repeated attacks, however, can not but result in organic changes in the ear, which later in life become apparent as the familiar dry catarrh of the middle ear, with very considerable deafness.

In the severer forms where an exudate has formed in the middle ear, treatment of the nasopharynx and inflation by means of Politzer's method will usually restore the hearing in a very short time. If the child is subject to these attacks, however, we must not look for a permanent cure until the adenoids, and particularly those around the Eustachian tubes, have been removed.

This collection of fluid in the middle ear is by no means confined to children, and sometimes we have very much greater difficulty in securing absorption in adults. If after about ten days of careful treatment of the nasopharynx, and inflations, the fluid has not disappeared, it may be advisable to perform paracentesis in the lower part of the drum, and then inflate, thus forcibly expelling the fluid. The hearing will be restored almost immediately to normal, and the incision will have healed by the end of twenty-four hours in the vast majority of cases.

Acute suppuration of the middle ear, the cause of the earaches with which we are so familiar, presents an entirely different clinical aspect. The patient has almost

* Read before the Essex North District Medical Society, Jan. 1, 1902.

from the first a sharp pain in the ear, steadily growing worse. Inspection of the drum shows a congestion of the upper posterior part, which gradually increases until the whole upper part of the membrane is involved. Should the disease progress still further, there will appear a decided bulging of the upper posterior quardant, with marked deafness.

In the early stages, heat applied locally is of as much value as any one thing. A good way of using it is to douche the ear every hour or two with water as hot as can be tolerated, using from one to two quarts of fluid each time, in order to get a prolonged application. In severe cases it is well to also employ heat in the form of a hot water bottle, or hot salt bag, between the douchings. Free catharsis should be attended to, and it may be necessary to give a little bromid, or phenacetin. In mild cases this treatment will cut short an otherwise painful illness, and the patient will escape with only a few hours of pain, and subsequently a feeling of fulness with slight deafness. In the severer forms of infection the inflammation goes on rapidly to pus formation, with the consequent bulging of the drum of which we have just spoken.

Here we have arrived at a stage which often puzzles the general practitioner. He knows that he is justified in using palliative treatment to a certain extent, but he also has in mind a wholesome dread of possible infection of the mastoid, or of the meninges, even, should the case be neglected. To allow the abscess to develop until it opens spontaneously is to needlessly expose the patient to these dangers. The question then naturally arises, when shall he perform paracentesis, and also, what risk is he running by so doing?

In answer to the first I would say that whenever we have a bulging of the drum, with pain which is not easily controlled by the means we have mentioned, I should unhesitatingly open the membrane. In doing this the whole posterior half of the drum should be freely incised, a curved opening being preferable, as not so likely to close again too quickly. Regarding the dangers of this procedure, they refer mostly to the future hearing of the patient. Until one has had a little experience, there is, of course, some likelihood of injuring the delicate mechanism of the middle ear, but hearing is of secondary importance as compared with bringing the patient safely out of the trouble. In practiced hands no evil result need be feared, as most of these cases recover their normal degree of hearing. The operation is an exceedingly painful one, and is best done under the influence of primary anesthesia. We must not expect the escape of a large quantity of pus immediately on opening the drum. There is usually a free bleeding at first, followed by a serous discharge for twelve or more hours, before we get pus. As has been repeatedly proven by cultures, the bacteria are there from the start, but have not sufficient opportunity to multiply. To minimize this growth of bacteria, and to prevent the access of others from without, it is better before doing paracentesis to carefully cleanse the canal with a cotton stick dipped in an antiseptic, and then to allow a corrosive sublimate solution of a strength of 1 to 5000 to remain in the ear for at least five minutes. The paracentesis needle is, of course, sterilized, and after the bleeding has in a measure subsided, the canal is carefully cleared of blood clots, and a loose wick of sterilized absorbent cotton inserted. Outside of this, still another piece of cotton is placed, for the purpose of receiving the capillary drainage of the wick. This latter piece is to be changed as often as it becomes soiled, the wick remaining in place for twenty-four hours, when it is replaced by a fresh one. Wicking is kept up as long as the discharge is thin enough to escape through the cotton. By means of this method of treatment we materially reduce the risk of infection from without, as must inevitably result when we syringe the ear, and in a certain proportion of cases the ear will cease to discharge after one or two days, healing without having really suppurated.

When an ear is really suppurating actively, however, we have to resort to the use of the syringe as a measure of cleanliness. It is best used in the form of a douche, the heat being grateful to the patient, and tending to allay the inflammation. Leeches are sometimes of value where the congestion is very great. They are best applied immediately in front of the ear, and over the mastoid process. It is absolutely essential that the opening in the drum should be maintained during the progress of the disease, and this sometimes requires repeated openings.

It sometimes happens that the patient does not come to us for treatment until after the most severe of the inflammatory symptoms have subsided. He may complain simply of deafness, or of the inconvenience of having a constant discharge from the ear. Examination after cleansing the canal of all secretion will usually show a red and edematous drum in which we may possibly see the perforation, or the latter may be so small as to be invisible except on performing Valsalvan inflation. When this is done, fluid or air will come out through the drum, making the location of the hole apparent. If we keep the canal cleared of the purulent discharge, the natural tendency in acute cases is toward recovery. Keeping in mind the fact that our abscess cavity is inside the drum, and that the perforation may be so small as to be invisible, we can readily see the futility of attempting to bring about a cure by instilling the various solutions recommended for this trouble. It is probable that not one particle ever enters the tympanic cavity. Of course, this does not apply to cases with larger perforations, but these do not usually appear in acute cases, and to discuss them would be to open up a larger field than we have time for to-day. When the discharge is profuse it is my custom to have the patient syringe the ear several times daily, allow it to dry as well as possible, and then blow in a small quantity of boracic acid. As the discharge diminishes, it is sometimes preferable to use the so-called dry treatment, mopping out the canal with a cotton stick, and then using the powder. We should keep track of the hearing during this time, for cessation of the discharge alone might mean that the drum was closing prematurely, to cause mischief later on, but a diminished discharge with improved hearing would indicate recovery.

A point of great interest to the general practitioner is the recognition of the presence of infection of the mastoid. Many times I have had the statement made to me by physicians that they have been in practice twenty years, we will say, and have never seen a case of mastoiditis, and almost in the next breath ask: What are the symptoms?

Here we have the whole matter in a nutshell. It is not that the disease is infrequent, but because the symptoms are obscure, and in many cases to be made out only by inspection of the ear by means of the speculum and reflecting mirror, that it is not more often detected. Because some years since mastoid abscesses were not commonly opened until there was an exudate of pus between the bone and periosteum, this is the picture most often before the minds of many of us at the mention of the

disease. We rather expect to see a certain amount of edema behind the ear, and perhaps fluctuation.

Fortunately for our patients, we are to-day enabled to detect the presence of extension to the mastoid long before it has reached this stage. Every patient who has an acute suppuration of the middle ear should be carefully examined for evidences of mastoid involvement, as symptoms may appear as early as the second day. It is a well-known clinical fact that the absence of temperature is no guide whatever; during the acute process in the middle ear we are apt to have some elevation, but this may entirely subside with free discharge from the ear, even although the mastoid be filled with pus.

Tenderness over the mastoid antrum is apt to be a better guide, but it must be remembered that this is often apparent only on deep pressure, and also that with some very thick bones we are not able to elicit tenderness.

In the absence of these two symptoms we are obliged to turn to an inspection of the condition of the middle ear. With an increasing collection of pus in the mastoid there will be a more pronounced bulging of the drum, and in many cases which give no evidence externally there will be almost a complete closure of the auditory canal from swelling of the wall nearest the mastoid. There is usually much pain with this condition, but in some cases, and especially with phthisical patients, there is none. The presence of this increased swelling of the drum and posterior canal wall is diagnostic of mastoid trouble, however, and it should not be allowed to persist long without operation.

Now as to the treatment which should be instituted once we have made the diagnosis. We must bear in mind the fact that mastoiditis is always secondary to a purulent inflammation of the middle ear, and use our best efforts to abort this trouble. Free drainage should be maintained through the drum, and at the first suspicion of tenderness or other sign of mastoid involvement we should apply cold by means of Leiter's coil. At this stage leeches to the mastoid are often of value, and the patient should, of course, be kept in bed. Active treatment should at the same time be continued for the suppuration in the middle ear, as we have just indicated. If the pain and tenderness of the mastoid persist for more than twenty-four hours after free paracentesis and the use of the cold, it would be advisable for most practitioners to consult with some one skilled in such matters, as there is very great danger in delaying operation too long. No one can tell in which direction the pus will turn to seek relief, and practically the only notice we have of its penetration inwards to the lateral sinus or brain is a sharp chill, ushering in a condition of septicemia, and then it may be too late to interfere.

Carried out in competent hands the mastoid operation is devoid of danger, and in uncomplicated cases the patients recover so rapidly that it is often advisable rather than submit to the tedious processes of spontaneous recovery, which may take many weeks, and which gives us no assurance that the patient may not ultimately be obliged to submit to operation after weeks of delay.

Prescribing by Druggists.—The Paris "Syndicat des Medecins" sued a pharmacist for illegal practice of medicine because he had made an analysis of the urine of an applicant and then prescribed for him on the ground of what he found in the urine. The court decided that pharmacists are not competent to draw conclusions from examination of the urine so as to prescribe understandingly, and consequently condemned the defendant to a fine of $10 and a similar sum to be paid to the syndicate.

AN IMPROVED METHOD OF EXAMINING THE FEMALE BLADDER.

J. CLARENCE WEBSTER, M.D.

Professor of Obstetrics and Gynecology, Rush Medical College, the University of Chicago.

CHICAGO.

In his earlier papers describing his method of examining the female bladder, Dr. Howard Kelly recommended that the necessary elevation of the pelvis be obtained by placing pillows under the hips as the patient lay on a flat table in the lithotomy position. More recently he has advocated the genupectoral posture as more advantageous.

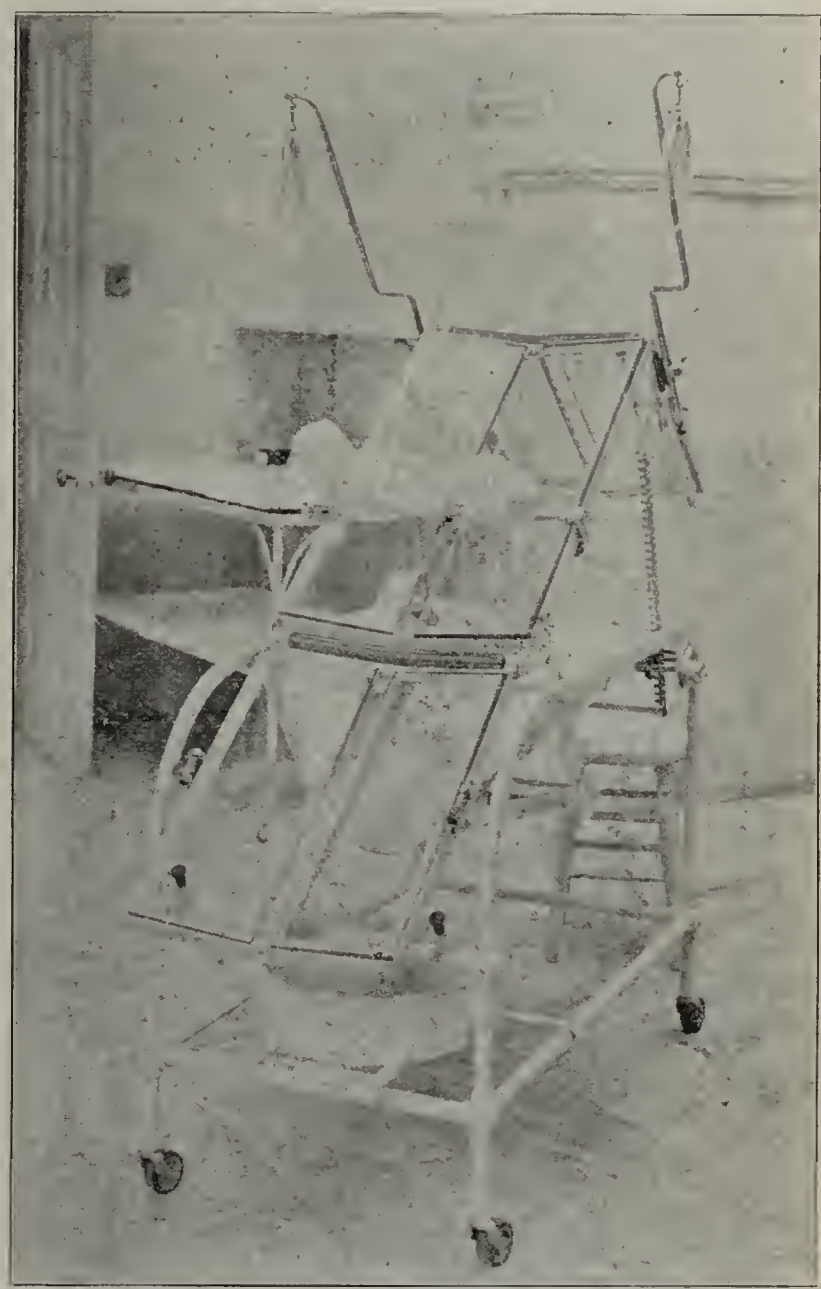


Fig. 1.—Boldt table representing the elevation used in examining the female bladder. The author's shoulder support is shown, attached to the table-top. The leg-holders are also in position.

Each of these methods has certain disadvantages. When the first posture is adopted, the examination is frequently unsatisfactory. The elevation necessarily leads to a flexing of the upper part of the abdomen on itself. This interferes with the free descent of the intestines toward the diphragm, which is necessary to the complete distension of the bladder with air. The hips can not be raised much above twelve or fourteen inches without discomfort to the patient if she be not anesthetized, and if an anesthetic be employed, the cramping of the abdomen interferes with free respiration. In women with tense or fat abdominal walls, it is often impossible to obtain distension of the bladder by this method.

The genupectoral posture, while undoubtedly most

favorable to bladder distension, is very unpleasant to the patient if she be not anesthetized, while if an anesthetic i used, its administration is very awkwardly carried out. The patient's neck is apt to get much bent, and if she vomits or secretes mucus freely there is often trouble in managing these complications satisfactorily. Moreover, the position of the examiner is not apt to be at all a comfortable one, especially in catheterizing the ureters.

During the past three years the writer has employed a method which is free from these objections. The patient is placed on a Boldt operating table in the lithotomy position, the ankles being fastened to upright rods, the buttocks projecting slightly over the end of the table resting on a rubber pad. A steel bar with two padded supports is attached to the top of the table so as to support the shoulders. After the external genitals and vagina are cleansed, the patient is enveloped in sterile sheets, the urine is withdrawn from the bladder, the

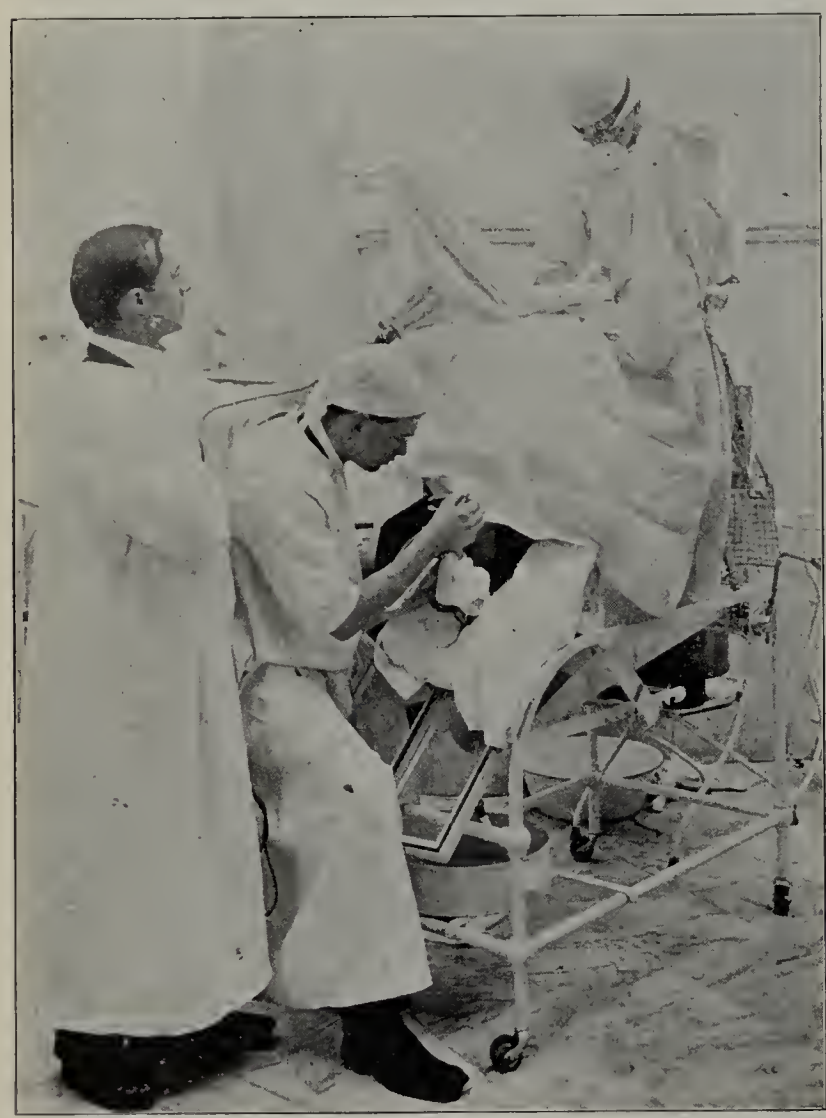


Fig. 2.—Method of examining the female bladder on the Boldt table.

urethra is dilated to the necessary size and a speculum containing its obturator introduced into the urethra. By means of a crank the top of the table is turned on a transverse axis so that the lower end is elevated and the upper end depressed. The patient is thus made to rest on an inclined plane, being held by the shoulder supports, her trunk being flat against the table and not bent in any way, so that her respiration is free and the anesthetic easily administered. The writer usually raises the table-top until its lower end is twenty-three inches above the normal level. The obturator is then removed from the speculum, allowing air to enter and dilate the bladder. The examination of the bladder and ureters is then carried out, the examiner standing on a stool so that the eyes may be well above the outer end of the speculum.

This posture has all the advantages of the genupectoral position and none of its disadvantages. In difficult cases in which distension of the bladder has not been thoroughly satisfactory I have not been able to get better results by trying the genupectoral position. This method is also advantageous in the cases in which examination of the bladder or catheterization of the ureters is to be followed by operation. The table is merely lowered and the procedure at once begun if the vaginal route is to be chosen.

In the examination of the rectum also, the position is highly satisfactory, air distension being obtained in the great majority of cases as soon as the anus is opened. The various forms of rectal specula may be used with great ease. I have also found it serviceable for certain obstetric maneuvers for which the genupectoral position has hitherto been employed.

THE DIFFERENTIAL DIAGNOSIS OF TYPHOID FEVER.*

WILLSON O. BRIDGES, M.D.
Professor of Medicine, University of Nebraska College of Medicine.
OMAHA, NEB.

The combined group of symptoms which establishes the diagnosis of typhoid fever are: a gradually increasing fever with evening exacerbation and morning remission; general malaise with headache; a furred tongue with red edges and tip; nose bleed; a relatively slow pulse (possibly dicrotic); abdominal distension with tympany, gurgling and tenderness in the right iliac fossa on firm pressure; a roseolar eruption confined principally to the abdomen and chest; enlarged spleen, and the physical signs of bronchial catarrh.

Should every case of typhoid fever present the foregoing symptoms, the diagnosis would be simple and mistakes would not be common, but unfortunately this is not true and I believe the classical history, as portrayed in the books, is the exception rather than the rule. Because of the great variability in the symptoms and the tardiness of the appearance of many of them, the diagnosis is often not clear until the patient is far advanced in his illness. We have to wait a week from the commencement of the attack to demonstrate the characteristic fever chart, seven to ten days to find the rose spots, usually the same time to demonstrate an enlarged spleen; during this period what an anxious time the attending physician has in satisfying the family and friends that he is positive as to the nature of the trouble. Too often he starts off with la grippe, which does not respond in a few days to treatment, but turns out to be a malarial fever which later becomes complicated by typhoid at the first sign of an intestinal hemorrhage or a perforation.

Probably typhoid fever can be made to answer for a greater number of affections than any other disease. The only consolation the physician can find in his unfortunate position frequently is, that he is not the only one to be similarly situated; in fact, he is not even an exception, for we have all been there and will be again. The eminent men who were in attendance upon the Czar of Russia a year ago had him down with la grippe for nearly a week before typhoid fever showed up.

In quite a number of cases, the preponderance of some symptom leads away from the suspicion of the disease, and accounts for many errors in diagnosis. I have seen the physical signs of bronchitis so intense in the early

* Read before the Botna Valley Medical Society, at Avoca, Iowa, Feb. 13, 1902.

history of a case with accompanying high fever as to entirely mislead; the pain in the head so great as to make the attending physician certain of a case of meningitis, and obstinate constipation with distension and tenderness in the right iliac region are suggestive of appendicitis; and I have myself a number of times, from the rapid onset and severity of chilliness, headache, general aching, fever and cough with acute catarrh of the whole respiratory tract, felt certain of a diagnosis of la grippe, only to find out later that I had guessed too soon. There seems no similarity whatever between a so-called walking case of typhoid fever and a case presenting most all the characteristic symptoms in their greatest severity, and within these two extremes what can not be represented? The physician who does not make snap diagnoses, or, properly speaking, "guesses"; who examines every case of disease carefully at each visit; who elicits a clear, concise history and always has typhoid fever in his mind when he finds a continued fever, will come out in the long run with fewer mistakes charged against him. It is not that we are not conversant with the diagnostic symptoms and signs of typhoid fever, but it is that we do not sufficiently apply that knowledge to the individual case.

It is important that the diagnosis be made at the earliest possible time, and yet this is not always practicable because of the tardiness of many prominent diagnostic symptoms. Fortunately for him, the physician is not consulted until the patient has ailed for several days, and the history will be presented of a slowly-developing affection which will be in marked contrast with most other acute diseases. I have come to regard a relatively slow pulse, which is so often present throughout the entire course of the disease, as strongly suggestive of typhoid and if it be found dicrotic in character the presumption will be quite strong. This is also in marked contrast to most diseases confounded with typhoid fever. The pulse in the first week rarely exceeds 90, is often 80 or less, even in the presence of a temperature of 103 or more. Women and children are frequent exceptions to this rule.

An early sign almost invariably present is the diazo-benzol urinary reaction of Ehrlich, which is commonly found as early as the fourth day. A few years ago the writer read a paper before the Missouri Valley Medical Society on the "Early Diagnosis of Typhoid Fever," in which his experience with this test, as applied to about 20 cases, was narrated, and his observations since, extending over about as many more, confirm his belief that the application of this test is not sufficiently frequent in practice, and that its value as a diagnostic sign is underestimated. The very fact that it may often be found by the fourth day, three days before the earliest rose spot, or palpable spleen, adds to its importance. True, it is found in malaria, in measles, in the latter stages of tuberculosis and in smallpox; but aside from malaria, these affections could hardly be confounded with typhoid fever. There is response to the test until about the eighteenth day of the fever. On the occurrence of a true relapse it reappears. I always keep the solutions on hand and have found it advantageous to carry them with me to suspected cases in the country. The test solutions are: 1. Sulphanilic acid, grains 20; hydrochloric acid, drams 3; distilled water, ounces 8; mix. 2. Sodium nitrite, grains 24; distilled water, ounce 1. 3. Aqua ammonia. 2 drams of No. 1, are mixed with 3 drops of No. 2 in a test tube; an equal quantity of the urine added and thoroughly shaken. Eight drops of ammonia are then allowed to fall upon the foam, when a distinctly pink color of the latter occurs, to be followed by a bright carmine-red zone underneath. If the liquid be then poured into a white porcelain dish it will appear as a light yellowish red.

The Widal blood reaction is of considerable diagnostic importance, and when obtained in dilutions of forty or more, the certainty of the existence of typhoid fever in a suspected case may be entertained. Work along this line is demonstrating, however, that the reaction occurs in those who have previously had the disease, and this fact should be elicited before the deduction is made. It requires fresh cultures of the bacillus typhosus to make the test satisfactorily, and hence it is not always practicable to the country practitioner.

In cases where the test is essential to clear up an uncertainty, a coverslip of blood or serum can be readily sent to the bacteriological laboratory connected with any of our medical colleges. The typical reaction does not usually occur before the sixth or seventh day; exceptionally it is considerably later.

The rose spots vary within wide limits as to numbers and location. Oftentimes they are so few as to escape detection unless carefully searched for. Their diagnostic significance is based upon their disappearance under pressure, to reappear so soon as the pressure is withdrawn; their non-elevation above the surface, and the individual spot having a life history of three days. They are occasionally found upon the arms and about the wrist. I believe from my own observation that they may be found in every case. Not appearing before the seventh day and occasionally as late as the tenth, they are of course not an early diagnostic sign.

The combined symptoms which are almost invariably present during the first week to be relied upon for a presumptive diagnosis are: a daily increasing temperature with headache and malaise; moist furred tongue with red edges and tip; a pulse of 80 or thereabouts and evidences of bronchial catarrh. If to these be added the diazo-benzol urinary reaction on the fourth to the sixth day with or without the occurrence of nose bleed, the presumption is very strong. A palpable spleen, rose spots and the Widal reaction early in the second week, supplementary to the foregoing, would make the diagnosis absolute.

The diseases most commonly mistaken for typhoid fever are: remittent malarial fever, continued fever of uncertain septic origin, commonly called simple febricula, acute miliary tuberculosis, la grippe, appendicitis, typhoid pneumonia, and septicemia.

Remittent fever or estivo-autumnal fever is the only form of continued fever of malarial origin. It is rarely seen outside of malarial districts and in this section of the country is scarcely known excepting in the arena of a mistaken diagnosis; and yet I believe more cases of typhoid are treated for malarial fever than are treated for typhoid. This is a broad statement, but it is based upon observation and experience. The word malaria covers a multitude of sins, but it is inexcusable to carry it into a domain where recent knowledge and methods can so readily disarm. There are many points in common between these two fevers, but there are more points of difference. Malarial fever is usually ushered in by a distinct chill, often repeated, followed soon by high fever with two daily exacerbations and remissions; typhoid by chilliness followed by gradual rise in fever with only one exacerbation and remission daily. The rapid pulse of commencing malaria is in marked con-

trast with the slow pulse of typhoid. In the former there is rarely nose bleed, in the latter this is quite frequent. There are rarely abdominal symptoms in malaria, and there is commonly nausea and vomiting. The roseola is not found in malaria. The presence of the Widal blood reaction would be favorable to typhoid, and the crescentic plasmodium in the blood demonstrable by the microscope would be positive of malaria. An intestinal hemorrhage would be presumptive of typhoid and a marked susceptibility of the fever to quinin would savor of malaria. Simple febricula has not the nose bleed, slow pulse, diazo urinary reaction, palpable spleen, roseola and abdominal symptoms of typhoid, runs a shorter course and is much more readily influenced by treatment.

Acute miliary tuberculosis has not infrequently been confounded with typhoid fever. The onset of the former is more rapid and pronounced, the pulse rate much higher, greater frequency of respiration; there is not apt to be nose bleed, palpable spleen, rose spots; there is decided tendency to fine moist râles throughout the chest with loose cough not common to typhoid, and frequently the sputum will contain abundance of tubercle bacilli.

La grippe and typhoid fever prevail at the same season of the year. Mild cases of the latter are not unlike moderately severe cases of the former which have not early complications. La grippe is more sudden in onset, is usually consecutive to or coincident with a cold, has a more rapid pulse, the fever is more susceptible to treatment responding in two or three days where sequelæ do not supervene; the diazo-reaction is absent, and there are no rose spots or palpable spleen.

Cases of prolonged appendicitis with slow onset will present differences only which require close investigation. The pulse here will be higher in proportion than the fever, the morning and evening temperature will vary less; there is no nose bleed, or roseola, or enlarged spleen, or bronchial catarrh, or diazo-reaction. There is more apt to be abdominal pains, muscular rigidity in right iliac region and moderate leucocytosis, which is much increased where pus is present.

Walking cases of typhoid with perforation of the intestine, are quite suggestive of fulminating appendicitis, and I have known errors of diagnosis to occur where, at operation, a perforated intestine and ulcerated Peyer's patches demonstrated the typhoidal character of the case. Intestinal perforation occurs at such a time in typhoid fever that a careful inquiry into the above differences in the symptoms and signs should leave no room for doubt, and although operation might be advisable in both, it is much the more satisfactory that the diagnosis be made beforehand. Appendicitis may complicate typhoid fever and develop when the abdominal symptoms are most pronounced. A case of this kind was reported to the American Medical Association at the meeting in Atlantic City by Dr. Siegfried Weiss of Vienna, reported in THE JOURNAL of Nov. 24, 1900. The case was that of a child 9¾ years old, which was supposed first to have influenza, then typhoid: then on the development of signs of an inflammatory tumor in the appendical region, and leucocytosis, the former diagnoses were thrown over and a suppurative appendicitis accepted. Why the author discarded typhoid I can not understand, for the symptomatology included fever, bronchial catarrh, diazo-urinary reaction, enlarged spleen, rose spots, diarrhea and the Widal blood reaction with the development of the local signs of appendicitis only on the twelfth day of the illness. Was it not more likely a typhoid infection with involvement of the appendix? Why this complication is not more common puzzles us, for certainly the bacillus typhosus should have as ready access to the appendix as do foreign bodies, which enter from the intestine to excite inflammation. Perhaps it is more frequent than we think for, but undetected.

Typhoid pneumonia is a misnomer, for it suggests the presence of a typhoid infection in a type of pneumonia which is so severe as to present certain symptoms suggestive of the typhoid state, when in reality the latter does not exist. The disease starts in violently with severe chill, high fever, rapid pulse, pain in chest, frequent breathing, to be soon followed by low delirium, abdominal distension, involuntary evacuations, coma and death within a week or so. The frequent absence of cough and expectoration mislead. A careful examination of the chest will detect a solidified lung, and a marked leucocytosis will indicate no typhoid fever.

Septicemia of gradual onset presents a similarity of symptoms which lead to error, and especially when typhoid occurs in the puerperal state. In septicemia there is usually discoverable some focus of infection; it is attended by a higher relative pulse-rate; there is not the fever chart of typhoid. Frequently sweating occurs, the rose spots are absent as is also the Widal blood reaction.

The irregularity of typhoid fever in children, I believe, accounts for its supposed relative infrequency at this period of life. In many cases the onset is more abrupt; there is less apt to be complaint of general malaise; nose bleed is comparatively rare; nervous symptoms are more pronounced. The abdominal symptoms, when present, are similar to those of enteric or gastro-enteric catarrh and especially in young children or infants are many of the symptoms wanting.

If the diazo-urinary test, and the Widal blood reaction and splenic enlargement and a search about the abdomen and chest for rose spots, were more carefully inquired into, in the continued fever of early life, we would find more typhoid. The loose movements of enteric catarrh are not like those of typhoid. They are apt to be green; they contain mucus, sometimes blood and generally undigested food. Colicky pains frequently precede or attend the movements, all of which are not found in typhoid fever.

GRAVE ABDOMINAL INJURIES WITHOUT EXTERNAL EVIDENCES OF TRAUMATISM.*

R. HARVEY REED, M.D.

Professor Emeritus of Principles and Practice of Surgery and Clinical Surgery, Ohio Medical University; Division Surgeon, U.P.R.R. Co.; Surgeon U. P. Coal Co.; Surgeon-General of Wyoming.

ROCK SPRINGS, WYO.

It has been my privilege during the last twenty years to have met with a class of grave abdominal injuries which has given little or no external evidences of traumatism. The patient in each instance has given a history of a severe injury which resulted in death in from 24 hours to 26 days after the traumatism. I will only report three of these cases in detail, as the others were practically duplicates and to make a full report would only take up valuable time without special advantage.

The first of these cases which came to my notice oc-

* Read before the Western Surgical and Gynecological Association, at Chicago, Dec. 18-19, 1901.

curred about fifteen years ago, in an unusually large, healthy man of some 36 years of age, who had charge of a planing mill in Crestline, Ohio. At the time the accident occurred, he was engaged in sawing palings with a buzz-saw. These palings were about three feet in length, some two inches wide and one inch thick. In some manner one of them caught in the buzz-saw, and was thrown forcibly endwise, a distance of some six feet, striking him very forcibly over the left hypochondriac region. Whilst the injury caused some pain, he continued his work for a short time, when he became sick and was taken to his home. Two of the local physicians were called in to see him, and being unable to find any external signs of injury, further than the mark made by the end of the paling, which had simply reddened the skin for a distance of two inches in one direction and one inch in the other, they were of the opinion that he was simply suffering from shock and that he would soon recover. On the contrary, he continued to grow worse; the abdomen became tympanitic and grave symptoms made their appearance. I was called in counsel, and, after examining the case carefully, gave it as my opinion that there was a rupture of the intestine and advised operation. There being no hospital at our command and not even trained nurses, he was operated on at his home with the assistance of the local physicians. On opening the abdominal cavity, I found the abdominal parietes perfectly intact. Not the slightest ecchymosis or the slightest tear of the muscles of the abdominal walls could be found. On entering the abdomen, I found a large tear of the ileum, located immediately under the point of contact made by the paling. This tear was of a triangular nature, and was sufficiently large to enable me to pass my finger into the intestine through this opening without difficulty. The abdominal cavity was filled with fecal matter. Acute general peritonitis had set in, and although the abdominal cavity was washed out carefully and the injured intestine sutured with silk, the patient died in three days after the operation, about six days after the injury. It seemed to me at the time remarkable that a traumatism of this character should produce such a grave injury of the intestine without injury to the abdominal walls, further than a little reddening of the skin.

A few years later, I saw in counsel two cases similar to the one above described. One was kicked by a horse and the other, while running at night, ran against the end of a rail. In each instance there was no injury to the abdominal walls, but a tear of the stomach in one case and of the large intestine in the other, produced death a few hours after the accident. I regret that I have not all of the details of these two cases at my command, yet at the same time they are so nearly like the one already described that it would add but little to our fund of knowledge if we were able to give the full details of them.

On Sept. 21, 1901, a Bohemian miner, aged 45, was caught by falling rock, producing a contusion of the back and hips, extending to both thighs, without fracture of the pelvis. He was brought immediately after the injury to the Wyoming General Hospital, which was less than two miles from where the accident occurred, and was admitted to the same as Case No. 1816. He suffered severely from shock, which was complicated by vomiting and epistaxis, but beyond this, no hemorrhage occurred. The ordinary line of treatment was followed, such as morphin and strychnin for the shock, with warm local applications over the contused parts. He never rallied from the shock and died in about 24 hours after the accident. A postmortem, held 12 hours after death, revealed two perforations of the small intestine, located about six inches above the ileo-cecal valve, which were followed by peritonitis, the result of infection from the fecal extravasation. A careful examination failed to find any material injury to the abdominal walls, not even a tear of the parietal peritoneum, and no solution of continuity of any of the muscular layers of the abdominal walls. In fact, the injury had not produced any marked ecchymosis, and the physical signs usually present in severe injuries were conspicuously absent.

A similar case to the one I have just described was admitted to the Wyoming General Hospital, Nov. 20, 1901, as Case No. 1895. This man was an American, aged 30; occupation, a driver in the Union Pacific Coal Company mine at Spring Valley, Wyo., and was injured Nov. 15, 1901. While driving the cars, he was caught in some way between the "ribs" of the mine and car, sustaining a contusion on the left side and back, with a fracture of the pelvis on the left side, along the ileo-ischial juncture. There was no evidence of displacement of the fragments, but in certain positions, crepitus could be readily elicited. The symptoms were so negative at first, that the very competent assistant surgeon, Dr. Levers, was led to believe that the injuries were of a trivial character. During the first four days following the injury, the patient's pulse, temperature and respiration was normal. Following the administration of small doses of magnesium sulphate, he had thorough evacuation of the bowels. Notwithstanding the fracture of the pelvis, this man was able to be up and stood on his feet and walked some on the third day following the injury. On the morning of the fifth day, his condition suddenly grew worse, pulse increased to 120 and temperature decreased to 97. The abdomen became distended, was dull on percussion over the left side and the patient became delirious, in which condition he reached the Wyoming General Hospital, on November 20, five days after the accident.

The general appearance of this case when he reached the hospital was such as to impress one with the fact of the existence of a rupture of the intestine, with localized peritonitis, except for the fact that his bowels moved regularly, which could hardly be expected in case of a rupture, with either general or local peritonitis. His delirium continued for four or five days after his admission to the hospital, when it began to subside, and his temperature, which had ranged from 98 to 103.5, subsided to normal, although the dulness over the left hypochondriac region continued. This, however, began to subside, until the resonance on the left side of the abdomen approached nearly to the normal, which led me to the conclusion that we had had a hematoma to contend with, which in my judgment was located between the layers of the muscles of the left side of the abdomen. About December 3 the patient became worse. The area of dulness suddenly became much larger and very marked. His temperature ranged from 97 to 103.5 F., and an operation seemed to be imperative. I operated on this case on December 6, making an incision in the left iliac region. I dissected carefully through the different layers of muscles, and to my surprise, found them intact, and no hematoma. On passing through the last layer, I found a large cavity, filled with blood, broken-down blood clots, and serum. This cavity contained about a gallon of this liquid. After washing the cavity out thoroughly, I found that the peritoneum had been

torn loose from the walls of the abdomen from a point midway down the pelvis to the diaphragm, and from the rectus muscle anteriorly to the vertebra posteriorly. The left kidney had been displaced and was apparently floating, and the entire descending colon, together with the balance of the abdominal viscera which should occupy the left side, were pushed over to nearly the median line, and were enveloped in a sack of loose peritoneum. There was not the slightest evidence of peritonitis, the bowels being flat, and apparently showing no signs of irritation.

There being considerable hemorrhage in the form of capillary oozing, I carried a second incision at right angles with the first, for the purpose of drainage, cutting through the abdominal muscles, to the outer border of the lumbar muscles. After thoroughly cleansing this cavity, I drenched the parts with hydrogen peroxid, after which it was packed with a large quantity of gauze soaked in warm bichlorid evaporating solution. The patient, although weak and exhausted before the operation, rallied from it very nicely.

The day following the operation he seemed to be semiconscious, which seemed to be the result of exhaustion, as there was no evidence of inflammatory trouble, and little or no rise of temperature. There was no effort at repair, and whilst the wound remained perfectly clean, there was a peculiar ammoniacal odor connected with it, although there was no evidence of escape of urine into the wound from either the kidney, ureter or bladder; this condition, to my mind, indicated molecular dissolution. There was incontinence of urine, and whilst the patient took considerable nourishment, which apparently seemed to digest, yet he gradually sank and died on December 11, just five days after the operation and twenty-seven days after the accident.

GENERAL COMMENTS.

We have had here a series of injuries in which there were grave abdominal injuries without corresponding external evidences of traumatism, yet the result in each case was fatal. In four of the cases reported, we have had rupture of some part of the alimentary canal, followed by death. What are the lessons we are to learn from these grave accidents? Could the lives of these patients have been saved through operative interference?

In the first case, in which the patient was struck by a paling, I firmly believe that if operative interference had been resorted to immediately after the accident, that the patient would have survived the injury. In the case of rupture of the stomach, there was such general infection of the entire abdominal cavity, as shown by the postmortem, such rapid collapse, that I question whether it would have been possible to have saved the life of this patient unless the surgeon had been actually on the ground at the time, and made immediate operation. It must be remembered, as in this case, that these accidents frequently occur miles from surgical aid, and by the time the surgeon reaches the patient the time for active interference has past.

This applies to the third case, in which the patient ran violently against the end of a rail, producing rupture of the intestine, but as the patient was past all hope of recovery when seen by the writer, and no postmortem was permitted, it is only conjecture as to the real injury produced. At all events, operative interference would have failed in this case by the time it was possible for a surgeon to reach him.

In the Bohemian miner, the question of immediate operative interference might well be considered. This man was in the hospital in less than three hours from the time the accident occurred. The question of operative intervention came up, but inasmuch as the patient never rallied from shock, I do not consider it good surgery to undertake an abdominal operation without any knowledge of where the injury might be located, with a pulseless patient, suffering from extreme shock, from which he never rallied. Had I seen the slightest sign of rallying, I would have operated on him at once.

This, of course, brings up the mooted question of operating in shock, and although I have for many years advocated major amputations under shock, and have made many such amputations under such circumstances where the patient has rallied after the removal of a mangled limb, which I doubt ever would have rallied without its removal, I was skeptical in this case. In abdominal operations where there is severe shock, it seems to me that there is a different condition of affairs to contend with, and it is a question in my mind whether operative interference for grave abdominal injuries, with the patient suffering from the severest form of shock, is advisable, or would result in benefit to the patient except in hemorrhage.

The last case is a peculiar one, and brings up the question of operations for hematoma. It is my custom not to operate for hematoma as long as there is reasonable hope that they are being absorbed. I see many accidents every year in which there are severe hematoma located between the muscles, which are rapidly absorbed, and the patient gets well with little or no difficulty. Occasionally we have hematoma that do not absorb, which I consider proper cases for operative interference, and would treat such cases the same as I would a pocket of pus: evacuate and drain thoroughly. We admit, in these days of antiseptic and aseptic surgery, that incision into muscular tissue with evacuation of collections of blood, ought not to be followed by infection, but notwithstanding all the precautions the surgeon may resort to, these patients are liable to become infected. I seldom make compound of simple or open of closed wounds when it can be avoided, and particularly so where nature is inclined to take care of the extravasation by the natural channels of absorption. This is particularly true when we have different nationalities to deal with who do not readily understand or thoroughly comprehend the English language and are liable to unintentionally disregard the surgeon's instructions.

CONCLUSION.

From reading the literature of this class of cases, together with my own experience, I am led to the conclusion that it is the surgeon's duty to make an exploratory incision in all cases where there is grave doubt as to the real nature of the injury, and particularly so when the constitutional symptoms point to a condition more serious than is indicated by either the subjective or objective symptoms, provided the physical condition of the patient is such as to warrant an operative procedure.

Clinical Report.

UNPRECEDENTED CASE OF CONSTIPATION.

D. GEIB, M.D., AND J. D. JONES, M.D.

GROTON, S. D.

This case, reported to the South Dakota State Medical Society, June, 1900, and to the Aberdeen District Medical Society, June, 1901, by Dr. D. Geib, was further described in a communication to the Aberdeen District Medical Society, September, 1901, by Dr. J. D. Jones and concluded by report

of the case to time of death, January 8, 1902, with autopsy, by Drs. D. Geib and J. D. Jones.

The patient, Mr. K., having enjoyed good health previous to the age of 11, began at that time to be constipated and was treated for three months by Dr. Nicholas Senn, then of Dodge County, Wisconsin, no bowel movement being secured. The only result of cathartics and laxatives was severe pain. The constipation continued until death. It was a common occurrence for him to go three weeks or as many months without a movement of the bowels. At the age of 20 he did not have a movement for three or four months at a time. He consulted a homeopathic physician, who prescribed for him two drops of croton oil, to be doubled in two hours, tripled in four hours, and quadrupled in six hours. This produced no result, but after a period of several weeks, his bowels moved again.

For seven years following, his bowels were fairly regular. At the age of 29 he contracted a severe cold and five months and three days passed without an evacuation. After a few months of regularity, his bowels did not move for six months and fourteen days. At this time he consulted Dr. Stamm of St. Paul, without immediate benefit, but during the next six years his bowels were regular. In February, 1900, the constipation returned. The patient had no movement from June 18, 1900, to June 21, 1901.

During these periods of costiveness he could eat full meals and do a good day's work. His respiration was always normal; the urine was normal when he was free from pain, but

The colon of Mr. K.

highly colored when in pain. The evacuation of his bowels made him very weak and he was greatly troubled with gas so that he had to lie on his right side to relieve himself and was partially disabled for work.

His abdomen was greatly distended so that the liver and the stomach crowded up the diaphragm and the floating ribs were visibly pushed out. There was tenderness in the sigmoid flexure, but over the remainder of the abdomen he could bear heavy pressure.

He was not troubled with gas when regular. The administration of valerian, sumbul and asafetida by Dr. Geib gave him considerable relief.

On June 19, 1901, Dr. Jones was called in with Dr. Geib to relieve the patient from his painful condition. The abdomen was greatly distended. The colon, on palpation, seemed to be as large as a six-inch stovepipe. From the head of the sigmoid flexure to the rectum, the bowel seemed to be perfectly straight and hard. On digital examination the rectum was found filled with a mass of fecal matter so hard that no impression could be made on it. The anus was dilated and the mass removed from the rectum with a bone curette and hot water. Further operation was postponed because of the pain suffered by the patient, and olive oil enemas were ordered.

June 21, on further attempt to evacuate the bowels, it was found that the olive oil had softened the hard mass so that about two pounds of the feces could be removed before the patient complained of pain; his weakened condition prevented further operation. The circumference of the patient at this time at the ensiform cartilage was 39 in., at the umbilicus, 38.5 in., and at the crest of the ileum, 39 in.

On arrival at the house on the morning of June 22, the report was received that he had passed an ordinary pailful of feces since the day previous. There was much rejoicing in the family. The patient was very weak and sore, so no further operation was attempted at this time, but the olive oil enemas were ordered continued.

The patient, when next seen, on June 25, was feeling comfortable; the gas had ceased to trouble him and he had passed about three quarts of feces that morning. His measurements at this date were, at the ensiform cartilage 34 in., umbilicus 33 in., and at the crest of ileum 30 in.

The enemas were ordered continued. Mr. K. estimated that he had passed about eight gallons of feces since the beginning of the treatment. On June 29, he was cheerful and pleased at his progress. The measurements at the ensiform cartilage were 34 in., umbilicus 30 in., crest of ileum 29 in. From that date he received massage treatment given by Dr. Geib, twice a week for three weeks, and improved in strength so that he was able to ride to town and walk about. One July 8, after his massage, he suffered considerable pain for about three days.

His bowels moved frequently. The contents were described as resembling soft soap and during this period of discomfort he passed a hard mass about the size of a duck's egg, containing grape seeds. He had not eaten grapes since the fall before. After this he had little trouble and gained in strength and weight. The only treatment then given was massage, iron and strychnia.

The history of the case subsequent to the above report to the Aberdeen District Medical Society is as follows: Since the treatment in June, 1901, the bowels moved regularly; occasionally he was obliged to take an enema, but he was well nourished and weighed more than he had for years. He was very sensitive to cold this winter, chilling on the least exposure.

On the second day before his death, which occurred Jan. 8, 1902, he rode to town, a distance of eight miles. He retired at 11 p. m. apparently as well as usual, and awoke about 5 a. m. with pain. He arose about 8 a. m., built the fires and did part of his morning's work. The pain, however, became very intense and he went to the house and suffered more or less all day. There was a great desire to evacuate the bowels, but it was impossible. At 2 o'clock the following morning, he died while sitting on the stool. No medical aid was called.

The autopsy showed the abdomen greatly distended with gas and fecal matter. On making an incision along the linea alba, the tension was sufficient to tear the flesh apart; the omentum was very thin and the colon was brought at once into view. The position of the colon was as shown in the photograph, save that the extra loop overlaid the normal colon. The splenic flexure, transverse colon and descending portion of the extra loop were very much thickened, containing much more muscular fiber than normal. The parts most distended were the splenic flexure, the transverse and the descending portion of the extra loop, but the whole colon was much larger than normal.

The most distended portion measured 19¼ inches in circumference. The rectum contained a hard mass of feces shaped like a goose egg, measuring about 4 inches in the shortest diameter and 6 in its longest. This was pressed tightly against the sphincter and acted as a valve. The remaining portion of the colon contained soft feces; the total contents were an ordinary bucketful. The stomach and small intestines were empty. The diaphragm was crowded up to the level of the fourth rib on the right side; the heart and lungs were both displaced.

Iodoform Odor.—Oil of turpentine is suggested for the removal of the odor of iodoform. It is claimed that it at once removes the objectionable smell from the hands or implements. —*Med. Fortnightly.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, MAY 17, 1902.

GLYCERINATED VERSUS DRIED VACCINE VIRUS.

During recent years glycerinated vaccine lymph has come into general use and the results obtained with it have been so favorable that the older method has been almost entirely discarded. Some doubt has recently been thrown on the relative value and advantages of dried and glycerinated lymph, and it is well to bear certain facts in mind in arriving at any conclusions. It has been shown that the vaccine material as it comes from the animal, be it pulp or exuding serum, is practically never free from bacteria. These bacteria are often nonpathogenic, but in some instances infectious organisms are present, especially pyogenic bacteria. If the lymph is stored in a moist condition without the addition of preservatives, the bacteria originally present rapidly multiply to an enormous extent and destroy the virus. If the lymph is dried upon ivory points in the usual manner, it does not part with all its moisture at once, and it is not unlikely that the bacteria in the lymph may multiply for a time. The numerous bacteriologic examinations of ivory points would seem to indicate that such is the case, as the points when they reach the market usually contain a very large number of bacteria. Rosenau[1] found an average of 4807 bacteria per point upon 41 dry points examined. Copeman, in 1891, devised the method of mixing the pulp or serum with pure, sterile glycerin. He found that if this were done the bacteria in the lymph gradually died, while the vaccinal organisms survived for a considerable length of time. The observations have been subsequently verified by numerous observers so that there is no doubt of their accuracy. The time required for glycerinated virus to become sterile is from two to four weeks and if the initial number of bacteria in the lymph is very large it may require a longer time or perhaps it may never occur. Rosenau examined 51 tubes and capsules of glycerinated virus, purchased in the open market, and found an average of 2865 bacteria per vaccine. It is hardly necessary to say that such a number of bacteria should not be present. Rosenau believes the impurities found in glycerinated lymph upon the market are largely due to over-confidence in the germicidal value of glycerin, operators becoming careless of contamination and trusting to the glycerin to purify their product. He also thinks that some of the glycerinated virus on the market is "green," not having been kept a sufficient length of time before it is sold. From his studies Rosenau concludes that we ought not to discredit glycerinated virus, the superiority of which he considers demonstrated, but he condemns the practice of manufacturers who place an unripe product on the market. The general opinion of persons competent to judge is that glycerinated lymph is superior to the dried form.

In an editorial in the New York *Medical Journal* of Sept. 21, 1901, thoroughly desiccated lymph is highly advocated. The writer refers to some observations made by the late J. H. Kidder, who subjected ordinary dried vaccine slips to several days' additional desiccation by exposure in hermetically sealed receptacles to the presence of strong sulphuric acid or anhydrous calcium chlorid. Such slips were then sealed in a piece of rubber tubing and kept at 98 degrees for a month, when they were as potent as fresh lymph. Slips prepared in this way were sent as far as Japan and upon their return were found unimpaired. In discussing the papers upon vaccination read before the New York Academy of Medicine (New York *Medical Record*, March 8, 1902), Dr. Frank P. Foster stated that such desiccated lymph would keep for 7 or 8 months. It is very desirable that further observations be made with thoroughly desiccated lymph and that the fate of the bacteria contained in such lymph be determined. This method is similar to that devised by Reissner and formerly much employed with good results. The lymph was dried over sulphuric acid and reduced to a powder. The desiccation effectually prevented the growth of bacteria.

In view of the results of Rosenau's examinations, it is apparent that some measures are required to protect the public from improperly prepared vaccine virus. The lymph or pulp, before glycerin is added to it, should be so collected and protected from contamination that it will contain a minimal number of bacteria. After being mixed with glycerin it should not be placed on the market until bacteriologic examination has shown it to be sterile. Health authorities, either local or, better, governmental, should inspect the institutions which produce vaccine virus, and samples of their product should be frequently tested as to their bacterial content. When a manufacturer's virus is found contaminated beyond what is unavoidable, either because of improper preparation or from being sold too soon after collection, the facts should be announced publicly. Matters which are of such vital importance to the health of the people are not subjects to be treated carelessly nor only from the viewpoint of commercialism.

1. American Medicine, April 19, 1902, p. 637.

MEDICAL EDUCATION FOR WOMEN.

Do medical schools at present supply, as well, at least, as they might supply, that psychophysical equipment, fitness of brain and hand, to women practitioners which they require to prepare them for their professional lives?

Without going far into the psychophysical nature of women as such, it will perhaps be generally granted

that women are, on the average, more emotional, more formally unreasoning, more unmechanical, physically weaker, yet stronger in sympathy, than are men. Should not these basal characteristics have far more consideration in fitting women to practice medicine than they now have? One of the strongest trends of modern pedagogy is towards the adaptation of study to the student. Boys and girls and men and women in the most successful schools no longer are treated as automata to be mechanically crammed with routine facts and systems of knowledge, but they receive the consideration really due to individuals, each of whom is unique. How much greater is the rational demand that the needs of a sex be met!

On the basis of the above-noted secondary sexual characteristics, it seems obvious that womanly women are ill adapted to be, for example, surgeons. Some things more than knowledge, experience, and a delicate touch are demanded of a surgeon, and some of these things womanly women, as compared with men, seem to lack. Minor surgery and minor gynecology are much more within the feminine sphere. Could not the average course for women medical students, with much benefit, both theoretical and practical, be better adapted in this respect?

Obstetrics one thinks of next, and here one wonders almost that the preference of women for male accouchers is so strong, a wonder that is lessened only at the thought that women consider in this perhaps the stronger judgment of men and certainly their better advantages in most medical centers for obtaining obstetric experience. Provided always that she be ready to call upon her professional brother promptly in those ever rarer cases when a surgical operation is required, obstetrics is the woman medical practitioner's best future field. Should not the medical school give her additional facilities in this direction to the exclusion, if need be, of something less well adapted to her needs?

As general practitioners women seem as well-fitted naturally as men, although perhaps lacking, relatively again, in that good and quick judgment which many a case and crisis requires. Given that confidence which future adapted medical education for the sex will inspire and a woman will be as welcome at a complex critical case as a man would be.

As children's physicians women should be the superiors of men, for they surely have an instinctive understanding of child-nature which many men sorely lack. Here again the medical curriculum can be adapted to this portion of its patrons, and can thus make women excel, to the good of the public and to the schools' additional success.

In the specialties of the ear, eye and throat women should be the equals of men naturally. But one looks in vain for the eminent female eye or ear surgeon. Women naturally have the delicacy of touch which should make them, with adequate training, the equals of their professional brothers, provided they had the other necessary qualifications. Psychology, we know, proves that women's discriminative power and accuracy of movement are somewhat inferior to those of men. Perhaps this demonstrated fact explains all these doubts concerning feminine surgery of every sort.

These are but prominent examples of the directions in which the medical education of women may be called, from this point of view, defective or at least improvable, to-day. Whether in schools solely for women or in coeducational colleges, women are at present being taught practical branches of medicine to which they are ill-adapted, and that at the expense of time and energies which might, if better employed, be made to make women more useful both to themselves and to humanity.

However, the whole question of woman's place in medicine hinges on the fact that when a critical case demands independent action and fearless judgment, man's success depends on his virile courage, which the normal woman has not nor is expected to have.

THE CENTER CONTROLLING INTELLECTUAL ACTIVITY.

Localization of the intellectual functions in a definite part of the brain is a conception which though not entirely originated by Gall, the physiologist, was at least popularized and made definite through his writings. Previously, the seat of the mind or soul had been often placed in the heart, diaphragm or pineal gland. The general rejection of phrenology carried with it most of the belief in definite localization of the mental faculties. Modern psychologists generally follow Ferrier in thinking it "absurd to speak of a special seat of intellect or intelligence in the brain," and Munk who asserted that "intelligence has its seat everywhere in the cerebrum and nowhere in particular." Interest in the question has declined, especially since researches by physiologists have accomplished little except to throw them into dispute on the subject. Wundt, perhaps the foremost of physiologic psychologists, acknowledges,[1] however, the suggestiveness of certain anatomic findings and pathologic sequences in the cortical areas of the frontal lobe, but thinks localization of the intellectual activities in that region needs better backing through more direct evidences and through the clearing up of certain contradictory findings in cases of injury and disease.

Fulfilling Wundt's requirements by proofs which pathology more adequately than physiology can present, Phelps, who has had a large experience with brain injuries, recently publishes[2] his discovery that the center for control of the mental faculties is in the left prefrontal lobe. Bearing directly or indirectly on this question Phelps has observed 800 cases of intracranial traumatism, of which more than 300 were either subjected to operation or postmortem inspection. Of these, 48 were lesions in the frontal lobes verified by necropsy.

1. Outlines of Psychology, p. 206.
2. Amer. Jour. of Medical Sciences, April, May, 1902.

For his study Phelps has also collected 51 other cases of injury to the left frontal lobe where report of intellectual condition has been given, besides including the facts in hundreds of other cases which have indirect relation to the problem. From this mass of data Phelps draws the following conclusions:

1. The more absolutely the lesion is limited to the left prefrontal lobe, the more positive and distinctive are the symptoms of mental default. 2. The integrity of the mental faculties remains unimpaired in right frontal lesion, though it involves the destruction of the entire lobe or even extends to the entire hemisphere. 3. The exceptional instances in which seemingly opposite conditions exist are always reconcilable, on more careful examination, with the assertion of an exclusive control of the mental faculties residing in the prefrontal region of the left side.

Cases may possibly arise, although Phelps has seen none, which can not be explained except by taking into account the fact that the right side of the brain, as in the well-known occasional existence on the right side of the speech center in left-handed people, may take up the function of the opposite side.

The tracing of any direct relationship between mind and body is a subject of large human interest. The work of Phelps is a splendid contribution to our knowledge, and outside of its medical value which is, of course, comparatively limited, marks an important step for the progress of physiology and psychology. It must be at once acknowledged, however, that the facts give no clue to the nature of mental processes. There is not the slightest bridging of the chasm between neural activity and mental states. There is still no answer to the question of where thinking is done, since there is no evidence whether this left prefrontal lobe is the center for direct control of mental phenomena, for mental coordination, or for mental inhibition. The point is one of brain topography rather than of pure psychology, and to quote Phelps, "if the same nature and degree of proof which is deemed sufficient for the localization of other cerebral functions may be accepted in the case of the mental faculties, their center of control has been established."

THE RENEWAL OF PRESCRIPTIONS.

The physician probably meets with no more unexpected surprises in ordinary practice than those which come from the renewal of his prescriptions. Some combination of drugs that he meant should meet a temporary indication and against whose prolonged use—if such a possibility had occurred to him—he would himself have been the first to protest, he finds at times has been used for long periods, perhaps even months. Fortunately, the human system, as a rule, soon accommodates itself to most ordinary drugs and accomplishes its work in spite of the disturbing element.

Occasionally a prescribed remedy becomes a sort of fetish with the patient, who is sure that he, or more often she, would not be well without it. Perhaps too, friends are persuaded to use the remedy for indications utterly foreign to the conditions for which the original prescriber wrote.

If the renewal of prescriptions were always as harmless in its effects as we have thus suggested, it might seem idle to protest against it, but it is needless to say that there are many prescriptions that may do much harm if their use is prolonged. Pills containing nitrate of silver, for instance, may be indicated for the relief of long-standing gastric distress. They have been a favorite remedy of many of the older practitioners and their use is not infrequent at the present moment. This is just the sort of prescription that a patient may have renewed almost *ad infinitum,* for, after the severer symptoms of dyspepsia disappear, there will nearly always remain sufficient real or imaginary gastric disturbance to require remedial treatment—at least in the patient's mind. Besides, there is an ineradicable tendency in non-medical people to believe that what has done them good once will surely do good again, and the thought is sure to be entertained that a remedy which benefits may also act as a prophylactic. Several cases of argyria from the prolonged use of silver nitrate in no larger dose than one-fourth grain t.i.d. have been reported. Arsenic is another remedy whose cumulative effects may in susceptible individuals make themselves manifest after prolonged use of even small doses. The temptation to have prescriptions containing the drug renewed indefinitely comes very easily because arsenic has to be used for long periods to produce the desired effect.

If the personal inconvenience, or sometimes even serious disturbance, of the original patient were the only thing to be considered in this question of the renewal of prescriptions without a physician's advice, the state of affairs could not be nearly so bad as it actually is. Practically every one, not a physician, feels justified in recommending remedies to friends who seem to them to be suffering from an ailment like their own. Diagnosis is the most difficult thing in modern medicine, but for the lay mind there is no hesitation in deciding the character and significance of a friend's symptoms. A physician's reputation may suffer from diagnostic mistakes on the part of over-enthusiastic patients who insist on persuading acquaintances that the prescription that has helped them will surely relieve that friend's symptoms also. Some years ago a correspondent of the London *Lancet* called attention to an abuse of privilege in this matter that had proved actually detrimental to his own reputation. A patient suffering from specific sore throat with hoarseness as a prominent symptom was treated successfully by the usual specific remedies. A friend suffering from tuberculous laryngitis became persuaded that the same remedies might be useful in his case and took them for several weeks to the serious detriment, as might be expected, of his general health and, of course, without any relief of his throat symptoms. A third person, suffering from recurrent tonsillitis due to a chronic inflammatory condition, also took the remedies

for some time, naturally without any effect except an unwarranted prejudice against the doctor whose remedy did not help him. Such an annoying state of affairs may also develop when an anemic patient, by taking iron, is relieved of painful arthritic conditions due to lowered nutrition of the joint structures and persuades a plethoric individual suffering from subacute rheumatism, or an occupation neurosis, to try the same—but in this case contra-indicated—remedy.

The existence of an abuse in this matter of prescription renewal is well recognized. Many physicians have their prescription blanks printed with the express prohibition of renewal. This seems an eminently advisable precaution, under the circumstances, and, as far as possible, physicians should insist on the observance of the injunction. It is not often that prescriptions may be renewed without some change in their contents if the highest good of the patient is to be consulted. While the physician seems to be consulting his own interest by forbidding renewal and thus requiring further calls from the patient he is really assuring the best interests of the patient and of the community at large. There is entirely too much assumption of medical sapience by non-medical people. The practical expression of this takes the form of lending or passing on prescriptions. Physicians must at least secure themselves as far as possible against abuse of their prescriptions under conditions they would not approve. The mere insertion of the printed injunction not to refill will not effectually prevent the present abuse which is too deeply rooted in human nature to be thus easily gotten rid of. But it will help in the education of the public as to the dangers that exist in the practice and will act in most cases as an effectual deterrent at least of the frequent and prolonged repetition of a remedy without further consultation of the physician.

TOO MANY MEDICAL STUDENTS.

It has repeatedly been remarked in The Journal that the study of medicine is overdone, especially in this country. There come to our desk frequent reminders in foreign medical literature that we do not suffer alone, and that we have occasion also to feel for others' woes. A late item in the *Allgemeine Medicinische Centralzeitung* is to the point; the local medical association (Aerztekammer) of Austrian Silesia has published a warning to prospective medical students against entering upon their studies. It was specially resolved that a circular should be sent to the heads of the Silesian gymnasia calling attention to an already published appeal of the Vienna Students' Association in which the unfavorable outlook for the medical profession was shown. It was further resolved to publish similar notices in the political journals and to seek for coöperation of other medical bodies for the same general end. It evidently takes less to induce action over there than in this country for where they have one physician we have many. Moreover, they are not there multiplying medical colleges and otherwise working to cut their own throats financially by increasing their competitors in an already overcrowded profession. This is the case here; with a necessary reservation, that it is the few who profit by exploiting the mass of the profession.

IMPROVEMENT OF MILK SUPPLY.

The Department of Agriculture has just issued a neat pamphlet entitled "Market Milk; a Plan for Its Improvement" by Raymond A. Pearson, assistant chief of the Dairy Division of the Department. Its object is given in a prefatory statement, viz., to answer questions as to the means of improving the milk supply of committees by showing the ideal conditions or rather those that can be practically realized wherever it is seriously attempted. It does more than this, however, it lays down a plan of organization of local commissions mainly or entirely of physicians who are to educate the dairy men and the public as to the requirements of the ideal or model dairy product and to endorse the milk supply from such as furnish it under the proper conditions. The work of the local medical societies in New York and Philadelphia is noticed and the forms used by the Philadelphia Pediatric Society and the circular sent out by the New York County Medical Society are given in an appendix. While the methods proposed would require a revolution in the milk trade, they will ultimately have to be followed and the general circulation of this pamphlet will prepare the way not only by instructing the dairy men but by educating the public. There has probable been no more important minor publication issued by the Department than this one, and it is to be hoped that we shall before long see widespread results.

FIBRIN FERMENT IN MILK.

Studies with the various serums and anti-serums have led to the demonstration that milk, human and otherwise, generally contains fibrin ferment. This fact is readily demonstrated by adding a drop or so of milk to hydrocele fluid, which contains fibrinogen but no fibrin ferment, and coagulation results. We owe this observation to Moro and Hamburger[1] and Bernheim-Kauer.[2] Hydrocele fluid may lose the property of coagulating after standing for some days and after heating for thirty minutes to 55-56 C. The ferments in various milks do not react alike to heating, that in cow's milk not being affected by so low temperatures as the ferment in woman's milk. Bernheim-Kauer sought to obtain an antibody for the fibrin ferment in human milk by repeated injections of rabbits with milk, and with success. By suitable experiments with this anti-serum he shows that the ferment in cow's milk is not identic with that in human milk because the anti-coagulative action of the serum of rabbits injected with human milk is limited to human milk and does not affect to similar degree the ferment in cow's milk. He finds, further, that normal serum contains anti-coagulative substances in small quantities. To what extent if any the anti-coagulating substances normally present in the blood prevent clotting during life is as yet wholly conjectural. The observations referred to are interesting as far as they go.

1. Wien. Kl. Wochenschr., 1902, p. 121.
2. Centralbl. f. Bakt., 1902, xxx, 388-400.

No doubt further experiments will give us additional information concerning the origin and nature of this interesting ferment in milk.

ACID-PROOF BACILLI IN NON-TUBERCULOUS SPUTUM.

Several observers have found in the sputum from cases with pulmonary lesions, bacilli which are acid-proof and which closely resemble the tubercle bacillus on superficial examination. A. P. Ohlmacher[1] has reported finding an acid-resisting bacillus, which was at first mistaken for the tubercle bacillus, in the sputum from a case exhibiting certain clinical evidences of phthisis. He is of the opinion that the organism was identical with those described by Fraenkel, Pappenheim and Rabinowitsch in association with pulmonary gangrene. Lichtenstein[2] has also recently presented before the Berlin Society of Internal Medicine, a case in the sputum of which acid-proof bacilli were found. They were first mistaken for tubercle bacilli. The patient had had hemoptysis. Herr[3] has shown that acid-proof bacilli are widely distributed, not only upon grass and in cows' dung, but also in the dust from hay and in the soil of fields. In view of the fact that these acid-proof bacilli are so common in the external world, it would not be surprising if they should sometimes gain entrance to sputum or even be inhaled. That they may sometimes find favorable conditions for multiplication in the exudate in diseased lungs, in bronchial secretions, and in sputum is not unlikely. Some of these bacilli stain exactly like the tubercle bacillus, and to mistake them for the latter is excusable. In examining sputum for tubercle bacilli these facts are to be remembered, and thus something more complicated is introduced into what has usually been considered one of the most simple and accurate means of diagnosis.

A CANADIAN ANANIAS.

In a leading article of a Canadian contemporary[4] on "The Canadian Summer" by one Ezra H. Stafford, M.D., we find the following remarkable statements adduced as evidence of the evil climate of the United States:

> In the cities of the plains the temperature in July rises for many days in succession to 105 and over. During a summer's residence in Nebraska I painfully remember this period of protracted heat, which was so great that the brick-paved streets exploded with loud detonations, casting the bricks in all directions. There was no breeze, and fortunately, for any movement of the air only served to put in motion the suffocating alkaline dust that whitened on the banks of Salt Creek or was strewn in hot powder on the shores of Salt Lake. . . . In the large cities I have found the conditions quite as distressing. New Orleans is more endurable during the summer than Chicago, and San Francisco is more pleasant than either; but in Boston the humidity of the air renders the heat almost insupportable; while the contiguous resorts on the coast confer in the long run no more permanent ease than does the momentary application of cold to a fresh burn. In New York the heat seems to bring with it an even greater depth of despair. This is partially due to the fact that, in the matter of space, this city is architecturally constructed upon the frugal plan of a chiffoniere. It is nothing more or less than a huge piece of furniture in brick and iron; and serves to indicate the monstrous lengths to which the obsession of American utilitarianism can go. Baltimore and Washington I also found undesirable, and here malarial poison is added to the heat. . . . In July the Washington shopkeepers, to attract trade, fry eggs by breaking the shell and allowing the contents to fall upon the heated asphalt of Pennsylvania Avenue."

This is not offered as a joke, but seriously, as evidence of the conditions existing in the United States, and is published in a medical journal, presumably for the edification rather than the amusement of its readers. If the climate of Canada needs the support of such statements to demonstrate its comparative excellence, it is worse than it ought to be. In fact, they give it, to use a common expression, a black eye. The most serious consideration, however, is where do the author and the editor that publish such Munchausenisms as facts expect to go.

RENAL HEMATURIA OF TELANGIECTATIC ORIGIN.

That reddish discoloration of the urine is due to hemoglobin can be determined by spectroscopic examination and, if it be a result of hemorrhage, red blood-corpuscles will be discoverable microscopically. Hemoglobinuria is currently attributed to toxic influences of varied kind, but the exact mechanism of its production is not known. Hematuria may be secondary to a large number of conditions, some obvious, others obscure, and occasionally it may occur in the absence of any appreciable lesion. An unusual cause for such hemorrhage is described by F. Suter[1] under the caption of "Unilateral Hematuria due to Telangiectasis of the Pelvis of the Kidney." He reports the case of a woman, 32 years old, with hereditary predisposition to tuberculosis, whose urine, passed without difficulty, had been turbid and more or less bloody for a year and a half. No attention was given to this abnormality until the general health began to fail and the patient became pale and tired readily. On examination tenderness was discovered in the situation of the left kidney, without increased resistance or tumefaction. The urine contained blood, squamous epithelial cells and isolated leukocytes, but no renal elements and no tubercle bacilli. Cystoscopic examination showed the bladder to be normal, but the vesical orifice of the left ureter was small and through it bloody urine entered. Tumor or tuberculosis of the left kidney was suspected and lumbar nephrectomy was successfully performed. The removed organ was found entirely normal, but in the pelvis and the adjacent ureter a condition of disseminated miliary telangiectasis was found. The condition appears to be a rare one—at least not many cases have been reported and it is not generally referred to in the text-books. E. Hurry Fenwick[2] relates that he has repeatedly observed painless unilateral hematuria in young persons without the discovery, on nephrotomy and digital exploration of the pelvis of the kidney, of a cause for the hemorrhage. He reports two cases in which, when the pelvis of the kidney was opened and examination made with a cystoscope, a condition of telangiectasis of a papilla was found. Removal of the affected tissue was followed by cessation of the hematuria.

---

1. Trans. of the Chicago Pathological Society, Dec. 9, 1901, 33.
2. Deut. Med. Woch., Vereins-Beilage, March 13, 1902, 88.
3. Zeitschr. f. Hygiene u. Infektionskrankh., xxxviii, Heft 1.
4. The Canadian Journal of Medicine and Surgery, May.

1. Centralblatt für die Krankheiten der Harn- und Sexual-Organe, Bd. xiii, H. 1, p. 26.
2. British Medical Journal, Feb. 5, 1900.

Medical News.

ARKANSAS.

The gold medal offered by the State Medical Society of Arkansas to the graduate of the State University passing the best examination in all branches was awarded to Dr. M. D. McClain; Drs. J. A. Bogart and E. Kreugar received honorable mention.

Personal.—Dr. George W. Hayman, Little Rock, has been appointed one of the colored commissioners of the World's Fair at St. Louis.——Dr. David A. A. Sims, Greenwood, has moved to Bonanza.——Dr. W. W. Jackson has been elected president of the Jonesboro Board of Health.

Commencement.—The twenty-third annual commencement exercises of the Medical Department of the State University were held at Little Rock, April 8. The annual address was delivered by Rev. Percy J. Robottom; the degrees were conferred on a class of 11 by the governor of the state, and the farewell of the faculty was pronounced by Dr. Edwin Bentley.

Again in the Hands of the Law.—Dr. Morris Hale, Hot Springs, was convicted, on April 16, of sending obscene and objectionable matter regarding the Alma (Mich.) Sanatorium, of which he was once superintendent, through the United States mails, and was sentenced to fifteen months' imprisonment at hard labor in the state penitentiary at Atlanta, Ga. This is his second offense.

GEORGIA.

Proposed New Laws.—The bills proposed by the Medical Association of Georgia for passage at the next session of the legislature, provide that no prescription shall be refilled, and that patent medicines must have all of the constituent elements, and respective proportion of each element, distinctly set forth on the label.

Personal.—Dr. W. A. Brewster has resigned as superintendent of the City Hospital, Augusta, and will locate in Valdosta, June 1. Dr. Frank E. Williams, Tipton, has entered on his duties as interne at Lamar Hospital, Augusta.——Dr. M. W. Hollinshead, has decided to locate in Newman.——Dr. W. Hal Moncrief, Atlanta, has passed his examination for the medical department of the Army.——Dr. Benjamin W. Bizzell, Atlanta, has been commissioned captain and surgeon of the Fifth Infantry, G. S. T., vice Dr. Edward C. Davis, Atlanta, resigned, and Dr. Bernard Wolff, Atlanta, assistant surgeon of the same command, vice Dr. J. Dawkins, Cromer, Atlanta, resigned.——Dr. James W. Eberhardt, Hartwell, has moved to Gilmer, Texas.

ILLINOIS.

Grand Army Mortality.—The report of the medical director of the Illinois department, G. A. R., shows that the deaths during 1901 in that department numbered 683, a mortality rate for the year of 3 per cent.

Insane Hospital Maintenance.—The cost of maintaining the Bartonville insane hospital is higher with one exception than that of any other state institution of its character. The average cost of keeping each inmate during the first quarter was $61.74. The best record during the quarter was made at the Jacksonville hospital, where the average per capita cost was $31.13. The high per capita cost at Peoria is said to be incidental to the opening of the institution.

Personal.—Dr. John W. Parmely, Anna, has returned to his former home at Golconda.——Dr. Joseph Perkins, Rardin, has moved to Fair Grange.——Dr. Samuel Glasford, Pekin, has located in St. Louis.——Dr. R. W. Markley, Blackstone, is about to move to Elgin.——Dr. Charles R. Bird, Toledo, has located in Indianapolis.——Dr. James S. Collins, Carlinville, sailed for Europe on the "Pretoria," April 29.——Dr. Emmet Enos, late chief of staff of the Illinois Eastern Hospital for the Insane, Kankakee, has located in Herscher.——Dr. Benjamin G. Pinkerton has returned from an eight-months' stay in Syria and Egypt, and will practice in Springfield.——Dr. Charles H. Walters, Springfield, has moved to Taos, N. M., where he will have charge of the Franklin Placer.——Dr. Isaac B. Ennis, Gilman, has located in Rock Island.

Chicago.

Personal.—Dr. J. M. Mitchell has located in Pontiac.——Dr. Dwight C. Orcutt sailed for England, May 3.——Dr. Martin Strand has moved to Chicago Heights.——Dr. Charles E. Parker has opened an office in Sterling.——Dr. Edwin A. Weimar has returned to Pekin to locate.——Dr. D. A. K. Steele and wife have returned from a three-months' trip to Egypt and Palestine.

Chicago Surgeon Wounded.—Major Ralph S. Porter, U. S. V., who was seriously wounded in the battle of Bayan, Mindanao, entered the volunteer service as first lieutenant and surgeon of the Second Illinois Infantry in 1898. He afterwards was appointed first lieutenant and assistant surgeon of the Thirty-first U. S. Volunteer Infantry, and later rose to his present rank.

Successor to Dr. Fenger.—Dr. Arthur Dean Bevan has been appointed professor of surgery in Rush Medical College to fill the position made vacant by the death of Dr. Fenger. Dr. Bevan graduated at Rush in 1883. He was an officer in the U. S. Marine-Hospital Service from 1883 to 1888, professor of anatomy at Rush from 1888 to 1900, and professor of surgical anatomy and associate professor of surgery from 1900 to 1902.

Cook County Interneships.—For the examination for internes at Cook County Hospital, held May 1, 13 candidates appeared from the University of Illinois; 30 from the University of Chicago, and 16 from Northwestern University Medical School. Of these 16 received appointments—8 from Northwestern, 4 from Rush and 4 from Illinois. The highest mark made by a successful candidate was 421.6; the lowest, 366.2. Northwestern men won the highest three marks.

The Week's Mortality.—For the week ended May 10, the recorded deaths are 549, 45 more than for the preceding week and 78 more than for the corresponding week of 1901. Within the past fortnight there has been a marked change in the type of all the contagious diseases. Scarlet fever, diphtheria, whooping cough and measles are much milder than a year ago; so much so that measles, which is epidemic throughout all sections, caused only one death last week, whooping cough but three, diphtheria five and scarlet fever nine or ten less than the week before.

Disinfection.—Through the increase of the force of disinfectors three weeks ago every call for disinfection had been complied with at the close of the week—the first time in many months. This, together with the efforts of the Memorial Institute for Infectious Diseases in making increased provision for scarlet-fever cases, gives promise that the spread of the contagious diseases may soon be materially checked. Milder weather, by favoring ventilation and sunning of interiors, will also do much toward putting an end to their almost unprecedented prevalence. Advantage should be taken of every sunny day, not only in household, where there has been contagious illness, but by every housekeeper.

KANSAS.

Iola Hospital Open.—The physicians in charge of the Iola Hospital announce that the institution is now ready to receive patients.

Does Good by Stealth.—A member of the faculty of Kansas Medical College, Topeka, who does not disclose his identity, has furnished the money to put up a $10,000 addition to the college.

Personal.—Dr. George Howard Hoxie has opened an office in Lawrence.——Dr. Samuel W. Williston, Lawrence, has been appointed correspondent for the London Geographical Society.——Dr. Barnard D. Eastman, Topeka, has been elected permanent superintendent of Christ Hospital.——Dr. W. McIlwain, Wabaunsee, has located at Lone Wolf, Okla.

No Chinese Provision in Law.—"Dr." Ah Sam of Leavenworth and "Dr." Andrew Wu, of Topeka, Chinese doctors, have appealed to the board and to the governor not to molest them. Chinese practice medicine differently from Americans, and the legislature has made no Chinese provision in its law. The board is said to have taken the matter under advisement.

He Wants a Diploma.—A mandamus suit was filed in the Supreme Court, May 7, against the Kansas Medical College by J. P. Shelton, a student, asking the court to compel the college to issue him a diploma and give the degree of M.D. Shelton alleges that he had an understanding with the college whereby he should attend for a three months' term and receive a diploma. He says he has done this and has passed a satisfactory examination in all branches in the college, but is refused the diploma.

The Law Upheld.—As the Supreme Court has upheld the constitutionality of the medical registration law passed by the last legislature, the State Board of Medical Registration and Examination has instructed the secretary to commence prosecutions against all physicians practicing in the state who have

failed or refused to take out a license to practice. This action by the board will effect from 75 to 80 physicians in the state. The law says:

Any person who shall practice medicine or osteopathy in the state of Kansas without having received and had recorded a certificate under the provisions of this act shall be deemed guilty of misdemeanor and upon conviction thereof shall pay a fine of not less than $50 nor more than $200 for each offense, and in no case wherein this act shall have been violated shall any person so violating receive compensation for services rendered. It is the duty of the secretary of the State Board of Medical Registration and Examination to see that this act is enforced.

LOUISIANA.

Eye and Ear Hospital.—The annual meeting of the Eye, Ear, Nose and Throat Hospital, New Orleans, was held, April 16. During the year 5098 patients were treated, 1149 of whom came from outside parishes. The officers were reelected.

Cisterns to be Screened.—At a recent meeting of the Orleans Parish Medical Society resolutions were adopted endorsing the ordinance now pending before the City Council and providing for the screening of all cisterns in order to prevent the breeding of mosquitoes therein.

Alumni Meet.—The annual session of the Alumni Association of the Charity Hospital of Louisiana was held April 29 and 30. Dr. Lucien F. Salomon lectured before the Association on "The Rational Treatment of Typhoid Fever," and on the following day Dr. Frederick W. Parham spoke on "The Present Status of the Roentgen Rays as a Therapeutic Measure." The annual banquet was given at Lamothe's, April 30, after the business session.

Tulane Commencement.—The commencement exercises of the medical department of Tulane University, New Orleans, were held April 30. The annual address was delivered by Robert B. Fulton, LL.D., chancellor of the University of Mississippi. President E. A. Alderman of the University conferred degrees on a class of fifty. The small number of graduates is said to be due to the fact that this is the transition period from the three-year-course regime to that of the four-year course.

MARYLAND.

Medical Society Banquet.—The fifth annual banquet of the Baltimore County Medical Association was held at the Overland Hunt Club, Towson, May 14.

Personal.—Dr. Charles F. Davidson, Easton, has been reelected a member of the State Examining Board.——Dr. T. Ross Payne has been appointed secretary of the Sanitary Board of Baltimore County. The sanitary physicians met for organization, May 14.

Annapolis Emergency Hospital.—A meeting of physicians was held, April 30, at the building recently purchased to be used as the Emergency Hospital of Annapolis. Drs. Frank R. Smith, Thomas S. Cullen and Joseph C. Bloodgood were elected members of the consulting staff, and the physicians of Annapolis named as the attending staff.

Baltimore.

At the Johns Hopkins Historical Club, May 12, Dr. Bernard Sachs of New York read a paper on "Hindoo Medicine," and Dr. William Osler exhibited a collection of Jenner's original publications, which had been bequeathed to him by the late Dr. Hunter McGuire, of Richmond, Va.

To Complete Endowment.—A committee of 70 citizens has been entrusted with the duty of raising the remainder of the endowment required by the Johns Hopkins University; $800,000 are in hand, and it is hoped to complete the million by commencement day, June 10. A system of municipal scholarships is proposed and meets with the approval of the mayor.

The Maryland Medical College commencement was held May 13, Capt. Richmond Pearson Hobson, U. S. N., being the orator. The introductory address was made by Dr. Bernard P. Muse, the degrees conferred by Dr. John B. Schwatka, and the prizes awarded by Dr. J. Charles Linthicum. There were 39 graduates. E. F. Peters took the first prize, J. M. Graham second, and J. H. Cahoon third.

Health Wardens Must Marry.—The *Minneapolis Tribune* announces that the health commissioner of Baltimore, who has a staff of twenty-four health wardens, has issued the fiat that the doctors in his employ must marry. His reason is that the department demands the service of steady men, and that a man is not apt to settle down to the serious business of life until he has a wife to take care of.

Personal.—Drs. Edward C. Moriarity and Charles H. Blake have been appointed resident physicians at the Baltimore University Hospital.——Dr. Frank O. Miller, a recent graduate of the University of Maryland, has been appointed a resident physician of the insane department of Bayview Asylum.——W. C. Gewin was appointed resident physician at the Franklin Square Hospital, with F. E. Smith, associate.

The Baltimore Eye, Ear and Throat Charity Hospital reports for the past year 5055 patients applying for treatment, 3162 white and 1873 colored. This is an increase of 8 per cent. over last year. The cases were divided as follows: Eye department, 3175; ear, 913; throat, 937. The dispensary visits numbered 17,745, about 60 per day. The indoor department has been reorganized, and there is now a corps of trained nurses who are always on duty. Nurses are obtained from one of the general hospitals, are given special instruction in the care of eye, ear and throat cases, and on the expiration of four months' service, if satisfactory, they receive a certificate. This is effected at but slight additional cost.

Awarded the Boylston Prize.—Dr. Robert Lee Randolph, associate professor of ophthalmology and otology in the Johns Hopkins Medical School, has been awarded the Boylston prize by Harvard University for his essay entitled "The Rôle of the Toxins in Inflammations of the Eye." The contribution is experimental in character, and the author has been at work on it for the past two years in the pathologic laboratory of the University. Among other things the work shows that not only do the bacteria themselves produce inflammation when brought in contact with the eye, but that their toxins can produce it also. Many bacteria, however, have not the power to produce these soluble toxins. Dr. Randolph shows that our ideas on this subject need revision, and that many bacteria probably produce inflammation through the agency of properties which previous tests have failed to discover. It is also shown that many of the most serious external inflammations of the eye are caused not only by the presence of bacteria between the lids and eyeball, but that the harmful effects of these bacteria are rendered more certain if the individual should rub the eye when the infectious material flies into it. The rubbing removes the epithelial covering of the eyeball, and thus an entrance is made through which the bacteria, which are always present, can enter the tissues. For instance, when certain organisms suspended in sterile water are dropped continuously upon the normal eye of a rabbit, even for a considerable time, no inflammation results, but let a slight wound or abrasion of the eyeball be made and inflammation always follows. The practical bearing of this discovery is obvious. Eyes into which infectious or irritating substances have entered, should never be rubbed, although the inclination to do this is usually very strong. The Boylston prize rarely finds its way out of New England. Dr. Randolph was awarded the Alvarenga prize by the University of Pennsylvania in 1900 for an experimental work on the crystalline lens. He was one of those who received the honorary degree of M.A. at the recent jubilee of the Johns Hopkins University.

MISSOURI.

Jewish Hospital Opened.—The new Jewish Hospital at Kansas City was formally opened May 4.

Dr. Dickerson's Will.—The will of the late Dr. D'Estaing Dickerson of Kansas City provides for a bequest to Albany Medical College, but leaves the bulk of the estate, which is valued at from $700,000 to $1,000,000, to his widow, who is appointed executrix without bond.

More Honors for Dr. Gregory.—At the commencement exercises of the medical department of Washington University, St. Louis, May 8, the faculty of the institution presented Dr. Elisha H. Gregory with a portrait of himself and a loving cup, the presentation being made by Dr. Norman B. Carson.

Marion-Sims-Beaumont Graduation.—The graduating exercises of this medical college were held in St. Louis, May 1. Degrees were conferred on a class of 91 by Dr. Young H. Bond, president of the college; Hon. George Tansey delivered the address and Dr. William G. Moore presented class honors.

MONTANA.

Hospital Dedicated.—St. John's Hospital, Helena, was dedicated with appropriate ceremonies by Bishop Brondel, April 1.

Buys Sanatorium.—Dr. James F. Blair, Butte, has purchased the Foster Sanatorium at Butte for $25,000 and will take possession about May 25.

Fire at Big Timber.—A fire, on April 20, in the office of Dr. William A. Moore, Big Timber, destroyed papers and instruments valued at several hundred dollars.

The "Spotted Fever" Epidemic.—The epidemic of cerebro-spinal meningitis in Bitter Root Valley has caused 8 deaths during the last week and the state health officials are reported as being seriously alarmed over the condition. A conference was held at Hamilton, May 1, between Dr. William P. Mills, Minvula; Commissioner J. A. Ferguson of the State Bureau of Agriculture, and the officials and physicians of Ravelli County, relative to the adoption of measures to suppress the epidemic.

NEW HAMPSHIRE.

Gift to Hospital.—The children and grandchildren of the late Edward Joslin of Keene have presented $12,000 to the Elliott City Hospital for the construction of a nurses' building, to be known as the Edward Joslin Home for Nurses.

Imprisonment for "Greek Doctor."—A. G. Zervondacki, indicted for practicing medicine without a license in Summerworth, has been tried at Dover, found guilty and sentenced to be imprisoned for three months and to pay the costs of prosecution.

School of Instruction for Health Officers.—Under the auspices of the State Board of Health and the New Hampshire Association of Boards of Health a sanitary conference and school of instruction for health officers was held at the State House, Concord, April 29 and 30 and May 1.

Sanatorium for Tuberculosis.—The New Hampshire Surgical Club, at its semi-annual meeting in Manchester, March 26, adopted the following resolutions:

WHEREAS, The experience of the past years in the treatment of pulmonary tuberculosis at special institutions known as sanatoria, has resulted in the cure or the arrest of a very large majority of the cases received, and,

WHEREAS, Means should be provided whereby persons financially unable may receive the benefits of such treatment, therefore, be it

Resolved, That the New Hampshire Surgical Club recommends to the Legislature of 1903 a candid consideration of this subject, with the view to the establishment of a state sanatorium for the treatment of consumption.

NEW YORK.

Bequest to Nyack Hospital.—By the will of the late Dr. Charles H. Masten, of Nyack, about $20,000 is bequeathed to the Nyack Hospital.

Albany Hospital Internes.—As the result of a competitive examination, held May 2, Drs. Willis G. Merriman, Jr., John Gutmann, Jr., and M. Joseph Mandelbaum have received appointments as internes at the Albany Hospital.

Hospital Must Pay Duty.—The United States general appraisers have handed down a decision which holds that the Albany Hospital must pay duty amounting to $110 on the surgical instruments imported for use in the hospital by Dr. Macdonald in August, 1901.

Albany Medical College held its seventy-first annual commencement, May 6. Andrew Van Vranken Raymond, chancellor of Union University, conferred degrees on a class of 26. Dr. Samuel B. Ward announced the awards of prizes and appointments, and Hon. Nathan L. Miller, Comptroller of the State, delivered the annual address.

New York City.

Addition to Long Island College Hospital.—Henry W. Maxwell has purchased for the Long Island College Hospital property adjoining the hospital on which a dormitory, costing $60,000, will be built for the use of the nurses of the hospital.

Water Ambulance Launched.—An electric launch specially constructed for the St. John's Guild floating hospitals for use between the floating hospitals and the Seaside Hospital at New Dorp, S. I., was launched, May 2. The launch has been built to the order of Mr. Isaac N. Seligman, who presented it to St. John's Guild.

Hospital's Change of Name.—The name of the Colored Home and Hospital has been changed to the "Lincoln Home and Hospital." It has been designated as an ambulance station by the city authorities. The ambulance service will be amply provided for in the emergency ward. White and colored people have always been treated alike in the hospital.

Avoidance of Extra-Medical Publicity.—Drs. William S. Gottheil and Milton W. Franklin desire us to publish a disclaimer of their responsibility for a postal card sent to the medical profession by an electrical firm and an article in a New York daily regarding the transmission of light through the human body, in which their names were mentioned without their consent.

Land for Columbia.—A number of the friends of Columbia University, who are desirous that the university shall acquire the two blocks of land south of One Hundred and Sixteenth street, Manhattan, known as the "South Field," have made a formal offer to the New York Hospital to purchase the property for $1,900,000, with the intention of giving the university an option to buy it at cost.

Appointments to Honorary Offices.—Commissioner Lederle of the Board of Health has given out the following appointments to honorary offices: Daniel Draper, Ph.D., consulting meteorologist; Dr. George Henry Fox, dermatologist; Stevenson Towle, sanitary engineer; Dr. Clarence C. Rice, laryngologist; Dr. Arthur B. Denel, attending otologist, and Dr. George F. Shrady, consulting surgeon.

Buffalo.

Personal.—George W. Crile, Cleveland, read a paper before the surgical section of the Buffalo Academy of Medicine on "Experimental Study of Surgical Shock."——Drs. Harry Rooth and Marshall Clinton were elected president and secretary respectively of the surgical section of the Buffalo Academy of Medicine.——Drs. A. W. Hengerer, L. Page and Charles Denman have been appointed resident physicians to the German Hospital.

OHIO.

Sanatorium Sold.—Maysville Sanatorium has been sold to Drs. Charles D. Mills, Maysville, and Robert S. Carroll, Calvert, Texas.

Hospital Appropriations.—The Senate has appropriated $35,000 for a new college at the Cleveland State Hospital and $50,000 for a similar purpose to the State Institution for Epileptics.

A Cleveland Philanthropist, Mr. J. H. Wade, has given $100,000 to the Cleveland Fresh Air Camp, $100,000 to Lakeside Hospital, and $50,000 to the Cleveland Day Nursery and Kindergarten Association.

Verdict Against Doctors Set Aside.—Judge Williams has set aside the verdict for $1000 for malpractice recently obtained by Mrs. Beebe Guthrell against Drs. Will J. Means and J. Willcheur Barnes, Columbus, and has granted the defendants a new trial. He took the ground that the verdict was not supported by the weight of the testimony.

Banquet to Dr. Weber.—A reception and banquet was given to Dr. Gustav C. E. Weber of Cleveland, under the auspices of the Cleveland Medical Library Association, May 8. Dr. Harris G. Sherman was toastmaster. While the banquet was in progress Dr. Weber was stricken with apoplexy. He has now regained consciousness and there are hopes of his recovery.

Personal.—Dr. Harry H. Drysdale, assistant physician, Massillon State Hospital, has resigned to accept the position of physician-in-charge of the sanatorium at Lodi.——Dr. Eugene G. Carpenter has been reappointed superintendent of the Columbus State Hospital.——Dr. Charles W. Newton, Toledo, has been appointed Workhouse physician.——Dr. Sterling B. Taylor, Columbus, has been appointed medical examiner for the civil service commission, vice Dr. Harry M. Taylor, resigned.

The New Health Code.—Under the provisions of the new code recently enacted, boards of health are composed of five instead of six members, and the mayor is not a member of the board. Three members constitute a quorum. The present members of the board serve out the terms for which they were appointed. In hamlets and villages of less than 2000 inhabitants the council may appoint a health officer in lieu of a board of health, but such appointee must be approved by the State Board of Health. If any city, village, hamlet or township fails or refuses to establish a board of health or appoint a health officer, then the State Board of Health may appoint a health officer for such city, village, hamlet or township, and fix his salary and term of office. The salary of such health officer, and the expenses created by him in the discharge of his duties, become a charge against said city, village, hamlet or township. Entirely new provisions are made for the prevention of contagious and infectious diseases. The duration of quarantine in smallpox, diphtheria and membranous croup and scarlet fever is fixed. It is left optional with boards of health to quarantine measles, chicken-pox or whooping cough. The Board of Health is required to disinfect any house or room in which a person has been ill with any of certain named contagious diseases; and it is a misdemeanor to rent any such house or room

until disinfection has been carried out. Disinfection is to be done at public expense, and boards of health are authorized to purchase disinfecting apparatus and supplies.

Cincinnati.

Faculty Changes.—Additions have been made to the faculty of the Miami Medical College as follows: Dr. William E. Lewis, professor of anatomy; Dr. William H. Wenning, professor of clinical gynecology; Dr. John M. Withrow, professor of clinical gynecology; Dr. George A. Fackler, professor of clinical medicine, and Dr. Mark A Brown, professor of hygiene.

Improvement of Cincinnati Hospital.—The authority to issue bonds to the extent of $500,000 for the improvement of the Cincinnati Hospital having passed both houses of the legislature, Drs. Holmes and Isham and Mayor Fleischmann of the hospital board have been appointed a committee to devise plans of procedure for spending the money. Hon. Prescott Smith was appointed a committee of one to test the constitutionality of the act under which the allowance was granted, so that there may be nothing in the future to retard the progress of the new building contemplated.

The commencement exercises of the Medical College of Ohio were held May 6. The valedictory was delivered by Dr. Benjamin K. Rachford. A class of forty-two received their degrees from President Ayers of the University; Dr. Phineas S. Conner delivered the faculty address, and Dr. James G. Hyndman announced the awards of prizes.——On May 1, the Miami Medical College graduated a class of thirty-three, the largest for several years. The valedictory was delivered by Dr. Charles F. Goss, who made a strong plea for the endowment of medical colleges.

PENNSYLVANIA.

Philadelphia.

Dr. George Gottstein, first assistant to Professor von Mikulicz, University of Breslau, Germany, was recently a visitor at medical schools and hospitals of the city.

Library Report.—The librarian of the College of Physicians reports, for the month of April, 227 volumes, 491 pamphlets, and 2708 journals received. The donors numbered 60.

Appointments in Jefferson.—Dr. Max H. Bochroch has been appointed demonstrator of nervous diseases; Dr. Alfred Gordon, instructor in nervous disease, and Dr. William C. Pickett, instructor in insanity.

The Nathan Lewis Hatfield Prize for Original Research in Medicine.—For the best essay in competition for this prize, the College of Physicians announces, through its committee, that $500 will be awarded. The subject specified is: "The Relation Between Chronic Suppurative Processes and Forms of Anemia." Essays must be submitted on or before March 1, 1903. The treatment of the subject must include original observations or researches or original deductions. The competition is open to members of the medical profession and men of science of the United States. Particulars may be obtained from J. C. Wilson, M.D., chairman, College of Physicians, 219 South Thirteenth Street, Philadelphia.

GENERAL.

Health of the Troops in the Philippines.—The latest report received, May 2, 1902, at the office of the Surgeon-General of the Army, is that dated March 15, 1902, from Lieut.-Colonel Charles Heizmann, chief surgeon of the Division of the Philippines. The strength of the command during the month ended on the latter date was 35,814 men, with a percentage of sick to the command present of 6.45. This rate is practically the same as that for the month immediately preceding and is regarded as satisfactory. Of the total sick present 20.99 per cent. were affected with venereal diseases; 10.12 with dysentery; 6.44 with diarrhea and the same percentage with malarial fever. Injuries constituted 10.12 per cent. of the total. From a careless examination of this record, venereal diseases are liable to be regarded as extremely prevalent, as they constituted 20.99 per cent. of the cases under treatment, but it must be remembered that the total of the cases constituted only 6.45 per cent. of the command, so that the venereal cases in the command formed only 20.99 per cent. of 6.45 per cent., or 13.5 cases of venereal disease in every 1000 men present. The chief surgeon remarks that while it is believed that the semi-monthly examinations of enlisted men will hold this class of diseases at a moderate figure, there is now little control of prostitution in most of the provinces, and that a slight increase may be looked for from month to month.

The number of deaths in the division decreased from 54 to 43, dysentery being responsible for 11 and variola for 3 of the fatal cases.

Bubonic plague had not attacked the command during the month and had been discovered in but two civilians, both natives, in the San Nicholas District of Manila. The board of health is continuing its active measures for the suppression of the disease. It is believed in Hong Kong that there will be little plague this year, either there or in Manila, and as the experience of that board with the disease extends as far back as 1894, its opinion is of value. An active epidemic of cholera was in progress at Canton, with rumored cases in Hong Kong at the time the chief surgeon wrote. The commerce with the latter port makes this a matter of importance, although the efficient work which the Marine-Hospital Service is doing in guarding the Philippines from epidemic diseases renders the introduction of cholera improbable. The possibility must be recognized in the cases of stowaways and of those smuggled into the minor ports. Cholera appeared twice in the Philippines in epidemic form, both times in the '70s, killing in the more severe visitation over 30,000 people.

Smallpox.

Delaware: On account of the prevalence of smallpox at the Delaware State Hospital, Farnhurst, the trustees held their regular meeting at the Wilmington Club May 2. The smallpox situation was discussed, and it was stated there had been twenty-one cases and three deaths had been the result since the outbreak. The patients have now been removed to the Emergency Hospital, and it has been fenced in to prevent the escape of insane patients.

Illinois: At Monmouth, neighbors of a man affected with smallpox burned the house in which he was quarantined, the patient and his wife escaping with difficulty.——Fifty Chicago & Northwestern track layers are quarantined in boarding cars at Elva. A bad case of smallpox has developed among them. ——The school children at Montrose will lose a month of schooling on account of smallpox.——It is reported that 25 known cases of smallpox exist in Staunton, Macoupin County. ——Smallpox in Chicago has changed from the mild type to a much more severe form, as noted in the Bulletin of April 19, and the first deaths from the disease since January 3 occurred during the week. This disease, however, is of minor importance in Chicago, as it is in any well-vaccinated community. Of the total 169 cases discovered and treated since the first of the year not a single one had ever been properly vaccinated and the great majority of the victims come from the lowest classes.

Indiana: The Vanderburg county council, at a special meeting Thursday, made an appropriation of $4000 for smallpox in the county. This makes a total of $14,500 appropriated this year for smallpox purposes. In all, there have been 268 cases of smallpox in the county this year. There are now eighteen cases in the pest-house.——Mrs. Joshua Collins, Southport, is dead from smallpox and seven other members of the family are suffering from the same disease. She belonged to a sect known as the "Church of God," which claims there is no warrant in the Bible for vaccination.——Secretary Hurty, of the State Board of Health, who returned May 2 from Shelburn and Hymera, says there are more than a hundred cases of smallpox there. Health officers, he declares, are badly handicapped in fighting the disease by lack of funds.——At the Indiana Reformatory, Jeffersonville, fifteen cases were reported and the remaining twelve have broken out so far this month. Vaccination was not as thorough as it should have been, on account of the contractors demurring against all of their men being idle at the same time.——Fontanet has 7 new cases of smallpox.——Dr. James N. McCoy, of Vincennes, was arrested May 8 on the charge of breaking the quarantine law by taking three negroes afflicted with smallpox to the polls at the recent election. He pleaded not guilty and was placed under a $100 bond to appear for trial in the Knox Circuit Court, May 25.

Kansas: Smallpox has broken out in the State Industrial School for Boys, Topeka. Eight cases have appeared already. Seven of them are boys who are inmates of the school and the eighth is an employe.——A lay report in the *Kansas State Journal* of May 8 alleges that Garden City is full of smallpox. Out of the possible 1500 inhabitants of that town 200 are either convalescing or breaking out with what the physicians advertise as "Cuban itch," which is really smallpox. They have it in a mild way, and the health authorities cheerfully overlook it.

Maryland: Five new cases of smallpox were reported in Baltimore during the week ended May 10. A white man, aged 65, was sent to quarantine May 9 with smallpox. This case

originated in the city and excites fear that the disease is gaining ground.——Three colored men who had been confined in the observation house of the health department developed symptoms of smallpox May 5 and were removed to quarantine. They contracted the disease at Sparrow's Point, a water suburb of Baltimore, where cases of the disease have recently occurred. ——The Commissioner of Health has permitted a limited number of students, under careful regulations, to see the cases of smallpox at the quarantine hospital. Sections of two classes have enjoyed this privilege, one under Dr. C. Hampson Jones, Assistant Health Commissioner, the other under Dr. John S. Fulton, Secretary of the State Board of Health.

Michigan: There were 5 deaths from smallpox during April in the following localities: Benton Township, Cheboygan County, Belding City, Ionia County, Fairplain Township, Montcalm County, Croton Township, Newaygo County and Buena Vista Township, Saginaw County.——Smallpox was reported present at 110 places, May 1.

Minnesota: Six cases of smallpox have appeared in one family in Minneapolis.——Dr. H. M. Bracken, secretary of the State Board of Health, and the surgeons of the railways running out of Minneapolis and St. Paul, held a conference May 2 to devise means by which the spread of smallpox among the trainmen might be restricted. The concensus of opinion as to the best method of regulating the matter seemed to favor compulsory vaccination of all employes.——The smallpox report for the week ending April 28 showed 263 new cases in the state, distributed among 40 counties and 70 localities. The previous week's report gave 140 new cases in 54 localities and 35 counties. Todd County takes the lead, with 42 new cases, 31 in Staples Village, and 11 in Gordon Township. Hennepin County reports 38, 16 in Crystal Lake Township and 10 in Minneapolis; Scott County 22, 18 in New Market Township; St. Louis County 16, 12 in Duluth; Blue Earth County 14, 11 in Mankato; Otter Tail County 12, and Meeker County 10. Ramsey County has six new cases, all in St. Paul. No deaths are reported.

Nebraska: During the week ended May 10, 17 new cases of smallpox were discovered in Lincoln.

New York: The death from smallpox of an attendant employed in Long Island State Hospital, King's Park, as well as the development of another case, making the fourth, has resulted in a general quarantine of the entire institution. ——A Buffalo priest who had been asked to minister to a dying smallpox patient, and who thus exposed himself, has contracted the disease and was sent to the quarantine hospital.

Ohio: Smallpox is reported as follows: Point Pleasant, 18 or 20 cases; Cleveland, 13 cases; North Baltimore, 7 cases.

Pennsylvania: Assistant Medical Inspector Alexander C. Butcher, Philadelphia, had his attention called late yesterday afternoon to two suspicious cases of illness in Hutton street. He visited the premises and found that the patients were suffering from smallpox. The authorities had the patients removed at once to the Municipal Hospital and quarantined the entire block. A corps of physicians was then sent to vaccinate the inmates of all the houses.

South Carolina: In the report of the health officer of Charleston for 1901 the outbreak of smallpox receives special attention. Before March 6, 1901, there had been but one case in the city (imported in 1900) in several years. After March 6, when the disease again appeared, there were 54 cases—9 white and 45 colored—all traceable to sources outside the city. The disease was for the most part of a mild type, and no death occurred. Active methods, by quarantine, vaccination, etc., were employed to prevent its extension and it was speedily suppressed. In "no instance did it spread," even to occupants in other rooms in the house where it appeared. The work of vaccination, it is noted, "was most thoroughly and efficiently done." At least 30,000 persons, or more than half the population of the city, were vaccinated in a few weeks.

South Dakota: Crazed by whisky, three patients in the county pest-house at Deadwood ended a night of riot May 2 by setting fire to the building and destroying it, after they had overturned beds and destroyed the furniture. The other patients, many of whom were in the worst stages of smallpox, narrowly escaped death, being rescued with difficulty. A temporary shelter was found for them after they had spent nearly all the night on the hillside.

Tennessee: Obion is still suffering from smallpox. There are twenty or thirty cases there. There have been two deaths from the disease, and three of the victims are not expected to recover. The disease has been more virulent there than anywhere in that section of country.

Utah: At the close of last week there was one case of smallpox in the detention hospital at Salt Lake City. Four new cases developed during the week and none having been discharged, left 5 cases at the close of this report.

Canada: In addition to two cases of smallpox in Nelson, British Columbia, a case is reported from Kitchener on the Crow's Nest and a suspected case from Slocan City, which came down from the Enterprise mine. At Slocan City twenty-five people are quarantined, but no case has developed. A man who escaped from quarantine at Nelson was captured at Ymir.

CANADA.

No Compulsory Vaccination for Montreal.—The Montreal City Council voted down the by-laws, making vaccination compulsory, by a very large majority. This vote has been registered in face of the fact that the Provincial legislature had passed an enactment giving the Quebec Board of Health power to order the City Council of Montreal to pass an act making vaccination compulsory. Although the great value of vaccination has been strikingly proven by recent events in Montreal the council thus puts itself on record. In the recent outbreak of smallpox in that city, out of 361 patients, only three bore good vaccination marks; 322 of the 361 had never been vaccinated at all. The outbreak of the disease has cost the city thousands upon thousands of dollars, and all because people would not be vaccinated. Over three hundred municipalities of the Province of Quebec have already passed this compulsory vaccination by-law. The metropolitan city of the Dominion has rejected it.

The Golden Jubilee of Three Montreal Physicians.—The medical profession of Montreal tendered a banquet, April 30, to three of the most distinguished medical men in that city, viz.: Dr. J. P. Rottot, dean of the Laval Medical Faculty; Dr. D. C. MacCallum, emeritus professor in the medical faculty of McGill; Sir William Hingston, professor of Clinical Surgery at Laval, and one of the founders of the medical faculty of Bishop's. Dr. F. W. Campbell, dean of the faculty of medicine at Bishop's, occupied the chair. The occasion was the fiftieth anniversary of the entering of each of these into the ranks of the profession of medicine. Dr. Rottot was admitted a graduate of the old Montreal College of Medicine in 1847, which afterward became the Victoria, and now is the medical faculty of Laval. Dr. MacCallum graduated at McGill in 1850, and subsequently held the chair of obstetrics in that institution for many years. Sir William Hingston graduated in 1851 from McGill. He has been mayor of Montreal, and is now a senator.

Canada To Have a Dominion Medical Council.—Dr. Roddick's Bill for a Dominion Medical Council has passed its third reading in the House of Commons, having been opposed by only sixteen members, all of whom are from Quebec constituencies. Dr. Roddick had the following amendment added to the bill: "No province shall be represented upon the council either by appointed or elected members until the legislature of the province has enacted in effect that registration by the council shall be accepted as equivalent to registration for the like purpose under the laws of the province, provided that when all the provinces of the Dominion shall have legislated in effect as aforesaid, it shall be lawful to appoint and elect in the manner aforesaid members of the council representing the provinces which have so legislated, universities and incorporated schools aforesaid, situated within such provinces, and such members shall subject to the provisions of this act, constitute the council." Both Sir Wilfred Laurier, the leader of the government, and the Hon. R. L. Borden, the leader of the opposition, supported the measure.

FOREIGN.

A new Chinese hospital is being built at Canton, China, by the French. Ground was given and the Chinese contributed $90,000.

Kyoto Asylum Burns.—The Funaokayama Lunatic Asylum at Kyoto, Japan, burned April 19, and 18 of the 39 inmates perished.

Foreign Medical Students in France.—The number of foreign medical students in France has constantly decreased since more stringent regulations were introduced about 1895. There are now 764, while in 1894 there were 1054. Russia and the southern countries of Europe afford the largest contingent, Turkey, Roumania, Greece and Bulgaria. There are 6 students inscribed from the United States; 16 from South America; 11 from the Antilles, and 8 from Central America, with 3 from Mexico. The total number of French medical scholars is 7118, or 7882 in all, of whom only 54.8 per cent. are inscribed at Paris.

Transvaal Medical Practice.—A proclamation, noted in the *Consular Reports*, provides that licenses must be obtained by

persons (not already duly admitted to practice) as physicians, surgeons, dentists, chemists or druggists. The license is to be obtained from the secretary of the Transvaal administration, and before obtaining it a diploma or certificate entitling the holder to practice in the country where it was granted must be submitted. The license will not be granted unless it is shown that in the country which conferred the diploma, British subjects legally qualified to practice medicine in Great Britain are afforded privileges equivalent to those granted by license under this proclamation.

French Medical Congress.—The Sixth French Congress of Internal Medicine met at Toulouse in April with Lemoine of Lille in the chair. Three notable addresses on "Hepatic Insufficiency" opened the proceedings. In the first Charrin described the results of his personal researches which have demonstrated among other facts the constant existence of degeneration of the liver in the fetuses of women diseased during their pregnancy. In one case there was actual cirrhosis of the liver in a prematurely born infant who only lived one or two days and no germs could be detected in the liver. He thinks that the insufficiency of the liver noted in eclampsia is merely an exaggeration of the processes which occur physiologically during pregnancy. Ducamp proclaimed that intermittence in the elimination of methylene blue is the most reliable and constant sign of hepatic insufficiency. He added that insufficiency of the kidneys may abolish all the signs of insufficiency of the liver. Hepatic organotherapy will be found useful in the form of hepatic insufficiency characterized by continuous glycosuria, exaggerated after meals, associated with hypoazoturia, urobilinuria and indicanuria and occasionally with gingivitis, impotence, neuralgia, cutaneous lesions or a cataract. Ver Eecke described the therapeutic indications which can be deduced from study of the effects of experimental ablation of the liver. The other addresses were on "Convulsions in Children" and "Anti-Waste Medicines" (Médicaments d'Epargne). The *Semaine Médicale* of April 2 to 16 contains the full text of most of the numerous and valuable communications, including those on "Treatment of Parasyphilitic Affections," "Dysenteric Endocarditis," "Diagnosis of Abdominal Aortitis," "Fixation Abscesses," "Diagnosis of Variety of Aneurysm of the Aorta from the Aortic Pulse," etc.

German Medical Congress.—Naunyn presided over the Twentieth Congress of Internal Medicine, which met at Wiesbaden, April 15 to 18. Ewald and Fleiner delivered addresses on the "Diagnosis and Treatment of Gastric Ulcer" and Bie of Copenhagen on "Phototherapy." The latter denied that the isolated chemical rays are more powerful than the undecomposed white light; in fact, the reverse is true. The benefit derived from red light in smallpox is due to the exclusion of the injurious chemical rays, and it should be so perfect that a photographic place exposed in the room does not become altered. He stated that Finsen's Institute has treated 640 cases of lupus and permanently cured 456. About 15 per cent. of all cases have proved rebellious, but even the most malignant cases were not excluded from the treatment. The curative results in eczema and other cutaneous affections have been very satisfactory, but not so brilliant as in lupus. The chief interest centered in Von Leyden's address on the "Parasitism of Cancer" on the eve of his birthday. He stated that only the permanent irritation of a living body can explain the constant growth and proliferation of the cells in cancer. It does not devour the cells, but stimulates them to proliferation like the similar excrescences on plants, especially "cabbage hernia." The clinical picture of carcinoma has many points in common with an infectious disease. He knows of a case in which a young physician drank by mistake the juice squeezed out of a carcinoma, and died two years later from carcinoma of the stomach. Naunyn also reported the case of a physician who exhibited evidences of carcinoma of the stomach three months after he had inadvertently drunk the fluid which had been siphoned out of the stomach of a cancer patient. Von Leyden has lately succeeded in finding sporulation-forms of the endocellular bodies—"Zelleinschlüsse"—which he accepts as the parasitic agent of carcinoma. He has also reproduced on other dogs carcinoma and even metastases after inoculation from a carcinoma of the penis on a dog. No experiments have yet been successful in which cancer was transmitted from one species to another, and even contagion of one person from another—although probable—has not yet been proved. The congress will convene next year at Leipsic.

The International Conference of the Medical Press.—France sent the most numerous contingent to this conference, which was held at Monaco, April 9, with 27 delegates in attendance, all men of note and influence. The *British Medical Journal*, the *Lancet* and the *Clinical Journal* were the English journals represented. Germany sent the editors of the three great weeklies, Austria one, Belgium three, Spain two and Italy three, including the editor of the *Riforma Medica*, the only medical daily in the world. The duly approved delegates from Hungary, Sweden, South America, Canada, and the three from the United States were unable to be present, but their absence was excused. Russia refused to take part in the conference. The first article voted was that the association shall be composed of journals inscribed by their title and represented by a member of the staff, and secondly, of journalists, accepted by the National Press Association. In countries with no national organization the editors or secretaries of journals will be accepted as members if approved by the central committee of the International Association. Each journal may be represented at each general assembly by three representatives, but has only one vote. Each representative must agree to accept the regulations in respect to property in medical literature. The resolutions on this subject prepared by the committee (See THE JOURNAL, page 1017), were adopted with the addition that illustrations can be freely reproduced by other journals on condition that the original source be cited. The question of exchanges between medical journals was the subject of much discussion, and the following proposition was finally vote: "Acceptance of exchange between members of the Association of the periodicals of which they are the directors or editors-in-chief. The exchange is based on the differential price of the subscription and postage, and with the reserve that the proprietor of the journal also accepts. If the request for exchange proceeds from a journal whose subscription price is higher than that of the one addressed, the latter has the option of declining." It was decided to publish an international bulletin; to provide international identification cards for members of the Association traveling in other countries, and to establish a code of telegraphic abbreviations and other measures to decrease the expense of communication between the medical press. Some of the delegates wished to abolish exchange altogether, but Laborde succeeded in maintaining it as a fundamental obligation and courtesy between members united and "solidarized" by the projected association. Detailed reports of the proceedings are being published in the *Gazette Med. de Paris*, whose editor is the general secretary of the International Committee of Organization.

LONDON LETTER.

The Smallpox Epidemic.

There are 1515 cases of smallpox in the metropolitan hospitals, against 1522, 1437 and 1431 in the 3 preceding weeks; 367 new cases were admitted during the week, against 376, 274 and 328 in the 3 preceding weeks. During the first quarter of the present year there were 734 fatal cases of smallpox in London, against 35 and 193 in the 2 preceding quarters. The deaths from smallpox last week were 42, against 54, 73 and 42 in the preceding 3 weeks.

The Public Health.

The weekly returns of the Registrar-General for London and 75 other great towns of England and Wales correspond to an annual rate of 17 per 1000 of their aggregate population; in the preceding 3 weeks the rates were 17.6, 17.4 and 18.3. Of 55 fatal cases of smallpox, 42 belonged to London. The annual death rate of London was 17.4, against 17.9, 17.3 and 18.1 in the preceding 3 weeks.

Vexatious Actions Against Physicians: The Case of Dr. Law.

Recently in THE JOURNAL the preposterous action of a nurse against Dr. Law for damages in consequence of becoming addicted to morphia, which he prescribed for her, was described. Of course, the action failed, but as usual in such cases, because of the poverty of the plaintiff, costs can not be recovered from her. Thus Dr. Law will have to defray very heavy expenses. The hardship is all the greater as his attendance—as is usual in the case of nurses—was gratuitous. However, the profession will show their practical sympathy. A meeting is to be held and many eminent physicians have promised their support.

Conspicuous Delay of Growth and Development.

At the Clinical Society Mr. Hastings Gilford showed a remarkable case of arrest of development of a kind which has not hitherto been systematically described, though some dozen or more cases have been recorded by French and German writers. The patient was a man aged 28, of a healthy family. At 23 he was 1.078 meters in height (3 feet 6 inches) and had since

grown 18 millimeters. His height and proportions resembled those of a boy between the ages of 6 or 7. A radiogram of the hand showed that ossification was no further advanced than in a child of 10, and the dentition also corresponded to that age. The contour of the body and the appearance of the head and face were childish. The sexual organs were the most backward in development: the testes had not descended and the external genitals were infantile. The intelligence was good but the behavior and conversation were more like that of a child than an adult. The thyroid gland could be felt. The dwarfism was apparently not due to any known cause of that condition. Achondroplasia, rickets and microcephaly could be excluded.

The Plague in Egypt.

For the week ending April 13 there were 23 cases of plague in Egypt and 13 deaths, for the week ending April 20, 31 cases and 19 deaths. In the latter week 2 cases occurred at Alexandria, which has been free from the disease since February 17. In the Mauritius there were no cases for the week ending April 24.

Medicine and Egyptian Progress.

The annual report of Lord Cromer shows very gratifying progress of Egypt under British rule. The foundations of well-being and the material prosperity of a civilized community have been laid. From the medical standpoint progress is well marked. Well-equipped and well-managed hospitals are provided for the sick. The lunatic is no longer treated as a wild beast. The number of admissions to hospital continues to increase: 23,447 in-patients were treated in 1901, against 22,572 in 1900. Independently of plague, 3622 cases of infectious disease and 682 deaths were notified, against 4144 cases and 1027 deaths in 1900. Smallpox accounted for 1883 cases and 220 deaths. Cairo was comparatively free from the disease during the year, only 20 cases and 4 deaths occurring, against 172 cases and 41 deaths in 1900. This immunity was, no doubt, due to very thorough vaccination. The benefit of vaccination is illustrated by the epidemic in Port Said. The population consists of 35,000 natives and 12,500 Europeans. In 1901 smallpox broke out and there were 174 cases, 56 deaths. Of these, 129 cases and 38 deaths occurred in the Europeans, 45 cases and 18 deaths in the natives. This enormous disproportion was, no doubt, due to lack of vaccination among the Europeans, among whom, unlike the natives, enforcement of vaccination is not possible. Smallpox, which was formerly very prevalent in the province of Assouan, has been almost entirely stamped out by vaccination. In Cairo 357 cases of diphtheria occurred in 1901, against 210 in 1900. The difficulty of checking this disease arises from the fact that many cases are not brought under the notice of the sanitary authorities until after death. In all infected houses prophylactic injections of antitoxin are given to the surviving children when the parents accept it: in such houses second cases have never occurred. During the year 227 cemeteries were condemned and other sites were selected in lieu of them. The work of improving the sanitary condition of the mosques continues. There is a great difficulty of good water supply. The one source—the Nile—has from time immemorial been used as a main sewer. Arrangements have been made to supply several more provincial towns with good water. Borings have been successfully made and steps taken to prevent contamination. At Alexandria new filter beds are being constructed. In Cairo a system of surface drainage for the removal of storm water has been completed.

Plague in India.

The latest returns show that the disease is spreading. There were 26,108 deaths in the week ending March 22, against 25,655 in the preceding one. The Punjab shows the chief increase—16,829 deaths. In Bombay City the mortality continues to increase—1902 deaths were registered for the week ending April 2, of which 999 were due to plague.

Plague and Rats on Ships.

An outbreak of plague which has occurred in Western Australia is important because it shows in a striking manner how the disease is spread by rats on ships. The *S. S. Antillean* a troop-ship of 3686 tons, left Capetown on Feb. 1, 1901, and entered Sydney harbor on March 2, having no cargo but shingle ballast. The health officer of the port was informed that all hands were well except a sailor who was thought to be suffering from pleurisy. It was known that plague had occurred at Capetown subsequently to the departure of the *Antillean* examination showed that he had plague. He was therefore removed to the hospital, where he died on March 3, and the vessel was sent to the maritime quarantine station; inoculation was offered to all hands, but only 10 accepted. On March 12, a man who was a storekeeper on board, fell ill with plague. Two rats were found dead on the vessel on March 4—teeming with plague bacilli. The captain said that there were not many rats on board, but on February 22—the day of the departure of the vessel from Albany, Western Australia, where it had been for 24 hours—15 carcasses were discovered. At Albany the vessel anchored in the stream and received coal from a lighter which came alongside. Plague broke out immediately afterwards in Western Australia, but not in Albany; most of the cases occurred in Perth, 245 miles from Albany, but connected with it by rail. At Sydney the *Antillean* was fumigated 4 times with sulphur, more than three-quarters of a ton being burnt. The storerooms, having probably been the resort of rats, were twice sprayed with corrosive sublimate solution (1 in 500) by means of Geneste-Hirscher sprays, and were separately fumigated. After repeated searches only 83 dead rats were found. In reporting on this case Dr. Y. Ashburton Thompson, President of the New South Wales Board of Health, points out that plague communicated to 100 rats which infested a vessel continued among them for 29 days and yet at the end of the term it killed only a minority. Hence, a voyage within the limits common with steamships at the present day does not prevent infection of clean ports. Another fact of even greater practical importance is that a ship may be infected at a port under no suspicion of plague at the time. Generally communication of such a ship with clean port would be unrestricted and it appears that the epidemic at Sydney in 1900 originated in this way.

PARIS LETTER.

Legacies and Medical Men in France.

There is a law in France that medical men can not receive any legacy from a patient whom they have treated during his last illness, and this law has been the cause of some complaint on the part of physicians. A member of the French parliament, Dr. Delarne, has advocated a change in this law, and his proposition has been sent before the committee of judicial reform belonging to the Chamber of Deputies. The corporation of physicians in France is well represented in the parliament, since it seems that there are about 50 doctors for 493 members of that body, and this new law will certainly find some zealous partisans.

Statistics of a French Sanatorium.

Dr. Sabourin, a well-known French physician, has recently published in the *Presse Medicale* the result of the treatment of consumption in the French sanatorium of Durtol. Out of a total of 250 cases, Dr. Sabourin has analyzed the number of patients cured. By this is meant that for three months there have been neither expectoration nor cough, that the patient looks well, and shows no reaction after exercise or any other causes which produce a change in a tuberculous patient. On their arrival at the sanatorium examination showed that, out of the total of 250 cases 100 had lesions which prevented all chance of a cure. Out of the 150 that were not too far gone 92 were discharged cured, which makes a percentage of 60 per cent. Of the 100 who were incurable 2 did ultimately recover. Out of the 94 cured 10 have since had a relapse. There were, therefore, 84 patients who recovered out of a grand total of 250, which makes a percentage of 34 per cent. The 94 patients were affected in the following manner: Fourteen had lesions of the first degree, 56 of the second, and 24 of the third degree.

The Fight Against Alcoholism.

The French Antialcoholic League has just distinguished itself by an act of courage, which is certainly to be admired in this epoch of trusts, combinations, and general exploiting of the public. This league has instituted legal proceedings against one of the most important manufacturers of absinthe, on account of the following advertisement, which has been appearing in several newspapers: "As oxygen has a special renovating and exhilarating power, Cusenier's oxygenated absinthe, green or white, is recommended rightly by doctors and sought after by amateurs." The medical profession was brought into cause, and such is the reason for this action. Cusenier is the great absinthe king in France, and it will be interesting to note the result against one of the evils of the age in France, the selling of poison to the population.

Calob's Treatment of Pott's Disease.

The treatment of Pott's disease by the straightening of the vertebral column, was advocated a few years ago by Dr. Calob of Berck-sur-Mer. This treatment was not, however, accepted by the majority of surgeons, who considered it a most dangerous operation. A recent thesis by Dr. Rogoy calls one's attention to

the perils one encounters in carrying out this technic. According to the author the only safe form of treatment is to place the child as early as possible in a well-made plaster apparatus.

A New Treatment of Whooping Cough.

A French physician, Dr. de Lamalleree, has been using in the treatment of whooping cough the inhalation of formic acid vapors. All that is required is to burn a pastille of formol on an alcohol lamp every hour. In one to three days the vomiting stops, as well as the fits of coughing. The latter are reduced to two or three in the twenty-four hours. Out of 22 cases Dr. de Lamalleree has had two failures, four tardy results, and 18 complete cures in eight days, the convalescence being included in this period. The treatment should, however, be applied in the first eight days, and the patient should be kept in the same room during the whole treatment.

Action for Malpractice Non-Suited.

A well-known surgeon of Amiens has just been prosecuted for malpractice by the parents of a young woman on whom he operated two years ago. The parents accused the doctor of having left a compress in the abdomen after having performed laparotomy and pretended that the death of the patient, which took place eleven months afterward, was due to this error in the treatment. No clear proof of this could be furnished by the parents of the young woman, and they were condemned to pay 1000 francs damages.

Correspondence.

Voluntary National Examining Board.

WHEELERSBURG, OHIO, May 12, 1902.

To the Editor:—The proposed organization of a national medical examining board as outlined by THE JOURNAL, January 11, page 108, and advocated in the last number by Dr. W. L. Rodman, Philadelphia, is a move in the right direction, and to my mind offers the best practical plan yet suggested for overcoming the abuses which the best elements of the profession would gladly see abolished.

With regard to the compensation of the proposed board, about which there seem to be divergent views, I wish to inquire why it might not be feasible to obtain recognition from the trustees of the great Carnegie Institution whose objects, in addition to the promotion of research, are declared to be "to encourage the application of knowledge to the improvement of mankind; to conduct, endow and assist investigation in any department of scientific literature or art, and to this end to co-operate with governments, universities, colleges, technical schools, learned societies and individuals."

Is not the avowed scope of this institution as here set forth by the trustees, as well as in the proclamation of its distinguished founder, sufficiently broad to admit of entering into legitimate relations in harmony with its declared purposes, with such a board as it is now in contemplation to create? Is there any other use to which the immense resources of the institution could be applied that would so stimulate the advancement of practical science, and indirectly promote original research, as an affiliation and co-operation with a board especially designed to uplift the qualifications of the most learned of the professions? Would not the board itself derive additional consideration and authority by reason of its connection with this unique institution—thus insuring permanency, independent action and universal recognition, commensurate with its own high character and its distinguished association?

In this event would the board need to limit its action to the bestowal of diplomas of one grade only? Might it not issue certificates of different grades—according to qualifications—just as the licensing board in England issues the diploma of M.R.C.S. and also the higher diploma of F.R.C.S.? In this way the advantages of a national certificate could be secured by a much larger number of physicians, and need not be confined to the young men of the future who, as Dr. Rodman says, are fresh from the colleges and ambitious. Would not the hope of winning the highest distinctions in the power of the board to confer stimulate numbers to engage in the original research who otherwise would have small incentives to lead them on?

JAMES L. TAYLOR.

DETROIT, MICH., May 12, 1902.

To the Editor:—I again endorse the idea of a voluntary national examining board. The establishment of such a board and the movement toward interstate reciprocity can go very well in hand, and will probably do so for some time to come.

It is to be hoped that all those who will participate in the meeting of the American Medical Association at Saratoga—especially those who will attend in an official capacity—will study the subjects and become familiar with the various sides of the questions.

Some information may be furnished by the confederation of members of Reciprocating State Medical Examining and Licensing Boards, a meeting of which, as I understand, will take place in Chicago, May 20. Very truly yours,

EMIL AMBERG, M.D.

Chloroform and Gaslight Again.

CHICAGO, April 30, 1902.

To the Editor:—A few days ago a druggist handed me a bottle marked "Squibb's Chloroform" and said that it had been returned to him by a physician, with the statement that it contained so much chlorin that it could not be used for anesthetic purposes. The druggist made inquiry and found that it had been used at night in the presence of an open gaslight. The druggist wished to know whether it contained chlorin or any other injurious impurity. On making the appropriate tests it was found to conform to the pharmacopeial requirements, containing no free chlorin, no acid or other impurity. I then used some of it to anesthetize a patient for an operation lasting 40 minutes and its effects were all that could be desired of chloroform.

This is written to call attention again to the irritating gas which is formed when the vapor of chloroform comes in contact with a light or a fire. Chloroform is not readily combustible, yet it will burn when the conditions are favorable. The products of this combustion are free chlorin and some very irritating compounds of chlorin, and deaths have been caused by inhaling the mixture so produced at operations where chloroform has been used too freely and without any precautions. All discomfort and danger may be avoided by hanging a towel below the gaslight and keeping the towel moistened with ammonia water throughout the operation. There is no occasion to fill the room with the fumes of ammonia, the amount necessary is small and it is seldom that the operator or his assistants detect its presence. There is little occasion to question the purity of the chloroform and ether at present in the market, and the frequent complaints about impurities in the anesthetics is usually due to ignorance of some such facts as set forth in this communication. Yours truly,

D. H. GALLOWAY.

State Boards of Registration.

In Texas, next week, the State Board of Medical Examiners expect to be very busy, as 100 candidates are expected.

The New Jersey Board of Medical Examiners has examined 87 applicants for medical licenses in the past year; of these, 63 obtained licenses and 24 were refused.

The California Board has had a Chinese doctor arrested for practicing without a license. He has done a large business, among both his own countrymen and white persons.

More Study in Illinois medical schools is proposed by the board in this state. At the session April 29, in Chicago, a committee proposed the extension of the time required for medical study to eight months in each of four years.

The Pennsylvania Medical Examining Board met in Harrisburg April 1. In organizing, Dr. Henry Beates, Jr., Philadelphia, was made president, and Dr. H. S. McConnell, New Brighton, secretary. The next examination will be held June 25-28, simultaneously in Pittsburg, at the Central High School, and in Philadelphia, in Industrial Hall.

The Tennessee Medical Examiners held simultaneous examinations at Nashville, Memphis and Knoxville, April 1 and 2. The number of questions was 64, on 8 subjects, 60 per cent.

being required for temporary license and 75 per cent. for permanent. Of 49 candidates, 38 passed and 11 failed. Of 34 non-graduates, 8 successfully applied for temporary license and 17 for permanent; 6 desired permanent license, but were only able to attain a grade entitling them to temporary license; 3 were rejected absolutely. Of the 15 graduates, one from the Georgia College of Eclectic Medicine and Surgery was granted temporary license, not being able to pass 75 per cent., and one was rejected absolutely. The remainder, numbering 13, were given permanent license and are enumerated as follows:

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
34	R.	University of Georgia	1901	84
49	R.	Medico-Chir. College, Philadelphia	1901	97
53	R.	University of Louisville	1901	87
71	R.	Richmond Medical College	1900	82
81	R.	University of Maryland	1901	81
82	E.	Ecl. Med. Inst. of Cincinnati	1901	86
84	R.	University of Virginia	1896	95
85	R.	Missouri Medical College	1899	96
86	R.	University of Maryland	1899	87
90	R.	Tulane University	1900	92
92	R.	Coll. of Phys. and Surg., N. Y.	1900	87
93	R.	New York Polyclinic	1899	92
98	R.	Kentucky School of Medicine	1898	86

The Oregon Board of Medical Examiners held its regular semi-annual examination January 7 and 8. The number of subjects was 9, questions 90. The percentage required for passing was 75. There were 17 applicants, all of whom passed. Their percentages are withheld by the board.

PASSED.

Sch. of Pract.	Name, Residence and College.	Year Grad.
R.	R. C. Cross, Carlton, Ore., Harvard Med. Coll	1891
R.	W. C. Spencer, Huntington, Ore., Cooper Med. Coll	1897
R.	R. H. Jenkins, Fossil, Ore., Med. Coll. of Tennessee	1900
R.	D. P. Love, Riddell, Ore., Medical Coll. of Tennessee	1890
R.	H. I. Keeney, Portland, Ore., Jefferson Med. Coll	1901
R.	E. F. Lehman, Portland, Ore., Jefferson Med. Coll	1884
R.	F. M. Day, Eugene City, Ore., Med. Dept. U. of Minn	1901
H.	A. Carey, St. Johns, Ore., Cleveland Hom. Med. Coll	1898
R.	W. T. Rowley, Corvalis, Ore., University of Michigan	1901
R.	J. W. Luskey, Portland, Ore., Starling Med. Coll., Ohio	1881
R.	J. H. Thompson, Ogden, Utah, Western Pa. Med. Coll	1896
R.	G. G. Baar, Portland, Ore., Vienna Univ., Austria	1897
R.	F. J. Gober, Trask, Ore., Rush Med. Coll	1885
R.	M. C. Findley, Grant's Pass, Ore., U. M. Coll., K. C	1896
R.	W. W. Kimmell, Lebanon, Ore., Ohio Med. Coll	1881
R.	T. A. Long, The Dells, Ore., Amer. M. Coll., St. Louis	1883
R.	R. Goucher, Mulino, Ore., Amer. Med. Coll., St. Louis	1854

Utah Examination.—The Board of Examiners of Utah, at Salt Lake City on April 7, examined 10 candidates for license and found 7 able to answer 75 per cent. of the 70 questions.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
1	R.	U. of Georgetown, Washington, D. C.	1893	80 1-7
2	R.	Coll. of Phys. and Surg., Chicago	1902	92 5-7
3	R.	University Medical, Kansas	1897	77 2-7
4	R.	Coll. of M. and S., U. of Minneapolis	1901	87 1-7
5	R.	Bellevue Hospital Med. Coll., N. Y.	1881	82 5-7
6	R.	Northwestern U. Med. Sch., Chicago	1901	83 6-7
7	R.	Berlin University, Germany	1899	83 3-7

FAILED.

8	H.	Hahneman, Kansas City, Mo	1901	70 1-7
9	R.	Western Reserve, Cleveland, Ohio	1898	59 2-7
10	R.	St. Louis College of Phys. and Surg.	1891	60 1-7

Kansas Board Will Examine.—Commencing April 21, all candidates for license to practice medicine and surgery in Kansas will be required to pass a satisfactory examination. No registration will be made on diplomas or on certificates from other state boards. Candidates will not be required to present their diplomas when applying for examination, but they will be required to prove that they have devoted not less than four periods of six months each to medical study, no two of these periods being in the same twelve months. The law requires that osteopaths be registered and licensed to practice osteopathy on presentation of diplomas from accredited schools of osteopathy which have required study for not less than four terms of five months each. The board also provides for granting a temporary license to any student who has completed two or more full courses and who presents a petition from a majority of the practitioners in the county in which he intends to practice, petitioning the board to grant such temporary license. The next examination will be held in Topeka, June 10 and 11. The last examination was held April 17 and 2 out of 10 applicants were able to answer 70 per cent. of the questions. There were 8 subjects for osteopaths and 9 for others.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
1	O.	National School of Osteopathy	1900	78
2	..	Not a graduate	....	80

FAILED.

3	(?)	American Health College	1895	54
4	..	Not a graduate	....	60
5	..	Not a graduate	....	32
6	..	Not a graduate	....	65
7	..	Not a graduate	....	11
8	..	Not a graduate	....	45
9	..	Not a graduate	....	50
10	..	Not a graduate	....	39

Montana Examination.—The examiners in Montana, on April 1 to 3, at Helena, met 20 applicants, of whom 13 passed and 7 failed. There were 70 written questions on 14 subjects, and 75 per cent. was required in order to pass.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
1	R.	McGill University	1897	83
3	R.	University of Minnesota	1897	82
4	R.	University of Michigan	1900	80
6	R.	Marion Sims-Beaumont College of Medicine, St. Louis	1901	75
7	R.	Durham University, England	1895	80
8	R.	University of Toronto	1892	82
9	R.	University of Strassburg, Germany	1888	81
10	R.	Western University, London, Ont	1900	88
13	R.	Dalhousie University, Halifax, N. S.	1900	86
15	R.	Rush Medical College	1901	83
16	R.	Coll. of Phys. and Surg., Kansas City	1902	77
17	R.	Hosp. Coll. of Med., Louisville	1897	83
18	R.	Med. Coll. of South Carolina	1888	75

FAILED.

2	R.	Med. Dept., Univ. of New York	1884	61
5	R.	Marion Sims Coll. of Med., St. Louis	1896	67
11	H.	Hahnemann Med. Coll., Chicago	1900	70
12	R.	Ohio Med. Univ., Columbus	1901	57
14	R.	Coll. of Phys. and Surg., Keokuk	1891	68
19	R.	Univ. of Dublin, Ireland	1881	26
20	H.	Homeopathic Med. Coll., St. Louis	1898	54

In Idaho, April 1, at Boise, 16 applicants were asked 115 questions on 12 subjects in a written examination and 10 passed, while 6 were unable to reach a grade of 75 per cent.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
2	R.	University of Kansas City	1899	87
5	R.	Rush Medical College	1901	91.7
8	R.	Rush Medical College	1899	85
9	R.	Rush Medical College	1901	87.7
11	R.	Rush Medical College	1900	84.7
12	R.	Coll. of P. and S., Chicago	1900	85.5
13	R.	Coll. of P. and S., Chicago	1900	81.6
14	R.	Coll. of P. and S., Chicago	1901	79.7
6	R.	Ft. Wayne Coll. of Med	1881	77
10	R.	University of Pennsylvania	1900	87

FAILED.

1	R.	Coll. of P. and S., St. Joseph, Mo	1882	37.7
3	R.	Univ. of Nashville, Tenn	1901	72
4	R.	Coll. of P. and S., St. Louis	1893	62
7	R.	University of California	1888	67
15	R.	University of Michigan	1892	66.5
16	R.	University of Chattanooga	1901	68.5

District of Columbia Examination.—The Board of Medical Supervisors examined 11 candidates for license to practice medicine at Washington, D. C., April 10, and found 8 able to attain a grade of 75 per cent., 2 failed and 1 withdrew. The examination was partly written and partly oral, the former part consisting of 80 questions, and covered 17 subjects.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
303	R.	Baltimore Medical College	1897	88.37
304	R.	Columbian University	1901	82.31
298	R.	Jefferson Medical College	1900	84.94
305	R.	Jefferson Medical College	1901	91.12
302	R.	Johns Hopkins University	1901	87.25
295	R.	National University	1899	87.84
*300	R.	National University	1900	75.84
294	R.	University of Georgetown	1901	92.84

FAILED.

†299	R.	National University	1901	69.03
‡297	R.	University of South	1901	70.00

WITHDREW.

*301	R.	National University	1900	....

NOTE.—*Second examination; †third examination; ‡fourth examination.

California Examiners, at San Francisco, August and December, 1901, and April, 1902, found 14 out of 22 applicants able to answer correctly 75 per cent. of the 27 written questions on 9 subjects. Below is the list.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
..	R.	University of Iowa	1875	83
..	R.	University of Michigan	1890	81
..	R.	University of Michigan	1893	80
..	R.	University of Vienna, Austria	1893	82
..	R.	Medical School of Maine	1899	79
..	R.	Columbia University, N. Y	1894	83
..	R.	Coll. of P. and S., Chicago	1897	83

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
54	R.	University of Michigan	1899	79
56	R.	University of London, England	1892-1894	87
55	R.	Northwestern University, Chicago	1894	77
61	R.	Harvard University, Massachusetts	1898	87
59	R.	Northwestern Medical School, Chicago	1901	85
53	R.	Columbia University, New York	1895	92
58	R.	Cooper Medical College, California	1899	79
		REJECTED.		
..	R.	Kansas City Medical College, Mo	1894	51
..	R.	Univ. and Bellevue Hosp. M. Coll., N. Y.	1900	64
..	R.	Kentucky School of Medicine	1889	62
..	R.	University of Iowa	1874	65
..	R.	Rush Medical College	1895	70
..	H.	Chicago Hom. Med. Coll	1888	70
..	R.	Columbus Medical College, Ohio	1882	67
..	R.	Coll. of Phys. and Surg., Keokuk, Iowa	1869	25

Married.

ISAAC F. CROSBY, M.D., Stuart, Iowa, to Miss Marie Bartley of Atlantic, Iowa, May 1.

W. G. MATCHAN, M.D., to Miss Edna Boucher, both of Bismarck, N. Dak., April 30.

GEORGE E. JACKSON, M.D., to Mrs. Josephine E. Reid, both of Chatfield, Minn., April 24.

EDWARD DARROW, M.D., West Superior, Wis., to Miss Daisy Larkin, of Bay City, Mich., April 30.

JAMES G. BEATTIE, M.D., Preston, Ill., to Miss Lillie Hogue, of Nashville, Ill., at St. Louis, May 1.

ROBERT J. CONWAY, M.D., of Hornellsville, N. Y., to Miss Francis Harriet White, at Buffalo, April 28.

THOMAS H. STREET, M.D., Alexander City, Ala., to Miss Minnie Lancaster, of Wetumpka, Ala., April 30.

JEFFERSON D. KISER, M.D., Lexington, Ky., to Miss Jennie Butterfield, of Ironton, Ohio, at Covington, Ky., May 2.

ARTHUR A. SMALL, M.D., Toronto, Ont., to Mrs. David L. Barnes, Chicago, daughter of Col. B. J. D. Irwin, U. S. Army, retired, May 12.

Deaths and Obituaries.

Zabdiel B. Adams, M.D. Harvard University Medical School, Boston, 1853, medical examiner for the Eighth Middlesex District, and the oldest practitioner in Framingham, Mass., aged 80, met sudden death, May 1, by a fall over the face of the dam at Southboro. Dr. Adams commenced practice in Roxbury. At the outbreak of the Civil war he volunteered, and was made assistant surgeon of the Seventh Massachusetts, and later was promoted to be surgeon of the Thirty-second Massachusetts Volunteers. He was taken prisoner in 1864, and was confined in Litchburg and in Libby Prison. Soon after his discharge he returned to Boston, but soon moved to Framingham. He was a member of the Framingham and Middlesex County medical societies, and had been medical examiner of the district for twelve years.

John S. Miller, M.D. Jefferson Medical College, Philadelphia, 1882, formerly assistant demonstrator of anatomy at Jefferson Medical College, but who was obliged to go to Colorado in 1900 for his health, died in Denver, Colo., April 29, aged 46. Dr. Miller was appointed resident physician at the German Hospital, and subsequently surgeon to St. Joseph's Hospital. He was one of the physicians who went to the relief of Plymouth, Pa., in the typhoid epidemic and to Johnstown during the flood. While in Denver he was demonstrator at Gross University. He was a member of the Philadelphia County Medical Society, the State Medical Society, and American Medical Association.

Lyman Beecher Todd, M.D. Jefferson Medical College, Philadelphia, 1854, the oldest and most prominent physician of Lexington, Ky., died, May 13, aged 70. After Dr. Todd's graduation he began practice in Lexington, and three years later was elected city physician. From 1861 to 1870 he was postmaster at Lexington, and in 1874 was appointed surgeon to the detachment of United States troops stationed in that city. He was a member of the Lexington and Fayette County medical societies; was treasurer of the Kentucky State Medical Society from 1869 to 1875 and also served a term as president of the society.

James Francis Finney, M.D. Tulane University, New Orleans, 1871, prominent as a physician and clubman, ex-coroner of New Orleans, and quarantine physician under two governors, died at the Hotel Dieu, New Orleans, May 2, from pneumonia, after a short illness, aged 53. During the yellow fever epidemic in 1873 he was one of the corps of physicians who volunteered their services and worked heroically to save the lives of their fellow citizens.

Thomas Dudley Isom, M.D. Jefferson Medical College, Philadelphia, 1839, and a resident of Oxford, Miss., since his graduation, died at his home, May 4, from heart failure, after a very short illness, aged 86. He was a delegate to the secessional convention in 1860, and served as a surgeon throughout the Civil war. He was first president of the Confederate hospital, Richmond, and afterward was president of the hospital at Columbus.

Cyrus D. Hottenstein, M.D. Jefferson Medical College, Philadelphia, 1848, for more than twenty years physician to the Working Home for the Blind, West Philadelphia, surgeon and chief surgeon of the Third Division, First Army Corps, throughout the Civil war, and thereafter a practitioner of West Philadelphia, and surgeon to the Pennsylvania Railroad, died at his home, May 1.

William S. Loomis, M.D. University of Michigan, Ann Arbor, 1895, died at Manila, April 30, from intermittent fever, after a short illness, aged 33. Dr. Loomis formerly practiced in Ann Arbor, Mich., but went to the Philippine Islands in December, 1900, and was in charge of a large hospital there. Tropical heat and overwork are said to be responsible for his fatal illness.

Charles W. Marvin, M.D. Western Reserve University, Cleveland, Ohio, 1851, the pioneer medical man of Ithaca, Mich., where he located in 1860; assistant surgeon of the Twenty-sixth Michigan Volunteer Infantry, and later a trustee and director of the school board, died at his home in Newark, Mich., April 27, after a long illness, aged 78.

D'Estaing Dickerson, M.D. Albany (N. Y.) Medical College, 1857, the wealthiest physician of Kansas City, Mo., a veteran of the Civil war, through which he served, being discharged as chief surgeon of the Sixth Army Corps, died from pneumonia, at his home in Kansas City, May 3, after a short illness, aged 67.

Joseph A. Tarkington, M.D. University of Georgetown, Washington, D. C., 1870, who practiced for thirty years in Washington, D. C., and was then obliged to retire on account of ill-health to the family homestead near Greensburg, Ind., died there May 1, aged 64.

Maximilian A. Cachot, M.D. Cooper Medical College, San Francisco, 1864, a native of France, but a resident of San Francisco for nearly forty years, died at his office in that city from apoplexy, after a few hours' illness, April 29, aged 68.

Edward Lawrence Feehan, M.D. Washington University, St. Louis, 1861, brother of Archbishop Feehan of Chicago, and for forty years a practitioner of St. Louis, died at his home in that city, May 8, from Bright's disease, aged 67.

Harvey W. Curtiss, M.D. Western Reserve University, Cleveland, 1852, a practitioner of Chagrin Falls, Ohio, for fifty years, a state senator, and once acting lieutenant-governor of the state, died at his home, April 30, aged 78.

John Homans, II, M.D. Harvard University Medical School, Boston, 1882, a member of the Papyrus Club and of the State Medical Society, died at his home in Boston, after a brief illness, May 4, aged 45.

Charles McDonough, M.D. Pennsylvania Medical College, Philadelphia, 1848, who had practiced in Reading for fifty-five years, and was a veteran of the Civil war, died recently at his home in Reading, aged 75.

John T. Shutt, M.D. College of Physicians and Surgeons, Baltimore, 1880, a charter member of the Mercer County (Pa.) Medical Society, died suddenly from neuralgia of the heart, May 4, aged 50.

William D. Karns, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1878, a practitioner of Dahlgren, Ill., for nearly twenty-five years, died at his home in that place, April 26, aged 58.

Charles H. Masten, M.D. Bellevue Hospital Medical College, New York, 1867, died at his home in Nyack, N. Y., May 1, from pneumonia, after an illness of ten days, aged 62.

F. Antes Canfield, M.D. Rush Medical College, Chicago, 1872, the pioneer physician of Juneau County, Wis., died at his home in Necedah, April 22, aged 71.

Henry D. Green, M.D. Medical College of the State of South Carolina, Charleston, 1850, died after a prolonged illness at Donalds, S. C., April 29.

Ulric D. Stone, M.D. Omaha (Neb.) Medical College, 1892, died at his home in Steinauer, Neb., April 18, from neuralgia of the heart, aged 38.

William E. Byrd, M.D., died from pneumonia, after a short illness, at his home in Montrose, W. Va., April 30, aged 64.

John M. Bye, M.D. University of Michigan, Ann Arbor, 1863, died recently at his home in Canton, Ohio.

Association News.

Railroad Rates for Saratoga Meeting.

The Committee on Transportation reports that a rate of one and one-third on the certificate plan will now apply throughout the entire United States, all the passenger associations having agreed to the same. This rate has been extended to include the meeting of the American Academy of Medicine, which meets at Saratoga, June 7. The return limit is June 17 without extra fee and July 2 on payment of fifty cents. All going tickets must be accompanied by a certificate and, in order to receive reduction returning, certificates must be signed by Dr. William E. Swan, Saratoga, between June 11 and 13. In order to secure the privilege of time extension between June 16 and July 2, all certificates must be signed as above and deposited with the local ticket agent not later than June 17. Failure to comply with any of these requirements will result in forfeit of time extension limit and reduced rate returning. In order to avoid delay and extra cost of baggage transfer across New York City, delegates and members from the southeastern territory, and that of the trunk line south of New York City will find it convenient to purchase tickets direct over the Pennsylvania lines or other roads connecting with the West Shore Railroad at Jersey City going direct through to Albany or Saratoga. For those in the central and extreme western and southwestern territories, the most direct and continuous routes will be via the Chicago, Milwaukee & St. Paul and Big Four connections by way of the Lake Shore & Michigan Southern Railway, all of which run direct to Saratoga via Buffalo and Albany over the New York Central and Delaware & Hudson Road. Any of the passenger and ticket agents of the roads herein enumerated will furnish special information to delegates in the matter of time, trains, and return certificates.

H. L. E. Johnson, M.D., Chairman,
Committee on Transportation.

Special Report of the Committee on National Legislation.

The Committee on National Legislation reports that the bill proposed by them to promote and honor the ex-president of the American Medical Association, Surgeon-General George M. Sternberg, was introduced in the Senate by Senator Gallinger April 12. The Bill is known as Senate 5213 and reads: "A Bill providing for the selection and retirement of medical officers in the Army. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States is hereby authorized to select one from such medical officers of the Army as have served forty-one years or more, nine years of which shall have been as Surgeon-General, and by and with the advice and consent of the Senate, appoint him a major-general of the United States Army, for the purpose of placing him on the retired list."

On May 7 Senator Joseph R. Hawley, Chairman of the Senate Committee on Military Affairs, reported the bill favorably and recommended its passage. His report includes letters from the Secretary of War addressed to the House of Representatives, from the Adjutant-General, from the Surgeon-General, and others. The report also gives many details in regard to Surgeon-General Sternberg, showing what he has accomplished, the honors that have been conferred on him, together with a list of his contributions to medical literature previous to 1893. The report is very flattering to General Sternberg.

Miscellany.

The Fee-Splitters.—The abominable practice of fee-splitting must come to an end. The fellow who auctioneers his patients off to the surgeon and specialist—to the highest bidder—has had his day, and will as surely receive his just deserts as time lasts. At the next meeting of the American Medical Association there can be no doubt but what that great body will take such action as will force every one of the fee-splitters to abandon the abominable practice or be expelled from any medical society that they may then belong to, and will bar them from entering any medical societies in the future. There can be no way of evading the punishment that is in sight for them; it is inevitable.—*Amer. Practitioner and News.*

Hospital Statistics.—*American Medicine* makes some interesting observations on the figures published by the State Board of Charities bearing on the number of in-patients at a particular institution therein referred to. It is stated that during the year 1900 this hospital admitted no less than 9308 new patients. Now, the total bed accommodation for patients in that institution happens to be 292, and the average number of beds occupied during the year was 194. Taking the average stay in hospital of each patient to be eighteen days, an estimate which some pains have been taken to verify, the figures seem to show that at least 5636 persons must have slept two in a bed; indeed, if instead of the total bed capacity, we take the average of bed days, as reported, it will be seen that a large number of patients must have slept three in a bed! Our contemporary naturally asks how this can have come to pass and suggests the following alternative explanations—either the average stay in hospital must have been less than eighteen days, although in other hospitals the average varied from twelve to twenty-one days, or the figures must have been falsified in order to influence the allocation of State funds. As the latter hypothesis is, of course, inadmissible we are thrown back upon the supposition that several persons must have slept in a bed. If so it may be remarked that disease, like poverty, makes strange bedfellows.—*Med. Press.*

The Proposed Uniform Organization of State Medical Associations.—A committee appointed for the purpose by the president of the American Medical Association, consisting of Dr. J. N. McCormack, of Bowling Green, Ky., Dr. P. Maxwell Foshay, of Cleveland, and Dr. George H. Simmons, of Chicago, has devised a form of constitution and by-laws intended to serve as the substance of the constitution and by-laws of each State organization affiliated or to be affiliated with the national association, and the plan is set forth in a report published in the association's Journal for May 3d. The gentlemen of the committee do not profess that their device is perfect or that in all its details it will be found available to advantage in every State; indeed, they intimate that much of the wording of those portions that in all probability will prove acceptable in all the States need not be formally enacted, inasmuch as it is elucidative rather than declaratory. It is desirable to have the constitution and by-laws of any society as brief and condensed as may be consistent with clearness, but in this instance we think the entire report of the committee should be preserved in the archives of every State society that adopts its fundamentals, for it will furnish the readiest means of expounding the enactments.

Recognizing the diversity of conditions in the various parts of such an enormous country as this, the committee has wisely aimed at flexibility in all but essentials, and has sought to provide the greatest facility for conciliation and compromise in regard to disagreements and friction of all sorts and for the utmost liberality in rating individual physicians as to their eligibility to membership in the component county societies, which membership carries with it the right of representation in the State organization and in the American Medical Association. There is, indeed, so far as we can see, no reason why, under such a general scheme as the committee has devised, there should not shortly be achieved a close approach to such an ideal unification of the medical profession as was lately forecast by Dr. Charles A. L. Reed, of Cincinnati, in his remarks before a Dayton society, published in our issue for

April 19, for no reputable legally qualified practitioner would be kept out of a county society or debarred from acting as its representative in the State and national organizations, no matter what his therapeutical theories or practice might be—provided only he renounced sectarianism, which would not at all mean that he should give up his belief or cease to practice in accordance with it, but only that he should no longer exploit it with the laity. Only as a united profession can we readily influence legislation in the interest of the public health and for the advancement of medical science, and we believe that the great body of physicians throughout the Union will concur in the liberality shown by the committee, and feel thankful to the gentlemen composing that body for the assiduity and broad-mindedness which they have brought to the devising of their scheme.—*N. Y. Med. Jour.*

A Training School for Nurses in Turkey.—The great scarcity of nurses in Turkey has led to a proposal, made by the authorities of the American College for Girls in Constantinople to its trustees in Boston, that in connection with the academic course a medical department in the form of a hospital and training school for nurses should be established. It is urged that there is a splendid opening for nurses in taking charge of the native women, who lead idle, aimless lives, and take very little air or exercise, and who consequently develop many real or imaginary diseases. These women greatly need someone to instruct them in the simple laws of hygiene and the care of the body, and nurses would be heartily welcomed by them. The Turkish hospitals import their nurses from Germany.—*Brit. Med. Jour.*

Societies.

COMING MEETINGS.

American Medical Association, Saratoga Springs, N. Y., June 10 to 13.

Illinois State Medical Society, Quincy, May 20-22, 1902.
Medical Association of the State of Missouri, St. Joseph, May 20-22, 1902.
Arizona Medical Association, Tucson, May 21-22, 1902.
Medical Association of Montana, Anaconda, May 21-22, 1902.
Medical Society of West Virginia, Parkersburg, May 21-23, 1902.
Iowa State Medical Society, Des Moines, May 21-23, 1902.
Indiana State Medical Society, Evansville, May 22-23, 1902.
American Pediatric Society, Boston, May 26-28, 1902.
American Laryngological Association, Boston, Mass., May 26-28, 1902.
American Gynecological Society, Atlantic City, May 27, 1902.
Connecticut Medical Society, New Haven, May 28-29, 1902.
Ohio State Medical Society, Toledo, May 28-30, 1902.
American Laryngological, Rhinological and Otological Society, Washington, D. C., June 2-4, 1902.
American Surgical Association, Albany, N. Y., June 3-5, 1902.
Louisiana State Medical Society, Shreveport, June 3-5, 1902.
Maine Medical Association, Portland, June 4-6, 1902.
South Dakota State Medical Society, Scotland, June 4-5, 1902.
Wisconsin State Medical Society, Milwaukee, June 4-6, 1902.
Rhode Island Medical Society, Providence, June 5, 1902.
Association of Military Surgeons of the United States, Washington, D. C., June 5-7, 1902.
American Orthopedic Association, Philadelphia, Pa., June 5-7, 1902.
American Academy of Medicine, Saratoga Springs, N. Y., June 7, 1902.
American Association of Life Insurance Examining Surgeons, Saratoga Springs, June 9, 1902.
National Confederation State Medical Examining and Licensing Boards, Saratoga Springs, N. Y., June 9, 1902.
Association of American Medical Colleges, Saratoga Springs, N. Y., June 9, 1902.
American Climatological Association, Los Angeles, Cal., June 9-11, 1902.
American Proctological Association, Saratoga Springs, N. Y., June 10, 1902.
Medical Society of Delaware, Newark, June 10, 1902.
Massachusetts Medical Society, Boston, Mass., June 10-11, 1902.
Medical Society of the State of North Carolina, Wilmington, June 10-14, 1902.
Colorado State Medical Society, Pueblo, June 17, 1902.
American Medico-Psychological Association, Montreal, June 17-20, 1902.
Minnesota State Medical Society, Minneapolis, June 18, 1902.
Medical Society of New Jersey, Atlantic City, June 24-26, 1902.
Washington State Medical Society, Tacoma, June 24-26, 1902.
Michigan State Medical Society, Port Huron, June 26-27, 1902.

Detroit Physicians' Association.—At the annual meeting of this Association, April 28, Dr. Daniel Kerr was elected president and Dr. Walter J. Cree, secretary. The Association now numbers nearly 300.

Austin (Texas) Academy of Medicine.—At a recent meeting of the Academy, Dr. Matthew M. Smith was elected president; Dr. Joseph S. Wooten, vice-president; and Dr. W. Allen Harper, secretary and treasurer.

Pike County (Ill.) Medical Society.—At the annual meeting of this Society, held in Pittsfield, April 24, Dr. Henry T. Duffield, Pittsfield, was elected president; Dr. Francis M. Crane, Pittsfield, vice-president, and Dr. Rufus H. Main, Barry, secretary.

American Orthopedic Association.—This Association will meet at Hotel Walton, Philadelphia, June 5, 6 and 7. A feature of the meeting will be an evening with the plaster-of-paris bandage in the amphitheater of Jefferson Medical College Hospital, June 6.

Barry and Eaton (Mich.) Medical Association.—At the annual meeting of this Society, held in Nashville, April 24, Dr. Aleck F. Hutchinson, Nashville, was elected president; Dr. Arthur E. West, Eaton Rapids, vice-president, and Dr. F. F. Shilling, Nashville, secretary and treasurer.

Lewis and Clark County (Mont.) Medical Society.—A number of physicians of Helena met, April 30, and reorganized this Society, which disbanded in 1894, with an initial membership of eight. Dr. George W. King was elected president; Dr. Benjamin C. Brooke, secretary, and Dr. Rudolph Horsky, treasurer.

Charity Hospital (New Orleans) Alumni.—The internes and ex-internes of Charity Hospital met and banqueted, April 30. Dr. E. Denegre Martin, New Orleans, was elected president; Dr. John J. Laurans, New Orleans, vice-president; Dr. S. M. D. Clark, New Orleans, secretary, and Dr. Jules Lazard, New Orleans, treasurer.

Linn County (Mo.) Medical Society.—At the annual meeting of this Society, held in Laclede, April 29, the following officers were elected: Dr. F. W. Burke, Laclede, president; Drs. Emanuel S. Wenger, Brookfield, and Urbane C. Dryden, Shafter, vice-presidents; Dr. Edmond D. Standly, Linneus, secretary, and Dr. John L. Burke, Laclede, treasurer.

Central Medical College (St. Joseph, Mo.) Alumni Association.—On April 28 this Association elected the following officers: Dr. Louis J. Dandurant, St. Joseph, president; Drs. H. A. Green and F. Austin Patterson, St. Joseph, vice-presidents; Dr. Herbert Lee, secretary; Dr. Grace M. Bliss, corresponding secretary, and Dr. A. D. Pope, treasurer.

Central Illinois Medical Association.—The twenty-eighth annual meeting of this body was held at Pana, April 29. The following officers were elected: Dr. Everett J. Brown, Decatur, president; Drs. John H. Miller and George W. Fringer, Pana, vice-presidents; Dr. John N. Nelms, Taylorville, treasurer, and Dr. Frederick J. Eberspacher, Pana, secretary.

North East Missouri Medical Association.—This Society held a session in Memphis, April 8 and 9. The following officers were elected: President, Dr. Robert B. Turner, Canton; vice-president, Dr. Frank B. Hiller, Kahoka; secretary, Dr. E. E. Parrish, Memphis, and treasurer, Dr. James B. Bridges, Downing. The next meeting to be held at Kahoka, October 14.

Berkshire District (Mass.) Medical Society.—At the annual meeting, held in Pittsfield, April 24, this Society elected Dr. Stephen C. Burton, Pittsfield, president; Dr. Lucius T. Ingham, West Stockbridge, vice-president; Dr. Lawrence C. Swift, Pittsfield, secretary; Dr. William Le R. Paddock, Pittsfield, treasurer, and Dr. William W. Leavitt, Pittsfield, librarian.

State Association of Colored Physicians of Florida.—The colored practitioners of Florida met at Fernandina, April 24, and organized this Association, with Dr. Percy N. Richardson, Fernandina, president; Dr. A. L. Pierce, Orlando, vice-president; Dr. W. C. Smalls, Jacksonville, secretary, and Dr. A. S. Jerry, Tallahassee, treasurer. The next meeting will be held in St. Augustine in May, 1903.

Ohio Valley Medical Association.—The seventh semi-annual meeting of this Association was held in Owensboro, Ky., May 1 and 2. The following officers were elected: Dr. T. Atchison Frazer, Marion, Ky., president; Drs. A. M. Hayden, Evansville, Ind., and Daniel M. Griffith, Owensboro, Ky., and Campbell H. Johnson, Henderson, Ky., vice presidents, and Dr. Dudley S. Reynolds, Louisville, librarian.

Addison County (Vt.) Medical Society.—This Society, which was organized in 1813, but which had not held a meeting for 22 years, is to be reorganized. In response to a call of Dr. James M. Hamilton, Rutland, nine physicians met at Middlebury, April 29. Dr. Edward P. Russell, Middlebury, was made

chairman, and Dr. Merritt H. Eddy, Middlebury, secretary. A committee on reorganization, constitution and by-laws was appointed to report in June.

College of Physicians and Surgeons, Baltimore, Alumni Association.—This Association held its annual business meeting and banquet, April 28. The following officers were elected: Dr. Samuel H. Allen, Provo City, Utah, president; Drs. Charles F. Blake, Baltimore, and Thomas A. Councell, Easton, Md., vice-presidents; Dr. Hubert C. Knapp, Baltimore, secretary; Dr. C. W. G. Rohrer, Baltimore, assistant secretary, and Dr. Charles E. Brack, Jr., Baltimore, treasurer.

University of Buffalo Medical Department Alumni Association.—At the annual meeting of the alumni of this institution, held at Buffalo, May 2, the following officers were elected: Dr. Alfred W. Bayliss, Buffalo, president; Drs. Alfred W. Henckell, Rochester; Fridolin Thoma, Buffalo; Henry S. Benham, Honeoye Falls; Jane W. Carroll, Buffalo, and George A. Himmelsbach, Buffalo, vice-presidents; Dr. Thomas H. McKee, Buffalo, secretary, and Dr. Herman K. De Groat, Buffalo, treasurer.

Clark County (Ohio) Medical Society.—The first meeting of the newly-consolidated Clark County Medical Society and Springfield Academy of Medicine was held at Springfield, May 5. The following officers were chosen for the new society: Dr. Read L. Bell, president; Drs. John P. Dugan, and Noah Myers, vice-presidents; Dr. J. C. Easton, secretary, and Dr. D. Walter Spence, treasurer, all of Springfield. Drs. Isaac Kay, John H. Rodgers and Henry H. Seys, Springfield, each of whom had practiced medicine for more than fifty years, were made emeritus members.

International Association of Railway Surgeons.—The fifteenth annual meeting of this Association was held in St. Louis, Mo., April 30, May 1 and 2, under the presidency of Dr. Rhett Goode, Mobile, Ala. The following officers were elected for the ensuing year: President, Dr. William A. McCandless, St. Louis; vice-presidents, Drs. Arthur L. Wright, Carroll, Iowa; John B. Rule, St. Louis; John C. Wysor, Norfolk, Va.; E. E. Kitchener, Canada; William G. Jameson, Palestine, Texas; Reyes M. Ortego, City of Mexico, and Philander Daugherty, Junction City, Kansas. Drs. David S. Fairchild, Clinton, Iowa; A. I. Bouffleur, Chicago, and Joseph R. Hollowbush, Rock Island, Ill., were elected members of the executive board. Drs. Louis J. Mitchell, Chicago, and James A. Duncan, Toledo, Ohio, were re-elected secretary and treasurer, respectively. Indianapolis, Ind., was selected as the place for holding the next annual meeting.

CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL ASSOCIATION.

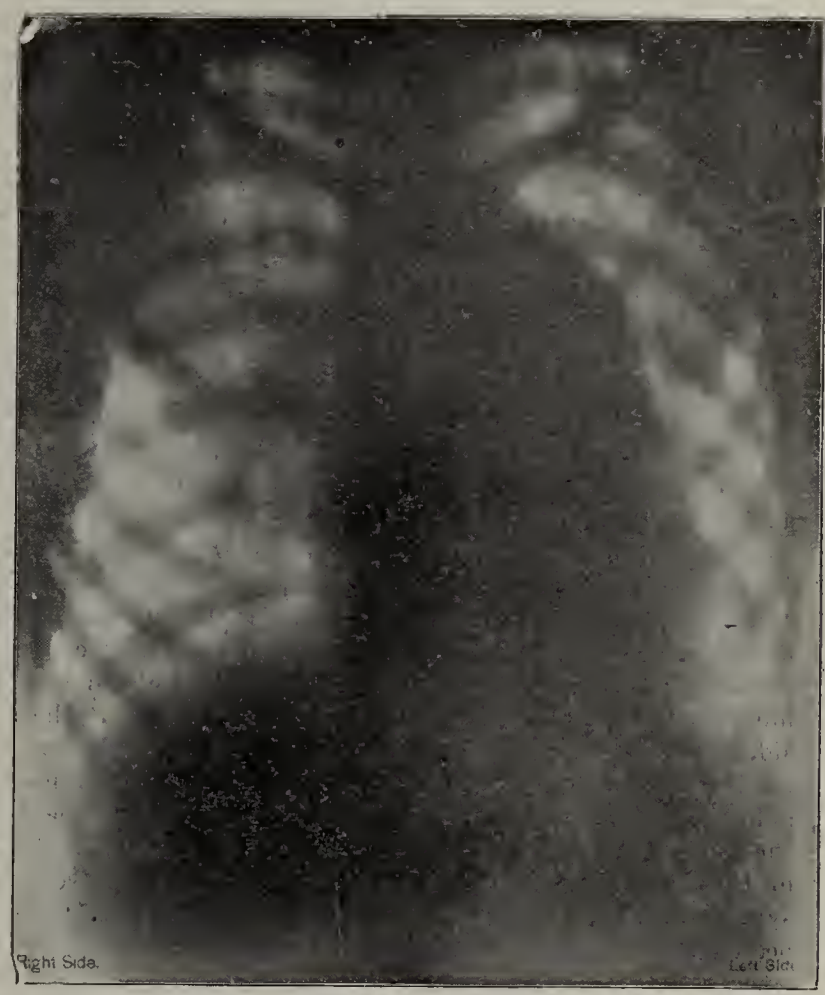
Regular Meeting, held April 21, 1902.

The President, Dr. Moreau R. Brown, in the Chair.

Congenital Heart Disease.

Dr. John Edwin Rhodes reported a case of probable congenital heart disease in a girl of 11. Her mother and father are living. They have had 8 other children; all are living and well, except one who died of hip disease from an injury. She weighs 60 pounds; is well nourished, lips red, skin of a healthy normal color and temperature normal. She had rötheln when she was 3 years of age, followed by double pneumonia and she has had several attacks of pneumonia since. She has never had rheumatism. Her mother says that she was never as strong as her other children, but she gives no history of cyanosis at birth or subsequently, although she says that her color was not as good as that of the other children. The child says that as long as she can remember she has been somewhat short of breath on exertion, as in walking fast or going upstairs, but it seems to be no worse now than it has been for some years past. There is no pain or tenderness over the chest. She often has palpitation when tired or excited, the heart's action then being much accelerated. I found her pulse 104, rather weak, but regular, respirations 22; temperature is usually normal. Her blood count shows 5,300,000 red corpuscles, white 17,000. The tongue is clean; the appetite and digestion good, and the bowels regular.

There is no cyanosis, except a slight duskiness of the finger nails, and no clubbing of the fingers. The impulse of the heart's apex is in the fifth intercostal space, half inch outside of the mammillary line, and is about 1 inch in diameter. An impulse is also seen at the base of the left border of the sternum in the third intercostal space. No thrill is felt over the apex. Over the upper portion of the precordia as far out, on the left side, as the anterior axillary line in the second and third intercostal spaces and with diminishing force as high as the clavicle, a thrill is felt. Its maximum intensity is in the second intercostal space two inches from the median line. The thrill is not perceptible to the right of the sternum. There is no bulging of the precordia. Dulness on the left side begins at the first rib and extends downward to the sixth. Dulness to the right extends 1½ inches from midsternal line in third and fourth interspaces. Dulness to the left extends 1½ inches from midsternum in first interspace, 2½ inches from midsternal line in second and third interspaces, 3 inches in the fourth interspace, and 3½ in the fifth. On auscultation at the apex there is no distinct murmur but a slight systolic roughness which is not transmitted. Over the base of the heart a loud diastolic and a systolic murmur are heard distinctly in



A case of probable congenital heart disease.

the pulmonary area and very distinctly at the left border of the sternum in the second and third intercostal spaces, the systolic murmur being more distinct in the second intercostal space about 2 in. to left of sternum. These murmurs are not apparently transmitted to the arteries of the neck nor are they heard behind. The second pulmonic sound is very markedly accentuated. There is no accentuation of the second sound in the aortic area nor are there murmurs in this area. No venous hum is heard at the base of the neck. There are no evidences of tumor in the pulmonary area.

In this case we probably have an obstruction and insufficiency at the pulmonary orifice with hypertrophy and dilatation of the right ventricle. There is probably also a hypertrophy of the left ventricle and dilatation and hypertrophy of the left auricle with intra-pulmonary obstruction to account for the accentuation in the second pulmonic sound.

A Case of Aneurysm of the Aorta of About Forty Years' Duration.

Dr. Rhodes also presented this case: Mrs. W. H. S., aged 50, married. Her maternal grandfather had rheumatism; some second cousins of the mother died of phthisis. She had scarlet

fever and measles in childhood. She never had rheumatism or other illness of importance. She is of medium height, weighing 148 pounds; five years ago her weight was 185. She has never had children or miscarriages. Her pulse is 86; that at the left wrist being somewhat stronger than that at the right. Her strength at the present time is not very good. She has frequent headaches and an occasional slight edema of the ankle. She has dyspnea on slight exertion and is occasionally conscious of shortness of breath when quiet. She has been able for years, however, to go about her ordinary duties without much difficulty; of late, she has suffered somewhat more than usual from dyspnea on exertion, as in putting coal in the furnace. The respirations are not much accelerated; appetite is good, digestion not good; the bowels are regular. She complains of occasional very marked throbbing of the arteries all over the body. She is complaining of numbness lately in the back part of the throat and tongue and occasionally suffers from palpitation after eating. She states that when she was a child she was in the habit of jumping a rope to great excess and to this overexertion she attributes her trouble. She knows that she has had this affection of her chest for 40 years. Over 21 years ago she was seen by Dr. Austin Flint, Sr., Dr. Janeway and others in New York and a diagnosis was made of aneurysm of the aorta and she was shown to the students in classes at Bellevue and elsewhere.

On examination of the chest, we find on the first interspace on the right no dulness. On the left side there is normal resonance and no bulging. There is slight bulging over the sternum at the second rib more marked to the right than to the left. At the second rib there is dulness one inch to the right of the sternum, third rib 2 inches, fourth rib 1 inch, at which latter point there is some tenderness. A thrill is felt in the second interspace on the right over which area pulsation is felt and seen. The thrill is felt 2 inches to the right of the sternum and about ½ inch farther to the right than the area of actual dulness. The apex is in its normal position. On auscultation a loud systolic murmur is heard all over the left side of the chest, increasing in intensity into the aortic area. In the aortic area, systolic and diastolic murmurs are heard and a systolic shock is present. The systolic murmur is loud over the upper part of the chest, but more marked in the second and third intercostal spaces of the right side. This murmur is also heard over the carotid and behind at the right side of the spine from the apex to the fourth dorsal vertebra. An interesting feature of this case is that the patient has been able to pursue her usual avocations for about 40 years and there has evidently been very little increase, if any, in the size of the aneurysm, and she has suffered very little from such symptoms as one with such a lesion might ordinarily be expected to have.

DR. WILLIAM E. CASSELBERRY—I am a little surprised, if it be an obstructive lesion of the pulmonary orifice, that there should not be disclosed more hypertrophy of the right ventricle.

DR. E. FLETCHER INGALS—In the case of the little girl there is no way of telling the exact condition which causes the signs. The history and the systolic murmur at the base of the heart is indicative of a communication between the auricles or ventricles; yet the character of the murmur and the sudden sharp closure of the pulmonary valves would indicate that the sound is produced at the pulmonary orifice.

DR. A. M. CORWIN—The case of the little girl is one of those interesting instances of heart lesion, the signs of which are seemingly at variance with the rules in our text-books and about which it is unsafe to dogmatize. The absence of aortic regurgitation, and of all the classical signs and symptoms of that affection, would rule out aortic leakage as a cause of this diastolic murmur. The murmur is more of the type of that produced by mitral obstruction in some respects, but unlike the usual obstructive murmur in that it lasts seemingly throughout diastole. The supposition of mitral obstruction is strengthened by the accentuated pulmonic sound and the clear and loud mitral first sound, and also by the enlarged left auricle. The signs of tricuspid obstruction, which is a rare affection, are absent in this patient.

DR. RHODES (closing the discussion)—In making a diagnosis of pulmonary obstruction and regurgitation, I have done so largely by exclusion. If we had a diastolic murmur at the mitral valves, it would be apt to be a presystolic murmur at the latter part of the diastole and be heard distinctly in the mitral area. The thrill of mitral stenosis is presystolic. A tricuspid diastolic murmur would have the same time and rhythm as the mitral and it would be apt to be a presystolic murmur. We would have epigastric pulsation. But there is no such evidence here. The right side of the heart is enlarged, but not markedly so. It is an anomalous condition, and we can not say that the only lesion is located at the pulmonary valve.

In the determination of the question as to whether the lesions were congenital or acquired, I have arrived at the decision of congenital disease from the fact that congenital lesions at this valve are not uncommon, and the right side of the heart is the one usually involved. Pulmonary obstruction is usually accompanied by incompetency in congenital disease. It would be a most unusual occurrence to have these valves selected for involvement in an acquired endocarditis. It is quite possible, I suppose, that the attack of German measles may have caused further disease in an already crippled heart and the condition of the left auricle and ventricle may have dated from that time.

(To be continued.)

ASSOCIATION OF AMERICAN PHYSICIANS.

Seventeenth Annual Meeting, held in Washington, D. C., April 29 and 30, 1902.

President, Dr. J. C. Wilson, Philadelphia, in the Chair.

Presidential Address.

DR. WILSON referred to the early history of medical organization in this country, the beginning being far back. Two organizations, one in Boston and one in New York, both short-lived, preceded the oldest existing medical society in this country, the Litchfield County Medical Society of Connecticut, which was founded in 1765 and is still flourishing. After this, societies were formed in New Jersey, Massachusetts, Philadelphia and finally in 1847 the American Medical Association came into being.

He stated that the services rendered to the profession, and through the profession to the people, by this great Association, with its constituent state and county societies, could not be overestimated. "It has brought the profession together and given it solidity. It has not only encouraged the formation and growth of local societies, but has proved a constant stimulus to activity on their part. It has, by means of its section work and excellent journal, set a high standard of professional attainments and fostered among physicians a deep sense of responsibility and a lofty conception of the duties and privileges of their calling."

The address closed with tributes of respect to the members who have died during the past year, including Drs. John T. Metcalf, who was chosen an honorary member when the society was first organized; Meredith Clymer and William Waring Johnston, an original member of the association, for many years its treasurer and at the time of his death a member of the council.

An amendment to the Constitution providing for the increase of the possible membership to a hundred and fifty was introduced, and, under the rules, laid over for a year.

Comparative Toxicity of Ammonium Compounds—A Study in Auto-Intoxication.

The scientific programme was then taken up and the first paper presented by Dr. B. K. Rachford on the above subject. He had studied the comparative toxicity in mice of such salts as may be formed by the union of ammonium, potassium, sodium, calcium and magnesium with such acid ions as may be present in the body in health and disease. From these experiments he drew the same conclusions as those which he expressed before this society three years ago, that the xanthin bodies were the important toxic principles, but that their toxicity was increased by small quantities of ammonia in combination with them. The ammonium compounds of the xanthin

bodies are toxic agents in producing migraine and other lithemic disorders which he described in his previous papers as being due to xanthin bodies alone. This point seems plausible when one remembers that the functionally incompetent liver, which is an important etiologic factor in all these conditions, may by the fall of its urea-forming function throw into the general circulation sufficient ammonia and uric acid leucomains to combine and in this way diminish the excretion of urea and increase the excretion of ammonia and xanthin bodies.

An Estimate of the Amount of Toxin in the Blood of a Horse Infected with Tetanus.

Dr. B. Meade Bolton referred to the outbreak of tetanus in St. Louis last year which was shown to be due to the use of diphtheria antitoxin which contained tetanus toxin. The antitoxin used in those cases was obtained from a horse that exhibited symptoms of tetanus two days after the blood was drawn and he was able to demonstrate the presence of a considerable amount of toxin in this serum. There is no evidence in literature of such a finding having been made previously under similar circumstances. All the known facts before have seemed to show that the toxin in some cases, whether it was injected into the blood or developed in the tissues from infection, disappeared from the blood, while in other cases even though a minute quantity had been used it could be found in the blood. In experimental work it was found that the toxin remains circulating in the blood in guinea-pigs, while in rabbits it disappears from the blood and combines with the tissues. Dr. Bolton's work consisted in inoculating horses with garden earth known to contain the tetanus organism by the result of tests upon small animals and also by inoculating one horse with a culture that produced tetanus in smaller animals. The blood from all the horses was drawn at intervals of twenty-four hours after inoculation and the amount of toxin in the serum determined by the injection of guinea-pigs and other small animals. It was shown that the toxin makes its appearance in the blood of the horse several days before any symptoms of tetanus are to be observed and that it gradually increases until about two days before the symptoms become noticeable, after which it rather suddenly diminishes and even disappears in some cases. The amount of toxin varies considerable in different cases.

Pseudo-Tubercle Bacilli.

Dr. A. C. Abbott read a paper on "The Etiologic Significance of the Acid-Resisting Group of Bacteria and the Evidence of Their Mechanical Relationship to the Bacillus of Tuberculosis." He remarked that it was somewhat disturbing to learn that there exists a group of bacteria that resembles the tubercle bacilli in staining qualities and in appearance. Dr. Abbott and his assistants have conducted an investigation of these organisms, the expenses of which have been borne by the Rockefeller Institute. He gave an account of the methods of investigation and the points of resemblance. He thought that these organisms might be dismissed from consideration in so far as any danger of their causing trouble by infection from milk and butter is concerned. More work has yet to be done to show how closely they are related to the tubercle bacillus. It is shown that they grow as actinomyces and the work of others has shown that the bacillus tuberculosis under particular methods of inoculation may likewise develop as actinomyces. These last experiments were confirmed by Dr. Abbott with the tubercle bacillus, an organism being secured that strongly resembles this acid-resisting group.

In discussion, Dr. Flexner said that he had had the privilege of examining Dr. Abbott's specimens and felt that there could be no doubt that the lesions produced by this group of organisms were not true tubercles. The whole lesion studied together reminded one of granulation tissue with a large number of giant cells. He thought the lesions were very similar to those produced by the blastomycetes.

Dr Meltzer referred to the case of a man who had for many years been considered to be tuberculous, but whose sputum on careful examination showed these peculiar organisms.

The Histologic Alterations of Cytotoxinic Intoxication.

Dr. Simon Flexner said the studies of Bordet, Ehrlich, Metchnikoff and others have proven that many kinds of body cells, when injected into alien animals, give rise to the production of cytotoxins agreeing in many physiologic properties with bacterial and other toxins. He worked particularly with the cytotoxins of the lymphatic organs and found that the lesions produced in the glands are general throughout the body just as they would be after bacterial toxins. The work has some bearing upon the question of terminal infections and shows that in the majority of cases of such infections there is a great reduction of the complement of the circulating blood, if not an entire absence of it.

A Study of Bacterial Cells.

Dr. V. C. Vaughan read this paper and referred to the apparatus by which he was able to raise various micro-organisms by the acre and thus secure a sufficient quantity to study chemically their constituents, particularly their pigments. The bacillus prodigiosus has a pigment which is soluble in water and can be used as a stain for cotton, wool or silk goods. Two coloring matters are obtained from this pigment, one yellow and the other beautiful pink, and Dr. Vaughan exhibited some silk handkerchiefs colored therewith.

Subjecting masses of the germs to alcohol he extracted their toxins and evaporating the alcohol obtained a dried powder. Some of these toxins were capable of being split up into two or more forms, for instance, the diphtheria organism produces a soluble toxin against which antitoxin protects, but another toxin is left after the first washing which may or may not be protected against by the antitoxin, and a third toxin is still obtainable from the residue against which antitoxin offers no protection. In all the work of splitting these toxins it was evident that the residues were always less toxic than the whole original substance and if heated further it rapidly lost its toxicity.

On Some Effects of Tobacco on the Tissues of Rabbits.

Dr. I. Adler gave a preliminary report on experiments on rabbits confined within proper limits and fed exclusively on cabbage mixed with an infusion of tobacco. An animal killed after two and a half months shows an enlarged liver, pale and granular, the liver lobulation being very pronounced. The proliferation of fibrous tissue follows the tract of the portal vessels and bile ducts. The liver cells are absolutely normal and the process is restricted entirely to the interstitial tissue. Dr. Adler would not at present attempt to draw an analogy between his findings and a cirrhosis of the liver.

Cases of hematoporphyrinuria after use of sulphonal were reported by Dr. James Tyson and after trional by Drs. Eithington and Starr.

Pneumococcic Arthritis.

Dr. James B. Herrick stated that this affection was a rare one appearing oftenest during or shortly after croupous pneumonia and most frequently in men. He gave the symptoms and diagnosis. The mortality is 65 per cent. The treatment is immediate incision and drainage.

Drs. Osler and Musser discussed the subject. In discussion Dr. Osler remarked that one of his assistants had recently worked up this subject carefully and had divided the cases into three groups, one with local symptoms mainly, the second group that follows or is associated with pneumonia and a third group in which the arthritis is associated with a general pneumococcic septicemia. He related the history of one case of the latter kind in which it was difficult to say where the primary lesion was. Blood cultures showed numerous pneumococci as did also aspiration of the joint, and autopsy showed an extensive pneumococcic meningitis, arthritis and general infection of the blood.

Dr. Musser reported a somewhat similar case with involvement of the joints, beginning with the sterno-clavicular, but the patient finally recovered.

Dr. W. T. Howard, Jr., read a paper on "The Pathology of Herpes Labialis and of Herpes Zoster occurring in an Acute Croupous Pneumonia."

Dr. H. F. Vickery opened the afternoon session by the narration of "A Case of Hodgkin's Disease with Recurrent Fever." Drs. Starr, Kinnicutt and Musser took part in the discussion.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Glutol in Preventing Pitting of Smallpox.

John Moir, in an extract occurring in London *Lancet*, states that glutol is a whitish powder, prepared by exposing sheets of gelatin to the vapor of formalin. The solvent action of glutol is facilitated by the addition of lard and by application the gelatin is dissolved and formalin liberated. He recommends it in suppurative conditions of the mouth, gums and tongue; carcinoma; tuberculosis; severe burns and chronic ulcers. But he especially recommends it mixed as follows as a preventive of severe pitting and deep scars from smallpox:

℞. Glutol .....ʒss-ʒi 15-30
Paraffin (soft) .....℥iv 120

M. Sig.: To be applied locally.

The same proportion has been employed in carcinomatous and epitheliomatous cases as well as in severe burns. It is entirely harmless as an application in diseases of the mouth, even when swallowed in considerable quantities. It has been employed by others with marked success in the treatment of warts, chancroid growths and in sycosis vulgaris, although it took more time than most remedies; but it was easily handled, did not cause pain and left no scar.

Removal of Dandruff.

The following outline of treatment is recommended by *Med. World* to be employed in removing dandruff:

℞. Thymol .....gr. i .06
Olei lavendulæ .....m. v .30
Petrolati .....ʒii 60

M. Sig.: Rub a small amount in the palm of the hand and apply to the scalp, first washing the head thoroughly with medicated soap. This should be done once or twice a week, followed by a wash containing resorcin and salicylic acid.

Hyde recommends the following as a lotion:

℞. Hydrarg. bichloridi .....gr. ii .15
Ol. amygdalæ dulc. .....ʒii 8
Tinct. cantharidis .....ʒii 8
Spts. vini rect. .....ʒii 60
Aq. destil. q. s. ad.....℥vi 180

M. Sig.: To be rubbed into the scalp; or:

℞. Resorcin .....ʒss 15
Alcoholis .....ʒii 60
Aq. rosæ .....℥vi 180

M. Sig.: Apply locally to the scalp with friction.

As an ointment the following containing sulphur is recommended in treatment of all disorders of the sebaceous glands:

℞. Sulphuris .....gr. xv to lx 1-4
Ung. aquæ rosæ .....ʒi 30

M. Ft. unguentum. Sig.: Apply locally.

The following is recommended by Veiel as quoted by Hyde:

℞. Ext. cinchon. .....gr. xx 1.30
Bals. Peruv. .....gtts. xv 1
Tinct. cantharidis.....gtts. xxiv-ʒss 1.5-2
Succ. citri .....m. xv 1
Ung. pomat. .....ʒiss 45

M. Sig.: To be rubbed into the scalp once or twice daily.

Exophthalmic Goiter.

S. Tschirjeff of Kieff attributes this disease to the accumulation of waste products of albumin owing to the insufficiency of the thyroid gland. These waste products affect the cells of the medulla, especially those which regulate the action of the heart. He has succeeded in curing all recent cases and permanently benefiting the old-established ones by treatment designed to restore the thyroid gland to normal and regulate the heart's action. He paints the goiter with iodin every evening or every second evening. Then he applies a cold water bandage during the night and Faradizes the gland every second day. He also administers internally gr. iv to gr. viii (25 cg. to 50 cg.) a day of a mixture of potassium iodid one part and sodium iodid three parts. The tachycardia is combated by convallaria. The patient is also instructed to take a warm bath every evening or every second evening. These baths, he states, prove very useful in soothing the patients and regulating the heart's action. All stimulants and violent exertion are forbidden. Two to seven drops of Fowler's solution are ordered if indicated. The improvement in six weeks of this treatment is very remarkable. Pregnancy is no contra-indication.

Normal Salt Solution.

Himmelsbach, in *N. W. Lancet*, recommends, as a matter of great importance, relatively small and repeated injections of the normal salt solution subcutaneously. The quantities formerly given in this manner, from one to three pints, are entirely unnecessary, and according to his statement an equally specific effect can be produced upon the renal organs when the solution is given in smaller amounts, as shown by the elimination which is many times greater than the quantity injected. This has the advantage in that the time taken to do the operation is curtailed, which is of great importance in children. Lenhartz advocates injections subcutaneously of two to six ounces every three or four hours, and states that they have a better diuretic effect and cause less strain on the kidneys than a pint given several times a day.

Incontinence of Urine.

The following has been recommended in treatment of incontinence of urine occurring in children:

℞. Antipyrini .....ʒii 8
Aquæ .....ʒi 30
Alcoholis .....ʒi 30

M. Sig.: One teaspoonful at bedtime in a small amount of water.

For the Relief of Flatulency.

℞. Creosoti .....m. x .60
Bismuthi subcarb. .....ʒii 8
Glycerini .....ʒi 30
Aq. menth. pip.....ʒi 30

M. Sig.: One teaspoonful every three or four hours; or:

℞. Saccharin .....gr. i .06
Pulv. carbo. ligni .....ʒii 8
Bismuthi subnit. .....ʒii 8

M. Ft. chartulæ No. xii. Sig.: One powder to be taken one half hour before each meal.

Folliculitis Barbae (Barber's Itch).

The following is recommended by Merck's *Archives* in the treatment of barber's itch:

℞. Acidi tannici .....gr. xlv 3
Sulphuris precip. .....ʒiss 6
Zinci oxidi .....ʒiv 15
Amyli .....ʒiv 15
Petrolati .....ʒi 30

M. Sig.: To be used morning and night.

Van Harlingen advised for acute cases a wash composed as follows:

℞. Zinci carb. (precip.)
Zinci oxidi, āā .....ʒi 4
Glycerini
Liq. plumbi subacet., āā.....ʒii 8
Aquæ rosæ .....℥viii 240

M. Sig.: Use as a wash morning and night.

Follicular Conjunctivitis.

J. W. Bullard, as noted in *Pediatrics*, states that mild cases may be cured by rubbing the everted lids with copper sulphate or alum and washing the excess off with sterile water. This may be done two or three times a week, and in the interval the following may be instilled three times a day:

℞. Zinci sulph. .....gr. i-ii .06-12
Aquæ destil. .....ʒi 30

M. Sig.: Instill into the eye three times a day.

He states, however, that operative procedure is more rapid and very effective. With the usual aseptic precautions, and having applied cocain, pass one blade of Knapp's roller forceps, or Gifford's forceps, well back into the conjunctival cul-de-sac,

and the other over the everted conjunctiva, and with firm pressure pull from the eye. This breaks down and squeezes out the follicles. After this procedure mop the lids with a bichlorid solution (1-500), washing off the excess with a boric acid solution or sterile water. Repeat every one or two days, using the zinc sulphate solution from one to three times a day.

Corrosive Sublimate in Pertussis.

C. Calabro, according to the *Med. News*, treated 56 cases by painting the throat with the following solution:

R.	Hydrarg. chloridi corros.	gr. iii	20
	Sodii chloridi	gr. i	06
	Aquæ destil.	O i	500

M. Sig.: Paint well over the pharynx, epiglottis and tonsils with a soft long-handled brush three times a day.

The author advises that the patient be fed before painting to prevent irritation of the empty stomach by the small quantity of the solution which is swallowed during its application. Of the 56 cases he states that 39 were cured with one daily application and 17 of the cases received three treatments daily in addition to other remedies commonly used in pertussis.

Medicolegal.

Authorized Means to Prevent Spread of Diphtheria.—The Supreme Court of Arizona says, in the case of Haupt vs. Maricopa County, that, in addition to the enforcement of suitable police and sanitary regulations, the boards of supervisors are empowered "to adopt such provisions for the preservation of the health of their respective counties as they may deem necessary, and to provide for the expenses thereof." The language used in the statute indicates a broad grant of power, and that it was intended to intrust to the board a large discretion concerning the means to be employed for the preservation of the public health. It would not be the part of wisdom to unduly hamper with restrictions the exercise of so important a function. The prevalence of contagion may require the adoption of different measures, according to the peculiar exigencies of the situation which is presented, and the court goes on to say it does not feel justified in prescribing a limitation which might, in effect, tie the hands of the board when the urgency was the greatest. The question in this case was not whether liability for certain property destroyed under the advice of a physician to prevent the spread of diphtheria could have been avoided by the adoption of a different course of action, but, rather, one as to whether, under the law and the procedure taken, an obligation had been created against the county. The property destroyed consisted of the house occupied by the sick family, admittedly a "small affair," and its contents of furniture, household effects, stores, and personality. Considering the circumstances, the court is of the opinion that the board of supervisors possessed the requisite power, under the foregoing grant, to contract with the owner to pay him for the taking and destruction of his property, as the most efficient means for the eradication of the disease with which it was infected. The question of the sufficiency of the evidence to establish such contract was one which should have been left to the jury.

Constitutionality of Medical Practice Act.—The Supreme Court of Kansas holds, in the case of State vs. Wilcox, that chapter 254 of the Laws of Kansas of 1901, "An act to create a state board of medical registration and examination and to regulate the practice of medicine, surgery and osteopathy in the state of Kansas, prescribing penalties for the violation thereof, and repealing chapter 68 of the Session Laws of 1870," is a constitutional enactment. It says that if the title had been "An act to regulate the practice of medicine and surgery," instead of the more elaborate one used, it would have covered every provision of the statute, and under numerous decisions would have been considered as a single subject, and not void because of its generality. The provisions fixing the standard and testing the qualifications of medical practitioners are not prohibitive in their nature. It is not an arbitrary discrimination, nor an invalid deprivation of right, to provide that only those possessing a knowledge of the human system, of its ailments and diseases, and who possess the skill to apply remedies and practice the art of healing, shall be allowed to practice. If such regulations and conditions are adopted in good faith, and operate equally upon all who may desire to practice, and who possess the required qualifications, the fact that the tests and conditions imposed by the legislature may be rigorous will not invalidate the legislation. It is to be presumed that the board of examination and registration, like all other tribunals vested with such powers, will act with judgment and conscience, and will deal justly with all applicants for license. It is vested with discretion to determine the standing of medical schools from which the diploma comes, and also whether a physician who submits to an examination possesses the requisite character, learning and skill; but it is not an arbitrary, capricious and unrestrained discretion. The law requires that the board shall exercise an honest and impartial judgment and discretion in accordance with just rules, and if the board should depart from this course, and should act arbitrarily and unjustly towards applicants for license, the courts are open to them, and will award them relief and protection. The act is not invalid because it provides that "nothing in this act shall be construed as interfering with any religious beliefs in the treatment of diseases, providing that quarantine regulations relating to contagious diseases are not infringed upon." The express exclusion of the element of religious belief in the application of the law was hardly necessary. Religious freedom is guaranteed by the constitution, and without mention in the statute would have been implied. And the court can see nothing in this provision which makes an illegal discrimination against or in favor of any class of physicians. Neither, it says, is there any force in the objection to the provision making the statute inapplicable to the administration of domestic medicines, or to gratuitous services which one friend or neighbor may render to another. It is the practice of medicine and surgery for compensation that is sought to be regulated and controlled, and not the use of home remedies, nor the neighborly offices which one may kindly and gratuitously perform for another.

Anticipating Injury from Malpractice—Curettement—Experimenting.—The Supreme Court of Wisconsin says, in the malpractice case of Allen vs. Voje, that the rule is without exception that liability in damages for acts or conduct lacking in ordinary care can not arise unless the act be such that an ordinarily careful person would anticipate that some injury to another might probably result therefrom. Indeed, that circumstance is an essential element of actionable negligence. With mere carelessness the law has no concern, unless it be such that some injury may be reasonably anticipated. But it is not essential to the existence of actionable negligence, or of liability therefor, that a reasonably prudent person would have foreseen the exact injury which did result. It suffices that some injury might reasonably have been foreseen to occur. And the court says that it is convinced that there is no room for difference of opinion as to whether, from the lack of skill, care, and precautions ordinarily exercised by physicians in treating or operating upon the highly sensitive portions of the feminine anatomy involved in the treatment in this case, where a curettement was performed, an injury must be anticipated as likely to occur. To hold otherwise would involve a contradiction in ideas. It is the very peril of physical injury which necessitates a code of precautions in diagnosis and treatment by physicians and surgeons. They serve no other purpose. Taking for illustration the precautions to render an operation aseptic, it is apparent that they are adopted for no other reason than that every physician anticipates injury to the patient as probable in their absence. It is unreasonable to say that a physician may improperly and negligently excoriate the lining of a delicate internal organ, and escape liability by doubt as to whether he, in the exercise of reasonable care, should have anticipated injury to the patient thereby. The relationship between such an act of the physician and the physical condition of the patient is so intimate that he must necessarily anticipate some physical effect as the result of such operation, and, of course, that such effect will

be bad if his act be improper or improperly done. The view above expressed, the court says, is confirmed by the fact that in no decided case cited by counsel or found by the court, nor in any text-book, is declared the necessity of any finding of this element of anticipation of injury from professional negligence in medical treatment or surgical operations. Uniformly, liability is made to depend on whether injury in fact resulted from departure from recognized methods or omission of usual precautions. In line with this, the court says that it has little doubt that, if the first case of vaccination had proved disastrous and injured the patient, the physician should have been held liable. It does not believe that a physician of standing and loyalty to his patients will subject them to mere experiment, the safety or virtue of which has not been established by experience of the profession, save possibly when the patient is in extremis, and fatal results substantially certain unless the experiment may succeed. It also suggests that it is not impossible that cases of malpractice might be presented wherein the proximate causation of injury should be passed on by the jury, although it does not consider that it was necessary here.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine (Philadelphia), May 3.

1 *Dietetic Aphorisms for Infant Life. J. P. Crozer Griffith.
2 *On the Effect of the Digestion of Gelatin on Its Styptic Properties. Horatio C. Wood, Jr.
3 *A Simple Method for Determining Percentages of Milk in Home Modification. Rowland G. Freeman.
4 Cysts of the Ureter. Henry Harris.
5 *Indications for the Mastoid Operation. Lee W. Dean.
6 A Leiomyoma of the Skin Arising from the Erector Muscle of the Hair-Bulbs. Ernest B. Hoag.
7 Report of a Case Belonging to the Erythema Group of Henoch's Purpura, with Chronic Parenchymatous Nephritis—Autopsy. Edward J. Wynkoop.
8 Brief Statement of the Principles Underlying the Physician's Obligation to Secrecy. William C. Woodward.

New York Medical Journal, May 3.

9 *The Mechanical and Operative Treatment of Tuberculous and Other Affections of the Joints. A. M. Phelps.
10 *A New Treatment for Deafness from Chronic Catarrh of the Middle Ear; A Preliminary Report. W. H. Bates.
11 Deformities Due to Muscular Paralysis: Method of Production; Possibilities in Tendon Transplantation; Combinations That Have Been Made to Correct Deformity. Wisner R. Townsend.
12 Operations for the Relief of Paralytic Deformities, with Special Reference to Tendon Transplantation: Introduction, History, Indications for Operation. Royal Whitman.
13 Suture of a Perforating Wound of the Sclerotic. Carl Koller.

Philadelphia Medical Journal, May 3.

14 *The Surgery of the Heart, with Presentation of a Case. H. L. Nietert.
15 *The Relation of Uric Acid and Xanthin Bases to Gout and the So-called Uric acid Diathesis. David L. Edsall.
16 *Static Electricity in the Treatment of Insanity. Robert H. Chase.
17 *An Investigation of Solanum Carolinense, with Reference to Its Special Value in the Treatment of Epilepsy. M. Clayton Thrush.
18 A Case of Foreign Body in the Lung—Diagnosis Confirmed by Radioscopy. Francis Huber.
19 Traumatic Meningitis with Effusion—Cerebral Convulsions—Double Trephining—Recovery. Thomas W. Jackson.

Boston Medical and Surgical Journal, May 1.

20 *Problems Relating to Surgery of the Stomach. William J. Mayo.
21 *Thrombosis of the Cavernous Sinus: with Report of Four Cases, Including One Cranial Operation. Edwin W. Dwight.
22 *The City Consumptive Hospitals and the Duty of the Municipality and People Regarding Consumption. Edward O. Otis.
23 A Case of Unilateral Progressive Facial Atrophy. J. W. Courtney.

Medical Record (N. Y.), May 3.

24 Inoperable Round-Celled Sarcoma of the Upper Jaw, with Metastases Successfully Treated with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus. O. K. Winberg.
25 *The Indications for the Surgical Treatment of Cholelithiasis. A. A. Berg.
26 *Functional and Paralytic Strabismus. D. B. St. John Roosa.
27 *Hydrophobia and the Pasteur Method—A Rejoinder. Charles W. Dulles.
28 Cancer of the Prostate, Complicated by General Fibroid Change of the Urethra—Urethrotomy—Prostatotomy, by the Bottini Method—Subsequent Partial Enucleation. Granville MacGowan.
29 *Gonorrheal Rheumatism. J. Douglas Westervelt.

Medical News (N. Y.), May 3.

30 *Another Chapter on Phthisiophobia, and Resolutions Adopted by the New York Academy of Medicine. S. A. Knopf.
31 *Intravenous Infusion of Saline Solution. George Crile.
32 *The Right and Wrong Use of Digitalis Based on Cardiac Pathology. William H. Porter.
33 *Operative Treatment in Certain Suppurative Conditions of the Kidneys. Alexander B. Johnson.
34 *On the Technic of Cystoscopy in the Female. Frederic Bierhoff.

St. Louis Medical Review, April 26.

35 Smallpox: A Consideration of the Present Mild Type in the Mississippi Valley. Alembert W. Brayton.

May 3.

36 *Some Remarks on the Difficulties of Diagnosis in Smallpox. W. A. Hardaway.
37 The Diagnosis of Smallpox. William T. Corlett.

Cincinnati Lancet-Clinic, May 3.

38 The Borderland of Insanity. A. N. Ellis.
39 When I Studied Medicine. (Continued.) George J. Monroe.

The Medical Age (Detroit, Mich.), April 25.

40 Interesting Features in Locomotor Ataxia. A. C. Griggs.
41 Some Experiences with the Salts of Gold. John E. Sylvester.
42 Retained Placenta: Tubal Abortion (Ectopic Pregnancy). A. M. Cartledge.

Virginia Medical Semi-Monthly (Richmond), April 11.

43 Sympathetic Insanity in Twin Sisters. Geo. S. Walker.
44 Relapse in Typhoid Fever. Clifton Mayfield.
45 *Gonorrheal Rheumatism. J. Douglas Westervelt.
46 Four Cases of Mastoiditis. John Dunn.
47 Rectal Feeding. D. Percy Hickling.
48 Burns, Scalds and Their Treatment. O. Henley Snider.
49 Acute Pyelo-nephritis. J. Randolph.
50 Progress Made in Surgery About the Region of the Appendix. Joseph Price.
51 A Suggestion in the Treatment of Fracture of the Femur. J. W. Henson.
52 Medical Inspection of School Children. M. D. Hoge, Jr.

April 25.

53 The Importance of Early Diagnosis and the Treatment of Pott's Disease. A. R. Shands.
54 Remarks on Influenza. Presley C. Hunt.
55 *History of the Medical Society of Tennessee. Deering J. Roberts.
56 *Appendicitis from the Standpoint of a General Practitioner. B. L. Hillsman.
57 Drainage After Abdominal Section. L. E. Burch.
58 *The Applications of Some of the Secretions of the Liver to the Treatment of Diseases of That Organ. E. L. Whitney.
59 Benzoate of Guaiacol. Mark W. Peyser.

American Practitioner and News (Louisville, Ky.), April 15.

60 Diphtheria. M. K. Allen.
61 The Gall-Bladder. J. Lively Johnson.
62 Gastric Lavage. H. H. Roberts.

Pediatrics (N. Y.), April 15.

63 *The Etiology of Hodgkin's Disease. John M. Dodson.
64 The Advent of Self-Consciousness and Its Relation to the Crime of Abortion. J. Allen Gilbert.

Medical Fortnightly (St. Louis), April 25.

65 *Heredity. David W. Reid.
66 The Death-Rate of the Rich and the Poor. Wm. Wormley.
67 Relations and Treatment of Suppuration of the Middle Ear. A. E. Prince.
68 Diseases of the Lungs and Pleura. (Continued.) Albert Abrams.

Pennsylvania Medical Journal (Pittsburg), April.

69 *Address in Obstetrics, Medical Society of the State of Pennsylvania. David S. Funk.
70 Report of a Case of Double Extra-uterine Pregnancy. F. P. Ball.
71 *The Doctor's Fee—Is It Fixed and Definite? Louis J. Lautenbach.
72 *Etiology of Acute Dysentery. Simon Flexner.
73 *A Remarkable Case of Infantile Typhoid of Fetal Origin, with Recovery. H. C. Westervelt.
74 Tinea Versicolor. John V. Shoemaker.
75 Value and Importance of Teaching the Fundamental Principles of Medicine from the Standpoint of Their Practical Application. Gwilym G. Davis.
76 Ruptured Tubal Gestation and the Physician. John M. Fisher.
77 Some Surprises Met in the Practice of Obstetrics. R. B. Ewing.
78 Report of a Case of Fracture of the Neck of the Femur. Charles E. Thompson.

Chicago Medical Recorder, April 15.

79 *Report of Cases Treated with Roentgen Rays. Wm. Allen Pusey.
80 Contribution to the Surgery and Pathology of Gastric Ulcer. Emil Ries.
81 *A Study of Goiter, with Special Reference to the Goiter of Puberty and Pregnancy and Its Treatment. William Cuthbertson.
82 *The Accidents of Anesthesia, Their Prevention and Treatment. Daniel N. Elsendrath.
83 An Analysis of 328 Operations upon the Gall-Bladder and Bile Passages, with Observations upon the Same. William J. Mayo.

84 Radical Mastoid Operation for Chronic Suppurative Otitis Media. William L. Ballenger.

Buffalo Medical Journal, May.

85 The Diagnosis and Surgical Treatment of Nephrolithiasis from the Viewpoint of the General Practitioner. Ramon Guiteras.
86 Adenoids in Relation to Structural Changes. F. Park Lewis.
87 Indian Medicine. Nelson W. Wilson.
88 Removal of Ovarian Cyst, Hematoma and Fibroid. L. G. Hanley.

Albany Medical Annals, May.

89 *The Bearing of Oral Pathology on General Medicine. M. L. Rhein.
90 *Some Needed Amendments to the Code Regarding the Waiver of Physicians' Privilege. John D. Peltz.
91 *The Value of an Occasional Convulsion in Certain Cases. William P. Spratling.

Journal of Medicine and Science (Portland, Me.), April.

92 The Conduct of Normal Labor. Wellington Johnson.
93 Ectopic Pregnancy. Herbert F. Twitchell.
94 What Shall We Do with Heredity? J. G. Gehring.
95 Tetanus Appearing in the Course of Vaccination. E. D. O'Neill.

St. Paul Medical Journal, May.

96 *Some Unusual Drug Effects upon the Nervous System. Arthur W. Dunning.
97 *Stricture of the Rectum in Women Due to Inflammatory Processes in the Pelvis. J. L. Rothrock.
98 Sympathetic Ophthalmia. J. H. James.
99 Cretinism. W. D. Kelly.

Washington Medical Annals, March.

100 A New Factor in the Etiology and Treatment of Intermittent Fever; Destruction of the Parasite by Ultra-Violet Rays of Fluorescent Light. A. F. A. King.
101 Case of Choledochotomy. I. S. Stone.
102 Case of Exfoliative Dermatitis Due to Quinin. E. W. Reisinger.
103 Case of Fatal Hemorrhage from Stomach Due to Cancerous Ulcer. T. C. Smith.
104 Case of Cancer of Lungs, Spleen and Ribs. C. W. Franzoni.
105 Case of Removal of Portions of Ovary. J. W. Bovee.
106 The Causation of Disease. George M. Kober.
107 Case of Pneumonia with Right Side Endocarditis. D. S. Lamb.
108 First American Case of Infection with Lamblia Duodenalis. C. W. Stiles.
109 Case of General Tuberculosis with Cerebellar Tumor. G. N. Acker.
110 The "Buchhold" Anatomic and Pathologic Specimens. D. S. Lamb.
111 Case of Tubo-ovarian Cyst. J. W. Bovee.

The Laryngoscope (St. Louis), March.

112 *Tinnitus Aurium; Some Remarks on Its Cause and Treatment. Thomas J. Harris.
113 *Ear Complications and Sequelæ of Influenza. M. A. Goldstein.
114 *Deviation of the Nasal Septum; Why Do Our Corrective Operations Often Fail? Chevalier Jackson.
115 Operation for the Removal of Septal Spurs. Melville Black.
116 Vapor Massage—Its Origin and Uses. Geo. T. Hawley.
117 The Nose and Throat in the History of Medicine. (Continued.) Jonathan Wright.
118 *A New Phase of Serum Therapy; A New Serum for Use in Mixed Infections. E. von Quast.

Southern Practitioner (Nashville, Tenn.), May.

119 Address, Tennessee State Medical Society. Deering J. Roberts.

Canadian Practitioner and Review (Toronto), April.

120 Smallpox and Vaccination. John Caven.
121 Vaginal Section—Exploratory and Operative. T. Shaw Webster.
122 Two Cases of Contracted Pelvis. K. C. McIlwraith.

Clinical Review (Chicago), May.

123 *Tuberculosis. Victor C. Vaughan.
124 Some Internal Injuries to the Knee-Joint. M. L. Harris.
125 Non-Descent of the Cecum; An Unusual Malposition. H. A. Sifton.
126 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Woman's Medical Journal (Toledo, Ohio), March.

127 Gastroptosis. Emily A. Hill.
128 The History of Medical Education of Women in Russia. Z. Okunkova-Goldinger.

Medical Examiner and Practitioner (N. Y.), April.

129 Arteriosclerosis. E. Moritz.
130 Some Practical Suggestions on the Physical, Chemical and Microscopic Examination of Urine for Life Insurance. W. E. Fitch.
131 Aids in Life Insurance Examination. Abbot S. Payn.
132 The Therapeutic Value of Pheno-Bromate. Robert A. Gunn.

Colorado Medical Journal, March.

133 A Sketch of the Workers in Physiology in Colorado. C. B. Van Zandt.
134 *Some Pathologic Conditions to Which the Miner Is Peculiarly Liable. J. W. Coleman.
135 Puerperal Sepsis. J. A. Dunwoody.

Journal of Eye, Ear and Throat Diseases (Baltimore), March-April.

136 The Normal Nose and Its Functions. E. L. Mather.
137 Report of a Case of Auricular Perichondritis. W. K. Rogers.

Southern California Practitioner (Los Angeles), April.

138 Marriage, Heredity and Divorce. H. Bert Ellis.
139 Chloro-Anemia. E. E. Major.
140 When Is Surgical Interference Indicated in Tuberculosis. Rose T. Bullard.
141 Medical and Surgical Progress. B. F. Church.
142 Lecture on Prostatic Hypertrophy. Granville MacGowan.
143 A Case of Carcinoma of the Breast Treated by X-Radiance. Albert Soiland.
144 Formaldehyd and Disinfection. B. M. Davis.
145 The Obstetrician as a Preventive Gynecologist. John C. King.

Therapeutic Gazette (Detroit, Mich.), April 15.

146 *Amebic Dysentery. William Osler.
147 *Bacillary Dysentery. Simon Flexner.
148 Tropical Dysentery with Abscess of Liver; Rupture into Right Lung; Ameba Coli in the Sputum—Exhibition of Case. L. Napoleon Boston.
149 *The Value of Ipecac in Dysentery. Alfred A. Woodhull.
150 Tropical Dysentery. T. S. Dabney.
151 Dysentery in New Orleans; Its Treatment. E. M. Dupaquier.
152 *The Treatment of Dysentery. H. A. Hare.

Chicago Clinic, April.

153 Report of a Case of Leucoplakia Buccalis, with Remarks on Its Histopathology. John M. Beffel.
154 The Teaching and Influence of Samuel Hahnemann. William E. Quine.

Vermont Medical Monthly (Burlington), April 25.

155 *Prostatic Hypertrophy and Its Relation to Hemorrhoidal Operations. W. W. Townsend.
156 What Is the True Value of Alcohol? Geo. W. Sargent.
157 Paretic Dementia. J. M. Clarke.
158 Case of Tubal Pregnancy—Operation—Recovery. A. Lapthorn Smith.
159 Smallpox with Some Remarks on Cases in Mendon, Mass. J. M. French.
160 Smallpox, with Report of Cases in Franklin, Mass. Chas. B. Hussey.

Charlotte Medical Journal, April.

161 Surgery of the Biliary Passages. John B. Deaver.
162 Lobar Pneumonia with Report of a Case. L. B. Cook.
163 Treatment of Gonorrhea. G. A. Davis.
164 Case of Dystocsia. Jno. Randolph.
165 When Should We Use Forceps in Labor Cases? L. G. Frazier.

Medical Times and Register (Philadelphia), April.

166 *The Modern Pharmacology of Calcium Sulphide. John Aulde.
167 Gonorrheal Rheumatism. J. Douglas Westervelt.

Occidental Medical Times (San Francisco), April.

168 President's Address, San Joaquin Valley Medical Society. Henry Hildreth.
169 Some Obstetric Criticisms. T. M. Hayden.
170 Picric Acid. Louis Maddock.
171 Railway Spine. A. J. Pedlar.
172 Calomel, Its Uses and Abuses. C. W. Kellogg.
173 The Preferable Operation for the Radical Cure of Inguinal Hernia. A. W. Morton.
174 Some Clinical Aspects of Osteosarcoma. Thomas W. Huntington.
175 Report on a Case of Probable Erythema Exudativum Multiforme Bullosum, with Rheumatism and Endocarditis. Ray L. Wilbur.
176 Mentholization of the Air-Passages in Ether Anesthesia. W. A. Briggs.
177 Fibroma of Mesentery. Louis A. Kengla.

Nashville Journal of Medicine and Surgery, April.

178 *Address of President, Tennessee State Medical Society. Deering J. Roberts.

---

1. **Dietetic Aphorisms for Infant Life.**—The following are the aphorisms offered: 1. Nature's way and Nature's food are the best. The possibility of improvement of the quality or quantity of mother's milk should always be considered before putting the child on artificial feeding. 2. We should do the best we can with what we have. Here Griffith protests against the adoption of any one fixed formula for infant feeding. The mixture must be made to meet the special requirements of the child. 3. Keep up with the times. What is unscientific will not pass muster. He gives formulas and equations of infant food, giving the most recent and from experience the most suitable. 4. Know what you want. We should know why we give this or that mixture to certain children and shoulld not be lazy or too adherent to old ways. 6. Go slow and do not increase the strength of the milk too rapidly or introduce too much starchy food. The age of the child should not be the guide, but its general condition, especially its weight, should be. 7. Lastly, he mentions the starvation treatment, meaning by this the judicious temporary reduction in the amount and strength of the food given, to meet the necessities of the case.

2. **Gelatin.**—The following are the conclusions of Wood's paper: "1. Pepsin digestion of gelatin does not destroy its coagulating effect on the blood. 2. The resulting product is dialyzable, and therefore capable of absorption. 3. The administra-

tion of gelatin by the mouth in the treatment of hemorrhage is, therefore, a rational procedure. 4. Gelatose seems to antagonize, if given in sufficient quantity, the anticoagulating action of peptone."

3. **Milk Percentage.**—The method here given by Freeman is summarized as follows: "This method of obtaining percentages in modifying milk is simple and is applied as follows: 1. After having decided on the number of feedings for the 24 hours, the amount to be given at each feeding, and the formula of the food required, first determine the desired relation between the amount of fats and proteids, and obtain a cream or milk in which these constituents exist in that proportion. 2. Dilute this cream or milk with the required amount of water. 3. Determine the percentage of sugar required for 24 hours' feeding and order the same in packages containing the required amount. 4. If lime water is added, the amount so added must be deducted from the amount of water used."

5. **Mastoid Operation.**—Dean insists on the greater danger of non-operative over operative treatment, and points out the symptoms to which attention should be given, namely, examination of the fundus to see if there is a choked disc, the result of an increased intracranial pressure. 2. Examination of the tympanic membrane for perforation and discharge, which is the most frequent cause of mastoiditis. 3. Partial or complete obstruction of the drum with pus in the middle ear. 4. Necrosis in the attic or posterior wall of the middle ear. 5. Cholesteatomatous masses in the middle ear. 6. Sudden elevation of temperature to 103 to 105. No one of these symptoms will make certain the diagnosis but will suggest it. He insists on the danger of neglect.

9. **Joint Tuberculosis.**—Phelps describes orthopedic apparatus, with illustrations for tuberculous joint disease and reiterates his former expressed opinion of the need of early operation in any joint trouble associated with abscess. He is convinced that a single rheumatic joint never occurs. If rheumatism exists, more than one joint is affected; any single joint disease is either purulent, tuberculous, gonorrheal, or is due to pneumococcus or some central nerve lesion. If one joint becomes affected after another it is presumptive evidence of secondary infection.

10. **Deafness.**—Bates describes an operation which he has employed in cases of chronic catarrhal middle-ear deafness where there was overgrowth of the connective tissue in the form of adhesions, the fibrous growth continuing on the membrane and the functional defect due generally to this connective tissue growth. All the patients improved by this treatment had symptoms of an obstruction to the sound-conducting part of the ear. All heard the Hartmann tuning forks better by bone conduction than by air. Tinnitus was not always present. The treatment was only employed after other well-known methods had failed. "The object of the operation was to obtain room for treating the region of the oval window, and not to improve the hearing immediately. The patient received no special preparation. The hair in the neighborhood of the ear was not cut or the parts treated with antiseptics, as is the practice of many operators previous to a mastoid operation. An incision was made through the skin over the mastoid, close to the insertion of the auricle and the bone, beginning above close to the hair and ending below at the tip of the mastoid. The auricle was rapidly dissected from the bone with blunt scissors until the external auditory canal in its cartilaginous portion was cut through. With a chisel the superior and posterior walls of the external auditory canal were removed until the antrum was reached. A bent probe was inserted in the aditus ad antrum and was found a useful guide in preventing injury to the facial nerve in the further steps of the operation. The outer wall of the attic, the membrana and ossicles, and overhanging bone were removed, converting the tympanum, the external auditory canal, and the mastoid antrum into one cavity with smooth walls. During the operation the hemorrhage was controlled in the usual way, either by pressure with moist pads of cotton, by hot water, or by the use of artery forceps. After the completion of the operation, the cavity was dusted lightly with iodoform powder. The skin wound was closed with sutures (silk No. 000) and covered with a collodion, iodoform and cotton dressing. A small pledget of cotton was placed in the orifice of the external auditory canal, the ear covered with a large wad of cotton, and a bandage applied. The day after the operation the bandage was removed and was not used again. Secondary hemorrhage occurred, but was not alarming. The sutures were removed with the collodion dressing usually in five days. Primary union of the skin wound was the rule, with healing of the parts without deformity. The patients were confined to bed until recovery from the anesthetic. The ear did not in any of my cases produce uncomfortable symptoms. Most of the patients were able to go outdoors the day after the operation. To prevent infection of the middle ear, the patient instilled twice daily in the external auditory canal a solution of bichlorid of mercury, 1 to 3000." This was continued during the after-treatment, which was for the removal and prevention of recurrence of connective tissue from the inner wall of the tympanum and was not altogether easy. He found the cutting operation better than caustics for this purpose, using local anesthesia. The reaction from the use of the knife caused a temporary loss of hearing which later returned. The removal of the connective tissue is soon replaced by soft material which becomes hard and fibrous. He thinks it best to remove this as rapidly as it forms, therefore he removes small portions at frequent intervals. The patient can continue the treatment at home by instillation of peroxid of hydrogen, bichlorid of mercury, or other antiseptic solution followed by olive oil. Some antiseptic solution was found necessary to be used daily to prevent infection. When the cases are cured the inner wall of the tympanum is lined with a thin, light-colored, smooth, dry membrane. Most of the cases were also benefited by treatment prescribed by the family physician and in some cases treatment of the nasopharynx is also of value. The average time to restore hearing for ordinary conversation at ten feet was about six months. A number of cases are reported. He says: "The treatment was found beneficial in a class of cases which were not benefited by treatment of the nasopharynx or Eustachian tube or by operative measures in the middle ear. Perhaps the only objection to this new method is the necessary time required in order to obtain good hearing. Yet I believe this objection can be overcome after further experience has perfected the technic of removing the excess of connective tissue from the inner wall of the tympanum."

14. **Surgery of the Heart.**—Nietert draws the following conclusions from his observations and studies on the suturing of heart wounds: "1. Gentle manipulation may be applied without producing shock. 2. The introduction of the suture produces but a slight irregularity in the heart's action. 3. Heart wounds heal rapidly. 4. Intrapericardial pressure is increased even if hemorrhage occurs during diastole alone. 5. All heart wounds, in which there is danger of fatal hemorrhage, should be sutured. 6. If the wound does not involve the pleura, the extrapleural route should be employed, as described above. 7. If the pleura has been injured, the intrapleural method should always be employed, and the flap devised by Rotter is the best. 8. Although it is advisable for the surgeon to familiarize himself with the methods of operation and the flaps devised by the different operators, a thorough knowledge of the anatomy of the region is most essential and each operator should modify the flaps as best suits his case.

15. **Uric Acid Diathesis.**—Edsall criticises the theories of uric acid and its connection with gout, maintaining that the methods have been false, though those who have been recently stating that uric acid is absolutely nontoxic have not sufficient ground for their assertions and are opposed to convincing testimony. He is inclined to believe that uric acid does not cause any notable evidence of intoxication and does not produce the general symptoms of gout, though it may produce much of the local difficulty at the time of the attack as well as in the interval. There is little ground for the belief that it has a purely mechanical action. He suggests that it is possible that the uric acid in gout is different from the uric acid in other

conditions. The relation between uric acid and the so-called uric acid diathesis is a complex condition and he says a large class of disorders have been called by one name, which, so far as we know, is not actually deserved by many of them. We do not know the true cause. He also considers the theory of the xanthin bases in excess being the cause of gouty manifestations, as also the result of faulty methods of study.

16. **Static Electricity in the Insane.**—Chase finds that the neurasthenic forms of mental ailment, such as melancholia, are decidedly benefited by the static breeze and spark directed to the spine or to various parts of the viscera. He reports cases which seem to have been benefited in this way. The remedy not only does good by its direct effects, but also through suggestion.

17. **Solanum Carolinense.**—This plant, which belongs to the *Solanaceæ* family and is known under the names of horse-nettle, bull-nettle, etc., has been used for a number of years by negroes in the South in the treatment of epilepsy with excellent results. Thrush has investigated the substance and tried it in four Philadelphia hospitals in 25 cases of epilepsy with encouraging results. He offers the following conclusions, which he thinks are warranted: "1. It is of great value (probably better than any one known remedy) in grand mal of idiopathic type without hereditary taint and where the disease has begun beyond the age of childhood. 2. It is perhaps next of greatest value in hystero-epilepsy with marked convulsive seizures. In cases of petit mal the drug does not seem to do the great good that we have noted in the major type of the disease. 3. In cases of well advanced epilepsy of any type in which there is degeneration of the cerebral neuron, the drug will act specifically for a time even better than the bromids, but it will finally be determined that the bromid salts will ultimately control the attacks better in these cases. 4. The foregoing clinical study has brought out sufficient clinical evidence to warrant the statement that the inherent advantage of vegetable depressomotors is great as compared with any mineral salt given with the same intent, since destruction of the blood corpuscles by the latter is a most detrimental feature towards lessening the resistance of the individual in a disease, where, above all, the constitutional tonicity should be favored as ideal treatment. 5. A thorough impregnation of the nerve cells can alone be had and therefore cure hoped for in epilepsy in proportion as solanum is pushed to the fullest physiologic dosage and maintained through periods of months, a year not being too short a time to warrant its discontinuance. 6. The fluid extract of the drug made freshly is the ideal form of pharmaceutic preparation given in ascending doses commencing with one fluid drachm and increasing to the full constitutional effect. 7. It is to be decidedly preferred to the bromids in those cases in which it can be used advantageously, because no toxic symptoms follow its free administration and the mental faculties are not impaired by its use."

20. **Surgery of the Stomach.**—The first problem of gastric surgery noticed by Mayo is the difficulty of making a diagnosis, every operation being to a certain extent exploratory in its incipiency. The only cases of cancer of the stomach which he has been able to diagnose sufficiently early to extirpate are those where obstruction and dilatation were present. There is a large group of chronic dilatations where there is no apparent adequate cause, and he queries the assumption of pyloric spasm. In very few cases did he find a definite thickening in the pyloric ring; in these there was very little dilatation. In a number of cases angulation was present, that is, a high-lying pylorus somewhat firmly fixed with a sharp bend of the stomach downward and immediately proximal to it. He has seen a number of such and these may be due to adhesions resulting from perigastritis or gastric ulcer of cholecystitis. The most perplexing cases, however, are those of neurotic origin, in which he places the various grades of gastroptosis. In the purely neurotic variety, the symptoms of ulcer may be so perfectly simulated as to lead to an exploration which proves negative. The stomach may contract until it is no larger than the colon, and the pylorus dilate so as to admit two or more fingers. The question when dilatation with retardation of the passage of food out of the stomach demands operation, largely, he says, depends on the experience of the surgeon and the disability of the patient. He describes the methods of making gastric drainage, the value of which is apparent and needs no argument. Various operations on the stomach are mentioned and he finds gastro-enterostomy the most satisfactory one. He has performed it 80 times with 8 deaths, and details his analysis of the cases and gives the methods. It affords drainage, which is one of the essential conditions and prevents stagnation and vomiting of food and relieves the patient. He uses the Murphy button in the operation and says that the main thing is that the operation should be low down, near the greater curvature in either operation, either posterior or anterior; it is bad practice, he thinks, to make it about half way between the lesser and greater curvatures because there are but few blood vessels in the locality. It leaves a pouch into which the bile and pancreatic secretions can easily enter, and it encourages "vicious circle."

21. **Thrombosis of the Cavernous Sinus.**—Several cases are reported by Dwight and Germain, who discuss the condition and the possible effects of operation. In one case with cavernous thrombosis, operation was followed by apparent relief of symptoms, but the patient soon died. An incision into the one sinus instantly and completely relieved the interference with circulation in both. So far as they know, the operation has been done but once before, by Hartley and Knapp; the patient in this case survived for a considerable period and finally succumbed from the original disease, sarcoma. They think, however, that the two operations performed show that thrombosis of the cavernous sinus is distinctly an operable condition, and there is some hope for the decreasing of the mortality by active interference.

22. **Tuberculosis.**—Otis' article sums up his arguments in the following: "1. Consumption is one of the most prevalent diseases, especially among the poor. 2. It attacks its victims at the most useful period of their lives. 3. It is contagious or communicable and hence avoidable. 4. It is very curable, especially so when taken at its inception. 5. It is most prevalent in crowded portions of a city and in tenement-house existence. 6. The contagion is restricted, as with other contagious diseases, by isolation. 7. The dried sputum is the principal source of contagion. 8. Sanatorium treatment, especially for the poor, gives the best results with favorable cases. 9. Sanatoria and consumptives' hospitals afford the best means of isolation. 10. By means of such institutions, we steadily and surely reduce the existing number of cases. 11. Every means which increases the resisting power of the individual decreases his chances of contracting the disease. 12. This resisting power is established and maintained by favorable environment, as to abode, place of labor, rest, food, etc. 13. Economically, it is probably less expensive to care for the poor consumptive in a sanatorium or consumptives' hospital than in any other way. 14. Morally, we owe the destitute consumptive in our midst a reasonable opportunity for recovery or a decent place to die in. Sanatoria and consumptives' hospitals are in the air. The people are awakening to their importance." Sanatoria and consumptives' hospitals are, he says, the order of the day, and the movement will go on until every city has made provision for the poor consumptive.

25. **Cholelithiasis.**—Berg states his conclusions as follows: "*a*. Indications for medical treatment: Cholecystitic pain or attacks of biliary colic, in either case unattended with fever. *b*. Indications for Surgical Treatment: 1. Operations of choice —undertaken in the quiescent period, with the object of avoiding serious complications, a simple procedure, and followed by 2 to 3 per cent. mortality. (*a*) Severe cholecystitic pain, or oft-repeated uncomplicated attacks of biliary colic, persisting in spite of medical treatment. In virtue of which symptoms the patient becomes invalided, and incapacitated for work. (*b*) After the first attack of acute cholecystitis, associated with fever. 2. Compulsory operations—undertaken at any time of the day or night; often amidst unfavorable surroundings, and in patients who are septic, emaciated, and of low vitality. Difficult and laborious procedures, and attended with high

mortality—50 to 75 per cent. (*a*) Foudroyant and intensely acute attacks of cholecystitis. (This may be the first indication of calculous disease, but usually follows previous milder attacks.) (*b*) Hydrops, empyema, gangrene, or perforation of the gall-bladder, cholemia, abscess of the liver, and diffuse peritonitis."

26. **Strabismus.**—Roosa insists on the non-existence of monolateral strabismus, except in cases of paralysis. All strabismus with the exception of paralytic squint is necessarily concomitant and he would adopt the names suggested by Panas of "functional" and "paralytic" strabismus to describe the two varieties. He now invariably, for non-paralytic or functional strabismus, divides both the interni in convergent strabismus, and both externi in divergent strabismus, having stretched them according to the rules laid down by Panas.

27. **Hydrophobia.**—Dulles replies to criticisms, saying that he has not denied that rabies is a specific disease or that the muzzling of dogs is not a preventive of hydrophobia, but still claims that the muzzling laws in England have been inefficient, and that he has not misrepresented Pasteur. His idea that hydrophobia can be conveyed by the bite of a non-rabid dog is still maintained. The article is decidedly controversial in tone.

29.—See title 45, below.

30. **Phthisiophobia.**—Knopf's article gives a history of the recent action of the New York Academy of Medicine protesting against the decision of excluding well-to-do consumptive immigrants by the Treasury Department. He points out that the effect of such teaching has been to create hardship to innocent sufferers, even those who are not infected with the tubercle germs. He also points out that the order of the Treasury Department was countermanded by President Roosevelt when the facts were laid before him.

31. **Saline Solution in Shock.**—The cases of shock that are not benefited by injection of saline solution have been studied experimentally by Crile, who gives the details of his researches. He finds that there is a well-marked and characteristic group in which saline solution is of but temporary aid and does not alter the general condition. Vasomotor breakdown is an impairment which can not be relieved by this means any more than by drugs. The benefits from saline solution in shock are in cases of hemorrhage alone or hemorrhage with shock, and result from restoring the fluid to a normal volume and adding force to the venous stream, but when the vasomotor mechanism has become exhausted it can not respond.

32. **Digitalis.**—The motif of Porter's article is to show that the prolonged use of digitalis acts damagingly on the heart muscle, both by its action as a muscle poison and by its interference with cardiac nutrition through the circulation. Digitalis, he thinks, is of service temporarily in certain cases by improving the mechanical action of the heart, as in mitral insufficiency and stenosis, but in aortic lesions there seems to be no good reason for using it in any stage. It is contra-indicated in fatty degeneration or in enfeebled condition of the heart muscle. In hypertrophy of the heart it might theoretically be useful in cutting down the nutritive supply, but is too dangerous for such service, and, as a rule, is of service for only a few days at a time at the longest. It should only be given to influence the heart and circulation when the arteries are very much relaxed, and pulmonary and systemic veins are overfilled with blood. In such cases it will tighten up the vessels and by augmenting the power of the systole will force a large volume of blood into the arterial system. This accomplished, it should at once be stopped and reliable remedies used. The use of nitroglycerin only partially relieves the damaging effects of digitalis and does not antidote this toxic action.

33. **Kidney Suppuration.**—Johnson discusses the conditions in pyelonephritis and pyonephrosis, solitary or local abscesses and cases of suppuration occurring as a secondary condition in hydronephrosis. Cases where tuberculosis or renal calculus is strictly the cause of the disease he does not consider. He finds in regard to pyelonephritis that in many cases it is limited to one kidney and early operation often leads to brilliant results. In pyonephrosis the operation of simple nephrotomy leaves much to be desired, and, although in unfavorable conditions it may be all we desire to perform, this is not usually the case. All the openings and passages containing pus must be opened up; this involves traumatism nearly equal to that in nephrectomy. The kidney must also be pulled down and forward for inspection and the disturbance of its vessels impairs the nutrition of the organic kidney substance. He therefore rather favors primary nephrectomy in such cases and thinks that nephrotomy can hardly be regarded as the operation of choice, nor even secondary, though nephrectomy is not always practicable. It should be remembered that septic nephritis of considerable severity in one kidney is not always a contra-indication to the removal of its fellow, as is shown by the case of Israel, and also by another to which he here refers. Excision of the diseased portion in local abscess is brilliantly successful in some cases. In case of infected hydronephrosis timely conservative operation is often effectual. The patient can be relieved of septic irritation by incision and drainage and, if the kidney is still capable of functional activity, recovery may take place. A much larger portion of these cases are cured by conservative operation than in pyonephrosis, and nephrotomy is the operation of choice. When nephrectomy is required, the kidney has long ceased to functionate.

34. **Cystoscopy in the Female.**—Bierhoff describes in detail the technic of cystoscopy in the female and calls attention to the difficulties of satisfactory bladder examination in spite of the fact that the introduction of the cystoscope is easy. He insists on thorough exploration of the cavity of the bladder previous to cystoscopy, using the unlighted cystoscope as a sound and calls particular attention to the danger of infection if cauterization occurs with the cystoscope. In case it has occurred it is advisable to wash out the bladder thoroughly and inject about 50 c.c. of a one-eighth per cent. solution of nitrate of silver, which should be allowed to remain until next urination.

36. **Smallpox.**—Certain difficulties in the diagnosis of smallpox are noticed by Hardaway, including the differentiation from some systemic disorders like cerebrospinal meningitis, the nervous form of influenza, which may resemble the prodromal stage, certain cases of menstrual eruptions, erythema, etc. The erythematous initial rashes of smallpox have nothing characteristic about them. The petechial or hemorrhagic rash of the cruro-abdominal triangle, sometimes seen extending to the side of the body, is very rare, but always means smallpox. In the papular stage it is sometimes possible to confuse smallpox with measles, but the differences in the character of the fever and catarrhal symptoms usually clear up the case. In the rare papular or button-like measles there may be trouble. An examination of the mouth and pharynx will be of value here, because in cases of smallpox the lesions will have vesiculated while yet papular on the skin. The history may give trouble in some cases of varicella. Hardaway has seen several cases the past winter of what may be called erythema papulatum. In one patient in particular there was fever, pain in the legs, headache, gastric disturbances and various discrete eruptions of hard, small, red papules of the face, arms and legs. In another case there was some eruption of the papules which on the second day showed slight vesiculation and, if one was not intimately acquainted with smallpox lesions and the manifold peculiarities of cutaneous diseases in general, mistakes in the diagnosis might occur. He mentions here also a certain type of pustular syphilid and iodic papules which may closely simulate the papules of smallpox.

45.—See title 29, above.

55.—See title 178, below.

56. **Appendicitis.**—Hillsman discusses the medical and surgical treatment of appendicitis and concludes that it is better to operate prematurely than to delay too long and that we cannot anticipate the severer forms and have no method of telling the catarrhal cases from the gangrenous ones, hence the safety of the general rule of operation. Acknowledging the recovery of 40 to 60 per cent. under medical treatment alone, this is not

equivalent to a mortality of less than 1 per cent. from early and timely operation and does not affect the rule.

58. **Liver Secretions in Therapeutics.**—Whitney suggests the possible use of the bile salts as a solvent for biliary calculi and for stimulation of the biliary secretion, also apparently stimulating the glycogenic function of the liver. He has seen cases of diabetes and ordinary glycosuria much benefited and a few cleared up entirely by this treatment. The question of the use of some of the other ferments of the liver is one that has never been clinically worked up, but the possibilities of the use of the oxidizing ferment isolated by Jacobi are obvious and one of the reasons why experiments along this line have not been done is, perhaps, the difficulty in our determining definitely the lesion of the liver.

63. **Hodgkin's Disease.**—The case reported by Dodson failed to show any tubercular infection either by microscopic examination of the gland or the tuberculin test. He doubts the propriety of attributing all cases of this condition to tuberculosis. It is probably of infectious origin, but the infection is not yet known.

65. **Heredity.**—Reid's article is largely an exposition of the Weissmann theory. He appears to believe that this theory is held by all the most advanced authorities and is revolutionary in its effects on our ideas. He does not seem to be aware of the large class of Neo-Lamarchian biologists who reject it more or less totally.

69.—See abstract in The Journal, xxxvii, p. 1057.

71.—Ibid., p. 997.

72.—Ibid., p. 1058.

73.—Ibid.

79.—This article has appeared in The Journal of April 12, p. 911.

81. **Goiter.**—Cuthbertson reviews the whole subject and calls attention to the value of hydrastis as a special treatment in the goiter of puberty and pregnancy. He has administered it in doses of one-half a grain of the dry extract three times daily after eating, and in twenty-five unselected cases he effected a cure by this method.

82. **Anesthesia.**—Eisendrath gives a comparative table of the physiologic action of ether and chloroform and their indications and contra-indications in practice. Ether should not be given when there is an increased arterial tension, as in atheromatous conditions, nor when great tympanites or other conditions exist which will interfere with the action of the diaphragm. Nephritis is also a contra-indication. Chloroform should never be given when it is necessary to administer it for over an hour, on account of its poisonous action on the heart. It should not be given in decreased arterial tension and blood pressure, as, for instance, when there has been a dangerous loss of blood, and in other cachectic or anemic conditions. The so-called thymic state is seen from recent researches to be another contra-indication. The danger point is much less evident in chloroform, and, therefore, constant watching of the pulse and respiration is required. Lowering of the head is useful to prevent a tendency to syncope. Another point is to administer chloroform drop by drop, never giving large quantities at a time, and with a free dilution of air. The patient should be kept on his side as much as possible during the administration of the chloroform and the anesthetizer instructed in the best method of pulling the jaw forward. Ether causes increased secretion of the mouth and inspiration of this secretion has sometimes caused pneumonia, but keeping the head dependent, lowering the trunk and turning the head to one side will help to prevent the mischief. There is little danger in using ether, other than from bronchial irritation, if these suggestions are followed. The idea that acute pulmonary complications are more frequent after ether seems to be incorrect. He sums up as follows: "1. Limit as much as possible the administration of a general anesthetic, using the method of Schleich as much as possible. 2. Chloroform should not be given in myocarditis. In other cardiac conditions it is not as dangerous as was formerly thought. 3. Ether should not be given when there is any hyperemia or stenosis of the respiratory tract. 4. Chloroform should not be given in the status thymicus. 5. Ether is in general contra-indicated in diseases of the kidney. 6. Chloroform causes fatty degeneration of the heart muscle, liver and kidney, in prolonged administration. 7. In chloroform the anesthetizer should watch the pupils, pulse and respiration constantly. 8. We can avoid chloroform syncope by keeping the head low and turned on one side, and avoid the pulmonary complications of both ether and chloroform by keeping the head below the level of the body to allow the mouth secretions to run out, by preventing the chilling of the patient and avoiding conditions which favor hypostasis and interfere with action of diaphragm. 9. The order of procedure in case of syncope should be understood by all who are responsible for patient, viz., raise foot of table, artificial respiration, massage of heart, rhythmic tractions of tongue and intravenous transfusion. If these are of no avail, use the method of Prus, exposing heart and making direct mechanical stimulation, or intratracheal insufflations. Hypodermics are of little avail until the heart beats."

89. **Oral Pathology.**—Rhein calls attention to the importance of paying attention to the condition of the mouth as affecting the general conditions of the body, especially as an etiologic factor in auto-intoxication.

90. **Waiver of Privilege.**—Peltz, who is a lawyer, thinks that the amendments to the New York law prohibiting the waiver of privilege on the part of the patient, except when done in open court, should be immediately rescinded and that the waiver should be made at any time and at any place. The effects of the amendments are to nullify the waiver given in life insurance contracts, and while it is right for companies to issue incontestable policies it is not right for the law to compel both parties to make their contracts incontestable, which is the result produced by the amendments.

91. **Utility of Convulsions; Their Occasional Value.**—Spratling calls attention to the importance of occasional epileptic fits as a danger signal in certain cases. It may be sufficient warning to put the patient on his guard and prevent his becoming a confirmed epileptic. Another way that an occasional fit may be of benefit is in giving vent to the nervous strain and apparently neutralizing or destroying the autotoxic poisoning which causes it. He refers to cases illustrating both these facts.

96. **Some Unusual Drug Effects.**—Dunning remarks upon the occasional bad effects of iodid of potassium in increasing the neurotic conditions of lead poisoning and reports a case which was lost, he thinks, in this way. He also reports a case of mental disturbance produced by digitalis, which was relieved when the drug was discontinued. Arsenic he also mentions as producing motor symptoms prior to the sensory, and he reports a case which was significant from the absence of the usual toxic effects, thus accounting for the too prolonged use of it in this instance.

97. **Rectal Stricture in Women.**—Rothrock reports three cases of rectal stricture in females due to inflammatory conditions in the pelvis, in one so serious as to require colotomy for its relief and in the others giving rise to serious inconvenience. He thinks the reason why stricture does not more frequently occur is that pressure alone from the size of the tumor seldom causes obstruction and there must be considerable peri-rectal infiltration before the mischief can be produced. It is not at all uncommon in local inflammatory conditions in the abdomen to see the intestines firmly adherent in a mass of exudate and yet have the bowels move naturally.

112. **Tinnitus Aurium.**—Harris reviews the symptoms, treatment, etc., of tinnitus aurium and finds it a very common and annoying symptom in ear disease of not always very well understood origin, but due in many cases to the interference with the sound waves. It does not always mean deafness, and much can be done for it if the exact cause can be discovered. Drugs are disappointing; strychnin seems to be the best of them when local treatment has failed. A careful study and recording of cases is necessary for their proper management.

113. **Influenzal Otitis.**—Goldstein finds that: "1. Epidemic or endemic influenza is the etiologic factor in this affection. 2. A careful differentiation should be made between simple otitis media and influenzal otitis. 3. Free incision of the drum membrane at the earliest indication of effusion into the tympanic cavity should be made. This free drainage should constitute the most important principle in the treatment of this affection. 4. A guarded prognosis should be given, especially as concerns the complete restoration of hearing. 5. Conservatism is urged concerning operative interference when mastoid symptoms appear, as many of these symptoms are accompaniments of influenza and should be regarded as neuralgias rather than evidences of suppuration."

114. **Septal Deviations.**—From his observations, Jackson sums up as follows: The turbinated bodies in health and disease swell at night during sleep, the swelling being greatest in the inferior one and on the side next to the pillow. This periodic swelling, aided by the irritation of acute coryza and acute and chronic rhinitis, is often a primary and secondary factor in the production of septal deviation, both before and after operation, the deviation being usually of the cartilaginous septum, but often of the anterior bony portion as well. This etiologic factor is usually overlooked because it occurs in the night, disappearing prior to office examination. When the patient sleeps habitually one one side the turbinal pressure is always in one direction. In other cases one turbinal being larger and more expansible than its fellow, the septum is pushed by it into the position of deflection which in time becomes permanent, while the larger turbinal becomes larger, which change is pathologic. The idea that it is a physiologic compensation and should not be touched, is the foundation of failure of attempts at correction of septal deviation. Almost every case of deviation demanding operation requires resection of the inferior turbinals on the concave side for two purposes: to secure immediate and permanent correction of the septal deviation and to secure adequate nasal respiration during sleep. It is an error to base the estimation of the adequacy of the nasal respiratory canal on either the patient's statement or the size on inspection of the canal, whether the parts be cocainized or not. If the imprint of the inferior turbinal is seen on the septum, it is a certain indication for a radical resection of the inferior turbinated body, including a fringe of the bone on the concave side. Soft hypertrophies will expand at night and exert pressure and yet shrink so small as to leave a free and open channel during the day. These often do more harm than the hard hypertrophies and if left untouched or merely cauterized with a galvano-cautery the cases might as well be left alone. If the resection of the turbinal be sufficiently radical there will be no need of a Mayer, Asch, or Kyle tube, nor of packing to hold the septum in its position. He asks the skeptic not to act on theory, but to go home and take the case that failed of cure, cut out the inferior turbinal on the concave side, and after this is healed do his septum operation over again and note the result.

118. **Serum Therapy.**—The complications of diphtheria with streptococcus infection led von Quast to try to obtain a serum which would be effective against both types. Correspondence with Parke, Davis & Co. induced them to prepare for him a serum from a horse first immunized against tetanus, then streptococcus and then diphtheria infection. He has employed it on 8 cases, 3 of which were virulent and malignant types of scarlatina, with the best results and also reports a case of diphtheria with mixed infection, in which it was employed with favorable outcome. He hopes that further clinical trial of this serum will be made.

123. **Tuberculosis.**—Vaughan notices certain cases of tuberculosis and calls attention to the communicability of the disease and the importance of good feeding in the cure of incipient cases. He says he regards rest, proper feeding and the use of such tonics as strychnin the best and practically the only things needed in the early stages of pulmonary tuberculosis. He also uses nucleinic acid in the early stages, though there is nothing specific in its action and it is simply a tonic for the phagocytes of the body. There are some cases that are possibly aided in this way. It may, however, do harm in advanced cases. He has used it hypodermically and intravenously. He also remarks that in every case of loss of weight or of hemoptysis that symptoms should not be considered due to something else until one can be sure that it is not due to tuberculosis. In 99 cases out of 100, hemoptysis means pulmonary tuberculosis.

134. **Miners' Diseases.**—Coleman finds certain pathologic conditions frequent among miners. Powder-smoke headache from the use of giant powder is the most frequent acute trouble, causing serious congestive symptoms, headache, muscle twitching, nausea, vomiting, etc. Handling giant powder will also cause headache and may give rise to severe conjunctivitis and edema. This is best relieved by a combination of acetanilid, citrated caffein, soda bromid and gelsemium. Sudamina is another acute trouble which he has seen. The chronic troubles are more serious. Chronic laryngitis is the most frequent, due largely to a peculiar manner of expelling air from the lungs practiced by miners; as nearly all miners are mouth breathers, the cold and dust-laden air thus increases the trouble. Chronic bronchitis tends to produce miners' consumption, which is only a step along the same line. Coleman also notices miners' nystagmus, though he does not call it by that name, probably not being familiar with the accounts of the condition given elsewhere. The constancy of the work, Sundays and weekdays, also tends to wear the miner out. For some time Coleman has been making urinary tests for mineral poisoning and has undoubted evidence of general systemic poisoning by antimony, arsenic, copper and lead.

146. **Amebic Dysentery.**—Osler has had a number of cases of this form of dysentery in the Johns Hopkins Hospital, sometimes three, four or five from the same locality, mostly males and few colored. It is a disease of the adult. More than 5 per cent. of the cases were in the third and fourth decade of life. The tendency is to become chronic. Very few cases die of dysentery itself, but it drags on for months or years with alternating periods of constipation and diarrhea. The most important and serious sequel is liver abscess. It is quite distinct from the bacillary form, less epidemic, rarely as acute, more chronic and liable to recurrence, the ameba are present in the stools, and lastly, and this is a very important point, it lacks the reaction of the Shiga bacillus.

147. **Bacillary Dysentery.**—The conclusions which Flexner deduces from the data available are: "1. The acute dysentery of Japan, Philippine and West Indian Islands, of Germany, and the United States is due to bacilli indistinguishable from each other. 2. Certain cases of chronic dysentery owe their beginning to the same organism. 3. The sporadic and institutional outbreaks of acute dysentery are caused by bacillus dysenteriæ, and this organism is identical with that causing epidemic acute dysentery. 4. The acute bacillary dysenteries are attended by diphtheritis and ulceration of the intestine. 5. When diphtheritis complicates amebic dysentery a mixed or terminal infection with the bacillus of dysentery is to be suspected."

149. **Ipecac in Dysentery.**—Woodhull holds that ipecac is as specific in dysentery as quinin is in malaria, but it must be given in the proper way. The patient must be recumbent, the stomach empty, and about twenty minutes before giving the ipecac it would be well to paint the epigastrium with tincture of iodin or apply a mild sinapism sufficiently to induce gentle counter-irritation. Ten or fifteen minims of laudanum may be given, followed in ten or twelve minutes by 15 to 30 or more grains of ipecac in pill form or as a paste with very little water. No fluids should be taken for at least four hours and the recumbent position strictly maintained. The opium may be given with the ipecac in pill form. The size of the dose of ipecac should be in proportion to the gravity of the case. Sixty grains is not a maximum dose for an adult, but in the ordinary acute tropical dysentery 15 to 20 grains will suffice.

152. **Treatment of Dysentery.**—Hare reviews the different treatments, first, the ipecac method, which is proven to be of value by observers in the tropics. So far as we know, the effect seems to be largely by the production of a more profuse flow of bile. After the vomiting from the large dose, small

doses of three grains are given every hour and continued until a profuse, black, tarry stool is passed, which is considered a favorable sign, the vomiting being controlled by opium. It also relieves tenesmus and pain. While stimulants may be required, it is advisable not to use alcohol because of its action on the liver. Another plan is the purgative, which has been brought forward from experience in the Philippines and in South Africa. The bowels are first thoroughly moved with Epsom or Rochelle salts, and then aromatic sulphuric acid is given freely, so that it will exercise its well-known astringent or constipating influence. This is a more rational plan than the ipecac treatment, as it is well known that the microorganisms in the intestines in dysentery are destroyed or rendered inert by an acid medium. The third plan of treatment mentioned consists in the use of intestinal antiseptics, bismuth salicylate, benzonaphthol, salol, calomel, etc. An antiseptic influence of the mercurial, however, is probably unduly accredited with the effect produced, the real value of calomel being that it increases the activity of the liver, both in destroying toxic material and in secreting bile. He does not use bismuth or salol as intestinal antiseptics to the exclusion of the salines or ipecac. Local treatment is often necessary. Clysters which will reach far up into the descending and transverse colon are necessary. Hare has found sulphocarbolate of zinc in the proportion of 20 gr. to the pint very satisfactory if used in this way. The method of making the injection is important. It should not be by means of a pumping syringe, but by a fountain syringe or surgical irritator and the pressure never be over two or three feet, the injection being gently given, prolonged for ten, fifteen or twenty minutes. Where there is great bowel irritability it is well to use two catheters so as to facilitate the return flow and prevent bowel distension. Hygienic and dietetic methods have their place in the treatment. In conclusion, he mentions the need of active measures to aid the kidneys in elimination and the employment of antibacillary serum in the treatment of dysentery in Japan. This is not an antitoxic serum but an antibacterial one. Still another form of combating dysentery is by injecting quinin in the strength of 1 to 5000 high in the rectum to destroy the ameba. This seems to be as rational as the use of quinin in malaria, and it is hoped that a similar agency will be found to destroy the Shiga bacillus as quinin does the ameba.

155. **Prostatic Hypertrophy and Hemorrhoids.**—Three cases are reported by Townsend, who thinks there was a connection between aggravation of prostatic inflammation and enlargement and the operation for hemorrhoids. He says he may be mistaken, but he thinks the subject is one of sufficient importance to receive attention. Obliteration of the circulation, the disturbance and further congestion of the already chronically inflamed area are likely to produce, he thinks, acute prostatitis where the chronic congestive condition already exists.

166. **Calcium Sulphid.**—This substance is found of value in various skin diseases with glandular activity and suppurative conditions, especially in combination with nuclein. In disorders of the mucous membrane, especially uterine catarrh, it is well to combine with alkaline-saline medication, for its general systemic effect, together with strychnin arsenite to restore the muscle tonus. The physiologic properties are summed up as lymphatic glandular stimulant, anti-suppurative and resolvent. The conditions to which it is therapeutically applicable are suppurative conditions, boils, abscesses, carbuncles, smallpox, catarrhal affections, bronchitis, cystitis, laryngitis and skin eruptions arising from suboxidation. Aulde gives a long list of remedies that are valuable in collateral and alternate treatment, such as aconitin in neuralgia, anemonin in uterine catarrh, arsenic, arsenic bromid, etc.

178.—See title 55, above.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), April 26.

1 *Vaccination and Common Sense. T. D. Acland.
2 Contract Medical Attendance upon Sick Clubs. H. Langley Browne.
3 *Observations on "Calsson Disease" and Its Prevention. A. H. Muir MacMorran.
4 *Cocain Intoxication and Its Demoralizing Effects. Kallas Chunder Bose.
5 A Note on the Application of Litholapaxy or Lithotrity to Stone in the Bladder in the Canine Species. Reginald Harrison.
6 Two Cases of Acute Intestinal Obstruction Successfully Treated with Quicksilver. J. McKean Harrison.
7 A Note on Infantile Mortality from Tuberculous Meningitis and Tabes Mesenterica. Hubert Armstrong.

The Lancet (London), April 26.

8 *The Etiology of Typhoid Fever and Its Prevention. W. H. Corfield.
9 Some Abnormal Physical Conditions in Children. George F. Still.
10 *On Some Points in the Treatment of Puerperal Eclampsia. G. Ernest Herman.
11 *Smallpox Hospitals and the Spread of Infection. John C. Thresh.
12 A Case of Subcutaneous Mylasis. Edward B. Hector.
13 The Spontaneous Cure of Senile Cataract. Sydney Stephenson.
14 A Case of Placenta Previa. A. W. Lemarchand.

Journal of Tropical Medicine (London), March 15.

15 Duration of the Latency of Malaria After Primary Infection as Proved by Tertian or Quartan Periodicity or Demonstration of the Parasite in the Blood. John T. Moore.
16 Principles Determining the Geographical Distribution of Disease. (To be continued.) Louis W. Sambon.

Annales de Derm. et de Syph. (Paris), March.

17 *Alopecia Areata of Dental Origin. L. Jacquet (Paris).—La pelade d'origine dentaire. (Concluded from No. 2.)
18 Lichen plan palmaire et plantaire. W. Dubreuilh et E. Le Strat.
19 Un cas de paronyxis tuberculeux d'inoculation. Dalous.
20 *Considérations sur la médication cacodylique. Burlureaux.
21 Contagion of Venereal Disease. Audry.—Ou se prennent les maladies vénériennes?
22 (Case Reports.) Néoplasie ulcéreuse de la région inguinale. Besnier.—Lupus érythémateux anormal. Hallopeau.—Maladie de Darier. Ibid.—Malformation cranienne. Ibid.—Chéloides spontanés multiples. Gaucher.—Lupus érythémateux de la face et angiodermite tuberculeux des mains. Leredde.—Guérison de tabes par les injections de calomel. Ibid.—Syphilis ignorée. Fournier.—Arthropathies au cours d'une syphilis secondaire. Ibid.—Eruption bromo-iodique. Balzer.—Eruption polymorphe bulleuse iodique. Ibid.—Sur une corne de la paupière d'un enfant. Audry.—Hyperkératose circonscrite des doigts chez un syringomyélique. Ibid.

Bulletin de l'Acad. de Med. (Paris), April 15.

23 Vision of Radium by the Blind. Javal.—Vision du radium par les aveugles.
24 *Les dangers de l'antisepsie interne. Mercure et fièvre typhoide. A Robin.
25 De la gastro-entérostomie par le procédé en Y. L. G. Richelot.

Journal de Med. de Paris, March 23 and April 13.

26 *Etiologie et traitement du tabes. Antonelli.
27 Opothérapie rénale. L. Archambault.

Revue Hebd. de Laryngologie (Bordeaux), April 19.

28 *Angine sèche et Brightisme. Joal (Mont-Dore).

Berliner Klin. Wochenschrift, April 7.

29 Unity of Pathogenic Streptococci. A. Marmorek (Paris).—Die Art-Einheit der für den Menschen path. Streptokokken.
30 Ueber die Menière'sche Krankheit, anknüpfend an einen geheilten Fall. J. Gescheit.
31 *Ueber die Frage der mechanischen Disposition zur Tuberkulose nebst Schlussfolgerungen für Nasenplastik nach Lupus. E. Hollaender (Berlin).
32 *Die syphilitische Dünndarmstenose. F. Rosenfeld (Berlin).
33 Casts in Urine in Artificially Induced Stagnation of Bile. P. Wallerstein (Moscow).—Ueber reine Cylindrurie bei künstlich erzeugter Gallenstauung.
34 Ein Beitrag zur Behandlung der chronischen Gonorrhoe. E. Saalfeld.

April 14.

35 Multiplicity of Complements in Serum. P. Ehrlich and H. Sachs.—Vielheit der Complemente des Serums. (Concluded from preceding number.)
36 *Der Verdünnungsversuch im Dienste der functionellen Nierendiagnostik. G. von Illyes and G. Kovesi.
37 *Die Behandlung schwächlicher Kinder. J. Ritter (Berlin).
38 Ist die Gonorrhoe der Prostituirten heilbar? T. v. Marschalko (Klausenburg).
39 Ein Fall von Temperaturkrisen bei Tabes dorsalis. B. Oppler (Breslau).

Muenchener Med. Wochenschrift, April 15.

40 *Beitraege zur Kenntniss der Cholelithiasis. J. Boas (Berlin).
41 Kleine Beitraege zur Tuberkulose-Frage. A. Heller (Kiel).
42 Throat Reflexes in Hysteria. H. Stursberg (Bonn).—Ueber das Verhalten des Rachenreflexes bei Hysterischen.
43 *Ueber refraktometrische Blutuntersuchungen. A. Strubell (Vienna).
44 *Ueber ein verbessertes Verfahren der Perkussion. J. Plesch (Ofen-Pest).
45 *Fast spezifische Wirkung des Antipyrins auf septikopyaemische Zustände. Curschmann.

46 (Case Reports.) Ueber eine Erkraukung mit dem Befund eines Typhusähnlichen Bakteriums im Blute (Paratyphus. Brion.—Pyopneumothorax acutissimus bei inkarzerirter Zwerchfellshernie. T. Struppler.

Therapeutische Monatshefte (Berlin), April.

47 Ueber die Behandlung der Eclampsie. J. Veit.
48 Infant Feeding. I. v. Meriug.—Zur Frage der Säuglingsernährung.
49 Zur Epidemiologie der Diphtherie. A. Gottstein (Berlin).
50 Cacodylic Medication. F. Mendel (Essen).—Ueber die therap. Verwundung des kakodylsauren Natrons und die intravenöse Arseubehandlung.
51 *Ueber Verhütung und innere Behandlung des steinbildenden Katarrhs im Besonderen sowie zu Gallenstauung führender Erkraukungen des Gallensystems im Allgemeinen. N. Clemm.
52 Der therap. Werth des "Maugan-Eiseu-Pepton Gude." J. W. Frieser.
53 *Zur Therapie des Croup. L. Bayer (Hatzfeld, Hungary).
54 *Ueber pract. Erfahrungen mit der Mercurcolloidbehandlung unter besonderer Berücksichtigung des chemischen Nachweisses der Quecksilberausscheidungen. O. Werler. (Concluded from No. 2.)
55 Recovery from Lightning Stroke. H. Cramer (Wittenberg).—Fall von Blitzschlag mit günstigem Ausgange.

Wiener Klin. Wochenschrift, March 27 to April 17.

56 *400 Blasensteinoperationen. A. v. Frisch.
57 Subphrenic Abscesses Containiug Bile. K. Weiler (Vieuna).—Zur Casuistik gallehaltiger subphrenischer Abscesse.
58 Entzündung in cavernösen Tumoren, veuösen Angiomen und Venengeflechten gefolgt von Vergrösserung der alten Angiomen und Bildung neuer Venenektasien. O. Chiari (Vieuna).
59 Der gegenwärtige Stand der Lehre von der Entstehung und der Verhütung der Tuberkulose. A. Weichselbaum.
60 Ueber Bacteriohämolysine und Antihämolysine. R. Kraus and S. Ludwig (Vienna). (Third Communication.)
61 Ueber die Wirkung bactericider Immunsera. M. Gruber.
62 Beitraege zur Kenntniss der Agglutination rother Blutkörperchen. A. Klein (Vienna).
63 Deaf Mutes in Early Childhood. A. Kreidl and G. Alexander.—Entwurf zu einer Statistik der körperlichen und geistigen Entwicklung Taubstummer während der ersten Lebensjahre.

Zeitschrift f. Heilkunde (Vienna), xxiii, 3.

64 *Die stumpfe Verletzungen von Strumen. J. Hertle (Graz).
65 Ueber die primäre Resection bei gangränösen iucarcerirteu Hernien. Zahradnicky (Deutschbrod).
66 Tumors of Hyoid Region. G. W. Maly (Prague).—Zur Histologie der Tumoren in der Zungenbeiugegend.
67 *Ein Beitrag zur Lehre vom Chloroformikterus. L. Wechsberg (Vienna).
68 Axial Torsion of Small Intestine. Ibid.—Ueber eineu Fall von Achsendrehung des Dünndarmes.
69 Modification of Intestinal Wall After Incarceration. M. Jerusalem (Vieuna).—Casuistischer Beitrag zur Kenntniss der Darmwandveränderungen nach Brucheinklemmung.
70 *Ueber traumatische Lipaemie. E. Fuchsig (Vieuna).
71 Ueber Cystenbildung am Ureter und iu seiner Umgebung. C. Sinnreich (Vienna).
72 Ein Fall von Diploesarkom und ein Fall von Osteochondrom traum. Ursprunges. H. Reimann (Vienna).

Zeitschrift f. Orthopaedische Chirurgie (Stuttgart), x, 1.

73 Die Endresultate der unblutigen Behandlung der augeboreuen Hüftluxation. P. Redard.
74 Zur heilgymnastischen Behandlung der Skoliose; 2 ueue Pendelapparate. W. Becker (Bremen).
75 Static Relations of Femur. C. Ghilliui and S. Canevazzi (Bologna).—Ueber die statische Verhältnisse des Oberschenkelknochens.
76 Congenital Scoliosis. F. Pendl (Würzburg).—Ein Fall von angeborener Skoliose.
77 *Ueber Stützapparate bei Rückgratsverkrümmung. A. B. Judson.
78 Scheerenförmige Redressionsapparate mit elastischem Zug. C. Hübscher (Basle).
79 Combination of High Scapula and Wryneck. B. Lamm (Berlin).—Ueber die Combiuation von angeb. Hochstand des Schulterblatts mit musculärem Schiefhals.
80 Untersuchungen ueber Elasticitätsverhältnisse in den menschlichen Rückenwirbeln mit Bemerkungen ueber die Pathogenese der Deformitäten. C. Lange (Copenhagen).
81 Vorläufige Mittheilungen ueber meine Versuche zur Lösung der Frage eines portativen Detorsions- und Redressionscorsets für Skoliosen aller Arten. A. Roth (Budapest).
82 Ueber Hallus varus. G. Teichmann (Breslau).
83 Ueber die Aetiologie der statischen Belastungsdeformitäten. A. Schanz (Dresden).

Grece Medicale (Syra, Greece), iv, 6 to 9.

84 *Malarial Vertigo. T. Triantaphyllides (Batoum).—"Des vertiges paludéens."

Rivista di Pat. Nerv. e Ment. (Florence), March.

85 *Sulla patologia delle cellule die gangli sensitivi. E. Lugaro (Florence).
86 Contributo allo studio del morbo di Parkinson. P. Gonzales and P. Pini.

Vratchebnaya Gazeta (St. Petersburg), ix, 9 to 13.

87 *Palpation of Stomach. V. P. Obraztzoff.—Oshtchupivanie zheludka.
88 Asepsis and Antisepsis. M. A. Zausailoff.—K voprosam aseptiki i antiseptiki.
89 *The Miser in "Dead Souls" as a Study of Senile Dementia. V. F. Tchizh.—Plushkin, kak tip startcheskova slaboumiya.
90 Kumyss and Its Hyg.-Diet. Value. D. L. Gabrilovitch.—Kumyss i yevo znatchenie v hyg.-diet. rezhim.
91 Caffein in Connection with Other Heart Remedies. Y. G. Bandaline.—Koffein i yevo kliu. primyenenie s svyazi s drugimi serdetchnymi sredstvami.
92 Therapeutic Value of Vaccinium Vitis Idaea. A. Kanger.—Materially k voprosu o chem. sostavye i pharm. dystvii brusniki.
93 Gruppa Pemphigus. P. V. Nikolsky.
94 Influence on Nurslings of Alcohol Taken in Breast Milk. I. V. Sajine.—Vliyanie na gruduykh dyetei alcoholya vodimova v organizm kormyashtchei.
95 A Galactomanometer. O. A. Litiuski.
96 Rapid Method to Determine Carbon Dioxid in the Air. V. P. Kashkadomoff.—Bystryi sposob opredyeleniya uglekisloty v vozdukhye.
97 *Chloroform Water in Treatment of Typhoid and Other Gastro-intestinal Affections. S. I. Diballoff.
98 Welander's Method of Treating Syphilis. I. I. Gerbsman.

Hospitalstidende (Copenhagen), xlv, 13 to 16.

99 Our Hospitals. G. Hallager.—Om vore Sindssygeanstalter.
100 Experimental Research with Tuberculous Exudates. J. Scharffenberg.—Nogle Dyreforsog med tuberkulöse, seröse Exsudater i smaa Maengder.
101 Substitution af Testes med Vaselin. H. Trautner.
102 Curve of Weight of Child Who Weighed Less Than 28 Ounces at Birth. P. Heiberg.—Vaegtkurven for et Barn der ved Fodselen vejede 1 Pund og 95 Kvint.
103 Den akut hemorrhagiske Pancreatitis. L. Kraft.

Hygiea (Stockholm), April.

104 Large Myoma. F. Kaijser.—Ett fall af betydligt stort myoma uteri.
105 Simple Method of Substituting the Bone in Partial Resection of Lower Jaw. Ibid.—En enkel metod att ersätta benet vid partiella underkäkresektioner.
106 Om ptosis och ptosis-operationer. G. Ahlström.
107 Macadamized Streets from a Sanitary Point of View. L. Wolff.

---

1. **Vaccination.**—Acland's address made before an assemblage of hospital patrons and subscribers is adapted to the laity rather than the physician. Some of his points, however, are worthy of note. He gives elaborate tabulated statements showing the advantages of vaccination and that the decrease in the death rate of children has been mainly since the general practice of vaccination was adopted, the decrease in other diseases to which infants are liable being slight or nil, often increasing in some respects, as in summer diarrhea. He reviews the different objections to vaccination and refutes them, and points out that all the accidents in several million vaccinations would not equal the difference it has made in the deaths from smallpox in one year. He also points out that the vaccinated and revaccinated employes of smallpox hospitals are almost absolutely exempt from the disorder. His tabulations and illustrations are absolutely convincing in behalf of vaccination. They all show the same thing in different ways: 1. That the vaccinated are less liable to attack after exposure to smallpox. 2. They are less liable to suffer severely and to die from the attack. 3. Where ages are specified they show that the maximum protection among the vaccinated is found in the early years of life, and that the maximum incidence of smallpox among the unvaccinated is in childhood, and the maximum protection by vaccination is in the early years of life; hence the importance of early vaccination in infancy. He remarks that it is strange that a state which is so strict about its health, that it must label oleomargarin, etc., should be so neglectful in some respects as regards this much more important matter.

3. **Caisson Disease.**—The experience of the Greenwich footway tunnel with caisson disease is reviewed by MacMorran. Selection of the men was carefully made and the total percentage of rejections, both primary and secondary, was 18.8 per cent. The exemption from serious caisson disease was considered to be due to the ample supply of fresh air. It was found that a large percentage of those who had previously worked under similar conditions had a much lower pulse rate than the newer men and did not perspire nearly so freely while at work. They also showed a deviation from the normal in heart sounds, usually in the pulmonary area, but often in the aortic, but in several of these the heart sounds became absolutely normal after they had worked in compressed air for a few days. This he thinks bears out the fact that the best and most satisfactory remedy for a person suffering from caisson disease is to put him back into compressed air, and shows also the absolute necessity of the medical lock. He has never before heard of such an abnormal condition of the heart being thus got rid of, and he thinks that men who have previously worked under

such conditions should be more carefully examined than others. The pathology of the condition is rather obscure. We know, however, that the presence of carbonic acid gas in undue proportion in compressed air causes increase in the caisson disease. MacMorran believes that men whose eliminatory functions are impaired or sluggish are more or less liable, hence the rejection of a certain proportion who have showed signs of alcoholism and obesity. For the same reason, attention to the condition of the liver, kidney and stomach, as shown by the pulse and tongue, is of as great or greater importance than attention to the heart conditions. The increase of CO_2 must act more seriously on some men than on others. He believes also in the pathologic effect of the hyperemia of the deeper tissues due to extra pressure, especially on the function of the vasomotor and sympathetic symptoms, though this idea is not generally accepted by authorities. As regards treatment, he finds nerve sedatives, such as bromid, especially ammonium bromid, are better than opium and in some severe cases of pain cannabis indica gave great relief. Potassium nitrate, potassium acetate, and ammonium acetate are good in the convalescent stage, or when the pain diminishes, but may be given from the first with good results. But by far the best treatment is the medical lock, into which, however, the purified air should be pumped until the pain goes, and then the pressure very gradually reduced. To effect this there should be attached to the medical lock an apparatus containing caustic soda in screens over which the air in passing would give up most of its CO_2. Most forms of caisson disease can be prevented by getting rid of the CO_2 where it collects most, that is, at the shield in front where the men are working. All new men should be examined after work each day for a week, and those who are indisposed kept above ground until well.

4. **The Cocain Habit.**—Bose gives an interesting account of the cocain habit as observed in Calcutta. He finds its exhilirating effect very temporary and quickly followed by depression. The habit is quickly acquired and very difficult to abandon. He thinks the depression of spirits is more imaginary than real, as he has not noticed any fall of temperature or slowing of pulse, but the respiration becomes slightly hurried. The teeth and tongue of confirmed cocain eaters become jet black, probably due to the chemical change produced by the action of lime and saliva on the drug. The habit increases on one very rapidly. It was noticed in one case that the dose was raised from 1 to 12 gr. in a month. Unlike opium, it produces insomnia and anorexia, soon followed by dyspepsia and diarrhea. The dyspepsia of a cocain inebriate is very obstinate and prolonged use of the drug brings on deafness. The quantity of urine is diminished, delusions and hallucinations often occur and sometimes acute mania which is not amenable to treatment. He reports a number of cases and from analysis finds that the action of cocain on the nerve centers is slightly stimulative, but this is very temporary, followed by a feeling of depression, which gradually passes into complete lethargic inertia. The power of control is gradually lessened. The virile power is lost, with depression of the heart and vascular symptoms. The cardiac action is irregular and the circulation becomes languid. The loss of appetite and the failure of the digestive power is marked and emaciation follows. The craving for the drug increases. The elimination is impaired, depressing the function of the brain and causing insomnia and loss of memory. The toxic symptoms are not observed as long as moderate doses are used, but the person soon becomes a useless member of society and life becomes a burden to him. The only remedy is to lock him up and forcibly withdraw the drug.

8. **Typhoid Fever.**—This third lecture by Corfield goes over the evidence of the infection of typhoid fever by foods, especially shellfish, and its distribution through sewage.

10. **Puerperal Eclampsia.**—Herman discusses the statements made in certain text-books that the proper treatment for puerperal eclampsia is emptying the uterus. He gives statistics which he tabulates from various authorities, showing many cases with eclampsia after artificial delivery. If artificial delivery was satisfactory the treatment by Cesarean section would be especially so. It is the quickest possible method, but the facts are that the fits are liable to continue after it and the evidences of the good effects of delivery are far from decisive. He lays stress on the importance of the rise of temperature and the quick pulse as unfavorable prognostic signs. He believes in the good effect of abstraction of heat by baths and the promotion of diaphoresis. He reports a case in which the tepid bath seemed to be very effective.

11. **Smallpox.**—The dangers from smallpox hospitals to the vicinity and the air-borne conduction are discussed by Thresh, who finds from the results of his investigation of certain local epidemics attributed to the Purfleet hospital ships: "1. That among the cases which occurred in Purfleet, both in the present and preceding epidemic, there was a large proportion which could not be traced to pre-existing cases. 2. That all the usual factors tending to produce epidemic prevalence of smallpox were present in the Orsett Union, with the addition (save in the case of Purfleet) of an unusually large proportion of unvaccinated children under ten years of age. 3. That none of these usual factors are capable of explaining the peculiar distribution of the disease during the epidemics investigated. 4. That all the results point to some central continuous focus of infection corresponding exactly in position with the smallpox ships. 5. That most careful inquiry fails to show any means whereby this continuous flow of infection can occur except on the hypothesis that it is air-borne. The extent of the area around a smallpox hospital which may be affected directly and indirectly by the hospital is apparently much larger than has hitherto been supposed. In the case of the ships lying off Purfleet the influence is probably being felt at a distance of fully three miles, and the presence of a belt of water half a mile in width is powerless to arrest the contagion. There can be no doubt that the danger increases with the increase of the number of acute cases in the hospital (the infectivity not being marked until a certain degree of concentration is reached) and with the proximity to the hospital. With a small hospital, say one constructed for from 10 to 30 cases, my impression is that there is but little danger of the disease being spread therefrom, providing the site is such as corresponds to the requirements of the local government board; but the danger can not be said to be non-existent. With hospitals having 100 or more beds, the danger is naturally much greater and, when we come to hospitals of the size of those required to cope with an epidemic in a large city, the peril may be great indeed." He thinks the aggregation of a large number of smallpox patients is a serious danger to the neighboring community. His idea of isolation is scattering the patients over large areas in properly constructed and equipped tents, with a central permanent administrative building.

17. **Dental Origin of Alopecia Areata.**—In Jacquet's 273 cases of alopecia areata, which he traces to some lesion in the jaws or teeth, 37 of the subjects were between 3 and 7; 79 between 7 and 14; 22 between 14 and 19, and 68 between 19 and 30. The largest numbers correspond to the various phases of dentition. He is convinced that some excitation of the buccal terminals of the fifth nerve induces the alopecia at certain connected points. The region of the back of the neck, mastoid and lower jaw forms the special irritable zone. His cuts show the routes traveled by the excitation to induce the corresponding patch of alopecia. These patches are not located over the nerves but in the parts where the innervation is comparatively deficient. The morbid stimulus is reflected to the point of minimal cutaneous innervation. The alopecia vanishes with the healing of the dental lesion. The local neurotrophic cause requires a predisposition or the alopecia does not follow. Jacquet is so thoroughly convinced of the neurotrophic, nonparasitic nature of alopecia areata that he offers to allow himself to be inoculated in the scalp or beard from the most virulent case that Sabouraud and Hallopeau can produce.

20. **Study of Cacodylic Medication.**—Burlureaux has been making a careful study of cacodylic medication during the last year or so and proclaims that it can not be compared with arsenical medication. The arsenic in this combination has

nothing in common with the arsenic of arsenical compounds, neither from the chemical, the toxicologic nor the therapeutic point of view. He never encountered any evidences of an idiosyncrasy to the cacodylates, and they all seem to have approximately the same therapeutic effects. He prophesies a brilliant future for the therapeutic application of quinin cacodylate in intramuscular injections.

24. **Dangers of Internal Antisepsis.**—Robin reports two cases which conclusively establish that saturation of the organism with mercurial compounds does not prevent contagion from the typhoid bacillus and pneumococcus and does not attenuate their virulence. It even seemed to be responsible for the extreme severity of the infection in both cases. The patients were healthy young women with recent syphilis. One took .75 gm. of mercury in fifteen days, including .04 of the benzoate in subcutaneous injections, .41 gm. of the bichlorid in pills and the balance in metallic mercury, also in pills. There were three cases of typhoid fever in the same ward, and this intense mercurial treatment did not prevent infection. It assumed a grave form from the first, and gangrenous phlyctenæ and phlegmatia alba dolens developed the nineteenth day, with death two days later. The other case was a similarly virulent broncho-pneumonia.

26. **Gold in the Treatment of Tabes.**—Antonelli affirms that specific treatment has little chance of favorably influencing the course of tabes and ataxia except in cases of recent syphilitic infection. He believes that far better results can be obtained from tonic and "disintoxicating" medication and reports ten cases of old, inveterate tabes, rebellious to mercurial or iodid treatment, which were cured by a course of the tonic which he recommends. His formula is said to have been first used by the famous Cagliostro and has been handed down in certain families as a magic stimulant. Discarding the superfluous ingredients, he found that the active substances were phosphoric acid and gold. He combines these in his formula, using phosphovinic acid and gold oxid in the form of gold phosphovinate. The gold in this combination is antiseptic and antitoxic, fully equal to iodin in this respect and surpassing it in its tonic properties, which are especially concentrated on the nerve cells. He alternates or combines it with progressive doses of metallic iodin. In one case described at length, the ataxia had lasted for eight years, and the patient had been under Charcot's care for three. Mercurial and bromid treatment proved completely ineffectual. The patient could not walk without crutches and could neither eat nor dress alone. At the end of two years of regular treatment with the gold and iodin the crutches were discarded and he now walks nearly four miles a day, plays the violin and carves wood. In another case, eight months of regular treatment were followed by a complete cure. Antonelli recommends this simple stimulating and tonic treatment for all cases of tabes rebellious to or aggravated by ordinary treatment.

28. **Relations Between Dry Angina and Kidney Disease.**—As early as twenty years ago Joal called attention to the value of sore throat of the dry type as an early sign of kidney disease. Experience has confirmed the importance of this sign even before the appearance of albuminuria or other symptoms of the kidney trouble. The chronic pharyngitis in these cases has no distinctive characteristics which differentiate it from other affections of the throat occurring in the course of nutritional disorders or in the aged, but the dryness and absence of any inflammation of the nasopharynx or nasal fossæ should always suggest the possibility of insidious Bright's disease in such cases. Usually the patient has long been troubled with his throat and has been treated for cough, hoarseness, etc. The ordinary pharyngitis becomes gradually transformed under the influence of the kidney disease into the dry type with slow hypertrophy of the pharyngeal mucosa yielding later to atrophy. The mucosa becomes gradually greyish and dry at certain points in marked contrast to the congestion of the velum and anterior pillars. There is no pain, but the sensation of dryness in the throat impels to frequent drinking. The subjects are those predisposed to Bright's disease, but especially smokers.

31. **Mechanical Predisposition to Tuberculosis.**—Hollaender's experience has demonstrated that any lesion obstructing the free passage of air through the nose induces a predisposition to tuberculosis on the part of the upper air passages. The bacilli invariably locate in the recesses where the current of air is least felt. The lack of ample facilities for breathing in case of lupus of the nose explains the frequent descending tuberculosis of the upper air passages in such cases. He has witnessed the recurrence of a healed lupus of the nose when the breathing was obstructed from defective rhinoplasty. He has been very successful in averting recurrence since he has abandoned the attempt to provide a septum in restoring the nose after lupus. He now restores the nose with a single opening and finds that the results are most excellent from every point of view, cosmetic, functional and in the prevention of recurrence of the tubercular affections of the upper air passages. The latter heal when respiration is unobstructed and normal respiration restored. The photographs of his patients confirm his statements.

32. **Syphilitic Stenosis of Small Intestine.**—Rosenfeld emphasizes that when symptoms of stenosis of the small intestine are observed, syphilitic antecedents should be carefully sought, especially when tuberculosis can be excluded. Specific treatment must be energetic and prolonged. He reports one case of an architect of 28 who recovered by this means. In another case a man of 46 recovered spontaneously, but with strictures requiring resection of 10 cm. of the gut.

36. **The "Dilution Test" for Functional Diagnosis of the Kidneys.**—Illyes remarks that correct appreciation of the functional capacity of a single kidney is only possible when the ureter catheter is left in place a long time. He recommends a new means of testing the kidney which may effectively supplement other measures and afford information unattainable by any other means. It is the determination of the behavior of the kidney after ingestion of large amounts of fluid, that is, a test of its water-secreting function. In health, the osmotic pressure of the urine, in comparison with the freezing-point, is considerably higher than that of the blood. This capacity of the kidneys to increase the osmotic tension of the urine depends upon its water-absorbing capacity. If the parenchyma becomes inflamed, the secreting level is depressed and constant, that is, the normal independence between the elimination of solid molecules and the water diuresis is restricted within narrow limits. In interstitial inflammation, on the other hand, the diluting capacity of the kidney may be more or less normal. Research on ten patients after they had ingested nearly two quarts of water (Salvator), confirmed the significance of these facts in clinical diagnosis. The urine was drawn from each ureter every half hour. This prolonged use of the catheter does no harm, he is convinced. The first irritation from it soon subsides. The secreting faculty of the kidney may be entirely suspended or only diminished. The points in diagnosis are the delay in the appearance of the increased secretion of urine, the difference in the amount secreted by each kidney and the relative proportion of molecular concentration in each urine, as determined by the freezing-point. In one typical case the left kidney did not respond to the excessive amount of fluid ingested, but the right kidney seemed to be functionally sound. The "dilution secretion" made its appearance in less than an hour; it lasted two and one-half hours; the freezing-point was 1.75 and the phloridzin test was also positive. The freezing-point of the blood was 0.61, which indicated renal insufficiency, and traces of pus were found in the urine, consequently the removal of the pathologic kidney was not advised.

37. **Treatment of Weakly Children.**—Ritter believes that any lack in the salts in the body entails a corresponding loss of energy, especially in children whose supply of lymph is much larger in proportion than in adults. He describes his measures of general hygiene to increase the resistance of weakly children: arms, legs and feet bare and linen garment for the summer, on a dust-free lawn, with sand baths, etc. The diet includes lipanin and malt extract, with 2 per cent. lime and 5 per cent. iron. He found that the vitality of dogs became depressed

when deprived of salts and that they recovered their vigor when the normal amounts were supplied. He thinks that malt extract owes its chief value to the salts it contains.

40. **Contribution to Our Knowledge of Cholelithiasis.**—Boas asserts that atypical cases of gallstone colic or cholecystitis are very rarely correctly diagnosed, and that few attempt to differentiate between cholelithiasis and cholecystitis or cholangitis or the results of secondary adhesions. In 1894 he published in his manual that the area of tenderness in cholelithiasis was in the region of the twelfth thoracic vertebra, two or three finger breadths to the right of the spine. It frequently extends further to the right, sometimes to the posterior axillary line. On the left side there is little if any tenderness. Besides this local sensitive area, the region over the entire posterior surface of the liver may be sensitive. This diffuse tenderness may persist for weeks and months after the attack. His statements did not attract general attention at the time, but their correctness has been more and more confirmed by his further extensive experience. He now distinguishes three areas: the margin of the liver and the region of the gall-bladder, the subcostal portion of the liver, and its posterior surface. The area of tenderness in the back is liable to occur during an acute attack and persist long after it has subsided. It may exist in the latent stage of cholelithiasis as a sign of attacks passed through, possibly years before. The sensitiveness in the back does not necessarily parallel the sensitiveness of the margin and gall-bladder area, but may persist long after the latter has vanished. His experience has also shown that certain cases are unaccompanied by any tenderness in the back either in the acute or in the latent stage. These local manifestations are possibly due to a diffuse perihepatitis proceeding from a cholecystitis or pericholecystitis. He finds that the most reliable method of testing the sensitiveness is by Faradization, applying the electrodes to corresponding portions of both sides of the back, commencing with a very weak current, and increasing to a maximum of 4 to 6 milliamperes. A tingling on the liver side is frequently felt before any sensation is experienced on the other side, and it increases to severe pain, while the left side is only slightly if at all painful. The Galvanic current answers the same purpose, applying the anode on the right and the cathode on the left side. This test is by no means an absolute sign of the absence or presence of cholelithiasis, but it points with certainty to the liver as the origin of the trouble, and even this is a great gain in diagnosing. The complete absence of tenderness in some cases and its intensity in others may prove important means of differentiating if those who have opportunity for such observation will make a special study of the conditions noted in operating on such cases. Boas thinks that patients with a tendency to cholelithiasis should be kept permanently under observation and impending attacks warded off. He considers 200 to 300 gm. of Carlsbad waters taken daily for six months, an excellent means of keeping it in the latent stage. The diet should avoid articles tending to induce constipation or obesity. He advises loosening or removing the corset after meals—its complete banishment it is hopeless to expect for the present, he observes. He also endorses Möbius' recommendation of ten minutes devoted to deep breathing three times a day with the chest and abdomen bare. He warns against massage, as he has witnessed numerous cases in which the cholelithiasis was aroused by it from the latent stage. He therefore never orders massage of the abdomen for a woman without enquiring in regard to preceding cholelithiasis and ascertaining if there is any sensitive liver area. By examining the three areas mentioned above he has found it possible to follow the gradual extinction of the tendency, and not until the last trace of tenderness has vanished does he consider his patients cured. He has also found it possible to watch over his patients by repeated examination of these areas and detect an impending attack by increased tenderness long before it is heralded by any other symptoms.

43. **Refractometric Examination of the Blood.**—The Journal has previously mentioned Strubell's method of investigating the composition of the blood by its refracting power. A single drop will suffice and the results have proved so constant and significant in his three years of testing the method that he now recommends it as a simple, practical and valuable means of determining the composition of the blood. He uses Pulfrich's refractometer which he described in his previous communication in the *Deutsche Arch. F. Klin. Med.*, lxix. The refracting power of the blood does not convey the same information as the determination of the freezing-point, but it indicates unerringly the proportion of albumin in the blood. The water has a refracting value of about 15 marks on the graduated scale and the salts in the blood an additional 3 marks. Deducting 18 marks on this account, the remaining marks on the scale are divided by 4.2, which is the refracting value of 1 per cent. of albumin, and the quotient is the exact amount of albumin contained in the serum examined. The varying proportion of salts renders this abbreviated test impracticable for the urine, but it can be applied to capillary amounts, although there is a possibility of error in this case. He proclaims that this determination of the refraction exponent is destined to prove a valuable acquisition to our means of clinical diagnosis of the blood.

44. **Improved Method of Percussion.**—Instead of using the hand or several fingers, Plesch uses a single finger for percussion, bent exclusively in the first interphalangeal joint, the rest of the hand horizontal and parallel to the surface to be examined. He taps with the middle finger of the other hand on the distal epiphysis of the bent finger. The vibrations induced in this way cause the percussion sounds to be peculiarly distinct and allow the delimination of organs with a hitherto unattainable precision.

45. **Antipyrin in Puerperal Fever.**—Curschmann reports that antipyrin seems to have an especially favorable, almost specific action on septicopyemic conditions, especially the puerperal. He gives it in .5 gm. doses, to a daily total of 2 to 4 gm., and finds that a drug exanthem does not contra-indicate its further use. Half of his 78 cured cases during the last ten years were treated with antipyrin in this way, out of a total experience of 174 cases.

51. **Prevention and Internal Treatment of Biliary Lithiasis, Etc.**—Clemm cites various writers to the effect that fats stimulate the production of bile, the albuminoids nearly as much, while the carbohydrates have only a slight influence in this respect. The effect of the fats is felt for three to six hours. The fondness of women for carbohydrates suggests an explanation for the greater prevalence of biliary lithiasis among them. Prevention and treatment should be along these lines. The best means of administering fat is in the form of sodium oleate, better known as eunatrol. It requires no further saponification in the intestines, and is readily taken in the form of an emulsion of 10 gm. eunatrol and 5 of tincture of valerian in 150 of peppermint water with 20 drops of essence of pineapple. Tests *in vitro* demonstrated that eunatrol has a most remarkable dissolving power, besides the cholagogue property to which it owes its fame. Clemm asserts that this treatment will cure all cases of pure cholelithiasis, even obstinate ones. He orders as preventive measures a glass of milk with a slice of bread and butter at bedtime, albuminoids with the breakfast, exercises in deep breathing, and in case of an established lithiasis a tablespoonful of eunatrol at breakfast, lunch and bedtime. This is kept up for four to six weeks after the severer symptoms have subsided, omitting the midday dose and continuing the bedtime dose for three months.

53. **Treatment of Croup.**—Bayer has treated twenty cases of croup without a mishap since he instituted treatment with calomel and apomorphin. He gives 2 cg. of calomel every two hours, alternating it with a teaspoonful of a mixture of apomorphin, 1 cg. in 100 gm. water, with two drops of dilute hydrochloric acid and 10 gm. of simple syrup. After the first severe symptoms have subsided he suspends the calomel for a few hours during the day, but keeps it up at night. Even as late as the second or third day or a little later, the chances are still favorable. Improvement is marked in twelve hours. In three to five days the threatening symptoms subside. Local measures can be omitted.

54. **Colloid or Soluble Mercury.**—Werler lauds colloid mercury as the most effectual and convenient method of anti-syphilitic treatment by the general practitioner. A 10 per cent. salve of this soluble mercury is absorbed through the skin far more rapidly and thoroughly than any other preparation of mercury in vogue. It is mild, non-irritating and non-toxic. He prefers it even for internal administration. The mercury in this form is eliminated very slowly, regularly and gradually.

56. **Four Hundred Operations for Urinary Calculi.**—Frisch observes that he can not imagine any case of lithiasis vesicæ in which the high operation would not perfectly answer the purpose. It never fails even in the severest and most complicated cases, but on account of its dangers, it should not be used indiscriminately. The old mortality of 30 to 40 per cent. has dropped to 13 and 20 per cent., but Guyon reports a mortality of 28 per cent. during the last ten years. In Frisch's cases the mortality was 12.7, while that of lithotripsy was only 2.6 per cent. Contra-indications for the latter are an unusually large stone, preventing the free movement of the instrument, or unusual hardness or firm impaction, an unbreakable foreign body and cases of cystitis complicated by a renal affection, rebellious to preliminary treatment. Perineal incision is much less dangerous than the high operation, but even its advocates report the disadvantages of long protracted healing and the liability to a persisting fistula. Frisch performed 84 high operations under chloroform and 10 under cocain anesthesia, preceded half an hour before the operation by an antipyrin rectal injection. This combination proved very efficient —the patients experienced scarcely any pain. In 4 cases he was compelled to establish a fistula on account of retention from hypertrophy of the prostate, and 2 have been permanently cured of the tendency to bladder lithiasis. In 2 others the formation of phosphate calculi continued, but they were readily extracted without narcosis by merely enlarging the fistula. In 4 patients with complete retention he removed the middle lobe of the prostate with the thermocautery after extracting the calculi. Two were cured, but the intervention had no effect on the others. In 2 instances stones developed with a ligature thread for the nucleus a year after the extirpation of a papilloma of the bladder. In 2 patients the stones developed around a cast-off piece of the scab from a Bottini incision of the prostate. In two cases in which aspirating drainage had been established a hernia developed at the point of the high operation. The 12 fatal cases in the 94 treated by the high operation included 6 out of the 12 in which the bladder had been left open, 4 out of the 38 treated by aspirating drainage, and 2 out of the 44 in which the bladder had been completely sutured. These groups correspond to the severest, the moderately severe and the lightest. Death was due to pneumonia in 2 instances, to pyelonephritis in 5 and to embolism of the lungs in 1; 2 other patients succumbed to their extreme exhaustion; 1 to the chloroform and 1 to the sudden emptying of the bladder in a case of chronic incomplete retention. The latter patient was a man of 63 who refused intervention for more than a year after symptoms of calculi had developed. The bladder reached to the umbilicus. The slightest movement caused intense pains in the bladder region, and the urine trickled night and day. The prostate was in the third stage of enlargement. The patient was anemic, emaciated, tongue dry and thirst excessive. Intervention seemed dangerous, but delay was out of the question and the high operation was performed under cocain and the bladder drained and tamponed. The urine was bloody that evening and the next day. Only 400 c.c. of dark red urine was evacuated the second day and the patient died with symptoms indicating that not only the hemorrhage but the sudden disturbance in the renal function by the changes in the compression were responsible for the fatal termination. The shape of the stone explained the pains experienced, as it was covered with sharp projecting points. In another case the stone was nearly round and fitted into the fundus with two deep holes opposite the orifices of the ureters. Nineteen patients were operated on twice; 6, three times; 3, four times, and 3, five times. Recurrence was noted after the high operation in 22.3 per cent. and after lithotripsy in 9.8 per cent.

64. **Injury of Goiter from Contusion.**—Hertle refers to 2 cases of sudden hemorrhage in the goiter in young persons without appreciable cause. Withdrawal of the blood by puncture cured the patient and averted suffocation. In Maschka's case the hemorrhage in the goiter proved fatal in a few minutes. In a case of contusion personally observed a woman of 55 who had long had a goiter on the left side was thrown from a carriage. The goiter swelled and there was much difficulty in breathing and swallowing. The neck was much enlarged, the rear wall of the pharynx bulging. Puncture of the left side of the neck allowed the escape of a pint of dark hemorrhagic fluid. The swelling and difficulty in breathing and swallowing disappeared at once. Four days later the cyst was extirpated. It was as large as the head of a child and the walls were hard. A hole with ragged edges was found in the rear wall, and the fluid escaping from the cyst at the time of the traumatism had burrowed a passage behind the esophagus into the lower mediastinum. This passage was drained with long strips of gauze brought out through the wound. The patient has been in fine health during the seven years since. Pantlen has reported the case of a woman of 72 with an old, moderate goitre. It was hit by the elbow of another person, and she died immediately. About a pint and a half of hemorrhagic fluid was found in the right pleural cavity. An old work mentions the cure of a goiter which was pierced by a spear during the siege of Vienna. Billroth has reported a case in which the goiter perforated into the pharynx with pyemia and death. All the ruptures occurred in the rear wall. In a second case observed by the writer a patient with a medium struma fell down stairs. The neck swelled with symptoms of impending suffocation. A tear 4 mm. long was found in the inferior thyroid artery. The arteries were ligated and the goiter drained. The patient died the next day of heart failure, although no signs had indicated the involvement of the vagi. The symptoms had been the same as in case of rupture of a cystic goiter. Etienne has described a similar case in which death followed a slap on the goiter. The symptoms indicated compression of trachea and paralysis of vagus. The capsule was found lacerated with hemorrhage into the mediastinum and cellular tissue of neck. The experiences related indicate that the severest consequences may follow slight contusion of a goiter or may even occur spontaneously. In the operations it was noticed that the inferior thyroid artery always showed signs of arteriosclerosis even when the superior was still intact.

67. **Chloroform Icterus.**—Wechsberg tested the urine in 100 chloroform anesthesias and obtained a positive reaction for biliary pigments in 16. The bilirubinuria appeared in 6 the first day, in 8 the second and in 2 the third day. It lasted two days in 7, three days in 4, one day in 3, four days in 1 and five days in another. All exhibited subicterus, but none were febrile cases. In a few the bilirubinuria was not accompanied by any icteric symptoms. He believes that the disposition to icterus can be traced to some abnormal condition of the liver.

70. **Traumatic Lipemia.**—Fuchsig describes the case of a girl of 17 who jumped from a third-story window shattering a number of bones. At first the symptoms were not serious, but after a few hours convulsions and high temperature developed, with death in seventy-two hours. Droplets of fat were found in the vessels of all the organs examined. He produced somewhat similar conditions in animals by injecting fluid fat into the carotid. He found that about .5 c.c. passed directly into the vessels of the brain without entering other capillary systems. After an hour of quiet the animals were seized with fatal convulsions. The capillaries in the lungs were also gorged with the droplets without causing symptoms. The death was evidently due to paralysis of the vital centers from the fat in the cerebral circulation. The multiplicity of the symptoms in lipemia is probably due to the circulation of the droplets of fat in the blood and their arrest and accumulation at certain points where the current is sluggish. Every fracture of a bone is followed by more or less lipemia. The larger proportion passes through the lungs into the general circulation. The persistence of an open foramen ovale favors lipemia of the brain in particular, and this had been noted in the personal case

described. Between the extremes of physiologic and traumatic lipemia, is that induced by subcutaneous injections of oil for therapeutic purposes. No injury results from them as the amount of fat—even 200 gm.—is too small. It is taken up gradually into the circulation and part is eliminated or incorporated with the tissues.

77. **The Question of Spinal Braces in Lateral Curvature.**—Judson's article was published originally in The Journal, February 22, 1902, p. 508, which fact the translator evidently forgot to mention.

34. **Malarial Vertigo.**—Triantaphyllides maintains that besides the symptomatic vertigo of malaria there is a paludal vertigo which is in itself a morbid entity, a paludal neurosis. It may be intermittent or permanent or merely a condition of dizziness, or it may be associated with other neuroses, or the various forms may alternate. In a number of cases which he relates, the vertigo could be attributed only to the malaria. There was no anemia, neurasthenia or dyspepsia nor any other manifestation of malaria, and the vertigo could be cured at once by hypodermic injection of large doses of quinin for four or five days. It is probably due to alteration of the solar plexus by the malaria, similar to the gastric vertigo described by Trousseau. The vertigo usually ceases when the patients recline. In one of his patients compression of the sciatic and other nerve trunks induced the vertigo even when he was reclining. The differentiation of malarial vertigo is important, as it might easily be confounded with the vertigo in heart disease, syphilis and arteriosclerosis. The pallor, the reappearance of the vertigo on vigorous compression of the solar plexus, and the various solar paresthesias which precede or accompany the vertigo, all aid in the diagnosis. Patients with a tendency to ptosis of the viscera are relieved by an abdominal support, which also aids in the mitigation of the vertigo.

85. **Pathology of the Cells of the Sensory Ganglia.**—This progress report of Lugaro's experimental research is profusely illustrated. His previous communications were in the *Rivista*, v, 4, 6, and 9, and vi, 10. This part deals mostly with the effects of resection of the vagus and cervical plexus in rabbits.

87. **Palpation of the Pylorus.**—Obrastzoff describes nine cases in which the pylorus could be palpated as a cylinder or a knot, usually in the region of the right rectus. The cylinder lay horizontal or slanting, about the size of the forefinger or thumb. Both the cylinder and the knot would become soft under the fingers, subside and vanish in a few seconds, resuming this peristaltic play again in a few minutes, independent of whether the stomach was full or empty. A slight rumbling could be elicited sometimes by palpation, accompanied by a sound resembling the squeaking of a mouse. It was probably due to the return of gases or droplets of chyme forcing their way back into the resonant cavity of the stomach. As the cylinder or knot could be palpated from 4 to 8 cm. above the lower limits of the stomach, the idea that it might have been the transverse colon can be discarded. A dull tympanitic sound could be elicited on percussion of the liver in the region of the transverse colon with absolute flatness to the right on a line with the tumor. This tended to show that no gases passed with the chyme from the stomach into the duodenum. This phantom tumor at the pylorus is merely an exaggeration of the physiologic peristalsis. The pylorus contracts more vigorously in gastroptosis and in case of excessive acidity, on account of the resistance to the propulsion of the stomach contents into the duodenum. On the other hand, in another patient the peristaltic wave involved the whole stomach. The case was distinguished by complete paralysis of the secretory function in respect to ferments and hydrochloric acid, with eructations of gases belonging to the diamin group and a tumor in the pylorus and adjacent part of the stomach. During the peristaltic wave the outline of the greater curvature could be seen moving from one interspace to the other. Crepitation was felt on palpation and a friction sound could be heard. This might have been due to corrugation of the surface of the gastric serosa and the presence of a relatively large amount of serous fluid. Disappearance of this phenomenon with that of the tumor excluded the assumption of partial peritonitis in the form of a perigastritis. The spasmodic contraction in the pyloric end of the stomach was evidently a motor neurosis accompanying the grave disturbances in the secreting function of the stomach in a neurasthenic patient.

89. **The Miser in the Great Russian Novel, "Dead Souls," as a Study of Senile Dementia.**—Tchizh reviews Gogol's classic portrayal of "Plushkin, the miser," and contends that he is not the normal type of a miser but a pathologic type of senile dementia. His avarice is not a psychologic but a pathologic phenomenon, accompanied by his loss of moral sense, indifference to his children, grandchildren and social opinion, his uncleanliness, fear and distrust of every one, loss of the sense of taste and incapacity of experiencing either lasting joy or sorrow. He was in a state of constant apathy, with the exception of the sense of ownership of property. His mental faculties were so weak, especially his memory for recent events, that he was incapable of managing his affairs properly. He was unable to concentrate his attention, or distinguish between profit and loss, or appreciate the relative value of things. He lived wholly in the present; the future and outside interests did not exist for him. The sight of money and the remembrance of his bosom friend were the only things that could bring expression to his face. There was no purpose in his life. It was founded on his old habit of hoarding money, which he neither enjoyed himself nor allowed his children to enjoy. Habit accounts for his entire behavior. Gogol pictures the harm caused by such a man to society, to his family and to himself, and Tchizh urges a more rational attitude, based on the principles of psychiatry, toward this class of unfortunates to avoid the harm and suffering which they entail. If Gogol had written nothing else, he adds, this masterly representation of senile dementia would be sufficient to make his name immortal.

97. **Chloroform Water in Treatment of Typhoid Fever and Other Gastro-Intestinal Affections.**—Dibailoff reports as the results of extensive tests and experience, that chloroform water assuages thirst, soothes pain in the stomach and relieves nausea and vomiting. It is valuable, therefore, as a symptomatic remedy, but it is useless in chronic gastro-intestinal catarrh, and has no specific influence in typhoid fever, as some have asserted.

New Patents.

Patents of interest to physicians, etc., April 22 and 29:

698,264. Hernial truss. George W. Derr, Philadelphia.
697,994. Making thymol. Maurice Dinesman, Paris, France.
698,399. Making magnesium peroxid compound. Franz Fuhrmann, Berlin, Germany.
698,270. Hernial truss. Wm. H. Garson, Philadelphia.
698,022. Electric massage machine. Edward B. Jacobson, Boston.
698,335. Coin-freed gymnastic apparatus. Karl Strauss, Wiesbaden, Germany.
698,079. Salicylate of salicyl quinin, etc. Heinrich Thron, Frankfort-on-the-Main, Germany.
698,426. Abdominal bandage. Everett L. Abbott, New York City.
698,786. Sanitary spittoon. Napoleon J. Beaudin and N. R. Thibert, Worcester, Mass.
698,898. Nebulizer. Wm. and J. Bockel, Philadelphia.
698,447. Syringe. Corydon I. Bush, Kansas City.
698,833. Optometer. Francis A. Hardy, Evanston, Ill.
698,704. Making hydrochloric acid. Edward Hart, Easton, Pa.
698,511. Syringe. Frederick H. Jones, Wakefield, Mass.
698,711. Sterilizing apparatus. George W. Kellogg, Hartford, Conn.
698,713. Appliance for assisting the hearing. Pauline A. Klaws, Melbourne, Victoria, Australia.
699,095. Hernial truss. Julius C. Le Hardy, Savannah, Ga.
698,861. Combined cushion, water bag and fountain syringe. John P. Sehan, Brooklyn.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 24 to 30, 1902, inclusive:

Aristides Agramonte, contract surgeon, leave of absence for three months granted.

William B. Banister, major and surgeon, U. S. A., member of an Army retiring board at Washington, D. C., vice Major Edward C. Carter, surgeon, U. S. A., relieved.

Walter Cox, lieutenant and asst.-surgeon, U. S. A., to duty with

troops from the Department of California to the Department of Texas and thereafter to report to the Surgeon-General of the Army at Washington, D. C., for instructions.

Carl R. Darnall, captain and asst.-surgeon, U. S. A., on his arrival in San Francisco, Cal., will proceed to Plattsburg Barracks, N. Y., for assignment to duty at that post.

Charles L. Heizmann, lieut.-col. and deputy surgeon-general, on his arrival at San Francisco, Cal., will proceed to Chicago, Ill., for duty as chief surgeon, Department of the Lakes, relieving Lieut.-Col. Timothy E. Wilcox, deputy surgeon-general.

Merritte W. Ireland, captain and asst.-surgeon, U. S. A., leave of absence for fourteen days granted.

Richard W. Johnson, major and surgeon, U. S. A., now on leave of absence at San Francisco, Cal., is relieved from further duty at Fort Douglas, Utah, and will report to the commanding general, Department of California, for assignment.

George B. Jones, contract surgeon, now at Angel Island, Cal., will proceed to Rushville, Ind., for annulment of contract.

Charles F. Kieffer, captain and asst.-surgeon, U. S. A., to report for duty with troops from the Department of California to the Department of Texas, and on the completion of this duty to report for assignment at Fort Screven, Ga.

Henry S. Kiersted, lieutenant and asst.-surgeon, U. S. A., leave of absence granted for two months, on account of sickness, with permission to apply for an extension of one month.

George A. McHenry, captain and asst.-surgeon, Vols., leave of absence for two months granted, to take effect on his arrival in the United States.

Edward L. Munson, captain and asst.-surgeon, U. S. A., to proceed to Millville, N. J., on business pertaining to the Medical Department of the Army, and on the completion of this duty to return to his station in Washington, D. C.

James E. Sheilenberger, contract surgeon, from St. Petersburg, Fla., to duty at Fort Ringgold, Texas.

Allen M. Smith, captain and asst.-surgeon, U. S. A., leave of absence for fifteen days granted.

Henry D. Snyder, captain and asst.-surgeon, U. S. A., member of an examining board at Governor's Island, N. Y., during the temporary absence of Major William H. Corbusier, surgeon, U. S. A.

Louis A. Thompson, contract surgeon, now at Dayton, Ohio, is relieved from further duty in the Division of the Philippines and assigned to duty at Columbus Barracks, Ohio.

Victor E. Watkins, contract surgeon, from Fort Williams, Me., to duty at Whipple Barracks, Ariz.

Timothy E. Wilcox, lieut.-col. and deputy surgeon-general, from duty as chief surgeon, Department of the Lakes, to Vancouver Barracks, Wash., as chief surgeon, Department of the Columbia, relieving Major Rudolph G. Ebert, surgeon, U. S. A.

Llewellyn P. Williamson, lieutenant and asst.-surgeon, U. S. A., former orders directing him to report for duty at Columbus Barracks, Ohio, amended so as to assign him to duty at Jefferson Barracks, Mo.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending May 3, 1902:

Asst.-Surgeon R. M. Young, detached from the Cavite Naval Station and ordered to duty at Guam, L. I.

Surgeon W. R. DuBose, detached from the *Wisconsin* and ordered to the *Solace*.

Surgeon C. F. Stokes, detached from the *Solace* and ordered to the *Wisconsin*, and on arrival of that vessel at Puget Sound, ordered to the *Oregon*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 1, 1902:

Surgeon Preston H. Bailhache, detailed to represent the service at American Congress of Tuberculosis at New York, N. Y., May 14, 15 and 16.

Surgeon H. W. Austin, seven days' leave of absence from April 23, 1902, under paragraph 179 of the regulations.

Surgeon P. M. Carrington, detailed to represent the service at American Congress of Tuberculosis at New York City, May 14, 15 and 16, reporting at Washington, D. C., en route to New York, and on return to Fort Stanton.

P. A. Surgeon H. D. Geddings, detailed as supervisor of repairs and alterations of the steamer *Neptune*, at Baltimore, Md.

P. A. Surgeon J. C. Perry, relieved from duty as chief quarantine officer of the Philippine Islands, and directed to proceed to San Francisco, and await orders.

P. A. Surgeon A. R. Thomas, relieved from duty in office of U. S. Consul-General, at London, England, and directed to proceed to Manila and assume the duties of chief quarantine officer of the Philippine Islands, relieving P. A. Surgeon J. C. Perry.

P. A. Surgeon H. S. Cumming, detailed as inspector of unserviceable property at office of plague commission at San Francisco.

Asst.-Surgeon John McMullen, relieved from duty at Baltimore, and directed to proceed to Boston and report to medical officer in command for duty and assignment to quarters, relieving Asst.-Surgeon M. W. Glover.

Asst.-Surgeon S. B. Grubbs, Bureau letter of April 18, directing him to assume command of the Gulf Quarantine Station, amended so that he shall visit New Orleans, La., Pascagoula, Miss., and Mobile, Ala., en route.

Asst.-Surgeon H. B. Parker relieved from duty in the Hygienic Laboratory, and appointed chairman of Board of Medical Officers for the investigation of yellow fever, malarial fevers and dengue, at Vera Cruz, Mexico.

Asst.-Surgeon J. F. Anderson, to proceed to Norfolk, Va., for special temporary duty.

Asst.-Surgeon V. G. Heiser, to proceed to Quebec, Canada, for duty in the office of the U. S. Commissioner of Immigration.

Asst.-Surgeon W. C. Billings, granted leave of absence for two months from May 1.

Asst.-Surgeon J. Goldberger, to report at Washington, D. C., for special temporary duty. Bureau letter of April 18, directing him to proceed to Tampico, Mexico, amended so that he shall visit Norfolk, Va., New York City, Havana, Cuba, and Vera Cruz, Mexico, en route.

Asst.-Surgeon A. J. McLaughlin, upon being relieved from duty at the Immigration Depot by Asst.-Surgeon M. W. Glover, to proceed to Washington, D. C., and report to the director of the Hygienic Laboratory for duty.

Asst.-Surgeon M. W. Glover, upon being relieved from duty at Boston by Asst.-Surgeon John McMullen, to proceed to New York City, and report to Surgeon G. W. Stoner, Immigration Depot, for duty, relieving Asst.-Surgeon A. J. McLaughlin.

Asst.-Surgeon J. T. Burkhalter, to proceed to Scranton, Miss., for special temporary duty.

A. A. Surgeon R. F. L. Burford, granted leave of absence for thirty days from May 15.

A. A. Surgeon B. Kinsell, granted leave of absence for seven days from May 12.

A. A. Surgeon W. O. Wetmore, granted leave of absence for seven days from April 19, under paragraph 201 of the regulations.

PROMOTION.

Junior Hospital Steward F. L. Gibson, promoted to the grade of senior hospital steward from June 11, 1901.

BOARD CONVENED.

Board convened at Washington, D. C., April 28, 1902, for the physical examination of candidates for the position of second assistant-engineer, R.C.S. Detail for the Board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon B. S. Warren, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 3, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, April 12-19, 3 cases; San Francisco, April 13-20, 3 cases.

Colorado: Denver, April 12-19, 7 cases.

Illinois: Belleville, April 19-26, 2 cases; Chicago, April 19-26, 13 cases; Freeport, April 19-26, 1 case; Galesburg, April 19-26, 1 case.

Indiana: Evansville, April 19-26, 4 cases; Indianapolis, April 19-26, 16 cases; Terre Haute, April 19-26, 4 cases.

Kansas: Wichita, April 19-26, 5 cases.

Kentucky: Covington, April 20-27, 16 cases; Lexington, April 19-26, 2 cases.

Louisiana: New Orleans, April 19-26, 1 case.

Maryland: Baltimore, April 19-26, 1 case, 2 deaths.

Massachusetts: April 19-26, Boston, 51 cases, 3 deaths; Brockton, 1 case; Brookline, 2 cases; Cambridge, 2 cases; Everett, 3 cases; Fall River, 2 cases; Fitchburg, 1 case; Malden, 1 case; Medford, 1 case; New Bedford, 3 cases; Newton, 4 cases; Somerville, 5 cases

Michigan: Detroit, April 19-26, 5 cases; Ludington, April 19-26, 8 cases.

Missouri: St. Louis, April 13-27, 83 cases, 2 deaths.

Montana: Butte, April 20-27, 5 cases.

Nebraska: Omaha, April 19-26, 45 cases.

New Jersey: Camden, April 19-26, 3 cases; Hudson County, including Jersey City, April 6-27, 107 cases, 13 deaths; Plainfield, April 19-26, 1 case.

New York: Buffalo, March 27-April 30, 21 cases; New York, April 19-26, 56 cases, 13 deaths; Yonkers, April 18-25, 1 case.

Ohio: Cincinnati, April 18-25, 12 cases; Cleveland, April 19-26, 2 cases, 1 death; Dayton, April 19-26, 2 cases.

Pennsylvania: Columbia, April 21-28, 4 cases; Erie, April 19-26, 2 cases; Philadelphia, April 19-26, 31 cases, 6 deaths; Scranton, April 19-26, 6 cases.

Rhode Island: Providence, April 19-26, 2 cases.

Tennessee: Memphis, April 19-26, 14 cases, 2 deaths.

Utah: Salt Lake City, April 19-26, 1 case.

Washington: Tacoma, April 13-20, 3 cases.

Wisconsin: Green Bay, April 20-27, 6 cases; Janesville, April 19-26, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, April 5-12, 8 cases.

Barbados: April 12, 5 cases.

Belgium: Antwerp, April 5-12, 9 cases.

Canada: Quebec, April 12-19, 9 cases, 2 deaths; Winnipeg, March 29-April 19, 18 cases.

China: Hongkong, March 8-22, 7 cases, 7 deaths.

Colombia: Panama, April 21, present.

France: Rheims, March 31-April 6, 5 cases, 3 deaths.

Gibraltar: April 6-13, 1 case.

Great Britain: Dundee, April 5-12, 1 case; Edinburgh, April 5-12, 1 case; Glasgow, April 11-18, 11 cases, 2 deaths; London, April 5-12, 274 cases, 73 deaths.

Greece: Athens, April 5-12, 1 case.

India: Bombay, March 25-April 1, 10 deaths; Karachi, March 23-30, 5 cases, 2 deaths.

Italy: Palermo, April 5-12, 40 cases, 5 deaths.

Mexico: Vera Cruz, April 12-19, 5 cases, 2 deaths.

Russia: Moscow, March 29-April 5, 14 cases, 3 deaths; Odessa, April 5-12, 3 cases; Warsaw, March 29-April 5, 2 deaths.

Spain: Corunna, April 5-12, 1 death.

Uruguay: Montevideo, March 8-15, 71 cases, 5 deaths; Montevideo, March 22-29, 70 cases, 3 deaths.

YELLOW FEVER.

Mexico: Vera Cruz, April 12-19, 12 cases, 5 deaths.

Venezuela: Puerto Cabello, Feb. 8-15, 1 case, 1 death.

CHOLERA.

China: Canton, March 19, present, 9 deaths among Europeans; Hongkong, March 8-22, 23 cases, 19 deaths.

India: Bombay, March 25-April 1, 3 deaths.

PLAGUE—FOREIGN.

China: Canton, April 24, malignant outbreak; Hongkong, March 8-22, 1 case, 1 death.

India: Bombay, March 25-April 1, 909 deaths; Karachi, March 23-April 30, 119 cases, 92 deaths.

Zanzibar: Nairobi, March 20, 20 cases, 5 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOL. XXXVIII. CHICAGO, SATURDAY, MAY 24, 1902. No. 21.

Original Articles.

THE TREATMENT OF INOPERABLE SEPTIC PERITONITIS.*

HORACE G. WETHERILL, M.D.

PROFESSOR OF GYNECOLOGY, DENVER COLLEGE OF MEDICINE, DENVER, COLO.

The acceptance of this title presupposes that you will permit me to assume that certain cases of septic peritonitis of appendiceal, intestinal and tubal origin may become inoperable, i. e., that the interests of the patient may be better served at times through the adoption of non-surgical measures. This position must be conceded by the radical appendicitis operators in the "operate as soon as the diagnosis is made" class, when they are pinned down to particularly grave cases, for they all meet some cases in which they are unwilling to operate.

Septic peritonitis usually has its origin in some local point of infection and the gravity of the symptoms depends upon the virulence of the infection and the area of peritoneum involved through the diffusion of the process; those measures that tend to limit the spread of the infection and favor its localization to a circumscribed area must favor the limitation of the disease and the recovery of the patient.

The oviducts, the vermiform appendix and the last loop of the ileum—the viscera from which such infections most often arise—are more or less favorably situated for the localization of the infection. Those who operate many times for such conditions have seen frequent instances of such limitations about the fimbriated ends of the oviducts and the vermiform appendix. Gynecologists see patients every day who present conditions of so-called pelvic cellulitis that we now know to be nothing more nor less than a circumscribed pelvic peritonitis, the result of infection from a leaking oviduct, which the conservative agencies of the animal economy are taking care of most beautifully through the formation of peritoneal adhesions and the deposit of plastic exudate about the danger point.

Infections from intestinal perforations, appendicitis and diseases of the oviducts are relatively dangerous in the order here given. Taking the total volume of all such cases the tubal infections are apt to be least malignant, those from the appendix much more so and those from intestinal perforations most malignant; moreover, the oviducts occupy the lowest point in the peritoneal cavity where walling off is most easily effected by nature, the appendix being less favorably situated and the intestines least favorably placed. Several years ago I heard the late Dr. John Ashhurst say, in a meeting of the Philadelphia Obstetrical Society, that infections of the lower portion of the peritoneal cavity were better borne and better guarded than those of the upper part. While his statement was questioned then, I believe it would be accepted by surgeons quite generally at this time. To me it seems a very true statement, which my years of observation would confirm.

We must also take into account the volume of infecting material poured into the peritoneal cavity at one time and the relative activity and mobility of the viscus from which it comes, for this bears upon the diffusion of the poison as well as upon the ability of the peritoneum and omentum to cover and seal a leaking focus of infection; here again we find the tube most limited in its excursion, the appendix more free, and the intestine freest. As the relatively fixed organ permits of better protection from the peritoneum it would seem likely that the volume of infecting matter would be least from it, and greatest from the more freely movable ones. What we know of the clinical history of typhoid perforations and our findings at operations and autopsies subsequently would tend to confirm this view.

In its bearing upon treatment the foregoing pathologic résumé is of vital importance and must impress upon us the necessity for accurate diagnosis as to the source of our peritoneal infections and oblige us to consider carefully whether such cases as come under observation are safely operable cases at the time we see them and if not what the treatment should be until they may become safely operable.

As a surgeon and operator I am firmly convinced that early operations in all cases of this class are safer and wiser and more conservative of life than delay, that the operation adds little or nothing to the immediate danger in skilled hands and that the risks of the disease are vastly greater without operation than with it. This again is relatively most true of intestinal perforations, than of appendix infections, and least true of those of tubal origin. The time at which a particular case may be more safely regarded as inoperable can not be arbitrarily set down in hours or days, but must depend upon the differential diagnosis and the clinical signs. For example, the diagnosis being typhoid perforation, operation would be indicated in every case where the patient was not apparently about to die, because of the inevitably fatal result if he be not operated, the proportion of recoveries after operation fully justifying and demanding that he be given the one chance in about three for his life. If, however, the infection be of tubal or appendix origin and the peritonitis diffuse with a profound effect upon the heart and kidneys and other vital organs, it matters not how much or little time may have elapsed since the onset, that patient stands a better chance for his life without operation than with it and in my opinion

* Read at the meeting of the Denver and Arapahoe County Medical Society, Feb. 25, 1902.

such a case should be pronounced inoperable. Occasionally, though very rarely, such cases recover after operation, but always in spite of it and not because of it. The many untimely operations on such cases, with the frightful mortality attending them, is largely responsible for the prevailing public opinion that such operations are usually fatal. The newspapers invariably announce death from the operation and not from the disease. Without operation such patients' chances are unquestionably better and if they must die the surgeon is relieved of the unpleasant odium of contributing to that end, and the rule of "the greatest good to the greatest number" is observed, inasmuch as patients presenting conditions favorable for operation will not be deterred by false notions of its gravity. Patients must learn that it is the disease that kills and not the operation and they can be so taught only by the performance of operations on operable cases and the treatment of inoperable cases by other and far better methods.

If we accept the pathology of these grave cases as I have outlined it and apply the facts to the treatment of diffuse peritonitis, some radical changes must be made in our views of the medical treatment as well as in our opinions of the saving virtues of the knife. If we admit that localizing and circumscribing an infected focus or even a considerable area of infected peritoneum is favored by the physiologic rest of the abdominal viscera and that freedom from motion and commotion in the peritoneal cavity predisposes to limitation rather than diffusion of the disease, we must adopt those means that lead to that end.

To Dr. A. J. Ochsner, Chicago, is due the credit of formulating and proving in practice the rational treatment of these terrible cases of diffuse peritonitis, cases that we must learn to pronounce inoperable as I have suggested. Ochsner's "Chairman's Address," delivered before the Section on Surgery and Anatomy at the 52d annual meeting of the American Medical Association and published in THE JOURNAL A. M. A. of June 22, 1901, states his position clearly and I beg leave to quote such passages as seem to lend force to this plea for its wider acceptance and adoption as the best method of treatment for such conditions. He says:

"It is a fact which has been demonstrated a great number of times that peristalsis does not occur unless food or cathartics are introduced into the stomach. * * * *

"Theoretically then, the disturbance which is to be feared to so great an extent is caused by the presence of food or cathartics in the stomach and its logical remedy would be to absolutely prevent the introduction of any form of food or cathartics into the stomach, and the removal by gastric lavage of any portion of food which may be retained in the stomach at the beginning of the attack.

"It may be necessary to perform gastric lavage twice or at most three times in order to entirely remove remnants of food which may have regurgitated into the stomach from the small intestines by reason of return peristalsis. * * * *

"It is true that a few surgeons have reported failures with this method, but an investigation of their treatment in each instance has shown that they disregarded one of three cardinal points in the treatment. They either gave just a little liquid food by mouth, or they gave some form of cathartics, or disturbed the rest of the intestines by giving large enemata, or they neglected removing the stomach contents by gastric lavage."

From his conclusions we may abstract the following as being most important:

1. Peristaltic motion of the small intestines is the chief means of carrying the infection from the perforated or gangrenous appendix to the other portions of the peritoneum, changing a circumscribed into a general peritonitis.

2. This can be prevented by prohibiting the use of every kind of food and cathartics by the mouth and by employing gastric lavage in every case in which there are remnants of food in the stomach or intestines above the ileo-cecal valve, as indicated by the presence of nausea and vomiting or meteorism.

3. The patient can be supported by the use of concentrated predigested food administered as an enema, not oftener than once in four hours and not in larger quantities than four ounces at a time.

* * * *

6. In all cases of this class, gastric lavage should be practiced in order to prevent the absorption of decomposing material from the alimentary canal.

* * * *

11. The treatment does not protect the patient against a subsequent attack.

12. It does not contra-indicate the removal of a diseased appendix before the septic material has extended beyond this organ.

13. It is indicated in all intra-abdominal conditions in which it is desirable to prevent the distribution of septic material by means of peristaltic motion.

14. The laity should be taught to stop feeding and giving cathartics to patients suffering from intra-abdominal diseases.

His results are conclusive; he reports:

"From Jan. 1, 1898, to May 1, 1901, I have operated upon 565 appendicitis cases which I have divided into three groups: 1. Those who enter the hospital suffering from diffused peritonitis. 2. Those who enter the hospital suffering from gangrenous or perforative appendicitis. 3. Those who enter the hospital suffering from recurrent appendicitis in the interval between attacks or at the beginning of a recurrent attack when the infectious material was still confined to the appendix. Of the first class I treated 18 cases with 10 deaths, 55.5 per cent. mortality; of the second class I operated on 179 cases with 9 deaths, 5 per cent. mortality; of the third class I operated on 368 cases with 1 death, one-third per cent. mortality; total 565 cases, with 20 deaths, 3.5 per cent. mortality. These statistics contain all patients who entered the hospital suffering from appendicitis, even those who died a few hours after admission from general peritonitis."

These statements are so clear, the conclusions so logical and the statistics so conclusive that it would be "painting the rose" to attempt to embellish them. I desire to add, however, that in the few cases in which I have had the opportunity to try Ochsner's plan of treatment the results have been most gratifying.

I wish to cite the case of a patient recently seen and so treated. This lady had a history of an old pelvic infection of tubal origin with a number of acute exacerbations in which she had been very ill, but never so ill as now. She was a patient of Dr. John C. Graham, with whom I saw her at St. Joseph's Hospital. Her temperature was 103.3 and pulse 130. The character of the pulse was bad. She was enormously distended, vomiting constantly a brownish fetid fluid with a distinct fecal odor, and the tenseness and tenderness of the whole abdominal wall was extreme. Her eyes were rolled up and her expression was that of one with but a few hours to live. I pronounced the case inoperable and urged the institution of the Ochsner treatment, starting in at once to wash the stomach and get rid of the fearful depressing effect of the toxemia incident to fecal regurgitation, for in my judgment this persistent nausea, depression and toxemia is in many instances quite sufficient of itself to determine the fate of the patient. The lavage had to be repeated. Absolutely nothing was permitted by mouth; rectal feeding was begun, and sharp hypodermic stimulation with strychnia and atropia was maintained. The results so far as

pulse and temperature were concerned were prompt and good, but the greatest improvement noticed was in the early disappearance of pain, vomiting and nausea, of tenseness, tenderness and distension over the abdomen and of the restlessness and anxiety so painfully evident in every movement and look. She recovered and is now about ready for an interval operation which offers her every possible prospect for health and longevity.

I must add just a few words condemning two drugs frequently prescribed in peritonitis: 1. I desire to endorse absolutely all Ochsner says about the harmful effect of salts in this disease and, judging others by myself, I take it that the habit of starting the treatment of these conditions with salts will be the hardest lesson the physician will have to unlearn, for that plan is part and parcel of the fixed routine of 95 physicians in 100. It will be even more difficult to impress the laity with the importance of leaving off the salts. 2. Opium, as frequently ordered, is also to be condemned. It does arrest peristalsis, to be sure, and some of you will say that it favors the very objects I seek; but unfortunately it does much more and in those respects its effects are so supremely injurious that the sum of its action is far from good. The point of this matter is, however, in the fact that, if the lavage and absolute fasting are maintained, both the salts and the opium are quite unnecessary, as the intestinal and stomach contents are removed and the peristalsis arrested by a better, simpler and far safer proceeding. This does not preclude the moderate use of morphin and codein hypodermically for the relief of pain, anxiety and restlessness in the early stages of the disease and its treatment, but if the lavage, fasting and avoidance of cathartics is strictly maintained the necessity for anodynes is soon past.

SUMMARY.

1. The treatment of septic peritonitis by surgical measures on the one hand or by rational medical measures on the other must be determined in each case first through a carefully-made differential diagnosis as to the source of the infection; second, through an estimate of the apparent virulence and diffusion of the infection, and third, through consideration of the elapsed time since the infecting material was injected into the cavity.

2. Infections from the intestines, vermiform appendix and oviduct are apt to be dangerous in the order given, because of the relatively greater mobility of the first and then the second and third, and of the greater relative distribution of their contents, which favors and promotes diffusion of infection and prevents plastic closure of the leaking viscus.

3. Physiologic rest of the intestines favors limitation of the area of peritoneal involvement and the saving of life, and is best attained by the maintenance of an empty bowel and the avoidance of cathartics; this means lavage, fasting and no salts.

If enemata are used for clearing the rectum, as may be required, they must be small in amount and injected with the utmost care from a low bag.

4. Cases of diffuse peritonitis with profound local and general symptoms must be regarded as being inoperable, inasmuch as the interests of the patient and the requirements of good surgery both demand that untimely surgical measures be not employed where better results may be had with simpler and safer ones.

5. Early operation, before diffusion has taken place, is safe and in most instances to be advised if the environment be favorable and an experienced surgeon at hand. Interval operations are certainly advisable after recovery from a diffuse peritonitis from any source.

THE NEUROSES OF THE HEART.*

HERMAN H. HOPPE, M.D.

CINCINNATI, OHIO.

In presenting for your consideration the subject of functional heart affection, I have a two-fold object in view: First, to illustrate by appropriate cases the undoubtful forms of heart neurosis, and secondly, to call your attention to borderland conditions where we are frequently in a quandary as to whether the case would be classified as myocarditis or whether the cause lies in a functional disturbance of the nervous mechanism of the heart's action.

The subject of myocarditis and its clinical phenomena have lately been the subject of much discussion and the chronic form at least is of much interest to us, especially in our office practice where it often is important to know, and difficult to determine whether a given irregularity of the heart is of organic or functional origin. In the same way, when diseases of the muscular walls or of the valves do not enter into consideration at all, it is often impossible to determine whether the nervous derangement of the heart's rhythm is of an organic or functional character. If we omit from our consideration the subject of fevers and direct chemical poisons affecting the heart, we will render the subject more circumscribed and at the same time not detract from the interest in the matter. Various factors are essential to a normal condition of the heart's action. The muscles must be sound, the valves normal, the nervous mechanism perfect, and the heart must be in its usual position. When any one of these conditions is altered, the heart's action becomes changed, irregular, rapid, slow, tumultuous.

A nervous affection of the heart is caused by a faulty condition of the nervous system locally in the heart, the nerves leading to the heart, their center in the medulla, or by what is more frequently the case, by a derangement of the nervous system as a whole, such as we see in neurasthenia and hysteria.

The nervous ganglion system of the heart may be the central point of the disease, and according to Krehl, although this is still in doubt, future investigation may confirm this idea. The nervous condition of the heart is surrounded, as a rule, by all of the general and special signs and symptoms of neurasthenia and hysteria, but sometimes it is the only symptom. In order to understand the neuroses of the heart it is necessary to give a brief survey of its physiology. Twenty years ago the physiology of the heart was looked upon as a closed chapter; the Traube theory was universally satisfactory. He taught the two-fold action of the heart: *a*, the muscular motor system, *b*, the regulator system, viz., the accelerator influence of the sympathetic and the depressor influence of the vagus. To say that the theory is overthrown, at least in part, is to give you old news. Gaskell, Woolbridge and Tigerstead were the first to show that the experiments on which muscular theory was based were faulty, but it remained for His, Jr., Romberg and Krehl to put forward and apparently substantiate the theory of the antonomy of the heart. Engelman in a complete paper gave the theory its present standing. The myogenic theory of the heart's action is critically reviewed in an admirable paper by Leyden. It teaches that the heart is practically one muscle fiber with the power of automatic action. The ganglion cells and all the nerve fibers of the heart are sensory in char-

* Read at the Cincinnati Academy of Medicine, Dec. 16, 1901.

acter. Carl Huber of Ann Arbor in an admirable paper which has the support of Waldeyer, tries to show that nerve fibers do enter and terminate in the nerve fibers of the heart by a small knob-like termination. But the consensus of opinion is against this theory. While the heart is rich in sensory fibers and ganglionic cells there are no motor fibers, no motor centers; the first decided blow to the neuron theory. The motor stimulus comes from the blood itself, perhaps from the chlorid of sodium alone. Kronecker, who had performed an experiment of pricking the center of the heart just below the aortic valves and thereby throwing the former into an irregular and tumultuous action, and finally causing it to stop altogether, seems to have found a motor center. But the most careful investigation, however, failed to reveal any accumulation of cells or nerves in this locality, and as long as ten years ago at the Berlin International Congress he explained the result by the irritation of the vasomotor nerves of the coronary artery. While the rhythm of the heart's action is automatic, this can be increased or diminished by influences, chemical, physical, or psychical in character, coming either through the sympathetic nerve or from the vagus.

We can divide the neuroses of the heart into three divisions: 1, neurasthenia cordis; 2, tachycardia; 3, bradycardia.

NEURASTHENIA CORDIS.

Under the head of neurasthenia of the heart various manifestations are seen. We have: *a*, typical neurasthenia of the heart, *b*, arrhythmia of the heart, *c*, pseudo angina pectoris, *d*, nervous bruit. Of these conditions, the neurasthenic heart is the best known and the most frequently encountered. This condition of the heart rarely occurs as the only sign of the neurasthenia. It is the local manifestation of a general condition. The neurasthenic condition being present, no matter what the cause, the local phenomena on the part of the heart are usually the product of the psychic influences. The most frequent condition which we see is the cardiac hypochondria, fear of heart disease. It is usually based upon the local precordial sensation produced by palpitation, irregularity or pain. Fear is the predominant psychic element of neurasthenia and the fear of heart disease is often combined with a marked disinclination to examination for fear of having apprehensions confirmed by the physician.

Palpitation, while frequent, is not an invariable sign of a neurasthenic heart. Its origin is often chemical or mechanical, due to displacement by a distended stomach. But when it is accompanied by a sense of fear and anxiety, I should say that it is at least associated with a general neurasthenic condition. Palpitation may occur without any cause whatever, often in the middle of sleep. It is associated with precordial distress, varying in degree from a slight pressure to pain so crucial and severe as to simulate angina pectoris. At the same time there is great mental distress, a pallid, moist countenance, and facial expression of great anxiety. At times the palpitation and precordial anguish is associated with a sense of constriction in the throat, a sense of strangulation which makes the patient jump from the bed, often from a deep sleep, into the middle of a room, uttering guttural noises or rushing to a window and throwing up the sash for air. These attacks come on suddenly and last from a few minutes to an hour or more. These paroxysms are only one phase of the neurasthenic heart. In some cases the heart is constantly twenty to thirty beats above the normal and there is a sense of dissatisfaction with the breath taken, a constant effort to breathe deeper and a feeling that relief would be attained if a deeper inspiration could be made. This dyspnea may last for hours, days, or even weeks, the only relief being obtained by sleep.

The typical neurasthenic heart is weak, irritable and easily exhausted. When at rest the pulse is normal, but the slightest exercise, such as stepping up two or three steps to a platform, will raise the pulse rate from twenty to fifty beats per minute without any discomfort to the patient. In less than a minute after the patient has come to a halt, the pulse rate returns almost to normal. The same result is often produced by psychic influences, by coming into a physician's office and being examined. The sphygmographic tracing will show this weakness and irritability of the heart. The worst case of neurasthenia that ever came under my observation was a blacksmith, who worked daily at the forge for a whole year while he was under treatment. His pulse was so irritable, weak and rapid that the mere walking into the clinic in the presence of the students raised his pulse rate to 120 or more. This shows that there are exceptions to the rule. Just as irritable weakness, whether in the mental or physical sphere, is the characteristic of neurasthenia, so it is also of the neurasthenic heart. Krehl raises the question whether nervous affection can produce changes in the size of the heart. If so, how often and to what extent, and can it produce hypertrophy or dilatation? We might answer at once that when hypertrophy and dilatation are present there is an organic heart lesion, a diseased condition of the muscle itself. At present, however, there can be no certainty upon this point, principally because autopsies in nervous subjects are exceedingly rare. Krehl says that he has seen dilatation of the heart especially in masturbators and that with a cessation of the habit the dilatation has disappeared. He has also seen dilatation occur in ordinary neurasthenic paroxysms and disappear with the cessation of the attacks. Theoretically the explanation is very plausible. It is well known that an irritation of the vagus nerve has marked influence on the tone of the heart muscle. Why should not psychic influences have the same effect, the dilatation being the result of diminution of tone. Krehl is not so positive about the occurrence of hypertrophy; he thinks that he has seen it, but does not wish to place himself on record because of the difficulty of diagnosing small degrees of hypertrophy. Before the diagnosis of dilatation or hypertrophy can be made in neurosis of the heart, we must carefully exclude all organic lesions and must likewise bear in mind that we may have at the same time both an organic lesion and a neurosis. It is well to remember, however, that we may have as a result of simple neurosis of the heart undoubted dilatation and perhaps hypertrophy.

ARRHYTHMIA CORDIS.

In palpitation of the heart under the influence of psychic emotion, there is frequently not only an increase in the rhythm but there is a decided irregularity both in the rapidity of the action as well as in the occurrence of intermissions, and when the heart quiets down again we have a regular rhythmic pulse. In arrhythmia, on the other hand, we have a pulse that is irregular in rhythm, as well as intermittent, in the absence of all excitement, psychical or physical. Kronecker's experiment seemed to indicate that the cause of the irregularity in nervous patients may be due to some vasomotor disturbance of

the coronary circulation. Directly or indirectly, no matter how, the cerebrospinal system regulates the force and frequency of the heart, but the rhythm is the peculiar inherent automatic quality of the heart muscles and nerves. The most frequent cause of arrhythmia therefore is either a diseased condition of the coronary arteries or myocarditis. There can, however, be no doubt that we frequently find arrhythmia as a functional affection of the heart. Husley has shown that even in apparent health, variations not at all physiological occur, but marked arrhythmia to the point of intermitting is always pathological. The nervous heart may be intermittent; we may have a pulse bi-geminus, or tri-geminus, or delirium cordis. All of the cases that I have seen have been neurasthenia with marked vasomotor disturbance. The great difficulty in neurasthenia lies in excluding myocarditis or organic nervous trouble. Certain cases had been diagnosed as Graves' disease but this was held to be untenable because of the irregularity of the heart, and of the fact that at times the heart's action was reduced to 80 beats or less per minute which never occurs in the former affection. The sphygmographic tracing of Graves' disease with a pulse rate of 130 will illustrate the difference in the two conditions. The rhythm of the heart is always perfect in Graves' disease. Myocarditis and disease of the coronary artery must be ruled out and this can only be done with great difficulty, especially in the start. We must rule out all acute diseases which might have caused myocarditis and arterioselerosis.

Normal pulse.

Krehl lays much stress on allorhythmia, viz., an intermittance every fourth, sixth or eighth beat, recurring regularly. The intermittence of myocarditis occurs with great irregularity. In nervous arrhythmia there is a marked consciousness of the irregularity, which is usually absent in organic heart trouble. Arrythmia of nervous origin sometimes disappears under excitement, while bodily exercise invariably increases the irregularity in myocarditis. Myocarditis is, as a rule, associated either with hypertrophy or dilatation, whereas in arrhythmia it is the exception. We must remember, however, that patients with myocarditis may have neurasthenia, and very often the same cause which produced the neurasthenia may also produce a myocarditis, e. g., influenza. In cases of this kind, time alone will clear up the doubt. Neurasthenic patients may have arteriosclerosis and this may complicate the diagnosis. Each and every symptom and sign should be carefully weighed in the balance and even then we may remain in doubt as to the exact nature of the arrhythmia. We can see the importance of a careful diagnosis by the bearing which it has on the treatment, for in neurasthenia an outdoor life is demanded and a gradually increasing amount of exercise, which may prove fatal to the case of selerosis of the coronary artery or myocarditis.

NERVOUS ANGINA.

The nervous ganglia and nerves of the heart are, according to present teaching, purely sensory and therefore we may have in the heart, in addition to the other disturbances of sensation, distinct pain. This pain may occur in paroxysm, simulating neuralgia, or it may be more or less constant with periodic exacerbations lasting from minutes to hours. This pain now and then occurs independently of any organic heart trouble and is known as nervous angina pectoris. There is no better authority than Romberg and he holds, in view of the many negative autopsies, that angina pectoris is always a neuralgia of the heart, that aortic stenosis and sclerosis of coronary arteries are merely contributing causes. There is even much dispute as to the seat of pain, the vagus, sympathetic, phrenic, intercostal nerves and the spinal cord having been looked upon as the seat of pain by undoubted authorities. I have seen one case of mild alcoholic brachial neuritis of the left arm which was associated with periodic attacks of precordial pain, radiating into the shoulders, which Oppenheim of Berlin saw with me and confirmed the diagnosis of pseudo angina pectoris. Prolonged rest and withdrawal of alcohol has up to the present time relieved the attacks. We are on very uncertain ground when we view the pathology of angina pectoris, and whether we hold the theory of coronary disease, of neuritis or neuralgia, we have undoubted authority to uphold us in our opinion. The most widely accepted view, however, is that true angina is caused by organic changes and most frequently by atheroma of the coronary artery. Angina pectoris, like tachycardia and bradycardia, is a symptom and not a disease. My object is not to treat of angina as such, but merely a pseudo-angina occurring in neurasthenia, which has a very close resemblance to the true form.

Normal pulse. case of brain exhaustion.

Whittaker says with truth that precordial pain, no matter how great its severity, does not constitute angina. We must have associated with it dyspnea, great anguish, mental anxiety and the fear of impending death. The cardiac crises of locomotor ataxia are purely neuralgic in character. We may have mild attacks of reflex angina arising from various disturbances of the liver, pelvic and gastro-intestinal canal. When angina is seen in alcoholic patients, I should hesitate to make the diagnosis of a purely functional neurosis. We may have a neuritis or even coronary arterioselerosis. Tobacco, tea and coffee may produce attacks of pseudo-angina.

Since pain alone, its intensity, location and duration are the same for true angina as for the false we must look around for some differential point. True angina usually occurs in individuals who have other evidences of organic heart lesions, muscular or valvular. False angina occurs in individuals who are neurasthenic or hysterical. In the attack this point will not avail much, but outside the attack, in the interval, it matters a great deal.

Huchard gives the following points: First, every angina produced by an effort of any kind is true angina. Second, every angina which occurs spontaneously is false angina. Third, an angina which occurs in the night, though independent of effort, is a false angina. Nervous patients are not quiet during an attack. They walk up and down from chair to lounge, from lounge to bed, wringing their hands, lamenting and crying. The attack might be associated with other signs of neuras-

thenia, as palpitation of the heart. Areas of anesthesia may be present. Pain may affect the whole left side. Neurasthenic cases are often associated with typical neurasthenic breathing. Most functional, reflex or neurotic anginas occur in young individuals; true angina in the old. Hysterical attacks of angina are often associated with typical hysterical mania, in which delusion of the senses of sight are very frequent, always being absent in true angina.

BRUIT AS A NEUROSIS.

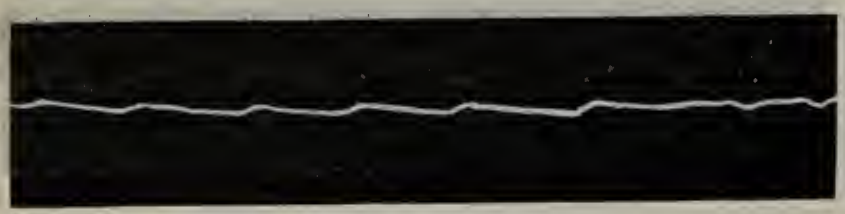
Can a purely functional change in the rhythm of the heart produce a bruit? We see bruit frequently in the

Neurasthenia cordis.

various forms of anemia and in chorea and attribute it to the quality of the blood. But what ground have we for this assertion? If it be true, why do they not occur in all cases of anemia? Is it not just as probable that in these cases there is some disturbance of the mechanism of the heart, which produces the bruit or some anomaly in the muscular contraction which leads to a temporary faulty closure of the valves?

The following is a case of nervous bruit:

Mr. G., age 41, married, three children, has always been



Neurasthenia cordis.

healthy. No evidence of venereal disease, never sick, is applying for life insurance, was examined by Dr. Minor and myself at patient's office. On examination of the heart, a loud bruit was heard, even before the ear or the stethoscope was applied to the chest. It could be heard at least an inch from the chest. The heart was found normal in size and location. Its action was strong, somewhat rapid, pulse 100. Second sound slightly accentuated. The examination in other respects perfectly normal. Patient seemed only slightly excited. Urinalysis negative. Insurance refused. Second examination made in my office.

Neurasthenia cordis.

Heart perfectly normal in size and sound. No bruit. Patient attributed the disturbance at the examination twenty-four hours before to a dinner which he had attended on the night previous. On demand of applicant, the medical director of the insurance company came from New York and a joint examination was made after a lapse of ten days, the heart was again found normal, and the insurance granted in full amount.

It is difficult to explain, and we have not the time to go into details concerning the numerous theories that have been advanced, to explain the nervous derangement of the mechanism of the heart action.

Krehl, Martius and others look upon the result of physiological experiments on animals and their application to the human heart with much distrust, not to say contempt. Very little reliance is placed by them upon the direct influence of the vagus and sympathetic nerves in the production of derangements of the heart's action. The whole subject is still in obscurity, but they seem to lay more weight upon the ganglionic system of the heart itself as the seat of all disturbances of action. Barker believes that the experimental and fetal researches of His, Jr., and Romberg have found a satisfactory anatomical basis of the physiology of the nerves of the heart and a starting point whence perhaps those puzzling clinical problems in connection with the cardiac neurosis may be advantageously approached. His, Jr., in his illustration of the ganglionic system of the heart, has likewise shown a wonderful blood supply of the ganglionic system. "Every ganglion is surrounded (as Whittaker so beautifully puts it) by a thick network

Neurasthenia cordis.

of small blood vessels and numerous branches penetrating into its interior. Thus the heart ganglia are in no sense degraded by being denied the office of presiding over the motion of the heart. They have the higher one of perceiving the first influence of failing nutrition or toxic impression."

The neuroses of the heart are, as a rule, found in those forms of neurasthenia in which the vasomotor disturbances are most common. Patients with cold, moist hands and feet, with bluish-red discoloration of the skin of the extremities, the tache spinal, the pallid, easily flushed faces, are the ones who most commonly have the cardiac disturbances. It is not difficult to understand that if the arteries and veins surrounding the cardiac plexus are in the same state of passive distension and sluggish activity, how readily all the neuroses of the

Neurasthenia cordis.

heart can be explained on the ground of a deficient nutrition, producing a changed activity of the cardiac ganglia.

The prognosis and treatment of neurosis of the heart are essentially the same as in neurasthenia, the discussion of which we will not be able to enter here.

TACHYCARDIA.

Nothnagel, Bouveret and Martius have made known the symptom complex, which we designate as essential tachycardia. Tachycardia is a symptom of various affections and not a disease; it occurs in a moderate degree in various organic heart affections; in any disease of the neck or mediastinum compressing the vagus; in central disease of the medulla and in poisonings. But it occurs also under circumstances in which it is the essential symptom of a paroxysmal attack, which has come to be recognized as a distinct affection occurring periodically in individuals otherwise well. In its true form

it has to be encountered but once to dispel any doubt as to its right to a separate classification. Real tachycardia occurs in individuals who are, to all intents and purposes, well between attacks. In others there has been found a nervous diathesis without there being present any marked hysteria or neurasthenia. The attack comes on suddenly, the individual feels a sensation of a sudden start or a darting pain in the chest, then a sense of fatigue, fear and anxiety. He goes to bed and lies perfectly quiet, but when the attack lasts a long time, there is more or less restlessness. Oppenheim, however, reports one case with exceedingly high pulse, the patient being able to go about his business and even walk for miles in an attack. The main symptom is the pulse and the pulse rate. I should say from the few cases that I have seen, that in genuine cases the pulse rate is never below 160, usually between 180 and 220 and Krehl says, as high as 300 per minute. The pulse is weak,

Case of obesity in young woman—no neurasthenia.

feeble and small. The heart's action is feeble and the impact against chest wall scarcely perceptible. Binswanger, however, reports a case with a pulse rate of 150, pulse hard and with strong impact against the chest wall. The heart sounds are clear, but so rapid as to be almost indistinguishable. There is no bruit. The presence or absence of dilatation of the heart is a much discussed question. I have seen one case with acute dilatation of the heart in which there were all the symptoms of the typical paroxysmal attack of tachycardia. In the other two cases reported below, I was unable to find any dilatation. Martius claims that dilatation is always present. Krehl says that it is not and that he has seen cases in which it was not present. There seems to be an agreement among authorities, however, that muscular weakness and loss of muscular tone is an

Pulse tracing one hour after admission, October 10.

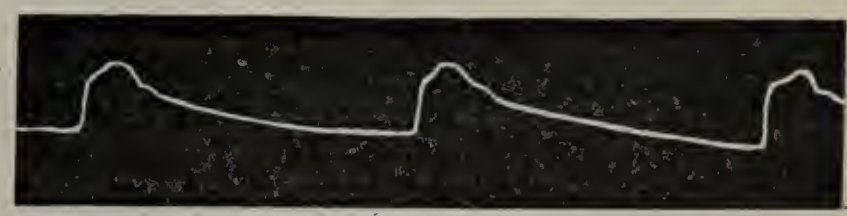
essential condition of the attack and Krehl argues that if this is the case, theoretically at least, it would not be improper to imagine that an acute dilatation does occur and that while it may be hard to detect by percussion, it is very important to bear this in mind in making a prognosis as to the individual attack. The whole discussion, however, proves the first statement of this chapter, viz., tachycardia is a symptomatic manifestation of various conditions. The following three cases will illustrate the various conditions under which this may occur:

Miss L., age 29, single, dressmaker. Mother well, father dead, was nervous. Has one brother who is a periodic drinker, who is nervous and hysterical. Patient has always been well, has worked hard and steadily at her occupation, has always been of a nervous temperament. Present trouble began two years ago. The attack always begins with palpitation of the heart, a feeling of oppression on the chest, difficulty of breathing, great anxiety, restlessness, and much physical exhaustion. First attacks lasted but a short time, never more than a half hour, returning at intervals of a month. Each succeeding attack was longer and more severe. During the last year it was always necessary to administer a hypodermic injection of apomorphia, which would put an end to the attack. The last few attacks have lasted from three days to a week, during which period patient was confined to bed. On Dec. 5, 1899, I was called to see this patient. The attack has already been in existence for three weeks. It began suddenly like all the previous attacks with the following symptoms: Sudden feeling of oppression in cardiac region with sense of great palpitation. Intense apprehension, restlessness, pallor and dyspnea. Unable to sleep, unable to eat, vomits frequently. The violent palpitation has stopped but twice in three weeks and only for a few hours at a time. Examination: Patient is very pale, lips white, eyes sunken, with fear, anxiety and restlessness on the face. Complains of violent action of heart and the feeling of suffocation. Action can be seen through chest wall; the apex beat is normal; no bruit can be detected. Pulse is over 200 per minute and usually so rapid that it is impossible to count it. No hyper-

Taken five seconds later than preceding chart.

trophy or dilatation. Radial pulse very thin and rapid, not compressible. No enlargement of the liver, no disturbance of the peripheral circulation. In previous attacks hypodermic injections of apomorphia gave prompt relief, but in the present attack none. In the sixth week the patient had a sudden attack of right side hemiplegia with difficulty of pronunciation. In the course of a week the hemiplegia improved, but there was no change whatever in the tachycardia. On the seventh day after the onset of hemiplegia, the patient suddenly died. It will be seen that this was an extraordinary case of tachycardia. The early attacks seemed to be essential, but judging from the fatal termination, preceded by the hemiplegia, there must have been a bulbar lesion which produced both the tachycardia and the sudden death. No autopsy could be obtained.

Case 2.—Infant, age 7 months. Parents are both healthy. Has one older sister and brother, both well. Has been well since birth. Three days ago had an attack of gastro-intestinal



Taken October 14.

disturbance. Vomiting and diarrhea. Bottle fed. Temperature 100, pulse 100. I was called at midnight. Child collapsed suddenly. The face is pale, the lips somewhat blue and cyanosed. Is unconscious. Eyes half open, respiration 48. Radial pulse at times absent, at others, faintly felt, very small, thready, easily compressed. Heart normal in size. Heart's action varies from 180 to a frequency at which it can not be counted. The liver is markedly enlarged. The body generally pale and limp. Salt water injection made hypodermically. Very little improvement. Injection of 1/180 gr. strych. sulph. gave prompt relief. Child recovered consciousness, pulse becomes stronger, 120 per minute. In 24 hours a similar attack. This, however, continues 12 hours, the pulse being constantly 180 and over per minute. Child unconscious, in state of collapse. Tendency to convulsions, with a scarcely detectable radial pulse. During the next two days has two similar attacks of short duration with recovery. The treatment in this case consisted of many neutral saline injections with three doses of strychnia strophanthus 3/4 gr. every 3

hours and ten doses of calomel gr. 1/20. Diagnosis, acute dilatation of heart.

Case 3.—Mrs. K., age 58, married, four children, has bad attacks of illness. For the past few months has been more nervous than usual. Has been under treatment for nervous indigestion. Complains of violent heart's action and a sense of prostration, great mental distress and fear of death. Her face is somewhat flushed and has an anxious expression. No pain. Pulse weak, small, thready, 190 per minute. No bruit, no enlargement. Gave seidlitz powder and potassium bromid gr. 30 every 3 hours. In four hours no relief. While sitting at bedside, without any apparent cause, the pulse suddenly dropped from 180 to 78 beats per minute. This change took place instantly. Has had in all three attacks. The second attack lasted twelve hours, the third, three hours. In each attack the relief came spontaneously. Last attack five years ago, since which time patient has been comparatively well, with the exception of more or less neurasthenia.

It is important in the individual case to determine the cause of the attack. Myocarditis is very often the cause

Case A.—Arrhythmia—irregular, violent, intermittent.

of tachycardia. In most cases there is some disease of the valves, coronary arteries or muscles, even dilatation or neuritis. While this is easily apparent on the autopsy table, it is very difficult to find during life. In essential tachycardia there is an absence of all indications of disease of the heart or nervous system in the intervals. In the attack we may find dilatation, but whether this is the cause or the effect is a matter of dispute. We must always remember the great difficulty that exists of diagnosing the slight deviation from the normal, either in the vessels or in the muscles of the heart. Martius says that all the attacks of tachycardia are the direct result of dilatation of the heart. Krehl takes a middle standpoint. The dilatation often follows the onset of the attack, may even be the cause, but is often absent. With Romberg he holds that the cause

When at perfect rest, pulse 72, irregular and intermittent.

is to be looked for either in a spasm or in a diseased condition of the coronary arteries, in a derangement of the nervous mechanism of the heart itself, and not of distant nervous system.

The diseased condition of the heart itself, viz., of the muscles, valves and arteries, can, at most, be only a predisposing cause, for, with the enormous frequency of the latter condition, tachycardia should be a very common instead of the rarest of cardiac affections.

Oppenheim has called attention to a group of symptoms which he says is due to irritation of the sympathetic nerves of the heart and of which tachycardia may be the most prominent symptom, viz., dilatation of the pupil on one side, wide separation of the eyeballs, pallor and reduction of the temperature of the face, with tachycardia. In making the differential diagnosis between essential tachycardia and that dependent upon disease, we must especially during the interval look for all those signs and symptoms which may point to an organic lesion of the muscles of the heart, general arterial sclerosis, disease of the medulla oblongata or the occurrence of one of the acute infectious diseases which might have caused a neuritis of the vagus nerve. Whittaker says the irregularity of the pulse during the attack would be an indication of dilatation of the heart. Fraentzel says that tachycardia due to irritation of the sympathetic can be cut short by morphia and that produced by vagus affection by pressure on the vagus (Whittaker).

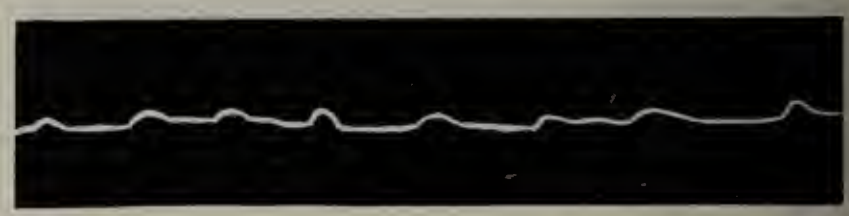
BRADYCARDIA.

This is exceedingly rare as a nervous affection. The bradus signifies slow—a slow heart. Bradycardia usually signifies a stenosis of the aortic valve, often complicated by myocarditis chronica or coronary artery sclerosis. There are at present two cases in the Cincinnati Hospital with pulses respectively of 32 and 36, both cases being of organic nature. In the clinical records

In paroxysms of palpitation, pulse goes as high as 140 per minute.

of the Cincinnati Hospital I have been able to find one case in the past ten years, also organic in character. A slow pulse of 60 or 64 is very rare, however. One of my patients who has been a neurasthenic for the past 20 years has a pulse habitually of 54 or 56. This patient has very marked attacks of palpitation and all the other manifestations of neurasthenia cordis, but only in paroxysmal attacks which occur at intervals of months, induced usually without cause, but at times by indigestion. The attack is invariably attended and followed by the fear of having organic heart disease, which is invariably dispelled by a formal examination and a positive statement to the contrary. Still I would not like to classify this case as one of bradycardia.

I have seen another case of slow heart in a neurasthenic with periods of intermittent pulse, rate 60, in



These last four tracings were taken at one sitting.

which no cause but a psychic one, the fear of heart disease, could be found. The intermittent pulse was present for a period of months. Tobacco was alleged as a cause, but its withdrawal or its continued use seemed to make no difference in the attack. We can also rule out myocarditis in this particular case. I have known him for seven years and he is still in good health with no evidence of organic lesion. I should look upon these two cases as unusual, because they occur in neurasthenia. Another patient now under my care for insomnia, fear of insanity and general nervous and physical exhaustion had a pulse of 54 for 10 days. At present it is normal.

Physiological bradycardia is seen often. Napoleon is said to have had a pulse of 40. Ruhlin, the pugilist, is said to have a pulse of 44, even after exercise. Bradycardia as a sign of organic heart disease or as a symptom of organic brain or cervical myelitis or injuries to the chord in the cervical region is not infre-

quent, but as a neurosis pure and simple it is exceedingly rare. Bradycardia is most frequently encountered in stenosis of the coronary artery. The bradycardia seen after the acute infectious diseases are probably due to mild myocarditis, while that always seen in conjunction with jaundice is probably due to the direct action of the circulating bile on the heart or on the nerve centers.

Reflex bradycardia is usually seen in gastro-intestinal disturbances and this is due to disturbance of the splanchnic circulation, throwing increased pressure and work on the heart. Attacks of bradycardia are described by nervous patients very frequently. These attacks are paroxysmal, not like tachycardia, but have more the character of palpitation or they may be associated with palpitation. The general signs are those of precordial pressure, anxiety, a sense of constriction, fear of suffocation and a subjective feeling as if the heart were beating very slowly and forcibly, combined with the fear of

Case of exophthalmic goiter, pulse 130, heart's action rapid, rhythm and strength normal.

its stopping altogether. The extremities become cold, the face pallid and covered with perspiration. In other cases there is distress in the stomach, nausea, retching, vomiting and subsequent collapse (Whittaker). The attack comes on suddenly and ceases suddenly. In milder cases there is simply abdominal distress, tenesmus, at times diarrhea. Sometimes bradycardia is associated with pain, which simulates very closely that of angina pectoris. Bradycardia is at times complicated with epileptiform convulsions. Whittaker says that these convulsions may be due to brain anemia, but he believes that the bradycardia and the epilepsy in the given case are both due to the same arrangement of the central nervous system. Before we can make the diagnosis of nervous bradycardia we must rule out all or-

Case of irritable, neurotic heart; pulse at rest, 80; under excitement, 130. Pulse regular and rhythmic, but action weak. Strong, muscular man.

ganic disease of brain, cord, heart or distant organs. The prognosis of functional bradycardia upon a neurasthenic brain is not unfavorable.

The treatment of bradycardia of a functional character is identical with that of neurasthenia. In the paroxysm we can use the various sedatives, bromids, asafetida and valerian.

BIBLIOGRAPHY.

Krehl: Specielle Pathologie and Therapie. Nothnagel, vol. xv, i.
His and Romberg: Fortschritte der Medicine. 1890, S. 374.
His and Romberg: Transac. Int. Med. Congress, Berlin, 1890.
Krehl and Romberg: Archiv für Experim. Pathologie, xxx, S. 49.
Leyden: Deutsche Med. Wochenschrift, 1898, No. 31.
Martius: Tachycardie. Stuttgart, 1895.
Bouveret: Revue de Médecin, 1889, p. 755.
Romberg: Herzkrankheiten.
Nothnagel: Wiener Med. Blätter, 1887.
Whittaker: American Practice of Medicine (Wood), vol. iv.
Kronecker: Trans. Internatl. Med. Congress, 1890.
Oppenheim: Lehrbach Der Nervenkrankheiten, 1900.

ACUTE CONGESTIVE OR INFLAMMATORY GLAUCOMA.*

CHARLES J. KIPP, M.D.
NEWARK, N. J.

Not long ago I was asked by a medical practitioner to see an old lady who had for some days been suffering from a bilious attack, and who, since the day before, was nearly blind. He thought, as the eye seemed to be pushed somewhat out of the socket and she was blind, that she had probably during the retching and vomiting broken blood vessels in the orbit and in the eye. I saw the patient soon after and learned that she had been vomiting almost incessantly for two days, that she had great pain in the left side of the head, in the teeth and the eye. She was greatly prostrated. On examining her eye, I found that she could scarcely see the flame of a candle held within a few feet of her eye. The eye was very sensitive to light. The eyelids were somewhat swollen. The eyeball was slightly protruded from the orbit. The ocular conjunctiva was greatly ingested and swollen and a fold of it hung out of the palpebral fissure. The cornea was very cloudy and its epithelium was rough; touched with a piece of paper it seemed less sensitive than normal. The anterior chamber was very shallow, the iris swollen, and the pupil nearly double the size of that of the other non-affected eye. The opacity of the cornea prevented an examination of the fundus. A faint red reflex was all that could be seen. The eyeball was very hard, much harder than the other one. I made the diagnosis of acute inflammatory glaucoma, and advised an iridectomy as soon as possible. I instilled a few drops of the solution of the salicylate of eserin, which had, however, but little effect. The iridectomy was done under ether anesthesia a few hours later; the pain and the vomiting did not return after she came out of the ether, the wound healed rapidly, and three weeks after the operation the vision was restored to the former acuity.

I have related this case here, because cases of this group of acute glaucoma are most likely to fall in the hands of the family physician. The incessant vomiting, the violent pain in the head and the prostration are usually attributed by the patients to some stomach trouble, a bilious attack, or some disease of the head. The loss of vision, if noticed at all, and the redness and painfulness of the eye are frequently looked upon as a cold in the eye and not part of the general illness, and the family physician is sent for. I have seen a number of such cases, and I must admit that in some of these cases the physician took the same view of the eye trouble as the patient, and discovered his mistake only when the eye was totally blind and beyond help. In the majority of cases of acute glaucoma the onset is not as severe as in the case related. The pain is not as violent, vomiting may be entirely absent, and the headache may be much less severe. The outbreak is, moreover, in many cases preceded by attacks of cloudiness of vision lasting from a few minutes to several hours. The attacks come on at irregular intervals and are usually thought to be brought on by a sleepless night, an attack of indigestion, overuse of eyes in near work or some emotional disturbance. A restful night often restores the eye to its previous good condition, at least in the estimation of the patient, but a careful examination often shows some impairment of central vision, or slight contraction of visual field after the attack. Dur-

* Read before the Newark, N. J., Medical and Surgical Society, December, 1901.

ing the fogginess of vision in these attacks the patient, looking at the flame of a candle or a lamp, sometimes sees a colored ring around it. This ring is separated from the flame by a dark zone, its outer limit is red and its inner green-blue. It is regarded as an interference phenomenon caused by the cloudy media of the eye. The attacks here described constitute, according to some authors, a premonitory stage of the glaucoma, but I believe that it would be safer to regard them as the first stage of inflammatory glaucoma and to perform an iridectomy at once.

The diagnosis is, as a rule, not difficult in uncomplicated cases. The increased intra-ocular tension and the dilated immovable pupil are pathognomonic of this disease. To ascertain the tension the patient is directed to look downwards without closing the eye; the surgeon then places the tips of his two index fingers close together on the upper eyelid and makes slight alternate pressure on the globe some distance behind the cornea. If the eye is in a normal condition, the tension of this should be ascertained first and then that of the other compared with it. If the patient's other eye is not in a normal condition, comparison may be made with the tension of a normal eye of another person of about the same age as the patient. It requires, however, considerable experience to recognize moderate variations in tension even in eyes that are not inflamed, and the difficulty is much greater if there is swelling of the lids and edema of the ocular conjunctiva.

Dilatation and immobility of pupil is found in no other acute inflammatory eye disease, and even here it is not developed till other symptoms of inflammation have been present for some time. The pupil is not always round; very often it is of oval form, the long axis being vertical. It does not contract when exposed to the light, or the movement is at least very sluggish. If the eye has previously been affected by an iritis and some of the adhesions between the pupillary margin of the iris and the anterior capsule remain, the pupil may be of very irregular form. Unless the case has been under observation from its very beginning, careful inquiry should be made as to whether a solution of atropin, scopolamin or some other mydriatic has not been instilled in the eye, as those would also produce such dilatation. The cause of the dilatation of the pupil is, according to some writers, due to anemia of the iris caused by the compression of the base of the iris between the congested ciliary processes and the cornea. If the pressure is long continued, paralysis and atrophy of the sphincter muscle of the iris result from the compression of the nerves of the iris.

The insensibility of the cornea present in severe cases is due to compression of the nerves of the cornea by the increased intra-ocular tension. Shallowness of the anterior chamber is rarely a conspicuous symptom and requires oblique illumination for its detection. In some cases, however, the iris seems almost pressed against the cornea. The other symptoms, as the swelling and puffiness of the eyelids, the injection and edema of the scleral conjunctiva, the opacity of the cornea, are seen also in other acute inflammatory affections of the eye. In severe cases of irido-choroiditis the cornea has often the same cloudiness "like glass breathed upon," or has in it numerous short opaque lines running in various directions and often at right angles to each other. There is, however, this difference between this cloudiness of the cornea of glaucoma and that of other diseases, namely, in glaucoma the haziness will at times develop and again disappear in a short time, while in the other affections it always lasts a long time. I have more than once seen this opacity disappear in glaucoma cases in a few hours after the instillation of a few drops of eserin. The cloudiness is evidently the result of a rapid increase in the intra-ocular tension in these cases. Sometimes the corneal epithelium is found to be rough in acute glaucoma and some writers have seen small vesicles on the surface of the cornea in such cases. Acute inflammatory glaucoma is rarely seen in persons under 35 years of age, in most cases the patients are over 50 years old. Women seem to be slightly more frequently attacked by this disease than men.

The predisposing causes of acute glaucoma include gout, rheumatism, syphilis, congenital imperfection of the eye, senile changes and heredity. As exciting causes are regarded: depressing emotions, sleeplessness, deterioration of the general health, great fatigue, and instillation of a solution of atropin or other mydriatic.

Whilst increased intra-ocular pressure has been universally recognized as the essential of glaucoma since MacKenzie's time, there still prevails considerable diversity of opinion as to the causes of this increase of the intra-ocular tension. By some writers it is held that it is due simply to a hypersecretion of the vitreous fluid caused by an irritation of the nerves of the ciliary body, which latter is generally supposed to supply this fluid. Others hold that it is the result of an exudation of serous fluid, from the inflamed ciliary process and the choroid. The opponents of these theories claim that hypersecretion and exudation alone are incapable of producing the increase of tension, as experiments on normal living eyes show that an increase in the volume of fluid and therefore an increase in the tension of the eye produced by the injection of a small quantity of fluid in the eye, is speedily removed by the absorption of the fluid and a return to the normal tension. The theory which seems to find most acceptance at present is that the aqueous humor, which under normal conditions is supposed to escape by filtering through the angle of the anterior chamber, is prevented from doing so by the closure or blocking of this outlet. This is the retention theory. It is said that obstruction of the angle of the anterior chamber, also called filtration angle and spaces of Fontana, is commonly found in eyes blinded by glaucoma, and if not entirely closed it shows at least signs of compression. Priestly Smith holds that primary glaucoma usually depends on some vascular disturbance which congests the choroid, ciliary body and iris, or upon a faulty relation of the lens to the parts around it, or upon both. He holds that "in elderly people the lens is relatively large and that the relations of the lens in small eyes are such as to predispose to compression of the filtration angle, especially during dilatation of the pupil. An obstruction in the region of the hyaloid and the circumlental space, which checks the escape of surplus fluid from the vitreous and leads to an advance of the lens, appears to be present in many cases. Through one or other of these causes, or several in combination, the ciliary processes are pressed against the iris and the filtration angle is narrowed or closed. The escape of the fluid is retarded and the intra-ocular pressure rises. The increasing pressure hinders the flow of blood through the choroidal veins and augments the swelling of the ciliary processes, this in its turn increases the compression of the filtration angle. We then see that the condition perpetuates and intensifies itself in a vicious circle. A typical acute glaucoma is an inflammatory disease in the same sense that a strangulated hernia is so, but not otherwise; it exhibits an acute ob-

struction of the circulation which can be cut short by the removal of the pressure but in no other way."

Others are of the opinion that the swelling of the ciliary processes from venous stasis or from inflammation causes their points to press against the posterior surface of the iris. Thus the root of the iris is pushed forward so far that it lies against the anterior part of the sclerotic and the margin of the cornea and later becomes adherent to it.

Laqueur thinks that in glaucoma we may have both hypersecretion and retention. He looks upon the ciliary body as a kind of gland, the nerves of which, under strong irritation, starting centrally, cause hypersecretion. This causes an increase of tension in the vitreous body chamber and in the posterior chamber. As a sequence, the iris is immediately pushed forward, and as a consequence of the increase of the tension in the anterior chamber which now also takes place, the aqueous humor flows from the filtration angle till the tension is equal in both chambers. The anterior chamber is now shallower, and the periphery of the iris is pressed against the margin of the cornea. The filtration angle is now narrowed, perhaps obliterated, and the further escape of the aqueous humor is made more difficult or is entirely prevented. While the hypersecretion continues, the signs of increased pressure become more manifest and the well-known picture of acute glaucoma appears. The true cause of glaucoma, he thinks, is of an extra-ocular nature, but predisposing conditions must be present in the eye, and as such he regards racial peculiarities, rigidity of the sclerotic and the hypermetropic form. The inflammatory symptoms and the anatomical changes he regards as secondary. A decrease of the venous outflow he does not regard as probable, as the veins of the eye contain but few muscular fibers and also because signs of stasis may be entirely absent in the mild premonitory attack. With regard to the nerves which regulate the secretion of the ciliary processes, he holds, we only know that they are not supplied by the fifth pair.

Stilling also believes that emotional disturbances increase the secretion of the intra-ocular fluid. In young people this is easily compensated, but in old people it meets with more or less difficulty because the compensatory channels for the outflow, the lymph spaces of the sclerotic and of the disc of the optic nerve, have been made impermeable through senile changes, namely, sclerosis. We must therefore look upon genuine glaucoma, he says, as a hypersecretion in senile eyes, that is, in eyes with contracted outlets. The augmentation of intra-ocular fluid is of itself a physiological process, only the eyes in which it takes place are no longer normal; in other words, they are no longer young. Something takes place here similar to senile hypertrophy of the prostate gland. If a youthful individual, from any cause, for instance much drinking, secretes an unusual quantity of urine, this hypersecretion does not cause the least disturbance because the excess can flow off without difficulty, but in an old man with contraction of the neck of the bladder, retention and its consequences follow. He denies that obliteration of the filtration angle is the cause of the increased intra-ocular tension, and regards it, if present, as the result of such increase. This view is held by many other writers.

Of the pathological anatomy of acute inflammatory glaucoma we know but little, as few eyes have been examined anatomically in the earlier stage of the disease. Closure of the filtration angle, due to adhesion of the iris to the periphery of the cornea, was found in most cases in which glaucoma had existed for some time. In more recent cases the angle was found not unfrequently open and in some of these cases there were absent also other causes of retention, such as sclerosis of the trabeculæ, emboli of pigment and obliteration of the sinus venosus scleræ. In the eye of a woman 54 years of age, removed on the eighth day after the beginning of an acute inflammatory glaucoma, Birnbacher found that the filtration angle was closed in several places; this was due to the union of the surface of the iris with the ligamentum pectinatum, which union did not, however, extend to the root of the iris. The anterior surface of the iris was inflamed. There was a diffuse serous choroiditis, as evidenced by an exudation, rich in albumin in all parts of the choroid. A pathological proliferation of the endothelium of the two upper vortex veins was found, an edematous swelling of the optic papilla and a slight depression of the lamina cribrosa. He and Czermack have found in chronic cases, well-marked signs of a past or present inflammation of the sclerotic and of the uvea, especially along the vortex veins and the scleral emissaries. These changes are designated chronic hyperplastic periphlebitis with consecutive endophlebitis, and their presence, they think, causes extensive disturbance of the circulation. This remains latent as long as there is compensation, but as soon as the compensation ceases to be complete, this becomes manifest as increased intra-ocular tension, and produces the picture of glaucoma. Others have found similar changes in the walls of the arteries and veins of the retina and optic nerve.

TREATMENT.

We have seen that mydriatics will sometimes bring on an attack of acute glaucoma, and will aggravate the disease if already present. It is therefore a good rule not to use atropin or other mydriatic for an inflammation of the eye, especially in elderly people, till you have assured yourself that the pupil is smaller than normally, and that the tension of the eye is not increased. As soon as you are convinced that acute glaucoma is present, eserin, either the sulphate or the salicylate, in one-quarter to one-half per cent. solution, should be instilled, and the instillation should be repeated at short intervals, till an iridectomy can be made. Eserin will occasionally increase the pain in the head by producing a superorbital neuralgia. If it does this, a 4 per cent. solution of pilocarpin must be substituted, although pilocarpin is by no means as efficient as eserin in contracting the pupil in acute cases. It is best not to prescribe either drug in a large quantity or to permit a renewal of the prescription, as I have seen a number of cases in which these drugs produced so much relief from the pain that the patient declined to have an iridectomy made, and did not consult me for subsequent attacks, but used the drugs in the belief that they were curing the disease, while in reality he was slowly becoming blind. Cocain in 3 or 4 per cent. solution may be used in connection with the myotics. It seems to relieve the pain and to do no harm. In addition to myotics and cocain, morphin should be given hypodermically in sufficient doses to produce sleep. In some cases the salicylate of sodium is also very useful in subduing this pain. Under medical treatment alone, as I have already said, an acute attack will sometimes pass over without leaving great impairment of vision, and in such cases the operation of iridectomy may be delayed for a while. But if no marked improvement is produced within a short time by these remedies, it will be necessary to make an iridectomy without delay, even

if great prostration from other causes would seem to prohibit it.

Iridectomy is the remedy par excellence in this disease; it has stood the test of time and the world owes a great debt of gratitude to the late Von Graefe for its discovery. While it is true that we may have good results from the operation if it is made within two weeks after the outbreak of the attack, there is no doubt that the result will be better the earlier it is made. Like other operations, iridectomy has its limitations; it can not restore the loss of sight and the contraction of the visual field that are due to anatomical changes in the optic nerve, produced by long continued or very rapidly increased intra-ocular pressure; all it can do is to remove the turbidity of the media and ischemia of the retina due to increased pressure. If both eyes are suffering from acute congestive glaucoma at the time the patient is first seen, the question arises: Shall we operate on both eyes at the same time or shall we operate on but one, and if only one, which, the better or the worse? Most operators of experience regard it as bad practice to operate on both eyes at the same time, as it is well known that the predisposition to chorioretinal hemorrhage and to malignant glaucoma, exists almost always in both eyes. The safest plan undoubtedly is to operate first on the worst eye and if all goes well to operate on the other some days later. I have been obliged to operate on both eyes at the same time and have had no reason to regret doing this. My practice has been in cases in which both eyes were affected, when first seen, to instill a 0.5 per cent. solution of eserin several times and if a marked contraction of the pupil follows in one eye, but not in the other, to operate first on the one least affected by the eserin and on the other several days later. If the eserin has no effect on either eye, I have administered a general anesthetic and operated on both eyes at the same time.

It is a well-known fact that soon after an iridectomy in acute inflammatory glaucoma the other eye which was apparently sound when the first was operated on, becomes attacked by the same disease. This occurred in several of my cases in former years. In most of these the symptoms subsided under eserin for a time. In the cases which did not yield to this drug, I operated at once. For several years I have instilled eserin in the sound eye before the operation and during this time the patient was in bed, and since then I have had no case in which the good eye was attacked while the patient was under treatment. Although months and even years may elapse before the second eye is attacked, it very seldom escapes entirely. With this fact in view, together with the fact that it is much easier to make a satisfactory iridectomy on a sound eye than on one that has glaucoma, some of the German surgeons do not hesitate to advise an iridectomy on the still healthy eye, before even the premonitory stage is present. Commenting on this fact, Czermaek[1] says: "One can also advocate a prophylactic iridectomy on an eye that shows only signs of a disposition to glaucoma, that is, if it has a markedly shallow anterior chamber and the other is suffering or has already suffered from glaucoma." More recently De Schweinitz has pleaded for a prophylactic iridectomy under the same circumstances, in a paper which he read before the American Ophthalmological Society in 1901. Bearing in mind the accidents that have happened to me and others in eye operations, I should hesitate to urge upon my patients a prophylactic iridectomy unless they were obliged to go to some remote region where competent help could not be had.

1. Augenärztliche Operationen, Part 7, p. 762, 1898.

METHOD OF OPERATING.

To make a large and clean iridectomy in this disease, with much chemosis, a very shallow anterior chamber and a widely dilated pupil, is one of the most difficult tasks the ophthalmic surgeon is called upon to do. If great chemosis is present and the pupil can be contracted by eserin it will sometimes be to the best interest of the patient to delay the operation till the chemosis has somewhat subsided. A general anesthetic will be required in many of the acute and chronic inflammatory cases, though the subconjunctival injection of cocain and eucain are said to produce sufficient insensibility to permit of an accurate operation. Instillation of cocain or holocain, even if combined with solution of the extract of suprarenal glands, rarely reduces the sensibility sufficiently in these cases.

Unless the iris is more disorganized here than elsewhere the iridectomy should be made upward, so that the coloboma lies under the upper lid. I nearly always use a narrow cataract knife for the incision, enter the sclera about one mm. from the clear corneal margin and make the counter-puncture at a corresponding point. The section should have a length of 8 mm. In cutting out, the edge of the knife is turned slightly forward, but should come out in the sclera and make the conjunctival flap as narrow as possible. In cases of very narrow shallow anterior chamber it is not always practical to make an incision of this length and one must be satisfied with a smaller one. The iris is seized at about the middle of its width, drawn straight out and cut close to the lips of the wound by two or three successive strokes of the scissors, first close to one end of the incision, then at the middle, and last at the other end. If the sphincter corners do not return to their natural position, a blunt probe should be carefully introduced into the anterior chamber to disengage the incarcerated iris from the angles of the wound. Rubbing the adjacent cornea will only rarely accomplish this. Some surgeons prefer to make the incision with a broad lance-shaped knife and to tear the iris from its root. I have tried both but have given them up.

Of the accidents during the performance of iridectomy, wounding of the iris and lens capsules are most frequent. If the point of the knife becomes engaged in the tissue of the iris slight lateral and forward movements will usually disengage it. If not successful in this, the knife must be withdrawn and the wound be enlarged with a fine pair of curved scissors. The anterior capsule may be wounded by the point of the knife, by pressure of the back of the knife through the iris intervening, by the iris forceps during manipulation to reduce the incarcerated iris in the angles of the wound, by the sudden advance of the lens through the sudden reduction of pressure. The development of cataract in a glaucomatous eye is fraught with the gravest consequences and extraction of the lens is usually necessary. Hemorrhage in the anterior chamber is of frequent occurrence after iridectomy and does not interfere with the healing process. Prolapse of vitreous is not often seen during the operation and its occurrence does not seem to do much harm.

The after-treatment pursued by me in the last few years has been very simple. I keep the patient in bed till the wound is closed. I place an aluminum shield over the eye; cleanse the eye daily with sterilized water

and instill a drop of the atropin solution after each dressing. I leave the other eye open and instill one drop of a one-quarter per cent. eserin solution in it once daily. This plan of treatment is much more comfortable to the patient than the bandaging of both eyes and the healing of the wound seems to progress as speedily as under the bandage.

CASE OF CESAREAN SECTION UNDER SPINAL ANESTHESIA.

S. R. HOPKINS, M.D.
SPRINGFIELD, ILL.

A report of the following successful case is not presented because of anything particularly peculiar in the operation itself, but mainly in an attempt to show what appears to the author the superiority of spinal anesthesia over ether or chloroform in cases of Cesarean section, because of the relaxed condition of the uterine muscles likely to obtain with the patient anesthetized by either of the two latter methods.

The patient, a primipara, 28 years old, of small stature, suffered in early childhood an attack of poliomyelitis anterior acuta, as a result of which the right side of the body failed to keep pace in a matter of growth and development with the left. The right arm is 4½ inches shorter than the left, and the right half of the pelvis is correspondingly small, which fact, together with the markedly kyphotic condition of the lumbo-sacral spine, was largely responsible for the necessity of Cesaeran operation. The diagonal conjugate measures 9 cm. The external conjugate (Baudelocque's diameter) measures 16 cm.

She had been pregnant twice before, but aborted each time at about the second month. During the present pregnancy the child had never entered the true pelvis, but rode above the brim. Deeming Cesarean operation the only way possible to bring the child living into the world, the patient, on Dec. 21, 1901, was removed to the hospital two days before full term in order to have her prepared for the operation, which preparation was done as for an ordinary celiotomy, the vagina also being rendered as nearly aseptic as possible. After labor had been in progress sufficiently long to insure good uterine contractions and dilatation of the os, there was injected into the spinal canal one-third grain of cocain hydrochlorate; the spinal fluid was used as a solving medium according to the method of Guinard of Paris, who has reported 70 cases anesthetized in this way, with none of the usual distressing post-anesthetic phenomena.

After the injection the patient was immediately transferred to the operating table, the abdomen and vagina again subjected to mechanical and chemical disinfection, by which time the entire body below the neck was anesthetic. A median incision, extending from 2¼ inches above the os pubis to 2½ inches above the umbilicus, was made through the abdominal wall and the pregnant uterus eventrated through the incision, the upper part of which was closed by Volsella forceps under the fundus, thus preventing exposure of the intestines. The uterus was at once covered by two large pads wrung out of saline solution, and in the median line between these pads an incision was made through the uterine wall, exposing the placenta attached in front. With the index finger of both hands, the placenta was torn through, the child extracted, and after its respiration was established the cord clamped and cut and placenta and membranes peeled out with the hand. During the incision of the uterus and extraction of child and membranes, the pads were several times changed for fresh hot ones and the interior of the uterus was, after being emptied, douched with hot water.

Uterine contraction was prompt, vigorous and perfect, and hemorrhage less than usual when the child is born *per vias naturales*.

Interrupted sutures of heavy chromicized catgut were used to close the uterine incision, and a continuous Lembert stitch of silk to close the uterine peritoneum. By previous request of patient the tubes were doubly ligated with heavy silk in order to render her sterile. The abdominal incision was closed in the usual manner, using silk for the peritoneum, and silkworm gut for the musculature. A dry dressing was placed over all, a vaginal examination made to insure good uterine drainage, a pint of saline solution used subcutaneously below the clavicles and the patient returned to bed. The child, a female weighing 4½ pounds, was allowed to nurse at the end of 24 hours.

The usual annoying post-anesthetic phenomena of headache and vomiting were absent in this case, probably attributable to the use of spinal fluid as a solving medium for the cocain, thus avoiding the introduction into the spinal canal of a foreign substance (water), and also possibly because the intraspinal pressure was not increased by the injection of fluids, other than normally belonged there. In one other of my cases of spinal anesthesia wherein the cerebrospinal fluid was used to dissolve the cocain no headache nor vomiting followed the procedure.

In the case above referred to the operation required forty minutes for its completion, and anesthesia was profound during that period though tactile sense was not lost. Save for a phlebitis which developed in the left leg at the third week to disappear in five days under elevation and cold application, the mother made an uninterrupted recovery and left the hospital with her child at the end of five weeks.

The only recorded case of Cesarean section done under spinal anesthesia that I was able to find was performed by Doleris of Paris, who speaks in glowing terms of its usefulness in these cases because of the prompt and vigorous uterine contraction.

Where Cesarean section is done for placenta previa the grave danger of the failure of the uterus to contract because of the woman having suffered the loss of much blood previously is well known to all the obstetricians.

In the case of Dr. W. J. Gillette of Toledo, Ohio, wherein a Cesarean section was performed for placenta previa, after ten minutes of manipulation the uterus refused to contract, and required extirpation. It is not impossible that spinal anesthesia would have obviated this.

The well-known and powerful oxytocic properties of cocain hydrochlorate, particularly when given intraspinally, must surely recommend its use in cases wherein a failure of uterine contraction is at all possible.

Not much has been written upon the subject of intraspinal anesthesia in obstetrics. The first, and perhaps the most extensive is a monograph by Malartic, entitled, "Les injections rachidiennes de cocaine in obstetrique," Paris, 1901.

Apparently a large field is open in this direction, and cocain, subdurally for cases of uterine inertia with maternal exhaustion and in the previously mentioned class of cases, surely merits a fair trial.

A CASE OF BLASTOMYCETIC DERMATITIS (?)

JOHN GLENDON SHELDON, M.D.
Surgeon-in-Chief to the Montrose Hospital; Consulting Surgeon to the Telluride Hospital.
MONTROSE, COLO.

A Polish woman, 32 years of age, came under my care in May, 1901, suffering from a disease involving the face and causing blindness of the right eye, destruction of the nose and marked eversion of the lips. Her family history was negative. She was born in Poland and came to New York when she was 10 years old and was never sick, excepting the present illness. Venereal diseases were denied.

The history of the present complaint is as follows: About one year ago the patient noticed a pinhead-sized, firm, slightly tender swelling near the right angle of the lower jaw. The swelling was located in the skin and was freely movable. In a few days it developed into an abscess which ruptured, leaving a small ulcer. From this beginning the process extended, usually by induration and swelling followed by pus formation, crustation and, in some places, by resolution and cicatrization. In a few months the regions of the neck, mouth and nose were involved. Later the right side of the face, right eye and right ear became affected. The process still progressed, and when I first saw her the disease had advanced to the extent shown in the photograph—involving the neck, face, ears, forehead and, in places, the scalp.

The symptoms complained of were local pain, tenderness and itching; difficulty in eating and speaking, due to involvement of the lips; uncontrollable escape of salivary secretion from the mouth; epiphoria, and, during the last three weeks, progressive dimness of vision of the right eye. No other symptoms were complained of. Her general health seemed good. She felt strong, was able to work and had lost no weight. Examination of the heart, lungs, abdomen, extremities, nervous system and genitals revealed nothing abnormal. The lymphatic system was normal except that there was enlargement of the submaxillary and cervical glands. The urine was normal. Examination of the blood showed: Red corpuscles, 4,500,000; white corpuscles, 14,800; hemoglobin, 80 per cent. (sp. gt. method). Nothing abnormal in shape or size of the red cells was observed. The increase in the white cells seemed to be of the polymorphonuclear variety. The cosinophiles comprised less than 2 per cent. of the white corpuscles.

The borders of the disease are everywhere well defined. In some places apparently perfectly normal skin is in contact with a smooth, thin and atrophic integument—doubtless healed areas which had been the seats of superficial involvement of the disease. In other places—where deep scar formation has occurred—the skin is, more or less, wrinkled and the line between the diseased and healthy tissues is less definitely made out. The borders of the disease, corresponding to the areas, the seat of progressive involvement, are not so clearly defined as are the borders of the healed areas, the skin being thickened, reddened and indurated. In some places the diseased areas are markedly elevated. On the right side of the neck a smooth, atrophic area is elevated about 5 mm. above the apparently healthy skin, which is continuous with it. In the median line of the neck is an area with an elevated border, covered with papillary processes which, in places, overlap the normal integument.

Examination of areas, the seat of progressive involvement of the disease, shows papillomatous growths, abscesses, crusts and ulcerated areas. Microscopically, the papillomatous growths seem to be processes of the corium covered with epithelium. Many cocci and pus corpuscles are found in the abscess cavities. The corium is vascular, infiltrated with leucocytes and round cells, and small abscesses are found containing globular and budding bodies supposed to be yeast fungi. Very few giant cells are observed. No yeast fungi were found in preparations made from the larger abscesses found on the surfaces of the diseased areas. Many small ulcers, from two millimeters to a centimeter in diameter, are found on the right side of the face and neck. These ulcers are circular, with clean-cut borders. The floors of the ulcers are smooth and no undermining of the edges is present. It seemed probable to me that these ulcers were the result of abscess formation due to infection with the ordinary pus cocci.

The lips are so markedly everted that the patient is unable to approximate them. The eversion appears to be caused by the contraction of scars resulting from the disease. The labial mucous membrane shows no evidence of a disease similar to that affecting the face.

Blastomycetic Dermatitis.

The upper and lower lids of the left eye are the seats of the disease in an active state. The conjunctiva and eyeball are not affected. The lids of the right eye present scar formation with contraction and marked eversion of the lids. The conjunctiva is involved in places, especially the upper lid and the outer part of the lower. A cicatrix is found on the inner half of the lower lid. The bulbar conjunctiva is so affected as to render the cornea opaque. No vision is present in the right eye.

The ears are affected with apparently the same process that involves the face. The scalp is involved in the right temporal and left mastoid regions. The process on the scalp seems to correspond to that on the face except that the large abscesses are more numerous and the crust formation is more abundant.

The treatment of this case was unsatisfactory. I was called out of town ten days after the patient was admitted to the hospital, and on my return found that she had left the institution, and I could not afterwards find her. During the time that the case was under my care the treatment consisted of the administration of 20 grains of potassium iodid, internally, four times a day.

Locally, I treated five separate areas differently. One area I curetted and made no applications; another I curetted and then applied a 4 per cent. ointment of potassium iodid in vaselin; a third area was curetted and a mixture of equal parts of tincture of iodin and guaiacol applied; to the fourth area I applied pure carbolic acid, and to the fifth a mixture containing equal parts of iodin and carbolic acid. The fourth and fifth areas were not curetted.

The disease showed improvement in all of the areas treated. The area treated by curetting and applying iodin and guaiacol did better than any of the others. The least improvement was observed in the areas treated by pure carbolic acid, and by curetting followed by the potassium iodid ointment.

ACUTE ANTERIOR POLIOMYELITIS IN A YOUTH OF 18 YEARS. REMARKS ON THE SENSORY SYMPTOMS.

FRANK R. FRY, A.M., M.D.

Professor of Diseases of the Nervous System, Medical Department Washington University.

ST. LOUIS, MO.

A. M., aged 18 years 2 months, was taken with a febrile attack Oct. 13, 1900, accompanied by much pain in the back and thighs, and followed by acute paralysis of the lower limbs.

The patient, an intelligent young man, gives the following account of the attack: On the day he first took to bed he went to school as usual in the morning, although feeling poorly. He was too ill to remain at school, but walked home, a distance of one mile, and went to bed very ill. The next two days he was very restless, suffering especially with pain in the loins and thighs; he was so sensitive to touch that he dreaded to have anyone take hold of him, and it made him sore and tired to lie, and he was in and out of bed frequently. Finally, he could not get up and realized that his lower limbs were paralyzed. Thus, he went to bed Friday after returning from school, and on Sunday he was paralyzed.

He is confident that this painful stage lasted eight to ten days. He instances various collateral data which show that his statements are accurate. After the severe pain there still remained about a week during which moving and touching the paralyzed members, especially the left, caused considerable pain.

During the fourth week after going to bed he discovered that slight voluntary movements were present in the right leg, but none in the left. He did not sit up until the sixth week and then his back was so weak that he could not remain up long.

During the fever stage it was necessary to use a catheter for a day or so, and the bowels were constipated.

Dr. C. A. Anthony, Fredericktown, Mo., the attending physician, observed the case with much interest, remembering the details very accurately for the reason that they were very confusing to him for some days. His account of the onset and the great amount of hyperesthesia and pain in the back and paralyzed members conformed exactly to the statements previously obtained from the patient. No sensory tests were made at the time.

I first examined the patient Jan. 25, 1901, more than three months after the attack. I found a paraplegia of the lower extremities, very little movement in either of them, the right some better and improving faster than the left; but even the right leg had to be lifted in or out of bed or over the left. He could only get to a chair from the bed and back again with effectual assistance from a strong person.

Dr. M. W. Hoge kindly assisted me in making routine sensory and electric tests. We found all the muscular groups of both extremities more or less atrophied. The most intense atrophy was in the left thigh; apparently, the best preserved group was the calf of the right leg. The flexors of the left knee and foot were becoming contractured, and there was also a slight contracturing tendency apparent in the toes of the right foot. Electrical tests showed a reaction of degeneration, or a partial reaction of degeneration, in all the atrophied groups, the right calf and some of the right thigh muscles alone giving normal reaction. The skin of the feet and legs was cold, clammy, livid; improving in appearance from below upward and better on the right side than on the left. Careful sensory tests (touch, pressure, pain, temperature, etc.), showed slight obtundity, but not more than would be accounted for by the bad trophic state of the skin. There were no dissociate sensory symptoms, except possible pain and temperature sense were a trifle more dulled in the feet than tactile. The general sensation was improved from below upward, its impairment corresponding exactly with the nutritive impairment of the skin. There was no muscle tenderness or hyperesthesia anywhere.

This patient presents another interesting pathologic condition, which probably has no etiological relation to the myelitis, but which we may record as follows: March 31, 1899, he was accidentally shot through the chest, the ball entering to the left of the sternum about the third rib and coming out behind the right clavicle. There is an aneurysm of the arch of the aorta as a result of this injury which causes him no annoyance. He made a rapid recovery after the accident and seemed perfectly well and strong until the time of the paralytic attack which was eighteen months later.

At this writing, eight months after the attack, the patient is hobbling about on crutches, the right leg having improved considerably but the left very slightly.

On account of this patient's age there was an unusual opportunity to obtain an account of the subjective sensory symptoms in a severe attack of acute anterior poliomyelitis. I believe, as do others, that the importance of the sensory symptoms has been somewhat overlooked, and more especially in some of the text-book discussions of the disease. Without attempting an extended consideration of the question I simply wish at the present time to embrace this opportunity of calling attention to it.

Dana[1] thus defines the disease: "Anterior poliomyelitis is a disease of the spinal cord characterized by motor paralysis of rapid onset, followed by muscular wasting, without sensory symptoms. It occurs at all ages but vastly oftener in infancy; hence it is often called infantile palsy."

And Starr[2] thus: "Anterior poliomyelitis is an acute disease observed most commonly among children, but occasionally in adults, characterized by sudden complete loss of power in one or more limbs, followed by wasting of the muscles paralyzed, and by interference of the growth of the parts, but not attended with any sensory disturbances."

Below are quotations from a number of writers whose texts I have picked from my shelves at random:

Hirt:[3] Vague pains in the limbs.

Struempell:[4] The child complains of headache and sometimes of pain in the loins and limbs.

Rosenthal:[5] Sensibility is sometimes exaggerated at the outset but at a later period it becomes normal.

Bruns and Windscheid:[6] Sensation is always preserved, as far as this can be determined in little children. The bladder may be affected in the initial stage, although, of course, this is a difficult matter to determine in very young children.

Oppenheim:[7] There is no pain generally; rarely it may be so acute as to simulate acute rheumatism. The muscles may be sensitive to pressure. If the pain of the muscles and nerves is considerable some neuritis is probably present.

M. Allen Starr:[8] It is generally observed that children cry a good deal during the period of onset, and some of those who are able to complain say that they suffer from pain in the back and in the affected limbs. This pain may remain for some weeks. . . . Retention of urine has been noticed for a few days. . . . There is no complaint of numbness or of paresthesia and there is never any loss of sensation; but the limbs are sometimes painful upon any movement, especially in the joints.

Dana:[9] After the general disturbance subsides there may be some pain in the back and limbs for a few days, and in rare cases the bladder is involved so that there is retention of urine.

Gray:[10] Other reflex phenomena as variable as the fever itself may accompany it, such as delirium, somnolence, convulsions, with or without loss of consciousness, muscular twitchings, vomiting, headache, temporary retention of urine, pain in the loins and in the limbs that are subsequently paralyzed, or general pains. Children of four or five years may be able to locate the pain, while younger ones will only evidence it by crying when they are touched or lifted.

Collins:[11] Usually accompanied in children by manifestations of irritation of the central sensory sphere, such as vomiting, convulsion, flightiness, irritability, and a serious disinclination to be handled, as if pain were caused thereby.

After the general phenomena of inflammation subside, there are no sensory disturbances, subjective or objective, although enduring pains in the extremities have occasionally been noted. When such symptoms occur they indicate an involvement by the inflammatory process of the posterior cornua and the root fibers passing therein.

Ross:[12] Sensory disorders are almost entirely absent during the whole course of the disease. At the outset patients may complain of pains and various paresthesiæ, but these symptoms are of short duration. A certain degree of cutaneous hyperesthesia, or rather hyperalgesia, has been described as being present during the febrile stage, but this tenderness to touch probably depends on tenderness of deeper structures, such as rheumatic inflammation of joints. The cutaneous sensibility is sometimes blunted in the paralyzed extremities in old standing cases, but this probably depends on underlying nutritive and vascular changes.

Church and Peterson:[13] Most writers state that there is a complaint of pain in the afflicted members only rarely, but that, as a rule, sensation in all its phases is entirely normal. It is probable, however, that early dysesthesia, owing to the usual infantile age of the patient and a lack of careful search for such difficulty, has been frequently overlooked. In some considerable number of the cases handling of the affected limbs during the initial fever provoked outcries which were not elicited by similar manipulations of the other members. It is likely that more attention in this direction will show localized hypersensitiveness, or some kindred state, to be usually present and of diagnostic importance. Indeed, complaints of pain and of formication have been generally noted in older children and in adults, lending, perhaps, undue weight to the usual supposition that such cases are not of a true spinal type. . . .

The adult form is in no way different from the infantile cases excepting the variations due to complete growth having been attained. In anomalous cases the onset of the disease is insidious and the course may be subacute. After infections diseases one or more limbs may be found useless, flaccid and atrophic, declaring the antecedent myelitis. Occasionally the onset is marked by pains of a severe cutting character, which are frequently attributed to neuritis or to rheumatism, but may be due to irritation of the sensory pathway in the cord by the location of the myelitic focus backward, involving the neck of the posterior horn.

Peterson:[14] Pain referred to the limbs or back and sometimes even muscular tenderness is apt to be present. The differential diagnosis between peripheral neuritis and poliomyelitis is often difficult in adults, and sometimes indeed, impossible, owing to the occasional prominence of sensory symptoms.

Of the texts above cited some maintain one feature of the sensory phenomena and some another until with them all before us the relative importance of these disturbances may be made out. Only one work gives the subject adequate consideration, namely, Church and Peterson's. My individual experience leads me to recognize the force of the statements therein contained.

In a communication[15] written in 1888, I dwelt briefly upon the sensory symptoms of an interesting case therein reported. Before, and more especially since then, I have been interested in remarking the sensory phenomena of cases of poliomyelitis coming under my own observation, and in those reported by others. I think there is no question that hyperesthesia and pain are both usually present and that they are also usually proportionate to the intensity of the invasion.

In the communication just alluded to I explained the sensory symptoms, as had others, by assuming that there was produced an irritation of the posterior areas of the cord by the overflow of the inflammatory process, whose point of most intense activity was, for some reason which we could then not explain, always in the anterior horns. Collins, Church and Peterson, as herein cited, and others, seem to find this explanation satisfactory. On the other hand some lean to the opinion expressed above by Oppenheim, that pronounced or important sensory symptoms mean a concomitant neuritis. This latter is probably often a hasty supposition, as Church and Peterson intimate. The sensory symptoms of these myelitic attacks are too ephemeral and intense in their duration for even a mild neuritis. They sometimes reach their full intensity within a few hours and are gone within a few days, leaving all forms of sensation quite normal; and secondly, their distribution is not the usual one of neuritis. They infest the back and the proximal portion of the extremities and are not heralded by paresthesias in the hands and feet.

From the above it is evident that these phenomena are the source of some confusion. This is due to the fact that as yet they have probably not been sufficiently studied. The complete absence in typical anterior poliomyelitis of final or permanent sensory disturbances has led us to overlook the significance of those which occur in the onset. For example, in each of the definitions cited above it is affirmed that there are no sensory symptoms attending the disease. This arises probably in the eagerness of these writers to define anterior poliomyelitis as a distinct clinical and pathologic entity, instead of merging it too much in the descriptions of other forms of myelitis, as some clinicians have done. Failing to mention these symptoms at all in a definition under the circumstances would be better than to affirm their absence.

The diagnostic importance of this study is thus suggested by Church and Peterson: "The differential diagnosis between peripheral neuritis and poliomyelitis is often difficult in adults and sometimes indeed, impossible, owing to the occasional prominence of sensory symptoms." With a little pruning this sentence conveys the gist of the discussion. I would say that the sensory symptoms are more than occasionally prominent, and that, while the greatest difficulties of diagnosis need

not arise very often, they do occur frequently enough and are important enough to demand increasing attention. In considering these difficulties we must keep in mind the following possibilities:

1. Cases of acute anterior poliomyelitis with no noticeable sensory symptoms. These are rare, at least in adults and in children old enough to express themselves.

2. Cases of acute anterior poliomyelitis with severe pain and hyperesthesia in the paralytic members in the onset and lasting for a variable time. These cases are also rare.

3. Cases of acute anterior poliomyelitis in which the sensory disturbances fall between the extremes of numbers 1 and 2. These are the usual cases.

4. Cases of multiple neuritis with unusual sensory symptoms and distribution.

5. Cases of so-called "multiple neuritis of the motor type," with little or no sensory symptoms.

6. Cases in which multiple neuritis and poliomyelitis are associated. Such cases have been pathologically demonstrated. They are difficult to diagnosticate; and certainly are not frequent. They are caused by some widespread and intense toxic process, producing grave general symptoms.

7. Miscellaneous conditions, as acute ascending paralyses, "family periodic paralysis," myesthenia, hysteria, etc., which, in the differentiation under consideration, will hardly create confusion when carefully studied.

REFERENCES.

1. Chas. L. Dana: Text-Book of Nervous Diseases.
2. M. Allen Starr: Allbutt's System of Medicine: Article on poliomyelitis.
3. Ludwig Hirt: Diseases of the Nervous System.
4. Adolf Strümpell: Text-Book of Medicine.
5. M. Rosenthal: Diseases of the Nervous System.
6. Bruns and Windscheid: Twentieth Century Practice, vol. xi.
7. O. Oppenheim: Diseases of the Nervous System.
8. M. Allen Starr: Allbutt's System of Medicine.
9. C. L. Dana: Diseases of the Nervous System.
10. L. C. Gray: Mental and Nervous Diseases.
11. Joseph Collins: Treatment of Nervous Diseases.
12. James Ross: Diseases of the Nervous System.
13. Church and Peterson: Nervous and Mental Diseases.
14. Frederick Peterson: Dercum's Nervous Diseases by American Authors.
15. Poliomyelitis Anterior Acuta Infantum. The Weekly Medical Review, Jan. 28, 1888.

SOME CLINICAL ASPECTS OF CHEMISTRY.

CHARLES P. EMERSON, A.B., M.D.
Assistant Resident Physician in Charge of the Clinical Laboratory, Johns Hopkins Hospital; Instructor in Medicine, Johns Hopkins University.
BALTIMORE, MD.

Even the most superficial observer of the expansion of the medicine of to-day might accept without much question the claim of chemistry to be the first of the pure sciences which form the foundation of medicine, for the potent influence of its leaven may be perceived throughout the whole medical mass. Clinical laboratories are growing in favor and influence; publishers have produced a superabundance of text-books which purport to "make clinical chemistry easy"; medical journals accept at sight articles on almost any chemical subject, some of scientific value, some of practical value, some of no value.

At a recent large medical congress so much time was spent on the chemical side of internal medicine that one not interested in that subject must have had to exert unusual efforts to look interested and knowing. What did he care what the intermediate products of sugar metabolism are, or whether the body can recognize the difference between a "right-handed" and a "left-handed" pentose with the same empiric formula? Of what "practical value" is it to discover an extra ferment in the stomach? Does the "practical man" care to know how a hen synthesizes uric acid?

Neurologists now examine urine with greater interest and demand that we find there the cause of a neuritis. Oculists and dermatologists awake to the fact that the whole body is one and that the chemistry of this whole may throw light on the organ in which they are interested. Students are required to take chemical courses before beginning to study medicine and it is a professor of anatomy who suggests the addition of another year of pure chemistry to the already long list of requirements of one school.

But chemical education does not emanate alone from medical schools, medical journals and medical congresses; every practitioner gets a free course through the mails. He is bombarded with pamphlets giving a detailed account of some recent "Arbeit" in chemistry, and advertising a new food or new preparation of some well-known substance, or some brand-new drug which is the tangible and expensive embodiment of the above-mentioned "Arbeit." The whole practical medical world, in fact, is studying chemistry.

But it is not alone medical men who are turning chemists for the pathologists are also studying chemistry—their hemolysins, bacteriohemaglutinins, antihemaglutinins, toxophores, heptophores, complementophilic groups and intermediary bodies are now or soon will be playthings of "pathologic chemists."

The physiologic laboratories have also felt the leaven. The kymograph is run down, the plethysmograph leaks, the nonpolarizable electrodes almost spark, burettes, test tubes and beakers cover the tables, for the physiologists are, many of them, studying chemistry. Here the recently-called professor of physiology is a pure chemist; there almost the whole physiologic staff is working on chemical problems. The journals which publish the mechanical side are termed by a pure physiologist "uninteresting," journals of physiologic chemistry grow in number and circulation and the physiologic chemical laboratories are admitted by eminent clinical men to be the centers from which the medicine of to-day is progressing.

The growth of the physiologic chemical laboratory is of the utmost importance to clinical medicine, for now the clinical laboratory will be provided with methods which are of practical use to the clinical man, and with men well enough trained to use them. Clinical chemistry is no new subject. Urinary examination has long been recognized as of the greatest importance, but the work has not been done by men especially fitted and the methods in use were many of them poor. Nevertheless, and in fact because of this, there has grown a very extensive literature of clinical chemistry and to increase this has been one of the earmarks of a "very scientific practitioner." The advent of physiologic chemistry, the occupation of the field by thoroughly-trained men, has sifted and weeded this literature to a surprising degree. Instead of a long list of diseases in which the xanthin bodies are increased or diminished we now read that the method used was so inaccurate that "our knowledge of the relations of xanthins to pathologic processes is as defective as it was years ago"; the alkalinity of the blood is not arraigned as often as a few years ago, although we still suspect it is an offender, but can not prove it; phosphaturia is now a name only. Compare a text-book of clinical chemistry of this year with one

* Read before the Clinical Section of the Medical and Chirurgical Faculty of the State of Maryland.

of a few years ago and see how much less we know now than then.

The advances already made by study of the chemical side of internal medicine are great. Metabolism experiments in various diseases have thrown considerable light on the nature of these conditions and in the sphere of dietetics aided the practitioner to no small degree. They were clinical chemists who showed the importance of the test meal, the meaning of the hyperacidity and anacidity, of free and bound hydrochloric acid, the significance of lactic acid and lastly the importance of the increased bound chlorids in the early diagnosis of cancer of the stomach (Reissner). It was a clinical chemist who showed that in the pneumonic lung the exudate was digested as if it were a piece of meat in the intestine, and that from examination of the urine the amount of lung resolved could be each day weighed. The practical results from this may be considerable. They were clinical chemists who taught the profession so much about diabetes mellitus; a short review of this subject will be a good illustration of the contributions of clinical chemistry. The presence of sugar in the diabetic's urine had been long known and its amount followed by clinical chemists, but does this explain diabetic coma, the dyspneic coma of Kussmaul? Petters ascribed this to acetone, Gerhardt to a body later found to be diacetic acid, but neither of these is the poison, yet the qualitative tests of these are of great value and can be easily and repeatedly made by every practitioner in every case of diabetes. Following a suggestion from a pharmacologic laboratory Hallervorden demonstrated the increase of ammonia in the urine of diabetics—and in each severe case this quantitative determination should be made at stated intervals—this increased ammonia proved that in the urine was an increase of acid. Stadelmann proved this acid to be organic, showed the relation between its increase and coma, pointed out the similarity between diabetic coma and that of rabbits with acid intoxication (Walters), and deserves the greatest credit for introducing the alkali treatment of diabetes. It remained for clinical chemists, Minkowski and Külz, to isolate this acid, which they found to be oxybutyric acid, from the decomposition of which acetone and diacetic acid arise. The discovery of this body must have surprised chemists. They had interested themselves in many bodies present to about one-half a gram or less, and overlooked this often present to the amount of 20-30 gms. and in coma even one-quarter of a pound a day!

Before the alkali treatment, when rigid diet of diabetics was enforced, the practitioners noticed that many patients promptly went into coma and died—why? Again clinical chemists answer. That acetone and diacetic acid are present in a normal fasting person, or a patient with almost any disease causing severe malnutrition, clinical chemists had noticed. Gerhardt and Schlesinger then showed that a normal person who eats the diabetic's rigid diet will, on about the seventh day, show even nine grams of oxybutyric acid in his urine. Since this acid is then a product of metabolism of any person when the diet is too poor in carbohydrates, what wonder then that the diabetic, already on sugar-rich diet half poisoned by it, should, when sugar is withheld, at once succumb to the increase of this acid? How necessary it is that the practitioner should know whether or not his patient is already in a condition of partial acid intoxication, by the simple tests for acetone and diacetic acid, and, if this is the case, should give an abundance of sodium-bicarbonate, not "fifteen grains with each meal," but even that number of grams and govern the size of the dose by the amount of the ammonia, for it is the absence of alkali which forces the body to increase the ammonia in the urine, and the accurate amount of this any practicing physician can determine, if he will. But physiologic chemistry (Hofmeister) has called the attention of clinical chemists to the importance of determining the assimilation limit of the patient and the diagnosis of diabetes mellitus is now made when the urine is sugar-free. Lastly, glycuronic acid is now well proven a first product of sugar metabolism and to find this increased, even though sugar be not present, may soon be ground for rejection by insurance companies as diabetic.

The above are a few of the contributions of chemistry, but it has only begun its serious work and promises much greater results.

We hope that one of these will be to convince the medical world that eggs and milk are not only a good, but the best diet for a patient. At present the tendency is to prescribe predigested proteids, various peptone preparations and many other specially prepared foods, so that in a long fever the bill for these may well appall the wage-earner of the family. Nevertheless, it is questionable whether there is any good evidence in favor of such foods, which justifies such expense. Certain it is that their superiority over simple eggs and milk has scarcely any, if any, physiologic basis. It is not proven that albumoses have even the same nutritional value as the native albumins of milk and eggs, or that these latter if properly given are at all hard to digest. As for "peptone" each new work seems determined to destroy our faith in it as an important product of digestion (Zuntz and especially Cohnheim). Meat extracts may have a stimulating effect and do, hence the certain benefit which the patient derives; but as for their nutritional value, one may as well feed a fire from the ash heap. On the whole, we can assert that the weight of physiologic evidence is against artificial foods, including in that list all predigested foods. Predigested they may be for a test tube but not necessarily for a patient—the normal body and more so the diseased, demand albumins. These it digests to suit itself, breaks them down to amidoacids and then synthesizes these to the proper albumin and at the present state of our knowledge it is much better to furnish even the diseased body with the raw material than to try to aid it by furnishing products of artificial digestion which, so far as we know, it can not use. Clinical evidence that such foods are unnecessary may be obtained from Dr. Osler's wards where they are never given. Seldom it is that a patient can not digest properly diluted milk, still less seldom that he can not well-prepared egg albumin or beef juice. Of course, the tendency now, when few medicines are prescribed, is to prescribe foods, but the practitioner may well bear in mind that their nutritional advantage is questionable, the chief person to benefit being the manufacturing chemist, and that eggs and milk, if properly prepared, may be even superior and do not cost one dollar a bottle.

One of the most promising fields for clinical chemistry is anemia and it is of interest that hematologists are turning from the morphologic to the chemical side. We read less now of blood counts in pernicious anemia, more about specific gravity, potassium and sodium percentages of the plasma, fat determinations, etc. This is only natural as the plasma is by far the most important part of the blood; red corpuscles, and leucocytes also per-

haps, have a very limited function compared with that of the plasma. When in a case of anemia we count the reds, determine hemoglobin and estimate the percentage of eosinophiles and lymphocytes and polymorphonuclear neutrophiles we gain excellent clinical information, but so far as approaching the question of the anemia we have only begun—the cause of such changes as we find lies farther back, in the plasma or blood-forming organs, and in the latter case the plasma may still be to blame. Ask a student what the hemapoietic organs are and he will doubtless answer, bone marrow, lymph glands and spleen, thus omitting three just as important, I think more so, intestinal wall, liver and kidneys, for these determine the composition of the plasma. No, chronic anemia is not oxygen starvation. Clinically, we must depend almost entirely on a study of the morphologic elements, but the laboratory worker must and is already going much further and over two-thirds of the recent communications on blood have dealt with its chemical side.

We read much and hear more lately of the practical value of blood examination. Some would give it first importance evidently as much as the physical examination of the patients; some, because they can not rely on it alone, deny it any importance, while others insist it is of value when well done and rationally interpreted. It is certain that blood examination to many means merely leucocyte counting. Our experience may be briefly stated: In practical internal medicine, leucocyte counting is invaluable. In surgery it is very important, usually throwing some light on the case; sometimes it alone determines the course of action, on other cases its evidence is disregarded. In all cases it must be interpreted by one who understands that leucocytosis is a biologic chemical reaction, hence must not be asked to conform to mathematical standards as a purely chemical reaction might be. He also should be one who has made just a few leucocyte counts himself and knows whether or not a slightly higher count means a rise of leucocytes. Counting red corpuscles is in internal medicine very valuable. Hemoglobin determination is for both physician and surgeon indispensable. Differential leucocyte counting is for the physician always of interest, often of considerable value, but will never have the importance claimed for it until the chemist has shown us the "why" of our staining reactions, and the physiologist the origin of the cells. Further blood examination, alkalescence, the composition of the plasma may in the future be a matter of routine, but at present they belong to the clinical chemist.

But one point deserves further mention and that is the staining reactions of the blood cells. Following Ehrlich's work we have in the past few years learned another language, the nomenclature of blood staining. We are asked to recognize amblychromatic and trachychromatic nuclei, to distinguish carefully between eosinophilic and fuchsinophilic reds and not to mistake the latter for polychromatophilic degeneration. This little thread of chromatin is the trademark of bone-marrow-made cells; this cell is the daughter of that; these have no relation. With each new stain are the granulations multiplying rapidly and, worst of all, the technic is long and results uncertain. And what does it all amount to? With all these studies in stains do we know much more than a fresh specimen would teach us? With all these names which label cells with a source, do we know any more of the origin and relationship of leucocytes than Virchow knew fifty years ago? Very little. I don't wonder Ehrlich changed the subject. Has since the work of Neumann and Bizzozero one well accepted fact been added to our knowledge of the origin or the structure of the red corpuscles or their relation to the leucocytes? No. Is it necessary for the busy practitioner to spend hours getting his stained specimens? A most emphatic, no. We have satisfactory methods which give beautiful specimens in three minutes, and he doesn't look at fresh specimens nearly long enough. A trained man can guess at a blood-count and hemoglobin percentage and often get it closer than a less experienced man can with counter and hemoglobinometer.

And the uric acid diathesis. What shall we say of that? Can clinical chemistry deal it any harder blows than it has received? Yet many still would insist that uric acid is really important. Thirty-nine separate morbid conditions are already ascribed to it and the fortieth recently added by an oculist, astigmatism against the rule! Now we know something, not much, about uric acid. We know it is a product of metabolism of proteid. We know the body can also form it by the synthesis of simpler bodies. We know no small part of that which is excreted is from similar bodies in the food and, lastly, that the body can oxidize uric acid. Hence it can not be considered the criterion for the metabolism of any one proteid body. We deny any relationship well proven between an increase of uric acid and leucocytosis; we deny that an increase has been well proven in any disease except fever and leukemia. We do not doubt but that the clinical picture is well marked which bears the name uric acid diathesis, but we do ask does uric acid have any more to do with it than has science with "christian science"?

In conclusion I make a plea for the more general use of the clinical laboratory. The practitioner depends on the bacteriologic laboratory because he knows he can not do this work. Should he not depend almost as much on the clinical laboratory? There are no tests more frequently made by a practitioner than the albumin and sugar tests; can he do these in a doubtful case? He should the former, yet we are certain many a faint trace escapes notice, but the latter he can not in a doubtful case, do, and not now so well as he could a few years ago. An illustration may explain this. Not long ago a patient in a distant city brought us a bottle of urine with the question, "Is sugar present?" The urine reduced copper fairly well, Nylander's test was decidedly positive. Here the physician must have stopped, yet these two tests do not prove sugar. The urine was not dextro-rotatory, it would not ferment, an increase of glucosazon crystals could not be determined, and in a doubtful case all of these tests should be found positive before glycosuria is diagnosed. But what was present? The patient when questioned solved the difficulty. When told to send another specimen and to add camphor to keep it in good condition she replied, "But my doctor told me something much better than that, he told me to add formalin." Formalin is the aldehyd of formic acid, glucose the aldehyd of sorbite and they both reduce copper and bismuth well. I then read clinical chemistries on the subject. One, the most pretentious in this country, advises to add a few drops of formalin to the urine to preserve it. If this advice is followed and it certainly will be by many, what will save the practitioner from finding sugar in many urines? Of course, we know that the text-book says "two or three drops, not more," and a very few drops in a twenty-four-hour specimen will not

trouble the chemist very much, but the "two or three drops" in a four-ounce bottle of the patient who wishes to do the matter thoroughly will, and in this case did, give a splendid reduction test. Almost at the same time another specimen was sent. It reduced copper and bismuth well, but the practitioner was sure it was not glucose, it must be lactose since the patient was pregnant. If lactose, its presence was of no moment; if glucose, of the greatest moment. Hence we say the practitioner in a doubtful case often needs a clinical chemist to aid him, especially if he believes in Nylander's test and allows his patients asparagus. In this connection I would say that one of our students recently showed us that thymol, an excellent preservative for urine, can impart to it good Gmelin-bile-reaction-giving properties. If the practitioner has sent to him a highly-colored urine with a crystal of thymol in it let him beware of making the diagnosis of bile in the urine. The practitioner, on the other hand, does not do nearly enough of some chemistry. With a few test tubes, reagents and a burette, he can do a surprising amount if he will, but let him send doubtful cases to the expert—and cryoscopy to any one with more time than he.

A PLEA FOR THE EARLY TREATMENT OF SQUINT.*

NELSON MILES BLACK, M.D.
MILWAUKEE.

The majority of laymen and a great many of our professional brethren regard squint with a great deal of indifference. This arises largely from the prevalent idea that the child will outgrow it, is too young to be treated or, if treated, will have to always wear glasses. Yet when children grow up with this horrible deformity, they and their parents often seek for relief without success. What I wish to try to make clear is the fallacy of the above reasons, why the squinting eyes of children should be attended to as soon as the first appearance of even a tendency to squint is noticed.

1. In rare instances in some cases the squint disappears as the patient grows older, but nearly always with vision much impaired in the deviating eye and binocular vision very imperfectly developed.

2. The earlier one can get a case after he has commenced to squint, the better the prognosis as to the parallelism of the eyes, binocular vision and visual acuity of each individual eye, because the case is in the developmental stage.

3. In regard to wearing glasses, the contrary is true. If a case can be obtained for treatment soon enough after the squint is noticed, the glasses, in the majority of cases, can be laid away about or soon after puberty, being only needed for close application of the eyes, except, of course, in cases of high hyperopia, myopia or astigmatism.

These deductions are reached through the latest theory advanced by Mr. Claud Worth of London regarding the etiology of squint, i. e., that the potential factor in the cause of squint, of course taken together with the several other etiologic factors, as hyperopia, myopia, anisometropia, congenital amblyopia, fundus changes, changes in the refractive media, heredity, local changes in an ocular muscle, etc., is the defective or non-development of the fusion sense.

We all know that binocular vision is produced by similar portions of the retina being acted upon by rays of light and these afferent sensations fused centrally. Now, if the condition of the eyes is such that through hyperopia, myopia, anisometropia, congenital amblyopia or any of the above enumerated etiologic causes, which produce central sensations of different intensity, the sensation carried to the brain by the poorer eye can not compete with the clear, distinct image of the better eye and is disregarded, as we disregard the image formed by its fellow when we use the microscope with both eyes open; the eye is thus without a point of fixation and turns in or out. This occurring at a time when the fusion sense is in the process of development and the eye receiving no help in the way of improving the retinal image so it can compete with the fixing eye, the fusion sense is defectively developed or lost, and the eye remaining in the mal position, the squint is established and the organ becomes more and more amblyopic from non-use. The eye usually turns in in hyperopia as the relation of convergence and accommodation converges the visual axis. Instead of both eyes appearing to converge equally, the better eye fixes and the poorer eye turns through the additional arc to allow of this fixation. This explains also the so-called alternating squint, when the patient fixes with one eye or the other, the one eye turns through an additional arc to allow its fellow to fix. In myopia the general tendency is for the eyes to diverge; this is explained on the ground that the myopic eye not having to accommodate there is no effort to converge, consequently the eye diverges.

Then come the class of cases where there are no refractive errors or any of the before-mentioned etiologic factors; yet the child squints. The history of these cases usually develops that the squint commenced after a fright or during an attack of whooping cough or followed some severe illness, and is explained by the fusion sense being in a rudimentary state of development; it is thus rudely interfered with, the fusion center greatly disturbed and binocular vision thus lost for a time and one eye or the other allowed to deviate from parallelism.

The fusion sense, Mr. Worth has determined, is fully developed by the sixth year; after that the question of establishing it is almost beyond hope.

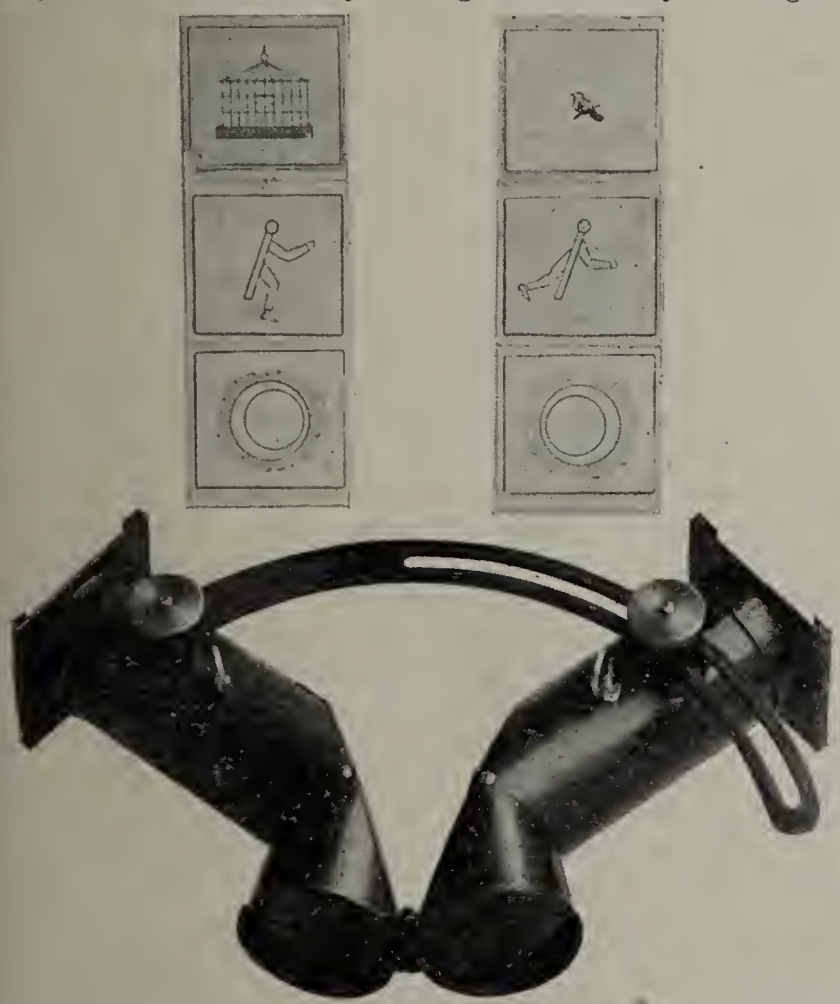
The factors to be dealt with in a case of squint are: 1. The deformity. 2. The suppressed vision of the deviating eye. 3. The more or less amblyopic condition of the deviating eye in the majority of cases. 4. The refractive errors. 5. The fusion sense.

The suppressed vision of the deviating eye produces a loss of central fixation, that in turn causes a deterioration of the vision in the deviating eye, as the rays of light are focused on other portions of the retina than the visual center or fovea and the eye becomes amblyopic; so in our treatment the first step is, after measuring the angle of the squint, to prevent the loss of central fixation and so prevent deterioration of the deviating eye. This is accomplished by refracting the eyes, fully correcting the hyperopia, myopia and astigmatism and ordering glasses to be worn constantly. The determination of the visual acuity is first desired for refraction and this is accomplished in cases who are not old enough to know their letters by the aid of five ivory balls, from ½ to 1½ inches in diameter in the following manner: By covering the poorer eye of the patient and starting a game of marbles with him. The mystery is solved! If at 5 meters he can go directly for the smallest ball without hunting about for it, it is safe to say his vision for that eye is about normal, then trying the other eye in the same manner, its visual acuity is determined approximately.

* Read before the Milwaukee Medical Society, April 22, 1902.

The errors of refraction are then determined under mydriatic by the skiascope. The child's disposition has a great deal to do with his wearing the glasses, but in cases of considerable degree of refractive error (3 and 4 D.) no trouble is experienced. I have seen 18-month-old babies with glasses who would commence to cry as soon as the glasses were removed and would stop the moment they were replaced.

After the visual acuity is brought as near normal as possible the next step is exercising the deviating eye. This is done by bandaging the fixing eye continuously for a long period of time (which the majority of parents will not do), or better still, by the use of a mydriatic in the fixing eye to abolish its power of accommodation. The child will then fix for near objects with the deviating unatropinized eye, and use the atropinized eye for distance. Thus amblyopia from disuse is avoided. The parents find no trouble in instilling a drop of some mydriatic solution in the eye each morning, but seriously object to the child's eye being continuously bandaged.



Amblyoscope and Series of Slides.—The bird and cage being used to establish binocular vision only. The second set requiring true fusion to complete the picture. The last when fused gives an impression of the perspective.

In cases where the vision of the deviating eye can not be made to compete with the fixing eye, then continuous occlusion must be resorted to in order to bring about central fixation. If this has been lost only a short time, two or three weeks is usually sufficient to restore fixation, but in neglected cases, where the eye has become quite amblyopic and central fixation has been lost for a long time, much improvement can not be expected, although some surprising results are accomplished. A mydriatic used in both eyes is worse than useless, as the visual acuity remains proportionately the same and although the eyes seem straight under the mydriatic, it is only because the accommodative effort is paralyzed and consequently there is no effort to converge.

The fusion faculty is next exercised by the ingenious instrument devised by Mr. Worth called the amblyoscope. This instrument consists of two halves joined by a hinge, each half consists of a very short tube joined to a longer one at an angle of 120 degrees; a mirror being placed at the cord subtending the arc of this angle; an object glass is placed at the free end of the longer tube, at the free end of the shorter tube is a lens, the focal length of which equals the distance of the reflected image of the object glass at the end of the longer tube. "The two halves of the instrument can be brought together to suit a convergence of the visual axes up to 60 degrees, or separated to suit a divergence of as much as 30 degrees."

"The pairs of object slides are drawn on translucent paper and stuck on glass slides. These are of three classes. The first class consists of pairs of devices, such as a bird and a cage, a mouse and a trap, etc. These require no blending of images, but only binocular vision. The second class consists of devices, part of which are on each slide, so that a blending or fusing of the images must take place in order that the full picture may be seen. The third class consists of stereoscopic pictures, which when combined give an impression of perspective."

The instrument is used in the following manner: "The child with his correction on is held on the surgeon's knees and the amblyoscope roughly adapted to his degree of deviation; it is then held before the child's eyes and an electric lamp is put in the axis of each tube about four feet away. By a simple mechanical arrangement each lamp is easily brought nearer to, or put farther away from the tube which it illuminates. A slide showing a cage, for instance, is put in the tube before the child's fixing eye, and a bird in that before the squinting eye, and the child is told what to look for. At first he sees only the cage. The lamp before the fixing eye is then taken farther away, and that before the squinting eye is brought nearer until the child sees the bird. By this time he has lost sight of the cage. The intensities of the illuminations are then adjusted until the child sees both the bird and the cage. The child is then allowed to grasp the instrument and, assisted by the hands of the surgeon, is taught to vary the angle of the instrument so as to make the bird go in and out of the cage. Many other similar pairs of slides are shown. The average child of 3½ or 4 years of age takes a very keen interest in the game which he imagines has been devised merely for his amusement. Slides which require a true blending of the images are then shown. After a time it is often found that the angle of the instrument may be altered to a very considerable extent, either in convergence or divergence, while the eyes follow the objects and maintain fusion of the pictures. One often gets a powerful "desire" for binocular vision in these young subjects with surprising facility. The next step is to equalize the intensities of the lights. This may usually be done at this stage without a return of suppression. In many cases one is able to deviate the two halves of the amblyoscope more and more at each visit until parallelism of the visual axes is obtained. In other cases operation may be necessary. If, then, the eyes are placed approximately straight, the desire for fusion will fill up any slight gap that may remain. However the actual remedying of the deviation may be affected, if the child has this powerful desire for fusion, which can only be acquired in early childhood, a perfect cure of the squint results. The child will then, in the majority of cases, be able after a time to lay aside his glasses except for reading."

The use of the stereoscope with properly selected pictures, after the visual axes have become parallel or the eyes have been straightened by operation, will greatly aid in the exercise of the fusion center, but is of no avail before the visual axes are approximately parallel. Dr. Würdemann's modification of Kroll's orthoptic ex-

ercises in black and white are especially adapted for this exercise.

"The special points of the amblyoscope are: 1. It is adapted for the use during the continuance of a squint of any degree; 2, the suppression of the vision of the deviating eye is quickly overcome by the unequal illumination of the object slides, instead of by the slow and painful method, recommended by Javal and others of continuous occlusion of the better eye for months or a year at a time; and, 3, the variety of the pictures amuses and interests the child, so he will give all the help he can."

To summarize: The treatment of squint should commence as soon as the slightest deviation of the eyes is noticed and should consist of:

1. The maintenance of fixation in the deviating eye to prevent deterioration of vision in that eye.
2. The correction of all refractive errors.
3. The exercise of the fusion faculty and when that is well developed, if the deviation is not corrected, resort to operative measures to produce approximate parallelism of the axes; the desire of fusion developed by the exercise of this center will then maintain parallelism and binocular vision.

105 Grand Avenue.

ATTENDANTS AND NURSEMAIDS.*

LESS EXPENSIVE AND LESS EXPERT SERVICE NEEDED—CLASSES BY PHILANTHROPIC ORGANIZATIONS—MEDICAL INSTITUTIONS FOR THE SICK THE PROPER ONES TO GIVE SUCH INSTRUCTION—THIS GRADE OF HELPERS WOULD RAISE THE STANDING OF GRADUATE NURSES.

HELEN C. PUTNAM, A.B., M.D.
PROVIDENCE.

There is a wide-felt need and legitimate demand for women to care for the sick who shall be less expert and less expensive than graduate nurses. Among those of generous fortunes the demand comes from chronic invalids needing waiting on for months or years; from victims of slight ailments, as a broken arm or brief exhaustion in overwork; from tardy convalescents of all grades of income above the very small (who must get well as they can). Graduates usually, if not always, do not wish to take these cases. A not less pressing demand comes from the large army of families, self-respecting bill payers, living on $500 to $1500 a year, to whom $18 to $30 weekly is a heart-aching burden almost impossible for even two or three weeks; where the mother's hands "keep" the house, and it is perhaps she who is laid by. Visiting nurses can not satisfy this demand (resident service is wanted); nor can hospitals by sending undergraduates; and such families are far from being objects of charity. Its supply has come mainly from obliging friends and "experienced nurses," the number of the latter being far from sufficient and the capabilities of all wholly uncertain.

To fill the need various philanthropic societies, such as women's educational and industrial unions and young women's Christian associations have recently conducted "classes for training attendants" or "for home nursing," where, at an expense varying from $10 to $30 for each pupil, a course of twenty to thirty evening lessons (of one or two hours) has been given by a graduate nurse, sometimes including lectures by physicians. Occasionally five to ten lessons in invalid cooking supplement it, and visits with a district nurse or to the city hospitals. The lessons consist of lectures or text-book work, note-taking, quizzing and a little manual drill in care of a bed and of a "patient" (model) in bed, handling of bed-pans and douche-pans (dry), syringes, thermometers and medicine glasses, and plain bandaging.

The pupils are workers in offices, factories, stores, sewing-rooms or kitchens; sometimes an "experienced nurse," a housewife, a schoolgirl, and often unoccupied women. Ages are nominally from 18 to 40, actually from 15 to 60; education nominally required equals first year of grammar school, but actually ranges from bare ability to read easy English and write with difficulty up to that of a well-educated gentlewoman. Moral and other personal qualifications have as wide a range. Some classes limit membership to twelve, others have as many as thirty members. The examinations and certificating are equally elastic, such courses being subject to the pecuniary, philanthropic and impulsive irregularities that invariably obtain outside of any but an organized school in a hospital or sanatorium of recognized professional standards.

Some take the course for use in their own families; others to make nursing their work; others to do occasional neighborhood nursing, a congenial field of usefulness that gives them a little income to add to home comforts; and others take it as a part of an intelligent woman's education. It is with this last idea that our very few pioneer schools of housekeeping and our manual training public high schools are offering excellent short courses in nursing. Young women occasionally take the attendant's course to make their first year easier in the training school, often by the advice of a graduate; or "discover themselves" in the course and elect to go on to regular training. Some of these testify that the theory and invalid cooking are better taught outside, as is quite probably true, organizations often selecting expert teachers from among the best in the city. Such facts are suggestive to managers of training schools. So pressing is the demand for less expensive (and less expert) care that, although many such classes "pledge" their graduates to charge but $5 or $7 weekly the first year (while "getting experience"), it is a fact that some charge within six months $10 to $15 because they can get it. Of course more receive only $7. The claim to "have a certificate" satisfies those who could and would nurse their own sick if they but had another pair of hands. They save from $13 to $3 a week (from graduate's pay) and obtain the help they must have.

What kind of help? As to quantity, they have probably a reasonable amount of service about the home when the patient does not require attention. This is what the family needs, and from an humanitarian viewpoint it should be so—so far as it does not overtax the helper. As to quality of nursing, it is precisely what would be expected from such varieties of "standards" and of pupils, after thirty to fifty evening hours of instruction, chiefly theoretical. However willing, anxious for personal credit, enthusiastic out of pure altruism, they may be, it is the exceptional women who earn (economically speaking) $7 a week and board; and they quite often deserve it without "the course." It is usually the smallest wage-earners (therefore the more incapable) who take it up as a business. The average attendant does not equal the average "experienced nurse" or the average mother, either in judgment, reliability or capacity, the lack being chiefly along the line of experience. The majority of mothers can, by

* Read before the Providence Medical Association, Feb. 3, 1902.

following the visiting physician's directions, use the clinical thermometer; or give an enema, a douche, a sponge bath with more skill. Another serious defect is the unconscious assumption of too great responsibility, because of inefficient instruction as to limits of initiative and as to accuracy in reporting. Physicians must ordinarily accept the caretaker a family provides and naturally believe that she can render the simple service claimed. A tidy room, pleasant manners and friendly relations with the patient innocently deceive concerning the necessity of minute inquiry into omissions and commissions.

Not unreasonably graduate nurses deplore this movement, as is indicated by several paragraphs in their official organ, *The American Journal of Nursing*. The time has arrived when friends of training schools for nurses and of the people would do well to try to adjust the matter more fairly.

It would show good business sagacity on the part of medical institutions for the sick to supply this demand and so "control relative market values"; and good judgment to acknowledge its legitimate existence and therefore their willingness to serve society by preparing caretakers of simple ability and price. For "lay" organizations to undertake what should be the function of medical institutions is another instance of waste of philanthropic resources, the hospitals having already secured, usually by gifts, the material equipment and educational qualifications for instructing in care of the sick, while "the laity" must divert still more charitable effort in crude attempts along similar lines. Since the popular need as outlined is a very large and just one, both common sense and professional enterprise indicate hospitals and sanatoria as the proper agents to fill it.

Nursemaids for children, who shall have rudimentary scientific and manual training, are also in demand. The day of unskilled service for making homes and laying the foundations of adult careers is, happily, dying. Science simplifies serving. There is no lack of women able to take in the necessary instruction, and to fill situations for wages on a par with average house service. It requires certainly no rarer mental ability than that of good waitresses and cooks and not so much muscular strength; it is a matter of fact that the "second girl" who "likes nursing" often learns to do very acceptably such of it as she has time for, but necessarily her regular work suffers. It is more congenial —either the care of invalids or of children—to many temperaments which at present recruit the ranks of inefficients. Their ability is of an order that may be turned to use by a few months of careful instruction, for which a temporary home and $3 to $8 or $10 a week is good remuneration in comparison with that in some other occupations which require even more preparation.

It would be a mistake in such a course to encourage narrowness of ideas as to range of services and rate of wages. An attendant who gives grudgingly of needed help, especially in modest homes, where the invalid does not require all her time, lacks the quality of effectual sympathy indispensable in a service so personal and so humane. It is carrying "specialization" to unrighteous limits that belittle character.

This undertaking should not conflict either with training-schools or with philanthropic efforts. Of the latter I venture the prediction that, if a hospital opened a minor course in nursing, a frank explanation to the organizations already offering these classes would meet with the enlightened coöperation desired, probably withdrawal of its own course and influencing women to avail themselves of the better facilities, with one proviso, viz., that the hospital offer a course that *accords with the need*—faithful simple manual service, good as far as it goes, and going far enough for non-critical illnesses and for slender incomes.

Instead of undermining the dignity and valuation of expert nursing by poor and over-paid service, these attendants would help teach sanitary knowledge to larger numbers, and create higher ideas of the superior rank of nurses. There would be a defined grade between the latter and "chaos," tending to encourage development "at the top," where there is always room.[1]

Attendants secure work through the individual influence of members of the large associations offering the courses and through their registers; or, often, through their own acquaintances who are frequently of the class, as has been already intimated, who have not been a "field" for graduate nurses.* They rarely use the regular public registers. Just what conditions obtain in Philadelphia I do not know; but, in the great majority of cities, action such as the recent one of exclusion from the register of the College of Physicians would have a moral and theoretical influence, but no appreciable effect upon the actual employment by the public of minor nurses. *Laissez faire* policy is apt to accomplish little in comparison with wise aggression. "Classes for training attendants" are a natural growth the object of which is not to supplant but to supplement regular training schools along a line where hospitals leave a large public need unfilled. The "wise aggression" would be to coördinate the two, under professional management, to avoid trespass and many other injustices.

This logical enlargement of hospital service to the community would have inertia chiefly to overcome and some active opposition. A medical superintendent of tact and executive initiative could so demonstrate its wisdom and practicability, that public opinion would place his experiment at the head of an educational movement in hospitals corresponding with the twentieth century popular movement towards more general understanding of scientific subjects—one of the best possible preventives of quackery and *antis*.

The teaching force can be recruited if necessary, and probably advantageously, from city nurses and physicians; many a free-bed convalescent will gladly earn a fee by serving as model; tuition expenses must be small; hours must be adjusted by the fact that the pupils usually have regular occupations. Whatever flexibility in admission may be expedient, there should be rigid adherence to the standards adopted, an important part of the necessary moral disciplining; and the actual conditions be thoroughly studied in order to train women satisfactorily. Finally such an *esprit de corps* needs to be organized (possibly by a club, a uniform, or, better, a badge *bearing the name or symbol of the order*) that they will take pride in maintaining just relations with graduate nurses, as much as with physicians, and, as to patients, will be mindful of their mission of helpers in homes. A simple and attractive name should be devised, "nurse" being substituted now by families in place of the formidable trisyllable "attendant."

The superintendent of a training school who sympathizes as intelligently with the need of the people as she does with upholding the standards of her school, has in

1. See Dr. Cabot's paper, Boston Med. and Surg. Jour., Nov. 21, 1901.

* They do not work among the very poor, whose usually greater needs are beyond an attendant's ability, and who are, as a rule, provided for by visiting nurses and hospitals.

this a fruitful opportunity to minister to altruism. Chronic cases, slight ailments and thrifty people on small incomes furnish the larger part of physicians' practice. The public must of necessity have workers in this field, if not instructed, then "experienced" or otherwise as hitherto. Artificial limitations of teaching that every home-maker ought to have should not and can not prevail.

This article is not to be misunderstood as advocating lesser preparation or prices (although prices might well be more adjustable) for nurses ranking like the present graduate. The three logical and practicable grades of nurses are "attendants" for light nursing, for nurses' assistants, and for nursemaids; "graduates" for serious illnesses; and nurses of more advanced training for institutional work (in army, training schools, asylums, hospitals, public health departments, philanthropic aid societies, etc.); as, for instance, the majority of people leave school with a "working basis" for "every day," fewer are graduated from college equipped for more specialized service, and fewest go on to advanced professional schools.

THE EVOLUTIONARY ASPECT OF INFECTIOUS DISEASES, WITH ESPECIAL REFERENCE TO THE LOCAL VENEREAL DISEASES.*

G. FRANK LYDSTON, M.D.
Professor of the Surgical Diseases of the Genito-Urinary Organs, Medical Department, State University of Illinois; Professor of Surgery, Chicago Clinical School; Surgeon to St. Mary's Hospital.
CHICAGO.

(Concluded from p. 1291.)

The light factor of environment is very important in the life history of micro-organisms. In general, bacteria flourish and wax fat in the absence of light. To many pathogenic micro-organisms light—especially direct sunlight—is fatal. In rare instances, as in the case of Englemann's bacterium photometricum, light increases activity. I know of no pathogenic germs in which the reverse does not prevail in greater or less degree. That temperature is an important factor in micro-organic life is so familiar that I would not allude to it were it not so vital in its relations to the evolution of infection. Bacteria have been found that multiply at 0 C. Certain water varieties spore in water covered with ice and freezing does not kill them, but most soil and water bacteria thrive best at about 20 C. although they begin to multiply at a lower point. Germs have been found which grow only at a temperature high enough to alter proteid, 54 to 77 C.[5] It is evident to any one who does not accept the Mosaic cosmogony that the primal environment of the micro-organic world was relatively warm and almost if not quite uniform. The variation in temperature requirements which we observe at the present epoch means a gradual differentiation and a slow but certain adaptation to environment which always brings in their train new properties, be the germ pathogenic or non-pathogenic.

Some of the laboratory experiments proving the necessity of special conditions in the life history of pathogenic microbes are very pertinent and suggestive. Take, for example, that most virulent disease, anthrax. Dogs succumb to it only when pure cultures are injected intravenously. Young rats die of general infection while older ones develop only small abscesses, unless a large number of bacilli be injected directly into the circulation. Frogs and tree toads are resistant at medium, and susceptible at higher temperatures. Fowls resist anthrax ordinarily, but if they become chilled they rapidly succumb to it. Pigeons resist it save when semi-starved.[5]

It is noteworthy in this connection that the tetanus germ is inoperative save when inoculated simultaneously with foreign material, such as splinters of wood, dirt and pus. How familiar the foregoing facts sound to the student of a quarter of a century ago. Age, exposure, innutrition—lowered resistancy—special conditions, as invitations to contagion. Really, specific science has not yet done away with old-fashioned things. The pneumococcus is the specific microbe of pneumonia, but for some reason it often demands a chilling of the cutaneous surface in order to flourish and wax fat in the lung. In genito-urinary infections of a low grade, circulatory disturbances, internal blood metastasis, or traumatism is necessary to virulent development. Note, for example, cysto-pyelitis from sudden relief of prolonged retention, exposure to cold, shock, or operation trauma. Here indeed is food for thought. How unfortunate that we can not duplicate in the laboratory the conditions natural to the germ. How much more modest should be the claims of modern bacteriology. The accurate laboratory observation of to-day is a *sine qua non* of medical philosophy. Medical philosophy, both past and present, should be the foundation on which to build the material research of the present.

Anent the specificity of pathogenic organisms, it is of interest to note the evidence of evolutionary adaptation shown in the susceptibility of some animals to organisms to which other species are absolutely resistant. A point which throws the specificity of micro-organisms within at least the shadow of a doubt, is the fact that large quantities of harmless bacteria injected into the mammalian circulation may prove fatal because of the dead bacterial proteid contaminating the blood. Dead cultures of bacillus prodigiosus, or of the hay bacillus, are as certainly fatal as dead cultures of disease germs, and often as surely fatal as cultures of living pathogenic organisms. This observation throws much light on the relation of micro-organisms to disease and shows how narrow the specific influence of germs may be when disassociated from the effects of their metabolic products and dead and dying proteid. This point alone shows how broadly infection should be studied if it would be understood.

One of the most fascinating micro-organisms for study along evolutionary lines is the bacterium coli commune. The precise relation of the colon bacillus to the bacillus typhosus of Koch and Eberth is a matter of wide difference of opinion. The differences between the colon and typhoid bacillus are by no means irreconciliable on the score of evolutionary changes in what, by your leave, I will term the normal germ—the colon bacillus. Whether this germ is, as some believe, an oeco-parasite which, under as yet undetermined favoring conditions, acquires the ability to invade the animal body and there become transformed into the bacillus typhosus may be open to question, but the theory is at least rational enough along evolutionary lines. What is really known of the ubiquitous colon bacillus would lead one to expect even more remarkable performances from it. That this germ is normal to the intestine is tolerably certain; that it was always normal is less so.

---

* Lecture delivered by invitation before the Buffalo Academy of Medicine, Jan. 21, 1902, and Creighton Medical College, Omaha, Neb., March 5, 1902.

5. Hueppe: Prin. Bact.

The bacterium coli commune as it exists at the present day may be an evolutionary descendant of some organism which was distinctly pathogenic—perhaps akin to the bacillus typhosus as we know it. On this hypothesis the pathogenic properties of the germ as we observe them, and its possible transformation into the typhoid germ, would be rationally explicable on atavistic grounds. The versatility of this normally non-pathogenic micro-organism is marvelous. In the first place it is not only harmless when its environment is undisturbed, but apparently has a physiologic function to perform. The relief of chronic constipation by the administration of a pure culture of the colon bacillus is strongly suggestive in this direction. From a harmless intestinal saprophyte our colon bacillus may change into an organism which produces lactic acid fermentation in sugar and forms a brown pigment on potato. Considering the versatility of the colon bacillus one might not be far astray in inferring that the normal urethro-coccus has somewhat similar properties of adaptation and variation. Such indeed is my own belief.

The instances of micro-organic transformation observed experimentally are quite numerous, but a few of the most familiar examples are all that is required to illustrate the principle. The bacillus anthracis has been converted into a harmless putrefactive organism. Pasteur in his early experiments showed what could be done, first, with chicken cholera, and, secondly, with practically all disease germs by culture. He was able to play upon the virulency of micro-organisms with astonishing results; the range of effects varying from *nil* to extreme toxicity. Strange though it may seem, the profession at large did not grasp the meaning of Pasteur's results. A great biologic law had been established by him. Pasteur had neither added to nor subtracted from the phenomena of nature. He had given us merely a feeble imitation of what nature accomplishes under conditions which mortal man has not yet succeeded in producing.

Not only have disease germs been transformed experimentally; the bacteria of butyric acid, lactic acid, and pigment bacteria have been similarly modified. Both diminution and increase of the pathogenic, putrefactive, fermentive and pigment-forming powers of bacteria have also been shown to occur under natural, i. e., non-experimental and spontaneous conditions. The action of bacteria is constant only so long as their environment is the same. A very significant observation is the discovery of virulent Klebs-Löffler bacilli in healthy persons as oeco-parasites which may under favoring conditions produce diphtheria by either auto- or hetero-infection. Virulent diphtheria germs lose their virulency by culture and become saprophytic. It has been claimed by Roux, Frankel and others that the non-virulent diphtheria germs found in healthy throats are merely true diphtheria germs "which have lost their virulency." Had these investigators said, "which have not yet evolved to the phase of virulency," they might have been nearer the truth, although the view expressed by them solves a part of the problem.

It seems to me that the conflicting observations on diphtheria germs should command caution, at least. How much would one be justified in swearing on the witness stand? The observations of oeco-parasitic diphtheria germs and the observations of Roux, Frankel, Hueppe and others are alone sufficient to discredit any dogmatism in diagnosis. The study of the numerous and varying observations of diphtheria and its congeners has some bearing upon the possible origin of the gonococcus. It requires no wild flight of the imagination to conceive that the urethro-coccus bears the same relation to the gonococcus that Roux and Frankel claim for the Klebs-Löffler bacillus, the pseudo-diphtheria bacillus, and the oeco-diphtheria parasite.

The bacillus tuberculosis, Koch's pet specific micro-organism, has more of those properties which we are wont to term specific than most germs. Even the differences between the germ of fowl and that of mammalian tuberculosis appear at first sight distinctive. Hueppe and Fischel, however, by varying culture conditions so modified the mammalian germ that it grew like that of fowls, and vice versa. *Pari passu* with this transformation in growth property, an interchangeability of virulency developed, and the fowl became susceptible to the mammalian germ, and vice versa. Koch's latest dictum regarding the independence of bovine and human tuberculosis may be shown to be most vulnerable along these lines. Evolutionary adaptation and nutritional modification must needs differentiate human and bovine tuberculosis, but this does not militate against their interchangeability through atavism or otherwise. Least of all does it disprove their community of origin. In the study of germs we are ever confronted by fundamental evolutionary law, not in part, but as a whole. Tuberculosis is no exception to the rule. The same law of progression has affected both parasite and host. Both are so individualized that the species remain distinct.

I will admit that, as Theobald Smith has shown, the qualities of pathogenesis displayed by human and avian tuberculosis vary widely, but this is to be expected. The human being and the fowl bear the same comparative relations to the germ as do different culture media to any given pathogenic germ in the laboratory. The variation of virulency incidental to the passage of a given germ through different animal species—a most familiar experiment—bears eloquent testimony for the evolutionary theory of infectious diseases. The animal body modifies the germ just as all other environments do. The relatively high temperature of fowls as compared with mammals necessitates adaptation changes when the tuberculosis of the one is inoculated upon the other, and is alone sufficient to explain a spontaneous variation in type. McFarland[6] has made some interesting observations bearing on germ adaptation in general. He says: "The flagellate bacteria have a greater number of representatives among those whose lives are spent in water and in fermenting and decaying materials than among those inhabiting the bodies of animals. It may be added that parasitic disease producing bacteria which do not habitually gain access to the tissues but inhabit the intestines—such as the bacillus of typhoid—are actively mobile like the saprophytes, while those habitually entering the tissues and multiplying there are motionless and without flagella." The so-called facultative parasites and saprophytes, which possess the power of so adapting themselves to their environment that they can become either saprophytic or parasitic—warring indifferently with the living or the dead as best suits their ends and needs—show adaptation to environment and are sufficient alone to establish a principle.

It is a noteworthy fact of evolutionary suggestiveness that the relation between bovine and human tuberculosis is closer than either fowl and human or fowl and bovine. Koch said long ago on this point that fowl tuberculosis is hardly to be considered as a factor in the etiology of human tuberculosis. He is now of similar

6. Bacteriology, McFarland.

opinion as to the relations of bovine and human tuberculosis. Nocard, Fischer and Hueppe, however, have shown the bovine to be transformable under proper conditions into the human variety and vice versa. No matter what clinical differences may exist between fowl, human and bovine tuberculosis, their co-relation is hardly open to controversy, and, when viewed from the evolutionary standpoint, prophylactic negligence based upon Koch's dogmatic position is fraught with ultimate danger. We should deal not only with the germ but with his ancestry and entire kin. Our warfare against pathogenic germs should be patterned after the Kentucky feud, in which fine distinctions of relationship are not usually drawn.

Not the least important of the germs that show experimentally inconstancy and a versatility explicable only on evolutionary grounds are, the cholera bacillus, which forms a yellow or brown pigment on potato and causes acid fermentation in saccharin solutions, the germ of glanders, forming brown pigment on potato, and the micrococcus pyogenes aureus, producing acid fermentation in sugar and a rich yellow pigment in cultures. Such observations are sufficient alone to upset Cohn's arbitrary classification of germs into pathogenic, chromogenic and zymogenic.

The practical side of the evolutionary view of bacterial life is obvious. Slowly but surely we are drifting from the untenable ground of unvarying specific entity to the safer belief that the soil in which the disease germs are sown and the conditions surrounding them are all important. In surgery, especially, we have learned the lesson that absolute non-infection of wounds is almost, if not quite impossible. When an environment unfavorable to germ development is provided, relative asepsis is secured. The tissues dispose of a greater or less quantity of more or less virulent germs if the latter have nothing to feed upon. *Mann ist, was er isst.* So, too, with the parasite that feeds upon him. Man is to the germ as macrocosm to microcosm.

The germ as the *causa prima* of disease can not well stand. Von Liebig was not so far wrong when, in his criticism of Pasteur's views of bacteria as the cause of fermentation and disease, he said, "One can not see causes."

It gives me great pleasure to reiterate to-night what, in substance, I said nearly twenty years ago, on the relations of bacteria to disease. As I expressed it then, "The tendency of modern research has been to seek for a specifically constant germ to fit a specifically constant disease, and then for a specific remedy to kill the germ." The etiology of disease will never be placed upon a secure foundation until the causes of the transformation of innocuous into pathogenic micro-organisms have been found. These conditions having been found, it will then be incumbent upon the scientist to determine the conditions under which the germ, once become pathogenic, best thrives and presents its most virulent properties, and vice versa. Less microscopic dogmatism and more biologic reflection is necessary. So far as the infectious diseases are concerned, the scientific light of the future must, it seems to me, be reflected along these lines. The trend is certainly in this direction at present. To this modern trend are we indebted for our serum-therapy, which is in effect a revival of old-time theory and practice.

With proper facilities for study, the venereal diseases should be models of accessibility for such research as I have suggested. Once understood, they would assist us in elucidating many important problems involving other infectious diseases. With all due respect to the modern school of pathologists, I venture the opinion that we are still in the period of venereal confusion so far as etiology and pathology are concerned. True, we now have the one venereal disease of the great John Hunter resolved into three. We have even captured the gonococcus, but I venture to assert that we are not much nearer the primal causes than we were before. Indeed, I suspect we are further away, for in direct ratio to the assiduity with which we pursue specificity in germs, will be our departure from those lines of true scientific study of gonorrhea by making the ultra-enthusiastic advocates of the germ self-sufficient. With them it was not necessary to go further. The gonococcus has been a veritable venereal *pons asinorum* to some, with whom it causes all and to whom it explains all. I wish to record the opinion here that the true etiology of gonorrhea lies behind the gonococcus. Some of the profession have even begun to lose faith in the ubiquitous gonococcus in his own peculiar field—arbitrary diagnosis. It has come to pass that those who go beyond "the optic sharp I ween which sees things that are not to be seen" are rather skeptical about the ordinary office diagnosis of gonococci. As time goes on the gonococcus will grow less and less important and the conditions governing the evolution of the germ, and especially the evolution of virulent properties in primordially innocuous germs, will be known and will comprise the etiology of gonorrhea. I hope that some of us at least may live to see the realization of this prophesy. What has been said of gonorrhea applies with equal force to chancroid, save in that a definite germ in this disease has not yet been established, but all of us have observed clinically wide variations of results of local venereal infection, embracing as it does all grades of inflammation and tissue change from a simple urethritis or simple balanitis on the one hand to a virulent chancroid or gonorrhea upon the other. Giving due credit to the element of germ infection, observe how its importance is minimized by environmental influences.

It is my firm belief that gonorrhea and chancroid develop *de novo* in the medium afforded by the secretions of the unclean and pathologically contaminated vagina. This development depends upon adaptation changes in innocuous or comparatively non-virulent germs—a spontaneous culture modification. The virulency of the resulting germ production is modified by many conditions, of which the following are most important: 1. Much depends upon the stage of decomposition of the vaginal fluids. The age of the process of germ development is all important. 2. The frequency of coitus. 3. The constitution and habits of the woman. 4. The character of any seminal or other discharge from the male which may be deposited in the vagina. 5. The degree of uncleanliness of the woman.

Once elaborated and hetero-inoculated upon susceptible soil the results depend upon: 1. The amount and degree of virulence of the infectious germs and their products deposited upon an atrium of infection. 2. The cleanliness, local and constitutional condition, habits and sexual hygiene of the new host. 3. Individual predisposition. This involves individual immunity on the one hand and a tendency to inflammation, suppuration, serpiginous ulceration, phagedena, or gangrene on the other.

It would be beyond the scope of this lecture to reiterate all the points brought out in my earlier papers anent the clinical evidences in favor of the views therein expounded. I will therefore content myself by mention-

ing a few points that are familiar to all of you, with certain qualifications which I believe to be consistent with the views expressed in this paper.

1. The discharge from urethritis—the virulent form especially—if confined by a tight prepuce causes varying grades of inflammation and infection from slight balano-posthitis to destructive ulceration, and even suppurative bubo. The pus from both the sub-preputial process and the resulting bubo may be auto-inoculable, producing ulcers which, if not identical with—and the microscope does not as yet help us here—are clinically similar to chancroid. This is especially true if auto- or hetero-inoculated upon cachectic subjects.

2. The long-continued contact of these sub-preputial secretions causes papillary over-growths—venereal warts and indurating edemas. The discharges of pregnancy, syphilitic lesions, gonorrhea and chancroid produce similar results.

3. Chancroid of the urethra is attended by urethritis of greater or less severity, not typically gonococcal always, it is true, but often so, and then attributed to double infection.

4. Gonorrhea and chancroid are often associated in the same patient under circumstances which are suggestive of the contraction of the one disease from the secretions of the other.

5. Gonorrhea and chancroid are contracted most often from the same class of women—often from the same woman. The higher class prostitute very rarely infects with chancroid and exceptionally imparts gonorrhea.

Women who have infected numerous men with gonorrhea and chancroid, singly or combined, are often found upon examination to have neither disease, so far as our present means of research enable us to determine. They are usually unclean, however. Such women are often merely media for infection, it is true, but this can hardly explain all cases. Latent infection explains some, but it is questionable if it explains everything save mediate infection.

7. Suppurative adenitis is common to all genital lesions, be they specific or simple. That the everyday explanation of this fact is mixed infection I am well aware.

8. It is often a very difficult matter to determine where simple genital ulcer ends and chancroid begins. The test of auto-inoculation is hardly fair, as it is a test merely of the degree of virulency of the secretion. Auto-inoculation does not succeed in the later stages of chancroid, and the results in any given case vary in virulence.

9. The natural tendency of chancroid is to lose its specificity after a time and assume the character of simple ulcer. Boeck's fatuous method of so-called syphilization demonstrated this point beautifully. A similar and more marked evolution and involution should occur spontaneously under natural conditions. I maintain that this spontaneous change in chancroid proves the position I have assumed regarding the evolution of the disease. The involution of the disease necessarily represents an antecedent evolution. If this be not true then the entire scheme of evolution falls to the ground. If evolutionary adaptation did not control infection, the comparatively benign infections would be malignant and fatal. The difference between benign and malignant germ infection simply is in great measure that mutual adaptation is a success in the case of the germ and cell in the one instance and a failure in the other.

There are many puzzling clinical facts bearing upon gonorrhea, which should inspire us with caution in diagnosis. In a number of instances in which patients have been said to have deep-seated gonorrhea with gonococcal semen, I have been able to prove the non-specificity of the apparently typic gonococcus by culture and inoculation. In one case the gonococcus had been found in the semen by no less than seven competent men. The explanation in this case is a purely evolutionary one. The gonococcus had been shorn by adaptation of all its pathogenic properties, whilst retaining its physical characteristics. The final product, however, might, if deposited on suitable—i. e., filthy—soil, again evolve into a specifically pathogenic microbe.

It is noteworthy that a man with latent gonorrhea may infect his wife with typic pelvic infection. Intercourse being renewed later, the wife imparts to the husbandd a typic, virulent gonococcic urethritis. Here is a very striking illustration of germ adaptation. Another pertinent fact is that women with latent gonorrhea, or recently infected by active gonococci, may have no symptoms until the onset of the menstrual period. Coincidentally with the change in soil due to congestion of the sexual tract, acute infection occurs. This is an important germ evolutionary evidence.

A thorough and radical change in scientific thought and research method must occur before such views as I have expressed in this paper can be established on a sound basis, and, so long as our present cut-and-dried methods of laboratory research prevail, not one step will be taken in the right direction. The "circle" of Koch was a vicious circle indeed. No student's examination has been complete without a knowledge of it, yet I venture to assert that it has done almost as much to retard true scientific research as it has to further it. Its range of application has been so narrow as to emasculate it, yet has it dominated pathologic research. Its several test points have failed in numerous kinds of indubitably specific disease. It has been found that the old view of special susceptibility to disease and of a *locus minoris resistentiæ*—which we had all but thrown in the waste basket—must needs be revamped for modern etiologic necessities. As already outlined, it has been found that not all so-called specific microbes are susceptible of pure culture. Some germs have been shown to be inactive pathogenically save when mixed with other germs. Germs which are ordinarily innocuous have been found to become pathogenic under certain special conditions. Most disease germs are effective through the poisons they create, and not of themselves.

I reiterate these points merely to emphasize the fact that the germ is not only not all, but is a small part of what we must learn of etiology and pathology. In conclusion, I will state it as my belief that the etiology and pathology of infectious diseases of the future will stand, not upon the germ but upon the myriad of conditions yet unknown that lie behind the germ. The germ bears the same relation to the true etiology of disease that the cosmogony of Moses does to the universe. It crudely attempts to explain but a small part of a great whole.

Reliance Building.

Clinical Reports.

ACUTE CHOREA, RECOVERY.

CHARLES S. WALKER, M.D.
CONCORD, N. H.

F. O. B., male, aged 31, single, with no particular occupation, but having worked in a wood planing-mill in Massachusetts, entered the New Hampshire State Hospital, Concord, N. H.,

Oct. 9, 1901. He had not been well for four weeks. In the history of the case it was intimated that he had been a little odd since childhood—not quite as adept a scholar as some of his chums. His family medical attendant said the only severe illness that the patient had ever had was enteric fever, 15 years ago, from which he made a perfect recovery.

Physical examination showed height, 5 ft. 6¾ in.; weight 122 pounds; poorly nourished; pulse 68; tongue slightly coated; complexion pale; pupils somewhat dilated, but equally, reflexes normal. There was a peculiar dragging to left leg on walking, which was said to be congenital. It is said that his mother, while pregnant, was frightened by a man who had just such a gait. The reflexes of skin and abdomen were absent; cremasteric, delayed but present; tendon, right, exaggerated; knee-jerk, left, absent; wrist and biceps, absent. Bodily symmetry was fairly good, lungs normal, heart somewhat enlarged, murmur heard at the apex—mitral regurgitant—clearly heard at angle of scapula on left side of back, and the abdominal organs were in normal condition.

Psychic Condition.—There is no history of nervous disorder, insanity or tuberculosis in the family. The patient's habits have always been good, and his conduct well behaved; in temperament he is slightly nervous, and somewhat agitated, and his expression is anxious. Attention and memory were good, both in regard to past and present affairs. His ideas were somewhat retarded, but not to a noticeable extent. He had no delusions, hallucinations or illusions. Before his admission he was at home for a short time and was troublesome. His parents were afraid of him as they had never seen him in this condition. He was ransacking around the house generally, overturning chairs, tables and other articles of furniture, so it was deemed expedient to send him here.

On admission the patient was placed in bed. He was very nervous, moving and twisting around continually, looking first in one direction, then in another. Says he feels perfectly well, but is unable to keep quiet. When eating, crumbles up his food and amuses himself by making a line of crumbs around the edge of his bedspread. Sleeps fairly well. There is a good deal of involuntary muscular twitching, seen perhaps more clearly in the left hand than elsewhere.

October 22.—The patient continues to be very nervous, going through all kinds of antics or choreiform movements with his hands and feet, first lying down and then suddenly sitting up, then lying down will go to sleep for a time. These movements are more definitely manifested in the left hand, although the right is involved. When awake he can not control these movements, the fingers being continually in a state of agitation. After lying in bed for a few days he was allowed to dress and sit up, but being restless was returned to bed. When lying perfectly quiet the muscular twitchings were plainly visible over different parts of the body. He has been eating very well. While taking his food he does considerable juggling with his knife, fork and dishes, and makes all sorts of grimaces. He shows a little improvement.

November 4.—The patient is now able to lie perfectly quiet and manifests no choreiform movements except occasionally when a little excited. A few days ago it was impossible to keep his bed made up. He now keeps the same in splendid order.

November 8.—The fingers can be controlled perfectly—no movements over any part of the body. He is looking fine physically, is gaining fast, and has shown wonderful improvement.

December 10.—He was allowed to attend the dances, but the excitement and music were more than his nervous condition would admit, so he desisted from this pleasure. He has taken outdoor exercise and enjoys it very much.

Conclusion.—The patient made a splendid recovery after an illness of 12 weeks.

Treatment.—After admission a tonic was prescribed—nucis vomicæ, m. 10; tinct. gentian co. ʒl. t. i. d.—which was administered for a few days. On October 22 this was discontinued and Fowler's solution was given with 5 drops as the initial dose t. i. d.; this was increased by one drop daily until the dose was 15 drops t. i. d. There were no symptoms of arsenical poisoning. From this point, a decrease was made until 10 drops were reached. Then the solution was discontinued. No other medicinal agents were used except an occasional laxative to keep the bowels in good order.

The food was plain and nutritious, a goodly amount of milk being taken, but very little meat eaten. Eggs in the form of eggnog were freely administered. After convalescence was established, liberal quantities of good New Hampshire air was indulged in.

The rapid recovery of this case shows that Fowler's solution, judiciously used, with rest, quiet and a light nutritious diet, is an excellent treatment in cases of acute chorea.

TWO CASES OF PERIPHERAL GANGRENE ASSOCIATED WITH LOCALIZED DISEASE OF THE ARTERIES.

HARRY M. SHERMAN, A.M., M.D.
AND
THOMAS W. HUNTINGTON, M.D.
PROFESSORS OF SURGERY IN THE UNIVERSITY OF CALIFORNIA.
SAN FRANCISCO, CAL.

HISTORY OF CASE ONE.

CASE 1.—By Dr. Sherman. The patient is a man aged about 40. He has had no serious illness since childhood, when he had an attack of scarlatina, following which he was unable to walk for four months. He has not had syphilis. He has some dry eczema upon his forehead and about the joints. He eats well. His bowel and bladder functions are normal and he sleeps well. He has no sugar nor albumin in his urine.

He gives a long account of the conditions which led to the removal of his left leg. About 1878, when it was the fashion to wear low shoes with large buckles, he had a severe pain at the top of the left instep and so discarded his buckle shoes. For some time he was then free from pain, but after awhile it returned with greater severity; it was thought to be rheumatism and for this he was treated. For seven years he had this pain, with intermissions; but the intermissions became shorter and fewer and the pain, when present, became more severe. Apart from this pain his health was good.

In October, 1896, he was suffering greatly and at that time he thought he had an ingrowing big toenail. He was treated by a chiropodist, and the result was a wound which would not heal, but became septic and finally necessitated the amputation of the big toe. The stump, however, did not heal and the local and general septic condition became worse. An incision was made on the dorsum of the foot; this partly controlled matters, in that the general symptoms subsided, but the local condition continued and he lost all the other toes, except his little toe. There was a pause here, but not for long. In April, 1897, an ulcer appeared upon the instep; this ulcer would not heal and it was decided to curette it. This little operation disclosed such fragile bone and this condition was found to be so extensive, that an amputation was done five inches above the ankle. This stump also did badly and two months after the amputation quite a sequestrum was discharged, and later, when the soft tissues contracted, the bone protruded and another amputation became necessary, four more inches of the leg being removed. This stump followed the course of the others; an ulcer persisted which would not heal under any treatment until hot-air baths were tried: under them it nearly closed so that an artificial leg could be worn.

The patient then went to Nome. His stump became worse and his right foot began to pain him, there being a sensation of intense cold in the sole. This was persistent and irremediable and he returned to California. Here he began the hot-air baths for his stump and the ulcer fully healed; but the right foot became worse, pain being complained of in the sole and instep. For these pains an insole was put in the shoe to support the instep, but without relief. At this time he got a small corn on the little toe and treated it himself. This

resulted in an ulcer, for which Dr. Lewitt was called in; he instituted treatment to secure its healing, but it would not heal. At this time I saw him and agreed in the removal of the distal phalanx; this made matters worse, pus burrowed into the sole, red swollen areas developed in the dorsum and there was danger that the local sepsis would become more and more extensive. Dr. Lewitt transferred the case to me, the patient went to St. Luke's Hospital and under anesthesia both the sole and dorsum of the foot were laid open. The incision through the sole disclosed only a suppurating tract. That through the dorsum exposed dark congested areolar tissue, which looked as if it were ecchymotic, though there was no effused blood. This operation had exactly the same result as all the others. Matters were made distinctly worse and the edges of the incision became gangrenous. I amputated the leg at the junction of the upper and middle thirds. At the request of the artificial leg manufacturer, I made antero-posterior flaps, and these were made very long to permit of a possible marginal gangrene and its separation, and leaving still enough flap tissue to cover the bone. The flaps bled properly, but it was noticeable that no hemorrhage came from the anterior tibial artery. In general, the tissues of the stump looked darker than they should and the blood from them was also darker than normal. The stump was closed by tiers of sutures, uniting individual tissues, periosteum to periosteum, muscle to muscle, and so on, with, finally, a subcuticular suture in the skin. A small gauze wick was placed in the middle, reaching to the periosteal suture. The gauze was removed after 48 hours and the stump looked well. At a second dressing, 48 hours after the first, an area of redness was evident, triangular in shape, its base corresponding to the edge of the middle of the anterior flap and its vertical height being about 3 cm.; at the subsequent dressing, two or three days later, it had disappeared. From that time, healing proceeded uneventfully but slowly, though quite a crease formed in the anterior flap in the site of the reddened triangle. About ten days later this crease unfolded, the place became prominent, dark and fluctuant. With this was some pain. A puncture released some bloody serum. The swelling disappeared, the normal color of the skin returned and the little wound is apparently satisfactorily healed.

Six months later: There has been a further destructive process in the stump at the site of the red triangle, and the artificial leg, which had been fitted, has had to be put aside. This is in keeping with the report of Dr. Taylor, which shows that the disease in the arteries extends above the level of the amputation.

HISTORY OF CASE 2.

Case 2.—By Dr. Huntington. The patient is a man of 32, a worker in leather. His family history was negative. He presents no history of syphilis or alcoholism. There is a history of an indefinite trouble in his right instep 15 years ago; the instep was painful and tender to the touch. The surface was cold and perspiration was excessive. He states that ever since that time he has suffered from cold feet.

On Jan. 4, 1901, he was admitted to the French Hospital, complaining of severe pain in the right great toe. Upon admission, the attending surgeon found a small, black area upon the outer side of the toe. The nail was removed. Three days later, he entered the City and County Hospital: upon his admission the entire toe was found to be gangrenous and was removed by disarticulation at the metatarsophalangeal joint. Two days later the dorsum of the foot became gangrenous. The gangrene slowly spread. It was of the moist variety and though very indolent there was no attempt to form a line of demarcation. The general condition of the patient was bad.

Three weeks later he was removed to the Mt. Zion Hospital, at which time the leg was amputated in the middle third. A small portion of the anterior flap sloughed, but ultimately the patient made an excellent recovery. A few weeks later a small ulcer appeared in the scar, on the inner side of the stump. This ulcer has never healed and prevents the use of an artificial limb. The stump is cold, perspires freely and is poorly nourished.

At this date, the process appears to be beginning in the left foot and leg. The leg is cold, there are upon the foot discolored areas which are sensitive to pressure. The muscles of the leg are flabby and the leg tires easily.

PATHOLOGY OF THE CASES.

The two legs amputated were examined by Dr. A. E. Taylor. Since no alterations, apart from the areas of gangrene, were found in the muscles or nerves, the vessels alone will be described.

On receipt of the specimens, dissections of the anterior and posterior vessels were done. It was noted, particularly for the anterior vessels, that they were surrounded by an abnormal amount of connective tissue, which was very dense and quite unlike the normal areolar tissue usually found about the vessels. The vessels were then measured and fixed. Thrombosis was noted in both anterior tibial vessels, in both anterior veins and their subdivisions and in the posterior veins in the case of Dr. Huntington.

The measurements of the arteries in the middle thirds were confirmed by measurements in sections with the object-mikrometer of Zeiss. Since the measurements for the total width of the vessels agreed in general with the measurements made of the fresh vessels, it is assumed that the internal measurements likewise were the same. The measurements given are therefore the microscopic measurements.

	Total Diameter. Mm.	Each Wall. Mm.	Lumen. Mm.	Area of Lumen. Sq. mm.
Normal tibial. ant.	3 to 4			
" " post.. . . .	3.5 to 5	0.3 to 0.5	2.5 to 4	Above 4 9
Case 1.—T. Ant	1.31	0.305	0.7	0.41
Case 1.—T. Ant., lower 3d..	1.09	0 275	0.54	0.23
Case 1.—Ant. T	0.635	0.2	0.235	0.04
Case 1.—T. Post.	1.35	0.38	0.6	0.28
Case 2.—T. Post.	2 06	0.725	0 61	0.28

As compared to the normal, these arteries display a great reduction in the total diameter and a normal thickness of the wall with a great reduction in the diameter of the lumen. Normal arteries of the same total diameter as these would have much thinner walls, so that these walls, though apparently normal, are really increased in thickness. The functional result is best illustrated by the figures for the areas of the lumens; in no case is the square area in a diseased vessel as much as one-tenth the normal area, while in the anterior tibial vessel in the case of Huntington it is but one one-hundredth. Whether these reductions in the general lumen and diameter occurred before or after the thrombosis can not be said; the posterior tibial in Sherman's case, which was patulous, presented the same marked reductions and this suggests that the reductions antedated the thrombosis.

On microscopic section of the vessels, the elastic tissue and the muscular coat seem qualitatively normal. In particular the normal appearance of the media is in marked contrast to the conditions in arteriosclerosis. Both the muscularis and the elastic tissue seemed rather in excess quantitatively. The intima was not notably thickened in either case, except in the areas of thrombosis, where the intima was involved in the process of obliterative fibrosis. No signs of lime salts could be found. The endothelial cells lining the vessels were normal in the patulous portions. The adventitia was thickened, but was usually well outlined from the surrounding excessive fibrous tissue. In the areas of thrombosis the process is an obliterative arteritis.

The portions of the vessels not submitted to microscopic section were dissected. The process of thrombosis did not extend along the entire length of the vessels involved, except in the case of the anterior artery in the case of Huntington; there were small portions in which the lumen was patulous. These portions were carefully examined with a hand-glass for areas of atheroma. None were found. The vessels were not at all tortuous, but perfectly smooth and straight.

The veins presented no other lesions than thrombosis. These veins vary much in thickness normally, and were not thicker than they often are in individuals in middle or advanced life.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, MAY 24, 1902.

PROFESSOR VON LEYDEN.

Professor Ernest von Leyden of Berlin celebrated his 70th birthday on April 20 last. The occasion was taken as a suitable opportunity for felicitation by medical men all over the world. Professor von Leyden is one of the greatest of living practical clinicians and his contributions to internal medicine represent some of the most significant practical advances of the last thirty years. In many lines of medical practice his work and that of his clinic, from the time when he presided over the department of internal medicine at the small university of Koenigsberg nearly forty years ago, to his more than a quarter of a century at the Charité in Berlin, has been thoroughly representative of what is best in the progress of applied medicine and has proven a fruitful source of suggestion and inspiration to clinicians the world over. The Festschrift for his birthday, dedicated to Professor von Leyden by his many medical friends and pupils, has just reached this country. The two volumes constitute a very appropriate tribute to a great practitioner. Nearly every prominent authority in internal medicine on the Continent is represented by a contribution in the first volume. Articles from Professor von Leyden's pupils make up the second. These include such well-known men as Professor Salkowski of Berlin, Professor Eichhorst of Zurich, Professor Jaffe of Koenigsberg, and such successful investigators as Professors Brieger, Goldscheider, Bernhardt and Klemperer of Berlin. The table of contents of the volumes gives the best possible idea of the amplitude of von Leyden's influence.

As is very proper, most of the contributions to these volumes are clinical in character. Professor Gerhardt and Senator von Leyden's distinguished colleagues at the Charité have each a suggestive article. Professor Gerhardt calls attention to the frequency with which vascular nevi are associated with local hypertrophy of the part affected. He suggests a certain relationship between these anomalies and erythromelalgia and seems to hint that modification in the disfigurement that is so prominent a feature of nevi may be brought about by section of the nerve carrying the vasomotor fibers to the part. Professor Senator discusses, illuminatively, the significance of the so-called "perisystolic," or "prediastolic" heart murmur. The distinguished head of the clinic at Vienna, Professor Nothnagel, contributes a sketch of the career of his life-long friend and colleague, Professor von Leyden, whose assistant he was for many years. Professor von Schrötter of Vienna writes on actinomycosis of the lungs and heart.

Professor von Leyden's colleagues in Berlin are especially well represented. Professor Heubner reviews the clinical work of his department for the last eight years and says a last word on the vexed question of the connection between rheumatism and chorea. For him they are undoubtedly equivalents and nosologically related in their causes. Professor Jolly discusses head tetanus and facialis paralysis. Professor Ehrlich, so long of Berlin, now of Frankfort, has a most suggestive paper on the relations between chemical constitution, molecular arrangement and pharmacologic action. Professor Lazarus discusses the relations between adenoid vegetations and heart dilatation with weak action. Professor Wassermann reviews the important results of recent investigation on the effects of hemolysin, cytotoxin and præcipitin.

The French clinicians are well represented: Bouchard and Marie of Paris, Courmont of Lyons, Bourget of Lausanne and Metchnikoff of Paris. The last-named has an article on an unexpectedly up-to-date subject—inflammations of the appendix. He calls attention to the fact that appendicitis is rare in China, but on the increase all over the rest of the world. He lays no little stress on the presence of various animal parasites in the intestine during early life as producing conditions that predispose to the development of inflammation of the appendix. Of the foreign clinicians, the Russians are best represented and this, it may be said, in spite of the fact that Professor von Leyden was summoned to attend the late Czar. Professor von Bechterew writes on the rhythmic tremors and automatic movements of the hysteric. Professor Kernig of present-day notoriety, because of the discussions over the Kernig symptom in meningitis, writes on the use of quinin in the treatment of typhoid fever, for which he has found the remedy of great value. Professor Minor of Moscow writes on hemispasm of the tongue and lips as a late symptom of organic hemiplegia that makes possible its differentiation from functional hemiparesis. Rome and Bucharest, Helsingfors and Budapest, Amsterdam and Copenhagen, London and Athens, all send their offering of reverence for long years of clinical work well done to the master at Berlin. The spirit behind the work is an earnest of that better fellowship among the men of all nations that is so manifest and so promising at the beginning of the twentieth century and that has especially drawn the members of the medical profession together. The fellow-feeling for suffering humanity that makes all physicians kin, will be an inspiration to that coördination of effort that crowns investigation with success. No better example of its helpfulness can be found than in the work of von Leyden, his pupils and his friends.

THE MODERN FAMILY PHYSICIAN IN LARGE CITIES.

The passing of the old-style family physician in our large cities means a distinct loss to society unless he be replaced by another and more modern family medical adviser. The present vogue for treatment by specialists

and for office consultation is a natural outcome of prevailing tendencies in both professional and lay circles. People need not be particularly well-informed nowadays to have little faith in the ability of one individual to cover the whole field of either medicine or surgery. They realize, for instance, that he who thoroughly knows obstetrics probably is not justified in uttering a final word on diseases of the nervous system, or that good surgery for crooked feet is not to be expected of the gynecologist. The consequence is that the several members of one family may have different medical attendants, and perhaps even change from specialist to specialist as their ailments vary. Office practice fosters these tendencies. Altered conditions of living in cities, such as disappearance of the homestead idea in this generation of apartments and flats, and the frequent change of residence from one part of the city to another, among all classes often, except in the case of office consultations, means calling in a new physician.

Great disadvantages are apparent in these tendencies, though considerable allowance be made for the value of consulting directly with specialists. Many conditions of home life are elusive in a scientific office examination, which as truly make for pathologic conditions as any state of body function discoverable by laboratory methods. Novelists are fond of portraying the case of the young woman who with her ailments born of some love affair quite baffles the doctor's diagnostic skill. Henry James, a careful student of human affairs, although perhaps hardly a realist, makes a young maiden in one of his stories rapidly succumb from an amatory *faux pas*—leaving her physicians shaking their heads and pronouncing it a very curious case. As a matter of fact, in everyday life the family confidant, such as the family physician should be, is the only person to fairly understand many ailments which have for their base defective social surroundings or mental conditions.

An important rôle for the family physician wherein he can fulfill a great social need is in the practice of preventive medicine. Hygiene of the individual and of the household are of vital importance from every point of view, and no one can know the factors and solve the problems so well as a tactful and trusted family physician. The writer has seen an instance of a young child treated at an office regularly all one winter for a skin affection by a physician of experience who neither found a cause nor effected a cure. The matter being carefully studied into by a physician who saw the family at home, the cause was discovered to be exposure to the direct heat of the kitchen range during the morning bath. This proceeding stopped, the dermatitis quickly healed without treatment. Such unconscious and apparently trivial slips in hygiene are discoverable only by the family physician who has the advantage of intimate acquaintance with life in the home.

Much benefit accrues to the family having a trusted physician in the greater incentive to go to him with small ailments. If these only occasionally turn out to be important, yet one occasion may justify by the results of early treatment the reporting of a great many inconsiderable ills. No better illustration of this is to be found than in the demand which gynecologists are recently making upon the family physician for early diagnosis of uterine carcinoma by the very symptoms which women do not think of enough importance to bring to the attention of a specialist.

The modern family physician need not presume to be all-knowing, but he must be especially well-informed in the general matters of surgery and medicine, and well enough equipped with common sense to coöperate with the specialist whenever there is any suggestion of need. Besides training in preventive medicine it will not be too much to demand that he know enough of the physiologic development of the nervous system to give advice about the early education of children, and enough of psychology to do what the occasional consultant can rarely do, namely, recognize and remedy if possible any factor in the patient's mental habits or environment which may be a causative agent in the pathologic condition.

INORGANIC FERMENTS.

By inorganic ferments is understood finely-divided metals (platinum, silver, gold, etc.) suspended in water as solutions. This fine division of the metal is obtained by passing a strong electric current from one bar of metal to another in pure water. It does not concern true solutions, however, because there is no change in the freezing-point, the vapor-tension, or the boiling-point of the fluid; neither does it not produce any osmotic pressure. For these reasons these mixtures are called pseudo-solutions or colloidal solutions; they are analogous to solutions of starch and albumin, but have also remarkable fermentative properties. Thus, a colloidal solution of platinum hastens the oxidation of alcohol into acetic acid; others invert cane sugar, etc. Like organic ferments, small amounts of colloidal solutions of metals effect large transformations without themselves undergoing any change. Such reactions are termed catalytic.

The work here referred to has been carried out by Bredig and his pupils, and it is from the reviews of their work by Harry C. Jones[1] that the facts cited are abstracted. It has been shown, further, that like organic enzymes, colloidal metals are exceedingly sensitive to certain substances, such as hydrocyanic acid, carbon bisulphate, etc., which interfere also with the fermentative action of finely-divided metals. Bredig and his co-workers have made qualitative and quantitative studies of the "poisonous" effect of such substances as those mentioned upon colloid platinum by investigation of its rate of decomposition of hydrogen dioxid after the addition of various poisons, using in all about thirty substances. From the effects of some of these poisons the platinum would

1. Bulletin of the Johns Hopkins Hospital, September, 1900, p. 224, and May, 1902, p. 97.

recover, e. g., hydrocyanic acid and cyanogen iodid, while the detrimental action of other substances, among them iodin, remained permanent. To cite only one actual example—a solution of hydrocyanic acid containing one gram molecular weight in two million liters reduces the reaction velocity of colloidal platinum one-half. The fact that the poisonous action after a time diminishes materially, i. e., the ferments "recover," is regarded as due to the oxidation of the hydrocyanic acid in the solution.

Comparative studies show that there is a general agreement between the action of poisons on organic and inorganic ferments. We can do no better than requote the following paragraphs from Bredig already cited by Jones: "All these facts point to an unmistakable analogy between the contact actions in the inorganic world, and the actions of ferments in the organic world. As in the case of my colloidal catalyzers, we are dealing with reactions in which enormously-developed surfaces are involved, so is it probable that the same condition obtains in the actions of ferments, enzymes, blood corpuscles, and oxidizing and catalyzing organic substances. We see, therefore, that the organism develops its enormous surfaces in the tissues and colloidal ferments not only because it requires osmotic processes, but on account of the very great catalytic activity of such surfaces. If, as Boltzmann says, the war for existence which living matter must wage is a war about free energy, certainly of all forms of free energy the free energy of surface is the most important for the organism." Bredig does not maintain that there is any mysterious identity between enzymes and the metals, but he thinks it is fair to regard the colloidal solutions of metals, in many relations at least, as inorganic models of organic enzymes. The value of Bredig's work for biology and medicine lies in the better understanding it gives us of the nature of ferment action which underlies so many of physiologic and pathologic processes.

THE VALUE OF BLOOD EXAMINATIONS IN THE DIFFERENTIATION OF TYPHOID AND MALARIAL FEVERS.

When typhoid and malarial fevers prevail coincidently, particularly when atypical forms of each occur, the diagnosis in a given case may be attended with the greatest difficulty and a correct decision may be possible only after invoking the aid of all refinements in physical exploration. A positive reaction with the serum agglutinating test on the one hand and the presence of the plasmodia in the blood on the other hand, together with other more or less characteristic symptoms, may leave no room for doubt, but occasionally these phenomena may for one reason or another be absent. It seems not impossible that the different infectious diseases are attended with more or less definite, perhaps specific, changes in the blood and the near future may yield additional diagnostic means of great precision and certainty.

We have already referred to the agglutinating test and the hematozoön of malaria. It is further known that in both typhoid and malarial fever when uncomplicated the number of red and of white blood corpuscles and the percentage of hemoglobin are diminished. Recent observations seem to show that certain differences in these changes afford a means of differentiating typhoid and malarial fevers. In a series of some 50 cases of continued and remittent fevers observed in India among Europeans and natives, Dr. Leonard Rogers[1] found that a fairly close correspondence existed in cases of typhoid fever between the reduction in the number of red blood corpuscles and in the amount of hemoglobin, so that the color-value remained practically unchanged. The degree of anemia was comparatively slight, the depreciation rarely reaching as much as 50 per cent., while the white blood corpuscles seldom fell below 3000 and rarely below 2000 in the cubic millimeter. On the other hand, the degree of anemia was often greater in cases of malarial remittent fever, but the reduction in hemoglobin did not keep pace with that in the number of red corpuscles, so that the color-index was higher. In cases of malarial remittent fever with little or no anemia the reduction in the number of white blood corpuscles differed little from that noted in cases of typhoid fever, but in the presence of marked anemia the number was almost always much lower than is the rule for typhoid fever, counts of 2000 or less being not rare. Notwithstanding the reduction in the number of white blood corpuscles it was found that the proportion of mononuclear leucocytes was increased, the increase affecting the lymphocytes (up to 40 per cent. and more) in the case of typhoid fever and the large mononuclear cells (up to 12 per cent. and more) in the case of malarial fever.

Cells as large as the polymorphonuclear leucocytes or larger were considered in the latter group, while those smaller in size were placed in the former. Myelocytes were more commonly found and in larger number in cases of malaria (from 1 to 5 per cent.) than in those of typhoid fever, in which latter disease, further, the polymorphonuclear leucocytes were the more considerably reduced. Leucocytosis was rare in cases of malarial fever even when complicated, as, for instance, by broncho-pneumonia. The presence of leucocytosis could often be detected in stained preparations from the presence of an excessive number of polymorphonuclear leucocytes. The observations briefly summarized in the foregoing are exceedingly interesting and they may prove to be of great value. It is appreciated that their significance is not infallible or invariable, but, like that of other symptoms, is relative. In a word, the results of blood examinations must be estimated here as elsewhere in connection with the other conditions present.

THE MECHANISM OF THE LARYNGEAL PALSIES COMPLICATING TABES DORSALIS.

Occasionally there occurs in the course of tabes dorsalis paralysis of laryngeal muscles, especially late in the progress of cases attended with symptoms referable to the cerebral nerves. More rarely such a condition

1. British Medical Journal, April 5, 1902, p. 827.

appears as a premonitory manifestation, in advance of the typical symptoms, especially the ataxia. Two cases of this latter character have recently been reported by Dr. A. Cahn.[1] In one of these bilateral paralysis of the dilators of the larynx was observed soon after the development of rheumatoid pains, pupillary immobility and abolition of the knee-jerks. In the second case there were at first laryngeal crises, followed by the symptoms of paralysis of the posterior crico-arytenoids, tabetic arthropathies and pains and finally ataxia. A study of the cases of like character recorded in the literature shows that in the large majority alterations in the peripheral nerves supplying the muscles of the larynx are found exclusively. These changes may consist in isolated degeneration of the muscles or of the intramuscular nerve-elements or in degeneration of the recurrent laryngeal nerve alone or in degeneration of the recurrent laryngeal and of the trunk of the vagus in the neck or up to the medulla oblongata or finally into the medulla, with normal nuclei. Only a few cases with definite nuclear changes are known and in only one case has disease of the nucleus ambiguus been demonstrated. In all of these cases there was found also, whenever looked for, degenerative changes in the peripheral nerves, often more considerable and more important than the nuclear degeneration. The clinical picture in the cases in which changes were present in the peripheral nerves alone or in predominant degree exhibits a median position of the vocal bands. This may persist even when the paralysis and atrophy involve also other internal laryngeal muscles in addition to the posterior crico-arytenoid muscles. On the other hand, in the cases of nuclear atrophy the clinical picture is variable. The vocal band on one or both sides may be in the cadaveric position or in the median position and there may be derangement of sensibility.

1. Deutsches Archiv für klinische Medicin, 73, B., p. 281.

IMPROVEMENTS IN THE TECHNIC OF AGGLUTINATION.

Undoubtedly one of the most potent reasons that certain laboratory methods of great advantage to the physician do not more rapidly find their way into actual practice is the complicated character of some of the manipulations. Every step towards the simplification of such methods is welcome. Take the agglutination reaction in typhoid fever, for instance. Its great diagnostic value is universally acknowledged; it is not a very difficult reaction to carry out; but it requires a fresh, pure culture of typhoid bacilli, and many practitioners no doubt find it burdensome to endeavor to keep such cultures on hand. Of course, cultures are always obtainable from laboratories, but then there is the transplantation from day to day and the maintenance of an incubator at constant temperature. Unless the physician has had real laboratory training and is interested in keeping up a clinical laboratory of his own—and it seems that this is becoming more and more commonly the case, especially among the younger men—he naturally shrinks from adding a number of new details to his already full list of duties. And so it comes to pass that the patient gets well or dies with an indefinite diagnosis, but perhaps the more serious result is that the physician falls behind and gradually slides into loose methods. It has recently been demonstrated that in place of living typhoid cultures of a certain age, formalinized bouillon cultures may be used.[1] The method comes from Ehrlich's laboratory. Bouillon cultures of typhoid bacilli after growing one day at 37° C. are killed by the addition of one part formalin to 100 parts bouillon culture. Their mixture is allowed to stand for 48 hours at 37° C. when the supernatant homogeneous fluid is poured off. This fluid may be used for weeks as one of the factors in the agglutination test. It is best kept in the ice-box and should be well shaken before being used. The test may be made by adding the same quantity of the formalinized bouillon to the same quantity of various dilutions in physiologic salt solution of the serum to be tested, using for this purpose small glass cellars such as are employed in histologic work. Agglutination is characterized by the formation of crumbling, stellate masses easily seen under a low power and weak illumination. It would seem that this use of formalin bouillon would simplify the test considerably, and for that reason it may find favor with the progressive practitioner.

1. Pröscher Centralbl. f. Bakt., 1902, xxxl, 400-403.

CATARRHAL INFLAMMATION OF THE MIDDLE-EAR AS A FACTOR IN THE PRODUCTION OF FACIAL PALSY.

It is probable that the influence of cold as a cause of disease has been greatly overestimated. Unless the reduction in temperature be sufficient to interfere with the vitality of the part or to prevent reaction, it seems more likely that it acts merely as a contributory factor, possibly favoring the activity of pathogenic micro-organisms almost always present. Perhaps also the cold has some influence upon local as well as upon general metabolism, but whatever the explanation, there seems to be no doubt that exposure to cold in some way favors the development of a not inconsiderable number of morbid conditions. Conspicuous among these are inflammations of nerves, and here we have a striking example in facial neuritis, the palsy resulting from which is the most common form of paralysis due to disease of a single nerve and for which cold is held responsible in about three-quarters of the cases. Now, in explanation of the mechanism through which this result is brought about, Dr. H. O. Reik[2] suggests that, in a considerable number of the cases at least, there results an acute or subacute inflammation of the middle ear as an intermediary condition between the exposure to cold and the appearance of the paresis. He reasons that inasmuch as the sheath of the facial nerve is not uncommonly in direct contact with the mucous membrane of the middle ear or separated from it only by a thin lamella of bone, the nerve may suffer in consequence of a catarrhal condition of the ear resulting from exposure to cold, and he suggests that in some if not many cases of facial palsy symptoms of coryza or pharyngitis, followed by pricking or stinging in the ear, with a sense of fulness and tinnitus and deafness, will, if looked for, be observed in advance of the muscular weakness. In support of this view an illustrative instance is reported and reference is made to three others, and significance is attached to

2. Bulletin of the Johns Hopkins Hospital, April, 1902, p. 83.

the rapidity with which often recovery takes place and to the further fact that the most appropriate treatment, namely, leeching, counter-irritation, purgation and iodids, is equally applicable to both conditions. Finally, the recommendation is made that in order to hasten recovery paracentesis of the tympanic cavity should be practiced if examination discloses the presence of an exudate. While facial paralysis is not a dangerous disorder it is disfiguring and undesirable and it should, whenever possible, be prevented or relieved. In a not inconsiderable number of cases it persists for a long time and not rarely it may leave permanent deficiency, so that any means that is calculated to contribute to its prevention and to hasten its disappearance should be most heartily welcomed.

TUBERCULOSIS OF THE STOMACH.

Tuberculosis of the stomach is an exceedingly rare form of tuberculosis as compared with the frequency of tuberculous localization lower down in the intestinal tract. The causes of this relative immunity to tuberculosis on part of the stomach are not altogether clear. Several investigators have shown that the gastric juice does not destroy tubercle bacilli except after prolonged action for twenty-four hours or more. The experiments have not demonstrated, however, that the gastric juice is a favorable medium for the growth of the bacilli and in this fact may lie the explanation of the rarity of tuberculous gastritis and frequency of tuberculous enteritis. Only occasionally is chronic ulcerative tuberculosis of the lungs complicated with gastric tuberculosis and the question naturally arises, what are the special predisposing factors that lead to its development in these exceptional cases? Przewoski[1] after describing five examples of tuberculous gastritis notes that in all the cases it concerned a fibrous form of pulmonary tuberculosis and points out that this prolonged chance for infection may be of decisive importance. In two of the cases there were present the lesions of an old gastric catarrh which may have enacted the rôle of predisposing cause. It will be recalled, however, that catarrhal lesions of the stomach are frequent in chronic pulmonary tuberculosis. And then Przewoski suggests that the number of lymph follicles in the wall of the stomach may be of importance. It is in the lymph follicles that the tuberculous infection of the small intestine begins. The number of lymph follicles in the human stomach is a varying one; at times the follicles may be numerous, especially about the pylorus and in the cardiac region, and tuberculous ulcers develop most frequently in the pyloric portion of the stomach. In case the tuberculous material remained for some time in the stomach there would be greater chance for infection about the pylorus than elsewhere. Hence there are a number of local conditions in the stomach which, coupled with more or less permanent and well-marked alterations in the gastric juice, may give opportunity for the localization of tubercle bacilli, especially when these are supplied constantly for a long time and in considerable numbers. As far as we know now tuberculosis of the stomach can not be said to have any great clinical significance. Still, it is noteworthy that it has been mistaken for carcinoma. Symptoms of gastric cancer in the tuberculous and phthisical should consequently awaken suspicion of tuberculous gastric lesions. At the same time, the gastric symptoms, particularly if mild, may be the result of other pathologic conditions that predispose to tuberculous infection. Tuberculous gastric lesions the result of the introduction of tubercle bacilli with the food do not seem to occur because no cases of this nature have been recorded.

1. Virchow's Archiv, 1902, clxvii, 424-442.

A NATIONAL, NOT A LOCAL EXAMINING BOARD.

We print in this issue a communication relative to the recent proposition for a voluntary national examining board, which seems to us to indicate some misapprehension on the part of the writer. It is not and has not been the idea that this national board should have its exclusive residence in the national capital. It was specially stated that it included examinations at different centers and it is hardly likely that the Middle West or even the more remote regions would be ignored. As to the matter of recognizing already-issued state licenses, we do not see how this can be done. Indeed, it is contrary to the essential idea of the examining board which must be something different from the state boards and entirely independent of them, as regards its work and standards. Indeed, it is expected that its standard will be up to if not above that of any of them, as they have been and are at present, and to have it recognize and endorse qualifications which it has not tested would defeat its object. The idea of the national examining board is to have one qualification, open to all, that shall be equal to that demanded anywhere in this or other countries, that shall be recognized by the general government as an essential for all medical appointments under it, and that can be endorsed by state examining and registration boards as fully meeting all their requirements, except in the matter of fees. It may be that some states may not endorse it at once, but if it is accepted by some it will in time come to be accepted by all and the problem of reciprocity will be solved. To meet all these requirements it is necessary that the standard should be high enough to make it unreasonable for any state board to attempt setting a higher one. Such being the case, there could be no reason for such board to fail to recognize it. The details of the organization and working of a national board are not difficult and suggestions are numerous that will occur to any one. It is well that the subject is brought prominently before the profession so that its discussion may be full and ample prefatory to active measures for its realization. It may not be denied that it will seem somewhat like a hardship to many old practitioners that they can not take, or rather pass, the examination and receive the license. This, however, will be found, we think, less serious in practice than in theory, and in any event no greater hardship is imposed than now exists. No state medical laws need be repealed and state boards of registration can still have the same liberty of action as they now possess. A state examination will still be sought by the majority. But over and above these will be a universal qualification available to anyone who can meet the requirements and which will in time, we believe, come to be the one sought by the ambitious young

graduate. As stated before, the benefit from such a board would be for the future, rather than the immediate present. The creation of this board should not affect the efforts that are being made for reciprocity. There will be just as much need of this to relieve existing conditions.

Medical News.

CALIFORNIA.

Hospital Purchased.—Dr. James M. Shannon has purchased from Mrs. Belden of San Francisco the East Bay Sanatorium property at Oakland.

San Juan Health Board.—San Juan has organized a board of health, with Dr. Frank H. Patterson as secretary and Dr. John Crawford, inspector.

Hospital for Deaf and Dumb Institute.—The new hospital building at the Deaf, Dumb and Blind Institute, Berkeley, is nearly completed. The building has cost $6500. Dr. Oliver D. Hamlin, Oakland, will have charge of the hospital.

Convictions for Illegal Practice.—After two trials in which juries failed to agree, Mrs. Annie D. Howe has been convicted at Oakland of practicing medicine without a license.——Chang Ke Hong paid a fine of $100 in Santa Clara, May 2, for illegal practice of medicine.——F. M. Hoque, San Jose, a vendor and manufacturer of a salve which he claimed would cure cancer, was found guilty of practicing medicine without a license, but recommended to mercy.

A Correction.—The medical department of the University of California has notified us of an inaccuracy in our mention of the combined course in natural science and medicine which has been inaugurated at that institution. Under the new regulations students who have taken the three years' pre-medical course at Berkeley are admitted to regular freshman standing. The new course combines two years of work in sciences with the first two years' work in the medical department. The course consists of the freshman and sophomore years' work in the College of Natural Sciences, devoted largely to physics, chemistry, biology, German, and French. The first two years of the medical course, consisting entirely of instruction in the pure medical sciences, are then elected as the junior and senior years' work in natural sciences, and upon the completion of these four years the student is granted the degree of B.S. Following this the student enters upon the study of the clinical branches of medicine, and after two years receives the degree of M.D. The essential element in the new regulation consists in the election by the student of natural science of anatomy, physiology, pathology and bacteriology as his advanced scientific work, the last two years in the course of natural sciences being elective. The two years' work in the College of Natural Sciences now offered in this course practically corresponds to the collegiate work which, under the new requirements for admission to the medical department, will be made obligatory upon all entering students.

COLORADO.

Denver University Medical Department graduated a class of 10, May 12. Rev. David Utter delivered the address to the class and Chancellor William H. Buchtel made a brief address on the past and future of the school.

Resolutions on Deceased Member.—At a special meeting of the Pueblo County Medical Society, held at Pueblo, May 1, resolutions were adopted recognizing the integrity of the late Dr. Pembroke R. Thombs and expressing regret, sympathy and condolence.

Plague Quarantine Continued.—At the semi-annual meeting of the State Board of Health, held April 14, it was decided to continue the bubonic plague quarantine order, which forbids entrance into the state from any point of any Chinaman who can not produce a certificate of health showing that he has not been exposed to bubonic plague during the six weeks immediately preceding his entrance.

Death and Disease.—The State Board of Health reports 769 deaths for the month of April, a death rate of 16 per 1000 per annum. Of these 20 were due to diphtheria; 17 to scarlet fever and 12 to typhoid fever. During the month 90 cases of diphtheria, 268 of scarlet fever and 29 of typhoid fever were reported. This shows a decrease as compared with March of 46 cases of diphtheria, 52 of scarlet fever and 5 of typhoid fever.

CONNECTICUT.

Tuberculosis Hospital Opened.—The new hospital for tuberculous patients erected on Cedar Mountain at a cost of $47,000, was opened for the inspection of the public, May 1. In the morning the physicians of the city, donors to the hospital fund and city officials were present and in the afternoon the general public were admitted.

Infectious Diseases Reported.—The report of the State Board of Health for April shows that during the month, infectious diseases as follows were reported: Measles, 127 cases in 26 towns; scarlet fever 338 cases in 54 towns; cerebrospinal fever, 1 case; diphtheria, 113 cases in 35 towns; pertussis, 68 cases in 11 towns; typhoid fever, 37 cases in 16 towns, and consumption 18 cases in 11 towns.

April Mortality.—There were 1191 deaths in the state during the month of April. This was 48 less than in March and 62 less than in April of 1901, and 111 less than the average number of deaths in April for the five years preceding. The death rate was 16.1 for the large towns, for the small towns 14.7, and for the whole state 15.7. The deaths reported from infectious diseases were 252, being 21.1 per cent. of the total mortality.

Interneships for Yale Men.—The following men, after their graduation in June, will take positions on the house staffs of hospitals as follows: E. S. Brackett to the General Hospital, Providence, R. I.; H. E. Adams to the City Hospital, Hartford; J. J. Dunleavy and E. C. Krause to St. Mark's Hospital, New York City; V. A. Kowalevski to the Bridgeport Hospital; A. C. Swenson and L. F. Turner to the New Haven General Hospital.

ILLINOIS.

Dr. Fisher's Will Probated.—The will of the late Dr. Fisher of Le Roy was admitted to probate, May 8. The estate is valued at about $50,000.

New Hospital at Macomb.—The new Catholic Hospital to be erected at Macomb, will accommodate from 40 to 60 patients, and is expected to cost $25,000.

Instruments for St. Mary's Hospital.—The Illinois Zinc Company has presented St. Mary's Hospital, La Salle, with an operating-room equipment at a cost of $2000.

Gift to Hospital.—Jacob Zorger of Clinton has announced that he will give $5000 toward the building fund of a hospital in that city and $5000 toward its endowment.

Presentation to Dr. Smith.—The physicians of Bloomington, on the occasion of the seventieth birthday of Dr. Lee Smith, presented him with a handsome oak rocking chair.

Dr. S. T. Glasford, Pekin, who we announced last week had located in St. Louis, writes to say that he is in St. Louis only for some special work and will return to Pekin later.

Chicago.

Personal.—Dr. James V. Chvatal has been appointed a member of the Board of Education.——Dr. William Allen Pusey has moved his office from 103 State Street to 65 Randolph Street.——Dr. Fred Drury Hollenbeck has moved to 183 Rush Street.——Dr. John C. Bryan has been elected president of the Menoken Club.

Landlords Must Heat Flats.—Landlords of flat buildings have been forced to furnish heat to tenants during the recent cold spell, notwithstanding that leases read that heat is furnished only from September to May. The Department of Health has received many complaints and has issued orders which have been obeyed.

College of Physicians and Surgeons.—The medical department of the University of Illinois held its twentieth annual commencement in Chicago May 20. Dr. Walter S. Christopher delivered the doctorate address; Prof. T. J. Burrill, Ph.D., LL.D., acting president of the university, conferred degrees and announced honors, and Dr. Sherman M. Kyes, valedictorian, responded for the class, which numbered 222.

Raw-Water Disease.—Too much untreated hydrant water is still being drunk, notwithstanding the daily bulletins of the department showing the quality of the lake water. The frequent rains of the last few weeks have produced the usual pollution, and 11 deaths from typhoid fever were reported during the week. Deducting 2 of these, which were contracted elsewhere, the remaining 9 typhoid deaths are a wholly unnecessary sacrifice to ignorance or criminal negligence. All hydrant water intended for drinking purposes should be boiled.

Influenza and Suicide.—During the first 17 days of the month there have been 30 suicides—a tribute to the evil influence of the influenza poison upon the nervous system. Alienists

especially and the medical profession generally are at last aroused to the baneful import of this disease, which has been more or less prevalent throughout the world since the fall of 1889. The large increase in the demand for bacterial examinations in the laboratory during the past fortnight was due entirely to influenza, the bacillus of which is found with increasing frequency.

New Hospital Rules.—Warden Healy of the County Hospital has adopted a rule prohibiting patients from other hospitals from entering the County Hospital. When a patient operated upon at a private hospital is sent to the County Hospital and dies there, the impression is given out, according to the County Hospital officials, that the patient died because of the care he received at the County Hospital. By another recent ruling the following patients will not be taken to the clinic: Any patient who would suffer in any way discomfort or actual injury; any patient who is in danger of sudden death and any patient who would be discouraged or displeased because of going to the clinic.

The City's Mortality.—There were seventy-eight fewer deaths in the week ended May 17 than in the week before, and the total, 471, or an annual death-rate of 13.48 per 1000, is the lowest in twenty-one weeks. The reduction represents a decrease of 13.2 per cent. in the annual death rate. The principal reduction has been in the age period under five years, a reduction which has been continuous for the last three weeks. Coincident with this has been a steadily improving quality of the milk supply. Of the total 574 samples of milk and cream examined last week in the laboratory only 24 or 4.1 per cent. were found below grade. This establishes a new record in the milk division.

INDIANA.

Dr. Eastman No Better.—We regret to announce that Dr. Joseph Eastman is reported to be gradually getting worse, and little hopes are entertained for his recovery.

MARYLAND.

Free Antitoxin.—The authorities of Baltimore County will furnish antitoxin to the poor without cost.

Railway Hospital at Brunswick.—A small hospital has been established at Brunswick, Md., for the treatment of injured resident railway employes.

Hospital Site Selected.—A lot has been selected for the Cambridge, Dorchester County, Hospital, 240 by 420 feet, and costing $2500. It is situated in the residence section of West Cambridge. The last legislature appropriated $10,000 for the institution.

Personal.—Dr. Charles W. Wainwright of Princess Anne, Somerset County, has been appointed by the Governor a member of the Lunacy Commission.——The Baltimore County Sanitary Board organized at Towson, with Dr. J. F. H. Gorsuch as president, and Dr. T. Ross Payne as secretary.——Dr. E. E. Stonestreet, Rockville, has been elected health officer of Montgomery County.

Vaccinators and Sub-Registers Appointed.—The following physicians have been appointed vaccine physicians and sub-registers of Anne Arundel County for the next year: Drs. Guy Latimer, Benjamin R. Davidson, William G. Williams, George Crane, John M. Hayes, J. W. Dubois, C. P. Carrico, J. B. Robinson, C. R. Winterson, T. B. Horton, W. Clement Claude, Frank H. Thompson, Geo. T. Dent and G. Hall Perrie.

Baltimore.

Professor Welch to Deliver the Huxley Lectures.—Dr. William H. Welch has been chosen to deliver the Huxley lectures this year.

Fire in Kelly Sanatorium.—A fire broke out in the cellar of Dr. Howard A. Kelly's Sanatorium, May 14, but was extinguished before much damage was done.

Eye, Ear and Throat Hospital Report.—The annual report of the South Baltimore Eye, Ear and Throat Charity Hospital and Dispensary, which was opened May 1, 1901, shows 433 cases treated, 2061 visits to the dispensary and 82 surgical operations performed.

Personal.—Dr. John Montgomery West, a graduate of the Johns Hopkins Medical School, 1901, sailed, May 13, for Europe, where he will spend a year and a half in German hospitals.——Dr. Morris C. Robins has been appointed medical assistant to the State Board of Health at a salary of $1000. This office was created by the last legislature.——Drs. Stephen H. and John H. King sailed for Europe May 21.——Dr. Wm. H. Gaddess, who has been the resident physician at the Hebrew Hospital for the last two years, has resigned and will engage in private practice.

New Clinical Building for Johns Hopkins Medical School.—The present amphitheater will be torn down and a new building erected in its site to cost more than $100,000. It will be 100 by 112 feet, a five-story-and-basement brick building, harmonizing with the other hospital buildings. On the basement floor there will be accident rooms, dispensary, waiting and operating rooms. The first floor will have Dr. Osler's dispensary and rooms for accident patients, also a large lecture hall, examining and class rooms, etc. On the second floor there will be rooms for patients from the hospital and vaults for records. The third floor will be devoted entirely to teaching by Dr. William S. Halstead, and will contain pathologic, bacteriologic and clinical laboratories, museum, examining room and a large lecture hall which will seat 200 students. The fourth floor will be devoted solely to surgery. There will be an anesthetizing room, preparatory room, operating room, sterilizing room, operating amphitheater, chief surgeon's office, recovery room, waiting rooms, etc. The top floor will be used for photography, and will be well lighted by a large skylight. The building throughout will be finished and equipped in a thoroughly modern way.

MASSACHUSETTS.

Hospital Bequests.—By the will of the late William Skinner of Holyoke, $10,000 is devised to the Holyoke City Hospital and $5000 to the House of Providence Hospital in the same city.——The will of Benjamin Henry provides that on the death of Mrs. John C. Howard, Los Angeles, Cal., the sum of $4000 shall be paid to the Franklin County Hospital, Greenfield.

Millions for Hospital.—The Peter Bent Brigham Hospital Corporation was formed May 8, under the will of Peter Bent Brigham, who died twenty-five years ago, leaving his estate in trust for hospital purposes. This trust expires on May 25, making $4,000,000 or more available for a new hospital in Boston. Brigham for a generation kept a concert hall in Court Street.

Personal.—Dr. George P. Hunt, Carney Hospital, Boston, has opened an office in Pittsfield.——Dr. Charles C. Holcombe, Lee, has resigned as medical examiner for the Fourth Berkshire district.——Dr. Charles F. Branch, Amherst, has been appointed medical examiner, vice Dr. Herbert B. Perry, removed.——Dr. John S. Hitchcock, Northampton, has been elected a member of the local health board.——Dr. Thomas Howell, assistant superintendent of Worcester Insane Asylum, has been elected superintendent of the Worcester City Hospital, vice Dr. Charles A. Peabody.

Laboratory Positions Open.—Prof. W. T. Porter has announced that three of the places recently offered by the Harvard Medical School to properly qualified men desirous of training in physiologic research and in the management of large laboratory classes in experimental physiology are not yet filled for the next collegiate year. Excellent opportunities are afforded to the holders of these places, and, besides the valuable amount of scientific knowledge that may be acquired by association with the large staff engaged in research, $400 is paid annually to each assistant. Applications should be sent to Professor Porter at the medical school, No. 688 Boylston Street, Boston.

MICHIGAN.

Detroit College of Medicine graduated a class of 48, May 8. Dr. Theodore A. McGraw conferred the degrees; Dr. Don M. Campbell delivered the faculty address, and Dr. William T. Power was valedictorian. Rev. Nehemiah Boynton delivered the address of the evening on "Professionalism in Life." A banquet followed, at which Dr. J. Henry Carstens officiated as toastmaster.

Mortality in Michigan.—According to returns to the Department of State, there were 2850 deaths in Michigan during the month of April, a decrease of 109 from the preceding month. The death-rate, however, 14.1 per 1000 estimated population, was the same as that for March. There were 492 deaths of infants under 1 year of age, 219 deaths of children aged 1 to 4 years, inclusive, and 865 deaths of persons aged 65 years and over. Important causes of deaths were as follows: Pulmonary tuberculosis, 206; other forms of tuberculosis, 37; typhoid fever, 37; diphtheria and croup, 31; scarlet fever, 30; measles, 35; whooping cough, 25; pneumonia, 354; influenza, 45; cancer, 134; accidents and violence, 153.

Butterworth Hospital Staff.—The board of trustees of Butterworth Hospital, Grand Rapids, has chosen the following

staff: Dr. George K. Johnson, chief of staff; visiting physicians, Drs. John B. Hilliker, Henry Hulst, John A. McColl, Clarence H. White, Ralph H. Spencer, Joseph Albright, William F. Hake, Elizabeth Earle, and Herbert M. King; consulting physicians, Drs. George K. Johnson and Eugene Boise; visiting surgeons, Drs. Perry Schurtz, Hugo Lupinski, J. Orton Edie, Collins H. Johnston, Charles E. Hooker, Richard R. Smith and William G. Young; consulting surgeons, Drs. George K. Johnson, and Samuel R. Wooster; eye, ear, nose and throat, Drs. Reynold J. Kirkland, John Rogers, D. Emmet Welsh and Louis A. Roller; skin diseases, Dr. Charles E. Hooker; pathologist, Dr. Joseph B. Whinery, and Dr. Apted, house physician.

Personal.—Dr. Guy L. Noyes, Ann Arbor, demonstrator of ophthalmic and aural surgery in the University of Michigan, has been made professor of ophthalmology in the University of Missouri.——Drs. John H. Kellogg, William H. Haughey and George W. Green have been appointed as consultants to the health officer of Battle Creek.——Dr. Thomas M. Coon has been elected health officer of Grand Rapids.——Dr. Jesse O. Parker has been appointed health officer of Owosso.——Dr. William A. Burnham, Hancock, has been appointed physician at the Trimountain mine.——Dr. Robert W. Erwin has been re-elected president of the Bay City Board of Health.——Dr. Robert J. Davison, Foresthill, has moved to Shelby.——Dr. T. Bennett Scott, Vernon, has located in Owosso.——Dr. John W. Doyle, St. Joseph, has moved to Fond du Lac, Wis.——Dr. John H. Kellogg, Battle Creek, sailed for Europe May 10.——Dr. Henry R. Morris, Sebewaing, has sold his practice to Dr. Wilhelm W. Kahn of Frankenmuth, and will take advanced studies in the East.——Dr. John F. Cardwell, Durand, has located in Toledo, Ohio.

NEW JERSEY.

Hospital Items.—By the will of the late James Atkinson, $1000 is left to the Paterson General Hospital.——More than $20,000 has been expended in building and furnishing the isolation hospital at Camden.——The new hospital at Perth Amboy is now open for patients. It cost nearly $30,000.

New Jersey Sanatorium for Tuberculosis.—The first meeting of the commissioners recently entrusted with the establishment of this institution was held in Newark April 30. The following officers were elected: President, Dr. Charles J. Kipp, Newark; vice-president, President Austin Scott, of Rutgers College; treasurer, Col. Edward A. Stevens, of Castle Point, Hoboken, and secretary, Dr. James S. Green, Elizabeth. It is the duty of the commission to select a site and erect suitable buildings for a sanatorium for indigent citizens of New Jersey afflicted with tuberculous diseases.

Mercer's Medical Staff.—The following medical staff has been appointed for Mercer Hospital, Trenton: Medical director, Dr. William Elmer; consulting physicians, Drs. William Elmer and Cornelius Shepherd; consulting surgeons, Drs. Thomas H. MacKenzie and Samuel W. Latta; gynecologist, Dr. Joseph B. Shaw; assistant gynecologist, Dr. Edward S. Hawke; pathologist, Dr. Ira M. Shepherd; assistant pathologist, Dr. Harry M. Anderson; attending surgeons, Drs. John Bruere, John S. Jamieson, Nelson B. Oliphant, and William McD. Struble; and resident physician, Dr. Daniel M. Hoyt.

Personal.—Drs. William Edgar Darnall and Emery Marvel have been placed in charge of the newly-established department of gynecology in the Atlantic City Hospital.——Dr. John W. Bennett has been re-elected president of the Long Branch Board of Health.——Dr. Frank D. Gray, Jersey City, has sailed for Europe, where he will spend a year in study.——Dr. Walter B. Johnson has been elected surgeon, and Dr. J. William Atkinson, assistant surgeon of the Paterson Eye and Ear Infirmary.——Dr. Rolland D. Tomlinson, Plainfield, has located in Atlantic City.——Dr. Samuel A. Heefer has been re-elected president of the Hoboken Board of Health.

NEW YORK.

Bequest to College.—The Albany Medical College has been bequeathed six valuable lots near Kansas City by the will of Dr. D'Estaing Dickerson of Kansas City, a graduate of the class of 1857.

Medical Staff Resigns.—The entire medical staff of the hospital at Jamaica, L. I., has resigned because of the refusal of the women board of managers to rescind a resolution providing for a double staff, including homeopathic as well as regular physicians.

Faculty Changes.—At a recent meeting of the faculty of the Albany Medical College, Dr. George Blumer was recommended for appointment as professor of pathology and bacteriology; Dr. Willis G. Macdonald, professor of abdominal and clinical surgery; Dr. Samuel R. Morrow, who resigned as professor of anatomy, was recommended for appointment as professor of the practice of surgery and orthopedic surgery; and Dr. Joseph D. Craig as professor of anatomy. The following appointments were made: Theodore J. Bradley, Ph.G., lecturer on inorganic chemistry; Dr. Spencer L. Dawes, lecturer on materia medica, and Dr. Arthur Sautter, instructor of genito-surgery and dermatology.

New York City.

Students Tribute to Dr. A. Jacobi.—As Prof. A. Jacobi has resigned as professor of diseases of children at the College of Physicians and Surgeons, Columbia University, the present graduating class intend to present to him a farewell salutation engrossed in Latin on parchment.

Knife Blade in a Man's Heart.—A young man who applied for admission at Bellevue Hospital May 6, and who was then thought to be suffering from alcoholism and pneumonia, died May 14, and the autopsy showed hemorrhage into the lungs and a portion of a knife-blade imbedded in the sternum and pericardium. The man had a lot of toughs for boon companions, and was known to have been badly beaten May 3.

Commencements.—Long Island College Hospital held its commencement May 16. Out of a class of 35, 26 were graduated.——The thirty-ninth annual commencement of the New York Medical College and Hospital for Women was held May 14. Rev. D. Asa Blackburn addressed the students; Dr. M. Belle Brown administered the Hippocratic oath and Mrs. Mary Knox Robinson conferred degrees on a graduating class of six.

Lying-In Hospital Needs Funds.—The fact that J. Pierpont Morgan spent more than $1,500,000 on the property and the magnificence of the new hospital has led most persons to believe that provision had been made for maintaining this institution. An appeal to the public explains that this is not so, and that the society must depend upon public generosity for about $60,000 of the $90,000 that it will cost to support the hospital each year.

New Surgical Dressing.—Dr. Robert T. Morris exhibited before the last meeting of the Surgical Section of the Academy of Medicine a new absorbent material for surgical dressings. It was found in bulk in the market under the name of "sulphite laps," and was used in the manufacture of paper. It is made by the action of sulphuric acid on wood, but is neutral in reaction. It is said to be not only very cheap, but far more absorbent than either absorbent cotton or gauze.

Wholesale Milk Inspections.—There have been so far about three times as much money imposed this year in fines upon milk dealers than for the same time last year, and a large number of suits are now in progress, the chief charges being dilution of milk with water, skimming off of cream and the improper use of preservatives in milk. That the present administration means business was emphasized the other night when fifty inspectors of the board of health and an equal number of sanitary policemen went to all the depots and landings for milk in the city and took hundreds of samples of suspicious milk for analysis. The milk in the cans must not have a higher temperature than 50 F.

Buffalo.

Personal.—Dr. Charles Bingham has been appointed interne at the German Deaconess' Hospital.——Dr. Charles Howard has been chosen president of the board of managers of the Elmira Reformatory.

Dr. James M. Anders, Philadelphia, addressed the Medical Section of the Buffalo Academy of Medicine on the subject of "Jaundice," with reports of cases. Previous to the meeting Dr. Anders was the guest of honor of a luncheon by Dr. Allen Jones and of a dinner at the Saturn Club by Dr. Charles G. Stockton.

The Separation of the County Hospital from the Almshouse is again under discussion. The Overseer of the Poor under the present conditions does not favor sending city patients to the county hospital because it stigmatizes them as paupers, so that during the past year the city has expended $50,000 in sending its indigent to private city hospitals.

Unification.—As an illustration of the present trend toward unification of the medical profession, two prominent physicians in homeopathy, one the secretary of the New York State Homeopathic Society, have voluntarily applied for membership in the Erie County Medical Association and have been accepted. These physicians are to be regarded as regular practitioners. It is expected that many others will follow their example and soon the profession of New York State will indeed be united.

PENNSYLVANIA.

Coatesville Hospital.—Subscriptions to the amount of $25,000 have now been received for the erection of a new hospital at Coatesville, and the building will be commenced at once.

Allentown Hospital.—The new wing to Allentown Hospital, erected at a cost of $33,000 by the munificence of James K. Musser, and furnished by other citizens, has been opened. The new building will accommodate 75 patients.

New Hospital for Johnstown.—A project for a new public hospital in Johnstown is well under way. Dr. John W. Hamer is president of the provisional board of directors, whose membership includes Drs. William J. George and Ira E. Sloan. A site for the hospital has been purchased for about $6000.

Bound to Fee Bill.—Fifteen physicians of Carbondale have agreed to adhere strictly to a fee bill, and accept no society, lodge or poor board work, except at regular fee-bill prices. They have further promised that for the filling out of all affidavits, death claims, insurance examinations or other papers in which there is a money consideration, they will always make a charge, never less than fifty cents.

Philadelphia.

Jefferson Commencement.—At the commencement of Jefferson Medical College, May 29, the Hon. Charles Emory Smith will deliver an address.

Dr. Nicholas Murray Butler, president of Columbia University, New York, will deliver the oration at the commencement exercises of the University of Pennsylvania, to be held at the Academy of Music, June 18.

Chair Declared Vacant.—The trustees of the Medico-Chirurgical College have declared the chair of genito-urinary surgery, occupied by Dr. Elwood R. Kirby, vacant. No reason for this radical action has been officially made public.

Women Graduate.—The fiftieth annual commencement of the Woman's Medical College of Pennsylvania was held May 21. On the evening of the same day, a reception from 8 to 11, in honor of the graduating class, was given at the college building by the corporators and faculty.

Insane Department Overcrowded.—The superintendent of the Philadelphia Hospital recently reported to a special legislative committee that there were 1444 patients in the insane department of the hospital. The proper capacity of the department is 900 to 1000. With 60 per cent. of the inmates insanity existed in the family; 10 per cent. of the cases were ascribed to alcoholism, leaving 30 per cent. due to other causes. The enactment of more rigid marriage laws was recommended.

Municipal Hospital To Be Moved.—The first decided move toward the removal of the municipal hospital and pest-house from its present location has been made. The council's committee on city property recommend the purchase of 62 acres of land for $115,000, situtated at Kensington Avenue and Oxford turnpike. This is near the Montgomery County line, on the outmost limits of the city, and yet readily accessible from the center by trolley lines. The ground is elevated, is thought to be well adapted to the purpose, and will in all probability be secured.

GENERAL.

Tua-tua for Leprosy.—The South American plant called tua-tua is said to have properties highly effective in the treatment of leprosy. Dr. Shorey, food inspector of the Honolulu Board of Health, is conducting an investigation of the properties of the plant.

Few Lepers at Guam.—Commander Schroeder, naval governor of Guam, reports the finding of some of the lepers whom the Spanish had segregated at the Asan hospital, who escaped during the interregnum following the Spanish withdrawal. These have been concealed by the natives. Some eight have been found, and it is doubted whether many other cases exist. Governor Shroeder says there is no evidence that the disease has been disseminated by the lepers during their freedom. The population of the island of Guam, although variously estimated, is probably about 12,000, and the native portion is decreasing slowly. Aside from the army and navy forces of perhaps 600, foreigners number about 300, including many Japanese. The lepers will be segregated on the shores of a beautiful bay a mile east of the capital.

The Anti-malarial Campaign in Italy in 1901.—The Italian Adriatic R. R. entrusted Dr. Ricchi last year with the task of protecting their personnel over their entire lines in upper and middle Italy which pass through some of the most malarial regions known. The measures already described were carried out at every station: wire netting over doors, windows and chimneys, spring doors to netting vestibules and also to the bedrooms inside the house, hats protected by a veil of wire netting with a curtain of soft gauze attached to the lower edge to be tucked into the clothing, and gauntlet gloves. The expense was not so great as anticipated, and the results showed that only 2 per cent. of the perfectly protected employes contracted malaria, and only 13.31 per cent. of the less perfectly protected, while 38.71 per cent. of the control population were affected. About 212 houses with 1600 persons, station agents and their families were completely protected, and 25 houses with 406 inmates were the entirely unprotected control material. The total number of persons under observation was 2657, of whom 2009 had previously suffered more or less from malaria. The latter were treated with quinin during the premalarial season, but after it opened all medication was suspended. Dr. Schiavuzzi of Trieste has been commissioned to do a similar work for the Istrian R. R. on the east shore of the Adriatic.

Examination for Marine-Hospital Surgeons.—A board of officers will convene at the Marine-Hospital Bureau, 3 B street, S. E., Washington, D. C., June 16, for examining candidates for the grade of assistant surgeon in the U. S. Marine-Hospital Service. Candidates must be between 21 and 31 years of age, graduates of reputable medical colleges, and must furnish testimonials from responsible persons as to character. The following is the usual order of the examinations: 1, physical; 2, oral; 3, written; 4, clinical. In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate. The examinations are chiefly in writing and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery and hygiene. The oral examination includes subjects of preliminary education, history, literature and natural sciences. The clinical examination is conducted at a hospital and when practicable, candidates are required to perform surgical operations on a cadaver. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment, the young officers are, as a rule, first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago or San Francisco. After five years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority and after due examination as vacancies occur in that grade. Assistant surgeons receive sixteen hundred dollars, passed assistant surgeons two thousand dollars, and surgeons twenty-five hundred dollars a year. When quarters are not provided, commutation at the rate of thirty, forty and fifty dollars a month, according to grade, is allowed. All grades above that of assistant surgeon receive longevity pay, ten per cent. in addition to the regular salary for every five years' service up to forty per cent. after twenty years' service. The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the board of examiners, address Supervising Surgeon-General, U. S. Marine-Hospital Service, Washington, D. C.

The Philippine Cholera Order.—In view of the threatening aspect assumed by cholera in Manila the following general order, No. 58, was issued March 23, 1902, from the Headquarters of the Philippines:

1. Asiatic cholera is a disease the infection of which is taken in by the mouth: as a preventive measure it is therefore necessary to eat or drink only articles in which the infective principle has been destroyed by distilling, cooking, etc. Unboiled water, including aerated waters not imported, and sorbete, the native ice cream, fresh vegetables of any sort, as lettuce, cabbage, fresh fruits, etc., which are not cooked in their preparation, are, therefore dangerous and to be avoided. In addition, the greatest care must be given to the preparation of foods and dishes on which they are prepared or served. The infection may be carried by washing such dishes with infected water or by wiping them with cloths which have been washed in such water.

2. All officers stationed in this division will give personal instructions and care to see that no member of their family or servant in their household drinks water that has not been distilled, or if not distilled, that has not been thoroughly boiled for at least twenty minutes, or any aerated waters except those imported, or sorbete, or eat fresh vegetables or fruits of any sort which has not been thoroughly cooked. Further personal care and superintendence is enjoined in the use of boiled water in the washing of dishes and thorough boiling of the cloths which may be used to wipe such dishes. The irresponsibility and ignorance of native cooks render careful personal supervision of the kitchen imperative in order to avoid this disease.

3. The same care is enjoined as specified in the preceding paragraph in the use of water and preparation of foods in barracks or other buildings or camps where enlisted men or government civilian employes are stationed. All soldiers and all U. S. civilian employes

in this division are forbidden to use water for drinking obtained from rivers or wells in the vicinity of Manila unless the same has been distilled or thoroughly boiled. No excuse for ignorance in regard to this will be accepted, and proper disciplinary measures will be applied for any detected violation of this paragraph.

4. In order to prevent possible infection of food by flies, company commanders and other persons in the military service or attached thereto, in charge of messes, are enjoined to take the necessary measures to protect all food from flies and other insects. That this may be carried out food should not be placed on the table until immediately before it is to be served and should be covered at all times. The attention of company commanders and other persons in the military service or attached thereto, is called to the necessity of care in covering the contents of dry earth or other closets with earth or chlorid of lime, in order that flies may not have access to such contents with possible later transference of infectious material by such flies to foodstuffs.

5. As the Division Commander can not be certain that saloon-keepers will not serve unsterilized water for customers to drink, all persons in the military service or civilian employes therewith, are directed to confine their drinks at saloons, if they drink at all, to beer.

6. A sentinel or responsible watchman will be posted at every faucet where water is obtained from city water mains for Army use, and such sentinel or responsible watchman will be instructed to permit no person to drink thereat.

7. All officers and employes of the transport service, ships chartered or otherwise employed in the military service will be at once warned to comply strictly with the foregoing regarding consumption of vegetables, etc., and drinking water.

8. All persons affected with diarrhea or vomiting will report themselves immediately to their medical officers for treatment.

9. All cases of cholera or cases suspicious of that disease coming to the notice of medical officers will be immediately reported by telegraph to the chief surgeon of the division.

10. Cholera having made its appearance in Manila, careful attention to diet and the use of water rendered safe by boiling, with the avoidance of insanitary localities, are all necessary in order to secure immunity from that disease.

11. This order will be read to all troops as soon as received and a copy kept posted in all barracks, quarters and camps.

San Francisco Plague Report.—The following record of the autopsy findings on the last case of plague in San Francisco will be of interest. The patient was Chin Suey Kim, aged 30, male, who arrived from Davisville, Cal., on the evening of April 17, took quarters at Man Fook On's undertaking establishment at 838 Clay Street, and died at 5 a. m., April 20, 1902.

Autopsy at 2:15 p. m. Body well nourished. General postmortem lividity unusually well marked in places, especially over the biceps of the arms; the body was almost black. No signs of wounds, lesions or trauma. No glandular enlargement noted by palpation, but a sense of increased resistance over the right femoral region.

Incision made over right femoral region, and several enlarged, necrotic, hemorrhagic edematous glands discovered. Smears from these showed bipolar cocco-bacilli decolorizing by Gram's, having every appearance of bacillus pestis.

Abdominal cavity opened. Intestines and appendix normal. No fluid in abdominal cavity. Spleen enlarged to five times normal. No signs of portal obstruction to account for such enlargement; rather soft: capsule tense; no subcapsular nodules. Surface almost uniformly pink with a few slightly pigmented areas; pulp bulging very slightly; connective tissue increased.

Lungs adherent to pleural cavity by rather fresh, soft adhesions, especially the right. No fluid in pleural cavity. Surface of heart normal. Left ventricle hypertrophied and empty. Right contained fluid. Right and left auricles contained postmortem blood clots and fluid blood. Left lung normal size, pleura glistening, except the adhesions before mentioned. A few subpleural hemorrhages, organ crepitated throughout, pitted on pressure. Cut surface moderately rich in blood. Air, blood and serum exuded on pressure, in the usual proportions. Right lung covered with blood-stained lymph exudate, a pleurisy of several days' standing; cut rather firmly, cut surface moderately rich in blood; crepitated throughout. Air, blood and serum exuded on pressure.

Left kidney: fatty capsule normal in amount. Organ as seen through fibrous capsule had a white appearance in which the vena stellata were prominent. Organ enlarged and softer than normal Fibrous capsule removed easily, exposing a very lightish yellow surface; cut surface moderately rich in blood; contrast between cortex and pyramids fairly well retained in areas and lost in others. Blood vessels injected throughout organ. Kidney normal in appearance (white kidney, early stage). Liver enlarged to about one-quarter above its normal size; capsule very tense; of a general reddish appearance; with mottled areas of light reddish-yellow; capsule smooth, glistening and transparent; no hemorrhages on subcapsule. Softer than normal; cut very easily, cut surface rich in blood; structural appearance well retained.

Endocardium, surface of aorta, and coronary opening, apparently normal. Heart muscles of left ventricle thickened, normal appearance, showing neither fibroid nor fatty change; 2 or 3 sub-endocardial hemorrhages.

Stomach empty. Intestines: mesenteric glands enlarged; no injection of intestines; small intestines opened; blood vessels found injected and follicles enlarged. One of enlarged mesenteric glands removed and found to be neither injected nor necrotic. Bladder completely empty.

Incision made in left femoral region, although there was no appearance or indication of glandular enlargement, nor could glands be felt by palpation, yet the glands were found to be moderately enlarged, necrotic, and slightly edematous; being imbedded in quantities of fat, they could not be felt. Incision made in right axillary region and glands found in same condition. One such gland was found in left axillary region. Smears from spleen showed a few bacilli, which appeared to have been partially disintegrated, although some of them still retained their bipolar staining qualities.

Anatomic diagnosis: Pleurisy, fibrous exudate; acute pulpitis of spleen, and chronic connective tissue increase of same; venous congestion of liver; hypertrophy of left heart, bubonic plague; septicemic plague. Cause of death, bubonic plague. (April 25, confirmed bacteriologically.)

Opinion of Ohio, Indiana and Kentucky on Plague in San Francisco.—At the annual conference of the boards of health of these states, the smallpox situation was thoroughly discussed. The following action was taken on the plague scandal in California:

We, the representatives of the State Boards of Health of Ohio, Kentucky and Indiana, together with representatives of the county and city boards of health of Indiana, in conference assembled in the city of Indianapolis, April 25, 1902, in view of certain documentary evidence before us, do resolve as follows:

1. We view with surprise and alarm the acts of the Governor of California and the Mayor of San Francisco, in attempting to suppress the facts relating to the presence of bubonic plague in that city. We are surprised at such attempts because we regard the facts as fully established and beyond all question. The Board of Health of the City of San Francisco, composed of honorable gentlemen distinguished for their scientific attainments, and holding the entire confidence of their associates and the public, published the facts in their monthly report to the city government, submitting therein all necessary data. The existence of the plague in said city was afterwards confirmed, by an expert, sent there by the United States Marine-Hospital Service, also by an expert employed by the State Board of Health, and finally by a commission of eminent bacteriologists of international fame, whose sole interest in the matter was to know the truth.

2. We view with alarm this attempt to suppress the fact of the presence of an epidemic disease, the most deadly known to medical science, because with bubonic plague and cholera in a number of ports on direct communication with that of San Francisco and with the energies of the governor of the state and the mayor of the city directed to the suppression of truth rather than the plague, what guarantee has the interior that it will long be exempt from the pestilence.

3. We condemn and deplore the acts of the governor of said state in attempting to discredit the competency and veracity of the experts above mentioned; for forcing the resignation of certain members of the State Board of Health because they concurred in the expert conclusions; for seeking to unduly influence the United States Treasury Department, and for making denial of the existence of plague a condition of appointment to the vacancies caused by the above resignations.

4. We condemn and deplore the act of the mayor of San Francisco in co-operating with the governor as above set forth, and for removing from office the city board of health of San Francisco for no other reason than that in the faithful discharge of the duties imposed upon them by law, and their endeavor to protect the lives and health of the citizens of that metropolis, they published the presence of the plague, and maintained their honor against all contrary influences.

5. We further declare, it is beyond our comprehension how any member of the honorable profession of medicine, conscious of the dignity of this high calling, and zealous for maintenance of that dignity could accept appointment to vacancies thus created under the condition expressed or implied.

6. We affirm that in every state, territory and municipality of the United States where the representatives of the people have enacted laws for the protection of the lives and health of their citizens and have appointed boards whose duty it is to execute those laws, the citizens of said states, territories and municipalities have a right to hold said boards to the faithful performance of their duties, and to the prompt and effectual use of every means which the law allows and sanitary science approves for the prevention of the introduction and the spread of epidemic diseases.

7. We further affirm that in the employment of such means, it is absolutely necessary to notify the public of the presence of said epidemic disease, point out the locality in which it has appeared, indicate its progress, etc., in order that the public, having knowledge, may co-operate in its extinction.

8. We further affirm that in pursuance of these measures and in answer to the rightful demand of citizens for protection, infected houses should be placarded conspicuously, and if found necessary, guards should be employed and detention and isolation hospitals erected; in the employment of which measures together with general disinfection publicity should be courted rather than avoided.

9. We further affirm that, where the responsibility of protecting the public health rests solely upon said boards, no other authority, however high, should thrust itself between them and their duties, and where individuals or corporations interfere to prevent the discharge of said duties, such should be made amenable to the law.

Lastly, we call upon sanitary associations, boards of health, medical and scientific associations throughout the country to join with us.

The above expression was fully discussed and finally adopted unanimously by the conference. The following gentlemen from other states were in attendance: Pres. Byron D. Stanton, and Sec. Charles O. Probst of the Ohio State Board of Health; Pres. Wm. Bailey and Sec. J. N. McCormack of the Kentucky State Board of Health. All of these gentlemen formally concurred in the above action in regard to plague in San Francisco.

Smallpox.

Colorado: Compared with March the month of April shows an increase of 37 cases; the number reported for the month was 291. The number of cases is, however, 139 less than in April, 1901. The State Board of Health has established a definite period for quarantine of smallpox, providing that the minimum period of quarantine for those suffering from smallpox shall be not less than four weeks from the beginning of the eruption, and in any case not less than ten days after scaling is completed.

Connecticut: Smallpox has almost entirely ceased. Fresh cases of the disease have appeared since the last bulletin was issued, in only a few towns. This peculiar exemption of Connecticut, as compared with other states, can only be attributed to the protective influences of vaccination. School visitors have required vaccination as a prerequisite to attendance of pupils. Health officers have advised and promoted vaccination in many towns in advance of an invasion of the disease and so the people have been protected.

Even in the towns not so prudent, the vigilence of health officers in isolating the primary cases has limited the disease in most instances to few cases. The conspicuous exception was in Waterbury, where the disease appeared in a block of tenements occupied mostly by French-Canadians. Even there it would have been controlled if prompt notification of its presence had been given. Its spread in Waterbury is alleged to have been due to the pernicious influence of an anti-vaccination society existing there, whose members have been charged with encouraging the concealment of the disease, and with bold assertions publicly made that the disease among them was not smallpox. By request of the mayor and the health authorities of Waterbury two members of the State Board of Health visited and personally inspected the patients in the hospital and in private houses and in every instance found only typical cases of smallpox. The diagnosis was still further confirmed by the evidence of Dr. C. N. Valin, an eminent specialist from Montreal whom the French people themselves employed in order that their doubts should be fully removed.

The number of cases reported in Waterbury was 79, which far exceeded that of all the other cases in the state during the year. How much its extensive prevalence there, with all its expensive and distressing results, is chargeable to the baneful influence of the anti-vaccinationists can be best appreciated by those who know all the facts. The practice of vaccination and the isolation of the existing cases promptly arrested its spread.

This office is in receipt of reports of 141 cases occurring within a year. Only one case has been reported in the last three weeks. A very large majority of these were never vaccinated. Seven of them had been vaccinated from 7 to 40 years before. There were eleven cases about which reliable information has not been given respecting vaccination. All the others were unvaccinated. All of the deaths were of the not-vaccinated. How can the anti-vaccinationists explain these facts?

Illinois: The Department of Health reports that ten out of the nineteen new cases discovered last week were among colored people, and since the first of the year this factor of the population, numbering only 1.3 per cent. of the total, has furnished 35 per cent. of all cases. The colored pastors, physicians, lawyers and other influential leaders of the race, having been made acquainted with these facts, are taking steps to secure general vaccination and to promote sanitation among their people in order that this stigma may be removed.

The situation is less hopeful in other respects. An immigration movement of enormous proportions is flooding the northwest with thousands of the newly-arrived who are passed on from ports of arrival into the interior without any supervision as to their vaccinal condition. Chicago, as the great distributing point, is peculiarly exposed and appeals have been made by the commissioner to the federal, state and local authorities to enforce proper precautions at ports of entry to the end that no immigrant or his belongings may leave such ports until vaccination and disinfection have made it certain that they shall not be carriers of contagion into the country.

Kansas: Of the 457 cases of smallpox reported in Kansas during April, only one resulted in death.

Maryland: Dr. John S. Fulton, secretary of the State Board of Health, reports 25 cases of smallpox in the state: 9 in Allegany County, 2 in Washington County, 1 in Baltimore County, 1 in Queen Anne's County, 4 in Caroline County, 2 in Talbot County, 1 in Dorchester County, and 5 in Baltimore City.——Others officers report a case of smallpox in Caroline County, and 1 in Dorchester County.

Michigan: During April smallpox was reported at 236 places in the state, 9 places more than in the preceding month. Five deaths were due to the disease.

New York: Lately several cases of smallpox have been concealed in this city and vicinity by faith-curists or those in sympathy with them. A particularly flagrant example of this crime against the community occurred in Newark, and was only discovered through the publication in the official paper of the sect of an article boasting of the recovery from smallpox of a man through the "laying on of hands and through the influence of the Holy Ghost." The woman who did the nursing and her son both contracted smallpox, the former becoming blind as a result.

Puerto Rico: It is reported that, thanks to the effective measures taken by the local sanitary board, under the direction of the sanitary officer, Dr. Lopez Gastambide, the varioloid epidemic is rapidly decreasing.

CANADA.

The Montreal Dispensary.—The fifty-second annual meeting of the Montreal Dispensary was held in that city last week. The secretary's report for the committee of management showed that during the past official year the applicants for advice and treatment had numbered 16,675. The medical and surgical cases numbered 8505; eye and ear, 2069; women's diseases, 1725; nose and throat, 912; skin diseases, 1725; children, 1327; dentistry, 154.

Insane in the Toronto Jail.—The special civic committee of the Toronto municipal council, which has been enquiring into certain charges preferred by one of the aldermen with regard to the confining of insane people in the Toronto jail, has had its report adopted by the council. At the time of their visit to the institution they found thirty-one lunatics lodged within the walls. In addition to these there were a number of idiots, imbeciles from birth. The report recommends that the Provincial Secretary take steps for the prompt removal of the insane to proper asylum quarters.

Personal.—Dr. Russell Thomas, Lennoxville, Quebec, secretary of the St. Francis District Medical Association, has gone as medical officer with the fourth contingent to South Africa.——Dr. R. E. McKechnie, Nanaimo, B. C., is spending three months in a post-graduate course at McGill University. When that is finished, he will go to New York and thence to England and the continent.——Dr. A. F. Mayburry, Toronto, has gone to England and Vienna for a post-graduate course in nose and throat.——Dr. William Corlett, Cleveland, will give a lantern demonstration on the exanthemata at the coming meeting of the Canadian Medical Association in Montreal in September.

Dominion Registration Passes Its Final Stage.—When Dr. Roddick's Bill for the establishment of the Dominion Medical Council came before the senate, or upper house of the Canadian Parliament, three important amendments were made. No province shall be represented on the council either by elected or appointed members until after the said act had been adopted by the legislature of the province, and had thereby accepted the registration under this board with the provincial board in lieu of the registration with the provincial board. A clause was also added that the act shall not interfere as conveying any power to open medical schools or give medical education. Provision was further added which would prevent the act from becoming retro-active. Subsequently the Commons concurred in these amendments; and the Governor-General has affixed his signature to the bill, which appears among the legislation of the past session as "An Act to Provide for the Establishment of a Medical Council in Canada." Dr. Roddick can well be congratulated upon the success which has attained his efforts, especially so when it is remembered that this subject has been agitated with more or less vigor since the Confederation of 1867.

FOREIGN.

Mexico Hospital Improvements.—The hospital of the St. Vincent de Paul Society, in the City of Mexico, for the treatment of the poor, is to be enlarged and have its facilities increased.

Virchow's Resignation.—Virchow has gone to the watering place Teplitz-Schönau for the summer, and has resigned the presidency of the Berlin Medical Society, which he has held for twenty years.

Prefers Money for Hospital.—King Edward has expressed the desire that the offerings customarily made the ruler in honor of the coronation should be in the form of additions to the king's hospital fund.

Medical Women at Medical Congresses.—The recent German Congress of Internal Medicine had two women as members for the first time. Our exchanges also mention that the chairman of the section of surgery at the recent Russian Medical "Pirogoff" Congress was a woman, Dr. A. G. Archangelskaia.

Sanitary Homes in Germany.—The architects in the service of the government are now required to attend a two weeks' course of lectures on sanitary dwelling houses. The lectures are delivered by the official chief of the architect service, and by a physician, Professor Kossel. The attendance at a single course is restricted to 20, and the lectures are given in the Institutes of Technology at Berlin and Hanover. The *Deutsche Med. Wochenschrift* considers this arrangement a very important progress in the line of sanitation.

Important Congresses in Europe During September.—The International Conference for the Prevention of Syphilis and Venereal Diseases opens at Brussels, September 1 to 6. This is followed by the International Congress of Gynecology at Rome, September 15 to 21, and the Seventy-Fourth German Congress of Naturalists and Physicians "of theory and practice" at Carlsbad, September 21 to 28. The Second International Congress of Electrotherapy and Radiography meets at Berne, September 1 to 6. The first was held at Paris in 1900. The French Congresses of Surgery and of Urology also usually meet at Paris in September.

France Is Disquieted Over Health Affairs in her colonies. Leprosy exists in most of them, cholera has cost thousands of lives, other infectious diseases are on the increase and foreign residence and enterprise are made very dangerous. Dr. J. Crespin, a professor in the school of medicine at Algiers, was commissioned by the French Minister of the Interior to study sanitary conditions in the Persian Gulf. He reports the danger of the infection of Europe through the Persian Gulf to be great, and recommends the island of Ormuz as a quarantine and examination station for all vessels. Persia is also worried over the danger. Some French papers urge a conference of European powers to co-operate in sanitary measures.

Sanatorium for Venereal Diseases.—The Berlin insurance company "Landesversicherungsanstalt Berlin" has derived such pecuniary benefit from its sanatoria for its tuberculous policy holders, that it has now erected a similar sanatorium for venereal diseases. It expects to save much expense by the thorough treatment of its policy holders in a closed institution, where they will not only be cured, but contagion of others will be prevented. During the absence of the breadwinner in the sanatorium a pension will be paid to the family. The company has issued an appeal to all the sick insurance societies and to physicians in general urging them to coöperate and to do all in their power to remove the prejudice which may prevent persons affected with venereal diseases from entering such an establishment. It is arranged for fifty beds and takes only men, but if it proves successful, it will be enlarged and others built.

Plague in Australia.—Our regular London correspondent gives this week statistics of the situation in Australia and from a Sydney correspondent we learn additional facts. The plague is an indirect benefit in one particular—the cities are being cleaned of refuse, old unused sewers closed up, and other places of refuge for rats are being removed. In Sydney, disinfectants and rat-poison have been distributed free for the past three months, and when the scare was at its worst 3000 applicants were supplied daily. Phenyl and chlorid of lime are the disinfectants used, arsenic and phosphorus the rat poisons. The total cost of these to the middle of April was $3000, aside from the wages of the inspectors, cleaners, rat-killers, etc. Sydney is a wide-awake and up-to-date city fortunately, for she is constantly exposed to danger of disease from the immense amount of shipping that comes to her harbor from every part of the world.

LONDON LETTER.

Smallpox Decreases.

The epidemic of smallpox, which has prevailed so long, at last shows a tendency to decline. The number of cases in the metropolitan hospitals is 1442, against 1431 and 1515 in the preceding weeks; 250 new cases were admitted during the week, against 274, 328 and 367 in the three preceding weeks. The deaths last week were 43, against 73, 42 and 42 in the three preceding weeks. Since August 6879 cases have occurred, of which 1175 have been fatal; in addition 874 extra-metropolitan cases have been admitted to the metropolitan hospitals, of which 132 were fatal.

Typhoid Fever in South Africa.

In the House of Commons Mr. Broderick, Secretary for War, gave some interesting figures as to the epidemic of typhoid fever, which has proved such a serious obstacle to the British army in South Africa. In the three months, December, 1901, to February, 1902, 6379 cases occurred among the troops, causing 953 deaths; in the corresponding period of last year there were 5905 cases and 1042 deaths. During the last few months most of the cases have come from the moving columns, and comparatively few occurred in the camps and stationary garrisons where special precautions are enforced as to boiling of the water.

Statistics of the Plague.

In the week ending April 12 there were in India 1100 deaths more than in the previous one, the total mortality amounting to 24,380. In Bombay City a rapid decline has taken place: for the week ending April 5 there were 947 deaths, ending April 12, 696. In the Bombay Presidency the corresponding figures were 3170 and 2093; in Calcutta 603 and 689. In Bengal the deaths during the week ending April 12 were 603, in the Northwest Provinces and Oudh 1660 (against 1570 in the previous week), in the Punjab 16,281 (against 14,871), in Cashmere 212, against 416; in Mysore 80, against 173. In Egypt, during the week ending April 27, 18 fresh cases and 8 deaths occurred; during the month of April there were 102 fresh cases and 58 deaths. Since April 7, 1901, when the disease reappeared in Egypt, the total number of cases was 484, of which 281 were fatal. During the week ending April 5, 2 fresh cases occurred in Cape Colony: two natives were found dead, which shows that the disease is concealed. During the week ending April 12 there were 5 fresh cases and 3 deaths. The total number of cases of plague up to date is 885, with 427 deaths. At Hong Kong, during the week ending April 26, there were 5 cases and 5 deaths; ending May 3, 28 cases and 26 deaths. In Australia, during the present recrudescence, 109 cases have occurred, of which 27 were fatal. Twenty-one animals, including two birds, have died of plague in Sydney, in the Zoological Gardens. At Brisbane a few cases occur daily.

Army Medical Reform.

Previously in The Journal we have referred to the scheme of reform of the Army Medical Department which the government has brought forward under pressure of the so-called "hospital scandals" in the South African war. The complete new regulations are now published. On the whole they are a distinct advance and should greatly improve the service. The entrance examination is greatly changed and made completely clinical and practical. It will be partly written and partly oral. Thus, in medicine the written part will consist of examining and reporting on a case in a hospital, 125 marks being allotted for the examination and 125 for the commentary thereon. The oral examination in medicine will consist of clinical cases (75 marks), and morbid anatomy and histology (75 marks). In surgery there will be a similar examination and report on a case. In the oral examination clinical cases, including diseases of the eye, surgical instruments and appliances will be the subjects (75 marks) and operative surgery and surgical anatomy (75 marks). Candidates who gain places will undergo two months' instruction in hygiene and bacteriology, after which they will be examined in these subjects. Then they will proceed to the depot of the medical corps at Aldershot for three months' instruction in technical duties of the corps, which will be again followed by an examination. A lieutenant on probation who fails to qualify in either of these examinations will be allowed a second trial, and should he fail will be placed at the bottom of the list. Should he again fail his commission will not be confirmed. For promotion to captain an examination in regimental duties, drill, military law, military hospitals and other executive duties must be passed. For promotion to major an examination must be passed, which may be taken at any time after completing five years' service. The subjects will be medicine, surgery, hygiene, bacteriology and tropical diseases, and one special subject from the following list: bacteriology (including preparation of antitoxins), dental surgery, dermatology, laryngology, midwifery and gynecology, operative surgery (advanced), ophthalmology, otology, pediatrics, psychologic medicine, skiagraphy and specific fevers. For promotion to lieutenant-colonel there will be an examination which may be taken any time after three years in the rank of major. The subjects will be military law, army medical organization, sanitation of towns, camps, transports, epidemiology and a special subject from this list: medical history of important campaigns, army medical service of other powers, and laws and customs of war in relation to the sick and wounded.

The Dangers of Celluloid.

From time to time during the last 10 years cases of severe burns from the accidental catching fire of celluloid ornaments and collars have been recorded, both in the lay and the medical press. In 1898 the *Lancet* appointed a commission to investigate the subject which showed, by placing a celluloid comb in a wig at varying distances from a glowing fire, the probability of accidents to wearers of such an article. It was further found that a curling iron heated to the temperature necessary for curling readily started the evolution of dense and highly inflammable fumes. Later, the *Lancet* showed the danger of exposing celluloid toys in shop windows near electric lamps. The following illustrate the accidents from celluloid: A man while smoking a cigar was playing an American organ with

celluloid keys. Some red-hot ash dropped on the keys, and they burst into flames, which were extinguished with difficulty. A boy was wearing a celluloid collar tied with string. To remove the collar he burned the string. The collar ignited and lighted drops of the composition fell on his clothing. His throat and face were badly burned. In the *Lancet* of February 22 Professor Ogston of Aberdeen describes the case of a woman who, seated before a fire which was not unusually strong, found her hair enveloped in smoke and flame from ignition of the comb. Before the flames could be extinguished an area of the scalp of 4 by 1½ inches was destroyed. The burn was of the third degree, and the hair of the injured area was permanently destroyed. It is urged that government should interfere and compel the manufacturers of celluloid to render it less inflammable.

International Congress on the Protection of Children.

This Congress will be held in London, July 15 to 18, under the presidency of the Earl Beauchamp, K.C.M.G. It will consist of four sections: 1, medical; 2, legal; 3, educational, and 4, philanthropic. The following are among the interesting subjects on the program: How far parental authority and responsibility should be recognized after the state has had to take charge of a child. What pressure can be put on parents who neglect their children so as to discourage others from a similar offense. Regulation of street trading by children. The relation of the state toward migratory, destitute, neglected and criminal children. The American system of probation officers. The reclamation of vicious children. Papers to be read should be forwarded to the assistant secretary, Mr. W. G. Lewis, 8 Wells Street, Gray's Inn Road, London, W. C.

Correspondence.

The Proposed National Board of Medical Examiners.

PHILADELPHIA, May 17, 1902.

To the Editor:—The soundness of the legal principle, that the regulation of the practice of medicine for the protection of the public comes within the general police powers of the state, is now regarded as fully established. Nearly four centuries ago the first statute was adopted in England for regulating medical practice. The preamble to this Act (3 Henry VIII, cap. ii) recites that physic and surgery were then practiced by "ignorant persons, who could tell no letters on a book, and by common artificers, smiths, weavers and women, who took upon themselves great cures; partly using sorcery and witchcraft, partly applying very noxious medicines to the disease." This statute enacted, under penalty, that no one should practice medicine without going before a board of examiners and receiving its approval. Since 1511, the date when this law was passed, many others have been enacted, all assuming that the authority to regulate the practice of medicine belongs to the state, as a measure of protection of the community against incompetence and fraud. The recognition of this principle, and the acceptance of the implied obligation, in this country, has led to the establishment of the various state medical boards, and boards of examiners and licensers, which now exist in nearly every state of the union. The good work already done by these boards, in the direction of raising the standard of medical education among college graduates, and in keeping out of the ranks of the profession imperfectly trained and incompetent applicants, is now generally conceded and gratefully appreciated by those who are interested in the welfare and have regard for the solidarity of the medical profession.

In the practical working of the law under which these state boards act, however, there has been developed a very serious drawback, owing to the fact that they are restricted in their jurisdiction to the geographical limits of the commonwealth from which their authority issues. The examining boards have their duties strictly defined. They are allowed no discretionary powers which would permit them to step beyond the letter of the law, which, as interpreted by them, requires only one form of examination to be employed, whether the applicant is a recent graduate, or he already possesses the right to practice in another state under the license of that state board. No concession can be made to the veteran, who already has good standing and who may have in his former place of residence acquired distinction, or even conferred honor upon American medicine. This is an opprobrium to the entire profession of this country, as long as it is allowed to continue. Men of the highest attainments who occupied professorial positions, being invited to membership in the faculty of a college in another state, have been compelled to sit down with neophytes and to be examined, possibly by some of their own pupils. The situation is embarrassing both to the distinguished guest and to the members of the board, who are simply doing their duty under the law.

In point of fact the legislation was never intended to apply to the higher ranks of the profession at all, but merely to guard the door of entrance against unqualified intruders. The president of the Pennsylvania State Board of Medical Examiners, Dr. Henry Beates, has given much time to the consideration of this unfortunate condition of affairs, and has labored to bring about a sort of interstate comity, by means of which the certificates of one state may be accepted as valid in another. He frankly confesses, however, that, as matters are at present, owing to the varying standards in force in different states, this plan is impracticable. Dr. Beates has recently suggested that the state boards shall establish a practitioners' examination, which shall be entirely clinical and practical. In other words, that there shall be two examinations: one for recent graduates, the other for practitioners, and of the latter at least five years' practice of medicine would be required. He believes that a certificate obtained by this special examination, would be regarded as valid in every part of the country by mutual agreement among the state boards.

An effort will be made at the Saratoga meeting of the American Medical Association to arrive at a solution of the difficulty by another route. Dr. William L. Rodman has made a very practical suggestion.[1] In brief, his plan involves the establishment of a voluntary board of national examiners, supplementary to the existing state organizations, to consist of six members, viz.: the surgeons-general of the Army, Navy and Marine-Hospital (Public Health) Service, and three representative civil practitioners, two to be elected by the House of Delegates of the American Medical Association, and one by the American Congress of Physicians and Surgeons. The proposed (voluntary) examinations are to be both theoretical and practical, and are to be held in Washington, or some other convenient large city, where hospital facilities can be utilized. It is hoped by the author of this plan that the certificate or diploma of such a distinguished board would be accepted, as a matter of courtesy, by state authorities anywhere in the Union, as satisfactory evidence of the owner's professional attainments and personal worth.

It is said that this plan has been unanimously endorsed by the delegates from the several state boards, meeting with the Committee on National Legislation recently in Washington, and that it will be recommended to the House of Delegates at the coming meeting. It may also be stated here that the president of the Pennsylvania Board of Examiners favors it and hopes that it will be adopted.

A number of years ago, the writer, while editor of the *Philadelphia Medical Times*, being impressed with the hardship imposed by this anomalous situation, suggested tentatively a plan that has some of the features of Professor Rodman's plan. It similarly contemplated a voluntary examination before a national board, and was based upon the acknowledged efficiency of the tests employed by the medical examining boards of the U. S. Army and Navy. It proposed that such examinations might be opened to civilians who did not intend to enter the public service, but who simply desired the distinction that would accrue from passing such a government or national board. The successful candidates could have an endorsement of the fact upon their diplomas. When thus fortified, it was believed that a *modus vivendi* could be established, through the courtesy of the state boards, by which diplomas with such endorsement could be accepted as sufficient evidence of the owner's proficiency anywhere in the United States, without further examination, except for personal identification. It is very evident that

1. THE JOURNAL A. M. A., May 10.

any solution that is offered, if it is to be carried into practice, will ultimately rest upon the favor of the several state boards and their willingness to co-operate. Very probably additional legislation may be required in order to give them the power of discriminating, so as to recognize the distinction between the two classes of candidates: 1, those who are required to demonstrate their fitness for the responsibilities of medical practice and, 2, those about whose fitness there is no question whatever. As a means of affording present relief to the members of the latter class, the writer would make the suggestion that the state medical societies might consent to co-operate with the examining boards. For instance, if a reputable member of the profession, who has been actively engaged in practice, for, say, ten years, desires to change his field of work he can apply for a certificate from his state medical society, which could be endorsed by the medical society of the state to which he is going. Such evidence of professional attainments might well be accepted by the examining board of the state concerned, and thus aid in carrying out the idea of interstate comity or reciprocity, while recognizing and upholding the dignity of the profession.

Very respectfully yours, Frank Woodbury.

A Voluntary Board Will Not Accomplish the Result Desired.

New York, May 17, 1902.

To the Editor:—I have read with great interest the article of Dr. Rodman in the issue of The Journal of the 10th inst. and your very able editorial on the same. You having invited a free expression of opinion pro and con, I take the liberty to analyze it and point out wherein I differ. The evil that this voluntary board of national examiners is expected to remedy is supposed to be this: that a graduate of a medical college of high standard, holding a certificate from a state board, is compelled to pass an examination in case of his removal to another state.

Will this proposed board accomplish the result? Any state which demands an examination from one possessing credentials of registration in a state with a high medical standard, will also refuse to recognize a license of a national voluntary board; as a matter of fact the multitude of examinations we are blessed with in this country are for the purpose of barring a brother practitioner from locating in that state.

Were it not for that, what excuse is there to demand an examination from a physician who has registered and was allowed to practice? It is un-American as well as unjust. Where is the fair play we Americans are proud of?

Your editorial admits that, should the volunteer national board be realized and all the states consent to relinquish their rights to the national board, this would only assist those that would pass the examination of the board, and no relief is suggested to the thousands of physicians who are in practice. What should the practitioner do who is unfortunate, and on account of sickness is compelled to change climate? The young man can take care of himself, he can pass an examination wherever he goes, but the older man, though he may be rusty on technical points, is far advanced on practical points, and to him the doors are closed. It is ridiculous that a man who was good enough for the community of one state should not be allowed to practice in another state.

What is the remedy for the multiple examinations of every state? The Association should put itself on record that every state which comes up to the standard should reciprocate, in other words, every licensed physician, whether he has passed a state examination or was exempt from it by reason of previous registration, should be allowed to register on the presentation of proper credentials, on paying the fee according to law.

We ought to be honest about it. When a physician is good enough, in a state that comes up to the standard, why should he be rejected by another state? The objection that the man who registered before the law passed does not come up to the standard is not well taken, because he has the advantage of experience instead. Some of the best teachers have never passed a state examination and some were even students of a two-year course. Their constant work and perseverance in study after graduation, combined with experience, raised them far above the average. Dr. Rodman further states: "The Committee on National Legislation, representing the A. M. A., has reported, advising against reciprocity and in favor of a national board of examiners. The committee had, however, been working upon the hypothesis that such a board could be created and sustained by act of Congress. Letters read from . . . . caused the committee to drop the idea of a national board created by act of Congress as such legislation would certainly be unconstitutional and in conflict with the several states. The states are sovereign and can not be coerced by the general government." A national board would be for the benefit of the community against impostors, and every state which is mindful of the common welfare would come under its folds sooner or later by its own free will. There would be no objection to a national board when accepted by a voluntary relinquishment of rights on the part of the state. But such a board must first have the stamp of the country at large, by an act of Congress, which would give it the high standing and reputation to gain the respect of the whole nation, as well as of foreign countries. The high standing of the surgeons-general of the Army, Navy and Marine-Hospital Service is not so much on account of their superior knowledge as it is on account of their position representing the national government. If such a board were made national it would then compare with the Royal College of Physicians.

I would suggest that a national body be created by Congress, to be called "The Commission of Health of the United States," with headquarters in Washington, to have supervision over all medical matters of the United States, such as the granting of certificates to candidates after successful examinations, which should suffice for the medical departments of the Army, Navy and Marine-Hospital Service, and for any state or territory which by consent relinquished its state authority. This commission should supervise the manufacture of drugs, chemicals, serum, etc. This commission should not interfere in commerce, acting only when requested by the manufacturer to examine his goods, and if they be found to be up to a standard, to issue a certificate to that effect. The members of the commission should consist of the surgeons-general of the Army, Navy and Marine-Hospital, and one member for every state, to be elected by the American Medical Association, yearly, of such states that consent to relinquish their state authority to the commission. And this commission should have a salaried officer to be in charge all the time with salaried assistants to carry on the duties of his office. Very truly yours,

L. W. Zwisohn.

1085 Lexington Avenue, New York City.

A Broader National Examining Board.

Jefferson City, Mo., May 15, 1902.

To the Journal:—The medical profession has not been altogether wise in its efforts for state regulation of the medical art. In the very eager pursuit of the charlatan the dignified and careworn family physician was almost forgotten. Under the medical laws of the several states he has less freedom of movement than the plumber or the iron molder. Physicians do not always change location for a moneyed consideration, but oftentimes to engage in special work, or to lighten their labor, as the means of a longer and more comfortable life. We alone are responsible for the unfortunate condition, and we must apply the remedy. If the American Medical Association decides to create a voluntary national examining board, let it be on broader lines than suggested by Dr. Rodman of Philadelphia. Let us at least anticipate applicants for examination from Chicago, St. Louis, Louisville and San Francisco. And let it further be hoped that there will be recognition of state licenses already issued to physicians who have passed satisfactory examinations before state examining boards. We have physicians of great merit in all the states, and if the American Medical Association takes action in this matter at all, it must be upon the basis of intellectual equality of the profession in all the states. I do not think the state boards will consent to a

disregard of past examinations made by them, but I believe they would arrange with the national board for an endorsement of such, and also agree with the national board as to a standard of proficiency for future examinations. We do not want two standards of qualification in this country, nor do we want state board jealousy and possibly avarice aroused. The national examiners should have per-diem, not fees, for services. Judicious medical legislation can come only through broad, big-minded practical men, and there are many in the American Medical Association. Are they interested?

CHARLES PINCKNEY HOUGH, M.D.

Book Notices.

POLK'S MEDICAL REGISTER AND DIRECTORY OF THE UNITED STATES AND CANADA. With Index to the Physicians of the United States Arranged Alphabetically, with the Number of the Page on Which the Name Appears. Seventh Revised Edition. 1902. Cloth. Pp. 3008. Price, $10.00. Detroit, Baltimore, Chicago: R. L. Polk & Co.

This edition of the old standby directory of the medical profession of the United States and Canada is in many respects superior to former issues and gives evidence of painstaking care by the publishers. We congratulate them upon the degree of accuracy attained in registering so many thousands of practitioners, covering so vast a territory. The medical laws of every state and territory are revised to the latest date, the medical information for the Army, Navy and Marine-Hospital Service is replete, accurate and up to date, every medical school now in operation or extinct is recorded with full particulars of each, and the name, address and graduation particulars are given. This is supplemented by the usual alphabetical index of physicians, making it possible to ascertain the present location of any physician in America. It is to be hoped that the next edition will have a more substantial binding and that the coloring of the edges will be of such a material that it will not rub off in handling. A thumb index by states would be a valuable acquisition to the volume.

A MANUAL OF PRACTICAL ANATOMY. By the Late Alfred W. Hughes, M.B., M.C. Edin., F.R.C.S. Edin., etc., Professor of Anatomy, King's College, London. Edited and Completed by Arthur Keith, M.D. Aberd., F.R.C.S. Eng., Lecturer on Anatomy, London Hospital Medical College, etc. In Three Parts. Part I. The Upper and Lower Extremities. Illustrated by 38 Colored Plates and 116 Figures in the Text. Cloth. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1901.

This is the first of a series of three volumes intended as a guide to the dissection of the human body. The present volume describes the anatomy of the upper and lower limbs, and, so far as can be seen from our examination, the subject is presented in a most satisfactory way. The death of the author has put the work of arranging and editing the matter of the work into the hands of Dr. Arthur Keith, who has performed his task in an admirable manner, adapting the description of dissections, etc., to the later surgical procedures. The changes, however, as he says, will be more numerous in the parts yet to appear, as the present one was nearly complete at the time of the author's death. The dissection methods are adapted to the newer methods of preserving subjects. This is also an advantage. The illustrations are abundant and well selected to illustrate the text. Although most of them are taken from well-known authorities, many are original. The book is one that can be cordially recommended to the student in anatomy and will be a very valuable reference work for the surgeon.

ON DISORDERS OF ASSIMILATION, DIGESTION, ETC. By Sir Lauder Brunton, M.D., D.Sc., LL.D. (Edin. and Aberd.), F.R.S., F.R.C.P. Cloth. Pp. 495. Price, $4.00. London and New York: Macmillan & Co., Ltd. 1901.

This collection of various papers published at dates ranging from 1874 to 1900 forms a very readible volume of nearly 500 pages, which may well be added to any physician's library. Of course the matter in these essays is not new, but they are all of them timely and none are out of date, notwithstanding the time that has elapsed since their first appearance. The leading idea of a number of them, as the author says in his preface, is the action of enzymes, and this is a subject that is well to the fore in physiology at the present time. The longest paper, that on stimulants and narcotics, is a quasi popular but scientific statement of the leading facts in regard to these substances and others are almost equally practical in their tenor, though the inclusion of more strictly scientific and technical papers like those on gas absorption by the intestine and on the action of ferments keep the book within the stricter pale of purely medical works. It is of special value in giving many practical points in a clear and attractive way, and should find many readers.

MANUAL OF CHILDBED NURSING, WITH NOTES ON INFANT FEEDING. By Charles Jewett, A.M., M.D., Sc.D., Professor of Obstetrics and Diseases of Women in Long Island College Hospital. Fifth Edition, Revised and Enlarged. Cloth. Pp. 84. Price, $0.80. New York: E. B. Treat & Co. 1902.

This little work has reached its fifth edition, which shows that it has met with popular favor. The author states that the entire contents have been revised and much new material added. So far as we can see it seems to be well compiled and to contain the principal points which the nurse should know.

Married.

JOSEPH SHEAFE, M.D., Riverside, Iowa, to Miss Roxey Louden, of Illinois, May 6.

EDWARD T. LAMB, M.D., Alma, Mich., to Miss Mabel Ball of Petersburg, Mich., May 1.

LEAL K. SLOTE, M.D., Constantine, Mich., to Miss Mae Wilson of Jackson, Mich., May 7.

ALBERT WINN, M.D., Harris, Iowa, to Miss Dora E. Hankins of Sioux City, Iowa, May 7.

WILLIAM L. HEARST, M.D., Cedar Falls, Iowa, to Miss Jennie E. Curtis, of Chicago, May 10.

ALBERT C. JOHNSON, M.D., Sidell, Ill., to Miss Josephine Evans, of Horace, Ill., April 30.

GEORGE A. CARHART, M.D., Pittsburg, Pa., to Miss Sara Weston Kimball of Milwaukee, Wis., May 6.

GUSTAVUS W. MOLL, M.D., Forest City, Mich., to Miss May Isabel Rideout of Oshkosh, Wis., May 7.

THOMAS A. KING, M.D., to Miss Celeste Norris, both of St. Joseph, Mo., at Kansas City, Mo., May 7.

Deaths and Obituaries.

Ida E. Richardson, M.D., one of the most prominent women physician of Philadelphia, died at the age of 57, May 9. She was a graduate of 1879 from the Woman's Medical College of Philadelphia, in which she was later instructor in practice of medicine. Dr. Richardson had a large practice limited wholly to diseases of women and children. She was one of the founders of the West Philadelphia Hospital for Women, an attending physician to the Woman's Hospital, a member of the County Medical Society, and of the American Medical Association.

John L. White, M.D. Harvard University, 1854, one of the most prominent and widely-known physicians of Illinois, died at his home in Bloomington, May 13, after a long illness, aged 69. Dr. White settled in Bloomington in 1870, and at once assumed a leading position in the profession of the state. He served for two terms as member of the legislature and was a member of the American Medical Association.

John H. Van Eman, M.D. Medical College of Ohio, Cincinnati, 1868, professor of diseases of women in Kansas City Medical College, and president of its board of directors, a veteran of the Civil war, a prominent physician and gynecologist of Kansas City and a member of the American Medical Association, died at his home in Kansas City from septicemia after an illness of less than a week, aged 62.

Marie E. Zakrzewska, M.D. Western Reserve University, Cleveland, 1856, the pioneer woman physician of Boston, one of the pioneers of the movement that enabled women to practice in various sections of the country, and the founder of the New England Hospital for Women and Children, died at her home in Boston, May 13, aged 73.

Pierson J. Pratt, M.D., a recent graduate of the University of Pennsylvania School of Medicine, died at Glen Echo, Montgomery, Md., May 4, from an overdose of morphia administered accidentally by himself. He was aged 27, and came from his home in Pennsylvania only two days before.

Allen Fowler, M.D. University of Maryland, Baltimore, 1867, one of the most prominent and beloved physicians of

Utah, where he had practiced for more than thirty years, died at Holy Cross Hospital, Salt Lake City, May 7, from pneumonia, after a short illness.

John B. Wiley, M.D., died suddenly at his home in Gerardstown, W. Va., May 4, aged 74. He was a native of Virginia, and had resided in Berkley County twenty-five years. He was a graduate of the Medical College of Virginia, Richmond, in the class of 1854.

Thomas F. Riegel, M.D., one of the resident physicians of St. Joseph's Hospital, Philadelphia, died, May 6, in that institution, from typhoid fever, aged 22. Deceased was graduated with honors in the class of 1901, from Jefferson Medical College.

Adolph Schlernitzauer, M.D. Washington University, St. Louis, 1864, a member of the American Medical Association, and a successful practitioner of Millstadt, Ill., died at his home in that place after a prolonged illness, May 8, aged 64.

Sidney J. Lanier, M.D. Medical College of Georgia, Augusta, 1884, formerly a practitioner of Savannah, but who was obliged to move to North Georgia a year ago on account of consumption, died at his old home in Oliver, Ga., May 9.

Alfred Desjardins, M.D. University of Michigan, Ann Arbor, 1877, who had practiced for twenty-five years in the Upper Peninsula of Michigan, died at St. Luke's Hospital, Marquette, after a long illness, May 7, aged 46.

John W. Godfrey, M.D. Central College of Physicians and Surgeons, Indianapolis, 1881, a widely-known physician of central Illinois and ex-mayor of Moweaqua, died at his home in that place, May 10.

Joseph L. Pope, M.D. New York University, 1855, died suddenly at his home in Bardstown, Ky., May 9, aged 72. He served on the Confederate side as a surgeon during the Civil war.

John T. Milling, M.D. Royal College of Surgeons, Ireland, 1843, the oldest practitioner of La Salle County, and coroner from 1888 to 1892, died at his residence in Peru, May 7, aged 83.

Daniel W. Burdick, M.D. Geneva (N. Y.) Medical College, 1862, died at his summer home near Syracuse, N. Y., after a prolonged illness from heart disease, May 3, aged 64.

George W. French, M.D. Northwestern University, Chicago, 1870, formerly of Owensboro, Ky., died at his old home in Grayville, Ill., May 4, from heart disease, aged 69.

Sidney O. Morgan, M.D. Western Reserve University, Cleveland, 1878, a resident of North Dakota for nearly twenty years, died recently at his home in Glen Ullin.

Campbell Slayden, M.D. University of Nashville, Tenn., 1852, died at his home in Dickson, Tenn., May 6. He was a member of the American Medical Association.

Z. P. Landrum, M.D. Medical College of Georgia, Augusta, 1851, a pioneer of Lowndes County, Miss., died suddenly at his home in Dunbar, May 5, from heart disease.

James A. Corley, M.D., resident of Texas since 1850, died, May 6, at the home of his son, Dr. Laurence Corley, in Midway, Texas, after an illness of one week, aged 79.

John H. Furman, M.D. Medical College of the State of South Carolina, Charleston, 1845, died suddenly at his country home, Ramsey, S. C., May 6, aged 78.

Christopher Adamson, M.D. University of Michigan, Ann Arbor, 1899, died from erysipelas at his home in Bemidge, Minn., May 8, after a brief illness.

William C. Harvey, M.D. Transylvania University, Lexington, Ky., 1848, died at his home in Roanoke, Mo., May 7, after a short illness, aged 76.

Ray Rickey, M.D., died from lung disease, after a long illness, May 6, at Belmont, Cal., where he was assistant physician to Dr. Alden M. Gardner.

Robert A. Jenner, M.D. Miami Medical College, Cincinnati, 1895, of East Dayton, Ohio, died at St. Elizabeth's Hospital, Dayton, May 12, aged 28.

Andrew G. Grinnan, M.D. University of Pennsylvania, Philadelphia, 1848, died at his home in Madison County, Va., May 9, aged 75.

Charles N. Irwin, M.D., who had practiced in Mount Sterling, Ill., since 1850, died at his home in that place, April 25.

William J. Burr, M.D. Geneva (N. Y.) Medical College, 1845, died at his home in Newark Valley, N. Y., May 5.

Arvid H. Winnermark, M.D. Rush Medical College, Chicago, 1884, died at his home in Chicago, May 7, aged 45.

George J. Hamilton, M.D. Miami Medical College, Cincinnati, 1873, died at Eaton, Duval County, Fla., May 2.

Samuel G. Ade, M.D. University of Illinois, Chicago, 1897, died at his home in Chicago, May 11, aged 43.

Societies.

COMING MEETINGS.

American Medical Association, Saratoga Springs, N. Y., June 10 to 13.

American Pediatric Society, Boston, May 26-28, 1902.
American Laryngological Association, Boston, Mass., May 26-28, 1902.
American Gynecological Society, Atlantic City, May 27, 1902.
Connecticut Medical Society, New Haven, May 28-29, 1902.
Ohio State Medical Society, Toledo, May 28-30, 1902.
American Laryngological, Rhinological and Otological Society, Washington, D. C., June 2-4, 1902.
American Surgical Association, Albany, N. Y., June 3-5, 1902.
Louisiana State Medical Society, Shreveport, June 3-5, 1902.
Maine Medical Association, Portland, June 4-6, 1902.
South Dakota State Medical Society, Scotland, June 4-5, 1902.
Wisconsin State Medical Society, Milwaukee, June 4-6, 1902.
Rhode Island Medical Society, Providence, June 5, 1902.
Association of Military Surgeons of the United States, Washington, D. C., June 5-7, 1902.
American Orthopedic Association, Philadelphia, Pa., June 5-7, 1902.
American Academy of Medicine, Saratoga Springs, N. Y., June 7, 1902.
American Association of Life Insurance Examining Surgeons, Saratoga Springs, June 9, 1902.
National Confederation State Medical Examining and Licensing Boards, Saratoga Springs, N. Y., June 9, 1902.
Association of American Medical Colleges, Saratoga Springs, N. Y., June 9, 1902.
American Climatological Association, Los Angeles, Cal., June 9-11, 1902.
American Proctological Association, Saratoga Springs, N. Y., June 10, 1902.
Medical Society of Delaware, Newark, June 10, 1902.
Massachusetts Medical Society, Boston, Mass., June 10-11, 1902.
Medical Society of the State of North Carolina, Wilmington, June 10-14, 1902.
Colorado State Medical Society, Pueblo, June 17, 1902.
American Medico-Psychological Association, Montreal, June 17-20, 1902.
Minnesota State Medical Society, Minneapolis, June 18, 1902
Medical Society of New Jersey, Atlantic City, June 24-26, 1902.
Washington State Medical Society, Tacoma, June 24-26, 1902.
Michigan State Medical Society, Port Huron, June 26-27, 1902.

American Gynecological Society.—The twenty-seventh annual meeting of this Society is to be held at the Hotel Rudolf, Atlantic City, N. J., May 27-29, under the presidency of Dr. Seth C. Gordon, Portland, Me.

Fulton County (Ohio) Medical Association.—This Association met at Wauseon, April 28, and elected Dr. Edwin A. Murbach, Archbold, president; Drs. S. Parker Bishop, Delta, and Thomas Blair, Lyons, vice-presidents, and Dr. Sylvanus F. Cosgrove, Swanton, secretary.

Clinton County (Ill.) Medical Society.—The annual meeting of this Society was held in Carlyle, May 6. Dr. William P. Gordon, Carlyle, was re-elected president, and Dr. Theophilus Gaffner, Trenton, re-elected vice-president. Dr. Charles H. McMahan, Carlyle, was elected secretary.

Hancock County (Ill.) Medical Society.—At the annual meeting of this Society, held in Carthage, May 5. Dr. Charles L. Ferris, Carthage, was elected president; Dr. John J. Reaburn, Denver, vice-president; Dr. Robert L. Casburn, Carthage, secretary, and Dr. James H. Callahan, Carthage, treasurer.

American Laryngological Association.—The twenty-fourth annual congress of this Association will be held in Boston Medical Library Building and Harvard Medical School, May 26, 27 and 28. Dr. John W. Farlow, president of the Association, will deliver his address at the first morning session.

Cape May County (N. J.) Medical Society.—At the annual meeting of this Society, held in Cape May, May 6, Dr. John S. Douglass, Tuckahoe, was elected president; Dr. Joseph Marshall, Tuckahoe, vice-president; Dr. Nathan A. Cohen, Wildwood, secretary, and Dr. Randolph Marshall, Tuckahoe, treasurer.

Carroll County (Ark.) Medical Society.—This Society met at Eureka Springs, May 10. Officers were elected as follows: President, Dr. Adolph Krebs, Eureka Springs; vice-president, Dr. William P. George, Berryville; secretary, Dr. V. Francis Lassayne, Eureka Springs, and treasurer, Dr. Russell G. Floyd, Eureka Springs.

Southwestern Kentucky Medical Association.—At the meeting of this Society, in Paducah, May 8, the following officers were elected: Dr. James M. Peck, Arlington, president; Drs. Benjamin P. Earle, Charleston, and Benjamin L. Hendley, Farmington, vice-presidents; Dr. Horace T. Rivers, Paducah, secretary, and Dr. James T. Reddick, Paducah, treasurer.

State Medical Society of Wisconsin.—The fifty-sixth annual meeting of this Society will be held in Milwaukee, June 4 to 6, inclusive. Dr. Walter H. Neilson, Milwaukee, will preside. The courtesies of the Bon Ami Club are tendered to the members, and clinics are to be given by Drs. Harvey W. Cushing, Baltimore, and Simon Flexner, Philadelphia.

Middlesex North District (Mass.) Medical Society.—At the annual meeting of this Society, held at Lowell, April 30, Dr. J. Arthur Gage was elected president; Dr. Burnham R. Benner, vice-president; Dr. Wyllis G. Eaton, secretary; Dr. David N. Patterson, librarian; Dr. Joe V. Meigs, Jr., treasurer, and Dr. William B. Jackson, commissioner of trials, all of Lowell.

Massachusetts Medical Society.—The one hundred and twenty-first anniversary of this Society will be celebrated, June 11, when the annual meeting will be held in the building of the Massachusetts Charitable Mechanic Association, Boston, under the presidency of Dr. Frank W. Draper, Boston. Section meetings will be held in the Medical Library, 8 The Fenway, June 10.

Southwest Missouri District Medical Association.—At the annual meeting of this Association, held in Springfield, April 17, Dr. Richard W. Paris, Morrisville, was elected president; Dr. Norman F. Terry, Springfield, vice-president; Dr. Herbert S. Hill, Springfield, recording secretary; Dr. William P. Patterson, Springfield, corresponding secretary, and Dr. Arthur B. Freeman, Joplin, treasurer.

Association of C., H. and D. Surgeons.—The surgeons of the Cincinnati, Hamilton and Dayton Railway met at Dayton, May 6, and formed a permanent organization, with the following officers: President, Dr. Wilbur R. Thompson, Troy, Ohio; vice-presidents, Drs. William S. Hog, Wellston, Ohio, and Charles H. Parsons, Rushville, Ind.; secretary, Dr. Mark Millikin, Hamilton, Ohio, and treasurer, Dr. J. Herman Thesing, Cincinnati.

Appanoose-Wayne County (Iowa) Medical Association.—The physicians of Appanoose and Wayne counties met at Centerville, May 8, and temporarily organized a bi-county medical society. Dr. William H. Earnest, Seymour, was made temporary president; Dr. Clyde E. Sawyers, Centerville, vice-president; Dr. Charles S. James, Centerville, secretary-treasurer, and Dr. Charles P. Bowen, Centerville, assistant secretary-treasurer.

Hampshire District (Mass.) Medical Society.—The annual meeting of this Society was held in Northampton, May 8, when Dr. Clarence R. Gardner, Northampton, was elected president; Dr. Albert G. Blodgett, Ware, vice-president; Dr. Arthur G. Minshall, Northampton, secretary; Dr. Alfred H. Hoadley, Northampton, treasurer; Dr. Christopher Seymour, Northampton, librarian, and Dr. Charles F. Branch, Amherst, commissioner of trials.

Randolph County (Ill.) Medical Society.—The physicians of Randolph County met at Chester, May 2, and organized a county society, with sixteen members, and the following officers: Dr. William R. MacKenzie, Chester, president; Dr. Alexis T. Telford, Menard, vice-president, and Dr. Henry C. Adderly, Chester, secretary-treasurer. Dr. John T. McAnally, Carbondale, president of the Illinois State Medical Society, was present and assisted in perfecting the organization.

Illinois State Medical Society.—The fifty-second annual meeting of this Society was held at Quincy, May 20, 21 and 22, 1902, under the presidency of Dr. John T. McAnaly, Carbondale. The Committee on Constitution and By-laws presented a new document, which was drafted in conformity with the plan of reorganization of the American Medical Association. It was thoroughly discussed, amended and adopted. The Committee on Medical Legislation presented the draft of a proposed bill for the regulation of the practice of medicine and establishing a board of medical examiners in the State of Illinois. This was likewise thoroughly discussed and recommended to the Society for adoption.

American Medical Editors' Association.—The annual meeting of this Association will convene in the Y. M. C. A. Building, Saratoga Springs, N. Y., June 9 and 10. The preliminary program includes a number of valuable papers and gives assurance that the meeting will be a most successful and interesting one. An important feature will be a symposium presenting various features of editorial and business management of medical journals. The annual dinner of the Association will be given at the Hotel Kensington on the evening of June 9. The officers of the Association are Dr. Alexander J. Stone, St. Paul, Minn., president, and Dr. Otho F. Ball, St. Louis, secretary, to whom all correspondence should be directed.

Palmetto Medical Association.—At the meeting of this Association of colored physicians of South Carolina, at Charleston, May 1, the following resolutions were adopted: *Resolved*, That we condemn the absurd, untrue and un-Christian statements made by one Dr. W. T. English, of Pittsburg, Pa., in an article published in the *Charlotte Medical Journal*, under the caption of "Shall the Negro Be Allowed to Practice Medicine?" Resolved, That a committee, consisting of J. M. Thompson, of Charleston, and Dr. C. W. Birnie, of Sumter, be appointed to prepare a suitable reply to said article. The election of officers resulted as follows: President, Dr. Nathaniel J. Kennedy, Beaufort; vice-presidents, Drs. John A. Robinson, Darlington, and John M. Thompson, Charleston; secretary, Dr. C. W. Birnie, Sumter, and treasurer, Dr. William D. Crum, Charleston.

Albany (N. Y.) Medical College Alumni Association.—At the annual meeting of this Association, the historian made a report in which he named the following alumni who served in the Spanish-American war: Drs. James F. Smith, '98, Albany; James E. Brennan, '89, deceased, Albany; Adolph V. R. Fenwick, '99, Schenectady; Garret V. Johnson, '96, Schenectady; Bernard Livingston, '99, New York City; John Van Rensselaer, '71, Washington, D. C.; James P. Kimball, '64, Washington, D. C., and Lewis T. Griffith, '97, Troy, N. Y. The following officers were then elected: President, Dr. Walter W. Scofield, Dalton, Mass.; vice-presidents, Drs. Alva E. Abrams, Hartford, Conn.; Warren C. Spalding, New York City; William B. Sabin, Watervliet, N. Y.; Thomas H. Flynn, Somerville, N. J., and Charles R. Seymour, Binghamton, N. Y.; recording secretary, Dr. J. Montgomery Mosher, Albany; corresponding secretary, Dr. Andrew MacFarlane, Albany; treasurer, Dr. Robert Babcock, Albany, and historian, Dr. Eugene E. Hinman, Albany.

KENTUCKY STATE MEDICAL SOCIETY.

Forty-Seventh Annual Meeting, held at Paducah, May 7-9, 1902.

President, T. B. Greenley, M.D., Meadow Lawn, in the Chair.

National Legislation.

The address of welcome was delivered by Hon. D. A. Yeiser, mayor of Paducah; response by Thomas Hunt Stucky, M.D., Louisville. After the reports of various committees were read and adopted, Dr. Dudley S. Reynolds, Louisville, chairman of the Committee on National Legislation, after mentioning the work done at the third annual conference of the committee of the American Medical Association at Washington, D.C., April 10, said: "It is the opinion of your committee that the permanent establishment of an authoritative representative of the medical profession should exist in Kentucky; and that a sum sufficient to meet the necessary expenses of such representative appropriated, annually, not exceeding $75 per year." This report was adopted.

Smallpox.

At the afternoon session a paper on "The Value of State Control and Vaccination in the Management of Smallpox" was read by J. N. McCormack, M.D., Bowling Green. This will appear in full in THE JOURNAL.

DR. F. L. LAPSLEY, Paris, also advocated humanized virus.

DR. W. W. RICHMOND, Clinton, had seen a small epidemic of smallpox originate from a case of so-called Cuban itch.

DR. J. G. BROOKS, Paducah, had seen the contagion spread prior to development of the pustular stage, and did not agree with the essayist as to the innocuousness of such cases.

DR. D. S. REYNOLDS, Louisville, had seen the mildest cases of varicella give rise to violent variola. He recommends humanized vaccine. He has seen chancroidal sores produced by bovine virus. There is danger of introducing other micro organisms, for instance the staphylococcus. Glycerinated vaccine is objectionable, but it depends altogether upon method of introduction.

DR. J. A. LEWIS, Georgetown, said he knew some physicians who did not believe in vaccination, whose remarks had considerable influence with the laity, and had kept them from being vaccinated. He advised against vaccination upon the leg, as he had seen one fatal case of this nature.

DR. ARCH DIXON, Henderson, referred to the lack of interest on part of the fiscal courts in attempting to stamp out smallpox, or in assisting physicians and health boards in doing so.

DR. GEO. ORSBORN, Sebree, had seen eight pregnant women with smallpox in recent epidemic, all of whom aborted. The disease resembled pneumonia in first stages and some difficulty had been experienced in diagnosis.

DRS. FRANK BOYD, Paducah; T. J. SHOEMAKER, Morganfield; C. C. GODSHAW, Louisville; and C. AUSTIN, Bagdad, took part in the discussion.

DR. J. N. MCCORMACK, in closing the discussion, said he did not wish to be understood as condemning bovine virus, but following its use local and constitutional disturbances were apt to be more severe and immunity not so great as that following humanized virus, therefore the latter was preferable. Vaccination can most certainly be enforced under the laws of this state.

"The Obligation of Society to the Physician" was read by DR. ARCH DIXON, Henderson.

Fracture and Malpractice Suits.

DR. JOHN A. LEWIS, Georgetown, read "The Treatment of Fractures and Dislocations in Relation to Suits for Malpractice," and concluded with the following summary: "1. Do not undertake to practice surgery unless you have some training and skill. 2. If you undertake it, leave nothing undone to secure success, from the date of your first visit to your last, when you remove the dressing. 3. Never guarantee results; let it be clearly understood that failure is not impossible even in uncomplicated cases after the most faithful and skilful treatment. 4. Make your first examination just as carefully and thoroughly as possible under the circumstances; make a plain and truthful statement as to result of your examination of trying nature of injury, etc., to the family, guarding your prognosis well. Make this statement if possible in the presence of some honest physician or, better still, some intelligent layman. 5. Let the patient and his family feel that in calling you it is presupposed that they know your ability in work in this line; if they are unwilling to assume the risk of final results, then they ought to call someone else. 6. After your first examination, if you are in doubt as to the diagnosis, or as to plan of treatment, call a consulting physician at once. 7. In the treatment of charity patients and dead-beats be especially on guard to protect yourself. 8. Remember the law holds you to the same accountability in the treatment of charity patients as in treatment of the rich. 9. Use only approved methods of treatment, leave the experimental treatment to the hospitals. 10. Treat your brother physician exactly as you would have him treat you; never by word, or act, or look, lend countenance to the suggestion of a damage suit, it matters not whether the physician be your personal friend or not. Express no opinion as to an unsuccessful result in any case treated by another physician, unless he be present. 11. If in spite of your best efforts to avoid a suit, one comes, never compromise or pay hush money; fight to the death. Every physician should always stand ready to go to the assistance of his brother physician, with his time and money if necessary, in defending one of these suits for malpractice. 12. In closing, it may not be out of place for me to say that perhaps the wisest solution of the whole matter might be for each of you to "lay up treasures in heaven, where moth and rust do not corrupt and thieves do not break through and steal."

DR. D. S. REYNOLDS, Louisville, said all the law required was that the surgeon should be competent to do what he undertook. He related several cases, however, where juries had awarded damages (in some cases punitive damages) against surgeons although it did not appear that the surgeons were at fault.

DR. F. L. LAPSLEY, Paris, asked if the surgeon were not still legally responsible, even after he further refused to treat a case, because of refusal on part of the patient to comply with the wishes of the surgeon in regard to certain treatment.

DR. J. A. LEWIS, in closing the discussion, stated that in twelve months after the patient was discharged (in Kentucky) the legal responsibility of the physician or surgeon ceased. But so long as the case is under the surgeon's observation he is held responsible. The speaker again emphasized the importance of making these examinations under anesthesia, unless there exists some valid contraindication.

The president's annual address was read in the evening at the Palmer House, and was followed by an elaborate banquet given by the committee on entertainment in honor of the Kentucky State Medical Society.

Puerperal Eclampsia.

The first paper on May 8 was read by DR. J. T. REDDICK, Paducah, on this subject. After a general review of symptoms and etiology, the author reported two interesting cases recently seen, both successfully delivered with forceps, followed by recovery. In one case he had removed an ovarian cystoma in the ninth week of pregnancy. Believing the condition due to a general toxemia, he advised free elimination, calomel, veratrum viride, morphin, chloral, digitalis, inhalations of chloroform, etc.

DR. W. B. GOSSETT, Louisville, called attention to enlargement of the thyroid gland in eclampsia, and suggested that the thyroid secretion might be the treatment nature had provided to overcome the poisonous toxins.

DR. E. SPEIDEL, Louisville, referred to importance of prophylactic treatment; advised elimination by calomel and injection of hot saline solution into colon. Urea and not albumin is the important factor in urine of pregnant women. A diet of buttermilk is better than sweet milk.

The next paper was read by WALKER B. GOSSETT, M.D., Louisville, on the subject of "Version."

The Medical Treatment of Cholelithiasis.

A paper on this subject was read by R. ALEXANDER BATE, M.D., Louisville. The author thought gallstones due to constitutional dyscrasia. Indications for treatment are, 1, prevention of formation of calculi; 2, control of symptoms and expulsion of calculi when formed. It is not claimed that all cases of cholelithiasis can be cured by medical means, but only a small proportion of cases ever require surgical intervention. He emphasized the fact that internal medication, either alone or combined with surgical measures, must be instituted before a radical cure could result.

The Gall-Bladder.

DR. J. LIVELY JOHNSON, Louisville, discussed diagnosis and treatment of gallstones. The medical treatment was mentioned only to call attention to its utter inability to remove gallstones either by expulsion or dissolving. Specific diet is unimportant. Operation is indicated as soon as diagnosis is made.

The Surgical Treatment of Cholelithiasis.

DR. DAVID BARROW, Lexington, read this paper. Surgical treatment should be resorted to where, 1, the colics are frequent, or the suffering is severe, and of several days' duration; 2, where there is evidence of cystic or common duct obstruction, not positively due to malignant disease; 3, in some cases of positive malignancy with the hope of lessening pain and discomfort, and to remove the stones frequently present in these cases, or to do a cholecystenterostomy for the relief of cholemia; 4, in acute infection of the gall-passages, cholecystitis and cholangitis; 5, in chronic infection of the gall-passages, as manifested by irregular chilliness and evening temperature, with loss of flesh, weakness and partial invalidism, with previous history of indigestion and colic; 6, in a chronically distended gall-bladder large enough to be felt through the abdominal parietes; 7, in intestinal obstruction due to gallstones in the intestine or to inflammation caused by gallstones; 8, in some obscure inflammation pointing to trouble in the upper right side of the abdominal cavity. Results from primary operation are usually satisfactory. If secondary operation becomes necessary, the gall-bladder should be removed where possible.

The Treatment of Biliary Colic.

The next paper was read by DR. EDWARD SPEIDEL, Louisville. The author laid stress upon colon injections of hot saline solution.

DR. F. C. WILSON, Louisville, said, unquestionably some cases could be relieved by medical means, while others required the surgeon's knife.

DR. W. A. QUINN, Lexington, thought the medical treatment of gallstones a delusion.

DR. T. H. STUCKY, Louisville, thought perhaps the proposition should be reversed, i. e., instead of the medical man turning all these cases of gallstones over to the surgeon, the surgeon should refer such cases to the general practitioner. He believed, however, that it was absolutely impossible to draw the line where the medical man should leave off and the surgeon commence. He emphasized the efficacy of high rectal enemata of hot saline solution.

DR. A. T. MCCORMACK, Bowling Green, said the treatment in many cases of gallstones should be purely medical, that they never required surgical intervention; on the other hand, there were many cases distinctly surgical, and operation should be done promptly.

DR. J. V. PREWITT, West Point, referred to a case in which manipulation under chloroform had resulted in passage of gallstones by the bowel and complete recovery.

DR. LOUIS FRANK, Louisville, said that not infrequently there was adhesion between the gall-bladder and duodenum, or some other part of the intestine, followed by ulceration and perforation, allowing gallstones to pass into the bowel, and the physician attributed the passage of such stones to medical treatment. He emphasized the importance of surgical intervention and drainage as soon as diagnosis is made. Gallstones are undoubtedly due to bacterial infection.

DR. A. SCHACHNER, Louisville, said, as soon as diagnosis is made, surgery should be resorted to for removal of the gallstones and establishment of drainage.

Nasal Obstructions.

At the afternoon session, May 8, DR. DUDLEY S. REYNOLDS, Louisville, read a paper on this subject, and reported illustrative cases resulting from foreign bodies, polypi, etc., with treatment instituted. He uses adrenalin for reduction of swelling of nasal mucous membrane in order to make a differential diagnosis between abnormal bone growths, ordinary neoplasms, foreign bodies, pharyngeal growths, etc.

DR. WM. CHEATHAM, Louisville, spoke of the dangers of secondary hemorrhage following use of adrenalin and cocain in the nasal passages. Where obstruction due to engorged tissues, he believed constitutional treatment important. Local treatment with cautery is not effective in many cases.

DR. M. F. COOMES, Louisville, thought secondary hemorrhage following use of adrenalin and cocain in the nasal passages was due to carelessness on part of the physician, and referred to two such cases.

Chancre of the Tonsils.

DR. WILLIAM CHEATHAM, Louisville, reported seven such cases and thought many cases were overlooked.

The Mammary Gland—A Plea in Equity.

The next paper was read by DR. C. C. LEWIS, Owensboro, urging that physicians should educate mothers to nurse their infants at the breast wherever possible, rather than to feed them upon any of the artificial foods, which is an evil that is constantly growing and should be checked.

Suggestion: Factory Surgery: X-Rays.

DR. ANNA G. SEDAM, Covington, read a paper on "Suggestive Therapeutics, or Psychologic Medicine."

"The Hand in Factory Surgery" was the subject of a paper by DR. C. C. GODSHAW, Louisville.

The next paper, "The X-Rays in Surgery," was by DR. A. T. MCCORMACK, Bowling Green.

DR. J. B. KINNAIRD, Lancaster, followed with "The Therapeutics of the X-Rays."

Medical Management of Appendicitis.

This paper was read by DR. JOSEPH W. IRWIN, Louisville. The author said that in the last 29 years he had seen and treated upward of 150 primary cases of what was then known as perityphlitis, later and now as appendicitis, without having to resort to surgical means, and had to record but two relapses, both patients surviving, and a single death.

Intestinal Obstruction, with Report of Cases.

DR. AUGUST SCHACHNER, Louisville, reported several interesting and instructive cases and advised use of the needle and thread versus mechanical devices.

Election of Officers.

On the third day, May 9, the following officers were elected: President, Dr. W. W. Richmond, Clinton; vice-presidents, Drs. C. C. Lewis, Owensboro, and J. D. Wells, Cynthiana; permanent secretary and treasurer, Dr. Steele Bailey, Stanford; librarian, Dr. F. L. Lapsley, Paris; delegates to the American Medical Association, Drs. J. N. McCormack, Bowling Green, (two years), and Thomas Hunt Stucky, Louisville (one year).

The New Constitution.

The following report of committee on revision of the Constitution was read and adopted by unanimous vote:

"The committee composed of one member from each of the counties represented at this meeting of the Kentucky State Medical Society, having with great care and patience read and considered the instrument submitted to them, beg leave to recommend its adoption by the Kentucky State Medical Society. Your committee arrived at this conclusion after due deliberation, and by unanimous vote. (Signed) John G. Cecil, M.D., Chairman."

Concluding Papers.

DR. H. T. RIVERS, Paducah, read a paper entitled "Continued Fevers of Southwestern Kentucky."

DR. GEORGE R. RAU, Louisville, presented a paper on the subject of "Paralytic Dementia."

DR. J. N. MCCORMACK, Bowling Green, escorted the newly elected president to the chair, and Dr. Richmond then delivered an appropriate and impressive address.

DR. JOHN A. LEWIS, Georgetown, was selected to deliver the annual address in surgery, and DR. JOHN G. CECIL, Louisville, was selected to deliver the annual address in medicine, at the next meeting. The Society adjourned to meet in Louisville in May, 1903.

TORONTO CLINICAL SOCIETY.

The Final Meeting of the Session 1901-1902, held May 7, 1902.

Fatal Membranous Glossitis.

DR. A. J. HARRINGTON reported an unusual case of membranous glossitis, of which he stated he could find no trace in the literature. The specimen was presented. The condition occurred in an infant of eleven months of age, a fine, healthy, robust child. It had measles in March, 1902. On April 8 the whole cast of the tongue exfoliated, and the system of the child was thoroughly saturated with sepsis. The child died the following morning.

Epidemic of Mumps.

DR. ALLAN BAINES reported a very severe case of metrorrhagia in a young girl of sixteen, following mumps. This brought up a discussion on mumps, of which there has been an epidemic in Toronto during the past two or three months. Several members referred to cases of the disease confined to the submaxillary glands alone. Dr. Fred. Fenton reported favorably on the use of urotropin in pyuria, having found it especially valuable in old men with enlarged prostates and residual urine. Dr. C. J. O. C. Hastings reported three cases of myxomatous degeneration of the villi of the chorion which he had had in his practice. All recovered.

Election of Officers.

The following were the officers elected for the ensuing year: President, Dr. E. E. King; vice-president, Dr. George McDonagh; corresponding secretary, Dr. W. J. McCollum; recording secretary, Dr. George Elliott; treasurer, Dr. Geoffrey Boyd; executive committee, Drs. J. F. W. Ross, J. Orlando Orr, H. A. Bruce, H. C. Parsons and J. T. Fotheringham. On the evening of April 15, the annual dinner of the society was held at the Toronto Club, and a most enjoyable time spent.

NORTH BRANCH OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held April 17, 1902.

The President, Dr. A. M. Eaton, in the Chair.

Microscopic Diagnosis of the Abnormalities of the Blood.

Dr. W. Wayne Babcock read this paper and stated that there were four things to be considered in this connection: 1, the amount of hemoglobin; 2, the number of red blood corpuscles; 3, the number of white corpuscles; and 4, the determination, by a method of staining and microscopic examination, of the shape and quality of the corpuscles. The estimation of the hemoglobin by the use of the Talquist scale was thought to give sufficiently correct results for general purposes; where more accurate results were required the Gower's instrument was recommended. For general use in estimating the corpuscular richness of the blood the Oliver instrument was recommended, and when a more accurate result is desired, of course, recourse will of necessity be had to one of the counting methods. Dr. Babcock gave some of the details of technic and illustrated the use of the knowledge to be gained by these observations.

The Use of Simple Microscopic Methods by the General Practitioner.

Dr. Robert L. Pitfield urged the more general use of the microscope to confirm clinical diagnosis, especial attention being directed to tubercular involvement, nephritis, diphtheria and venereal disease. Numerous cases were cited where the diagnosis of tuberculosis was established solely by the microscope. The reader expressed the opinion that about 72 per cent. of the cases of diphtheria and tonsillitis could be correctly diagnosed by the examination of a simple smear from the throat discharge. While the use of the culture was recognized as a more certain method, it was thought that the latter procedure was beyond the reach of the average practitioner. The value of the examination of stools was also commented upon.

Discussion.

The discussion was opened by Dr. Judson Daland, who believed that Fleischl's hemometer, modified by the little slit cap, was the best method of estimating the amount of hemoglobin. Dr. Daland had given considerable attention to the examination of fresh blood and did not feel that this was practiced to as great an extent in this country as might be desirable. In his opinion, much valuable information could be obtained by observing the manner in which crenation and rouleauxing take place and the manner in which the fibrin is formed. It is possible to conduct the examination for from 25 to 30 minutes before crenation interferes. The speaker cited a case which had recently come under his observation presenting all the physical symptoms of pulmonary tuberculosis, but in which the sputum, although frequently examined by different observers, showed no tubercle bacilli. The case eventually proved to be one of aortic aneurysm.

Dr. Frederick A. Packard remarked upon the contrast between the present laboratory methods and those in vogue about twenty years ago. Attention was directed to the importance of the examination of the stools; especially was this thought to be important in cases of children who were supposed to be suffering with worms. The liability of error in making the diagnosis of Bright's disease solely upon the presence of albumin and casts in the urine was commented upon and the importance of considering these factors in conjunction with the clinical symptoms was remarked. Where albumin is persistently present in the evening urine and absent or present in a very much smaller amount in the morning specimen, it was thought to suggest either stone in the kidney or movable kidney.

Dr. Joseph Sailer emphasized the importance of microscopic examinations in differentiating diseases due to the colon group of bacteria and attention was called to the regularity with which cholera is diagnosed by this method in the Orient.

Dr. Augustus A. Eshner considered that in cases where albumin and casts are present in a patient's urine, a distinction should be made between the cases in which they are constantly present and those in which the condition is transitory; in the latter instance he feels that but little importance should be attached thereto. In regard to the estimation of the corpuscles in the blood, the speaker stated that his experience had been principally with the Thoma-Zeiss instrument. For ordinary purposes he considered that not only can one estimate the number of red cells, but can also form an approximate idea of the number of white corpuscles by the use of this instrument. In cases where diphtheria is suspected, the speaker stated that he believed it was just as important to examine the nasal discharges as it was to examine the exudates from the throat, as in his opinion nasal diphtheria is not so rare as is sometimes supposed.

Dr. M. H. Fussell spoke of the great value to be derived by the general practitioner from the examination of the urine of his patients, as in his opinion many cases of Bright's disease and other affections are not recognized until it is practically too late to be of any service to the patient, when the physician depends entirely upon the clinical symptoms. The sputum should be examined in every chronic cough, even although the physical signs of tuberculosis did not happen to be present. In the examination of the exudates from the throat for the diphtheria bacillus, he felt that cultures are far more accurate than the microscopic examination of a simple smear of the discharge on a cover glass, and he does not feel that it is safe to exclude the disease even although a negative result is obtained by the latter method.

CALIFORNIA ACADEMY OF MEDICINE.

Monthly Meeting, held April 29, 1902.

Dr. D. W. Montgomery in the Chair.

Fracture of Vertebra.

Dr. T. W. Huntington presented a case of fracture of a spinal vertebra treated on the expectant plan. There was a slight prominence, a slight deviation and some rigidity; no paralysis; no serious disturbance of functions of rectum or bladder; some anesthesia; patellar reflexes were normal. Extension was used, and at the end of forty-eight hours evidence of displacement had disappeared. He also gave history of another case with similar symptoms and treatment, who was wearing at present a plaster cast. Both patients had done well.

New Method of Prostatectomy.

Dr. George Goodfellow presented a paper on "Perineal Prostatectomy," giving a technic which he believed he was the first to deliberately plan and execute. With the patient in the lithotomy position, the bladder being empty or full as the case may be, a lithotomy staff is introduced, the legs then elevated somewhat, a median incision from the base of the scrotum to the margin of the anus is made and carried to the membranous urethra, which is entered with a lithotomy knife and the opening extended into the bladder. The finger is then introduced, the staff removed and the legs, which were somewhat elevated, are flexed on the abdomen and thorax to as great an extent as possible and with the opposing hand over the hypogastrium the bladder is depressed and the enucleation, beginning at the beak of the prostate below and working upward next to the bladder, is carried on, the time consumed for complete enucleation rarely being over five minutes, the resulting hemorrhage virtually nothing. The gland may be removed entire or lobe by lobe. If the bladder has been full of pus, sometimes it was washed out. No drainage of any kind was made, the perineal incision sufficing. In his earlier cases the practice was to pass straight sounds through the perineal wound into the bladder every other day for a week or more to keep free drainage, and in any complicated case such a course might be adopted; but of late it had not been found needful. In all recent cases no instrumentation of any kind has been permitted, neither irrigation, passage of sounds nor catheters, and all had done as well or better than under the older process. The points he wished expressly emphasized were the position of the patient, and the incision into the bladder; to these he thought were due his unvarying success.

DR. D. W. MONTGOMERY presented a case of epithelioma of the upper lip, which the x-ray treatment failed to check. Dr. H. M. Sherman therefore removed the entire upper lip, by incisions which extended directly upward from the corners of the mouth and then were joined by a horizontal incision close to the alæ and septum of the nose. Flaps consisting of all the tissues of the cheek were brought together in the place of the removed lip. At present the lip is a perfectly serviceable one and is not unsightly.

ASSOCIATION OF AMERICAN PHYSICIANS.

Seventeenth Annual Meeting, held in Washington, D. C., April 29 and 30, 1902.

President, Dr. J. C. Wilson, Philadelphia, in the Chair.

(Concluded from p. 1325.)

Splenic Anemia and Its Varieties.

DR. OSLER, in this paper, discussed the general question of splenic anemias, but paid particular attention to one group of cases which he thought could be separated from the general class as a distinct type. The particular features of this group are the chronicity of the anemia and splenic enlargement. Secondly, the absence of any enlargement of the lymph glands. Thirdly, the blood changes are those of chloro-anemia, the red cells in some cases being above 4,000,000, while the hemoglobin is as low as 30 per cent. and in some of the cases there is an exceedingly low leucocytic count. Fourthly, pigmentation of the skin is sometimes a characteristic feature, being mottled in some cases and in others resembling argyria Fifthly, in the late stages the liver is involved and cirrhosis has been found postmortem.

Dr. Osler thought that this group with the symptoms referred to was quite distinct from the cases of pernicious anemia with enlarged spleen, from certain cases of cirrhosis of the liver, particularly syphilitic forms, and from Hodgkin's disease. The name of splenic anemia was used simply for the want of a better one. Treatment of these cases is not very satisfactory. There may be improvement for a time and the red cells increase in number, but the hemoglobin remains low. The nature of the disease is unknown. Whether due to the spleen or not is unsettled, but some cases have recovered after removal of the spleen. With the aid of other members of the association Dr. Osler had collected 42 cases of this character.

DR. MUSSER opened the discussion and reported two cases of this character. He did not believe they should be considered as a separate disease.

DR. BILLINGS reported two cases, one of which followed a severe hemorrhage.

DR. CABBOTT said that he had seen eight cases that followed the type presented by Dr. Osler, but he was not convinced that these cases should be grouped under a separate special heading.

DR. STYLES of the Agricultural Department asked if any of these cases had been subjected to intestinal examinations to exclude the presence of the strongyloides or the uncinaria americanus—both of which have been found in cases of anemia with enlarged spleen.

DR. H. F. VICKERY reported "A Case of Albumosuria Associated with Pernicious Anemia."

A Report of the Cases of Thermic Fever Treated at the Pennsylvania Hospital in the Summer of 1901.

DR. M. J. LEWIS read this paper. There were 91 cases of thermic fever seen at the Pennsylvania Hospital during the hot weather of July, 1901, which showed a temperature of 100 degrees F. and over. There were 31 females and 60 males. The temperature of the patients varied from 100 to 113 degrees, no patient with a temperature of under 106 dying and no case with a temperature of 111 or more recovering. The cases with very high temperatures usually showed convulsions with retraction of the head. Examinations of the urine showed nothing special beyond the presence of slight amounts of albumin and sometimes casts. Blood examinations were made in seventeen cases, but with such varying results that it was impossible to draw any valuable conclusions. Milder cases were treated with rest in a cool portion of the ward, the application of an ice cap and stimulants. The more severe cases were treated in a large open tent containing two large electric fans and movable bath-tubs. In a few cases the hose was employed to direct a stream of water from a distance over the patient's body. Rubbing the body with ice seemed to be easier and more satisfactory than the use of the tub. The advisability of bleeding as a routine practice was discountenanced and the intravenous injection of normal saline solution strongly endorsed.

In the discussion Drs. Billings, Musser and Packard all related their experiences during the past summer and advocated the use of saline injections.

Hemolymph Glands.

At the evening session, in the absence of Drs. Dock and Warthin, Dr. Flexner presented their lantern slide demonstration of the hemolymph glands. Dr. Warthin found these glands extremely numerous, but difficult to distinguish from ordinary lymph glands because after death the blood leaves them to a great extent. He estimates that in the human subject they bear about the ratio of one to ten ordinary lymph glands. Dr. Flexner believed that the most valuable part of his work, however, was to be found in the consideration of the histologic structure of these glands. He separates them into two classes, one following the general type of the spleen and for the other the bone marrow might be taken as the type. They all contain structures similar to the ordinary lymph glands with the additional features peculiarly their own. The trabecular spaces were filled with blood and throughout the whole of the gland there is a reticulum containing spaces lined with spindle cells and filled with blood. The glandular areas resemble the Malpighian bodies of the spleen except that only very rarely can a vessel be found comparable to the branches of the central splenic artery. He was not able to find evidences of blood formation in these glands, but on the contrary, found evidences of blood destruction. In the marrow type he found in addition to these peculiar appearances the presence of fat globules or spaces from which fat had been absorbed. He thinks they have nothing to do with blood formation under normal conditions, but that under pathologic conditions they may act quite vigorously to assist in the formation of blood.

DR. C. S. BOND exhibited lantern slides showing the presence of mytosis in the circulating blood.

DR. FRANK BILLINGS gave a demonstration of sections showing the anguillula aceti obtained from a specimen of urine.

DR. JAMES EWING exhibited some slides showing the blood changes in some smallpox cases. He had been studying particularly the development of the so-called vaccine bodies. He was inclined to think these bodies are always the result of the fragmentation of red corpuscles.

Pleurisy with Effusion.

At the Wednesday morning session the first paper presented was that by Dr. Richard C. Cabbott on "The Prognosis of Pleurisy with Serous Effusion." He had carefully sought out the three hundred patients treated for serous pleurisy at the Massachusetts General Hospital during two decades. He succeeded in finding either by letter or a personal visit 152 of these patients who had been discharged apparently recovered. Considering their conditions when treated and their progress after dismissal from the hospital he concluded, first, that 80 per cent. of the cases of uncomplicated serous pleurisy are in good health after 5 years or more (more than half of his cases had been followed more than 10 years); second, 90 per cent. are apparently in full health at the end of from 2 to 5 years—that is, the pleurisy has no immediate connection with any other affection: third, 15 per cent. of the cases have sooner or later developed tuberculosis, but in only 3 per cent. has this manifested itself within 2 years of the date of pleural effusion; fourth, the type of tuberculosis was, as a rule, mild and of slow course; nevertheless, a very rapid form of tuberculosis may develop many years after the pleurisy. Of those who develop tuberculosis more than two-thirds presented tuberculous family histories.

His figures tended to prove that whether pleurisy means tuberculosis or not the outlook is bright provided no family

history of tuberculosis clouds it. If pleurisy means tuberculosis it is a very mild form and usually yields to proper treatment.

Dr. Osler expressed the thanks of the association to Dr. Cabbott for his great labor in securing such statistics and said that they proved that pleurisy with effusion is not such a grave matter as it has always been considered.

Dr. Harris of Manchester, England, stated that the practice in England was based upon figures much more unfavorable than these. Life insurance companies there, as a rule, declined to accept any applicant who has had pleurisy within five years. He thought these rules were probably too strict and that Dr. Cabbott's figures would cause a reconsideration of the prognosis in this disease.

Dr. Jacobi stated in support of Dr. Cabbott's figures the fact that it is so very common when examining healthy patients, or patients who complain of some other trouble, to find the evidences of an old pleurisy.

Empyema.

Dr. Charles F. Withington read a paper entitled "A Clinical Study of a Hundred and Thirty-five Cases of Empyema based Upon the Bacteriologic Findings in the Exudate."

Dr. Osler asked whether the author had found any great increase in the number of cases of pyemia following pneumonia during the past five years. It was reported to be so by Dr. White of Guy's Hospital and Dr. Osler had had the same experience at the Hopkins.

Dr. Withington replied in the affirmative.

Spontaneous Non-tuberculous Pneumothorax.

Dr. M. H. Fussell gave the definition as "a pneumothorax occurring suddenly in healthy individuals, without the cause being discoverable by physical examination or by the history of the case and in which there is no formation of liquid." Dr. Fussell reported in detail the histories of two cases and reviewed the literature of the subject. He finds that aspiration is a certain and safe means of relief and should be resorted to in severe or prolonged attacks. He believes this form of pneumothorax to be benign since all but one of the reported cases have recovered.

Drs. Kinnicutt, Cohen, Shattuck, Janeway, Peabody, Osler and Billings reported cases.

Some Pulsations in the Chest Other Than Aneurysmal.

Dr. A. R. Edwards reported a case of pernicious anemia in which there was a diffuse expansile pulsation in the chest and upper abdomen and a second case in which there was a sarcoma of the lungs with pulsation. The first case presented many symptoms of aneurysm, but autopsy examination failed to disclose any anatomic explanation for these symptoms.

Dr. LaFleure remarked that within the past two months he had had a similar experience; the case was one of secondary anemia and the phenomena those usual for aneurysm, but the autopsy showed an ulceration of the stomach which had not been previously recognized.

Healed Ulcerative Endocarditis.

Dr. J. B. Herrick stated that we might, *a priori*, expect occasional recovery in ulcerative endocarditis and that a review of the literature shows that such occasional recoveries do occur.

The Condition of the Heart in Pregnancy.

Dr. Alfred Stengel read a paper to show that the supposed hypertrophy of the heart is in most instances due simply to the dislocation of the apex. He thought the murmur so frequently heard in the later months is due to distension of the right heart and the conus arteriosis. He could find no change in the blood pressure before and immediately after delivery.

Dr. F. P. Kinnicutt read "A Case of Pancreatic Lithiasis with Recovery of the Characteristic Calculi from the Stools, Followed by an Attack of Cholelithiasis a year later with the Passage of Characteristic Biliary Calculi."

Dr. S. Solis Cohen read "A Further Contribution to the Subject of Vasomotor Ataxia."

Dr. Henry Jackson read: "Intestinal Hemorrhage; Its Relation to Duodenal Ulcer."

Prognosis and Treatment of Tuberculous Peritonitis.

Dr. F. C. Shattuck presented an analysis of 98 cases of tubercular peritonitis treated in the Massachusetts General Hospital between 1889 and 1900, with special reference to the treatment. This was divided into purely medical treatment, tapping for the relief of effusion and surgical measures. Treatment by surgical means seemed to secure better results than by purely medical remedies.

Some Clinical Manifestations of Hepatic Cirrhosis in the Light of Eighty Autopsies.

Dr. G. G. Sears said persistent jaundice and hemorrhage from the digestive tract seldom occurred until the connective tissue formation had well advanced. Hemorrhage was found to be almost invariably due to some gross lesion which in most cases was an esophageal varix. Ascites was also a late symptom and its early appearance was usually due to other conditions than simple portal obstruction. Degenerative changes in the heart and probably in the vascular system were contributing factors. Continuous fever was never found except with complications. No evidence was found to show that the course of the disease is not always progressive. Operative treatment is indicated in a very small percentage of cases and it is doubtful whether it is any more effective than early and persistent tapping.

Clinical Manifestations of the Early Stage of Cirrhosis of the Liver.

Dr. Frank Billings presented an elaborate consideration of this subject with the presentation of cases to illustrate the points brought out. It will appear in this journal.

Experimental Glycosuria.

Dr. C. A. Herter read a paper on "Experimental Glycosuria from Adrenalin Chlorid and Its Relation to other Forms of Glycosuria dependent on the action of Reducing Substances on the Cells of the Pancreas." Evidence was brought forth to show that many and probably most forms of glycosuria and diabetes are due to the action of substances or conditions which interfere with normal oxidations in the cells of the pancreas.

Election of Officers.

The meeting closed with the election of the following officers for the ensuing year:

President, Dr. James Stewart; vice-president, Dr. W. T. Councilman; secretary, Dr. Henry Hunn; treasurer, Dr. J. P. Crozer Griffith; recorder, Dr. S. Solis Cohen; councillors, Drs. Chas. G. Stockton and Walter Reed.

THE CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL ASSOCIATION.

Regular Meeting, held April 21, 1902.

The President, Dr. Moreau R. Brown, in the chair.

(Concluded from p. 1324.)

Fibro-sarcoma of the Soft Palate and Tonsil, with Exhibition of Pathologic Specimen.

Dr. Charles M. Robertson narrated the case of C. S., a farmer by occupation, aged 62, who, while picking his teeth with a straw, pricked the left tonsil, causing only slight pain. In a few days he noticed a small swelling above the left tonsil, which increased rapidly in size till the end of eight weeks, when he presented himself for relief. At this time the patient experienced great difficulty in breathing, and it was almost impossible to swallow food. Upon examination, a large tumor was found occupying the left palatal arch, well down to its base, involving the tonsil and side of the pharynx as far as the epiglottis, and up behind the edge of the hard palate as far as the left Eustachian tube. It extended forward into the mouth to within one inch of the incisor teeth. The growth was smooth in contour, lighter in color than the surrounding tissues, and firm and elastic to the touch. Under cocain, a piece of the growth was removed for microscopic examination and pronounced fibro-sarcoma. The following week the growth was removed under chloroform anesthesia. It was found to be en-

capsulated, and on this account a favorable prognosis was made. In looking over the literature I find some 25 cases reported of sarcoma of the soft palate and 45 additional cases of sarcoma, where the soft palate and tonsil or tonsil alone were involved. In nearly all the cases the growth was removed by external operation and in these cases recurrence was frequent, whereas the encapsulated growths removed by the mouth were not so prone to recurrence. The case under consideration has as yet shown no signs of new growth, twenty months having elapsed, and therefore I feel justified in reporting it as a cure.

DR. E. FLETCHER INGALS recalled the case of a boy of 13, upon whom he operated and removed a fibro-sarcoma in 1883, through the natural passages. The tumor soon showed a tendency to recurrence, but as the patient was in the city alone and fell into bad company, I was obliged to send him to his home in a distant state. He came to see me again sixteen years afterward for pain in the chest, apparently of rheumatic origin. He stated that after returning to his home the first time the tumor had grown so as to cause complete nasal obstruction, and great prominence of the right cheek, and to destroy sight in right eye, but after a few years it had almost completely disappeared by atrophy.

Carcinoma of the Epiglottis.

DR. A. M. CORWIN gave the history of a man 66 years old, whose present wife has pulmonary tuberculosis, which has been manifested in its various stages even to marked cavity formation. Her brother, who died of tuberculosis, resided at this patient's home during a long illness. The patient has been of robust health up to recent years. There is no history or evidence of syphilis. His family history is excellent. About three months ago he consulted the writer for an uneasiness which he had noticed for three months in the lower part of the pharynx, a slight feeling of fulness, stiffness and increased secretion, which required frequent clearing of the throat. There was little or no pain except some dysphagia which began about six weeks before. His voice was clear and he had no cough. Examination showed nose and fauces normal. The epiglottis was slightly congested, but not swollen or otherwise abnormal except along its left margin from tip to base. Here there was a proliferative ulcerated surface, which projected above the normal surface of the epiglottis as a cauliflower-like formation covered by a grayish muco-purulent secretion. When this was removed by swab the surface was seen to be granular, though it did not bleed except after considerable violence. The side of the tongue and the adjacent wall of the pharynx, which were most of the time in contact with the growth, presented a similar granular ulcerated surface, which also involved the aryepiglottic and pharyngo-epiglottic folds. Considering the character of the morbid area and the extent of the surface involved, the absence of swelling of the neighboring tissues and the absence of glandular enlargement was noteworthy. The larynx and trachea were otherwise normal. Examination of the chest showed lungs normal and heart substantially so. Thorough examination of the sputum and scrapings of the epiglottis show absence of tubercle bacilli or other significant morbid elements. The local appearance, the duration, the absence of pain and lung and sputum findings, lack of emaciation, normal temperature and pulse ruled out tuberculosis. The administration of iodids was continued several weeks without benefiting his throat in the least. The case is therefore one of malignant trouble (carcinoma). A small piece from the diseased area was so small as to be unsatisfactory in demonstrating carcinoma tissue. There seems to have been slightly more rapid degeneration of the point of removal so that I have considered that nothing would be gained by further antimortem histologic investigations because of the contraindications to radical operation in the case, because of the extent of involvement, the age of the patient, his arteriosclerosis, his chronic nephritis and epilepsy. A good specimen will be obtained postmortem. The progress in the last three months has been slow, and it is about an eighth worse than when I first saw him, two and a half months ago. He has been upon a forced milk diet with starchy foods judiciously chosen, and nitrogenous food avoided. It is somewhat remarkable that he has retained his weight. Local measures have been chiefly directed to cleanliness.

DR. OTTO J. STEIN narrated a case of leukoplakia buccalis and epithelioma treated for four months by x-rays with no benefit.

Resection of the Superior Maxilla.

DR. WILLIAM E. CASSELBERRY showed a case in which an unilateral resection of the superior maxilla had been made on account of intranasal fibro-sarcoma, presenting the patient chiefly to demonstrate the degree of deformity resulting. The incision was made from below the orbit around the nose and through the lip, the flap dissected back, and the left maxilla, including the teeth, removed. The man's cheek, however, still has a reasonable prominence. Union has failed along the line of the cleft in the hard palate, so that the patient practically now has an acquired cleft palate.

The situation of the growth and a shadow on translumination led me to think the antrum was involved, and this was one reason why resection of the superior maxillary bone was decided on. When we came to shell the growth out, it was disclosed that the antrum was not directly involved, but I am still of the opinion that the operation was justified by the appearance and character of the growth, but more so on the supposition that the antrum was involved. Had I been able to determine that the maxillary sinus was not affected, I would have advised a less extensive operation. There is, as yet, no definite evidence of recurrence, although the tissue which has partly filled in the space of the cheek bone does not look entirely natural.

Another hazard of the operation concerns the necessity of ligating the common carotid, or at least the external carotid artery, in order to control hemorrhage. Following the operation, this patient became paralyzed on the right side, and the paralysis has persisted somewhat, but it is gradually becoming less. Inasmuch as the line of ligature of the external carotid is very close to the common carotid, the paralysis might have occurred from a clot going through the common carotid as an embolus.

Concha Bullosa.

DR. GEORGE E. SHAMBAUGH presented a median sagittal section of a nose, showing a large bone cyst in the anterior end of the concha media. The cyst had thin, bony walls and was lined with smooth mucous membrane. It measured 28 mm. long and 25 mm. broad, and presented an empty, air-containing cavity, which communicated freely with the middle meatus, with the frontal sinus, with a large ethmoid cell pushed into the frontal sinus, and with the ethmoid labyrinth above and behind. The concha bullosa, or cystic enlargement of the concha media, is usually found as an empty, air-containing cavity, but occasionally it is found the seat of a mucocele or an empyema.

As a rule, it is not associated with any inflammatory condition, and the enlargement should be looked upon not as a pathologic product, the result of an inflammation, but as an anatomic variation, the result of a developmental anomaly.

Laryngitis Ending in Abscess.

DR. O. T. FREER presented two cases. The first was a woman upon whom he operated for an extensive cartilaginous and bony deflection of the nasal septum.

Dr. Freer then read the history of "A Case of Phlegmonous Laryngitis Terminating in Abscess in Front of the Larynx." The patient, aged 54, states that he never was ill until the beginning of this affection. After going to bed in perfect health on February 19, he awoke in the night with his tongue so swollen that he could not close his teeth. He felt a swelling in his neck near the larynx. He had severe dyspnea and could hardly speak. These symptoms continued until March 2, the stenosis slowly increasing. The attending physician found no fever. There was no chill or pain at any time. He could not swallow solids but could dring slowly; if he drank fast he had a coughing fit, the liquid entering his larynx. Examination, March 1, showed the region of the larynx filled by a large tumor-like mass from the hyoid bone to below the cricoid cartilage. The lump was soft in its center, pitted here on pressure and fluctuated obscurely. The lateral portions felt hard.

Palpation caused no pain. Laryngoscopy was impossible as the tumefied epiglottis was pulled down spasmodically by its depressors and touched the posterior pharyngeal wall, while its two sides folded together in the middle.

Suffocation seemed imminent March 2, so that I performed tracheotomy under cocain anesthesia. The abscess contained about two ounces of pus and was seated under the prelaryngeal muscles in front of the laryngeal cartilages. It had a tough, thick anterior wall. The abscess closed in a week and the tumor-like swelling slowly disappeared so that in three weeks the neck felt normal, but the laryngeal stenosis increased so that for some weeks the patient could draw no air at all through his larynx. Inspection showed great swelling of the aryteno-epiglottic folds and arytenoids, and this combined with retraction of the epiglottis made inspection of the deeper parts of the larynx impossible. The tracheotomy tube caused great irritation so that excessive amounts of mucus were coughed up. The swollen arytenoids continued to make swallowing difficult, but, March 19, the voice began to return. April 5 the cords could be seen and looked natural, but remained in a position of adduction, causing stenosis that made it impossible to remove the tube safely. The cords gradually separated so that on April 10 the tube was taken out. The laryngoscopic appearance was normal, but there was still a tendency to retraction of the epiglottis and adduction of the cords.

The history of this case is that of one of the varieties of erysipelatous or phlegmonous inflammation not uncommon in the region of the pharynx and larynx. The agents of septic inflammation enter the tissues through the lymph channels of the mouth and throat with well-known frequency. Whether the milder form or the phlegmonous inflammation ending in abscess will result, depends largely on the virulence of the infection, resistance of the individual and the formation of bubo. The infections agent in nearly all instances is the streptococcus pyogenes.

The place of infection and direction taken by the septic matter in the lymph channels determines the site of the abscess, whether it will be a peri-tonsillar one, an angina of Ludwig, suppuration of the submaxillary glands, the carotid glands, a retropharyngeal abscess or, as in this instance, an abscess of the prelaryngeal and pretracheal space, called also the pre-visceral space, situated between the larynx and trachea and the muscles in front. In my experience abscess formation in this locality is not very rare. I have seen four cases within the last few years.

In the case which I present to-night the erysipelatous swelling of the laryngeal interior was either merely a part of the widespread inflammatory edema surrounding the deep-seated abscess in the neck, or the abscess was part of the phlegmonous erysipelas of the larynx.

The mildness of the symptoms shown by the patient is remarkable. The usual severe chill, high fever and prostration due to deep-seated phlegmonous processes were absent. The course also was unusually slow, as ordinarily tracheotomy is needed one or two days after the beginning.

The spasmodic retraction or depression of the epiglottis mentioned in the history was remarkable, and seemed to me to have some part in creating the dyspnea. I have seen the same position of the epiglottis in the form of a neurosis due to chronic nicotine poisoning. I have also seen it accompany acute laryngitis and disappear with it. The retraction seems to me due to reflex spasm of the thyro-epiglottic and aryteno-epiglottic muscles which pull down the epiglottis, cause it to fold in the middle and lie against the posterior pharyngeal wall. The depression may also be aided by spasm of the stylolaryngeus and thyrohyoideus lifting the larynx towards the hyoid bone.

The adduction of the cords, in the patient shown this evening, proved to be due to reflex spasm of the adductors and not to posticus paralysis as I had at first supposed it to be, and it and the depression of the epiglottis improved as the laryngeal inflammation grew less. While the swelling was at its height it was impossible to exclude perichondritis of the thyroid or cricoid cartilages from the diagnosis, or to be sure that the abscess was not caused by suppuration due to their necrosis.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Atoxyl (Meta-Arsenous-Acid-Anilid).

Dr. Walther Schild, in the *Berliner Klin. Wochenschrift*, March 31, reports the results obtained from the therapeutic employment of a new arsenical preparation, atoxyl, containing 37.6 per cent. of metallic arsenic, about half as much as arsenous acid. It appears in the form of a white, odorless powder, of feebly salty taste, dissolving in water up to 20 per cent., though about 2 per cent. of crystals precipitate on cooling. On standing for some time the aqueous solution acquires a faint yellow tint, although decomposition does not take place; neither is this effected by boiling. Experiments on animals showed that the preparation was forty times less toxic than would be expected from the amount of arsenous acid it contains, and it is therefore twenty times less toxic than an equal amount of arsenous acid. In human beings administration of even small amounts by the mouth caused impairment of appetite, so that resort was had to subcutaneous injections. It was found that single doses representing 6 grains of the drug and also repeated doses of from 3 to 5 grains caused unpleasant effects, such as chilliness, vertigo, headache, irritability of the throat, but these subsided soon after withdrawal of the drug. Marked cardiac disease constitutes a contra-indication to the use of the preparation, inasmuch as it gives rise to palpitation of the heart and dyspnea even when administered in small doses. In the clinical employment of the preparation a 20 per cent. solution was used, and of this from 3 (gr. 3/5) to 15 minims (3 grains) were administered. The first five injections were given on successive days, and the remainder on alternate days. Seventy-five patients were thus subjected to treatment, receiving about 1500 injections without accident. Among the disorders from which they suffered are alopecia areata, dermatitis herpetiformis, cutaneous sarcomatosis, dermatitis exfoliativa chronica, xanthoma multiplex diabeticum, psoriasis, lichen ruber. In some cases topical applications were made at the same time, while in the remainder the injections constituted the sole medication. The results were entirely satisfactory, the drug being well borne and free from irritation and injurious effects, and the special advantage being the lesser frequency of administration.

Laryngitis and Acute Bronchitis.

Lilgeois, in *Med. News*, prescribes the following mixture in treatment of acute attacks of laryngitis and bronchitis:

℞.	Sodii benzoatis	ʒss	2
	Tinct. aconiti	m. x	60
	Aq. laurocerasi	ʒss	2
	Syr. tolutani		
	Syr. Codeinæ		
	Aq. destil., āā	℥i	30

M. Sig.: To be taken in divided doses in the twenty-four hours.

Apomorphin in Hysteria and Epilepsy.

According to Faucher in *Ther. Month.*, apomorphin in doses of one-fifteenth to one-tenth grain is a rapid method of arresting an attack of hysteria or hystero-epilepsy and even an epileptic seizure. The vomiting which follows the injection and the subsequent depression soothes and relaxes the nervous system and controls the seizure. He states that it is a specific against attacks of hysteria, whatever form they may assume. The epileptic is usually inclined to eat too much, and the seizures frequently follow a heavy meal. The indications, therefore, are to relieve the digestive system and reduce the congestion of the nerve centers, both of which are promptly accomplished by apomorphin, although it is by no means a specific against epilepsy.

Thrush.

In young infants, thrush is frequently met by the general practitioner, especially in bottle-fed infants. W. J. Robinson of New York, in *Merck's Archives*, treats this condition with the following application, which, he states, is a never-failing combination.

℞. Sodii hyposulphitis 3iss 6
or:
Sodii sulphitis 3ii 8
Glycerini 3vi 24
Aq. menth. pip. q. s. ad.....℥ii 60

M. Sig.: Wrap a piece of absorbent cotton around the finger, dip into the solution and swab the mouth and tongue thoroughly.

This application should be repeated every half hour. No harm can result if the child should swallow some of the mixture. The efficiency of the foregoing solution is found in its chemical combination, as these salts liberate sulphurous acid gas or sulphur dioxid (SO_2), a powerful antiseptic, while sulphur is deposited locally in a finely powdered state. He further states that in many cases of thrush the discharges are extremely acid; the parts about the anus become excoriated and cause the child further suffering. He then recommends internal treatment by mild alkalies and bismuth in the following combination:

℞. Magnesiæ (calcined) 3ii 8
Bismuthi subnit. 3i 4
Syr. rhei arom. 3iii 12
Cord. anisi 3v 20

M. Sig: One half to one teaspoonful three to five times a day.

Locally a drying powder should be frequently applied around the anal region. The following is recommended by him:

℞. Zinci oxidi
Bismuthi subnit., āā 3ii 8
Lycopodii 3iv 16

M. Sig.: Apply locally as a dusting powder.

Cacodylic Acid in Diseases of the Skin.

Saalfield, as noted in *New York Med. Jour.*, states that he has used cacodylic salts in fifty cases of various skin diseases. The cacodylate of iron or sodium may be given internally in the form of pills containing four grains each, four times daily. A 5 per cent. solution may also be used, of which the dose is from ten to twenty drops, the maximum daily dose being forty drops. According to the author, the cacodylic salts are far superior to all the arsenic inorganic compounds in the treatment of skin diseases. He has never seen any disagreeable symptoms from their use. He has obtained excellent results with these drugs in the treatment of lichen planus rubra.

Salicylic Acid for Soft Chancre.

The following has been recommended by Szanto, according to the *New York Med. Jour.*, in the treatment of soft chancre:

℞. Acidi salicylici .....gr. xv 1
Tinct. benzoini 3ss 2
Petrolati .....℥i 30

M. Sig.: Apply locally night and morning.

Ichthargin in Gastric Catarrh.

Ichthargin has been recommended in the treatment of gastric catarrh, dilatation and in gastric ulcer as follows:

℞. Ichthargin .....gr. ss 03
Aq. destil. .....℥viii 240

M. Sig.: One teaspoonful three times a day.

In the treatment of chancroids it may be applied in the form of an ointment as follows:

℞. Ichthargin .....gr. xv 1
Glycerini .....m. xv 1
Aq. destil. .....gtts. viii 50
Petrolati q. s. ad.....3ii 8

M. Rub well the silver salt with the water and glycerin and then add to the petrolatum.

Diarrhea in Infants.

N. S. Davis, in "Sys. of Physiologic Ther.," recommends in the treatment of diarrhea in infants due to over- or irregular feeding or in bottle-fed infants, that all food be withheld for twelve or even twenty-four hours. The stomach should be cleansed by lavage if possible; if not, by a mild mercurial or castor oil. Sterilized water, and in the mildest cases a little egg albumin in water or barley water may be given to quench the thirst. Later, when the stools are less frequent and move natural, beef juice or thin mutton or chicken broth may be taken. Milk well diluted should be given after convalescence is established. Lime water is the best diluent. When excessive intestinal fermentation as well as diarrhea exists, a modification of milk is essential. If the stools have a sour smell and are acid in nature, the percentage of both sugar and fat should be lowered. If the odor is putrid the albumin should be lessened. All foods should be given in small amounts and often until convalescence is established.

Carbuncle.

The following combination, according to Dr. L. B. Young, in *Med. World*, gives great relief and checks the course of carbuncles:

℞. Hydrarg. oxidi rubri 3i-3ii 4-8
Menthol .....gr. xx 1 30
Pulv. camphoræ .....gr. xv 1
Cocainæ hydrochlor .....gr. x 65
Acidi carbol. .....m. xx 1 30
Morph. sulph. .....gr. v 30
Vaselini .....℥i 30

M. Ft. unguentum. The menthol, camphor, cocain and carbolic acid should first be mixed together. The red oxid of mercury and the vaselin likewise mixed together, then mixed with the other ingredients. Sig.: Spread on sterilized gauze and apply, changing the dressing four or five times a day.

As an Inhalation in Asthma.

The following is recommended by the *Pract. Druggist* in the treatment of the attacks of dyspnea in asthma:

℞. Gum benzoin 3ss 2
Pulv. jaborandi foliæ 3i 4
Pulv. stramon. foliæ.....3ii 8
Potassii nitratis 3ii 8
Carbo. ligni 3x 40

M. Sig.: To be ignited and the fumes inhaled.

The foregoing powder should be stirred with sufficient thin mucilage or tragacanth to form a stiff mass, then rolled into pencils and cut into pieces of suitable length. One of the pencils may be used at each treatment.

Treatment of Lumbago.

The *Practitioner* recommends the following as a local application in the treatment of lumbago:

℞. Tinct. opii. 3ii 8
Aq. ammon. 3i 4
Tinct. Cantharidis 3iii 12
Linimenti saponis 3x 40

M. Sig.: Apply locally with thorough friction.

W. J. Robinson recommends the following as a local application in articular rheumatism or lumbago:

℞. Camphor-chloralis 3i 4
Acidi salicylici 3ss 2
Menthol .....gr. xx 1 30
Pulv. capsici 3i 4
Ol. sinapis .....gtts. viii 50
Adipis lanæ 3iv 15
Petrolati q. s. ad.....℥ii 60

M. Sig.: Apply with vigorous friction.

Acute Otitis Media.

Macleod Yearsley, in the *Month. Cyc. of Pract. Medicine*, states, in an attack of acute middle ear inflammation, that the matter of first importance is absolute rest. The patient should be confined to his room, and if there is a likelihood of the case being of the suppurative type, he should be kept in bed. The ear should be protected from anything which is likely to increase the inflammation, and stimulating foods, alcoholic liquors, mental excitement and physical exertion must be forbidden. A large saline purge should be given. The pain can best be allayed by the application of heat or cold, or by the combination of the two. Heat may be employed dry by means

of the hot-water bag, hot flannels, or moist by instilling it into the ear. In using hot instillations a temperature of 115° F. will suffice. The continued influence of heat keeps the ear in a condition of congestion which retards resolution and favors the continuance of the inflammation, while the application of cold, especially to the parts surrounding the ear, often rapidly lessens the inflammation. The region below the auricle may be covered with cold compresses or an ice bag, and warm fluids may be instilled into the ear or hot sponges inserted. This has proved a useful method. But the best method of all is the application of leeches. From two to four or six, applied just in front of the tragus, will often cut short the pain and inflammation with rapidity. Their application should be followed by dry heat.

Medicolegal.

Statements to Physician Long After Accident.—The Supreme Judicial Court of Massachusetts says, in the personal injury case of Cronin vs. the Fitchburg & Leominster Street Railway Company, that it is plain that the statement by a party to a cause of his bodily and nervous symptoms, made long after the occurrence of the accident to which he attributes them, and for purposes connected with the preparation for trial of a suit in which his condition of health is material, and not made to a physician for the purpose of obtaining advice for treatment, are not admissible in evidence in his own favor as proof of the matters stated. It is equally plain that every person admitted as an expert to testify to his opinion may state on his testimony the grounds and reasons for that opinion, and that the party calling the expert may put in evidence those grounds and reasons in the direct examination of the expert, and before calling upon him to give his opinion to the jury. In this case, where a physician made two examinations of the party suing for the purpose of testifying for him, and testified as to statements made by such party to him, there was no doubt, the court says, that the statements of the party were hearsay, and of that particularly dangerous and objectionable type—declarations of an interested party, made after suit brought, and for the very purpose of preparing evidence to be used in his own favor at the trial. But no such rule applied to them as that which excludes private conversations between husband and wife, or communications between attorney and client. They might be admitted in evidence if offered by the adverse party, either as admissions or as contradictions of the testimony of the person who made them. It followed that they might be admitted as the grounds and reasons of an opinion given in evidence, or to be so given, by an expert. Being admissible for that purpose, the exception to their admission was not well taken.

Allowing Physician to Publish Article in Case.—The first appellate division of the Supreme Court of New York takes a different view from that of the trial term on the question of the waiver of privilege in the case of Scher vs. The Metropolitan Street Railway Company. The action was brought to recover damages for personal injuries claimed to have been sustained by the party suing through the negligence of the company's servants in managing or operating a street railway car. The record showed that the party testified that, some 17 years before the accident occurred, he had suffered from serious illness in Germany for a period of about 7 years, during the greater part of which time he had been in a hospital, and confined to his bed. The company called as a witness a physician connected with a hospital in the City of New York to which the party resorted for treatment after the alleged accident. That physician was permitted to testify that he treated the party, who was suffering from a very rare disease, of so interesting a character that he was exhibited before a society of physicians at a public meeting, and an account of his peculiar disease was published by the witness in a medical journal; and he swore that the account was published with the party's knowledge and approval. Then, in the course of his examination, the witness was asked whether, prior to the preparation of the article published by him in the medical journal, the party told him that 17 years previously he had suffered pains in the legs, lasting day and night, which forced him to stay in bed for 7 years. This was objected to on the ground that it was privileged. The trial term overruled the objection on the ground that the nature of the party's disease having been made public by his consent, the privilege was waived. But the appellate division thinks, under the authorities, that the communications made by the party to the physician were privileged, and there had been no waiver, even if the publication of the article and the public exhibitions were, as testified by the physician, though denied by the party, with the latter's full consent. It holds that, there being no waiver "upon the trial or examination," as provided by Section 836 of the New York Code of Civil Procedure, but, on the contrary, an objection made to the physician's violating the privilege, the ruling of the trial term admitting the testimony was clearly erroneous.

Removal of Sponges—Skill Required of Surgeon.—The Supreme Court of Georgia has affirmed a judgment in favor of the surgeon sued in the case of Akridge vs. Geo. H. Noble, an action for malpractice in which it was claimed that a sponge or pad which had been placed in the body of the party suing for the purpose of absorbing blood and pus while an operation was being performed had been carelessly left in the body after the wound had been closed, from which injury resulted. It holds that it was not error for the trial judge to charge the jury that, if they believed the pad or sponge had been in fact left in the body, they should then determine whether it was so left by reason of the failure of the surgeon to exercise due care and skill, and that he owed the party suing a duty to exercise reasonable care and skill in performing the operation; including in that expression not only the opening of the body and the removal of the affected parts, but also the use and handling of the sponges or pads. It says that the civil code of that state declares that a person professing to practice surgery must bring to the exercise of his profession a reasonable degree of care and skill, and that any injury resulting from a want of such care and skill will be a tort, or wrongful act, for which a recovery may be had. The reasonable and ordinary care, skill and diligence which the law requires of physicians and surgeons are such as those in the same general line of practice in the same general locality ordinarily have and exercise in like cases. The surgeon belongs to one of the learned professions, and he is required to bring to the exercise of his profession not only due care, but also due skill. "Skill," in the sense in which it is here used, includes not only the knowledge or information which the surgeon has in reference to the propriety or desirability of a given operation, but also the ability to perform the operation in a proper and approved way. And the court says that it must admit that it is unable to apprehend any clear distinction to be seen between the duty of the surgeon at the different stages of what, for want of a better term, it calls the "operation." It seems to it that the operation begins when the opening is made into the body, and ends when this opening has been closed in a proper way, after all appliances necessary to the successful operation have been removed from the body. From the time the surgeon opens with his knife the body of his patient until he closes the wound thus made, in a proper way, the law imposes upon him the duty of exercising not only due care, but due skill as well. During the entire time he must not only know what to do, but he must do it in a careful and skilful manner. The removal of pads or sponges from the body seems to require some degree of skill. It at least requires a surgeon to perform this service, and, if this is admitted, it is at the same time admitted that skill is required in the performance of the work. The court does not suppose that any one would contend for a moment that a surgeon would be authorized to leave this part of the work, even if not a part of the operation, or necessarily incident thereto, to any one who was not skilled in the science of surgery. The person seeking to remove sponges which have been placed in the human body must be possessed of the requisite knowledge and information to find where they may have been placed, or may have gone during the performance of the operation; and this knowledge or information on the part of the surgeon is what is called "skill." The removal of the sponges is a part of the operation; it is a part which requires the exercise of skill. But the surgeon here sued testi-

fied positively that he removed all of the pads; that he reached down in the cavity as far as he could reach, searched all over, and removed all of the pads; that he knew he got them all out, because he went thoroughly through the cavity, and found nothing there; that he was satisfied he had found all that were placed therein. In addition to this, the testimony of numerous surgeons was to the effect that, if a pad had been left in the body as claimed by the party suing, it would have resulted in her death within a short time after the operation had been performed, whereas she claimed that it remained in her body more than a year, and finally passed out of her body through the rectum, having passed into the rectum through a fistula which it had caused. The evidence, the court holds, fully authorized a verdict for the surgeon.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine (Philadelphia), May 10.

1 *A New Species of Hookworm (Uncinaria Americana) Parasitic in Man. Ch. Wardell Stiles.
2 Two Cases of Cancer of the Rectum Operated on by Murphy's Method. Wilmer Krusen.
3 A Case of Tuberculous Salpingitis from Which the Tubercle Bacillus Was Grown. Howard S. Dittrick.
4 *Report of a Case of Carcinoma of the Cecum and a Case of Rupture of the Sigmoid Treated by Intestinal Anastomosis. Eugene A. Smith.
5 *Palmar Reflex (Preliminary Note). John H. W. Rhein.
6 A Comparative Climatic Study of the Arid and Semi-Tropic Southwest and Its Relation to Tuberculosis. (To be continued.) William W. Betts.

New York Medical Journal, May 10.

7 *A New Study of Mitral Obstruction, with Illustrative Cases. Thomas E. Satterthwaite.
8 *Toxic Dosage in the Treatment of Some Nervous Disorders. William C. Krauss.
9 *Technics of the Operation and Results of Tendon Transplantation at the Hospital for the Ruptured and Crippled. V. P. Gibney.
10 *Neurologic Questions in the Operation of Tendon Transplantation. Joseph Collins.

Medical Record (N. Y.), May 10.

11 *Remarks on Arteriosclerosis. I. Adler.
12 *The Indications for Nephrectomy, with Report of Three Cases. Joseph Wiener, Jr.
13 *Resection of the Cervical Sympathetic Ganglia in Glaucoma; Its Present Status. Wilbur B. Marple.

Medical News (N. Y.), May 10.

14 *Sudden Death in Aortic Stenosis, with Report of two Cases, one Complicated with an Aneurysmatic-like Dilatation of the Aorta at Its Root and Marked Stenosis of the Vessel Beyond the Dilatation. James M. Anders.
15 *Remarks on the Diagnosis of Pregnancy in the Early Months. Charles Jewett.
16 *Diagnosis of Diseases of the Biliary Passages. N. E. Brill.
17 Empyema of the Gall-Bladder. Lucius W. Hotchkiss.
18 *The Surgery of Gallstones. Joseph A. Blake.

Boston Medical and Surgical Journal, May 8.

19 *The Patrol Ambulance an Adjunct to the Ambulance Service in Cities: a Substitute therefor in Towns. Francis D. Donoghue.
20 *Therapeutics and the Drug Manufacturer. Brace W. Loomis.
21 A Case of Tetany in an Adult. Edwin A. Locke.
22 Two Unique Cases of Hysterectomy. W. P. Giddings.

Philadelphia Medical Journal, May 10.

23 President's Address, The Association of American Physicians. J. C. Wilson.
24 *A Voluntary Board of National Examiners. William L. Rodman.
25 *Diagnosis and Management of Some of the More Common Lesions of the Adult Knee. V. P. Gibney.
26 *The Kidney Complications of Typhoid Fever. James E. Talley.
27 *Value of the Justus Test, with Report of Cases. Henry Tucker.
28 *The Justus Test for Syphilis, with Report of Cases. William E. Huger, Jr.

Cincinnati Lancet-Clinic, May 10.

29 *Inherited Tuberculous Predisposition. G. A. Fackler.

Northwestern Lancet (Minneapolis), May 1.

30 *Clinical Features, Diagnosis and Treatment of Pneumonia, with Discussion. L. A. Nippert.

Pediatrics (N. Y.), April 1.

31 Rötheln. C. C. Ross.

May 1.

32 Diphtheria. (To be concluded.) J. C. Cook.
33 Diabetes Insipidus. Walter F. Boggess.
34 Complication Following Removal of Adenoids. E. A. Montenyohl.

American Practitioner and News (Louisville, Ky.), May 1.

35 Valedictory. University of Louisville. Earl R. Snyder.
36 The Improvement in Materia Medica and Therapeutics During the Past Century. John G. Cecil.
37 Nervous Dyspepsia or Gastric Neurasthenia. J. J. Moren.
38 Acute Articular Rheumatism. P. H. Crutchfield.

Medicine (Detroit, Mich.), May.

39 *The Surgery of Cholecystitis. J. Chalmers Da Costa.
40 *The Pathology of Cholecystitis. Joseph McFarland.
41 *The Etiology of Cholecystitis. Joseph Sailer.
42 *Chlorosis and Its Relation to the Eye. George F. Suker.
43 Sydenham's Chorea in Adult Life. D. J. McCarthy.
44 Hysteria in the Male. John H. W. Rhein.

Western Medical Review (Lincoln, Neb.), May 15.

45 The Nebraska State Medical Society; Its History for the First One-third of a Century. A. S. V. Mansfelde and H. Winnett Orr.
46 *Grave Abdominal Injuries Without External Evidences of Traumatism. R. Harvey Reed.
47 *The Immediate Effects of Intestinal Exposure. A. W. Abbott.

American Journal of the Medical Sciences (Philadelphia), May.

48 *The Localization of the Mental Faculties in the Left Prefrontal Lobe. Charles Phelps.
49 *The Unilateral Occurrence of Kernig's Sign as a Symptom of Focal Brain Disease. Joseph Sailer.
50 *Report of One Hundred Cases, All Non-Meningitic, Examined for Kernig's Sign. William G. Shields, Jr.
51 *Three Cases of Meningitis in Which Kernig's Sign was Persistently Absent. F. S. Clark.
52 *The Treatment of Thrombosis of the Lateral Sinus Following Middle Ear Suppuration. Edward B. Dench.
53 Hemihypertonia Postpapoplectica, with Some Remarks on a Contralateral Accessory Motor Speech Center. D. J. McCarthy.
54 *The Etiology of Infantile Paralysis. Alfred M. Gossage.
55 Report of a Case of Alcoholic Multiple Neuritis. L. W. Atlee.
56 *Hepatic Lesions in Infancy. Martha Wollstein.
57 *The Sacrococcygeal Dimples, Sinuses and Cysts. Francis H. Markoe and Winfield S. Schley.
58 A Case of Transitory Cystinuria Associated with Diaminuria. Milton W. Lewis and Charles E. Simon.
59 *The Causes and Varieties of Chronic Interstitial Pancreatitis. Eugene L. Opie.
60 A New Cabinet for Microscopic Slides, Designed by the Late Thomas S. Kirkbride, Jr., M.D., of Philadelphia. Mary B. Kirkbride.
61 Further Studies of Granular Degeneration of the Erythrocyte. Alfred Stengel, C. Y. White and William Pepper.
62 The Lateral Chain Theory of Ehrlich as Explanatory of Toxins, Antitoxins, Bacteriolysins, and Hemolysins. F. P. Gay.

Louisville Monthly Journal of Medicine and Surgery, May.

63 Meniere's Symptom. Samuel G. Dabney.
64 Laryngeal Lupus, with Exhibition of Cases. Thomas C. Evans.
65 *Gonorrheal Rheumatism. J. Douglas Westervelt.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), May.

66 A Preliminary Report of Two Cases of Cutaneous Blastomycosis (Blastomycetic Dermatitis of Gilchrist). Frank Hugh Montgomery.
67 *Acne and Sycosis Treated by Exposures to Roentgen Rays. William A. Pusey.
68 A Plastic Operation for a New Scrotum, with Report of a Case of Gangrene and Slough of the Integument Over the External Genitals. Ramon Guiteras.
69 Two Cases of Rare Bromid Eruption. T. F. Wallhauser.

Medical Review of Reviews (N. Y.), April 25.

70 *Gonorrheal Rheumatism. J. Douglas Westervelt.

New York State Journal of Medicine (N. Y.), May.

71 Perforation of Gastric Ulcer, with Report of a Case Operated Upon Successfully After a Lapse of Sixty Hours. Lucius W. Hotchkiss.
72 *Asthma of Blood Origin and Not Nerve or Reflex. G. N. Jack.
73 The Use of Paraffin in Surgery. Edward P. Robinson.
74 The Prognosis and Treatment of Diabetes Mellitus. William H. Biggam.

Kingston Medical Quarterly, April.

75 Some of the Diagnostic and Therapeutic Uses of the Roentgen Rays. James Third.
76 Notes on Surgical Cases. W. G. Anglin.
77 The Canadian Medical Graduate in London. A. R. B. Williamson.
78 Monocular Ophthalmoplegia Externa. J. C. Connell.

Alienist and Neurologist (St. Louis), April.

79 Outlines of Psychiatry in Clinical Lectures. (To be continued.) C. Wernicke.
80 Gall's Special Organology. The Sexual Instinct. P. J. Moebius.
81 Juvenile Female Delinquents. (To be continued.) Eugene S. Talbot.
82 Puberty and Genius. (To be continued.) Cesare Lombroso.
83 *A Question of Figures. (To be continued.) E. C. Spitzka.

Dominion Medical Monthly (Toronto), April.

84 Differential Diagnosis of Smallpox. James Patterson.
85 The Ethics of the Medical Profession. H. P. Elliot.

New Orleans Medical and Surgical Journal, May.

86 *Report of Experiments with Yellow Fever Fomites at Las Animas Hospital, Havana, Cuba, September-November, 1901. John W. Ross.
87 The History of the Louisiana Leper Home. Isadore Dyer.
88 Senile Chorea. A. M. Leonard.
89 A Case of Carbolic Acid Poisoning—Recovery. A. C. King.
90 Ecthol in Scarlet Fever. John M. Turk.

Canadian Journal of Medicine and Surgery (Toronto), May.

91 Experiments in Climatology—The Canadian Summer. Ezra H. Stafford.
92 Vaginal Section—Exploratory and Operative. T. Shaw Webster.
93 *On Some Medical Facts and Usages Among the Indians and French Canadians. W. L. T. Addison.

Medical Standard (Chicago), May.

94 An Otologic Clinic. William L. Ballenger.
95 A Case of Sporadic Cretinism. Cliff. Lindsey.
96 Practical Dietetics. (To be continued.) A. L. Benedict.
97 Perforation of the Nasal Septum. James M. Brown.
98 Pain and Its Indications. Edward C. Hill.
99 The General Principles of Symptoms in Diseases of the Nervous System. Herman Gasser.

Mississippi Medical Record (Vicksburg), April.

100 *Adrenalin in the Urethra. E. F. Howard.
101 *Treatment of Typhoid Fever with Castor Oil. C. C. Bass.

Richmond Journal of Practice, March.

102 *What Can We Diagnosticate in Acute Appendicitis? Willy Meyer.

Fort Wayne Medical Journal-Magazine, April.

103 The Operative Treatment of Trachoma and Its Sequelæ. Albert E. Bulson, Jr.

Columbus Medical Journal, April.

104 The Medicine of the Dawning Century. James E. Pilcher.
105 *Surgery as a Last Resort. Glorus F. Lawrence.
106 Hypertrophy of the Heart. Edwin F. Wilson.
107 Dilatation of the Heart. Elmer T. Kuhn.
108 Lung Complications Due to Heart Diseases. Darlington J. Snyder.
109 The Effects of Heart Disease on the Kidney. Conrade A. Howell.
110 Complications in the Liver Resulting from Heart Disease. William F. Bay.

Texas Medical News (Austin), May.

111 An Unusual Case of Cerebellar Tumor and Abscess. B. E. Hadra.
112 So-called "Typho-malarial" Fever. J. C. Gardner.

International Journal of Surgery (N. Y.), May.

113 The Technics of Amputations. (To be continued.) R. H. Cowan.
114 A Brief Review of Some of the Tumors of the Periphery of the Body. Their Pathologic Characters and Treatment. Thomas H. Manley.
115 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
116 The Surgical Assistant. Walter M. Brickner.
117 Intracranial Lesions. W. W. Harper.

---

1. **New Species of Hookworm.**—Stiles reports and describes a new form of Uncinaria which differs from the Uncinaria duodenalis, chiefly in the absence of ventral recurved hook-like teeth, their places being taken by a pair of semilunar plates, somewhat similar to U. stenocephalia of the dog. The species was found in a man at Galveston. It appears, therefore, that there are probably two species of hookworms contributing to the disease uncinariasis in man. This newly-described species is known to occur in Texas, Virginia and Porto Rico, which shows that we have here a special heretofore undescribed parasite causing the disease. This also indicates the practical correctness of the view that uncinariasis is endemic in the southern states, though rarely recognized.

4. **Intestinal Anastomosis.**—Two cases reported by Smith are commented on. In both the anastomosis was by lateral insertion of one end into the bowel, and he thinks there are several advantages in this method: "A better circulation is insured for each end of bowel. Each cut edge of mesentery is free to recover its circulation, eliminating the so-called "dead space" at the mesenteric border which leads to leakage in end-to-end coaptation. At the site of the anastomosis a far better circulation is insured, because only the cut end of bowel has had its mesenteric circulation impaired. Danger of leakage is lessened, one end of the bowel, with dubious circulation and reparative power being closed so that simple peritoneal adhesive action will occlude it, and the other end entering bowel with normal reparative power. And there is less breaking strain from peristalsis, I am inclined to think, because peristalsis in end-to-end anastomosis acts more vigorously on a new junction. The only serious disadvantage in the operation is found in the added injury to healthy intestine to insert the cut end of bowel. Again the blind end of bowel may develop fecal impaction as a minor disadvantageous possibility. I think the operation is indicated in cases of cancer, stricture, or other disease-producing obstruction of the bowel in the sigmoid and ileocecal regions. In a great measure this would render colostomy unnecessary, either through extirpation of the diseased area, or by short-circuiting the disease if inoperable. In gunshot wounds of the intestine with many perforations, in rupture of the intestine; in fact, in all conditions requiring anastomosis, when the circulation is dubious at the site of the bowel disease, this method of operation recommends itself."

5. **Palmar Reflex.**—Rhein has observed in a case of hemiplegia and in a case of disseminated sclerosis what he thinks is a new reflex. Slight irritation of the palmar surface of the hand with the point of an esthesiometer was followed by an extension of the hand and fingers. Sometimes only the hand was extended, and sometimes only one or more fingers. The arm was not drawn away in a manner analogous to the withdrawal of the foot when the plantar surface is irritated. He has not found a description of any such reflex in the literature and therefore offers it as a novelty.

7. **Mitral Obstruction.**—This is, as Satterthwaite remarks, apparently not a very uncommon condition, though well-marked mitral obstruction is somewhat rare. As a rule, it implies regurgitation, though this may occur without obstruction as in the earlier stages of organic insufficiency. In all cases of relative inefficiency, regurgitation is often primary to obstruction and subsequently its associate. Clinically, there is a close relation between them, but the prognosis of regurgitation is supposed to be rather better than that of obstruction. He reviews the diagnosis and symptoms, pointing out the difficulties in mitral obstruction. We have at first simply the signs of mitral insufficiency. Then when signs of regurgitation give way to those of obstruction, the right ventricle becomes hypertrophied and the impulse is thumping or strong. In a certain proportion of cases there is a thrill and a diastolic murmur, perhaps a presystolic and sharp "tapping" first sound at the apex. In the late stage when compensation fails the presystolic murmur disappears, because the auricle has no longer strength to drive its columns into the left ventricle. The right auricle becomes dilated through giving way of the tricuspid, causing pulsations in the veins of the neck. Dyspnea, dropsy and pulmonary apoplexy will then supervene. The following points are enumerated: "1. Mitral obstruction is usually fatal before the age of 40. 2. Females are little more prone to it than males. 3. There is apt to be a marked contrast between a strong cardiac impulse and a feeble radial pulse. 4. The true presystolic murmur occurred in 15 per cent. of my cases. It comes and goes, but is usually inaudible in the last stage. 5. It is apt to have a loud rasping or sawing quality, but may be 'gushing' or 'whirring.' It may also be faint or inaudible. 6. In about 40 per cent. there is some sort of diastolic murmur. 7. These murmurs are best heard over a rather limited area, somewhat oval in form, having for its center an area between the fourth left space, inside the nipple and the apex, and extending an inch or so to the right or the left. Occasionally this murmur is heart best as low as the fifth, sixth or even seventh left space; more rarely it is heard as high as the second left rib. 8. In 10 to 35 per cent. there was a thrill over this area. 9. The first sound at the apex is short and abrupt. 10. The second pulmonary sound at the base is usually intensified. 11. Occasionally a murmur with the second sound at the base is heard over the left auricular appendix. 12. At first there is hypertrophy of the left ventricle. Then atrophy of it, with hypertrophy of the left auricle; then follow dilatation and hypertrophy of the right heart. 13. Mitral insufficiency must to some extent accompany mitral obstruction. 14. In distinguishing the presystolic murmur of mitral obstruction from the Flint murmur of aortic insufficiency, we should rely on the 'long heart' and the strong impulse, or the 'Corrigan' of insufficiency, rather

than auscultatory signs. In case there is both aortic insufficiency and mitral obstruction a differential diagnosis is impossible, with the means we have now at our command."

8.—See abstract in THE JOURNAL of February 15, p. 472.

9. **Tendon Transplantation.**—Gibney reports and tabulates some 67 cases of tendon transplantation for various conditions, such as drop-wrist, talipes, dangle-leg, etc., and 7 cases of astragalectomy, arthrodesis and tendon transplantation. He finds altogether 92 patients were operated on and the final results ascertained in 67. Good results were obtained in 34 per cent., fair in 45 per cent., and negative in 21 per cent. "Taking, now, the deformities for which the operations were done, we have the following: Equino-varus 16, good 4, fair 9, negative 3; equinus 5 cases, good 1, fair 4; equino-valgus 22, good 10, fair 9, negative 3; calcaneo-valgus 10 cases; good 6, fair 3, negative 1; pure valgus 2 cases, good 1, fair 1; calcaneus, 1 case, fair result; dangle-leg 5 cases, negative 5; drop-wrist, 6 cases, good 1, fair 3, negative 2."

10. **Neurotic Questions in Tendon Transplantation.**—Collins points out that the chief point in the treatment of infantile cerebral palsy is the necessity of the differentiation of their causes, carefully distinguishing between those due to the gross destruction of tissues, as from hemorrhage and porencephaly, and palsies due to encephalitis and absence of development of the medullary sheaths as in Little's disease. In the latter cases there is often no real paralysis. The fixation and spasticity are the principal symptoms. If the patient could only send an impulse to make his motor apparatus work it would functionate, but there is the loss of the delicate co-ordinating or tonico-antagonistic impulses. One of the principles upon which the operation of tendon transplantation is advisable in these cases is to conduct an excess of innervation going to the muscles that are spastic, to the functional antagonists that are not, and to not only overcome the deformity produced by the former, but to add to the voluntary mobility of the part as well. The question of tendon transplantation for deformities resulting from anterior poliomyelitis are easier to answer satisfactorily. The motor nerve impulse depends upon its central mechanism and may by operation be switched from an extensor to a flexor muscle at will. It depends entirely on the track and on the apparatus to which it goes. There must also be developed a new muscle individuality which is the result of adaptation, not only of co-ordinating centers in the brain cortex, but in the peripheral parts as well. The sensory feelings in the part must be adapted in consciousness to the motor impulse, and he illustrates his ideas by diagrams. He thinks the field of applicability of tendon transplantation is wider than has been generally supposed and its use should be urged not only in the deformity of infantile palsy, but in similar deformities of the cerebral spastic hemiplegias and possibly also of spinal traumatic spastic palsies.

11. **Arteriosclerosis.**—Adler does not consider that Thoma's theory furnishes a complete and extensive explanation of all the facts of arteriosclerosis, at least in the smallest vessels and in the parenchyma. It is not impossible, he says, that definite local or systemic metabolic derangements can be conceived as a cause of indurative and degenerative lesions in blood vessels and connective tissue. Arteriosclerosis may be conceived as occurring in the smaller and smallest vessels and always and without exception associated with indurative processes in tissues and organs. It may begin in a single viscus and become generalized. It is by no means always a disease of advanced age or senility. He thinks it can be recognized more frequently in young adults if the condition of smaller vessels is most closely studied. There are also possible chemical changes which are important factors in its etiology; hereditary predisposition is also to be considered. He discusses the symptoms and the well-known types, renal, cerebral and cardiac, and mentions two others which he thinks have not yet been recognized. One is a spinal type which may be considered as possessing distinctive features. It occurs usually in the more or less senile states with symptoms more or less simulating tabes and not infrequently diagnosed as such. The second type to which he wishes to call attention is the gastrointestinal. It is very probable to his mind that there is a set of gastric, intestinal and cirrhotic symptoms in arteriosclerosis, all of them depending on indurative and atrophic conditions of stomach, intestine, pancreas and liver which are the direct consequence of direct arteriosclerotic indurations. He thinks that perhaps the mild glycosuria of old arteriosclerosies may, at least in part, be due to this arteriosclerotic fibrosis of the pancreas. As to the therapeutics, he briefly urges the importance of recognition of the underlying conditions, such as the poisons of syphilis, alcohol, or other toxic action, and he has also urged, beside the use of special drugs that may be employed, the systematic use of the iodids. Prophylaxis is important, but our knowledge of physiologic chemistry and of the chemistry of arteriosclerosis in particular is too indefinite to enable us to lay down an absolute specific dietary. We should follow the general rules of diet and hygiene as borne out by experience and common sense.

12. **Nephrectomy.**—Wiener enumerates the conditions justifying nephrectomy and remarks in regard to the details of the examination and its dangers, especially those of infecting the healthy ureter and through it the healthy kidney. He divides the indications into three classes according to the age of the patient. 1. In infancy, the indication falls into two groups, congenital malformation and new growths. The former is usually an obstruction producing hydronephrosis. The tumors are usually sarcomatous. The indications for nephrectomy during adolescence are in the majority of cases, pyelonephritis, or a septic nephritic of hematogenous origin following in the wake of one of the acute infections diseases. A perfectly healthy kidney may be thus involved. Cases are reported of operation in both cases. In adult life the indications are: 1. Hydronephrosis; 2, pyelonephritis and pyonephrosis; 3, tuberculosis, and 4, malignant growths. "The indications for nephrectomy for hydronephrosis may be summed up briefly as follows: (*a*) Sacs with obliterated ureters; (*b*) sacs with little or no kidney tissue remaining; (*c*) repeated failure of palliative operations, i. e. nephropexy, nephrotomy, plastic operations, extraction of stone. Only rarely in the adult will it be necessary to remove a kidney for hydronephrosis." Pyelonephritis and pyonephrosis. The surgical treatment may be summed up in two words, nephrotomy and nephrectomy. It is difficult to say which is the better primary operation. When the presence of many pus pockets renders the nephrotomy operation too tedious and dangerous, a primary nephrectomy is indicated. But on the other hand, by doing a primary nephrotomy, we give the system time to get accustomed to the use of only one kidney and have the opportunity of judging the functionating capacity of the opposite kidney before attempting to do a nephrectomy. Practically, we do not find such a marked disturbance in the urinary excretion as we do in cases of primary removal of a kidney. The remote results of a nephrotomy may be bad in conducing to the development of sepsis; or a renal fistula may remain. A case is reported. In kidney tuberculosis hematuria is often the earliest symptom, usually unilateral, is commonest in women and may remain latent for many months. The earlier the diagnosis of renal tuberculosis is made the less likely is the bladder to be affected. The symptoms to which the disease may give rise have been summed up by Morris as lumbar pain, polyuria, pyuria with acid urine, hematuria with acid urine, frequent nocturnal as as well as diurnal micturition, tubercle bacilli in the urine and the general symptoms of tuberculosis. The differential diagnosis of renal calculi is often very difficult in the early stages. The malignant growths are usually found after the forty-eighth year, which is in contrast with tuberculosis which is most frequent between the twentieth and fortieth year. The new growth is usually a sarcoma or carcinoma. "The characteristic points about renal tumors are: (*a*) Large intestine is anterior to the tumor. On the right side the colon is usually anterior and to the inner side of the tumor. On the left side the colon is anterior and to the outer side. This distinguishes a renal tumor from one of splenic or hepatic origin. (*b*) Renal tumors grow forward, while abscesses generally point backward. (*c*)

Renal tumors do not descend as much on deep inspiration as do tumors of the spleen or liver. The three cardinal symptoms are hematuria, tumor and pain. The question as to whether a tumor in a given case is operable or not, is of great importance. Much will depend on the length of duration of the symptoms; the mobility of the tumor; the presence of edema in the loin, or in the leg on the affected side; the presence of enlarged glands, which can be felt within the abdomen, or along the brim of the pelvis. A careful examination of all the organs in the body (especially the lower urinary tract) should be made for signs of secondary new growths. The improvement in the operative results following nephrectomy for new growths has gone hand in hand with the improvement in other branches of kidney surgery. The mortality has fallen from 60 per cent. of all cases operated on prior to 1890 to 20 per cent. in 1899." The rarer conditions indicating nephrectomy are not discussed. In conclusion the author calls attention to the importance of early diagnosis as an essential for the most successful surgery.

13. **Sympathetectomy in Glaucoma.**—The following is the summary of the study of the literature by Marple in regard to this operation. "1. That the operation of extirpation of the sympathetic ganglion is a safe procedure in the hands of a skilful surgeon. 2. That (as Ziehe says), while the material is not yet sufficient to reach a positive conclusion as to the permanence of its effect, it is nevertheless established that some of the glaucomatous cases have been improved for some months by resection; in others the condition apparently remains stationary. The results have varied, and one can not yet be sure in what cases it can be advantageously employed. It at least, apparently, does no harm. A considerable number of favorable results have been reported in chronic irritation or inflammatory glaucoma, as well as in simple glaucoma, in which oftentimes pain is abolished. 3. It does not replace iridectomy, but may possibly supplement the latter, in case this is refused or has already resulted disastrously in the other eye, or is contraindicated, as in hemorrhagic glaucoma, dacryocystitis, etc. 4. Until our cases are observed more carefully and for a longer perior of time, it will be impossible to arrive at positive conclusions as to the indications for the operation, or as to its permanent results."

14. **Aortic Stenosis.**—Anders reports a case in which death occurred and discusses the diagnosis and pathology of the condition. He thinks the frequency of the disease has probably been overestimated by the profession. The number of proven cases is small because of the rarity of the occurrence of all the characteristic signs. Conversely their association in the same case enables us to infer safely the existence of the lesion. These signs are: "1, a small, slow and somewhat tense pulse; 2, a systolic basic thrill; 3, an enlargement of the left chamber; 4, a harsh and musical systolic murmur over the aortic area, and a feeble aortic second sound." Certain special features are noted in his cases, viz., the gradual increased intensity of the second sound and the loud and long murmur indicating the vigor of the ventricular systole which supports the generally accepted view that the sonorous vibrations are generated by the eddies resulting from the passage of the blood through a small orifice into a larger channel, as was the case here. The dangers of aortic stenosis are not definitely decided. That there is some risk of sudden death is, the author thinks, unquestioned, even where the symptoms are of a mild character, and he reports cases from the literature where this occurred. It is highly probable that if pure cases only were considered it would prove not to be an uncommon mode of termination in this exceptional lesion.

15. **Diagnosis of Early Pregnancy.**—The points here believed to give valuable signs in the determination of pregnancy are the changes in the cervix which are of some value after the end of the second month, the differential density of the isthmus, the more pronounced softening of the center than of the lateral sections of the segment which is generally well marked by the fifth or sixth week, and is not inferior in value to Hegar's sign. When clearly defined Hegar's sign, that is, extreme compressibility of the isthmus, may be regarded as absolutely diagnostic, as the symptom is rarely counterfeited by any other pathologic condition. Its practical value, he thinks, however, is less than that of the shape and consistence of the corpus because not so readily appreciable. The impregnated ovum lodges most frequently at the point of one cornu and the uterus is thus rendered unsymmetrical. Whether the ovum is contained in the denser or softer segment is a matter of dispute, but there is a difference in the size and tendency of the two halves a few days after the first skipped period. The marked swelling and lateral extension is a point to which it is especially desired to call attention, as it is the most easily available of the signs obtainable in the early months by bi-manual examination. In no other condition than pregnancy is softening so marked, and when pronounced it may safely be taken as proof of normal gestation. It is only after the fifth or sixth week that it is well developed and it disappears again toward the end of the third month owing to the distension of the uterus by the growth of the ovum. These conditions, however, disappear during uterine contraction and repeated examination may be necessary. The complicating presence of myomatous growths and the difficulty thus produced are mentioned and here Hegar's sign and diminished resistance of the median section of the isthmus may serve to differentiate the gravid from the myomatous uterus.

16. **Diseases of the Biliary Passages.**—Brill's article discusses the diagnosis of gallstone diseases in detail, but lack of space forbids a full abstract.

18. **Surgery of Gallstones.**—Much missionary work is necessary in Blake's opinion to secure an earlier diagnosis in the case of cholecystitis and he briefly reports a number of cases which show the lack of this and the danger of allowing the case to go too far before surgical interference. The status of gallstone surgery to-day resembles in many ways that of appendicitis of ten years ago; there is the same delay in diagnosis and the same hesitancy as regards the treatment. With reform in this regard, we will have the confidence in the surgical treatment of gallstones that we now have in that of appendicitis. More interval operations will be done. The question of cholecystectomy or cholecystotomy is discussed. There are several conditions, he says, in which cholecystectomy is the operation of choice. These are: "1, gangrene of the gall-bladder and suppurative inflammations endangering its vitality; 2, neoplasms of the gall-bladder; 3, injuries of the gall-bladder, and 4, permanent obstruction of the cystic duct. In the following conditions it is not so imperatively indicated: (*a*) contracted gall-bladder which can not be attached to the parietal peritoneum for drainage, and (*b*) calculi impacted in the cystic duct which can not be removed except by incising the duct. Cholecystectomy should not be performed in cases in which drainage is indicated, namely, 1, when there is uncertainty as to the patency of the common duct; 2, suppurative cholecystitis without sloughing; 3, cholangitis; 4, when the duct is sutured after choledochotomy and the gall-bladder can be easily and safely drained; 5, it should not be attempted in cases in which prolongation of the operation would lessen the patient's chances, as when jaundice and bleeding are present or there is impairment of vitality by disease, age or condition." As compared with cholecystectomy, cholecystotomy offers the following advantages: 1, a radical cure of the cholecystitis; 2, the avoidance of biliary fistula; 3, a perfectly clean operation with no soiling by infected bile; 4, the avoidance of adhesions. The greater mortality of the operation, he thinks, is due to the serious condition with which it has usually been associated. The only question in his mind is as to whether the gall-bladder serves any necessary principles of economy, and if not, why should we hesitate to remove it?

19. **The Patrol Ambulance.**—Donoghue describes the models of patrol ambulance in Boston and the development of the service, calling attention to the fact that similar methods are practicable in smaller towns large enough to support a hospital.

20. **The Drug Manufacturer.**—The essentials of a sound therapeutic method are given by Loomis as follows: "1, keeping in mind the tendency of self-limitation of pathologic processes and the possibility of cure as a result of natural forces, never

prescribe a remedy that will interfere with, or upset the conservative efforts of, the organism; 2, keep the problem of treatment as simple as possible by the exhibition of few remedies, well selected; 3, bear in mind the possibility of aggravating existing pathologic conditions and introducing new ones, by injudicious or too heroic methods of treatment; 4, remember that the benefit to be expected from remedies is generally offset or neutralized when a large number of remedies are exhibited at the same time; 5, try to remove the cause—this presupposes a careful study of the case, rather than a hasty prescription for this, that or the other symptom; 6, do not forget that most medicines are two-edged swords—if a medicine does no good it is likely to do harm; 7, prescribe for conditions, not diseases; 8, when necessary, hit hard, but not too often; 9, watch constantly for symptoms that may be the result of remedies prescribed for the relief of other symptoms." While more might be included, this is comprehensive enough to show the vicious tendencies that exist at the present time in therapeutics. The drug manufacture, he says, has almost passed the danger point and since its methods are purely commercial, physicians are being misled and mis-educated by it. Therapeutics of to-day are not based on the intelligent mental processes as was the case when the prescribing druggist had more of the business.

24.—This article appeared in THE JOURNAL of May 10, p. 1215.

25. **Disorders of the Knee.**—Gibney reviews some of the more common knee disorders, calling attention to the difference in the etiologic point of view between the diseases of adults and infants. In the latter tuberculosis is an all-important factor. In the former trauma is the most important. He insists on the importance of thorough examination, attention to the gait, and the inflammatory extension through slight injury on the functional action of the joint. He mentions in this connection a treatment which he has found very efficient in pure uncomplicated synovitis. "A strip of adhesive plaster, about an inch in width and long enough to reach two-thirds of the way about the limb, is applied about the beginning of the insertion of the ligamentum patellæ, running obliquely. A second strap crosses this; the third overlaps the first half way; the fourth the second, and so on until the upper border of the synovial sac is reached. No attempt is made fully to extend the limb, and it is left in the slightly flexed position in which it is found. Immediately following this is a roller bandage, used to make the plaster adhere more closely. If there is much pain and other evidence of active inflammation, nothing is better for the next few hours than an ice-bag. Some surgeons who are enamored of this treatment insist on the patient using the limb at once, on the theory that the action of the quadriceps femoris tendon will assist in disposing of the fluid. While this is a tribute to the adhesive plaster method, I can not help but feel that the knee joint is too important for any such experimentation, and, unless a necessity arises for the use of the limb, I prefer to have it used with caution for the next few days. At this time the parts will have shrunken a good deal, and the strapping may be reapplied." Where synovitis is late in developing and depends upon the gradual extension from a localized periostitis or from a detached fringe of the semilunar cartilage or from a subpatellar bursitis, the strapping is merely a factor in the management or an adjuvant, and here immobilization is to be considered and a posterior splint. A plaster-of-paris bandage and crutches are often necessary. Traumatic arthritis is often difficult of diagnosis. A case is reported to illustrate this fact. The physical signs of tuberculous knee are usually pronounced enough, but there are cases, especially where there is a family history of tuberculosis, that are puzzling. As regards rheumatoid affections, he says the rheumatic joints that are complicated by periarthritis involving the soft parts are all, in his judgment, amenable to relief, while those that are complicated by bony deposits, as in arthritis deformans, are very difficult of management. The line of demarcation between this latter disease and rheumatism he thinks is not always well drawn and time may be taken to determine the differential diagnosis. Acute arthritis developed from exposure to cold is closely allied to rheumatism. Mention is made in conclusion of the surgical treatment of gonorrheal rheumatism, but he does not discuss a number of disorders, such as neurosis bursitis, subluxation of the patella, etc., which are omitted for want of space.

26. **The Kidney Complications of Typhoid Fever.**—The complications enumerated by Talley include, 1, albuminuria occurring in a large percentage of cases, usually disappearing early, but sometimes persistent; 2, nephritis, which is comparatively rare, may occur at any stage and is usually of bad prognostic significance; 3, hemorrhagic nephritis, which is not strongly defined from the former type, including under this head the notice of renal typhoid of Amat which the author doubts as a distinct entity; 4, suppurative nephritis; 5, preexisting chronic nephritis, and 6, hematuria. These are also discussed and a couple of cases are reported, one of acute nephritis co-existent with typhoid and the other of probably old nephritis occurring in a typhoid patient. A tabulated statement is taken from the literature showing the frequency of these complications.

27. **The Justus Test.**—From the examination of a number of cases and a review of some of the authorities, Tucker concludes that the Justus test has no practical value in the differential diagnosis of venereal ulcers as the reaction occurs in an almost equal degree of frequency in the nonsyphilitic conditions with which syphilis may occasionally be confused.

28. **The Justus Test.**—This article by Huger on the same subject as the preceding, gives the result of examination in several cases, and he remarks: "The figures speak for themselves and need very little comment. The number of cases which I report is very few, but there are enough negative results in the group of chancres to show that the test is wholly unreliable, and, moreover, the one positive result among the chancroids detracts even more, because the failure to put a syphilitic on mercurial treatment will soon be proven a mistake, but to condemn a nonsyphilitic to years of, to say the least, unpleasant treatment, and a life-long belief that he has had and perhaps still has, the disease, is unpardonable."

29. **Inherited Tuberculosis.**—Fackler's paper is an interesting study of heredity in tuberculosis and gives statistics that certainly support the importance of inheritance in this disease. Hospital statistics show a much smaller percentage than do those of private practice which he holds to be due to the difficulty of getting good histories, and the deficient intelligence and education of the patients in many cases. He believes that we are justified in assuming that the actual degree of hereditary influence is in excess of that determined by the ordinary statistics. It is claimed by some that at least 50 per cent. of children with tubercular ancestry ultimately become tuberculous unless they succumb to some intercurrent malady. We should give special attention to the prophylaxis, proper education and training of these cases to protect them in the future, if possible. The predisposed individual should have our special care and children should be taught how to live, to love fresh air, to use respiratory and physical exercises and all other means to enrich their bodily vigor. We should also educate the laity as to the importance of heredity and the need of special care in inherited tubercular diathesis.

30. **Pneumonia.**—Nippert reports cases and discusses the diagnosis, symptoms and treatment of pneumonia and offers in conclusion as a summary that repeated and careful physical examination in any case of ill-defined infection is imperative and should not be neglected whenever the complication of pneumonia is possible. The treatment should be dietetic, hygienic and sustaining and drugs should not be administered as routine, but with a positive end in view, and in dose sufficient to obtain the desired result, such as stimulation of the heart's action and prevention of pulmonary congestion and asphyxia. The use of normal salt solution and of oxygen are a life-saving addition to therapeutics, but the control of the disease by serum of immunized animals is yet in the experimental stage.

39.—See abstract in THE JOURNAL of March 12, p. 781.

40. Ibid.

41.—Ibid.

42. **Chlorosis.**—Suker reviews the relations of chlorosis and concludes his summing up of the subject as follows: "1. Optic atrophy, papilloretinitis, and pseudo-albuminuric spots can and do have a chlorosis as their causative factor. 2. Double optic atrophy associated with chlorosis may simulate brain tumor to a marked degree. 3. Headaches due to a refractive error and asthenopia are of a severer type and are often aggravated by the chlorosis. 4. Arterial pulsation in the retina is indicative of the severity of the disease, as is also the venous pulse. 5. The fundus lesions in chlorosis are the result of an autotoxemia. 6. The prognosis in nearly every case is favorable, considering the severity of the hemic lesion, excepting in optic atrophy. 7. The foci of fatty degeneration in the retina deserve special attention, so as not to be mistaken for albuminuric spots."

46.—See abstract in The Journal of January 11, p. 125.

47.—Ibid.

48. **Localization of Mental Faculties.**—From a study of the authorities and cases, some of which are reported, Phelps maintains that the following three propositions are justified: "1. The more absolutely the lesion is limited to the left prefrontal lobe the more positive and distinctive are the symptoms of mental default. 2. The integrity of the mental faculties remains unimpaired in right frontal lesion, though it involves the destruction of the entire lobe, or even extends to the entire hemisphere. 3. The exceptional instances in which seemingly opposite conditions exist are always reconcilable, on more careful examination, with the assertion of an exclusive control of the mental faculties residing in the prefrontal region of the left side. If, then, the same nature and degree of proof which is deemed sufficient for the localization of other cerebral functions may be accepted in case of the mental faculties, their center of control has been established."

49. **Kernig's Sign.**—Sailer reports two cases in which Kernig's sign appeared to be associated with focal encephalitis and was localized on the opposite side of the body. It was also associated in one instance with spastic paralysis and there was also a chronic spasm of the flexor muscles of the arm which, however, did not resemble the Kernig's sign in its mechanism. The most reasonable explanation of the symptom, he thinks, is to ascribe it to an irritable lesion of the pyramidal tract that diminishes but does not destroy its functional activity.

50. **Kernig's Sign.**—Five cases out of 100 examined by Shields, all non-meningitic, showed Kernig's sign; 3 of them were unilateral and 2 bilateral and ceased after recovery, in one case of hemiplegia and one of typhoid fever. The sign persisted in the remaining cases, 2 of right-sided hemiplegia and one of typhoid fever which is unilateral and persistent, though the case of typhoid has not yet recovered and it may disappear.

51. **The Kernig's Sign.**—Clark reports three cases of meningitis, two tubercular, in which this sign was absent and forms the opinion that it is unreliable in tuberculous meningitis.

52. **Lateral Sinus Thrombosis.**—Dench has operated on 22 cases of sinus thrombosis with 2 deaths, one from septic pneumonia and the other from nephritis apparently induced by the anesthetic. In 4 of the cases only was it found necessary to ligate the internal jugular vein and all of these cases recovered. He believes that prompt surgical interference of the most radical kind is the only safe course, and he details his method and reports cases. He thinks it wise in all doubtful cases to resect the internal jugular vein to eliminate the possibility of infection, though he does not prescribe this in all cases. Where the patient has been under observation for a few days and we have a fairly complete temporary record of 24 to 48 hours showing no marked evidence of systemic infection, the surgeon may rely upon simply clearing out the clot in the sinus if it is to be found. This same method should be followed in cases which first come under observation at the time of operation. The sinus can be fairly well cleared out by the curette. On the other hand, in those cases which are first seen at the time of operation and in which the sinus can not be thoroughly cleared and in which also the surgeon is confident that a certain amount of infected material is left in the venous canal, he thinks immediate excision of the jugular vein is demanded. The operation is not a serious one, takes little time, does not endanger the patient by prolonged anesthesia and prevents further systemic infection. The temperature is the only real guide.

54. **Infantile Paralysis.**—Gossage reports cases illustrating the types and reviews the literature as regards the theories of infantile paralysis. It is impossible, he thinks, to come to any definite conclusion as to the nature of the disease. Clinical records are strongly in favor of at least two and it may be three or four definite diseases being included under the term anterior poliomyelitis, namely, "1, that class where the paralysis comes on suddenly without previous ill-health; 2, that class where the onset of the paralysis is preceded by general symptoms, such as fever, vomiting, pain in the back, etc.; 3, the epidemic class, and 4, the adult class. The three latter may possibly be the same disease which may sometimes occur sporadically, and at other times in the form of an epidemic." The one definite fact obtainable from the post-mortem examination of all patients that have suffered from the disease is that there are signs of local inflammation in the ventral horn. The disease, he thinks, is probably caused by some micro-organism not yet isolated. It is possible that there may be two or more specific organisms.

56. **Hepatic Lesions in Infancy.**—From an examination of 270 consecutive autopsies of infants, Wollstein finds that fatty liver occurred most often with suppurative inflammation and, next in frequency, with tuberculosis, pneumonia and the intestinal diseases. Fatty liver is never found in uncomplicated marasmus and is inconstant both in syphilis and rachitis, all cases of which were complicated. In one case there was a hypertrophic cirrhosis and in another there was a similar condition due to obstruction of the bile-ducts in a child of three months which was reported in the *Archives of Pediatrics*, for March.

57. **The Sacrococcygeal Dimple.**—Markoe and Schley's article is mainly the discussion of the literature with description of the conditions. They find transitions from the simple congenital dermoid cyst to the larger and more complex dermoids and to various other conditions, teratoma, etc., and even of true fetal inclusion. Their importance depends on their liability to irritative influences and traumatism. The only real successful treatment is complete and radical extirpation of the whole tract down to the periosteum of the bone as soon as practicable.

59. **Chronic Interstitial Pancreatitis.**—The following are Opie's conclusions: "1. Chronic interstitial pancreatitis is slightly more frequent in males than in females. Two-thirds of the total number of cases occur between the ages of 40 and 60. 2. The most frequent cause of chronic pancreatitis is obstruction of the duct of Wirsung, due to pancreatic calculi, to biliary calculi in the terminal part of the common bile-duct, or to carcinoma invading the head or body of the gland. Duct obstruction may be followed by the invasion of bacteria, which take part in the production of the resulting lesion. 3. Ascending infection of the unobstructed duct of Wirsung may follow an acute lesion of the duodenum or of the bile passages and may cause chronic inflammation. In cases which have given a history of long, persistent vomiting, chronic diffuse pancreatitis may be found at autopsy, and is probably the result of an ascending infection of the gland. 4. General or local tuberculosis is occasionally accompanied by chronic diffuse pancreatitis, affecting chiefly the interstitial tissue of the gland. 5. Chronic interstitial pancreatitis is not infrequently dependent upon the same etiologic factors, notably alcohol, which produce cirrhosis of the liver, and in about one-fourth of the cases the two lesions are associated. 6. Following duct obstruction and ascending infection the lesion affects principally the interlobular tissue, only secondarily invading the lobular tissue and sparing the islands of Langerhans. Diabetes results only when the lesion is far advanced. 7. Accompanying the so-called atrophic or Laennec's cirrhosis of the liver, the pancreas is at times the seat of diffuse chronic inflammation, characterized by diffuse proliferation of the interacinar tissue, which invades the islands of Langerhans. A similar lesion accompanies hyalin degeneration of the islands of Langerhans

and the condition known as hemochromatosis. 8. Interacinar pancreatitis is usually accompanied by diabetes mellitus. When diabetes is absent the lesion is of such slight intensity that the islands of Langerhans are little implicated."

65.—This has appeared elsewhere. See THE JOURNAL, May 17, American abstracts 29 and 45, also this issue No. 70.

67. **X-Ray in Acne and Sycosis.**—Pusey reports a number of cases of acne treated by the *x*-ray with great success and says there is no other affection which proves so tractable, and the results have been produced quicker and with less effect on the tissues than we should imagine was possible. He thinks in such cases the light should be from fairly-soft tubes and only just enough to show a faint green color in the tube. Of course, in treating such cosmetic disorders the danger of producing bad results from the rays must be considered and he warns against using anything but the very weakest light in these cases. He also reports a case of sycosis which did not respond to other treatment, though of moderate severity, therefore the patient was put under the *x*-ray exposure for some time. There was hardly any improvement for over eight weeks and slight dermatitis was produced. The treatment was continued, however, until the dermatitis became acute and alopecia resulted. Rapid improvement in the sycosis occurred in about three months after the beginning of treatment, all evidences of the disease had shortly disappeared and he has had no trouble since.

70.—See No. 65.

72. **Asthma.**—Jack thinks the origin of asthma is to be sought in the state of the blood and he recognizes an asthmatic lymphocytosis, due to a toxemic form of leucocytosis, and an asthmatic anematosis. He holds that the nerves take no part in any of the phenomena of asthma other than the performance of a physiologic duty and supports his view by the facts of blood examinations, etc.

83. **Regenticides.**—This paper of Spitzka's, which is begun in this issue, takes issue with Talbot and Regis as regards the association of regenticide with insanity and, as its title indicates, considers the subject in a statistical manner. He goes over the history of various noted cases, such as the Orsini conspiracy and other historical conspiracies, and he claims that, with the insane taint, the lack of accomplices is rather exceptional than the rule.

86. **Yellow Fever.**—Ross, who is a surgeon in the U. S. Navy, has made experiments in the Las Animas Hospital, Havana, similar to those performed at Quemados, as to the transmission of yellow fever by fomites and calls attention to the following facts in connection with the experiments. They were conducted in the City of Havana itself where yellow fever has run riot for 139 years and in buildings similar in construction and material to those occupied by the people of the poorer classes—damp, poorly-lighted, badly ventilated, floors on the ground, and they also were conducted in the season when the scourge is usually at its worst. The clothing, etc., was taken from thoroughly diagnosed cases and was used by 8 patients all non-immunes, and every possibility of contagion from this source was insured without any results, other sources, of course, being excluded, and he believes that we should adopt the conclusion of the yellow fever commission, as confirmed by these experiments, that yellow fever is not conveyed by fomites and hence disinfecting of articles, clothing, bedding and merchandise supposedly contaminated is unnecessary.

93. **Pre-Historic Tuberculosis in America.**—Among some other interesting facts in regard to Indian medicine and recent Canadian medical folklore, Addison reports that he examined an ossuary near Big Bay Point, in the county of Simcoe, Ontario, in which he found some trephined crania and what was still more of interest, in several skeletons the evidence of Pott's disease. The bones were those of natives of the Huron nation and had undoubtedly been underground over two centuries. He thinks the evidence shows there was tuberculosis among them, not only before the European invasion, but that it was far from uncommon, and that these cases occurred in a nation which was not nomadic, but had permanent places of abode, there being thus a tendency to the accumulation of infective material.

100. **Adrenalin.**—Howard experimented with adrenalin in the treatment of gonorrhea, employing it in solution of 1 to 4000, first flushing out the urethra by urination and then administering the solution, following this with a further washing out with an aqueous one-per-cent. solution of protargol. This has had to be repeated several times in some cases, but a quick cure was obtained in nearly all. In every case the discharge was promptly and markedly lessened. The recovery was with a promptness very unusual in his experience and without complications. He has not felt justified in using the adrenalin alone for he is not satisfied that it has any germicidal value. He has also treated a case of stricture with good results.

101. **Castor Oil in Typhoid.**—The treatment here suggested by Bass, which he has employed in a number of cases, is the giving of quinin and calomel for three or four days to eliminate the possible malaria and after this a dose of castor oil every morning. In no case was high temperature prolonged beyond twenty-five days, except in one where it returned after falling below normal and was quickly reduced by the same treatment. In no case did hemorrhage occur; delirium also subsided, but after every case there was a poor recollection of the events that occurred during the illness. He does not claim a curative effect in typhoid, but thinks that the oil washes and clears out the poisonous accumulations in the intestines which cause an elevation of temperature. The dose should be large enough to act in four to six hours, varying from two teaspoonfuls to two tablespoonfuls according to the condition of the bowels. The oil can be given in sweet milk in a hot cup and then it will be taken with little difficulty.

102.—This has appeared elsewhere. See THE JOURNAL, April 26, p. 1106, No. 13, and May 3, p. 1179, No. 62.

105. **Surgery as a Last Resort.**—Lawrence thinks the tendency to delay in resorting to surgical operations is largely due to prejudice and overconfidence in the recuperative powers of nature and drug action, to failure to recognize the surgical nature of the disease, to the too prevalent use of the term surgery as a synonym for operating, and lastly, to financial considerations. He maintains that some conditions are surgical and should be surgically treated from the start and the question of operation should be determined by the surgeon and not by the practitioner. Last-resort operations should seldom receive surgical sanction. To the lay mind the surgical operation is a surgical operation regardless of the skill of the operator or coöperative power of the patient. The harm done to the living who may be influenced in cases of similar character should always be considered before we stigmatize surgery by operating upon moribund patients. Only rarely should surgical operations be advised or sanctioned where there is not a reasonable hope of the prolongation of useful life or cure in case the patient survives the immediate effects of the operation. No case should be considered too desperate to attempt in which we know, if the patient survives the operation, cure will result.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), May 3.

1 *Signs on the Skin of Certain Common Diseases. James Galloway.
2 *A Case of Chloroma, with Pathologic Report and Some Notes Descriptive of the Disease. G. H. Melville Dunlop.
3 Tuberculosis of the Conjunctiva. Sydney Stephenson.
4 On the Subcutaneous Injection of Paraffin for the Removal of Deformities of the Nose. Walter Downie.
5 On the Spread of Leprosy and an Examination of Fish Hypothesis of Leprosy as Applied to Kashmir. Ernest F. Neve.
6 Case of Epithelioma Complicating Lupus Erythematosus Treated by Scraping and Healed by the X-Rays. G. G. Stopford Taylor.

The Lancet (London), May 3.

7 *The Diagnosis and Treatment of Various Forms of Goiter. James Berry.
8 *The Etiology of Typhoid Fever and Its Prevention. (Concluded.) W. H. Corfield.
9 Note on the Relief of a Distended Joint by the Establishment of Subcutaneous Leakage. T. Pridgin Teale.
10 A Case of Fat-Embolism After Fracture, Where Fat Was Present in the Sputum and Urine. F. A. Southam.
11 *Some Statistics Regarding the Effect of Inoculation Against Typhoid Fever in South Africa. Alexander Cromble.
12 An Undescribed Urinary Deposit: Monohydric Magnesium Phosphate. T. R. Bradshaw.

13 A Case of Ovarian Tumor with Spontaneous Rupture and Edema of the Legs Simulating Malignancy. Smallwood Savage.
14 *"Idiopathic" or Congenital Hereditary and Family Hematuria. Leonard G. Guthrie.
15 Scurvy Developing in a Rickety Boy, Aged 5½ Years. George Carpenter.

Journal of Tropical Medicine (London), May 1.

16 A Theory to Explain How Man and the Anopheles Originally Became Infected with the Malarial Germ. Albert J. Chalmers.
17 Smallpox and Vaccination in Bangkok. P. A. Nightingale.
18 A Peculiar and Undescribed Affection of the Nose. J. C. Mitchell.
19 *Plague Prophylaxis in Formosa. James L. Maxwell.
20 The Duration of the Latency of Malaria After Primary Infection, as Proved by Tertian or Quartan Periodicity or Demonstration of the Parasite in the Blood. (Continued.) Attilio Cacciui.

Indian Medical Gazette (Calcutta), April.

21 Notes on the Radical Cure of Hydrocele and Hematocele. W. J. Niblock.
22 Some Notes on Cerebrospinal Fever. Malcolm Moore.
23 The Importance of the Rôle Played by Mosquitoes in Tropical Pathology. W. Glen Liston.
24 A Peculiar Case of Malignant Tertian Fever. G. C. Chatterjee.
25 The Treatment of Typhoid Fever by the Woodbridge Method in India. A. G. Hendley.
26 The Iodin Terchlorid Treatment of Plague. T. K. Gajjar.
27 An Interesting Case of Acute Pneumonia. T. H. Symons.

Annales des Mal. Org. Gen.-Urin. (Paris), March.

28 *Bacterlology of Infections of the Bladder. R. Faltiu (Helsingfors).—Recherches bactériologiques sur l'infection vésicale, spéc. au point de vue de la variabilité de la flore bacterienne.
29 *Catheterization of the Ureter and Radiography. De Illyés (Budapest).—Cathétérisme de l'uretère et radiographie.
30 Polycystic Kidney. A. Rivet.—Cas de rein polycystique. Néphrectomie. Guérison.
31 *Absorption by the Bladder. T. Barbarroux (Moutpellier.)—Sur l'absorption vésicale.

Presse Medicale (Paris), April 5 to 29.

32 (No. 28.) After-Care of Puerperal Hemorrhage. G. Keim.—Les soins consécutifs aux grandes hémorrhagies puerpérales.
33 Screen to Prevent Burns in Radiography. M. Ménard.—Les brulures en radiographie.
34 (No. 29.) Lèpre et Syringomyélie. H. de Brun (Beyrouth).
35 (No. 30.) Epilepsie et amnésie rétrograde. J. Séglas (Paris).
36 Stab Wound of Liver. L. Loubet (Paris).—Plaie du foie par coup de couteau. Suture. Guérison.
37 Appendicitis from Swallowed Foreign Bodies. Vérou (Rennes).—Les appendicites consécutives à la déglutition de corps étrangers.
38 (No. 31.) *Mediastinal Serous Pleurisy. A. Chauffard (Paris).—Des pleurésies séreuses médiastines.
39 La neuronophagie. A. Devaux and P. Merklen (Paris).
40 *Digitalis in Oily Solution for Subcutaneous Injection. G. Rosenthal (Paris).—L'huile digitalique Nativelle injectable.
41 (No. 32.) Prophylaxis of Venereal Disease. E. de Lavarenne (Paris).—Contre la syphilis et les maladies vénériennes.
42 The Apex of the Heart and Its Vicinity. E. Barie (Paris).—La pointe du coeur et la région apexienne.
43 The Accidents of Quinin. A. Martinet.—Quels accidents peut provoquer la quinine?
44 (No. 33.) Preventive Injections of Antidiphtheria Serum in Families. Netter (Paris).—Des injections préventives de sérum antidiphthérique dans les familles.
45 The Milk Question. P. Desfosses (Paris).—La question du lait.
46 Associations with Quinin. A. Martinet.—Associations quiniques.
47 (No. 34.) Autoplasty for Large Wound in Hip and Buttocks. H. Morestin (Paris).—Autoplastie par glissement pour couvrir une plaie très étendue de la hanche et de la fesse.
48 Experimental Carcinosis. L. Brnandet.—Carcinose coccidienne exp.
49 The Antivaccinators. M. Labbé (Paris).—Les antivaccinateurs.
50 The League of Physicians and Families for the Amelioration of Physical and Intellectual Hygiene in the Schools. P. Desfosses (Paris).—Médicins et hygiène scolaire.
51 (No. 35.) *Lumbar Puncture in Treatment of Accidents Consecutive to Fracture of the Skull. E. Rochard (Paris).—De la ponction lombaire comme moyen de traitement des accidents cons. aux fractures du crâne.
52 Technic of Disinfection. A. Martinet.—Pratique de la désinfection.

Progres Medical (Paris), April 19 and 26.

53 (No. 16.) Toxic Ambiyopia. F. de Lapersonne (Paris).—De l'amblyopie toxique.
54 (No. 17.) Bovine Tuberculosis. P. Garnault (Paris).—La tuberculose bov. à la Chambre des députés.
55 Variation in Toxicity of Mineral and Organic Compounds. M. Laffout.—Recherches sur les variations provoquées dans la toxicité de certains composés mineraux ou organiques, suivant les groupements chimiques auxquels ils sont liés dans leurs composés solubles.
56 *Hyperthermia. C. H. Petit-Vendol.

Revue de Medecine (Paris), March.

57 *The Nervous System in Consumptives. A. Chelmonski (Warsaw).—L'état du systeme nerv. chez les phthisiques et son influence sur le cours de la tuberculose.

April.

58 *Heredity in Odors. Ch. Féré (Paris).—L'hérédité de l'odeur.
59 Pressure of Pleural Effusions. L. Bard (Geneva).—Recherches clin. et exp. sur la pression des épanchements pleuraux. (Concluded from No. 3.)
60 Peritonitis by Propagation. Véron.—Sur un cas de péritonite par propagation sans perforation survenue au cours d'une fièvre typhoide à forme ambulatoire.
61 Malarial Polyneuritis. C. Mathes.—2 cas de polynévrite palustres.

Revue de Therapeutique (Paris), January 1 to April 1.

62 (No. 2.) Application of Urology in the Clinic. A. Robin (Paris).—L'acide urique, son origine, ses variations et déductions de ces faits pour le traitement et le régime des goutteux.
63 (No. 3.) Treatment of Strictures. E. Desnos.—Traitement des rétrecissements.
64 Two Non-Toxic Analgesics. A. Darier.—Acoine et dionine.
65 (No. 4.) Alkaloids of Opium. A. Morel-Lavallee.—Morphine, héroine et dionine.
66 (No. 5.) Le thermoplasme électrique. J. Larat.
67 (No. 6.) Chloroform Anesthesia. Guyon.—La chloroformisation en particulier chez les cardiaques.
68 *Libby's Method of Treating Otitis. U. Melzi (Milan).—Traitement de l'otite moyenne purulente chron. des enfants par la méthode de Libby.
69 (No. 7.) Treatment of Chron. Diarrhea. M. Soupault and R. François.—Traitement de la diarrhée chron. specialement par l'acide chlorhydrique.

Semaine Medicale (Paris), April.

70 (No. 14.) *Uremic Stomatitis. E. Hirtz (Paris).—Les stomatites urémiques et leur diagnostic.
71 (No. 16.) Leucocyte Count in Diagnosis of Suppurations. Editorial—La numération des leucocytes du sang comme moyen de diagnostic de la présence de pus, et en particulier des suppurations pelviennes.
72 (No. 17.) *Mercurial Treatment of Severe Syphilis. Leredde (Paris).—Progrès à réaliser dans le traitement mercuriel des accidents graves de la syphilis.
73 (No. 18.) *Post-operative Alexia. L. Bard (Geneva.)—Un cas d'alexie d'origine opératoire.

Centralblatt f. Chirurgie (Leipsic), April 26 and May 3.

74 (No. 17.) *Carcinoma and Alterations of the Skin. E. Hollaender (Berlin).—Carcinom und Hautveränderungen.
75 (No. 18.) *The Steam Saw for Resection of the Liver. Koslenko (Moscow).—Zur Frage von der Resektion der Leber mittels eines neuen blutstillenden Instruments (Dampfsäge von Sneguirew).

Centralblatt f. Gyn. (Leipsic), March 15 to April 19.

76 (No. 11.) Vaginal Myotomy. W. Thorn.—Ueber vaginale myotomien und das Verhältniss der Enukleation zur Totalexstirpation.
77 (No. 12.) Double Rupture of Umbilical Vein. R. v. Westphalen (Verny).—Doppelte Ruptur der Nabelvene mit doppelter Hämotombildung bei spontaner Geburt.
78 *Artificial Sterilization of Consumptive Women. A. E. Neumann (Berlin).—Zur Frage der künstlichen Sterilität phthisischer Frauen.
79 Ten Months of Pregnancy. J. Lachs (Cracow).—Die 10 Schwangerschaftsmonate in geschichtlicher Beleuchtung.
80 Gynecologic Phantom. L. Knapp (Prague).—Ein gyn. Demonstrations und Uebungsphantom. (Second communication.)
81 (No. 13.) *Drainage After Symphysiotomy. P. Zweifel.—Die Symphysiotomy mit bes. Drainage des spatium prevesicale sive Cavum Retzil per vaginam.
82 Nickel Stick for Carrying Aseptic Cotton in Cauterizing the Uterus. A. Littauer (Leipsic).—Ein kleines Nickelstäbchen zum Gebrauch keimfreier Watte bei der Gebärmutterätzung.
83 Value of Methylene Blue in Chronic Pyelitis. M. Graefe (Halle).—Fall von groszem Blasenstein nebst Bemerkungen zur Behandlung der chron. Pyelitis.
84 (No. 14.) Vaginal versus Abdominal Myotomy. A. Martin (Greifswald).—Sollen Myome vaginal oder abdominal angegriffen werden?
85 *Behavior of the White Corpuscles in Suppurative Processes in Female Genital Apparatus. Aid in Diagnosing in Gynecology. M. Dützmann (Griefswald).—Das Verhalten der weisszen Blutkörperchen bei eitrigen Processen im Genitalapparat der Frau—Ein diagnostiches Hilfsmittel in der Gyn.
86 Embryotomy on Living Child. G. Zander (Mannheim).—Fall von Embryotomie bei lebendem Kind.
87 (No. 15.) Küstner's High Arc Incision. R.. v. Fellenberg (Berne).—Ueber den suprasymphysären Bogenschnitt nach Küstner.
88 Pfannenstiel's High Transverse Incision of Fascia. B. Damel (Hamburg).—Ueber den suprasymphysären Fascienquerschnitt nach Pfannenstiel.
89 Technic of Perforation. F. Skutsch (Jena).—Zur Technik der Perforation.
90 (No. 16.) Urobilinuria in Pregnancy and Its Increase After Death of Fetus. C. Merletti (Padua).—Urobilinurie bei Schwangeren und Vermehrung derselben in Fällen endouterinen Fruchttodes.
91 Childbirth in Advanced Tabes. B. Cohn (Breslau).—Eine Geburt bei vorgeschrittener Tabes dorsalis.

Centralblatt f. Inn. Med. (Leipsic), April 5 to 19.

92 (No. 14.) Estimation of Phosphorus in Phosphorated Oil. P. Gerlinger (Bonn).—Bestimmung des freien Phosphors in Phosphoröl.
93 (No. 15.) Inoculation and Disinfection of Catheters. B. Goldberg (Cologne).—Beimpfung und Abimpfung von Katheterm.
94 (No. 16.) Preservation of Sediments for the Microscope. Gumprecht (Weimar).—Erfahrungen über Konservirung von Sedimenten für die klin. Mikroscopie.

Deutsche Med. Woch. (Leipsic), April 17. Von Leyden Number.

95 Termination of the External Lemniscus. Ramon y Cajal (Madrid).—Die Endigung des äusseren Lemniscus oder die sekundäre akustische Nervenbahn.
96 *Administration of Potassium Nitrate and Nitrite in Case of Chronic Arterial Hypertension. Sir Lauder Brunton (London.)—Ueber die Anwendung von Kaliumnitrat und Nitrit bei chron. Steigerung der Arterienspannung.
97 Multiplicity of Pathogenic Secretions of Single Bacteria. A. Charrin (Paris).—Ueber die Multiplizität der Krankheitserzeugenden Sekrete ein und derselben Bacterie.
98 *Attacks of Irresistible Laughing Accompanied by Tonic Contraction and Pruritus in Left Arm. W. v. Bechterew (St. Petersburg).—Ueber Anfälle von Zwangslachen, begleitet von tonischen Krämpfe und Jucken im linken Arm.
99 Beitrag zur Lehre von der Infantilen Hemiplegie. G. Marinesco (Bucharest).
100 *Ueber die Cytodiagnose der Ex- und Transudate. Abstammung und Bedeutung der sogenannten Lymphocyten der tuberkulösen Exsudate. V. Patella (Siena).
101 *Fatal Hemorrhage in Chronic Portal Congestion. H. Curschmann (Leipsic).—Ueber tödtliche Blutungen bei chron. Pfortaderstauung.
102 *"Frosted Heart." H. Eichhorst (Zurich).—Ueber Zuckergussherz.
103 Ein Fall von Pseudomeningitis. J. Donath (Vienna).
104 Pregnancy Icterus. H. Benedict (Budapest).—Zur Kenntniss des Schwangerschaftsicterus.
105 Zur Methodik der quantitativen Indikanbestimmung. H. Strauss (Berlin).

April 24.

106 *Genesis of Tuberculosis. H. Ribbert (Marburg).—Ueber die Genese der Lungentuberkulose.
107 *Myasthenie und Ophthalmoplegie. Sir W. B. Gowers (London). (Concluded from preceding number.)
108 Pernicious Anemia. Hamel (Berlin).—Ueber einen bemerkenswerthen Fall von perniziöser Anämie.
109 Treatment of Gastric Ulcer. C. Pariser (Hamburg).—Einige Bemarkungen zur Behandlung des Ulcus Ventriculi. (Concluded from No. 15.)
110 Operative Cure of Case of Chronic Gangrene of the Pharynx. P. G. Krebs (Hildesheim).—Fall von Pharynxgangrän mit chron. Verlauf. Heilung durch op. Therapie.

Jahrbuch f. Kinderheilkunde (Berlin), February.

111 Assimilation in the Newborn. F. Gans (Breslau).—Ueber Nahrungsausnützung des Neugeborenen.
112 Buttermilk in Infant Feeding. B.. Salge (Berlin).—Buttermilch als Säuglingsnahrung.
113 Tracheotomie und Intubation als Stenosenoperation bei Diphtherie. Rahn (Leipsic).
114 *Atrophic Cirrhosis in Childhood. Carl Beck (Heidelberg).—Zur Säuferleber im Kindesalter.
115 Stenosis in Throat from Perforation of Abscess. E. Baumgarten (Budapest).—Kehlkopf und Trachealstenose in Folge von Durchbruch eines peritrachealen Abscesses. Laryngofission und Heilung.

March.

116 Operative Beseitigung der Intubationsstenosen des Larynx und der Trachea bei Kindern. F. Pels-Leusden (Berlin).
117 Etiology of Meningitis. X. Lewkowicz (Cracow).—Ueber die Aetiologie der Gehirnhautentzündungen und die diagnostische Bedeutung der Lumbarpunction.
118 Carcinoma of Liver in Childhood. E. Schlesinger (Strassburg).—Zur Casuistik des Leberearcinoms im Kindesalter.
119 Pemphigus Contagiosus bei Masern—Impetigo contagiosa. C. Leiner (Vienna).
120 Erythema scarlatiniform desquamativum recidivans. J. Kramsztyk (Warsaw).
121 Das epidemische Auftreten der Otitis media bei Kindern. J. G. Rey (Aix la Chapelle).

April.

122 *Beitrag zur Statistik der Diphtheriemortalität in Deutschland. E. Mueller (Berlin).
123 *Alexins in Milk and in Infant Serum. E. Moro (Graz).—Untersuchungen ueber die Alexine der Milch und des kindlichen Blutserums.
124 Pneumococcus Suppurations in Joints and Bones. G. Pfeisterer (Basle).—Ueber Pneumokokken-Gelenk- und Knocheneiterungen.
125 Acute Intestinal Occlusion in Children. A. Werthheimber (Munich).—Ueber acute Darmocclusion im Kindesalter.
126 Influenza in Infants. M. Flesch (Frankfurt a. M.).—Ueber Influenza im Säuglingsalter.
127 *Reflexes in Early Childhood. C. Cattaneo (Parma).—Ueber einige Reflexe im ersten Kindesalter.
128 *Some of the Causes of Severe Functional Intestinal Disorders in Infancy. A. Juergensohn (Duenaburg).
129 Rare Ocular Injuries. W. Leitner (Budapest.)—Zwei seltene Fälle von Augenverletzungen.
130 Hemorrhage Resulting from Caries of Temporal Bone. F. Klug (Budapest).—Ueber Blutung der Carotis interna zufolge Caries des Schläfenbeines.
131 Peculiar Post-Pneumonic Condition. S. S. Ladniewski (Lemberg).—Ueber einen eigenthümlichen postpneumonischen Zustand.

Therapie der Gegenwart (Berlin), April. Von Leyden Number.

132 *Puncture of the Pericardium. A. Fraenkel (Berlin).—Zur Lehre von der Punction des Herzbeutels.
133 Exercise Treatment of Ataxia. A. Goldscheider (Berlin).—Historisches und Kritisches zur Uebungsbehandlung der tabischen Ataxie.
134 *Influence of Formaldehyd on the Constituents of the Urine. M. Jaffe (Königsberg).—Ueber den Einfluss des Formaldehyds auf dem Nachweis normaler und path. Harnbestandthelle.
135 *Treatment of Acute Nephritis. R. Renvers (Berlin).—Zur Behandlung der acuten Nierenentzündungen.
136 Autodigestion or Autolysis. E. Salkowski (Berlin).—Zur Kenntniss der Autodigestion oder Autolyse.
137 *Treatment of Recent Disturbances in Compensation. G. Klemperer (Berlin).—Zur Behandlung frischer Compensationsstörungen des Herzens.
138 *Treatment of Hemoptysis. Ibid.—Zur Behandlung der Hämoptoe.
139 *The Diet of the Aged. Ibid.—Zur Ernährung der Alten.

Schmidt's Jahrbucher (Leipsic), February.

140 Review of 90 Recent Works on the Blood. Zaudy (Duesseldorf).—Bericht über neuere Arbeiten a. d. Gebiete der Physiologie und Pathologie des Blutes.
141 Review of 63 Recent Works on Smallpox and Vaccination. Woltemas (Solingen).—Ueber Pocken und Pockenimpfung.

March.

142 Stillbirths and General Mortality in Prussia During the Last 25 Years. A. Ruppin (Halle a. S.).—Die Todtgeburten und die Sterbefälle in Preussen im letzten Vierteljahrhundert.

April.

143 Progress in Pediatrics During 1901. O. Heubner and B. Salge (Berlin).—Bericht ueber die wichtigeren Fortschritte der Kinderheilkunde im Jahre, 1901.

Ziegler's Beitraege (Jena), xxxi, 2.

144 *Experimental Lead Poisoning. L. Jores (Bonn).—Pathologische Anatomie der chron. Bleivergiftung des Kaninchens.
145 Isolated Calcification of Elastic Intima in Arteriosclerosis. J. Matusewicz (Zurich).—Isolirte Verkalkung der Elastica interna bei Arteriosklerose.
146 *Biliary Capillaries in Pathogenesis of Icterus. H. Eppinger (Graz).—Zur norm. und path. Histologie der menschlichen Gallencapillaren mit bes. Berücksichtigung der Pathogenese des Ikterus (Auf Grund einer neuen Farbungsmethode).
147 Retrogressive Alterations in Elastic Fibers in the Skin. F. Katsurada (Freiburg).—Zur Kenntniss der regressiven Veränderungen der elastischen Fasern in der Haut.
148 Löwit's Blood Parasites. Bloch (Berlin).—Ueber die Löwitschen Parasiten der lymphatischen Leukämie und ihre Beziehungen zu den Kernen der Lymphocyten.
149 Anat. and Path. of Seminal Vesicles. S. Oberndorfer (Geneva).—Beitraege zur Anatomie und Pathologie der Samenblasen.
150 Histogenesis of Experimental Tubercles in the Liver. J. Miller (Freiburg).—Die Histogenese des hämatogenen Tuberkels in der Leber des Kaninchens.
151 *Experimental Inoculation with Tuberculosis. K. Watanabe (Freiburg).—Versuche ueber die Wirkung in die Trachea eingeführter Tuberkelbacillen auf die Lunge von Kaninchen.
152 A New Gas-Forming Bacillus. A. Uffenheimer (Berlin).—Bacillus aerogenes aerophilus agilis, nov. spec.

Corr.-Blatt. f. Schweiz. Aerzte (Basle), March and April.

153 (No. 6.) Cinnamic Acid in Tuberculosis. H. Staub.—Zur Zimmtsäure-behandlung der Lungentuberkulose.
154 (No. 7.) Injuries of the Intestines. Gelpke.—5 Falle von Verletzungen der Baucheingeweide.
155 Cutaneous Tuberculids. R. Zollikofer (St. Gallen).—Ueber die Haut-Tuberculide. (Concluded from No. 6.)
156 Prolapse of Foot in Head Presentation. J. Nadler.—Ueber Fussvorfall bei Schädellage.
157 (No. 8.) Diagnostic Value of Fever in Childhood. G. Rheiner (St. Gallen).—Ueber den diagnostischen Wert des Fiebers im Kindesalter.
158 Deposits of Phosphates and Carbonates in the Skin and Subcutaneous Tissue with the Clinical Manifestations of True Gout. H. Wildbolz (Berne).—Ablagerung von Phosphaten und Karbonaten in Haut und Unterhautgewebe unter den klin. Erscheinungen echter Gicht.
159 Appendicitis Perforativa in a Femoral Hernia. A. W. Munch.—Ein Fall von App. perf. in einem Schenkelbruch.

Janus (Amsterdam), April.

160 *La Variolisation. H. Gros (French Navy).
161 Comenius' Mineral Theory. F. Strunz (Berlin).—Die Mineralienkunde des Johann Amos Comenius und ihre Grundlagen (1592-1670). (Commenced in No. 2.)
162 Bread in Folklore Therapeutics. M. Hoefler (Bad Toelz).—Die Heilbrote.
163 Histoire des prétendus Statuts de la Reine Jeanne et de la réglementation de la prostitution à Avignon au Moyen-Age. P. Pansier (Avignon). (Commenced in No. 1.)
164 Note sur la Médecine en Flandre au XIV Siècle. P. Dotveaux (Paris).
165 *La Peste et Son Extinction par la Sérothérapie. H. F. A. Peypers (Amsterdam).

Gazzetta degli Ospedali (Milan), April 10 to 27.

166 (No. 38.) Function of the Chorold Plexus. E. Cavazzani (Ferrara).—Sulle funzioni dei plessi coroidei nei ventricoli del cervello.
167 Hydatid Cysts in Liver. E. de Renzi (Naples).—Cisti da echinococco del fegato.
168 (No. 39.) Work and Diseases of Sulphur Miners. M. Salvatore (Palermo).—Sul lavoro e malattie degli operai nelle meniere di zolfo.
169 *Research on the Contagiousness of Cancer Undertaken in the Gynecologic Field. L. M. Bossi (Genoa).—Inchiesta sulla contagiosita del cancro eseguita nel campo ginecologico.
170 *Hemostatic Action of Endovenous Injections of Calcium Chlorid. T. Silvestri.—Dell' azione emostatico delle iniezione endovenosi di cloruro di calcio.
171 Paralysis of Facial Nerve from Otitis. U. Melzi (Milan).—Paralisi del nervo facciale da otite media acuta.

172 Fibroma of Soft Palate. U. Martini.—Sopra un caso di fibroma del palate molle associato a polipi nasali—operato per la via del naso.
173 (No. 42.) Meningitis in Infants Consec. to Diphtheria. P. Baciaili (Bologna).—Sulla meningite dei bambini consecutiva a difterite laringea.
174 Tetany in a Case of Gastrosuccorrhea. G. Brunazzi.—Sopra una forma di tetania in un caso di gastrosuccorrhea.
175 Multiple Paralysis and Helminthiasis. G. M. de Luna (Messina).—Paralisi multiple ed elmintiasi.
176 Sympathectomy in Basedow's Disease. G. Tomasellí (Messina).—Contributo alla cura del morbo di Basedow colla simpatectomia.
177 (No. 45.) Diabetes Mellitus. E. de Renzi (Naples).—Diabete mellito.
178 Physico-Chemical Research on the Blood of Fasting Dogs. C. Molon (Padua).—Ricerche fis.-chim. del sangue nel digiuno.
179 Case of Subcortical Aphasia. C. Nardi (Milan).—Supra un caso di afasia sottocorticale o pura di Dejerina.
180 Case of Biliary Pleuritis. A. Montini.—Caso di pleurite biliare.
181 La gonococciemia.—G. Barbiani.
182 Surgical Treatment of Encephalocele. A. Mori.—Contributo alla cura chir. dell' encefalocele.
183 Treatment of Tetanus. G. Viana.—Contributo alla terapia del tetano.

---

1. **Skin Eruptions.**—The common recognition of the relation of skin eruptions to general diseases is first mentioned. Galloway then remarks that he can only notice a few cutaneous signs of internal disorder. First, in renal disease, there are many eruptions directly connected with the treatment; measures for producing elimination through the skin producing various forms of sweat rashes, but there is one form seen from time to time, a nephritis in which the skin manifestations are of a different nature and in which the prognosis becomes more grave with the severity of the eruption. The form he refers to is a vasomotor paralysis apparently of the cutaneous capillaries followed by effusion of serum or even of blood into the upper layers of the cutis. This reproduces the various forms of erythema multiforme with exudation, and usually indicates serious renal and blood changes. If well-developed it is a bad prognostic sign. It usually ends in desquamation of epidermis to a greater or less extent and in the severest types it resembles a form of acute exfoliative dermatitis seriously aggravating the later stages of Bright's disease when it occurs. The subject of skin eruptions during diabetes is too extensive to be covered, but one or two features are noticed. It is probable that it is the general diseased condition predisposing to bacterial infection that produces these disorders. There are probably very few eruptions peculiar to diabetes. Special care should be taken in guarding the patient against infection, so as to avoid the very troublesome and even fatal boils and carbuncles which may result. Two interesting conditions, however, to which the diabetic patient is prone, are specially mentioned; one is the circinate scaly eruption generally known as seborrheic dermatitis, which occurs frequently in diabetic or gouty forms of glycosuria. The patients are usually of middle age and frequently too stout. The eruption is sudden in its appearance and it may cause troublesome pruritus and lead to development of eczematous inflammation. The first point in the treatment is to recognize the dietetic element and regulate the diet accordingly, observing the condition of the urine. For local treatment, prompt medicated baths are usually of value, especially weak sulphur baths followed by a lotion containing prepared calamin 20 gr., zinc oxid 15 gr., lime water 1½ dram, glycerin ½ dram, rose water 1 oz.; to this lotion from .5 per cent. to 1 per cent. of the liquefied carbolic acid may be added if there is much pruritus. Special dermatitis and pruritus of the genitalia are also mentioned. It is possible that the starting-point of this irritation is from the diabetic urine. The acid reaction of fermented secretion allows the growth of numerous micro-organisms and aggravates the conditions and finally the disease becomes permanent and incurable. Ulcers resembling chancroids may appear. The treatment of the condition is often satisfactory. It should consist in local washes with mild antiseptic and astringent lotions applied warm, oxid of zinc ointment, warm baths, etc. In antipruritic treatment it should be remembered that the phenazone group of drugs and chloral hydrate are of occasional service. Opium is of little value, but the diet should receive attention to regulate the general condition. Finally, Galloway mentions a class of disorders seen in what he calls persons with low tension circulation, consisting in a sort of vasomotor paralysis of the capillary system and with this a tendency to the aggravation of conditions after infections when they occur. There may be no organic disease of the heart detectable, but as a rule, the pulse rate is probably less frequent than normal. In some severe cases tachycardia very exceptionally occurs. There is one point of considerable importance in connection with this type of circulatory skin disease. Its resemblance to certain so-called tuberculids of the skin, such as necrosis, with scar with a minimum amount of ulceration when the infiltration is small as from the occurrence of passive localized congestion or the occurrence of a general amount of sometimes great cellular infiltration of the cutis. As an example of the first type of these we may take what is called necrosing dermatitis of the extremities and acne scrofulosorum, and of the latter the condition known as erythema induratum scrofulosorum or Bazin's disease. The resemblance of this diabetic form of skin disorder with these tuberculids may lead to serious mistakes in diagnosis. As regards treatment, the author dwells on the importance of general hygienic and dietetic measures, keeping the patients in the best condition of nutrition, the skin in the best order by scrupulous cleanliness, by frequent warm baths, careful drying of the skin, and the use of warm and well-fitting clothing. Patients who are seriously affected suffer much inconvenience, become very much depressed and require tonic treatment. In the mild cases the use of cardiac and nerve tonics, especially digitalis and strophanthus and strychnin, either in combination or alternately, produce very gratifying results.

2. **Chloroma.**—Dunlop reports a case which he thinks is the first that has been diagnosed *intra vitam*, and discusses the pathology of the condition. He thinks these tumors generally belong to the type of lymphosarcoma and the color, he thinks, is probably due to some chemical product allied to lipochrome, hitherto undiscovered, which on exposure to light becomes oxidized and in the process of oxidization loses its color. The tumors originate from the periosteum of the head and face and those met elsewhere are secondary forms. They invade the cavities of the skull, the marrow of the bones, and the internal organs having a very rapid generalization and multiple metastases in the body. Their consistence varies considerably. Microscopically they are found to consist of large round or oval-shaped cells with numerous nuclei, and occasionally nucleoli; imbedded either in an intercellular amorphous material of a very clear and transparent character or in a delicate network, or in other cases the tumor is interspersed by coarse bundles of connective tissue forming lines of demarcation. In the midst of this network granules with highly refractive properties are found lying in and between the cells. It is chiefly a disease of children and adolescents, occurring more frequently in boys than in girls. Its close resemblance to leukemia is pointed out by Recklinghausen and Dock. The exophthalmos is one of the most usual things in chloroma and a similar condition has been described in several cases of leukemia. In both anemia is present with petechiæ, extravasation under the skin, epistaxis, and conjunctival and retinal hemorrhages. There is a very striking lymphocytosis and a remarkable diminution in leucocytes. Dock is of the opinion that it stands between ordinary cases of leukemia and those described by Ebstein as acute leukemia and that there is strong evidence in favor of new growths found in chloroma being the source of lymphocytes as there is of the thymus, bone marrow and spleen being their source in leukemia. The termination is invariably fatal from exhaustion, the average duration not over five or six months.

7. **Goiter.**—Berry describes the different forms of goiter, first the parenchymatous, the common type observed in young people, tending as it grows old to become fibrosed. The second class, encapsulated form often unilateral and one of the most common types seen in Switzerland and Derbyshire, and may be compared to the common adenomas of the breast or to the encapsulated fibroids of the uterus. A common secondary change in these cases is fibrosis, the tumor being converted into a mass of fibroid tissue. Generally it springs from the lower part of one lateral lobe and may cause serious embarrassment by

pressure on the trachea. Sometimes it may be complicated with the parenchymatous form and it may be multiple. When other means of diagnosis fail between these two types it would be well to administer iodin or thyroid extract for a time. If the goiter is of the parenchymatous type it will probably disappear or lessen in size with this treatment, while if it is an encapsulated tumor it will be unaffected. It is a good idea, however, to use such medical treatment before attempting operation in any case as the parenchymatous goiter existing around the tumor will be decreased and the tumor lessened and its enucleation facilitated. The exophthalmic variety is briefly mentioned; it is of far more serious importance than an ordinary parenchymatous goiter, for which it may be mistaken. Persisting rapid pulse being present with a uniform enlargement of the thyroid should raise a strong suspicion of this disease, though these symptoms are not always absolutely pathognomonic. Malignant disease does not usually present any great difficulty in diagnosis and seldom occurs before the age of 40 and the general rule is that when in a thyroid gland of a person over 40 years of age a hard tumor exists, steadily and rapidly increasing in size and not of inflammatory nature, malignancy should be suspected. A nodular, lumpy character of tumor also is an aid to the diagnosis as well as its hardness, but there is a form of sarcoma which is quite soft, and the steady and rapid growth and nodularity are the most characteristic features. A special form of malignant disease of the thyroid which runs a much slower course is a papilliferous cystic tumor extremely suitable for operation. Another unusual form is what is called malignant adenoma. This is likely to disseminate itself generally. It includes a number of distinct forms. As regards the treatment of goiter he mentions the importance of investigating the drinking water as most cases of the parenchymatous form of the disease are probably dependent on this. Iodin and thyroid extract are the principal drugs to be used. The operative treatment of goiter is confined largely to the malignant or encapsulated forms. Enucleation is suitable only for encapsulated tumors. If the operation is performed on suitable cases it is almost devoid of danger, the safety depending on the diagnosis. In the great majority of cases of parenchymatous goiter no operation at all is desired and it should not be done for mere deformity. In only dyspnea of a serious nature has it an excuse. As regards exophthalmic goiter, Berry condemns operation absolutely. Malignant disease is seldom seen early enough to permit of any operation, and whenever it is attempted considerable difficulty should be anticipated. If it can be done in its very early stages it is not a serious proceeding, and presents little difficulty.

8. **Typhoid Fever.**—The concluding portion of the third lecture of Corfield reviews the various methods of contamination and direct contagion of which there is some evidence, and the air-borne typhoid in various ways. He notices the vitality of the germ in the soil, showing that it may live for an indefinite period under favorable conditions and the element of soil infection must be considered. In the conclusion of his paper he gives some tables showing that the rate of mortality in England, Wales and the city of London has decreased each semi-decade from 1870 to 1900.

11. **Inoculation for Typhoid.**—Crombie's article gives a tabulated statement of the result of inoculation in certain detachments of troops during the South African war. It does not seem to point to any great value of the method. He remarks, as of general interest, that a medical officer found six months after inoculation that his blood gave a well-marked agglutinin reaction, and a fortnight afterward he was in bed suffering from enteric fever, showing that the presence of agglutinin is no guarantee of the alexins. His deductions are incomplete, but he offers them as a contribution preliminary to the completion of official statistics on a large scale which he hopes will be possible after the conclusion of the war.

14. **Hematuria.**—The characteristics of idiopathic hematuria as shown by cases and summarized by Guthrie are: "1. It is hereditary, familial and congenital. 2. The hematuria may be persistent for many years but may vary in extent. In some cases it may cease for a time, but in all it is apt to recur or to increase in paroxysmal attacks or exacerbations. For instance, in one of my cases the urine examined almost weekly for upward of two years has never failed to contain blood visible to the naked eye and give a marked reaction with ozonic ether and guaiacum. Its color varies from that of old gold tinged with red to the bright scarlet of oxyhemoglobin. In another, blood is always present but can only be detected on microscopic examination, except when exacerbations occur. At these times the urine may resemble almost pure arterial blood. It is not "smoky" in appearance, but is "red," the color being due to oxyhemoglobin, not methemoglobin. Normal red blood corpuscles and blood casts can always be found under the microscope; so that the color is not due to hemoglobinuria. The amount of blood passed during exacerbations is always far greater than is ever seen in cases of nephritis and resembles in profuseness the blood passed in the cases of renal calculus or new growth. 3. All cases are liable to paroxysmal exacerbations of hematuria which are usually accompanied by slight pyrexia, malaise, headache, vomiting, and slight pains in the back or limbs. The exacerbations are often attributed to "catching cold" and are associated with slight bronchial catarrh, or with trivial ailments, such as toothache, earache or tonsillitis. In some cases articles of diet, such as black currants, asparagus, strawberries, claret and perhaps rhubarb, have been held to produce them. But the exacerbation may occur without complications and in the absence of special causes. The duration of these exacerbations is usually several days, but seldom exceeds a week or at most a fortnight, and after the first few days the blood gradually lessens in amount. They have no law of periodicity or of frequency. They may occur at intervals of weeks, months or years, but they appear to become less frequent after the first decade is passed. They occur with extreme suddenness by day or by night and are not influenced by posture. Extremes of hot or cold seem to give rise to them. 4. Idiopathic hematuria is not associated with edema nor with ascites nor with the cardio-vascular changes following ordinary nephritis. Except at times when exacerbations occur the subjects appear to be, and are, in perfect health. They may be temporarily anemic after an exacerbation, but it is not profound or lasting. 5. The hemorrhage is not due to the presence of uric acid or oxalates. A few crystals of these substances may often be found on microscopic examination, but free gravel is never passed, neither is there any excess of uric acid in solution. The amount of urea passed is normal. 6. The specific gravity of the urine is not unduly low. It varies from 1015 to 1030. The quality of urine passed is not above or below normal. The reaction is acid or neutral. The urine is nearly always albuminous, the albumin varying from one-twentieth to one-fourth of its bulk. Sometimes it is in accordance with the amount of blood present, at others it exceeds it. Nucleo-albumin is usually passed as well. The sediment nearly always contains free normal red blood corpuscles and tubular blood casts in more or less abundance, but never hyalin casts. Finally, none of the subjects of idiopathic hematuria is a 'bleeder.' One of them recently had some adenoid vegetations removed and the hemorrhage caused was neither profuse nor prolonged. None of them suffers from Raynaud's disease or from purpura. Scarlet fever can be excluded as a cause in all cases and also calculus, new growth, congenital syphilis, renal tuberculosis, and all forms of nephritis. The kidneys are not movable, palpable, nor tender, and there is no definite nor constant local pain." A report of the cases follows. He remarks in conclusion that the explanation of this mysterious disorder is still to be discussed. The fact that the hematuria is congenital excludes all the ordinary known causes. The most reasonable supposition is that there is some inherent weakness or varicosity of the walls of the renal vessels leading to what may be called renal hemophilia, or renal epistaxis. The vasomotor system may be at fault, in which case the complaint might be grouped with cyclical or postural albuminuria, but in this case it is not postural. This class of exacerbations occur as often during the night in bed as in the daytime. The diagnosis rests on the personal and family history; on the occurrence of febrile exacerbations in which the hematuria far exceeds that of acute nephritis; on the absence of edema, dropsy and cardio-vascular changes, and

finally, on the absence of any of the well-known causes of hematuria.

19. **Plague.**—Japan seems to have successfully met plague in Formosa by inoculation with Kitasato's serum and Maxwell gives an account of the method. The operation is very simple and painless and inoculation is made compulsory by the authorities. He has attended a good many cases of plague but only came across two cases in inoculated persons, in which one was so mild that the patient was hardly laid up. In the other it was most severe, but the inoculation had only been performed once. He says, to sum up, the method is easily applied, causing a minimum of discomfort and a very large reduction has been made in the numbers attacked by plague in Tainan and a decided reduction in the number of deaths among those attacked.

28. **Bacteriology of Infections of the Bladder.**—Faltin states that the bacteriology of the bladder is very variable. The colon bacillus is found more frequently in chronic than in recent infections, and the urethra is usually the route of infection. This bacillus does not seem to be antagonistic to other flora except to certain staphylococci, but the pyocyaneus displays a tendency to smother or drive out of the bladder all other microbes.

29. **Catheterization of the Ureters and Radiography.**—Tuffier first suggested the practicability of inserting a metal guide in the ureter catheter for the purpose of radiographing it. De Illyès claims that he was the first to act upon this suggestion, and reported his results at a meeting of his local medical society, April 13, 1901. In his first case he was able by radiography to exclude the kidney as the source of a tumor which could be palpated in the abdomen, and also to determine the movability of the spleen. In the second case he was thus able to diagnose and locate a renal calculus. The shadow cast by the stone was so faint that it did not attract attention until the radiograph showed that the tip of the catheter was abruptly arrested at this point. Microscopic crystals also emerged through the catheter, and its application allowed the escape of a collection of pus above the calculus, followed by the subsidence of the fever. Small calculi can be made to cast a distinct shadow by exposing only a limited area to the rays, not more than 2.5 cm. at a time, thus excluding the reflected rays. The stones can be located by a radiograph of the catheter as above, and then by exposing the exact spot, they will cast a good shadow. Displacement of the kidney can also be diagnosed by this means. In one case the catheter was arrested close to the kidney. No fluids escaped and there was no evidence of retention in the pelvis. These findings indicated that the tumor palpated was really in the kidney and that the catheter was arrested by the mass of neoplasm which had replaced the true kidney tissue. In his fifth case a young pregnant woman had noted for two years a movable tumor in the right hypogastrium as large as a fist. It was held firmly by an assistant and a radiograph of the catheter in the ureter showed that it passed directly into the tumor which was thus differentiated as a movable kidney. The intestines must be thoroughly emptied before undertaking catheterization for this purpose. Illyès administers a purgative two days before and allows only liquid food. He uses a fine silver guide 1 to 3 mm. in diameter, but suggests that all possible danger might be averted by filling the catheter with bismuth instead of using a stiff guide.

31. **Absorption by the Bladder.**—Barbarroux states that the mucus in the bladder interferes with absorption by the epithelium; any measure which removes the mucus, irrigation or instillation of a dissolvent, favors absorption. On the other hand, introduction of a substance which precipitates the mucin retards absorption. When the epithelium is altered in its structure, absorption proceeds more rapidly, but simple inflammation diminishes the absorbing power of the organ on account of the enhanced secretion of mucus. The walls of the bladder have no specific absorbing apparatus, but under certain circumstances they allow the passage of some substances, even of the urinary excreta.

38. **Mediastinal Serous Pleurisy.**—Chauffard illustrates two typical cases of pleurisy with an effusion collecting in the mediastinum in the shape of a vertical band or prolonged at the bottom in the shape of a carpenter's square as the diaphragm becomes involved. These forms of pleurisy are rare and peculiarly insidious. They may be discovered by radiography or physical exploration or they may be masked by the "mediastinal syndrome." One of the four cases he has had occasion to observe occurred in the course of typhoid fever and the large effusion in the right mediastinum soon entailed the compression of heart and lung, but the patient recovered without evacuation of the fluid. He was able to find only eight cases previously recorded. The serosa of the mediastinum is first affected in these cases, then of the diaphragm, and finally the pleural cavity. As the latter becomes involved the inflammation of the other serosæ subsides.

40. **Oily Solution of Digitalis for Subcutaneous Injections.**—Rosenthal quotes numerous writers to the effect that in many cases the administration of digitalis by subcutaneous injection would be a great advantage over the ordinary method. The objection hitherto has been that the alcohol or chloroform, etc., in the solutions used has made the injections painful and entailed abscesses and even necrosis. He has now obviated these objections by the production of an oily solution which is stable and especially adapted for injections of this kind. It contains one-eighth of a milligram of digitalis to the cubic centimeter, and extensive tests on animals have confirmed its efficacy and absolute harmlessness. None of the patients who have been injected with it showed any tendency to inflammation or induration at the point of the injection.

51. **Lumbar Puncture After Fracture of the Skull.**—Rochard followed Tuffier's suggestion in regard to lumbar puncture as a means of diagnosing a fracture of the skull, and tried it on two patients. The escape of even a small amount of cerebrospinal fluid aroused the patients from their stupor and recovery was soon complete. Lumbar puncture has therefore direct value as a means of relieving and aiding recovery from injuries of this kind, but as even slight contusions are sufficient to induce more or less extravasation of blood, it has no diagnostic significance. Others have recently reported the relief of severe headache by this means, especially syphilitic cephalalgia.

56. **Hyperthermia.**—Petit-Vendol reviews three cases of sudden attacks of hyperthermia which have been published since 1898 and urges more detailed descriptions of such experiences. The physicians were inclined to attribute the hyperthermia to a nervous origin. The high temperature appeared suddenly in each, without affecting the general health or spirits or even the pulse, and with no explanatory signs. The physician at the first attack in one case merely supposed that his thermometer was out of order.

57. **Nervous System in Consumptives.**—Chelmonski has found symptoms of neurasthenia, hysteria or of both combined in nearly every consumptive examined. He thinks that the nervous system should be considered in the treatment of tuberculosis more than of any other chronic disease.

58. **Heredity in Odors.**—Féré describes the case of a woman who noticed the complete suppression of the odors of the cutaneous secretions at the moment of fecundation. It occurred regularly in her five pregnancies, also in her mother's three and her sister's two. The family were always able to determine the date of fecundation from the cessation of the odors, and their reappearance announced the return of the menses. The only similar occurrence which Féré has found recorded is Morren's statement that the fragrant orchids, such as the Marillaria aromatica, lose their perfume in half an hour after artificial application of the pollen, while the non-fecundated flowers retain their perfume for a long time.

68. **Libby's Method of Treating Otitis.**—Melzi first cleans the ear with or without hydrogen dioxid and then insufflates acetanilid according to the directions of G. Libby of Portland, Me. He is very enthusiastic in regard to the value of this method of rapid cure.

70. **Uremic Stomatitis.**—Hirtz points out that the differentiation of uremic stomatitis may often clear up the diagnosis

of the uremia. The physician should seek for the stomatitis in all cases of uremia. Treatment should be addressed to the latter, German brandy, dry cupping and possibly venesection to aid in the elimination of the toxins. The mouth should be rinsed with a solution of boric acid, permanganate or better still, hydrogen dioxid which has a marvelous action on the anaërobic microbes which swarm in these cases. As a collutorium, potassium chlorate, iodin or lemon juice will be found useful. The prognosis is grave on account of the uremia of which it is merely the expression, but a cure is possible. The stomatitis may be erythemato-pultaceous or more rarely merely ulcerative. The ulcerations may be diffuse but they have always spared the tongue, tonsils and pharynx in the cases known to date. Barié states that 900 gm. of saliva were excreted by one of his patients.

72. **Progress to be Realized in Treatment of Severe Syphilis.**—Leredde urges that the severe manifestations of syphilis should be treated by mercury alone, and that the current doses should be considerably increased. If the teeth are in good condition there is no danger of stomatitis. The physician should not wait for the appearance of the severer manifestations of syphilis to demonstrate that his doses have been inadequate, but should start at once with large doses, when the ordinary methods of treatment have proved ineffectual. Inunctions of 4 gm. of mercurial ointment are altogether insufficient for a syphilitic exhibiting symptoms of nerve involvement. Without waiting for paralysis or tabes to appear, the physician should administer in subcutaneous injection 3 to 4 cg. of the cyanid or sublimate or 6 to 8 cg. of the weaker salts, the benzoate or biniodid. These doses can even be increased if necessary. An injection twice a week of 7 to 10 cg. of calomel might be tried. These doses are calculated for a robust man. For women they should be reduced about 25 per cent. The parasyphilitic affections are generally curable if treated on these principles, but not if the ordinary methods of mercurial treatment are followed.

73. **Postoperative Alexia.**—Bard describes a case of assumed traumatic epilepsy in a man of 56 who insisted upon an operation as a last resource. His condition was not improved in any way by the intervention and total alexia supplanted the partial previously observed. Bard emphasizes anew the dangers of functional aggravation of the condition by surgical intervention on a region of the brain evidently already thrombosed and in which the circulation is already profoundly compromised.

74. **Carcinoma and Alterations of the Skin.**—Hollaender called attention two years ago—as THE JOURNAL mentioned at the time—to the frequency of red spots, warts and pigmented patches on the skin of persons with incipient or developed carcinoma. He considers them premonitory symptoms of an impending internal cancer. The red dots are angiomata and may be the size of a pinhead or bean, but are usually still smaller. They occur in the midst of sound skin, and project a little above it. These little formations, of course, occur frequently in healthy persons, but not with the suddenness, the constancy and in the numbers observed in case of malignant neoplasms. There is also a tendency to warts and to pigmented patches like large freckles. The latter occur usually on the covered portions of the body and are most numerous in the vicinity of the cancer, especially in case of cancer of the rectum. He ascribes the greatest diagnostic importance to this member of the triad, but considers the combination of the three a most significant and valuable sign of impending cancer, especially in the comparatively young.

75. **The Steam Saw for Resection of the Liver.**—Koslenko describes Sneguirew's instrument as a saw, hollow through the handle to the tip, with a small opening between each tooth of the saw. It is connected by a rubber tube with the steaming vessel and, as it saws, the steam penetrates directly into the cut tissues without injury to the operator or to any other part of the tissues. Tests on the livers of dogs showed that the steam saw enables the liver to be resected in any direction without the danger of hemorrhage. In case a large vessel is severed, the steam can be applied in a large jet to the spot or turned off and the vessel ligated. There was no secondary hemorrhage after resection in this way, and the wound in the liver healed by granulation with formation of considerable connective tissue. He expresses, in conclusion, his anticipation that steam will be found as effective a hemostatic in surgery of the parenchymatous organs as it has proved in gynecology.

78. **Artificial Sterilization of Consumptive Women.**—Neumann's further experience has confirmed the efficacy and harmlessness of his method of preventing conception in phthisical women. The point of insertion of each tube in the uterus is drawn out in turn through a buttonhole in the peritoneum, and a wedge-shaped piece excised. Very little chloroform is needed. Menstruation is retained, while conception is absolutely prevented.

81. **Drainage After Symphysiotomy.**—Zweifel describes five cases in which he secured aseptic healing under the usual adverse circumstances by draining through a channel pierced through the labium on one side, below the corpus cavernosus clitoridis. The drain tube thus emerges on the outside of the labium majus, and all danger of infection from the lochia is averted. He thinks the certainty of aseptic healing guaranteed by this method of drainage will remove the principal objection to symphysiotomy.

85. **Behavior of White Corpuscles in Suppurative Processes in Female Genital Apparatus.**—Dützmann reports that the blood count in the twelve patients examined showed invariably an increase of white corpuscles in case of suppuration. Any retention of pus sends up the number of leucocytes. In one case every sign indicated carcinoma, but the whites numbered 16,400, and the patient recovered after the suppuration indicated by this increase had been discovered and evacuated. The number of white corpuscles in some of the cases which he tabulates was 17,800, 31,300, 15,900, 18,200 and 12,100, with temperature of 36.8 to 38.6 C. In other cases the white corpuscles numbered 9600 and 9900, with temperature of 37.5, and the course of events disclosed the absence of pus and the sarcomatous nature of the tumor. He says that the sign never failed, and he proclaims that we have in the blood count a most valuable aid for the differentiation of gynecologic affections. [Küttner observed at the recent German Congress of Surgery that a complication may be suspected when the ordinary transient postoperative leucocytosis persists. On the other hand, a decrease in the number of leucocytes in these conditions indicates an aseptic fever. Curschmann proclaims that the blood count and leucocytosis are more valuable means of determining the existence of suppuration than the thermometer.—ED.]

96. **Potassium Nitrate and Nitrite in Chronic Arterial Hypertension.**—It is very important in cases in which the arteries have lost more or less of their elasticity to control the resulting arterial hypertension and avert the rupture of a cerebral artery. The continuous use of .03 gm. of nitroerythrol three times a day will prevent in many persons attacks of angina pectoris, but to ward off cerebral hemorrhage there is need of a drug less powerful but more permanent in its action. This effect is attained by the old-fashioned remedy, saltpeter. The reason why it has been discarded of late years is possibly due to the improved methods of manufacturing which have eliminated the really effective principle. Years ago Brunton was told by a physician with a marked tendency to gout that he had been able to keep himself free from attacks of gout for years while all his relatives suffered severely from them. He attributed his escape to his practice of drinking every morning 1.8 gm. potassium bicarbonate and 1.2 gm. potassium nitrate in a pint of water. He kept it up for thirty to forty years. He had noticed that the saltpeter which he purchased from a powder manufacturer was much more effective than that obtained from the druggist. Brunton had had a similar experience with a patient 65 years old who suffered from severe hemorrhages from the nose recurring several times a day. He prescribed the above combination in a large glass of water

every morning. The effect was like magic. The hemorrhages ceased at once, but when the patient returned to the city, he found that the saltpeter which he bought from an apothecary cost him six times as much as that which he had previously been purchasing from an oil dealer, while it had absolutely no therapeutic effect. This suggested that the cheaper article contained impurities—possibly nitrites—which were probably the effective agents. The prescription was therefore altered to potassium bicarbonate, 1.8; potassium nitrate, 1.2; sodium nitrite, .03. Potassium nitrite would have answered the same purpose, but is less frequently kept in stock. This combination worked the same as that purchased from the oil dealer. The potassium salts are said to have a paralyzing action on the heart. This effect is desirable in cases that require less energetic heart action and increased permeability on the part of the arteries, thus reducing the pressure at both ends. All the nitrites have the property of expanding the small arteries and thus diminishing the blood pressure. Leach has demonstrated that the nitrates have the same property, but act much slower and more gradually. The combination of the nitrates and nitrites therefore regulates the hypertension by moderating the heart action and dilating the vessels, and has besides this, an unmistakable diuretic action which sweeps out of the system certain substances that probably have an irritating and constricting action on the blood vessels. A high blood pressure is found not only in the aged whose vessel walls have become inelastic, but also to a certain extent in kidney affections and especially in the so-called gouty kidney. If this treatment is instituted in time, before anatomic alterations have occurred and while a much accentuated aortic sound is as yet the only symptom, angina pectoris and cerebral hemorrhages can be warded off and the patients long survive.

98. **Attacks of Irresistible Laughing Accompanied by Tonic Contraction of Left Arm.**—Bechterew assumes the existence of an organic affection of the basal portion of the right hemisphere from the symptoms observed in a case which he describes. The attacks began with a brief spasmodic contraction in the left arm, followed by intense pruritus and incessant laughing for nearly a minute. Left hemianopsia and hemioptic pupil reaction were also observed. The impulse to laugh developed as the contraction in the arm disappeared. There was no vertigo nor loss of consciousness. The laughing had the character of the reflex laughing induced by tickling, with none of the characteristics of epilepsy.

100. **Cytodiagnosis of Exudates.**—Patella denies that the lymphocytes found in tuberculous effusions can be derived from the blood as Widal and others claim. They are distinguished by the difference in size, irregular shape, and the regular and intense staining with hematein in inverse proportion to their size. He states that fresh tuberculous effusions always contain endothelial cells and that the nuclei of these cells are liberated as they degenerate and are what have been assumed to be lymphocytes. Almost the only information to be derived from them is in regard to the age of the process, as they are not peculiar to tuberculous exudates and transudates, but are liable to occur also in those caused by the diplococcus.

101. **Fatal Hemorrhage in Chronic Congestion of the Portal System.**—Curschmann has paid especial attention to the coincidence of chronic congestion of the portal system with varicose enlargement of the veins of the lower esophagus and in all his experience since 1876 has never missed it. Thirteen of the patients died from excessive hemorrhages. In 12 the varices were apparently the result of Laennec's cirrhosis; in one they had developed consecutive to a syphilitic affection of the liver. The hemorrhages in these cases were usually abundant and occurred without appreciable traumatism, but the autopsy disclosed an ulceration. In a recent case described at length, a man of 32 with no symptoms of stomach trouble vomited and voided blood occasionally, and the blood indicated pernicious anemia. The liver was small and hard, the spleen enlarged. The autopsy revealed the anticipated cirrhosis and the entire absence of fluid in the abdomen and of meteorism. The source of the hemorrhage was in the stomach, in a varix. The veins were enormously enlarged, with direct communication with the enlarged left suprarenal and other enlarged veins of the region. This varicose anastomosis between the portal and vasa brevia, which had long preceded the fatal hemorrhage, had been able to compensate the cirrhosis and prevent ascites and distention of the intestines. The cirrhosis in this case, therefore, had existed for a long time and led to a fatal termination, before the characteristic signs of portal congestion had developed.

102. **"Frosted" or Zuckerguss Heart.**—Curschmann described a few years ago a diffuse fibrous thickening of the capsule of the liver which gave it the appearance of frosting on a cake. Eichhorst states that this phenomenon is not confined to the liver alone. He has observed it several times on the spleen and recently on a heart. The appearance of the organ in this case could not be more aptly described than by the term "frosted." The patient was a woman of 40, healthy except for an attack of enteric fever twenty, and a brief attack of acute articular rheumatism five years before. She was suddenly seized with symptoms of insufficiency of the heart muscle, which subsided under treatment in a few days, but recurred again and again, ending fatally in six months. The fibrous thickening was restricted to the epicardium. It evidently interfered with the movements of the heart muscle in both systole and diastole, but the muscle was apparently normal. The patient had probably been addicted to alcohol.

106. **Genesis of Pulmonary Tuberculosis.**—Ribbert presents evidence to sustain his assertion that hematogenic tuberculosis settles by preference at the apices. This point has a defective circulation and is frequently compressed by the premature ossification of the first costal cartilage as Freund has recently pointed out. Still another factor in the localization of the bacilli at this point is the defective ventilation of the lung here, which does not sweep away the bacilli entering the lungs from the blood. Tuberculosis of the bronchial and tracheal glands is in the largest majority of cases derived from the apex of the lung. It is possible but by no means proved that tuberculosis of the apices may be traced to inhalation of germs. It is far more probable that it is of secondary origin. The primarily infected gland does not afford favorable conditions for the proliferation of the bacilli and they die and the gland heals, unless the bacilli are very numerous or the subject is predisposed to tuberculosis. Prophylaxis should aim, therefore, to cure the infected gland before the germs pass into the blood in sufficient quantities to entail the tuberculous process elsewhere, which almost invariably locates at the apex.

107. **Myasthenia and Ophthalmoplegia.**—Gowers describes three cases exhibiting the symptoms which we are accustomed to attribute to myasthenia, weakness of the limbs, moderate exhaustion of the muscles connected with the eyeball, some ptosis and weakness of the other muscles of the eyes, as well as of several of the muscles innervated by the facial nerve, the zygomatic muscles in particular. This caused a characteristic expression during laughing. The symptom of this "nasal smile" not only suggests the diagnosis but explains to a certain extent the pathology, as the muscles involved are those affected in muscular dystrophia. He was able to keep his patients under observation for years and the symptoms maintained their mild character, which speaks against a toxic origin. The results of electric tests of the muscles suggest that the affection is limited to the muscle fibers, and can not be referred to the central nervous system. The fact that the ocular muscles tire so readily coincides perfectly with the similar symptom in nuclear ophthalmoplegia. The writer concludes with the statement that if the affection can be referred to a nervous origin, only the fibrils can be incriminated. None of his patients were cured, but one was much improved by light massage and tonics, especially phosphorus and quinin, alternating with subcutaneous injections of strychnin. The improvement has been maintained for more than two years.

114. **Drunkard's Liver in a Child.**—A little girl was given regularly for four years a small glass of beer—.2 liter—or a wineglassful of wine—.12 liter—every evening, and during the

summer as much beer at the noon-day meal as she wanted. Symptoms developed suggesting either tuberculous peritonitis or atrophic cirrhosis of the liver, and the autopsy confirmed the existence of the latter. The prognosis of such cases is unfavorable if not absolutely fatal. Treatment is usually ineffectual, but occasionally good results have been attained with mercurial inunctions, abdominal massage and prolonged use of Carlsbad water. Beck has collected from various writers 303 cases of cirrhosis of the liver in children, which includes 48 directly traceable to alcohol. The present case was remarkable by the smallness of the daily dose in comparison to the effects.

122. **Mortality from Diphtheria in Germany.**—Mueller presents in graphic form the mortality from diphtheria in Germany during the last twelve years, showing the remarkable lessening of the mortality from this cause since serum treatment was introduced. Statistics covering such a long period and a population of ten millions can not be ascribed to chance or casual circumstances.

123. **Alexins in Milk and in Infant Serum.**—Moro states that his research has established that there are no alexins in milk, and that the alexins in the serum of breast-fed infants are far more powerful than those of the artificially fed. The alexins from the most debilitated breast-fed nursling are very much more bactericidal than those derived from the serum of even robust, artificially-fed infants.

127. **Reflexes in Early Childhood.**—Cattaneo found the plantar reflex and knee-jerk almost constant in infants. They were especially pronounced, as also the abdominal reflex in rachitic children.

128. **Some of the Causes of Intestinal Disorders in Infants.**—Juergenson reports the cases of two infants fed with Sohxlet sterilized milk and healthy when symptoms of sudden illness developed suggesting poisoning. He found that the rubber stoppers of the jars used gave off antimony and sulphur in contact with sour milk. In other cases the trouble was traced to the well water in which traces of nitrates were found.

132. **Puncture of the Pericardium.**—Fraenkel describes two typical cases of pericarditis with effusion to illustrate his claim that the puncture should be made on the right side, from 3 to 3.5 cm. from the edge of the sternum. The veins of the heart are very much enlarged in such cases, and there is usually more or less hypertrophy of the heart, particularly of the left ventricle. Consequently there is great danger of injury from puncture on the left side. The heart does not sink back as the subject reclines, but has a tendency to float on the surface of the fluid, which brings it close to the wall of the thorax to which it may be adherent in some cases. The effusion frequently collects behind the heart and only a small amount can be evacuated by puncture. If the heart beat is perceptible on the left side and there is an area of dulness below it, puncture is permissible. But if the diaphragm is not forced down, the puncture should be made on the right side in the third or fourth interspace at the point of absolute dulness. The heart may be totally displaced to the right, and consequently one must be sure that the area of dulness passes beyond the right parasternal line at least.

134. **Influence of Formaldehyd on the Constituents of the Urine.**—Formaldehyd enters into chemical combination with some of the elements in the urine and disturbs or prevents certain important reactions on the part of the indican, uric acid and acetic acid, pentoses, etc. Hence it should not be added to urine which is to be analyzed.

135. **Treatment of Acute Nephritis.**—Renvers remarks that an unnoticed sore throat, a catarrhal gastrointestinal affection or an infectious disease may be the cause of an apparently spontaneous nephritis. Appropriate treatment of the primary affection will promptly cure the latter. Early serum treatment of a diphtheritic affection, for example, will have a favorable effect on the kidneys, not only preventing nephritis but curing it if already established. In promoting elimination of the toxic substances by the skin and intestines, the saline are the only purgatives at our disposal which do not contain some elements irritating for the kidneys. Intestinal injections of warm saline solution are also beneficial. The diet should contain carbohydrates and fats to supply the needed calories, and limit the albumin to what is actually necessary, not more than 50 or 60 gm. for an adult not at work. An exclusive milk diet is not advisable as it contains albumin. The milk can be diluted with gruels, etc. As the nephritis subsides the milk can be increased to two quarts a day. Even after albuminuria has entirely disappeared, meats should be added only tentatively to the diet. Vegetables and fruits are not permissible unless the diuresis is abundant. The allowable proportion of albumin should be supplied at first in the shape of pure vegetable albumin. In case the blood pressure is low, hot drinks will be found useful, avoiding those containing meat extractives or alcohol. Digitalis and strophanthus are rather injurious than beneficial if administered with normal blood pressure. Hot drinks of sweetened diluted milk or malt extract with cream, and brief hot footbaths are useful measures, but the only real diuretic, he reiterates, is water.

137. **Treatment of Recent Disturbances in Compensation.**—Instead of prescribing digitalis at once for a patient with dyspnea and other symptoms of disturbed compensation, Klemperer advises temporizing if the symptoms are not threatening. Absolute repose and the reassuring words of the physician, supplemented by small doses of some narcotic, will arrest the reflex suffocation and produce such improvement in twenty-four hours that digitalis will prove unnecessary. The later it is postponed the greater will be the benefit derived when it becomes actually indispensable.

138. **Treatment of Hemoptysis.**—The main point in treatment is to keep the lung quiet. The movements of the affected side should be restricted as much as possible and a bag of sand will be found useful, gradually increasing the weight of the sand from one to five pounds. Klemperer has frequently found that this aided in arresting the hemorrhage.

139. **The Diet of the Aged.**—Food for elderly people should be cut up very fine, preferably with an instrument for the purpose, a "masticator." Their teeth are defective, the muscles engaged in chewing tire easily, and they have little saliva. The best of all food for them is soups, soft eggs, and above all, milk. The old saying that wine is the milk of the aged should be transposed to: Milk is the wine of the aged.

144. **Experimental Lead Poisoning.**—Jores found that chronic lead poisoning in rabbits caused the destruction of the red corpuscles with consequent anemia. The smaller arteries were much dilated, and deposits of blood pigments were noted in the spleen, marrow, liver and kidneys.

146. **Biliary Capillaries in Pathogenesis of Icterus.**—The new stain with which Eppinger has been studying the biliary capillaries is a combination of Weigert's neuroglia stain and the Weigert-Vasale technic.

151. **Experimental Inoculation with Tuberculosis.**—The bacilli introduced into the trachea of rabbits induced first a catarrhal inflammation and then a proliferation of tissue which terminated in the accumulation of giant cells from the breaking down of single cells.

160. **Variolation.**—Mohammedan peoples refuse vaccination, partly from fear of infusing infidel blood into the veins of a "true believer," and partly because the poor quality of vaccine in Oriental countries has prejudiced them against it. Gros has witnessed a large number of cases inoculated with fluid from a smallpox pustule in order to arrest an epidemic of smallpox. It accomplished its end in this respect and the resulting infection was extremely mild. Localized smallpox followed in 25 cases, with no eruption in 36 and only 6 of generalized disease, out of a total of 67. Vaccination afterward was negative. The pustules resembled more those of varicella than of variola. The claim is made that the immunity conferred is more lasting than after vaccination, but Gros knew of one case of infection eight years after variolation. The inoculation is made on the dorsal side of the loose skin between the thumb and forefinger, penetrating into the cellular tissue.

165. **Serotherapy of the Plague.**—Peypers reviews the spread of the plague and quotes an article by a local practitioner in the *Indian Lancet* of March 10, which acknowledges that human science is powerless. "Millions have been its victims and millions more will be claimed as its victims." The optimistic assertions of Europeans, Calmette in particular, that the terrible hecatombs of the middle ages need not be feared at the present day, are criticised by Peypers, who thinks that serotherapy is not proving the anticipated protection.

169. **Enquiry in the Gynecologic Field in Regard to Contagiousness of Cancer.**—Bossi has been investigating for the last ten years the question of contagion of malignant neoplasms. He thinks that exceptionally favorable conditions for contagion are afforded by cancer of the cervix in married women. It usually develops into a comparatively late stage before it is recognized, and the traumatism of cohabitation frequently causes it to bleed. The hyperemia of the parts would also favor contagion. Notwithstanding these and other factors favorable to contagion under these circumstances, he was unable to discover a single instance of malignant disease of the penis among the husbands of the 180 women with cancer of the cervix whom he has had occasion to treat during these ten years. He wrote to the leading gynecologists of Europe and received replies from 38. All unanimously declared that they had never known of cancer on the penis of the husband of any patient with malignant disease of the cervix. Hertaux writes that he has had only 6 cases of cancer of the penis, and none of them could be traced to a woman with uterine cancer. Richelot has never witnessed nor found in science a case of this nature. Fehling replies: "None in twenty-five years of practice." Dermacuay, Bossi states, reports the single instance of cancer of the uterus in the wife in 134 cases of cancer of the penis in his practice.

170. **Hemostatic Action of Endovenous Injections of Calcium Chlorid.**—Silvestri proclaimed in 1898 the great value of the calcium salts in all kinds of hemorrhagic affections, especially scorbutus. It rapidly restores normal coagulability to the blood. He published 13 cases which demonstrated the constant and prompt hemostatic action of calcium hypophosphite in all kinds of hemorrhage. He administered it by the mouth or rectum. He has since applied this method of hemostasis in urgent cases by the endovenous route, and reports four in detail. He injected 100 or 150 c.c. of a 1 per cent. solution of calcium chlorid, repeated in twelve hours if necessary. One patient was a girl of 13 with hemorrhage from the intestines the fourteenth day of typhoid fever. The hemorrhage was arrested in 35 minutes after the injection. Another patient was a woman of 42 with severe menorrhagia which subsided in less than an hour after the injection. The same result was obtained in a case of hemoptysis and in one of hemophilia. The injections failed to arrest the hematemesis in a case of gastric ulcer, and the patient proved rebellious to injections of gelatin later. Zibell announced last year that gelatin contains .6 per cent. of calcium and attributes its hemostatic action to this constituent.

Queries and Minor Notes.

Garretson, S. D., May 12, 1902.

To the Editor:—Please give me the law for medical registration in the state of Washington. H. L. Saylor.

Ans.—Diploma from college of at least three years' course and an examination.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia; John B. Murphy, M.D., Chicago; Alexander D. Blackader, M.D., Montreal; H. C. Wood, M.D., Philadelphia; T. M. Rotch, M.D., Boston; E. Landolt, M.D., Paris; Thomas G. Morton, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; and John Harold, M.D., London. With Regular Correspondents in Montreal, London, Paris, Leipsic and Vienna. Volume I. Twelfth Series. 1902. Cloth. Pp. 306. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1902.

The Operations of Surgery. By W. H. A. Jacobson, M.Ch. Oxon., F.R.C.S., Surgeon to Guy's Hospital; and F. J. Stewart, M.S. London, F.R.C.S., Assistant Surgeon Guy's Hospital, and to the Hospital for Sick Children. Fourth Edition, Revised, Enlarged and Improved. 550 Illustrations. Two Volumes: Volume I—Operations on the Upper Extremity; Operations on the Head and Neck; Operations on the Thorax. Volume II—Operations on the Abdomen; Operations on the Lower Extremity; Operations on the Vertebral Column. Cloth. Pp. 402. Price, $10.00. Philadelphia: P. Blakiston's Son & Co. 1902.

Atlas and Epitome of Operative Surgery. By Dr. Otto Zuckerkandl, privatdocent in the University of Vienna. From the Second Revised and Enlarged German Edition. Edited, with Additions, by J. Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, etc. Second Edition, Thoroughly Revised and Greatly Enlarged. With 40 Colored Plates and 278 Text Illustrations. Cloth, $3.50 net. Pp. 410. Philadelphia: W. B. Saunders & Co. 1902.

Atlas and Epitome of Otology. By Gustav Bruhl, M.D., of Berlin, with the Collaboration of Professor Dr. A. Politzer, of Vienna. Edited, with Additions, by S. MacCuen Smith, M.D., Clinical Professor of Otology, Jefferson Medical College, Philadelphia. With 244 Colored Figures on 39 Lithographic Plates and 99 Text Illustrations. Pp. 292. Cloth, $3.00 net. Philadelphia: W. B. Saunders & Co. 1902.

Photographic Atlas of the Diseases of the Skin. A Series of 80 Plates, Comprising More Than 100 Illustrations, with Descriptive Text, and a Treatise on Cutaneous Therapeutics. By George Henry Fox, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y. Part XI. Philadelphia: J. B. Lippincott Co. 1901.

Surgery of the Rectum. By Charles B. Kelsey, A.M., M.D., Late Professor of Pelvic and Abdominal Surgery at the New York Post-Graduate Hospital. Sixth Edition. Illustrated by 215 Engravings. Cloth. Pp. 402. Price, $3.00. New York: Wm. Wood & Co. 1902.

Proceedings of the American Medico-Psychological Association, at the Fifty-seventh Annual Meeting, Held in Milwaukee, Wis., June 11 to 14, 1901. Cloth. Pp. 333. Published by the American Medico-Psychological Association. 1901.

Proceedings of the Nebraska State Medical Society. Thirty-third Annual Session, 1901. Cloth. Pp. 343. Lincoln, Neb.: Published by the Western Medical Review Publishing Co.

Transactions of the Chicago Pathological Society. From October, 1899, to June, 1901. Cloth. Pp. 486. Chicago: American Medical Association Press. 1902.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 1 to 7, 1902, inclusive:

James K. Ashburn, contract surgeon, leave of absence extended fourteen days.

Charles L. Baker, contract surgeon, from Augusta, Ga., to San Francisco, for temporary duty in the Department of California.

William H. Block, captain and asst.-surgeon, Vols., leave of absence for one month granted.

William J. Calvert, lieutenant and asst.-surgeon, U. S. A., leave of absence for two months granted, to take effect from the completion of his temporary duty at Fort Barrancas, Fla.

Joseph T. Clarke, captain and asst.-surgeon, U. S. A., member of a board in Philadelphia to ascertain and fix the responsibility for any deficiencies or damage to quartermaster's property received at that depot during the present calendar year.

Basil H. Dutcher, captain and asst.-surgeon, U. S. A., leave of absence for four months granted, to take effect on the arrival of Lieut. Clyde S. Ford, asst.-surgeon, U. S. A., at Fort Hancock, N. J.

Charles B. Ewing, major and surgeon, U. S. A., to represent the Medical Department, along with others already thus assigned, at the Eleventh Annual Meeting of the Association of Military Surgeons of the United States, to be held at Washington, D. C. June 5 to 7, 1902.

Clyde S. Ford, lieutenant and asst.-surgeon, U. S. A., from duty at the U. S. General Hospital, Washington Barracks, D. C., to Fort Hancock, N. J.

Joseph H. Ford, lieutenant and asst.-surgeon, U. S. A., from duty at the post of Washington Barracks, D. C., to duty at the U. S. General Hospital at that place.

James D. Glennan, major and surgeon, U. S. A., is relieved from further duty in the Department of California and will repair to Washington, D. C., reporting to the Surgeon-General for instructions.

James C. Gregory, contract surgeon, now at Tunstall, Va., to duty at Fort Myer, Va.

John D. Hall, lieut.-col. and deputy surgeon-general, leave of absence for twenty-one days granted.

Luther S. Harvey, captain and asst.-surgeon, Vols., leave of absence and surgeon's certificates of disability extended one month on account of sickness.

John R. Hicks, contract-surgeon, from Fort Screven, Ga., when relieved by Captain Charles F. Kieffer, asst.-surgeon, U. S. A., will proceed to Fort Wingate, N. M., for duty.

Paul H. Ludington, contract surgeon, now at Omaha, Neb., to report to the commanding general, Department of the Missouri, for duty as attending surgeon in that city.

William J. L. Lyster, lieutenant, asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., for duty with the Hospital Corps Company of Instruction at Fort McDonell, Cal.

Louis A. Molony, contract surgeon, from Cincinnati, Ohio, to San Francisco, Cal., for temporary duty in the Department of California.

William H. Moncrieff, contract surgeon, now at Atlanta, Ga., to report for duty at Jefferson Barracks, Mo.

James R. Mount, contract surgeon, now at Kansas City, Kan., will proceed to San Francisco, Cal., for temporary duty in the Department of California.

Edward L. Munson, captain and asst.-surgeon, U. S. A., detailed a member of a retiring board to meet at the War Department, Washington, D. C.

Joseph Pettyjohn, contract surgeon, now at Vancouver Barracks, is relieved from duty in the Department of the Columbia, and will proceed to his home, Augusta, Ga., for annulment of contract.

John A. Rafter, contract surgeon, now at West Winfield, N. Y., is relieved from further duty in the Division of the Philippines and assigned to duty at Madison Barracks, N. Y.

Anton R. Shier, contract surgeon, now at Burlington, Iowa, to report for duty at Fort Worden, Wash.

Hedley V. Tweedie, contract surgeon, from the Department of the Columbia, when his services can be spared from that Department to San Francisco, Cal., for duty in the Department of California.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending May 10:

Medical Director W. S. Dixon, detached from duty on the retiring and medical examining boards, Washington, D. C., and ordered to continue other duty.

Medical Inspector W. A. McClurg, detached from the *Kearsarge*, upon reporting of relief, and ordered to the *Olympia*, as fleet surgeon of the North Atlantic Station.

Medical Inspector J. C. Boyd, detached from the *Olympia*, and ordered to Washington, D. C., as member of retiring and medical examining boards.

Surgeon J. M. Steele, detached from Torpedo Station, Newport, upon reporting of relief, and ordered to the *Massachusetts*.

Surgeon H. E. Ames, detached from the *Massachusetts*, upon reporting of relief, and ordered to the *Kearsarge*.

Asst.-Surgeon J. J. Snyder, detached from duty with recruiting party, when discontinued, and ordered to the Torpedo Station, Newport, R. I.

P. A. Surgeon J. E. Page, granted sick leave for two months.

P. A. Surgeon J. C. Pryor, ordered to the *Massachusetts*, May 14.

Pharmacist I. N. Hurd, detached from the *Wabash*, and ordered to the Navy Yard, Portsmouth, N. H.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 8, 1902:

Surgeon Eugene Wasdin, leave of absence for seven days from May 2, 1902, under paragraph 179 of the regulations.

Surgeon P. M. Carrington, Bureau order of April 30, 1902, detailing him to represent the service at American Congress of Tuberculosis, revoked.

P. A. Surgeon G. M. Guiteras, relieved from duty at Matanzas, Cuba, and directed to proceed to Philadelphia, Pa., and report to medical officer in command for duty.

P. A. Surgeon M. J. Rosenau, to proceed to Wilmington, Cape Fear Quarantine (Southport), and Beaufort, N. C., as inspector; and inspector of unserviceable property at Wilmington and Cape Fear.

Asst.-Surgeon R. H. von Ezdorf, upon being relieved by A. A. Surgeon A. B. McDowell, to proceed to Matanzas, Cuba, relieving P. A. Surgeon G. M. Guiteras.

Asst.-Surgeon L. D. Fricks, relieved from duty at Chicago, and directed to proceed to Boston, and report to medical officer in command for duty and assignment to quarters, relieving Asst.-Surgeon John McMullen.

Asst.-Surgeon C. W. Vogel, leave of absence for 15 days granted by Bureau letter of April 18, revoked. Relieved from duty at San Francisco, and directed to proceed to Dutch Harbor, Alaska, and assume command of the service.

Asst.-Surgeon B. J. Lloyd, relieved from duty at San Francisco Quarantine, and directed to proceed to Nome, Alaska, for special temporary duty, assuming command of the service.

A. A. Surgeon Hugh Borford, granted leave of absence for two weeks from May 5.

A. A. Surgeon A. D. Foster, granted leave of absence for fourteen days from May 17.

A. A. Surgeon E. F. McConnell, relieved from duty at Havana, Cuba, and directed to proceed to Nuevitas, Cuba, relieving A. A. Surgeon O. W. Stone.

A. A. Surgeon A. B. McDowell, relieved from duty at Havana, Cuba, and directed to proceed to Santiago, Cuba, relieving Asst.-Surgeon R. H. von Ezdorf.

A. A. Surgeon O. W. Stone, upon being relieved by A. A. Surgeon E. F. McConnell, to proceed to his home and await annulment of appointment as acting assistant-surgeon.

A. A. Surgeon Agnes Walker, granted leave of absence for fourteen days from May 17.

A. A. Surgeon W. S. Walkley, granted leave of absence for seven days from May 7.

Sanitary Inspector Lea Hume, granted leave of absence for thirty days from May 1.

Senior Pharmacist M. R. Mason, relieved from duty at San Francisco, and directed to proceed to Dutch Harbor, Alaska, and report to Asst.-Surgeon C. W. Vogel for duty.

Junior Pharmacist F. M. Holt, granted leave of absence for thirty days from May 1.

Junior Pharmacist L. C. Spangler, granted leave of absence for fifteen days from May 10.

BOARDS CONVENED.

Board convened at the Marine Hospital, Baltimore, May 5, 1902, for the physical examination of certain officers of the Revenue Cutter Service. Detail for the Board: Surgeon H. R. Carter, chairman; P. A. Surgeon J. A. Nydegger, recorder.

Board convened at the Marine Hospital, New Orleans, for the physical examination of such officers of the Revenue Cutter Service as may present themselves, May 12, 1902. Detail for the Board: P. A. Surgeon C. P. Wertenbaker, chairman; Asst.-Surgeon J. W. Schereschewsky, recorder.

Board convened at the Marine Hospital, Boston, May 12, 1902, for the physical examination of such officers of the Revenue Cutter Service as may present themselves. Detail for the Board: Surgeon Fairfax Irwin, chairman; Asst.-Surgeon John McMullen, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 10, 1902:

SMALLPOX—UNITED STATES.

Alabama: Birmingham, March 1-31, 11 cases.

California: San Francisco, April 20-27, 3 cases; Stockton, April 1-30, 20 cases.

Colorado: Denver, April 19-26, 7 cases.

Illinois: April 26-May 3, Belleville, 5 cases; Chicago, 5 cases; Galesburg, 4 cases.

Indiana: Evansville, April 26-May 3, 5 cases; Indianapolis, April 26-May 3, 8 cases; Muncie, April 1-30, 3 cases; South Bend, April 26-May 3, 4 cases; Terre Haute, April 26-May 3, 3 cases.

Iowa: Ottumwa, March 29-April 20, 18 cases.

Kansas: Wichita, April 26-May 3, 4 cases.

Kentucky: Covington, April 27-May 4, 5 cases; Lexington, April 26-May 3, 1 case; Louisville, April 27, 2 cases.

Maine: Portland, April 26-May 3, 1 death.

Maryland: Baltimore, April 26-May 3, 1 case.

Massachusetts: April 26-May 3, 28 cases, 4 deaths; Brockton, 2 cases; Brookline, 1 death; Cambridge, 1 case; Malden, 6 cases.

Michigan: April 19-26, present at 110 places; Ludington, April 27-May 4, 16 cases.

Minnesota: Minneapolis, March 29-April 19, 27 cases; Winona, April 19-26, 1 case.

Missouri: St. Louis, April 27-May 4, 39 cases, 2 deaths.

Montana: Helena, April 1-30, 4 cases.

Nebraska: Omaha, April 26-May 3, 30 cases.

New Jersey: April 26-May 3, Camden, 4 cases, 1 death; Newark, 80 cases, 5 deaths; Plainfield, 6 cases, 1 death.

New York: New York, April 26-May 3, 54 cases, 14 deaths.

Ohio: Cincinnati, April 26-May 2, 18 cases; Hamilton, April 27-May 3, 3 cases.

Pennsylvania: Erie, April 26-May 3, 10 cases; Johnstown, April 19-May 3, 3 cases; Philadelphia, April 26-May 3, 15 cases, 1 death; Pittsburg, April 26-May 3, 16 cases.

Rhode Island: Providence, April 26-May 3, 4 cases.

South Carolina: Greenville, April 19-26, 6 cases, 2 deaths.

Tennessee: Memphis, April 27-May 3, 9 cases.

Utah: Salt Lake City, April 26-May 3, 4 cases.

Vermont: April 27-May 3, Burlington, 2 cases; Rutland, 1 case.

Virginia: Roanoke, April 1-30, 11 cases, 1 death.

Washington: Tacoma, April 20-27, 9 cases.

Wisconsin: Green Bay, April 27-May 4, 3 cases; Janesville, April 27-May 4, 4 cases; Milwaukee, April 19-26, 9 cases.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, March 16-April 6, 21 deaths.

Canada: Hamilton, April 26-May 3, 1 case; Quebec, April 19-26, 10 cases; Winnipeg, April 19-26, 8 cases.

China: Amoy, March 8-27, present.

Colombia: Panama, April 21-28, 50 cases, 5 deaths.

Egypt: Cairo, April 1-8, 1 death.

France: Paris, April 12-19, 5 deaths; Rheims, April 6-20, 7 cases, 5 deaths; Roubaix, March 1-31, 1 death.

Great Britain: Birmingham, April 12-19, 2 cases; Dublin, April 12-19, 1 case; Dundee, April 12-19, 4 cases; Glasgow, April 18-25, 7 cases, 1 death; Leeds, April 19-26, 1 case; Liverpool, April 12-19, 5 cases; London, April 12-19, 328 cases, 42 deaths; Newcastle-on-Tyne, March 30-April 19, 1 case; North Shields, March 30-April 19, 27 cases; Southampton, April 5-12, 1 case; South Shields, March 30-April 19, 21 cases.

India: Bombay, April 1-8, 6 deaths; Calcutta, March 22-April 5, 13 deaths; Karachi, March 30-April 6, 3 cases.

Italy: Bovino, April 12, epidemic; Naples, April 5-12, 10 cases.

Mexico: City of Mexico, April 13-27, 3 cases; Vera Cruz, April 19-26, 5 cases, 1 death.

Russia: April 6-12, Moscow, 5 cases, 5 deaths; St. Petersburg, 10 cases, 2 deaths.

Spain: Cartagena, April 15, epidemic.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 16-April 6, 105 deaths.

Colombia: Panama, April 21-28, 5 cases, 2 deaths.

Costa Rica: Port Limon, April 14, 3 cases, 1 death.

Dutch Guiana: Paramaribo, March 1-31, 3 cases, 1 death.

Mexico: Vera Cruz, April 19-26, 9 cases, 6 deaths.

CHOLERA—INSULAR.

Philippines: Manila, March 20-29, 84 cases, 65 deaths.

CHOLERA—FOREIGN.

India: Calcutta, March 23-April 5, 255 deaths.

Turkey: Djiddah, Feb. 19-March 26, 3000 cases estimated, and 1300 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, April 20-27, 1 case, 1 death.

PLAGUE—INSULAR.

Hawaii: Honolulu, April 19, 1 death.

PLAGUE—FOREIGN.

China: Pokhoi, April 25, epidemic.

Egypt: April 7, 1901-April 7, 1902, 382 cases, and 228 deaths.

India: Bombay, April 1-8, 830 deaths; Calcutta, March 22-April 5, 1239 deaths; Karachi, March 30-April 6, 111 cases, 100 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, SATURDAY, MAY 31, 1902. No. 22.

Original Articles.

NEED OF MUCH MORE ACCURATE KNOWLEDGE CONCERNING BOTH THE IMMEDIATE AND REMOTE EFFECTS OF THE REMEDIAL AGENTS IN GENERAL USE;

AND THE EXERCISE OF MORE CARE TO AVOID THE COINCIDENT ADMINISTRATION OF ANTAGONISTIC REMEDIES IN ACUTE DISEASES.

N. S. DAVIS, M.D.
CHICAGO.

Perhaps the three most important defects in practical medicine of the present day, as seen both at the bedside and in works on therapeutics and practice of medicine, are: First, failure to fully appreciate the fact that all diseases are deviations from the natural standard of action or of structure in some part or in the whole of the living body, caused by either mental or physical influences, and progressing towards recovery or death in accordance with known laws of vital resistance; second, inadequate knowledge of the physiologic laws and processes that constitute the vital resistance of living bodies to the action of the various causes of disease; third, the imperfect knowledge of the action of many of the most important remedies in the materia medica, and consequently their frequent erroneous or even antagonistic use.

THE NEED OF KNOWLEDGE OF VITAL PROCESSES.

A knowledge of the causes of diseases both predisposing and exciting, and the laws governing their action in the living body; an accurate conception of the various morbid processes induced constituting diseases, their natural tendencies and terminations; and an equally accurate knowledge of the modes of action of remedial agents, must constitute the basis of all rational or independent medical practice. It is not sufficient that the physician may know the direct exciting cause of any form of disease, whether it be a microbe, a ptomain, a leucomain, a defective food supply, or a depressing mental condition. He should know also the conditions under which it is produced and propagated; the channels through which it gains access to the living body; the changes it produces in the elements of the blood or of the tissues: and the methods by which it is destroyed or expelled from the living body or induces death. For every pathogenic germ, toxic ptomain, or septic poison that gains access to the living body or any part of it is met by vital processes and conditions by which it is neutralized or expelled, or is multiplied until it destroys the life of the patient or the part in which it is propagated. The vital processes and conditions thus induced by the presence of the morbific agent to either neutralize or expel the offending cause, constitute the natural vital resistance or immunity, while the active disturbances of both function and structure, consequent on its continued presence and multiplication, constitute the symptoms or active phenomena of the disease. Nearly all the more eminent and philosophic writers on medicine from Hippocrates to those of the present day, make frequent references to the curative powers of "Nature," and most of them repeat the Hippocratic injunction to "follow Nature" in the methods of treating disease. Very few of them, however, have made any attempt to explain what they meant by "Nature" or her processes of cure.

THE NECESSITY OF EXCRETION.

The numerous investigations of the last half century, aided by all the instruments and processes devised for securing correct results, have, however, clearly shown that whenever any substance, whether developed within or introduced from without, is present in the living body and is not capable of assimilation and use as food, is either expelled through some of the secreting or eliminating organs unchanged, or oxidized and converted into materials either harmless or capable of more ready elimination. Therefore, oxidation, neutralization and elimination of pathogenic, toxic or disease-producing agents are Nature's chief processes for both preventing and curing disease. And the structures chiefly active in these processes are the bioplasmic or leucocytic cells of both blood and tissues and the various secreting and excreting structures of the body. The same, indeed, that are constantly engaged in oxidizing and eliminating the ordinary products of tissue metabolism and thereby preventing auto-intoxication and death. For every animal, from the lowest in the scale to the highest—from the microbe to the man—perishes if compelled to remain in full contact with its own excretory products. For example, the microbe of vinous fermentation ceases to multiply and soon dies if its excretory product, alcohol, is allowed to accumulate in the fluid surrounding it beyond 14 per cent. And man, representing the highest order of animal life, speedily perishes if retained in an atmosphere surcharged with his own renal, cutaneous and pulmonary excretory products.

THE VITAL RESISTANCE.

If it is true that the processes of oxidation, secretion and elimination of waste and disturbing or toxic agents constitute the vital resistance or curative powers of Nature, then in addition to ascertaining the cause or causes of any given disease it is equally important to learn both the channels through which it gains access to the blood and tissues, and the excretory or eliminating organs through which it is expelled.

It is by such knowledge only that we are enabled to direct those remedies that will aid the natural processes of cure with skill and efficiency. With all the facilities for minute and exact investigation afforded by our laboratories of chemistry, biology and bacteriology, supplemented by clinical wards of hospitals, we ought to be able to determine the efficient causes of all acute diseases, and to follow them from their entrance to their exit from the living body; and to see clearly the changes they undergo and the processes by which they are destroyed or expelled.

THE MINUTE ACTION OF EVERY DRUG.

With such knowledge, the physician could readily infer the important indications for treatment in every stage in the progress of disease. But to enable him to select the best remedy for fulfilling each indication, he needs the same accurate knowledge of the action of each remedial agent that he uses. Otherwise he is constantly liable to give the same remedy in all stages of the disease, or coincidently to give two or more remedies that are more or less antagonistic in their effects, and thereby saturate his patient with drugs with but little apparent effect on the progress of disease.

VAIN ATTEMPTS TO CLASSIFY DRUGS.

Writers on therapeutics very generally classify or group remedies under names supposed to indicate their most prominent physiologic or therapeutic effects, i. e., stimulants, tonics, sedatives, antipyretics, antiseptics, antitoxins, etc. In doing so they have included in almost every class or group medicines differing widely in their modus operandi and in many instances directly antagonistic, i. e., influencing the same structures and functions in opposite directions.

PYREXIA AND ANTIPYRETICS.

Only twenty years since the leading writers on practice of medicine claimed that the chief danger to life in the general febrile diseases was the pyrexia or continuous high temperature. In consequence, every remedy that was found capable of reducing the temperature of the body was classed as an antipyretic and given in full doses, at first, regardless of their mode of action, until we had hydrotherapy or bathing of all modes, large doses of quinin, salicylin, antipyrin, antifebrin and a dozen other coal-tar derivatives, all grouped as antipyretics.

While the hydrotherapeutic measures, as sponging or bathing with cool water, increased the efficiency of both circulation and secretion and thereby reduced the temperature by the natural processes of elimination from the skin, kidneys and air passages, all the coal-tar preparations reduced the temperature by diminishing both natural metabolic and excretory functions, and impairing the elimination of waste products and toxic agents. Thus, the first remedies mentioned reduced the pyrexia by increasing the processes of heat dissipation, and the second by diminishing the processes of heat production and at the same time favoring the retention in the system of the toxic agents giving rise to the febrile disease, and thereby increasing both its duration and ratio of mortality.[1]

A CONFLICT OF REMEDIES.

Abundant clinical experience soon demonstrated that while the coal-tar antipyretics promptly reduced the pyrexia, they with equal promptness lessened the renal and hepatic excretory functions; impaired the leucocytic and corpuscular elements of the blood and diminished general innervation. In other words, they depressed or antagonized the very processes and functions that constitute man's vital resistance to morbid influences or the curative powers of Nature, thereby protracting the duration of the diseases they were given to cure. At the same time the judicious use of cold sponging, bathing and packing as antipyretic measures was found to sustain the curative powers of Nature and to lessen the duration of the whole group of febrile diseases. Thus illustrating the necessity of not only knowing that a remedy is capable of reducing pyrexia, but also by what processes it does so, in order to be able to use it with benefit in the treatment of febrile affections.

FALSE METHODS OF INVESTIGATION.

It was not until the development of physiologic chemistry and both general and microscopic anatomy, during the nineteenth century, aided by the invention of various instruments of precision, that it was possible to determine the actual effects of either the causes of disease or of remedial agents on the various structures and functions of the living body, in either health or disease. During all the preceding centuries the effects of remedial agents were determined by their visible influences on the various evacuations and on the sensations of the patient. Those that caused increased evacuations were classed as emetics, cathartics, diuretics and diaphoretics, according to their influence on the stomach, bowels, kidneys and skin. Those causing the individual to feel warmer, lighter, more exhilarated, with more frequent heart beat were classed as stimulants or tonics. Those causing less sensibility and pain, with more sleep, were called narcotics or anesthetics, etc.

Relying thus upon the objective and subjective symptoms following the administration of medicines without any of the present instruments and methods of determining their influence on the constituents of the blood; the activity of leucocytes; the oxygenation and decarbonization of the blood; the acuteness of nerve sensibility and rapidity of transmission of impressions; and the force of muscular contractions, then classification of stimulants, tonics, sedatives, and narcotics was based entirely upon the subjective phenomena or testimony furnished by the individual to whom they were administered. As alcohol, ether, camphor, carbonate of ammonia, tea and coffee, in moderate doses produced increased frequency of pulse, exhilaration of mind, a sense of heat, less consciousness of weight or resistance, and an impression that more work both mental and physical could be done, they were universally regarded as both stimulant and tonic. They were given indiscriminately or coincidently to patients for the purpose of increasing cardiac and nervous force and thereby sustaining both circulation and innervation in the treatment of diseases. Yet when the doses of alcohol, ether or morphin were increased or frequently repeated, they soon began to induce diminished sensibility, loss of coordination of muscular action, and impairment of both respiration and circulation, and if continued further, paralysis of the heart and cerebrospinal nerve centers and death was the result. Relying upon the persistent statements of those using them, that they were stimulated and strengthened so long as they were able to talk, and yet showing plainly by their loss of both muscular and mental activity that they were being paralyzed, the inference was drawn that in small or moderate doses they were stimulant and tonic, and in large doses depressing and paralyzing.

This double and apparently contradictory action be-

1 Address on Medicine before the American Medical Association in May, 1890.

tween small and large doses has been attributed only to medicines of the narcotic and anesthetic classes, i. e., medicines that exert a direct and controlling influence over the sensibility of the cerebral and cerebrospinal nerves, which include the material organs or structures constituting the seat of mental consciousness, or perception of impressions.

NEW METHODS OF INVESTIGATION.

It was not until the discovery and practice of anesthesia near the middle of the nineteenth century, and the discovery of the inhibitory influence of the vagus nerve over the movements of the heart, and the subsequent invention of instruments for measuring the time for transmission of impressions and the strength of muscular contractions, that the profession were in possession of the means for demonstrating the real action of medicinal agents called stimulants, tonics, sedatives and narcotics, both in large and small doses, without regard to the opinions or impressions of the persons taking them. Experience in the use of the general anesthetics, ether, alcohol and chloroform, soon showed that their effects were manifested first on the cerebral nerve cells latest in the order of development and connected with the manifestation of the highest and most distinctive faculties of the human mind, i. e., the sense of propriety and self-control, and on the inhibition nerves of the heart, thereby producing mental exhilaration and increased frequency of pulse. Continuing the inhalation, the mental hilarity soon gave place to incoherence and unconsciousness with loss of voluntary muscular movements, but still leaving the involuntary functions of respiration and circulation sufficiently active to maintain life. If the anesthetic was increased beyond this stage, the nerve centers controlling respiration and circulation were paralyzed and death resulted therefrom.

Here we see the same consecutive order of symptoms speedily following the inhalations of anesthetics, as we see developed more slowly by giving successive doses of alcohol or other anesthetics and narcotics by the mouth. That is a stage of apparent mental and vascular excitement while the amount taken is small; passing gradually into dulness, stupor and finally profound unconsciousness as the doses were increased or frequently repeated. Thus apparently confirming the long-standing popular opinion, that in small doses all such agents were stimulating and strengthening, and in larger doses, depressing and paralyzing. But this apparent stimulation of the small doses was soon shown to be only the beginning of the paralyzing influence more quickly felt by the inhibitory nerve structures of both heart and brain, by the application of instruments of precision abundantly confirmed by experience in all the ordinary relations of life. For direct experiments by investigators in different countries have uniformly resulted in showing that persons under the influence of only just sufficient doses to quicken the pulse, create a sense of heat and a feeling of exhilaration, i. e., when the individual generally says he feels better and could do more work either physical or mental, the application of the thermometer proves a lower temperature, and the application successively of other necessary instruments show that the peripheral capillaries are dilated, the systolic force of the heart less, the transmission of impressions slower, the strength of voluntary muscles less, and the mental activity retarded. In other words, all the seeming stimulation of the small doses was only the incipient stage of paralysis affecting the very cerebral nerve cells that are the seat of consciousness, and thereby deluding both the patient and the physician who relied upon his testimony. The paralyzing influence of larger doses was too manifest to deceive the physician, but not sufficient to undeceive the patient who, when he had taken so much that he could no longer stand up, and it required two men to support him on his feet, the impression was still running through his brain that he could whip them both.

When we realize the all-important fact, that all anesthetic and narcotic medicines or drugs act primarily on the cerebral and cerebrospinal nerve structures in the direction of diminishing the sensibility of these structures, we see clearly why those taking them are incapable of giving correct information concerning their action, or that of any other agents that may be brought to bear upon them at the same time.

RESULTS OF LATER STUDY.

The more exact investigations of the last half century have not only proved that all general anesthetics and narcotics, such as alcohol, ether, chloroform and opiates are paralyzing to nerve sensibility in direct proportion to the quantity given, but also, that they at the same time diminish tissue metabolism, the activity of leucocytes, the elimination of waste and toxic agents through the excretory organs, and thereby impair all the vital processes in proportion to the quantity given and the length of time they are used. Therefore, instead of even exerting a true stimulant or toxic effect they directly diminish all the processes that constitute man's vital resistance to toxic or disturbing agents, thereby rendering him more liable to attacks of disease, and less likely to recover when attacked, as demonstrated by the experiments of Drs. A. C. Abbott, Reichert, Laiknau and others, both in this country and Europe. And while the positively depressing and devitalizing influence of alcohol, ether, chloroform, morphin and the coal-tar antipyretics has been abundantly demonstrated by well-devised and carefully executed experiments, aided by all the modern devices for securing accuracy of results, the same is equally shown by the ordinary results of their use by all classes of people and in all climates.

LOWERING OF VITAL RESISTANCE.

The history of nearly all severe epidemic diseases, such as influenza, pneumonia, typhoid and typhus fevers, cholera, plague and erysipelas, shows that they more readily attack those who make daily use of alcoholic drinks or other narcotics, and when attacked a much larger proportion of them die, thereby showing unmistakably impairment of their vital resistance. Every authoritative work on either medicine or surgery published during the last half century mentions the habitual use of these same anesthetic and narcotic drugs as important predisposing causes of tuberculosis, septicemia and of fatty and fibroid degenerations of tissues generally. And in every variety of human labor, whether in civil or military life, where total abstainers and even moderate users of these drugs under consideration were required to live and labor side by side with all other conditions the same, the total abstainers uniformly averaged more and better work and yielded much less ratio of sickness and mortality, as shown by the statistics of labor in every country where such statistics are kept; by the annual official reports of the Registrar-General of the British Army, and by the results of life insurance in companies where the total abstainers and the moderate drinkers are designated on their books.

Notwithstanding all the foregoing incontrovertible proofs that the whole groups of anesthetic, narcotic and

internal antipyretic or analgesic drugs, represented by ether, alcohol, chloroform, morphin, nicotin, antipyrin, etc., are true protoplasmic poisons, diminishing nerve sensibility, metabolic and secretory activity, and lessening all vital resistance to toxic agents in proportion to the quantity used, yet they continue not only to be used freely by a large proportion of the profession in the treatment of a great varity of diseases, and still more freely by the non-professional public.

EPIDEMICS OF HEART FAILURE.

The active ingredients in most of the "headache powders" and other popular remedies for migraine, neuralgia, insomnia, and general nervousness, belong to the coal-tar group of antipyretics. The same group of remedies were given freely by perhaps a majority of physicians in the treatment of influenza or la grippe, as it has prevailed since the epidemic of 1889-90. And during no previous epidemic of that disease has there been so great an increase of deaths from pneumonia, bronchitis, and so-called "heart failures," nor were they followed by so many severe and protracted sequelæ, characterized by a persistent sense of weariness, loss of muscular strength and nervous energy, frequent neuralgic and rheumatic pains, with impairments of the cardiac, respiratory, and digestive functions and unrefreshing sleep. A very large proportion of such patients readily refer the origin of their troubles to a severe attack of la grippe, often from one to three years previously, during which they took liberal doses of both anesthetic and antipyretic drugs, and have been taking more or less of the same class of remedies to relieve their pains, lessen nervousness, and encourage sleep at night ever since. Thereby they palliate, for a few hours after each dose, their pains and sense of exhaustion, and at the same time perpetuate the impairments of cardiac, respiratory, metabolic and protoplasmic activity, until many of them become permanent invalids, or die suddenly from so-called heart failure.

RESULTS OF COAL-TAR PRODUCTS.

During the last fifteen or twenty years the discovery of pathogenic bacteria and their ptomain or toxic products as causes af acute infections as well as some more chronic diseases, has induced nearly all recent writers on therapeutics and practice of medicine to represent heart failure as the chief source of danger instead of the excessive pyrexia of the preceding decade. Hence in their chapters, especially on pneumonia, influenza, diphtheria, typhoid and typhus fevers, etc., they emphasize the danger from this cause, and charge the practitioner to guard against it, even from the early stages of those diseases. Consequently, a group of remedies called cardiac tonics and stimulants is now occupying the same prominent position in practical therapeutics as the antipyretic group did two or three decades since; and, unfortunately, it is made to include some remedies more antagonistic in their effects than were any of those in the antipyretic group.

ANTAGONISTICS CLASSED AS SYNERGISTS.

As has been previously stated, so long as the profession were obliged to depend upon the objective and subjective phenomena furnished by the person taking any particular medicine, they called all such as rendered the action of the heart slower, cardiac and arterial sedatives; and such as increased the frequency of the cardiac systoles were ranked as stimulant and tonic. Accordingly, aconite, veratrum viride, strychnin, digitalis, strophanthus, cactus, etc., were all called cardiac and vascular sedatives; while alcoholic liquors, ether, camphor, carbonate of ammonia, tea and coffee were ranked as direct cardiac and vascular stimulants and tonics. But when the modern processes of experimental therapeutics were applied to them it was soon demonstrated that the strychnin, digitalis, etc., so influenced the cardiac, respiratory and vasomotor nerve centers as to cause the cardiac action to be slower and stronger, and more tone or firmness of the arteries, with deeper inspirations; thereby showing them to be true cardiac and vasomotor tonics instead of sedatives. And as their action was not accompanied by coincident anesthetic influence on the cerebral hemispheres, they were readily transferred to the class of cardiac and vasomotor tonics with alcohol at its head. Consequently, we still find in nearly all recent practical works heart failure is set forth as the chief danger in the progress of all acute infectious diseases, to counteract which early resort should be had to cardiac and vasomotor tonics, of which we are uniformly assured that "alcohol, strychnin, digitalis and strophanthus are the most reliable." Thus placing two remedies at the head of the list, to be given alternately or even simultaneously to the same patients and for the same purposes, that have been demonstrated to be as near absolutely antagonistic in their influence on the cerebrospinal, vasomotor, metabolic and excretory functions as any other two remedies to be found in the materia medica. The one, alcohol, diminishing all the functions named, while by its anesthetic effect it renders the patients more quiet and less conscious of either weakness or pain; and the other, strychnin, increasing them, and thus leaving the physician to wonder why the patient tolerates so large an amount of medicines with so little apparent effect. Is it not fully time that such inconsistent medication should be avoided?

TRANSIENT MONOCULAR BLINDNESS.*

WILLIAM CAMPBELL POSEY, M.D.

Professor of Diseases of the Eye in the Philadelphia Polyclinic and School for Graduates in Medicine.

PHILADELPHIA.

Apart from the momentary blurring of vision from a tired ciliary muscle, or the partial blindness which accompanies migraine, or the periodic dimness of sight which is so frequent a precursor of glaucoma, transient loss of vision limited to one eye is very uncommon.

The attention of the writer was first called to this symptom some years ago by a patient, an elderly clergyman, who was brought to the office in a great state of perturbation by a friend, on account of the sudden loss of sight in the right eye. The blindness was complete for about fifteen minutes and then began to clear, so that by the time the office of the writer was reached, about half an hour after the commencement of the attack, sight was fully restored. A careful ophthalmoscopic examination was at once made, but failed to reveal any cause for the blindness, other than changes in the retinal vessels, which indicated a high degree of arterial sclerosis; thickening of the walls of the arteries and veins and too pronounced a light reflex upon them. The veins were slightly enlarged and pulsated upon the disc. Precisely similar changes were observed in the left eye. There was nothing to note externally beyond a pronounced degree of arcus senilis in both eyes. After the correction of a moderate amount of far-sighted astigmatism, the vision of both eyes was brought to normal.

* Read before the Section in Ophthalmology of the College of Physicians in Philadelphia

Upon questioning the patient it was ascertained that a similar attack of blindness had occurred in the same eye three weeks previously, the loss of sight at that time having persisted about ten minutes. Since there appeared to be no ground for alarm so far as the immediate safety of the eye was concerned, the fears of the patient that he would lose his sight were allayed and he was dismissed with the request that he see his physician at once for a thorough examination of his physical condition, as it occurred to the writer that the blindness was probably of a vascular origin. The patient was the subject of rheumatoid arthritis of marked degree and it was thought not unlikely that there had been changes in the blood vessels induced by this disease. Three days later he returned a second time, even more anxious than before, as he said that the blindness had returned for the third time and that it had persisted, though with intervals of remission, for five or six hours. An ophthalmoscopic examination was at once made with a negative result. His physician reported his kidneys and heart to be normal and his general condition excellent, considering the ravages of the rheumatoid arthritis, which had produced extensive deformities in the small joints. His diet was curtailed and he was placed upon active saline treatment. Two years have now elapsed without a recurrence of the blindness. To sum up briefly: all three attacks occurred in an interval of less than a month; the blindness always affected the right eye; the loss of sight was sudden and complete, the patient being unable to see a lighted match before the eye; the vision of the fellow eye was unaffected. Recovery of sight was rapid, beginning in the temporal field, and was preceded by the appearance of phosphenes. The attacks were not accompanied by headache, nausea or other general symptoms and so far as the patient knew were not precipitated by any unusual activity of mind or body.

Another case of the same nature, a lawyer, aged 30, came under the observation of the writer 7 years ago on account of twitching in the lids after prolonged near work. He had had headache but rarely and had never experienced any former difficulty with his eyes. Examination revealed fibrillary twitching in the orbicularis of both eyes, more marked on the left side, especially when that eye was made to fix. Vision and accommodation were normal in both eyes. At 5 meters esophoria equaled 2 degrees; at 40 cm. there was exophoria of 2; hyperphoria was absent. The eyegrounds were normal. Refraction under mydriasis showed a moderate degree of farsighted astigmatism in both eyes. Under a partial correction of this error the twitching subsided in large measure, but it was found that a full correction was necessary to cause its full disappearance.

About a year after he had worn the correction the patient returned, saying that he had noticed on two occasions that the lower half of objects became suddenly obscured. No headaches followed the loss of sight, though he thought he remembered seeing a play of lights before the eyes. He was unable to say whether both eyes were affected or not. A month later he had another attack in which the right eye became absolutely blind for fifteen minutes. There were no other motor or sensory symptoms, and headache and nausea were absent. Three months after this, after reading, he noticed a dark spot, the size of a fifty-cent piece, over the right eye, when he regarded the flame of a lamp. The spot for a time was directly in the center of vision and then became eccentrix. After persisting half an hour, this phenomenon passed slowly away. One month later the upper half of his right eye became totally blind for fifteen minutes. Vision was then undisturbed for six months when the lower half of the same eye became blind for five minutes. Nine months later the right eye became totally blind again, the loss of vision beginning in the lower part of the eye. In writing of this attack the patient expressed himself as follows: "I was standing on a street corner talking to Mr. M. when a dimness came over the lower part of the right eye. Thinking my glasses were fogged, I removed them for the purpose of cleaning them, when I found that the trouble was in the eye. The sight became rapidly dimmer, so that in a few moments I could hardly distinguish light with that eye. I was feeling perfectly well at the time, and after the vision cleared, which happened in a few moments, I resumed the conversation." A week later he had another attack of dimness in the same eye, the loss of sight being more marked in the upper nasal field. During the last three years he has had several other attacks of blindness in the right eye, the loss of vision usually beginning in the lower part of the eye.

As this patient lived at some distance from the city the writer has never had an opportunity of making an ophthalmoscopic examination during an attack, but in the interval the findings are negative. This patient, though young and vigorous, led a sedentary life, has had several attacks of rheumatic fever and came of a gouty family.

About 16 months ago the writer had the opportunity of studying a third case, that of a man aged 50 years, who consulted him on account of a sudden loss of sight in the right eye. He said that the eye was so blind that he could not see his hand even when it was held close to the eye, for at least one hour, and that during still another hour the fog was so thick that he could barely distinguish large objects. There was no headache or other accompanying symptoms. Since then he has had six other attacks, but not always in the same eye; the third and the last two occurring in the left. All of the attacks came on after taking a nap in the middle of the day. The second and third attacks lasted 30 minutes, and the last three but five minutes. The optic nerves in both eyes were somewhat grayer than is usual, but central and peripheral vision were unaffected. The retinal vessels showed no changes beyond a slight fulness and tortuosity of the veins. So far as could be ascertained, the patient was in perfect health.

In addition to these three, the writer remembers two other cases of a similar nature. One of these, a young woman who was epileptic, said that quite independent of her epileptic seizures she had had transient attacks of blindness in one eye which lasted from two to ten minutes. Loss of sight was sudden and complete; both eyes had been affected but never at the same time. No other symptom accompanied the blindness. Her epileptic attacks were without visual auræ.

In the remaining case, that of a young married woman twenty years old, the blindness, which affected the right eye only and lasted from five to ten minutes, had appeared several years previously and had recurred on an average of once a month. The patient had had several miscarriages and was said by her physician to suffer from uterine disorder. There seemed to be no connection between the loss of sight and menstruation. There was a large patch of choroiditis in her left eye, which looked as though it might have been of a vascular origin.

Though cases of this nature can not be rare, for some curious reason, except where the loss of vision has oc-

curred in connection with embolus and thrombosis of the central artery of the retina, transient attacks of blindness in one eye have escaped description in the text-books, and have received study by but a few. It so happens, however, that these few have all been leaders in the ophthalmologic world, so that the observations which have been recorded are all instructive and comprehensive.

Loring in 1874 was the first to make any extensive communication upon the subject of transient attacks of blindness, although Alfred Graefe, Hedaeus, Rothmond, Secundi, and others had reported isolated cases, where this symptom had occurred in connection with excessive reduction in the diameter of the retinal arteries. Loring based his study upon the observation of five cases, in all of which symptoms previously ascribed to embolism of the central artery of the retina were present. This origin of the blindness, however, he disputed and concluded that, in the train of symptoms classed under the title of embolism, too much significance had been given to the stoppage of the circulation by the lodgment of a plug formed at a distance from the eye, while not enough stress had been laid upon the mechanical actions regulating the supply of the blood within the eye, as well as upon the condition of the walls of the vessels themselves and their contents. In explanation of the blindness, he says: "Might not the blindness be the final result of a series of processes which had been smouldering for some time and which had ended in a stoppage, or at least in a reduction of the circulation. This sudden shutting down of the circulation occurs in other parts of the body and why not in the eyes? A rapid transudation of serum from the capillaries and small vessels might so interfere with the fluidity of the blood as to render it unfit for circulation, or the stoppage might be brought about by some antagonistic condition of the walls of the vessels themselves. In a membrane so delicate as the retina, and one which the simplest experiment proves is so absolutely dependent upon the circulation for the performance of its functions, the slightest disturbance might seem to overthrow the equilibrium of the circulation and thus bring on, just as Donder's experiment does, almost instantaneous blindness."

A few years later (1879), Nettleship added largely to our knowledge of the subject by contributing two cases of repeated paroxysmal failure of sight, in connection with heart disease. He offered the hypothesis that the loss in vision was due to some permanent local disease of the ophthalmic artery or its branch to the retina in conjunction with a feeble stream of blood entering the eyes as a consequence of cardiac trouble.

In 1884 Priestley Smith reported a series of cases, which supported in the main the conclusions arrived at by Loring and Nettleship. The chief point made by him, however, was that permanent, as well as transient attacks of loss of sight from diminished blood supply to the retina, are usually of thrombotic origin and may occur in persons other than those who have organic disease of the heart. In support of this theory he reported a number of cases where he thought the blindness was due to disease of the sexual organs and explained the pathologic sequence in these by reflex disturbance of the circulation in the brain and retina through cardiac inhibition: great reduction and slowing of the blood stream in the retinal artery and finally thrombosis; this latter being strongly favored by anemia and feebleness of heart.

The next communication of importance upon the subject was not until 1897, when Wagenmann reported a case before the Congress at Heidelberg, of repeated attacks of loss of sight in one eye, which finally culminated in the eye becoming absolutely blind. He attributed the blindness in this case to a spasm of the central artery of the retina, and thought that this was secondary to arteriosclerosis, of which there was ophthalmoscopic evidence.

All of these authors, therefore, attribute the loss of sight to some disturbance in the vascular supply of the eye. Indeed, in the absence of any pathological findings in the fundus after attacks of blindness such as have been described, it is natural to impute the loss of vision to some spasmodic affection of the vessels, the spasm not being maintained long enough to cause any permanent change in the tissues.

In all of these cases, the blindness, though complete for a time and recurring in several instances over many years, was transient, and the vision, after being suppressed for a varying interval, returned. It would appear from this that such attacks of blindness are not to be dreaded, that they are not deleterious to the eye and that they have no significance other than the slight annoyance which they occasion at the time the vision is affected. The prognosis, therefore, should apparently be excellent. The surgeon, however, who would not give a guarded opinion in this class of cases would commit a grievous error, for it sometimes happens that the blindness which had before been transient becomes permanent, and as there is no way to differentiate the cases in which this unfortunate result occurs from those in which the loss in vision is only transient, it is wiser for the surgeon not to commit himself as to the final result. Of particular interest in this connection are two cases which have recently come to the attention of the writer. The first, J. L. W., aged 40, a manufacturer, consulted him on January 13, this year, on account of the sudden loss of sight in his right eye two days previously. The patient said that 10 years ago while sitting at the table eating, he suddenly became totally blind in both eyes; that this condition persisted for two or three minutes, vision slowly returning at the end of that time. His wife corroborated this statement and added that, with the exception of the disturbance in vision, the patient appeared perfectly well; his face was neither blanched nor suffused, nor did he complain of feeling faint or giddy. At varying intervals after this, he had spells of double vision, one object being higher than the other. The diplopia would last about five minutes, coming on without apparent cause, and was usually manifested when regarding distant objects. These attacks were not associated with nausea or other general symptoms and recurred every week or so. Eighteen months ago, these attacks ceased and he began to have spells of blindness in his right eye. These came on suddenly and lasted but a few minutes. At times the loss of sight was complete and at times but partial. There were 15 or 20 attacks in all. He was never conscious of headache, nausea or other unusual sensations at the time of the attack. The patient was a large, finely developed man of irreproachable habits, he had always been well, save for vague rheumatic pains in his back and shoulders some years previously. His bowels were regular and an examination of his urine showed his kidneys to be normal. His heart was also normal, though his family physician, Dr. U. G. Heil of West Philadelphia, who referred the case to me, stated that there was evidence of cardiac hypertrophy. About 10 years previously, at the

same time that he had noticed the first interference with his vision, he began to have curious smothering sensations in talking, as he expressed it, as though there were a stiffness of his jaws. This was always exaggerated by the embarrassment occasioned by talking to a number of people.

When inquiry was directed particularly to the loss of vision for which he consulted the writer, it was elicited that the blindness had been preceded by a few minutes of flickering, but that it had then become complete and so persisted for 6 or 8 hours, when it began steadily to improve, until it equaled, as it was ascertained at the examination, counting fingers in the upper part of the field at one-half meter's distance.

As was expected from the history, the ophthalmoscope revealed all the signs of a serious interruption in the circulation of the retina. The optic nerve was swollen and its edges obscured, particularly the upper temporal. The retinal arteries and veins were much reduced in size, particularly the superior branches and the veins in this region were twisted and cordlike. The retina was hazy and swollen above and in the papillomacular region. The lymphatics of the head of the nerve were full. As was indicated by the field blank, that portion of the retina supplied by the superior temporal and the superior macular branches of the retinal artery was blind. The left eye was normal, there being no unusual manifestation in the fundus, vision equaling 5/5.

A diagnosis of thrombosis, or perhaps merely of spasm of the central artery of the retina or of its superior branch, was made and the patient was placed in bed upon active treatment, with a view to reëstablishing the circulation in the retina. Gentle but firm massage movements were made upon the globe, the bowels were freely opened and mercury and potassium iodid were administered in large doses. The vision improved gradually, so that at the end of a few days it equaled 5/40. After this treatment had been persisted in for three days and the vision was slowly improving, one day, shortly after eating, the patient again became suddenly and completely blind in his right eye for several minutes. This was due, in the opinion of the writer, to a spasm in the vessel, and indicated in all probability that the structural changes which had occurred in the retina were possibly due to that cause also, without a thrombosis having necessarily formed in the vessel. The patient has been out of bed now for several weeks, walking about and attending to his business; vision is slowly improving, but as is to be expected, the loss in the field still persists.

The second case occurred in the practice of Dr. Julian C. Dewey, to whom the writer is indebted for the report. In this instance the patient, a healthy man, aged 39, had had repeated attacks of blindness in the left eye since he was 8 years old, the loss in vision lasting from five to ten minutes. The attacks had happened so often, however, that the patient had become quite accustomed to them and their appearance had long ceased to occasion him any alarm, as from his past experience he judged that the dimness would soon pass away. A short time ago, however, he suffered another attack, apparently quite similar to the many which had preceded it, but this time, to his great alarm and surprise, the vision had failed to clear and the blindness persisted. He hastened to Dr. Dewey for relief, but without avail, as the ophthalmoscope, which up to this time had revealed nothing abnormal, showed all the evidences of embolus of the central artery of the retina.

An observation of very great interest in connection with these cases, both from pathologic and physiologic standpoints, is one recently made by Leber, of a case of monocular blindness where there were all the ophthalmic signs of embolus but in which the microscope failed later to reveal any evidence of either embolism or thrombosis. Leber attributed the blindness and the pathologic findings to long-continued spasm pure and simple. The course of both of these cases, until the final attack came and vision was hopelessly lost, was precisely analogous to the apparently innocent group of transient blindness. It is evident, therefore, that the prognosis in all of these cases of transient blindness should be most guarded, as it would appear impossible to predict what the outcome of any one of them might be, whether the blindness be due to spasm and be always transient, whether it be due to a forming embolism which finally destroys the sight by shutting off the blood supply entirely, or whether the same fatal result is attained as in the case reported by Leber, by long-continued spasm, without microscopic change in the vessel walls.

In view of the uncertainty regarding the nature and outcome of these attacks, it is of the greatest importance to prevent a recurrence of them, by combating any tendency towards endarteritis, as it is probable that the spasm in the walls of the vessels is induced by such a process. It has long been a recognized fact that iridectomy, by causing a dilatation of the blood vessels, reduces intraocular pressure. This operation has accordingly been performed in a number of cases of transient monocular blindness with a view to preventing subsequent permanent blindness. Wagenmann would have it performed in every case of this nature. In view of the uncertainty regarding the cause and the course of these cases, it does not seem proper to the writer to subject an eye, which may remain permanently healthy, to an operation which in a certain proportion of instances, no matter how skilfully performed, renders the eye useless for visual purposes. He would, however, insist upon a treatment and a regimen to combat arterial sclerosis. At the time of the attack, the value of nitrate of amyl has been proven, and gentle but active massage of the eye should always be essayed.

PERFORATING WOUNDS OF THE EYEBALL AND SYMPATHETIC INFLAMMATION.*

H. GRADLE, M.D.

CHICAGO.

Penetrating wounds of the eyeball constitute a fair share of ophthalmic practice. Where mechanical industries expose workmen to accidents, these injuries may represent nearly 5 per cent. of eye patients. Injuries of this kind are always so serious that the surgeon necessarily feels a grave responsibility until the healing is complete. Every penetrating wound is to be considered from three aspects, viz.: 1, the mechanical consequences; 2, the presence or absence of a foreign body, and 3, the question of infection.

THE MECHANICAL CONSEQUENCES.

Eye injuries are peculiar in their immediate results, for nowhere else in the body are so many separate tissues of distinctive individuality crowded into so small a space. A wound which perforates the cornea allows

* Abstract of lectures delivered at the Northwestern University Medical School, with omission of the more elementary details.

the aqueous humor to escape at once, whereby the anterior chamber becomes emptied. The edges of a small and linear wound will adhere sufficiently to allow a refilling within hours, or even less. Larger or irregular wounds may not permit even a temporary reunion for several days. The emptying of the anterior chamber is by itself a transient disturbance, but other mechanical complications are very likely to occur.

As a protection against threatening iritis, the pupil should be kept wide by atropin in every instance of an ocular wound. The eye should be protected from light by a shade and rest of the other eye enforced. A bandage is of object only where a prolapse of iris or vitreous body is feared; otherwise, it is at the best unnecessary. In the case of a diseased and secreting conjunctiva, a retentive bandage may do harm by favoring infection.

Any wound, unless it is strictly central, relatively small or linear, is apt to allow the iris to become entangled. If this incarceration extends only into the internal lips of the wound it causes merely a displacement of the pupil, a trifling disfigurement and perhaps some blurring by a change in the corneal curvature. Much more serious is a prolapse of the iris into a gaping wound or a protrusion beyond it. This always means delayed healing with irritation for at least a period of weeks, and permanent astigmatism even in case of uncomplicated healing. An iris prolapse is besides apt to invite infection. Even if the eye recovers from this at the time, it is in danger of reinfection at some future period. A noticeable number of eyes with healed iris prolapse are lost later by microbic invasion of the scar and entrance of the parasites into the interior through the entangled iris. Every effort should therefore be made to reduce the prolapse of the iris, if seen within the first 36 hours, before the iris has become adherent in the corneal wound. The protruding tag is snipped off clean, as in an iridectomy and the stump in the wound is gently pushed in with a blunt probe if it does not retract itself. As a rule, this can be done under cocain, especially when aided by suprarenal solution. But if the patient's sensitiveness or timidity require it, it is better to narcotize than to leave even a partial entanglement. Oculists are less positive what to do when an iris prolapse is seen after adhesions have formed. After about the third day it is generally not possible to reduce the iris out of its entanglement. A small prolapse without infection may be allowed to cicatrize. A larger protrusion or a bulging of iris tissue through the gaping wound is probably best cut off whenever seen. The slightly increased risk of infection at the time is more than outweighed by the reduced possibility of mechanical mischief and of later infection.

Whenever an implement perforates the cornea, an advance of but 2 to 3 mm. beyond brings it into contact with the lens. Every injury to the capsule of the lens results in cataract. Whatever portion of the lens substance is exposed to the aqueous humor becomes opaque. If the rent in the capsule is minute or linear it may close speedily and the opacity remain localized—sometimes, though rarely, localized enough to permit good sight. A capsule wound, however, which does not close leads to swelling and opacity of the whole lens. If the rent is large enough the cataract will ultimately undergo a spontaneous cure by absorption of the entire lens. This requires at least ten weeks, often more, and can be completed only as long as there is no central core of lens substance sufficiently hard to be called a nucleus. Complete absorption is not to be depended upon after about the 20th to 25th year of life, although it may sometimes take place as late as the 40th year (especially in myopes). During the period of swelling and of absorption of the lens the eye is slightly irritated and sensitive. Very rapid swelling of the lens can cause iritis or even glaucomatous symptoms, viz., hardness of the eyeball with considerable pain, particularly in adults. In such an event it is the best policy to allow the lens to escape through a corneal incision. But in the absence of urgent symptoms it is generally preferred to let the cataract alone until the reaction to the injury or the accompanying infection has subsided and to operate subsequently upon a quiet eye.

Escape of the entire lens through a wound occurs very rarely in the case of perforating accidents unless the whole eyeball is torn open. It is, however, not so uncommon as the result of blows causing a rupture of the ocular tunic. Such a rupture from blunt violence takes place, as a rule, through the thinnest part of the sclera just behind the corneoscleral junction and parallel with the latter. The resulting wound may permit an escape of the entire lens. If the conjunctiva is torn through the lens is lost, but occasionally the intact conjunctiva confines the lens outside of the sclera. A rupture in this region is apt to allow the iris to protrude.

Cuts through the sclerotic coat may permit protrusion of the ciliary body and escape of vitreous humor. Injuries involving the ciliary region have always been especially feared on account of the liability to infection and the probability of its persistence. Loss of vitreous substance to the extent of more than a few drops is never quite indifferent. A moderate loss may lead to later shrinkage with detachment of the retina. A wound of sufficient size to permit the escape of about one-half of the vitreous leaves a poor chance for the preservation of a useful or even a quiet eye. If there is any intraocular hemorrhage or displacement of the lens together with extensive loss of vitreous, the better plan is to remove the eyeball. When a sharp tool perforates through the sclera into the vitreous body a localized opacity will usually occur in the injured part of the vitreous, visible with the ophthalmoscope. Such an opacity, if not due to infection, disappears ultimately, leaving scarcely a trace.

Wounds in the sclera should be closed by sutures put through the conjunctiva, after cutting off any lacerated or protruding tags of tissue. No attempt should be made to disinfect the wounds by chemicals, since thorough tests have shown that this is an impossibility, while the irritation by the disinfectant may prove injurious. The closure by sutures gives a fair guarantee against late infection, which undoubtedly takes place many a time, as shown by the occasional late inflammation following unprotected wounds. A very useful protective measure in the case of wounds of the cornea or corneo-scleral junction is the closure by means of conjunctival flaps as taught by Kuhnt. A flap of conjunctiva with broad pedicle, or sometimes merely an undermined bridge is dissected off peripheral to the wound and slid over the latter so as to cover it. The flap is fastened by delicate sutures, wherever feasible, so as to stretch across the wound. No union takes place between the conjunctival flap and the uninjured corneal surface and hence no opacity need be feared. The area of subconjunctival tissue left exposed by the displacement of the flap heals by granulation with very little irritation and without any risk. The operation is, however, a delicate one.

FOREIGN BODIES.

In the case of any wound of the eyeball, the fundamental question to be raised at once is: whether a foreign body has entered the eye. The answer may be furnished positively by the history one way or the other. If a foreign body is suspected, it is always desirable to see it. If still within the anterior chamber it is directly visible unless covered by blood or later on by an exudate. If caught in the lens it can be seen through the well dilated pupil unless the lens opacity hides it. When back of the lens it is seen on ophthalmoscopic inspection unless it is close to the ciliary region or covered by opacity of the vitreous. The latter lesion itself is strongly suggestive of a foreign body, provided the opacity is not the result of an infective choroiditis. When a foreign body can not be seen its presence can be determined with considerable certainty by means of an *x*-ray photograph in the hands of an expert. Even glass is sufficiently opaque to cast a shadow, provided the splinter is not too minute. Metal chips can be recognized almost infallibly in this manner, always providing the expert has the necessary technical experience. The foreign body can be localized to some extent by taking two views in different planes, but this phase of the problem is not yet perfected. Recent personal attempts to take two plates with different positions of the *x*-ray tube and stereoscopic examination of the pictures have led to very encouraging but not yet completed results.

Foreign bodies of iron or steel can be detected also by their attraction of a delicately-suspended magnetic needle. An instrument based on this principle—the sideroscope—is of decisive value in such cases. Its advantage over the x-ray photograph is its instantaneous readiness, without loss of time. On the other hand, it is so sensitive that it requires careful adjustment and hence is available only to the few who possess it as a prearranged, permanent fixture.

A foreign body which has not done much mechanical damage still threatens the eye if it carries germs into the tissues. We can only expect red-hot chips or shot and fragments from the interior of metals to be sterile; all other foreign bodies are, as a rule, contaminated. It is general surgical experience, and true of the eye as well, that the presence of a foreign body interferes with the normal tendency to recovery from infection. The instances in which an eye harboring a foreign body overcomes an infection and becomes quiet are so rare that we can not look forward to such an exceptionally lucky event when inflammation has followed the entrance of some fragment. Moreover, even when this has happened it is not uncommon to observe another inflammatory attack at some future time after a quiet interval of months or years.

Sterile foreign bodies are often tolerated by the eye, if not too large, at least for a time. In the case of sterile iron chips, Hirschberg has learned that 30 milligrams is about the largest weight that the eye is likely to retain without ruin. Chips of 150, or at the most, 180 milligrams are pretty sure to damage the eye mechanically beyond hope, unless extracted at once. Even immediate extraction does not save an eye if the splinter exceeds this weight. Smooth shot is apparently better tolerated than irregular chips. I have personally known two instances in which shot was retained with useful sight. Sterile foreign bodies are sometimes retained with very little gross change around them. In most instances, they become hidden by a capsule of connective tissue. There are many records of eyes in which foreign bodies were tolerated for long periods of time, until finally a reinfection occurred, sometimes due to slight traumatism. It can be safely asserted, however, that an eye which contains a healed-in foreign body does not endanger the fellow eye as long as there is no externally visible irritation.

Some sterile foreign bodies will ruin the eye by their chemical action. Copper, for instance, in the form of percussion caps, produces an aseptic inflammation with thick, purulent exudate. Iron is sometimes borne indefinitely without reaction, while in other instances it causes characteristic changes known as siderosis. The iris turns rusty brown in hue, especially noticeable when originally light-colored. Chips in the lens may cause opacity with yellowish-brown stains. If the fragment of iron is behind the lens it can lead to localized opacities in the vitreous bodies which appear ophthalmoscopically like minute tufts of white cotton and which may ultimately result in retinal detachment. Most interesting, however, is the direct chemical action upon the retina. A chronic degeneration of the nervous elements takes place with increase in the supporting tissue of the retina. The vessels become sclerosed and change into bloodless white cords. This degeneration starts in the area where the iron chip is lodged, and hence the resulting blindness begins by extinction of the part of the field of vision corresponding to the site of the chip. This toxic effect of iron was permanently arrested in an instance of my own by extraction of the foreign body. As far as the changes have gone, however, they are of a permanent character.

In the case of a fresh injury the foreign body should be extracted at once. Every hour of delay increases the danger of infection. There are many instances in which prompt extraction might have saved vision and prevented inflammation, whereas successful removal of the chip the following day was too late to avert disaster.

Iron or steel can be extracted by means of a magnet with rare exceptions. Removal of non-magnetizable bodies is much more difficult and uncertain and the number of successes on record is small. As a rule, a non-magnetic can only be seized when it is visible in the anterior chamber or when well recognizable with the ophthalmoscope. If the foreign body is beyond reach, the chances of its quiet retention are so small and the dangers of destructive inflammation or even sympathetic extension so large that enucleation should always be done. It is only in the case of smooth (and probably aseptic) shot that delay for a few days is justifiable in order to see whether aseptic encapsulation will take place.

If the patient is not seen until infectious inflammation has begun, an attempt may still be made to save the eye by extraction of the foreign body, provided not much over a week has elapsed since the accident, and provided the inflammation has not reached a degree which has practically destroyed the possibility of a useful eye. The specter of sympathetic loss of the other eye looms up whenever we deviate from these rules. This danger is so formidable that it must be understood by the patient that enucleation must be done if unmistakable improvement does not follow the extraction within three to four days.

When a foreign body is retained by the eye without irritation, the patient should be told of the possible danger. The slightest irritation of the injured eye must be a warning to him to consult an oculist at once.

If a foreign body, especially an iron chip, has begun its destructive chemical influence, there may not be danger of sympathy to the other eye, but the injured eye will ultimately be lost. Hence the magnet extraction is imperative.

The results of magnet extraction have varied so much in the hands of different surgeons and according to the time of operation that general statistics are misleading. Chips which are retained by a quiet eye are almost always extracted successfully without further damage. In fresh injuries seen before infection has developed, extraction has saved more than one-third of all eyes with good vision, about one-third without useful sight, while less than one-third required later enucleation. In proportion as we select for statistics the cases with smallest chips and seen earliest after accident the results improve above these averages, while larger foreign bodies and delay diminish the chances. When infectious inflammation has begun the chance of saving the sight or even the eyeball is very much poorer. But since without extraction eyes seen at this period are almost invariably lost, even the reduced chance should not deter from an attempt at extraction, provided previous delay and the height of inflammation do not render the danger of sympathy too formidable.

This is not the place to discuss the technical details of magnet extraction. Hirschberg's electro-magnet is the preferable instrument on account of its availability and low cost. In the case of foreign bodies not perfectly accessible to the eye or to the ophthalmoscope, the giant magnet of Haab (or any of its modifications) may be successful where the smaller magnet might fail, or may accomplish the same end with less damage to the tissues. But the formidable installment of this big instrument and its great cost, will limit it to the practice of those few who expect such cases in larger numbers.

INFECTION OF EYE WOUNDS.

Apart from its immediate consequences the ultimate prognosis of any wound of the eyeball hinges entirely upon the occurrence or absence of infection. If no infection takes place, the damage done at the time is practically the ultimate damage.* A non-infected wound causes no prolonged suffering and disability and involves no danger of sympathy to the other eye. The irritation produced by a trauma without infection reaches its climax within hours, or a day or two at the most, and then begins to subside. The visible vascularity is but moderate and pronounced only in the area next to the wound. It is a pink blush and not a venous stasis. A direct injury of the iris or a wounded, swelling lens may cause a mild iritis, but no exudate appears in the anterior chamber or pupil. Vitreous opacity, if not of infectious origin, results only if the vitreous body has been directly wounded and it is distinctly localized. When any deviation occurs from this ideal clinical course, we must ascribe it to the entrance and growth of microbes. The difference between an aseptic and a distinctly infected wound is a striking one by the increase and persistence of symptoms and inflammatory lesions. But there are, too, some instances in which the infection never proceeds far and in which the struggle of the tissues with the invading microbes soon ends in victory. These cases present a series of transitions between an aseptic and a distinctly infected course and are sometimes not easily recognizable as infectious complications.

We can distinguish between purulent and plastic inflammation following wounds, although sometimes a combination of the two types is met with.

Purulent infection is caused either by the familiar pus-cocci or by some less common pyogenic bacilli; at any rate, by microbes easily identified. It is usually of violent onset and indicated by pain, tenderness, vascularity and edema of the lid. When it begins in a corneal wound, the edges of the latter become infiltrated. Scleral wounds, however, do not show the infection. A purulent iritis leads to an accumulation of yellow pus at the bottom of the anterior chamber. Abscess of the vitreous is suggested by the early appearance of an exudate in the pupillary space. While mostly progressive, still the purulent process may stop at any of these stages and not proceed further, and in such instances recovery is still possible. An extension of the purulent inflammation into the entire choroid, however, precludes recovery of sight. Purulent choroiditis is indicated by the rapid onset of intense inflammatory symptoms with exudate in the pupil and often with pus in the anterior chamber. The inflammatory edema of the upper eyelid and of the conjunctiva of the eyeball is a specially characteristic sign distinguishing purulent from plastic inflammation. In the most intense form of purulent infection—panophthalmitis—the eyeball is protruded by edema of the orbital tissues. In this form spontaneous perforation of the sclera occurs after about a week's intense suffering. Through this perforation or through a surgical incision scant pus escapes. But the escape does not drain the eyeball promptly, as the condition is not one of accumulation of fluid pus but of phlegmonous infiltration of the tissues. Purulent irido-choroiditis without perforation subsides after some weeks, but always leads to moderate shrinkage of the eyeball. Panophthalmitis with perforation leaves a small phthisical stump after a course of about two months. It has been noted that the shrunken orbs, after a purulent process has terminated, usually become quiet and do not threaten the other eye. But during the active stage we can not predict this relatively fortunate result with certainty, at least in the less virulent cases, since moderate purulent inflammation may coexist with plastic irido-cyclitis.

The purulent infection beginning in the cornea can sometimes be checked by prompt galvano-cauterization of the infiltrated edges. Tapping the anterior chamber, preferably with the hot platinum point, favors arrest of the purulent process if it has not yet invaded the choroid. Subconjunctival injections of salt solution (0.6 to 2 per cent.) are praised by many. Schirmer has lately claimed an almost specific influence of mercury in arresting the purulent process if pushed within the first four days. He prefers inunctions of about 4.00 gray ointment twice daily. His records certainly show a series of recoveries which hitherto would have been considered quite exceptional. But in severe purulent infection all means fail. If the symptoms increase steadily we must terminate the suffering by enucleation or evisceration. If nothing is done the long suffering ceases when shrinkage begins and the remaining small stump is usually quiet and of better size than after any operation. But the pain and the possibility—however slight—of sympathetic disease usually urge operative interference.

Plastic inflammation following wounds is usually not as acute in its onset as purulent infection. The traumatic irritation does not subside, but gradually increases to a degree not explicable by the mechanical dis-

* Except the chemical changes due to soluble foreign bodies or a later shrinkage of the injured vitreous leading to detachment of the retina.

turbances and the climax may not be reached until perhaps the eighth day. In the light of our present knowledge we can only regard this inflammation as an infectious complication, but the microbes causing it have never been identified. As a rule, no bacteria, or at least no constant variety, can be demonstrated. Iritis is usually the first manifestation as shown by synechiæ, often multiple. In many cases this leads to closure of the pupil in spite of atropin. Extensive redness of the whole visible sclera, decided tenderness in addition to spontaneous pain and punctate deposits on the posterior surface of the cornea prove that the ciliary body has become involved. Extension beyond this area produces diffuse inflammation, but with circumscribed spots of more pronounced infiltration of the choroid coat. Clinically, this choroiditis shows itself by diffuse opacity of the vitreous, provided the pupil is still wide enough to permit a view. As the process continues, a solidifying exudate is formed behind the iris and around the lens, which later on causes the lens to become cataractous. Of ominous significance is a decided softening of the eyeball. While this softening leaves little hope for the future, visible shrinkage of the eye destroys all prospect for recovery. At first the shrinkage may only occur in the region of the wound, causing the scar to appear depressed. Later on the whole eyeball becomes atrophic and indented by the pressure of the recti muscles. At this stage the remnant of light perception is usually lost by detachment of the retina.

The infectious inflammation varies in degree and extent in different instances. It may simply intensify and prolong for a few weeks the original traumatic irritation, or it may proceed to complete ruin of the eye. As long as the pupil can be kept wide and fairly clear on ophthalmoscopic inspection, the prospect for recovery is good. With occluded pupil the prognosis depends largely on the persistence of the disease. If the irritation does not begin to subside within less than a fortnight the prospect is doubtful. If any time after this period the disease seems stationary for a full week without gradual improvement the eye is doomed. Except in the mildest cases, recovery can not be expected in less than six weeks. When the eye is still irritated after the lapse of eight to ten weeks, it is doubtful whether it will ever get quiet. Eyes that have begun to shrink may remain slightly irritable for all time, or are at least subject to occasional spells of active inflammation. In all these instances our anxiety pertains not alone to the injured eye but to the awful possibility of sympathetic disease of the other eye.

TREATMENT OF TRAUMATIC INFECTION.

Infection is less likely to occur and less likely to persist when a wound has received proper surgical cleansing and attention from the start. Absolute rest of the eye and of the body should be enforced. The full effect of atropin upon the pupil should be maintained. It is an open question how much can be accomplished by subconjunctival injections of salt solution. I have received the impression that they can hasten recovery when the irido-cyclitis begins to subside, but have never been convinced that they can check the unfavorable progress of the disease. Hot applications seem often of service. The simplest method is to saturate a large handful of absorbent cotton with hot water. In a recent important communication Schirmer has claimed for mercury an almost specific influence upon traumatic irido-cyclitis, provided it is used sufficiently early and energetically. He employs mainly mercurial inunctions, but supplements them with intramuscular injections when urgency seems necessary. In 39 cases of plastic irido-cyclitis he preserved a quiet eyeball in 4 instances and maintained good sights in 23 cases. Such extraordinary results by a competent observer make is obligatory to test his claims in every suitable case. While mercury has been considerably used in European clinics, no one else has hitherto employed it so systematically nor recorded such results. Salicylate of sodium exerts an unmistakable influence upon the infection, provided it is given in sufficiently large doses. Personally, I have learned to depend upon not less than 1.3 to 1.5 grams five or six times per day. In cases of a specially malignant course, however, it can be seen speedily that no treatment is of influence. As soon as the prognosis appears hopeless the eye should be enucleated.

SYMPATHETIC EXTENSION TO THE OTHER EYE.

Any eye injury followed by prolonged inflammation involves the possibility of sympathetic danger to the other eye. It is necessary to distinguish clearly between sympathetic irritation and sympathetic inflammation. The former is a neurosis of a non-progressive nature which ceases as soon as the exciting eye is cured or removed. The latter is an inflammation in the second eye of progressive tendency and not influenced directly by the removal of the first affected eye. A moderate degree of sympathetic irritation is often seen as the result of irritative conditions which never lead to actual disease of the second eye, such as corneal ulcers, staphyloma and glaucoma. The term is, however, used mainly with reference to the annoyance produced in a healthy eye by chronic irido-cyclitis of its mate. The symptoms are sensitiveness to light, watering, fatigue on use and enfeeblement of the accommodation. All the symptoms cease promptly and permanently upon removal of the offending eye. There is no definite relation between sympathetic irritation and inflammation. The former may persist indefinitely without occurrence of the latter, and the latter may begin without preceding irritative symptoms. Still, sympathetic irritation indicates that the injured eye might prove dangerous and should be removed.

Sympathetic inflammation may begin gradually in the form of a mild cyclitis producing slight redness of the eyeball and blurring of sight by the deposition of fine opacities on the rear surface of the cornea. Ophthalmic inspection, if still feasible, often shows at this time inflammation of the optic nerve. In other instances the disease is ushered in from the start as a violent irido-cyclitis with great pain and visible irritation. In either case the fine deposits on the rear surface of the cornea are one of the most constant and characteristic signs. The iritis soon leads to synechiæ more numerous than is usually seen in other forms of iritis. It is difficult to keep the pupil wide by atropin. As the disease continues the vitreous becomes cloudy and sight is still further reduced. Unless checked at this stage the inflammation extends into the entire choroid tunic and follows about the same course as described of the traumatic infectious irido-cyclitis of the first eye. The ultimate outcome in malignant instances is closure of the pupil, exudate underneath the iris and around the lens, cataract, shrinkage of the eyeball and detachment of the retina.

In the more fortunate instances the disease may cease after 3 to 6 weeks' duration. As a rule, it lasts many months. After apparent cessation, relapses, often very tedious or even fatal to the eye, are so common that

no patient can be considered safe until he has been free from irritation for at least a year. The longer the duration the poorer the prospect for the preservation of sight. Yet sometimes a moderate result is observed after a course of many months. Formerly 15 per cent. of recoveries with preservation of more or less useful sight was considered the best that could be expected in sympathetic irido-cyclitis. Of late years the use of salicylates has probably reduced the losses to less than 85 per cent., but no large statistics are available.

Sympathetic disease can occur besides in two other forms in which the prognosis is much better than in plastic irido-cyclitis.

The so-called serous form of cyclitis is characterized by pain, tenderness, ciliary injection and the presence of deposits upon the rear surface of the cornea, and negatively by the absence of iritic adhesions and of visible exudate. As long as the disease retains this character complete recovery is possible, even though it may last many weeks. The prognosis is uncertain, however, as this form may at any time change into the more malignant plastic inflammation.

Relatively rare, too, is another type of sympathetic disease, viz., papillo-retinitis. In this form there are no external signs of irritation. The failure of sight is due entirely to the inflammation of the nerve and retina. Every instance of this form in which the exciting eye was removed recovered promptly after the lapse of some days or weeks.

ORIGIN OF SYMPATHETIC DISEASE.

The only lesion which can induce sympathetic ophthalmia in the second eye is plastic irido-cyclitis of the first. With rare and almost doubtful exceptions it is an irido-cyclitis following an injury or operation; in other words, an inflammation caused by the entrance of certain parasites through a wound. It is not the injury that threatens sympathy. Aseptic wounds, no matter how destructive, never affect the second eye. Nor is it the presence of a foreign body as such. As long as a foreign body is tolerated without inflammatory reaction the second eye is in no danger. If, however, the typical inflammation reappears in an eye hitherto quiescent, no matter whether it harbors a foreign body or not, sympathetic extension becomes possible. The shortest interval ever recorded between the infection of the first eye and disease of the second is a fortnight. But anything less than three weeks is excessively rare. From the fourth until about the sixth week is probably the period in which extension occurs oftenest. But as long as the first eye remains inflamed the danger of sympathy is present. If the inflammation returns after a period of quiescence, no matter how long, the danger, too, returns. I have seen sympathetic disease started by an injured eye which had been quiet for 40 years. It requires a number of days for the disease to extend from the first to the second eye. Hence, it has happened in a small number of recorded instances, that the inflammation made its appearance in the second eye after a dangerous diseased eye had been removed. The occurrence is undoubtedly very rare. Its probability becomes very much reduced after the lapse of a week. Still, it has been observed even as late as the 18th and the 24th day after enucleation. It is a striking fact that all these instances of affection of the second eye after removal of the first ran a mild course and ended in recovery. There are on record a number of cases of alleged sympathetic disease said to have begun at much later periods than four weeks after removal of the injured eye, but when closely investigated these instances can not be admitted as well-identified examples of sympathetic inflammation. Neither the lesion nor the course of any of the forms of sympathetic ophthalmia are absolutely distinctive of their sympathetic origin. The etiologic diagnosis "sympathetic" must be based upon the presence (or presence within a few weeks) of an eye capable of exciting sympathy and an interval between the disease of the first and of the second eye in accordance with general experience.

Sympathetic ophthalmia is not a frequent occurrence. As far as incomplete statistics show it follows traumatic inflammation in probably much less than 5 per cent. But this applies only to present conditions when the majority of dangerous eyes are removed sooner or later. The disease undoubtedly was much more common one or two generations ago, before preventive enucleation was extensively practiced.

PREVENTION AND TREATMENT OF SYMPATHETIC DISEASE.

The practical rules concerning preventive enucleation can be summarized as follows: Enucleation (or evisceration) should be done at once when a penetrating injury has damaged the eyeball beyond hope by crushing, copious hemorrhage into the vitreous, large loss of vitreous with collapse of the eyeball, and especially with dislocation of the lens. When a foreign body has entered the eyeball an effort should be made to save the eye by immediate removal of the body, unless so large that it has disorganized the tissues. If the body can not be extracted, the removal of the eye may be postponed if the body is of iron or steel and can perhaps be reached later, or if small and presumably sterile, like grains of powder or small shot. Chips of glass and bits of rock may also justify a few days' delay with the doubtful hope that they may be tolerated. In all other instances of foreign bodies enucleate at once. When infection follows an injury enucleation need not be considered as long as the inflammation has not extended beyond the iris and as long as a clear ophthalmoscopic view is possible through a wide and unobstructed pupil. As soon as the intensity of the inflammation has led to closure of the pupil or as soon as cyclitis has become evident by deposits on the rear of the cornea, by exudate within the pupil or by diffuse opacity of the vitreous, the danger period has begun. The patient must be warned that the postponement of enucleation beyond the time when the surgeon will demand it means risk to the other eye. It is during the first few weeks of traumatic infection when it is most difficult for the surgeon to decide whether to enucleate or whether to attempt to save the eye, provided the chances are still good for the preservation of sight. However anxious one may be to keep an eye which may ultimately recover with useful sight, it must be remembered that sympathetic disease can be excited by an eye which still has moderate vision. It is only when the pupil is free from exudate and the ophthalmoscope shows a vitreous without diffuse opacity that no fear of sympathy need be entertained. If the inflammation does not subside beyond question after the first week, or if the decline of the symptoms does not continue at such a steady rate that recovery from inflammation is to be expected in about six weeks at the latest, it is dangerous to defer enucleation. An eye which is steadily recovering from the infection may still damage the other, but the probability of such an accident is very small. An eye, however, in which inflammation lingers without change is never worth saving, no matter how little inflamed or how good the remnant of sight.

After apparent recovery of an injured eye it must be determined whether the globe is entirely free from inflammation or not. Lingering disease, not ordinarily noticeable by the patient, is indicated by either tenderness on pressure or ciliary injection or both combined. The ciliary injection may show itself merely by the diffuse engorgement of small veins near the periphery of the white of the eye with relative pallor around the cornea, or it may only amount to a flushed appearance brought on by examining the eye. In either case it indicates the presence of inflammatory foci in the choroid and such an eye may cause trouble if not removed. When a formerly-injured eye becomes inflamed again after a period of quiescence, it is even more likely to cause sympathetic mischief than after the original infection and any extension of the disease beyond the iris should be cut short by enucleation.

When sympathetic inflammation has begun removal of the exciting eye does not affect it to a noticeable extent—at least at the time—except when the disease is limited to a neuro-retinitis. This exceptional type of sympathetic inflammation is invariably cured by removal of the other eye. But the common irido-cyclitis pursues a course apparently uninfluenced and often enough ends in ruin of the eye. Yet a striking observation shows that the continued presence of the offending eye is not without real influence upon sympathetic involvement of the other. Every recorded case of sympathetic outbreak after a preventive enucleation was of a mild type and ended in recovery. Hence the usual plan of enucleating promptly after sympathy has begun is correct. An important exception to this rule must, however, be recognized. An exciting eye with vision or a reasonable prospect of sight should never be removed after sympathetic disease has started, since one can never predict the outcome of sympathetic disease and the injured eye may ultimately prove the better of the two. This has been illustrated a number of times by the patient's refusal to sacrifice the first eye, which in the end turned out to be his salvation from blindness.

The treatment of the sympathizing eye is the same as that of the primary eye. Atropin to the utmost extent, rest and darkness are of prime importance. Local heat always deserves trial. Castor oil is probably not useless. All observers who have used salicylate of sodium in large doses agree as to its pronounced influence. It should be pushed to the limit of tolerance without hesitation. To the salicylate more than to any other measure must be attributed the better results of late years. Mercury by inunction has always been employed, especially in European clinics. Yet it can not be said that there is any positive proof of its benefit in this disease. Schirmer's remarkable success with mercury in the inflammation of the first eye as well as his luck in not meeting a single instance of sympathy in 62 successive traumatic infections, are certainly a strong plea in favor of this agent, although even this can not be considered an absolute proof.

General experience has shown that no operation—iridectomy or removal of cataract—no matter how properly indicated, should be done either in the injured or in the sympathized eye until many months have elapsed after complete recovery from all inflammation. Many an eye with the best prospects for sight has been lost because some operation done too early rekindled the slumbering infection.

In spite of much work by competent authors the parasite of infectious and of sympathetic irido-cyclitis has not yet been identified. No explanation, however, in any way acceptable, has even been offered except the assumption of a microbic origin. The path along which this pathogenic influence travels from the first eye to the second is likewise not definitely determined. The lymph space between the sheaths of the optic nerve from the eye to the chiasm and vice versa is the route suggested by most experimental and pathologic observation.

ACTION OF SILVER NITRATE AND CHROMIC ACID ON CHRONIC GLOSSITIS, UNDER THE INFLUENCE OF THE ELECTRIC CURRENT.

M. L. RAVITCH, A.M., M.D.
LEXINGTON, KY.

One is surprised at the number of patients who present themselves for treatment of chronic glossitis with negative results. Under the name of chronic glossitis are included leucoma, leucoplakia, glossitis desiccans, ichthyosis, tylosis or eczema, and keratosis. I need not go into the description of the aspects of the different forms of this disease.

Present knowledge of the etiology of chronic glossitis is so imperfect that therapy for any form of this disease has not advanced proportionately with that of other diseases. In view of the fact that even after the removal of the supposed cause the disease does not readily yield to treatment, I make a suggestion of using 15 per cent. solution of nitrate of silver or 5 per cent. solution of chromic acid under the influence of the galvanic current in cases of chronic glossitis. The manner in which I treat my cases is the following: After painting the patient's tongue with a 15 per cent. solution of nitrate of silver or 5 per cent. solution of chromic acid, the patient is told to hold the wet positive sponge electrode in one hand while the negative metal electrode is rubbed over the painted diseased areas for from ten to fifteen minutes; an excess of saliva is produced and it is caught by the patient or operator holding a large piece of absorbent cotton to the mouth.

I use mostly nitrate of silver, though chromic acid has given me satisfaction. The action of these agents on the tissues under the influence of the electric current may be thus explained: Silver nitrate is first separated into ions, the silver cation, Ag, and the nitric acid anion, NO_3. The silver ion then goes to the negative pole and separates as metallic silver. On the other hand, the nitric acid ion does not separate as such, but decomposes the water present in such a way as to produce nitric acid and oxygen. Therefore, the cauterizing effects of a solution of silver nitrate under the influence of the electric current are due to nitric acid and active oxygen.

In this connection it would be observed, however, that one effect of the current is to cause migrations of the ions in opposite directions, the silver ion toward the negative electrode, the nitric acid ion towards the positive electrode, hence the effects of applying the negative electrode to a surface painted with a solution of silver nitrate, the positive electrode being applied to a different part of the body, is to remove the silver at the negative electrode and drive nitric acid ion deeper and deeper into the tissues where it acts upon the water in the manner above indicated, forming nitric acid and oxygen, hence we would be led to expect better results from the application of silver nitrate in this manner than from the usual method.

In the same way when a surface of the body is painted with chromic acid and the current applied, keeping

the negative electrode on the part painted with chromic acid and the positive on some other part, the chromic acid is resolved into its ions, the hydrogen ion, H+. and the negative ion, CrO_4, would at once migrate, the former to the negative, the latter to the positive pole. Then the hydrogen of the chromic acid is removed at the negative pole, whereas the CrO_4 ion penetrates deeper and deeper into the tissues. In the tissues it is decomposed by water into oxygen and chromic acid, which again is acted on by the current in the manner already described. At the same time, however, another action is taking place. The chromic acid ion CrO_4, and chromic acid itself, finding themselves in contact with the tissue, rapidly oxidize it with the production of the basic oxide of chromium, which is green in color.

Pain of which most patients are apt to complain is greatly relieved by galvano-chemical applications. the hyperemic condition of the tongue gradually subsides, the tissues become more natural, the patches gradually fade away and the tongue assumes its healthy color. From twenty to thirty applications is all that is needed even in the severest cases. Irritant condiments must be forbidden and the digestion attended to.

A curious fact in cases of chronic glossitis is that women hardly ever suffer from this ailment. In conclusion I desire to express my thanks to Prof. J. Kastle of the State College for assisting me in investigating the chemical action of the above-mentioned metals under the influence of electric current.

The following cases form the basis of my article:

CASE 1.—Mr. W. F., aged 31; has been under treatment for chronic glossitis (psoriatic form) for over 6 years, history of specific nature. Did not yield under any treatment. A 20 per cent. solution of silver nitrate was applied with the aid of the electric current; pain and patches entirely disappeared in twenty sittings.

CASE 2.—Mr. C. P., aged 46; leucoma of the tongue of four years' standing. History non-specific. Discontinuance of smoking and diet did not improve the disease. Fifteen applications of 5 per cent. solution of chromic acid under galvanic current greatly improved the tongue. Patient, deeming himself cured, did not return.

CASE 3.—Mr. G. V., aged 26; eczema of the tongue of two years' standing, non-specific. Ten applications of silver nitrate under electric current were administered. Patient discharged cured.

CASE 4.—Mr. J. R., aged 47, keratitis of the tongue, non specific, pronounced by one doctor to be cancer of the tongue. Complained of pain and itching. Eighteen applications of 20 per cent. silver nitrate solution under electric current were given. Patient discharged cured.

CASE 5.—U. R., aged 32; leucoplakia buccalis, non-specific. Fifteen per cent. solution silver nitrate was applied. After ten sittings, patient did not return, although greatly improved.

FOREIGN BODY WITHIN THE ORBIT.

ALBERT B. HALE, M.D.
CHICAGO.

On April 9, 1901, Mr. J., a retired business man of 79, while striking a blow with a hammer, felt a stinging pain in his left eye. His daughter could find nothing, but although there was no pain and perhaps only such dimness of vision as would accompany any blow, something about the appearance of the eyeball aroused her suspicions. The writer arrived at the house about one hour after the accident. The patient was calm enough and rather laughed at the need of medical attendance. There was still no pain and practically no redness of conjunctiva or sclera. On the cornea, two millimeters below the apex, in the lower outer quadrant, was a very small perforation which was no longer patent but had already begun to repair; there was practically no opaque area. The anterior chamber was restored and in it no blood could be detected nor was the fluid cloudy. The iris, however, showed that the penetrating body did not stop at the cornea; corresponding exactly to the corneal wound there was in the iris (lower outer quadrant) a lacerated perforation. The lens showed that the foreign body had not stopped at the iris; a very faintly opaque line could be traced through it. The vitreous was not yet cloudy nor was there any noticeable path of a foreign body through it and the fundus was quite clear with every detail of the posterior half distinct and nothing abnormal discoverable.

Atropin was immediately used and within four hours a maximum effect was produced. The perforation through the iris was now nearly obscured by the contracted membrane and the lens showed more plainly the path of the foreign body. In fact, cataractous changes had already begun, so that the lens was now noticeably opaque and consequently fogged materially the details of the fundus. By nine o'clock the next morning the lens was so opaque, especially in the lower, nasal quadrant, that effort to study the fundus was abandoned. An *x*-ray photograph was then taken with positive results. The foreign body was demonstrated, but although an effort was made to locate it by different photographs in different planes (Sweet's method[1]) no exact success was obtained.

Twenty-four hours after the injury there was only such slight pain as would be ascribed to excessive manipulation. The hammer had been carefully examined as this was the only substance from which a foreign body could have sprung. Wood, on which he had been hammering, could not have produced so small an injury and, although the head of the tool was so rough as to prevent certainty of finding a bit missing, yet practically there was no doubt that the foreign body was a piece of steel. Had an Asmus sideroscope[2] been accessible it would have been used. Twenty-four hours after the *x*-ray there was slight pain, some redness and scarcely noticeable swelling. Tension was not increased.

The patient was a man of wide experience and of a thorough acquaintance with physicians and surgeons. He invited confidence and his mind was calm enough to consult on his own case with philosophy and judgment. It must be here stated that his health was not of the best. He had had two attacks of pneumonia wherein hope of recovery had been very small; his heart had thereby suffered, so that his attending physicians had warned him that he might at any moment have an apoplectic stroke or an embolism. Life, therefore, although dear to him, was doubly precious if the few remaining months or years could be enjoyed in comfort, with no pain beyond that to which he was accustomed and with no fear of impending operations, either one to remove threatening disaster of sympathetic ophthalmia, or to repair the result necessitated by intra-ocular investigation of the injury already done. Moreover, he had an acquaintance who had been injured in much the same way, but who, after patiently submitting to a magnet operation and life in a dark room for six months, had finally been obliged to lose his injured eye in order to retain its fellow.

The surgeon's attitude to such an accident was explained to the patient. 1. The eye could be

let alone, trusting that nature would heal the wound and allow the foreign body to lie quiescent in its bed, somewhere in the choroid (presumably near the ciliary body); that soon, however, the lens would have to be removed as it was already quite opaque and would render the eye useless until extracted; that after extraction this eye would never be so good as its fellow, and would always have to wear a glass, but would see and be a useful organ, although there would always be danger from the foreign body. 2. To investigate at once with a magnet, to extract the steel, to allow the eye to become quiescent and then to proceed with the extraction of the cataract. 3. To enucleate at once, even before inflammation showed itself; by which treatment he would lose an eye, but would, in all human probability, escape the danger of sympathetic ophthalmia, would be detained but a few days in hospital, have only a few weeks of peaceful convalescence, and within a reasonable time could wear an artificial eye and, excepting for this change, could return to his avocations with as easy a mind and body as he had had before. The patient chose the last method of treatment, which was according to the writer's advice. Sixty hours after the eye was injured it was enucleated, ether being used as anesthetic, and the encouraging prediction was verified, for he remained only five days in hospital, there was absolutely no reaction either local or general, he escaped all pain, and five weeks after the injury he was wearing a glass eye and reading his newspaper as if nothing had happened.

After his return home he suffered a very sudden but mild attack of aphasia and partial paralysis of the arm and leg, due to a small embolism in the left brain, but from this he recovered quickly and completely.

The enucleated eye was immediately hardened in one per cent. formalin solution and when ready was prepared and mounted according to the method of Priestley Smith.[3] The accompanying cuts show nicely the injury to the iris and lens and the path of the foreign body to its seat in the choroid near the ciliary body.

There is due some explanation of the patient's wishes for preferring this third method of treatment and of the surgeon's reason for advising it. On personal grounds he argued that he had only a slight hold on life, and his remaining days he hoped to pass in peace and comfort; he did not fear death, as he often said, but he dreaded above all things the invalidism of the old, which might be a part of the magnet operation, of the subsequent reaction and of the cataract operation, necessary to restore to the eye its usefulness; hanging constantly over him there would be the haunting fear that some sudden change in the eye might precipitate an inflammation, in itself dangerous to both eyes and demanding the enucleation to avoid which had been the purpose of all the treatment. Undoubtedly this feeling was intensified by his knowledge of the experience of that friend who had suffered a similar injury, in whose case the magnet operation had been performed *secundum artem*, but after six months of dark room, pain and idleness, he lost the eye after all. He ended with the remark that one good eye was worth two bad ones in danger, so far as his own future was concerned.

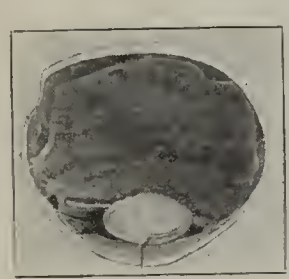
To examine the matter scientifically is to cover the history of modern ophthalmology. The result of the third plan of treatment suggested is illustrated by the history of this case; let us study the first plan, to see how it might have ended. Undoubtedly earlier surgeons were aware of the danger after penetrating wounds of the eyeball and took steps to give immediate relief, but Mackenzie's investigation of the relation between such injuries to one eye and subsequent inflammation and loss of sight in the other (1840) finally established the clinical fact that protection was most surely obtained only by an early enucleation of the injured member; although even in the 1855 edition of his work enucleation is not systematically advocated. The prevailing theory to explain the migration from one eye to the other was until recently that of a ciliary neuritis, which traveled by some undemonstrable means across the brain. This theory is not yet abandoned by all, even of the keenest students, but owing to the growth of bacteriologic enthusiasm, most investigators, headed by Deutschmann, would seek to trace the etiology of sympathetic ophthalmia directly to the poison of microorganisms (or their toxins) along the optic nerve sheath and the chiasm to the optic nerve of the sympathizing eye. The investigations of Alt, Gifford and others support this theory, so that Schirmer[4] assumes the theory as nearly proven. I do not care to discuss the subject here, but use the point to emphasize the statement that with the growth of scientific surgery there has developed in ophthalmology a dread of loss of the second eye after a penetrating wound, especially at the ciliary region—the so-called dangerous zone—of the first eye, and the tendency has thereby been strengthened to enucleate early if the eye has been seriously damaged, even at the risk of seeming haste, because of unwillingness to wait and hope for the tendency of nature to repair the injury within the confines of its own orbit. It took many years of study, however, to reach this conclusion, and the disasters following a waiting policy can be found in most text-books of eye diseases prior to 1860. Granted that there can be cited instances of retained foreign body that did no damage, there remains the equally acknowledged fact that the danger from such retained substances seems not to find a limitation in time, and that, therefore, sympathetic inflammation may even years after work destruction. *Laissez faire* means courting disaster; immediate operation means relief, escape from disaster with the loss of an eye.

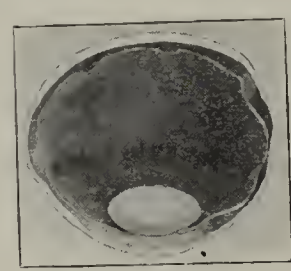
Hence enucleation was certainly the indication until the introduction of the electro-magnet into eye surgery. Of course, it had instinctively occurred to man to remove iron by a magnet, but an ordinarily magnetized metal was not strong enough to influence small particles through living tissue and not till the growth of the electro-magnet and its perfect adoption in a sterilizable form did it become of practical service in surgery. The world will never know what a debt of gratitude is due Hirschberg for his enthusiasm for the electro-magnet. As early as 1879 he published his first case of magnet operation in which a successful result was obtained. In 1896 he could rejoice[5] that there had been one hundred eyes saved by this modern means, and he compares experiences before and after the magnet epoch. During ten earlier years, for instance, there was not one good result in treatment of retained penetrating (metallic) foreign bodies. In 10 subsequent years 13 cases showed 7 good magnet results with only 6 losses. Again, in Zürich, 24 eyes were lost before the magnet, while afterward, although 24 were lost, there were meanwhile 11 saved. In 43 cases of magnet operation (Haab), there were only 5 lost by suppuration, whereas hitherto the proportion of such losses was appalling. In 1895 there was only one failure to find iron out of 15 cases.

Hirschberg is, of course, a strenuous advocate[6] of his

small electro-magnet; Haab, on the other hand, champions the large magnet,[7] though acknowledging that both should be placed side by side in the operating room.[8] Undoubtedly this modern method is a step in advance, and will be made still further serviceable as mechanical genius brings aid to surgery; already the Asmus sideroscope[2] is added to this equipment and contributes to our securing favorable results. Briefly stated, this instrument is a delicately adjusted magnetic needle which deviates from its position of rest when it is approached to sympathetic metal. For instance, Goldzieher,[9] when other means had failed, discovered by the sideroscope alone the location of the metal in a recent injury and successfully extracted it, leaving a healthy eye with one-half normal vision.

Such a case as this shows us, however, that there is a dark side which has not been studied with the care demanded by the impartial critic. No one can deny that the vision of an eye is its vital function; destroy this, and the eye, though normal to look at, becomes useless to its possessor. Mar its beauty, as is almost always done by a penetrating foreign body, and it is often not so good as a glass substitute, but when sympathetic ophthalmia may still be threatened by a useless globe, better out with it forever. To save the vision, then, is the object of all our endeavor and, until the magnet operation can give more assurance that it will preserve useful vision, let us acknowledge that enucleation still has its place as an operation of choice. Take Gold-





zieher's case above, in which vision was one-half—splendid, of course, but the eye is no longer perfect. Another case[10] may be cited where the magnet was used with success 24 days after the injury: here success was claimed, but poor vision is acknowledged by the operator. Coppez and Gunzberg[11] report 41 cases with 8 of the foreign bodies located in the anterior, and 33 in the posterior half of globe. Of 15 magnet operations attempted the results were 7 enucleations (one being after operation where sympathetic inflammation had begun), 8 eyes saved; of which one had vision of 2/3, two had light perception and five mere retention of the globe. Kibbe[12] is an enthusiast for the magnet operation and yet he concludes his report as follows: "The precise location of a foreign body within the eye, not directly visible, is impossible by any known method." Of his 11 cases (Haab's magnet) 2 recovered, but the vision is not given; one could count fingers only; 1 had vision of 20/40 with a lens; one of 20/200; one of 20/70; one was enucleated afterward; one had a capsular opacity with hope of subsequent improvement, and one was entirely blind. The other two escaped observation. Velez[13] reports as follows: One case where the piece of iron lodged in the anterior chamber, in which the Hirschberg magnet was used, resulted in a vision of 20/20; another, in the vitreous, vision of 1/10; a third, where one piece of iron was removed but a second piece left (neither *x*-ray nor sideroscope used), subsequent loss of the eyeball; another, where the lens was at the same time removed for the traumatic cataract, vision of 1/10. Sweet and Hansell[14] report a case in a fourteen-year-old boy, with successful extraction and subsidence of sympathetic irritation, four months after an injury, with retention of globe and some vision, but where vision might have been saved had proper diagnosis and treatment been begun at once. Mendel[15] reports a case in which a piece of iron, which had lain dormant four weeks in the retina, was extracted, leaving normal vision and nearly normal field. Barkan[16] reports 11 cases, in which there were 3 enucleations, 8 recoveries, of which 4 had good vision, fingers at 5 feet, 20/70, 15/20, Haab's magnet being used. Sweet[17] has collected from American literature 61 cases of similar injuries. In 16 of these, where no attempt at extraction was made, the injury resulted in enucleation 9 times; 4 patients refused interference with 3 disappeared from observation. In 45 cases, extraction by magnet was attempted. There were 7 failures, resulting in 5 enucleations, 2 escaping observation. In 38 cases the following were the usual conditions: 10 had vision of 6/18 or better (22.2 per cent.); 5 had vision of 6/60 or better (11.1 per cent.); 8 had traumatic cataract (17.7 per cent.); 8 had light projection (17.7 per cent.); 7 had atrophy of the bulb (15.5 per cent.).

Certainly these are grand results. Eyes are undoubtedly saved and the possibilities for the future are undoubtedly full of promise, but the grim fact remains that in many cases the final signature was poor vision or enucleation. From a series, no matter how elaborate, one can not draw conclusions by averages; one must study the individual and the accident befalling him. In the writer's case above, peace of mind and days of life far outweighed the ambition for scientific progress. In a younger man, with his future before him, to whom an eye disabled to half its value, deprived of its lens and condemned, if assisting its fellow, to do so only by an eyeglass, but an eye in which the field of vision was still retained to aid in enlarging the outlook on the world—in him try the Roentgen ray, try the sideroscope, try the Hirschberg or Haab magnet and thank God for them all. If enucleation must finally be done it has cost only a few months of waiting and has meanwhile warded off the blackness of despair. But to an old man, to whom every day means a closer approach to the grave, the advice would be—unless the diagnosis and attack be sure—do not wait; beware of effort that may prove futile; cling to the certainty and be thankful that we know where and even at what cost this is to be found.

So much we have gained, then: eyes that before would surely have been lost, may be saved. True conservatism consists, however, in establishing for the patient's future the greatest comfort within our power.

BIBLIOGRAPHY.

1. Trans. Amer. Ophthal. Society, 1897; also Philadel. Med. Journal, Feb. 1, 1902.
2. E. Asmus Duesseldorf, Das Sideroscope und seine Anwendung. Bergmann, Wiesbaden, 1898.
3. Ophthalmic Review, 1897, p. 4, and Wuerdemann, Annals of Ophthalmology, vol. vi, 1897, p. 674.
4. Graefe Saemisch Handbuch, 2te Auflage.
5. Berliner Klinische Wochenschrift, 1896, No. 25, June 22.
6. Die Magnet Operation in der Augenheilkunde, 2te Auflage, Leipzig, 1899.
7. Bericht Heidelberg Kongress, Ein neuer Electromagnet zur Entfernung von Eisensplittern Deutschmann's Beitr. für Augenheilkunde, Heft xiii, 1894; 1895, p. 191.
8. Discussion on this point by Türk and Hirschberg, Berliner Klinische Wochenschrift, Oct. 8, 1900, No. 41, p. 910; and No. 32, p. 712.
9. Centralblatt für practische Augenheilkunde, November, 1901.
10. Mock: Münchener Medicinische Wochenschrift, xlvii, No. 27.
11. Zeitschrift für Augenheilkunde, vi, July, 1901, abstracted in Centralblatt für practische Augenheilkunde, October, 1901, p. 312.
12. Archives of Ophthalmology, vol. xxix, 1900, p. 3.

13. Anales de Oftalmologia, Marzo, 1901.
14. College of Medicine of Philadelphia, Session of Dec. 18, 1900, and Anales de Oftalmologia, Febrero, 1901, p. 258.
15. Berliner Ophthalmolog. Gesellschaft, Sitzung 23, Mai, 1901.
16. Archiv für Augenheilkunde, xli, p. 315, and Archives of Ophthalmology, vol. xxviii, 1899, p. 288.
17. Philadelphia Medical Journal, Feb. 1, 1902.

SOME ATYPICAL FORMS OF DISEASE.*

JAMES L. TAYLOR, A.M., M.D.
WHEELERSBURG, OHIO.

One of the fields of largest promise to the medical investigator of the future is that which holds the secrets of attenuation and malignancy of germs which cause infectious diseases. While laboratory processes have shed some light on this interesting subject, the fact remains that diseases spring up, prevail for a time in mild, severe or malignant form, and finally disappear according to laws that, for all practical sanitary purposes, are yet unknown. On the first appearance of a disease, no one can tell whether it will prove to be sporadic or epidemic, benign or virulent, of widely extended or only local prevalence. Extreme virulence may stamp a brief sporadic outbreak, while a very benign infection may be widespread and of long duration. Or—as happens more frequently—these conditions may be exactly reversed. Nevertheless, the term "epidemic constitution" so long used by the older writers to explain these conditions, or rather to veil their ignorance of them, is no longer employed. We now speak of germ virulence or attenuation. But our actual knowledge, as to why the germs are virulent in one outbreak and benign in another, or why a change of type often takes place during the same epidemic, is about as meager as before.

A practical result of this varying germ activity is a tendency to confusion in our accepted nosology and in the diagnostic recognition of different forms of disease having the same underlying cause. A most remarkable example of this confusion has lately been seen in the smallpox visitation so widely prevalent in this country. There being no established germ criterion in this disease, and therefore no unerring means of diagnosis, it has been stoutly maintained in many quarters—and by very competent medical men—that the disease in question could not be genuine smallpox. Its behavior certainly has been exceptional. No one in this generation having seen any similar outbreaks, there seemed to be valid grounds for questioning the real nature of this easily managed and in most cases harmless affection. It has been so unlike the ultra-contagious, virulent scourge of which we have all read so much and of which many of the older men have seen so much that, judged by symptoms and results, those who denied the identity of this widespread epidemic with the typical form generally assumed, have apparently had substantial reasons for their opinions.

So distinguished an authority as Dr. J. Nevins Hyde,[1] while maintaining that the disease is genuine smallpox, offers as an explanation of its mildness the theory that vaccination and the inherited immunity conferred by ancestral vaccinations have developed a resistance to germ infection and shorn it of its ancient malignity. As a theory this view is certainly pleasing, since it implies that by continued vaccination, in the process of time the human family may become practically immune. Unfortunately, this view lacks the sanction of both history and analogy. If it were true, we should find no epidemics similar to our own in former times, but would witness a gradual subsidence in the severity of smallpox down to the present time. This is not the case. Long before the discovery of vaccination—to quote from Trousseau—the writings of Sydenham, Van Swieten and Borsieri described "anomalous epidemics of smallpox presenting all the characteristics of the modified smallpox of the present day." Curschmann says: "Smallpox in frequency and intensity exhibits the greatest variation in individual endemics and epidemics." *Per contra,* so recently as 1870-71, in spite of the protective influence of vaccination, "the European epidemic carried off from 18 to 25 per cent. and even more of all who were attacked." This seems conclusive that we have been witnessing a phase of the disease altogether similar to what has been seen in the past and that its varying types have not undergone a permanent change.

In this particular, smallpox corresponds by analogy, with other diseases. Consider the plague—a disease of most pronounced physical symptoms. Before the discovery of the plague bacillus the literature was filled with descriptions of pestis major and pestis minor, and discussions were keen as to whether they were the same or different diseases. In 1564, while the epidemic in London carried off 1000 victims a week, the disease was at the same time an everyday occurrence in Paris, and so mild that many people were more afraid of a headache.[2] The one form depopulated whole villages and often seemed to poison its victims to death in a few hours. The other was less to be dreaded than an ague. But to-day all dispute as to the identity of the germ causing the two forms of the disease has ceased.

Every experienced medical man has seen diphtheria and scarlatina behave in the same way. In 1888 I saw scores of children, in fact, nearly all the children in my territory, go through an epidemic of scarlatina so mild in form that most of them continued to attend school. Two or three cases only developed sufficient severity—angina, palmar and plantar desquamation, nephritis, hematuria and dropsy—to emphasize the true character of the disease. The laity, however, named it "the rash," and when I talked to them about scarlet fever, they were incredulous, and wondered why the doctor should take "the rash" so seriously.

Investigation during the last few years has also established the fact that typhoid infection is subject to greater irregularities and departures from the hitherto accepted types than any of the infectious diseases. The recent volume of Johns Hopkins Reports[3]—a veritable mine of wealth for literature and original research on this subject—is authority without further reference for much that is herein adduced. The discoveries of the pathologist and bacteriologist have wholly revolutionized former conceptions of this disease. The point of view now occupied regarding its origin, dissemination, mode of infection, pathological lesions and behavior within the body presents a new revelation, and much that was considered authoritative, well-founded knowledge, twenty years ago is now obsolete. Then typhoid fever was an intestinal disease pure and simple—a primary dothienenteria. The furuncular eruption on the intestine—at some stage of the disease—was held to be pathognomonic. Now, according to Dr. Camac, the liver is believed to be the primary center of infection. High authorities "regard the gall-bladder as one of the surest places to obtain a pure culture of Eberth's bacillus." To what extent the liver may have bactericidal functions is not yet determined, but it seems to be well

* Read before the Central Tri-State Medical Society, Ashland, Ky.

established that pathologic lesions due to the specific organism may appear there in profusion, as well as in the ducts and gall-bladder, without any visible evidence of coincident intestinal infection. Instead of being confined to the intestinal canal, Flexner says the bacilli may be found not only in the liver and bile but also in the lymphatic glands, the kidneys, lungs and circulating blood. They are even observed in the substance of the central nervous system, in the meninges, the bone marrow, and various lesions of the cutaneous system. In any of the above conditions the usual intestinal lesions may not exist. A pneumonia, a hepatic abscess or a meningitis, caused in either case by the bacillus typhosus, may carry off a patient without a particle of intestinal involvement. Flexner also cites the remarkable experience of Chiari and Kraus who, "in 19 autopsies of typhoid fever, found seven instances in which the anatomical lesions of the disease were wanting. These cases, though negative from the postmortem point of view, had all given positive serum reactions." Such cases, as well as those in which the spleen alone is the suffering organ, indicate a liability to systemic infection through the blood current—a true typhoid septicemia. If typhoid may go on to a fatal termination without any visible anatomical lesions, much more may lighter forms of infection exist without definite localization. Hence, in the light of modern research, he must be a bold man who would deny a typhoid origin to almost any obscure febrile affection of an obstinate nature.

The theory long held which attributed the origin of typhoid infection to a contaminated water supply has also undergone some modifications. Other sources of infection are now recognized as of equal danger with water reeking with the products of cesspool cultures. After the convincing experiments which proved that the common fly may be the carrier of cholera, the inference was easy that flies might also disseminate typhoid poison. Accordingly Celli (to quote from Nuttall) observed that flies fed with pure typhoid cultures voided virulent bacilli, and that animals inoculated with these culture flies were likewise infected, "proving that the bacilli which passed through flies were virulent." Veeder once observed a commode emptied of typhoid dejections, placed, without being disinfected, near a pitcher of milk. Flies collected on both vessels and could readily pass from one to the other. Veeder asks: "Is it strange that there were numerous cases of the disease in that house and others in the house next to it?"

The course of a typhoid outbreak in my own practice in the year 1899 tends to confirm this view of typhoid dissemination. The year before, a girl in a family in the country, who had waited on a sister with fever in another neighborhood, came home with the disease and died. No more cases of it occurred that year in this locality. The next year in August the mother had an obscure ailment lasting several weeks, apparently hepatic in character, from which she recovered. In September five of the children sickened at the same time with what proved to be unusually severe typhoid. At the same time four other families along the road leading to the railway station, living on consecutive farms, also developed the same type of disease in one or more cases. Further on towards the station along the same road, still other families developed the disease simultaneously in the territory of neighboring doctors. The peculiar feature of this epidemic was that it appeared about the same time in all the stricken families, and only along this road, a distance of nearly three miles. It seemed that the first family with the case in August, or possibly that of the previous year, must have been the focus of dissemination. The course of the road in this uneven country in no way coincided with the direction of surface drainage. The water supply as a primary source of infection could not be considered. At the time it appeared that the dust was the most likely vehicle for its diffusion—the prevailing winds being in the direction of the road leading to the station. Since the study of Germano, however, who found that typhoid germs do not resist drying and are therefore not liable to be scattered in this way, it seems more probable that flies, laden with the germs, followed the teams towards the station in the direction of the prevailing winds and infected the dwellings by the way. When we reflect that the larvæ of flies are hatched in manure heaps and mature there, it is not surprising that they should have access to typhoid excreta in their breeding places, and be able to infect the food and water supply of adjacent dwellings. Knowing this fact, the origin of many obscure outbreaks of the disease is the more easily explained.

Bearing on the subject of obscure disease types, the recent study of so-called typhomalarial fever made by Dr. I. P. Lyon is also of great value. It will be remembered that the term typhomalaria was added to our disease nomenclature by Dr. Woodward during the Civil war. Following this distinction, about 50,000 cases of this disease were reported among the troops with a fatality of only 8 per cent., while 75,000 of typhoid were recorded with a mortality of 35 per cent. The fatality of typhoid was therefore more than four times as great as typhomalaria. Ever since then it has been the rule with many physicians, supported by many medical writers of distinction, to designate mild, indefinite ailments as malarial, and those of a somewhat graver type typhomalarial.

All this refinement in diagnosis, however, vanishes before the searchlight of the microscope, assisted by laboratory methods. A coincident typhoid and malarial infection is now shown to be a rare occurrence. Going through the literature, Lyon was able to collate only 30 undoubted cases, and these were mostly cases of preexisting malarial infection. He states that "Thayer, in Osler's clinic at Johns Hopkins Hospital, has studied hundreds of cases of malarial fever and of typhoid fever, from the neighboring Chesapeake Bay region and from the Southern States, but has never seen the type of fever described in the South as typhomalarial, and has observed only two cases of true combined typhoid and malarial infection. It seems probable that future investigations will show typhomalaria to be most often a mild form of simple typhoid fever."

So far from being a mild affection, the mixed typhoid and malarial disease presents a high rate of mortality, eleven of Lyon's thirty cases being fatal. This is a mortality rate of over 36 per cent., or five times as great as the mortality from typhoid among our troops in the late Spanish war. This also agrees with the views of French surgeons who describe a true coincident typhoid and malarial infection in Northern Africa and Madagascar as a disease of great severity, attended by a higher rate of mortality than typhoid alone. There now seems no doubt that the term typhomalaria originated in an erroneous conception and that systematic writers on medicine will cease to recognize it hereafter in their nosology.

Viewed in the light of the foregoing facts, what shall be said of that mild endemic disease which has prevailed so extensively throughout the Ohio valley during the past season? Such cases of this continued fever as have come under my own observation could usually be traced to an origin at some point where the Ohio River furnished the water supply. According to the vital statistics of the late census report showing the comparative death rate from infectious diseases of the eleven largest cities in this country, Pittsburg heads the list in the proportion of deaths due to typhoid fever. It is located at the junction of two small rivers which receive the sewage of many towns above and the drainage of a wide expanse of populous territory. It is a great manufacturing city and all the offal of its numerous factories is poured, along with what comes from above, into the Ohio. The towns and cities which line the river below, all drain their accumulated filth and disease germs into the already contaminated current. Should it cause surprise then that the Ohio valley, most of whose towns draw their water supply from this great sewer of five states, usually without adequate filtration, has become the endemic home of typhoid fever? The only strange thing about it is that the disease should be so mild, so atypical in many localities, as to cause uncertainty as to its true nature. In my own territory enough of these cases responded to the Widal test to stamp the disease as genuine typhoid. Neither malaria nor influenza would explain the symptoms and quinia failed to abridge the fever.

Now that we have more accurate means of diagnosis at command, the word typical acquires a new signification. The mild forms which have hitherto been clusive, become just as typical of some epidemics as those less common forms attended with great fatality. The point of view has simply changed, and our conceptions of disease—of typhoid as well as other infections—are correspondingly widened.

BIBLIOGRAPHY.

1. Popular Science Monthly, October, 1901.
2. Encyclopedia Brittanica, vol. xix, p. 164.
3. Johns Hopkins Hospital Reports, vol. viii.

A CASE IN WHICH A LARGE BONE CAVITY WAS HEALED BY MEANS OF THIERSCH GRAFTS.

JOHN PRENTISS LORD, M.D.

Professor of Surgery, Creighton Medical College; Attending Surgeon, St. Joseph Hospital; Consulting Surgeon, South Omaha Hospital.

OMAHA, NEB.

Frank Moeha, a farmer aged 60, referred by Dr. Gilmore, was admitted to St. Joseph Hospital, Oct. 21, 1901. The patient had an acute suppurative osteomyelitis of the upper half of the left tibia, which was engrafted upon a chronic inflammation of the same character, which had been of two years' standing. He had the same trouble, in the same place, when six years of age. He was operated on the day after admission, and a very putrid suppurating focus was removed, which included the medulla and cancella of the greatly enlarged upper half of the bone. The erasion extended to the cartilages forming the knee joint. The cavernous portion of the excavation was large and about four cm. deep and three cm. wide. It was filled with pure carbolic acid, which was allowed to remain for about one minute; then the cavity was flushed out and filled with alcohol, as recommended by Powell. It was then well dusted with iodoform and partially packed with iodoform gauze; about an ounce of boric acid being incorporated with the gauze, which filled the cavity. After applying a copious dressing, the constrictor was removed and the limb held upright to limit hemorrhage. An elevated position of the limb was maintained in bed for a time, for the same reason. The outer dressing was renewed on the third day. The wound was repacked on the tenth day and at the same intervals for the whole of the treatment, during which there was no suppuration. Nov. 29, 1901, Thiersch grafts were placed throughout the open portion. The result was perfect. Jan. 6, 1902, the cavernous portion was two and one-half cm. wide and three and one-half cm. deep, but it received grafts with equal success. The grafts were placed upon the wetted outer surface of the limb and slid into the cavity by teasing. They were secured by pledgets of cotton wrung from normal saline solution packed into the cavity, which, when half full, was partially filled with boric acid and the remaining portion packed with gauze. The

Bone cavity healed by means of Thiersch grafts.

dressing remained undisturbed for four days, except for some wettings, which it received on two occasions. It was afterward dressed with a mixture consisting of balsam of Peru one part, castor oil seven parts. Epidermization was complete from the first and the patient was discharged cured Jan. 13, 1902.

Trough-like defects in the shafts of bones have been grafted by the author and plastic operations done for the purpose of limiting bone defects and hastening healing, as described in surgeries; yet to graft a large hollow bone defect, as in this case, is the first experience of the writer and he is not aware that it has been done by others. The happy result justifies the belief that a good service has been rendered this patient, who valued time and early cure more than cosmetic results. To have undertaken to fill this large bone defect by the growth of granulations would have required months, with possible failure

in the end to secure complete closure. A sinus with an unhealthy discharge may be inferred to be prone to cancerous development. While the grafted surface might not withstand much traumatism, were it exposed, it is now sound and is so protected as to be little liable to mishap. To have undertaken to fill the cavity by decalcified bone chips or sponge, would probably have resulted in failure. While this large defect remained aseptic under the treatment instituted, the large quantity of bone chips and blood clots necessary, would doubtless have been too favorable a medium for lurking germs.

When this case was exhibited, the question arose as to the strength of the bone. The prolonged osteomyelitis had so thickened the compact layer as to render it sufficiently strong. But the large surface underlying the exposed semilunar cartilages (the entire cancella having been removed from the upper half of the bone), indicated that there would be a point of weakness, but later granulations so limited this area as to leave no room for apprehension. A recent letter states that the cavity has much reduced since the patient has returned to his home. The photograph I present with the article does not do justice to the size of the cavity, which is fully three cm. deep.

THE VALUE OF STATE CONTROL AND VACCINATION IN THE MANAGEMENT OF SMALLPOX.*

J. N. McCORMACK, M.D., LL.D.
SECRETARY OF THE STATE BOARD OF HEALTH OF KENTUCKY.
BOWLING GREEN, KY.

Vaccination became so popular and universal in all civilized countries in the decades following its introduction that the horrors of smallpox almost faded from the memory of men, and medical writers and teachers habitually wrote and spoke of it as possessing only an historic interest. It is probable that in this age vaccination became so general that more or less inherited immunity existed, as a rule, even where the individual himself had not been subjected to the operation. Then came the reaction against it, and an exaggeration and misrepresentation of the accidents and evils incident to any like remedy used by the laity, as well as by many careless medical men, who had no conception of the value of cleanliness, which philosophic minds should have anticipated. In this the anti-vaccinationist had his day, alongside of him who doubted if Shakespeare wrote his own plays, and the other countless freaks, literary and vulgar, whose only hope of notoriety has been the claim, usually a pretense, of being iconoclasts.

The present epidemic in this country began from cases brought from Honduras to Mobile in the spring of 1897. The early cases were overlooked or neglected, owing largely to the mildness of the disease, which has been characteristic of the entire epidemic. This is probably due in part to the attenuation of the contagium by long prevalence in the tropics, and possibly to some extent to the partial racial immunity before referred to, inherited from generations of vaccinated ancestry, especially in the colored race from the rigid enforcement of vaccination during slavery, and the children of parents recently from Europe. Another reason that caused it to be overlooked was that it was confined strictly to the colored race at the outset. The disease soon reached the mining regions of Alabama and Tennessee, where it rapidly assumed the proportions of an epidemic.

The first Kentucky case came to Middlesboro from Tennessee early in December of that year, and was not recognized as smallpox until many exposures had occurred and a serious epidemic was in full blast. A little later the disease broke out at Jellico, a state-line mining town, and two months later a negro who had contracted the disease at Knoxville came down with it at Richmond. Before a diagnosis was made and the cases reported to the health authorities, another serious epidemic was in full sway. Although the features of these early cases were well marked, and the true nature of the disease was appreciated by the better class of the profession as a rule, ignorant and designing persons spread the report that it was "elephant itch," "Cuban itch," or "African itch," all of which were smallpox in the negro vernacular, names which have persistently clung to the disease in this and other states, much to the confusion of the popular mind. By the rigid application of the usual methods, isolation and enforced vaccination, the disease was stamped out in all of these places, but in a few weeks was imported into other counties and stamped out, and we have moved on in this endless circle in Kentucky for now more than four years. Had the methods of other states been as effective as ours we would never have had smallpox to begin with, or at the worst our trouble would have ended with the eradication of the disease at the places first mentioned. On the other hand, had all of our people been vaccinated at the outset, as the law plainly required, we would never have had a case—unless an imported one—followed by no spread of the disease.

Our official figures show, however, greatly to the discredit of the state, as well as to the medical profession, in my opinion, that only about 15 per cent. of our population was protected by vaccination when the epidemic began, and this chiefly in the cities and towns. In the country districts, practically all were unvaccinated, and if the first case was not recognized and isolated an epidemic was the inevitable result. If the first case was a negro he spread it among his own people, as a rule, and if a white person he gave it to his friends and color, but if its extension was not soon restricted by official action it spared neither race. In the light of an experience with thousands of cases coming under my observation it has shown no preference for the negro race in this climate.

It is doubtful if better opportunity has ever offered for fully and fairly testing the value of official control, in which vaccination is included, in the management of smallpox than during the almost constant prevalence of the disease in some portions of this state in the last four years, or if the history of so many separate outbreaks in country districts has ever been more carefully observed or more faithfully recorded and reported. In that time there have been 405 distinct outbreaks in 112 of our 119 counties, with a total of 11,700 cases and 191 deaths.

In probably a majority of these instances the initial case was an importation from some other state, and often, especially in the country districts, many cases or exposures had occurred before the character of the disease was recognized, or the local board of health had any knowledge of the facts. This was due partly to the mildness of, and low rate of mortality from, the disease, and still more to the fact that we had been so long exempt from smallpox in this country that a generation of doctors had come on which had little theoretical and no practical knowledge of it. As we have efficient

* Read before the Kentucky State Medical Society, at Paducah, May 7, 1902.

boards in nearly every county and municipality in Kentucky, active measures were adopted to bring the disease under control as soon as it was reported, and these efforts were uniformly successful in the end, although, especially in the earlier years, the work was often hampered, and the difficulties greatly increased, by ignorant fiscal officials who refused or delayed the appropriations necessary for feeding, housing and nursing the indigent sick, and using this pretense of economy as a vote-catching device for reëlection to the office then held, or some higher one. This tendency was nipped in the bud by the prompt and unsparing exercise of the power of the State Board of Health to put the town or county in rigid quarantine until such time as proper action was taken by the officials to protect their own people and the balance of the state. To accomplish this seldom required more than two or three days, and soon the intimation that it would be done was all that was necessary.

The literature of smallpox, as contained in the textbooks, is largely based upon observations made in cities, camps, prisons and other crowded conditions, where the opportunities for contagion were so abundant as to constantly render confusion possible as to the results. In our epidemic a large per cent. of the outbreaks occurred in more or less sparsely settled country districts, where each case could usually be traced to its origin and date of exposure, thus affording special chances for studying the natural history of the disease. As a result of these observations the writer has arrived at some conclusions which, if true, and utilized, are of the utmost importance to health officers and physicians in the practical management of smallpox. One of these is that the disease is slightly if at all contagious until the beginning of the pustular stage, which sets in nearly always about the close of the fifth day of the eruption. If a patient with smallpox can be taken from the house, or the other inmates removed, by this time the danger to such persons is scarcely worth considering. If the other members of the family can be thoroughly vaccinated at enough points to make the result certain within forty-eight hours after the beginning of the pustular stage of the first case they will be almost certainly saved an attack. If seen after later exposure than this it is safer to practice inoculation, which I have frequently done, although it is in violation of an almost obsolete statute. I have taken children from the bed and even from the breast of a mother with confluent smallpox up to the sixth day of the eruption, over and over again, and saved them from the disease. In this connection I would like to insist that no person should ever be quarantined in a house with smallpox patients unless they have been previously vaccinated with fresh virus at not less than three places. A violation of this plain and humane rule is the most frequent fault in the management of our physicians and officials, in both town and country districts.

A few words in regard to vaccination and the selection of vaccine virus will conclude this paper. Less would be said upon this branch of the subject if the writer was not convinced that physicians are responsible for much of the lax notions and carelessness which obtains in regard to the importance of universal vaccination. The family physician has it is his power to enlighten nearly every person in this country upon this subject, and he alone can do it in a way that will be heeded.

I would urge that vaccination is the most important operation that most people ever have done, and that if imperfectly done it can only give rise to a false sense of security. If properly done it is usually a perfect protection against smallpox for a lifetime, and is devoid of danger. Varioloid occurs in persons only partly protected by vaccination. The operation should always be done by a competent physician, with strict aseptic precautions, and the person should be seen from time to time until it can be known that a perfect result has been secured. The virus should be introduced in not less than three points on the arm, about an inch and a half apart, only the scarfskin should be scraped off without drawing blood, and the surfaces should be allowed to dry thoroughly before the sleeve is put down. Protectors and dressings are unnecessary if the abraded surfaces are dried well, and in my experience do more harm than good. Directions should always be given to avoid injuring the parts, especially in changing the underclothing, and that the arm should be kept clean. If multiple vaccination is practiced, and three or more good marks are secured, a second vaccination is seldom successful to any degree in after-life, and I have never seen a patient so vaccinated have smallpox in any form in all of my experience. The reason that vaccination runs out is that it was never thoroughly run in, that is, the patient was only partially vaccinated to begin with. If the first effort at vaccination is incomplete it is difficult to secure a perfect result by later attempts.

After careful observation and a large experience I am convinced that the profession should return to the use of humanized virus, so far as it is possible to do so. This form of virus "takes" more certainly, produces less local and constitutional disturbance, and appears to give longer and better protection against smallpox. If the virus is obtained from healthy persons known to the physician, no better source for it can be conceived. The propaganda for bovine virus has always been largely a commercial one, and the sore arms and severe constitutional disturbance following its use is responsible for much of the growing prejudice against vaccination. Owing to its hygroscopic properties, and the consequent difficulty in drying the surface to which it is applied, if for no other reason, glycerinated virus is more objectionable than the dry points, but to my mind the time has come to abandon the use of the bovine virus, except in the emergency of an epidemic, or in starting a fresh stock of the humanized virus.

In conclusion permit me to say that in this day smallpox is a serious reflection upon the intelligence of any individual or community having it. Systematically enforced vaccination has protected every nation, army or community which has resorted to it. It is at least within the reach of every individual in this country who has arrived at the age of discretion. Smallpox is the easiest of all the contagious diseases to stamp out, even when it has gained a foothold. Prompt isolation of those affected, preferably always in a hospital, and the compulsory vaccination and surveillance of the exposed, has never yet failed to bring an outbreak under quick control.

These measures appear simple enough on paper, but their effective enforcement among negroes, and the class of whites who neglect vaccination and have a monopoly of smallpox, will fully test the tact, patience and firmness of the most experienced health officer. If these precautions could be rigidly enforced in the other states of the Union for six weeks we would have no smallpox. If successive generations were systematically vaccinated this loathsome disease would soon be no more known among men.

LUNG DEVELOPMENT IN THE CHILD.

J. ALLEN GILBERT, PH.D., M.D.
PORTLAND, ORE.

The prominence of affections of the lungs in various diseases, either as complications or primary elements, gives this organ perhaps a higher importance than any other organ in the body. The emphasis given to tuberculosis is not the result of a mere scare, nor is the fear of it to be characterized as a simple "phthisiophobia" without sufficient foundation. Statistics show the danger only too plainly and until specifics are obtained for the cure of the various diseases the human race must resort to prophylaxis as its chief means of rescue. Even when cure is accomplished the result is obtained by attention to the individual as well as to the causative germ or agent.

It is not the intention of this article to discuss the degree to which pulmonary diseases are infectious, contagious or communicable but, accepting the fact that the lungs are a fertile field for the cultivation and spread of infection, to note a few points in which we are lax in employing the ounce of prevention, relying too much upon the pound of cure, which, in many instances, is short in weight.

The individual is often forgotten in the eager pursuit of the respective causative germs. There are two elements to be considered in etiology and prophylaxis: the external agencies, and the individual himself. It is difficult to decide which is the more important. Pathological conditions always depend upon the relative strength of the infection and the infected. Were it not for the vital resistance of the human tissues against external invasion, our history would have been written long ago. Prophylaxis for all infectious diseases can be summed up in the one principle of weakening the invader and strengthening the invaded. Relatively too much strength is expended in weakening and destroying the invader, leaving the individual fearful and defenseless in the presence of his self-induced weakness. Civilization is thrusting upon us our coughs and colds, our contracted chests, enfeebled stomachs and weak limbs; and often the higher in the scale the weaker is the resistance. The veterinary hospital gets a majority of its inmates from the highly bred animals, not alone because of their higher value—hence the attempt at preservation—but also because of their lack of resistance. Dr. Forchheimer of Cincinnati recommends for infant-feeding, not the milk of the highly bred Jersey cow, but that of the common, long-horned, sturdy, resistant, mountain cow—for her power of resistance. All nature is aggressive and it merely becomes a question of what forces shall conquer. Why do so many infants die? Lack of resistance. Prophylaxis is of most value i infancy and old age where resistance is at a minimum. The larger the city in which the child has his habitat the less likelihood of his winning in the contest, not alone because the strength of invading agencies is increased, but perhaps even more because his own powers of resistance are minimized. In the schools of our large cities where brush, broom and dusting cloth effectually scatter any infection to all parts of the room and where children of all grades gather from all sorts of environment we often find an ideal culture medium for infection. The value of space has crowded a large proportion of our city urchins into tenements where sidewalks and courts serve for playgrounds, where breathing space is at a premium, where the outlook is often so limited that the weakest arm scarcely dares to cast a pebble for fear of breaking windows, where echoing voices jostle each other in their struggle to reach the open air and where eyes accustom themselves to their narrow quarters and become near-sighted. Even where public parks exist the omnipresence of the "keep off the grass" and the stealthy encroachment of public buildings often rob the child of his natural gymnasium. His life is crowded with "dont's" until spontaneity of life is lost. Autopsy can pronounce his lung "a city lung" by the accumulation of soot; osteology distinguishes the country maid from the society lass and pathology establishes her museum in the slums where moral, physical and mental development are under the handicap. How far governmental interference is admissible or possible is a debatable question but there is always one place where corrective and regulative measures are possible to a certain degree, viz., in the schools. Education should be more than a mental development of the child. The magnitude of the task of providing adequate facilities for gymnastics for the children is a serious obstacle and yet the results would justify the attempt. Above all, children must be good animals. The blessings of a gymnasium are only too plainly seen by a comparison of the lung capacity of children in private and public schools. The advantage of the former, so far as development of the lungs is concerned, is enormous. The effects of a general physical culture on the body as a whole need no comment. One of a series of tests[1] taken by the writer on the school children of New Haven was the determination of the lung capacity for the respective ages from 6 to 17 inclusive. The data are based upon 100 children for each age. These children were without the advantages of a gymnasium and regular training therein. The accompanying table and chart represent a comparison of these results with those taken by Dr. Wm. G. Anderson of the Yale Gymnasium from children in private schools near New York. His results represent an average of 600 children at each age from 6 to 15 inclusive:

COMPARATIVE LUNG CAPACITIES FOR PUBLIC AND PRIVATE SCHOOL CHILDREN.

Age.	Boys.		Girls.	
	Priv.*	Pub.	Priv.	Pub.
6	64	57.1	35	49.2
7	80	65.6	40	58.9
8	88	71.8	48	64.2
9	106	82.7	65	73.4
10	124	92.8	80	80.3
11	144	106.3	106	83.6
12	150	117.2	125	104.6
13	168	124.4	136	108.1
14	188	120.4	150	107.8
15	205	170.3	155	116.3
16	....	189.3	....	119.9
17	....	202.5	....	124.0

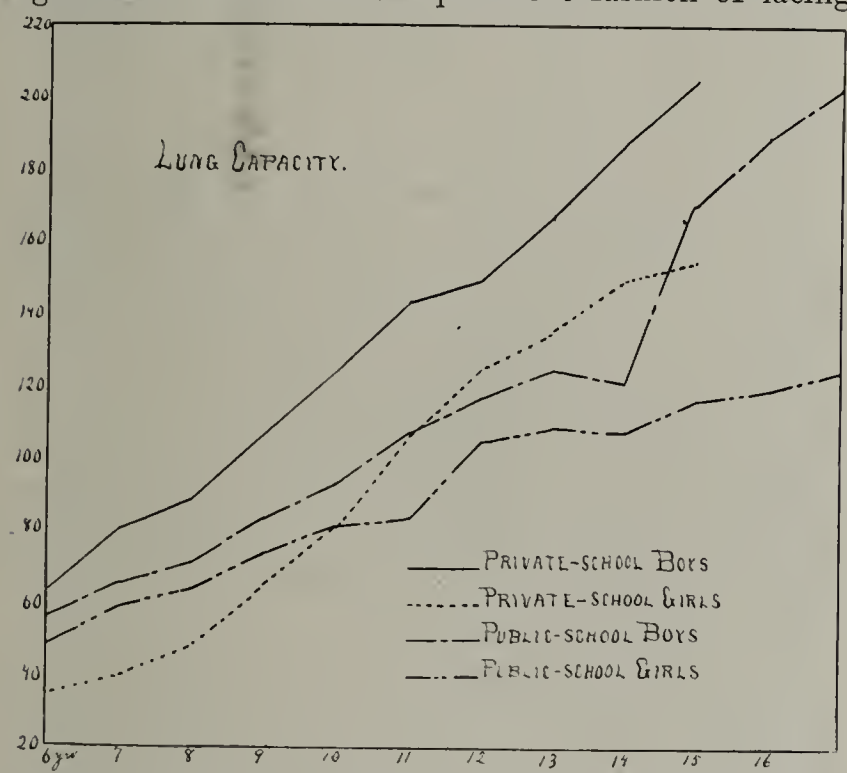
* Priv.—Lung capacity of private school children in cubic inches.
Pub.—Lung capacity of public school children in cubic inches.

The children from whom his data were taken underwent a daily training in the gymnasium, and while on an average his children at 6 years of age had a slightly smaller lung capacity than the public school children, the increase in development of the former was so rapid that the children of the public school were soon excelled. At the age of 15 private school boys had a lung capacity of 205 cubic inches; public school boys only 170.3 cubic inches, the former having the advantage of 35.3 cubic inches. The average private school boy at the age of 15 had a larger lung capacity than the public school boy at 17. In girls the difference is even more

1. Studies from the Yale Psychological Laboratory, vol. ii.

noticeable, for at 6 the girls of the private school have a smaller lung capacity than those of the public school, but they develop so rapidly that by the age of 10 the private school girls have a larger lung capacity; and thereafter the rapid development continues so that at the age of 15 they have attained 155 cubic inches, while public school girls show only 116.3 cubic inches, the former having the advantage by 38.7 cubic inches. The average private school girl at 15 has 31 cubic inches more lung capacity than the public school girl at 17. The chart shows an enormous difference in the development of the two classes of children. Had the lung capacity been larger at all ages in private school children it might be argued that the private schools received the children of the better classes and those who had athletic ambitions, but when it is remembered that at 6 years of age the average lung capacity of private school children is less than that of the public school children and that this relation is reversed within a year or two the argument in favor of the gymnasium in public school work would seem convincing.

The relatively slight increase in the lung capacity for girls subsequent to the age of 12 would seem to be a significant criticism of the prevalent fashion of lacing



rather than an indication that development of the lungs as such had in large measure completed itself previous to that time. Remembering the contracted breathing of the phthisical patient the above chart speaks loudly in favor of more attention to the physical in our schools. Mind and body are so intimately connected that neither may safely be neglected for the advantage (?) of the other. The value of deep inhalation is appreciated by insurance companies, for in all examinations they demand that the chest expansion be recorded; health resorts for the phthisical seek the places where the lungs can be thrown open, as it were, to the outside air; modern therapeutics in all lung diseases pleads for free ventilation and abundance of fresh air; every one knows that an organ in disease atrophies and yet we seem afraid of taking long breaths; seldom do we find the necessity of raising our voices above the loudness required to be heard across the reception room, and, to add to the handicap, fashion binds upon us its fiendish inventions calculated to restrict our natural freedom. We seem to have forgotten the truth that in order to be good men we must be good animals. As a rule the acute infectious diseases are acquired and not inherited and a great majority of diseases of the respiratory system can be traced to insufficient consumption of fresh air. I repeat—nowhere is prophylaxis of more value than in the child. "As the twig is bent," etc. The place to attack the problem is not in the chest that has already surrendered but in our public schools where every child for a number of years is to a certain extent under public control. Gymnasia are a poor substitute for the ball field, swimming-hole and coasting hill, but let us arbitrate and compel the best terms possible from the civilization which refines to destruction.

ROTARY LATERAL CURVATURE AND POTT'S DISEASE OF THE SPINE.

DIFFERENTIAL DIAGNOSIS AND RATIONAL TREATMENT.*

DANIEL W. MARSTON, M.D.

Instructor Orthopedic Surgery, New York Post-Graduate Medical School and Hospital; Surgeon to the Randall's Island, New York City (Children's) Hospital, and Daisy Fields Hospital for Crippled Children.

NEW YORK CITY.

From the time of Hippocrates, 500 B. C., until the present time the history of spinal surgery has been indissolubly linked with the general advancement of surgical knowledge. At no time, however, during all these centuries, so far as the writer can ascertain, has there been anything like an unanimity of opinion among medical men as to the proper treatment for these cases. In the time of Percival Pott all cases with kyphosis, even rapidly increasing, attended or unattended with abscess, were classed indiscriminately as Pott's disease. In this generation we have scarcely less erroneous statements from men who claim it is possible to cure cases of lateral curvature of the spine even after extensive bone changes have taken place. It is scarcely necessary for me to say here that these views are not now endorsed by representative surgeons. New ideas, however, even when sustained by unlimited pathologic and bacteriologic research and clinical experience, are often slow of adoption, and it is on this account that I purpose here to briefly differentiate, not only in the etiology and pathology, but also in the treatment of these two time-honored bugbears of the profession.

Not all cases supposed to be such are Pott's disease. Deformity, similar to that caused by tuberculosis of the spine, is seen following absorption from the Peyerian patches of the intestines in typhoid fever. This condition would be readily discovered in connection with a history of other typhoid symptoms. Another rare affection of the spine, resulting in kyphosis, is caused by the inoculation of the germs of actinomycosis. We also recognize a condition closely simulating tuberculous infection in acute osteomyelitis. This, however, differs from the more common condition, by its rapid onset and virulent and destructive course, in marked contrast to the insidious approach of tuberculosis, sometimes covering months and months. The germs of osteomyelitis will do in a few days what tuberculosis, as a rule, will not accomplish in many months.

These four conditions, each distinct, yet resembling one another in a few general symptoms, are commonly classed together as "Pott's disease." The consideration of those conditions of chronic stiffness of the vertebral column, as Bechterew's hyphosis and Marie's spondylosis rhizomelia, I purposely omit in this connection.

* The author of this paper died at Niagara Falls, N. Y., June 9, having been taken ill on the way to the Meeting of the Association. He had intended to read this before the Section on Diseases of Children.

Their pathology, closely resembling rheumatoid arthritis, or as Dana claims, arthritis deformans, is not yet clearly defined.

ETIOLOGY.

The etiology of true tuberculous spondylitis is due to an infection of bacillus tuberculosis into an area of previous inflammatory action. This theory was taught by Phelps, in this country, and by Billroth, on the Continent, some years ago and is now the one generally accepted the world over. That the bacilli inoculate tissue not embryonic is impossible. The result is a slow growth of tuberculous tissue. As the area of inflammation extends inoculation takes place with destruction of bone. This was formerly known as caries, which is a term that means nothing and will eventually be dropped from the nomenclature of the subject.

The germs of tuberculosis enter the system primarily, as a rule, through the lymphatics. As described in an article on this subject written by the author and Dr. Phelps, a child, playing in the backyard of a tenement house, in an atmosphere contaminated by germ life, caused by the old woman beating the carpets from an infected room where an individual had died of tuberculosis or osteomyelitis, inhales the spores of the germ.

These spores are immediately absorbed by the lymphatics from the mucous membrane of the pharynx and the trachea and carried to the neighboring lymphatic glands. The lymphatic glands are rich with cells, and are a good soil for the reception and growth of the germ. The cells, or phagocytes, of the lymphatic glands are at once attacked by the germs and destroyed, until the entire gland is converted into a pus or tuberculous cavity, depending upon the kind of germ absorbed. These are the large glands seen in the necks of children and called by the older authors "strumous, or scrofulous gland." Ulceration now commences in the gland, burrowing takes place in the direction of least resistance. The gland is surrounded by a vascular network of veins and arteries. When perforation of the gland takes place from ulceration, its contents may discharge directly into the vein; thus it can readily be seen how the circulation becomes contaminated with germ life from the reservoir which is constantly discharging into it. Now, if the child playing in the backyard receives a slight injury of the spine, at once inflammatory action begins at the point of lesion already described. The blood being loaded with germs of infection carries them to the point of injury. The pathogenic germs, finding a fit soil for their reception and growth, attack the normal new inflammatory material and convert it into a diseased condition, with a formation of pus or a tuberculous abscess. From this point of local infection the pathogenic germs find their way into adjacent tissues, destroying them as they advance and enlarging the diseased area. Should the body of the vertebra be involved, as is the rule in a majority of cases, its partial destruction is simply a matter of time, *unless* the destructive process is checked by appropriate treatment, the focus of disease circumscribed, and ankylosis of the affected vertebræ accomplished.

Why is it that one child may receive a blow, but will not develop the disease, while a second child also receiving an injury will develop it, is an interesting question. It depends on the relative disease-resisting power of the cell life of the individual. In the one child the embryonic cells resist the attack of germ life, while in the other they succumb to the invasion of disease.

Rotary lateral curvature differs from tuberculosis of the spine. It is never produced by inflammation or disease of the spinal column. The etiology of these curves occurring high in the vertebral column, either in the dorsal or cervical region, is, I believe, nearly always congenital or rachitic. A rapidly-growing child who sits in a faulty attitude or stands in such a position as to constantly curve the spine, will often develop rotary lateral curvature.

Curves that occur in the lumbar region are usually due to such a cause as this, or to a shortened limb, or tilted pelvis. Paralysis of certain muscles may also be an important factor in the etiology of these deformities. I have known cases where great deformity resulted from the intercostal adhesions, following the absorption of a pleuritic effusion. Deformity of this kind is seen in the dorsal vertebræ, for the reason that the spine bends where there is a change in the ribs and in the muscles between the ribs.

The deformity in lateral curvature is produced by absorption of the vertebra from pressure. As the spine bends, rotation takes place always in the direction of curves. The body of the vertebræ always rotates toward the convexity of the curve. Then we say that nearly all cases of lateral curvature are to be considered as cases of lateral rotary spinal curvature. When more than one curve occurs it is then called double lateral rotary spinal curvature.

SYMPTOMS.

One of the most common symptoms of lateral curvature is the projecting shoulder-blade and the drooping shoulder. These are cases that find their way to various bandagers, who adjust worthless appliances, and the apprehensions of the mother are put at ease by such charlatans, until after a year or two when the orthopedist is consulted; he finds an incurable curve in the vertebra produced by absorption. Then the projecting shoulder-blade, the drooping shoulder, the prominence of the ribs on one side of the vertebra as the patient is bent forward, the absence of pain and spasm of the muscles, and the general good health of the patient are symptomatic of curvature.

In a case of tuberculosis of the spine the surgeon should always make a diagnosis before deformity occurs. To do this in a child only a year and a half old is sometimes difficult. In these cases, as a rule, there will be night cries; screaming of the child when the mother lifts it; bending forward of the body eliciting pain, anteriorly from the point of disease; the patient, placed upon its back, when lifted to an upright position with the hand under the head rising with a rigid spine; and in a sitting position, you standing behind it, the patient presenting a rigid spine when bent from side to side. If the disease is located in the lumbar region the good old doctor has probably treated the case for worms; if in the dorsal region for asthma. But when the symptoms which I have enumerated are present, although there is no deformity as yet of the spine, you could be quite certain in making a diagnosis of Pott's disease.

If the spine is flexible in its continuity there is no Pott's disease. If the spine is rigid it is certain to be present.

Bone Changes.—On one side the bodies of the vertebræ become absorbed by pressure, but on the opposite side they are normal. There is not a single straight spine in the world. If there were, the person would break his head every time he jumped six feet. Every

lateral curvature, to be cured, must have compensating curves so as to allow a vertical line to fall through the center of the curves and to fall inside of the base formed by the feet. In some lateral curvatures, as in rickets, the deformity is due to pressure. Ossification, as in the ossified man, about which so much was written in the lay press during the past summer, is produced by central nerve-lesions.

TREATMENT.

Treatment must be based on rational principles. I would treat lateral curvature with gymnastics and a support to relieve pressure. The support should be removed night and morning. Proper gymnastic exercises should be given and this too while the support is being worn. The corset should be applied before arising from bed in the morning, and not removed until the patient is again in bed upon retiring. The method sometimes practiced of giving exercises to curvature patients while without their spinal support is not correct.

In Pott's disease the treatment is operative as well as mechanical and constitutional. The new operation of forcible replacement, by Calot, France, was done by Hippocrates, was revived in the time of Ambrose Paré, in the 15th century, and again in this generation by Hadra, Galveston, Texas. This is a procedure adaptable only for selected cases, and at the hands of experienced operators. Long ankylosed cases, or cases in which abscess with much deformity exists, should not be broken up. In the early history of some cases forcible reduction has been of much benefit, but it is an operation attended with great risk.

The usual routine treatment consists of extension and fixation. The manner of accomplishing this end is along the same lines as in the treatment of rotary lateral curvature. The support is, however, not to be removed and calisthenics are forbidden.

It is a very good plan to always determine the extent of bone changes before beginning treatment. Bending forward shows it. A straight line along the back demonstrates the extent of deviation. The diameter of the vertebral column is two inches. If a displacement of one-half of this occurs to either side there is unstable equilibrium and exercise can not correct. The patient must be braced so as to produce stable equilibrium. A child of 3 years can not be properly braced, because the pelvis is too small as compared with the thorax and the brace will slip. Put on a Bonnet's cuirass, or better, Phelps' plaster-of-paris portable bed, which is good also in Pott's disease and hip-disease. Dr. Phelps got the idea from observing an Indian squaw carrying her baby. In spinal braces, when the band around the pelvis is narrow and small, the appliance will tilt. I believe suspension and then fixation is necessary. This is the principle of one brace invented in 1754. The Hessing corset was invented in 1764. Many apparatus modernized were used more than a century ago. Sayre was the first man in this country to make a suitable apparatus for Pott's disease or lateral curvatures, namely, the plaster-of-paris corset. It is good, but to its routine use in all cases of spinal disease, of all kinds, I have objections—it is heavy, cumbersome, unclean, and it wears out and so changes have to be made; but it is the best of all braces. Then there is the substitution of other materials for plaster-of-paris, such as leather, and cowhide, which proved unavailable, and wood, wire, celluloid and paper, none of which is of any value in these cases. A spinal support must be *absolutely unyielding*, or it is entirely useless.

If the disease is located above the third dorsal vertebra, no corset or brace, without the aid of the jury-mast, can be adjusted so as to be a support, owing to the fact that the weight of the head and shoulders operates upon the point of disease or curve. In such cases the jury-mast must always be so adjusted as to transmit the weight of the head through the corset to the hips. The jury-mast does not lift the head but serves to tip it backward, transmitting the weight to the transverse processes and relieving the anterior border of the vertebral bodies, where the disease is, in the majority of cases, primarily located.

To make proper corsets from plaster-of-paris suitable material must be used. A hospital crinoline, which has the proper amount of sizing and material and a total absence of indigo is best. This cloth and fresh plaster-of-paris, when properly united, makes a perfect plaster bandage. Tear the crinoline into strips six inches wide and six yards in length, draw the cloth over a pile of plaster-of-paris, on a table, and with the hand rub off all excepting enough to simply fill the mesh of the cloth, roll the bandage loosely, that it may take water quickly, and it is simply perfection.

A tight-fitting shirt must now be adjusted to the patient. The shirt which we now use is a long stocking and costs about 25 cents a yard. The life or an ordinary jacket made of plaster-of-paris is about three or four months. They last longer in cool weather than when the patient is freely perspiring. Rapid setting of the plaster is necessary, because the hand holds it to the corrected position of the deformity. This material, with the stockinet, completes the materials necessary to make a perfect corset. The crinoline costs 6 cents a yard, the plaster-of-paris 3 cents a pound, and the stockinet 30 cents. A corset for a child 6 years old should weigh not to exceed one and one-quarter pounds, and for an adult two and three-quarter pounds. This makes a support as light or lighter than the steel brace, and it supports as a steel brace can not.

When the patient is suspended in Pott's disease of the spine, and a jacket properly adjusted, he is at once relieved from a condition of pain and suffering, and to such an extent that any amount of pressure upon the shoulders does not produce pain. In rotary lateral curvature of the spine, a plaster corset with lacings is made to fit this suspended and straightened position. After the corset has been adjusted the patient is three inches taller than before its application.

If the patient can afford the greater expense I always advise the aluminium corset, for, although the first cost is greater than for the plaster-of-paris support, yet, before treatment is ended, the metal appliance will have proved the cheaper. It is practically indestructible. Phelps calls it "the end of the law in spinal bracings," and I believe his statement to be correct. I do not suggest the aluminum corset as a substitute for plaster-of-paris in acute Pott's disease and lateral curvature. I suggest it rather to take the place of such braces in cases requiring permanent bracing, or in individuals who are desirous of securing a support at any time which combines durability with lightness and comfort. As soon as a case of lateral curvature has been arrested, or the greatest amount of benefit has been derived from treatment, the aluminum corset will then be found to be a most agreeable permanent support.

The aluminum corset has the following qualities to

recommend it to the patient: 1, lightness; 2, durability; 3, it is thin and does not interfere with the form and clothing; 4, being extensively perforated makes it the coolest and most agreeable of supports, and 5, the patient can wear it while bathing. An ordinary corset weighs from one to two pounds, depending upon the size. To prevent cracking and to protect it from perspiration it is covered with a waterproof enamel, which is applied by heat.

Steel corsets, somewhat similar to those of aluminum, were used by Ambrose Paré in the 15th century. Steel is, however, too heavy for practical use. It was necessary, too, to hinge the two halves of all metal corsets on both sides, beneath the axillæ. The duplex hinge used in our aluminum corsets at the New York Post-Graduate Medical School and Hospital was devised by Dr. Phelps, and by means of it the unequal planes of the corset are nicely hinged, enabling the patient to remove and re-apply the apparatus without assistance.

To make an aluminum corset, first make a plaster mold of the body. Fill this, and from the cast thus obtained an anvil of iron is made. Over the metal anvil the aluminum is hammered into shape. It takes two skilled workmen two weeks to make one of these corsets. When fitted to the body the corset is shellacked with a preparation that makes it impervious to perspiration. With an apparatus of this kind the patient can go in bathing. In Pott's disease the same kind of a corset can be used, if it is put on with wire lacing and kept on. In lateral curvature cases the corset is to be taken off daily and the patient instructed in proper gymnastic exercises. In Pott's disease the spinal support is not to be removed except at the surgeon's directions.

CONCLUSION.

In summing up, then, I may say that in rotary lateral curvature, in my opinion, the following points are to be observed:

1. Mechanical support and proper gymnastic exercises are to be combined.
2. The exercises are to be taken while the patient wears the support.
3. The apparatus is removed while the patient sleeps.
4. Where the deviation is more than half the diameter of the vertebræ an unyielding support is imperative.
5. After absorption of bone has taken place the primary curve can not be eradicated; the "cure" lying in the establishment of compensating curves, which maintain the equilibrium of the spinal column.

In tuberculosis of the spine, on the other hand, remember the importance of the following:

1. Fixation and extension are to be employed.
2. The existence of sinuses and abscesses do not contraindicate the immediate application of proper immobilizing apparatus.
3. Forcible correction of deformity is advised only in selected cases.
4. Finally, the success or failure in the treatment of either of these diseases is dependent largely upon the intelligence and willingness on the part of the patient; the care and help of the parents or friends, and prolonged watchfulness at regular intervals on the part of the surgeon.

Union, not division, is now the motto of the profession. Division and the multiplication of medical societies and medical colleges are the characteristics of a medical age which now is past. If medicine is to accomplish its appointed task, there must be harmony among physicians. The perpetuation of divisions means the delay of the full operation of the good tendencies in medical evolution.—*Cleveland Med. Jour.*

SURGICAL CONSERVATISM OF THE OVARIES AND FALLOPIAN TUBES.

EDWIN RICKETTS, M.D.
CINCINNATI, OHIO.

Pathologic lesions of one or both ovaries and Fallopian tubes may be so serious as to call for the most radical surgical measures, even extirpation. There are cases in which extirpation is practiced unnecessarily by operators of limited experience and the conservation of these organs has not received the attention it deserves. It is of this incompetent work, which brings poor results and a high mortality, that I wish to speak. There can be no reasonable excuse offered, nor apology made, for the poor results obtained from the lack of true and intelligent conservatism. Many competent men have explicitly expressed themselves in this regard, but not through channels where their statements would do the most good. Just criticisms have emanated from many of the best men in general practice.

Hydrosalpinx was once recognized as a condition which demanded that the Fallopian tube be removed, together with the ovaries, whether diseased or not; for no macroscopic consideration of the ovaries under such conditions was deemed necessary. Conservatism for retaining, if possible, even one or a part of one of the ovaries, or tubes, or both, resorting to cul-de-sac vaginal drainage of hydrosalpinx, for the purpose of restoring tubal function, is now accepted by the best practitioners.

In suggesting conservative measures to an occasional operator recently, his surprise was marked, yet he advocates extirpation for the reason, I am sure, of his inability to do successfully such conservative pelvic work. In cases of congenital stenosis of the Fallopian tubes, causing sterility, that are diagnosed only after the abdomen has been opened for other reasons, dilatation of the tubes often results in a cure. In healthy Fallopian tubes, associated with a thick tunica albuginea, a free longitudinal and transverse incision, followed by dissection of the same, promises a cure for those anteoperative distressing symptoms of pain and general lassitude along with an exhausted nervous system. With a thickened tunic through which can be plainly seen protruding a few or a number of small flattened or round cysts, the ovary containing them may be retrodisplaced and held firmly by bands of adhesions. To free the same by carefully dissecting them away and puncturing them often means success. He who always resorts to hysterectomy for fibroids, whether large or small, should not be regarded as a conservatist in pelvic surgery. Myomectomy in many instances, under such circumstances, may be chosen as the operation of election. Large myomas are successfully removed to save the uterus and the opposite Fallopian tube and ovary. In a recent case I was able to turn out through an abdominal incision, after incising the capsule, five medium-sized fibroids. I found that the sixth one had involved a portion of the anterior uterine wall, which extended from beneath the peritoneum to the endometrium, necessitating the performance of hysterectomy. Had the abdomen been opened earlier in the history of this case, I am convinced that all of these fibroids could have been removed and the uterus with its ovaries saved. As the ovaries were found to be healthy, they were not disturbed.

The influence exerted on the nervous system by the removal of the ovaries and Fallopian tubes during the child-bearing period is now more clearly understood

and more fully appreciated by the neurologist and surgeon. The testicle, which is the analogue of the ovaries, did not suffer so long from being removed, with the hope of relieving the enlarged prostate, as did the ovaries for the relief of pelvic pain.

We would freely criticise, from a scientific standpoint any operator who failed to do complete work. Completeness must often end in the best conservative efforts within the pelvis, if the operator wishes to command the respect of the general practitioner, and through him the confidence of his patients and their friends. Failure to do this would mean that all true specialties must fall to the ground; consequently a high mortality would result.

It is not an easy question to decide promptly, even after the abdomen has been opened, which is the best operative procedure to undertake for the relief of any condition which may be found. One may have to resect, to drain, or to extirpate one or both ovaries with the appendages. From an operative standpoint, differential diagnostic ability must come from great and constant familiarity with pelvic surgery.

Clinical Reports.

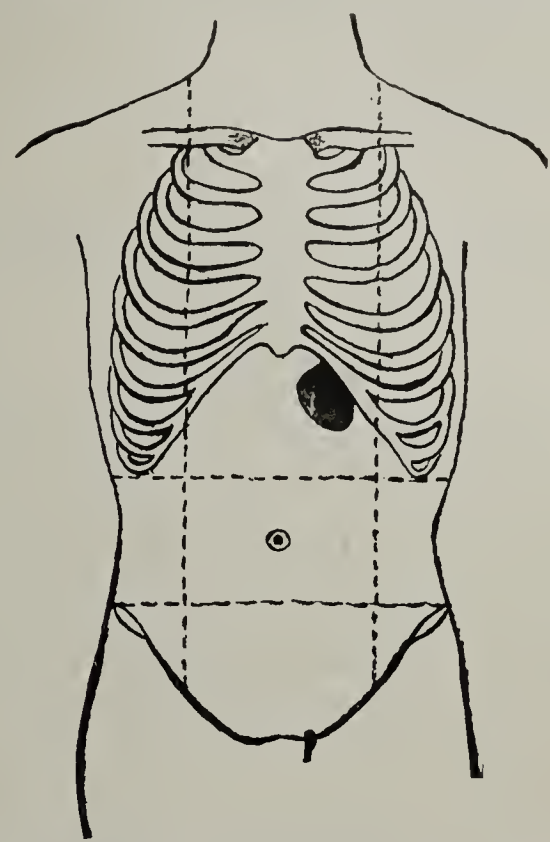
SOLITARY ABSCESS OF THE LEFT LOBE OF THE LIVER SIMULATING ABSCESS IN THE ABDOMINAL WALL.

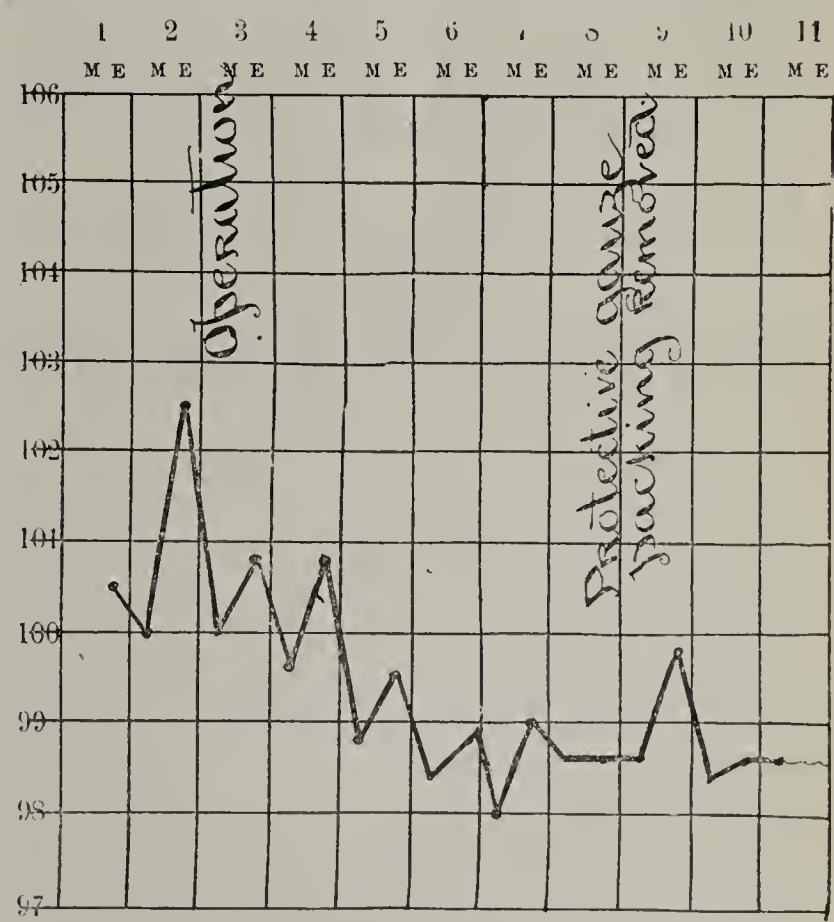
CARL C. WARDEN, Ph.B., M.D.
NASHVILLE, TENN.

Thomas J., 44 years of age, had rheumatism ten years ago, from which he made a perfect recovery. He remained in perfect health and continued at active labor until the morning of April 24, 1901, when he complained of nausea and epigastric pain. He took salts and obtained a copious action of the bowels, which, however, did not afford relief. The next day there was a slight chill, some fever, pain and soreness in the epigastrium, anorexia and restlessness. On April 29 the symptoms were more pronounced. There were no subsequent chills, but the temperature had risen to 102.5 and the pulse to 100. Abdominal respiratory movements were free and equal on both sides. In the left epigastrium there was a tumor or bulging of the abdominal wall, circular in outline, hard, circumscribed and exquisitely tender to touch and percussion. The tenderness was very superficial, while deep pressure from below upward beneath the tumor was not so painful. I was unable to determine that the tumor dulness was continuous with liver dulness, and the mass appeared to remain stationary on deep inspiration. There was no fluctuation. The tumor seemed to be a part of the abdominal wall, very superficial and immobile. So far as could be determined the liver was normal in size, or at least that portion of the organ lying to the right of the median line. There was no jaundice, diarrhea or sweats.

In the attempt to reach a diagnosis two conditions were discussed. My consultants thought the case one of abscess of the left lobe of the liver, while I took the ground that it was abscess of the abdominal wall, basing my opinion on the following grounds: the absence of any of the ordinary causes of liver abscess, such as the amebic, traumatic, pyemic, cholelithic or cholangitic, and the negative history of rectal trouble, bone disease and diarrhea, together with the lack of proof that the tumor dulness was continuous with that of the liver, the absence of positive proof that the mass moved on deep inspiration, and the superficial appearance and character of the tumor. These arguments led my consultants to accept the diagnosis of abscess of the abdominal wall.

I operated on this patient at the City Hospital, May 2, 1901. A preliminary aspiration brought away pus. A vertical incision one and a half inches long was made directly over the center of the tumor and the peritoneal cavity opened without finding pus anywhere in the abdominal wall. The left lobe of the liver presented in the wound, showing on its upper surface a marbled, white area the size of a nickel coin. There was a total absence of adhesions, and it was apparent that rupture into the general peritoneal cavity was imminent. The peritoneal cavity was carefully protected from infection by a circular wall of sterile gauze and the abscess opened and drained. The abscess cavity was the size of an orange; its walls soft, pultaceous and shreddy except posteriorly where there was elasticity and rigidity. The pus was almost pure white, creamy and odorless. The cavity was wiped dry and packed with gauze to allow of removal and renewal of the protective wall of gauze. The packing was then removed and two ample drainage tubes of rubber introduced and carried to the bottom of the cavity. The protective gauze was allowed to remain in place until the seventh day following the operation, when it was withdrawn, together with one of the drainage tubes. The remaining tube was gradually protruded and shortened until it





Pulse,

also was unnecessary. The patient was discharged May 24. He was seen by me Oct. 1, 1901, and gave a history of health and activity.

The etiology of this case is somewhat obscure. From the condition of the posterior wall of the abscess cavity one would incline to the opinion that there may have existed a latent ulcer of the stomach. The temperature record and the size and position of the tumor may be seen in the accompanying diagrams. Similar cases have been reported.

AMPUTATION OF THE PENIS, FOLLOWED BY MULTIPLE PREGNANCY IN THE WIFE.

R. HARVEY REED, M.D.

ROCK SPRINGS, WYO.

Three years ago, J. K., a Finlander, aged 35, was admitted to the Wyoming General Hospital for disease of the penis. I was obliged to amputate the organ, leaving a stump after recovery of about one inch in length. Approximately one year after his discharge from the hospital, his wife, a small, healthy Finlander, of some 30 years, gave birth to a healthy male child. Being somewhat suspicious that the child might be illegitimate, I questioned the wife very closely, and was doubly assured that such was not the case, but a legitimate product of her husband.

About one year later, she had a miscarriage, which was followed by metritis, which I treated with every indication of permanent relief.

On April 1, 1902, I was called to see her and found that she was suffering from a threatened miscarriage. On April 6, I delivered her of a five months' fetus. As her surroundings were bad, I had her taken to the Wyoming General Hospital, where she was delivered of two more five months' male fetuses during that night, and on the next morning, April 7, she gave birth to a fourth. Recovery was rapid and unattended by anything remarkable, and the patient was discharged April 13 in good condition.

It would appear from this case that neither the length of the penis nor its normal condition have much to do with impregnation, so long as the semen of the male and the genital organs of the female are in a healthy condition.

VICARIOUS MENSTRUATION FROM THE RETINA.

J. G. HUIZINGA, M.D.

Formerly Professor of Ophthalmology of the Post-Graduate Medical College and Hospital, and Oculist and Aurist to Cook County Hospital of Chicago.

GRAND RAPIDS, MICH.

I desire to report a case of vicarious menstruation that occurred in my private practice six years ago.

Miss R., aged 17; occupation, house work. Both parents are living and are healthy, hard-working people. There is no history of specific trouble or any other hereditary disease. She has never been sick, is strong, robust and well developed. Her menses appeared when she was 14. They were somewhat irregular at first, but had been fairly regular for the last year and a half. They were usually accompanied by headache, some backache and a feeling of indisposition. These symptoms were never sufficiently severe to confine her to bed. During the first day of her October menstrual period, while stooping forward to fasten her shoe, she suddenly felt dizzy and nearly fainted away. Everything she looked at seemed distorted and her vision became dimmer and dimmer. Apparently the left eye was first affected, followed in a few minutes by a similar condition in the right eye. That afternoon she consulted me and I found the appearance of the fundus to be that of hemorrhagic retinitis with numerous blood spots scattered over the field. The optic disc was slightly inflamed and its borders rather indistinct. There were a few clots in the vitreous. The external appearance of the eye was that of an ordinary conjunctivitis. Vision in the right eye was 5/200 and in the left eye 10/200. A tight cold compress was immediately applied and instructions given for a warm sitz bath three times a day. The artificial leech was applied to the temples and about two ounces of blood removed from each side. Potassium bromid and potassium permanganate were given internally and free catharsis established. The menstrual period passed without further trouble. The conjunctival congestion disappeared, the vitreous cleared, and the larger hemorrhagic spots in the retina changed into atrophic ones; the others disappeared without leaving a trace. But before this transformation had been completed the time for the next menstrual period had arrived and with it a repetition of the same phenomenon. The same treatment was instituted as before only to be followed by another and a last hemorrhage in December.

New Instrument.

A NEW ADENOID CURETTE FORCEPS.

WILLIAM A. MARTIN, M.D.

SAN FRANCISCO, CAL.

The instrument here described is one on which I have been working at intervals for the past two years, and which has been remodeled a number of times. The present instrument is light and graceful and works almost perfectly. I can not say that it will displace all other instruments used for the same purpose, but it will do better work than any other single instrument. I assert that in the majority of instances it will remove the whole growth in one piece, that its use will be followed to a minimum hemorrhage and that no injury can be done to the septum, turbinates or pharyngeal walls when used

with ordinary skill. There is little pain following its use compared to that which follows the repeated thrusts necessary in the use of the Gottstein curette and there will be no fragments left hanging to slough away and cause secondary hemorrhage. Furthermore, one has the satisfaction of exhibiting the specimen to the parents, who are not always satisfied with the explanation that the growth has been swallowed. I have had the instrument made in two sizes as some of my colleagues suggested that the smaller would not do the work in all cases. Thus far, however, I have not encountered a case where I could not do the work satisfactorily with the smaller one.

135 Geary Street.

The Sample Nuisance.—One of the minor afflictions of modern life is that curious form of commercial enterprise which manifests itself in the wholesale distribution among householders of samples of products, medicinal, dietetic, disinfectant, and what not. Doctors are naturally marked down by dealers in such wares as their natural prey. Sometimes the samples are sent by post, sometimes they are left, like superfluous babies, on the doorstep. The thing is a distinct nuisance, and might easily become a danger. We are glad to see, therefore, that America, from which this mode of advertisement comes, is taking the initiative in attempting to check it. —*British Med. Jour.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, MAY 31, 1902.

THE HOUSE OF DELEGATES.

On the tenth of next month there will gather at Saratoga Springs, N. Y., a body of men that will be unique from the fact that it will be the first time a national body of medical men ever met that was created in a strictly representative manner. There have been larger gatherings of physicians from the various states, but they were largely self-appointed, and some states had a much larger proportionate representation than others. The House of Delegates of the American Medical Association, however, will be composed of men elected to represent a definite clientele, and a definite territory.

For years those who have been most anxious for success in medical organization, and have desired that the American Medical Association should be more representative in character and of greater influence, have insisted that its legislative branch should be a body in which should be federated the state societies. The House of Delegates will be just such a body. It will be truly representative of the whole country; it will be a body in which will be federated the state and territorial societies. It will be a large committee created by the state societies in proportion to their membership. It will be the mouth-piece of all the state and territorial societies, the exponent of the profession of the whole country.

As such, the responsibilities of its members will be very great, and, while to belong to it will be an honor, the duties will probably be found to be onerous. Especially will this be true as it applies to those who desire to attend the sections and take part in the scientific work, for this they will not be able to do. There are some extremely important questions to be considered, and to consider them will require time. Under the old order, all subjects which were likely to develop an interminable debate were laid on the table by the general meeting; the House of Delegates will discuss these questions deliberately. Vexed questions, such as that pertaining to the Code of Ethics, etc., which were liable to develop acrimonious discussion, were not allowed to come before the large meeting which constituted the old legislative body, if it were possible to prevent; the new legislative body will be able to consider such questions calmly and dispassionately. There are some important problems to be solved in the general plan of reorganization now going on, and these will require much thoughtful consideration. The questions of reciprocity, of a voluntary national examining board, of the regulation of medical colleges and medical education—these and other important problems will come before the new body representing the medical profession of this great country.

We repeat, to be a member of the House of Delegates of the American Medical Association will be an honor; at the same time the position is a most responsible one, the duties of which should not be lightly considered. These duties will not only be arduous but time-consuming and will require much self-sacrifice on the part of those who assume them.

We print elsewhere the names of those thus far selected and reported who will constitute this new House of Delegates. A glance at these names will reveal the fact that this body will be representative in another way than was meant above; it will be representative of the best there is in American medicine. Each state seems to have selected its representative or representatives from among its best members; and the sections also. Those who read these names and know the men will have no fear that the first House of Delegates of the American Medical Association will in any way disappoint those who expect much from that body's deliberations.

NURSING AND THE PHYSICIAN.

An American humorist said not long ago: "If the Christyan Scientists had some science an' the doctors more Christyanity, it wudden't make any difference what ye called the disease—if ye only had a good nurse." The passage, of course, has been much quoted. It is only with the last phrase that we have any fault to find, and that solely because, while containing a modicum of truth, it is liable to render still more popular than before the wrong interpretation of an expression often, unfortunately it seems to us, used without exact definition of its meaning, even by physicians themselves. In recent years we frequently hear the expression, "What is needed is good nursing." With regard to the specific fevers that run a definite course and are self-limited, the expression is very appropriate. The public and the medical profession, however, understand the maxim in entirely different senses. The physician means that as yet we know no specific treatment for the disease and that what is necessary therefore is careful and unremitting symptomatic treatment. The public mistranslates the expression somewhat inconsequentially into the idea that the doctor feels himself powerless in the presence of the disease; he can not cure it, he can not abort it, he can not even materially shorten its course and so he frankly and disinterestedly, though a little unwillingly, concedes that the only hope is in the nurse's careful ministrations. Nothing could well be further from the truth than this entirely erroneous impression.

There is an interesting palimpsest of meanings in the word "nurse." To nurse meant originally to nourish with breast milk. How much wider the signification of the word has become may be best judged from the fact that now the verb may be used with a connotation of the

other gender also and has come to have as an appropriate definition "to husband the strength."

By good nursing is meant every possible care of the patient. Symptoms that reduce the patient's vitality must be met, the strength must be conserved, every source of annoyance that may sap nerve force must be, as far as possible, removed. The bowels must be kept in order, the appetite must be aroused if the fever continues and threatens to exhaust the patient and, finally, sufficient nourishment must be ingested in some way, if necessary, extra-orally, to keep the balance of vital energy from sinking below a dangerous level. In a few words, 'nursing," or symptomatic treatment, must do all that the older physicians insisted on as curative and must do it in that broader and more rational way that uses every force of nature to the best advantage in the combat with disease.

Needless to say, the problems involved in this active care for patients, include thorough familiarity with every resource known to modern medical science. Good nursing implies the use not only of all the natural therapeutic measures, but also of the drugs suited to the case, and even of the less serious manipulations usually classed as surgical. It is in this wide sense that the physician talks of the benefits to be derived from good nursing. The public must not be allowed to drift into error in the matter. Undoubtedly, the institution of the trained nurse and the improved nursing conditions in our hospitals have greatly lessened the mortality from the specific infectious diseases, and especially the prolonged fevers, but this is so only because of the constant sedulous supervision of trained medical skill. Instead of lessening the need for the physician's attendance the more general employment of nurses has emphasized the advisability of noting even slight changes in patients' conditions and of meeting symptomatic indications before they become actual complications.

The ounce of prevention that is worth a pound of cure now has a chance to be applied as never before. The constant watchfulness that is the essence of good nursing keeps the physician so well informed of even passing conditions that no important indication for his services is missed, or even put off for a short time to the patient's detriment. This, and not the falsely assumed interpretation of the word that would ignore the most hopeful, helpful elements in present-day medical practice is the true modern meaning of the word nursing.

GELATIN AS A FOOD AND THERAPEUTIC AGENT.

Gelatin is an albuminoid substance obtained by boiling skin, connective tissue and bones of animals in water. When taken alone it has but little value as a food. Animals fed upon it exclusively rapidly lose strength and weight and finally die from starvation. If it is added to other foods it possesses the property of limiting the consumption of non-nitrogenous materials and saving the waste of albuminous tissues. It takes no part in the repair and growth of tissues and must be considered solely as an "albumin sparer." Consequently gelatin must always be combined with other proper foods. It does not replace albumin, and the destruction of albumin takes place to some extent even when gelatin is taken in a large amount. Gelatin is easily dissolved and absorbed from the stomach, and is usually taken in the form of jellies flavored with coffee, fruit juices, sherry wine, etc., and it may be rendered more palatable by the addition of meat extract. Brat[1] has recently reported, from Leyden's clinic, the preparation of a gelatose, obtained by the action of acid upon gelatin at a high temperature. This substance is soluble in cold water, and can be administered in solutions with a flavoring of fruit syrups, etc., in much larger quantities than gelatin will be tolerated.

The special indications for the employment of gelatin as a food are not entirely clear. As to its use in diabetes mellitus there is some difference of opinion. Senator advocates its use in this disease as it has been shown to be a weak glycogen builder. In intestinal putrefaction it may be employed with advantage since no indol or phenol is formed from it as a result of bacterial action. It is generally recognized as a useful addition to other foods in the diet of fever cases. G. Klemperer points out that gelatin is contra-indicated in cases of oxaluria and oxalic renal calculi, as it gives rise to oxalic acid and causes its increase in the urine.

During the past five years, clinical evidence has been accumulating which indicates that gelatin, when injected hypodermically in solution, has a marked influence in increasing the coagulability of the blood. It has proven especially valuable in cases of hemophilia and aneurysm. Successful hemostatic results have been reported to have followed the administration of gelatin by the mouth, but the cases have been few and not perfectly convincing. The results of some investigations by H. C. Wood, Jr.,[2] on the effects of the digestion of gelatin on its styptic properties are of much value in placing the administration of gelatin by mouth for hemostatic purposes upon an intelligent basis. He found that pepsin digestion of gelatin does not destroy its coagulating effect on the blood. The product of such digestion is dialyzable and therefore capable of absorption, and the administration of gelatin by the mouth in the treatment of hemorrhage is therefore a rational procedure. These facts are of special importance in view of recent observations of cases of tetanus following the hypodermic injection of gelatin and of the demonstration of tetanus bacilli in many samples of gelatin.[3] If gelatin is to be administered to man by hypodermic injection it is advisable to first test it upon experimental animals to determine the absence of tetanus bacilli and their toxic products. It would be desirable for manufacturers to furnish the profession with gelatin, which had been sterilized and properly tested, in some convenient form so as to be ready

1. Deutsche Med. Woch., Jan. 9, 1902, 21.
2. American Medicine, May 3, 1902, 729.
3. JOURNAL A. M. A., March 8, 1902, 651, and March 15, 1902, 740.

for immediate use. If future results show the introduction of gelatin by the mouth to be as satisfactory as the hypodermic injection, the danger of tetanus can be eliminated by employing the former method.

THE SEED AND THE SOIL.

In a recent number of the *Lancet,* Dr. W. Howship Dickinson reviews certain facts with special reference to the germ theory of disease, in what seems to us a very sensible way. At the present time the discovery of a microbe in a disease conforming to the recognized criteria of pathogenicity, is too commonly accepted as ending discussion as to its treatment—we must keep out the germ of infection and the disease is conquered. Hence, the premature and exaggerated deductions as to the importance of isolation, disinfection, etc.—all measures good in themselves and absolutely essential in many infections, but by no means so much so or so beneficial in certain others where their all-importance is at the present time so much agitated. We must keep in mind that the soil as well as the seed is essential and the human organism does not in all cases and at all times furnish the same pabulum and foothold for the germs. They may sometimes fall on stony ground or the thorns of other more or less serious pathologic conditions may overwhelm them. In every epidemic and with every infection there are those who are immune, often only the insignificant minority are susceptible. Dickinson discusses these facts, using as an apt illustration the well-known microbic disease, relapsing fever, which depends so absolutely for its occurrence upon the non-resistance favoring environment that non-nutrition, etc., can supply; that its accepted synonym is famine fever. The most attention, however, is given by him to tuberculosis, which he considers stands first as a striking example among diseases of the importance of susceptibility as a determining etiologic factor. The microbe, though the undoubted cause of the disease, is of secondary importance; it is not so much the bacillus as the reception offered to it that needs to be seriously considered. This depends upon various factors, first among which Dickinson recognizes heredity as of unassailable importance, then come local inflammatory conditions, such as pneumonia or capillary bronchitis and influenza, irritant inhalations, alcoholism, exhaustion and depression, damp sub-soil, overcrowding, and insufficient ventilation. Without these singly or together the microbe is harmless as a rule. "We can imagine," says Dickinson, "an isolated item of humanity on some mountain summit or isle of the ocean congratulating himself if on nothing else on his exemption from tubercle, but in common social conditions the seed is sown broadcast and the vital question is not where it will be deposited, but where it will grow." There is danger, as he says, that we may have too much thought for the microbe and too little for the man, and in the contest between the two it is more to the purpose to support the man than to attack the microbe. As a rule, the bacilli of the disease are out of our direct reach, but we can make, he thinks, the conditions so unfavorable for their existence in most cases that they will have to succumb. There is abundant evidence that our systems are constantly getting the better of diseases that we consider hopeless, and even cancer has been reported to have undergone, in rare cases, a spontaneous cure. The antitoxins are also used by Dickinson as an apt illustration of the law that the seed is impotent if the soil is unfavorable. They do not destroy the bacilli; the diphtheria bacillus he is assured will grow in its antitoxin, but they somehow or other so modify the blood and tissues as to render them no longer capable of supporting the germs. He would not be understood as ignoring the latter for we can do something by excluding them, and we may even hope to see some of them exterminated. There are two sides, however, to be looked upon in the management of diseases, the attacking organism and the resistance, and both must be considered. We have of late perhaps relied too much upon direct frontal attacks on the enemy in some diseases and tuberculosis may be one of these. It is well that we should be occasionally reminded to reform our strategy. The optimistic notion that by isolation, etc., we can stamp out tuberculosis seems very little warranted when we have in mind its widespread distribution throughout the animal kingdom; but we are learning facts every day that make it seem less formidable. We have already a partial immunity and it may be that with further knowledge of the disease we can make it far more nearly complete.

SERUM DIAGNOSIS APPLIED TO PULMONARY TUBERCULOSIS.

Of the curability of pulmonary tuberculosis there is no longer any reasonable doubt, but the prognosis will in general depend upon the promptness with which the individual case comes under observation and is subjected to treatment. Any means, therefore, that will contribute to the early diagnosis will, by so much, facilitate recovery. Often the disease will have made considerable progress before the appearance of physical signs sufficiently distinctive to explain the obscure symptoms present. The tuberculin test, although valuable, is not entirely free from risk and care must be exercised in the interpretation of its results. The utility of the serum-agglutination-test in the diagnosis of typhoid fever has suggested the application of the same expedient to other diseases, among them tuberculosis, but here there has been a wide divergence of opinion.

Observations have been recorded to the effect that the blood serum of certain animals treated with tuberculin or with attenuated cultures of tubercle bacilli and also the serum of many tuberculous patients, as well as tubercular exudates, is capable of causing agglutination of bouillon-cultures of tubercle bacilli. Results of an opposite character have, however, been reported by other observers. For the purpose of determining which of these views is the correct one, Dr. Francesco di Grazia[1]

1. Berliner klinische Wochenschrift, March 17-24, 1902.

undertook a series of investigations that led to the conclusions, 1, that the blood serum of many animals with certainty free from tuberculosis is capable of causing complete or incomplete agglutination of cultures of tubercle bacilli; 2, that the blood serum of persons suffering from various non-tubercular diseases is equally capable of causing agglutination of cultures of tubercle bacilli in the same dilution as the blood serum of tuberculous patients; 3, that the blood serum of patients suffering from pulmonary tuberculosis is capable of causing agglutination of cultures of various kinds of bacteria, at times in greater degree than cultures of tubercle bacilli, at other times in almost the same degree and at yet other times in lesser degree. Similar results were obtained with emulsions of dead tubercle bacilli. It was found, further, that the reaction between the blood serum of tuberculous patients and cultures of tubercle bacilli or emulsions of the dead bacilli may be positive and intense in advanced cases and in those approaching a fatal termination, and slight in the mild and incipient cases, in the absence of any constant relation between the degree of agglutination and the stage of the disease.

The phenomenon of agglutination thus appears from these later observations to be of little or no significance in its bearing upon either the diagnosis or the prognosis of pulmonary tuberculosis.

IDIOPATHIC OR CONGENITAL, HEREDITARY AND FAMILY HEMATURIA.

Hematuria with no apparent or demonstrable cause has been the subject of considerable discussion, and one explanation for some of the cases was mentioned editorially[1] in a recent issue.

L. G. Guthrie[2] has reported a most interesting series of cases of hematuria occurring in two sisters and eight of their children. Blood was noticed in the urine soon after birth and persisted for years. The amount of blood was variable, sometimes being sufficient to impart a bright red color to the urine and again being recognized only by a microscopic examination. In all the cases there occurred paroxysmal exacerbations of the hematuria accompanied by slight pyrexia, malaise, headache, vomiting and slight pain in the back or limbs. These paroxysms could not usually be ascribed to any certain cause and occurred at night as well as during the day. None of the usual symptoms of nephritis were present. The excretion of urea was normal and the hemorrhage could not be connected with the presence of uric acid or oxalates. The urine was normal in quantity and specific gravity, acid or neutral in reaction, and usually contained from one-twentieth to one-fourth of its bulk of albumin. The sediment contained normal blood corpuscles, tubular blood-casts in greater or less abundance, but never other varieties of tube-casts. No case of the series showed any other evidence of hemophilia. All the local causes of renal hemorrhage were excluded. Some of the children in the families escaped.

Somewhat similar cases have been previously reported, but they have lacked the congenital and hereditary character. Attlee has recorded three cases of recurrent hematuria occurring in one family. Durante has observed cases of cyclic hematuria in children in which no cause for the condition could be ascertained, and he concludes such to be instances of simple or idiopathic renal hemorrhage analogous to epistaxis.

The etiology of the hematuria in these cases is obscure. The local causes appear to have been satisfactorily excluded. Durante suggests the idea of a developmental defect in the walls of the renal capillaries. Guthrie thinks the most reasonable explanation to be the existence of some inherent weakness or varicosity of the walls of the renal vessels. The analogy between this condition and hemophilia is very striking. In some cases of hemophilia an abnormal thinness of the vessels has been found, and in some instances the tendency to excessive hemorrhage has been confined to certain parts of the body. It is possible that in these cases of idiopathic hematuria, the abnormal condition of the vessels, corresponding to those found in hemophilia, are located in the kidneys alone. It is difficult to imagine any toxic agent acting in so many members of two families, and not more often showing its effects in a similar manner in other persons.

1. THE JOURNAL A. M. A., May 17, 1902.
2. Lancet, May 3, 1902, 1243.

RATES TO THE SARATOGA MEETING.

As we go to press, we learn that a rate of one fare plus two dollars will be made for the round trip to the Saratoga Springs meeting. The Lake Shore & Michigan Southern Railway, in connection with the New York Central Railway, has been selected by the Committee on Transportation as the official route from Chicago and the Chicago Medical Society will run a special train, leaving Chicago at 11:30 a. m., Sunday, June 8. This will afford an opportunity for those who avail themselves of it to materially reduce their expenses and ought to favor a largely increased attendance. Under Association News will be found full details as to sale of tickets, time of return, etc. This reduction applies to roads east of Chicago and it is presumed will also be extended to those farther west. The Committee of Transportation deserve praise for their continued efforts in the matter. The Lake Shore Road has given valuable assistance and has exerted a leverage upon the eastern roads that has aided greatly in securing their concession. Let us make the Saratoga meeting the largest and best ever held.

HONORARY MEMBERS.

The new Constitution of the American Medical Association provides for the election each year of not to exceed three honorary members who "shall be physicians of foreign countries who have risen to prëeminence in the profession of medicine." It also provides that these shall be elected by the House of Delegates on the nomination of a Section. It will be well for the various sections to remember this new provision. It is presumed that each Section that desires to do so will select some noted foreigner working in the particular branch of medicine represented by such Section and recommend

such to the House of Delegates for election to the position. There should be an effort made to elect as honorary members of the American Medical Association only the best men in the old world and it should be an honor for whomever receives the distinction. We would suggest that the various Sections take this matter up at their first meeting so that the recommendations can be made to the House of Delegates not later than Thursday morning.

THE ANNUAL MEETING.

The Saratoga meeting, the first in New York State for more than twenty years, ought to be—and promises to be—well attended. Occurring as it does at a popular summer resort with ample accommodations and many local attractions, it will afford a specially favorable opportunity for physicians to utilize it in their annual outing, of course without neglecting the scientific and professional opportunities of the meeting. The present is a suitable time for members to endeavor to interest their professional colleagues in the Association, which, while it has now over 11,000 members, should include a still much larger proportion of the profession. If each member made himself an active missionary for the increase of the membership the outsiders would soon be the exceptions and not the rule, and the Association would be the grandest and most powerful medical organization the world has seen. With all its growth up to the present its future is yet all before it and the possibilities are only limited by the good will and activity of its membership. The attention of members is called to the advertising pages 47 and 48 in this issue, where blank forms for application, etc., are given. An earnest effort at the present time will count much for good.

A VOLUNTARY NATIONAL EXAMINING BOARD.

One of the arguments against the practicability of the proposed national examining board is that the states will not recognize its certificate. If the medical profession wants such a board, and wants its certificates recognized by every state, then we can have such a board and its certificates will be recognized by every state. It is the medical profession that has put the medical laws on the statute books of the various states; there is not a medical law but that became such through the exertions of the medical men. If the profession wants these laws modified, it can have them modified. If a national examining board shall be created, and the influential members of the medical profession in each state will ask to have its certificate recognized, its certificates will be recognized. There is not a particle of doubt about it. The first thing needed, evidently, is to educate the members of the profession to appreciate the importance of such a national board; this done, the rest is easy. If the certificate of such a board represented a standard of education higher than that of any state board of examiners, there would be no difficulty in having such recognized.

EMPLOYMENT AS A THERAPEUTIC AGENCY IN PUBLIC INSTITUTIONS.

If there is any fact known as a certainty to alienists and penologists it is that rational employment of those whose condition will permit is conducive to mental health or improvement. Without it our prisons would become culture-beds of dementia and one of the most valuable therapeutic resources of our asylums would be wanting. Notwithstanding this fact it is sometimes a question how this means for good can be made available and the difficulty is increasing. In times past some of our state penitentiaries have been made self-supporting by the labor of the prisoners and the discipline and general welfare have been greatly facilitated and improved. Of late years, at least in many states, the demands of the labor leaders have seriously embarrassed the prison managements by inducing the enactment of laws against prison labor; indeed, it is only by makeshifts and sometimes possibly by evasions of such laws that the authorities manage to keep up the discipline and health of their establishments. So far the asylums have mostly escaped the notice of the labor unions, but recently we have seen a complaint that work that might be done by outsiders was being performed by patients and it is quite within the possibilities that any such work in the future may also be prescribed. While it would seem unreasonable enough to forbid the medical prescription of employment at some useful labor, there are precedents that threaten even this. In the case of penitentiary inmates the question is a living one at the present time; no one questions the need of rational employment for their health, but provisions for this purpose and compliance with the law are hardly reconcilable under the legislation of some states. The profitable employment of a considerable portion of the chronic insane is practicable and desirable and its comparative neglect in our asylums thus far has been greatly to their injury. It would be unfortunate that action based on the realization of this fact should be embarrassed by class legislation. The matter is one that ought to interest the medical profession which should use its influence judiciously for the welfare of the unfortunate and the public welfare. It is not good political economy to increase insanity or to make it incurable.

PROPHYLAXIS IN INFECTIOUS DISEASES.

In the diseases usually spoken of as contagious it has been customary to insist upon rigid prophylactic measures to prevent the dissemination of the infectious agents. Some other diseases, which at times are transmitted directly from person to person, have received little attention in this direction. Among the diseases referred to may be included pneumonia, tonsillitis and influenza. The clinical observations of a considerable number of physicians furnish almost incontrovertible evidence that lobar pneumonia is something due to the infection of a healthy person by pneumonic sputum. This is especially liable to occur in the person of the nurse or attendant upon the sick, the necessary susceptibility being produced by loss of sleep and general exhaustion. In follicular tonsillitis the evidence of contagion is as convincing as in the so-called contagious diseases. There is no question that influenza is contagious. Because the danger of contagion in lobar pneumonia is not usually great and because follicular tonsillitis does not usually endanger life, the necessity of adopting measures to prevent the direct contagion of these diseases has not usually appealed strongly to the physician or to

the laity. In all of these diseases the danger of infection could be very much reduced if care were taken that the infected material thrown into the air in coughing, etc., were not allowed to enter the mouth and throat of the attendants, and if the sputum were carefully disinfected, and the hands sterilized after being contaminated by the secretions from the local disease, especially before eating. It is scarcely desirable to adopt such thorough isolation, etc., as are required in the more eminently contagious diseases, but by relatively simple measures many cases might be prevented.

CHURCH HYGIENE.

Our contemporary, the London *Lancet,* calls attention to the aid in combating infectious diseases which may be afforded by the clergy through their influence over the laity in such matters as vaccination, ventilation, etc. This general influence over individuals is not the only way in which the clergy may aid in obtaining better hygienic conditions, for they may also do much to further the introduction of proper conditions of hygiene into church buildings and services. It is certain that infectious germs are carried into churches by attendants at services and if the buildings are damp and little sunshine and fresh air gain entrance, as is too often the case, the conditions are very favorable for these germs to remain alive and capable of producing infection when opportunity occurs. Besides microscopic agents of this kind, there are also carried into churches larger animal parasites, which have been often observed in churches since the days of Burns. Efforts should be made to rid church buildings of both the infectious bacteria and vermin by thorough airing after services and by the frequent employment of antiseptic washes and other measures used in private and other public houses. Simple furnishings in churches, such materials being used as can be properly cleaned, would much facilitate this. There has been a commendable effort among some of the church authorities in Italy to introduce the sanitary measures indicated, and they have not overlooked the holy water which has often been found badly contaminated. The water is to be frequently renewed after careful cleansing and disinfection of the receptacle. The common communion cup has met with much disapproval from a sanitary standpoint, and the subject has been referred to in THE JOURNAL on several occasions. It is gratifying that individual cups are gradually being introduced into the protestant churches throughout the country.

THE BACTERIOLOGY OF THE NOSE IN HEALTH AND DISEASE.

Systematic bacteriologic examinations of the mucous membrane and contents of the nose would seem to offer important results. The nose is frequently the seat of inflammatory processes of an acute character that often appear to extend to neighboring cavities and membranes and that even may seem to be the starting-point of important internal infections. The comparisons between the bacteria of the healthy nose and those of acute rhinitis might throw some light upon the etiology of the latter, all forms of which are probably not of the same importance. It is consequently not without value to note the results recently published by Neumann[1] of careful examination of 206 persons. In 111 the nasal mucosa was normal, in 95 the seat of some recognizable lesion. Nineteen different species of bacteria were found, the most common being pseudo-diptheria bacilli (in 98 per cent. of the cases) and white micrococci (86-90 per cent.). There were also found yellow micrococci, pneumococci, streptococci, diphtheria bacilli, Friedländer's bacillus, etc. The pseudo-diphtheria bacillus appears to be a constant inhabitant of the nose; it was not found to be virulent in any of the cases of this series which were freely examined on that point by means of inoculations of guinea-pigs, and it must be regarded merely as a harmless saprophyte. In acute coryza the pneumococcus, streptococcus, Friedländer's pneumobacillus, and the diphtheria bacillus are more conspicuous and more frequent than in the healthy nose, and Neumann regards it as definitely established that virulent diphtheria bacilli and the pneumococcus may produce the clinical symptoms of coryza. His investigations do not lend support to the idea that coryza is caused by a specific germ and favor the conception that ordinarily it is a more or less superficial catarrhal affection. It is important to know that virulent diphtheria bacilli may cause acute coryza as well as the so-called rhinitis fibrinosa.

THE DIAGNOSTIC VALUE OF AGGLUTINATION IN MIXED INFECTIONS.

Mixed infections are frequent in typhoid fever, and as this disease is the one disease above others that calls for the agglutination reaction as a diagnostic measure, it becomes of value to know what influence, if any, mixed infection may have on this reaction. Castellani[2] studied this question experimentally. In one series of experiments he injected rabbits with two different, agglutinable bacteria at the same time, such as the typhoid bacillus and the colon bacillus, the typhoid bacillus and the bacillus of dysentery, etc. He found that the blood serum acquires agglutinating properties for all the bacteria injected, the time of appearance, intensity and duration of the agglutination of each bacillus being identic with the conditions observed when only one bacillus is injected. He then established a single infection to which there was added after a time a second infection and found that here also the agglutinative powers develop in the same manner for both bacilli as is observed in the case of a single infection; occasionally there was some delay in the appearance of the second crop of agglutinins which very rarely were of but insignificant strength. Castellani then reports a few cases of mixed infection in the course of typhoid fever in which there seemed to be no disturbance in the agglutination by the serum of typhoid bacillus at the same time as special agglutinins arose for organisms of the added infection. In the case of some organisms, e. g., the colon bacillus, the blood serum may be so strongly agglutinating normally or as a consequence of the typhoid infection, that no conclusions can be drawn as the presence or absence of a mixed infection in a given case. The following procedure is suggested in doubtful cases of this kind in which it is assumed the serum agglutinates typhoid bacillus and colon bacillus: add to the serum typhoid

1. Zeitschr. f. Hyg. u. Infektionskr., 1902, xl, 33-53.
2. Ibid., 1-19.

bacilli in large quantities and allow the mixture to stand for some hours; if the serum now loses its agglutinative powers on the typhoid bacillus but not on the colon bacillus it probably concerns a true mixed infection. Naturally the same method is applicable to the determination of a given bacterium. It would seem that in the study just beginning, of the so-called paratyphoid infections, the question of mixed and secondary infections might be a troublesome one to clear up in some cases. Perhaps the application of the principle recommended by Castellani for the determination of the real nature of the agglutinins present might prove serviceable.

SANITARY CONDITIONS OF STREET CARS.

A short time ago we called attention[1] to some of the defects in the railroad car from a hygienic standpoint. G. A. Soper[2] has recently discussed the sanitary condition of street cars in New York, and what he says could be equally well applied to many larger cities in this country. The injury to health from overcrowded, poorly-ventilated quarters is well established. In such crowded apartments the effect of the foul atmosphere, which has not inaptly been called "sewer-air," is to lower the general resistance of the individual, making him more susceptible to the infectious agents which are most readily disseminated when persons come in close contact. Insufficient heat is also pointed out by Soper as injurious, both in itself and by leading to a shutting out of the outside air in order to keep warm. The matting in street cars contains an enormous number of bacteria. Sputum which is deposited in cars, after becoming dry and being pulverized by the feet of passengers, is readily disseminated through the air and then inhaled.

All of these objectionable features of street cars could be remedied by furnishing a sufficient number of properly-ventilated and heated cars to accommodate the public, and by the employment of suitable measures for insuring cleanliness and disinfection. Street railroads have adopted fenders, reliable brakes and other means of preventing direct destruction of life whenever the cost of such improvements have not exceeded the cost of the lives destroyed as measured in money value, or when they have been compelled to do so by legal enactments. Unfortunately, the injury to the health of passengers from crowded, improperly-ventilated and dirty cars can not be readily demonstrated in the individual case, and so direct claims for damages by the passengers do not act as a stimulus to the car companies to furnish better and more sanitary accommodations.

THE LOCALIZATION OF TUBERCULOUS INFECTION.

A tendency has grown up to look upon every infectious process as a constitutional disorder with local manifestations, whereas a little reflection will show that, as a rule, it is the opposite relation that prevails. Pathogenic agents that gain entrance into the body generally find lodgment at some point anatomically related to the channel of entry. Here, they are most likely to set up their peculiar morbid processes, from which, however, extension may take place by continuity or contiguity of tissue, or through the blood or the lymph vessels. In any event the individual lesions are essentially local, although they may not be circumscribed, but rather diffuse or disseminated in distribution. Whether the one or the other, the poisonous products resulting from the reaction between the invading micro-organisms and the attacked tissues are distributed through the circulation and reach all parts of the body, thus giving rise to the constitutional phenomena. The micro-organism acts as a local irritant, while its toxin acts as do other chemical substances. It is probable, further, that both bacterium and toxin have special affinities for certain tissues by reason of which more or less characteristic—if not specific—lesions and symptoms result. The importance of the foregoing considerations resides in their bearing upon the possibility of cure and receives illustration in a recent communication by Dr. O. V. Petersen[1] upon the tuberculous diseases of the skin and their relation to the internal organs. He dwells especially upon the fact that tuberculosis, whether situated in the lungs or in other organs, on the skin, in the bones, in joints, is usually a local disorder, although in a small proportion of cases the process is generalized. Accordingly, he believes that in addition to increasing the resistance of the body to the carriers of infection the treatment should be principally local, as, for instance, the use of phototherapy in cases of lupus.

1. The Journal A. M. A., Feb. 8, 1902.
2. Medical News, April 19, 1902, 737.

1. Berliner Klinische Wochenschrift, April 21, 1902, p. 352.

Medical News.

ALABAMA.

Evacuation of Prison.—On account of the recent epidemic of pneumonia in the prison at Coalburg camp, and the exceedingly high mortality, the governor has ordered the 200 state convicts confined there to be removed to another locality.

Cornerstone Laid.—The cornerstone of St. Margaret's Hospital, Montgomery, was laid with appropriate ceremonies, May 20. The building is to be three stories high, and 140 by 90 feet. The temporary hospital will be ready to receive patients about June 1.

Faculty Changes.—At the annual meeting of the faculty of the Medical College of Alabama, Mobile, Dr. Tucker H. Frazer was elected to the chair of physiology and hygiene, vice Dr. W. B. Pape, deceased, and Dr. William R. Jackson was elected professor of surgery, vice Dr. W. T. Scales, deceased.

Sanitarium Incorporated.—At Birmingham a charter has been obtained for the Highland Sanitarium, the incorporators being Drs. Edward P. Riggs, Wyatt Heflin, Cunningham Wilson and William M. Jordan. The building to be erected will be fireproof and will have accommodation for 40 patients.

ILLINOIS.

Million Will Set Aside.—At Springfield the will of Dr. John L. Million, a wealthy physician, was set aside, May 19, on the ground that he was of unsound mind.

Hospital Cornerstone Laid.—On May 22, the cornerstone of the new St. Anthony's Hospital at Rockford was laid with appropriate ceremony by Bishop Peter Muldoon. The hospital building will cost $50,000 and the institution will be under the charge of the Sisters of St. Francis.

Illinois Doctor Arrested in Missouri.—Dr. John M. Davis, Hamilton, who has been making professional visits to different towns throughout Macon County, Mo., during the past fifteen years, was arrested recently at Macon on information filed by the prosecuting attorney of the county, charging him with practicing medicine without a certificate from the Missouri State Board of Health.

Chicago.

Polish Hospital Dedicated.—On May 25, with elaborate ceremonies, the hospital of St. Mary of Nazareth was dedi-

cated by Bishop Muldoon of this diocese. The building is a fire-proof stone and brick structure 196 by 87 feet, and has cost more than $250,000.

Convalescent Hospital Needed.—One of the most urgent needs of this city is a convalescent home or hospital. From Cook County Hospital alone 60 patients are discharged daily, and many of these are not sufficiently strong to be able to return to work. An institution, preferably located in the country, would be of incalculable value to these patients.

The Hot Spell.—The first death of the season from sunstroke occurred during the week, and the unseasonably hot weather, although brief in duration, had a decidedly unfavorable effect on the public health, shown chiefly in an increased mortality among infants. The effect was also marked upon the quality of the milk supply, the number of samples below grade, 9.2 per cent., being double that of the week before. Three samples were found containing formalin, added to prevent souring.

Increase of Suicide.—Among deaths from all the different forms of violence, only in those by suicide, is there any increase during the last decade. During the eleven years, 1880-1890 inclusive, there were 1272 suicides out of the total of 7898 violent deaths—a proportion of 16 per cent.; during the eleven years, 1891-1901, there were 3681 suicides out of a total of 17,023 violent deaths—a proportion of 21 per cent. and an increase of 30 per cent. in the proportion of suicides.

The Dispensary Question.—Resolutions denouncing the faculty of the College of Physicians and Surgeons for establishing free dispensaries throughout the city were adopted after a heated debate at a meeting of the Alumni Association of the college, May 19. Representatives of the faculty were present and answered the charges made by the committee on resolutions. The resolutions declared that the free dispensaries encouraged pauperism and were directly in opposition to the graduates of the institution, who had settled in different parts of the city only to find that their alma mater had surrounded them with free establishments. In answer to the charges the secretary of the faculty said that the dispensaries were established for the instruction of the students of the college as well as for the good that could be done for the poorer class.

Increased Longevity.—The two sets of data which supplement and corroborate each other show that the average duration of life in Chicago has increased from less than fourteen years to more than thirty-one years in the last third of a century—considerably more than doubled in a single generation. They show that, exclusive of deaths by suicide, there is a decrease of 6.3 per cent. in the proportion of deaths from all other violence and of 6.7 per cent. in those from homicide or manslaughter, comparing the period between 1880-1890 with that between 1891-1901. Included in "all other violence" are the deaths from railway and street-car accidents, and these show a decrease of more than 5 per cent. in the whole of the latter period, while in the last six years, 1895-1901, during which track elevation of railways, fenders on street cars, and other measures of safeguarding life and limb have been developed, the decrease is from 21.7 per cent. of all violent deaths in the earlier period to 18.8 in the latter six-year period—a decrease of deaths from street-car and railway accidents of 12.6 per cent., or more than one-eighth.

Influenza and Suicide.—The relation, as cause and effect, of influenza and suicide is clearly demonstrated by a further study of the figures. The fourth great pandemic of influenza in this country began in December, 1889, since which time Chicago has never been entirely free from the infection. Influenza is a subtle and insidious malady, not usually killing outright, but fatally complicating other diseases and profoundly affecting through the toxin or poison of its bacillus the brain and nervous system, and so causing all forms of mental and nervous disturbances, from simple melancholia to suicidal mania. This disturbance may take years to develop, and it was not until 1895 that the full effects of the 100,000 cases estimated in 1890 began to be manifest. During the seven years, 1888-1894, there were 9565 violent deaths, 1677, or 17.4 per cent., being suicides; during the succeeding seven years, 1895-1901, there were 10,557 violent deaths, 2544, or 24 per cent., being suicidal, an increase of 38 per cent. in the proportion of suicides. Since January 1 of this year there have been 166 suicides, an increase of 10 per cent. over the number during the corresponding period of last year.

INDIANA.

Typhoid Under Control.—The statistics of the State Board of Health indicate that the state is getting typhoid fever under control. There were only 1198 deaths in 1901 from the disease, as against 1320 in 1900, and about 15,000 cases, as against about 17,500 in the previous year.

St. Edward's Hospital Staff.—The following-named are announced as the staff of St. Edward's hospital, New Albany: President, Dr. John Hazlewood; surgical staff, Drs. Charles P. Cook, Robert W. Harris and Elihu P. Easley; medical staff, Drs. John F. Weathers, Charles W. McIntyre, William C. Windstandley and Frank H. Wilcox; gynecologists, Drs. Anna I. McKamy and George H. Cannon; medical consultants, Drs. Charles Bowman, Thomas C. Neat and Seymour C. Wilcox; surgical consultants, Drs. John H. Lemon and Edwin L. Sigmond; anesthetist, Dr. William L. Starr.

Mortality and Morbidity in Indiana in April.—The State Board of Health *Bulletin* reports 2716 deaths in April, an annual rate of 13.1 per 1000. In the corresponding month last year there were 2839 deaths, or an annual rate of 13.7 per 1000. In the preceding month there were 3045 deaths, an annual rate of 14.2 per 1000. By important ages the deaths were: Under 1 year, 411; 1 to 5, 170; 5 to 10, 61; 10 to 15, 76; 65 and over, 760. By important causes—pulmonary tuberculosis, 381; other forms of tuberculosis, 48; typhoid fever, 41; diphtheria, 24; scarlet fever, 12; measles, 12; whooping cough, 20; pneumonia, 352; diarrheal diseases, 22; cerebrospinal meningitis, 30; influenza, 37; puerperal septicemia, 14; cancer, 82; violence, 18. All cities, representing a population of 857,840, reported 1166 deaths, an annual rate of 16.5 per 1000. The county, representing a population of 1,658,622, reported 1550 deaths, an annual rate of 11.4 per 1000.

MARYLAND.

Dr. Samuel T. Haffner, Frederick, has been appointed health officer of Frederick County.

New Hospital in Cambridge.—A lot 240x240, in a desirable location in Cambridge, has been purchased for $2500, and upon it will be erected the hospital for which $10,000 was appropriated by the last legislature.

Consumptive Hospital Report.—The annual report of the Hospital for Consumption of Maryland, shows that 54 cases were treated, of which number 7 were discharged cured, 16 much improved, 16 unimproved, and 15 still under treatment. The hospital is the only one of its kind in the state. A new water system has been installed and a handsome memorial cottage erected by the daughters of one of the directors.

Baltimore.

Contract Let.—The contract for the new clinical building at the Johns Hopkins Hospital (mentioned last week) has been given out. The building will be five stories and will cost $250,000.

Eastern Dispensary.—Dr. R. S. Kirke has been elected resident physician and Drs. Arthur Hedd and A. L. Tumbleson assistants at the Eastern Dispensary. During the past year 21,122 patients have been treated and 15,619 prescriptions have been compounded in the institution.

Kerosene vs. Mosquitoes.—As the city authorities will not do anything in the premises, Dr. Bosley, health commissioner, advises the various improvement associations to make appropriations from their funds for the purchase of coal oil and its distribution over stagnant ponds and other breeding-places for mosquitoes.

Anthrax in Baltimore.—A case of anthrax was recently admitted to the Franklin Square Hospital. It was that of a young woman who works in a large hair factory in the suburbs. The disease began in her upper lip, which was cauterized with fuming nitric acid. This is said to be the only case admitted to any of the hospitals here in more than 15 years.

Personal.—Dr. J. A. Seligman has been re-elected visiting physician to the Hebrew Hospital Dispensary for the ensuing year.——Dr. Aaron Friedenwald sailed for Europe, May 20.——Dr. William Osler has been ill with laryngitis for the past two weeks.——Dr. John H. Grimes will sail for Europe, June 21. He will spend the summer in traveling over the continent and Great Britain.——Dr. Charles E. Simon has gone to Chester, Nova Scotia, for the summer.——H. O. Reik is attending a medical convention at Los Angeles, Cal., and Dr. John N. Mackenzie a meeting in Boston.

MICHIGAN.

Saginaw Valley Medical College, Saginaw, graduated a class of 41, including three women, May 21.

Hospital Day at Grand Rapids.—The first "hospital day" at Grand Rapids was a pronounced success, as the receipts exceeded $2600.

Doctor Wins Suit.—The $10,000 suit of Eugene Fowler of Owosso against Dr. Charles D. Smith, Muir, was decided in the Circuit Court in favor of the defendant, May 21. The suit was for alleged malpractice in setting a broken limb, and the feature of the case was the overwhelming preponderance of expert medical testimony in favor of the defendant.

Diphtheria in Michigan.—The State Board of Health has issued a pamphlet relative to diphtheria in Michigan in 1900. The pamphlet embodies comparisons with previous years and includes diagrams illustrating graphically the lessening of diphtheria by isolation and disinfection, especially since the introduction of antitoxin as a curative agent and as a preventive of the disease. Before the use of antitoxin there were about five times as many cases and deaths in outbreaks in which isolation and disinfection were neglected as in outbreaks in which these measures were enforced. Since 1898, when antitoxin began to be employed as a preventive, the cases and deaths have both been lessened, but the cases per outbreak have been lessened much more than the deaths, the average cases per outbreak being greatly reduced in number.

NEW MEXICO.

Hospital Burned.—The just-completed hospital building, drug store and physician's office of the Mescalero Agency, Otero County, was recently burned. It will be rebuilt immediately.

Hospital Addition.—The Santa Fe-Pacific Hospital, Albuquerque, is to be doubled in capacity by a two-story addition, which is already well under way. The increased accommodation is urgently needed, as the hospital has been crowded for the last six months.

Addition to Sanatorium.—Work has begun on an extensive addition to St. Joseph's Sanatorium, Silver City. This institution, which was initiated only last fall, has outgrown its present quarters and the new building is a necessity. The completed building will form four sides of a square or court, in old California mission style. The building will be but one room thick and one story high, with porches outside and inside, upon which the rooms open by means of French windows. The kitchen, dining-room and research laboratory are in separate buildings. A complete hydrotherapeutic apparatus will be installed. The management of the institution is entirely in the hands of the Advisory Board. The immediate care of patients is entrusted to Dr. William T. Williams, and Dr. E. S. Bullock is the pathologist and diagnostician. The plan of treatment pursued is the careful application of the Brehmer principles, in an ideal climatic environment.

NEW YORK.

New York City.

Dr. Joseph S. Carley was struck by an electric car, just as he was leaving the Woman's Hospital, and received a fracture of the nose and of several ribs, and numerous painful bruises.

Beth Israel Hospital.—The new building of the Beth Israel Hospital, at the corner of Jefferson and Cherry streets, was dedicated with appropriate ceremonies May 25, after which the edifice was thrown open for inspection.

New City Hospital for Consumptives.—Commissioner of Charities Homer Folks, in his report for the first quarter, states that since the new hospital for consumptives was opened on Ward's Island on January 31, the wisdom of establishing such an institution has been amply demonstrated. During February and March, 194 patients were received, and those not hopelessly diseased at the time of admission have shown gratifying improvement.

Fund for Study of Cancer.—It is announced that Mrs. Collis P. Huntington has signified her willingness to create a fund of $100,000, the interest of which may be used by the General Memorial Hospital for pathologic research into the nature of cancer. It will be recalled that originally this hospital was known as the New York Cancer Hospital, but the name being objectionable to many and the field too restricted, the present name was substituted.

Donation to Long Island College Hospital.—Mr. Henry W. Maxwell, formerly president of the Board of Regents of this hospital, gave during his life $100,000 toward the erection and maintenance of a training school for nurses. He bequeathed about $3,000,000 to his brother, Mr. J. Rogers Maxwell, who now announces his intention of giving $400,000 for the erection of a new hospital. The new building will be located at Henry and Amity streets, Brooklyn, and will be a modern hospital, of brick, with stone trimmings, the main structure being five stories in height, and the four pavilions being connected by glass-enclosed corridors which will be utilized as sun parlors. After the completion of the new edifice, the name of the hospital is to be changed to the Maxwell Long Island College Hospital.

Buffalo.

Pathologic Section.—Drs. Irving P. Lyon and Jacob S. Otto were elected chairman and secretary, respectively, of the Pathologic Section of the Buffalo Academy of Medicine.

The Buffalo Society for the Prevention of Tuberculosis is desirous of furnishing speakers to such organizations and assemblies as might be interested in the question of tuberculosis and its prevention. Under the auspices of this society, Prof. Herman M. Biggs, medical health officer of Greater New York, addressed a public meeting at the Central Presbyterian Church, May 30, on "Consumption, and How It May Be Prevented." Previous to the meeting a complimentary dinner was given for Dr. Biggs by members of the profession.

OHIO.

New Clinic Hall.—Toledo Medical College expects to build this summer a new clinical building to cost between $5000 and $8000.

Increase of Salaries at State Hospitals.—The senate has made a law increasing the maximum salaries of assistant physicians at state hospitals from $700 to $1200.

Militia Medical Appointments.—The adjutant-general has commissioned Dr. Alden V. Smith, Canton, major and surgeon, and Drs. John S. Stewart, Mansfield, and Harry B. Bertolette, Shreve, as captains and assistant surgeons, and has assigned them to the Eighth Infantry.

Faculty Changes at the College of Physicians and Surgeons.—At the annual meeting of the medical department of the Ohio Wesleyan University, Cleveland, a number of important changes were made in the personnel of the faculty. Dr. N. Stone Scott was made chairman of the faculty; Dr. Albert R. Baker was elected registrar in place of Dr. Henry E. Handerson, resigned; Dr. Guy B. Case was elected treasurer, vice Dr. Joseph F. Hobson, resigned, and Dr. John B. McGee was re-elected secretary.

Personal.—Dr. James M. McGeorge has been appointed assistant physician at the Massillon State Hospital.——Dr. Edward D. Helfrich has located in his old home, Galion.——Dr. Arthur D. Blackburn has decided to open an office in Cuba, Clinton County.——Dr. Frank H. Hurd, Dexter City, has moved to Hiram.——Dr. Carlos C. Booth, Youngstown, has resigned from the staff of the Mahoning Valley Hospital.——Dr. Asa B. Isham, Cincinnati, has been elected commander of the Loyal Legion, Commandery of Ohio.——Dr. Edward S. Wendt, Cincinnati, has been appointed an interne in Speers Hospital, Dayton, Ky.——Dr. Albert W. Binkley, Columbus, has been appointed house physician of the Deaconess' Home, Dayton.——Dr. J. Samuel Shaffer has been appointed interne at the Toledo State Hospital.——Dr. Louis A. Molony, Cincinnati, has been appointed acting assistant-surgeon in the Army and has started for California, en route for the Philippines.——Drs. Frederick C. Vogel and Walter R. Griess have started for Europe for a six months' course of study in Berlin and Vienna.——Dr. P. Maxwell Foshay has been appointed a trustee of the Ohio Hospital for Epileptics, Gallipolis.

PENNSYLVANIA.

Philadelphia.

Reception to Dr. Rixey.—The Medical Club of Philadelphia will give a reception in honor of Dr. Presley M. Rixey, surgeon-general, U. S. Navy, at the Art Club, June 14.

Woman's Medical College.—Twenty-eight students were graduated from the Woman's Medical College of Pennsylvania, May 21. The degrees were conferred by Mrs. Mary E. Mumford, president of the board of incorporators, and the graduates were addressed on the subject of "Recent Advances in Surgery," by Dr. William L. Rodman.

Medico-Chirurgical College.—At the annual commencement of the Medico-Chirurgical College, May 24, a class of 85 was graduated. The degrees were conferred by the president of the board, Edward M. Paxson, LL.D. Rev. John Howard Harris, Ph.D., LL.D., president of the Bucknell University, delivered the doctorate address. On the evening of May 23, the annual alumni oration was delivered by the Hon. W. P. Potter of the Supreme Court of Pennsylvania.

Jewish Hospital.—At the thirty-seventh annual meeting of the Jewish Hospital Association, May 25, it was announced that the cost of maintenance of the institution for the year had been $57,814. A bequest of $40,000 by the late Emily Phillips, to endow the Henry M. Phillips ward, will be used in the erection of a children's hospital. Through generous gifts from Mr. and Mrs. Marx B. Loeb of Philadelphia, a new operating building will be erected and equipped. Meyer Guggenheim, of New York City, has donated $60,000 for a new private hospital. The cornerstones for the latter two buildings, to be erected adjacent to the present hospital structures, will be laid June 1.

Anonymous Benefactions.—A citizen of Philadelphia, whose name is not made public, has given $250,000 toward establishing three training schools for nurses in the South. Another has promised the gift of a farm in Alabama, valued at $100,000, as a site for one of the schools. The project, which is said to involve the expenditure of nearly $2,000,000, is well under way. It is under the supervision of the Philadelphia Training School for Nurses. Dr. Eugene Underhill, a member of the board of directors of this school has, with others, started South, with the view of obtaining the coöperation of leading medical schools, especially in South Carolina, Georgia and Alabama.

GENERAL.

Personal.—Dr. William H. Block, of Manzanillo, Cuba, is on a visit to his home in Baltimore, Md.

Cholera in the Philippines, by dispatches on May 27, had reached the total of 6166 cases and 3813 deaths, of which 1165 cases and 935 deaths were in Manila. One officer has died, the first victim among the officers. Among the Americans to date there have been 25 cases and 20 deaths, while among the Europeans there have been 13 cases and 10 deaths.

Complimentary Dinner to Surgeon-General Sternberg.—A committee of physicians, who feel that the retirement of Dr. Sternberg from the Army should not be allowed to pass without an expression on the part of his many friends of their appreciation of his long and faithful services to the country and to our profession, will, in recognition of his long-continued, varied and important scientific and professional labors and of his high personal character, tender him a dinner at New York City, June 13.

Smallpox.

Illinois: Of the 13 new cases of smallpox discovered in Chicago during the week ended May 24, the same enormous disproportion of colored, heretofore noted, obtained—8 out of the total. None had ever been vaccinated—another illustration of avoidable sickness and probable death "through one's own acts" of omission.——Aurora has 21 cases of smallpox, all mild.

Indiana: Smallpox was the most prevalent disease during April. There were 878 cases reported in 55 counties, and 6 deaths.——The Board of Health of Gas City has issued a proclamation of free vaccination.——The secretary of the State Board of Health, after noting the fact of the presence of more than 800 cases of smallpox in the state, says: "It is my candid opinion that there were over 1,500 cases and very little effort is being made to stop it. Smallpox is costing the state of Indiana thousands of dollars every day through no fault of the officials. It can be controlled absolutely by vaccination if everybody gets vaccinated."

Minnesota: St. Bonifacius has 40 cases and Minnetriska township, near Lake Minnetonka, 30 cases.

Canada: In Simcoe County, between 30 and 40 suspected cases are reported; 3 new cases have developed at Huntsville and a new outbreak is said to have occurred in Cayuga Township, Haldmand County.

Alaska: Within thirteen months 2000 natives along the coast of Alaska have been vaccinated as a preventive of smallpox by the surgeon of the revenue cutter *Rush*, and it is believed that the prompt action and the thoroughness with which the duty was performed had the effect of keeping that scourge out of Southeastern Alaska. With the exception of a few cases on Hooniah Island, the disease has not made its appearance, though the previous year it raged with great severity among the natives along the coast for a thousand miles. The *Rush* will continue the vaccination of the natives during the coming season, for which purpose more than 1000 vaccine points have been shipped to her at Sitka.

The Kentucky State Board of Health, at a meeting at Louisville, May 27, quarantined against the whole state of Indiana on account of a dangerous smallpox outbreak, said to be raging in sixty of the ninety-two counties of that state. Governor Durbin of Indiana refused to act, and as a consequence Kentucky will prevent persons coming from the north entering the state without having a certificate signed by the Indiana State Board of Health.

CANADA.

Appointment.—Dr. Wyatt Johnson, assistant professor of hygiene in the medical department of McGill University, is to be appointed professor of hygiene in succession to Dr. Craik, who a short time ago retired from the office of dean of the department.

A Canadian F.R.S.—Dr. Bovey, dean of the Faculty of Applied Science at McGill University, has been made a Fellow of the Royal Society of Great Britain. Dr. Bovey has been dean of that faculty ever since its foundation in 1878, and has had much to do with bringing it to its present famous position.

Coronation Contingent Must Be Vaccinated.—Every officer and man selected for the Canadian Contingent for King Edward's coronation will have to provide himself before leaving his place of residence with a certificate from a militia medical officer to the effect that he has good vaccination marks, or that he has been recently vaccinated or has had smallpox.

Arranging Hospital Patients According to Religious Belief.—According to the most recent action of the Montreal City Council in regard to the construction of the proposed civic hospital for contagious diseases, the patients will be cared for according to their religious beliefs. The hospital is to be built on the pavilion plan, the pavilions to be so arranged and the nursing staff so divided that the Catholics will be entirely separated from the Protestants.

Medical Item from Labrador.—Dr. Wilfrid Grenfell, the English physician who is devoting his life to the fisherfolk of Labrador, writing to a friend in Montreal, states that there is great destitution among the inhabitants of that country. The work of this medical practitioner ranges from treating a compound fracture to making a pair of boots from the skin of a freshly skinned seal. He has recently had completed the third hospital, viz., that at St. Anthony on the north French shore.

Proposed New By-Law on Vaccination in Montreal.—Another by-law re vaccination will shortly be submitted to the city fathers of Montreal, the one for compulsory vaccination having been rejected by a considerable majority. The new one will provide that vaccination must be performed by duly qualified physicians only, and that proper aseptic methods be employed. The object of this will be to prevent the untoward after-effects from the operation, which seem to have been very prevalent in Montreal during the past outbreak of smallpox and which have had a good deal to do with the neglect of vaccination by the people.

Consumption Sanatorium Burned.—Early on the morning of May 21 the Laurentian Sanatorium at St. Agathe des Monts, about fifty miles from Montreal, was totally destroyed by fire, one woman being consumed by the flames. The sanatorium, owned by Dr. Arthur J. Richer of Montreal, was opened by him about five years ago, and has been doing good work for consumptives in the province of Quebec, being the only institution of its kind in that province. At the time of the fire fifteen patients were undergoing treatment under the supervision of Dr. J. A. Ferguson. As soon as the alarm of fire was given this medical officer, regardless of his own danger, alarmed the inmates and had them conducted and carried to places of safety with one single exception. The sanatorium had accommodation for twenty patients and had a competent staff of nurses. The loss will be in the neighborhood of $15,000.

FOREIGN.

Free Midwifery.—The canton of Tessin in Switzerland has recently passed a law providing for the payment by the state of the fees of midwives.

Reduction of Rates on German Railroads for Persons Traveling to Hospitals or Sanatoria.—The German authorities now grant half fares to members of the sick insurance societies traveling to or from a sanatorium on medical advice; also to poor persons provided with a medical and local certificate as to their destination and poverty.

Two Dollars the Legal Fee in Paris.—A recent legal decision states that ten francs—equal to $1.93—is the customary fee in Paris for the visit of a physician to persons in the medium station of life. The statement was made in a judgment against a physician who had presented her bill at the rate of 20 francs for the first visit and 10 for each subsequent visit.

Deaths Abroad.—Our exchanges report the death of the Berlin professor of ear diseases, Dr. F. Trautmann, Geheimer

Medicinal Rath; of Dr. Römpler, the founder of the celebrated sanatorium for lung diseases at Görbersdorf; Dr. Beely of Berlin, prominent in orthopedic surgery; the professor of surgery at Naples, Dr. Frusei; Dr. Möller of Copenhagen; the professor of physiology at Strassburg, Dr. F. L. Goltz; and Dr. Kalindero, professor of medicine at Bucharest.

Instruction in Anatomy for Women Medical Students.—The German Congress of Anatomy met at Halle, April 22, with a numerous attendance from all the countries of continental Europe. The instruction of women medical students in anatomy was one of the subjects discussed. Those professors who have had most experience in this line were unanimous in favor of separate medical instruction for women, although the women themselves do not wish it.

The Schweninger Affair.—The fine large district hospital of Gross Lichterfeld near Berlin was placed in charge of Schweninger, Bismarck's medical attendant, a man of no scientific qualifications but with considerable political influence. In his administration of the hospital he is said to have ignored the fundamental principles of modern medical and surgical science, and von Bergmann has finally been appointed on a committee to investigate the complaints. He has succeeded in securing the appointment of his former assistant, Dr. H. Stabel, to the position of surgeon in chief to the hospital, to work side by side with Schweninger and enforce modern scientific methods, in spite of his opposition.

Reciprocity in the Privileges of Physicians.—The Italian physicians have been appealing to the government to forbid the practice of medicine in Italy to foreign physicians whose home countries do not allow similar privileges to resident Italian medical men. After considerable discussion the request has been refused, the authorities stating that legislation of this nature would be a step backward, and that foreign physicians are the most effective advertisers of Italy as a health resort. It is interesting to note that almost simultaneously the authorities of Cape Colony have issued a regulation taking this very step, forbidding the practice of medicine in the colony to physicians from countries in which reciprocity is not the rule. Cape Colony is one of the few countries in which there is a scarcity of medical men.

LONDON LETTER.

Decrease of Smallpox Continues.

The number of cases in hospital is 1419 against 1431, 1515 and 1442 in the three preceding weeks; during the week 248 new cases were admitted, against 328, 367 and 250 in the three preceding weeks.

Bovine and Human Tuberculosis.

At the last monthly meeting of the Council of the Royal Agricultural Society of England, Sir Nigel Kingscote presented a report of a subcommittee appointed to supervise experiments conducted at the Royal Veterinary College as to the possibility of infecting bovine animals with tuberculous material obtained from the human subject. The experiments were performed on a cow, two young calves and two yearlings. The virus was injected into the udder of the cow, was given to the calves by the mouth and was injected into the veins of the yearlings. The possibility of infecting cattle with human tubercle bacilli was proved. The bacilli had multiplied in the body of the cow and produced a manifestly diseased condition. In the other animals distinct evidence of tuberculosis could not be found after they were killed, but during life they reacted to tuberculin. This was held to indicate that the infection was of a temporary nature. Taking all the facts into account the experiments were held to show that the risk of infection to cattle from man was slight, but no conclusion as to the converse risk could be drawn.

Cyto-Diagnosis of Pleural Effusions.

At the Edinburgh Medico-Chirurgical Society, Dr. G. L. Gulland read an important paper on this subject. He said that in several kinds of pleural effusion, for example, in empyema, examination of the cells was unnecessary, the pathogenic organisms alone being important. In serous effusions, however, the cells were of importance. For many years it had been discussed whether common acute serous pleurisy was tuberculous, rheumatic, "idiopathic," or due to infection. All ordinary means of diagnosis might be exhausted without deciding the nature of the case. The case might be tuberculous, and the effusion might conceal pulmonary disease. The injection of tuberculin was almost useless for pyrexia was usually present. The sero-diagnosis of tubercle offered so many practical and other difficulties that for practical and other purposes it was useless. In the fresh pleural exudate organisms might be discovered by culture or by the microscope, but the fluid was strongly bactericidal, and after some time the organisms ceased to be capable of cultivation, though they might be found in the fluid. In undoubtedly tuberculous cases tubercle bacilli could be demonstrated only very rarely, either because few bacilli were present, because they were destroyed or rendered incapable of growths by the fluid, or because the effusion was due to toxins rather than the organism itself. To examine the cells of the exudate enough fluid should be obtained with a sterilized syringe to enable it to be centrifuged. If the cells in the effusion were numerous, cover-glass preparations might be directly made. For staining eosin, methylene blue and Jenner's stain were useful. To show granules in polymorphonuclear cells or other changes Sudan, followed by hematoxylin when fat was in question or iodin when glycogen was, had to be used. In established tuberculous pleurisy the microscope showed lymphocytes, erythrocytes, and in some cases a few polymorphs and very few endothelial cells. The lymphocytes ought to be at least half the true cellular elements, while in some cases they were four-fifths or even more. The serous stage of pneumococcic and streptococcic pleurisy and probably of all pyogenic organisms gave the same results—great preponderance of polymorphonuclears, unaltered or degenerated, as the case may be, and often numerous endothelial cells, fresh or degenerated. Erythrocytes might also be present. The relation between the polymorphs and endothelial cells varied greatly in different cases; the more acute the case and the more likely to go on to empyema the more polymorphs as a rule. In edematous effusions, whether from renal or cardiac disease, the cells were few and mainly endothelial. In malignant pleurisy, cells of the growth were present in the fluid, often in large numbers. They were frequently swollen and edematous, and presented abnormalities of the nucleus and fatty degeneration. A certain proportion of the polymorphs were present. Dr. Gulland has found cyto-diagnosis distinctly useful, particularly in deciding the question of tuberculosis.

The Morphia Habit Case: Dr. Law's Expenses To Be Defrayed by Subscription.

This case, in which a nurse unsuccessfully sued her physician because she became addicted to morphia after his prescribing it for her, has been described in The Journal. At a meeting of doctors called to express sympathy it was stated that Dr. Law's expenses amounted to $3500. Subscriptions amounting to $1800 have already been received from all parts of the United Kingdom and from all classes of the profession. The presidents of the Royal College of Physicians, of Surgeons, the master of the Apothecaries' Society and the editors of the metropolitan medical journals have been requested to act as trustees of the fund for the payment of Dr. Law's expenses.

Physical Deterioration of the Population of Towns.

The recruiting returns for Manchester show in a striking manner that the deterioration in physique of the population of towns, which has been frequently asserted is not a produce of alarmist exaggeration. Some three years ago it was found that of 11,000 men examined only 3000 were fit for service. In 1900, of 12,235 applicants only 4030 were fit to serve. In 1901, 11,896 men were examined, of whom only 3076 were accepted. Those rejected were for the most part so ill-developed and poor in physique that it was impossible to take them, though the authorities were anxious to accept as many as possible. The standard is now lower than it has ever been. A minimum chest measurement at full expansion of 33½ in. and a minimum height of 5 ft. 3 in. are sufficient. Many Manchester applicants for enlistment are youths of 18 or 19, average specimens of those living in the poorer parts of the city. The chest measurement is often only 28 or 29 in. and they are undersized in proportion. The recruiting officers think that the principal cause of this want of physique is the habit of cigarette smoking by youths. They come with their fingers stained by cigarettes and nearly all suffer more or less from palpitation of the heart. But this is obviously only one factor of many. These youths are born in the vitiated atmosphere of a town slum, are unsuitably fed as infants, and are brought up in ill-ventilated tenements.

Arsenic and the Increase of Cancer.

To explain the increase of cancer in this country, of which statistics have recently been given in The Journal, Mr. Jonathan Hutchinson in the *Polyclinic* advocates a very daring and characteristically original hypothesis. Many years ago he made the remarkable discovery that the prolonged use of arsenic gives rise to horny growths (corns) on the palms and

soles which in certain cases terminate in cancer. This observation, at first received with incredulity, has been amply confirmed. It may be remembered that the evidence given before the Royal Commission, which has been published in THE JOURNAL, shows that in addition to the contaminated sugar which was the cause of the epidemic of arsenical poisoning in the North of England and the Midlands there was another source of arsenic in beer—the coke used to dry the malt. The quantity of arsenic derived from this source is, however, very minute. Mr. Hutchinson points out that it is precisely during the period in which coke has taken the place of wood in drying malt that cancer has increased. During this period no doubt a number of cases registered as "peripheral neuritis," "vagabond's melasma," "pernicious anemia" and "multiple cancer of the skin" were due to arsenic. But if the continuous use of arsenic in small medicinal doses can predispose to cancer of the skin there is no good reason for doubting that it may do the same for cancer for other tissues. Probably it is a contributory rather than an efficient cause. There must also be the constitutional tendency, the appropriate age, and in some cases local irritation.

Cancer Research.

The importance of the cancer problem has been well brought before the public and the claims for assistance in research are receiving good response. The latest example of munificence is that of a Dundee manufacturer who has offered to the directors of the Dundee Infirmary $90,000 to erect a cancer hospital containing six wards capable of accommodating 16 to 20 patients and a ward for private patients. He has also offered to guarantee $5000 a year for 5 years for a laboratory for original work in investigation.

Correspondence.

Medical Education for Women.

CHICAGO, May 22, 1902.

To the Editor:—Your editorial on medical education of women in THE JOURNAL, May 17, is evidently written as a friend, but, I fear, a misguided one. You advocate a special curriculum for women, claiming that their peculiar psychophysical status is not met under the present conditions. You wish to exclude major surgery, on the ground that women lack the courage and quick judgment necessary for this work. Is this true? Any one acquainted with the work of medical women knows better. The matter of adaptation of women to major surgery is a matter of individuality, just as it is with men. There are men who faint at the sight of blood and there are women who can do major surgery. I have seen the late Dr. Marie J. Mergler perform a double ovariotomy, through the abdominal route, in a case of sarcoma of the ovaries, each weighing from 5 to 10 pounds. There was extreme ascites, causing dangerous dyspnea in the case, and the patient was in a grave cachectic state. The operator exhibited as much self-possession, courage and good judgment as could be desired in any surgeon, man or woman. The patient made an uneventful recovery. Our cry is "More surgery!" We want just as broad and generous a course as we can get, for we have to work against all odds, having to contend with prejudice against us of the laity, and, I regret to say, some of the profession.

You consider obstetrics the future field of women in medicine. Is it because it is better adapted to the lower physical standard of women? We all know that the art of obstetrics is about as hard a branch of the practice of medicine as there is. It is full of surprises and comparatively poorly remunerated. Does not a podalic version, a symphysiotomy or a Cesarean section require quick judgment and dauntless courage, when we consider that there are two lives at stake? And what about forceps delivery?

You also claim that women prefer men accoucheurs because of the stronger judgment of men and the better advantages they have in obtaining obstetric experience. This is neither true nor fair. Women practitioners, especially those who had the advantage of an interne's service in a woman's hospital, are better prepared for obstetrics than many a man. Obstetrics opens to us many a home, and we are later employed as family physicians. I quite agree with you that women make better pediatricians and that there should be more women in eye, ear, nose and throat work. It will come with increasing hospital facilities for women to specialize.

"Psychology proves," you continue, "that woman's discriminating power and accuracy of movement are inferior to those of men. Perhaps this demonstrated fact explains all these doubts concerning feminine surgery of every sort." But, my dear Doctor, why can not a woman tie a ligature or put in a suture as well as a man? Is it because with her nimble fingers she has been handling the needle and thread in making garments ever since the birth of the race? Read the article in the last issue of the *Woman's Med. Journal*, on "Women in Medicine in Russia," and you will see what women can do even on the battlefield.

At last, we are getting to the climax of this very valuable editorial. "However, the whole question of woman's place in medicine hinges on the fact that when a critical case demands independent action and fearless judgment, man's success depends on his virile courage, which the normal woman has not, nor is expected to have." It is over 35 years since women have first invaded the field of medicine. England, France, Russia, Switzerland, the United States, and lately Germany, have opened the doors of medical schools to women on par with men. Women have demonstrated their ability as students and practitioners and their field of work is growing in scope with every year. Woman in medicine is no longer an experiment. She has come to stay. What we want is a high standard of preliminary as well as of professional training. More surgery, more medicine, more pathology, more bacteriology, etc., more of everything that makes a good doctor. We claim the rights of the individual. There are strong and able—yet normal—women and weak and incapable men.

ROSALIE M. LADOVA, B.S., M.D.

Venetian Bldg.

Young's Modification of My Prostatic Incisor.

BERLIN, GERMANY.

To the Editor:—In THE JOURNAL of Jan. 11, 1902, Young described[1] a modification of my prostatic incisor under the title of "A New Combined Electro-Cautery Incisor for the Bottini Operation for Prostatic Obstruction." According to him the chief advantage of this modification is, that knives of different heights may be used. Young believes to have brought out something new by this, but he is mistaken.

As proof of the above statement, I quote the following from my article of January-February, 1900, entitled: "Neue Mittheilungen zur Galvanokaustichen Radikalbehandlung der Prostatahypertrophie per vias naturales (Bottini'sche Operation)."[2]

"Die *Tiefe* der Schnitte scheint *theoretisch* gegeben durch die Höhe des—bekanntlich messerförmigen—Kauters, gemessen senkrecht zum Schaft. Es muss danach, da die Höhe des als Beispiel gewählten mittleren Lappens eine verschiedene sein kann, zweckmässig erscheinen. Messer von verschiedener Höhe zur Verfügung zu haben. In der That habe ich mir deswegen auch für meinen Gebrauch Incisoren mit verschiedener Höhe des galvano-kaustischen Messers—von 0.8, 1.0, 1.2 und 1.4 bis 1.5 cm. Höhe—anfertigen lassen und treffe zwischen diesen, je nach dem kystoskopischen und dem hierfür noch wichtigeren, *Rektalbefund bei liegendem und nach hinten gewendetem Instrument* eventuell meine Auswahl."

[English translation[3]: "*Theoretically* the *depth* of the incision is represented by the height of the galvanocaustic knife, measured from its tip to the shaft at a right angle. It would seem, therefore, taking as an example the middle lobe, which may vary in size, to be an advantage, to have knives of different heights at our disposal. For this reason I had galvanocaustic knives made for me, measuring from 0.8, 1.0, 1.2 and 1.4 to 1.5 cm. I choose one of these, according to the cystoscopic finding, and, what is still more important, the *rectal*

1. Also in the Johns Hopkins Hospital Bulletin, February-March, 1902.
2. Deutsche Medizinal-Zeitung, No. 1-6, 1900.
3. Translated by Otto M. Schwerdtfeger, M.D., New York.

finding taken after the instrument has been introduced and turned backward."

I added the following note at the time (Foot-note No. 17):

"Als Durchschnitt lasse ich die Instrumente mit Messer von 1.2 cm. Höhe anfertigen, *das jedenfalls die am meisten zu verwendende Messerhohe darstellt*, 0.8 cm. scheint mir entbehrlich, 1.4 bis 1.5 cm. ist für viele Fälle zu hoch und schon deswegen leicht bedenklich, weil naturgemäss mit einer grösseren Höhe des Messers auch die Neigung zu eventueller Verbiegung steigt. Dass man übrigens einen Schnitt auch dadurch weiter vertiefen kann, dass man—in derselben Sitzung oder in einer späteren—noch einmal in dieser Richtung schneidet, braucht nur erwähnt zu werden."

[English translation: "As a rule, my instruments are manufactured with a knife of 1.2 cm., *which represents the height mostly used*, 0.8 cm. seems to me to be dispensable; 1.4 to 1.5 cm. is too high for many cases and has this further disadvantage, that the tendency to bend is naturally greater because of the increased height. It need only to be mentioned that the incision can be deepened by recutting in the incision either during the same sitting or at a later one."]

I treated on the same question in my article[4] on "The Treatment of Hypertrophy of the Prostate Gland by the Galvanocaustic Method after Bottini," in W. H. King's "Electricity in Medicine and Surgery."[5] It may be found on p. 206, and is as follows:

"The depth of the incision is dependent, on the one hand, on the fact that the instrument be firmly pressed upon the prostate gland; on the other hand, on the height of the knife. I possess knives of various sizes, from 0.8 to 1.5 cm. in height and choose between them dependent on the thickness of the prostate gland. As an average size 1.2 cm. is to be designated; my instruments are supplied with this size unless another size is especially ordered. The incision may also be deepened if the instrument is firmly pressed down and the knife is moved to and fro for a second time, along the furrow. In general, however, this is not expedient."

To be sure, I did not have an entirely new instrument made for each different knife; with my instrument, different male parts alone are necessary, the female remaining the same. The only difference between this and Young's is, that in his, a part of the outer end of the male portion remains the same. It is a question if there is any advantage in his arrangement, because the expensive part of the instrument is the platinum-iridium knife, of which one must have several in either case. The disadvantage of Young's is that the male part is made up of two pieces whereby it suffers in simplicity and safety.

In addition, I wish to emphasize that, as my experience increases, I have become convinced that knives of different heights are not of the great significance which I formerly thought, but one averaging 1.2 to 1.3 cm. in height is sufficient for all cases.

I may be allowed, as substantiation of this, to state that in my last 37 cases, as far as I can remember, all—or, at least, nearly all—were operated with a knife of 1.2 cm. height and in these 37 cases (excepting one death, one non-success in a case with a small prostate, and one case which was operated too recently to allow of any opinion on the result) there were 34 successful results, 27 cases being cured and 7 decidedly improved.

At all events, from the above given quotations it is shown that the instrument recommended by Young can not be designated as "A New Electro-Cautery Incisor," but at most as a modification of mine. I must add that Young himself, in a letter to me, correctly recognizes this. He writes (March 24, 1902): "The instrument in question is merely a modification of your own splendid instrument."

ALBERT FREUDENBERG, M.D.

Berlin, S. W. Wilhelmstr. 20.

4. German: "Die Behandlung der Prostatahypertrophie mittels der galvanocaustischen Methode nach Bottini," Sammlung klinischer Vorträge, N. F. No. 328. Published February, 1902. The part referred to can be found on p. 318 of the German issue.

5. New York, Boericke and Runyon Co., 1901.

Inefficiency of Self-Constituted Midwives.

BERLIN, WIS., May 16, 1902.

To the Editor:—I enclose an outline of a little of my experience; if proper to print in our valuable JOURNAL it is at your service.

The testimony presented to the coroner's jury summoned by Justice Biggert to investigate the cause of death of Mrs. John Secoro, who died in child-bed, May 12, showed she flowed to death and that the midwife rendered no assistance. Neither was she fitted by medical knowledge to give assistance in such cases.

The above clipping is from our local paper.

I trust it may seem time to most of us to call a halt, as far as possible, in this matter, as many like instances occur in every large community, due to the inefficiency of self-constituted midwives.

Being summoned, at the last moment, to attend the above case, I found the woman dead. She might have been buried and little thought given to the disastrous consequences overtaking nine little children, but, acting on some thoughts advanced at our last Wisconsin state medical meeting, I asked for an inquest from the head of our local board.

The evidence showed the bed badly saturated with blood, the head of deceased had not even been lowered, nor foot of bed raised, no uterine or heart stimulants given, placenta allowed to remain loose in the uterus, and only slightly attached to its walls, as postmortem revealed; everything was left in a bad state. Yet this midwife has been depended on for years, by a large Polish element in this vicinity, to attend many of them in confinement. We frequently hear it said, "If there be nothing the matter, she is as good as any doctor." How absurd!

It is proper to remark that our mayor promptly ordered the inquest, and the pretended midwife was made to realize her unfitness for these duties. There is no probability that she will again place herself where the court may be likely to demand her presence for such shortcomings. Is not this a fitting way for shutting off such uninstructed officiousness?

This community was very much stirred up over this matter when the facts were brought out. It would have passed comparatively unnoticed without the inquest. Why should this not be the rule?

B. F. DODSON, M.D.

Saratoga Meetings.

Among the meetings to be held at Saratoga Springs during the week of the Association meeting are those mentioned below. Others have received previous notice in these columns.

United States Pension Examiners of the State of New York.—It is announced that the pension examiners of New York will meet at Saratoga Springs, on June 9, at 10 a. m. A brief literary program has been arranged, the principal feature of which will be an address by Medical Referee Raub of Washington, D. C., on "Defects in Reports of Examining Surgeons, with Suggestions for Their Improvement." A very cordial invitation is extended to every pension board in all of the New England and Eastern States to be present at this meeting. While the meeting has been called to consider the advisability of effecting an organization in New York State, it may also prove a favorable occasion on which to organize on a larger plan, so as to include all of the states above mentioned. It is to be hoped that each board will send at least one representative.

American Medical Temperance Association.—The eleventh annual meeting of this association will be held in the parlors of the United States Hotel, Saratoga Springs, N. Y., June 11 and 12, at 9 a. m. The president, Dr. N. S. Davis, Chicago, will deliver the annual address on "The Relations of Alcohol to the Economic, Sanitary and Moral Interest of the Human Family and the True Principles of Legislation Which Should Govern Their Use." The vice-president, Dr. Henry D. Didama, Syracuse, N. Y., will deliver an address on "The Use of Alcohol as a Predisposant and Excitant of Disease and Crime." The third address will be delivered by the second vice-president, Dr. Dudley S. Reynolds, Louisville, Ky., on "The Tobacco Habit as We See It Daily." Other papers will be read by Dr. John H. Kellogg, Battle Creek, Mich., on "The Injurious Effects of Al-

coholic Medication as Shown by Recent Experimental Observations;" Dr. Lewis D. Mason, Brooklyn, N. Y., on "Alcoholic Anesthesia;" Dr. John W. Long, Salisbury, N. C., on "Popular Delusions Concerning the Physiologic Effects of Alcohol;" Dr. John M. French, Milford, Mass., on "A Critical Analysis of the Prescription of Whisky and Strychnin;" Dr. David Paulson, Chicago, on "The Relation between Alcoholic Medication and Drug Addiction;" Dr. Charles H. Shepard, Brooklyn, N. Y., on "Auto-Intoxications from Alcohol;" Dr. Thomas D. Crothers, Hartford, Conn., on "Nerve Injuries Traceable to Alcohol Given as a Medicine," and Dr. N. Roe Bradner, Philadelphia, on "Proprietary Drugs Containing Alcohol." Several papers have been promised from Drs. Fewes, Hall, Comstock and others. The meeting promises to be one of unusual interest. The object of this association is to promote more accurate investigation concerning the action of alcohol in health and disease, and seek to disseminate the most authoritative and well-established facts, as seen from laboratory and bedside experience. A cordial invitation is given to all who are interested to attend this meeting at Saratoga. The secretary, Dr. T. D. Crothers, Hartford, Conn., will be pleased to correspond with anyone on this subject and to send circulars of its work.

The National Confederation of State Medical Examining and Licensing Boards will hold its twelfth annual meeting in the hall of the Y. M. C. A., Saratoga Springs, N. Y., Monday, June 9, 1902, at 9:30 a. m. and 2:30 p. m. Members and ex-members of state medical examining boards, physicians and educators who are interested in the cause of higher medical education are cordially invited to attend. Every state or territorial board whose duty it is to examine or license physicians intending to practice in the jurisdiction of the board is urged to affiliate with the National Confederation, if it has not already done so. The program is as follows :

Address of welcome, Mr. A. P. Knapp, President of Saratoga Springs.
Address of welcome on behalf of the medical profession of Saratoga Springs, George T. Church.
Address of welcome on behalf of the Regents of the University of the State of New York, Albert Vander Veer, Ph.D., M.D., Albany.
Address of welcome on behalf of the State Board of Medical Examiners of New York, William Warren Potter, Buffalo.
Response, by Vice-President Henry Beates, Jr.
Report of the Secretary-Treasurer, A. Walter Suiter, Herkimer, N. Y.
Annual address by the President: Uniformity in Medical Practice Acts, N. R. Coleman, Columbus, Ohio.
The Work of the Regents of the University of the State of New York, James Russell Parsons, Jr., M.A., Secretary of the University.
Divided Examinations for License, Joseph H. Raymond, President of the Medical Council of New York.
Discussion, to be opened by the following members: E. B. Harvey, Boston; E. L. B. Godfrey, Camden, N. J.
What Can Be Done to Regulate the Number of Young Men Studying Medicine? R. S. Martin, Stuart, Va.
The Results of the Medical Law of Tennessee, T. J. Happel, Trenton, Tenn.
Should There Be the Same Examinations for Old Practitioners and for Recent Graduates When Applying for License to Practice Medicine? Maurice J. Lewi, New York.
The Definition of the Practice of Medicine in Medical Practice Acts, Harold N. Moyer, Chicago.
How May the Topics in Examinations for License Be Best Arranged by Examining Boards? Henry Beates, Jr., Philadelphia.
Discussion, to be opened by the following members: William A. Spurgeon, Muncie, Ind.; Gardner T. Swarts, Providence, R. I.

Miscellany.

Children with Three Legs.—Medical journals are mentioning two recently-reported cases of children with three legs. In one, a girl, the third leg grows from the waist and its weight makes locomotion difficult. The other case was accustomed to rest on three feet like a tripod.

Carcinoma and Malaria.—A recent article in the *Cbl. f. Allg. Gesundheit* gives charts showing the mortality from malignant neoplasms and from malaria in Italy. The former is largest in Tuscany and vicinity, while the latter is largest in the southern provinces. The mortality from malaria is therefore highest in the provinces in which the mortality from cancer is lowest, and vice versa.

Perforated Tubes for Intubation.—Some of the disadvantages of intubation are obviated by making a double row of small holes near the center and below. Suffocation is less liable to occur, as the air can pass through these holes even if the tube is obstructed below. The air passing through them also prevents the accumulation of mucus and membranes on the tubes. It is also less liable to be coughed out. These statements made by Dionisi of Turin have been confirmed by his experience with thirty patients using these perforated tubes.

Making Vaccination Fashionable.—Even in medical matters the best method of making progress is to convince people that the desirable thing is popular. To make a good act fashionable it is only necessary to make others think it is fashionable. In London, despite the steady increase of smallpox and all that the profession could do to make people vaccinate, there was an invincible apathy upon the part of the public. Suddenly some member of the stock exchange introduced the practice of wearing a red ribbon about the vaccinated arm as a warning to others not to jostle. At once the custom spread and "a thousand ribboned arms may be met in five minutes anywhere in the city."—*Amer. Medicine.*

A plan for uniformity in state medical organizations has been proposed by the committee of the American Medical Association, composed of Dr. McCormack, Dr. Foshay and Dr. Simmons, and their report is published in the Association JOURNAL of May 3. Without interfering with the proper independence of the individual state societies, their just rights as to conditions of membership, etc., the outline of the constitution and by-laws offered by the committee seems most admirable, and we hope it may be accepted, at least in essentials, by all the states of the Union. In this way may be reached that unity of the entire American medical profession by which alone we can lessen the degrading influence of quackery and aid in the making and execution of laws in a thousand ways affecting the public health. All progressive physicians should do their utmost to carry into execution the recommendations of Drs. Reed, McCormack, Foshay, and Simmons, who have labored so earnestly and nobly in the cause of professional unity and uplifting.—*American Medicine.*

The Profits of a Medical Journal.—The *Münchener medicinische Wochenschrift* is, it is said, owned and published by eleven physicians. Last year profits amounting to 4400 marks were divided among professional aid societies. This year the amount was 9300 marks, 5000 of which was given to the Pettenkofer Memorial Building Fund, and the balance to various societies for the relief of widows and orphans of physicians. Of those who are strangely indifferent to the imperative duty of the profession to own and control its professional journals, we would ask if they see no significance in this fact. Is it good policy or good morals for American physicians to support several hundred medical journals which, because of their number and nonprofessional control, are powerless for good, or powerful only for evil, instead of lifting the few needed to positions of honor and beneficence? There is all the difference in the world between a medical journal published in the interest of the profession and one published in the personal interests of the publisher or editor. It lies wholly in the choice of American physicians whether the policy and the profits of their journals shall be under the control of professional or of selfish motives. The splendid work that might be done by a few professionally-owned journals for the reform of hundreds of abuses, and the furtherance of medical progress should lead every one to subscribe for and contribute to those journals that by reason of their professional ownership and management can not be used for commercial or personal purposes.—*Amer. Medicine.*

Physicians Should Furnish Abstracts of Their Papers.—There is no one capable of doing it so well, and none is so interested in having it done correctly. The writer knows best what is the essential thing in his article and just what needs to be emphasized. Reporters, even the very best, can not possibly know and do the work so perfectly, and especially during the *viva voce* reading. The succinct short epitome in 100 or at most 200 words should be appended to the paper so that editors after its publication may use this instead of the imperfect one each would be compelled to make for his readers. When going to a medical society this abstract should be mani-

folded and as many separate slips taken as may be desired by the secretary and the medical stenographers present. By following this plan the reports in medical journals would be more concise and accurate, and every contributor would know that he is correctly reported, and that his bit of experience has been surely and exactly added to the great body of medical truth.—*American Medicine.*

Charaka-Samhita.—THE JOURNAL has mentioned before the translation of the ancient Hindu treatise of medicine which is being published by A. C. Kaviratna at Calcutta. The twenty-fifth and sixth parts have just been received and show that many advanced ideas in hygiene and psychology were promulgated almost coeval with Hippocrates. Those interested in tracing the history of medicine will enjoy this work in its quaint English setting. Charaka says in one place: "Blood is nourished by blood, marrow by marrow, semen by semen and conception is favored by eating the raw fetus of some animal. In case the same substances are unattainable, administer those possessed of the same attributes, for example, in case of anuria give sweet or acid or saline articles and all endowed with laxative properties. For absence of bile, give acid, saline or pungent, articles or alkaline, heating or keen." He enjoins "indulgence with deliberation in all such acts as sleeping, eating, seeing, sporting, moving of limbs." He observes: "It is one thing to have good food and another thing to digest the food one has." About 800 pages have been published to date. The translator is the editor of the *Bengali Medical Journal* and announces that he is a practitioner of the Hindu System of Medicine. His footnotes are not the least interesting part of the work, almost surpassing the parts devoted to anatomy and embryology.

State Boards of Registration.

The Maryland State Board examinations will be held in Baltimore June 11-14.

Mississippi Physicians, to the number of 73, were added to the list of that state's licensed practitioners, out of 153 applicants for the coveted permission.

Manitoba Examinations.—Candidates for license to practice medicine in Manitoba met, to the number of 113, at Winnipeg, May 12, for several days' examination.

The Cherokee National Medical Board for the Central District of the Cherokee Nation will be in session at Tahlequah on June 5 to examine physicians and surgeons desiring to practice.

In Louisiana, May 1 and 2, 65 applicants presented themselves for license by the State Board of Medical Examiners, 57 passed and 8 failed; 4 applicants were colored and 3 failed. There were 7 applicants for license to practice midwifery, 4 of whom were colored; 2 failed, one of whom was colored.

The British Columbia Medical Council held its annual meeting, May 6, at Victoria, and elected the following officers: President, Dr. O. M. Jones, Victoria; vice-president, Dr. R. Eden Walker, New Westminster; registrar, Dr. Chas. J. Fagan, Victoria; and treasurer, Dr. W. J. McGuigan, Vancouver. On May 6 to 8 examination was given 11 applicants for license to practice.

In Rhode Island, the State Board of Health, at Providence, April 3, met 12 candidates, asked 70 written questions on 7 subjects and found only 1 unable to answer 75 per cent. correctly.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
		PASSED.		
154	R.	Tufts Medical College	1894	79.4
155	R.	Dartmouth Medical College	1902	89.1
158	R.	Dartmouth Medical College	1902	89.6
156	R.	Bowdoin Medical College	1901	83.2
157	R.	Bowdoin Medical College	1901	87.5
159	R.	University of Vermont	1898	75.6
160	R.	College of Phys. and Surg., Boston	1899	83.4
161	R.	Baltimore Medical College	1901	80.4
162	R.	College of Phys. and Surg., N. Y.	1890	89.2
163	R.	University Medical School	1889	81.0
164	R.	Non-graduate	....	75.0
		FAILED.		
166	R.	Non-graduate	....	48.4

The North Carolina State Board of Medical Examiners will hold its annual session in Wilmington, beginning June 4, 1902. Physicians desiring examination for license must present a diploma from a college of medicine requiring not less than three years' attendance upon lectures prior to graduation, evidence of clinical instruction and certificates of character. The license fee is $10. The president of the Board is Dr. E. C. Register, Charlotte, N. C.; secretary, Dr. J. Howell Way, Waynesville, N. C.

The Wisconsin Examination of applicants to practice medicine was held at Milwaukee, April 8 and 9 and 120 written questions were asked on 12 subjects. Ten out of 16 applicants passed by attaining the necessary 75 per cent.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per-cent.
		PASSED.		
1	R.	Rush Medical College	1900	81
6	R.	Rush Medical College	1901	78.8
7	R.	Rush Medical College	1901	84.4
3	R.	Miami Med. Coll., Cincinnati	1884	75.5
5	R.	Louisville Medical College	1887	76.6
9	R.	Louisville Medical College	1902	81
10	R.	Northwestern University	1901	89.3
12	O.	Still College of Osteopathy	1901	76.2
15	R.	University of Minnesota	1889	78.3
16	R.	Maryland Medical College	1901	75
		FAILED.		
2	R.	Omaha Medical College	1893	67.3
4	O.	Am. Sch. of Osteo., Kirksville	1902	57.6
8	R.	Harvey Medical College, Chicago	1901	67.5
11	O.	Still College of Osteopathy	1900	70.6
14	R.	Illinois Medical College	1902	68.6
17	R.	Chicago Medical College	1877	47.3

Confederation of State Examining Boards.—At Chicago, May 20, was held the second meeting of the American Confederation of Reciprocal Examining and Licensing Medical Boards. Representatives from the Wisconsin, Indiana, Illinois and Michigan boards were present and the details for the reciprocal exchange of certificates between Indiana, Wisconsin and Michigan were perfected upon the basis of the two qualifications passed at the January meeting of the Confederation, viz.: 1. That a license or certificate of qualification of at least one year's date and based on presentation of a satisfactory diploma, and an examination before a board in specified branches of medicine and surgery, may be accepted at the discretion of a board in lieu of an examination, and as a basis upon which the license of a state may be issued. 2. That a license or certificate of qualification issued by a state board of registration or medical examiners of at least one year's date, based upon presentation of a satisfactory diploma and on the recommendation of a state board of registration or medical examiners as to the reputability of the applicant, may be accepted at the discretion of a board in lieu of an examination, and as a basis upon which the license of a state may be issued. The boards of the above-mentioned states meet in June and will take such action then as will result in the immediate exchange of certificates. Prof. J. B. Murphy, of Northwestern University Medical School, and Prof. John N. Dodson, Dean of Rush Medical College, were present and spoke very strongly in favor of the objects of the confederation. The following officers were elected: President, Dr. J. R. Currens, Two Rivers, Wis.; vice-presidents, Drs. J. M. Dinnen, Fort Wayne, Ind., and W. F. Curryer, Indianapolis; secretary, B. D. Harison, Sault Ste. Marie, Mich.; treasurer, W. A. Spurgeon, Muncie, Ind.; executive council, Drs. Harvey B. Dale, Oshkosh, Wis., William Bell, Belding, Mich., and J. C. Webster, Lafayette, Ind. The constitution is as follows:

ARTICLE I.—The name of this organization shall be the American Confederation of Reciprocal Examining and Licensing Medical Boards.

ARTICLE II.—The object of this confederation shall be to establish reciprocal relations between the medical examining and licensing boards of the states, territories, districts and provinces of the United States; the purpose of which being that thoroughly worthy and well-qualified physicians and surgeons who have been legally authorized to practice under the laws of one of said states, territories, districts or provinces, may be given legal authority and be admitted to practice in any state, territory, district or province represented in this confederation without a repetition of the tests of qualification to which said practitioner has submitted.

ARTICLE III.—The officers of this confederation shall be a president, first and second vice-presidents, secretary and treasurer, whose duties shall be those usual to said offices and who shall be elected annually by the confederation and retain their respective offices until their successors are elected and qualified.

ARTICLE IV.—Additional to the officers mentioned in Article III, there shall be an executive council, composed of an authorized representative of each state board represented in this confederation, whose duty shall be to take advisory oversight of the affairs of the confederation, audit claims and accounts and make recommendations as to the business affairs of the confederation.

ARTICLE V.—Any examining or licensing board of any state, territory, district or province of the United States having a medical practice law requiring an examination before said board and requiring thorough professional qualification as the basis of legal authority to practice in said state, territory, district or province, and providing for interstate reciprocity, shall be eligible to membership in this confederation and may obtain membership by the

signature of its authorized representative to this constitution and maintain such membership by compliance with the requirements of the constitution and by-laws of the confederation.

ARTICLE VI.—The annual dues to the confederation shall be such an amount proportioned among the boards composing the confederation as may be necessary to meet the expenses as found and allowed by the executive council.

ARTICLE VII.—It shall be the duty of each examining and licensing board having membership in this confederation to draft and spread on record in its home office, a resolution embodying the basis of reciprocal recognition of applicants from other reciprocating states.

Married.

GEORGE W. BILLIG, M.D., Chicago, to Miss Glencora Bell of Streator, Ill., May 27.

BERNARD H. LUEHRSMANN, M.D., to Miss Mary Schulte, both of Norway, Mich., May 11.

FRANK A. BROCKMEYER, M.D., to Miss Sadie A. Kelly, both of Canandaigua, N. Y., May 5.

ORA M. RHODES, M.D., Bloomington, Ill., to Miss Myrtle J. Downs, of Elwood, Ind., May 8.

ERNEST H. MADAJESKY, M.D., to Miss Ada Clark McMinn, both of Bessemer, Mich., May 7.

JOSEPH PETTYJOHN, M.D., acting-assistant surgeon, U. S. Army, to Miss Transon Senter, of Humboldt, Tenn., at Portland, Ore., May 1.

Deaths and Obituaries.

Allen H. Hulshizer, M.D., born March 28, 1851, at Hughesville, N. J., died at his home in Philadelphia, May 19, from splenic leukemia. The deceased had been active in his profession in Philadelphia for a quarter of a century, and was unusually successful. His preliminary education was partially acquired at Lafayette College. For several years he was principal of the grammar school of Phillipsburg, N. J. In 1878 he was graduated from Jefferson Medical College, Philadelphia. For five years subsequently he was chief of clinic of the gynecological and obstetrical department at Jefferson. He was one of the original members of the Pennsylvania State Board of Medical Examiners, a position which he retained until January of this year. He was also a member of the medical department of the city civil service board. He had served the alumni association of his alma mater as its president for one term. He was prominent in business and religious circles as well. He was a visiting physician to St. Joseph's Hospital, a member of the medical club of the Medicolegal Society, of the County Medical and State Medical Societies, and of the American Medical Association.

John Charles Earle, M.D. University of Maryland, Baltimore, 1845, a native of Queen Annes County, Maryland, and son of Hon. Richard Tilghman Earle, chief judge of the Second Judicial District of Maryland, died at his home near Easton, Md., May 17, aged 78. He was president of the Easton Board of Trade.

J. Newton Arnold, M.D. Albany (N. Y.) Medical College, 1862, surgeon for four years during the Civil war of the Seventh N. Y. Heavy Artillery, and a member of the American Medical Association, died at his home in Clyde, N. Y., May 17, from heart disease, aged 65.

William H. Andrews, M.D. New York University, 1882, a member of the Hampden Medical Society and of the American Medical Association, died at the House of Mercy Hospital, Springfield, Mass., May 19, from meningitis, after an illness of one week, aged 47.

Ervin L. Soule, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1900, was drowned while canoeing at Stroudwater, May 13. He served for a year on the house staff of Maine General Hospital and then located at South Portland.

Christopher P. Calhoun, M.D. Cincinnati College of Medicine and Surgery, 1873, died, May 18, from paralysis, at his home in Altoona, Pa., aged 60. He was a soldier in the Civil war and had served Bedford County in the state legislature.

Frank R. Reynolds, M.D. Rush Medical College, Chicago, 1884, a member of the American Medical Association, insane from ill health and financial troubles, committed suicide by hanging, in his barn in Eau Claire, Wis., May 22.

Charles S. Morse, M.D. Savannah (Ga.) Medical College, 1870, who had been Clerk of the Supreme Court of Texas for twenty-one years, died at his home in Austin, May 13, after a prolonged illness, from Bright's disease, aged 53.

John A. Elliott, M.D. University of Buffalo (N. Y.), 1897, assistant physician at the Hudson River State Hospital, Poughkeepsie, N. Y., died suddenly from valvular heart disease at the hospital, May 12, aged 31.

John H. Morgan, M.D. University of Pennsylvania, Philadelphia, 1850, a practitioner of Clinton, Ind., died at a hospital in Terre Haute, Ind., May 11, shortly after an operation for anal fistula.

E. Boylston Jackson, M.D. Pennsylvania Medical College, Philadelphia, 1852, for 18 years a practitioner of Menomonie, Wis., died at the home of his daughter in St. Paul, Minn., May 14, aged 75.

Charles Y. Lord, M.D. Dartmouth Medical College, Hanover, N. H., 1877, died at the residence of his brother in Portland, Me., May 12, after an illness of several months, aged 47.

William T. Elder, M.D. Medical College of Ohio, Cincinnati, 1872, died, May 17, at his home in Nashville, Ohio, from the effects of an overdose of morphin, May 17, aged 60.

William R. Harris, M.D. Medical College of Georgia, Augusta, 1887, died at his home in Waterloo, S. C., May 12, from paralysis after an illness of only a few hours.

Walter M. Smith, M.D. Medical College of the State of South Carolina, Charleston, 1892, died, May 12, from neuralgia of the heart, at his home in Liberty, S. C.

Elizabeth P. Hay, M.D. Illinois Medical College, Chicago, 1895, died at Hot Springs, Ark., April 18, from diabetes, after an illness extending over several years.

James N. Clemmer, M.D. Cincinnati Medical College, 1853, a veteran of the Civil war, died at his home in Clarksville, Iowa, April 15, aged 75.

Edgar W. Moorehouse, M.D. Albany (N. Y.) Medical College, 1884, died suddenly at his residence in Peru, N. Y., May 13, from heart disease.

Reuben J. H. Tall, M.D. University of Maryland, Baltimore, 1865, died in Baltimore from consumption, May 12, after a long illness, aged 59.

Nathan E. Hooper, M.D. Kentucky School of Medicine, Louisville, 1884, died suddenly from apoplexy, at his home in Mexia, Texas, May 10.

Major John Brooke, M.D., a retired army surgeon, died suddenly of cerebral hemorrhage, at his home in Radnor, Pa., May 11, aged 72.

Cyrus Smith, M.D. Rush Medical College, Chicago, 1872, died at St. Barnabas' Hospital, Minneapolis, Minn., May 18, aged 70.

Stewart A. Fritts, M.D. Baltimore Medical College, 1893, died at his home in Wilmington, Del., May 16, from typhoid fever.

E. A. Goodsell, M.D., died at his home in Afton, N. Y., from pneumonia, May 13, after an illness of one week, aged 40

J. H. Jenkins, M.D. University of Nashville, Tenn., 1886, died at his home in Oklahoma City, Okla., May 12, aged 55.

George W. McCoy, M.D. Louisville (Ky.) Medical College, 1883, died at his home in Chrisney, Ind., May 16, aged 48.

Book Notices.

THE ACCESSORY SINUSES OF THE NOSE, Their Surgical Anatomy and the Diagnosis and Treatment of Their Inflammatory Affections. By A. Logan Turner, M.D. (Edin.), F.R.C.S. Ed., Surgeon for Diseases of the Ear and Throat, Deaconess Hospital, Edinburgh. With 40 Plates and 81 Figures. Cloth. Pp. 211. Price, $4.00. New York: Longmans, Green & Co. 1902.

This volume is based on a lecture on the air sinuses of the skull delivered before the Royal College of Surgeons of Edinburgh, and a prize essay on "The Racial Characteristics of the Frontal Sinuses, Based Upon an Examination of 578 Skulls," which received the surgical prize of the Royal College of Surgeons in 1899. The author has added additional observations on the surgical anatomy of the maxillary sinus, the ethmoidal cells, the sphenoidal sinus, etc., also with two chapters on diagnosis and a treatment of the inflammatory affections of the nasal accessory sinuses. We do not notice, however, any mention of the absence of the naso-antral septum which, as Talbot has shown, may be wanting and the antrum simply a cavity directly connected with the nasal passage, or may be

simply a minute cavity situated well to one side, the rest of the hollow of the bone being really a part of the nose. In fact, the variations of these facial sinuses are almost innumerable, and while the author does exceedingly well in pointing out some of the variations of the frontal sinus which have been apparently neglected by other writers, his work is not complete as regards some of the less important but still notable peculiarities that may exist in the antrum.

DISINFECTION AND DISINFECTANTS. A Treatise upon the Best Known Disinfectants, Their Use in the Destruction of Disease Germs, with Special Instruction for Their Application in the Commonly Recognized Infectious and Contagious Diseases. By H. M. Bracken, M.D., Professor of Materia Medica and Therapeutics, University of Minnesota. Second Edition. Cloth. Pp. 129. Price, $1.00. Chicago: Trade Periodical Company. 1901.

Dr. Bracken has within a year found it necessary to bring out a second edition of his very convenient little manual, which fact speaks well for its merits and their appreciation by those who are interested in its subject. It may be taken as an up-to-date exposition of the leading facts of its subject, prepared by a master in the specialty of sanitation. Its author is a little extreme in his precautions in some respects, we hardly think that many sanitary officials—not even smallpox inspectors—utilize the Kuklux suit he says physicians attending infectious diseases should wear, nor do we believe that disinfectors generally adopt the light-of-the-harem costume here illustrated. The recommendations, however, are on the safe side, and we can say that the book is one that ought to go through many more rapidly appearing editions. It is about the handiest and certainly one of the most reliable little manuals of its kind.

GENITO-URINARY DISEASES AND SYPHILIS. For Students and Practitioners. By Henry H. Morton, M.D., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital. Illustrated with Half-tones and Full-page Color Plates. Pp. xii-372. Price, extra cloth, $3.00 net. Philadelphia: F. A. Davis Company, Publishers.

This volume of nearly 400 pages, while less elaborate and complete than some on the subject, seems to be reasonably full and to give on the whole a good idea of its subject. It is amply illustrated, and while there are some points in which the author may differ from others it is a good book for the practitioner. For him, in fact, it is intended rather than for the specialist. We do not see any mention, however, of one or two things that are not quite so recent, but that they might have been noticed, such as, for example, the Harris segregator, the relief of kidney tension by nephrotomy and one or two other matters. The author speaks well of one or two methods which we had supposed had rather gone out of favor with most specialists, such as castration and vasectomy for prostatic hypertrophy. He seems to see a large field of usefulness for these operations. On the whole, the book is one that we should say ought to meet with favor by the profession.

STUDIES IN THE PSYCHOLOGY OF SEX. SEXUAL INVERSION. By Havelock Ellis, L.S.A. (England); Fellow of the Medicolegal Society of New York and the Anthropological Society of Berlin. Pp. xl-272. Size, 8⅝x5¾ inches. Extra Cloth, $2.00 net. Philadelphia: F. A. Davis Co. 1901.

The appearance of a second edition of a work within a year or two of its first appearance is usually a sign of its merits, and commands, in a sense, a favorable opinion. In the case of this book this can hardly be asserted—it ought never to have had a second edition. As originally published it had its value—it was a research into a subject of some interest to special students in certain lines, and in their libraries and in the limited reference list of general libraries it had its place. The appearance of this second edition indicates a morbid demand that ought not to have been complied with; the work, out of print, yet still available to those who ought to read it in public libraries, would have been all that science required. We presume, however, that it is profitable to its publishers and it may repeat the record of the ten or a dozen editions of Krafft-Ebing's work, unless Anthony Comstock interferes.

TEXT-BOOK OF ANATOMY AND PHYSIOLOGY FOR NURSES. Compiled by Diana Clifford Kimber, Graduate of Bellevue Training School. Cloth. Pp. 275. Price, $2.50. New York: The Macmillan Co. 1902.

This is the second edition of a book that has already been before the medical public for some years. The author states that it has been extensively revised, and from the assistance she has had we should think that it is thoroughly up to date. What the nurse ought to know in regard to physiology and anatomy seems to be pretty well comprised within these pages. A valuable feature of this book is an extensive glossary at the end. While a large part of the book is given up to the subject of physiology, we notice that the pages are all headed "Anatomy for Nurses," which strikes one as an oversight, though of slight importance. The illustrations appear to be generally very good and are sufficiently numerous to be a valuable aid to the class of readers for which it is intended.

LESSONS ON MASSAGE. By Margaret D. Palmer, Masseuse and Manager of the Massage Department of the London Hospital. Cloth. Pp. 234. Price, $2.00. New York: Wm. Wood & Co. 1901.

This little work appears to be a convenient and fairly good description of massage manipulations and also contains a general treatment of the anatomy, a knowledge of which will be of use to the masseur or masseuse. In fact, a large portion of the book is taken up with this and the part on massage is comparatively brief. The average manipulator will, however, probably find in it all that is absolutely necessary, though there are special matters which are scarcely mentioned. The instructions given are founded upon the results of many years' experience both in teaching and practical work, which fact should be in itself to some extent a guarantee of its value.

QUAIN'S DICTIONARY OF MEDICINE. By Various Writers. Third Edition. Largely Rewritten and Revised Throughout. Edited by H. Montague Murray, M.D., F.R.C.P., Joint Lecturer on Medicine, Charing Cross Medical School. Assisted by John Harold, M.B., B.Ch., B.A.O., Physician to St. John's and St. Elizabeth's Hospital, and W. Cecil Bosanquet, M.A., M.D., M.R.C.P., Physician to Out-Patients, Victoria Hospital for Children. Half Morocco. Pp. 1892. Price, $10.00. New York: D. Appleton & Co. 1902.

The third edition of this standard English encyclopedia on the practice of medicine and allied subjects has been thoroughly revised and new space given to the special branches. The colored plates and cross references between related subjects add to its value. The second edition was in two volumes, and this is in one, and we consider the change not an improvement. Those for whom a foreign work will suffice will find this a valuable book of reference.

A LABORATORY COURSE IN BACTERIOLOGY. For the Use of Medical, Agricultural, and Industrial Students. By Frederick P. Gorham, A.M., Professor of Biology, Brown University. With 97 Illustrations. 12mo. Volume. Cloth. Pp. 198. Price, $1.25 net. Philadelphia and London: W. B. Saunders & Co. 1901.

The study of bacteriology is calling out a numerous list of text-books, and the present volume appears to be one that will meet a demand for an introduction to the subject. It necessarily has its deficiencies, but, within its compass gives apparently a fair exposé of the common laboratory methods. The lack of colored illustrations may seem to some a defect, but on the whole it is well illustrated, and in other respects the make-up is very fine. The book is of a handy size, and this is a decided advantage in the wide range of instruction for which it is designed.

THE CAUSES OF DEATH AMONG THE ASSURED IN THE SCOTTISH WIDOWS' FUND AND LIFE ASSURANCE SOCIETY. From 1874 to 1894 inclusive. Reported by Claud Muirhead, M.D., F.R.C.P.E., Medical Officer of the Society. Cloth. Pp. 81. Edinburgh: R. & R. Clark, Ltd. 1902.

This work embraces the results of a careful study of the mortality of a large assurance society for a period of twenty-one years, and includes a consideration of 9163 deaths. It is worthy of note that in this list no death from appendicitis appears. Considerable space is devoted to the discussion of deaths from consumption and cancer. The death rate from the former is found to be steadily diminishing, while the cancer death rate is as steadily increasing. The work will be found of value to all interested in life insurance problems.

"FIRST AID" to the Injured and Sick. An Ambulance Handbook. By F. J. Warwick, B.A., M.B., Cantab., M.R.C.S., L.S.A., Associate of King's College, London, and A. C. Tunstall, M.D., F.R.C.S. Ed., Surgeon-Captain Commanding the East London Volunteer Brigade Bearer Company. Cloth. Pp. 232. Price, $1.00. Philadephia and London: W. B. Saunders & Co. 1901.

This ambulance handbook possesses certain advantages over the ordinary first aid text-book in that it is neither too diffuse nor too concise. It follows the accepted rule, and contains a great deal of valuable information well and tersely expressed. It will prove especially useful to the volunteer first aid and hospital corps men of the National Guard.

Association News.

Rate of One Fare Plus Two Dollars Granted for Saratoga Round Trip.

As editorially noted in this issue, the Committee on Transportation has secured a further reduced rate to the Saratoga meeting. The Trunk Line Association, and with it the roads east of Chicago, have agreed to the rate of one fare and $2 for the round trip. This will without doubt be agreed to by the Western Association, unless the time be too short for the arrangement. This new rate will do away with certificates. A round trip ticket will be sold from any point east of Chicago and, it is hoped, from any point west, for one fare plus $2. The time limits of these tickets will be the same as previously announced. Tickets will be on sale June 4 to 13, and will be good on a return trip starting not later than June 17. Those who wish to return later than June 17 may deposit their tickets with the Saratoga ticket agent previous to June 17, and, on payment of a fee of fifty cents, have the time extended so as to begin the return trip on or before July 2.

Representatives from State Societies to the House of Delegates of the American Medical Association.

The following have been officially certified to the Secretary as representatives:

Alabama—W. H. Sanders, Mobile; W. M. Wilkerson, Montgomery.
Arizona—
Arkansas—J. A. Dibrell, Little Rock.
California—H. Bert Ellis, Los Angeles.
Colorado—C. K. Fleming, Denver.
Connecticut—
Delaware—Willard Springer, Wilmington.
District of Columbia—George M. Kober, Washington.
Florida—R. D. Murray, Key West.
Georgia—James B. Morgan, Augusta; Floyd W. McRae, Atlanta.
Idaho—Ed. E. Maxey, Boise.
Illinois—
Indian Territory—
Indiana—G. W. H. Kemper, Muncie; Edwin Walker, Evansville; William N. Wishard, Indianapolis; D. C. Peyton, Jeffersonville.
Iowa—
Kansas—J. E. Minney, Topeka.
Kentucky—J. N. McCormack, Bowling Green; Thomas Hunt Stucky, Louisville.
Louisiana—
Maine—Seth. C. Gordon, Portland.
Maryland—William H. Welch, Baltimore; William Osler, Baltimore.
Massachusetts—W. T. Councilman, Boston; H. E. Marion, Brighton; J. Collins Warren, Boston; F. C. Shattuck, Boston; C. H. Williams, Boston; J. F. A. Adams, Pittsfield.
Michigan—H. O. Walker, Detroit; V. C. Vaughan, Ann Arbor.
Minnesota—A. W. Abbott, Minneapolis.
Mississippi—J. C. Hall, Anguilla.
Missouri—
Montana—
Nebraska—H. M. McClanahan, Omaha.
New Hampshire—Ira J. Prouty, Keene.
New Jersey—E. J. Marsh, Paterson; Chas. J. Kipp, Newark; Luther M. Halsey, Williamstown.
New Mexico—G. C. Bryan, Alamogordo.
New York—E. E. Harris, New York; C. A. Wall, Buffalo; H. O. Arrowsmith, Brooklyn; E. D. Ferguson, Troy; Chas. E. Quimby, New York.
Nevada—
North Carolina—James A. Burroughs, Asheville; H. A. Royster, Raleigh.
North Dakota—I. N. Wear, Fargo.
Ohio—
Oklahoma—
Oregon—Andrew C. Smith, Portland.
Pennsylvania—William S. Foster, Pittsburg; George W. Guthrie, Wilkesbarre; A. P. Hull, Montgomery; W. T. Bishop, Harrisburg; H. S. McConnell, New Brighton; John B. Roberts, Philadelphia; William M. Welch, Philadelphia; Webster B. Lowman, Johnstown.
Rhode Island—John Champlin, Westerly.
South Carolina—
South Dakota—
Tennessee—W. Frank Glenn, Nashville
Texas—H. A. West, Galveston.
Utah—
Vermont—D. C. Hawley, Burlington.
Virginia—
Washington—Park Weed Willis, Seattle.
West Virginia—
Wisconsin—W. T. Sarles, Sparta; J. R. Barnett, Neenah.
Wyoming—R. Harvey Reed, Rock Springs.
United States Marine-Hospital Service—Walter Wyman, Washington, D. C.
Medical Department U. S. Army—D. M. Appel, Ft. Bayard, N. M.
Medical Department U. S. Navy—R. A. Marmion, Washington, D. C.

Delegates from the Sections.

Practice of Medicine—J. M. Anders, Philadelphia; Norman Bridge, Los Angeles.
Surgery and Anatomy—C. A. Powers, Denver; A. D. Bevan, Chicago.
Obstetrics and Diseases of Women—L. S. McMurtry, Louisville; W. H. Humiston, Cleveland, Ohio.
Hygiene and Sanitary Science—
Ophthalmology—J. A. Lippincott, Pittsburg, Pa.; H. V. Würdemann, Milwaukee.
Diseases of Children—S. W. Kelly, Cleveland, Ohio; A. C. Cotton, Chicago.
Stomatology—G. V. I. Brown, Milwaukee; A. E. Baldwin, Chicago.
Nervous and Mental Diseases—H. A. Tomlinson, St. Peter, Minn.; H. N. Moyer, Chicago.
Cutaneous Medicine and Surgery—W. L. Baum, Chicago; W. T. Corlett, Cleveland, Ohio.
Laryngology and Otology—Emil Mayer, New York City; Geo. C. Stout, Philadelphia.
Materia Medica, Pharmacy and Therapeutics—O. T. Osborne, New Haven, Conn.; A. B. Lyons, Detroit, Mich.
Physiology and Pathology—W. A. Evans, Chicago; Alfred Stengel, Philadelphia.

Societies.

COMING MEETINGS.

American Medical Association, Saratoga Springs, N. Y., June 10 to 13.
American Laryngological, Rhinological and Otological Society, Washington, D. C., June 2-4, 1902.
American Surgical Association, Albany, N. Y., June 3-5, 1902.
Louisiana State Medical Society, Shreveport, June 3-5, 1902.
Maine Medical Association, Portland, June 4-6, 1902.
South Dakota State Medical Society, Scotland, June 4-5, 1902.
Wisconsin State Medical Society, Milwaukee, June 4-6, 1902.
Rhode Island Medical Society, Providence, June 5, 1902.
Association of Military Surgeons of the United States, Washington, D. C., June 5-7, 1902.
American Orthopedic Association, Philadelphia, Pa., June 5-7, 1902.
American Academy of Medicine, Saratoga Springs, N. Y., June 7, 1902.
American Association of Life Insurance Examining Surgeons, Saratoga Springs, June 9, 1902.
National Confederation State Medical Examining and Licensing Boards, Saratoga Springs, N. Y., June 9, 1902.
Association of American Medical Colleges, Saratoga Springs, N. Y., June 9, 1902.
American Climatological Association, Los Angeles, Cal., June 9-11, 1902.
American Proctological Association, Saratoga Springs, N. Y., June 10, 1902.
Medical Society of Delaware, Newark, June 10, 1902.
Massachusetts Medical Society, Boston, Mass., June 10-11, 1902.
Medical Society of the State of North Carolina, Wilmington, June 10-14, 1902.
Colorado State Medical Society, Pueblo, June 17, 1902.
American Medico-Psychological Association, Montreal, June 17-20, 1902.
Minnesota State Medical Society, Minneapolis, June 18, 1902.
Medical Society of New Jersey, Atlantic City, June 24-27.
Washington State Medical Society, Tacoma, June 24-26, 1902.
Michigan State Medical Society, Port Huron, June 26-27, 1902.
Medical Association of Nevada, Virginia City, July 7, 1902.
American Ophthalmological Society, New London, Conn., July 16, 1902.

Maryland Public Health Association.—This Association will hold its annual meeting, June 3 and 4, at Denton, and every local board of health has been invited to attend.

Hudson County (N. J.) Medical Association.—Dr. Oliver R. Blanchard, Jersey City, was elected president of this Association at the annual meeting held in Jersey City, May 7.

Tazewell County (Ill.) Medical Society.—A number of physicians of Tazewell County met at Tremont, April 20, and organized this Society, with Dr. William H. Conibear, Morton, as president, and Dr. Carl G. Muehlmann, Pekin, secretary and treasurer.

Winnebago County (Iowa) Medical Society.—The annual meeting of this Society was held at Forest City, May 15. Dr. Charles E. Keeler, Lake Mills, was elected president; Dr. Peter H. Vesterborg, Forest City, vice-president; Dr. Luther Wall, Leland, secretary, and Dr. Gissle M. Lee, Thompson, treasurer.

Gallia County (Ohio) Medical Society.—At the annual meeting of this Society in Gallipolis, May 6, the following officers were elected: Dr. Jehu Eakins, Patriot, president; Drs. Theodore L. Chadbourne, and S. W. Williams, Gallipolis, vice-presidents; Dr. John B. Alcorn, Gallipolis, secretary, and Dr. W. E. Howell, Rio Grande, treasurer.

Genesee County (N. Y.) Medical Association.—At the annual meeting of this Association held in Batavia, May 14, memorial resolutions were adopted regarding the late president of the Association, Dr. Morris W. Townsend, Bergen. Dr. Frank L. Stone, Le Roy, was elected president; Dr. Emerson E. Snow, Batavia, vice-president, and Dr. Annie M. Cheney, Batavia, secretary and treasurer.

Erie County (N. Y.) Medical Association.—A largely attended meeting of the Erie County Medical Association was held at the University Club of Buffalo, May 15. Dr. John Parmenter read a paper on "Colles Fracture," which was discussed by Drs. William Phelps and Eugene Smith. Dr. Julius Ullman read a paper on "Brewers' Yeast in Therapeutics," which was discussed by Drs. De Lancey Rochester and Allen A. Jones.

San Francisco County (Cal.) Medical Society.—At the regular monthly meeting, May 13, Dr. Sanford Blum read a paper on "Endocarditis in Infancy and Childhood." Dr. William F. Cheney read a paper entitled "Lobar Pneumonia in Infancy," giving an extensive narration of the diagnosis. The Society unanimously adopted a resolution providing for affiliation with the State society under its new constitution, in conformity with the plans of the American Medical Association.

Marion County (Iowa) Medical Society.—At the annual meeting of this Society, held May 8, in Knoxville, the following officers were elected: Dr. Benjamin F. Keables, Pella, president; Drs. John V. Brann, Knoxville, Clarence E. James, Durham, and Miles J. Duncan, Pleasantville, vice-presidents; Dr. Corwin W. Cornell, Knoxville, secretary; Dr. Allen J. Nossaman, Pella, assistant secretary, and Dr. John V. Brann, Knoxville, treasurer. At the banquet in the evening Judge Crozier delivered an address on "Expert Testimony."

Kansas Medical Society.—Under the presidency of Dr. Lewis H. Munn, Topeka, this Society met at Lawrence for its thirty-sixth annual convention, May 7. Judge S. A. Riggs welcomed the Society to Lawrence, and Dr. James W. Ryan, Coffeyville, responded. The members were entertained at a banquet and smoker, and also witnessed experiments with liquid air. The following officers were elected: Dr. James W. May, Kansas City, president; Drs. John H. Brierley, Glasco, and Charles S. Huffman, Columbus, vice-presidents; Dr. William E. McVey, Topeka, recording secretary; Dr. Henry O'Donnell, Ellsworth, corresponding secretary; Dr. Lewis H. Munn, Topeka, treasurer, and Dr. Samuel G. Stewart, Topeka, librarian. The 1903 meeting will be held in Concordia.

Nebraska State Medical Society.—The thirty-fourth annual meeting of this Society was held in Omaha, May 6, 7 and 8, under the presidency of Dr. William B. Ely, University Place. Rev. Frederick A. Hatch welcomed the visitors to Omaha, and Dr. James L. Greene, Asylum, responded on behalf of the Society. The president's address was on "The Unity of Scientific Medicine." Elaborate entertainments were given the visiting members and ladies. The next meeting is to be held in Lincoln. The officers for the ensuing year are: Dr. Allen B. Anderson, Pawnee City, president; Drs. Andrew D. Nesbit, Tekamah, and Byron B. Davis, Omaha, vice-presidents; Dr. A. D. Wilkinson, Lincoln, recording secretary; Dr. H. Winnett Orr, Lincoln, corresponding secretary and librarian, and Dr. James L. Greene, Asylum, treasurer.

Arkansas Medical Society.—At the twenty-seventh annual meeting, held in Little Rock, May 13, 14 and 15, the Society was reorganized on the lines recommended in The Journal of May 3, and the constitution adopted with only a few unimportant modifications. The meeting was well attended and enthusiastic. In addition to the regular program a reception was given by Dr. and Mrs. Edwin and Carle E. Bentley; a tally-ho drive was arranged for the ladies; the retiring president, Dr. Frank Vinzonhaler, gave a reception at his residence, and the annual banquet was given, May 14, under the auspices of the Little Rock Medical Society. The following officers were elected: Dr. Charles R. Shineault, Helena, president; Drs. William N. Yates, Fayetteville, Leonidas Kirby, Harrison, and William A. Brown, Monticello, vice-presidents, and Drs. Joseph P. Runyan, Little Rock, and Richard C. Thompson, Pine Bluff, were re-elected secretary and treasurer, respectively. The next meeting will be held in Jonesboro, May 12-14, 1903.

Buffalo Academy of Medicine.—Prof. Simon Flexner of the University of Pennsylvania addressed the Section on Pathology, May 20, on "Dysentery and Its Causes," Dr. Charles G. Stockton presiding. He stated that since the discovery of the bacillus of dysentery (Shiga) that the pathology of this disease had become much simplified, and that the two causes of dysentery may be divided into a bacillary and amebic form, the bacillary being the form associated with pseudo-membranous formation, the amebic with ulcerations. During the summer of 1900, with a commissioner sent out from Johns Hopkins Hospital, the privilege was granted him and his associates of studying the dysentery of the Philippines, and Shiga's bacillus, which gives the agglutination test with serum of the affected case, could be isolated in all cases of dysentery in United States soldiers. The same was done in some institutional cases in abundance at New Haven, Conn., and at Lancaster, Pa., and in soldiers returning with the disease from the Philippines demonstrating that the cases of dysentery occurring in this country are due to the Shiga bacillus. Professor Flexner stated that great hopes are entertained by him for a serum and for vaccination against the disease. He has already done considerable work in this direction and believes great good can be accomplished. During the coming summer he will experiment on these lines.

The American Therapeutic Society.—The third annual meeting of this Society was held in the New York Academy of Medicine, May 13, 14 and 15, under the presidency of Dr. Reynold W. Wilcox, New York City. A notable feature of the first day's meeting was a symposium on "Valvular Diseases of the Heart." Dr. Thomas E. Satterthwaite, New York City, took up the etiology and symptomatology; Drs. Thomas L. Coley and Albert C. Barnes, Philadelphia, and Dr. William H. Porter of New York City discussed the treatment; Dr. Leonard Weber, New York City, spoke on the prognosis, and Dr. Oliver T. Osborne, New Haven, Conn., took part in the general discussion. The special feature of the second day was a symposium on "The Treatment of Pulmonary Tuberculosis." Dr. George E. Tyler, Denver, Colo., discussed the climatic treatment; Dr. Jesse Shoup, Washington, D. C., the medical treatment; Drs. William H. Porter, New York City, and Olin Leech, Washington, D. C., the dietetic treatment, and Dr. Egbert LeFevre, New York City, the physical treatment. The afternoon session was entirely devoted to a complete series of papers, representing the various specialties, and reporting advances in special therapeutics. The third day was marked by the presentation of an excellent résumé of "The Therapeutic Use of the Organic Extracts," by Dr. Oliver T. Osborne, New Haven, Conn. Dr. De Forest Willard, Philadelphia, also contributed a very practical paper on "The Treatment of Gonorrheal Arthritis. The following officers were elected; Dr. Thomas E. Satterthwaite, New York City, president; Drs. Howard H. Baker, Washington, D. C.; Josiah N. Hall, Denver, and Oliver T. Osborne of New Haven, Conn., vice-presidents, and Dr. Noble P. Barnes, Washington, D. C., secretary.

PHILADELPHIA OBSTETRICAL SOCIETY.

Monthly Meeting, held May 1.

President, Dr. John M. Fisher, in the Chair.

The Etiology and Diagnosis of Fractures in the Newborn.

Dr. W. Reynolds Wilson, in this paper, said that the common fractures occur in the following order as to frequency: 1, the humerus; 2, the clavicle; 3, the femur; 4, the cranium. Traumatic fracture is usually due to obstetric manipulation. In diagnosis, the possibility of epiphyseal separation, congenital luxation, epiphyseal osteitis of syphilitic origin and obstetric paralysis may increase the difficulty in diagnosis. The infant's cry, indicative of pain, and the disability to motion, swelling, undue mobility, are evidences of fracture. The dif-

ferentiation between fracture and dislocation is sometimes obscured by the presence of fat in overgrown children.

DR. EDWARD P. DAVIS stated that the fractures of the long bones which he had seen had, as a rule, recovered without deformity, the treatment being some simple splint dressing, with a bandage.

DR. L. J. HAMMOND thought that he had seen obstetric fracture from contraction of the vaginal sphincter. Fractures of the newborn, he stated, are often difficult to diagnose, the diagnosis frequently resting only upon the presence of swelling, tenderness and evidence of pain on motion.

DR. WILSON, the author of the paper, pointed out that in extraction of a fetus in breech presentation, the risk of fracturing an extended arm, in bringing it down, is great. He cited a case in which he had difficulty in delivering one of the thighs after version, and in which he believes he avoided a fracture of the thigh by waiting for more complete dilatation of the cervix.

Polyhydramnios.

DR. EDWARD P. DAVIS read an excellent paper entitled "Polyhydramnios; Its Differential Diagnosis and Treatment, with the Report of Cases." By polyhydramnios is meant more than two pints of amniotic liquid at full term. The pathology is not fully known. Many conditions accompany polyhydramnios. The placenta is often large, dropsical and infiltrated, Jungbluth's vessels often enlarged, amnion and chorion may be thickened with extensive fissures in the epithelial layer of the amnion and fatty degeneration of cells. By experiment, seven times more fluid passes through veins than through arteries of cord into the placenta. Any fetal condition causing venous engorgement tends to produce polyhydramnios, as may also irritating substances formed in lymphatics. It does not result from increased renal action in the fetal kidneys. Excessive secretion from the cerebrospinal canal of the fetus may contribute. Polyhydramnios is normal at the fourth month and its persistence results from failure in normal development. By cryoscopy further information regarding the osmotic properties of maternal and fetal blood and of the liquor amnii may increase our knowledge. Bacteriology gives no information.

The diagnosis is made by first diagnosing pregnancy, then by observing that in polyhydramnios we can usually obtain evidence of faint uterine contraction and can often insert the finger through the cervix and detect a presenting part. Ectopic gestation must be kept in mind as polyhydramnios may complicate ectopic pregnancy. In ovarian cyst the illness is longer, the swelling at first unilateral. The intermittent hardening of the tumor is absent and the uterus can be found but little enlarged. In ascites the dulness changes when the position of the patient is altered.

When pregnancy is found, a second diagnosis must be made to recognize or eliminate the presence of pregnancy and ovarian cyst, pregnancy and ascites, plural pregnancy, an hydatid mole, a very large child or a malformed fetus. In hydatid mole, the pear-shaped uterus has little fluctuation and there is repeated discharge of blood. In large or malformed fetus the heart can usually be heard and palpation reveals the child. While twin pregnancy can generally be recognized it may be completely mistaken for polyhydramnios. In exceptional cases, ovarian cyst complicating pregnancy may be difficult to diagnose and exploratory incision may be necessary.

Attention is called to misleading phenomena, the absence of such tension upon the membranes as would be expected from the quantity of amniotic liquid and also the absence of early shortening of the cervix.

Treatment by drugs is without value. When polyhydramnios is slight and not increasing, the patient's health remaining good, pregnancy should not be interrupted. When distention increases rapidly and the patient's health is impaired, under thorough antiseptic precautions the cervix should be dilated sufficient to admit the finger. A pair of uterine dressing forceps, closed, should be inserted and the membranes ruptured, the forceps opened and a rent sufficiently large made to permit the introduction of the finger. Fluid should be allowed to escape very gradually until the presenting part descends firmly against the cervix. Firm pressure must be made over the abdomen by a many-tailed abdominal binder or broad bandage held by assistants. The patient must be watched as labor is often precipitate and the fetus may assume unfavorable positions. Labor should not be hurried in the interests of the child because the fetus is often deformed.

Polyhydramnios is dangerous to the mother from over-distention, relaxation, hemorrhage and increased danger of sepsis. The uterus must be completely emptied and made to contract. A hot intra-uterine douche of 1 per cent. lysol, tamponing with iodoform gauze, the hypodermic use of strychnia and ergot and other stimulation are necessary.

Occasionally, after abdominal section, the excess of amniotic liquid has disappeared by absorption.

Discussion.

DR. E. E. MONTGOMERY said that it is frequently difficult to differentiate this condition from abdominal tumors, especially ovarian cysts. Polyhydramnios affords a tendency to septic infection because of the enormous distention of the uterine walls, causing an anemia of the organ with engorgment of its vessels.

DR. JOHN C. DACOSTA cited a case in which, after the cervix was partly dilated, he had punctured the membranes some distance above the internal os, so that the amniotic fluid escaped slowly.

DRS. STRICKER COLES and LONGAKER reported cases.

DR. DAVIS closed the discussion. He regarded the absence of uterine thinning as due to a hyperplasia of the wall, and the absence of tension of the membranes and of obliteration of the cervix as due to such a degree of uterine distention as to prevent efficient contractions.

Transverse Position with Impaction.

DR. STRICKER COLES next reported six cases of transverse position of the child with prolapse of the arm and impaction. He said that this condition was nearly always due to a neglect of a transverse position, as such cases would rarely terminate by spontaneous version or evolution. When the child's back is posterior the back becomes wedged under the promontory of the sacrum, and to do version, the child had to be pushed entirely out of the pelvis, which was dangerous, as the uterus was in tetanic contraction and would probably be ruptured. When the back was anterior it could be shoved up in a rotary movement, sweeping along the anterior wall of the uterus, causing very little movement of the head and breech. The formation of the wedge, he said, was due to elongation of the child's neck making the head and breech on the same level with the upper arm, the three forming the base of the wedge and the prolapsed arm the point of the wedge. The dangers are rupture of the uterus and sepsis, the latter being often due to pressure necrosis and to the entrance of bacteria before delivery, the labor usually lasting from one to three days.

The treatment the speaker employed was version, under deep chloroform anesthesia, first emptying the bladder and rectum, washing the external genitalia and adjacent parts with soap and water, sterile water, and bichlorid solution, and douching the vagina with 2 per cent. lysol. In cases where the back was posterior, the arm prolapsed and gangrenous, decapitation should be done at once, with long, blunt-pointed scissors or Braun's hook; no attempt at version should be made. After decapitation, traction on the arm would easily deliver the body and the head could then be delivered with forceps. If decapitation is impossible, amputate the prolapsed arm and then bring down the other arm, which may be amputated. This would break up the wedge, and by moving the head slightly upward and inward, the operator can easily bring down the anterior or both feet.

In the first position, back anterior, it is often easy to push the back up and bring down a foot. After delivery, remove the placenta and membranes, douche the uterus with 1 per cent. lysol solution, and pack the uterus with iodoform gauze. This will lessen the danger of hemorrhage, drain the uterus well, and will diminish the danger of sepsis; the gauze is to be removed in thirty-six hours, and the uterus irrigated with 1 per cent. solution of lysol.

If following this there should be rise of temperature and foul lochia, great care should be exercised in curetting and irrigating the uterus, as there will often be found a slough of the uterine wall which extends to the peritoneum, and there will be only the latter separating the uterine and abdominal cavities; the peritoneum, in such a case, would be easily punctured.

Report of Cases.

DR. CHARLES S. BARNES followed with a "Report of Two Cases of Transverse Position of the Fetus with Prolapse of an Arm and Inaction." Both cases had been neglected; the writer was not summoned until the condition existed; and the fetuses were dead. In the first case, the mother was of good muscular and nervous development and was not exhausted; in the second, opposite conditions existed. Both pelves were contracted, and in the latter case there was much relaxation of the uterine and abdominal muscles. Pelvic contraction and muscular relaxation are the causes assigned for the malposition. In both cases delivery was accomplished under chloroform anesthesia, by internal podalic version; in the first, preceded by shoulder amputation of the prolapsed arm. The emptied uterus was douched with 1 per cent. lysol solution and packed with iodoform gauze as a precaution against infection and uterine relaxation and hemorrhage. The first case promptly recovered. The second died within a few hours, of exhaustion from prolonged labor with shock necessarily attending anesthesia and delivery. Necropsy failed to show any lesion; there was general anemia, flabbiness and friability of tissue, indicating little power of resistance.

If the cases had been seen early in labor, the writer believes that the chance of saving both children would have been good, and that the life of the mother lost, would not, in all probability, have been sacrificed. The presence of a midwife was responsible for the death of the mother, in that the summoning of proper aid was thereby deferred too long. Loss of the mother is presented as a warning against major obstetric operations in exhaustion, except they be done with plenty of assistants, fair surroundings, and all the essentials at hand for successful combat against shock.

A few statistics were cited showing that in nearly 23,000 cases of obstetrics 3 per cent. were of transverse position. What is believed to be two of the most common causes of the malposition, pelvic contraction and relaxation of uterine and abdominal walls, were illustrated in these cases.

The author stated that a physician owes it to himself, to his profession, and especially to his obstetric patient, to make it a routine practice to know her pelvic measurements and the position and presentation of the fetus in the latter months of pregnancy. It is only by such painstaking care that the fatal complications of obstetrics, such as result in neglected cases of transverse position, may be minimized. If the condition be diagnosed early and intelligent assistance (some form of version) be rendered, the prognosis for the child is fair, and for the mother good.

Discussion on Transverse Position.

DR. RICHARD C. NORRIS expressed regret that the two speakers in presenting the last subject had not discussed the contraindications for version. He considers Bandl's ring, when present, a contraindication. In such a case he would do embryotomy. For version, he thinks the Trendelenburg position a safeguard against uterine rupture. Amputation of the arm he considers sometimes an advantage, but cautioned against the danger of amputating the arm of a living fetus. While formerly an ardent advocate of intrauterine douching, he now does not employ it and believes it to be of no especial value.

DR. DAVIS stated that he has recourse to Bandl's ring and distention of the lower uterine segment as a danger signal. In such a condition decomposition of the fetal wedge should not be attempted without some form of embryotomy. Chloroform he considers best for version because of its relaxing effect upon the uterine muscles. In regard to intrauterine douching, he does not regard it necessary except in cases where there is pressure necrosis, there has been entrance of air, or there is a tendency to uterine relaxation. Such douching should be followed by packing with iodoform gauze to prevent relaxation and hemorrhage, to promote drainage and to serve as an antiseptic application. The speaker knows of no condition more serious than a case of a dead fetus in a contracted pelvis. He recently lost a mother of shock, the child having been delivered by embryotomy.

DR. NICHOLSON asserted his belief that in too many cases the loss of life was due to neglect or ignorance of those in the profession, and that such an opprobrium should not exist.

DRS. COLES and BARNES closed the discussion.

TEXAS MEDICAL ASSOCIATION.

Thirty-fourth Annual Meeting, held at Dallas, May 6 to 8, 1902.

Statistical Report.

There was a good attendance and the secretary's report showed a membership of 373, to which 175 additions were made during the meeting. The report of the board of examiners stated that the work of registration is proceeding satisfactorily, over one thousand practitioners having enrolled themselves last year, the first year of the board's existence. The treasurer's report showed a balance of about $2000 in the treasury.

Address of Welcome.

An address of welcome was delivered by the Mayor of Dallas, and at a later stage of the proceedings the Governor of the state was introduced and, speaking in the double capacity of a state official and the son of a physician, promised the association all the support in his power in their efforts to put the profession in the state on a higher and more satisfactory plane.

Plan of Reorganization.

The principal business in executive session was the consideration of a revision of the constitution and by-laws with the view of bringing them into harmony with the American Medical Association. The committee presented a majority and a minority report, the point of difference between them being as to whether the members of affiliated societies should be required to be members also of the state association. Both reports were referred to a large representative committee and, after hearing its report, the association decided to leave the whole matter over for another year in order to get a full expression of opinion from the profession. The minority report advocated the plan suggested by the American Medical Association, namely, that all members of affiliated societies should also be required to belong to the state association.

The Treatment of Tuberculosis.

This was the subject of an address by the chairman of the section on general medicine, Dr. J. W. Scott, Houston. As a result of recent progress in the knowledge of the etiology, diagnosis and treatment, physicians approach a case of consumption now with far more hopefulness as to the ultimate outcome than ever before in the history of medicine. Until recently they had treated this disease in a very perfunctory manner, but at the present time the up-to-date physician attacks it with a zeal and earnestness worthy of the foe he is combating. The state of Texas has always made persistent and determined efforts to protect its citizens from yellow fever, but has completely ignored this greater, deadlier and infinitely more common infection of tuberculosis.

The Poisonous Snakes and Spiders of Texas.

Dr. H. W. Cronse, Victoria, in a contribution under this title, presented the results of a long series of experiments, his main object being to furnish the general practitioner with ready means of distinguishing the bites of different kinds of snakes and spiders and of thus being in a position to apply the requisite remedies. The general treatment found most efficacious consisted of permanganate of potassium injected locally and also administered by the mouth, strychnin, small doses of alcohol and rest. The popular idea that alcohol was an antidote was a mistake. Though useful in conjunction with the other remedies mentioned, it seemed when given alone to rather add to the virulence of the poison.

Pneumonia.

A symposium on this subject was given by Drs. R. W. Knox, S. C. Red and R. T. Morris, Houston, the discussion on which showed marked difference of opinion on the value of creosote and the so-called specifics.

Other Papers Read.

The other papers in this section, some of which were read by title, were the following: "The Origin of Sensation and Thought from an Embryologic Point of View," by Dr. J. M. Fort, Paris; "A Comparative Study of the Value of Methylene Blue and Quinin in the Treatment of Malarial Fever," by Dr. John T. Moore, Galveston; "Influenza," by Dr. J. R. Nichols, Terrell; "The Deaf and Blind and What Texas Does for Them," by Dr. M. M. Smith, Austin; "The Action and Uses of Digitalis," by Dr. S. E. Hudson, Austin; "Typhoid Fever," by S. T. Turner, El Paso; "Rheumatism," by Dr. J. H. McCracken, Mineral Wells; "Achlorhydria Gastrica," by Drs. Q. W. McLaughlin and S. M. Morris, Galveston; "Therapeutics of the Glycero-Phosphates," by Dr. H. A. West, Galveston.

Obstetrics and Surgery.

Among the papers read were: "Importance of Early Recognition and Prompt Rectification of Deviations from the Normal Mechanical Evolutions of Labor," by Dr. J. F. Y. Paine, Galveston; "The Management of an Uncomplicated Case of Labor by the General Practitioner," by Dr. W. H. Munday, Terrell; "The Management of the Third Stage of Labor and Hemorrhage," by Dr. B. F. Kingsley, San Antonio; "Fever of the Puerperal State from a Surgical Standpoint," by Dr. Emory Lanphear, St. Louis, and "Hemorrhoids," by James P. Tuttle, New York City. Dr. John O. McReynolds, Dallas, read a paper on "Injuries to the Eye"; Dr. James E. Thompson, Galveston, a paper on "Interscapulo-Thoracic Amputation," and Dr. F. B. Shields, Victoria, reported two cases of cranial injuries.

Jurisprudence and State Medicine.

In the department of medical jurisprudence, "Some Problems of Texas Insane Asylums" were discussed in a paper by Dr. Martin L. Graves, San Antonio. Dr. John L. Turner, Terrell, gave a report on "The Insane and Hospital Management." "The Criminal Insane" formed the subject of a contribution by Dr. G. H. Moody, San Antonio, and in a paper entitled "School Life and Insanity," Dr. J. S. Lankford, San Antonio, made an earnest plea for the revision and classification of school tasks with the view of relieving tender brains on whom they now press with fatal effect. Dr. R. B. Sellers, San Antonio, read an essay on "The Physician as an Expert Witness," and "Subconscious Homicide and Suicide, Their Physiologic Psycology" was the subject of a contribution by Dr. Charles P. Bancroft, Concord, N. H.

In the Section of State Medicine and Hygiene, the chairman, Dr. W. S. Carter, Galveston, commented on the great progress made in recent years in preventive medicine; Dr. F. E. Daniel, Austin, delivered an address on "The Paramount Duty Texas Owes to Her People," and Dr. C. E. Lord, Galveston, who was present as the official representative of the Marine-Hospital Service, read an interesting paper on "The Influence of Flies in the Spread of Typhoid Fever."

Good programs were also presented in the sections devoted to gynecology, ophthalmology, and pathology.

The Prevention of Tuberculosis in Texas.

DR. W. S. CARTER, Galveston, submitted a report from a committee appointed last year to consider the possibility of securing uniform action to prevent the spread of tuberculosis in Texas. A number of recommendations were made, including one for the continued inspection of cows suspected of having the disease. In speaking of the report, Dr. Frank Paschal, San Antonio, of which city he has long been health officer, gave the association a number of statistics that he had compiled during the last thirty years. These showed that tuberculosis was increasing there, and that it had been increasing at a particularly rapid rate since the city became a health resort. It might be supposed that the additional death-rate was due to the mortality among the visitors, but this he proved was not the case. Therefore, it was necessary, he contended, to introduce restrictions to prevent the reckless immigration of tuberculous subjects. Well-to-do consumptives could be provided for, but it was necessary to have a hospital for the indigent patients who came in large numbers to the city, and said in effect, "You must take care of us, or we will sit down on the steps of your houses and die." Many of these people did die, while others wandered from place to place scattering infection. Irrespective of commercial interests, or even from the point of view of their preservation, it was in the highest degree essential that uniform action should be taken to stop the spread of this deadliest of all infections. After further discussion it was agreed to take steps with the view of having health boards properly organized all over the state. In the meantime, as the beginning of a campaign of education, it was voted to spend $200 in distributing literature in regard to the means that should be taken for guarding against the spread of the infection.

New Office-Bearers.

The office-bearers for the ensuing year were elected as follows: President, Dr. S. C. Red, Houston; vice-presidents, Drs. J. E. Thompson, Galveston; Dr. J. E. Gilcreest, Gainsville, and Dr. H. K. Leake, Dallas; secretary, Dr. H. A. West, Galveston; treasurer, Dr. R. F. Miller, Sherman; orator, Dr. M. L. Graves, San Antonio. The secretary, Dr. West, was appointed delegate to the American Medical Association's meeting at Saratoga Springs, and he was given special instructions to do all in his power to induce that body to hold its next meeting in San Antonio, Texas, where the state association will meet next year.

ILLINOIS STATE MEDICAL SOCIETY.

Fifty-second Annual Meeting, held in Quincy, May 20 to 22.

President, Dr. John T. McAnally, Carbondale, in the Chair.

The Profession and the Lay Press.

Mayor Steinbach welcomed the delegates to Quincy, and the various committees made their preliminary reports. The first important paper presented was that of Dr. James W. Pettitt, Ottawa, on "What Should be the Attitude of the Medical Profession Toward the Secular Press?" in which he advised the medical profession to make legitimate use of the press, as that is the only channel through which the public can be reached. He did not consider it unethical for the profession to discuss medical topics in the secular press, nor did he believe it right to ostracize a physician simply because his name appeared in the news column of a lay journal.

DRS. WILLIAM A. EVANS and ADOLPH GEHRMAN, Chicago, presented an interesting treatise on "The Difference Between Human and Animal Blood."

Section Addresses.

DR. ROSWELL PARK, Buffalo, N. Y., delivered the address in surgery, taking for his subject "Surgical Intervention in Borderland Cases."

DR. GEORGE DOCK, Ann Arbor, Mich., discussed in the address in medicine "Pernicious Anemias, Their Diagnosis and Treatment."

DR. CHARLES B. JOHNSON, Champaign, ex-president of the State Board of Health, presented as the address in state medicine "A Country Doctor's Contribution to Preventive Medicine."

New Constitution.

The Committee on Constitution and By-Laws presented a new constitution drafted in conformity with the plan of reorganization proposed by the American Medical Association, which was discussed, amended and adopted.

Amendment to Constitution.

An amendment to the constitution was adopted whereby officers will be chosen in open convention instead of by a nominating committee as heretofore.

Proposed Medical Practice Act.

At the morning session of the second day the Committee on Medical Legislation presented a medical practice act to be submitted to the session of the state legislature. This was also discussed and adopted The bill is exhaustive and creates a

board of seven medical examiners to be appointed by the governor on the recommendation of the incorporated medical society of the state. The members of this board shall receive $10 a day when on actual duty, and a secretary is to be appointed who shall receive a salary to be affixed by the board. The bill provides that no person shall practice medicine or surgery after Jan. 1, 1904, without a license from this board. There is no provision in the bill for licensing those who practice osteopathy, mental healing, Eddyism, etc., but these persons must also pass an examination by the board.

Popular Instruction in Tuberculosis.

Dr. George W. Webster, Chicago, president of the State Board of Health, presented a paper, "What Should We Teach the People in Regard to Tuberculosis?" This paper was of more than ordinary interest, and took the high ground that consumption is not hereditary, but an infectious disease. It will be issued in pamphlet form and circulated by the State Board of Health.

Annual Banquet.

The annual banquet was held at the Hotel Newcomb, May 21, Dr. Denslow Lewis, Chicago, acting as toastmaster.

Election of Officers.

The election of officers resulted as follows: Dr. Malcolm L. Harris, Chicago, president; Dr. Edmund W. Weis, Ottawa, secretary; Dr. James H. Stowell, Chicago, assistant secretary; Dr. Everett J. Brown, Decatur, treasurer, and Drs. Otho B. Will, Peoria, David W. Graham, Chicago, and Edgar P. Cook, Mendota, judicial council.

Delegates to American Medical Association.

Drs. John T. McAnally of Carbondale; Frank X. Walls, Chicago, and Henry P. Beirne, Quincy, were elected delegates to the American Medical Association, and Drs. William F. Grinstead, Cairo; Harold L. Moyer, Chicago, and Otis Johnston, Quincy, alternates. The following were also elected delegates, to serve in case the rules shall allow the state to be represented by eight: Drs. Otho B. Will, Peoria; Elijah A. Morgan, Decatur; John B. Murphy, Chicago; George N. Kreider, Springfield, and Elbert E. Clark, Danville, with the following as alternates respectively: Ernest Mammen, Bloomington; Wilbur C. Wood, Decatur; Arthur R. Edwards, Chicago; Lewis C. Taylor, Springfield, and Benjamin L. Evans, Watseka.

Chicago in 1903.

It was decided to hold the 1903 convention of the society in Chicago, and Dr. Arthur R. Edwards was made chairman of the Committee of Arrangements.

NEW YORK STATE MEDICAL ASSOCIATION.

Fifth District Branch, Eighteenth Annual Meeting, held in New York City, May 6, 1902.

President, Dr. E. Mayer, New York City, in the Chair.

The meeting was well attended. The president delivered the annual address before taking up the routine business.

The Use and Usefulness of the X-Ray in Medical and Surgical Practice.

Dr. Walter M. Brickner opened the scientific session with this paper. He said that not only should the physician who aspires to employ the *x*-ray learn to develop his own plates, but he should make himself familiar with the management of vacuum tubes. That quality of a vacuum tube called "penetration" was not altogether dependent upon the degree of the vacuum, at least with new tubes, and it was very important to learn that high vacuum means poor definition, while low vacuum means dark shadows but clearer outlines. It followed that one must learn to regulate the vacuum in fluoroscopy so that, while the shadows are not too dark, the details are sufficiently clear.

Regulation of the X-Ray Tube.

A vacuum suitable for giving satisfactory pictures on the screen is too high for the best results with photographic plates. Increasing experience had taught him to abandon high tubes for fluoroscopic work, and to use a very low tube, even for making radiographs. It was evident from this that the tubes should be capable of easy regulation. The most difficult task was to maintain the vacuum at a desired fixed point during an exposure. He had found that this could be done by varying the quantity of current passing through the tube. The vacuum having been once reduced to a point at which blue light showed in the bulb, a current should be passed of sufficiently high amperage to heat the target somewhat, and so offset the tendency for the vacuum to rise. By manipulation of the rheostat the vacuum could be kept down at the fixed point, or lowered or raised at will. If the electrolytic interruptor were employed, the operator could tell by the pitch of the sound emitted the degree of vacuum present.

X-Ray Burns.

As it was now known that *x*-ray burns do not occur except after unnecessarily long exposures, the operator need not be fearful, though he should still be careful. Ordinarily an exposure of from three to five minutes would suffice. The speaker then quoted a recently-published article of another *x*-ray worker, to the effect that it was safe to estimate that not one patient in a thousand had been injured in the past five years by the *x*-rays, and not one in ten thousand during the past year; also that two-thirds of these injuries had occurred in the first two years of the use of the *x*-ray, and that about one-third of the sufferers were *x*-ray workers. Dr. Brickner added that in his own work at the Mount Sinai Hospital, where several exposures were often made in succession, there had been no *x*-ray burns, though his own hands, from daily exposure to the rays, had been the seat of a mild dermatitis.

Surgical Diagnosis.

To illustrate the surgical uses of the *x*-ray, a large number of pictures were exhibited. One of them was interesting as illustrating a method of determining changes in the teeth and collections of pus in the antrum of Highmore. The method employed consisted in enclosing a piece of kodak film of suitable size and shape in black paper and wrapping this black envelope in a waterproof covering made of surgeon's gutta-percha tissue. The film thus protected is molded against the teeth and alveolar process, and held in place by the tongue. A short exposure was usually sufficient. Several pictures were presented to illustrate the value of the *x*-ray in detecting slight fractures of the bones of the foot, which would otherwise be overlooked. The speaker said that probably the simplest and best method of localizing foreign bodies in the tissues was the comparatively recent one of stereoscopic radiography, still, however, in its infancy.

Medical Diagnosis.

It is now generally admitted that the *x*-rays were of some value in studying diseases of the thoracic organs, and that here the fluoroscope was often exceedingly useful. While in most instances auscultation and percussion would give as reliable information as the *x*-rays, the latter method of examination was a useful means of confirming the results of auscultation and percussion, and sometimes proved of value in correcting those results. If care were taken to minimize the effects of distortion, the fluoroscope could be used advantageously to watch the effects of the Schott treatment of cardiac disease. The nipple and other landmarks should be made prominent by the use of lead wire. The most important use, however, was in the diagnosis of aneurism and of new growths within the thorax. The results of *x*-ray examinations of the abdomen had, for the most part, been unsatisfactory, if one might except the detection of calculi in the ureters and kidneys.

X-Ray Therapeutics.

On this subject, Dr. Brickner said that the *x*-rays could not be regarded as specific in their action on malignant growths, and that the production of a reaction was not essential to the treatment. The successes so far recorded had been chiefly with superficial growths and ulcerations, but these results should make us hopeful for the future of this work.

Discussion.

Dr. S. A. Knopf was not enthusiastic regarding the aid rendered by the x-ray in the diagnosis of disease of the lungs. He thought the shadows observed should only be interpreted in the light afforded by the history of the case.

Dr. Robert Newman cautioned against hasty deductions from radiographs, especially if prepared by non-medical persons. He said that the fluoroscope had decided limitations as compared with the skiagraph.

Dr. W. S. Gottheil said that the application of the x-ray was by no means innocuous. Recently an amputation in the middle of the thigh had been done in this city because of the injury inflicted by one exposure. He thought bad results were not reported nearly as frequently as they should be.

The Province of the General Physician in Diseases of the Upper Air Passages.

Dr. D. Bryson Delavan said that there should be no antagonism between specialism and general medicine. It was impossible for one person to grasp the whole of the vast science of medicine. There was much that the general practitioner could do for diseases of the upper air passages. For example, a man of middle age, of convivial tendencies, was apt to find at the end of a busy season that he was suffering a good deal at night from a general congestion of both nose and throat. These so-called lithemic disorders of the upper air passages should be recognized and appropriately treated. Such a case usually required only moderate rest and recreation, regulation of the diet, and taking of more exercise and perhaps of a few Turkish baths to effect a speedy cure. An occasional cholagogue was, of course, useful in such cases. Again, it should be remembered that, as a rule, constipation was attended by a disordered state of the circulation of the pharynx; indeed, dry pharyngitis and chronic constipation were regularly associated. A supposed lymphoid hypertrophy at the base of the tongue often disappeared under treatment directed towards relieving the disordered condition, quite probably a hyperacidity. Sometimes a person would begin to complain of a sensitive spot at the base of the tongue, or in the middle of the pharynx, and would quickly become melancholy and apprehensive, insisting that malignant disease was developing. Examination would show only a small and highly sensitive area of lymphoid tissue, probably not more than a quarter of an inch in diameter, which would usually be made worse by local treatment. Treatment of the general health, and probably an underlying gouty state, would effect a cure. The speaker said that he had been told by the surgeon of a United States schoolship that whenever that vessel is in New York harbor a large number of the boys are sick with tonsillitis, but that within two days after starting on a voyage the tonsillitis clears up. This hint should not be lost on those in charge of persons with sensitive throats.

Few diseases are more difficult to treat than those of the accessory sinuses; hence the tyro should avoid such cases. On the other hand, a skilled general practitioner could often operate successfully upon enlarged tonsils and pharyngeal adenoids requiring such treatment. Ordinarily, however, the surgical treatment of the upper air passages demanded a familiarity with a special technic which was usually only possessed by the specialist. Greater care in the treatment of an ordinary cold in the head would frequently prevent much misery and subsequent special treatment; this ounce of prevention lay in the hands of the family doctor. He would say to every physician: "If you are clearly able to do a certain thing, do it; if not, let some one else do it who can."

Discussion.

Dr. E. Mayer said that he had recently been able to follow a case of acute ethmoiditis developing in a nurse after an attack of the grip. He felt sure that many specialists would have promptly operated, and that as a result the girl would have been suffering from a chronic ethmoiditis. Instead of this he had prescribed rest and the use of soothing and mild antiseptic local applications, with the result that at the present time she was absolutely cured.

Dr. A. Rupp said that unfortunately the laity are of the opinion that the specialist can do everything in his particular field and that the general practitioner knows so little about it that he should not be trusted.

Dr. W. G. Schauffler, Lakewood, N. J., said that the general practitioner was largely responsible for the education of the lay public. General practitioners should not be so afraid of specialists and should not experiment for their own good on patients whom they knew could be better and more satisfactorily treated by specialists. He had found that many people were kept too long under the care of specialists in the large cities before being sent to some health resort to recuperate. Many of these persons would have done still better if the specialists had not been so enthusiastic and had left something to nature.

Illustrations of Skin Affections.

Dr. W. S. Gottheil gave a lantern exhibition. One photograph was of herpes zoster of one side of the gluteal region, the perineum, the scrotum and the glans penis. This was the only case of the kind that he had ever seen. In connection with the pictures of ichthyosis he said that there were now on record two well-authenticated cases of the cure of this disease by the persevering use of sulphur ointment for from three to five years. The rather rare form of varicella, called varicella gangrenosa, was pictured. One slide showed a case of scabies in which there was a pigmentation of the skin resembling melanoderma. It was the result of long-continued scratching. Another slide showed pityriasis versicolor affecting the face of a colored boy. A second photograph showed pityriasis versicolor on the palm of the hand. This occurred in the person of a physician, and, so far as Dr. Gottheil knew, was the only case of the kind on record.

Officers Elected.

Dr. Parker Syms, New York City, was elected president; Dr. Charles E. Townsend, Orange, vice-president; Dr. C. S. Payne, Liberty, secretary; Dr. Edmund L. Cocks, New York, treasurer.

CHICAGO SURGICAL SOCIETY.

Regular Meeting, held May 5, 1902.

Dr. Arthur Dean Bevan in the Chair.

Laryngeal Carcinoma.

Dr. Bevan reported three cases. In the first, the disease had existed for a number of months, and radical operation was not thought justifiable. The extension to the esophagus made a tracheotomy necessary to relieve the dyspnea; as the patient could not swallow, it was also necessary to resort to rectal feeding. The case was an example of the work which had been done in the past, certainly up to the time of the celebrated case of the German Emperor. In the second case a preliminary tracheotomy was done and later the larynx was completely removed. The patient was now wearing a tracheotomy tube. He was very much improved by the operation, and was now in a condition to wear an artificial larynx.

Perforation of the Bowel in Typhoid Fever.

Dr. G. E. Armstrong, of Montreal, Que., read a paper with this title, by invitation. He said that during the past six years there had been treated in the Montreal General Hospital 932 cases of typhoid fever. Perforation of the ileum had occurred in 24 cases, or 32.3 per cent. In one case of a most malignant type, with tympanites, dulled sensorium and profound toxemia, the perforation was first recognized at the autopsy. In 33 cases the perforation was recognized during life and the opening closed. Five of these recovered. In one other case the patient died five days after operation, and the pathologist reported that death was due to the typhoid toxemia and not to the perforation. If that case be included, there were 6 recoveries in 33 cases, or 18.18 per cent. As to sex, there were 21 males and 9 females. In three cases the sex was not stated. Of those that recovered, 3 were males and 3 females. The number of females in the recovery list was striking.

There were 21 males operated on and 3, or 14¼ per cent., recovered and of 9 females, 3, or 33 1-3 per cent., recovered.

Leucocytosis.

He had not found the presence or absence of leucocytosis a guide to be depended upon. In one case it increased 50 per cent. in the first two hours after perforation. In another case it was only 4600 eight hours after the occurrence of symptoms of perforation. In one case it increased from 4000 to 10,000 in 6 hours. He then made an exploratory incision, and found no perforation, but an apparently acute infection of the mesenteric glands. The patient made a good recovery. In another case it was only 4000 at 11 hours after perforation; 2 hours later the perforation was closed by operation, and the patient recovered. It was a symptom to be carefully observed and considered in association with the presence or absence of other symptoms, but upon which alone no great reliance could be placed.

Operation.

In the Montreal cases, the operation was performed during the first 12 hours in 10 cases, with 4 recoveries, 40 per cent.; second 12 hours in 10 cases, 1 recovery, 10 per cent. Of the 20 cases operated on during the first 24 hours, 5 recovered, or 25 per cent.; during the third 12 hours, in 3 cases and they all died. One case operated on 48 hours after perforation, died; another with operation 68 hours after perforation, died; 1 case, 7 days after perforation, recovered; 7 cases, time after perforation uncertain, died. Of the 6 recoveries, one was operated on 2 hours after the perforation, one 13 hours after, one 8 hours, one 10 hours, one 5 hours, and one 7 days after. The operation in the last case was really nothing more than the opening of an intra-abdominal abscess. Of the 5 acute cases, 4 were operated on during the first 12 hours. So far as his experience goes, it indicates early interference.

Discussion.

Dr. Frank Billings said that perforation of the intestine in typhoid fever occurred in practically 3 per cent. of the cases. The severity of typhoid fever in its clinical course bears no relation to perforation. For instance, those who have the disease in mild form are just as likely to have perforation of the intestine as those who are very sick. Furthermore, the number of ulcers in the intestine bears no relation to the height of the fever or to the severity of the general course of the disease. A patient with typhoid fever might become as deeply toxic from a single as from numerous ulcers of the intestine. He regarded pain as one of the mainsprings of diagnosis in typhoid perforation. Pain might be due to inflammation or infection of the mesenteric glands. These might rupture. In that event, it was practically the same as a rupture of the intestine which required operation. He emphasized the importance of leucocytosis in typhoid fever cases, and if blood counts are taken sufficiently often he thought they might prove of great value. The earlier an operation is performed in cases of perforation of the gastro-intestinal tract, the greater the chance for recovery of the patient.

Dr. N. B. Carson, St. Louis, thinks that many local abscesses form in the lumbar region. We have also so-called psoas abscesses. He has often been impressed that perforation sometimes takes place between the folds of the mesentery and burrows back, forming local abscesses.

Dr. E. Wyllys Andrews narrated a successful case and favored early operation.

Dr. Alexander Hugh Ferguson mentioned a case on which he operated for a supposed appendicitis. The patient, while convalescing from typhoid fever, was seized with severe pain in the region of the appendix. A tumor developed and proved to be an abscess which had communicated with the bowel.

Dr. L. L. McArthur reported three unfavorable results in fairly early operations. Notwithstanding, he believes that the only proper course is operation as early as possible.

Dr. M. L. Harris detailed a case with evidences of acute cholecystitis. In examining the blood, he found leucopenia. The absence of the characteristic granules and other evidence suggested typhoid. A Widal reaction was positive, and the case was treated as one of typhoid fever.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

To Prevent Puerperal Convulsions.

T. H. Ross, as noted in *Med. Standard*, emphasizes the importance of maintaining the function of the liver during pregnancy. He thinks that the functional errors of the stomach, liver, etc., lead often to an obstinate constipation, which in turn increases the toxemic condition and the danger. By regulating the liver and maintaining its tone and highest working capacity much discomfort and many ills can be prevented throughout the puerperium, especially that worst of all complications, puerperal convulsions. He advises, in addition to the correct hygiene and dietetics of pregnancy, that the patient be given the following pill once daily.

℞.	Enonymin	gr. 1/8	008
	Hydrarg. chloridi mitis	gr. 1/8	008
	Pulv. ipecacuanhæ	gr. 1/8	008
	Aloin	gr. 1/12	005
	Podophyllin	gr. 1/20	003

M. Ft. pilula No. i. Sig.: One such pill at bedtime.

The amount of the foregoing combination suitable for a given case must be determined by a few nights' use. The best rule is to give enough to cause one natural movement of the bowels daily. If one pill is too much, give a fraction; if too little, double the dose. When there is no indication of autotoxemia it may be given by the above rule, alternate fortnights for months, with benefit to both mother and child in a general way, until the lying-in period is fully accomplished, and even later it will assist in involution and the return to the ordinary conditions of life.

Oxyurides.

The following is recommended by *Med. Orientale* in the treatment of seat worms:

℞.	Ung. hydrarg.	gr. iss	10
	Adipis benzoinatis		
	Ceræ albæ, āā	gr. viiss	5
	Ol. theobrom.	ʒss	2

M. Ft. suppositorium. Sig.: One such to be inserted daily.

Dentition.

The argument that dentition is a purely physiologic function and therefore can not cause pathologic phenomena is regarded by W. J. Robinson, in *Merck's Archives*, as untenable. When the gums are hot and tense, then frequent rubbing with the following combination will give proper relief:

℞.	Potassii bromidi	gr. xx	1 30
	Chloralis hydratis	gr. x	65
	Tr. aconiti rad.	m. v-xv	.30-1
	Spts. chloroformi	ʒi	4
	Mucilaginis q. s. ad	℥i	30

M. Sig.: Apply to the gums frequently by rubbing.

At the same time he recommends that the following be given internally:

℞.	Pot. bromidi	gr. iii-v	20-30
	Chloralis hydrates	gr. i-ii	06-12
	Aq. destil. q. s. ad	ʒii	8

M. Sig.: To be given at one dose by the mouth.

The foregoing mixture may be given in double the size dose per rectum, using starch water as a vehicle.

Diet in Epilepsy.

Davis, in an article on the diet in epilepsy in the *Sys. of Phys. Ther.*, states that the epileptic should be abstemious. Unfortunately, the tendency is to overeat. Epileptics should be taught the relationship between the digestive disorders or constipation and their ailment. Sweets should be avoided. Meat should be restricted to once a day and then in small amounts. The most important thing is the restriction of the

amount of food and the limitation of the variety to those articles that are easy to digest and to absorb. He gives the following sample menu for a day of the epileptic colony at Chelfont St. Peter: Breakfast, oatmeal porridge with new milk, tea, bread and butter; dinner, roast or boiled or hashed beef, mutton or fish, cabbages and potatoes, followed by rice, sago, tapioca, suet or jam roll pudding, tea with bread and butter or dripping or sometimes golden syrup or currant cake; supper, some pudding generally with milk and bread, varied occasionally with soup.

Erysipelas.

In the same journal Dr. Robinson recommends the employment of ichthyol in the treatment of erysipelas. In the mild cases, judging by the exterior extent of the inflammation, the temperature and general constitutional symptoms, the following should be employed:

℞. Ichthyol ..... ʒi 30
Adipis lani q. s. ad ..... ℥iii 90

M. Sig.: To be applied every hour.

In severe cases, the entire area of inflammation and about one inch beyond should be painted with pure undiluted ichthyol. Outside of this gauze compresses soaked in a 10 to 20 per cent. solution are to be applied every hour. The solution is made as follows:

℞. Ichthyol ..... ʒi-ʒii 30-60
Glycerini ..... ʒi 30
Aq. q. s. ad ..... ℥x 300

M. Sig.: Apply locally on gauze every hour.

The glycerin prevents too rapid drying of the solution and cracking of the skin. Although the pure ichthyol will cause the skin to peel off, yet antipyretics have never been employed when the case has thus been treated from the beginning. The writer, however, employs throughout the course of the disease a saline laxative as follows:

℞. Mag. sulphatis. ..... ʒi 30
Acidi sulphurici dil. ..... m. xxiv 1 65
Syr. limonis ..... ʒi 30
Aq. menth. pip. q. s. ad ..... ℥iv 120

M. Sig.: Take one tablespoonful every two to four hours as necessary to produce a laxative effect.

Prevention of Oxalic Sediment in the Urine.

G. Klemperer, in *Prog. Phys. Ther.*, suggests a diet which excludes milk, eggs, tea, cocoa and most vegetables, and embraces meat, fats, bread, flour foods, rice, leguminous vegetables, apples and pears. These latter, according to his statement, contain considerable calcium and magnesium, with a minimum of oxalic acid.

Scarlet Fever.

W. T. Corlett, in the *Med. News*, recommends that a tepid sponge bath be given twice a day, followed, when there is itching or desquamation, by inunction from head to foot with cold cream, carbolized vaselin, lanolin, cocoa butter or eucalyptus oil. The following is recommended for the throat:

℞. Menthol. ..... gr. ii 12
Thymol ..... gr. 1/10 0065
Ol. gaultheriæ ..... m. ii 12
Glycerini ..... ʒiv 15
Aquæ q. s. ad ..... ℥viii 240

M. Sig.: Use as a spray or gargle.

Cracked ice or irrigation with hot water to which glycerin has been added promotes the comfort of the pharynx. The best antipyretic is cold water, or occasionally quinin or phenacetin, or the cold pack.

The following combination containing iron should be given:

℞. Tinct. ferri chloridi ..... ʒii 8
Acidi hydrochlor. dil. ..... ʒi 4
Syr. limonis ..... ℥i 30
Aquæ q. s. ad ..... ℥iii 90

M. Sig.: One teaspoonful every two or three hours; or:

℞. Liq. ammon. acet. ..... ℥iss 45
Potassii chloratis ..... ʒi 4
Syr. limonis ..... ℥ss 15
Aquæ ..... ℥vi 180

M. Sig.: One to three teaspoonfuls every three or four hours.

Orchitis.

Lutaud, according to *Medicine*, combats the pain of orchitis by the administration of cachets containing seven and a half grains of quinin sulphate. In the majority of cases pain is arrested after the first dose and it is unnecessary to give an injection of morphin. At the same time the following is applied locally:

℞. Methyl salicylatis ..... ʒvi 24
Guaiacol ..... ʒi 4
Vaselini ..... ℥i 30

M. Sig.: Apply locally once or twice a day.

To Prevent Pitting in Smallpox.

T. C. Gibson, in *Medicine*, recommends the following as a superior combination in preventing pitting in smallpox:

℞. Ichthyol
Guaiacol, āā ..... ʒii 8
Glycerin ..... ℥ss 15

M. Sig.: Apply locally with a feather three times a day. He states that the earlier it is commenced, the better the effect. The face should be bathed with warm water and soap previous to each application.

Malarial Attacks.

Regnault, as noted in *Ther. Monthly*, states that he successfully treats malarial attacks with a mixture of iodin and potassium iodid as follows:

℞. Tinct. iodi
Pot. iodidi, āā ..... ʒi 4
Aq. destil. ..... ℥iii 90

M. Sig.: Take one tablespoonful at the beginning of the attack and repeat if necessary in twenty minutes. In the cases of irregular malarial fever it is to be considered, according to the author, as a substitute for quinin.

Administration of Quinin in Children.

It is necessary in administering quinin to children, in most instances, to mask the bitter taste and otherwise make the preparation as palatable as possible. The following combinations employed by Lemanski, as reported in *Pediatrics*, are recommended:

℞. Quininæ sulphatis ..... gr. x 65
Aquæ (acidulated) ..... m. lxxv 5
Mellis despumati ..... ʒx 40

M. Sig.: One coffeespoonful every two or three hours; or:

℞. Quininæ hydrochlor. ..... gr. ivss 25
Ext. glycyrrhizæ ..... gr. xlv 3
Aq. destil. ..... ʒx 40

M. Sig.: To be taken at one dose.

The *Klin. Ther. Woch.* gives the following combination:

℞. Quininæ sulph. ..... ʒi 4
Acidi citrici
Syrupi
Syrupi aurantii, āā ..... ʒiiss 10
Aq. destil. ..... ʒv 20

M. Sig.: Ten drops to be added to two tablespoonfuls of water and taken at one dose. Sodium bicarbonate may be added and the mixture drunk while effervescing. Dr. Lemanski sometimes prefers the rectal method of administration, the suppository being better tolerated than the enema and causes no smarting or defecation. The following combination may be employed:

℞. Quininæ sulph. ..... gr. iss-viiss 09-.5
Olei theobromatis ..... gr. xv-xlv 1-3

M. Ft. suppositorium. Sig.: Insert two daily. In some cases the cocoa butter may be replaced by glycerin solidified by the addition of gelatin.

Medicolegal.

Recovery for Physical Injuries Caused by Fright.—The Supreme Court of Iowa says, in the case of Watson vs. Dilts, that many cases have been before the courts in which the question of a recovery for mental pain alone, and for physical disability produced by fright, unaccompanied by physical impact, have been decided; and the decisions on these questions are in

conflict, though it is probably true that the numerical weight of authority denies the right of action. But the cases so holding are not in harmony as to the reasons given for denying the right of action; some of them hold that the injury is not the proximate result of the alleged negligent or wrongful act, while others refuse a recovery for the reason that it is practically impossible to satisfactorily administer any other rule and serve the purposes of justice. A large majority of the cases which hold to the doctrine that no recovery can be had are cases in which the simple charge of negligence was made, and in many of them no claim was made for physical disability resulting from the fright. In this case, the person sued for damages stealthily invaded the home of the party suing in the night time. When he entered and went to an upper room, she did not know who it was, nor his purpose and intent in thus breaking in. She called to her husband to follow him, which he did; and, in her apprehension of danger, she followed her husband up to a room, where she found them in what appeared to be an encounter, and an assault upon her husband. From her great fright thereat, she averred that her nervous system completely gave way, and that she suffered physical injuries from the fright. The court says that its attention has not been called to any case where the facts averred precisely paralleled those in this case, nor has it discovered anywhere the facts alleged so strongly condemn the unlimited rule contended for that no recovery can be had for physical injuries caused by fright. The object of the invasion of the home in such manner was immaterial. Suppose that the object was to ransack the house, and steal therefrom; that the man went in masked, and with a deadly weapon in his hand. His discovery there under such circumstances might well cause alarm to the boldest man, and, if it produced nervous prostration and physical disability, the theory, no matter what its reason, that would say there was no actionable wrong, the court says, would be too fine spun and too cold for its sanction. Nor could it be said, under such circumstances, that the prostration resulting from the fright so caused was not the proximate or probable result of the party's act. It is within the common observation of all that fright may, and usually does, affect the nervous system, which is a distinctive part of the physical system, and controls the health to a very great extent, and that an entirely sound body is never found with a diseased nervous organization; consequently, one who voluntarily causes a diseased condition of the latter must anticipate the consequence which follows it. The nerves being, as a matter of fact, a part of the physical system, if they are affected by fright to such an extent as to cause physical pain, it seems to the court that the injury resulting therefrom is the direct result of the act producing the fright. But each case must, of necessity, depend on its own facts.

Evidence Derived from Tests of Extent of Injuries.—In Missouri, Kansas & Texas Railway Company of Texas vs. Johnson, a personal injury case brought by the latter party, a bill of exceptions showed that a physician was introduced as a witness in this party's favor, and testified that about six months before the trial he had examined him for the purpose of ascertaining the nature and extent of his injuries, not for treatment, but only in order to qualify himself to testify as an expert in the trial; that on such examination the party complained of suffering considerable pain in certain portions of his back and, when the witness would stick pins into him along his right leg, he would exhibit no signs of suffering pain, but when he would stick pins into him at corresponding places on his left side, he would flinch and complain a great deal. The Court of Civil Appeals of Texas thinks that it must be held that the complaint of the party was the natural expression produced by the pain then existing, and that, this being so, the complaint was part of the res gestæ or essential circumstances of the transaction, and not hearsay, and that the objection to it that it was self-serving could not be sustained. Likewise, it holds that the testimony of the physician to the effect that he stuck pins into the party's right leg, and that he showed no signs of suffering pain, was properly admitted. It says that the party had a right, even pending the litigation, to have all proper examinations and tests made to ascertain the nature and extent of his injuries, and the result thereof could be proven on the trial. This was the matter under investigation, and how the party bore the tests was a part of the transaction and clearly admissible. It was a question for the jury to decide, in the light of circumstances shown to have attended the experiment, whether his indifference to pain was simulated. No statement of his that it did not hurt him to stick pins into his right leg was admitted. Only the negative fact that he did not flinch when the test was applied went to the jury, and it was not error to admit such evidence. The testimony of the physician that when he stuck pins into the party's left leg he flinched and complained of pain simply tended to show a normal condition of that part, a fact which would have been presumed without such test and-proof. Whether this was a necessary part of the transaction—that is, of the examination—might be doubted, but it could hardly have been injurious to the company. The Supreme Court of Texas affirms the judgment in favor of the party suing. It does not, however, directly pass upon the points above decided because it does not consider the objections taken at the proper time, having been made before the evidence objected to was introduced. That the mere declarations of a party suing of the fact of his suffering pain, made to an expert, on an occasion prepared by himself, for the sole purpose of furnishing the expert with information on which to base an opinion favorable to him, are not admissible, it says, is held by many authorities which seem to be better supported by reason than those taking a contrary view. But the authorities referred to admit that exclamations, shrinkings, and other expressions of a party which appear to be the instinctive or spontaneous betrayal of pain are admissible, although they be made under circumstances such as those disclosed here. Nearly all of the statements of the physician of the acts and expressions of the party suing, it adds, belonged to this class, and the manner in which his evidence was stated in the statement of facts made it doubtful if the declaration of pain in the back was not produced by manipulations or tests applied by the physician.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, May 17.

1 Subcutaneous Injection of Paraffin in the Correction of Nasal Deformities. Harmon Smith.
2 The Clinical Aspect, Symptoms and Differential Diagnosis of Osteomyelitis. R. Tunstall Taylor.
3 *The Surgical Treatment of Bright's Disease. Ramon Guiteras.
4 Why Doctors Disagree; A Plea for a Modern Code of Ethics. Bittle C. Keister.
5 Hypnotism a Useful Aid in the Treatment of the Morphin Habit. Sigmund A. Agatston.

Philadelphia Medical Journal, May 17.

6 *A Case of Hematoporphyrinuria. James Tyson and Alfred C. Croftan.
7 Polyhydramnios; Its Differential Diagnosis and Treatment, with the Report of Cases. Edward P. Davis.
8 Diabetes Insipidus, Twin Pregnancy, Polyhydramnios and Post-Partum Hemorrhage. George De Tarnowsky.
9 Some Problems in Municipal Sanitation from an Executive Standpoint. William C. Woodward.
10 *The Importance of the Lachrymal Reflex in the Diagnosis between Organic and Hysterical Anesthesia of the Face. William G. Spiller.
11 *Some Reasons for Considering the Vermiform Appendix as a Gland. Clarence L. Killbourn.
12 Report of a Primary Sarcoma of the Small Intestine. Arthur W. Booth.
13 Asthenopia; Graduated Tenotomy; Prisms. Norbnrne B. Jenkins.

Medical News (N. Y.), May 17.

14 *Etiology of Paresis. Arthur W. Hurd.
15 *The Comparative Frequency of General Paresis. Charles G. Wagner.
16 The Early Diagnosis of Paresis. F. X. Dercum.
17 Treatment of Paresis; Its Limitations and Expectations. Edward Cowles.
18 Sclerotomy: Anterior and Posterior; When Indicated in Glaucoma; Method of Operating. David Webster.
19 *A Danger from the Employment of the Weighted Vaginal Speculum. Frederic Griffith.
20 Orthopedic Operations for Intractable Cerebrospinal Cord Lesions, with Report of Two Cases. Homer Gibney.

Medical Record (N. Y.), May 17.

21 So-called "Joint Derangement" from Movable Bodies in Joints. Joseph D. Bryant.
22 *A Few Cases of Penetrating Stab Wounds of the Abdomen. Joseph B. Bissell.
23 *Prophylaxis in Pneumonia. H. R. Tuthill.
24 *The General Complications and Sequelæ of Measles. Adolph Rupp.
25 Eye Complications of Measles and Their Treatment. D. H. Wiesner.
26 Cerebral Abscess. C. E. Ruth.
27 *A Report of Experiments Made with Cargile Membrane, for the Purpose of Determining Its Value in Preventing the Formation of Peritoneal Adhesions. Robert T. Morris.

Boston Medical and Surgical Journal, May 15.

28 Birth and Death-Rate as Influenced by Obstetric and Gynecic Progress. (To be continued.) George J. Engelmann.
29 *Amaurosis (Atrophy of the Optic Nerve) and Its Treatment by the Subcutaneous Injection of Strychnia. Hasket Derby.
30 *Diseases of the Ear of Interest to Insurance Examiners. Philip Hammond.

Cincinnati Lancet-Clinic, May 17.

31 Local Anesthesia. Horace J. Whitacre.
32 Report of Cases in Which Glycozone Was Used. E. C. Roemele.

American Medicine (Philadelphia), May 17.

33 *The Future of Obstetrics as a Specialty in America. Barton C. Hirst.
34 *Acquired Incomplete and Complete Prolapse of the Uterus and Vagina in Nulliparous Women. Henry D. Beyea.
35 A Case of Fracture of the Neck of the Femur in a Man 76 Years Old, Treated with the Thomas Hip-Splint; Perfect Recovery in Ten Weeks. John L. Porter.
36 *Goiter: Medical and Surgical Treatment. Thomas P. Scully.
37 The Sodium Tungstate Test for Combined Chlorids. A. L. Benedict.
38 Vaccination from the Standpoint of the Surgeon. Ernest J. Mellish.
39 Raynaud's Disease. Emil King.
40 A Comparative Climatic Study of the Arid and Semi-tropic Southwest and Its Relation to Tuberculosis. (Concluded.) William W. Betts.

St. Louis Medical Review, May 10.

41 Case of Impacted Urethral Calculus in a Boy of Four Years. J. S. Triplett.
42 Impacted Calculus in the Female Urethra. F. C. Ameiss.

May 17.

43 *Therapeutic Value of Work in Hysteria and Neurasthenia. Sidney I. Schwab.

Medical Age (Detroit, Mich.), May 10.

44 The Woman of the Hour—The Trained Nurse. G. Frank Lydston.
45 Recurrent Hyperplastic Tissue in Orbit Following Enucleation, Preventing Use of Artificial Eye; with Report of a Case. C. C. Stephenson.
46 Indications for Tannigen in Medical Practice. Richard Friedlander.

Medical Fortnightly (St. Louis), May 10.

47 Facial Paralysis; Epilepsy with Pronounced Stigmata of Degeneracy; Partial Paralysis; Cerebral Paralysis with Marked Aphasia; Cerebral Syphilis. Daniel R. Brower.
48 A Note on the Application of Litholapaxy of Lithotrity to Stone in the Bladder in the Canine Species. Reginald Harrison.
49 Intemperance and Life Insurance. C. F. Wahrer.
50 Epilepsy. F. Savary Pearce.
51 Bronchial Stenosis. Albert Abrams.

Journal of Nervous and Mental Diseases (Nyack, N. Y.), May.

52 *The Muscular Factors Concerned in Ankle Clonus. S. Weir Mitchell.
53 *Two Unusual Forms of Clonus: Toe Clonus and Lateral Ankle Clonus. John K. Mitchell.
54 A Case of Cholesteatoma of the Brain. Charles L. Allen.
55 *A Case of Primary Degeneration of the Pyramidal Tracts. William G. Spiller.
56 Report as to the Condition of a Man Through Whose Right Cerebrum a Bullet Passed from Before Backward Eleven Years Ago. Theodore Diller.
57 Report of a Case of Fracture of the Base of the Skull Followed by Meningitis and Organic Hemiplegia, Associated with Coma and Catalepsy Lasting Eighteen Months. Arthur C. Brush.

Bulletin of the Johns Hopkins Hospital (Baltimore), May.

58 The Effect of Certain Poisons on Inorganic Ferments. Harry C. Jones.
59 Greek in Medicine. Achilles Rose.
60 On Syphilitic Disease of the Cerebral Arteries. F. C. Goldsborough.
61 Para-Colon Bacillus. Richard P. Strong.
62 A Case of Multiple Primary Adenocarcinoma of the Liver with Cirrhosis. Catherine H. Travis.
63 Concerning an Improved Method of Making Collodium Sacs. Norman MacLeod Harris.

Annals of Surgery (Philadelphia), May.

64 *Thoracic Injuries Involving the Lungs. William G. Le Boutillier.
65 Fracture of the Carpal Scaphoid with Dislocation Forward of the Central Fragment. Lewis A. Stimson.
66 *Treatment of Dislocation of the Clavicle Through Open Wound. James E. Moore.
67 Subcutaneous Injury of the Brachial Plexus. Percival R. Bolton.
68 Chronic Phagedena Due to Mixed Infection. H. R. Loux and W. M. L. Coplin.
69 *Hour-Glass Stomach. John M. Elder.
70 Rupture of the Axillary Vein in Reducing an Old Dislocation of the Shoulder. Francis J. Shepherd.
71 Pus Dilatation of One Member of a Double Ureter. John C. Munro.
72 Intestinal Suture. Archibald MacLaren.
73 *The Curative Effect of Trephining Per Se. Charles J. Aldrich.
74 *A Contribution to the Surgery of Spina Bifida. Van Buren Knott.

Cleveland Medical Journal, April.

75 A Case of Perforated Gastric Ulcer. C. A. Hamann.
76 Case of Brain Tumor. L. G. Leland.
77 Spasmodic Wryneck Appearing in the Course of a Case of Exophthalmic Goiter. Walter G. Stern.
78 A Case of Compound Fracture of the Skull. Asher F. Sippy.

Journal of Medical Research (Boston), May.

79 *The Analogies between Plimmer's Bodies and Certain Structures Found Normally in the Cytoplasm. E. R. LeCount.
80 The Endothelial Phagocytes of the Tonsillar Ring. J. L. Goodale.
81 On the Active Principle of Jamaica Dogwood. M. Vejux-Tyrode.
82 The Lymphomatous Tumors of the Dog's Spleen. Herbert U. Williams and Frederick C. Busch.
83 *Upon an Extensive Outbreak of Food Intoxication and Infection of Unique Origin. A. P. Ohlmacher.
84 The Histologic and Histogenetic Features of a Malignant Medullary Hypernephroma of the Kidney. Joseph C. Ohlmacher.
85 A Preliminary Note upon Certain Mechanical Microtechnical Factors Concerned in Producing Segmentation and Fragmentation of the Myocardium. Walter H. Buhlig.
86 The Changes Produced in the Hemolymph Glands of the Sheep and Goat by Splenectomy, Hemolytic Poisons and Hemorrhage. Aldred S. Warthin.
87 The Blood Vessels of the Submaxillary Gland and Their Development. Joseph M. Flint.
88 *Tetanus and Vaccination—An Analytical Study of Ninety-five Cases of This Rare Complication. Joseph McFarland.
89 Arboreal Traits in the Human Foot. E. H. Bradford.

Annals of Gynecology and Pediatry (Boston), May.

90 Report of a Case of Subcutaneous Emphysema Due to Tracheal Ulceration—Probably Diphtheritic. J. Gurney Taylor.

American Journal of Obstetrics (N. Y.), May.

91 On the Etiology, Histology, and Usual Course of Ectopic Gestation. (To be continued.) Samuel W. Bandler.
92 *A Case of Extra- and Intra-uterine Pregnancy, with Tabulated Record of Eighty-eight Cases. E. Gustav Zinke.
93 *Some Remarks as to Why Vaginal Hysterectomy Should Be Done in Cases of Cancer of the Uterus in Its Early Stage. J. E. Janvrin.
94 *A New Operation for Retrodisplacement. J. M. Baldy.
95 Acquired Incomplete and Complete Prolapse of the Uterus and Vagina in Nulliparous Women. Henry D. Beyea.
96 Clinical Notes of Four Cases of Severe Puerperal Toxemia Treated by Accouchement Forcé. James F. McCone.
97 Two Hysterectomies for Fibroid Tumor with Marked Anemia. John H. Girvin.
98 The Undeveloped Uterus. C. L. Bonifield.
99 A Report of Gynecologic Pathology. William H. Weir.
100 Lipoma of the Vulva. Churchill Carmalt.

Toledo Medical and Surgical Reporter, May.

101 Medical Treatment of Appendicitis. O. Hasencamp.
102 Appendicitis and Its Surgical Treatment. William J. Gillette.
103 A Plea for More Intimate Relation Between Physician and Dentist. Wm. A. Dickey.
104 The Treatment of Pneumonia in Children. Wm. Henry Robertson.

Archives of Pediatrics (N. Y.), May.

105 The Progressive Principle in Rational Infant Feeding. Henry L. Coit.
106 *The Feeding of Children During Their Second Year. Thomas S. Southworth.
107 Spindle-Cell Sarcoma of the Thorax in a Child. Louis Fischer.
108 A Case of Primary Intestinal Tuberculosis. M. Nicoll, Jr.
109 Diphtheria of the Conjunctiva Treated by Antitoxin. L. Emmett Holt.
110 Clinical Lecture: Enlarged Thymus Gland, etc. Augustus Caillé.

Medical Summary (Philadelphia), May.

111 Obstructions of the Alimentary Canal. J. L. Wolfe.
112 Facial Hirsuties. W. Ashton Kennedy.
113 The Modern Treatment of Extra-uterine Pregnancy. H. Wm. Wormley.
114 When the Operation Should be Performed in Appendicitis. Thomas H. Manley.
115 Sulphate of Quinin. J. F. Griffin.
116 Reflections of a Physician. A. Toepfer.
117 Echinacea Angustifolia. E. N. Ritter.
118 Impotency, with Theory, Comments and Cases. J. J. Caldwell.

Occidental Medical Times (San Francisco), May.

119 Address, Medical Society of the State of California. W. J. G. Dawson.
120 *Some Remarks on Appendicitis. Charles Miner Cooper.
121 Recollections of the European Clinic. James T. Watkins.
122 La Grippe. W. B. Parsons.
123 Milk Production Under Hygienic Conditions. Archibald R. Ward.

124 Spinal Anesthesia, with Tropacocain in Genito-Urinary Surgery. M. Krotoszyner.
125 Errors of Refraction as a Cause of Eye Diseases. W. A. Martin.

Medical Bulletin (Philadelphia), May.

126 Alopecia Circumscripta. John V. Shoemaker.
127 Herniotomy (Girl 12 Years Old); Suprapubic Cystotomy (Female). William L. Rodman.
128 Mitral Incompetency—Mitral Stenosis Associated with Mitral and Tricuspid Incompetency—Mitral Regurgitation Due to Fibroid Myocarditis. J. M. Anders.
129 How to Study Sick Children—Difficulties of the Subject—How Books Help the Young Physician—Taking Cases—Diffuse Eczema Due to Irregular Feeding. W. C. Hollopeter.

St. Louis Courier of Medicine, May.

130 *The Modern Pharmacology of Iron. John Aulde.
131 Valvular Lesions of the Heart. L. Rassieur and Louis H. Behrens.
132 Influenza: Especially in Infants and Children. W. L. Johnson.
133 Some Clinical Characteristics of Erysipelas. Philip B. Newcomb.

Woman's Medical Journal (Toledo), April.

134 Intestinal Obstruction. Mary D. Ardery.
135 Case of Twin Pregnancy. Rose M. Blakelidge.
136 The History of Medical Education of Women in Russia. Z. Okunkova-Goldinger.

Maryland Medical Journal (Baltimore), May.

137 Suggestions Concerning Medical History. David Hunt.
138 *A Consideration of the Bottini Operation for Enlargement of the Prostate, with Report of Some Cases. (Continued.) George Walker.

The Laryngoscope (St. Louis), April.

139 *Sources of Error in Functional Tests of Hearing. Albert H. Andrews.
140 An Unusual Case of Hyperplasia of the Nasal Mucous Membrane. Charles A. Todd.
141 Secondary Hemorrhage on the Fifth Day After Tonsillotomy. Lee Weber.

Medical Mirror (St. Louis), April.

142 Artificial Infant-Feeding. William E. Fitch.
143 *Neglected, but Valuable Therapeutic Measures. George F. Butler.
144 The Trained Nurse a "Lifter," Not a "Leaner." I. N. Love.
145 Chronic Pulmonary Tuberculosis. N. O. Sexton.

Kansas City Medical Index-Lancet, May.

146 *Gonorrhea in the Female. Byron Robinson.
147 Septic Metritis. H. C. Crowell.
148 *Gastro-jejunostomy—Postmortem Six Years Later. A. H. Cordier.
149 Eye-strain as a Cause of Gastro-intestinal Neuroses. Geo. N. Thomas.
150 Report of Case of Tumor of the Female Breast. Herman E. Pearse.

American Medical Compend (Toledo), May.

151 *Tuberculosis—Some Means of Preventing Its Dissemination. Wm. A. Dickey.
152 Pleuritic Effusions. H. E. Smead.
153 Are We Undergoing a Process of Therapeutic Agnosticism? A. J. Girardot.
154 Hygienics of the Schoolroom. Mary E. Law.
155 Gonorrheal Rheumatism. J. Douglas Westervelt.
156 Septicemia and Pyemia Following Criminal Abortion. J. L. Watson.

Atlanta Journal-Record of Medicine, May.

157 A Symposium on the Pathology and the Treatment of Typhoid Fever, with Special Reference to the So-called Antiseptic, Eliminative, Abortive, or Woodbridge Treatment. James B. Baird.
158 The Diagnostic Importance of the Leukocytes in the Blood. J. M. Thomas.
159 Syphilitic Dementia—Report of a Case. Jas. B. Dillard.
160 A Splenectomy, with Remarks. Jno. G. Earnest.
161 A Frequent Serious and Unrecorded Complication of Typhoid Fever. W. D. Hoyt.

Proceedings of the Pathological Society of Philadelphia, April.

162 *The Lesions in a Series of Eyes Which Produced Various Types of So-called Sympathetic Disturbance in the Fellow Eye. G. E. de Schweinitz and E. A. Shumway.
163 *Diagnosis by Means of the Formed Elements of the Blood. C. Y. White.
164 The Function of the Soluble Ferments of the Blood in Intracellular Digestion. Alfred C. Croftan.
165 A Preliminary Report on Microbacilli in the Sebaceous Glands of the Nose, with Demonstration of the Alleged Germ of Seborrhea and Baldness. Jay J. Schamberg.
166 A Renal Calculus Composed of Calcium Oxalate, Calcium Carbonate, and Magnesium Phosphate. David Riesman.
167 Large Ovarian Cyst. M. H. Fussell and Thompson Schell.

---

3. **Bright's Disease.**—The question of the surgical treatment of Bright's disease is discussed by Guiteras, who reviews the literature, more especially the recent article of Edebohls, and concludes: 1. That nephropexy is a beneficial procedure in a movable kidney in a patient suffering from chronic nephritis; 2, that nephrotomy has proved valuable in unilateral chronic nephritis associated with hematuria and nephralgia; and 3, that the value of a complete decapsulation of the kidney as a therapeutic measure in chronic Bright's disease has not as yet been determined.

6. **Hematoporphyrinuria.**—In this case, reported by Tyson and Croftan, which was due to the excessive use of sulphonal, about one-seventeenth of the hemoglobin in the body was destroyed and wasted in the urine during twenty-four hours, in the form of hematoporphyrin. We can understand how such a loss of blood pigment sustained for a prolonged period must necessarily lead to severe anemia, but in this case, fortunately, the sulphonal was stopped in good time for blood regeneration to occur.

10. **Lachrymal Reflex.**—Spiller calls attention to this reflex which consists in the secretion of tears produced by irritation. The preservation of the tear reflex in the conjunctiva in hysteric anesthesia has been observed by others, and he reports two cases where it may have been of assistance in the diagnosis.

11. **The Vermiform Appendix as a Gland.**—Killbourn points out certain anatomic and physiologic reasons for suspecting the glandular action of the vermiform appendix, both in its normal and pathologic condition, and suggests that it should perhaps be considered as of some little importance in the economy.

14.—See abstract in The Journal of February 1, p. 472.

15. **Frequency of General Paresis.**—Wagner gives a considerable portion of his paper to a review of the literature in regard to the increase in the frequency of paresis and concludes that general paresis forms about 8.75 per cent. of all cases of insanity; that it occurs most frequently between the ages of thirty and fifty; that it is gradually increasing in frequency at the present time; that men are about seven times as liable to the disease as women; that it is invariably fatal in its termination, usually so in less than two and a half years; that it is nearly twice as frequent in large cities as in the country, that heredity, syphilitic infection and alcoholic indulgence are important factors in its production; that neither the members of the learned profession, teachers, students, musicians nor actors, appear to be especially susceptible, nor does intellectual work or any other special kind of occupation seem to predispose the individual to paresis, but that general cerebral strain with more or less hereditary influence is found to have existed in the majority of cases. Overwork, sexual excesses, alcoholism, irregular habits of sleeping and eating and such accidents as sunstroke and cerebral traumatism appear to be the great factors in the production of this disease. From all his study of records he has found but a single instance of alleged recovery from the disease.

19. **Weighted Vaginal Speculum.**—Griffith reports a case in which the use of the weighted vaginal speculum seemed to have produced a sloughing, and he calls attention to the importance of warning against the use of such weighted instruments for any length of time in cases in which pressure opens the way for the assaults of infection.

22. **Stab Wounds of the Abdomen.**—From a review of the cases here reported Bissell considers the following conclusions warranted: A stab wound involving the peritoneal cavity is frequently followed by recovery without operation. In every case the wound, and the field near it, should be thoroughly antisepticized and kept so; an examination should be made with the cleansed fingers, if at all, and only to determine whether the wound penetrates the abdomen, and to ascertain if any injury has been done to the contents. If doubt exists about involvement of the organs it is better to bring the divided edge of the peritoneum into the wound, fasten it there, drain and wait. If the abdominal visceræ have certainly escaped damage, the wound should be closed by suturing the peritoneum, the muscles, and the skin and fascia in three different layers, catgut being used; or if the wound be long and gaps, a catgut running suture may be used for the peritoneum and silkworm in one layer for the skin and muscles. If there be grave doubt and the symptoms point to damage in the peritoneal cavity, the wound must be enlarged and a complete ex-

ploration made carefully; or, better still, a median laparotomy may be done exactly as in an examination of tumors of the abdominal cavity. The contents of this cavity should be examined, repaired, if necessary, and returned, and the opening then sutured as before advised; or, if the damage be too severe, the injured gut or omentum should be brought to the wound and a drain inserted, in order that an exit may be given for a fecal fistula, if that misfortune happen. This last technic is similar to an operation for appendicular abscess or suppurative appendicitis. If the gut is cut across, it must be united in any one of the usual ways. If the omentum is cut off from its intestine, so much of the intestine as is deprived of its blood supply must be resected. If symptoms of internal hemorrhage are present and increasing the indication is imperative to open the abdomen, find the origin of the bleeding and control it.

23. **Pneumonia.**—According to Tuthill the most rational mode of treatment of pneumonia would be to employ internal antiseptics, which, upon being brought into contact with the bacilli through the medium of the blood, may be enabled either to destroy them or at least to embarrass their growth and development and check the influence of their poisons. He has had very good results with salol given in the first stage; 10 gr. every two hours in adults seemed to work well, widening the intervals as the symptoms subsided. Several cases are reported.

24. **Sequelae of Measles.**—Rupp reviews the clinical sequelæ of measles, such as stomatitis, gangrene, diphtheria, lung disorders, cholitis, intestinal catarrh, gangrene of the genitals, rheumatic disorders, tuberculous glandular enlargement, nervous disturbances, etc., and finds the serous membranes rarely affected and the endocardium and pericardium still more rarely. There seems little in the way of blood changes so far as known. In mild cases, according to Cabot, no changes occur, but in the toxic attack of measles it is sometimes affected, losing at least some of its coagulability.

27. **The Cargile Membrane.**—Morris has received from Dr. Cargile, of Bentonville, Ark., a package of what he called "sterilized animal membrane" consisting of a peculiar thin gold-beater's skin subjected to heat-cumol sterilization, prepared in the form of a folded sheet in a sealed paper package. He has employed it in certain cases with advantage, but he gives here the details of experiments on rabbits. In only one was there any suppuration, and there it was intended that it should occur. He says it resisted absorption in the peritoneal cavity for more than ten and less than thirty days. Its presence apparently causes the formation of temporary loose adhesions, which are harmless, and which become absorbed for the most part in less than thirty days. The membrane seems to cause very little disturbance to the peritoneum, it does not furnish a good culture medium for bacteria, and it protects areas of peritoneal surface that have suffered injury to their endothelial covering, until new endothelial cells have repaired the injury without involving neighboring peritoneum. It is not necessary to suture the membrane in place, as it becomes instantly adherent to moist surfaces, and is not readily dislodged afterward. In this connection it may be well to give warning against handling the material with wet hands or instruments. In addition to the experiments in the peritoneal cavity, he has applied the membrane for a variety of purposes in wound treatment. As an animal membrane it seems to be particularly agreeable to the tissues of open wounds. It serves as an excellent conductor of epithelium when placed next the wound beneath absorbent dressings. It is not impervious to moisture, and in that regard possesses advantages over gutta-percha tissue or silver foil. In brain surgery the membrane adheres closely to exposed brain tissue, and it makes a very good dura mater for temporary purposes. It can be used to keep severed and sutured tendons from uniting en masse. He has had no opportunity to employ the Cargile membrane in plastic eye surgery, as few of these cases get to his clinics, but from our knowledge of the value of this material as a conductor of epithelium and of endothelium it would seem to offer advantages in this special field.

29. **Amaurosis.**—Derby relates a number of cases of optic nerve atrophy treated with strychnia injections in gradually increasing doses, and in about 30 per cent. with fairly encouraging results. He thinks the following conclusions are justified: 1. Strychnia is a stimulant to the optic nerve. Even in normal eyes it slightly increases the acuteness of vision and widens the visual field. These effects are temporary (Fuchs). 2. In certain cases of optic nerve atrophy its local subcutaneous injection has, to say the least, coincided with an arrest in the progress of the disease, and has been followed by a somewhat increased acuteness of vision. Whether these effects are temporary or permanent, time and fuller statistics will show. 3. In a progressive case of this disease it is clearly our duty to state the above facts to the patient, and allow him to take the treatment if he is so inclined. 4. The strychnia should always be administered in the temple, and by subcutaneous injection.

30. **Ear Disease and Life Insurance.**—The importance of ear disease in connection with life insurance examination is insisted on by Hammond, who maintains that we should not consider the patient's statements or recollections, because it may happen that suppuration has occurred in early infancy and has been forgotten or the patient may have become so accustomed to it as not to consider it a diseased condition or inconvenience. The examiner should always be on the alert. He points out that consumption may sometimes be detected by the clinical appearances in the ear, and he insists on the importance of not considering merely the chronic cases. Among the things we may put on our dangerous list are suspicious nodules or tumors of the auricle in elderly persons and ulcerated areas which may be due to breaking down of an epithelioma. Another point which seldom receives attention is the liability of persons suffering from partial deafness to accident. Vertigo may depend on various conditions, but it may favor accidents and should be a cause for careful examination. Many cases of otorrhea are easily cured, and this fact should also be considered. The prognosis is improved in late years. We should consider the rights of the applicants as well as those of the company we are safeguarding.

33. **The Future of Obstetrics.**—Hirst thinks that gynecology as a specialty is likely to wane with advances in obstetrics. The number of cases especially calling for it will lessen and the general surgeon will encroach more and more on its field. A feature of importance will be for the expert obstetrician to confine himself to such cases as promise to be unusually difficult or complicated and make his daily work the diagnosis and treatment of diseases of women, almost all of which must be studied in their relation to parturition. This is the actual condition on the continent of Europe and it must be the outcome of the shifting of work at present observable in America. The future trained nurse, he thinks, will be competent to take charge of the average labor case, the physician being only called in to repair the injuries of childbirth, or deal with any complications or abnormalities that may arise and make the daily routine visit, and above all to make the careful final examination at the end of the puerperal convalescence. By this plan the specialist and the general practitioner, too, could undertake the supervision of an almost unlimited number of cases.

34. **Uterine Prolapse.**—Beyea reports a case of prolapse of the uterus in a nulliparous woman and has collected a number of cases in the literature. The only conclusion to be gained is that commonly its subjective etiology is chiefly dependent: 1, on poor health, physical weakness and general tissue relaxation; 2, frequently on want of development of the uterus and its supports. The exciting causes are the diseases, laborious occupations and great physical effort which actively increase the abdominal pressure. The treatment naturally consists of attention to the general health and the performance of such plastic and abdominal operations as will restore the equilibrium.

36.—See abstract in THE JOURNAL of February 8, p. 412.

43. **Work in Hysteria and Neurasthenia.**—The value of employment in the treatment of hysteria and neurasthenia is dwelt upon by Schwab, who quotes from Monnier, also giving

his conclusions. By means of manual work, hysteria and neurasthenia can often be made to completely disappear. In cases of mental enfeeblement, psychopaths and alcoholics, the influence of work is often very remarkable. Hypochondriacs and paranoiacs are not specially benefited. A valuable point is the impulse which it gives to the acquirement of some definite work which may afterwards be made self-supporting.

52. **Ankle-Clonus.**—Mitchell has recently noticed the fact that in ordinary ankle-clonus the soleus alone is active, though the gastrocnemius is frequently mentioned in text-books as being also active. He points out that this can be readily shown by the perceptibly inactive condition of the gastrocnemium in flexion of the leg and the actual contraction of the soleus during the process. He explains the peculiarity by the fact that the soleus and gastrocnemius have rather distinct functions, the gastrocnemius being relaxed and inactive during the process, while the soleus is still capable of extending the foot. For all the slighter acts of extension the soleus alone is used.

53. **Two Unusual Forms of Clonus.**—Mitchell describes two types of clonus which are apparently new, viz., the lateral clonus movement of the ankle entirely in one plane and the toe clonus. Both were observed in a case of disseminated sclerosis under his charge. Theoretically, any muscle may exhibit the phenomenon, which is only a rapidly renewed contraction induced by sudden overstretching, but the ankle and wrist clonus are the only forms of this reflex that are of diagnostic value and they are not always pathogenic signs.

55. **Primary Degeneration of the Pyramidal Tracts.**—Spiller reports the case of a woman 50 years of age having a sudden weakness in the left arm, with loss of speech. The latter was partially regained in a day or two, and the weakness almost entirely disappeared after a few weeks. Two years after this attack she noticed that she was weak in the legs, and this gradually increased until it made walking difficult. All the reflexes were exaggerated; the Babinski reflex was obtained. The gait was not decidedly spastic. The right arm was not distinctly paretic, but the left was a little weak. There were no special sensory disturbances. The reaction of the irides was sluggish. The left side of the face was slightly paretic, but the right was probably also abnormal. At the autopsy the degeneration of the pyramidal tract was found extending as high as the pons, but not above this and less intense in the anterior pyramids than in the spinal cord, and was equal on the two sides of the cord. The other tracts were normal. There was no meningitis present. Some of the smaller vessels of the cerebral pia were thickened, which was not remarkable at her age. The cell-bodies of the anterior horns of the cord were in part diseased, and the nuclei of the hypoglossal nerves were probably not normal. A number of features of the case are discussed as peculiar and hard to explain. The author points out its differences from the ordinary amyotrophic lateral sclerosis, which he is inclined to think is less rare than supposed. He has found by the method of Marchi that the ascending frontal convolution is more degenerated in cases of this disease than the ascending parietal, which is interesting as compared with the results obtained by Schaffer in his study of brains from cases of paretic dementia. These studies seem to show that the motor functions are represented in the ascending-frontal convolution much more than in the ascending parietal one.

64. **Thoracic Injuries.**—After reporting cases of rupture and of penetrating wounds of the lung, Le Boutillier discusses the conditions, reviewing the opinions of others, and concludes that operative interference in thoracic injuries involving the lung is not only justifiable, but imperative: 1. In distending pneumothorax from whatever cause. If aspiration or the introduction of a trochar does not give relief, thoracotomy should be done and the lesions thus ascertained treated in appropriate ways. 2. In large hemathorax in cases of fractured ribs, contusions of the thorax without external wound and penetrating wounds of the thorax without regard to the nature of the weapon producing the injury. 3. In extensive and progressive subcutaneous emphysema after thoracic injuries. The nature and extent of the measures to be resorted to must be determined according to the needs of the particular case. Exploratory operations may be proper in order to determine whether wounds in the lower part of the thorax have penetrated the diaphragm or peritoneum, or to satisfy one's self as to the integrity of the heart or pericardium as well as of the internal mammary or intercostal arteries; or to provide proper drainage in wounds where infection is suspected. Delorme pointed out that in penetrating wounds with pneumothorax or hemothorax the fear of causing collapse of the lung is baseless, as the collapse has already occurred. We have at hand valuable and trustworthy means of combating shock and loss of blood in the intravenous or subcutaneous injection of hot salt solution. Oxygen inhalations and strychnin are also of great value in improving the circulation and respiration. The surgeon who hesitates to open the pleura in traumatic cases for fear that he may infect should promptly improve his methods. He who can open the peritoneum or meninges safely need have no fear of infecting the pleura.

66.—See abstract in The Journal of January 4, p. 52.

69. **Hour-Glass Stomach.**—Elder reports a case of hour-glass stomach relieved by the performance of gastroplasty, by making an incision on the anterior surface of the stomach extending from the center of each half of the hour-glass through the fibrous central ring. As the mucosa looked healthy the edges of the incision were sewed up in a direction at right angles to the primary line of incision, leaving a fairly normal looking stomach and an opening that would admit three or four fingers at ease. The results were in every way satisfactory. He remarks that the case is very similar to one published by Childe in which a gastro-enterostomy was performed, but failed to give relief, and the true condition was found at autopsy. He believes that we should make in all cases a very careful examination of the stomach before performing gastro-enterostomy and that gastroplasty, where possible, is decidedly preferable in cases of non-malignant hour-glass stomach. All the literature points to cicatricial contraction following gastric ulcer as the cause of the condition, this contraction being in the stomach wall itself or the result of adhesion to the neighboring parts with subsequent stretching of adhesive bands and the contraction of the viscus.

73. **Trephining.**—Aldrich reports two cases of trephining for intracranial disease, one cured and the other markedly benefited, though in neither was a lesion found nor were the operations made over areas which the symptoms suggested might be diseased. He remarks on the puzzling nature of the case, and concludes that the trephining operation probably produces two distinct effects: 1. Relief from intracranial pressure, 2, a marked psychic effect. While it is unsafe to advise the trephine for some cases, nevertheless in those presenting evidence of cerebellar pressure, fulness of the head, headache, dizziness, staggering gait, etc., the trephine, without opening the membrane, may be of possible service.

74. **Spina Bifida.**—The following are Knott's conclusions: 1. Owing to the distressing nature of the affliction, the high mortality should not prevent attempts at surgical relief. 2. Meningoceles, meningomyeloceles, and syringomyeloceles may be considerably benefited by operation. 3. The improvement in function can not with certainty be estimated before operation, and pronounced evidences of nervous disturbance are not a contraindication to excision. 4. Asepsis is absolutely essential, and, though difficult to secure, may be maintained by exercising extreme care. 5. The plan of having the suture lines of the meninges and the overlying tissues on different planes will, in the majority of instances, prevent leakage of cerebrospinal fluid. 6. The suggestion of Pearson, to prevent the escape of this fluid during a prolonged operation by stuffing the canal with gauze, is valuable. 7. Large bony defects may be effectually closed by muscle much easier than by osteoplastic methods. 8. It is not necessary to keep the child off his back during the healing of the wound, as frequently advised. 9. Children with hydrocephalus accompanying spina bifida should not be subjected to operation.

79. **Plimmer's Bodies.**—Le Count concludes that there is an analogy between Plimmer's bodies in cancer cells and certain structures in the cytoplasm of normal cells and that we should require advocates of the theory that they are essential to cancer to exclude or account for the centrosome and the enveloping variously named formations of the archoplasm in carcinoma cells.

83. **Food Intoxication.**—Ohlmacher reports cases of an epidemic which occurred at the Ohio Hospital for Epileptics at Gallipolis in which 218 patients became acutely ill with symptoms of food intoxication and gastro-intestinal infection. The diagnosis being made by exclusion, the infected food was found to be a certain batch of oatmeal which had been contaminated by the dust of a ceiling from which a section of plaster had been removed. The ceiling had been exposed to the dust from the dusty road which had lodged on the moist ceiling. Living bacteria were found, among them Bacillus coli communis and the Proteus vulgaris. These were considered to account for the condition. Experimental evidence in favor of the theory is adduced.

88. **Tetanus and Vaccination.**—McFarland reviews the subject and holds that tetanus bacilli can infect vaccine virus through the manure and hay of stables and greater care is required in the preparation to avoid the complication of tetanus.

92. **Extra- and Intra-Uterine Pregnancy.**—Zinke first reports a case of extrauterine pregnancy coincident with a normal pregnancy. Celiotomy was performed, the uterine pregnancy was uninterrupted and labor occurred at term. He discusses the various questions suggested by such cases, the occurrence of the two conceptions which in this case he thinks were simultaneous, the cause and time of death of the ovum, the difficulties of diagnosis and the frequency, cause and duration of these conditions and their treatment. He thinks it one of the rarest complications of pregnancy and no pathologic conditions should be held responsible for it. The duration varies. Generally both pregnancies are interrupted, but cases are reported where both ova grew and developed at the end of term and both children were born alive, one by operation and the other in the natural way. The prognosis is grave for both the mother and the child. The treatment is plainly indicated by the course and duration of each case. If rupture occurs, prompt celiotomy is necessary. He analyzes 88 cases found in the literature and gives a tabulated statement of the same.

93. **Vaginal Hysterectomy in Uterine Cancer.**—The object of Janvrin's paper is to put himself on record as a decided advocate of vaginal hysterectomy in cancer of the uterus in its early stages, including also some cases of adenoma and carcinoma of the uterine body and to express his conviction that we can cure a good percentage of cases so complicated. Further, he places himself on record as an advocate of either vaginal or abdomino-vaginal hysterectomy in many other still more advanced cases where operation can generally prolong life and make it more endurable.

94. **Retrodisplacement.**—Baldy offers the following method as an improvement on Webster's operation, which is in many respects more satisfactory than any heretofore offered. "The round ligament on each side of the uterus is picked up and a ligature thrown about it close to the uterus, so placed as to secure the artery. The round ligaments are then severed close to the ligatures. This leaves the uterine ends of the ligaments ligated and the other ends free and bleeding. The bleeding is controlled by a fine ligature to each vessel or by the sutures which fasten them in the next step of the operation. A pair of forceps is now made to perforate the broad ligament from its posterior aspect (at the point at which the round ligament is cut on the anterior surface), and the cut end (the pelvic end) of the round ligament is grasped in the bite of the forceps and pulled through the hole in the broad ligament (made by forceps in perforating) until it protrudes on the posterior side of the broad ligament. The opposite side is treated in a similar manner. The cut ends of the round ligaments are now attached by means of sutures on the cornua of the uterus on the posterior aspect of the uterus directly back of the original point of attachment of the normally attached round ligament. The point of attachment may be higher or lower than this, as the surgeon may find necessary to accomplish the result. If necessary as much of the round ligament is cut off, before suturing it to the uterus, as is necessary to take up any slack and give the proper amount of tension and support to the uterus. This ends the operation. The suture is a continuous one and may be either chromicized gut or silk. The effect of this procedure is to draw the fundus of the uterus upward and forward into a perfect position. The uterus remains a pelvic organ. It has no artificial supports. It is as free to expand in pregnancy as it was originally, with no greater danger of the tearing away of its supports. There are no adhesions to give future trouble from pain or possible strangulation of the bowels." He says there is absolutely no tension after this operation and, therefore, no danger of pregnancy or anything else destroying the operation or of an abortion occurring.

106. **The Feeding of Children.**—The dangers in the dietetic management of children during the second year are under-feeding and over-feeding. Too abundant and unsuitable food may produce the same effect as under-feeding. We should, therefore, try to supply the proper material. Weaning should be done, if possible, in the cooler months, but if it is necessary to have it done in the warm period it should be gradual. Southworth mentions the use of gruels and advises against the abandonment of the nursing bottle too early as it is available for feeding at all times, which is often of advantage, and insists on the importance of milk as an article of diet through the second year. He suggests the following arrangement of the bill of fare: 7:30 a. m., breakfast, including bottle of milk (diluted if necessary); 11 a. m., bottle of milk, with crust or zweibach; 2 p. m., dinner, with rather less milk as the other food is increased; 6 p. m., supper, including bottle of milk; 10 p. m., bottle of milk. Eggs, soft-boiled, may be given early near the beginning of the year, and dry white bread may be allowed if the teeth are good. The use of the teeth on a hard crust is doubtless beneficial as favoring salivary secretion. Fruit juices are also to be allowed. Thoroughly soft baked apple, entirely freed from the skin and hard portions of the core, is permissible, and in the middle of the year vegetables may be tried, such as spinach, carefully passed through a sieve; afterward fresh green peas, asparagus tips or tender string beans when obtainable, which may be treated in the same way. Toward the end of the year stewed celery and tender boiled onions may be added. Potato when given should be baked and mealy and well broken up with the fork. Meat in its usual form must await the development of the masticatory powers, but beef juice expressed from lightly-cooked steak may be given even before the twelfth month. The finely minced white meat of poultry may also be given about the middle of the second year, scraped rare pulp of steak, roast beef, roast mutton or mutton chop, the tough fiber being carefully avoided, can be given as early as the second year. An excess of meat and its derivatives should be avoided, and the amount should bear some relation to the amount of exercise and out-of-door life. He speaks strongly against taking children to the table too early, as they see things they want and are likely to get them, to their disadvantage. Desserts are better left alone by children; they consume too much of their attention, and sweets are inadvisable.

120. **Appendicitis.**—From a general review of the subject of appendicitis and its frequency Cooper concludes that it is apparently much more common in America than in Great Britain. He speaks favorable of Oehsner's method of treatment as having undoubted efficacy in certain cases and lays stress on the following facts: Many persons have a chronic pathologic condition of the appendix from whom no history of an acute attack, either initiatory or during the course of the chronic trouble, can be obtained. A big percentage of patients present the phenomena of finger-tip-pressure tenderness over McBurney's point, consequently finger-tip-pressure tenderness is no true index of the onset of a new appendiceal trouble. This

must be a recognized condition, unless its previous absence be known, in an attempt to diagnose doubtful abdominal conditions. Such patients do not present localized rigidity, even in those cases in which the diseased appendix can be rolled under the finger. He calls attention to the efficacy of local treatment during the convalescent stage of acute appendicitis helping to clear up inflammatory products around the appendix as in other regions of the body.

130. **Iron.**—The action of iron is fairly thoroughly treated by Aulde. It is absorbed very slowly by the stomach. The greater portion is probably excreted by the bowel with the production of more or less headache due to the direct action of the iron on the cerebral center or reflexly from the effect on the intestinal tract. Introduced directly into the circulation, non-coagulating salts of iron cause paralysis of the central nervous system and of the vasomotor nerves, loss of voluntary motion, enormous fall of blood pressure and death. Its toxic action may be avoided by the administration of small doses, making its action a gentle stimulant instead of a toxic irritant. The author specially notes the action of the combination of iron with zinc and enumerates the principal clinical application of iron as follows: "As a hematinic, iron must be recognized as a superior remedy and with suitable collateral or alternate medication much will be accomplished by its employment, provided that it be given in small doses so that the degree of irritation shall not exceed that of gentle stimulation. It may be used in nearly all cases where impaired nutrition is the dominant factor. The addition of nuclein from animal sources is recommended in acute as well as chronic cases of blood dyscrasia as a means of restoring and maintaining a normally antiseptic condition of the body fluids, thus favoring cell activity. This is especially to be commended in the case of catarrh affecting the mucous surfaces, since it serves to complement nature's efforts in restoring the vitality of the cellular structures, by sending an improved secretion (excretion?) to fortify and augment cell resistance. Stress is laid upon the value of the arseniate in these conditions, because of the influence of the arsenic content upon systemic metabolism. Particular attention is directed to the exceptional value of iron and zinc in combination as a protoplasmic stimulant, noting the absence of action upon the sexual function, a deficiency which may be supplied by the alternate exhibition of chlorid of gold and sodium in combination with nucleinic acid from animal sources."

138. **The Bottini Operation.**—Walker's article discusses the operation and reports cases, and he seems to think it has a decided future. He points out the alleged objections, and enumerates the following advantages: 1. It offers a greater number of cures and a less number of fatal cases than any other procedure. 2. It can be done without the use of a general anesthetic. 3. It is never attended with shock. 4. It does not require a patient to be confined to bed for a long time. 5. Its effects are in many cases immediate. 6. The accidents and complications are certainly not so serious as in other operative measures. 7. It can be done in a class of cases where the severer operative measures are contraindicated.

139. **Sources of Error in Hearing Tests.**—The possible sources of error in functional tests of hearing which must necessarily be largely suggestive and require the co-operation and correct response on the part of the patient are treated by Andrews. Some of the more frequent errors are mentioned and means of avoidance suggested. They may arise from faulty constructed or poorly-adapted instruments, failure on the part of the examiner to understand his instruments or to use them properly or from failure on the part of the patient to promptly and accurately respond to the various tests. The Galton whistle and the tuning fork stand alone as instruments for making functional examinations. There is a great variety of tuning forks on the market, most of them more or less defective. The weighted forks have an advantage of being free from overtones, but are useless for testing bone conduction because of the jar transmitted through the handle, the sensation of which the patient is liable to mistake for sound. The presence of overtones is the great objection to unweighted tuning forks, the patient sometimes answering when he only hears the overtones. A good test for overtones in a fork is to strike about the middle of the prong with some light, hard object as a pencil. The metallic ring is the overtone, and is one or more octaves above the true tone of the fork. Another objection to many of the forks is the length of time in which they continue to vibrate and a fork should be selected which the normal ear can hear only from 25 to 40 seconds. In making repeated tests in the ear in order to secure accuracy, much available time is lost while waiting for the fork to run down and the patient's attention wears out, and his replies are uncertain. It is necessary to determine how long the normal ear can hear the fork used. The amount of impairment in any given ear may be expressed by a fraction the denominator of which represents the time a normal ear hears the fork, while the numerator shows the time the impaired ear hears it. Many published records of tests are valueless because of the neglect to specify the time in which the normal ear could hear the fork. There is also a wide variation in the relative time which different forks of the same pitch can be heard by bone conduction and by air conduction in the same way. The shape of the fork, size of the handle and the temper of the steel each have an influence. We should have a standard for each individual fork not only for air conduction but bone conduction as well. In testing bone conduction, it makes a decided difference upon what part of the mastoid the handle of the fork is placed and also whether it is allowed to touch the back of the auricle. Probably the best position for the handle of the fork is directly over the mastoid antrum. The amount of pressure exerted on the handle of the fork also makes a difference. In air conduction it is a good plan to cover the patient's eyes and compel him to depend entirely upon his ears as they imagine they hear the sound if they see the fork still vibrating. Whenever there is a suspicion of accuracy the fork should be held in the hand so that the finger can be passed down along the prong of the fork, and thus gradually stop the vibrations. Sometimes the patient thinks he hears it after it has ceased to vibrate. Sometimes tinnitus so closely resembles the sound of the fork that the patient is unable to tell when he has ceased to hear the vibrations and a fork of a higher pitch should be substituted. Repeated tests should be made for the sake of accuracy. In using the high forks the patient will sometimes state that he hears when he only feels the vibrations of air set in motion by the movements of the fork. Holding the open end of the fork toward the ear will obviate this. It is necessary to keep the hair away from the ear, for if the vibrating fork comes in contact with a stray hair or two a sensation will be produced which the patient may mistake for a sound. The temperature of the instrument should also be regarded. It may be necessary to warm it to prevent any undue sensation. In the lower forks the vibration transmitted to the handle is much greater in proportion to the volume of the sound than in the higher forks. In testing bone conduction for the lower tones it would be difficult to determine whether the patient hears the fork or merely feels the jar. Andrews is not aware of any plan that will secure the desirable accurate measurement of bone conduction in the lower tones.

143.—This article appeared in THE JOURNAL of January 18, p. 155.

146. **Gonorrhea.**—Gonorrhea in the female is discussed by Byron Robinson, with details which are too elaborate to be fully reproduced. He says the treatment of gonorrhea in the female is unsatisfactory because when the microbes gain the genital mucosa they at once appropriate it as home. It wounds the mucosa and serosa, making atria for infection. It desquamates epithelia and endothelia. These atria are entered by all existing pathogenic microbes producing inflammation, which proliferates connective tissue, whose fate is cicatrices and contraction (stricture). Cicatricial contraction (the destructive results of gonorrhea) distorts the mechanism of the tractus genitalis and adjacent structures, compromising structure, function, circulation (blood and lymph), traumatizing nerve periphery, lessening nourishment and resistance. The

gonococcus, under quiet life on the mucosa, gradually becomes less virulent with cultures until it loses its virulence or the individual resistance conquers it, and that that remains is results, cicatrices. However, at the great functions of the genitals, menstruation, abortion, labor secretion (and excessive coitus and alcohol) the gonococcus partially revives its virulence from new food (due to hyperemia and consequent excessive secretion). Thus the gonococcus in the female tractus genitalis (and peritoneum) is liable to live continuous during the sexual or menstrual life from recurrent food supply producing new gonococcus cultures.

148. **Gastrojejunostomy.**—Cordier reports a case of gastrojejunostomy performed six years before, the patient finally dying of acute pneumonia and the postmortem being obtained. The Murphy button used in the gastrojejunostomy was never passed during life, but after death it was found still in the stomach and the anatomic condition of the stomach and bowel, notwithstanding that the pylorus was practically closed, was perfectly satisfactory. The presence of the button in the stomach had never given rise to a single symptom during the nearly seven years that it had remained there. He thinks this fact is in favor of its employment, considering also that it greatly shortens the time of operation.

151. **Tuberculosis.**—Dickey deprecates the exaggeration as to the contagiousness of consumption, which he thinks has been much overdone, and if such ideas were followed out they would lead to serious hardship and unnecessary legislation, which would be recognized at once as unreasonable. Tuberculosis, he says, is not a contagious disease. The contact of an individual suffering from it is practically free from danger. The tubercle bacilli being found in the sputum, as well as other secretions of the body—not in the breath—very rarely in the skin, makes it a communicable disease. If due care is taken to destroy the tuberculous expectoration and secretions as well as articles of food in which the bacilli are found, the danger of contracting the disease is practically *nil*. He points out that the building of sanatoria reduces the death rate from consumption in their immediate vicinity as shown by German experience. He does object to consumptives marrying, as he believes heredity an important factor in the causation of the disease.

162. **Sympathetic Ophthalmia.**—From the review of a number of cases, De Schweinitz and Shumway conclude that the best that can be said at the present time is that an eye, so wounded that a plastic iridocyclitis or uveitis appears, sometimes sets up in the opposite eye an analogous inflammation, to which we give the name sympathetic ophthalmitis, and that in all probability this depends upon an infection of the so-called sympathizing eye by some form of toxin which they liberate, but that sometimes exactly analogous lesions will produce only an irritation which promptly disappears on removal of the originally injured eye and disappears, moreover, without leaving a trace of organic change. It would further seem that some undiscovered, perhaps constitutional, perhaps local, condition determines on the one hand the inflammation and on the other hand the temporary so-called irritation.

163. **Blood Diagnosis.**—White knows of no disease that can be absolutely diagnosed by means of formed blood elements. Even in malaria the parasite has to be found. The only apparent exception is presented by leukemia. Splenomyelogenic leukemia, with a high percentage of leucocytes and a marked degeneration of erythrocytes are hardly to be mistaken, but lymphatic leukemia is not so certain and may closely resemble sarcoma and other diseases. That the examination of the blood is a valuable and essential part of the thorough examination of the patient does not need argument. The blood analysis should be a thorough one, but this is too often overlooked, and he calls attention to the necessity of studying the formed elements of the blood from their morphologic standpoint as well as from their count, and uses certain diseases to illustrate this fact. The complete analysis of the blood should be considered only with the results of clinical evidence, the duration of the disease and, if possible, the presence of complications. He remarks in conclusion that certain typical conditions almost invariably produce changes in the blood. These changes may be of a positive or of a negative value in the diagnosis of the disease. In some conditions the blood changes may absolutely clinch the evidence pointing to the diagnosis; in other cases, with our present knowledge, the blood offers absolutely nothing as an aid in the diagnosis. This, however, can be said of any branch of medical or surgical methods of examination of which blood examinations are only a part. In any case blood analyses, to be of any value, must be considered only in connection with the findings of other methods of examination, the history of the illness, and in the presence of complications.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

The Lancet (London), May 10.

1 The Seed and the Soil. W. Howship Dickinson.
2 *Embalming the Dead. J. G. Garson.
3 *The Quiescent or Latent Period in the Course of Grave Abdominal Inflammation. A. H. Tubby.
4 Some of the Surgical Aspects of Glycosuria and Diabetes. (To be concluded.) Llewellyn C. P. Phillips.
5 Case of Poisoning by Morphia Injection Treated by Infusion of Salt Solution. Edward F. Willoughby.
6 *An Interesting Phenomenon Occurring in Tachycardia. Herbert D. Everington.

British Medical Journal (London), May 10.

7 *Surgical Treatment of Arteriovenous Aneurism. Frederick Treves.
8 *Splenic Leukemia and Phthisis Combined in the Same Patient. G. Parker.
9 The Blood in Cases Affected with Filariasis and Bilharzia Hematobia. Alfred C. Coles.
10 Case of "Infective Endocarditis" Treated with Antistreptococcus Serum. H. M. Cooper and Cyril Ogle.
11 Case of Fatal Anemia Presenting Some Unusual Blood Changes. O. K. Williamson and E. W. Martin.
12 Spontaneous Gangrene of Both Lower Limbs in a Man Aged 36. William Mitchell.
13 On Treatment of Hemophilia with Calcium Chlorid. C. Edward Wallis.
14 Notes on Cases Illustrating the Use of Adrenalin Chlorid in Ophthalmic Nasal and Aural Surgery. A. Stanley Green.

Intercolonial Medical Journal of Australasia (Melbourne), March.

15 On the Significance of the Term "Cure" in Medicine. James Jamieson.
16 *The Etiology of Typhoid Fever. Thomas Cherry.
17 Prostatectomy. George A. Syme.
18 Intussusception in Infants. R. Hamilton Russell.

Bulletin de l'Acad. de Med. (Paris), April 29.

19 *Rats and the Plague. N. Gamaleia (Odessa).—Sur les rats et la peste.
20 New Model of Stethoscope. Troussaint (Marseilles).—Le diéchoscope.
21 Treatment of Malarial Fever with Arrhenal. A. Gautier.—Sur le traitement arrhénique des fèvres palustres.

Bulletin Soc. Med. des Hop. de Paris, March 27 to May 8.

22 (No. 11.) Independence of Spermatogenesis and Internal Secretion of Genital Glands. Variot.—Ind. de la spermatogenèse et de la secrétion interne des glandes genitales.
23 Acute Anterior Spinal Paralysis. P. Londe.—Polynévrite avec paralysie faciale.
24 Alopecia from Eruption of Wisdom Tooth. L. Jacquet.—Pelade symétrique par éruption précoce de la dent de sagesse.
25 (Case Reports.) Cas d'hermaphroditisme. A. Petit.—Goutte aigue du pharynx. Lermoyez.—Ascite lactescente et cirrhose atrophique. Souques.—Ibid. C. Achard.
26 (No. 12.) Organic Mercurial Compounds. H. Danlos.—Sur quelques combinaisons organiques de mercure.
27 Enlargement of Heart. Dissociation of Digitalis and Couple Rhythm. P. Merklen.—Grande dilatation du coeur. Action dissociée de la digitale et rhythme couplé.
28 (Case Reports.) Compression de la moelle dorsale par un endotheliome. E. Hirtz.—Fièvre typhoide à symptomes spinaux. H. Grenet.—Erythème scarlatiniforme intermittent d'origine paludéenne.
29 (No. 14.) Spasmodic Form of Syringomyelia. G. Guillain.—La forme spasm. de la syringomyélie.
30 Polycystic Kidney in Adult. P. Menetrier.—Gros rein polykystique chez l'adulte.
31 Free Foreign Bodies in Pericardium. Duflocq.—Fibroides libres dans le péricarde.
32 *Saline Injections and Retention of Chlorids in Certain Morbid States. Ch. Achard.—Injections salines et rétention des chlorures dans certains états morbides.
33 (Case Reports.) Ascite lactescente. Cancer du colon et cancer sec. du foie atteint de cirrhose alcoolique hypertrophiante. C. Achard.—Goutte aigue du pharynx. H. Verdale.—Hystérie à début sénile. A. Souques.—Paralysie chez un garcon causée par l'usage d'une trompette à embouchure de plomb. G. Variot.—Hémiplégie protubeérantielle. Touche.
34 (No. 15.) *Cystic Affection. G. H. Lemoine.—Maladie kystique.
35 *Biliary Melanoderma. A. Gilbert.—Les mélanodermies d'origine biliare.
36 *Contagion of Vincent's Angina and Stomatitis. C. Dopter.—Contagion de l'angine et de la stomatite de Vincent.

37 *Ibid. H. Vincent.
38 Trivalve Speculum. A. Sircdey.
39 *Sore Throat in Scarlet Fever. G. Variot.—Nouv. recherches clin. sur le processus angineux daus la scarlatine et sur ses irradiations.
40 *Sulphaturia and Sulphated Saline Injections. C. Achard.—Sulfaturie et injections salines sulfatées.
41 Chlorurea in Nephritis. H. Claude.—La chlorurie alimentaire expérimentale dans les néphrites.
42 (Case Reports.) Anévrisme de la portiou asceudante de l'aorte. Dufloeq.—Cas de mort subite dans l'appendicite. Lion.—Goutte aigue du pharynx. G. Scherb.

Revue d'Orthopedie (Paris), xiii, 1 and 2.

43 *Bloodless Treatment of Congenital Luxation of the Hip-Joint. C. Ghillini.—Le traitement non. sanglant de la lux. congén. de la hauche par rapport aux difformités du femur.
44 Apparatus for Continuous Traction aud for Reduction of Fractures. M. Menard.—Essais de reduction de fractures sur le cadavre à l'aide d'un appareil à traction continue et des rayons de Roentgen.
45 *Points iu Treatmeut of Ectopia of the Testicles. P. Coudray. Traitement de l'ectopie testiculaire.
46 Dorsal Luxation of the Thumb. P. Grisel.—La luxation dorsale externe de l'articulation métacarpo-phalangienne du pouce.
47 (No. 2.) Osteotomy in Genu Valgum. P. E. Launois.—Genu valgum double iuvétéré. Redressement par osteotomie.
48 *"Growing" Coxa Vara. Froehlich (Nancy).—Anatomie path. et traitement de la coxa vara essentielle de croissance.
49 Precarpal Amputation. H. Morestin.—Amputation précarpienne.
50 Genu Recurvatum in Coxalgia. Phocas (Lille).
51 Incomplete Backward Luxation of the Foot. H. Judet.—Luxation incomplete du pied eu arrière.
52 Tardy Rachitic Dwarf Growth. Patel (Lyons).—Cas de nanisme rachitique à forme tardive.

Naunyn's Archiv f. Exp. Path., etc., (Leipsic), xlvii, 3 and 4.

53 Transformations of Quinin. A. Merkel.—Stoffwechselprodukte des Chiuins.
54 Experimental Feeding with Chondroltiu-Sulphate. A. Kettner.—Ueber Fütterungsversuche mit Chondroiten-Schwefelsäure.
55 Die Thätigkeit des überlebenden Säugethierherzens bei Durchströmung mit Gasen. R. Magnus.
56 Ueber Athemversuche mit einigen Giften. Hayashi (Tokio).
57 Absorption of Carbohydrates from Rectal Mucosa. F. Reach.—Ueber Resorption von Kohlehydraten von der Schleimhaut des Rectums.
58 Einige Beobachtungen an Veneupuls. D. Gerhardt.
59 Influence of Alcohol on Metabolism of Albumin During Fever. A. Ott (Oderberg).—Ueber den Einfluss des Alkohols auf den Eiweisstoffwechsel bei Fiebernden.
60 Ueber Bufonin und Bufotaliu, die wirksamsten Bestandtheile des Krötenhautdrüsensecretes. E. S. Faust (Strassburg).—Ausgeführt mit Unterstützung des Elizabeth Thompson Science Fund in Boston.

Archiv f. Gynaekologie (Berlin), lxvi, 1.

61 Die Variationen im Bau des Mesometrium und deren Einfluss auf die Entstehung von Menorrhagien und von Fluor. A. Theilhaber.
62 Zur Aetiologie der Placentarcysten. W. Vassmer (Hannover).
63 Early Interruption of Tubal Preguancy. T. Dobbert (St. Petersburg).—60 Fälle in frühen Entwicklungsstadien unterbrochener Tubenschwangerschaften.
64 Die vaginale Anwendung der Braun'schen Blase in der Geburtshilfe. Voigt (Dresden).
65 *Ueber scheinbar primäre in Wirklichkeit metastatische Krebserkrankung der inneren Geschlechtsorgane bei Tumorbildung in Abdominalorganen. C. Römer (Breslau).
66 Metritis Hysterica. Vedeler (Christiania).
67 Eine besondere Art seniler hämorrhagischer, leukocytärer Hyperplasie der Gebärmutterschleimhaut. S. Gottschalk (Berlin).
68 Bossi's Dilator. G. Leopold (Berlin).—Ueber die schnelle Erweiteruug des Muttermuudes mittelst des Dilatatoriums von Bossi.

Archiv f. Klin. Chirurgie (Berlin), lxvi, 1.

69 *Improved Technic for Operatiug on Cancer of the Rectum. M. Jaffe (Posen).—Indicationen und Prognose der Operationen des Mastdarmkrebses, mit einem Beitrag zur Modification der Operationsmethoden.
70 Deformities of the Large Intestine. A. Frommer (Cracow).—Zur Casuistik der Anomalien des Dickdarmes.
71 *Sympathectomy in Exophthalmic Goiter. Balacescu (Bucharest).—Die totale und bilaterale Resection des Sympathicus cervicalis beim Morbus Basedowii.
72 Trephining in Cortical Epilepsy. W. J. Rasumowsky (Kasan).—Zur Frage der Trepanation bei corticaler Epilepsie.
73 *Extensive Resection of Intestines. E. Payr (Graz).—Ueber ausgedehnte Darmresseetionen. Bemerkungen ueber chemische Peritonitis und das Stauungstransudat bei Strangulationsileus.
74 Giant-Celled Sarcoma and Plasma Cells. G. Friedlaender.—Sarcome, Riesenzellsarcome und Plasmazellen.
75 Bacterium Coli as a Pyogenic Coccus. L. de Gaetano (Naples).—Kokkenformiges B. C. mit pyogener Wirkung im Menschen und Versuchsthieren.
76 Staphylococcus as Cause of Benign Bone Neoformations. A. A. Bobroff (Moscow).—Staph. als Ursache benigner Knochenneubildungen.

Berliner Klin. Wochenschrift, April 17. Von Leyden Number.

77 The Clinical Importauce of the Personal Factor in Disease. Sir Dyce Duckworth (London).
78 Diabetogenic Leucomains. R. Lepine (Lyons).—Sur l'existence de leucomaines diabetogènes.
79 Coincidence of Articular Rheumatism with Typhoid Fever. P. K. Pel.—Ueber die Coiucidenz von Polyarthritis rheumatica acuta mit Abdominaltyphus.
80 Cutaneous Tubercular Affections and Their Relations to Internal Organs. O. v. Petersen (St. Petersburg).—Die tuberkulösen Erkraukungen der Haut und ihre Beziehungen zu den innereu Organen.
81 *Dissociated Venous Pulse. G. Ascoli (Genoa).—Ueber ueberzahlige Veneupuls. Zur Klinik der Dissociation der Herzfunction.
82 Case Simulating Banti's Disease. E. Hocke (Prague).—Ueber ein an den Banti'schen Symptomencomplex erinnerndes Krankheitsbild wahrscheinlich hervorgerufen durch coug. Lues.
83 Experimental Study of Inhalation of Oxygen. J. Kovas (Budapest).—Exp. Beitraege ueber die Wirkung von Sauerstoffinhalationen.
84 Stroke Auscultation and Resonance, Especially for Determinatiou of the Outlines of the Ventricles. A. Blad (Copenhagen).—Ueber Streichauscultation und Transsonanz, besonders die Bestimmung der Ventrikelgrenzen.

April 28.

85 *Anesthesiu as a Local Anesthetic. C. v. Noorden (Frankfurt a. M.).—Ueber para-Amidobenzoesäure-Ester als locales Anästheticum.
86 Polyneuritis Consecutive to Malaria. A. M. Luzatto (Berlin).—Fall von Polyneuritis nach Malaria, mit Autopsie.
87 Zur Therapie der Pharyngitis granulosa und der Pharyngitis lateralis. M. Halle (Berliu).
88 *New Technic for Testing the Gastric Functions. Sahli (Berne).—Ueber ein neues Verfahren zur Untersuchung der Magenfunctiouen. (Concluded from preceding number.)

Deutsche Med. Wochenschrift (Leipsic), May 1.

89 Lead Poisoning. A. Seeligmueller (Halle).—Zur Pathologie der chron. Bleiintoxikation.
90 *Implantation of Tendon into Bone. J. Wolff.—Ueber ostale Sehneuplastik.
91 *To See the Outline of the Stomach Without Artificial Aid. M. I. Knapp (New York).—Wie man die Magencontour ohne Hilfsmittel sehen kann.
92 Value of Iodyloform in Inguinal Lesions. G. J. Mueller.—Zur Behandluug des venerischen Geschwürs und der Lymphadenitis inguinalis.
93 Fall von extragenitaler Syphilisinfektion. Schnabel (Magdeburg).

Muenchener Med. Wochenschrift, April 22.

94 Endovenous Injections of Sublimate. A. Serafini (Padua).—Ueber die endovenösen Injectionen von Aetzsublimat.
95 Explanation of Action of Iodin in Arteriosclerosis. Jodlbauer.—Kann man eine Iodwirkung bei Arteriosklerose pharmakologisch begründen?
96 Incarceration of Uterus in Ring Pessary. G. Wiener.—Fall von Uteruseinklemmung in ein Pessar.
97 Drumstick Fingers with Atrophy of Terminal Phalanges. W. Stoeltzing (Hersfeld).—Trommelschlegelfinger mit Atrophie der Endphalangen.
98 Affections of the Pancreas and Diabetes. Teschemacher (Neuenahr).—Pankreaserkrankung und Diabetes.
99 Diagnostic Importance of Angiomata of the Skin. Rosenbaum.—Ueber die diagn. Bedeutung der Angiome der Haut.
100 Return Radial Pulse. A. Meyer (Berlin).—Rückläufiger Radialpuls.
101 *Importance of Quinin in the Treatment of Wounds. H. Marx (Lubeck).—Die Bedeutung des Chiuins für die Wundbehandlung.
102 Hitherto Undescribed Localization of Lead Poisoning. G. Koster (Leipsic).—Eine bisher noch nicht beschriebene Lokalisation der Bleilähmung. (Concluded from preceding uumber.)

April 29.

103 Recurriug Herpes of Male Urethra. Bettmann (Heidelberg).—Ueber recidivirenden Herpes der männlichen Harnröhre.
104 Escape of Hemoglobin from Corpuscles Treated with Sublimate. M. Matthes (Jena).—Ueber den Austritt des Hemoglobins aus sublimatgehärteten Blutkörperchen.
105 Importance of Slight Variations in Atmospheric Pressure for the Human Organism. O. Rosenbach (Berlin.)—Die Bedeutung kleinerer Schwankungen des atmos. Druckes für den menschlichen Organismus.
106 Dormiol in Epilepsy. J. Hoppe (Uchtspring).—Beltrag zur Behandlung des Status Epilepticus.
107 Does Emphysema of the Lungs Result from Playing Wind Instruments? H. Fischer.—Ist Lungenemphysem eine Folge des Spielens von Blaseninstrumenten?
108 Abnormal Development of Exanthem in Varicella. V. Hoesslin.—Varicellen mit abn. Entwicklung des Exanthems.
109 Lead Poisoning from Water and from Flour. Success of Atropin in Treatment of Colics. A. Weber (Alsfeld).—Seltene Ursachen der Bleivergiftung. Behandlung der Koliken mit Atropin.
110 Colloid Silver. E. Toff (Braila).—Ueber die Anwendung des Unguentum Argenti colloidalis (Credé).

Riforma Medica (Naples).

111 (Nos. 5 and 6.) Diagnostic Value of Cytoprecipitin. E. Centanni.—La citoprecipitina e su valore diagnostico.
112 (No. 7.) Blood Reaetion in Pellagra. A. d'Ormea.—Reazioni del sangre pellagroso sul sangre estraneo e sul plasma dei propri tessuti.
113 (Nos. 8 to 10.) Passage of Micro-organisms Through Cutaneous Lesions. C. Dalmasso.—Sul passagio del micro-organismi patogeni e delle loro tossine attraverso la discontinuita della cute.
114 (Nos. 11 and 12.) Myelotoxic Serum. G. Sulli.—Il siero mielotossico.
115 (No. 13.) Gold Wire and Automatic Retractors for Herniotomy. J. Tansini (Palermo).—Sulla sutura con filo d'oro e sopra alcuni nuovi strumenti per l'operazione radicale dell' ernia inguinale.
116 (Nos. 14 to 16.) Carbolic Injections in Tetanus. E. Cloffi.—

Tetano reumatico e traumatico e tetano sperimentale di fronte al metodo Baccelli.

117 (No. 17.) Origin of the Vitreous Humor. C. Addario.—Sulla matrice del vitreo nell' occhio umano e degli animali.

118 (No. 18.) Acquired, Habitual Luxation of the Patella. D. Bioudi.—Lussazione esterna completa abituale della rotula, probabilmente da paralisi infantile.

119 (No. 19.) Influence of Extreme Cold on Pathogenic Germs. C. M. Belli.—Ulteriore ricerche intorno all' azione delle bassissime temperature ottenute con l'aria liquida sulla virulenza dei germi patogeni.

120 (Nos. 20 to 23.) Treatment of Complete Genital Prolapse. N. Antonio.—Contributo alla cura chirurgica del prolasso genitale completo col processo Chiarleoni.

121 (No. 24.) Perforation of the Intestine by Ascarides. S. Solieri.—Perforazione intestinale da ascaridi.

122 (No. 25.) Obliteration of the Ureter and Consecutive Cystic Degeneration of the Kidney. Ibid.—Obliterazione dell' uretere al suo sbocco in vesica e consecutiva degenerazione cistica del rene.

123 (Nos. 26 to 32.) Liver-Spleen Syndrome in Hepatic Asytolia. C. C. Alberto.—Contributo clinico allo studio della asistolia epatica nel decorso dei vizi valvolari del cuore. Della sindrome epatosplenica nella asistolia epatica.

124 (Nos. 33 to 35.) *Agglutination in Malarial Blood. D. Lomonaco.—Sul fenomeno dell' agglutinazione nel sangue dei malarici.

125 (No. 36.) Ergographic Studies on Epileptics. C. Golucci.—L'affaticamento ergografico nei normali e negli epilettici.

126 (Nos. 37 and 38.) Sulle diplegie Spasmodiche infantile. Cavazzani.

127 (Nos. 39 to 42.) Su altri 5 casi di tumore cerebrali. O. d'Allocco.

128 (Nos. 43 to 46.) Infantile Gastrointestinal Toxi-Infections. L. Concetti (Rome).—Le tozzi-infezioni gastro-intestinali nei bambini.

129 (Nos. 47 to 50.) Bone Marrow and Blood in Infectious Diseases. A. Michelazzi (Pisa).—Ricerche istologiche e sperimentali sul midollo dell ossa e sul sangue nelle malattie infective.

130 (No. 51.) *Acetic Acid in Alcohol for Treatment of Wounds. L. de Gaetano (Naples).—L'alcool acidificato con acido acetico nel trattamento delle ferite riunite per prima intenzione.

131 (Nos. 52 to 54.) *Delirium in Croupal Pneumonia. A. Brancati (Catania).—Il delirio nella pneumonite crupale.

132 (Nos. 55 to 57.) *Study of the Pancreas in Relation to Tuberculosis. F. E. Italia (Roma).—Azione del bacillo tubercolare sul tessuto pancreatico e dell' infuso di pancreas sui tessuti tubercolari.

133 (Nos. 58 and 59.) Acute Atrophy of Liver. T. Carbone Modena).—Un caso di atrofia acuta del fegato.

140 (No. 60.) Complete Extirpation of Parotid Gland for Recurring Carcinoma. S. Pusateri (Palermo).—Un caso di estirpazione completa della parotide per carcinoma recidivante con diffusioni glandolari e cutanee.

141 (Nos. 61 and 62.) Variola in Fetus Without Traces of Variola in Mother. G. Jacontini (Naples).—Vaiulo fetale non secondario a vaiulo materno.

142 (Nos. 63 to 66.) Active Substances in Typhoid Cultures. Paladino-Blandini (Naples).—Ricerche sulle sostanze attive nelle tifo-culture.

143 (Nos. 67 and 68.) Study of Case of Dextrocardia. A. Lucchi (Modena).—Considerazioni sopra un caso di destrocardia congenita a forma rara.

144 (Nos. 69 to 71.) Three Cases of Sutured and Cured Wounds of Liver. V. Martinelli.—Tre casi di ferite del fegato trattate con l'intervento e guarite. Stato attuale dell'ematostasiepatica. Statistica.

145 (No. 72.) Tumor of Base of Skull. G. Muggia.—Un tumore della base del cranio.

146 (No. 73.) Fungoid Mycosis. T. Secchi.—Osservazioni istologiche su granulomi infettivi. Mycosi fungoide.

147 (II, No. 1.) Splenectomy and Talma Operation in Banti's Disease. J. Tansini (Palermo).—Splenectomia ed operazione di Talma nel morbo di Banti.

148 (No. 2.) Talma Operation. G. Doglioni.—Contributo allo studio della deviazione chirurgica del sangue della vena porta.

149 (No. 3.) Histology of Tube in Rabbits with Young. P. Fiori.—L'istologia delle trombo Fallopplane durante la gestazione dell' utero.

150 (Nos. 4 and 5.) Experimental Endovenous Injection of Sublimate. A. Serafini (Padua).—Sulle iniezioni endovenose di sublimato corrosivo.

151 (No. 6.) Syphilitic Contracture of Adductor Longus. Gravagna.—Un caso di contrattura sifilitica del musculo adductor longus.

152 (No. 7.) Study of Agglutination of Red Corpuscles. A. Capogrossi.—Contributo allo studio del potere agglutinante del siero di sangue umano sui globuli rossi.

153 (No. 8.) Kernig's Sign in Sciatica. A. Magri.—Il segno di Kernig nella sciatica.

154 (No. 9.) Experimental Injections of Sublimate. P. Spissu.—Le iniezioni endovenose di sublimato corrosivo nel carbonchio ematico.

Russkii Vratch (St. Petersburg), March and April.

155 (No. 10.) Oxidizing Ferments. N. O. Siber-Shumova.—Ob okislitelnykh fermentakh.

156 *Banti's Disease. S. Gruzdeff.—Bolyezn Banti. (Concluded from No. 8.)

157 Notes of an Urologist. M. L. Krebs.—Iz urolog. nabliudenii.

158 (No. 11.) Experimental Peritonitis. V. A. Oppel.—Exp. ostry microbny peritonit.

159 Professional Injury from Loss of One Eye. A. Maklakoff.—Praktitcheskiya dannya k vyiasneniyu voprosa o ponizhenii rabotosposobnosti u krivykh.

160 (No. 12.) Anastomosis between Nerve Cells. M. D. Lavdovsky.—Ob anastomotitcheskikh svyazyakh mezhdu nervymi klyetkami.

161 Case of Abnormal Communication between Aorta and Pulmonary Artery. V. F. Orloffsky.—K casuistikye soobshtchenii mezhdu aortoi i legotchnoi arteriei. (Concluded from No. 11.)

162 Relations between Bacilli of Human and Fowl Diphtheria. A. M. Maksutoff.—Otnoshenie palotchki diphtherii tchelovycka k palotchkye ptitchei diphtherii.

163 (No. 13.) Study of Case of Branchial Fistula. N. A. Batueff.

164 Operative Treatment of Uterine Fibromyomata. S. D. Mikhailoff.—O chir. letchenii fibromiom matki.

165 Stab Wounds in Abdomen. B. K. Finkelstein.—O proniikayushtchik kolotoryezanykh ranakh bryushnoi polosti. (Concluded from No. 12.)

166 Application of Physical Chemistry to Balneology. A. K. Prussian.

167 (No. 14.) Contra-Indications for Intra-Uterine Injections in Case of Inflammation of the Adnexa. A. P. Gubareff.—K voprosu o letchenii vospalenii pridatkov matki vnutrimatotchnymi vpryskivaniyami.

168 Study of Case of Balantidium Infection of Large Intestine and Stomach. N. S. Solovieff.—Slutchai zarazheniya balantidiumi tolstoi kishki i zheludka.

169 Study of Hedonal. S. P. Lamosakoff.—O dielstvii hedonala na zhivotnyi organizm.

170 (No. 15.) Histo-Pathologic Modifications Observed in Lupus Under Influence of Finsen's Light Treatment.. M. S. Pilnoff.—O. pat.-ist. ismyenenlyakh pri lupus pod vliyaniem svyeto-letcheniya po sposobu Finsen'a.

171 *Involvement of the Ovaries in Epidemic Mumps. I. V. Troitzky.—K voprosu o zabolevanii yaitchnikov u dlevotchek.

Revista Soc. Med. Argentina (Buenos Ayres), x, 53.

172 Actinobacillosis. J. Liguières and J. Spitz (Buenos Ayres).—Actinobacillose.

173 *Occlusion of Auriculo-Ventricular Opening. J. Mendez.—Oclusion del orificio auric.-ventr. por lesion fetal.

174 Campaign Against Tuberculosis in Argentina. E. R. Coni.—La lutte contre la tuberculose dans la Republique Argentine.

175 Paresifying Flagellosis of Horses. Elmassian.—Mal de caderas.

El Siglo Medico (Madrid), March 9 to April 13.

176 (No. 2515.) Value of Adrenalin in Rhino-Laryngology. C. Compaired (Madrid).—El cloruro de adrenalina en otorhino-laringologia.

177 *Growing Together of the Jaws. J. G. Castro (Caceres).—Yuxtaposicion permanente de los maxilares.

178 (No. 2516.) *Treatment of Detachment of the Retina by Injections of Sodium Chlorid. B. Castresana (Madrid).—Dispreudimiento de la retina. Su curacion por las inyecciones de cloruro de sodio. (Commenced in No. 2513.)

179 Affections of the Digestive Apparatus. A. M. Perujo.—Enfermedades del aparato digestivo segun la topografia de los organes.

180 (No. 2517.) Electrotherapy. A. Diaz de la Quintana.—Revista de fisicoterapia.

181 (No. 2518.) Acetonuria or Aldehiduria? V. P. Cervera.

182 (No. 2520.) Medical Ethics. F. P. Maya.—Etica medica.

---

2. **Embalming the Dead.**—In this article, which is not directly medical but still of interest, Garson remarks that the ancient Egyptians knew how to successfully preserve bodies, but their methods were tedious and much more complicated than modern methods. He believes that embalming is not a matter which should be left to the undertaker alone, and it should be done about twenty-four hours after death. He thinks the best preservative of blood vessels to be one of bichlorid of mercury or some similar acting salt and methylated spirit; the solution may also be used for external application and for injection in the cavities and hollow viscera. Two gr. to each ounce of injection fluid are usually best to begin with, but the strength should be somewhat increased even to double strength during the latter stages of the process. To avoid too much drying of tissues some glycerin may be added, not exceeding one-quarter of the bulk of the spirits used, usually less. Two gallons or nine liters are sufficient for the male adult and five liters for the female. To get the best results the injection should be done slowly to avoid rupturing the vessel and there should be a gauge to indicate the force with which it is entering the body, whether this is applied by pump or by fountain syringe. Further details are mentioned. In a case where the bursting of an artery in the thorax or abdominal cavity has occurred, the injection should be performed upon the ruptured vessel which must be exposed. In case of general anasarca, the dropsical condition so far as possible should be gotten rid of and the best plan is to siphon out the fluid in the abdominal cavity with an India-rubber tube, then elevating the limbs and tightly bandaging from the distal extremities upwards and press out the fluid before injection. He gives the order of working in case a postmortem is required before embalming and in case that has to be done first. If the embalming can be done first the postmortem should be delayed at least twenty-four hours after its performance.

3. **The Quiescent or Latent Period in Abdominal Inflammation.**—Tubby's paper calls attention to the quiescent or latent period which is sometimes a prominent feature in intestinal injuries, injury or bruising of the peritoneal connections of the viscera, with interference with their blood supply, acute disease of the genital organs, especially the Fallopian tubes, and acute appendicitis. He says especially in appendicitis it is a well-marked symptom. In nearly all acute stages, according to Symonds, a stage is reached soon after the onset marked by a session of all acute symptoms and the neglect of this may lead to disease. The most important information is obtained from a careful study of the pulse and temperature. The most serious cases frequently have an accelerated pulse with subnormal temperature, and, if this occurs with the history of the onset of the attack, it justifies immediate operation. If in a case of appendicitis an initial rise of temperature and pulse are followed by a fall in both, succeeded after a few days by a rise, it means the presence of a considerable amount of pus and the abscess should be evacuated. A transient or persistent rigidity and absence of all other symptoms are important, especially when signs of intestinal peristalsis are absent, as indicating a serious condition. Distension may be absent, but if it persists for longer than twenty-four or thirty-six hours and is unrelieved by treatment such as turpentine enemata it is of serious significance. If vomiting recurs after the quiescent period in spite of careful feeding and nursing, especially after the administration of sedatives, we must not underestimate the symptom. The leucocyte count also is of importance during the quiescent period. He thinks this method of clinical examination is likely to be one of great importance.

6. **Tachycardia.**—In the case reported by Everington the patient was taken with violent action of the heart in the course of apparently acute rheumatism and though there was no evidence of organic disease, the heart beats came up to 220 per minute at one time. The patient was directed to take deep breaths, and after several of these inspirations it was found that the heart beat had fallen to 124 or nearly 100 beats per minute. The fact that the mere mechanical taking of deep inspirations was sufficient to reduce the heart beat has been noticed before by Sir William Broadbent and by Rosenfeld and Allbutt, but he thinks the observation is of sufficient interest to be recorded.

7. **Arteriovenous Aneurism.**—Treves reports four cases occurring in the African war, two of varicose aneurism, and two of aneurismal varix. He remarks that the only operative measure to be commended in these cases is ligature of the vessels at the wounded site and the ideal operation would be to ligature both arteries and veins above and below the abnormality. This is not always practicable, and in one of these cases of aneurismal varix of the left groin he simply ligatured the common femoral above the lesion and the superficial femoral below, nevertheless with excellent results. He remarks that these show what satisfactory results may follow operative measures themselves far short of perfection.

8. **Splenic Leukemia in Phthisis.**—Parker reports the first case of this condition observed in Great Britain, and discusses the diagnosis. He thinks perhaps an injury received may have had some influence.

16. **Typhoid.**—In Cherry's opinion many mild cases of fever called febricula are really cases of typhoid, and may serve to distribute the contagion. Typhoid fever itself, he thinks, may be a composite disease or a series of diseases, caused by closely allied organisms. He does not think it necessary to assume a *de novo* origin, though it can not be disproven.

19. **Rats and the Plague.**—A communication received from Gamaleia based on the examination of 23,131 rats, announces that the sewer rat is seldom found on ships. Out of nearly 10,000 rats found in the center of Odessa about 95 per cent. were the sewer rat—*mus decumanus*—while 96 per cent. of 1178 rats found on vessels were of the species *mus rattus*, or the domestic rat. He also found that the three principal varieties of the latter, the black, the red and the Alexandrine rat, do not live together but inhabit different vessels. The black rats were found mostly on ships from England and the Black Sea ports, while the Alexandrines were found on Turkish and Egyptian vessels and the red species on ships from the Orient. He found that the plague among the town, or sewer rats, was strictly localized in three foci. One was the restaurant where the first patients with the plague were discovered. This focus was exterminated by the destruction of the supplies of rice, cabbages, etc., in the cellar. The second focus was a freight platform, and this focus also was exterminated after the destruction of a few bags of spoiled rice on it. The third focus is a large freight warehouse; as so many goods are stored there, it has proved impossible to destroy them all; consequently this focus still exists. The determination of these limited foci suggests that possibly the plague is not transmitted directly from one sewer rat to the other, but indirectly by the mediation of infected rice or other foodstuff. Proust commented on this communication that possibly the immunity enjoyed by Europe in respect to the plague may be due to the predominance of the sewer rat, which seems to be less susceptible to the natural plague than the other species.

32. **Saline Injections and Retention of Chlorids in Certain Morbid States.**—Achard tabulates a number of cases of various diseases in which he had injected a liter of saline solution. The results showed that the injections failed to induce diuresis. He had a similar experience with salt ingested by the mouth. He attributes the absence of diuresis to the varying retention of sodium chlorid by the tissues in different morbid states. It is retained in the dissolved form, and consequently a large amount of water is retained with it. The diuresis was not increased except in one case in which the patient had shown evidences of previous polyuria. He thinks that the general tendency is to resort too much to these injections, and that they are useless as diuretics in diseases accompanied by a retention of the chlorids. He has demonstrated that pneumonia takes the lead in this respect, but is closely followed by the majority of acute infectious diseases, attacks of asystolia, uremia, infectious icterus, etc.

34. **Cystic Affection.**—Lemoine considers polycystic degeneration of organs as the evidences of an essential affection of glandular organs, characterized by the dilatation of the acini or excreting canals under the normal pressure of the fluids which they contain. It is thus an actual glandular angioma. The tendency is probably congenital.

35. **Melanoderma of Biliary Origin.**—Gilbert attributes to the presence of bile pigments in the blood the nevi, tiny moles, freckles, dark circles around the eyes, the so-called bilious complexion and the pigmentations of pregnancy. The tendency to melanoderma may remain latent until some casual cause may incite it to activity, some mechanical or chemical factor, exposure to the sunlight, the irritation of a blister, or a medicine. These various causes do not induce the pigmentation except in those predisposed by a tendency to cholemia, and it is frequently a revealing sign of the latter.

36 and 37. **Contagion of Vincent's Angina.**—Three undeniable cases of contagion of the angina or stomatitis caused by the association of the spirillæ and the fusiform bacillus are reported. Vincent reiterates that the promptest method of cure is to rub the parts thoroughly with a tampon impregnated with tincture of iodin, removing all the false membranes.

39. **Study of Sore Throat in Scarlet Fever.**—Variot's experiences include 864 cases of scarlet fever in children under 14. He states that the angina is polymorphous, with or without exudation, and that the diphtheria bacillus can be found in it from the start in a certain proportion of cases. In others the angina may present all the characteristics of the diphtheritic sore throat but without the diphtheria bacilli. Superficial ulcerations are frequent and the influence of the throat process and its irradiations determines the gravity of the disease and the temperature curve. True nephritis was observed in only about 1 per cent. of all his cases of scarlet fever, but slight, transient albuminuria was noted in 101. He makes a practice

of keeping the children in bed and on a strict milk diet for five weeks, and attributes to these precautions the small proportion of cases of nephritis. ("Tout nos petits malades sont soumis au régime du lait exclusif pendant cinq semaines. De plus il leur est bien difficile de se refroidir, car pendant le même laps de temps ils gardent entièrement le lit.")

40. **Sulphaturia and Sulphated Saline Injections.**—Achard supplements his communication on the retention of chlorids in certain diseases, mentioned above, with the statement that the sulphates behave differently from the chlorids in this respect. There is no retention of the sulphates and they are more liable to induce diuresis.

43. **Bloodless Method of Treating Congenital Luxation of the Hip-Joint.**—Ghillini has now had an experience of 100 cases treated by his method, which he asserts is the reverse of the usual procedure. He aims to place the hip in such a position that the head of the femur rests against the place where the acetabulum normally should be. The new joint thus obtained does not resemble a normal joint anatomically, but behaves exactly like one. The functional results have been perfect. When the head of the femur is displaced upward, for example, he twists the thigh into exaggerated abduction. When the displacement is downward, he twists the thigh in adduction. For forward displacement he twists it in inward rotation, and for backward displacement in outward rotation. In case of a complex deformity, such as backward and upward displacement, he twists the thigh in outward rotation and abduction. He follows Lorenz's directions for after-treatment for six to twelve months.

45. **Points in Treatment of Ectopia of the Testicles.**—Coudray has found thyroid treatment effectual occasionally and urges trial of it in every case before resorting to other measures. Treatment should be commenced as early as the age of 2 or 3. About 5 cg. a day of thyroid extract should be given to boys under 3, and 10 cg. after this age, gradually increasing to 15 and 20 cg. If no results are apparent in the course of two or three months, this medication should be supplemented by manipulative measures for four or five minutes a day. This combination has proved very effective in his experience with retention in the inguinal region. When the testicle is below the ring and the cord can easily be stretched, a double Y bandage will be found useful. Treatment on these lines is liable to be successful under 10 or 12. After this age it may induce hernia or hydrocele. Bloody intervention is indicated only in case of failure of these measures.

48. **"Growing" Coxa Vara.**—Frochlich points out the resemblance between the coxa vara which is due to the rapid growth of the subject, and tarsalgia. Both are characterized by pain, muscular contraction, deformation of the bones and sometimes arthritis of the dry type. He has been very successful in curing the coxa vara by resection of the great trochanter and immobilization in bed for six weeks.

65. **Metastatic Cancer in Internal Genitalia.**—Römer describes the danger of mistaking a metastatic cancerous affection of the internal genital organs for a primary lesion. He urges that these organs should be carefully examined in operating on account of cancer elsewhere in the abdomen, and that they should be removed on the slightest suspicion of pathologic alteration In performing a primary operation on these organs the abdomen should be carefully searched to discover indications of a tumor elsewhere which may in fact prove to be the primary lesion.

69. **Improved Technic for Operating on Cancer of the Rectum.**—The modification proposed by Jaffe is for the purpose of resting the intestine while it is healing. He draws the upper stump of the rectum out through an incision just below the tip of the spine, and fastens it temporarily in this artificial anus. Tissue gradually forms to connect the distal stump with the side wall of the rectum passing above it to the artificial anus. After the healing is complete, the walls of the distal stump are sutured to the side wall of the proximal stump above. When all this is healed, a hole is made in the side wall of the proximal stump between the points where it is sutured to the distal stump. The course of the fecal matters is thus diverted once more to its normal route and the artificial anus is then closed.

71. **Sympathectomy in Exophthalmic Goiter.**—Balacescu reports 17 cases of exophthalmic goiter treated by total, bilateral resection of the cervical sympathetic. The results are 10 cured; 2 cured but with recurrence since, and 5 improved. The patients have been under observation twenty days to two years. He considers it comparatively harmless, and the most effective of all operative methods of treating this disease.

73. **Extensive Resections of Intestines.**—Payr thinks that the peculiarly powerful bactericidal action of the fluid which collects in a hernia or transudate is a kind of rampart against the bacteria which pour into the peritoneal cavity in cases of ileus from strangulation and similar conditions. The exceptional bactericidal power of the collected fluids in such circumstances may explain the benefits derived from Bier's artificial active and passive congestion. Payr suggests the possibility of artificially inducing a transudate or "hernia water" as a means of combating acute and chronic inflammation in abdominal affections. He reviews 35 cases of extensive resection of the intestines. In 12, more than 200 cm. were excised. About 310 cm. of the ileum were removed in one patient who is perfectly well now after several years. In another 330 cm. were resected. A patient died immediately in collapse after resection of 365 cm., but the fatal termination in this case was not necessarily the result of the resection.

81. **Dissociated Venous Pulse.**—Ascoli has observed two cases in which the negative pulse beat was more frequent and regular than the pulse in the carotid. Study of these cases has demonstrated that the auricles and the ventricles are able to work dissociated, and that dissociation is possible between the action of the right and of the left heart. The auricle contracted more frequently than the ventricle in the cases observed. Part of the contraction starting in the auricle was arrested at the auriculo-ventricular opening ("blocked heart"). This fact suggests that the cardiac impulse originates in the auricles.

85. **New Local Anesthetic.**—Von Noorden recommends the ester of para-amido-benzoic acid—the substitute for orthoform—as a harmless and effective anesthetic, free from the irritating properties of orthoform. It is more commonly known as anesthesin, and he reports a number of cases of pruritus vulvæ, hyperesthesia of the throat, hemorrhoids, etc., in which he was agreeably surprised by its action.

88. **New Method of Testing the Gastric Functions.**—By the technic which Sahli describes it is possible to obtain more exact information in regard to the digestive functions of the stomach than has hitherto been possible. The substance he orders for the test breakfast is a gruel made of 25 gm. flour, 15 gm. butter and 350 c.c. of water, salted to taste. The subject eats with a spoon 300 c.c. of this palatable "flour soup," after his stomach has been rinsed. An hour later the contents of the stomach are siphoned out. The stomach is then rinsed again, while light massage is applied, as Mathieu advises, to bring the last scraps of the food. The gruel does not become materially altered in the stomach, and is thus peculiarly adapted for this kind of research. The acidity of the stomach contents can be determined from the siphoned out gruel. The proportion of fat in it is compared with that of the 50 c.c. kept for control. He tests for fat with the centrifugalizer and Gerber's butyrometer, which is a small instrument in current use for testing milk. The gruel contains no lactic acid, and hence it is a reliable test for the production of this acid in the stomach. It is possible by this procedure to determine the total acidity as well as an excess or deficit of acid, also the quantity and quality of the pepsin, rennet, digestion of starch, etc. The average in five healthy persons tested was 124 gm. of stomach contents siphoned out one hour after ingestion of 300 gm. of the gruel. This was made up of 72 gm. of gruel, 52 gm. of gastric juice and 3.5 per 1000 of hydrochloric acid. It proved possible by this means to diagnose, 1, excessive or deficient secretion or acidity, with or without excessive motor function; 2, normal

secreting power with deficient acidity and hypermotility; 3, diminished motility with diminished acidity and secretion, and 4, diminished motility with hypersecretion and anacidity. Further experience will probably reveal new combinations of disturbed functions that can be detected by this means. Already it has been established that hypersecretion and hyperacidity may occur without primary disturbance in the motor function or stenosis of the pylorus. The facts observed also suggest the necessity for laxatives or lavage of the stomach in the cases of impaired motor function and for an alkali or some preparation of belladonna in case the secretions need regulating, or a meat extract or bitters to stimulate them.

90. **Implantation of Tendon into Bone.**—The late Professor Wolff delivered this address at Berlin in December. He described some cases in which he had cured deformities by implanting the sound tendon directly in the bone. A mere incision of the bone is enough in the case of children, but he digs a groove for the tendon in a mature bone. By this transplanting of the tendon in a new spot, extremely fine functional results have been attained.

91. **To See the Outline of the Stomach without Artificial Aid.**—Knapp has the subject recline on the table with the abdomen exposed and breathe quietly. The physician brings his eyes on a level with the surface of the abdomen and watches the waves caused by the respiration. He will soon recognize a fine line which glides along during inspiration and which he will establish is the curvature of the stomach. The point where this line stops during inspiration is marked on the abdomen. The outline of the stomach thus defined is corroborated by light percussion on two fingers held close together, but with the line between them. The sound will be different from each finger if one is inside and one outside the limit of the stomach.

101. **Importance of Quinin in Treatment of Wounds.**—Marx proclaims that a .1 or .2 per cent. solution of quinin arrests the growth of the pyocyaneus, staphylococcus aureus and anthrax and mesentericus bacillus. The germs that do not form spores were killed in a 1 to 1.5 per cent. solution in thirty to sixty minutes, and the anthrax and mesentericus spores in twenty-four hours' exposure to a 1.5 to 2 per cent. solution. He has recently called attention to the value of quinin as a styptic. It induces agglutination and coagulation so that it is able to arrest any parenchymatous hemorrhage in local applications. He keeps a solution of the hydrochlorate in 3 parts rectified spirits and 100 parts water, always ready for use in operating, applying it on a tampon to the bleeding surface. Quinin has also a deodorizing action, and he has never witnessed any untoward consequences from its local application. He is now studying its use in general septic affections, erysipelas, phlegmons, etc. He warms the solution to body temperature to thoroughly dissolve the quinin. If applied very long it induces a "coagulation necrosis," which may prove useful in some cases, but should be avoided in others.

124. **Agglutination of Red Corpuscles by Serum from Malarial Subject.**—Healthy serum has no agglutinating effect on the red corpuscles of healthy blood, but the serum acquires this power in disease. It is much more marked in serum from a malarial subject than in any other affection. Administration of quinin arrests this agglutinating power and may prove valuable as a differentiating measure.

130. **Acetic Acid in Alcohol for Treatment of Wounds.**—Gaetano's tests have convinced him that a 20 per cent. alcoholic solution of acetic acid is the most efficient disinfectant at our command for the treatment of wounds.

131. **Delirium in Croupal Pneumonia.**—Brancati succeeded in isolating a toxin from cultures of the pneumococcus which is evidently a neurotoxin. It causes paralysis in animals and delirium in man.

132. **The Pancreas in Relation to Tuberculosis.**—Italia was able to demonstrate that an infusion of pancreas tissue injected into susceptible animals simultaneously with virulent cultures of the tubercle bacillus, prevented the infection of the animals. When injected after the animals had been inoculated with the bacilli, it cured localized tuberculosis. He believes that the pancreas contains a tuberculosis antitoxin.

156. **Banti's Disease.**—Gruzdeff describes 3 cases personally observed and concludes from them and the cases that have been published that the unconditional fatal termination without an operation imposes splenectomy as soon as the diagnosis is established. The small number of cases on record renders it difficult to define the disease exactly. We must include in it certain very rare forms of cirrhosis of the liver like two of the personal cases described. He adds that further study of Banti's disease can not fail to throw much light on cirrhosis of the liver in general.

171. **Involvement of the Ovaries in Epidemic Mumps.**—Troitzky found that the genital glands were affected by the mumps infection in 13 out of 33 little patients. The region over the ovaries was sensitive to pressure and more or less painful, and he suggests that possibly mumps may be responsible for some of the pathologic changes observed in the ovaries in later life. He recommends that this region should be investigated in girls and local measures applied at once at the slightest symptom of inflammation of the ovaries or their environment. By warding off or dispelling inflammation in the early stage we can safely guarantee that the ovaries will pass unscathed through the disease.

173. **Occlusion of Auriculo-Ventricular Opening.**—Mendez attributes the occlusion of the opening in this case to a fetal endocarditis after the parts were nearly formed. The patient was a man of 26, well developed, but always troubled with recurring symptoms of asystolia. Seven cases are on record of occlusion of this opening from lack of development, the oldest subject 10 years of age, and ten cases in which it was evidently due to a fetal endocarditis. Six were under 2 years of age, one 8, one 21, one 28, and the present case.

177. **Growing Together of the Jaws.**—Castro reports the case of a man 23 years of age whose jaws had grown inextricably together as the result of noma after measles in childhood. He was able to eat only liquid food, and this through a small opening where two canine teeth were missing. General and even local anesthesia were impossible under these conditions, and the cheeks were first detached from the jaws. When this wound had healed the interlaced teeth were pulled and the jaws pried apart, until comparative function was restored on the left side.

178. **Treatment of Detachment of the Retina by Injections of Sodium Chlorid.**—Castresana announces that injections of a concentrated solution of sodium chlorid cure detachment of the retina by the strong osmotic currents and the slight irritation with consequent adhesions which they induce. Starkle has recently reported 23 cases thus treated, resulting in 6 complete and 10 partial cures. He used a 4 to 10 per cent. solution which Castresana does not consider sufficiently powerful. He would probably have been still more successful if he had injected a saturated solution of the sodium chlorid such as Castresana recommends. He reports several patients treated in this way with the cure of all the recent cases. Detachment of long standing is incurable. In one patient the detachment had occurred four years previously in one eye and six months in the other. The first eye was not affected, but the detachment was entirely cured in the second eye with restoration of vision. He injects beneath the conjunctiva 2 gm. of a saturated solution of sodium chlorid to which two drops of acoin have been added. The injection is rather painful and causes considerable chemosis for a few hours, with irregular pulse and a tendency to vomit, but all these symptoms passed away in the course of twelve hours and the reaction was very slight to the second injection, which he found necessary in a few cases. No results were noted after the injections in two cases of six and two years' standing. He administers potassium iodid as an indispensable adjuvant to the local treatment. He considers this method of treating detachment of the retina as the most rational at our command. He illustrates the eye before and after treatment in the two perfectly cured patients.

New Patents.

Patents of interest to physicians, etc., May 6 and 13:

699,166. Apparatus for purifying air. David Grove, Berlin, Germany.
699,401. Exercise device. Wm. F. Lott, East Orange, N. J.
699,255. Inhaler. Ernest Stevens, Philadelphia.
699,598. Burner and inhaler. Wm. R. Warner, Vergennes, Vermont.
699,637. Respirometer. Albert E. Aldrich, Lexington, Ky.
699,797. Hernial truss. Perjohan Fredin, Bridgeport, Conn.
700,139. Attachment for uterine packers. John E. Fuller, Mansfield, Mass.
699,916. Body kneader. Charles Gerling, Burlington, Iowa.
699,677. Medical battery. Fredric Greer, Chicago.
699,757. Child's teething nipple. Wm. Howell, Brooklyn.
699,897. Analgetic bandage. Thomas L. Ray, Fort Worth, Tex.
699,717. Sterilizer. Sam G. Scanlan, Chicago.
699,778. Water bag, Hubbard H. Upham, New York City.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 8 to 14, 1902, inclusive:

Daniel M. Appel, major and surgeon, U. S. A., detailed to represent the Medical Department of the Army at the Fifty-third Annual Meeting of the American Medical Association, to be held at Saratoga, N. Y., June 10 to 13, 1902, in addition to others previously designated.

James K. Ashburn, contract surgeon, relieved from further duty at Fort Grant, Ariz., and on expiration of present leave of absence will proceed from Batavia, Ohio, to Fort Crook, Neb., for duty at that post.

R. Emmitt Austin, contract surgeon, now at Fort Robinson, Neb., is relieved from further duty in the Department of Cuba, and will report to the commanding officer of that post for duty.

Harry D. Belt, contract surgeon, leave of absence for one month granted; he is relieved from further duty in the Department of Cuba and on his arrival at Fort Robinson, Neb., will proceed to Fort Keogh, Mont., for duty at that post.

John D. Brooks, contract surgeon, to proceed from Washington, D. C., to St. Paul, Minn., for assignment in the Department of Dakota.

H. L. Brown, contract surgeon, now at Fort Sheridan, Ill., will report to the commanding officer of that post for duty.

Lawrence C. Carr, major and surgeon, Vols., leave of absence for one month granted.

James R. Church, lieutenant and asst.-surgeon, U. S. A., to report on board the U. S. Cruiser *Dixie*, New York City, for the purpose of proceeding to Martinique, to distribute medical supplies and render necessary medical attendance to the inhabitants at that place, returning thereafter to his proper station.

Jere B. Clayton, lieutenant and asst.-surgeon, U. S. A., as Church, stated above.

Douglas F. Duvall, lieutenant and asst.-surgeon, U. S. A., leave of absence for one month granted.

James C. Gregory, contract surgeon, member of an examining board at Fort Myer, Va.

W. Church Griswold, contract surgeon, now at Albany, N. Y., to proceed to San Francisco, en route for service in the Division of the Philippines.

Valery Havard, lieut.-col. and deputy surgeon-general, is detailed to represent the Medical Department of the Army at the Second International Conference for the Prevention of Syphilis and Venereal Diseases, to be held at Brussels, Belgium, Sept. 1 to 6, 1902. On the adjournment of the Conference he will return to his proper station, Fort Monroe, Va.

Charles F. Kieffer, captain and asst.-surgeon, U. S. A., leave of absence for one month granted.

Louis M. Maus, lieutenant-colonel and deputy surgeon-general, is relieved from further duty in the Division of the Philippines, to take effect about June 30, 1902, and will then repair to Washington, D. C., and report for instructions to the Surgeon-General of the Army.

Donald P. McCord, captain and asst.-surgeon, Vols., leave of absence extended one month.

H. C. Moses, contract-surgeon, leave of absence from the Department of California extended one month.

Joseph Pettyjohn, contract surgeon, previous orders directing him to proceed to Augusta, Ga., for annulment of contract revoked.

John J. Riley, lieutenant and asst.-surgeon, U. S. A., as Church, stated above.

Gideon McD. Van Poole, lieutenant and asst.-surgeon, U. S. A., now under treatment at the Army and Navy General Hospital, Hot Springs, Ark., will report to the commanding officer of that hospital for temporary duty.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending May 17, 1902:

Surgeon W. F. Arnold, detached from duty at Guam, and ordered to the Naval Hospital, Yokohama, Japan, for treatment.

Asst.-Surgeon W. H. Bell, detached from the Naval Hospital, Norfolk, Va., and ordered to duty on board the *Chesapeake*, when that vessel goes in commission.

Drs. E. M. Brown, H. F. Shrine, J. P. Traynor and R. E. Hoyt, appointed assistant surgeons, May 8, 1902.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 15, 1902:

Surgeon R. D. Murray, granted leave of absence for 25 days from June 1.

Surgeon Eugene Wasdin, leave of absence for seven days, from May 2, 1902, under Paragraph 179 of the regulations, amended so that said leave shall be for three days.

P. A. Surgeon G. M. Guiteras, Bureau order of May 5, 1902, directing him to proceed to Philadelphia, amended so that he shall proceed to Cienfuegos, Cuba, for temporary duty; upon completion of temporary duty at Cienfuegos to proceed to Philadelphia.

Asst.-Surgeon Hill Hastings, detailed to represent the service at meeting of Southern California Medical Society at Idyllwild, May 22 and 23.

Asst.-Surgeon John McMullen, granted leave of absence for fourteen days from May 14. Relieved from duty at Boston, and directed to proceed to London, England, for duty in the office of the U. S. Consul-General.

Asst.-Surgeon J. M. Holt, relieved from duty at St. Louis, and directed to proceed to Honolulu and report to medical officer in command for duty, stopping en route at San Francisco quarantine for special temporary duty.

A. A. Surgeon Francis Duffy, granted leave of absence for six physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon H. W. Sawtelle, chairman; Asst.-Surgeon L. P. H. Bahrenburg, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 17, 1902:

SMALLPOX—UNITED STATES.

Alabama: Mobile, May 10, 21 cases.

California: Los Angeles, April 19-May 3, 11 cases; San Francisco, April 27-May 4, 7 cases.

Colorado: Denver, April 28-May 5, 3 cases.

Florida: Jacksonville, April 26-May 10, 4 cases.

Illinois: Belleville, May 3-10, 3 cases; Chicago, May 3-10, 10 cases, 1 death; Galesburg, May 3-10, 5 cases; Peoria, April 1-30, 26 cases.

Indiana: May 3-10, Evansville, 1 case; Indianapolis, 6 cases.

Kentucky: Covington, May 4-11, 13 cases; Lexington, May 3-10, 1 case.

Maine: Portland, May 3-10, 1 case.

Maryland: Baltimore, May 3-10, 5 cases.

Massachusetts: May 3-10, Boston, 28 cases, 6 deaths; Brockton, 1 case; Cambridge, 1 case; Everett, 2 cases; Lowell, 2 cases; Malden, 2 cases; Newton, 1 case; Northampton, 1 case; Somerville, 1 case.

Michigan: Detroit, May 3-10, 2 cases; Grand Rapids, April 26-May 10, 7 cases.

days from May 19.

A. A. Surgeon J. A. Rowles, granted leave of absence for thirty days from May 12.

BOARD CONVENED.

Board convened at the marine hospital, Chicago, May 31, for the

Minnesota: Winona, April 26-May 3, 1 case.

Missouri: St. Louis, May 4-11, 48 cases.

Montana: Butte, April 27-May 4, 4 cases.

Nebraska: Omaha, May 5-12, 29 cases.

New Jersey: Camden, May 3-10, 1 case, 2 deaths; Hudson County, including Jersey City, April 27-May 4, 32 cases, 6 deaths; Newark, May 3-10, 40 cases, 7 deaths; Passaic, April 26-May 10, 2 cases; Plainfield, May 3-10, 3 cases.

New York: New York, May 3-10, 58 cases, 9 deaths.

Ohio: Cincinnati, May 2-9, 11 cases; Cleveland, May 3-10, 4 cases; Toledo, May 3-10, 1 case; Youngstown, April 19-26, 1 case.

Pennsylvania: Columbia, May 5-12, 5 cases; Erie, May 3-10, 3 cases; Philadelphia, May 3-10, 24 cases, 2 deaths; Pittsburg, May 3-10, 17 cases, 1 death; York, April 1-30, 3 cases, 1 death.

South Carolina: Charleston, May 3-10, 2 cases; Greenville, April 26-May 3, 1 case, 1 death.

South Dakota: Sioux Falls, May 3-10, 1 case.

Tennessee: May 3-10, Memphis, 21 cases, 1 death; Nashville, 1 case.

Texas: San Antonio, April 1-30, 3 cases.

Utah: Ogden, April 1-30, 3 cases; Salt Lake City, May 3-10, 1 case.

Washington: Tacoma, April 27-May 4, 3 cases.

Wisconsin: Green Bay, May 4-11, 2 cases; Janesville, May 3-10, 3 cases; Milwaukee, May 3-10, 9 cases.

SMALLPOX—FOREIGN.

Great Britain: April 26-May 3, Birmingham, 7 cases; Gateshead, 1 case; Leeds, 1 case; Liverpool, 6 cases; North Shields, 7 cases; South Shields, 4 cases; Sunderland, 2 cases.

India: Bombay, April 8-15, 16 deaths; Calcutta, April 5-12, 7 deaths; Karachi, April 6-13, 3 cases, 2 deaths; Madras, April 5-11, 3 deaths.

Italy: Naples, April 12-26, 11 cases.

Mexico: City of Mexico, April 27-May 4, 1 case, 1 death; Vera Cruz, May 3-10, 2 cases.

Spain: Malaga, March 1-30, 5 deaths.

YELLOW FEVER.

Costa Rica: Port Limon, April 23-30, 1 case.

Mexico: Vera Cruz, May 3-10, 17 cases, 9 deaths.

CHOLERA.

China: Amoy, March 29-April 5, 2 cases, 2 deaths.

India: Bombay, April 8-15, 1 death; Calcutta, April 5-12, 172 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, April 29, 1 death.

PLAGUE—FOREIGN.

China: East Honam, May 2, epidemic.

India: Bombay, April 8-15, 664 deaths; Calcutta, April 5-12, 603 deaths; Karachi, April 6-13, 153 cases, 116 deaths.

Japan: Nagasaki, April 1-20, 1 death.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOL. XXXVIII. CHICAGO, SATURDAY, JUNE 7, 1902. No. 23.

Original Articles.

NOTES ON ANEURISM.

WILLIAM OSLER, M.D.,
PROFESSOR OF MEDICINE, JOHNS HOPKINS UNIVERSITY.
BALTIMORE, MD.

SUMMARY.

1. Arteriovenous Aneurism of the Subclavian Vessels.
2. The Humming-top Murmur in Thoracic Aneurism.
3. On the Value of the Fluoroscope in the Diagnosis of Obscure Cases of Thoracic Aneurism.
4. On the Importance of Careful Inspection of the Chest in Thoracic Aneurism.

1. ARTERIOVENOUS ANEURISM OF THE SUBCLAVIAN VESSELS.

The elaborate study by Matas, published in the early numbers of THE JOURNAL this year, and his analysis of the 15 cases on record, add interest to the following report:

CASE 1.—CLINICAL SUMMARY. *Bullet-wound of the right subclavian artery and vein in January, 1900. Formation of arteriovenous aneurism. Operation not advised. Good health March, 1902.*

Edward S., aged 29, of Kentucky, was sent to me by Dr. Alderson on April 9, 1900, with the following history: On the night of Jan. 5, 1900, he was shot, receiving four bullets. One entered the left shoulder and is now imbedded in the upper portion of the spine of the scapula and gives no trouble. One entered about the middle of the back of the left arm and passed inwards and downwards to inside the condyle of the humerus, where it was deflected across the bend of the elbow and down the forearm, making its exit about the upper third, injuring the ulnar nerve. The third bullet entered the left side a little behind the mid-axillary line between the ninth and tenth ribs. It apparently did not penetrate the chest at all. The fourth entered just about the middle of the fold of the left trapezius, passed inwards and downwards in front of the spine and came out under the right clavicle. The wounds healed rapidly. He had at first some difficulty in swallowing, but he has gradually been getting well. There was at once considerable swelling in the neighborhood of the clavicle, with marked pulsation, a thrill and a bruit.

Present Condition.—He looks well. Tongue is clean. Chest is well formed. Immediately above the free margin of the middle of the left trapezius there is a bullet-wound, the point of entrance of the ball which caused the aneurism. The left clavicle stands out a little more prominently than the right. The right clavicle is just visible. The supraclavicular fossa is occupied by a pulsating swelling which causes a marked prominence between the sterno-clavicular margin, extending outward a distance of about 7 cm. It does not lift the sterno-cleido-mastoid muscle, the sternal outline of which is plainly marked. The sternal notch is plainly marked. Above, the swelling extends for fully 7 cm. The pulsation is visible over the whole tumor. From behind it is very noticeable. On palpation there is a marked thrill, continuous, but with systolic intensification, felt and heard over the whole tumor, and felt up the neck fully 7 cm. from the clavicle. It is well felt on deep pressure to the right in the sternal notch, not felt on the clavicle. The tumor forms a distinct pulsating mass about the size of, or a little larger than, an egg, quite painless. No thrill is felt below the clavicle or over the body of the heart or on the sternum. Apex beat in nipple line; no increase in area of cardiac flatness. On auscultation both sounds are loud and clear at apex and over the whole precordia. Everywhere, too, from the apex up, increasing in intensity, is heard a humming-top murmur, with marked systolic intensification. At the sternum it is very loud, and over the aneurism reaches its maximum intensity. An interesting feature is that he feels the pulsation in the left ear, not in the right. The murmur is of extraordinary intensity, heard up and down the neck, heard along the axillary artery to the elbow. The systolic murmur is very intense, and the whole diastole is occupied by a wheezing, wiry Æolean murmur. In the recumbent posture the tumor does not look larger, and the thrill is not so evident. The pulsation in the subclavian below the clavicle on the left side is visible. On the right side it is not visible. There is a marked difference between the pulse in the radial arteries; the right is feeble, only just to be felt. The brachial pulse can be felt. The axillary can be felt, much feebler on the right side than on the left. The carotid on the right side is full and easily felt. There is no thrill in it on palpation. There is no difference in the pulse in the temporal arteries. The bullet was located with the *x*-rays, and can be felt just below the clavicle.

There is no question that the bullet in this case has nicked the subclavian artery and vein, causing arteriovenous aneurism. The man's general condition was good, and as he was improving I counseled very strongly non-interference. Subsequently he saw several surgeons, some of whom were anxious to operate, but fortunately he escaped them. Since then he has been doing well, and I heard from his physician, March, 1902, that the tumor is smaller and he is able to do quiet work and has little or no inconvenience.

The question of operation in these cases has been very fully discussed by Matas in his exhaustive study above referred to. Of his collection of 15 cases 4 were operated on, 3 within 12 days of the injury, and one 32 years after, which was the only one fatal. Unfortunately, 6 of the 11 cases passed out of observation within a few weeks or months after the injury, while the lesion was still active. The ultimate result of the other cases shows that the condition may remain quiescent for a long period of years. In a few instances there were serious disturbances of the circulation and innervation of the hand and arm, while in one case (Watmann's), after a latent period of thirty-one years, the lesion became active and gave rise to fatal complications.

The condition of arteriovenous aneurism has interested me for a number of years, having had under observation at intervals a man whose case I described in the *Annals of Surgery*, 1893. At that time he was

twenty-five years of age. When fifteen he had fallen and a lead-pencil in his waistcoat pocket penetrated the axilla, causing an arteriovenous aneurism. He had remained very well, had been very active and strong, had rowed in boat races. I heard of this patient not many months ago. He had served through the South African war, so that his general condition must have remained good. The aneurism has persisted now for more than twenty-three years.

Arteriovenous aneurism is so rare a lesion that even surgeons of large experience are often a little perplexed as to the best course to follow. I am very much impressed with this in the extraordinary differences of opinion given to the young man with the lesion high up in the axillary artery. The conclusions of Matas which are strongly in favor of non-interference may be quoted: "The statistics which we furnish in this paper—the most complete list of the reported instances of this rare lesion which has thus far appeared—tend to confirm the arguments of the 'let-well-enough-alone' policy, in so far as they demonstrate that in at least 11 of the 15 cases the patient survived the immediate effects of the injury and of the arteriovenous aneurism that followed it for variable and often long periods of time."

2. THE HUMMING-TOP MURMUR IN THORACIC ANEURISM.

In September, 1888, there was admitted under Dr. Pepper's care at the University Hospital, Philadelphia, a Chinaman, whose case I had frequent opportunities to study with Dr. Crozier Griffith. The case was reported by Pepper and Griffith in the "Transactions of the Association of American Physicians," Vol. V. The remarkable features were cyanosis, and a murmur of extraordinary character, heard loudest at the aortic cartilage and accompanied with a thrill. As described by the writers, the murmur was "loudest and highest pitched with the cardiac systole; it died away very considerably during the diastole, and lowered its pitch by several tones, to rise again both in volume and pitch with the next systole. It was thus continuous, and had a distinctly venous quality, although unlike a venous hum in that it was distinctly rhythmic." At the autopsy there was found a small aneurism of the ascending aorta which communicated with the superior vena cava by an opening three-fourths of an inch in length. The case made a very definite impression upon me, and I have since learned to recognize the murmur as almost pathognomonic of abnormal communication between the chambers of the heart or between the great vessels at the root of the neck, or of an aneurism at the aorta with the vena cava or pulmonary artery. More definitely, the cases in which I have recognized it have been congenital heart diesase with persistence of the ductus arteriosus, cases of imperfection of the ventricular septum, and in the two cases here given:

CASE 2.—CLINICAL SUMMARY. *Young man. Syphilis 3 years before admission. Cough. Shortness of breath. Aneurismal tumor to right of sternum. Loud, continuous murmur with systolic intensification. Postmortem. Communication of a large branch of the right pulmonary artery with the aneurismal sac.*

Joseph M., aged 30, admitted first on July 29, 1901 (Med. No. 13,212), complaining of shortness of breath, cough and pain in the chest. An important point in his history was that three years ago he had syphilis. He had been a heavy drinker and a heavy smoker. His illness began in October, 1900, with a cough, which was dry and hard and troubled him very much at night. He had shortness of breath from the beginning. These symptoms increased throughout the winter. He had pain first in February.

On his first admission the signs of aneurism of the thoracic aorta were very well marked—a visible bulging with pulsation to the right of the sternum; no thrill; very exaggerated diastolic shock; flatness over the pulsating area. Dr. Futcher, who dictated the note, described the heart sounds as clear and a very faint soft systolic murmur along the left sternal border and over the prominent part of the pulsation. There was no diastolic murmur. The patient was given a gelatin injection and kept at rest. On my return in September I saw him, and he then had very much the symptoms described by Dr. Futcher when first admitted.

Then he returned on December 31. He had been in the country and had become very much worse, having attacks of dyspnea and weak spells. The pulsating tumor was larger. There was a wider extent of flatness. The most remarkable change was on auscultation over the sac. The diastolic shock was extreme and there was a feeble thrill. There was a very loud, continuous murmur occupying the entire cardiac cycle, with a great deal of echoing reverberation and marked systolic intensification.

The sac was evidently so large and so far out that, while I recognized the murmur as the kind heard with abnormal communication, I must say I thought it possible that this remarkable whirring, continuous murmur might be produced in a very large sac.

The patient died Jan. 10, 1902. The anatomic diagnosis was arteriosclerosis, aneurism of the arch of the aorta, compression and atelectasis of right lung. On the posterior wall of the sac, where it had pressed into the lung, one of the main branches of the right pulmonary artery, fully as large as the little finger, opened directly into the sac.

CASE 3.—CLINICAL SUMMARY. *Syphilis two years before observation. Cyanosis. Shortness of breath. Great congestion of the veins of the upper-half of the body and of the arms. Gradual development of compensatory circulation in the mammary and epigastric veins. Over the manubrium and aortic regions a continuous murmur with marked systolic intensification, limited to the area about the aortic cartilage and the middle of the manubrium. Death. No Autopsy.*

Jos. S., aged 39, an iron-molder, applied at the dispensary of the Johns Hopkins Hospital Dec. 7, 1889. He had been ill since January, complaining of giddiness, cough, shortness of breath, swelling of the feet and a congested and bluish condition of the face, which became aggravated when he attempted to do heavy work. He is a thick-set, well-built, muscular man. He had a chancre two years ago. There is no history of rheumatism or chorea, but in September, 1888, he was in bed three weeks with some obscure pulmonary trouble.

Physical Examination. Face is swollen and reddish; lips and ears are cyanotic. Conjunctivæ watery. The tongue is clean, deeply congested and the whole of the pharyngeal mucosa is intensely engorged. Chest is large, antero-posterior in diameter, deep. The skin, covering the entire thorax and of the arms is congested. The venules along the line of the diaphragm and in the lateral region of the chest are dilated. The neck is thick, supra-clavicular spaces distended, sternal notch obliterated. The breathing is quiet, 24 to the minute. The apex beat is indistinct, but a feeble impulse is visible in 5th in nipple line and there is throbbing in the epigastric notch. There is a feeble shock of the first to be felt at the apex, but there is no pulsation at the base on deep pressure. There is no dulness on the manubrium sterni and the superficial area of heart dulness is not increased. On auscultation there is a systolic murmur at apex, propagated to the back. The second sound is ringing. Along the left sternal border the systolic murmur becomes more intense. Over the manubrium there is a loud murmur of very peculiar character, not like an ordinary aortic systolic, short and rough, but a murmur which seems continuous and during the systole greatly intensified. The second sound at the base is clear and ringing. The radial pulses are equal; pupils equal. There is no brassy cough. On examination of the chest a few piping râles with prolonged expiration were noted.

The patient was seen on four occasions during the next month. The cyanosis and shortness of breath had increased. On January 7 I made the following note: Much worse since last seen on the 2d. The face is much swollen and absolutely

blue, looking like that of a man who had been strangled. The mucous membrane of the pharynx intensely livid. Eyelids swollen; conjunctivæ deeply engorged. The neck is enlarged; the external jugular is prominent. The upper part of the chest and both arms are swollen but not edematous. The veins of the arms are full. The whole subcutaneous tissue feels thickened and infiltrated. The right side and the right arm are more swollen than the left. In the lower chest zone the venules are greatly enlarged, but no large mammary veins are visible. When stripped the contrast between the upper and the lower parts of the body is remarkable. The engorgement goes as far as the lower abdominal zone. The legs are quite pale. The amount of subcutaneous infiltration is such that the superficial veins are not visible. The apex beat is indistinct. There is a systolic shock. The area of cardiac dulness is not increased. In 5th interspace below nipple, there is a loud systolic murmur not obliterating the first sound, at aortic cartilage and on manubrium the same remarkably loud, continuous murmur is heard, with systolic intensification; second sound clear and ringing. The systolic murmur is heard to left and right two inches from the sternum, but the continuous murmur is only heard at the more limited area about the aortic cartilage with a maximum at mid-manubrium.

The radial pulses were equal, 98; respiration quiet. The subjective sensations of the patient are remarkable. He says that he feels comfortable with the exception of the feeling of distension in face, chest and arms. It is extraordinary how slight is the distress in breathing in a man presenting a condition of such extreme cyanosis. He says that one of his chief annoyances is the shock which his appearance gives to his friends. He is not drowsy. His intellectual condition is perfect. He sleeps at night with his head high.

About two weeks subsequent to this visit we heard that the patient had died; but his wife refused an autopsy. She said he got progressively worse and even more cyanotic. He was taken to the city hospital, but whether he died there or at his house she did not say.

This patient presented the characteristic features which Pepper and Griffith describe in an analysis of some 29 cases of communication between an aneurism of the aorta and the superior vena cava, more particularly the extreme cyanosis of the face and upper parts of the body, with evidences of obstruction of the circulation in the tributaries of the superior vena cava. They regard the murmur as characteristic of communication between an artery and a vein, and state that it was first described by Thurman in 1832-33. The characters are:

1. It is continuous, occupying both the systole and diastole.

2. There is a systolic reinforcement, often of great intensity.

3. The venous quality of the murmur, resembling the characteristic venous hum in the jugular and the murmur over the thyroid in Graves' disease.

The quality varies. It may be a buzzing or it may have a remarkable, sonorous, vibratory character, or, again, it may be a churning or purring murmur. Ord describes it very well as a long continuous humming murmur, never ceasing, but varying in intensity, more sonorous during systole, fainter during diastole. To Thurman the credit appears to be due for the recognition of a murmur of this quality as pathognomonic of arterio-venous aneurism. The question has been very fully discussed by Sir William Gairdner in the Glasgow Hospital Reports, 1899, in the report of an interesting case in which a small aneurism of the ascending portion of the arch communicated with the pulmonary artery.

3. ON THE VALUE OF THE FLUOROSCOPE IN THE DIAGNOSIS OF OBSCURE CASES OF THORACIC ANEURISM.

Case 3.—Clinical Summary. *Cough and dyspnea for six months. Much emaciation. Flatness to left of sternum. Diagnosis of mediastinal sarcoma. Examination by fluoroscope showed a characteristic pulsating tumor. Subsequent slight pulsation of the thoracic wall. Wiring of the sac. Hemoptysis. Death.*

On Jan. 15, 1902, I was consulted by Mr. T. R. F., who had been complaining of cough for six months, loss in weight and pains through the chest. I was impressed at once with the expression of great distress and anxiety in the poor fellow's face. He looked worn and exhausted with suffering, and he said that he had not been able to lie down for some weeks, and had had nights of indescribable anguish owing to the orthopnea, pain and sense of smothering. I was impressed at once with the noisy, stridulous, tracheal character of the breathing. He had been a bartender, had taken alcohol freely, and had had venereal sores at different times: the strong probability is that he has had syphilis. He thinks that for a year he has had some cough, but for six months there have been shortness of breath, loss of weight and pain in the chest. About three months ago his voice changed. He has had no spitting of blood. Of late he has had frightful paroxysms of pain and orthopnea, particularly at night. He had consulted a number of physicians in New York and elsewhere, and the diagnosis had been made of mediastinal sarcoma.

On examination the chest was well-formed, expansion good and seemed equal on both sides. No abnormal area of pulsation was noticeable; no throbbing in the sternal notch. There was an area of impaired resonance in the first, second and third left interspaces and over the central portion of the manubrium. The point of maximum impulse was in the fifth interspace, 10½ cm. from the mid-sternal line. The cardiac flatness was not increased. There was a soft systolic murmur at the apex; the second sound was clear and without special accentuation over the area of dulness. The pulse was of good volume; the left radial was smaller than the right. The breath sounds on the left side were less intense than on the right.

Altogether, at the first examination I was inclined to agree with the diagnosis which had already been made of mediastinal sarcoma. It seemed to me that an aneurism would by this time have shown more definite physical signs. The patient entered the Johns Hopkins Hospital that I might study his case more fully. The following additional points were then made out. First, "with the *x*-rays there was a large shadow seen, which extended from the upper end of the sternum to the upper border of the third rib. It did not extend to the right beyond the shadow of the vertebræ, but did to the left to about opposite a point 2/5 of the extent of the clavicle from its inner end. It was sharply defined with clear outlines, showed slight pulsation and moved very slightly to the left on deep inspiration. It could be clearly separated from the shadow of the heart. Looked at from behind it looked larger than from in front. It is worthy of note that it seemed denser and with much sharper outlines than in cases of undoubted aneurism previously examined." (Dr. McCrae.) Secondly, on the second day after admission, on getting the patient into a bright light and examining the chest critically, there was seen a distinct slight visible pulsation in the first left interspace and the left clavicle was slightly lifted. Thirdly, there was well-marked paralysis of the left vocal cord. Fourthly, the blood pressure showed the right brachial maximum 118, left brachial maximum 103. These points seemed quite sufficient to settle the diagnosis of aneurism against that of mediastinal sarcoma. It is interesting to note that there was no bruit over the pulsation; no special accentuation of the aortic second sound. The patient's condition was most distressing. The nights were passed in terrible distress and in order to reduce the blood pressure he was bled on several occasions with very great relief. On January 20 his condition seemed perfectly desperate, and as a last resort I asked Dr. Finney to wire the sac. The patient stood the operation remarkably well. The needle was inserted in the second left interspace about 5 cm. from the sternal margin over an area in which there was marked pulsation. "A medium-sized needle was inserted in a direction backward and slightly downward and inward. When the needle had been inserted about 6 cm. a pulsation was transmitted to it. It was then pushed in about 2 cm. further, when fresh blood escaped in spurts. Ten feet and seven inches

of No. 27 spring silver wire, wound large, (75 parts copper to 1000 silver, alloy) was then slowly inserted. A current of 10 ma. was then allowed to pass through the wire for one hour." The patient seemed very much benefited by the operation, and seemed for a few days decidedly improved. Then, on the night of the 17th he had a small hemorrhage. On the 18th he had a sudden profuse hemorrhage from the lungs and died in a few moments. The heart beat faintly for thirty seconds after the last respiration.

Postmortem there was found an aneurism of the transverse arch, containing mural thrombi within the sac, and the wire was within the sac. There was compression of the left bronchus, perforation into the trachea, hemorrhage into the right lung.

It is particularly in this group of aneurisms, with symptoms and no physical signs, that the *x*-ray examination is of such service, but we have not had a case in which it was more clearly demonstrated than in the one here noted.

4. ON THE VALUE OF CAREFUL INSPECTION OF THE CHEST IN THE DIAGNOSIS OF THORACIC ANEURISM.

A bare chest, a good light and good eyes are the essentials. Routine in the examination is important. Invariably at the ward visit after the inspection of the front of patient's chest I say to the student, "What next?" and he immediately proceeds to palpation, overlooking the inspection of the back, and which, if not made in the right time, and in a routine manner, may be overlooked altogether.

Many years ago at the Girard Hotel, Philadelphia, I saw a remarkable case which illustrated the value and importance of the point. The patient had a large area of pulsation in the lower front of the chest, extending almost from one nipple to the other, with distinct prominence. There was a double murmur at the base of the heart, and the case had been regarded as one of aortic insufficiency, which condition was present. He had paroxysms of great distress and orthopnea, and there were peculiar features about the case, so that one or two of the leading physicians in Philadelphia had expressed themselves as somewhat puzzled about its nature. Fortunately, after finishing the inspection in front, I turned the patient's back to a good light, and the diagnosis was made at a glance. There was a pulsating aneurismal tumor in the left interscapular region, which had given him no pain whatever, and which had not attracted the attention of his physicians. A remarkable condition was present in this case, which I had never seen before; namely, a complete absence of the pulse in the iliacs and femorals.

At present in my wards are two cases illustrating this very well; a man (Leonard) has a wide area of impulse in the lower sternum and adjacent interspaces. He has been under observation now for nearly three years, and time and again Dr. Thayer, Dr. Futcher and myself have discussed the possibilities. A positive diagnosis was not reached until a year ago, when a slight pulsation was seen in the left interscapular region, which has increased, and it is now quite evident that there is a large aneurism of the descending thoracic aorta.

The second case, a man aged about 35, has on inspection of the chest a very well-marked pulsation of the manubrium. The diagnosis of aneurism will be made at a glance. He has had a great deal of dyspnea and pain in the chest. On additional examination it is noted as rather remarkable that with so much pulsation on the manubrium there is little or no flatness. There is a well-marked to-and-fro friction. Inspection of the back shows in the left interscapular region slight bulging, with well-marked visible and palpable pulsation.

Sometimes the diagnosis is hidden beneath a tucked-up undershirt. Last year a robust-looking man consulted me about Nauheim: he had been told that he had heart disease, and a physician in Florida had said that his case was a very suitable one for the Schott baths. When stripped, the diagnosis was made at a glance. The head of the clavicle was lifted out of its bed with each systole, and there was a definite pulsating tumor above the sternal notch with a thrill and a loud to-and-fro murmur. In the numerous examinations he had never taken off his shirt, but had tucked it up, and consequently, nobody had ever noticed the aneurism.

Some years ago I got into trouble by too careful inspection and detecting an early throbbing in the third right interspace. A robust, strong man consulted me for cough, shortness of breath and inability to lie down at night. He had the wheezing, goose-cough, as it is called, and there was to be seen most clearly and distinctly, a pulsation to the right of the sternum. With rest, the symptoms improved and the pulsation lessened remarkably. Other physicians (among them one well-recognized authority on heart disease) assured the family there must have been a mistake, as there were no signs of aneurism. The patient improved and I saw him about for more than two years. I began to think that there had been a mistake, but subsequent events showed that the diagnosis was correct. Spontaneously, particularly after prolonged rest, the pulsation of an aneurism to the right or left of the sternum may completely disappear. I do not refer here to cases of 20 called dynamic pulsation, but to cases in which the subsequent history and autopsy has confirmed the existence of an aneurism.

A BRIEF SUMMARY OF THE CLINICAL, PATHOLOGIC, AND BACTERIOLOGIC FEATURES OF CUTANEOUS BLASTOMYCOSIS (BLASTOMYCETIC DERMATITIS, OF GILCHRIST),

FROM THE OBSERVATIONS OF DR. JAMES NEVINS HYDE AND THE WRITER, WITH ILLUSTRATIONS FROM THIRTEEN CASES, THREE OF THEM HITHERTO UNPUBLISHED.*

FRANK HUGH MONTGOMERY, M.D.
ASSOCIATE PROFESSOR OF DERMATOLOGY, RUSH MEDICAL COLLEGE, CHICAGO.

The purpose of this communication is to present to the general practitioner a clinical description, illustrated by photographs of cases, of a cutaneous disorder which is probably more common than is generally supposed and which has possibly been confounded in the past with verrucous tuberculosis of the skin, with unusual forms of carcinoma, or with atypical manifestations of syphilis. For diagnostic purposes a brief description of the histopathology and of the bacteriology (in so far as it is understood) of the disorder is included.

The following description is based chiefly on the clinical, pathologic and bacteriologic study of 14 cases, 13 of which have been under more or less constant observation by us for periods ranging from four months to four years, 10 of them having been under our care for a year or longer. Of these we have studied the histopathology in 13 and obtained cultures in 11 cases. The organisms from 9 cases are at present growing under

* Presented, in part, as a lantern-slide exhibit, to the Dermatologic Section of the American Medical Association, at St. Paul, June, 1901.

our constant observation. In addition we have had the privilege of studying clinically 1 case, histologic sections from 9 cases and organisms in 3 cases reported or to be reported by other observers.

We are indebted to our associates, Drs. Ernest L. McEwen and Oliver S. Ormsby for assistance in the examination and treatment of many of the cases here recorded. Dr. Ormsby, in particular. has done much valuable work for us in the preparation and study of histologic specimens and cultures. We wish further to express our thanks to Drs. W. L. McBride and William A. Quinn, and to Messrs. S. H. Sheldon, R. T. Woodyatt, and S. C. Emly, for various services rendered in connection with this work during the past three years. Dr. W. H. Knap has prepared for us all the photomicrographs but one.†

Following the original communications on the subject from Gilchrist and Busse, a number of cases have been observed in which cutaneous lesions of a fairly constant type were apparently due to fungi, all of which in tissue present characteristics of blastomycetes or budding fungi. In cultures the organisms in different cases have varied considerably, a few growing as yeast fungi, some showing chiefly a mycelial growth. In no reported case of this disease has the life-history of the organism been studied satisfactorily, and our knowledge of these organisms at present is too limited to warrant attempts at classification. Although for the cultural features the term "blastomycosis" is insufficient and unsatisfactory, it at least applies to the organisms as found in tissue, and it seems preferable to retain for the present the name under which so many cases have been reported, rather than to add to existing confusion by attempting to coin a new name.

CLINICAL ASPECTS OF THE DISORDER.

(*a*) *General.* The disease in its origin and career corresponds to a local infective process having a chronic course. The family and individual history of the patient evidently have little or no bearing on the disease. Of 32 accepted cases, published or unpublished records of which are available, in 5 only is there a history of tuberculosis in the family. Of the 32 individuals affected with blastomycosis, 28 gave no history or evidence of syphilis or tuberculosis. One of our patients (case not included in the present report, but to be published later) gave a history of gonorrhea, an indefinite history of syphilis, and died of tuberculosis two and one-half years after the first appearance of the blastomycosis on the face, the cutaneous disorder improving but refusing to disappear entirely under potassium iodid. Another patient (Case 7), now under treatment, has cervical adenopathy and belongs to one of the five tuberculous families mentioned above. She shows no other evidence of tuberculosis, however, and is in good general health. Another patient (Case 11) was in poor health and tuberculosis was suspected but could not be demonstrated. The fourth case in which there was an unfavorable history is that reported by Busse and Buschke, the patient having general adenopathy and other symptoms suggesting tuberculosis. In the majority of all patients the general health has been good, and in none has any constitutional disorder been discovered which could have any bearing on the origin of the cutaneous lesions.

No relation can be discovered between the disease and the sex, occupation, nativity, or habits of the individual affected. Of the 32 patients, 21 were men and 11 women, the larger number of cases in men being due probably to their more frequent exposure to infection. While no definite relation can be recognized between the age of the patient and the disease, it may be noted that about half the cases have occurred after the fortieth year. One case began at 20 years; 6 between 20 and 30; 7 between 30 and 40; 6 between 40 and 50; 5 between 50 and 60; 4 between 60 and 74. The regions most commonly involved are those most accessible to local infection. The face was affected in 18 cases, the eyelids and the skin surrounding the orbit being a favorite site, ectropion resulting 7 times. The hand or wrist was involved in 11 cases. Other regions affected were the leg, thigh, scrotum, buttock, scalp, back, breast, palm of the hand and sole of the foot. Involvement of the mucous membranes proper has not been reported. The eyelids are a frequent seat of the disease, but the conjunctiva escapes, though the ectropion resulting from the destruction of the lid necessarily causes conjunctivitis, due to exposure.

The subjective sensations of the disease vary greatly. Uncomplicated lesions, as a rule, give rise to but little pain. In some instances the lesions have been very painful, particularly so when the active inflammation has been greatly intensified by secondary infection.

(*b*) *Description of Lesions.* The disorder begins as a papule or papulo-pustule, which soon becomes covered with a crust. The lesion slowly enlarges peripherally in the form of an indolent, flat, wart-like or crusted papule. In the majority of all cases the lesions had existed a number of months and had attained a diameter of an inch or more before the patient applied for treatment. In a recent case we have had the opportunity of watching a lesion grow from the beginning small papule. As a rule, the disease spreads over contiguous areas from the site of the original papule; but in two or three instances the original lesion has been followed in the course of weeks or months by the appearance in its immediate vicinity of a number of new foci, which have developed and coalesced to form one large area. In about half the cases the original patch of the disease has been followed in the course of weeks or months by one or more new lesions in adjacent or other regions of the body. In some instances the clinical evidence of auto-infection has been very strong.

In lesions that have attained the diameter of half an inch or more, the following characteristics are apparent: The patch is elevated from one-eighth to three-eighths of an inch above the surrounding skin; the surface is covered by irregular papilliform elevations, separated by clefts or fissures of varying depths, giving it a verrucous or cauliflower appearance. In the younger lesions and near the border of the older ones, especially of those which have been kept clean, the papillary projections are fine and the surface is fairly firm, dry and wart-like. Portions of larger lesions, and especially those which have been untreated, are covered by more or less bulky and adherent crusts, on removal of which the papillary elevations are seen to be larger, lobulated, even subdivided, and bathed with a sero-purulent secretion. Some of these crust-covered projections bleed easily. In exceptional instances the area under a crust may present the appearance of an ordinary unhealthy ulcer, with exuberant granulations. In older lesions the papillomatous surface may be replaced in part with a thick, elevated, scar-like formation, pinkish-white in color, ir-

† Fig. 33 is from a photomicrograph by Dr. Carl Gramm. Figs. 19 and 24 have been used in the writer's chapter on Diseases of the Skin in the American Text-Book of Pathology, W. B. Saunders & Co. Figs. 3, 17, 22 and 41 have appeared in our Treatise on Diseases of the Skin, Sixth Ed., Lea Bros. & Co.

regular and often corded, but having a smooth, shining surface. (Illustrated in central portions of Figs. 2 and 3.) The base of the active lesion is always soft and more or less infiltrated with sero-pus, which, on slight pressure, oozes out between the papular elevations.

The border of the area is one of the most characteristic features. It slopes more or less abruptly from the elevated roughened surface to the normal skin, from which it is sharply defined. It is smooth, of a dark red or purplish-red color, is from one-eighth to three-eighths of an inch wide, and on close inspection is seen to be set with a large number of very minute abscesses. These abscesses are many of them so small that they are not visible to the naked eye, but can be recognized with a hand-glass magnifying from two to six diameters. Others vary in size up to that of a pinhead. Some are superficial, but many, especially the smaller ones, are deep-seated. When carefully punctured with a fine needle, these abscesses give exit to a small amount of a thick, glairy mucus or muco-pus, the purulent character of the secretion increasing with the size of the pustule. From the smallest abscesses the amount of mucus expressed is sometimes so scanty that it can only be seen with the aid of the hand-glass; yet it is from these minute abscesses that the organisms are best obtained in pure culture. Abscesses of the same sort are seen also in other parts of the growth, and not infrequently on the thick, scar-like tissue described above; but in characteristic development they are best seen on the sloping border. The number of abscesses varies in different cases and in the same case at different times, depending somewhat upon the activity of the process.

The course of the disease is irregular but essentially chronic. Usually a number of months elapse before the original patch attains a diameter of an inch or two. It may remain indolent for months or even years, with irregular periods of activity and progress; but, as a rule, extension of the area is slow and continuous. The majority of the areas sooner or later attain the size of a silver dollar or of the palm, and some of them become very much larger. As the disease extends at the periphery, healing frequently occurs in the central portion of the growth. In this manner large areas (in one instance the greater portion of the thigh and leg) may be involved in various stages of the process. Healing sometimes occurs spontaneously. Whether spontaneously or as the result of treatment, the first indication of healing is found in the gradual flattening and disappearance of the papillary projections, partially by absorption, partially by desiccation and exfoliation. At the same time the amount of secretion from the underlying base diminishes, and the whole patch assumes more of an ordinary verrucous appearance. In many instances the papilliform surface is replaced temporarily by the hypertrophic scar-like tissue described above, which in turn gradually disappears and gives place to the characteristic cicatrix, which eventually becomes soft, supple, non-attached, pinkish-white and, on the whole, very inconspicuous, though always sharply outlined from the surrounding skin. As a rule, the resulting deformity is very slight. Involvement of the eyelids is followed by ectropion, and in some instances where destructive agents or scraping operations have been employed, the disappearance of the characteristic lesion is followed by an ordinary indolent ulcer, which heals with a thickened and somewhat deforming scar.

During the healing process, though the miliary abscesses decrease in number, careful search will reveal them even in scar tissue that has become quite thin and soft. It is consequently not uncommon to see areas that have apparently healed, again become more or less covered with active points or areas of disease. A single patch may thus present nearly all stages of the disorder, showing at the same time several of the following features: the advancing border; new-forming lesions on old scars; verrucous or cauliflower lesions in various stages of development or disappearance; a base in places dry and firm and in others soft and infiltrated with muco-pus; a scar tissue, in part thick and irregular and in part smooth, soft, supple and non-attached to the in part smooth, soft, supple, and non-attached to the deeper tissues. (Fig. 14 shows a number of scattered lesions which have appeared on an old scar.)

ETIOLOGY.

A local infection with the fungus peculiar to each case is the sole recognized cause for the disease. In several instances there has been a history of trauma preceding infection. What other conditions favor the origin and the development of the process have not been determined. Why certain yeasts and mold fungi should be pathogenic, while others are innocuous; how common the pathogenic varieties are in nature, and how they differ from the ordinary varieties, are as yet unsolved problems. It is possible that the difference in virulence between the organisms in blastomycosis and in protozoic disease may be due to the influence of climate, all reported cases of protozoic disease having originated in California.

HISTOPATHOLOGY.

In histologic structure the lesions bear considerable resemblance to those of verrucous tuberculosis and carcinoma, yet differ distinctly from both. Sections show a very uneven surface, marked by irregular projections and depressions, the whole covered more or less with irregular masses of débris, consisting of pus, blood, epithelial cells, and various bacteria. The horny layer varies greatly in thickness, being destroyed in places; in others extending in thickened masses deep into the corium between the distorted papillæ.

The striking and characteristic changes occur in the rete, which is the seat of extensive hyperplasia, sending down processes deep into the corium. These processes are exceedingly irregular in size and shape, and send out branches in all directions. They contain the miliary abscesses which are peculiar to this disorder. These abscesses vary in size from a group of half a dozen leucocytes to those which are large enough to be recognized by the unaided eye. They are found in all parts, both superficial and deep, of the hyperplastic epithelium, in places breaking through to the surface above or to the corium below. They contain leucocytes, nuclear fragments, detached epithelial cells, epithelial detritus, red blood corpuscles, the organism peculiar to the disease, and in most cases giant-cells. The epithelial cells surrounding the abscesses are flattened mechanically, but apparently take no active part in the process. The rete everywhere is the seat of more or less edema, polymorphonuclear leucocytes being scattered throughout, both between and within the cells. The rete cells are, as a rule, large and swollen, the prickles being very conspicuous and the intercellular spaces increased. The basal layer of columnar cells is preserved in all the processes. Premature cornification, more or less complete, is seen in scattered individual cells, in groups of cells, and occasionally in isolated epithelial whorls. Single giant-cells, surrounded by a few leucocytes, are occasionally seen in the epithelium at some distance from the corium. (Figs. 18 and 21.)

The corium is the seat of subacute, chronic and occasionally acute inflammatory changes. Miliary abscesses similar to those found in the epithelium are seen also in the corium. The infiltration consists chiefly of leucocytes, young connective tissue cells and plasma cells, and is sometimes very dense.

though in most cases it is more or less diffuse, and, as a rule, can be detected about the blood vessels, where other changes are slight or wanting. The vessels themselves frequently show hyperplasia of all their coats. Mast-cells and giant-cells are frequently seen, but vary in number and character in different cases. Tubercle-like nodules are seen in some instances. In some cases hyalin bodies have been demonstrated in plasma-cells, in giant-cells and in new connective tissue cells. The appendages of the skin apparently take no active part in the process, but, as a rule, disappear early where the infiltration is at all marked. In areas of dense infiltration, the collagen of the corium is completely destroyed.

The organisms characteristic of the disease are found in the miliary abscesses both of the epithelium and of the corium, between the epithelial cells and in the corium, and are always surrounded by more or less evidence of inflammation. (Figs. 21 to 29.) Giant-cells frequently contain one or more of the parasites. The number present varies greatly in different cases. A good section will show from two or three to half a dozen organisms. Other sections will show none, while again a dozen organisms may be recognized in a single field of the microscope. They occur usually in pairs of unequal size, but also singly and in groups. Distinct budding forms can be found readily or after careful search. The organisms show well in sections stained with hematoxylin and eosin, but methylene blue is, on the whole, the most satisfactory stain for showing different parts of the organism. Sections stained for us by Dr. Ormsby with methylene blue and orange tannin, according to Unna's method, have given, on the whole, most satisfactory specimens.

The simplest method of demonstrating the fungus is by placing fresh or hardened unstained sections, teased tissue, or pus between a slide and cover-glass with a drop of water, 10 to 30 per cent. solution of potassium hydrate, or equal parts of liquor potassæ and glycerin. The organisms then appear as double-contoured, highly refractive bodies, in some of which granular contents, vacuoles, or shining, spore-like bodies can be distinguished. (Fig. 34.) A strong solution of potassium hydrate soon disintegrates the tissue cells, but has no influence on the organisms, which consequently show more clearly than in a moist preparation made with water. When well stained, the parasite appears as a round, oval, or slightly irregular body, having a well-defined, double-contoured, homogeneous capsule, which resists the prolonged action of strong alkalies and acids; and a finely or coarsely granular protoplasm, which is usually separated from the capsule by a clear space of varying width. A clear vacuole, varying greatly in size, is seen in some organisms. The diameter of the organism varies, as a rule, from seven to twenty microns, though both larger and smaller forms are occasionally seen. Budding forms in all stages of development have been noted.

CULTURES.

The organisms may be obtained from the miliary abscesses and also from the teased tissue and pus. The best method is to clean thoroughly with alcohol or ether a surface showing miliary abscesses. Some of the smallest and deep-seated abscesses are opened with a disinfected needle, preferably with the aid of a magnifying glass, care being taken to avoid damaging the surrounding tissue. Media inoculated with minute quantities of the tenacious mucus or muco-pus so obtained will show in the majority of instances pure cultures of the organism. In our recent work, more than 50 per cent. of the tubes so inoculated have grown pure cultures of the organisms, while less than 10 per cent. have been contaminated with other bacteria. It is always advisable to inoculate as large a number of media as possible directly from the abscesses, as it sometimes happens that the organism will grow on one or two media and on none of the others. Ordinary media may be employed. Among the best are beer-wort, glycerin and glucose agars. Maltose agar (according to the formula of Sabouraud) gives a more luxuriant growth with some of the fungi, but on the whole has been less successful in our hands in obtaining cultures from the abscesses than glycerin or glucose agar. Most of the organisms grow best in a medium that is slightly acid.

Cultures made from teased tissue and from the larger and more superficial abscesses are often contaminated with pus-cocci. The fungi have been obtained repeatedly, however, in pure culture on most of the ordinary media from pus abscesses of considerable size, leaving little doubt that the organisms are in themselves pus-producing.

In cultural features the organisms from different cases have varied so widely that it is quite possible they will have to be classed in distinct botanic groups. On the other hand, individual organisms have been shown to vary greatly with the media employed and with other circumstances of culture. As the result of some of our observations, we are inclined to believe that in some cases there may be two varieties of a given species present. This hypothesis would explain some of the phenomena we have observed and would be in keeping with the findings of Hansen, who has demonstrated that the yeasts often occur in nature in groups of allied varieties. Before a rational attempt at classification can be made, the development of each of these organisms from a single cell must be observed and the life-history of each thoroughly worked out. Such study has not been as yet carried out with any one of these organisms.*

APPEARANCE OF THE CULTURES.

For convenience, the following descriptions are limited to appearances on glycerin and glucose agars, as these are stock media in most laboratories and, on the whole, give very satisfactory results for subcultures in practically all organisms, though in some instances primary inoculations have not been so successful as on other media.

The time required for the development of the different organisms in the original cultures varies from 2 to 16 days, the majority showing a growth in from 2 to 8 days. Subcultures appear in from 2 to 5 days. In gross appearances the cultures may show: (*a*) slightly elevated, white, smooth colonies or irregular areas following the track of the needle; (*b*) a translucent, gelatinous or yellowish-brown and pasty growth (Fig. 32, tube 17); (*c*) a roughly granular surface, which may eventually form prominent folds and depressions (Fig. 32, tube 7); (*d*) a light, white (in older cultures slightly yellow or yellowish-brown) fluffy growth, with short or long aërial hyphæ (Fig. 32, tube 18); or (*e*) a central white, elevated portion, which may be fluffy or covered with short projections like white hairs, and which is surrounded by a translucent, non-elevated zone (Fig. 35). With very few exceptions, the growth extends more or less into the medium and becomes closely incorporated with it.

Moist preparations from the cultures may show budding organisms; or mycelium that may be fine, homogeneous, and branching, more or less segmented, with or without lateral conidia (Fig. 31), and which may contain few or many highly refractive bodies, varying in size, which are probably spores, though in some instances they may be oil-drops. Mingled with the mycelium may be seen round, oval, or irregular double-contoured bodies, varying greatly in size, and more or less filled with highly refractive globular bodies. (Fig. 30.)

Fig. 32 illustrates very well the great variability of some of the organisms. Nos. 17 and 18 were both inoculated from No. 7 on the same day, and were grown under the same conditions. From No. 17 growths similar to No. 18 have been grown, and from No. 18 growths like No. 17 have been recovered. No. 7

* A former assistant did considerable work for us during a period of two years on the organisms from these cases, and even published the records; but the work was never carried to a successful termination, and as we have reason to doubt the trustworthiness of some of the findings reported, we are beginning again a systematic study of the organisms from all of our cases.

is a later stage of development of a growth like No. 17. Nos. 7 and 17 are on glycerin agar; No. 18 on glucose agar. Cultures almost identical in appearance with No. 18 have been grown also on glycerin agar. Cover-slip preparations from No. 18 show chiefly fine mycelium, also a few round bodies like those shown in Fig. 30, but smaller. A similar preparation from No. 17 shows a coarser, segmented mycelium containing spore-like bodies, lateral conidia, and more of the round bodies containing globules. Fig. 30 is a moist cover-slip preparation from No. 7. In moist preparations taken from No. 7 two weeks later, the majority of these double-contoured bodies were partially or completely emptied of the spore-like bodies, which appeared in groups outside the capsule, the number in each instance corresponding to the number necessary to fill the capsule. A ruptured capsule or pod with escaping "spores" has been demonstrated several times. These spore-like bodies exhibit Brownian movement both outside the capsule and within the capsules which are partially empty. Hanging drops from Nos. 7, 17, and 18 have practically the same characteristics. No growth is visible for two or three days, when there occurs a rapid growth of fine mycelium. Mingled with it are a large number of the spore-like bodies of various sizes undergoing Brownian movement. Though watched for two weeks, these bodies underwent no further development, and their true nature is not yet determined.

In specimens stained with osmic acid and Sudan iii the capsules, both of the round bodies and of the mycelium, are very faintly tinged; the spore-like bodies are somewhat darker but much less deeply stained than fat globules. With iodin the results are similar to those obtained with osmic acid or Sudan iii, but less pronounced, showing that the bodies are not starch granules.

In hanging-drop and on plate cultures some of the organisms produce varying numbers of oxylate of calcium crystals.

ANIMAL EXPERIMENTS.

In a number of cases animals have been inoculated with pure cultures of the organism, resulting in the production of abscesses or granulomatous swellings at the site of inoculation, from which the organism has been again cultivated. Granulomatous nodules have resulted also in the deeper-seated organs, from which the organism has been recovered in pure culture, the animal usually dying from a form of chronic toxemia or marasmus. In the majority of animal inoculations the results have been negative.

DIAGNOSIS.

Pathognomonic symptoms are exceedingly rare in the entire list of medical and surgical diseases, and at this time it can not be said definitely that the peculiar miliary abscesses described above are found in this disorder only. It is true, however, that miliary abscesses of the peculiar type described—very minute, the smallest requiring a magnifying glass for their discovery; deep-seated as well as superficial; the contents being a peculiar, tenacious muco-pus—have been observed in all cases examined by us during the past two years; while we have been unable to find just such abscesses in a large number of cases of syphilis, tuberculosis and epithelioma in which we have searched for them. Lesions presenting these abscesses and the characteristic border suggest at once cutaneous blastomycosis.

The readiest means of making the diagnosis is to place the contents of one or more of the abscesses, or a bit of teased tissue, between a slide and cover-glass with a drop of a 20 or 30 per cent. solution of potassium hydrate. If distinct budding organisms are found (Fig. 34), which resist the action of the alkali after the tissue and pus cells have largely disintegrated (a change requiring from ten minutes to one hour), the diagnosis is practically established and needs only verification by obtaining cultures of the organism and by histologic examination of the tissue. Tissue for histologic examination should not be hardened in formalin, as it produces certain changes in cells that may be confused by the inexperienced with blastomycetes.*

The disorder could be confounded with syphilis, if ever, in rare cases only, as the symptoms of the two disorders have very little in common. The late manifestations of syphilis are usually circinate in outline, and show in some part of the progressing border the elements—tubercles or ulcers—of which the whole is composed, instead of the smooth, abscess-containing border of blastomycosis. Lesions of syphilis do not persist for years as wart-like elevations without showing in some parts characteristic ulcerations. It is, furthermore, exceedingly rare for such extensive lesions to occur in syphilis and persist for months or years without other evidence or history of the disease being obtainable. Finally, though late lesions of syphilis are seen which refuse to yield to specific treatment, it is certainly to be expected that the majority of cases here presented, if specific, would have disappeared entirely and within a few mouths under large doses of potassium iodid.

From carcinoma the lesions of blastomycosis cutis are further differentiated by a soft base, by the multiplicity of lesions, by the absence of adenopathy, by spontaneous healing and, finally, by their improvement under the influence of potassium iodid.

Lupus vulgaris in typical development is readily distinguished by its characteristic nodules. Only the hypertrophic and verrucous forms of this disease could be confused with cutaneous blastomycosis. The differential features are practically those considered under verrucous tuberculosis; though the fact that the earliest age at which blastomycosis has appeared is twenty, and that in a majority of cases it first appeared after forty, is of value in the diagnosis.

From verrucous tuberculosis the diagnosis is difficult and depends chiefly on the characteristic border and abscesses of blastomycosis of the skin, on the results of histologic and bacteriologic examination, and on the fact that the morbid condition improves under the influence of the iodin salt. The lesions are, however, larger, more rapid in development, more numerous and more frequently seen on the face than are lesions generally recognized to be tuberculous. The soft, supple scar left by blastomycosis is wholly unlike the deforming scar of tuberculosis. Further, the adenopathy and constitutional symptoms of tuberculosis are wanting. In a doubtful case, tissue should be examined for tubercle-bacilli and guinea-pigs inoculated. In one case (to be reported in detail later) which was observed carefully by us and in which the diagnosis was verified by histologic and cultural findings, the presence of tuberculosis in the early stage was excluded by negative results from repeated examination of tissue for tubercle-bacilli, and by the fact that the lesions disappeared almost entirely under the influence of potassium iodid. A recurrence of the lesions, presenting a somewhat different clinical appearance and showing but slight improvement under large doses of potassium iodid, was followed by a fatal systemic infection with tuberculosis.

* Tissue for histologic examination should be taken from a progressing border, and should include a portion of normal skin. The incision should be deep enough to include some of the subcutaneous tissue. Small pieces of tissue may be placed at once in absolute, or 95 per cent. alcohol. Larger pieces should be placed for 10 or 12 hours in 70 per cent. alcohol before transferring to stronger alcohol.

Fresh tissue and pus may be preserved for future microscopical examination for several days in a 2 per cent. solution of glycerin, or in a 1:1000 bichlorid solution. For cultures fresh tissue and pus may be kept for a few days in sterile water or in bouillon, but when possible it is much better to inoculate media directly from the abscesses.

Histologically, the miliary abscesses in the rete and in the corium, the extensive leucocytic infiltration, and the characteristic organisms will distinguish cutaneous blastomycosis from tuberculosis, syphilis, or carcinoma of the skin. In blastomycosis the basal columnar layer of the rete is preserved, while in carcinoma it is destroyed.

EXCEPTIONS AND ALLIED CONDITIONS.

The disease has been limited strictly to the skin in all instances except in our Case 2 and in that reported by Busse and Buschke. In one other case systemic infection with tuberculosis followed. In the case reported by Curtis, subcutaneous abscesses occurred, in which the blastomyces were found and cultivated.

In the cases of protozoic dermatitis reported by Rixford and Gilchrist, and others,* the cutaneous lesions closely resembled those of blastomycosis both clinically and histologically, but the organisms proliferated by sporulation only and not by budding or mycelial growth. Moreover, the disease has been fatal in every case. Our Case 2 and Rixford and Gilchrist's first case of protozoic disease have, however, many features in common. In a case of protozoic infection (in which, however, there were no cutaneous lesions), Ophüls and Moffit cultivated an organism which in many respects resembles closely that found in two of our cases. In fragments of tissue received from Dr. Angle of Lincoln, Neb., budding organisms were very numerous and many of them were filled with spore-like bodies. In several microscopic fields, a ruptured capsule with escaping "spores" could be seen, but to what extent the rupture of the capsule was due to formalin, in which the tissue had been hardened, could not be determined. The sporothrix of Schenck, found in two cases of subcutaneous abscesses, is allied possibly to some of the fungi found in blastomycosis.

TREATMENT.

Complete excision of the diseased areas has been successfully practiced in several cases, no recurrence having been reported. Curetting, employed in a number of cases, has not prevented a return of the disease.

Large doses of potassium iodid, first employed by Dr. Bevan in one of our cases, seems to arrest the progress of the disease and produces a marked improvement in the cutaneous lesions. From two to five hundred grains a day have been required in some patients before any effect on the morbid growth was produced. In three of our cases and in two cases reported by others, the disease apparently disappeared under this treatment. In the majority of cases, however, treated with large doses of potassium iodid, healing takes place rapidly over the greater portion of the area involved, but small patches remain, usually of the verrucous border, for indefinite periods; and on the discontinuance of the potassium iodid the disease reappears with as much apparent activity as before. In one of our patients who improved rapidly under the treatment up to a given point, the few remaining verrucous areas and abscesses disappeared after a few exposures to the *x*-ray, leaving a thickened scar, which at present is slowly being replaced with a typical thin cicatrix.

In all cases, cleansing and antiseptic lotions or dry dressings can be used with advantage.

PROGNOSIS.

Out of the thirty-two cases reported, two only have proved fatal. A third patient died of general tuberculosis. Complete excision where practiced has terminated the disease. Under the iodin therapy, the condition improves so decidedly that with the aid of the *x*-ray or other local treatment, the disease should be completely eradicated. The possibility of systemic infection should be remembered.

SUMMARY.

Under the term "cutaneous blastomycosis" (or "blastomycetic dermatitis") have been collected a series of cases presenting a clinical picture differing from that of all other recognized dermatoses. The disorder has also a characteristic histopathology. The organisms in tissue have been in every case of the budding variety. In cultures they have appeared as budding or as mycelium-forming fungi, of which there are probably several varieties.

While the disorder occurs independently of all other diseases, it has been followed in at least one instance by tuberculosis. Secondary pus infection of the lesions is common, and there is no reason apparent why secondary infection with tubercle-bacilli or other bacteria should not occur. It is possible also that the fungous disease is capable of implantation upon the lesions of other disorders.

Practically all cases of the disease in which potassium iodid has been employed in large doses have improved decidedly under its administration, but only a small percentage of patients recovered entirely under that treatment alone.

Cutaneous blastomycosis and protozoic dermatitis are undoubtedly closely related disorders, if not varieties of the same process. It is possible, however, that the blastomycetes and other fungi are capable of producing in man a series of disorders of different clinical types.

It is not within the scope of this paper to consider the experimental researches on blastomycetes, protozoa, cancer bodies, cell inclusions, and allied questions, which are at present receiving so much attention in the medical and scientific world. For valuable contributions to these subjects and for full references to the works of previous investigators, the reader is referred to the Second Annual Report of the Cancer Committee to the Surgical Department of Harvard Medical School.[1]

NARRATION OF CASES.

CASE I.[2]—F. M., aged 47. Duration of disease two years;* typical histology and organisms in tissue. (Figs. 25 and 27.) Under long-continued and large doses of potassium iodid, all signs of the disease disappeared excepting a few small verrucous areas on the borders, where miliary abscesses could be detected. The case was reported as greatly improved. The man then spent a year in the country, during which time he neglected treatment. Early in January, 1902, he was again seen in Cook County Hospital, the disease having extended over the greater portion of the arm and forearm, with so much apparent destruction of tissue that it was thought an amputation might be necessary. Three months of treatment with large doses of potassium iodid, and boric-acid dressings have resulted in replacing three-fourths of the diseased area with scar-tissue. On three different occasions, each time on a number of different media, we obtained a mold fungus in pure culture from the miliary abscesses, though similar attempts made while he was under observation two years before were unsuccessful. (We are indebted to Dr. M. M. Portiss for tissue obtained from the patient while in the hospital.)

CASE II.[2]—C. W. T., aged 33. Duration of disease seven years; histologic structure and organisms in the tissue are both typical (Figs. 18, 21, 22, 23 and 24); cultures not obtained. The case was reported by the author as one of cutaneous blasto-

* For references see report of a case of Dr. D. W. Montgomery, British Jour. of Dermatol., October, 1900.

* In each case is given the duration of the disease at the time it was reported.

mycosis, in which death occurred from miliary tuberculosis, that being the first postmortem report. In a later report,[3] Dr. Jas. W. Walker, who made the autopsy, showed that the nodules in the lungs contained blastomycetes in abundance and no tubercle-bacilli. This is the only case recorded in which cutaneous blastomycosis of a number of years' duration has been followed by systemic infection. Together with the Busse-Buschke case, in which systemic infection was coincident with the cutaneous lesions, this case might be considered as a connecting link, clinically, between strictly cutaneous blastomycosis on the one side and protozoan disease with systemic infection on the other.

CASE III.[2]—T. R., aged 38. Duration of disease four years; histology and organisms in tissue both characteristic (Figs. 17 and 28); no cultures obtained. After taking large doses of potassium iodid more or less continuously for nearly two years, all traces of the disease except the scar disappeared. The patient is still under observation. There has been no recurrence and no treatment for one year. The ectropion has been overcome by plastic operations by Dr. Dodd.

CASE IV.[2]—F. S. S., aged 33. Duration of the disease two years; histologic structure and organisms in the tissue typical; cultures obtained (Figs. 19, 26, 31, 35, 36, 37, 38, and 39.) Under large doses of potassium iodid, the disease almost entirely disappeared, two or three small areas only remaining. During the past year, though the treatment has been continued the greater portion of the time, very small, flat, verrucous areas persist, and on withdrawal of the medicament for a short period begin to extend to the adjacent skin. During one of these intervals of treatment, a small ridge extended over the upper eyelid. The organism has been obtained repeatedly from the minute abscesses which appear soon after the suspension of treatment.

CASE V.[2]—J. H. C., aged 45. Duration of disease four months; histologic structure in many respects characteristic, but differing somewhat from that of the other cases. The organism (Figs. 40 and 41), a yeast fungus, obtained in pure cultures from the center of the growth, was never demonstrated in the tissues, owing probably to lack of proper technic, as the organism in cultures closely resembled in size and staining qualities infiltration-cells. The condition improved somewhat under potassium iodid. Excision was followed by complete recovery, and no return of the disorder.

CASE VI.[1]—Mrs. A. M., aged 28. Duration of disease two years; histologic structure and organism in tissue both typical; pure cultures of a mold fungus obtained from the abscesses on different occasions. (Figs. 30, 32 and 33.) After six months of continuous treatment with large doses of potassium iodid, no trace of the disease save scar-tissue was left. No recurrence nine months after treatment was suspended. For this case the author is indebted to Dr. W. L. Noble of the Chicago Clinical School.

CASE VII (not previously published).—Miss S. E., aged 21. is in good general health, though she has enlarged glands in the cervical region, and two of her sisters died of tuberculosis. The lesions are located on the right buttock. The first one began as a crusted papule fifteen months prior to the time the photograph was taken; the second appeared a few months later. Their development and their clinical appearances are those described as characteristic of cutaneous blastomycosis. The papillary projections were fine and the lesions comparatively dry and wart-like. But a small amount of secretion could be pressed out between the papillary elevations from the base below. The borders showed characteristic miliary abscesses, from which on a number of occasions and on different media a mold fungus was cultivated.

The histologic structure and organisms in the tissue were practically identical with those found in other cases of cutaneous blastomycosis. The lesions improved rapidly under large doses of potassium iodid, but refused to disappear entirely, a few miliary abscesses appearing promptly on the withdrawal of the drug. A few treatments with the *x*-ray have caused, in the course of eight weeks, complete disappearance of the abscesses and of the verrucous tissue. There remains yet some hypertrophic scar-tissue, which is apparently slowly disappearing. The case is still under observation.

CASE VIII.[4]—Mrs. M., aged 51. Duration of disease four years; histologic structure and organisms in tissue characteristic (Fig. 29); cultures of what appeared to be a mold fungus were obtained on two different occasions, but subcultures were not successful, and the organism has not, therefore, been studied satisfactorily. This patient has been unable to take potassium iodid in large or continuous doses, and, though the condition has improved somewhat, the lesions have not entirely disappeared. She lives at a distance and is seen only at long intervals.

CASE IX (not previously published).—A. B., aged 54. Duration of disease four months. This case differs clinically from all others that have been recorded, in that the entire lesion presented an appearance very much like that of the hypertrophic scar-like tissue which in some cases temporarily replaces the verrucous patches, and the patient stated that the growth never had been wart-like. The lesion was distinctly elevated, smooth, pinkish-white in color, more or less covered with fine telangiectases, and showed numerous characteristic miliary abscesses on the surface, especially on the border. The base of the tumor was soft and more or less infiltrated with sero-pus. A minute opening (which shows plainly in the photograph, Fig. 11) was made in the surface and the contents shown to be of a gelatinous or myxomatous character. Bits of this tissue and of the tenacious muco-pus from the abscesses were mounted in potassium hydrate and disclosed characteristic budding organisms, such as are shown in Fig. 34. Tissue for histologic examination was not granted by the patient, and but one hurried opportunity was given for obtaining cultures. The media employed, unfortunately, were limited in variety and amount and were not very fresh, and thus no cultures were obtained, all the tubes but one remaining sterile. The man was put on large doses of potassium iodid. At the end of four months he again presented himself for examination. The lesion had entirely disappeared, leaving only a smooth, soft, non-attached scar, a little lighter in color than the normal skin. A communication received from him six months after suspending treatment stated that there had been no recurrence. This patient's individual and family history were excellent. No history or evidence of tuberculosis or syphilis could be obtained.

CASE X (not previously published).—Mrs. D. S., aged 56, gives a remarkably good family and personal history. She has enjoyed unusually good health all her life except for several brief periods of illness. For eight years she had been absolutely well. At present she has no evidence of constitutional disturbance, except that she is extremely nervous and very much worried regarding her condition and unsightly appearance. Early in November, 1901, she experienced a severe mental shock. Three or four weeks later there appeared on the dorsal surface of the left hand, between the first and second metacarpal bones, a small crusted lesion, which gradually spread to its present size (Fig. 13). The lesion was slightly elevated, somewhat verrucous and sharply outlined. Within two weeks after the appearance of the first lesion, similar lesions appeared on the anterior surface of the left leg, a little below the knee; on the left heel; on the anterior surface of the right leg; on the right big toe; on the inner surface of the middle third of the right thigh; and on the left palm, at the base of the thumb. The patient states that during this time there appeared subcutaneous lumps or swellings, varying in size from a bean to a walnut, as follows: Two on the lower half of the left breast as large as walnuts; three smaller ones in the tenth and eleventh intercostal spaces; six or eight similar but smaller lesions on the upper and outer portion of the left thigh. All of these swellings became slightly red on the surface and very sensitive to the touch, but they never became verrucous, crusted, or ulcerated. About two months after their appearance they began to disappear gradually and become less sensitive. Some of these were treated for a time with galvanic electricity.

In the early part of January a lesion appeared on the upper lip, and another on the proximal phalanx of the right index finger. On March 1, while under our observation, a small

papule appeared on the second phalanx of the left index finger. This in a few days became capped with a crust, and in the course of four weeks had developed into a flat papule, a quarter of an inch in diameter, which presented all the characteristics of the disease, including the verrucous surface and the sloping border with miliary abscesses. On two occasions and on six different media, cultures of a mold fungus were obtained from the abscesses of the lesions situated on the lip, on the left hand, on the right index finger, and on the middle third of the right thigh. Tissue taken from the lesion on the anterior surface of the right leg shows the characteristic histologic structure. Typical organisms have been demonstrated in the tissue. Under large doses of potassium iodid, the lesions are rapidly becoming less conspicuous, though none of them has yet entirely disappeared. We are indebted to Dr. P. B. Sauer for the privilege of studying and reporting this case.

This case is unique in that a number of lesions appeared on different parts of the body within a very brief period, a record that would argue against the multiplicity of lesions being due to auto-inoculation; yet the lesions are all situated within easy access of the hands. The subcutaneous lumps or swellings described by the patient had largely disappeared before she came under observation. Such as remain are apparently lymphatic.

CASE XI.[5]—R. B., aged 57. Duration of disease five years; histologic structure and organisms in tissue typical; budding organism cultivated. The disease almost disappeared under large doses of potassium iodid, but recurred on suspension of the drug. As the man had periods of neglecting treatment, the disease was alternately better and worse. About a year after the case was reported, and after a longer period of neglect than usual, the arm was so extensively involved that the man became discouraged and applied to the hospital for amputation. He has since disappeared from observation. The photograph shows a large number of new lesions which appeared over the surface of the old scar soon after cessation of treatment, and after it was supposed the disease was practically eradicated.

CASE XII.—Mrs. J. K., aged 33 (from Dr. Senn's clinic, published here with his permission). Duration of disease two years; histologic structure and organisms in the tissue typical; a mold fungus recovered from the tissue. The lesion (from the face) was excised before the nature of the disease had been demonstrated.

CASE XIII.*—Mr. S., aged 73. Duration of disease four years; histologic structure and organisms in the tissue characteristic. A mold fungus was cultivated from the abscesses and from tissue. The lesions improved decidedly under potassium iodid, but not until very large doses were employed. He disappeared from view for six months and then appeared at the Cook County Hospital, where he is now under treatment by Dr. L. B. Baldwin, who reports that the disease has extended over a large part of the face and anterior portions of the scalp.

BIBLIOGRAPHY.

1. Jour. of Med. Research, 1902, vol. vii, No. 3.
2. Cases 1, 2, 3, 4 and 5 were reported, together with a tabulated review of cases in literature, in the Jour. of Cut. and Gen.-Urin. Dis., January, 1901. (The table contained some errors which were corrected in the next number of the same journal.)
3. JOUR. A. M. A., April 5, 1902.
4. Jour. Cut. and Gen.-Urin. Dis., May, 1902.
5. Brit. Jour. of Derm., July, 1899, p. 261.
6. Jour. of Med. Research, vol. vi, No. 3.

OTHER CASES IN LITERATURE.

Anthouy-Herzog: Jour. of Cut. and Gen.-Urin. Dis., January, 1900, p. 1.
Baldwin, L. B.: JOUR. A. M. A., 1900, vol. xxxiv, p. 292.
Brayton, A. W.: Three Cases: Ind. Med. Jour., April, 1900, and July, 1901; JOUR. A. M. A., Feb. 1, 1902.
Busse-Buschke: Virchow's Archiv, 1895, vol. cxl, p. 23; Verhandl der Deutschen Dermatologischen Gesellschaft, Sechster Congress, 1899, p. 181.
Coates, W. E.: Medicine, February, 1900.
Curtis: Ann. de l'Instit. Pasteur, 1896, vol. x, p. 449.
Dyer, Isadore: Jour. of Cut. and Gen.-Urin. Dis., January, 1901.
Gilchrist, T. C.: Johns Hopkins Hosp. Rep., 1896, vol. i.
Gilchrist-Stokes: Bull. of Johns Hopkins Hospital, 1896, vol. vii, p. 129; Jour. of Exper. Med., 1898, vol. iii, p. 53.
Harris, F. G.: Am. Jour. of Med. Scien., 1901, vol. cxxi, p. 561.
Murphy-Hektoen: JOUR. A. M. A., 1899, vol. xxxiii, p. 1383.
Hessler, Robert: Ind. Med. Jour., 1898, vol. xvii, p. 48.
Owens, Eisendrath, and Ready: Anns. of Surg., 1899, vol. xxx.
Shepherd, F. J.: Two cases, Jour. of Cut. and Gen.-Urin. Dis., April, 1902.
Stelwagon, H. W.: Am. Jour. of Med. Scien., 1901, vol. cxxi, p. 176.
Wells, H. G.: N. Y. Med. Jour., March 26, 1898.

* This case was published with our permission by a former assistant, Dr. H. T. Ricketts.[6] This monograph includes very brief reports of Case 12 and of three laboratory cases; also a premature and unauthorized report of the results of much of our work and of our observations for a period covering more than two years. Our published and unpublished records are used freely, though credit for this material is for the most part withheld or given obscurely. A careful reading, for example, does not disclose the fact that of the 68 pages devoted to "new cases," the first 44 are given to five cases previously published,[2] and that 7 pages are devoted to two cases reported by us before the American Dermatological Association, May 30, 1901.[4] In his list of cases, Dr. Ricketts has incorporated Case 2 of our present series, though he never saw the patient and did no work on the case. This case is of special interest, in that it is the only one recorded in which long-continued blastomycosis of the skin has been followed by systemic infection. Repeated reference is made to it in the work (pages 415, 492, 495, 497, 498), always as "Case 5 of this (his) series." No mention is made of its previous publication,[2] though in a foot-note it is stated that "the report is in brief as given by Professor Montgomery." Dr. Ricketts' "Fig. 1c" (his name is affixed to the plate) is from our photomicrograph of a slide prepared by me from this case.[2] The photographs and all the photomicrographs but two are ours. No acknowledgment for them can be found in the work. In two references in the Bibliography to our publications, a claim is made to a share in the original report of "Case 5" above referred to, and to a participation in a review of the literature of blastomycosis by Dr. Hyde.[2]

On pages 516 and 517 are tabulated the more or less completely recorded cultural features of 17 organisms, 7 of them being from "new cases." An examination of the tables and of the descriptions in the text shows that but 3 (2 of which were previously reported) of these 7 organisms have been the subject of careful observation, and that in none of these 3 has an attempt been made to study the life-history of the organism or its development from a single cell. The report on the other 4 organisms is limited to observation of their gross appearances on ordinary media (in tubes only, no plates), and to an examination of a smear or hanging drop. Of one of the organisms subcultures were never obtained. The work is evidently far from complete, yet the writer indulges freely in generalizations and in attempts at classification, including the formulating of a new name, under which the work is published.

A CASE OF SYSTEMIC INFECTION BY A PARACOLON BACILLUS PROBABLY SECONDARY TO TYPHOID FEVER.

WITH THE CLINICAL PICTURE OF ACUTE CHOLECYSTITIS.*

A. A. BERG, M.D.,
ADJUNCT VISITING SURGEON, MT. SINAI HOSPITAL.
AND
E. LIBMAN, M.D.
ASSISTANT PATHOLOGIST, MT. SINAI HOSPITAL.
NEW YORK CITY.

It would appear from a series of publications which have appeared during the last six years that the members of the group of bacilli intermediate to the typhoid and colon bacilli are destined to become of as much interest in surgical pathology as the typhoid bacillus.

MENTION OF PUBLISHED CASES.

It is not our purpose on this occasion to give a complete summary of all the cases of this form of infection that have been described, but it will be of interest to make some note of the cases which have a direct surgical bearing.

If we exclude for the present the scattered cases of cystitis and pyelonephritis in which bacilli of this group have been found in the urine, apparently either primary or secondary, we find that the first striking instance of such an infection of surgical interest is the second of the two cases reported by Achard and Bensaude in a paper entitled "Paratyphoid Infections." Their case was that of a child with acute bronchitis and a moderately-high fever. The bronchitis subsided almost entirely, but the fever gradually rose and remained for almost three weeks. At the end of two weeks there developed a suppurative inflammation of the left sterno-clavicular joint. On incision some pus was evacuated which contained a pure culture of a paracolon organism.

Widal and Nobecourt later published a case, in a man

* Read in abstract before the Surgical Section of the New York Academy of Medicine.

of 31, of an abscess developing in the neck near the esophagus, from which was obtained a pure culture of an organism which appears to be identical, as far as can be determined from the meager descriptions, with the organism of Achard and Bensaude.

Cushing's case is the best studied thus far. The patient was a man of 27 who, nine months before admission to the Johns Hopkins Hospital, was sick for ten weeks with a fever which was described as being a typical attack of typhoid fever. He had a relapse beginning with an epistaxis. During convalescence a costo-chondral osteomyelitis developed at the level of the fifth rib. Six months later this broke open and discharged pus. In this case also the pus showed an organism which had some of the properties of the typhoid bacillus and some of those of the colon bacillus. The patient's serum gave an agglutination reaction in high dilutions with the organism, but gave no reaction with the typhoid bacillus. On the other hand, sera from cases of typhoid fever which gave a prompt agglutination reaction with the typhoid bacillus gave no reaction when tested with the organism found in the pus. Cushing raises the question whether the original attack was typhoid fever, or whether it was due to the same organism which was found in the osteomyelitic focus. He says that it is unusual to find in post-typhoid lesions organisms of intestinal origin except the typhoid bacilli and the pyogenic skin cocci.

Cushing refers to a case of osteitis described by Blumer, in which the bacterium coli was supposed to have been found in a post-typhoid rib abscess. As Cushing remarks, it is possible that this is another instance of a paracolon infection, because the organism described by Blumer produced alkali in milk and did not ferment lactose. We might mention here that, roughly speaking, the characteristics of the typhoid, colon and intermediate groups are as follows: The typhoid bacillus produces acid in the presence of glucose, no visible gas; it fails to ferment lactose and sucrose. In milk it develops a slight grade of (usually) permanent acidity. The colon bacillus ferments glucose with the production of acid and visible gas, ferments lactose in a similar manner and may or may not ferment sucrose. Milk is usually coagulated in from one to seven days with the development of an acid reaction and the presence of gas bubbles. The bacilli of the intermediary group, or the so-called paracolon bacilli, act like the colon bacillus as regards glucose and like the typhoid bacillus as regards lactose and sucrose. In milk they produce a slight transient acidity followed by a more or less marked alkalinity.

THE PRESENT CASE.

The case which we are about to describe is of interest because of its striking resemblance to a condition so frequently referred to surgeons for operative treatment.

The clinical history will be given in full, but the pathologic and bacteriologic findings in abstract only, as it is the purpose of one of the writers to make the latter the subject of a special communication.

CLINICAL HISTORY.—A. A. BERG.

Aug. 29, 1901, I was asked by Dr. Hubbard of Boro Park, Brooklyn, to see with him C. I., a clerk, 33 years of age. The patient had been the father of six children, all of whom had died in early infancy, most of them having been "blue babies." His wife had never aborted; he had never had gonorrhea or syphilis; he had no alcohol or tobacco habits.

Commencement.—Ten days before the evening upon which the writer saw the patient, the latter had suffered while at business with a sudden attack of nausea, vomiting and feeling of marked weakness. The vomiting recurred once and the patient felt so sick that he had to stop work and go to his home. Dr. Hubbard saw him at once upon his return home. The patient complained of severe epigastric pain and was moderately prostrated. His temperature was 100 F. and there was considerable abdominal distension. A cathartic was administered and after a free evacuation of the bowels the patient felt much better. The next morning the temperature was a little above 99 F. and the patient was much improved. He stayed in bed, however, for two days, during which time the temperature was not taken on account of the comparative well-being of the patient. After these two days he was up and about but did not feel well enough to go to work. During the following five days he apparently had no fever and did not present himself to his physician.

Recurrence.—On the seventh day he was again suddenly seized with intense epigastric pain. The pain was colicky in character and though constantly present was characterized by periods of very marked exacerbation. Although mainly localized in the epigastrium, it occasionally radiated to the back. On this day he vomited twice and had a temperature of 104.2 by mouth. He was again given a cathartic (calomel) which was followed by two copious evacuations, but the patient did not this time experience the same relief as during his first attack. The next morning the temperature was 101.4 by mouth, rising to 103 in the evening. The pain continued with marked severity, and, according to the doctor, was typical in every respect of biliary colic, requiring hypodermic injections of morphin to relieve it. The patient felt very sick; he was slightly jaundiced, but the stools were black in color (from bismuth that had been taken).

EXAMINATION.

The patient, when seen by me, was evidently much prostrated. His temperature was 104.6 per rectum; his pulse soft and bounding and about 120 to the minute. There was slight subconjunctival icterus; the urine rather scanty and high-colored. The tongue was moist and slightly coated. The lungs practically negative. The apex beat of the heart was in the fifth space outside of the mammillary line. There was a marked heaving of the precordium which extended to the epigastrium. There was a marked systolic murmur over the entire base with its greatest intensity at the second left intercostal space. The second apical sound was accentuated. The heart was dilated, extending 1½ inches to the right of the sternum and one finger's breadth beyond the left mammillary line. The liver extended from the fourth space in the mammillary line to the free border of the ribs. Its free edge was not palpable; in the epigastrium and adjacent part of the right hypochondrium there was marked pain and tenderness. At this site could be felt a very painful mass the size of a large lemon. There were numerous friction râles over the upper part of the liver. The right rectus muscle was rigid. The spleen appeared to be normal in size. There was no roseola.

The probable diagnosis of abscess of the right lobe of the liver pointing in the epigastrium, or of an empyema of the gall bladder was made, and exploratory incision was advised. The patient delayed two days hoping for an improvement in his condition and then entered the Mt. Sinai Hospital. His condition on admission was not materially changed. The temperature had continued high, being 105½ on his entrance to the hospital and his pulse 120. He was very much prostrated, having had high temperatures ever since the onset of the second attack. The physical signs were the same as described above. A Widal reaction proved negative in dilution of 1 to 20. There was no Ehrlich reaction in the urine. The leucocyte count was 15,000.

LAPAROTOMY. EXPLORATION OF THE GALL-BLADDER AND BILE DUCT. ASPIRATION OF THE LIVER AND GALL-BLADDER.

September 1.—Under chloroform anesthesia, an incision was made through the right rectus sheath extending three inches from the costal margin, the muscle being retracted toward the median line. The peritoneal cavity was opened; there was no fluid in it; the liver came down to the free border. Corresponding to the region where the patient had complained of pain and tenderness was an enlarged Riedel's lobe. The surface of

the liver was for the most part smooth, and over its convexity in the axillary portion was some fresh fibrin. Its color was normal and there were no areas of induration to be palpated. The gall-bladder was moderately distended. Its surface was smooth, its walls apparently not materially thickened. It was found to be impossible to express the contents of the viscus through the bile ducts into the intestine. This feature was very marked. No stones could be palpated within the gall-bladder. Exploration of the ducts showed them to be but slightly thickened and they contained no calculi. The kidney, stomach and pancreas were normal, likewise the appendix. Aspiration of the liver in many directions yielded negative results; aspiration of the gall-bladder yielded thick black bile. The results of the examination will be given later. The puncture in the gall-bladder was closed by Lembert sutures and a small cigarette drain passed down to it. The abdomen was closed by through-and-through sutures.

SUBSEQUENT EXAMINATION.

September 2.—The patient had rallied well from the operation. His temperature fluctuated between 101 F. and 104; pulse 98 to 120. Epigastric pain continued severe. The abdomen was somewhat distended; the friction râles over the liver were more numerous. The bowels were moved by enema. The urine showed no bile, was acid, contained albumin and hyalin and granular casts.

September 3.—The general condition was good. Pulse varied between 118 and 136; the temperature between 102.4 and 104.6. The Widal reaction was negative in dilution of 1 to 20. There was marked subconjunctival and general icterus. The urine contained bile. The bowels were moved by calomel and salines. The urine showed a positive Ehrlich reaction.

September 4.—The general condition was not so good. The patient was apathetic and at times irrational. Temperature fluctuated between 102.8 and 105; the pulse rate between 128 and 140. The jaundice was marked. The wound was clean and united, there being only a slight serous discharge through the small drain opening. The liver was apparently not increased in size. Epigastric pain was less. The friction râles over the liver were still marked. There was some slight dulness and exaggeration of breathing at the right apex posteriorly. The systolic murmur at the base of the heart remained the same.

September 5.—Apathy continued with mild, quiet delirium. Marked jaundice; general condition poor. Temperature between 102.4 and 106.4; pulse 128 to 132, soft and bounding. Friction râles over the liver very marked; aspiration of the liver in the axillary region over the area of friction râles gave negative results. Cold packs were administered to reduce the temperature, with little effect.

September 6.—Widal reaction was negative.

September 7.—The patient was more apathetic, delirious and jaundiced. The wound had completely healed. Temperature up to 105. Cold packs continued with somewhat better effects.

September 8.—Examination of the blood showed red cells 2,700,000, leucocytes 10,700, hemoglobin 50 per cent. Widal reaction positive in dilution 1 to 200.

September 9.—General condition remained the same. Temperature between 101.4 and 105.3; pulse 120 to 140. Marked apathy and jaundice. The patient vomited repeatedly; the vomitus was brownish-black in color, not fecal in odor. Pulse was weaker; face was pinched, and there was Hippocratic facies.

The blood examination showed the following:

Polynuclear neutrophiles 84 per cent., small mononuclear 10 per cent., large mononuclear 5 per cent., eosinophiles 1 per cent. The total number of leucocytes was 48,000. The urine was acid, containing albumin, hyalin and granular casts and bile. During the night the patient's pulse became more and more feeble, temperature remained high, and towards morning death occurred.

REPORT ON THE BACTERIOLOGIC AND THE POSTMORTEM EXAMINATIONS.

E. LIBMAN.

The fluid from the gall-bladder received on September 1 was directly plated and there was found a pure culture of an organism of the intermediate group. To determine whether the presence of organisms in the gall-bladder might not be due to excretion of bacilli from the blood, a blood culture was made on September 4, 11 cubic cm. of blood being used. There was found a very large number of colonies of an organism identical with that which had been isolated from the gall-bladder. On September 9, about ten hours before the patient died, another blood culture was made in the same manner as the previous one and there was found a large number of colonies of the paracolon bacillus, a few colonies of staphylococcus albus and streptococci. A culture from the urine made the same day showed a number of colonies of the paracolon bacillus and a few colonies of the staphylococcus albus.

A short time after the patient died some blood was aspirated from the heart and the culture showed the same organisms as were found on the previous day. The cultures made from the spleen at the time of the autopsy showed colonies of the paracolon bacillus, of the staphylococcus citreus, staphylococcus albus and streptococci. The contents of the ileum were examined with great care for the typhoid bacillus or the paracolon bacillus, but there were found only two varieties of the colon bacillus, bacillus proteus vulgaris, staphylococcus albus and streptococci.

AGGLUTINATION REACTIONS.

The serum of the patient was tested daily for the Widal reaction after his entrance into the hospital, but always with a negative result in a dilution of 1 to 20 until September 7, when it became positive in the dilution of 1 to 200. This reaction was instantaneous and complete. On September 8 the reaction was positive in a dilution of 1 to 250. On September 9 in a dilution of 1 to 200, and the serum obtained directly antemortem gave the same results.

As regards the reactions of the patient's blood with the organisms found in the gall-bladder, blood and urine, they were of great interest as the reaction usually resulted in the production of threads instead of clumps, a phenomenon which is seen under certain conditions in making serum reactions, particularly in cases of infection by bacilli in the colon group.

Without going into detail here, it is sufficient to state that the serum of the patient from September 3 on gave a positive reaction with all the bacilli isolated in dilutions varying from 1 to 30 on some days to 1 to 100 on other days.

POSTMORTEM EXAMINATION.

The data at our disposal are rather few, particularly because of the great difficulties which stood in our way in attempting to obtain permission for a postmortem examination. We were only allowed to make an examination through the incision.

The heart showed marked hypertrophy of the left ventricle and a lesion of the aortic valve which evidently stood in relation to the traumatism sustained in early childhood, there being a calcareous scar running through the middle of one of the flaps. There was fibrin over the upper lobes of both lungs. The lungs could not be removed for examination. The liver was moderately enlarged; there was a marked perihepatitis; on section it showed the lesions of congestion and parenchymatous degeneration (gross and microscopic examination).

In the gall-bladder there was a small incision. The mucosa was normal. The spleen was moderately enlarged; there was fibrin on the surface. Further exam-

ination showed the presence of acute inflammation, of small areas of necrosis in the pulp, and the presence of enormous clumps of bacilli which were decolorized by the Gram stain. The stomach was markedly dilated; the pancreas showed a moderate grade of interstitial inflammation. The kidneys were normal in size, the capsule was adherent. There was present intense parenchymatous degeneration, thickening of the glomerular capsules and hyalin material in some of the tubules. In the lower ileum there were a number of completely and partially healed ulcers with the remnants of a moderate degree of fibrinous peritonitis on the surface. The mesenteric nodes were moderately enlarged, pale on section. All of the organs were bile stained.

EPICRITICAL REMARKS.

This case is a remarkable one from several aspects. That the patient suffered from a systemic infection from a paracolon bacillus is unquestioned, the organism having been found in the blood, in the urine and in the gall-bladder during life. The presence of staphylococci and streptococci in the second blood culture must be ascribed to an agonal invasion. The development of a positive Widal reaction in dilution of 1 to 250 several days after the patient was admitted into the hospital would make it appear very probable that the patient also suffered from an infection by the typhoid bacillus. The presence of a positive reaction after the blood had given absolutely no reaction for several days shows clearly that the reaction can not be ascribed to an attack of typhoid fever at any considerable length of time previous to his last illness. The positive reaction of the typhoid bacillus can also not be ascribed to the paracolon infection because in all the cases of paracolon infection heretofore reported the Widal reaction has been present even in small dilutions, and in all the experimental work in immunizing animals with organisms of the colon group, a reaction with the typhoid bacillus, if it was developed at all, was developed in only small dilutions as compared with the reaction obtained with the infected colon bacillus itself.

Taking the presence of the positive Widal reaction together with the presence in the ileum of the recently healed and healing ulcers, one can not but conclude that the probability in this case is a strong one that the patient suffered from an ambulatory typhoid to which the paracolon infection was secondary. The absence of the typhoid bacillus in all the examinations prevents one from saying positively that such was the case, but on the other hand, indicates that the paracolon infection must have been secondary and had overgrown the typhoid bacilli which had originally caused the infection of the patient.

In my complete paper on the bacteriologic aspect of this case I shall enter into a fuller discussion of these matters and cite some similar but less striking observations in the literature.

COMMENTS AS TO THE DIAGNOSIS.

A. A. BERG.

When first seen by the writer the history of the patient's illness, the symptoms and the physical findings suggested the following possible diagnoses:

First, empyema of the gall-bladder with cholangitis; second, abscess of the liver with cholangitis; third, typhoid fever with cholecystitis; fourth, infarction in the liver secondary to an endocarditis. The last condition was considered highly improbable for the following reasons: there were no evidences of a recent endocarditis, such as disturbed cardiac rhythm, disturbed compensation, pain over the heart, etc., and there were no evidences of emboli in other parts of the body, nor were petechiæ present. The liver was not enlarged as would have been expected in a case of infarction.

As regards the presence of typhoid fever there was no evidence exclusive of the existence of fever, to bear out such a conclusion; there was no roseola and no evident enlargement of the spleen.

At the time I first saw the patient no Widal test or Ehrlich reaction had been made. On the patient's admission to the hospital these were both negative. The subsequent developments in the case, however, and the findings at autopsy, indicate that typhoid fever had probably been present. This would lead us to the assumption that the typhoid fever had been of the ambulatory type and had run the main part of its course before the onset of the marked abdominal symptoms.

The ruling out of these two conditions brought us to the consideration of an abscess of the liver or an empyema of the gall-bladder and no positive conclusion could be arrived at as to which lesion was present. As against abscess was the absence of evidence of any ulceration of the intestine or of the existence of a suppurating focus in some other part; furthermore, in favor of empyema of the gall-bladder was the pain described by the attending physician as typical of biliary colic (still, the mass that was to be felt in the epigastrium did not feel quite like a gall-bladder—its edge was rather too sharp to be taken for this viscus). The slight jaundice might have existed in both conditions. The friction râles over the liver pointed rather to a hepatitis than an empyema of the gall-bladder, though they may have been dependent upon a cholangitis. The hyperleucocytosis pointed to suppuration. It seemed to the writer that the patient was most probably suffering from an empyema of the gall-bladder with cholangitis and perihepatitis, though an abscess of the liver with perihepatitis could not be altogether excluded, and on this basis operation was undertaken.

According to the postmortem report, the gall-bladder was normal, but our inability to express the bile from the gall-bladder through the ducts, indicated that an inflammatory swelling of the mucosa of the cystic duct was probably present. This obstruction would explain the biliary colic, and sufficient fibrin was found on the surface of the liver to account for the friction râles. The acute degeneration of the liver and the perihepatitis no doubt account in great measure for the jaundice and the severe local symptoms.

CLINICAL MANIFESTATIONS OF THE EARLY STAGES OF CIRRHOSIS OF THE LIVER.*

FRANK BILLINGS, M.D.

CHICAGO.

Among my ambulatory patients, especially in the office, I have been surprised to find a relatively large number who have applied for relief of various symptoms in whom a palpable, usually tender and enlarged liver could be demonstrated. The symptoms, in the main, were in many patients those of neurasthenia, in others myalgia or a mono-neuritis, or, most frequently, some gastro-intestinal disturbance. In a few cases arthritis was complained of and the affected joints showed evidence of that trouble.

* Read at the meeting of the Association of Physicians at Washington, D. C., April 30, 1902.

AN ILLUSTRATIVE CASE.

CASE 1.—B. M. F., aged 54, male, lumber dealer, residence Chicago. The father died of tuberculosis. No other history of inherited disease in the family. Has used alcohol to a very moderate and irregular degree. Smokes moderately.

Previous Sickness.—The patient had typhoid fever when 15, from which he made a good recovery and enjoyed perfect health until about 20 years ago. Since that time he has had more or less rheumatism, as he terms it, affecting the muscles, especially of the back; 15 years ago he had pain in the left shoulder and the arm was almost helpless. During the last year he has had pain in the right knee which was at first swollen and painful and later painful when walking or when the leg was extended and flexed upon the thigh. He has been upon a diet almost free from meats for the last eight months and the knee has improved somewhat. He spent a considerable time at Hot Springs, Ark., last spring without relief.

Examination showed a well-preserved man. The chest was negative. The liver dulness extended from the sixth rib in the mammary line to below the costal arch, its lower border was palpable, its edge sharp, the consistency increased and tenderness was marked upon firm pressure. The tenderness was felt not only at the point of pressure in the mammary line, but caused also a sharp pain in the epigastrium. This reflection of the pain of a tender liver to the epigastrium when the right lobe was pressed upon below the costal arch was noted in several other cases. The spleen was not palpable. Knee jerks were present. There was distinct crepitus in both knees upon passive flexion and extension, more marked in the right than the left. The right knee was slightly larger than the left and there was slight tenderness over the joint when firm pressure was made, with flexion and extension of the leg. The urine showed sp. gr. 1.022, acid reaction, no albumin, no sugar, no casts, urea 2 per cent.

The diagnosis of chronic interstitial hepatitis with auto-intoxication with resulting arthritis was made.

Treatment.—The patient was placed upon a diet free from the red meats and allowed no sweets. A flannel bandage was ordered for each knee and the patient told to exercise daily by walking and to also forcibly extend and flex the knees morning and evening while lying on the back. The medication ordered was 10 gr. doses of the muriate of ammonia after meals, with a sufficient amount of phosphate of soda in hot water on rising to move the bowels daily.

January 30, 1901, the patient was re-examined and found much improved. The liver was still palpable, but less tender and apparently less indurated. There was much less crepitation in the knees. The general management and the medication were continued. On May 11 the patient was again examined, when he complained of some dragging, aching pain in the right hypochondrium with considerable gaseous eructation and epigastric weight after eating. The physical findings were about the same as upon the last examination.

July 11 the patient complained only of itching of the skin which was associated with severe sweating, incident to the hot weather. The liver was less large, less tender and less indurated. He was given 20 gr. doses of the bicarbonate of soda after meals.

October 11 the patient expressed himself as feeling perfectly well. The liver could be felt as a mass descending with inspiration, but its edge could not be felt and it seemed normal in consistency and was not tender. There was no crepitation in the knees and no lameness.

December 3 the patient was seen for the last time. The physical findings were negative as at the time of the last examination. He complained of some fermentative dyspepsia, but was otherwise well. The urine at this time gave a sp. gr. of 1.022, acid reaction, no sugar, no albumin, no casts. He was advised to continue the diet ordered when first seen, to take a good deal of outdoor exercise and to drink water freely as a diluent on rising and three or four hours after each meal.

REMARKS ON THE CASE.

The case is quoted in full as a not unusual one of a group I shall report, in the history he presented, in the physical findings and in the very favorable results noted.

I wish to say at this point that I do not quote this case as one showing a beginning chronic interstitial hepatitis which was cured by the management noted. It would be very intemperate to say that this case and the others which I shall report were all cases of hepatitis, and that in this and in some others a cure occurred. It is reasonable to suppose that the proliferation of connective tissue which occurs in hepatitis does not resolve and that the improvement in the physical condition of the organ noted was not due to the removal of the inflammatory products, but possibly the relief only of the hyperemia incident to the condition.

I do not make this report with the view of adding anything really new to the treatment of hepatitis, but to mention the many symptoms found in patients with a palpable, tender, often enlarged liver and the co-incident disappearance of many of the symptoms with an apparent restoration of the liver to its normal size, consistency and sensation to touch.

PALPATION OF THE NORMAL LIVER.

It may be well to note at this point that in health the liver is not easily palpated. A liver of normal consistency and size, with not abnormally thick abdominal walls, may be felt as a mass descending against the palpating hand below the costal arch in the anterior axillary line. One can not feel its edge and would not know by the feel that it was a liver without the knowledge that the liver usually occupies that situation. With an abnormally thick abdominal wall, even this descending mass can not be felt upon the deepest inspiration.

THE ABDOMINAL LIVER USUALLY PALPABLE.

If one can make out the edge of the liver or can palpate the mass which can be recognized by its contour as the liver, it is not a normal one but is increased in its density and is usually large, although it may be smaller than normal. A palpable liver edge can usually be recognized by the notch in the anterior border which marks the point of separation between the right and left lobes.

A symmetrically enlarged and sharp-edged palpable liver is not necessarily a cirrhotic one; that is due to an increase in the connective tissue element. Passive congestion from a weak right heart, bile stasis from obstruction of the common or hepatic ducts, fatty or amyloid infiltration, may present the same contour and consistence of the liver. The smoothness of the surface of the liver in the early stage of cirrhosis may also resemble the enlargement of the liver due to the conditions named.

Again, one can not state that a cirrhotic liver is in the first stage because it is palpable, indurated, sharp-edged and even tender, for we know that collateral circulation may occur in many of the cases of cirrhosis of the liver, and the venous obstruction and consequent abdominal dropsy, which is so characteristic of the late stage of the disease, may be postponed indefinitely or not appear at all.

Collateral circulation may occur through an enlargement of the deeper veins too, without an enlargement of the branches of the epigastric and of the internal mammary veins which are so often noted enlarged in cirrhosis of the liver with dropsy. The deeper veins which take part in the establishment of collateral circulation are the veins of the suspensory ligament, the diaphragm, the azygos, the esophageal and the gastro-epiploic. If the collateral circulation so established is sufficient, dropsy will not occur and even the superficial veins of the abdomen may remain slightly if at all enlarged. In these cases, therefore, the symptoms will be

chiefly due to the intoxication incident to the cirrhosis of the liver, while the venous obstruction which usually gives rise to dropsy of the peritoneum and to enlargement of the superficial abdominal veins, will remain absent. It is true that hemorrhage from the stomach due to a rupture of the enlarged veins of the stomach wall or of the esophagus may occur as a symptom of the venous obstruction and this, too, in a relatively early period of the disease.

STATISTICAL SUMMARY OF THE CASES.

In presenting these cases I have excluded all cases of palpable liver associated with diabetes mellitus, of heart incompetency with chronic venous stasis, of Bright's disease with associated cardiac weakness and venous stasis, of gallstones or other disease obstructing the bile ducts with consequent bile stasis and of all cases of cirrhosis with evidences of portal vein obstruction.

The cases were therefore selected as probable ones of the primary stage of cirrhosis because: first, the liver was palpable, enlarged, usually tender to the touch and had a sharp indurated edge; second, the absence of evidence of other causes of enlargement and induration of the liver; and third, the absence of evidences of portal obstruction. Two cases while under observation developed ascites and were therefore recognized in the early stage.

During the last three years 54 patients have presented themselves with the conditions of liver named above. Of this group all were males. The ages ranged from 30 to 60 years: 11 were from 30 to 40 years, 25 from 40 to 50, 18 from 50 to 60. The ages of the groups correspond to the ages in which atrophic cirrhosis usually occurs.

Three were saloon-keepers and one a brewery agent. The remainder had varied occupations which could have no relation to the disease. One only confessed that he had suffered from syphilis and in none was evidence of syphilis found. Three had suffered from gonorrhea. Twenty-five, or almost one-half the number, confessed to the use of alcoholic beverages, usually whisky in excessive amount; that is, from 6 to 20 drinks a day. Eighteen, or 33 per cent., admitted using alcoholic beverages in small amounts; that is, from 1 to 3 drinks daily—or taking it at irregular intervals in small amounts.

Eleven, or about 20 per cent., denied the use of alcohol at all, and in the case of some of them I know the statement to be true. This is a large proportion to suffer from atrophic cirrhosis not due to alcohol. In these I was unable to trace any other cause for the cirrhosis, as for example, lead poisoning, malaria, previous acute infectious disease, etc.

The majority of the cases sought consultation for some form of disturbance of the digestive tract; 15 had morning nausea and vomiting. This is a form of disturbance common to cirrhosis in all cases and is doubtless due to catarrhal gastritis. The following case illustrates this condition:

ILLUSTRATING CATARRHAL GASTRITIS.

CASE 2.—J. M., aged 32, single, no occupation. Presented himself Nov. 20, 1900. Family history good.

Personal History and Symptoms.—He had had the acute diseases of childhood, but had always been strong and healthy and recovered quickly from simple acute infections. Had taken exercise. Several years ago he was a hard drinker, using from 3 to 50 drinks a day. He smoked moderately. He had suffered from gonorrhea but never had syphilis. He had acute articular rheumatism in 1896. He sought the consultation for stomach trouble. This began while he was drinking and manifested itself by pain and a sense of heaviness and fulness in the epigastrium after meals. Occasionally there was morning nausea with gagging and coughing up of slimy mucus. There was much flatulence and the bowels were inclined to be loose. The appetite was usually good. He had less strength, endurance and energy than formerly. He complained of pain in the back, aggravated by stooping, and also a sense of heaviness in the region of the liver. His weight was 10 pounds less than two years before.

Examination showed some tenderness in the epigastrium, the edge of the liver palpable below the costal arch, moderately hard and tender. The upper line of dulness began at the sixth rib in the mammary line. The heart and lungs were negative. The spleen was not palpable. The urine: sp. gr. 1.009, pale straw color, acid reaction, no albumin, no sugar, no casts.

Treatment.—He was placed upon a diet free from sweets, greases and rich mixtures, and was given hot water a half hour before each meal. Muriate of ammonia in 10 gr. doses was used after meals and phosphate of soda in hot water when necessary as a laxative in the morning. The patient returned on January 14, and said that he was very much improved.

Recurrence.—He remained so until recently, when he again drank alcohol to excess. Since that time he has had a return of the old symptoms. The physical condition was practically as upon the first examination, although the liver was somewhat more tender. The same treatment was continued. On May 24, 1901, the patient reappeared and stated that he was in perfect health. The liver edge was still palpable but not tender, but could only be felt at the end of a deep inspiration.

REMARKS ON THE CASE.

This case was an undoubted one of alcoholic cirrhosis in the early stage and there can be no question that many of the symptoms of which he complained were toxic in character. The relief was doubtless due to better hygiene and also to the more temperate use of alcoholic beverages.

Gastritis is commonly found also in alcoholic abuse with or without evident cirrhosis of the liver. Congestion of the blood vessels of the stomach from portal stasis from any cause will also cause morning nausea and vomiting.

Twenty-three others of the group suffered from fermentative dyspepsia manifested by epigastric weight, pain and tenderness with eructation of gas, flatulence, etc. The following is a case in point:

FERMENTATIVE DYSPEPSIA AS A SYMPTOM.

CASE 3.—A. T., aged 32, married, sewer contractor. Presented himself Nov. 28, 1901.

History.—His family history was negative. His health had always been good until the present illness. He had not used tobacco nor alcohol and denied venereal disease. He complained of fulness and weight with belching of gas one to one and a half hours after meals. With this was a sense of weakness and some pain in the epigastrium. Occasional lumbar muscular soreness and headache which lasted for several days at a time. Appetite was poor and the bowels constipated. Had lost 10 pounds in weight during the past year.

Examination showed a fairly well-nourished man. Negative findings in the head, neck and lungs. The heart dulness extended from 1½ cm. to the right of the sternum to 2½ cm. to the left of the left nipple; the upper border to the third rib. The apex beat in the fifth interspace 2 cm. outside of the left nipple. The pulmonic second sound accentuated. The liver extended from the sixth interspace in the mammary line to one finger's breadth below the costal arch; its edge was easily palpable and tender and the consistency of the liver was increased. The spleen was not palpable. A single specimen of urine was amber-colored, acid reaction, sp. gr. 1.025, no albumin, no sugar, no casts.

A diagnosis of hepatitis with resulting toxemia was made and patient was placed upon a simple diet without sweets or greases and with plenty of hot water between meals. He was given dram doses of phosphate of soda in hot water on rising in the morning, with the mistura rhei et sodæ, 2 dr. after meals.

December 19 the patient again presented himself and expressed a sense of much improvement in health. The digestive disturbance was practically gone; the bowels were still constipated but moved with the phosphate of soda. The liver was found still somewhat enlarged, its edge sharp and tender. The patient has not been seen since that time.

GASTROINTESTINAL DISTURBANCES.

As this patient had a mitral insufficiency, the question would naturally arise, was the liver condition due to passive venous stasis? This was probably not true, because there was no sign of broken compensation. The lungs were clear; the spleen was not palpable and the urine was normal.

Thus 38, or about 65 per cent., suffered from disturbance of the digestive tract, chiefly of the stomach; 26 were constipated, requiring the use of medicine to move the bowels; 4 suffered from diarrhea; 3 had alternation diarrhea and constipation; 21 had regular daily bowel movements; only 3 of the group suffered from hemorrhoids.

Hemorrhoids in cirrhosis of the liver is not an uncommon result of obstruction of the portal circulation. It is also claimed by some writers that an associated rectal tenesmus is a not uncommon symptom of the beginning of obstruction of the portal circulation. I was surprised to find that so few of this group suffered from an enlargement of the hemorrhoidal veins.

THE COMPLICATION OF MUSCULAR PAIN.

Next to the disturbance of the digestive tract, the most common complaint was of muscular rheumatism, so-called: 12 suffered from lumbago, for which they sought the consultation; 19 from muscular soreness elsewhere in the body, usually, however, combined with lumbago; 2 from sciatica and 2 from musculo-spiral neuritis; 5 had severe headache, usually associated with symptoms of stomach disturbance; 2, arthritis of both knees which had been diagnosed and treated as rheumatism; 8 presented classic symptoms of neurasthenia; that is, lethargy, lessened strength and endurance, nervousness, sleepiness during the day and insomnia at night. The following case illustrates the neurasthenic element:

NEURASTHENIA.

Case 4.—B. C., aged 45, single, lumber dealer, residence in Mississippi. Appeared Jan. 16, 1901.

History.—Mother died of cancer of the breast; father of pernicious anemia at 68 years. The patient smoked to excess both cigars and pipe. He had taken from 1 to 6 drinks of whisky a day for several years. Denied venereal disease. Recalled no acute disease during his life. For 6 years had been working 13 to 14 hours a day, taking practically no vacation and no recreation. About one and a half years ago he began to be irritable and nervous and these symptoms became worse with time. For six months he had had pressure at the base of the brain with a sense of heat, numbness and tingling of the skin in places. He had less strength and endurance than formerly and suffered from shortness of breath and palpitation of the heart upon exertion. He was much annoyed by a sense of pressure over the sternum, was often sleepy during the day and suffered from insomnia at night. He was more emotional than formerly. His appetite was usually good, but he suffered from morning nausea and regurgitation of fluids and gas, especially after eating. The bowels were sluggish. He had paid no attention to the selection of foods in his diet and had eaten all sorts of greases and indigestible food. His weight was 136 pounds—average being 155.

Examination.—Poorly developed, thin of flesh. Pupils reacted slowly to light and accommodation. Chest negative. The liver edge extended from the sixth rib in the mammary line to one inch below costal arch where it was easily palpable. The edge was sharp and tender and liver density much increased. The blood showed no plasmodia of malaria. The spleen not palpable. The urine: sp. gr. 1.013, pale, alkaline, no albumin, no sugar. Earthy phosphates were deposited.

Treatment.—He was advised to remain north and rest from his business, to take a simple diet, with cold baths in the morning, to stop entirely the use of alcoholic beverages and to diminish the amount of tobacco. A saline was given in hot water on rising in the morning and the mistura rhei et sodæ 2 dr. before meals.

January 31 the patient stated he had had two chills in one afternoon since his last visit; but that he had been very nervous at the time and the chill was not followed by any perceptible increase in temperature and no sweat. He slept better, the appetite was improved and the weight increased 2½ pounds. The physical examination presented the same conditions as upon the first examination.

February 14 the patient was still more improved; there was no nausea and the digestion was practically normal. The bowels were still sluggish and the stools not formed.

March 4 the patient presented himself for an acute coryza, but stated that his general condition was very much improved as compared with his condition when he first began treatment. His weight had increased 5 pounds. The liver was still palpable, but much less tender. Treatment was continued.

REMARKS ON THE CASE.

This patient's condition was doubtless due to his overwork and especially to his habits of life and the alcoholic misuse. There was doubtless an alcoholic gastritis and there was certainly a hepatitis. The improvement was very marked and steady from the beginning of the improved hygiene. The symptoms were doubtless due to the toxemia incident to the liver and stomach condition, but probably more to the defective liver than to any other cause.

OTHER COMPLICATIONS.

Five suffered from chronic pharyngitis, which is not uncommon in alcoholism, and 3 had chronic bronchitis; 13 complained of dragging sensations and soreness in the right hypochondrium, which was aggravated by long standing and increased by palpation of the liver and was usually relieved by lying down. Tenderness of the liver was found on palpation in the 13 named above and also in some of the remaining group who did not suffer from the dragging sensation and tenderness in the right hypochondrium.

ASSOCIATED KIDNEY DISEASE.

The urine was normal in 42 cases, that is, it contained no abnormal elements. The specific gravity was not high, as a rule, contrary to the condition usually found when the portal circulation is obstructed. The highest specific gravity was 1.027. In only 2 cases was the specific gravity below 1.010. In all the cases examined the total solids and total urea excreted were within normal limit. A trace only of albumin was found in 12 cases and this was usually associated with the presence of hyalin and in 3 cases, of granular casts.

Chronic interstitial nephritis is not an uncommon association with cirrhosis of the liver of alcoholic origin and evidences of a mild degree of nephritis in 12 of the cases is therefore not surprising.

Glycosuria ranging from a trace to .8 per cent. was found in 4 cases, but there was no polyuria, no hunger or thirst and no wasting. The following is one of the four cases:

A CASE WITH GLYCOSURIA.

Case 5.—J. J. E., aged 58, married, railroad master mechanic. Was seen first Nov. 17, 1900. A brother died at 48 of diabetes. Family history otherwise negative.

History and Symptoms.—He has used tobacco very moderately, but none for several years; he used a little alcohol in

the form of beer and wine. He denies venereal disease, had typhoid fever at 22 and pneumonia at 53; has always worked hard and has usually been in good health. Eighteen months ago he noticed that he became more easily tired than usual and had gaseous fermentation with slight constipation. He voided the urine naturally and in not increased amount. His physician found sugar in the urine, but did not state the percentage. He spent the summer of 1899 at Carlsbad and returned very much improved in general health. He now complains of lessened endurance and fatigue which comes with but little physical exertion and his work makes him nervous and fretful. He has a moderate appetite with some gaseous indigestion and no especial thirst. He uses a mixed diet with less starch than he used before the discovery of sugar in the urine, and uses claret or beer once a day with his meals. He uses both tea and coffee. His work requires him to be much out of doors and he is filling his position as a master-mechanic for a railroad, but says that he is not as able to grasp the details of his work as formerly. His present weight is 174 pounds, while 18 months ago it was 190 pounds, his usual weight.

Examination shows a well-built, fairly-nourished man. Tongue furred and slightly brownish in color. Pulse 70, regular, tension somewhat increased. Slight sclerosis of the palpable arteries. The heart dulness is one-half inch within the nipple line at the left, the base at the third rib and the right border at the right sternal edge. There is a faint apex systolic murmur made more manifest by a little exercise, which is not transmitted into the axilla. The aortic second sound is somewhat accentuated. The lungs are negative. The liver dulness begins at the sixth rib in the mammary line, the edge is palpable, sharp, firm and tender two inches below the costal margin. The spleen not palpable. The abdomen is otherwise negative. The urine, 1000 c.c. in 16 hours, color yellowish, reaction acid, sp. gr. 1.027, a trace of albumin and .8 per cent. of sugar; 2.4 per cent of urea, or 24 grms. in 16 hours. Solids for 16 hours 63 grms., of which 8 grms. are sugar.

Treatment.—Patient was placed upon a better hygiene in reference to food, the starches and dark meats diminished and the alcoholic beverages taken away and he was given strychnia 1/50 gr. before meals with 10 drops of a 1 per cent. solution of bromid of arsenic after meals.

December 28 the patient presented himself much improved. The amount of urine in 24 hours was 1800 c.c., reaction acid, sp. gr. 1.022, very slight trace of albumin, 0.8 per cent. of sugar, 1 per cent. of urea, no casts. His weight at this time was 173 pounds, his appetite good, his bowels regular and he made less complaint of neurasthenic symptoms. The liver edge could still be distinctly felt but was not as tender as when first examined.

May 4, 1901, there was 1200 c.c. of urine, sp. gr. 1.027, slight trace of albumin, 0.2 per cent. of sugar, 2 per cent. of urea, no casts. He had lost 4 pounds in weight. Otherwise there was nothing new. Treatment, both hygienic and medicinal, continued.

July 12 the amount of urine was 1500 c.c., color normal, reaction acid, sp. gr. 1.023, a very slight trace of albumin, a trace only of sugar, urea 2.4 per cent., and the sediment contained a few uric acid crystals but no casts. His weight at this time was 170 pounds, with a general improved subjective condition. There was a complaint, however, of pain and tenderness in the region of the right musculo-spiral nerve and slight lumbago. The liver edge could still be felt and slight tenderness remained. He was given 10 gr. doses of muriate of ammonia with the strychnia as before, while the arsenic was discontinued.

September 14 the amount of urine was 1400 c.c., reaction acid, sp. gr. 1.021, no albumin, sugar very faint trace, urea 1.6 per cent., a few hyalin casts and a few uric acid crystals. The liver area was still slightly increased and the induration and very slight tenderness still remained. The musculo-spiral neuritis was practically well. He complained only of slight gaseous fermentation in the stomach.

October 19 the urine was 1700 c.c., acid, sp. gr. 1.024, slight trace of albumin, 0.6 per cent. sugar, urea 1.6 per cent., a few granular casts, a few crystals of oxalate of lime and a few sugar spores. The patient felt well, appetite and digestion good, bowels regular and he presented himself at this time because he desired to have a re-examination. The liver area was still increased in size with some induration, but no tenderness. He had not been so careful with his diet and hence the slight increase in the amount of sugar in the urine. He was again placed upon the bromid of arsenic solution, 10-drop doses after meals, while the general management was continued.

ORIGIN OF THE GLYCOSURIA.

This patient would possibly be called a chronic diabetic, but at no time in his history had he a polyuria and the condition of the liver was such that the anatomic diagnosis of cirrhosis was justifiable. Furthermore, he suffered from toxemia, due, doubtless, to the liver condition. This toxemia manifested itself in a neurasthenic state, in myalgia and in a neuritis. I also believe that the glycosuria was due to the liver condition.

It is a well-known fact that sugar may appear in the urine in cirrhosis of the liver and cirrhosis is given as one of the causes of diabetes. It is also true that an induration of the liver with proliferation of connective tissue and degeneration of its cells occurs in diabetes.

Bile, a trace only, was found in 3 cases and was not constant in the 3 as it was not found after the first examination.

Microscopic blood was found in 2 cases and in 1 of these pus was present. The symptoms in both of these patients pointed to urinary calculus.

COMPLICATIONS OF THE BLOOD SYSTEM.

The spleen was palpably enlarged in 4 cases. It is known that the spleen is usually palpable in cirrhosis of the liver, due frequently to the venous stasis. It is also true that the spleen may be enlarged from the toxemia due to the cirrhosis or from the infection to which the cirrhosis is due.

Myocarditis occurred in 4, associated with arteriosclerosis of the palpable arteries. There was a mitral systolic murmur in 3; an aortic systolic murmur in 2 and a systolic murmur in the pulmonary area in 2. Inguinal hernia occurred in 3 and there was a palpable right kidney in 4 of the patients.

The existence of arteriosclerosis and cardiac disease in a few of the group had no causative relation to the liver condition I think, because the heart was competent in all of the patients examined.

The presence of calculi in the urinary tract was probably accidental, although it would be consistent to believe that the liver cirrhosis would result in mal-assimilation, possibly leucocytosis with an increase of uric acid and consequently a deposition in the previously bacteriologically infected kidney.

MECHANISM OF THE SYMPTOMS.

Cirrhosis of the liver gives rise to symptoms which depend upon two conditions: first, those due to portal obstruction, and second, those due to intoxication in consequence, apparently, of the failure of the diseased liver to modify the products of digestion and the other material absorbed from the digestive tract. The toxemia is further intensified doubtless by the passage of the toxic material from the digestive tract directly to the blood through the collateral circulation. Symptoms of cirrhosis of the liver are therefore usually referred to as obstructive and toxic.

It has appeared to me that the symptoms in the cases presented could be rationally interpreted as due to a toxemia in consequence of the changed anatomy of the liver.

It may be maintained by some that the symptoms

noted in these cases occur in patients who have no recognizable change in the liver. Many attribute similar and like symptoms to toxemia from gastrointestinal disorders, with faulty liver action without recognized anatomic defect, or to uric acid in excess from faults of the table, or to defective excretion of waste material through the bowels, skin and kidneys. I shall not attempt to oppose these propositions.

CAUSES OF RELIEF OF SYMPTOMS.

As stated above, the cases are presented with a statement of the positive, anatomic, clinical findings and with the subjective symptoms for which the patients sought the consultation.

It may be true that the symptoms were not due to the changed anatomy of the liver, although, as stated above, the coincident improvement in the liver condition with the disappearance of subjective and objective phenomena was striking in some cases.

It is also true that the improvement occurred most markedly in those patients who followed the general management advised, in the way of abstinence from alcoholic drink, in a regulation of the diet to a very simple one, in the adoption of physical exercise or other recreation, and in the use of water as a diluent drink. The improvement was also co-incident with and in direct ratio, usually, to the improvement in the elimination of waste through the bowels, skin and kidneys.

Admitting this, it does not alter the proposition that the symptoms were due to, or at least aggravated by, changed liver structure. The admitted auto-intoxication association with the indigestion of gastritis or of neurosis of the stomach, or of the toxemia of constipation, etc., would rationally be intensified by a crippled liver.

The fact noted in several cases of improvement in the liver condition with the adopted better hygiene, is important.

In these cases the commonly-associated digestive disturbance was improved or disappeared. Would it be fair, therefore, to believe that the liver condition was due to the abnormal condition of the digestive tract? If so, was the improved liver condition due to the bettered state of the stomach and bowels? If this is granted, one would rationally believe that a beginning liver cirrhosis was checked.

Unfortunately, we do not know the nature of the toxin which occurs in cirrhosis of the liver, nor do we understand what the poison is which occurs in auto-intoxication from indigestion due to disease of the stomach and bowels or to faulty diet, or to constipation, etc. Consequently, our deductions, be they ever so rational, are not truly scientific and are consequently open to controversy and criticism.

DIET, HABITS AND HYGIENE.

The treatment followed in the cases reported was an attempt in each case to find the hygienic faults. The diet chosen was made free of heavy meats, of rich mixtures, of greases and sweets and of much fluid with the meals. Alcoholic drink was prohibited. Water was advised as a diluent on rising and three or four hours after each meal. Recreation in the true sense of the word was advised for each. This in the majority consisted of outdoor work or play.

MEDICINAL TREATMENT.

The medication followed was indifferent, but the principle followed was to keep the bowels free with the use of a saline in hot water, one-half hour before breakfast. The mistura Rhei et Sodæ (U. S. P.) with or without tincture of nux vomica in doses of 2 to 4 dr. before or after meals. Digestive ferments were not used. When hydrochloric acid was deficient in the stomach contents, it was given after meals.

Muriate of ammonia in 10 gr. doses was used in some cases because in the writer's experience its use in cirrhosis of the liver has been coincident with improvement in the liver condition in many cases. Kussmaul many years ago advised the use of ammonium chlorid in the early stage of cirrhosis and I have used it much since that time.

However, in the light of a considerable experience, it is my belief that an improved hygiene, with the use of a saline purgative when it is necessary, will give results quite as good without as with the use of other drugs.

100 State Street.

HEMOSTASIS OF THE BROAD LIGAMENT.

HENRY P. NEWMAN, A.M., M.D.
Professor of Gynecology, College of Physicians and Surgeons, Chicago; Medical Department of the University of Illinois, and Professor of Gynecology, Chicago Policlinic.
CHICAGO.

The almost universal employment of the absorbable ligature in surgery of the broad ligament is in itself a

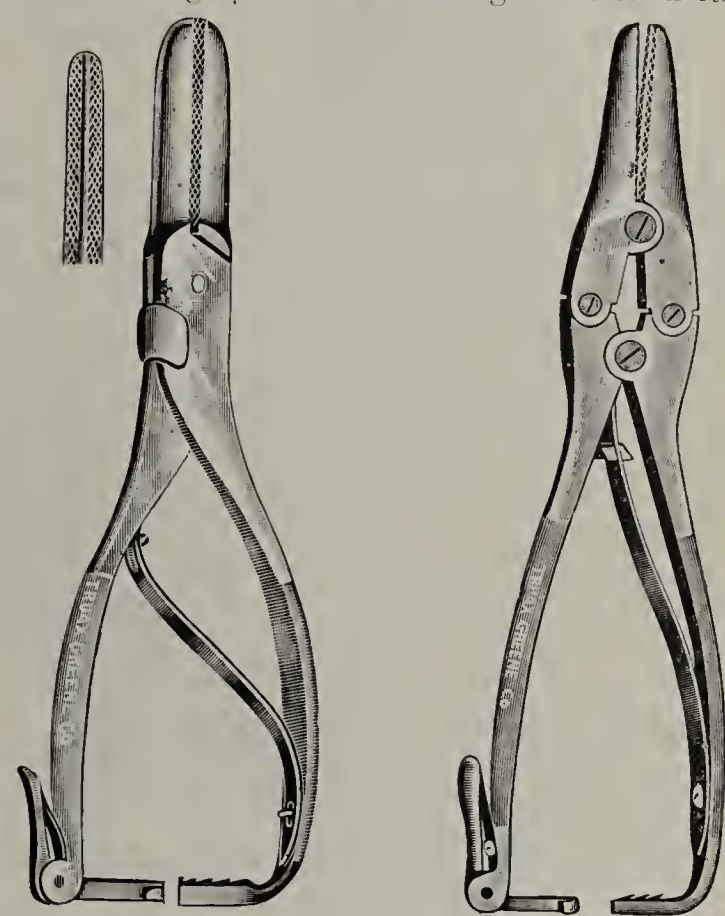


Fig. 1.—The Newman pressure clamp. Model *a*. Designed for both abdominal and vaginal work. Model *b*. The more powerful instrument for use in cases where 1000 lbs. or more pressure is required.

confession of the imperfection of our present methods, a protest against the retention of the foreign body in peritoneal wounds, an admission that the less ligature material we use the better. A glance back over the last few decades gives an impressive showing of efforts to do away with it altogether, and while no instrument or appliance has yet been offered upon which we can rely in all circumstances, the écraseur, thermocautery, torsion, retention forceps, electrothermic forceps and the angiotribe mark the several stages of progression towards the ideal hemostatic. This should insure: 1. Absolute security against hemorrhage, primary or secondary. 2. Protection against septic contamination. 3. The minimum injury to the parts treated. 4. Absence of foreign bodies from the wound.

By the use of the electrothermic forceps and the angiotribe we can approach very nearly these ideal conditions, but there are some objections which render both impracticable for general use. The former can only be used where there is an electric apparatus at hand, and is thus seldom available except in hospital service.

The latter instrument is made after too many models, is often imperfectly constructed, so that it fails in some

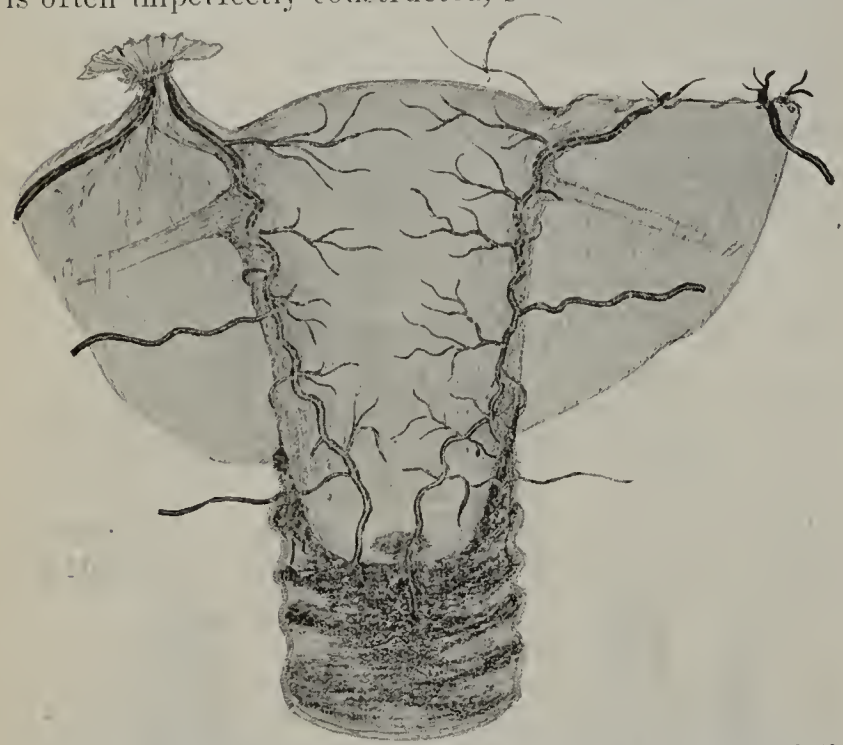


Fig. 2.—Representing the usual methods of hemostasis of the broad ligament: *a*, en masse ligation, right side; *b*, individual ligation, left side, with running catgut suture of gaping stump.

vital particular, or it is carelessly used, so that it has not given thus far uniformly satisfactory results.

My own experience with the angiotribe has been most gratifying. In several scores of cases, embracing all varieties of work, I have never had a secondary hemor-

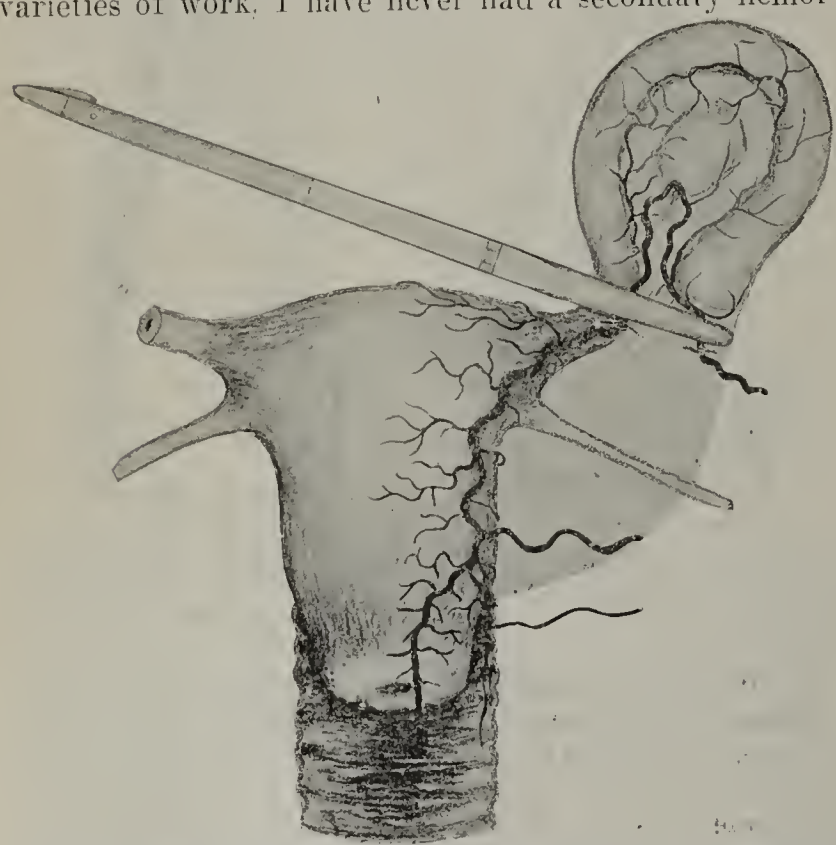


Fig. 3.—The application of the pressure clamp in abdominal excision of the appendages. The same principles are applied in the vaginal operation.

rhage. I have, however, used it with discretion, and in special cases fortified my stumps with an individual catgut ligature, encircling the ovarian or uterine artery in its course along the broad ligament. The advantages of this procedure are apparent when we consider what are the objections to the usual methods of ligation.

In ligation *en masse* there is the danger of loosening and slipping of the ligature from shrinkage of the stump (Fig. 2 a.); the larger vessels may retract and bleed into the cellular tissue, producing hematoma, of which Tait once tabulated eighty cases; tissue necrosis and the formation of granulating surfaces may give rise to troublesome adhesions; the absorption into the circulation of the waste products of necrosis or saprophitic germs puts an added burden upon nature's resources and retards convalescence; the drawing upon neighboring structures may cause displacement of organs and more or less constant distress or pain; again this method necessitates the employment of large-sized catgut with correspondingly large knots. (Fig. 2 a.)

The objections to individual ligation, on the other hand, are greater danger of secondary hemorrhage; oozing from the stump; the necessity of the running catgut suture to approximate raw surfaces; too much ligature and suture material left in the wound. (Fig. 2 b.)

Of the two methods, individual ligation is the better; but few of us feel safe in tying with catgut the terminal end of a large pulsating vessel and then closing the abdominal wound.

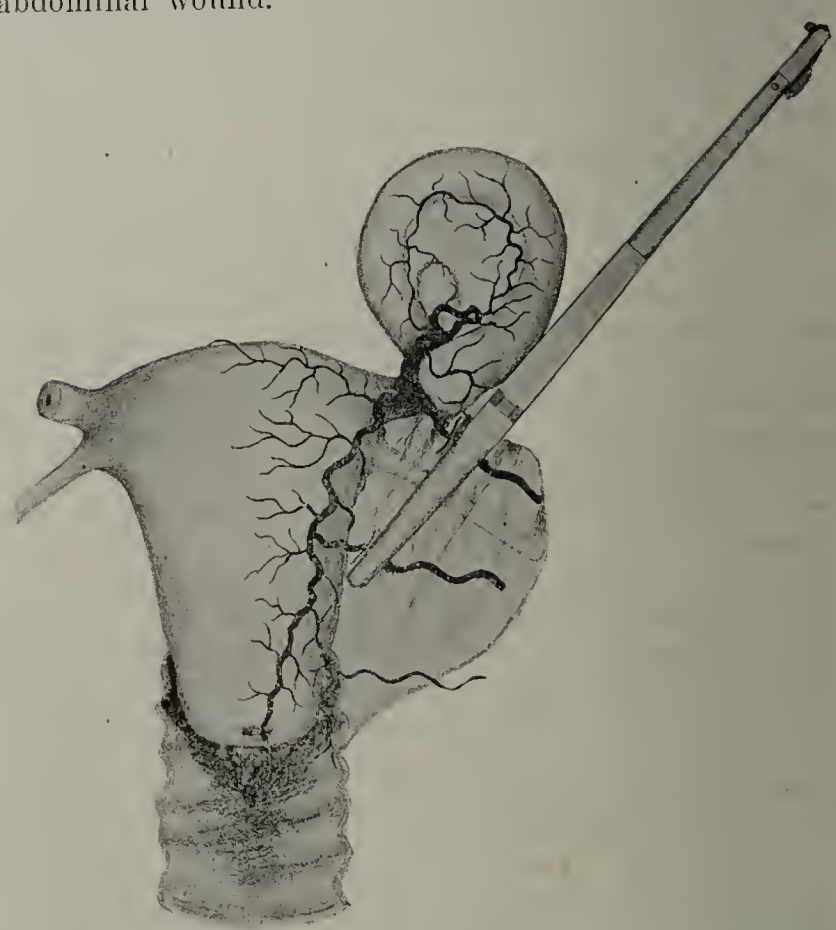


Fig. 4.—Mode of applying the pressure clamp for abdominal hysterectomy. The same principles to be applied in vaginal hysterectomy.

The method which I employ aims to do away with the objections and unite the advantages of the others. The Newman pressure clamp (Fig. 1, models a and b) is applied in the usual manner, if for excision of the appendages or tumors with pedicle, along the roof of the broad ligament (Fig. 3), or directly across the pedicle.

In the former case the bite of the clamp includes the ovarian artery, and by turning the closed instrument half way on the side the artery can readily be seen and encircled by a small catgut ligature just beneath the clamp and on the proximal side of the broad ligament. The main artery is in this way secured, and in the most advantageous way possible, individually and before it emerges from its moorings in the tissues, thus preventing all thought of slipping from the grasp of the ligature. The clamp is removed and the neat, linear stump (Fig. 5) receives no further treatment unless it be septic, as in the case of pus-tubes, when I am accustomed to apply 95 per cent. carbolic acid to the entire cut surface at the site of amputation, or resect the

interstitial portion of the tube, closing the wound in the usual manner with a running catgut:

If by reason of anatomic anomaly or enlargement of the collateral branches a second ligature is necessary, it is applied after or before the removal of the clamp, but always in its course in the substance of the tissue and often in the parchment-like clamped portion.

In hysterectomy both the uterine and ovarian arteries are clamped off and tied in precisely the same manner (Fig. 4).

Used in this way there can be no slipping of the ligature, or contracting and withdrawing of the artery from the stump. The advantages claimed for this method are:

1. Complete and permanent hemostasis, with no pos-

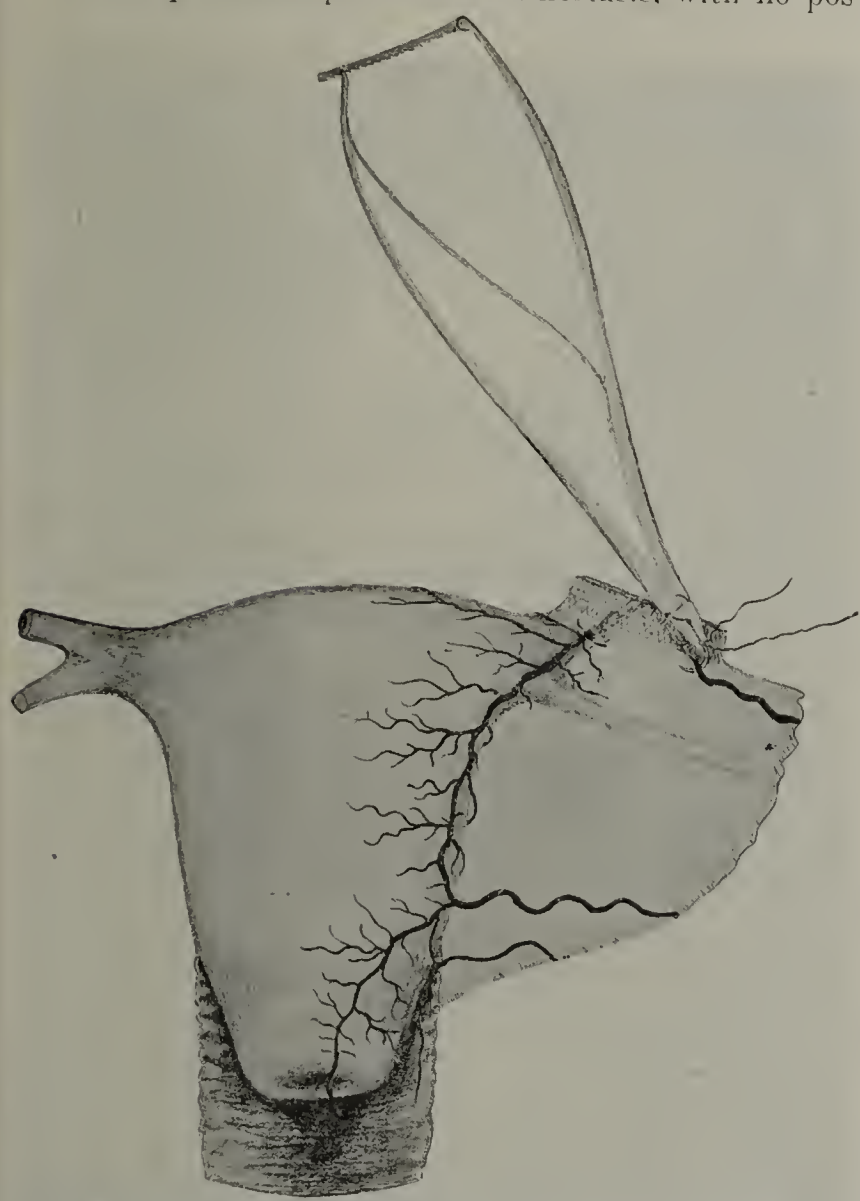


Fig. 5.—The linear stump after the use of the Newman clamp and ligation of the ovarian artery.

sibility of the ligature slipping either off the end of the artery or of the stump.

2. Inability of the artery to contract and draw away from the grasp of the ligature and form hematoma or hematocele.

3. By the combined use of the angiotribe and ligature multiple thrombi are formed, plugging the vessels most securely.

4. There is no puckering up or massing together of broad ligament tissue to draw upon or displace other organs or structures.

5. No strangulated stump tissue remains to slough, granulate and form adhesions.

6. The amount of foreign matter left in the wound is reduced to a minimum.

7. The rapidity of this method and its bloodlessness materially lessen the danger of postoperative shock.

8. Convalescence is eased materially and hastened to a marked degree.

100 State Street.

Clinical Report.

VALUE OF METHYLENE BLUE IN OPERATING ON FISTULOUS TRACTS.

THEO. G. DAVIS, M.D.

BRIEGETON, N. J.

On June 23, 1901, I was called by Dr. S. to see Miss B., aged 43, she having had during the previous winter an abscess, situated between the right tuberosity of ischium, and anus, opened and twice operated on by a Philadelphia surgeon.

This had refused to heal. On examination, a line of scar tissue was found to extend from the outer side of the anal sphincter almost to the ischial tuberosity; about the center of the scar was a small opening from which oozed pus and the margins of which were undermined and unhealthy. A probe passed upward and outward into the right ischio-rectal fossa, a distance of three and one-fourth inches, but no opening into the rectum could be detected at this examination. The tract was cleaned by hydrogen dioxid and water, equal parts, and afterward with alcohol 50 per cent.; this was continued for about two weeks, tenderness disappeared and the general appearance improved. On using hydrogen dioxid, in full strength with force, a very slight foam discharged from the anus.

Examination by speculum revealed a minute opening about three inches above the anal margin. The patient's general health had improved and we determined on an operation.

Whether by inspiration or unconscious plagiarism, which is so common, I resolved to inject the tract with a solution of methylene blue, thirty grains in an ounce of 50 per cent. alcohol. This was done with considerable force three times during twenty-four hours. The patient having been prepared and an anesthetic administered, the anus was stretched and the small opening in the rectum, stained blue, could be easily seen nearly three inches above the anal margin. A grooved director was passed and the intervening tissue, including the sphincter, divided; separating the edges of the incision, the fistulous tract could be plainly seen stained a deep blue and Y shaped, the prong of the Y, extending into the ischio-rectal fossa, was about one and three-fourths inches; the straight line opening externally was the same length.

The deeply-stained tissue could be easily distinguished, and was removed with a sharp curette and the space carefully cleaned and packed about a moderately soft rubber tube in the rectum, extending beyond the dressings, which were changed as needed.

As so much has been written about the hairpin in surgery, I will state that one spread and bent at an acute angle to keep it from slipping was used inside the rubber tube and prevented obstruction by pressure of packing. The tube allowed passing of flatus and fluids, gave the patient much comfort, and avoided the necessity of changing dressings frequently.

The patient recovered nicely and now has control of stools and flatus. I expected later to make end-to-end suture of the sphincter, but she is satisfied with the result.

The deep staining of the diseased tissue and the ease with which it can be distinguished and completely removed leads me to report this case. I do not think in any other way can we be certain of its complete removal, which accounts for the two previous failures of operation. The injection of methylene blue as described will enable the surgeons to follow any tortuous tract and can be applied to old sinuses of any kind.

18 N. Pearl Street.

The Lisbon Method of Prohibiting Expectoration in Public Vehicles.—The authorities at Lisbon have issued regulations forbidding spitting on the floor in public vehicles, under penalty of a fine. The point that distinguishes the measure from others of its kind is that the conductor of the vehicle is the responsible party, and the penalty fine is collected from him unless he can produce evidence to prove that he appealed to a policeman and that the latter refused to interfere.

HISTORY OF THE SECTIONS OF THE AMERICAN MEDICAL ASSOCIATION.

In reviewing the history of the Sections of the Association as given in the Transactions and in THE JOURNAL, there is a certain amount of difficulty from the fact that there are for many years no published official minutes and the data in the general minutes are not uniform or complete. In some cases even the names of officers are not given and in others the Sections were apparently dormant, there being no report from them. In the following pages an attempt has been made to bring together the leading landmarks, the dates of organization, the principal changes that have occurred and the names of those that have served as officers of the different Sections.

For the first twelve years of its existence the American Medical Association held only general meetings; the attendance was not so large, nor the number of articles so numerous as to call for division; it was simply conducted on the usual plan for a medical society or convention. The need of more specialization of its work, however, gradually became apparent, and in 1859 at the Louisville meeting, Dr. J. B. Lindsley of Tennessee offered the following:

Frank A. Jones, Memphis, Tenn., Chairman, Section on Practice of Medicine.

Resolved, That a committee of three be appointed by the Chair to inquire into and report upon the propriety of dividing the Association into Sections for the purpose of performing such parts of its scientific labor as may relate to practical branches of medicine and surgery.

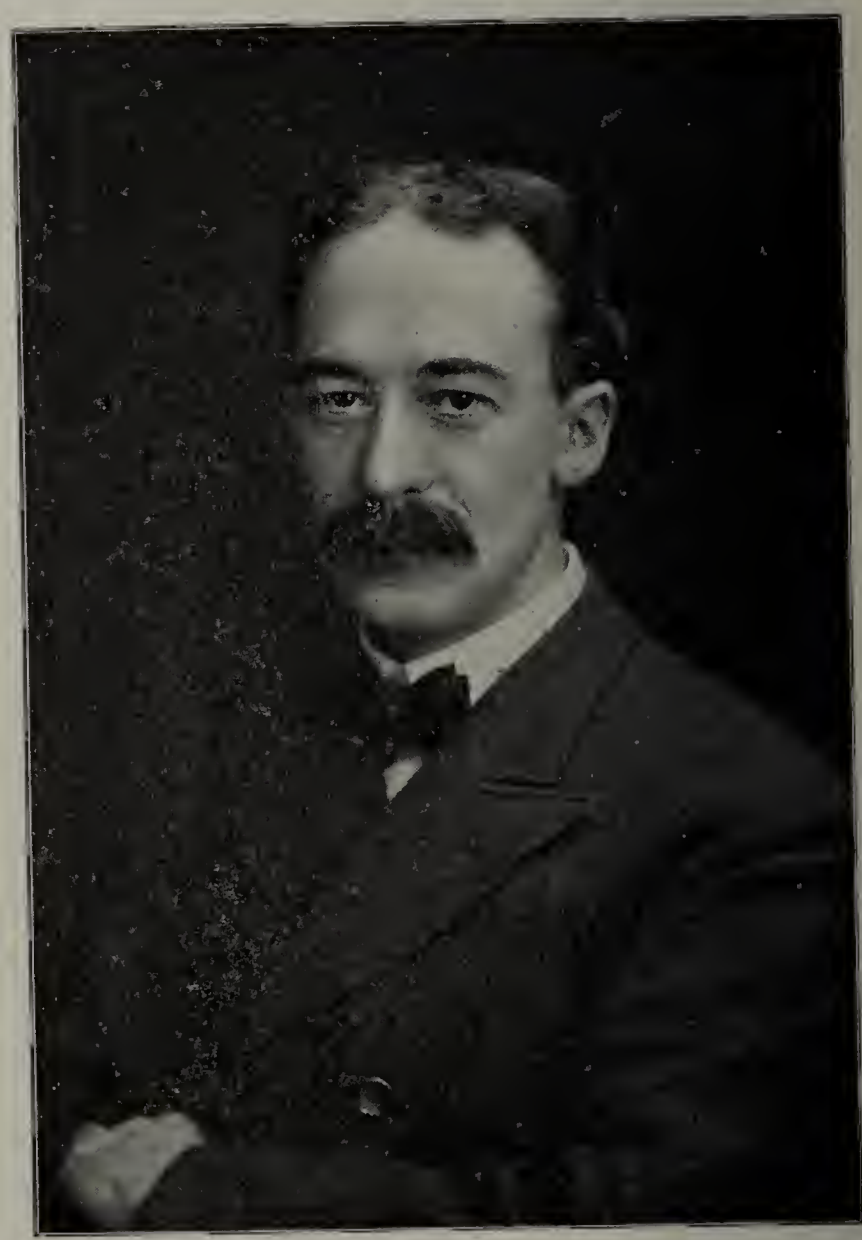
This was adopted, and Drs. Lindsley, Brainerd (Ill.) and G. C. Blackman (Ohio) were appointed as the committee.

The next day Dr. Lindsley reported, recommending a division into the following Sections: 1. Anatomy and Physiology. 2. Chemistry and Materia Medica. 3. Practical Medicine and Obstetrics. 4. Surgery. The report was adopted. Later, on the same day, on motion of Dr. H. F. Campbell, a Section on Meteorology, Medical Topography and Epidemic Diseases and one on Medical Jurisprudence and Hygiene were added.

At the New Haven meeting in 1860 reports were called for on the afternoon of the third day. The Sections on Anatomy and Physiology, Practical Medicine and Obstetrics, Surgery and Meteorology, Medical Topography, etc., reported on papers which were referred to the Committee on Publication. The Section on Chemistry and Materia Medica did not organize.

Up to 1870 the Sections organized at each annual session. In 1869, on motion of Dr. Palmer of Michigan the by-laws were amended so as to make the election of the section chairmen and secretaries by the general meeting on nomination by the Committee on Nominations. They were to be elected at each meeting, and hold office till their successors were chosen at the close of the next year's session. This went in force in 1870 and the officers were thus elected for the ensuing year. In our lists here given the officers are named, from this date on, in the year in which they were chosen.

In 1884 Dr. Foster Pratt offered an amendment to the by-laws empowering Sections to elect their own officers. This was called up the next year at the New Orleans meeting by Dr. Potter and its adoption moved by Dr. Hibberd of Indiana. Dr. Davis (Ill.) moved an amendment that it be laid over for consideration at the next session which on vote was adopted.



Robert B. Preble, Chicago, Secretary, Section on Practice of Medicine.

At the next meeting, at St. Louis, the change was made and since then, though attempts have been made to restore the old order, the Sections have elected their own officers.

SECTION OF PRACTICAL MEDICINE AND OBSTETRICS.

The Section of Practical Medicine has had, with certain changes of name and giving off offshoots, a continuous record down to the present time. In the minutes and transactions it is most frequently mentioned as the Section on Practice of Medicine, etc., but we find no record of such an alteration of its designation, and none has been made. One or two attempts have been made to alter it to the Section on Internal Medicine or some other title, but without success, and it still is the Section on Practical Medicine, so far as the records show. The following is its list of chairmen and secretaries:

YEAR.	CHAIRMAN.	SECRETARY.
1860	Amos Nourse (Me.)	A. K. Gardner (N. Y.).
	Sessions discontinued on account of Civil War.	
1864	B. Fordyce Barker (N. Y.)	H. R. Storer (Mass.).
1865	Z Pitcher (Mich.)	Ellsworth Elliot (N. Y.).
1866	L. F. Tefft (N. Y.)	W. B. Bibbins (N. Y.).
1867	M. K. Taylor (Iowa)	E. Hall (N. Y.)
1868	R. R. McIlvaine (Ohio)	C. M. Finch (Ohio).
1869	H. F. Askew (Del.)	J. C. Hupp (W. Va.)
1870	Jos. Kammerer (N. Y.)	J. C. Jackson (Conn.).
1871	H. R. Storer (Mass.)	J. K. Bartlett (Wis.).
1872	D. A. O'Donnell (Md.)	B. F. Dawson (N. Y.).
	Name changed to Section of Practical Medicine, Materia Medica and Physiology.	
1873	N. S. Davis (Ill.)	Geo. E. Frothingham.
1874	Austin Flint, Sr. (N. Y.)	J. K. Bartlett (Wis.)
1875	F. G. Smith (Pa.)	B. A. Vaughan (Miss.).
1876	P. G. Robinson (Mo.)	B. A. Vaughan (Miss.).
1877	A. L. Loomis (N. Y.)	J. H. Etheridge (Ill.)
1878	F. F. Rochester (N. Y.)	W. C. Glasgow (Mo.)
1879	J. S. Lynch (Mo.)	W. C. Glasgow (Mo.).
1880	Wm. Pepper (Pa.)	T. A. Ashby (Md.).
1881	J. A. Octerlony (Ky.)	D. J. Roberts (Tenn.).

J. H. Carstens, Detroit, Mich., Chairman, Section on Obstetrics and Diseases of Women.

1882	J. H. Hollister (Ill.)	J. G. Lee (Pa.).
1883	J. V. Shoemaker (Pa.)	W. C. Will (Conn.).
1884	H. D. Didama (N. Y.)	G. M. Garland (Miss.).
1885	J. F. Whittaker (Ohio)	B. L. Coleman (Ky.).
1886	J. S. Lynch (Md.)	J. B. Marvin (Ky.).
1887	A. B. Palmer (Mich.)	N. S. Davis, Jr. (Ill.).
1888	F. C. Shattuck (Mass.)	G. A. Fackler (Ohio).
1889	J. H. Musser (Pa.)	H. McColl (Mich.).
1890	V. A. Vaughan (Mich.)	Geo. Dock (Tenn.).
	"Materia Medica" dropped from name of section on account of formation of Section of Materia Medica.	
1891	R. T. Edes (Mass.)	J. M. French.
	"Physiology" dropped from name on account of formation of Section of Physiology and Dietetics.	

SECTION ON PRACTICAL MEDICINE.

1892	C. G. Stockton (N. Y.)	G. W. Webster (Ill.).
1893	H. A. Hare (Pa.)	W. H. Washburn (Wis.)
1894	E. W. Kellogg (Wis.)	W. E. Quine (Ill.).
1895	W. E. Quine (Ill.)	Delancey Rochester (N. Y.).
1896	J. H. Musser (Pa.)	J. T. Priestley (Iowa).
1897	S. A. Fisk (Colo.)	A. A. Jones (N. Y.).
1898	F. Billings (Ill.)	C. A. Edson (Colo.).
1899	Geo. Dock (Mich.)	T. B. Futcher (Md.)
1900	J. M. Anders (Pa.)	W. Britt Burrs (Ark.).
1901	Frank A. Jones (Tenn.)	R. B. Preble (Ill.)

SECTION ON METEOROLOGY, MEDICAL TOPOGRAPHY AND EPIDEMIC DISEASES.

This Section was organized June 6, 1860, at the New Haven meeting.

YEAR.	CHAIRMAN.	SECRETARY.
1860	Charles A. Lee (N. Y.)	E. Warner (Md.).
1864	S. W. Butler (Pa.)	A. N. Bell (N. Y.).
1865	James Walsh (Conn.)	O. C. Garrett (Mass.).
1866	B. H. Catlin (Conn.)	N. S. Davis (Ill.).
1867	B. H. Catlin (Conn.)	N. S. Davis (Ill.).
1868	B. H. Catlin (Conn.)	N. S. Davis (Ill.).
1869	Geo. Burr (N. Y.)	N. S. Davis (Ill.).
1870	Called in this volume (XXI) the Section on Meteorology and Epidemics, or Climatology and Epidemics (both used), showing, however, simply a carelessness in the record. No chairman is mentioned in report of section. Only two papers referred to it. N .S. Davis (Ill.) was secretary.	
1871	N. S. Davis	H. D. Holton (Vt.).
1872	Geo. L. Sutton	E. Harris.
1873	Consolidated with Section on State Medicine and Public Hygiene.	

C. L. Bonifield, Cincinnati, Secretary, Section on Obstetrics and Diseases of Women.

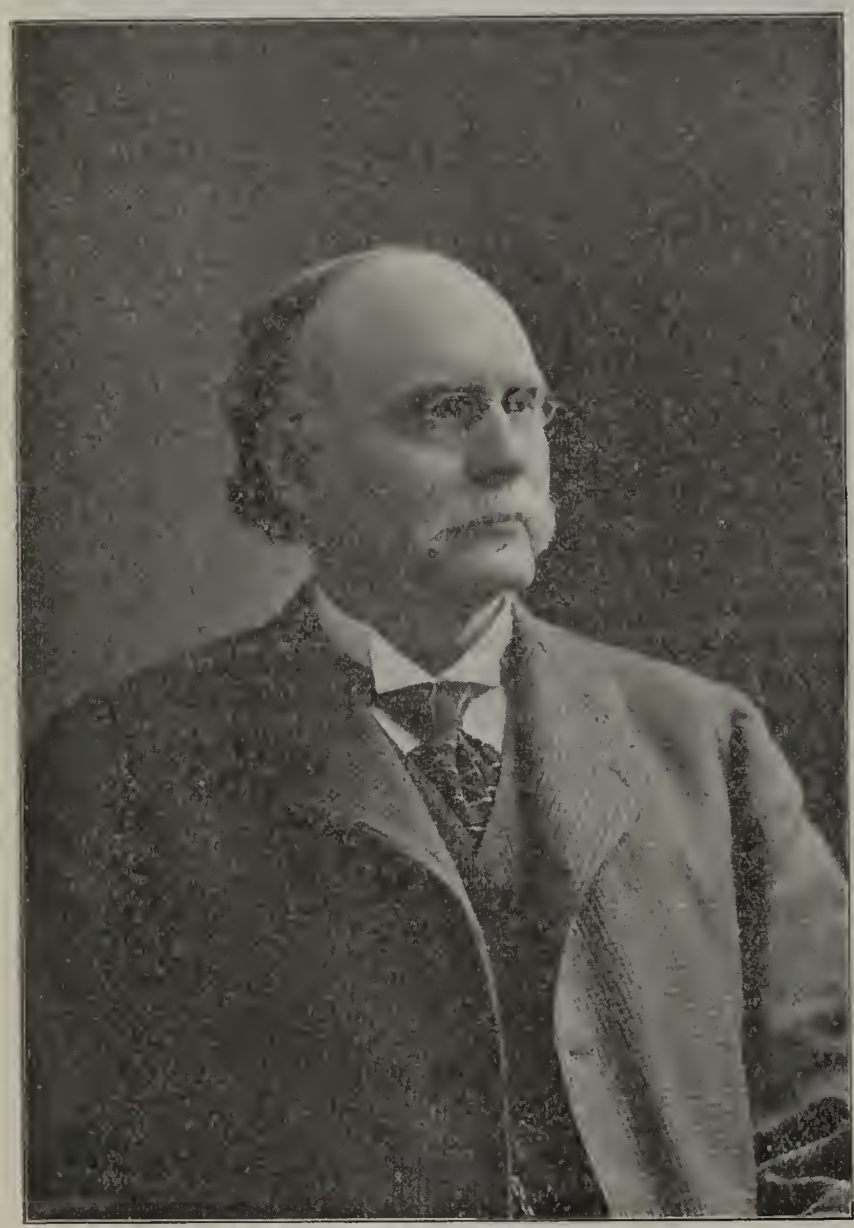
A "Section on Anatomy and Physiology" was one of those proposed in the 12th meeting, when the division into Sections was first suggested, but we find in the minutes no note as to its organization. Nevertheless, in the sixteenth and eighteenth volumes of the Transactions there are minutes of papers being referred to this Section. In the sixteenth volume, p. 48, the permanent secretary reported that no meeting had been held and that it was abolished on motion of Dr. Hibbard of Indiana. The fact is this Section was never organized after the first meeting in New Haven. The papers referred to it were returned to the secretary of the Association and by him to the Transactions at the Boston meeting (1865). The Section was abolished, and anatomy added to the Section on Surgery and Physiology to that on Hygiene, on motion of Dr. Hibbard.

SECTION ON SURGERY AND ANATOMY.

The Section on Surgery organized first on June 7, 1860. It has been an active Section at every meeting of the Association since that time, with the exception only of 1863, in which

year the section organizations seem to have been suspended. In 1865 anatomy was added to this Section, making it the "Section on Surgery and Anatomy." The following have been its officers.

YEAR.	CHAIRMAN.	SECRETARY.
1860	Dixi Crosby	Jas. Bryan (Pa.).
1864	A. Van Dyke (N. Y.)	J. Hamburger (N. Y.).
1865	H. J. Bigelow (Mass.)	A. B. Hall (Mass.).
1866	A. C. Post (N. Y.)	J. H. Hobart Page (N. Y.).
1867	S. D. Gross (Pa.)	J. L. Little (N. Y.)
1868	J. L. Atlee (Pa.)	J. F. Shrady (N. Y.).
1869	Paul F. Eve (Tenn.)	J. F. Huestis (Ala.).
1870	S. D. Gross (Pa.)	J. T. Darby (S. C.).
1871	J. W. Russell (Ohio)	H. Carpenter (Ore.).
1872	E. Warren (Md.)	W. F. Peck (Iowa).
1873	S. D. Gross (Pa.)	A. Garcelon (Me.)
1874	E. M. Moore (N. Y.)	T. S. Latimer (Md.).
1875	A. Garcelon (Me.)	E. T. Easley (Tex.)
1876	D. Hayes Agnew (Pa.)	Moses Gunn (Ill.)
1877	H. H. Smith (Pa.)	E. T. Easley (Ark.).
1878	Moses Gunn (Ill.)	J. R. Weist (Ind.).
1879	W. T. Briggs (Tenn.)	C. Powell Adams (Minn.).
1880	Hunter McGuire (Va.)	Duncan Eve (Tenn.).



DeForest Willard, Philadelphia, Chairman, Section on Surgery and Anatomy.

1881	J. C. Hughes (Iowa)	W. A. Byrd (Ill.).
1882	W. F. Peck (Iowa)	Paul F. Eve (Tenn.)
1883	C. T. Parker (Ill.)	A. O. Walker (Mich.).
1884	Duncan Eve (Tenn.)	C. B. King (Pa.)
1885	N. Senn (Ill.)	H. H. Mudd (Mo.)
1886	H. H. Mudd (Mo.)	Jas. B. Roberts (Pa.).
1887	Donald McLean (Mich.)	B. A. Watson (N. J.).
1888	N. P. Dandridge (Ohio)	W. O. Roberts (Ky.)
1889	B. A. Watson (N. J.)	J. B. Deaver (Pa.).
1890	Theo. McGraw (Mich.)	W. E. B. Davis (Ala.).
1891	J. McF. Gaston (Ga.)	W. F. Mann (Mich.).
1892	J. F. Jelks (Ark.)	L. H. Montgomery (Ill.).
1893	J. B. Roberts (Pa.)	F. W. McRae (Ga.).
1894	Jas Ransohoff (Ohio)	R. H. Sayre (N. Y.).
1895	C. A. Wheaton (Minn.)	W. L. Estes (Pa.).
1896	Reg. Sayre (N. Y.)	Bayard Holmes (Ill.).
1897	W. L. Rodman (Ky.)	Clayton Parkhill (Colo.).
1898	W. J. Mayo (Minn.)	W. L. Harris (Ill.)
1899	H. O. Walker (Mich.)	R. Guiteras (N. Y.).
1900	A. J. Ochsner (Ill.)	M. B. Tinker (Pa.).
1901	DeF. Willard (Pa.)	J. B. Bullitt (Ky.).

SECTION ON CHEMISTRY AND MATERIA MEDICA.

This Section organized at the New York meeting (15th) in 1864, with Dr. J. H. Griscom of New York as chairman and Dr. Corrie of New York, secretary. The following year the minutes make no mention of this Section, but in 1866 we find Dr. W. B. Atkinson of Philadelphia its chairman and Dr. Augustus Mason of Massachusetts acting as its secretary. Beyond the mention of its place of meeting, this Section is not mentioned in the Transactions for 1867. On account of non-attendance of members there was no meeting. In 1868 it was again active, with Dr. J. E. Morgan of Washington City as chairman and Dr. L. J. Deal of Pennsylvania as secretary. There follow two more barren years, 1869 and 1870, as far as any mention of this Section is concerned, but from that time a meeting was held each year.

YEAR.	CHAIRMAN.	SECRETARY.
1871	D. W. Yandell (Ky.)	
1872	J. S. Crane (N. J.)	H. S. Hurd (Ill.).
1873	R. E. Rogers (Pa.)	Eph. Cutter (N. Y.).

Under the rearrangement of the Sections made in 1873, the Section on Chemistry, Materia Medica and Therapeutics ended its history, and was thereafter continued, if it can be so said,

James B. Bullitt, Louisville, Ky., Secretary, Section on Surgery and Anatomy.

in the Section on Medical Jurisprudence, Chemistry and Psychology.

SECTION ON MEDICAL JURISPRUDENCE AND HYGIENE.

This Section was provided for on motion of Dr. H. F. Campbell at the 12th meeting of the Association at Louisville in 1859, but we find no record of its organization until 1865, though the minutes report papers referred to it before that date. The officers for 1865 were Dr. J. F. Hibbard of Indiana, chairman, and Dr. Robert Burns of Pennsylvania, secretary. With the abolition of the Section on Anatomy and Physiology, the Section was made the Section on Medical Jurisprudence, Physiology and Hygiene. Its officers so far as we can ascertain from the minutes for the subsequent years were as follows:

YEAR.	CHAIRMAN.	SECRETARY.
1866	W. Jewell (Pa.)	A. N. Bell (N. Y.).
1867	Record wanting	
1868	Record wanting	

YEAR.	CHAIRMAN.	SECRETARY.
1869	J. F. Hibberd (Ind.)	J. K. Bartlett (Wis.).
1870	F. H. Getchell (Pa.)	Benj. Blackford (Va.).
1871	Record wanting	
1872	S. C. Busey (D. C.)	S. L. Howard (Md.).

In the reorganization of 1873 it was consolidated with the Sections on Chemistry, Materia Medica, etc., and on Psychology into the Section on Medical Jurisprudence, Chemistry and Psychology.

SECTION ON PSYCHOLOGY.

This Section was provided for at the same time as that on Medical Jurisprudence and Hygiene. It apparently did not have a very vigorous life; the medical superintendents of asylums of the country had their own association and did not co-operate as was the hope when the Section was formed. This is apparent in several entries in the general minutes. The officers of the Section so far as can be ascertained were:

Arthur R. Reynolds, Chicago, Chairman, Section Hygiene and Sanitary Science.

YEAR.	CHAIRMAN.	SECRETARY.
1866	C. A. Walker (Mass.)	
1867	W. A. Lee (N. Y.)	H. R. Storer (Mass.).
1868	D. F. Condie (Pa.)	C. A. Lee (N. Y.).
1869		
1870	J. P. Gray (N. Y.)	A. Hartmann (Md.).
1871		
1872	Isaac Ray (R. I.)	J. Curwen (Pa.).

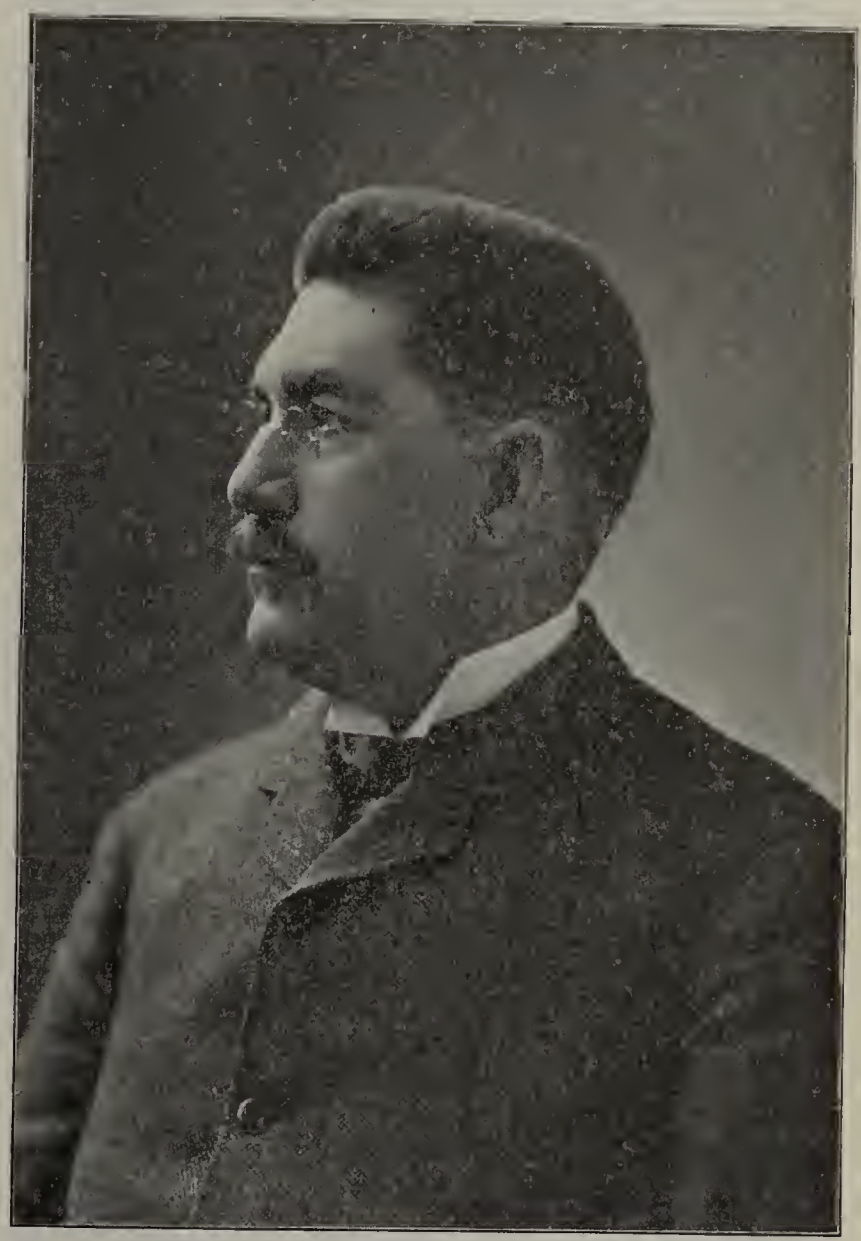
In 1873 this Section was left out in the rearrangement, or rather, we may perhaps say, was consolidated with the Section on Medical Jurisprudence and Chemistry.

In 1870 it was recognized that the Sections were not doing uniformly their best work, that two or three of them engrossed the attention of members and that the others were comparatively neglected. A special committee was therefore appointed to devise a plan for a better arrangement of the Sections and a more rigid examination of papers submitted for publication. This committee, of which Dr. E. Lloyd Howard of Maryland was chairman, reported at the St. Louis meeting (24th) in 1873 and proposed a reduction in the number of Sections from six to five, which should be as follows:

1. Practical Medicine, Materia Medica and Physiology.
2. Obstetrics and Diseases of Women and Children.
3. Surgery and Anatomy.
4. Medical Jurisprudence, Chemistry and Psychology.
5. State Medicine and Public Hygiene.

The Section on State Medicine and Public Hygiene was to be composed of one member from each state, representing as far as practicable the state boards of health, and its officers were to be designated by the committee on nomination.

This report and the resolution making the changes suggested were accepted at this meeting and the Sections rearranged accordingly. It will be seen that we have thus one Section omitted—that on Medical Topography, etc.—two altered and consolidated and two new ones, those on Obstet-



H. M. Bracken, Minneapolis, Minn., Secretary, Section on Hygiene and Sanitary Science.

rics and State Medicine, and one unchanged. Of the new ones, the Section on Obstetrics has given off the Section on Diseases of Children in 1880, but it is otherwise unchanged at the present time. Its list of officials so far as ascertained is as follows:

SECTION ON OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

YEAR.	CHAIRMAN.	SECRETARY.
1873	Theo. Parvin (Ind.)	M. A. Pallen (Mo.).
1874	W. H. Byford (Ill.)	S. C. Busey (D. C.).
1875	S. C. Busey (D. C.)	R. Battey (Ga.).
1876	J. P. White (N. Y.)	R. Battey (Ga.).
1877	E. W. Jenks (Mich.)	H. O. Marcy (Mass.).
1878	E. S. Lewis (La.)	J. R. Chadwick (Mass.).
1879	A. H. Smith (Pa.)	R. Battey (Ga.).

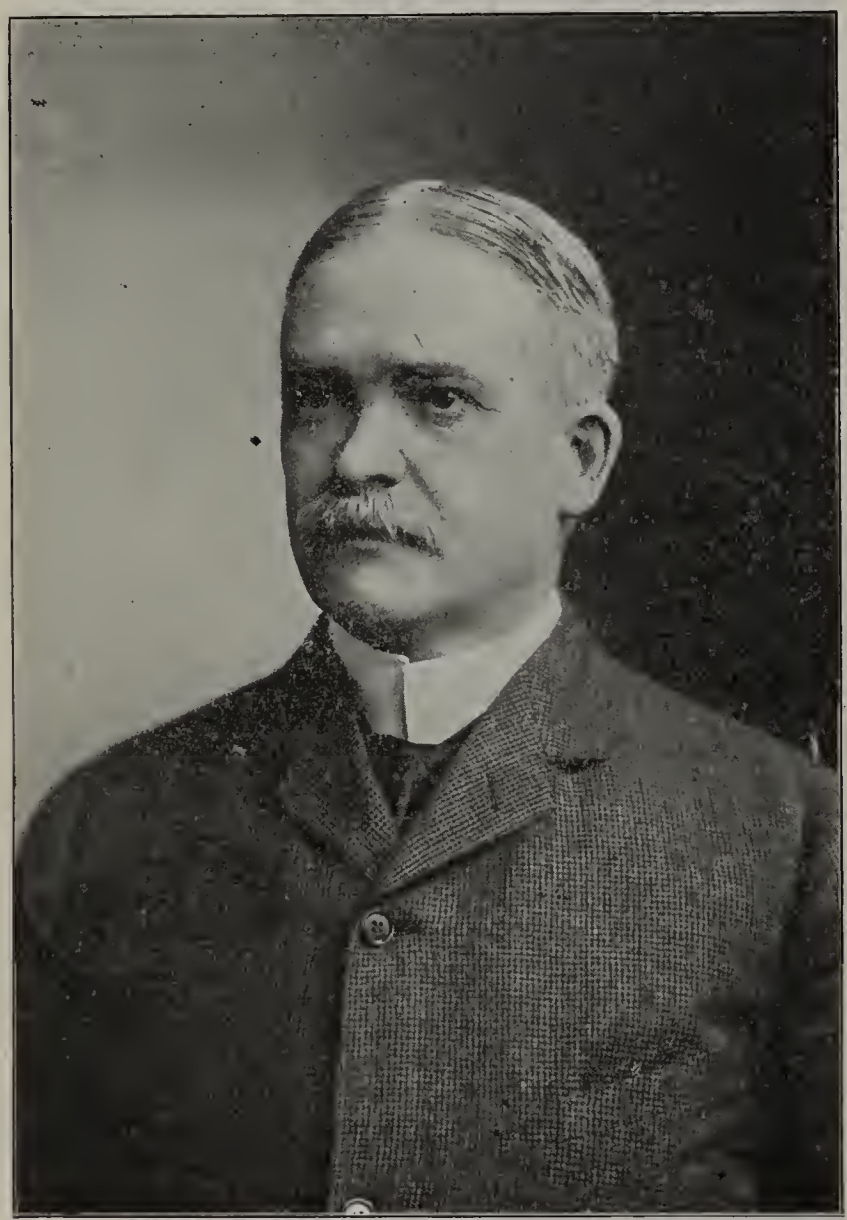
SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

1880	J. R. Chadwick (Mass.)	J. T. Johnson (D. C.).
1881	H. O. Marcy (Mass.)	C. V. Mottram (Kan.).
1882	J. R. Bartlett (Wis.)	G. A. Moses (Mo.).
1883	T. A. Reamy (Ohio)	J. T. Jelks (Ark.).
1884	R. S. Sutton (Pa.)	J. T. Jelks (Ark.).
1885	S. C. Gordon (Me.)	Paine (Tex.).
1886	F. M. Johnson (Mo.)	W. W. Jaggard (Ill.).

YEAR.	CHAIRMAN.	SECRETARY.
1887	E. Van De Warker (N. Y.)	E. W. Cushing (Mass.).
1888	W. H. Wathen (Ky.)	A. B. Carpenter (Ohio).
1889	W. W. Potter (N. Y.)	J. Hoffman (Pa.).
1890	C. A. L. Reed (Ohio)	H. A. Kelly (Md.).
1891	E. E. Montgomery (Pa.)	F. H. Martin (Ill.).
1892	J. M. Duff (Pa.)	
1893	J. Eastman (Ind.)	G. I. McKelway (Pa.).
1894	F. H. Martin (Ill.)	X. O. Werder (Ohio).
1895	J. T. Johnson (D. C.)	R. Peterson (Mich.).
1896	Milo B. Ward (Kan.)	G. H. Noble (Ga.).
1897	Jos. Price (Pa.)	C. Lester Hall (Mo.).
1898	A. H. Cordler (Mo.)	W. A. Haggard (Tenn.).
1899	W. E. B. Davis (Ala.)	F. F. Lawrence (Ohio).
1900	H. P. Newman (Ill.)	C. L. Bonifield (Ohio).
1901	J. H. Carstens (Mich.)	C. L. Bonifield (Ohio).

SECTION ON MEDICAL JURISPRUDENCE, CHEMISTRY AND PSYCHOLOGY.

This Section, formed in the reorganization of 1873, was really a consolidation of the Sections on Chemistry, Psychology and Medical Jurisprudence, the latter dividing also with the new Section on State Medicine and Hygiene. Under its new



Frank Allport, Chicago, Chairman, Section on Ophthalmology.

style the Section continued to 1879, under the following officers:

YEAR.	CHAIRMAN.	SECRETARY.
1873	A. N. Tilley (S. C.)	E. L. Howard (Md.).
1874	Jerome Cochran (Ala.)	G. A. Moses (Mo.).
1875	E. L. Howard (Md.)	E. A. Hildreth (W. Va.).
1876	Eug. Grissom (N. C.)	E. A. Hildreth (W. Va.).
1877	W. Kempster (Wis.)	E. A. Hildreth (W. Va.).
1878	W. M. Compton (Miss.)	L. M .Eastman (Md.).

In 1879 it again changed, becoming merged with the Section on State Medicine. Medical Jurisprudence does not reappear as a section subject till 1887.

SECTION ON STATE MEDICINE AND PUBLIC HYGIENE.

This Section was organized in 1873, as already said, with representatives from each state, preferably representing boards of health and hence a quasi official organization, continued under that style and title till 1879, with the following officers:

YEAR.	CHAIRMAN.	SECRETARY.
1873	A. N. Bell (N. Y.)	A. B. Stuart (Minn.).
1874	H. I. Bowditch (Mass.)	H. B. Baker (Mich.).
1875	R. C. Kedzie (Mich.)	E. M. Hunt (N. Y.).
1876	E. M. Hunt (N. J.)	D. R. Wallace (Tex.).
1877	J. L. Cabell (Va.)	J. T. Reeves (Wis.).
1878	J. S. Billings (U. S. A.)	J. T. Reeves (Wis.).

At the Atlanta meeting (30th) in 1879 it was on motion of Dr. A. N. Bell consolidated with the Section on Chemistry and Psychology, under the title of the Section on State Medicine, Public Hygiene, Chemistry and Psychology, with Dr. J. F. Hibberd of Indiana as chairman and Dr. J. F. Wood of North Carolina, secretary. The following year its name was changed to the Section on State Medicine. The method of nomination of members of this section was retained, according to the minutes, till 1891 when, by an amendment offered by Dr. N. S. Davis, it selected its own officers. In 1900 its name was changed to Section on Hygiene and Sanitary Science. Its roster of officers from the consolidation to the present is as follows:

C. A. Veasey, Philadelphia, Secretary, Section on Ophthalmology.

SECTION ON STATE MEDICINE, PUBLIC HYGIENE, CHEMISTRY AND PSYCHOLOGY.

YEAR.	CHAIRMAN.	SECRETARY.
1879	J. F. Hibberd (Ind.)	J. F. Wood (N. C.).
1880	J. T. Reeve (Wis.)	R. G. Jennings (Ark.).
1881	A. L. Gibson (U. S. N.)	J. H. Sears (Tex.).
1882	Foster Pratt (Mich.)	Thos. L. Neal (Ohio).
1883	D. J. Roberts (Tenn.)	C. W. Franzoni (D. C.).
1884	E. W. Schaeffer (Mo.)	J. N. McCormack (Ky.).
1885	J. H. Rauch (Ill.)	F. E. Danlell (Tex.).
1886	G. H. Rohe (Md.)	W. Wyman (U. S. M. H.).
1887	H. B. Baker (Mich.)	S. T. Armstrong (Tenn.).
1888	J. B. Lindsay (Tenn.)	S. T. Armstrong (U. S. M. H.).
1889	J. B. Hamilton (D. C.)	F. S. Bascum (Utah).
1890	J. D. Plunkett (Tenn.)	F. S. Bascum (Utah).
1891	Benj. Lee (Pa.)	L. F. Flick (Pa.).
1892	C. A. Lindsley (Conn.)	S. P. Duffield (Mich.).
1893	G. W. Stoner (U. S. M. H.)	C. H. Shephard (N. Y.).
1894	L. H. Montgomery (Ill.)	C. H. Shephard (N. Y.).
1895	C. H. Shephard (N. Y.)	Elmer Lee (Ill.).
1896	Elmer Lee (Ill.)	L. F. Bishop (N. J.).
1897	J. N. Quimby (N. J.)	A. R. Reynolds (Ill.).
1898	A. R. Reynolds (Ill.)	W. P. Munn (Col.).
1899	W. C. Woodward (D. C.)	Amand Ravold (Mo.).

SECTION ON HYGIENE AND SANITARY SCIENCE.

YEAR.	CHAIRMAN.	SECRETARY.
1900	Ernest Wende (N. Y.)	J. N. Hurty (Ind.).
1901	A. R. Reynolds (Ill.)	H. M. Bracken (Minn.).

SECTION ON OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

In 1878, this Section was constituted, and the following year was in working order. It continued as such till the year 1888, when the Section on Laryngology and Otology was separated; it has since been known as simply the Section on Ophthalmology. The following is its list of officers:

YEAR.	CHAIRMAN.	SECRETARY.
1879	B. A. Pope (Mo.)	Eug. Smith (Mich.).
1880	D. S. Reynolds (Ky.)	S. M. Barrett (D. C.).
1881	D. B. St. John Roosa (N.Y.)	J. Solis Cohen (Pa.).
1882	A. W. Calhoun (Ga.)	Carl Seiler (Pa.).
1883	J. F. Chisholm (Md.)	J. L. Thompson (Ind.).
1884	J. A. White (Va.)	Eug. Smith (Mich.).
1885	Eugene Smith (Mich.)	J. F. Fulton (Minn.).
1886	X. C. Scott (Ohio)	J. H. Thompson (Md.).
1887	F. C. Hotz (Ill.)	
1888	G. E. Frothingham (Mich.)	G. C. Savage (Tenn.).

SECTION ON OPHTHALMOLOGY.

1889	S. C. Ayres (Ohio)	E. J. Gardner (Ill.).
1890	L. Connor (Mich.)	T. E. Murrell (Ark.).

H. M. McClanahan, Omaha, Neb., Chairman, Section on Diseases of Children.

1891	J. Thompson (Ind.)	G. E. de Schweinitz (Pa.).
1892	S. D. Risley (Pa.)	H. H. Gradle (Ill.).
1893	A. R. Baker (Ohio)	L. H. Taylor (Pa.).
1894	Edw. Jackson (Pa.)	H. V. Würdemann (Wis.).
1895	Lucien Howe (N. Y.)	Frank Allport (Ill.).
1896	G. E. de Schweinitz (Pa.)	H. M. Starkey (Ill.).
1897	H. Gifford (Neb.)	R. Randolph (Md.).
1898	Casey A. Wood (Ill.)	A. H. Williams (Mass.).
1899	H. V. Würdemann (Wis.)	C. F. Clark (Ohio).
1900	J. A. Lippincott (Pa.)	E. C. Ellet (Tenn.).
1901	F. Allport (Ill.)	C. A. Veazy (Pa.).

SECTION ON DISEASES OF CHILDREN.

At the New York meeting of the Association (31st) in 1880, on motion of Dr. M. A. Pallen, a temporary Section on Diseases of Children was added to those already existing, and was later, by request of its members, made a permanent one by a unanimous adoption of an amendment to the by-laws proposed by Drs. S. C. Busey. It has continued, without change in its name, an active Section down to the present. The following is its list of officers:

TEMPORARY ORGANIZATION.

S. C. Busey (D. C.) ..... Frank Woodbury (Pa.).

YEAR.	CHAIRMAN.	SECRETARY.
1880	A. Jacobi (N. Y.)	W. H. Bradford (Mass.).
1881	S. C. Busey (D. C.)	W. Lee (Md.).
	(Wm. Lee, in absence of Dr. Busey, chairman, at meeting in 1882, and E. C. Miller (Iowa) secretary).	
1882	R. F. Blount (Ind.)	J. H. Sears (Tex.).
	(C. W. Earle (Ill.) elected in his absence.)	(E. L. Bothby (Wis.) elected in his absence.)
1883	Wm. Lee (Md.)	W. R. Tipton (N. M.).
1884	J. H. Pope (Tex.)	S. S. Adams (D. C.).
1885	W. D. Haggard (Tenn.)	W. B. Lawrence (Ark.).
1886	Delaskie Miller (Ill.)	W. B. Lawrence (Ark.).
1887	F. E. Waxham (Ill.)	W. B. Lawrence (Ark.).
1888	J. A. Larrabee (Ky.)	C. J. Jennings (Mich.).
1889	I. N. Love (Mo.)	E. F. Brush (N. Y.).
1890	W. P. Watson (N. J.)	H. A. Hare (Pa.).
1891	F. F. Brush (N. Y.)	B. A. Waddington (N. J.).

Frank X. Walls, Chicago, Secretary, Section on Diseases of Children.

1892	C. G. Jennings (Mich.)	F. S. Parsons (Mass.).
1893	W. S. Christopher (Ill.)	F. A. Churchill (Ill.).
1894	E. H. Small (Pa.)	G. W. McNeil (Pa.).
1895	A. C. Cotton (Ill.)	J. A. Work (Ind.).
1896	J. A. Larrabee (Ky.)	H. E. Tuley (Ky.).
1897	J. P. Crozier Griffith (Pa.)	E. Rosenthal (Pa.).
1898	H. E. Tuley (Ky.)	J. L. Booker (Mo.).
1899	E. Rosenthal (Pa.)	L. Fischer (N. Y.).
1900	S. W. Kelly (Ohio)	W. E. Darnall (N. J.).
1901	H. M. McClanahan (Neb.)	F. X. Walls (Ill.).

We have been aided in this sketch by the address of the chairman, Dr. Larrabee, given in 1897.

SECTION ON DENTISTRY.

As regards the Dental Section, the following is contributed by Dr. N. S. Davis: "A small number of dentists became members of the American Medical Association and participated in the proceedings from an early period in its history. But they gained this membership not as dentists but as graduated M.D's. and members of the regular medical societies where they lived.

Such was the case with the late Dr. W. W. Allport and E. S. Talbot of Chicago, Dr. D. H. Goodwillie of New York, and John S. Marshall of Syracuse.

"Dentistry was first formally recognized as a legitimate part of the general field of medicine and surgery and provision made for admitting dentists and the organization of a Section on Dentistry which name was changed the next year to Dental and Oral Surgery at the meeting of the American Medical Association in Richmond, Va., 1881. The movement was suggested by Drs. Allport, Talbot and Marshall, who thought a good section could be sustained. The necessary amendment to the by-laws of the Association was moved by Dr. S. D. Gross and seconded by both Lewis A. Sayre and myself and were adopted with little or no opposition. The new section was organized at the next annual meeting of the Association, which was at St. Paul in 1882 and has been fairly well sustained every year since."

This Section, as will be seen by the following list of officers, is unique among the Sections in having almost a permanent

A. H. Peck, Chicago, Chairman, Section on Stomatology.

secretary, Dr. E. S. Talbot, to whose interest and energy it must owe much of its success. Since 1898 it has been known as the Section on Stomatology.

SECTION ON DENTISTRY.

Year.	Chairman.	Secretary.
1881	D. H. Goodwillie (N. Y.)	T. W. Brophy (Ill.).

SECTION ON DENTAL AND ORAL SURGERY.

1882	D. H. Goodwillie (N. Y.)	T. W. Brophy (Ill.).
1883	T. W. Brophy (Ill.)	J. S. Marshall (Ill.).
1884	A. W. Harlan (Ill.)	A. E. Baldwin (Ill.).
1885	J. S. Marshall (Ill.)	E. S. Talbot (Ill.).
1886	J. S. Marshall (Ill.)	E. S. Talbot (Ill.).
1887	J. Taft (Ohio)	E. S. Talbot (Ill.).
1888	F. H. Rehwinket (Ohio)	E. S. Talbot (Ill.).
1889	J. L. Williams (Mass.)	E. S. Talbot (Ill.).
1890	E. S. Talbot (Ill.)	H. W. Morgan (Tenn.)
1891	J. Taft (Ohio)	E. S. Talbot (Ill.)
1892	A. E. Baldwin (Ill.)	E. S. Talbot (Ill.)
1893	M. H. Fletcher (Ohio)	E. S. Talbot (Ill.).
1894	M. H. Fletcher (Ohio)	E. S. Talbot (Ill.).
1895	R. R. Andrews (Mass.)	E. S. Talbot (Ill.).
1896	R. R. Andrews (Mass.)	E. S. Talbot (Ill.).
1897	G. V. I. Brown (Minn.)	E. S. Talbot (Ill.).

SECTION ON STOMATOLOGY.

Year.	Chairman.	Secretary.
1898	G. V. I. Brown (Minn.)	E. S. Talbot (Ill.).
1899	M. H. Fletcher (Ohio)	E. S. Talbot (Ill.).
1900	R. R. Andrews (Mass.)	E. S. Talbot (Ill.).
1901	A. H. Peck (Ill.)	E. S. Talbot (Ill.).

SECTION ON MEDICAL JURISPRUDENCE.

In the President's address at the St. Louis (37th) annual meeting of the Association the suggestion of two new sections, one on Medical Jurisprudence and one on Dermatology and Syphilis, was made. A committee was appointed (Drs. J. H. Murphy, A. L. Gihon, and A. Garcelon) to consider the President's recommendations and reported in favor of the same. The Section on Medical Jurisprudence had Neurology added to its title by motion of Dr. Callender of Tennessee in 1891, and in 1900 its name was still further changed to the Section on Nervous and Mental Diseases. Unlike the old Section on Psychology, of which it is the legitimate successor, it has been

E. S. Talbot, Chicago, Secretary, Section on Stomatology.

well supported, notwithstanding the special organizations devoted to its specialties. The changes in its name indicate fairly well the trend of its work. The following is the list of officers:

Year.	Chairman.	Secretary.
1887	E. M. Reed (Md.)	C. B. Bell (Mass.).
1888	J. G. Kiernan (Ill.)	T. C. Evans (Md.).
1889	T. B. Evans (Md.)	T. D. Crothers (Conn.).
1890	T. D. Crothers (Conn.)	H. N. Moyer (Ill.).

SECTION ON MEDICAL JURISPRUDENCE AND NEUROLOGY.

1891	H. N. Moyer (Ill.)	G. D. Strowbridge (Pa.).
1892	C. K. Mills (Pa.)	J. D. Kiernan (Ill.).
1893	J. G. Kiernan (Ill.)	F. P. Norbury (Ill.).
1894	D. R. Brower (Ill.)	W. J. Gavigan (Colo.).
1895	T. D. Crothers (Conn.)	W. T. Herdman (Mich.).
1896	W. T. Herdman (Mich.)	C. H. Hughes (Mo.).
1897	C. H. Hughes (Mo.)	H. T. Patrick (Ill.).
1898	F. Peterson (N. Y.)	H. T. Patrick (Ill.).
1899	H. T. Patrick (Ill.)	F. S. Pearce (Pa.).

SECTION ON NERVOUS AND MENTAL DISEASES.

1900	H. A. Tomlinson (Minn.)	F. Savary Pearce (Pa.).
1901	R. Dewey (Wis.)	F. Savary Pearce (Pa.).

SECTION ON DERMATOLOGY AND SYPHILOGRAPHY.

The Section on Dermatology and Syphilography which was provided for under the same resolution as the preceding, continued under that name till 1898, since which year it has been known as the Section on Cutaneous Medicine and Surgery. It has been officered as follows since its organization:

YEAR.	CHAIRMAN.	SECRETARY.
1887	L. D. Bulkley (N. Y.)	F. F. Dunlop (Ky.).
1888	L. D. Bulkley (N. Y.)	W. T. Corlett (Ohio).
1889	J. E. Atkinson (Md.)	W. T. Corlett (Ohio).
1890	L. D. Bulkley (N. Y.)	W. T. Corlett (Ohio).
1891	L. D. Bulkley (N. Y.)	J. C. McGuire (D. C.).
1892	L. A. Duhring (Pa.)	W. H. Dunlop (N. Y.).
1893	A. H. Ohmann-Dumesnil (Mo.)	L. F. Frank (Wis.).
1894	A. E. Regensburger (Colo.)	D. H. Rand (Ore.).
1895	L. D. Bulkley (N. Y.)	T. C. Gilchrist (Md.).
1896	A. Ravogli (Ohio)	T. C. Gilchrist (Md.).
1897	A. W. Brayton (Ind.)	T. C. Gilchrist (Md.).

SECTION ON CUTANEOUS MEDICINE AND SURGERY.

1898	W. T. Corlett (Ohio)	J. M. Blaine (Colo.).
1899	L. D. Bulkley (N. Y.)	R. R. Campbell (Ill.).
1900	W. L. Baum (Ill.)	R. R. Campbell (Ill.).
1901	H. W. Stelwagon (Pa.)	R. R. Campbell (Ill.).

SECTION ON LARYNGOLOGY AND OTOLOGY.

In 1884 an amendment to the constitution was offered by Dr. Carl Seiler of Pennsylvania, which lay dormant till 1888, when it was called up by resolution on the request of the Section on Ophthalmology and the new Section of Laryngology and Otology was created. Its officers were elected at the Cincinnati meeting that year and appear in the list below:

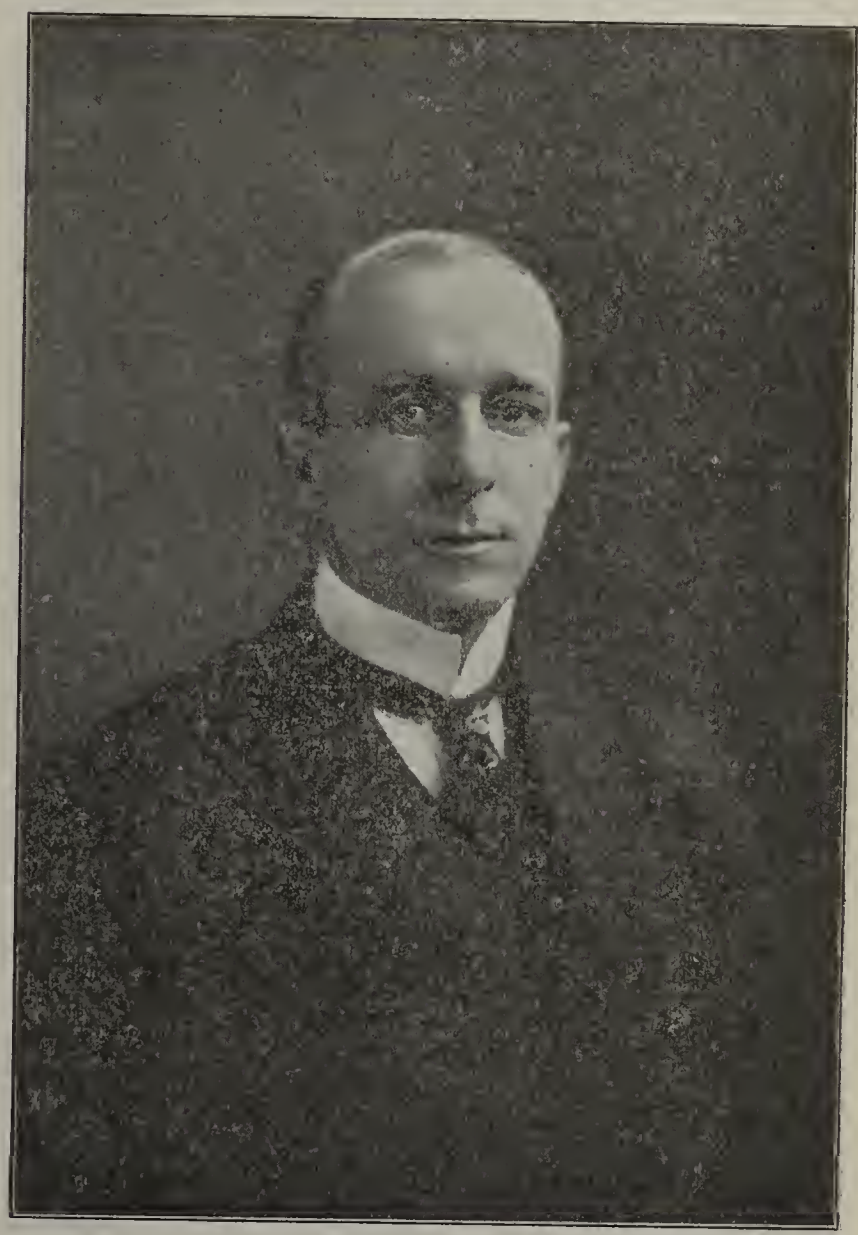
YEAR.	CHAIRMAN.	SECRETARY.
1888	W. H. Daly (Pa.)	E. F. Ingals (Ill.).
1889	J. O. Roe (N. Y.)	F. H. Potter (N. Y.).
1890	Carl Seiler (Pa.)	A. B. Thrasher (Ohio).
1891	C. H. Burnett (Pa.)	
1892	E. L. Shurly (Mich.)	J. E. Boylan (Ohio).
1893	E. F. Ingals (Ill.)	J. F. Fulton (Minn.).
1894	J. F. Fulton (Minn.)	T. J. Gallaher (Pa.).
1895	G. V. Woolen (Ind.)	M. R. Ward (Pa.).
1896	W. E. Casselberry (Ill.)	Braden Kyle (Pa.).
1897	B. A. Randall (Pa.)	S. E. Solly (Colo.).
1898	P. R. Holmes (Ohio)	Emanuel Mayer (N. Y.).
1899	P. R. Holmes (Ohio)	J. A. Stucky (Ky.).
1900	J. N. Mackenzie (Md.)	G. C. Stout (Pa.).
1901	G. Hudson Makuen (Pa.)	J. F. Barnhill (Ind.).

SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

At the Nashville (41st) meeting of the Association in 1890, a committee that had been appointed to confer with the American Pharmaceutical Association made its report, as the result of which a resolution was adopted, dropping the words Materia Medica from the title of the Section on Practical Medicine, etc., and creating a new Section of Materia Medica and Pharmacy, to be added to those already existing. Later, about 1897, its name was changed to the Section on Materia Medica, Pharmacy and Therapeutics.

YEAR.	CHAIRMAN.	SECRETARY.
1891	F. Woodbury (Pa.)	W. L. Whelpley (Mo.).
1892	F. Woodbury (Pa.)	F. E. Stewart (N. Y.).
1893	F. Woodbury (Pa.)	F. E. Stewart (N. Y.).
1894	W. L. Whelpley (Mo.)	G. F. Hansen (Colo.).
1895	F. E. Stewart (Mich.)	
1896	W. B. Hill (Wis.)	F. Woodbury (Pa.).
1897	J. V. Shoemaker (Pa.)	C. C. Fite (resigned). L. L. Solomon (Ky.).
1898	F. H. Stucky (Ky.)	L. L. Solomon (Ky.).
1899	L. L. Solomon (Ky.)	J. W. Wainwright (N. Y.).
1900	N. S. Davis, Jr. (Ill.)	J. N. Upshur (Va.).
1901	G. F. Butler (Mich.)	C. S. N. Hallberg (Ill.).

Richard Dewey, Wanwatosa, Wis., Chairman, Section on Nervous and Mental Diseases.



F. Savary Pearce, Philadelphia, Secretary, Section on Nervous and Mental Diseases.

SECTION OF PHYSIOLOGY AND DIETETICS.

This Section budded off from the Section on Practical Medicine by an amendment offered by Dr. E. A. Wood, which was almost unanimously adopted. Its existence ended in 1901 with its consolidation with the Section on Pathology and Bacteriology to form the new Section on Physiology and Pathology.

A provisional Section on Pathology and Bacteriology had been arranged by correspondence and an unofficial committee appointed by the President, Dr. Keen, for its organization prior to the Atlantic City meeting in 1900. By resolution offered by

Dr. E. D. Ferguson at that meeting this was made a permanent Section and its officers elected. Its existence under this title, however, was short as at the following (St. Paul, 1901) meeting the above-mentioned consolidation and change of name was effected. It was considered desirable to unite the scientific work of the two sections as their separate attendance was small.

For convenience we give the roster of officers of the three sections together.

YEAR.	CHAIRMAN.	SECRETARY.
1892	C. H. A. Kleinschmidt (D. C.).	Ephriam Cutter (N. Y.).
1891	C. H. A. Kleinschmidt (D. C.).	Ephriam Cutter (N. Y.).
1893	I. N. Love (Mo.)	Ephriam Cutter (N. Y.).
1894	E. H. Woolsey (Colo.)	C. G. Chaddock (Mo.).
1895	H. Bert Ellis (Colo.)	H. Salzer (Md.).
1896	A. P. Clarke (Mass.)	Ephriam Cutter (N. Y.).
1897	Randall Hunt (La.)	A. H. Tuttle (Mass.).
1898	J. Weir, Jr. (Ky.)	Lee Kahn (Colo.).
1899	Elmer Lee (N. Y.)	R. Harvey Cook (Ohio).

Henry W. Stelwagon, Philadelphia, Chairman, Section on Cutaneous Medicine and Surgery.

SECTION ON PATHOLOGY AND BACTERIOLOGY.

1900	L. Hektoen (Ill.)	F. B. Wynne (Ind.).

SECTION ON PHYSIOLOGY AND PATHOLOGY.

1901	F. B. Wynne (Ind.)	J. McFarland (Pa.).

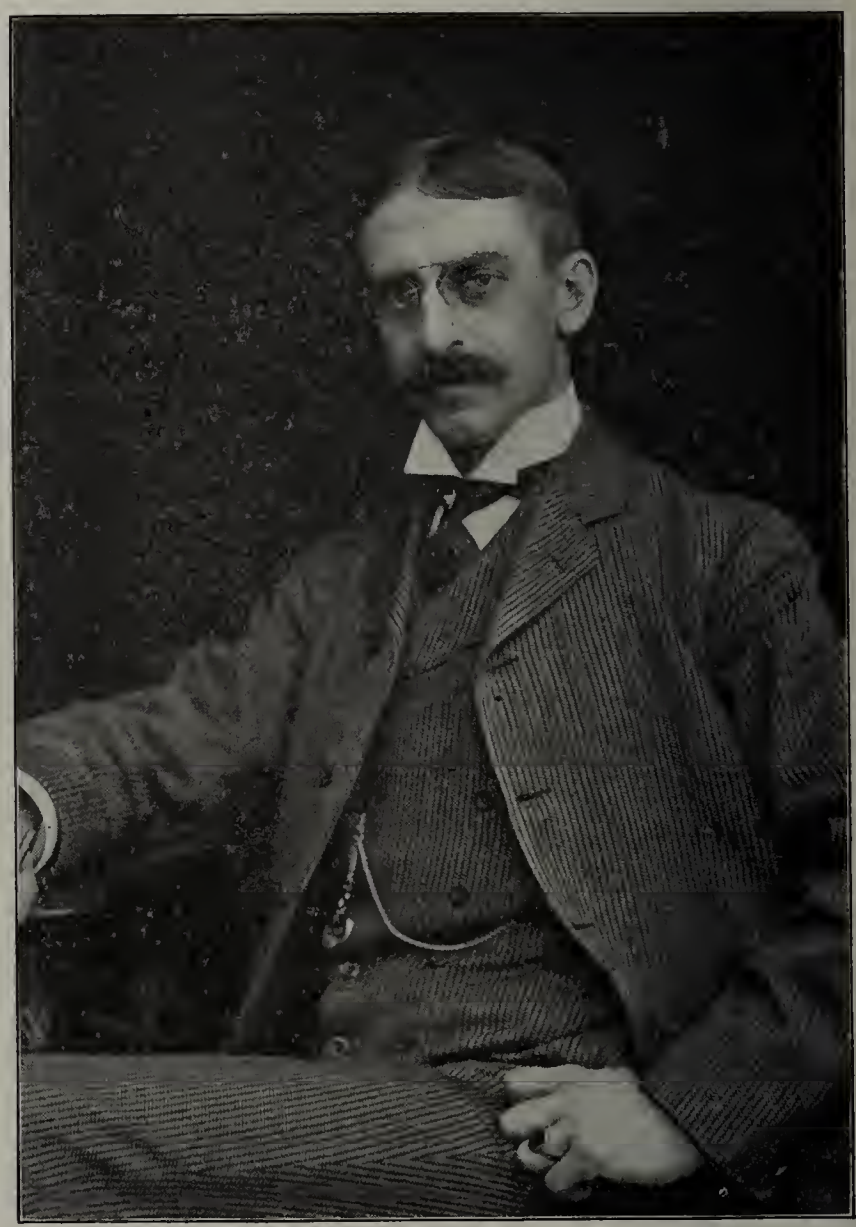
It has been considerable labor to compile even the bald facts above enumerated, partly because of the scattered items in the minutes of the general meetings of the Association, in which changes were made, and partly because of the defective nature of the records. Some years there was no record of the Sections whatever, in others no mention of changes of name, election of officers, etc. The publication of the official section minutes, never complete, has been suspended since the last volume of the Transactions until last year, when it was resumed. All these facts increased the difficulties, and it may be that some important omission has been made. It is believed, however, that with possibly one or two such this record is reliable.

Association Officers.

The following is a list of the principal officers of the Association from its inception to 1902. The dates given are those of their election, except in the case of those appointed to deliver the annual addresses. The years given in their case are those in which the actual service was performed. The section officers are given elsewhere in the history of the sections.

In the early years of the Association two secretaries were elected annually; both are included in the list. Since the office of permanent secretary was provided for there has been for many years an assistant local secretary appointed each year; these are not included.

Alexander, C. (Wis.), V.-Pres., 1885.
Allen, J. M. (Mo.), V.-Pres., 1899.
Almy, I. O. (Ohio), V.-Pres., 1866.
Anderson, W. H. (Ala.), V.-Pres., 1881.
Arnold, R. D. (Ga.), Secy., 1846; V.-Pres., 1851.
Ashford, F. A. (D. C.), Libr., 1871.



R. R. Campbell, Chicago, Secretary, Section on Cutaneous Medicine and Surgery.

Askew, Henry F. (Del.), V.-Pres., 1859; Pres., 1867.
Atkinson, W. B. (Pa.), Perm. Secy., 1864 to 1899.
Atlee, Jno. O. (Pa.), V.-Pres., 1868; Pres., 1882.
Awl, W. M. (Ohio), V.-Pres., 1848.
Bailey, J. W. (Ga.), V.-Pres., 1888.
Baldwin, W. O. (Ala.), Pres., 1869.
Bartlett, J. K. (Wis.), V.-Pres., 1872.
Bascom, F. S. (Utah), V.-Pres., 1894.
Beadle, E. A. (N. Y.), Secy., 1852-3.
Bemiss, S. M. (Ky.), Secy., 1858-9.
Bemiss, S. M. (La.), V.-Pres., 1869.
Blatchford, T. W. (N. Y.), V.-Pres., 1856.
Boling, W. M. (Ala.), V.-Pres., 1855.
Bowditch, H. I. (Mass.), Secy., 1848; V.-Pres., 1867; Pres., 1877.
Bowling, W. K. (Tenn.), V.-Pres., 1856; V.-Pres., 1867; Pres., 1875.
Brainerd, Daniel (Ill.), V.-Pres., 1856.
Breckenridge, R. J. (Ky.), V.-Pres., 1857.
Briggs, W. T. (Tenn.), V.-Pres., 1873; Trustee, 1887 to 1890; Pres., 1890.
Brinsmade, T. C. (N. Y.), V.-Pres., 1867.
Brisbane, W. H. (Wis.), V.-Pres., 1856.
Brodie, W. (Mich.), Secy., 1855-6; V.-Pres., 1875; Pres., 1885.
Brower, D. R. (Ill.), Oration in State Medicine, 1899.
Brown, Hawkins (Ky.), V.-Pres., 1892.

Brown, H. W. (Tex.), V. Pres., 1875.
Buchanan, A. H. (Tenn.), V.-Pres., 1847.
Buel, W. P., Secy., 1846.
Busey, S. C. (D. C.), V.-Pres., 1877; Oration in State Medicine, 1898.
Byford, W. H. (Ind.), V.-Pres., 1857.
Cabell, J. L. (Va.), Oration in State Medicine, 1888.
Cain, J. B. (Tenn.), Oration in Medicine, 1892.
Calhoun, A. W. (Ga.), V.-Pres., 1900.
Campbell, H. F. (Ga.), V.-Pres., 1857; Trustee, 1882 to 1887; Pres., 1884.
Carpenter, Horace (Ore.), V.-Pres., 1881.
Carr, E. S. (Wis.), V.-Pres., 1863.
Carroll, A. L. (N. Y.), Oration in State Medicine, 1890.
Catlin, B. H. (Conn.), V.-Pres., 1873.
Chapman, N. (Pa.), Pres., 1847.
Chisholm, J. J. (Md.), V.-Pres., 1895.
Clarke, A. C. (Mass.), V.-Pres., 1895.
Cole, R. Beverly (Cal.), V.-Pres., 1883; Oration in Medicine, 1888; Pres., 1895.
Colvin, Dr. (N. Y.), V.-Pres., 1887.
Condict, Lewis (N. J.), V.-Pres., 1853.
Condie, D. F. (Pa.), Treas., 1852 to 1854.
Connor, L. (Mich.), V.-Pres., 1882; Trustee, 1882- to 1894.
Connor, P. S. (Ohio), Oration in Surgery, 1889.
Couper, Jas. (Del.), V.-Pres., 1863.

G. Hudson Makuen, Philadelphia, Chairman, Section on Laryngology and Otology.

Cox, C. C. (Md.), V.-Pres., 1863.
Crosby, Josiah (N. H.), V.-Pres., 1858.
Culbertson, J. C. (Ohio) Editor, 1891-1893.
Davis, N. S. (Ill.) V.-Pres., 1854; Pres., 1864-1865; Trustee, 1882 to 1884; Editor, 1883-1888; Oration in Medicine, 1890.
Davis, N. S., Jr. (Ill.), Oration in Medicine, 1901.
Davis, W. E. B. (Ala.), V.-Pres., 1891.
Dawson, W. W. (Ohio), Pres., 1888; Trustee, 1889-1893.
De Saussure, H. W. (S. C.), Secy., 1850-1851.
Dibrell, J. A. (Ark.), V.-Pres., 1901.
Didama, H. D. (N. Y.), V.-Pres., 1875.
Dunbar, J. R. W. (Md.), Secy., 1847 to 1848.
Dungleson, R. J. (Pa.), Treas., 1878 to 1894.
Dunlap, A. (Ohio), V.-Pres., 1878.
Dunn, T. C. (R. I.), V.-Pres., 1866.
Eastman, Jos. (Ind.), Trustee, 1894 to 1900.
Edwards, T. O. (Iowa), V.-Pres., 1858.
Evans, T. B. (Md.), V.-Pres., 1889.
Eve, Duncan (Tenn.), V.-Pres., 1887.
Eve, Paul F. (Tenn.), V.-Pres., 1848; Pres., 1857.
Fenner, E. D. (La.), V.-Pres., 1854.
Ferguson, E. D. (N. Y.), V.-Pres., 1899.
Flint, Austin (N. Y.), V.-Pres, 1849; Pres., 1883.
Flint, Austin, Jr. (N. Y.), Oration in Medicine, 1897.
Flint, J. B. (Ky.), V.-Pres., 1851.

Foster, R. C. (Tenn.), Secy., 1856 1857.
Frost, H. R. (S. C.), V.-Pres., 1853.
Fuller, A. J. (Me.), V.-Pres., 1879.
Fulton, Jno. F. (Minn.), Trustee, 1901.
Furman, Guido (N. Y.), Secy., 1863.
Gadbury, W. T. (Miss.), V.-Pres., 1874.
Garcelon, A. (Me.), Trustee, 1882 to 1901; V.-Pres., 1901.
Garnett, A. Y. P. (D. C.), V.-Pres., 1885; Pres., 1887.
Geddings, E. (S. C.), V.-Pres., 1856.
Ghent, H. C. (Tex.), V.-Pres., 1884.
Gibbons, H. (Cal.), V.-Pres., 1871.
Gibson, A. L. (U. S. N.), V.-Pres., 1883.
Gibson, L. P. (Ark.), V.-Pres., 1890.
Gooch, P. C. (Va.), Secy., 1851.
Gordon, S. C. (Me.), V.-Pres., 1883.
Graham, D. W., Trustee, 1894 to 1897.
Graham, J. W. (Colo.), Trustee, 1894 to 1895; V.-Pres., 1898.
Grant, W. W. (Col.), Trustee, 1901.
Green, John (Mass.), V.-Pres., 1854.
Gregory, E. H. (Mo.), Pres., 1886.
Grissom, Eug. (N. C.), V.-Pres., 1882.
Gross, Samuel D. (Pa.), Pres., 1868.
Gunn, Moses (Ill.), V.-Pres., 1878.
Hamilton, J. B. (D. C.), Trustee, 1890-1893; Editor, 1893-1898; Oration in Surgery, 1893; Oration in State Medicine, 1897.
Happel, T. J. (Tenn.), V.-Pres., 1897; Trustee, 1898 to —
Hare, H. A. (Pa.), Oration in Medicine, 1893.

J. F. Barnhill, Indianapolis, Ind., Secretary, Section on Laryngology and Otology.

Harrison, J. P. (Ohio), V.-Pres., 1849.
Hawes, Jesse (Colo.), V.-Pres., 1892.
Hays, Isaac (Pa.), Treas., 1847 to 1852.
Hayward, Geo. (Mass.), V.-Pres., 1851.
Heard, T. J. (Tex.), V.-Pres., 1871.
Heintze, F. E. B. (Md.), V.-Pres., 1864.
Hibbard, Jas. F. (Ind.), V.-Pres., 1866; Pres., 1893.
Hill, L. G. (N. H.), V.-Pres., 1881.
Hodgin, Jno. T. (Mo.), Pres., 1881.
Hollister, J. H. (Ill.), Trustee, 1883 to 1891.
Holton, H. D. (Vt.), V.-Pres., 1881; Oration in State Medicine, 1895.
Hooker, W. (Conn.), V.-Pres., 1864.
Hooper, P. O. (Ark.), V.-Pres., 1882; Trustee, 1882 to 1892.
Howard, R. L. (Ohio), V.-Pres., 1853.
Hubbard, S. G. (Conn.), Secy., 1859-1860.
Hughes, C. H. (Mo.), Oration in Medicine, 1894.
Hughes, J. C. (Iowa), V.-Pres., 1867.
Hunt, E. M. (N. J.), V.-Pres., 1880.
Husted, N. C. (N. Y.), V.-Pres., 1874.
Ingals, E. Fletcher (Ill.), Trustee, 1893 to 1896, 1900 to —
Ives, C. L. (Conn.), V.-Pres., 1872.
Ives, Eli (Conn.), Secy., 1859; Pres., 1860-1863.
Jackson, J. D. (Ky.), V.-Pres., 1876.
Jackson, J. W. (Minn.), V.-Pres., 1889.

Jackson, Samuel (Pa.), V.-Pres., 1848.
Jewell, W. (Pa.), V.-Pres., 1860.
Jones, H. (Vt.), V.-Pres., 1892.
Johnson, H. A., (Ill.), Secy., 1860-1863.
Johnson, H. L. E. (D. C.), Trustee, 1898 to —
Johnson, J. B. (Mo.), V.-Pres., 1850.
Johnson, W. P. (D. C.), V.-Pres., 1866.
Jonas, A. F. (Neb.), V.-Pres., 1901.
Keen, W. W. (Pa.), Oration in Surgery, 1897; V.-Pres., 1898; Pres., 1899.
Keller, J. M. (Ky.), V.-Pres., 1874.
Kimball, H. H. (Minn.), V.-Pres., 1889.
King, W. P. (Mo.), V.-Pres., 1891.
Kinlach, R. A. (S. C.), V.-Pres., 1883.
Kleinschmidt, C. H. A. (D. C.), Libr., 1883 to 1890.
Knight, Jonathan (Conn.), V.-Pres., 1847 and 1852; Pres., 1853.
Kober, Geo. M. (D. C.), Oration in State Medicine, 1901.
La Place, Ernest (Pa.), Oration in Surgery, 1894.
Lee, Wm. (D. C.), Libr., 1872-1883.
Le Grand, C. (Ala.), V.-Pres., 1895.
Lemoine, E. S. (Mo.), Secy., 1853-1854.
Lester, T. B. (Mo.), V.-Pres., 1883.
Lilly, Samuel (N. J.), V.-Pres., 1876.
Lindsley, C. A. (Conn.), V.-Pres., 1890; Oration in State Medicine, 1892.
Lindsley, Harvey (D. C.), Pres., 1858.
Logan, J. A. (Ga.), V.-Pres., 1860.

George F. Butler, Alma, Mich., Chairman, Section on Materia Medica, Pharmacy and Therapeutics.

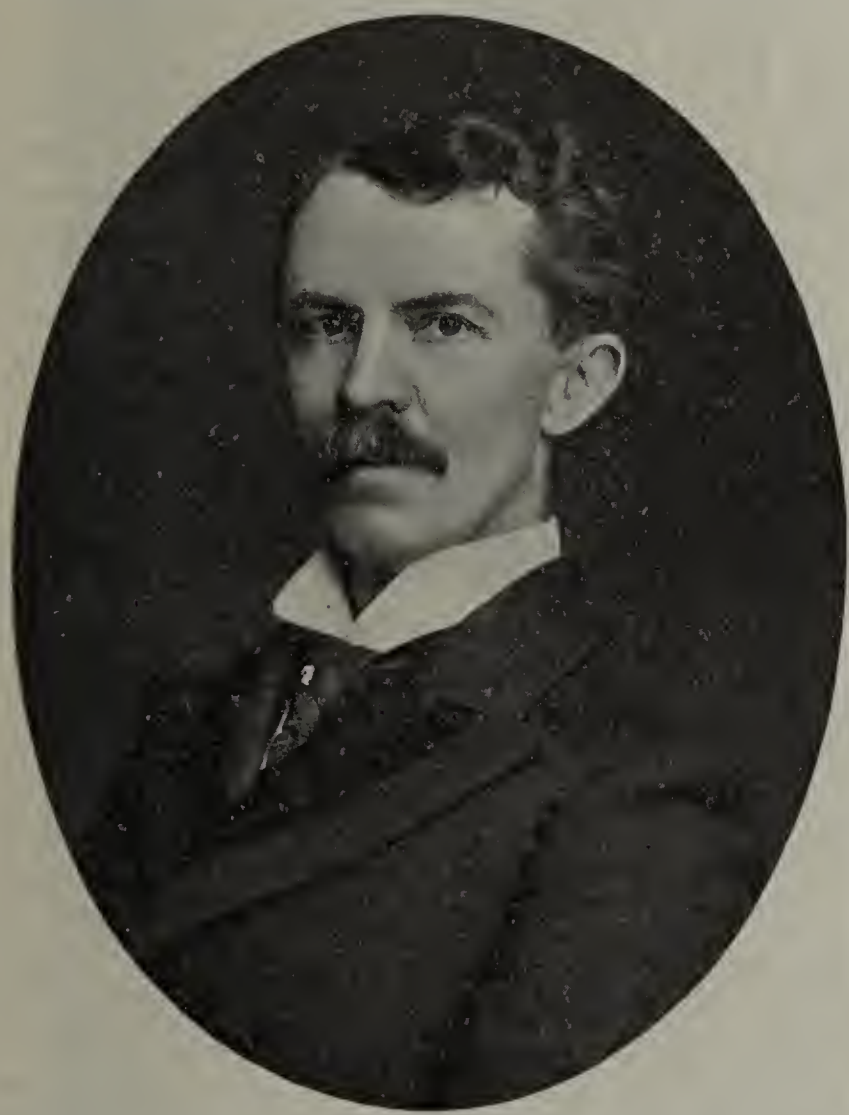
Logan, Samuel (La.), V.-Pres., 1885.
Logan, Thos. M. (Cal.), V.-Pres., 1872; Pres., 1873.
Lopez, A. (Ala.), V.-Pres., 1850.
Love, I. N. (Mo.), Trustee, 1889 to 1901; V.-Pres., 1893.
Loving, S. (Ohio), V.-Pres., 1894.
Lynch, J. S. (Md.), V.-Pres., 1884.
March, Alden (N. Y.), Pres., 1863.
Marcy, H. O. (Mass.), V.-Pres., 1880; Pres., 1891.
Marvel, P. (N. J.), V.-Pres., 1900.
Mathews, J. M. (Ky.), Oration in Surgery, 1891; Trustee, 1896 to 1898; V.-Pres., 1897; Pres., 1898; Trustee, 1900 to —
McCrae, Floyd W. (Ga.), Oration in Surgery, 1899.
McDowell, J. N. (Mo.), V.-Pres., 1860.
McGuire, H. (Va.), V.-Pres., 1882; Oration in Surgery, 1890; Pres., 1892.
McGuire, H. H. (Va.), V.-Pres., 1849.
McLean, Donald (Mich.), Pres., 1894.
McMurtry, L. S. (Ky.), Trustee, 1882-1889, and 1893 to 1899.
McPheeters, W. M. (Mo.), V.-Pres., 1873.
Mendenhall, Geo. (Ohio), V.-Pres., 1869; Pres., 1870.
Mercer, S. D. (Neb.), V.-Pres., 1884.
Michel, R. F. (Ala.), V.-Pres., 1872.
Middleton, W. D. (Iowa), V.-Pres., 1899.
Millard, P. H. (Minn.), Trustee, 1892 to 1895.

Miller, E. H. (Minn.), V.-Pres., 1886.
Miller, Henry (Ky.), Pres., 1859.
Miller, Truman W. (Ill.), Trustee, 1897 to 1899.
Minney, J. E. (Kan.), V.-Pres., 1898.
Monroe, N. P. (Me.), V.-Pres., 1869.
Montgomery, E. E. (Pa.), Trustee, 1893 to 1902.
Moore, E. M. (N. Y.), Trustee, 1882 to 1890; Oration in Surgery, 1888; Pres., 1889.
Moore, J. S. (Mo.), V.-Pres., 1870.
Moore, R. C. (Neb.), V.-Pres., 1890.
Morris, J. (Md.), V.-Pres., 1879.
Moultrie, James (S. C.), V.-Pres., 1847; Pres., 1851.
Mudd, H. H. (Mo.), Oration in Surgery, 1893.
Murphy, J. H. (Minn.), V.-Pres., 1879.
Murphy, J. B. (Ill.), Oration in Surgery, 1898.
Murrell, T. (Ark.), V.-Pres., 1893.
Musser, J. H. (Pa.), Oration in Medicine, 1898.
Mussey, Reuben D. (Ohio), Pres., 1850.
Mussey, W. H. (Ohio), V.-Pres., 1864.
Nelson, D. E. (Tenn.), Trustee, 1890 to 1893.
Newman, H. P. (Ill.), Treas., 1894 (——).
Norris, G. W. (Pa.), V.-Pres., 1850.
O'Hagan, C. J. (N. C.), V.-Pres., 1887.
Osler, Wm. (Md.), Oration in Medicine, 1896.
Packard, J. H. (Pa.), Trustee, 1882 to 1887.
Palmer, A. B. (Mich.), V.-Pres., 1860.
Palmer, H. (Wis.), V.-Pres., 1891.

C. S. N. Hallberg, Chicago, Secretary, Section on Materia Medica, Pharmacy and Therapeutics.

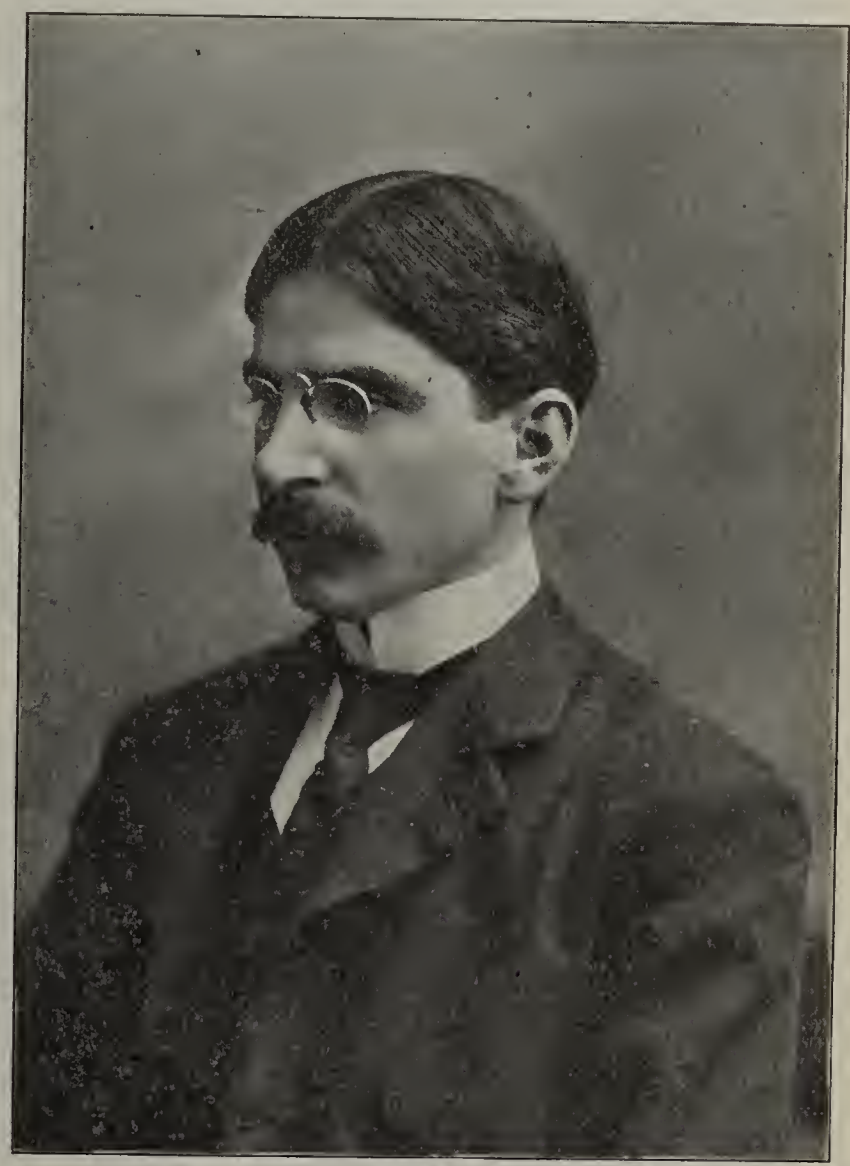
Pancoast, W. B. (Pa.), V.-Pres., 1886.
Parsons, J. W. (N. H.), V.-Pres., 1884.
Parsons, Usher (R. I.), V.-Pres., 1853.
Parvin, Theophilus (Ind.), Pres., 1879.
Patterson, I. C. (D. C.), Trustee, 1892 to 1894.
Patterson, W. C. (D. C.), Trustee, 1892.
Peck, W. F. (Iowa), V.-Pres., 1885.
Pepper, W. (Pa.), Oration in Medicine, 1889.
Pinkney, N. (U. S. N.), V.-Pres., 1876.
Pitcher, Zina (Mich.), Pres., 1856.
Pitman, N. J. (N. C.), V.-Pres., 1877.
Pollock, A. M. (Pa.), V.-Pres., 1873.
Pope, C. A. (Mo.), V.-Pres., 1852; Pres., 1854.
Porcher, R. P. (S. C.), V.-Pres., 1880.
Porter, Miles F. (Ind.), Trustee, 1900 (——).
Post, A. C. (N. Y.), V.-Pres., 1868.
Potter, W. W. (N. Y.), Trustee, 1891 to 1892.
Priestley, J. T. (Iowa), Trustee, 1894 to 1900.
Prince, D. (Ill.), V.-Pres., 1863.
Quine, W. E. (Ill.), Oration in Medicine, 1895; V.-Pres., 1900.
Rauch, J. H. (Ill.), Trustee, 1891 to 1894.
Reed, C. A. L. (Ohio), Trustee, 1896 to 1900; Pres., 1900.
Reese, D. M. (N. Y.), V.-Pres., 1857.
Reeves, J. E. (Tenn.), Trustee, 1895 to 1896.

Reyburn, Robert (D. C.), Libr., 1870.
Richardson, C. L. (D. C.), Libr., 1890.
Richardson, T. G. (La.), Pres., 1878.
Rodgers, W. B. (Tenn.), V.-Pres., 1897.
Rodman, W. L. (Pa.), Oration in Surgery, 1900; Trustee, 1900.
Rohe, Geo. H. (Md.), Oration in State Medicine, 1894 and 1896.
Russell, G. W. (Conn.), V.-Pres., 1878.
Satterthwaite, T. P. (Ky.), V.-Pres., 1895.
Savage, G. C. (Tenn.), Trustee, 1896 to 1898.
Sayre, Lewis A. (N. Y.), V.-Pres., 1870; Pres., 1880.
Schenk, W. L. (Kan.), V.-Pres., 1888; Oration in State Medicine, 1891.
Seelye, S. D. (Ala.), V.-Pres., 1876.
Semmes, A. J. (D. C.), Secy., 1857-8.
Senn, Nicholas (Ill.), Oration in Surgery, 1896; Pres., 1896.
Shakespeare, E. O. (Pa.), Trustee, 1887 to 1890.
Shoemaker, J. V. (Pa.), Trustee, 1890 to 1893.
Shurly, E. L. (Mich.), Oration in Medicine, 1891.
Simmons, Geo. H. (Ill.), Editor and Secretary, 1899 to ——.
Simons, T. T. (S. C.), V.-Pres., 1852.
Sims, J. Marion (N. Y.), Pres., 1876.
Smith, F. G. (Pa.), V.-Pres., 1870.
Smith, J. R. (U. S. A.), V.-Pres., 1877.
Smith, L. A. (N. J.), V.-Pres., 1859.
Souchon, E. (La.), V.-Pres., 1896.
Staples, F. (Minn.), V.-Pres., 1877.
Stedman, A. (Colo.), V.-Pres., 1887.
Stephens, Alex. H. (N. Y.), V.-Pres., 1847; Pres., 1848.



Frank B. Wynn, Indianapolis, Chairman, Section on Physiology and Pathology.

Sternberg, Geo. M. (D. C.), V.-Pres., 1896; Pres., 1897.
Stewart, R. S. (Va.), V.-Pres., 1849.
Stille, A. (Pa.), Secy., 1847 to 1851; Pres., 1871.
Stone, A. J. (Minn.), V.-Pres., 1901.
Stone, W. (La.), V.-Pres., 1870.
Storer, D. Humphreys (Mass.), V.-Pres., 1855; Pres., 1866.
Storer, H. R. (Mass.), V.-Pres., 1868.
Sutton, W. L. (Ky.), V.-Pres., 1858.
Taylor, W. E. (Cal.), V.-Pres., 1891.
Thomas, J. B. (Pa.), V.-Pres., 1896.
Thompson, J. L. (Ind.), V.-Pres., 1897.
Thomson, J. W. (Del.), V.-Pres., 1852.
Tilden, Daniel (Ohio), V.-Pres., 1855.
Toner, Jos. M. (D. C.), Pres., 1874; Trustee, 1882 to 1890.
Tripler, C. S. (U. S. A.), V.-Pres., 1859.
Tyler, Grafton (D. C.), V.-Pres., 1855.
Vaughan, V. C. (Mich.), Oration in State Medicine, 1900.
Walker, H. O. (Mich.), V.-Pres., 1888, 1892.
Warner, L. F. (Mass.), V.-Pres., 1874.
Warren, Jno. C. (Mass.), V.-Pres., 1848; Pres., 1849.
Warren, J. H. (Mass.), V.-Pres., 1889.
Warren, W. E. (N. C.), V.-Pres., 1858.
Watson, Wm. (Iowa), V.-Pres., 1894.
Weatherly, J. S. (Ala.), V.-Pres., 1871.
Webster, G. W. (Ill.), Libr., 1891 to 1901.
Welch, W. B. (Ark.), V.-Pres., 1886.
Welch, W. H. (Md.), Oration in State Medicine, 1889.
Wellford, Beverly R. (Va.), V.-Pres., 1851; Pres., 1852.
West, Calvin (Ind.), V.-Pres., 1859.
West, Francis (Pa.), Secy., 1854-1855.
West, H. A. (Tex.), V.-Pres., 1898.
Westmoreland, W. F. (Ga.), V.-Pres., 1879, 1896.
Wheaton, C. A. (Minn.), Oration in Surgery, 1895; V.-Pres., 1899.
Whelan, W. (D. C.), V.-Pres., 1864.
White, J. P. (N. Y.), V.-Pres., 1878.
Wiggin, F. H. (N. Y.), V.-Pres., 1897.
Wile, W. C. (Conn.), V.-Pres., 1886.
Willey, S. (Minn.), V.-Pres., 1871.
Wilson, J. C. (Pa.), Oration in Medicine, 1899.
Wingate, U. O. B. (Wis.), V.-Pres., 1893.
Wire, Geo. E. (Ill.), Libr., 1895 to 1897.
Wistar, Caspar (Pa.), Treas., 1855 to 1878.
Witherspoon, J. A. (Tenn.), Oration in Medicine, 1900.
Wood, Geo. B. (Pa.), Pres., 1855.
Wood, Isaac (N. Y.), Treas., 1854.
Woodbridge, J. E. (Ohio), Trustee, 1894 to 1896.
Woodbury, F. (Pa.), V.-Pres., 1888.
Woodhull, A. A. (U. S. A.), V.-Pres., 1900.
Woodward, J. J. (U. S. A.), V.-Pres., 1875; Pres., 1882. (In his absence Dr. P. O. Hooper, 1st V.-Pres., officiated.)
Wragg, W. (S. C.), V.-Pres., 1854.
Wyeth, Jno. A. (N. Y.), V.-Pres., 1893; Oration in Surgery, 1901; Pres., 1901.
Wyman, H. A. (Mich.), V.-Pres., 1890.



Joseph McFarland, Philadelphia, Secretary, Section on Physiology and Pathology.

Wyman, Walter (D. C.), Oration in State Medicine, 1893.
Yandall, D. W. (Pa.), V.-Pres., 1868; Pres., 1872.
Young, Noble (D. C.), V.-Pres., 1869.

Treatment of Uncontrollable Vomiting by Saline Injections.—Dr. R. Condamin of Lyons, France, treats patients with uncontrollable vomiting of pregnancy by rectal injections of 3 to 4 quarts of tepid saline solution fractioned during the day, not more than 300 gm. at a time. This combats the auto-intoxication which he assumes to be the cause of the vomiting and, supplemented by absolute withholding of all food, has cured eight severe cases in his experience, without the necessity of artificial delivery which otherwise seemed to be imperatively indicated.

Treatment of Bites.—Bujwid condemns the practice of thermocauterizing bites as it is almost inevitably done too late and is only superficial at best. It also produces a defect or deformity of the part. He recommends the use of tincture of iodin for the treatment of a bite in a communication to the *Przeglad Lekarski.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, JUNE 7, 1902.

PERMANENT SECRETARIES FOR THE SECTIONS.

By reference to the history of the Sections, printed elsewhere in this issue, it will be noted that with one exception each of the Sections makes it a rule to elect a new secretary each year. We know of no other medical society, or, for that matter, any organization, that changes its secretary annually. A thought given to the subject will call to mind the fact that every successful medical society makes the office of secretary a more or less permanent one. This is because it is recognized as practically necessary for continued good work and for the carrying out of a definite policy.

The work connected with arranging a program is such that but few men are successful at it the first year. It requires certain knowledge that can only be had by experience. It is not every one who knows what constitutes a good program. Three years ago an earnest secretary of one of the Sections joyfully remarked that he had a splendid program, having nearly ninety titles. When his attention was called to the rule limiting the number of papers he was crestfallen. A few good papers, and these well discussed, will make a good meeting always; a lot of papers, with no time for discussion, will make an unsatisfactory meeting always. This is not known by the average secretary the first year, although he learns it by experience. There is an art in arranging titles so that papers bearing on the same subject can be read and debated together. In this regard the programs of some of the sections this year, as they do each year, show lack of a recognition of this principle on the part of those who arrange them.

The Sections, more than ordinary societies, should have a more or less permanent secretary on account of the peculiar relation they hold to the profession as a whole, and the necessity for the use of good judgment in accepting what may be offered, as well as on account of the rules governing them.

Each Section has, in large measure, an autonomy of its own, and yet with one, possibly two, exceptions they have no records, no rules. A former chairman of one of the Sections, Dr. H. T. Patrick, in his address called attention to the necessity of a permanent secretary, and, among other things, said:

And this leads me to another point. When, raw and callow, I first assumed the duties of secretary, I was astonished to learn that not a line of record, correspondence, instruction, precedent, hint or suggestion descended to me from my predecessor. For fourteen years motions had been made, amended, lost, carried and had quietly slipped into oblivion, leaving no trace behind. Policies had been endorsed and rejected, resolutions adopted, committees had been appointed, had reported and been discharged, and not a minute made. I submit to you that this is a slipshod way of conducting affairs.

What Dr. Patrick found true as regards the Section on Nervous and Mental Diseases we found true of all Sections in writing up their history.

Each Section should have its own by-laws, subject, of course, to those of the American Medical Association, its own book of records, a general but fixed policy as to the scope of the scientific work it will cover, so that two, three and four Sections will not hereafter be found covering the same ground at the same annual session of the Association. To do all this there must be a continuation in office somewhere, and the only place it is possible is in the office of secretary.

As a rule, however, one who has been secretary for one year will hesitate to accept the office the second time. He has quite likely found his work wearisome, vexatious and unsatisfactory from various avoidable causes; when he has once "learned the ropes," the work will become simple, easy, and positively a pleasure. When we are urging the Sections to adopt this principle we are not suggesting something new; time and again in the past THE JOURNAL has advocated the same. Many of the Section officers, also, have done likewise.

A VOLUNTARY NATIONAL EXAMINING BOARD.

Dr. Rodman's communication in this issue, to which we wish to specially call attention, ought to clear up the atmosphere materially as regards the proposition of a voluntary national board of examiners. His plan is, in a way, a complete one, and he gives good reasons why it ought to succeed. In fact, he meets all the objections that are worth consideration very fully and fairly, and we do not see why his plan might not be adopted at once. It can easily be made elastic as to the place of examination, and as it is as probable that as large a percentage of graduates in western medical schools as of those of eastern ones would want to take the examination, it should be held also at other medical centers than those he mentions exclusively. We do not see any very serious difficulties in effecting this and thus obviating the only very serious objection raised to the plan.

The discretionary power suggested as regards specialists and men who have already made their reputation in medicine can be safely exercised by such a board as the one proposed, and hardly as well by any other. It is farcical to demand of one whose reputation is an honor to the profession of his country the same elementary and minute examinations as must be given the recent graduate, but any deviation from the rule must be carefully guarded, and hence the necessity of some possible detail as to this point—perhaps something like a special session of the board as a supreme council in such a case. Such matters, however, can be safely left as a detail to a body constituted as is the one proposed, representing the very highest elements of the

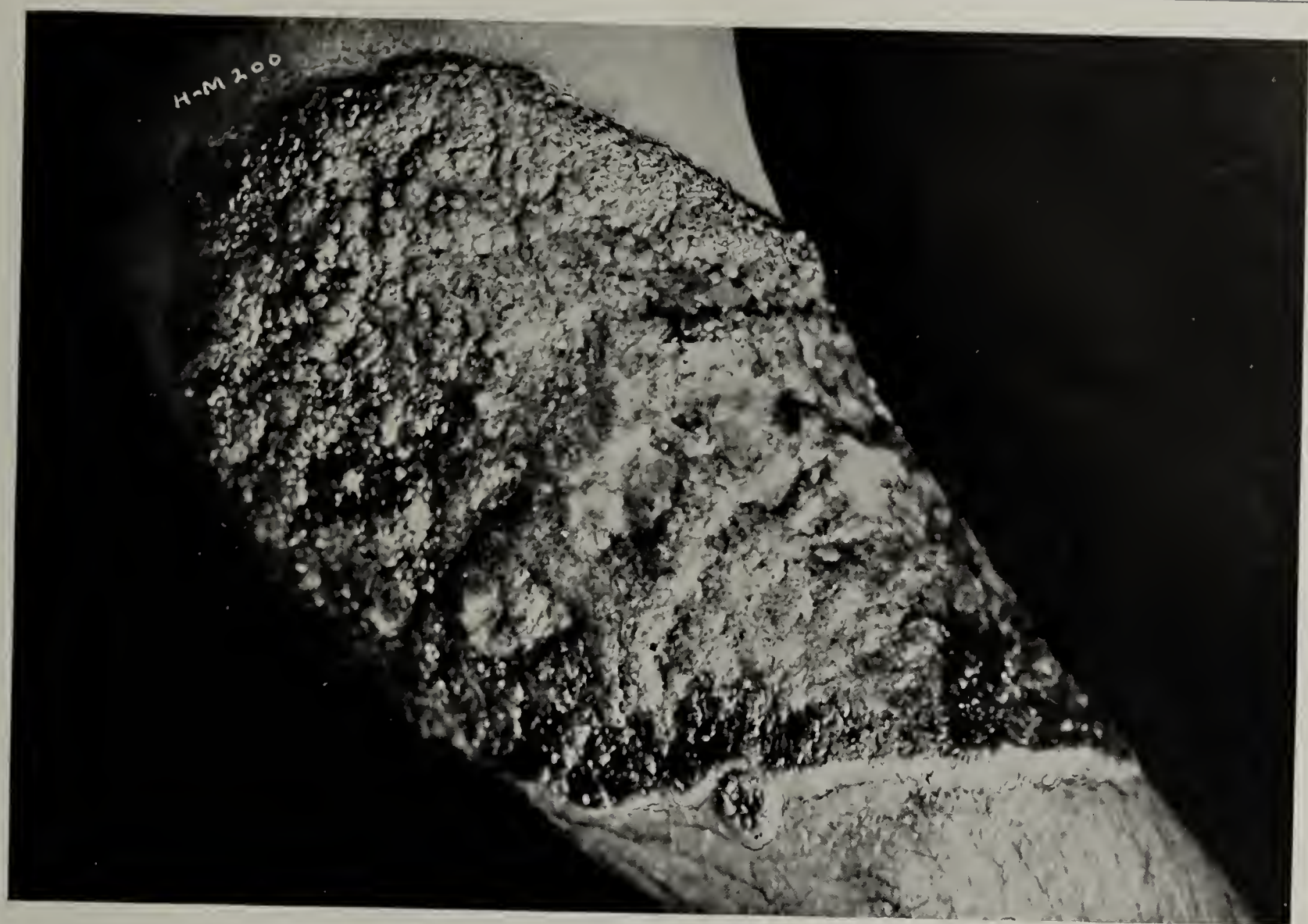


Fig. 1. Case I.

Fig 2. Case I.

Fig. 3. Case II. (Dr. Walker's photograph.)

Fig. 4. Case II. (Dr. Walker's photograph.)

Fig. 5. Case III.

Fig 6. Case IV.

Fig. 7. Case V.

Fig 8. Case VI.

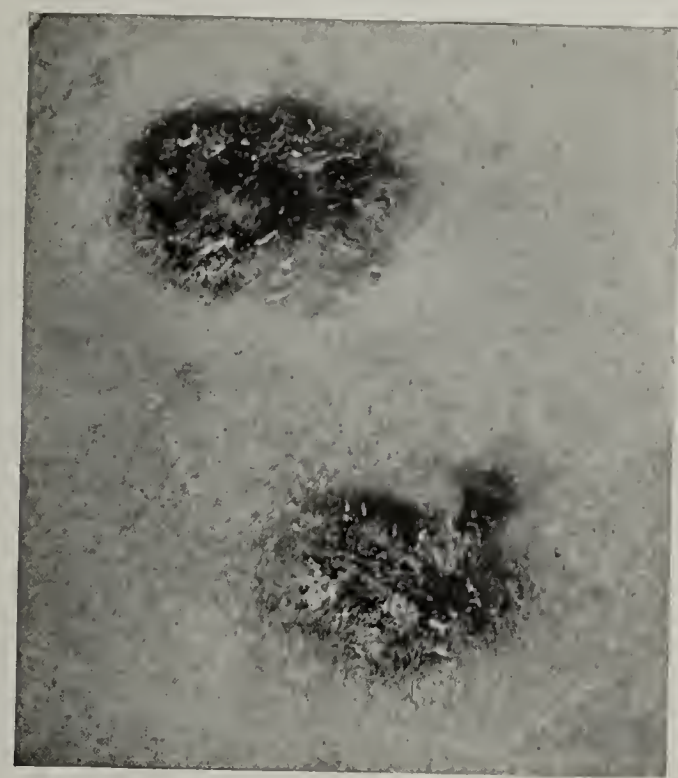


Fig. 9. Case VII.

Fig. 10. Case VIII.

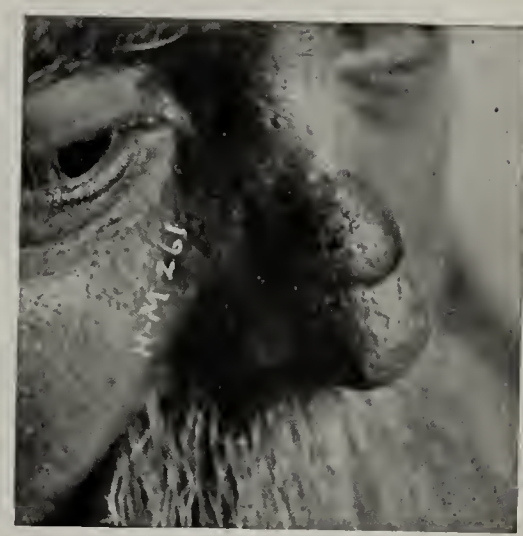


Fig. 11. Case IX.

Fig. 12. Case X.

Fig 13. Case X.

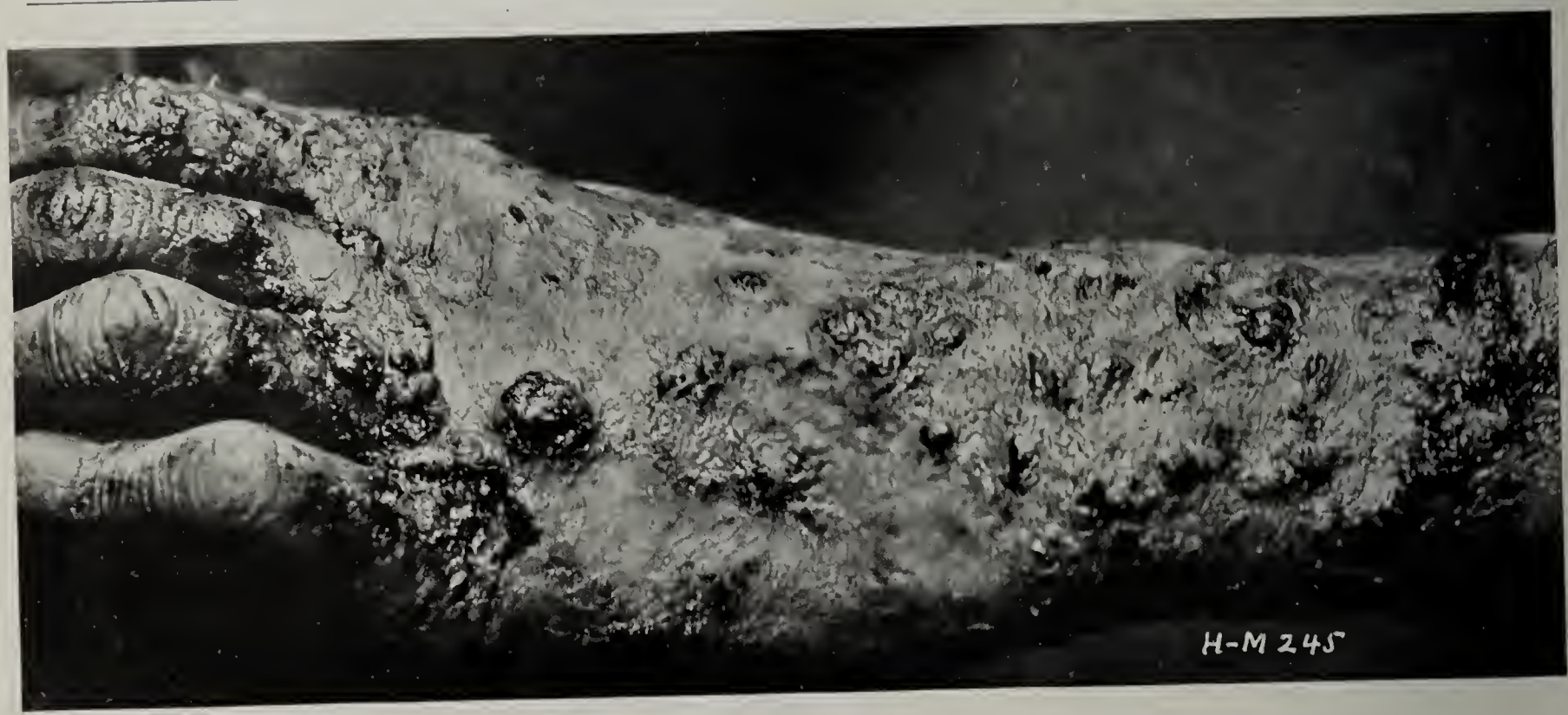


Fig. 14. Case XI.

Fig. 15. Case XII. (From Professor Senn's Clinic.)

Fig. 16. Case XIII.

Figure 17.

Figure 18.

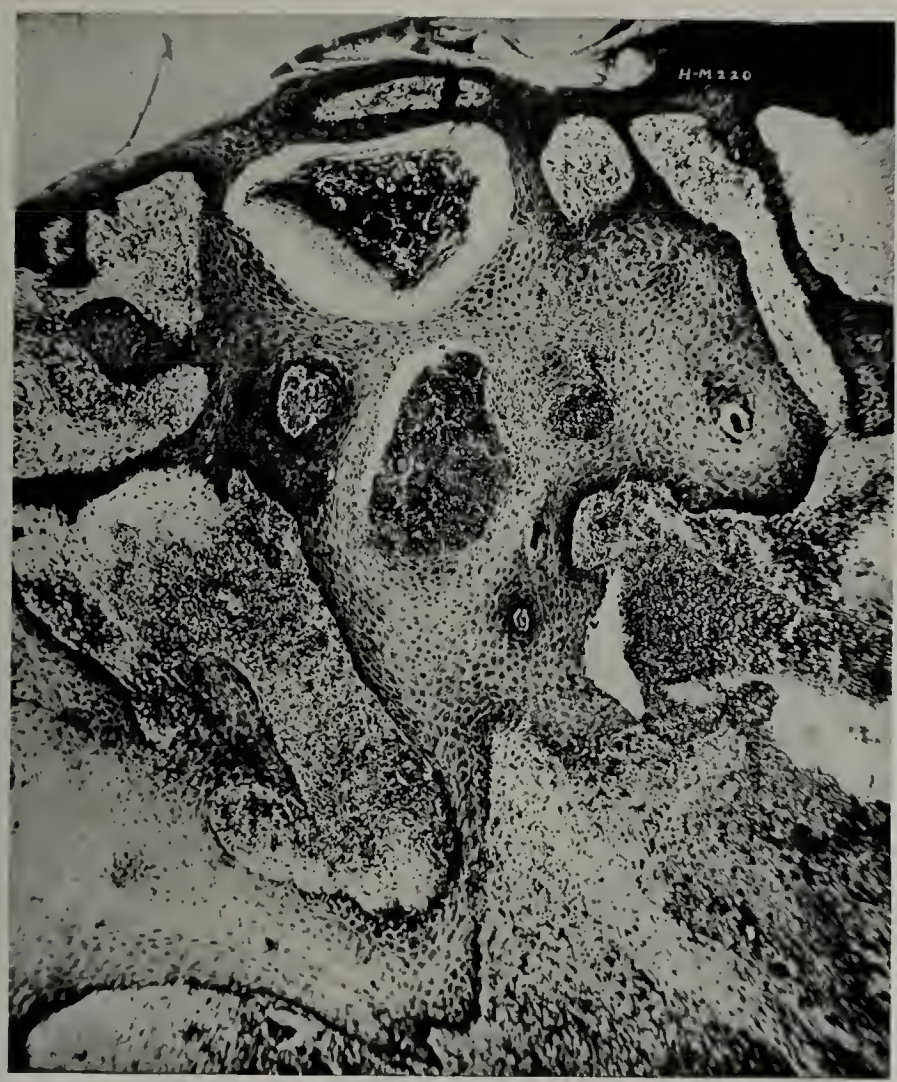


Figure 19.

Figure 20.

Sections, under low power, from Cases III, II, IV and I, showing characteristic histological structure of the lesions. The epithelial hyperplasia and the miliary abscesses are conspicuous. Fig. 18 shows an unusual development of giant-cells; at (*a*) is a giant-cell surrounded by epithelium.

Figure 21.

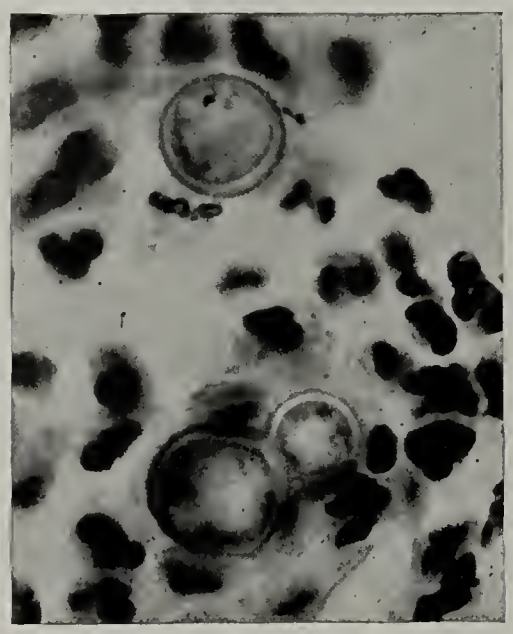


Figure 22.

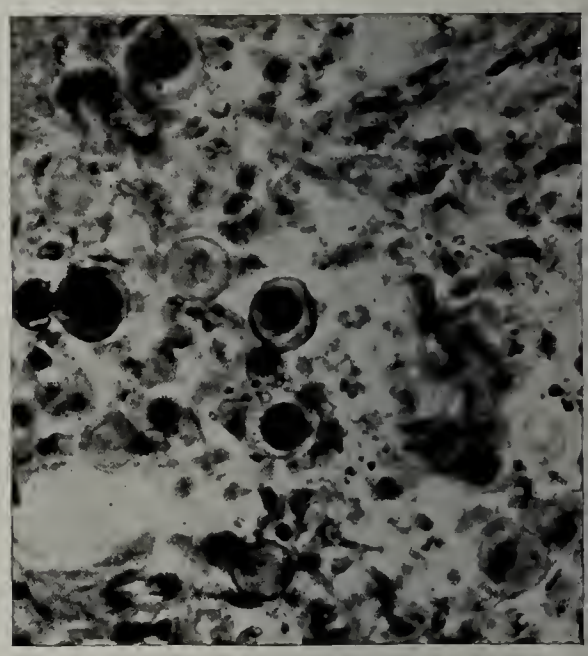


Figure 23.

Figure 24.

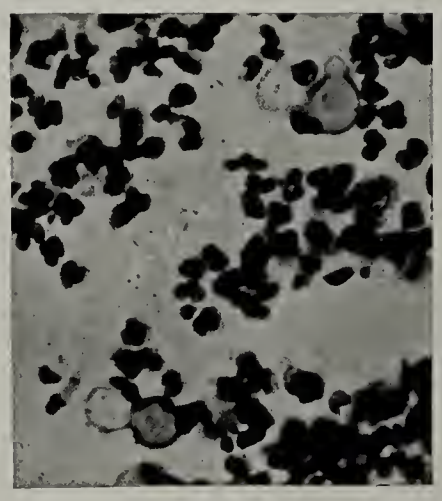


Figure 25.

Figure 26.

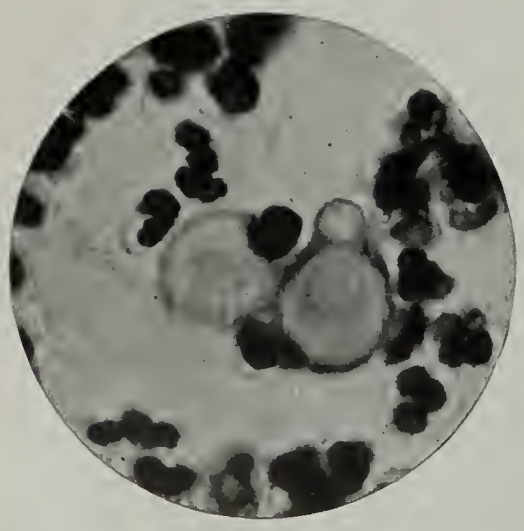


Figure 27.

Figure 28.

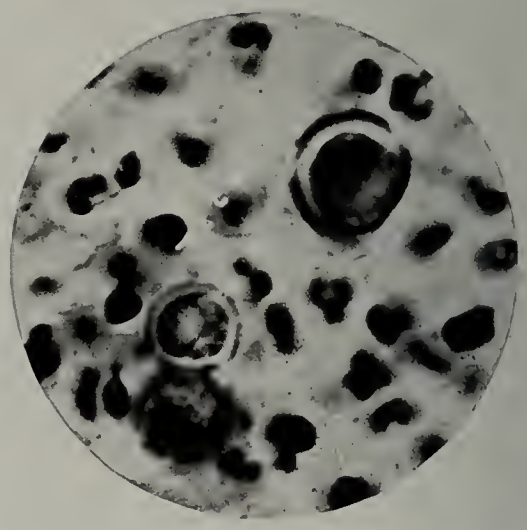


Figure 29.

Sections from Cases II (Figs. 21 to 24), I (Figs. 25 and 27), IV (Fig. 26), III (Fig. 28), and VIII (Fig. 29), showing organisms in tissue, including several budding forms. Fig. 21.—Giant-cell seen at (*a*) in Fig. 18; it contains a group of organisms. Fig. 23.—Organisms in lung tissue (Dr. Walker's section). Fig. 24.—Organism in giant-cell. Fig. 28.—Budding organism, with vacuole (?). Magnification: Figs. 21, 23 and 25, X 600; all others, X 1200.

Figure 30.

Figure 31.

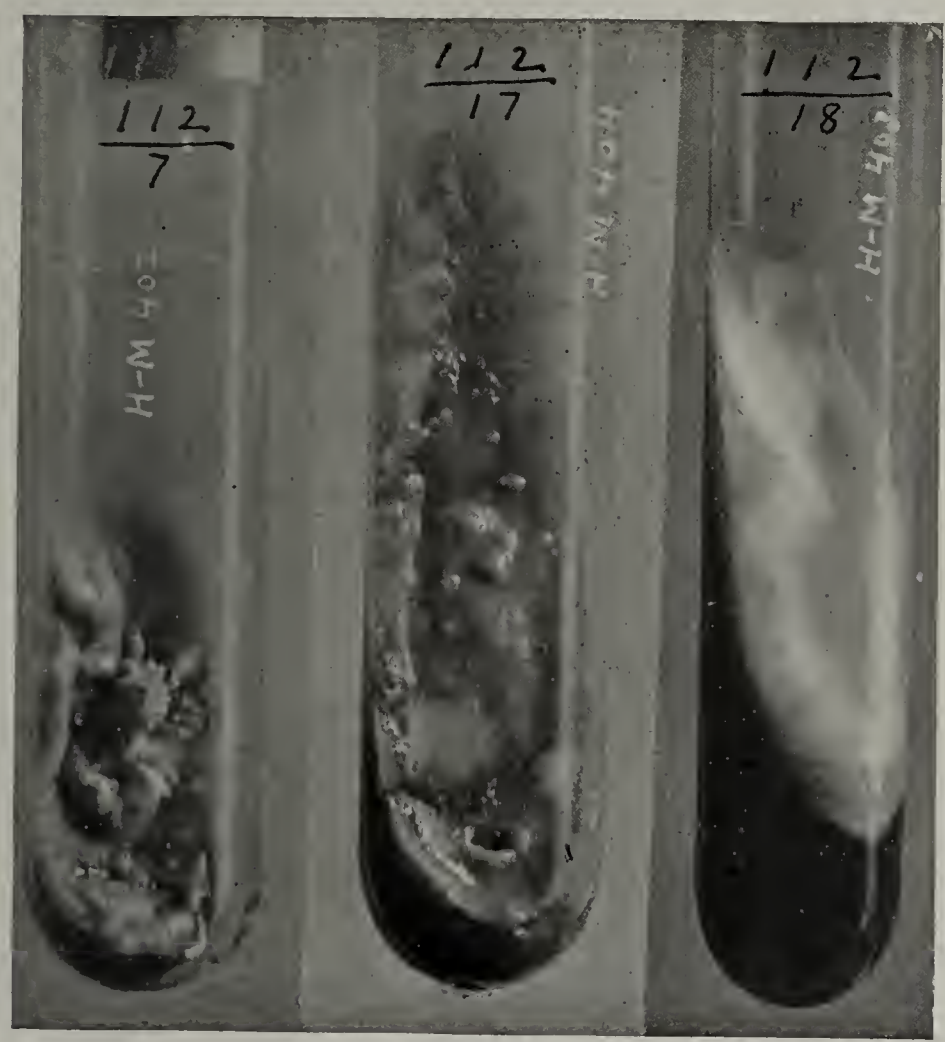


Figure 32.

Figure 33.

Figure 34.

Figs. 30 (X 1200) and 32 are described in detail in the text. Fig. 31 (X 1200).—Moist coverslip preparation from original culture on maltose agar. Other forms of this organism are seen in Figs. 35 to 39. Fig. 33 (X 120).—Hanging-drop from tube 7, Fig. 32. Fig. 34.—Organisms in fresh tissue, showing four stages of the budding process (a large air-bubble occupies the field to the right). Figs. 30 to 34 are from unstained preparations.

Figure 35.

Figure 36.

Figure 37.

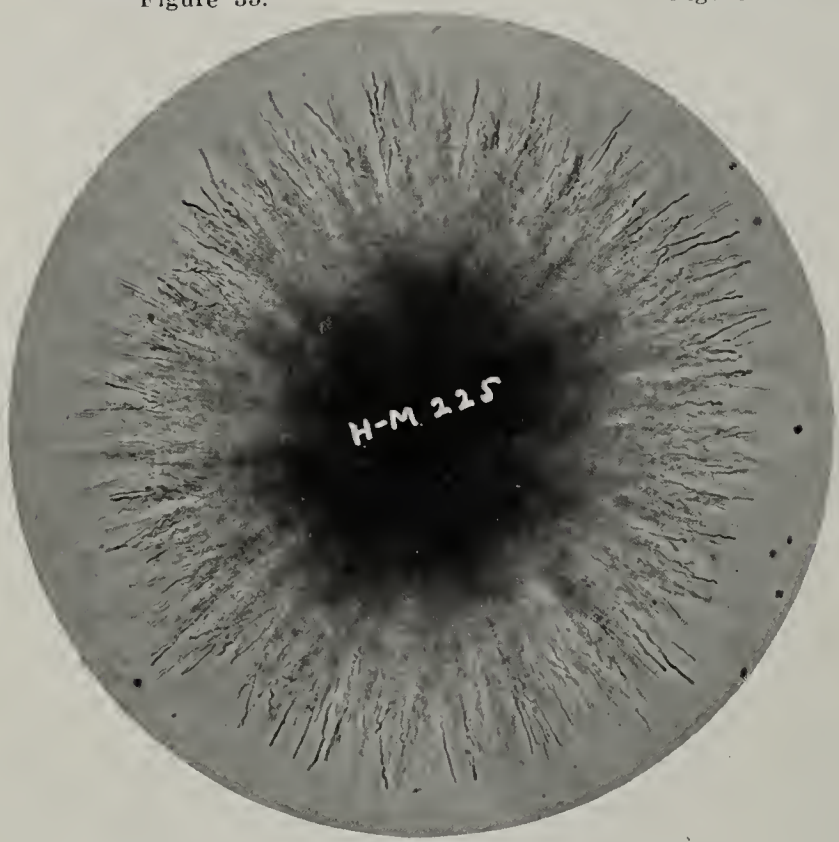


Figure 38.

Figure 39.

Figure 40.

Figure 41.

Fig. 35.—Colony on glucose agar, Case IV. Fig. 36 (X 75).—Hanging-drop, Case IV. Fig. 37 (X 1200).—Higher magnification of a portion of same. Fig. 38 (X 60).—Colony from plate culture,Case IV. Fig. 39 (X 320).—Higher magnification of part of same. Fig. 40 (X 1200).—Smear from a culture of Case V, stained withmethylene blue. Fig 41.—Hanging drop from Case V. All but Fig. 40 from unstained specimens.

profession and fully commanding its confidence. Doctor Rodman does not notice one possible demand, that of sectarian representation on the board, but we believe that with assured perfect fairness and restriction of the examination to essentials, without lessening its thoroughness, this demand will be practically silenced. It is believed that with the present trend of tendency in medical matters, and with the experience of the past, even the better class of the medical sectarians will seek the one national qualification.

Our Canadian confrères have just succeeded in obtaining a board, giving what will doubtless be a universal qualification for their territory, under constitutional difficulties almost identical with those we meet on this side of the line. In their case the board is made up of representatives of the provinces, and no province is represented on it that does not legally endorse its qualifications. What they can do in one way is equally practicable for us in another, and it is to be hoped that the movement will soon be well under way. It is a matter that demands the early attention of the Association through its delegated body, and also of the meeting of representatives of the state boards, which is to be held at about the same time. A co-operative action on the part of both will go far to put the project on a sound basis and insure its early success.

THE INTERCOMMUNICABILITY OF HUMAN AND BOVINE TUBERCULOSIS.

There is at the present day no difference of opinion as to the communicability of tuberculosis from one human being to another, or from an animal of a given species to another animal of the same species. Some doubt has been raised, however, as to the identity of the tubercle bacillus of human beings and that of lower animals. The question is of the utmost importance, as upon its decision must depend the measures to be instituted in the movement that has been set in action over the entire civilized world looking to the suppression of the great white plague, or, at least, the restriction of its ravages.

The startling announcement of Robert Koch at the British Congress for Tuberculosis to the effect that human and bovine tuberculosis are independent and non-communicable—a statement in direct contradiction of the view previously expressed by him—is still fresh in mind, but despite the acknowledged authority of this distinguished bacteriologist, not alone was his statement not accepted, but it was in fact at once taken issue with. Evidence was presented indicating the falsity of the new position and the machinery was immediately set in operation to secure data to establish with accuracy its correctness or incorrectness. One of those whose voices were raised against the revolutionary doctrine was an American—Dr. M. P. Ravenel, Bacteriologist to the State Live-stock Sanitary Board of Pennsylvania—who had facts at hand and presented in one of the sections of the congress a communication, demonstrating beyond peradventure of doubt the intercommunicability of the disease between man and cattle. Dr. Ravenel has continued his studies in the same direction and some of his results are detailed in a paper read recently before the Pathological Society of Philadelphia.[1] After citing evidence from many sources as to the transmissibility of tuberculosis to animals of the bovine species by means of intestinal, intravenous, subcutaneous, intraperitoneal, intraocular, intrameningeal inoculation of tuberculous material from human beings, he details observations of a similar and corroborative nature made in the laboratory of the State Live-stock Sanitary Board of Pennsylvania. The evidence thus seems indisputable that tuberculosis is transmissible from human beings to cattle. That as to the transmisson of the disease from cattle to man can, in the nature of things, be only indirect, but such as exists points indubitably in that direction.

It is not denied that there are differences between the lesions of tuberculosis as seen in human beings and in cattle, but these cannot be considered essential. There are also certain morphologic and cultural differences, as well as differences in virulence, between the respective tubercle bacilli, but these are not constant and invariable.

From the mesenteric gland of a child dead of tuberculous meningitis a culture of tubercle bacilli was obtained that exhibited the most intense pathogenic virulence for cattle. The micro-organisms in this case are believed to be bovine tubercle bacilli because the infection of the child was primarily intestinal, because of the morphologic and cultural correspondence of the organisms to the bovine type, and because of their great pathogenic activity for cattle. Cultures from the mesenteric glands of a second child also dead of tuberculous meningitis likewise exhibited a virulence in excess of that ordinarily observed in cultures of human tubercle bacilli, though less than that described in the first instance.

There are on record a not inconsiderable number of cases in which accidental infection of human beings with bovine tubercle bacilli has taken place. Certain difficulties surround the demonstration that tuberculous infection takes place in human beings through the ingestion of tuberculous milk and meat, inasmuch as the invading micro-organisms may pass through the intestinal wall, the mesenteric glands, the thoracic duct and the venous circulation, to be deposited in the lungs, as has been shown experimentally. At the same time intestinal and mesenteric tuberculosis are far from rare in children, and they may fairly be attributed to infection through the food.

It is probable that we have in the past had an exaggerated notion of the frequency with which tuberculosis in human beings is acquired from cattle, but, after all due allowances are made, the fact remains that the danger from this source is a real one, and so far

1. Univ. of Penna. Medical Bulletin, May, 1902, p. 66.

as possible steps should be taken to reduce it to a minimum. Accordingly care should be still taken not only to prevent dissemination of the discharges from cases of tuberculosis in human beings, but also to limit the disease in cattle and other animals and to prohibit the use of milk and meat from tuberculous animals.

In the opinion of Ravenel, which seems to be amply justified by the available evidence, the various types of tubercle bacilli have sprung from a common stock, and they have acquired their racial peculiarities by residence in different animals by reason of differences in nutrition, temperature and resistance. In each instance the tubercle bacillus acquires properties that best enable it to maintain its existence in the particular host. The conclusion therefore seems justified that human and bovine tuberculosis are but slightly different manifestations of the same disease and are thus intercommunicable.

THE PANCREAS IN DIABETES.

The interest in the relation of diabetes to lesions in the pancreas has been much increased by the recent demonstration of more or less definite changes in the so-called islands of Langerhans in many cases of this disease. The final explanation of diabetes must be sought by chemical methods, and the recent work of Herter and others on adrenalin diabetes, to which reference has been made in these columns from time to time, is extremely suggestive and important. In the meantime the finer morphologic changes that there is good reason to believe may constitute the anatomic substratum of spontaneous pancreatic diabetes will appeal to many as an interesting field of research. No doubt many facts of value will accumulate in time from investigations in this line.

At present interest centers especially in the islands of Langerhans, these peculiar glomerulus-like, minute structures that have the same general cellular make-up in the majority of mammals and birds, but which seem to have escaped recognition until within the last three or four years. According to Ssobolew,[1] who was among the very first to pay any attention to the Langerhans islands, they are best developed in small animals with intense metabolism, such as the guinea-pig and the pigeon. The largest islands are found in man and in guinea-pigs. They are prominent early in life and in the human fetus they are present at the sixth month. In no case have the islands any ducts, hence it has been customary to speak of them as ductless islands with an internal secretion as distinguished from the more familiar glandular secretions that are poured out upon any mucous and cutaneous secretions. Ssobolew reasoned that if the islands are anatomically and functionally distinct from the ordinary digestive apparatus of the pancreas, then they would not be affected by ligature of the pancreatic ducts, which would throw the digestive functions out of play and thus lead to atrophy of the secreting cells. His results obtained after ligature of the pancreatic duct in rabbits, cats and dogs confirmed this conception, because while the digestive structures disappeared the islands of Langerhans persisted practically unchanged and diabetes did not appear. Ssobolew assumes that the islands survive after ligature of the duct because they continue their function under the influence of "trophic influences," their metabolic activities not being disturbed by the retention of the pancreatic digestive juice. Ssobolew also finds that in transplantation of the pancreas, Langerhans' islands are the most persistent, and as long as they are intact diabetes does not develop. And in atrophy of the pancreas the islands remain longer than the digestive part of the gland, thus again indicating that they are, in a measure at least, independent of the main mass of the pancreatic tissues. In fifteen cases of diabetes, Ssobolew found more or less well-marked changes in the Langerhans islands in practically all the cases, and he points out that in diabetes they appear to be the least resistant parts of the pancreas. Unfortunately Ssobolew, in his review of the literature on the changes in the pancreas in diabetes, omits entirely references to the American literature. Had he not done so, but studied American articles as thoroughly as those in other languages, he would have found definite mention of the islands in more than four of 405 cases of diabetes which he cites as showing the neglect of careful study of these interesting areas.

The anatomic isolation of the islands of Langerhans by ligature of the pancreatic duct and the absence of diabetes under these circumstances certainly point to them as the anatomic substratum of the sugar-splitting functions of the pancreas. This is further supported by the changes that are now being described in the islands in cases of human diabetes. And it may not be too far-fetched to suggest that eventually some form of organotherapy of diabetes may develop as the result of experienced and anatomic investigations of this kind.

1. Virchow's Archiv, last issue.

THE HYSTERICAL SAN FRANCISCO PRESS.

A California court has decided that the old board of health of San Francisco can not be ousted except by quo warranto proceedings, thus annulling the Mayor's removal. San Francisco and California are to be congratulated that this decision leaves those in office in whom the rest of the country can have some confidence. The San Francisco papers, however, are still denying that there has ever been an instance of plague in that city and hysterically howling at the decision. One of them calls it a "deplorable hair-splitting decision," and repeats the old charge of the injection of dead Chinamen with plague cultures, and dilates on the subject generally as if the respectable physicians comprising the board, the officials of the Marine-Hospital Service, the U. S. Government Commission, and, in short, the medical profession of the state and country were allied with the rival ports in a conspiracy against the commercial interests of San Francisco. It is not easy to reconcile

this course with ordinary common sense, to say nothing of common honesty and decency. It is altogether beyond rational explanation why the newspapers of San Francisco can not take a sensible course in regard to the plague cases which undoubtedly have occurred in that city. The world knows the facts, that is, it knows that plague cases have occurred, and frantic denials are not going to change the facts. There is a danger, however, that protesting too much may increase suspicion and lead people to think that worse remains behind; the course of the Governor and Mayor has just this tendency. The correct way would be to admit the facts, which in themselves are not, so far, very formidable, encourage open and free investigation and generally act so as to convince the world that there is nothing held back and that the authorities are intelligently alive to the situation and its needs. Let the ostrich policy be continued, however, and a plague case get away from San Francisco and develop elsewhere and there would then be serious trouble for them, entirely beyond their control and power of concealment. There should be enough sensible business men in San Francisco to have some inhibitory control over the performances of the mayor and the utterances of the local press. It seems hardly conceivable that the sober, sensible element in the community should be so impotent in this respect, as it must be if matters are to continue as they have been in the past. A word to the wise is sufficient. It is hard to say how many must be addressed to be effective with the San Francisco Mayor and his subservient organs of the press.

A MATTER REQUIRING ATTENTION.

Our Washington correspondent sends us the following telegram, which is of interest to the profession, and will, we hope, be duly considered by every individual member:

Washington, D. C., June 3, 1902.

The bill retiring Surgeon-General Sternberg with the rank of major-general, which passed the Senate unanimously and was favorably reported by the entire House Committee on Military Affairs, was defeated in the House yesterday afternoon. Mr. Cannon of Illinois and Mr. Underwood of Alabama were very active in their opposition. Mr. Underwood of Alabama practically sneered at and insulted on the floor of the House of Representatives every member of the American Medical Association and of the state societies. His remarks and those of Mr. Cannon and others will be incorporated in the report of the Committee on National Legislation, and will be specially called to the attention of the American Medical Association at its meeting at Saratoga Springs, N. Y., June 10. The *Congressional Record* of June 2, pages 6620 to 6625, containing the full debate in the House of Representatives on the bill retiring Surgeon-General Sternberg should be read by the entire medical profession.

The medical profession in Illinois and Alabama, as well as in other states whose representatives voted against the bill, is strong enough to show its power and make it respected even by politicians. Forbearance to a certain extent is a Christian duty, but we have been here smitten enough on both cheeks to make it no longer a virtue. When a congressman goes out of his way to insult an honorable profession, collectively and individually, he is unfit for his position, and it is our duty as citizens to use all our influence against him. Further comment is needless.

HOSPITAL DEADBEATS.

A prominent surgeon in Brooklyn has started a good work in instituting legal proceedings for the collection of certain bills from hospital patients of his who were able but unwilling to pay for his services. Their contention that as hospital patients they were entitled to his service gratis is a poor defense morally, and we trust it will also be found such legally. Physicians give their services to hospitals in the treatment of the poor, but that does not follow that they also give them to the undeserving rich. We are not aware that the question here raised has ever been passed on by a court, but there is no question as to the abstract justice of the Brooklyn surgeon's demand. With the multiplication of hospitals, which is the order of the day, the matter is an important one, and we hope and trust that he may win his suit. If it should be decided that only charity medical practice is permitted in public hospitals, or that it is always implied in such institutions except where it is otherwise expressly stipulated, then let the hospitals use a better discrimination in their admissions and hospital surgeons and physicians make this a prerequisite for their services. The medical profession is not to be always considered a "soft snap" for well-to-do impostors. There has been enough of that in the past, is altogether too much now, and what there is to be in the future is a matter for us to seriously consider. The surgeon in question is doing a service to his professional brethren in thus instituting his suits. The results will be serviceable as a future guide to the profession, and, if he succeeds, a valuable legal precedent.

RELATION OF PHYSICIANS TO EMBALMING.

The proper embalming of a dead body requires considerable technical skill and judgment, and a large majority of undertakers are entirely incapable of performing it in a satisfactory manner. J. G. Garson[1] considers that embalming should not be relegated to the undertaker, but should always receive the direct attention of the medical attendant of the deceased. The injection of an antiseptic solution into the large serous cavities of the body may undoubtedly have some effect in reducing the rapidity of decomposition, but it does not compare in efficiency with the introduction of the antiseptic solution directly into the blood vessels. By this latter means the various parts of the entire body are most universally reached by the antiseptic. The proper injection of a body through the blood vessels requires no little care in regulating the pressure to be brought upon the vessels. The perfunctory embalming, which is usually carried out as soon after death as possible by undertakers, has for its chief result the ability of the operator to add another item to his bill. If consent for an autopsy has been obtained some time after death, the previous introduction of corroding and discoloring solutions has frequently prevented any information of value being obtained at the examination. In medicolegal cases much damage has resulted from early

1. Lancet, May 10, 1902, 1301.

embalming. Whether the embalming is actually done by the physician or not, no body should be embalmed until his consent has been obtained. Garson prefers to make the injection into the abdominal aorta just below the umbilicus. In many cases a physician could obtain useful information through a small abdominal incision made in the process of embalming, and when no systematic autopsy could be obtained this might be of great value. It would seem to be very desirable for the attending physician to be present at the operation even if not actually performing it, and to make use of the opportunity for observing the condition of the principal viscera through the incision made for purposes of embalming the body.

PERMANENT TENURE OF OFFICE FOR HEALTH OFFICERS.

In the discussion of "some problems in municipal sanitation from an executive standpoint," W. C. Woodward,[1] Health Officer of the District of Columbia, says that the difficulty in securing competent officers in the contagious disease service and competent chemists and bacteriologists to take charge of the laboratories arises chiefly from the uncertain tenure of office and the inadequacy of compensation. The British Medical Association has been instrumental in securing the introduction in the House of Commons of a bill which seeks to amend the law relating to the tenure of office of medical officers of health and sanitary inspectors. In England, at present, the medical officer of health is appointed for one, three or five years, and the sanitary inspector for one year. The bill provides that properly educated and qualified men shall be appointed to these offices and shall be secure in their positions as long as they perform their services satisfactorily. The duties of officers of health are indicated by the teachings of modern science and can not vary with the whims of each new mayor or governor who happens to be elected to office. Matters of public sanitation have become so manifold that special education and experience are necessary for the proper administration of them. The public can only obtain the best service when those who look after the public health are secure in their positions as long as their duties are properly performed, and when they are relieved of the distracting necessity of keeping on the right side of politicians in order to retain their places. The treatment of medical health officers in one of our western cities at the hands of lay authorities, who claim to determine the absence of plague by their individual feelings and desires, is most deplorable, and has subjected the rest of the country to a most unnecessary danger. The absolute separation of all matters of public health and hygiene from changeable politics is much to be desired and is to be constantly sought by the medical profession.

1. Phila. Med. Jour., May 17, 1902, 889.

THE MYASTHENIC SYMPTOM-COMPLEX.

There have been reported in recent years a small number of cases characterized by undue readiness of fatigue in certain groups of muscles, especially those supplied by the bulbar nerves, occurring in attacks, without alteration in sensibility, in nutrition and in reflex activity. The irritability of the affected muscles is, further, quickly exhausted by electric stimulation, constituting the myasthenic reaction. The nature of these cases is obscure and in the absence of more definite knowledge and of evidence of organic disease they have been thought to be of toxic origin. That they may be of varied pathology is suggested in a recent communication by Dr. Jeno Kollarits,[1] who reports two cases presenting typical symptoms of myasthenia, also a case of cerebellar tumor studied clinically, one of cerebellar tumor and sarcomatous infiltration of the spinal pia mater with postmortem examination, and one of exophthalmic goiter, in all of which the so-called myasthenic reaction was present. As a result of his observations he expresses the opinion that the myasthenic symptom-complex comprises various disorders, namely, familial affections characterized by attacks of weakness or paresis, although permanent symptoms may also be present; conditions developing in the sequence of febrile disorders or attended with fever—these are to be classed with polio-encephalo-myelitis; cerebral lesions; the incipiency of diseases the diagnosis of which can be made only after considerable observation. The absence of anatomic lesions, it is believed, is not sufficient to make a case one of myasthenia; nor does the development of muscular atrophy and of degenerative electric reactions exclude the possibility of myasthenia; while exhaustibility of the muscles and the exhaustion reaction have only limited diagnostic significance. The so-called myasthenic reaction of the muscles does not differ essentially from that which had previously been described as the fatigue reaction and which had been observed in cases of hemiplegia, progressive muscular atrophy and dystrophy, paralysis agitans, anterior polio-myelitis and Landry's paralysis. The myasthenic reaction has been recorded as being present, further, in cases of tabes dorsalis, cerebellar tumor, neurasthenia, traumatic hystero-neurasthenia, multiple sclerosis, and organic disease of the pons. As a substitute for both terms the designation "exhaustion reaction" is proposed.

1. Deutsches Archiv für Klinische Medicin, B. 72, H. 2, p. 161.

DOMESTIC ANIMALS AND INFECTIOUS DISEASES OF MAN.

Although most of the infectious diseases which affect the lower animals are not transmissible to man, there are certain diseases to which both man and some domestic animals are susceptible and which may be directly transferred from such animals to the human subject. The probability that man may acquire tuberculosis by infection through milk which contains tubercle bacilli has been brought forward by sanitarians so prominently that the laity is now fully alive to the danger of using milk from tuberculous cows. Man also contracts glanders from horses, actinomycosis from cattle affected with lumpy-jaw, and hydrophobia from the bite of rabid dogs. People do not usually know that domestic animals may be dangerous as carriers of infections of other sorts. Cats and dogs have been known to be the means of carrying the infectious agents of diphtheria and scarlatina from one child to others. Beside acting as the simple vehicle for the infectious materials, there is some evidence in favor of the belief that cats may be affected with both these diseases and so become a source

of danger to the families in which they live. Plague is also said to occur in cats and they have been accused of spreading the infection in this disease. There has been much discussion over the etiology of ozena, and the most recent workers upon the subject appear to have shown that the bacteria formerly described as the exciting agents are not such. Perez[1] has described a bacillus which he believes to be the cause of ozena, and he has found it to be a common inhabitant of the nasal cavities of dogs. It is his belief that the dog is the source of the infection in man, and he found that several persons who were affected with the disease had played much with dogs. As prophylactic measures against ozena he advocates the prevention of too close contact with dogs, especially by children, and the avoiding of contact between healthy persons and those afflicted with the disease. The possible danger of infection with the specific agent of ozena through close contact with dogs, as when the animal is allowed to lick the face, is not the only reason why the affectionate demonstrations of dogs should be restricted. Echinococcus disease is probably acquired by close relationship between dogs and persons of unclean habits. When one considers the habits of the ordinary city dog, it is not difficult to imagine that it may carry about the ova of various intestinal worms and other infectious agents upon its nose, and readily deposit them upon the hands and face of people when occasion offers. People are to be warned of the danger of pets as carriers of infections, especially scarlatina and diphtheria, and sick domestic animals should always be looked upon with suspicion.

1. Annal. de l'Inst. Pasteur, May 25, 1901.

Medical News.

CALIFORNIA.

Van Slyck Dinner.—The medical men of Pasadena testified to their esteem for Dr. David B. Van Slyck by giving him a banquet on the occasion of his half century of medical life, at which a silver loving-cup was presented to him.

Hospital to be Built.—Within a few days ground will be broken at San Francisco for St. Mary's Help Hospital. At present only the foundation and one story will be built, as the funds subscribed will not warrant a further outlay. The ultimate intention, however, is to erect a building to cost $250,000.

Injunction in Force.—The San Francisco Board of Health removed by the Mayor because they held to the truth in the matter of the bubonic plague in San Francisco, will remain in office for a time, at least, as the injunction restraining the new appointees from interfering with the old board has been continued in force.

New Hospital in Berkeley.—A new sanitarium association has been incorporated by physicians and business men of Berkeley and Oakland. Dr. Samuel H. Buteau, Oakland, and Drs. Hubert N. Rowell, Charles F. Gladding and Edwin A. Kelley, Berkeley, are members of the board of directors. Immediate accommodation for twenty-five patients will be provided pending the erection of a new hospital.

COLORADO.

Gift to Sanitarium.—The Hon. Bellamy Storer, United States Minister to Spain, has given $2000 to the annex-building fund of Glockner Sanitarium, Colorado Springs.

Bellevue Hospital.—Bellevue Hospital Association, Colorado Springs, was incorporated, April 21, officers chosen, and Dr. James A. Hart elected advisory medical supervisor.

Gross Medical College, Denver, graduated a class of 22, two of whom were women, May 16. Rev. Frost Croft delivered the address and Chancellor Dr. Wm. Herman Buchtel conferred the degrees.

Cripple Creek Hospital Opened.—The new Teller County Hospital at Cripple Creek, erected at a cost of $21,000, was opened, May 13. Dr. Alexander C. Magruder, county physician, is in charge.

DISTRICT OF COLUMBIA.

Competitive Examination for Internes.—As a result of the examination for internes at the Emergency Hospital, Washington, the senior position was won by Dr. R. L. Sutton, Kansas City, Mo.; the junior, by Dr. A. J. Cashman of Washington, D. C. Eight applicants took part in the competition.

Johnston Memorial Hospital.—In recognition of the services rendered by the late Dr. William W. Johnston to the medical profession in general and to Columbian University Hospital in particular, the officials of that institution have decided to designate the new building, which has just been begun, the "Johnston Memorial Hospital."

Howard's Graduates.—The largest class ever graduated from Howard University, Washington, received diplomas at the thirty-fourth annual commencement of the institution, May 6. President Rankin conferred degrees on 27 students; Dr. John E. Brackett gave the charge to the class and Rev. Dr. Horder of London, England, made an address.

Medical Inspectors for Schools.—The draft of the substitute bill sent to the Senate District Committee by the District Commissioners relative to the appointment of medical inspectors for the public schools, reads as follows:

> For eleven medical inspectors of public schools, to be appointed by the Board of Education of the District of Columbia, at $500 each, $5,500;
>
> Provided, that said inspectors shall have had at least five years' experience in the practice of medicine in the District of Columbia, and shall only be appointed after a competitive examination.

ILLINOIS.

Corbyn Memorial Bed.—The directors of the Dr. Corbyn Memorial Society have decided to endow in perpetuity a free bed in Blessing Hospital, Quincy, at a cost of $4000.

Accident to Dr. Moore.—In a runaway accident near Dixon, May 20, Dr. Amos F. Moore was thrown from his buggy, sustaining a fracture of the left leg below the knee, and numerous cuts from contact with a barb-wire fence.

Pavilion for Alton Hospital.—Through the beneficence of a lady who does not care to have her name mentioned, work has already commenced on a large open-air pavilion to be erected on the north side of St. Joseph's Hospital, Alton.

Dr. McCord's Anniversary.—On the occasion of the birthday anniversary of Dr. T. Chester McCord, Paris, major and surgeon, Fourth Infantry, I. N. G., about 25 of his professional associates showed their appreciation of his sterling worth by giving him a reception.

Chicago.

Appropriation to Combat Smallpox.—Funds for the health department's fight on smallpox were voted by the council finance committee, the recommendation being made that $15,000 be appropriated. The department has been severely hampered for lack of funds, and Commissioner Reynolds recently asked for $50,000.

New Internes.—On June 2, nine new internes, Drs. P. Koehler, H. Snyder, J. Carr, C. E. Sears, W. G. Dunn, G. W. C. Parker, W. E. Engelbaugh, G. I. Barber and C. W. Howard, begun their work at the County Hospital, relieving Drs. D. E. W. Wenstrand, J. F. Hultgen, W. R. Tyndale, W. R. Cubbins, I. McNeill, E. C. Reibel, R. F. Palmer, J. F. Howard, E. N. Nash, J. N. Axelson and A. Foeter, whose terms of service have expired.

Comparison of Mortality in Cities.—The Chicago mortality rate for the year 1901 was 13.65 per 1000 of the estimated midyear population, 1,758,025, and was 21 per cent. lower than the St. Louis rate, 25 per cent. lower than Philadelphia, 30 per cent. lower than Boston, and 35 per cent. lower than New York, even allowing these cities estimated populations based on much higher rates of increase than that claimed for Chicago.

County Hospital Items.—The quarantine placed on the children's ward a week ago because of diphtheria has been raised.——It is recommended that more nurses be employed in place of the convalescents who now serve as "day men" in each ward.——The officer-of-the-day advocates that hospitals be notified that the hospital does not admit chronic and incurable patients whose proper habitat is the county institution at Dunning.——The warden has appealed to the city for aid in caring

for contagious diseases, as the ward in the hospital is full to overflowing.

May Mortality.—There were 2128 deaths from all causes in May. This is a decrease of 144 over the previous month, April, but eighty-two in excess of the figures for May, 1901. Notwithstanding this excess, the rate per 1000 of population is substantially the same—1370 for May, 1901, and 1375 for May, 1902. In the first five months of the current year 11,223 deaths have been recorded, as against 10,293 in 1901, an excess of 9 per cent. in number and of 5.2 per cent. in proportion to population. More than one-half the excess thus far this year comes from the age group under 5 years, and of this the period between 1 and 5 years contributes 81 per cent. The acute respiratory diseases, bronchitis and pneumonia, have been especially rife and unusually fatal among children at these ages, and scarlet fever has also been excessively prevalent. Infants under 1 year of age contribute 9.5 per cent. of the excess, while the aged, those over 60 years, show a slight decline. The record of fifty suicides in the month is the highest yet made, and the number of deaths from Bright's disease, 134, is also unprecedented.

IOWA.

Donation to Mercy Hospital.—Mrs. Benjamin Thaw, formerly of Cedar Rapids, but now a resident of Pittsburg, Pa., has given $1000 towards the new Mercy Hospital in the former city.

Tribute to Dr. Middleton.—At the quarterly meeting of the Iowa and Illinois District Medical Society, the evening was devoted to memorials of its ex-president and long-time member, the late Dr. William D. Middleton of Davenport.

Dr. Braunlich Recovering.—Dr. H. U. Braunlich, Davenport, who for many weeks hovered between life and death suffering from septic poisoning, has at last been declared convalescent. His infection occurred at the same operation in which the late Dr. Middleton received the slight but fatal abrasion of his thumb.

MAINE.

Dr. Nathaniel T. Palmer, one of the leading citizens of Brunswick, and one of the founders of the Maine Medical Society, recently celebrated his eighty-fifth birthday.

Golden Wedding.—On May 11, Dr. and Mrs. Franklin B. Ferguson, Deer Isle, celebrated the fiftieth anniversary of their marriage. For forty-eight years Dr. Ferguson has practiced medicine in Deer Isle.

Sisters' Hospital Dedicated.—Bishop O'Connor of Portland recently dedicated the new Sisters' Hospital at Lewiston. The building has now accommodation for 75 patients, and its full capacity in case of necessity will be 200 beds.

Damages Awarded.—In the damage suit for $10,000 brought by the widow of Henry F. Ramsdell against Dr. James B. Grady, Eastport, on account of his alleged neglect of her husband, the jury awarded the plaintiff damages of $3000.

MARYLAND.

State Board of Pharmacy.—The governor has appointed the first State Board of Pharmacy Maryland has ever had, consisting of William C. Powell, Snow Hill; J. Webb Foster and David R. Millard, Baltimore; Charles B. Henkel, M.D., Annapolis, and William E. Turner, of Allegany County. The Board met for organization at Baltimore May 8, and elected Dr. Charles B. Henkel, president; W. C. Powell, treasurer, and D. R. Millard, secretary. The first examination was held May 28.

Baltimore.

Mortality.—For the week ending May 31, there were 168 deaths, consumption leading with 25.

Many Patients at Pasteur Institute.—There are now sixteen patients in the Pasteur Institute at the City Hospital, the largest number in the history of the institution.

The Commencement of the Woman's Medical College.—This commencement was held May 30, there being four graduates. Hon. George Savage, chief judge of the Orphans' Court, delivered the oration.

The Johns Hopkins Endowment.—About $120,000 is still needed to make up the million-dollar endowment of the Johns Hopkins University, but the committee of 70 is confident of raising the entire sum by July 1.

The Magness Matter.—A dispatch from Parkersburg says that when the case of Dr. Thomas H. Magness of Baltimore, who was indicted on the charge of impersonating a medical student, David R. Shepler, and taking the medical examination of West Virginia in his name, was called on May 29, Dr. Magness was not present and default of his bond of $500 was entered.

Personal.—Dr. L. McLane Tiffany has resigned the chair of surgery in the University of Maryland and has been elected emeritus professor of the same branch.——Dr. A. Aldridge Matthews has been appointed superintendent of the University of Maryland Hospital, vice Dr. George H. Stewart, resigned.——Dr. William Osler has returned from Atlantic City and resumed his professorial duties.——Dr. Herbert Harlan, professor of ophthalmology and Dr. Francis M. Chisolm, associate professor of the same branch in the Woman's Medical College, have resigned.——Dr. Joseph Clement Clark, professor of psychiatry in the same institution, has been elected to the same chair in the Baltimore Medical College.

MASSACHUSETTS.

Newton Hospital Additions.—Two additions to the Newton Hospital were formally opened May 15—the new north pavilion of the contagious ward and the new Thayer ward for men.

Chiropodist Fined.—Edward E. Willard, a chiropodist of North Adams, was recently found guilty of the illegal practice of medicine and was fined $100. As he was unable to pay the fine he is now serving a sentence of three months in jail.

Appropriation for State Sanatorium for Tuberculosis.—On May 22, after a hard fight, Senator Fitzgerald obtained the passage of a bill appropriating $150,000 for an additional building at the Sanatorium for Consumptives at Rutland. On account of lack of accommodations, 484 applicants were refused admission to the sanatorium last year.

Cooley-Dickinson Hospital.—At the annual meeting of the trustees of this hospital, at Northampton, Dr. Christopher Seymour was reëlected president of the board. The following staff was appointed for the year: Medical—Drs. James M. Fay, George D. Thayer, John S. Hitchcock and Arthur G. Minshall. Surgical—Drs. Alfred H. Hoadley, James C. Fahey, Edward W. Brown and H. D. Perry. Oculist—Dr. Clarence R. Gardner, and consulting bacteriologist, Dr. Herbert C. Emerson, Springfield.

OHIO.

Cincinnati.

City Hospital Officers.—At the May meeting of the staff of the Cincinnati Hospital Dr. S. A. Fackler was elected president for the ensuing year; Dr. B. K. Rachford, vice-president; Dr. Arch. I. Carson, secretary; Dr. P. S. Conner, librarian.

Society of Internes Meet.—Dr. J. C. Oliver has been elected president of the Society of Internes of the Cincinnati Hospital. Nearly one hundred members attended the annual banquet held at the Phoenix Club the evening of May 17.

Miami Medical College Changes.—The faculty of the Miami Medical College announces the following additional changes in their personnel for the session of 1902-3: Dr. J. C. Oliver, dean and professor of operative surgery; Dr. C. E. Caldwell, professor of orthopedic surgery; Dr. Magnus A. Tate, lecturer on embryology; Dr. M. L. Heidingsfeld, clinical lecturer of dermatology and venereal diseases.

Personal.—Dr. Nora Crotty, recent graduate of the Cincinnati College of Medicine and Surgery, has left for Europe to take post-graduate studies in Vienna.——Dr. P. S. Conner, Jr., has been elected alternate interne to the Good Samaritan Hospital.

PENNSYLVANIA.

Philadelphia.

The Rush Hospital for the Treatment of Consumption and Allied Diseases has opened a country branch at Malvern.

Club House for Medics.—The Intercollegiate Committee of the Y. M. C. A. proposes to provide a clubhouse for the students of the medical and other professional colleges. The new clubhouse will be centrally located, will furnish a home for a few students and restaurant privileges for many. It will serve as a rendezvous for students and will have reading rooms, parlors and all other conveniences of the well-appointed clubhouse.

Woman's Medical College Faculty Changes.—Dr. Anna E. Broomall, because of advanced age and the pressure of private practice, has resigned from the head of the department of obstetrics in the Woman's Medical College. Dr. Broomall has occupied the chair of obstetrics since 1878. Dr. Ella B. Everitt, resident physician of the hospital, has been elected to the chair of gynecology, made vacant by the resignation of Dr. Hannah T. Croasdale.

Jewish Hospital Additions.—In the presence of a great throng, June 1, cornerstones of the Loeb Operating Building and of the Guggenheim Private Hospital, additions to the Jewish Hospital, were laid. Announcement was made of the donation of a sum not to exceed $20,000 by Mrs. Sarah Eisner of Philadelphia, for erecting and equipping the Eisner Building for Nurses.

Jefferson Commencement.—The seventy-seventh annual commencement of the Jefferson Medical College occurred, May 29. One hundred and forty were graduated, 73 of whom were from Pennsylvania. Twenty-four prizes were awarded. The honorary degree of doctor of science was conferred upon Dr. Charles Finlay, Havana, Cuba, an alumnus, in recognition of his contributions to the science of medicine, with reference to the causation of yellow fever. A masterly address by the Hon. Charles Emory Smith completed the exercises.

GENERAL.

Fourth of July Tetanus Coming.—Physicians have begun to warn the public through the newspapers of the outbreak of tetanus that each year follows the use of the toy pistol by the small boy in his annual jubilations.

Physicians Wanted for Philippines.—The Civil Service Boards will hold examinations at Washington, D. C., San Francisco and other cities, June 17 and 18, for positions in the Army Medical Service in the Philippines. Applicants may address the U. S. Civil Service Commission, Washington, D. C.

Health of Havana, Cuba.—On May 9, 1902, Major W. C. Gorgas, surgeon, U. S. Army, chief sanitary officer of the City of Havana, submitted his report for April, 1902, as representing the sanitary conditions of the city as it passed out of the hands of the military government. In April, 1902, there were 499 deaths, equal to an annual rate of 21.77. This rate is an improvement on that of any previous April. The total number of deaths for the year 1898 was 21,252, giving a death rate of 91.53; for 1899 the total number of deaths was 8153, a rate of 33.67; for 1900, 6102 deaths, a rate of 24.40; for 1901, 5720, a rate of 22.11. For the first four months of 1902, there have been 1896 deaths, which would give for the year 5688 deaths, a rate of 20.68. This indicates very forcibly the steadily improving sanitary conditions. The streets in every direction are kept in beautiful order by the Engineer Department; but the work which the Sanitary Department has urged forward more particularly is the cleaning of the interior of the houses. The constant inspections and fines, where necessary, carried on for the past three years, have caused people generally to keep their yards and houses clean. Permanent conditions have not changed; every house in Havana still has a cess-pool, located somewhere on its premises, and it has not been the policy of the department to interfere with these conditions until the sewer system has been put in. Indeed, it would be impossible to do away with the cess-pool until the city is properly sewered. But such cleanliness as can be brought about by sweeping, washing and manual labor, is general. No case of yellow fever occurred during the month; the last case occurred in September, 1901. Only one case of smallpox was reported, the first since July, 1900, and this was a case which developed three days after the arrival of the patient from New York. Fortunately, it was discovered early and was at once sent to Las Animas Hospital for treatment. The amount of work being done for the destruction of mosquitoes is undiminished, and this has had a great effect in decreasing malaria. For the year 1900, the year previous to mosquito work, there were 344 deaths from this disease; during the year 1901, the first year of mosquito work, there were 151 deaths; for the first four months of the present year, 26 deaths.

Smallpox.

Indiana: The chief scenes of interest the past week in connection with smallpox have been in Indiana and Kentucky. The quarantine of the latter state against the former has been suspended and will probably not be resumed, owing to the agreement of Indiana to co-operate in measures to restrict the disease.

Wisconsin: Racine's pesthouse is full and the disease is spreading. There are 14 new cases reported. The public library has been closed indefinitely to prevent contagion by books.

CANADA.

Complaints Re Quarantine at Grosse Isle.—The second saloon passengers arriving by the Allan Line R. M. S. *Ionian*, have entered a complaint to the Department of Agriculture at Ottawa regarding the treatment received by them owing to having been quarantined, on account of smallpox on board, when landed, in sheds which they state are unfit for human habitation.

Montreal Foundling Hospital.—The report of the medical superintendent of the Montreal Foundling Hospital for the past official year shows that there were 32 babies in the institution May 15, 1901, and that there had since been admitted 159, making a total of 191 for the year, an increase of 22 over the previous year. The receipts for the year amounted to $6538; the expenditures, $4779.

The Health of Montreal.—The hygienic committee of Montreal has just had prepared some interesting vital statistics for that city. There were 6990 vaccinations reported in 1900, only 48 of which were performed by the family physician, the balance being performed by the public vaccinators. Of this number 2094 were primary vaccinations, the balance being re-vaccinations. Contagious diseases numbered 2802, divided as follows: Diphtheria, 523; scarlet fever, 1107; typhoid, 647; smallpox, 24. The births numbered 9892; marriages 2240. Still births and deaths among illegitimate and prematurely-born children, 742; premature births, legitimates, 300; premature births, illegitimates, 31; still births, legitimates, 322; still births, illegitimates, 44. Among the French-Canadians the deaths numbered 5287, of which number 3299 were under five years of age. Among the other Catholics, 444 were under five years of age. Among the Protestants, the number was 370.

An Insurance Case.—Duncombe vs. the Mutual Life Insurance Company of New York was the title of an action brought by Mrs. Duncombe of St. Thomas, Ont., widow of the late Dr. Truman Duncombe, for $5000, payment of the insurance having been refused on the ground of fraud. Dr. Duncombe, forty years of age, was an examiner for the above-mentioned company and held a number of policies in said company. On July 11, 1901, he made application for $5000 on his own life. He made out the examination sheet himself and had a brother practitioner sign it who was not an examiner for the said company, but who had previously passed Dr. Duncombe for another company. Dr. Duncombe died suddenly Oct. 2, 1901, and, although the company paid all the other claims, they refused to pay this latter one for the reason above mentioned; hence the suit to recover. It was shown at the trial that Dr. Duncombe was not examined by his confrère on the date mentioned in the examination form. Medical experts considered that Dr. Duncombe had died of aneurism, although there was no autopsy. The undertaker who prepared the body noticed a swelling three-quarters of an inch to the left of the lower part of the sternum. He raised a fold of the abdominal wall, half-way between the sternum and umbilicus, and thrust the point of a long trocar through it, passed it eight inches upwards and toward the left arm-pit and drew off one and three-quarter pints of dark red blood, which was clear and clotted in the bottle. As this came away the swelling disappeared. The case was dismissed against the company with costs.

Personals.—Dr. Edgar has resigned from the superintendency of the Hamilton (Ont.) General Hospital.——Dr. Ernest Hall, Victoria, B. C., is supervising the erection of a sanitarium for consumptives at Vancouver.——Dr. Porter of North Bay, Ont., a patient at the Oakville Sanitarium for Inebriates and Morphomaniacs, was accidently drowned while bathing in Lake Ontario on May 6.——Dr. J. R. Cox, general secretary of the McGill Y. M. C. A., has resigned to commence the practice of medicine.——Dr. Harris, of the consulting staff of the Royal Infirmary, Manchester, is making a tour of inspection of Canadian and American hospitals for the purpose of acquiring information for use in designing and constructing the new building shortly to be erected for the institution he represents.——Dr. W. A. Young, business manager of the *Canadian Journal of Medicine and Surgery* will attend the coming meeting of the American Medical Association.——Dr. Charles P. Johns, Kingston, Ont., has been appointed assistant medical superintendent of the Pancras Infirmary in London, Eng.——Dr. H. A. Beatty, Toronto, who has declined a surgical registrarship at the Westminster Hospital, London, Eng., has been appointed chief surgeon of the Ontario division of the Canadian Pacific Railway; the same order appoints Dr. Edward W. Spragge, chief medical officer of the Ontario division.——Dr. G. P. Girdwood has retired from the chair of chemistry in the medical faculty of McGill University. He has been appointed an emeritus professor in the faculty of medicine. Dr. Girdwood was appointed professor of practical chemistry in 1872 and of chemistry in 1879.——Dr. Henderson, senior demonstrator in the

MacDonald chemistry building of McGill University, has resigned and will be succeeded by Mr. A. Douglas MacIntosh, B.Sc. (Dalhousie), M.A. (Cornell).

FOREIGN.

Low Mortality in 1901.—The year 1901 has passed into history as the record year of low mortality throughout the world generally, says the commissioner of health of Chicago.

Kaiser Forbids Eddyism.—The German emperor has announced that any member of the German army, court, state or church who shall be led away from the path of rectitude by Eddyism shall be removed from office and ostracized.

Japan Grows Camphor.—The Japanese government has endeavored to control the camphor trade for increased revenue. The islands of Formosa and Hondo, the latter being the main island of Japan, are almost the sole producers of the gum. The output has been increased and efforts are being made to complete the control of the production by the government.

LONDON LETTER.

New Operation Department at the London Hospital.

A new operation department, which embodies all the most recent advances which science could suggest, has been opened at the London Hospital. It consists of a theater, four operating rooms, 3 anesthetizing rooms, all facing north with large windows and top lights, four recovery rooms, five operation wards, two sisters' rooms, nurses' room, waiting room, theater superintendent's room, two attendants' rooms, instrument and sterilizing room, surgeons' room, two examining rooms, lavatory and dressers' lavatory. The operating theater has a marble gallery for students, with teak seats and gun-metal rails. A sink room is provided under the gallery. The floors of the rooms are in marble mosaic, and the walls and ceilings are lined with opalite. All angles are rounded, the doors are of polished oak with swing hinges. Separate entrances and exits are provided for each operating room and for the theater. Each day's water supply is boiled and cooled in a special apparatus. In the sterilizing room there is a steam disinfector for dressings, coats, etc. The air-supply is led to the basement from the gardens by a glazed tunnel. It is then driven by an electric fan through a canvas water screen and cotton-wool filters. Then it passes into a heating chamber. Warm and cold air are conveyed by separate tubes. The temperature and air supply of the rooms can be controlled by levers. The usual electric fittings are installed.

Pathology of Pernicious Anemia.

Dr. William Hunter, whose work on this subject is so well known, communicated a paper to the Pathological Society on the "Infective Lesions of the Tongue, Stomach and Intestines in Pernicious Anemia," which was an extension of previous researches. He pointed out that in pernicious anemia there is hemolysis, which is not found in other anemias, such as those due to poverty, ulcer of the stomach, ankylostomiasis, hemorrhages, etc. Sepsis alone is incapable of producing pernicious anemia, for in septic anemia there is no evidence of hemolysis in the liver. The present communication was based on the examination of 25 cases recently observed. In seven necropsies were performed and 1145 sections and 250 cultures had been made. A peculiar form of glossitis was found in all the twenty-five cases. There was thinning of the mucosa, which in places was quite wanting so that the lymphatics of the tongue were practically in communication with the buccal cavity. This thinning of the mucosa produced a glossy condition of the surface of the tongue, which was quite peculiar to the disease. From the lymphatics of the tongue pure cultures of the streptococcus longus were obtained. Injected into mice they were fatal in six or seven days. In the stomach an inflammatory condition of the mucous membrane extending down to the mucosa was found. The epithelium was thrown off in large quantity as mucoid vomit and in the final stage complete atrophy of the gastric mucosa occurred. Marked lesions of the intestines were also found. Mucoid fluid was vomited in the mornings, which contained pure cultures of the streptococcus longus.

Joint Lesion in Hemophilia.

Mr. A. Lucas showed a specimen of this rare condition. A hemophilic boy had repeated hemorrhages into the knee-joints, more frequently into the right joint. This joint was much enlarged, the synovial membrane was thickened, the fringes were hypertrophied and stained from repeated hemorrhages, and the ends of the bones appeared to be enlarged. The cartilages were slightly lipped as in osteo-arthritis. The articular surface showed many irregular pits where the cartilage had entirely disappeared.

Acute Pyelitis in Infancy.

At the Edinburgh Obstetrical Society, Dr. John Thomson described 8 cases observed since Dr. Emmet Holt of New York wrote his paper in 1894. The condition, therefore, is not rare. Undiagnosed it is an alarming illness, but under proper treatment it was very curable. Dr. Thomson's patients were all girls of ages varying from 7½ to 20 months, but the disease occurs not uncommonly in older children. In almost all the published cases the patients have been girls. In one of the eight cases the parents were rheumatic and in another there was a family history of gout. In six cases the previous health had been excellent, and in two there were chronic dyspepsia and rickets. The patients had all been artificially fed. Two had shown symptoms of infantile scurvy and two had had influenza. In all but one there had been troublesome constipation and in some occasional diarrhea. In five cases at least there was a history either of soreness about the anus or pain during defecation or blood had been seen in the motions, and in two there was soreness of the vulva. The symptoms were ushered in by pyrexia; in four cases there were rigors. The temperature was frequently above 104 and was of more or less remittent type so that the chart looked like that of typhoid fever. There might be screaming fits as in colic. Tenderness of the kidney was distinct in two cases. Albumin was always present in the urine, but never in greater quantity than could have been accounted for by the pus cells. Pus was always present in considerable amount. Sometimes the urine was turbid with it. Bacteria were visible in large numbers in the freshly-passed urine and cultures of the urine gave pure growths of the bacillus coli communis. This organism was the cause of the disease; it might reach the renal pelvis by the blood or by the urethra. The great preponderance of females suggested the latter. The diagnosis depends on the presence of pus and bacilli in acid urine, the occurrence of rigors (almost conclusive), local tenderness and considerable fever. Under treatment improvement was rapid, but pus did not disappear from the urine for several weeks. The essential point is to render the urine neutral. Most striking results were obtained from administration of alkalies. Citrate of potash should be freely given; 24 gr. in the twenty-four hours may suffice in mild cases, but generally 36 to 48 gr. are necessary. Relapse may occur when the potash was discontinued. Antiseptics alone are not very efficacious, but in combination with alkalies are helpful.

Correspondence.

A Voluntary National Examining Board.

PHILADELPHIA, MAY 31, 1902.

To the Editor:—There being a little misconception as to the exact purpose of a Voluntary National Board of Examiners, which I advocated at the April meeting of the Committee on National Legislation representing the American Medical Association, in the city of Washington, I will explain the plan more fully.

Some have thought that such a board could only benefit recent graduates, and that it fails to give relief to practitioners. Good as it is for the recent graduates, it is much better and was really more intended to aid and benefit practitioners, who from ill health, on account of consultation practice, professorial calls, or any cause whatsoever, may wish a license in another state. My own experience upon removal to Pennsylvania has caused me to work at the problem of reciprocity for the past three years, and I have constantly agitated the subject as a member of the Committee on National Legislation. The president and other members of the Pennsylvania State Board were anxious to exempt me from examination and tender a complimentary license, but, after consultation, found such a course impracticable. The law is mandatory and not at all elastic. All candidates for license must submit to an examination in certain branches, and *each branch is specifically named.* Although I had limited my work to general surgery for years before moving to Philadelphia, and intended doing so in this city, I was examined in obstetrics, hygiene, physiology, chemistry; in fact, all of the branches, just as a neophyte. While the board was compelled to insist that I comply with the forms of law, they were most courteous and kind to me, doing all in their power, and I would not

have any one think me antagonistic to state boards. On the contrary, it is my belief that they have done more than all other influences combined to elevate and make possible the present high standard of medical education. I feel, and have said on many former occasions, that every teacher in this country does better work now than he did before there were state boards to examine the candidates whose diplomas he signed. Recognizing the good work done by state boards, and believing them to be capable of doing even better work in the future, I would like to see a member of this Voluntary National Board a representative of the National Confederation of State Medical Examining and Licensing Boards. A national board, such as I advocate, could have discretionary power, giving a practitioner a practical and largely clinical examination. In case one is recognized as a specialist, and has limited his practice to such specialty for years, and means to do so in the future, I cannot see any good reason for exacting of him an examination in general medicine and surgery.

The plan for a national board was fully discussed, unanimously endorsed and recommended to the House of Delegates at the Saratoga meeting by the Committee on National Legislation and the representatives of the various states meeting with it.

The plan is as follows: The board is to consist of seven members, namely, the surgeons-general of the Army, Navy and Marine Hospital Service and four equally representative civil practitioners; two to be elected by the House of Delegates of the American Medical Association, one by the American Congress of Physicians and Surgeons and one by the National Confederation of State Medical Examining and Licensing Boards In my first communication I said that a seventh might be added; I now say should, because I am convinced that it will strengthen the National board to have one of its members a representative of the National Confederation of State Medical Examining and Licensing Boards. The National and state boards would thus walk hand in hand, and the representative of the former board could report annually at the meeting of the state boards the character of the work that was being done by the central body. Confidence would necessarily follow, and such a board would at once have the support of the profession, as it would be comprised of able men absolutely above suspicion.

The time of meeting should be from June 1 to July 1, so as to accommodate the greatest number of graduates of all schools. The examination should be both theoretical and practical. Applicants should be taken into the wards of hospitals and be given opportunities to make diagnoses, examine urine, sputum and blood, as well as to outline courses of treatment. The examination should be so comprehensive as to be at least equal, if not superior, to that required by any state.

A different time and place might, if thought best, be decided upon for the examination of practitioners. Certainly abundant clinical material and cadavers would be needed, and the board would go where it could be best accommodated, and also be accessible to the greatest number of applicants. These examinations should be almost entirely practical and clinical, supplemented, if need be, by operative work upon the cadaver. It is both unnecessary and unfair to examine men of experience and merit upon such branches as chemistry, physiology, histology, etc. Such a board could have discretionary power and give the kind of examination necessary to ascertain if the applicant is competent to practice general medicine and surgery, or even a specialty, if one is recognized as a specialist. Is it fair to expect an ophthalmologist to submit to an examination in obstetrics? Yet, under the state laws, no exception can be made in his favor. Many state laws, the majority perhaps, recognize the right of one board to accept the license of another whose standard in every way equals its own. Herein is the trouble; the standards of fifty states and territories vary so widely—no two of them being alike—that a state with a high standard finds it safer to recognize no other state, for by this course embarrassments are avoided. All can, however, agree to recognize a central National board, just as all now recognize the commissions of medical officers of the Army, Navy and Marine-Hospital Service. Therefore, it points out a path to reciprocity that all may follow, and is the only attainable method, based as it is upon equity. As it is now, reciprocity can only be based upon geographical, political and financial considerations. Intellectual qualifications alone should govern.

The board should meet, as a rule, in Washington, provided its hospital facilities are both adequate and available. It is desirable, however, to vary the place of meeting from time to time so as to make the board truly a National one in fact as well as in name, thereby subserving the interests of the greatest number of applicants. There is no doubt that the medical schools and hospitals in any of our large cities would furnish quarters and facilities for conducting the examinations with the least possible friction. I have been surprised that one gentleman took exception to my plan because he thought that all examinations were to be held in Washington. The headquarters of the board should certainly be at the National capitol, as at least three of the members will reside there and a fourth—constituting a majority—should be selected within a reasonable distance of Washington, so that if necessary he could at once join his colleagues for consultation. If the bureau of health is established by this Congress, which seems reasonably certain, I have it from an authoritative source that quarters and every facility for conducting the examinations, etc., would be furnished the board.

The fee should be $25 for the first year, the same to be reduced when the number of applicants justifies it, which, I take it, would be the second or third year. I should like to see it not more than $10. The expenses of the board have to be met and some fee will be necessary.

The inducement to recent graduates to take such an examination would be to obtain a diploma which should be recognized by all states and territories, so that its possessor could be allowed, like the Constitution, to follow the flag, and practice medicine and surgery anywhere within our domains. There would be other inducements: there are many positions within the gift of the Federal Government, such as contract surgeons in the Army, Navy and Marine Hospital Service, physicians to Indian agencies, and members of pension boards of examiners in all parts of the country requiring the services of more than average men. Any one holding the diploma or certificate of such a National board would at once have the advantage over any one less fortunate. In truth, in nearly all such cases a further examination could, with perfect justice to the government, be waived. So manifest are its advantages that each year there would undoubtedly be a larger number of applicants, and in time sub-boards would be necessary to accommodate the number applying, each to meet in some large city with abundant hospital facilities and accessible to many applicants. Perhaps it would be better to have more frequent sittings of one board rather than several sub-boards. Experience will determine.

A voluntary board is better for the profession than a compulsory one, even were the latter possible—which, under our form of government, is not the case—for its standard can reasonably be made higher and its certificate be a diploma *cum laude*. Letters read at the conference, before referred to, from prominent senators and representatives convinced all who were present of the impossibility of a compulsory National board. I had been so convinced before, as I had written to and talked the matter over with several of my friends in both the House and Senate. Should the fees be insufficient to secure and retain the services of the best men, the American Medical Association, the Congress of Physicians and Surgeons and the National Confederation of Examiners should add a sufficient honorarium to their appointees. The representatives of the Army, Navy and Marine Hospital Service would be estopped from accepting compensation, but, of course, their expenses would be paid.

All practitioners wishing to change their location or receive license to practice in other states would prefer appearing before the voluntary National board, and nearly all would make it convenient to do so. Of recent graduates there would be an increasing number applying from year to year, as it would soon become apparent to them that their best interests were subserved by doing so.

I have little doubt, however, that the fees would be sufficient to pay the expenses even the first year. If the examination should be held in Washington, it would be very accessible to all eastern schools, representing, we will say, a thousand

graduates. There will be more, as Philadelphia alone has each year about 400. The eastern schools are of such a standard that they would encourage their graduates to go before the voluntary National board, and it would be safe to count upon 10 per cent. (100) of the graduates of Washington, Baltimore, Philadelphia, New York, Richmond and Charlottesville (University of Virginia) and other cities adjacent to the capitol doing so. Twenty-five hundred dollars should thus be assured; the expenses would be nominal and all over and above expenses would be divided between the four examiners. This 10 per cent. could be probably doubled by the board meeting in Washington one week, and then spending a week in each of the large cities adjacent to it, viz.: Baltimore, Philadelphia and New York. The medical schools in these cities would willingly furnish quarters and facilities for conducting the examinations, and the hospitals furnish all necessary clinical advantages.

An objection which might, and will be raised, is that the surgeons-general of the Army, Navy and Marine Hospital Service cannot leave Washington, and perhaps would not be able to discharge the duties even when the sittings of the board were at the capitol. General Wyman and Admiral Rixey are very much in sympathy with the plan, will serve if they can, and if not, will detail the best man in their respective services. It is a great thing to have the moral support of our three representative medical services in any medical matter. General Sternberg, I know, retires June 8, before the Association meets. I was assured by those in authority in his office, however, that there was no doubt that his successor, whoever he may be, would do everything in his power to co-operate with the other surgeons-general and the profession in so important a matter.

This plan has been unanimously endorsed by the delegates from the several states meeting with the Committee on National Legislation, and will be recommended to the House of Delegates at the coming meeting of the American Medical Association. It is hoped that it will be carefully considered, and either it or a better plan at once inaugurated; as something should be done to encourage both a reasonable reciprocity for practitioners and a higher and a better medical education for those entering the profession, and to give in return something in the way of privileges and professional standing to those possessing it. WILLIAM L. RODMAN,

Professor of Surgery and Clinical Surgery in the Medico Chirurgical College of Philadelphia, and Professor of Surgery and Clinical Surgery in the Woman's Medical College of Pennsylvania.

1626 Spruce Street.

A Voluntary National Examining Board.

To the Editor:—The letters which have recently appeared in THE JOURNAL suggest two things: first, the necessity of some authority which shall have power to determine who are worthy of license to practice medicine in this country and, second, in whom shall that authority be vested. This naturally leads to the inquiry: By what means can that authority be enforced? Clearly such power can only be obtained through National legislation. In order to obtain that, the scheme must be of such a character as to commend itself to the House of Representatives and the Senate, and finally the President. As has been suggested by one correspondent, the right of the citizen of this country to earn his living is a constitutional one with which Congress will be slow to meddle, the greatest care being always observed to keep within constitutional limits, and the attempt to place the rights and liberties of, say 300,000, educated and honorable physicians in the hands of a small, irresponsible body of men, as suggested by Dr. Rodman, would be in such direct controvention of their rights as to preclude the enactment of such a law. In fact, much of the state legislation in this regard would scarcely stand an appeal to the Supreme Court of the United States.

A large representative body might be formed, composed of men appointed by the legislatures of each and all the states, say two from each state, in whom the government might have enough confidence to entrust them with such great powers and responsibilities, and even then the graduates of the great universities and colleges would have to be protected, as all these powerful bodies would have their interests to preserve, and would take care to preserve them. Having had much legislative experience I speak with some confidence on this point.

If we had a great national college, like the Royal College of England, the entrance to which might be carefully guarded, whose members would be entitled to practice anywhere in this realm, it might be sanctioned by the government and would answer the ends sought by those who are advocating a change. Let me suggest that the needed legislation should be strongly felt and clearly understood before steps are taken to secure it. The present state boards of examination should be set aside in favor of a national body, as I have already described, and they should be compelled to accept diplomas of the three-year teaching colleges without dispute as a right to membership, and details as to state examinations could easily be arranged. Yours, etc.,

ADAM E. FORD, M.D.

[Our correspondent does not seem to appreciate the fact that what he advocates would be unconstitutional, and that the board advocated by Dr. Rodman is purely a voluntary one, and no one would be forced to go before it.—Ed.]

Reciprocity in Medical Licensure.

BURLINGTON, IOWA, May 31, 1902.

To the Editor:—In all that I have seen written (and I have seen a good deal) in the medical journals to which I have access, about "reciprocity in medical licensure," I fail to note the one simple solution of the question, namely: An amendment to the medical law, in each of the several states having medical practice laws, which shall provide that the penalties shall not attach to those legally qualified to practice in other states. Heaven knows there are already exemptions in plenty and far more dangerous than this would be; and there is scarcely a chance for such an amendment to fail in any legislative body. But what a spectacle for the masses it is, to see so much remonstrance about the exact administration of the laws we have fought so valiantly to have enacted! For myself I want to say, that while I believe a good medical practice law is a benefit alike to the public and the medical man, I am not enthusiastic over any of those with which I am familiar. Drawn up, as the Iowa law was, by a combination with the Homeopaths and Electics—with whom under no other circumstances could we associate—they bear the stamp of insincerity; and naturally fail to win the respect of the public and the courts. Truly yours,

H. B. YOUNG.

Married.

BERNARD S. FRENCH, M.D., Whitefield, N. H., to Miss Elsie L. Berry of Baltimore, May 21.

GEORGE LENZ, M.D., Gloversville, N. Y., to Miss Annie Grant of Ingersoll, Ontario, May 21.

FRANK B. WHITMORE, M.D., to Miss Anna B. Washburn, both of West Union, Iowa, May 20.

CHARLES GIVEN FOOTE, M.D., Cleveland, Ohio, to Miss Kittie A. Richards of Chicago, May 24.

GUSTAVUS A. HEINRICH, M.D., to Miss Anna L. Neurnberger, both of New Athens, Ill., May 18.

JOHN E. PRATHER, M.D., Glasgow, Ill., to Miss Katherine B. Cumby of Winchester, Ill., May 21.

MILES D. CHISHOLM, M.D., Westfield, Mass., to Miss Margaret A. Rison, of Williamsburg, Va., May 21.

ALBERT F. CONREY, M.D., Baltimore, to Miss Katherine Bradford of Portsmouth, Va., at Baltimore, May 21.

OLE H. BAKKE, M.D., Blooming Prairie, Minn., to Miss Mabel A. Fjeldstad, of South Minneapolis, Minn., May 21.

SAMUEL STEVENS, M.D., Dowagiac, Mich., to Miss Lillian Roosevelt of Benton Harbor, Mich., at South Bend, Ind., May 21.

Deaths and Obituaries.

Dr. William Miller Ord.

Death has removed one of the most celebrated of the London medical teachers, Dr. Ord, consulting physician to St. Thomas' Hospital. His health had been failing since an attack of influenza three years ago. Two years ago he relinquished all active work and retired to the country. Dr. Ord graduated at the London University in 1857, and had a most distinguished career. In 1869 he became a member of the College of Physicians, and two years later assistant physician to St. Thomas' Hospital. His marked ability and energy led to his appointment as lecturer in physiology in succession to the celebrated Dr. Murchison. He was a teacher of extraordinary ability, and as a writer he gave much valuable work to the medical world. In medicine his most important original contribution was the working out of the pathology and symptomatology of myxedema, the name of which he invented.

William Hamilton Watkins, M.D. Tulane University, New Orleans, 1868, a prominent physician of New Orleans, and widely known as an authority on yellow fever, died from cancer of the stomach at the home of his wife's mother in Milwaukee, May 23, after an illness of two years, aged 54. He was chief medical inspector of the New Orleans Sanitary Association, chief inspector of the New Orleans Board of Health, editor of the *New Orleans Medical and Surgical Journal* and chairman of the Yellow Fever Board during the epidemic of 1897.

Matthias Abell, M.D. College of Physicians and Surgeons, New York, 1857, a member of the Rhode Island Medical Society and an honorary member of the New Jersey State Medical Society, died, May 1, at his residence in Providence, R. I., aged 71.

Grant G. Cox, M.D. Hospital College of Medicine, Louisville, Ky., 1898, a practitioner of Boothsville, W. Va., who was injured in a runaway accident at Watson, May 13, died at Cook's Hospital, Parkersburg, as a result of his injuries, May 23.

Green B. Battle, M.D. Medical College of Georgia, Augusta, 1875, a son of the late Dr. T. W. Battle of Columbus, Ga., a practitioner of Lumpkin, Ga., died at the home of his mother in Columbus, after a prolonged illness, aged 49.

Eleazer A. Pyatt, M.D. Jefferson Medical College, Philadelphia, 1861, for more than thirty years a resident of Bethany, Ill., died at his home in that place, May 19, from dysentery, after an illness of four weeks, aged 69.

John Vedder, M.D. College of Physicians and Surgeons of the Western District of New York, Fairfield, 1838, president of the New York State Anti-Vivisection Society, died at his home in Saugerties, N. Y., May 22, aged 86.

Warren Parsons, M.D. National Medical College, Washington, D. C., 1842, a retired physician of Rye, N. H., who had practiced in that town for sixty years, died May 20, aged 83.

Henry Van den Berg, M.D. Keokuk Medical College, 1883, a practitioner of Fremont Center, Mich., died at Zeeland, Mich., May 23, after an illness of one year, aged 45.

James K. Nevin, M.D. Rush Medical College, Chicago, 1887, died at his home in Ironwood, Mich., May 18, from pneumonia, after an illness of a week, aged 47.

John B. Wilson, M.D. Kentucky School of Medicine, Louisville, 1888, a physician of Mount Vernon, Ind., died, May 20, at Denver, where he had gone for his health.

Henry Howard Hill, M.D. Jefferson Medical College, Philadelphia, 1867, medical inspector of Bedford County, died at his home in Everett, Pa., May 22, aged 57.

P. H. McGurty, M.D. Kentucky School of Medicine, Louisville, 1892, died from consumption, May 21, at the home of his sister in Charleston, Ill.

Edward Bernier, M.D. Dartmouth Medical College, Hanover, N. H., 1889, died at his home in Schaffer, Mich., May 19, from heart disease.

Joseph F. McCloughan, M.D. University of Pennsylvania, Philadelphia, 1871, died at his home in Swartswood, N. J., May 16, aged 53.

Alexander Montague, M.D. New York University, 1868, for many years a practitioner of Galt, Cal., died in Sacramento, May 21.

George W. Archer, M.D. Medical College of Virginia, Richmond, 1887, died at his home in Detroit, Mich., May 18.

Ford S. Dodds, M.D. Western Reserve University, Cleveland, 1868, died at his home in Anna, Ill., May 21.

Association News.

A Suggestion as to Exhibits.

It is suggested in cases of papers to be read in any section, in connection with which specimens are exhibited, that the authors send the latter to the pathologic exhibit. This course will enable a better inspection and study and consequently add to the usefulness of their communication. The specimens can be put in the hands of the Committee on the Pathologic Exhibit, of which Dr. F. M. Jeffries, Saratoga, N. Y., is chairman, and can be taken out for presentation to the section when the paper is read. The utility of the suggestion is obvious and needs no further comment.

Proposed Amendments.

The following amendments are to be acted on by the House of Delegates at the next annual meeting of the American Medical Association:

Amendment to the Constitution and By-laws, offered by Dr. L. B. Tuckerman, of Ohio: Amend Section 3, Chapter VII of the By-laws by substituting the following:

"Section 3. Committee on Legislation. The Committee on Legislation shall consist of three members appointed by the President of the Association for a term of three years. One member shall be a resident of Washington, D. C., one of Baltimore, and one of Philadelphia. It shall be the duty of the Committee to represent before Congress the wishes of this Association regarding any proposed legislation that in any respect bears upon the promotion and preservation of the public health or upon the material or moral welfare of the medical profession. This Committee shall also invite to a conference once a year, or oftener if need be, one delegate each from the medical service of the United States Army, the United States Navy, and the Marine-Hospital Service, one from the Bureau of Animal Industry, and one from each affiliated state or territorial medical society; such conference to meet in Washington to consider questions of medical and sanitary legislation, and to report back to this Association and to the several state and territorial societies."

Amendment to the Constitution and By-laws, offered by Dr. T. J. Happel, of Tennessee:

Chapter IX, Section 7, as follows: Strike out the following words of Section 7, Chapter IX, "reprints and transactions of Sections, including its lists of members, its rules of order, its lists of officers, as now published, shall be paid for out of the funds of the Association, and furnished free to members of the Association."

Representatives from State Societies to the House of Delegates of the American Medical Association.

The following have been officially certified to the Secretary as representatives:

Alabama—W. H. Sanders, Mobile; W. M. Wilkerson, Montgomery.
Arizona—W. H. Ward, Phoenix.
Arkansas—J. A. Dibrell, Little Rock.
California—H. Bert Ellis, Los Angeles.
Colorado—C. K. Fleming, Denver.
Connecticut—
Delaware—Willard Springer, Wilmington.
District of Columbia—George M. Koeber, Washington.
Florida—R. D. Murray, Key West.
Georgia—James B. Morgan, Augusta; Floyd W. McRae, Atlanta.
Idaho—Ed. E. Maxey, Boise.
Illinois—John T. McAnally, Carbondale; F. X. Walls, Chicago; O. B. Will, Peoria.
Indian Territory—
Indiana—G. W. H. Kemper, Muncie; Edwin Walker, Evansville; William N. Wishard, Indianapolis; D. C. Peyton, Jeffersonville.
Iowa—George F. Jenkins, Keokuk; J. R. Guthrie, Dubuque.
Kansas—J. E. Minney, Topeka.
Kentucky—J. N. McCormack, Bowling Green; Thomas Hunt Stucky, Louisville.
Louisiana—
Maine—Seth C. Gordon, Portland.
Maryland—William H. Welch, Baltimore; William Osler, Baltimore.
Massachusetts—W. T. Councilman, Boston; H. E. Marion, Brighton; J. Collins Warren, Boston; F. C. Shattuck, Boston; C. H. Williams, Boston; J. F. A. Adams, Pittsfield.
Michigan—H. O. Walker, Detroit; V. C. Vaughan, Ann Arbor.
Minnesota—A. W. Abbott, Minneapolis.
Mississippi—J. C. Hall, Anguilla.
Missouri—Frank J. Lutz, St. Louis.
Montana—

Nebraska—H. M. McClanahan, Omaha.
New Hampshire—Ira J. Prouty, Keene.
New Jersey—E. J. Marsh, Paterson; Chas. J. Kipp, Newark; Luther M. Halsey, Williamstown.
New Mexico—G. C. Bryan, Alamogordo.
New York—E. E. Harris, New York; C. A. Wall, Buffalo; H. O. Arrowsmith, Brooklyn; E. D. Ferguson, Troy; Chas. E. Quimby, New York.
Nevada—
North Carolina—James A. Burroughs, Asheville; H. A. Royster, Raleigh.
North Dakota—I. N. Wear, Fargo.
Ohio—Charles A. L. Reed, Cincinnati; P. Maxwell Foshay, Cleveland; Frank Warner, Columbus.
Oklahoma—
Oregon—Andrew C. Smith, Portland.
Pennsylvania—William S. Foster, Pittsburg; George W. Guthrie, Wilkesbarre; A. P. Hull, Montgomery; W. T. Bishop, Harrisburg; H. S. McConnell, New Brighton; John B. Roberts, Philadelphia; William M. Welch, Philadelphia; Webster B. Lowman, Johnstown.
Rhode Island—John Champlin, Westerly.
South Carolina—
South Dakota—
Tennessee—W. Frank Glenn, Nashville.
Texas—H. A. West, Galveston.
Utah—
Vermont—D. C. Hawley, Burlington.
Virginia—J. R. Gildersleeve, Tazewell; Landon B. Edwards, Richmond; Rawley W. Martin, Lynchburg.
Washington—Park Weed Willis, Seattle.
West Virginia—L. D. Wilson, Wheeling.
Wisconsin—W. T. Sarles, Sparta; J. R. Barnett, Neenah.
Wyoming—R. Harvey Reed, Rock Springs.
United States Marine-Hospital Service—Walter Wyman, Washington, D. C.
Medical Department U. S. Army—D. M. Appel, Ft. Bayard, N. M.
Medical Department U. S. Navy—R. A. Marmion, Washington, D. C.

Delegates from the Sections.

Practice of Medicine—J. M. Anders, Philadelphia; Norman Bridge, Los Angeles.
Surgery and Anatomy—C. A. Powers, Denver; A. D. Bevan, Chicago.
Obstetrics and Diseases of Women—L. S. McMurtry, Louisville; W. H. Humiston, Cleveland, Ohio.
Hygiene and Sanitary Science—S. G. Bonney, Denver; N. S. Davis, Jr., Chicago.
Ophthalmology—J. A. Lippincott, Pittsburg, Pa.; H. V. Würdemann, Milwaukee.
Diseases of Children—S. W. Kelly, Cleveland, Ohio; A. C. Cotton, Chicago.
Stomatology—G. V. I. Brown, Milwaukee; A. E. Baldwin, Chicago.
Nervous and Mental Diseases—H. A. Tomlinson, St. Peter, Minn.; H. N. Moyer, Chicago.
Cutaneous Medicine and Surgery—W. L. Baum, Chicago; W. T. Corlett, Cleveland, Ohio.
Laryngology and Otology—Emil Mayer, New York City; George C. Stout, Philadelphia.
Materia Medica, Pharmacy and Therapeutics—O. T. Osborne, New Haven, Conn.; A. B. Lyons, Detroit, Mich.
Physiology and Pathology—W. A. Evans, Chicago; Alfred Stengel, Philadelphia.

View of Property Recently Purchased by the Board of Trustees of the American Medical Association. (See p. 1532.)

New Home for THE JOURNAL. (See p. 1532.)

New Members.

The following is a list of new members for the month of May, 1902:

ALABAMA.

Lupton, F. A., Birmingham.

ARIZONA.

Stone, H. H., Phœnix.

ARKANSAS.

Oakley, J. F., Augusta.

CALIFORNIA.

Gordon, S. B., Salinas.
Whiting, H. C., Santa Cruz.
Uttley, J. H., Los Angeles.
Deane, L. C., San Francisco.
Adam, Geo., San Francisco.
Edwards, T. C., Salinas.
Campbell, P. C., Port Richmond.
Cleary, Geo., San Diego.
Moore, M. L., Los Angeles.
Hart, A. C., Sacramento.

CONNECTICUT.

Coyle, W. J., Windsor Locks.
Smith, E. L., Hotchkissville.
Bull, T. W., Saugatuck.
Davis, E. T., Ellington.
Cochran, L. B., Hartford.
Ring, H. W., New Haven.
Tingley, W. K., Norwich.
Wheeler, F. H., New Haven.

DISTRICT OF COLUMBIA.

LaGarde, L. A., Soldiers' Home.

FLORIDA.

Hutchason, C. I., Jacksonville.

GEORGIA.

Johnson, G. H., Savannah.

HAWAIIAN ISLANDS.

Katsuki, Ichitaro, Honolulu.

IDAHO.

Emerson, J. W. S., Shoshon.

ILLINOIS.

Ballenger, W. L., Chicago.
Graham, H. G., Chicago.
Adams, Chas., Chicago.
Porter, J. E., Shannon.
McCreight, S. L., Chicago.
Snow, Morton, Chicago.
Whitaker, W. B., Chicago.
Beirne, H. P., Quincy.
Blaine, W. C., Tuscola.
Crain, L. F., Dongola.

INDIANA.

Benham, C. W., Vincennes.

Hawes, J. K., Columbus.
Ross, R. O., Indianapolis.

IOWA.

Bowen, D. H., Waukon.

KENTUCKY.

Moore, J. S., New Hope.
Caldwell, D., Paducah.
Hudglus, C. L., Olive Hill.
Smith, W. E., Yost.

LOUISIANA.

Perkins, W. M., New Orleans.

MAINE.

Sturdivant, A. H., Augusta.

MARYLAND.

Randolph, R. L., Baltimore.
Naylor, N. L., Pikesville.
Smith, W. H., Baltimore.
Porter, M. G., Lonaconing.

MASSACHUSETTS.

Smith, A. C., Brockton.
Kepler, C. O., Boston.
Richards, W., Natick.
Haddock, C. W., Salem.
Hallett, E. B., Worcester.
Spencer, G. A., Haverhill.
Hanley, J. J., Boston.
Davis, Lincoln, Boston.
Wales, E. de W., Boston.
Briggs, L. V., Boston.
Williams, Hugh, Boston.
Cumston, C. G., Boston.
Williams, E. R., Boston.
Mumford, J. G., Boston.
Connolly, J. M., Boston.
Marcy, H. O., Jr., Boston.
Barrell, C. S., Boston.
Hinckley, J. W., Boston.
Cabot, R. C., Boston.
Higgins, F. A., Boston.
Howard, F. H., Williamstown.
Byrne, C. A., Hatfield.
Pratt, C. A., New Bedford.
Perley, R. D., Melrose.
Choate, H. H., Salem.
Knowles, J. H., Gloucester.
Baldwin, S. O., S. Framingham.
Morin, J. M., Brockton.

MICHIGAN.

Steinbrecher, A. H., Detroit.
Henry, T. C., Grass Lake.
Goux, L. J., Detroit.
Schwanz, M. J., Jr., Saginaw.
Arneill, J. R., Ann Arbor.
Patrick, O. H., Port Huron.
DeForest, A. M., Detroit.
Foster, T. J., Scottville, Mich.
Abrams, E. T., Dollar Bay.
Evans, E. E., Armada.

MINNESOTA.

Disen, C. F., Minneapolis.
Heuslin, A. E., LeRoy.

MISSISSIPPI.

Sessions, R. D., Natchez.

MISSOURI.

Brown, R. A., Stockton.
Goldstein, M. A., St. Louis.
Thorpe, A. V., Jamestown.
Douglass, G. G., Ravenswood.
Lewis, B., St. Louis.
Mark, E. G., Kansas City.

MONTANA.

Gwinn, R., Missoula.

NEBRASKA.

Woodard, D. S., Aurora.

NEW HAMPSHIRE.

Coolidge, J. W., Bristol.

NEW JERSEY.

Cort, P. L., Trenton.
Kane, C. J., Paterson.
Sherman, E. S., Newark.
Lund, J. L., Perth Amboy.

NEW MEXICO.

Appel, D. M., Ft. Bayard.
Carrington, P. M., Ft. Stanton.

NEW YORK.

Brown, G. L., Buffalo.
Hopkins, H. G., Buffalo.
Gaylord, H. R., Buffalo.
Frye, Maud J., Buffalo.
Keiser, Max, Buffalo.
Wende, G. W., Buffalo.
Harris, Jane Howell, Brooklyn.
Roberts, D. D., Brooklyn.
Lutz, S. H., Brooklyn.
Manges, Morris, New York City.
Hammond, F. P., New York City.
Fitzhugh, P. H., New York City.
Kahrs, W. H., New York City.
Knapp, Herman, New York City.
Weiss, Ludwig, New York City.
Gibb, W. T., New York City.
Bickhan, W. S., New York City.
Cox, R., Jr., New York City.
Polk, W. M., New York City.
Tucker, A. B., New York City.
McGrath, J. J., New York City.
Thompson, W. G., New York City.
Libman, E., New York City.
Keyes, E. L., Jr., New York City.
Morgan, Forde, New York City.
Moore, J. F., New York City.
Wolper, Max, New York City.
Wiener, R. G., New York City.
Thompson, C. N., New York City.
Carmalt, C. C., New York City.
McNett, G. C., Bath.
Walch, C. J., Syracuse.
Park, J. T., Sandy Hill.
Bishop, B. F., Garrattsville.
Phillips, C. R., Hornellsville.
Kline, C. D., Nyack.
Maynard, S. D., Roscoe.
Davis, J. C., Rochester.
Doran, R. E., Sonyea.
Clarke, H. E., Glens Falls.
Bullard, T. E., Schuylerville.
Shanahan, W. T., Sonyea.
Watt, J. L., College Point, L. I.
Roarke, F. K., Troy.
Gibson, W. B., Huntington.
St. John, F. W., Charlton.
Caldwell, H. W., Pulaski.
Field, Edwin, Red Bank.
Strang, J. R., Vischer's Ferry.
Van Wagenen, D. B., Suffern.
Wines, F. L., Laurens.
White, W. A., Binghampton.

OHIO.

Smith, G. S., Cleveland.
Baker, L. K., Cleveland.
Rankin, T. W., Columbus.

OKLAHOMA.

Munsell, L. S., Beaver.

OREGON.

Labbé, E. J., Portland.
Josephi, G. E., Portland.
Hoover, E. V., Roseburg.

PENNSYLVANIA.

Jump, H. D., Philadelphia.
Bauer, L. D., Philadelphia.
Asher, J. M., Philadelphia.
Stevens, A. A., Philadelphia.
Levi, I. V., Philadelphia.
Wallis, J. F., Philadelphia.
McCarthy, D. J., Philadelphia.
Spiegle, Grace E., Philadelphia.
Katzenstein, G. P., Philadelphia.
Rhein, J. H. W., Philadelphia.
Slaughter, C. H. P., Philadelphia.
Price, J. C., Scranton.
Martin, N. W., Wellsboro.
McConnel, P. G., Beaver.
Rasely, E. R., Uniontown.
Style, C. J., Allegheny.
Barnes, A. C., Overbrook.
Goodwin, F. A., Susquehanna.
Sadowski, L., Pittsburg.
O'Brien, J. E., Scranton.

RHODE ISLAND.

Calder, A. W., Providence.

SOUTH DAKOTA.

Savery, C. J., Fort Pierre.

TENNESSEE.

Leake, E. K., Colliersville.

TEXAS.

Anderson, J. C., Granger.
Abney, G. M., Franklin.
Luttrell, J. M., Mineral Wells.
Engelhardt, H. A., Houston.
Young, F. E., San Antonio.

WASHINGTON.

Libbey, G. A., Tacoma.
Smith, A. M., Whatcom.

WEST VIRGINIA.

Solter, H. C., Huntington.
Burgess, T. D., Matewan.

WISCONSIN.

Strong, R. J. C., Arlington.

Saratoga Meetings.

Among the meetings to be held at Saratoga Springs during the week of the Association meeting are those mentioned below. Others have received previous notice in these columns.

The American Association of Life Insurance Examining Surgeons will meet at Saratoga June 9. A very interesting program has been arranged and we mention a few extracts. Dr. Woods Hutchinson will present a résumé of his conclusions on the form of the chest in phthisis, and its significance. This will be discussed by Dr. William A. Evans, Chicago, who will report the result of his recent measurements of a large number of consumptive chests. Dr. Byron G. Van Horne, Englewood, N. J., will read a paper on "Hernia and Life Insurance," and Dr. George W. Webster, Chicago, on "The Prognosis in Organic Disease of the Heart." Dr. William A. Adams, Texas, the medical inspector in that state for the Equitable Life Assurance Society, and Dr. Charles Lyman Greene, St. Paul, the author of "Medical Examination for Life Insurance," have also promised papers.

American Urological Association.—The annual meeting of this Association will be held in Saratoga, June 13-14. The address of the president, Dr. Ramon Guiteras, New York, will be on "Advances in Urology." Dr. Robert T. Morris, New York, will exhibit specimens of renal calculi. The following papers are announced: "Diagnosis of Renal Tuberculosis," by Dr. John von Glahn, New York; "The Technic of Nephropexy," by Dr. Augustin H. Goelet, New York; "The Knee-Chest Position for Operation on the Ureters," by Dr. Howard A. Kelly, Baltimore; "Stone in Ureter, with Report of Five Cases," by Dr. Orville Horwitz, Philadelphia; "The Importance of Separating Kidney Urines," by Dr. Andrew J. Downes, Philadelphia; "Cystoscopy in the Female," by Dr. William R. Pryor, New York; "Cystoscopy in the Male," by Dr. William K. Otis, New York; "Tuberculosis of the Bladder," by Dr. Joseph B. Bissell, New York; "Operative Indications in Prostatic Hypertrophy," by Dr. Hugh H. Young, Baltimore; "Permanent Results, Failures and Relapses Following the Bottini Operation," by Dr. Filipp Kreissl, Chicago; "A Study of Twenty-three Cases Treated by Perineal Prostatectomy," by Dr. Alexander H. Ferguson, Chicago; "The Diagnosis and Treatment of Chronic Prostatitis," by Winfield Ayres, New York; "The Diagnosis and Operative Treatment of Prostatic Hypertrophy," by Dr. Bransford Lewis, St. Louis; "Diabetes," by Dr. I. N. Love, New York; "Treatment of Uremia," by Dr. Egbert H. Grandin, New York; "Tuberculosis of the Genito-Urinary Tract," by Dr. Granville MacGowan, Los Angeles; "Outlines of Microscopic Urinalysis," by Dr. Louis Heitzman, New York; "A Sketch of the Chemistry of the Urine," by Dr. Heinrich Stern, New York; "A Case of Pregnancy Complicated with Pyonephrosis," by Dr. Charles G. Cumston, Boston; "A New Silver Salt in the Treatment of Urethritis," by Dr. George K. Swinburne, New York; and "Failures in the Irrigation Treatment of Gonorrhea," by Dr. Ferd. C. Valentine, New York.

Societies.

COMING MEETINGS.

American Medical Association, Saratoga Springs, N. Y., June 10 to 13.

American Association of Life Insurance Examining Surgeons, Saratoga Springs, June 9, 1902.

National Confederation State Medical Examining and Licensing Boards, Saratoga Springs, N. Y., June 9, 1902.

Association of American Medical Colleges, Saratoga Springs, N. Y., June 9, 1902.

American Climatological Association, Los Angeles, Cal., June 9-11, 1902.

American Proctological Association, Saratoga Springs, N. Y., June 10, 1902.

Medical Society of Delaware, Newark, June 10, 1902.

Massachusetts Medical Society, Boston, Mass., June 10-11, 1902.

Medical Society of the State of North Carolina, Wilmington, June 10-14, 1902.

Colorado State Medical Society, Pueblo, June 17, 1902.

American Medico-Psychological Association, Montreal, June 17-20, 1902.

Minnesota State Medical Society, Minneapolis, June 18, 1902.

Medical Society of New Jersey, Atlantic City, June 24-26, 1902.

Washington State Medical Society, Tacoma, June 24-26, 1902.

Michigan State Medical Society, Port Huron, June 26-27, 1902.

Medical Association of Nevada, Virginia City, July 7, 1902.

American Ophthalmological Society, New London, Conn., July 16, 1902.

American Medico-Psychological Association.—The fifty-eighth annual meeting of this Association will be held at the Windsor Hotel, Montreal, June 17 to 20, inclusive.

Camden District (N. J.) Medical Society.—At the fifty-sixth annual meeting of this Society, held in Camden, May 13,

Dr. John G. Doron, Camden, was elected president; Dr. John W. Marey, Merchantville, vice-president; Dr. Paul M. Mecray, Camden, secretary; Dr. Joel W. Fithian, Camden, treasurer; Dr. Harry H. Sherk, Camden, historian; Dr. Joseph H. Willis, Camden, reporter, and Dr. William H. Ireland, Camden, censor.

Barnstaple District (Mass.) Medical Society.—The annual meeting of this Society was held at Hyannis, May 8, at which Dr. Edwin M. Parker, South Yarmouth, was elected president; Dr. Solomon F. Haskins, Cotuit, vice-president; Dr. James H. Higgins, Marston's Mills, secretary; Dr. Charles W. Milliken, Barnstaple, treasurer; Dr. George N. Munsell, Harwich, and Dr. L. Edmonds, Harwich, commission of trials.

Hempstead Memorial Academy of Medicine (Portsmouth, Ohio.)—On May 5, the Academy held its annual meeting, at which Dr. D. Tod Gilliam, Columbus, read a paper on "Woman and Her Ear"; Dr. Edwin S. Ricketts, Cincinnati, delivered a eulogy on the late Dr. Arthur Titus and Dr. Daniel A. Berndt, retiring president, gave a banquet. Dr. William W. Smith was elected president; Dr. Osborne, vice-president; Dr. Milton S. Pixley, secretary, and Dr. Henri G. Halderman, treasurer.

Middle Tennessee Medical Association.—The sixteenth semi-annual meeting of this body was held at Lewisburg, May 15 and 16. At the evening session, the president, Dr. George W. Moody, Shelbyville, delivered an address on "The Dark and Bright Sides of the Medical Profession." Sparta was selected as the next place of meeting. Dr. Leonidas L. Sheddan, Fayetteville, was elected president, and Dr. Rufus E. Fort, Nashville, vice-president. Dr. Frank B. Reagor, Shelbyville, was reelected secretary.

Cecil County (Md.) Medical Society.—The annual meeting of this Society was held at Elkton, May 20. An address was delivered by Dr. William H. Welch, of Baltimore, on "Infection and Immunity." Resolutions were passed on the recent death of Dr. Harry P. Hinchliffe, Elkton, secretary of the Society. The following officers were elected: President, Dr. George S. Dare, Rising Sun; vice-president, Dr. David L. Gifford, Zion; secretary, Dr. Howard Bratton, Elkton, and treasurer, Dr. John H. Jamar, Elkton.

Indiana State Medical Society.—The fifty-third annual meeting of this Society was held at Evansville, May 22 and 23. The convention was the largest in the history of the Society, nearly 500 being present. The delegates were welcomed to Evansville by Dr. Morton J. Compton, a member of the Council, in the absence of the Mayor. President Alembert W. Brayton, Indianapolis, responded. Dr. Victor C. Vaughan, Ann Arbor, delivered the annual address on "Immunity, Toxins and Antitoxins; the Employment of Antitoxins in the Treatment of Disease." In the evening the guests were given a reception and a moonlight ride on the Ohio by the Vanderburg County Medical Society. The following officers were elected: Dr. John B. Berteling, South Bend, president; Dr. William H. Gilbert, Evansville, vice-president; Dr. Frederick C. Heath, Indianapolis, secretary, and Dr. Albert E. Bulson, Jr., Fort Wayne, treasurer. Richmond was selected as the next meeting-place.

Iowa State Medical Society.—The fifty-first annual meeting of this Society was held in Des Moines, May 21, 22 and 23, under the presidency of Dr. James R. Guthrie, Dubuque. The members were welcomed to the city by Hon. James Brenton, mayor, and Dr. Samuel Bailey responded on behalf of the Society. The pathologic exhibit was especially good. In his annual address the president recommended that there be legislation to eliminate the evil connected with the present system of expert testimony. He also advocated properly-enforced vaccination as the only means of banishing smallpox, and closed his retrospect by citing some of the things which have made American Medicine great in the last century. In the evening Mr. E. D. Salmon, Chief of the Bureau of Animal Industry, Washington, delivered an address on "Bovine and Human Tuberculosis," which was followed by a general discussion of the subject. On the second evening a complimentary concert was given at Foster's Opera House. The election of officers resulted as follows: Dr. James Taggart Priestley, Des Moines, president; Drs. William Jepson, Sioux City, and Charles F. Wahrer, Fort Madison, vice-presidents; Dr. Vernon L. Treynor, Council Bluffs, secretary; Dr. Willis W. Dean, Sioux City, assistant secretary, and Dr. William B. Small, Sioux City, treasurer. Sioux City was selected as the next place of meeting.

OHIO STATE MEDICAL ASSOCIATION.

Fifty-seventh Annual Meeting, held at Toledo, May 28-30, 1902.

The President, Dr. Edmond C. Brush, in the Chair.

At the meeting over 400 members were in attendance, and the sessions were marked by unusual interest in both the scientific and business proceedings. The guests of the meeting were Dr. James Tyson, Philadelphia, who delivered the address in medicine; Dr. A. A. Ochsner, Chicago, who delivered the address in surgery, and Dr. W. J. Mayo, Rochester, Minn.

President's Address.

President Brush spoke of the advantage of affiliating local medical societies with the state and national organizations. He conceded that the Ohio State Society had not the numerical strength it should have. Instead of 1000 members, it should have five times that number. The society had grown in 56 years from a membership of 25 to its present proportions. The increase was not in ratio with the times. The president observed that it was usually the busy doctor that attended the conventions. He found that the men who were always absent were the drones. Those with the medical society habit were the leaders in their respective spheres.

The tendency in larger cities is to have too many organizations. College cliques, hospital cliques and those who are in no clique, get together and form too many societies.

The effort to make the local society a part of the state organization so far has proved unsuccessful. This is because the doctors of smaller places do not like to mix in with strangers. They are willing to attend the local gatherings where they meet with friends and acquaintances, but they refuse to mix with the state physicians. The idea now is to get these stay-at-homes to come to the annual state meetings.

President Brush spoke cheerfully of the future of the organization and pointed with pride to the fact that the organization is now better off financially than it ever was.

Reorganization.

The chief business to come before the session was the proposal to reorganize the body in accordance with the request of the American Medical Association. The constitution and by-laws for state societies, which was drafted by the Committee on Organization of the American Medical Association, was submitted as a report of the committee of reorganization of the state society. The consideration of this report had been made a special order for Wednesday evening, when, after some discussion, it was referred again to the same committee with some suggestions as to changes and with instructions to give a hearing to all members who wished to be heard on the question. Immediately the committee began a three-hour session at which the new organic law was considered section by section. At the close of the hearing the audience voted favorably on the proposition to adopt the new constitution. At 10 o'clock on the following morning the question came up in the general meeting for final disposition. A motion to adopt the new constitution was made, and in a large meeting, without any discussion, it was carried without a single dissenting vote.

Only three changes were made in the draft submitted by the Committee on Organization. The first provides that the vice-presidents shall be arranged in numerical order—first, second and third. The second made the annual assessment one dollar. The third was the most significant, as it involved the substitution of a new clause for Chapter X, "Rules of Conduct." As submitted, this read: "The principles set forth in the Code of Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public." As adopted this chapter reads: "The ethical principles governing the members of the American Medical Association shall govern the conduct of the members of this Association in their relations to each other and to the public."

Officers.

The following officers were elected: President, Dr. William C. Chapman, Toledo; vice-presidents, Drs. George W. Crile, Cleveland; Clovis M. Taylor, Columbus; Martin Stamm, Fremont, and S. F. Covington, Bellefontaine; secretary, P. Max-

well Foshay, Cleveland; treasurer, James A. Duncan, Toledo; delegates to the American Medical Association, Charles A. L. Reed, Cincinnati; P. Maxwell Foshay, Cleveland; Frank Warner, Columbus; alternates, Edwin Ricketts, Cincinnati; T. Clarke Miller, Massillon; George Goodhue, Dayton.

The Society will meet next year in Dayton.

MEDICAL ASSOCIATION OF MISSOURI.

Forty-fifth Annual Meeting, held at St. Joseph, May 20-22, 1902.

President, Jefferson Davis Griffith, Kansas City, in the Chair.

Welcome to St. Joseph.

At the opening session Mayor Borden welcomed the Association to St. Joseph, and Dr. William G. Moore, St. Louis, made a fitting response.

President's Address.

Special cars carried members of the Association to Lake Contrary where a night session was held at the Lake Casino. At this session the president delivered the annual address, in which he advocated high ideals and consecration to the work of life. He devoted some effort to showing the necessity for a reorganization of the state society on a plane which would make it more of a power in the affairs of the state. He advocated the adoption of the principles of civil service in the conduct of the affairs of the state institutions, and favored the maintenance of hospitals for epileptics, crippled and deformed children.

Reorganization.

The committee appointed at the meeting last year to prepare a constitution and by-laws for the society made its report. The constitution submitted provides for reorganization on the basis of the plans adopted by the American Medical Association and, after an animated discussion, was adopted.

Cancer a Parasitic Disease.

DR. ROSWELL PARK, Buffalo, N. Y., delivered an address on "Some Aspects of the Cancer Problem." He went into some detail on the parasitic theory of cancer. He considers it the most important problem in pathology, and cited statistics to show the rapid increase in fatality from the disease, though much of this increase he attributed to improved diagnosis. But as far as the final solution is concerned, it is still the problem of the ages, although considerable encouragement has been derived from the investigations conducted in the Buffalo laboratories under the direct supervision of the board of health of New York.

Election of Officers.

The election of officers resulted as follows: President, Dr. Woodson Moss, Columbia; vice-presidents, Drs. M. P. Overholtzer, Harrisonville; Barton Pitts, St. Joseph; Anselm C. Robinson, St. Louis; Frank De Vilbiss, Spring Garden, and Vaughan Q. Bonham, New Franklin; recording secretary, Dr. Clarence M. Nicholson, St. Louis, and associate recording secretary, Dr. Edward J. Goodin, St. Louis. The Association will meet in Excelsior Springs, May 21-23, 1903.

A Home for the American Medical Association.

We print on pages 1528 and 1529 illustrations of new property recently purchased by the American Medical Association That on page 1528 is a reproduction of a photograph of the property. It is situated on the northeast corner of Dearborn Avenue and Indiana Street, Chicago, on the north side, and quite near the business center. The property is covered with five houses, renting from $35 to $50 each, the two on the north —to the left—are being taken down to make room for the new building. The size of the ground is 80x100. The illustration on page 1529 is a reproduction of the architect's plans for the new building for THE JOURNAL. It will be 40x80 feet, three stories and a high basement. The basement will be occupied by the presses and folders, the first floor by the bindery and mailing room, and the second by the editorial and business offices. The front part of the third story will be occupied by the library, and the rear by the composing room. The cost of the building complete will be a little over $30,000.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Seborrhea Sicca.

The following combination is recommended by J. F. Payne, in Allbutt's "Sys. of Med.," in the treatment of dandruff:

℞.	Sulph. precip.	gr. xv	1
	Acidi carbol.	gtt. xv	1
	Olei amygd. amar.	m. ii	12
	Paraffin moll.	℥i	30

M. Ft. unguentum. Sig.: To be applied locally at night by rubbing thoroughly into the roots of the hair.

The foregoing may be continued for a fortnight when one of the following lotions may be substituted:

℞.	Liq. carbon, deterg.	m. iv ad. x	25-65
	Glycerini	ʒss	2
	Aq. rosæ q. s. ad	℥i	30

M. Ft. lotio. Sig.: To be applied thoroughly to the scalp once a day; or:

℞.	Glyceriti acidi tannici	ʒi-ʒii	4-8
	Acidi carbol.	m. v	30
	Aq. rosæ q. s. ad	℥i	30

M. Ft. lotio. Sig.: Apply locally; or:

℞.	Tinct. cantharidis	ʒss	2
	Hydrarg. bichloridi	gr. i	06
	Spts. camphoræ	gtt. iii	20
	Aq. destil.	℥i	30

M. Ft. lotio. Sig.: Apply locally with thorough friction once a day.

The last combination is of service only when there is a complete absence of inflammation.

Chilblains.

The following ointment is regarded as one of the best combinations in the treatment of chilblains. It is made up according to Lassar's formula:

℞.	Acidi carbol.	gr. xv	1
	Olei olivæ	ʒiiss	10
	Ung. diachyli	ʒv	20
	Olei lavendulæ	gtt. xv	1
	Petrolati	ʒv	20

M. Sig.: Spread the ointment on linen and apply to the affected part with a bandage, over night.

As a Galactogogue.

The following combination containing calcium glycerinophosphate has been recommended as a galactogogue:

℞.	Calcii glycerinophos.	ʒi	4
	Tinct. nucis vom.	ʒiv	15
	Elix. calisayæ	℥iii	90

M. Sig:. One teaspoonful in water three times a day.

Granular Conjunctivitis.

The following has been recommended by *Merck's Archives* as of service in the treatment of granular conjunctivitis:

℞.	Cupri sulphatis	gr. i	06
	Acidi salicylici	gr. ii	12
	Cocainæ hydrochlor.	gr. ii	12
	Petrolati albi	ʒiiss	10

M. Ft. unguentum. Sig.: Apply at night and wash the eyes well in the morning with a boric solution.

Fat Diet in Gastric Hyperacidity.

According to the *Ther. Month.* Woldbackmann has recently given attention to the administration of fat, especially in the form of butter and cream, in the treatment of gastric hyperacidity. The good results from his experiments have been substantiated by Rumeberg, Strauss, Penzold and others. The consensus of opinion is that the fat administered in the form of butter, etc., not only causes a diminution of free hydrochloric acid, but also influences the hypersecretion. Under such a diet gastric digestion was never prolonged.

Chronic Bronchitis in Children.

According to the *Med. News* beneficial results are obtained from the use of ichthyol in chronic bronchitis, especially as it retards the disintegration of albumins and favors the absorption of exudates when taken internally. It has been employed by W. B. Jennings in several cases with remarkable success. The following combination is recommended by him:

℞. Ichthyol
Glycerini
Syrupi aurantii, āā.....ʒss 2
Aquæ q. s. ad.....℥ii 60

M. Sig.: One teaspoonful three times a day after each meal. The first few doses sometimes nauseate, but later the child acquires a taste for it.

Pruritus Ani.

The following, according to the *Cin. Lancet-Clinic*, makes a very good ointment in the treatment of pruritus ani:

℞. Acidi carbol. .....gr. xxx 2
Hydrarg. chloridi mitis .....ʒi 4
Picis liquidæ .....ʒiss 6
Menthol .....gr. xx 1 30
Zinci oxidi .....ʒii 8
Cerati simplicis .....℥ii 60

M. Ft. unguentum. Sig.: Wash the parts with hot water. Spread the ointment on a cloth, apply to the affected parts and fasten it on with a T bandage.

Asthma.

W. A. Wells, in *New York Med. Jour.*, states that the following combination meets with favor among the asthmatic patients:

℞. Pulv. stramonii
Pulv. belladonnæ fol., āā.....ʒvi 24
Pulv. potassii nitrat.....ʒiss 6
Pulv. opii.....gr. xv 1

M. Sig.: To be used in the form of a fumigation. Internally the iodids are of great service in chronic asthma given as follows, according to Fothergill's formula:

℞. Ammon. iodidi .....ʒiss 6
Ammon. bromidi .....ʒii 8
Syr. tolutani .....℥ii 60
Tinct. lobeliæ .....℥iii 90

M. Sig.: One teaspoonful in water three or four times a day.

Diet in Pregnancy.

A limitation of the diet is the best remedy in the treatment of heartburn in pregnancy, according to E. P. Davis in the *Month Cye. of Pract. Med.* He states that milk should be taken in considerable quantities, and if it causes any gastric discomfort, it may be mixed with Vichy or other carbonated water. As a rule, meat should not be taken more than once a day. Coffee and tea check excretion, and their use in any quantities during pregnancy should be discouraged. On the other hand, there is danger in limiting the diet too much for the woman's strength must be thoroughly preserved. Plenty of ripe fresh fruit should be taken, and if this can not be obtained stewed fruit, or preserves not too sweet or canned fruit. At least one quart of water should be taken daily internally, and externally a cool sponge bath in the morning and a warm bath at night. For nervous restlessness and insomnia there is nothing more soothing. A pregnant woman should be in the open air a great deal and the house should be well aired.

Spartein.

According to the *Med. News* it is not sufficiently recognized that there are a number of drugs which compare favorably, even if they do not equal the action of digitalis in the treatment of heart disease. Of these drugs spartein has been especially studied by Thomas, a French therapeutist, and he has experimented very largely with the drug in chronic affections of the heart. He finds that it is a reliable diuretic, although it does not stimulate to the secretion of more than three liters of urine daily. It is thus, according to his statement, inferior to theobromin, although frequently more potent than digitalis. In its action on the heart it closely resembles digitalis, although it is a much weaker drug. It acts slowly, but its cumulative and toxic effects are slight. The principal indications for its use, according to this writer, are chronic myocarditis, commencing asystole, subjective cardiac disturbances and arhythmia. For advanced cases and for cases complicated by extensive hepatic and pulmonary changes, the more powerful drug, digitalis, is preferable. The dose should not exceed one-third of a grain in twenty-four hours by the mouth or one-tenth of a grain hypodermically, twice repeated.

According to Sollmann, in his text-book on pharmacology, spartein acts on the muscle of the heart, making it slower and weaker, and he states that because of the latter action it can not be classified with digitalis, as is sometimes done; for digitalis, although it slows the heart, strengthens the contractions. He further states that the blood pressure is usually lowered when the drug is taken by the mouth, since the depression of the heart is more than the constriction of the vessels which it also produces. The diuretic action is not due to spartein but to scoparin, a neutral principle existing with it in scoparius.

Toxic Amblyopia.

Dr. Terrien, as stated in *New York Med. Jour.*, has followed for long periods the cases of patients who, after having had large scotoma for white and colors have regained good central visual acuteness. It is, of course, essential that tobacco and alcohol be foregone. For the phenomena of general intoxication when the patient has insomnia and agitation he prescribes at first small doses of opium or potassium bromid. A little later he employs strychnin, either hypodermically or in pills. The former method he considers preferable, the dose ranging from grain 1/60 (.001) to grain 1/30 (.002). The following is his formula when given in the pill form:

℞. Strych. sulph. .....gr. 1/60 |001
Quassin (amorphous) .....gr. 1/6 |01
Pulv. rhei q. s. |

M. Ft. pilula No. i. Sig.: Take one such pill two or three times daily before meals. In addition, where practicable, he employs weak continued electrical currents, one electrode being placed on the back of the neck, the other moved alternately under the eyes. The current should be very mild and should not be strong enough to cause pain.

Medicolegal.

Prescription of Liquor by Physician also Pharmacist.—The Court of Appeals of St. Louis, Mo., says, in the case of State vs. Hensley, that it does not understand the law to be that a physician who is running a drug store as a pharmacist has a right, of his own accord, to prescribe for any person, hale or sick, who happens to come round, and then proceed to sell whisky on the strength of his professional officiousness. If a prescription for an intoxicant, issued by a physician, to be filled by himself as pharmacist, is to be anything more than a pretext for illicit sales, it certainly ought to be the honest expression of his judgment as a physician concerning the remedy his patient needs. There is a palpable difference between a case where a pharmacist is a different person from the physician, and has to rely on the latter's direction, and a case where the pharmacist and the physician are the same person. It appears to the court that a man who issues a bogus prescription for whisky as a physician, and then fills it as a pharmacist, is guilty of two crimes, instead of one, and ought to be amenable for both of them. When a sale of liquor is made without a prescription, it is immaterial that one is written after the sale is made, even if it is issued in good faith. The law refuses to accept a "nunc pro tunc" prescription, that is, one made after the time when it should have been made.

Death from Anesthetics Under Insurance Policy.—"Anesthetics administered by a regular physician" having been excepted from such injuries as were not covered by an accident insurance policy, the Court of Civil Appeals of Texas says, in Maryland Casualty Company vs. Glass, that it might be regarded as an insurance against death from chloroform, independent of all other causes. The burden of establishing the fact that the death of the insured resulted, independent of all

other causes, from chloroform administered to him, was on the party suing for the insurance. In other words, she must prove that the anesthetic was proximately the sole cause of the insured's death. If his death was caused by it alone, the company, by the policy, was liable in the principal sum therein specified. But if he was afflicted with disease which caused or directly contributed to his death, the company would not be liable, though chloroform might have been a cause concurring with his affliction in producing death. If he was suffering from appendicitis, as was shown by the indisputable evidence, and if the anesthetic would not have caused his death had it not been for such affliction, but he died because the chloroform aggravated the effects of the disease, or appendicitis aggravated the effect of the drug, the company would not be liable under its contract. For in either event appendicitis and chloroform would be concurring and inseparable agents proximately contributing to his death, and it could not have been the result of an injury from anesthetic, independent of all other causes.

Liability to Users for Mistakes in Sale of Drugs.—The Supreme Court of Appeals of West Virginia asks, in the case of Peters vs. Johnson, can a druggist, from incompetency or negligence, sell to one person the wrong poisonous article as medicine, which, being taken by a third person lying sick in the purchaser's house, inflicts injury upon such third person, without any liability upon that druggist to answer to that third person? It says we know that drugs and medicines are kept in homes, and may, and probably will, be used by other persons than the one buying. Such is the probable, usual case. Is it possible that there is no reparation to this third person for irreparable harm to him from such incompetence or negligence? Considering the frightful dangers lurking in drugs, poisons and medicines, this would be a disastrous rule. Is there no duty upon a seller of medicine, as to persons who may use them, beyond the immediate purchaser, simply because there is no contract between the seller and the third person? Where the action is only for the breach of a contract, only the parties to it, or those who stand in their shoes, can maintain it. Strangers can not sue for its negligent breach. But where, in a given transaction, the law puts upon a person the duty to so act that he does not harm others, independent of a contract, he is liable to third parties, even though executing a contract made with a particular person, if he harms others by negligence. If harm may come reasonably and probably to any one from another's action, there is duty on him so to act as to avoid such injury. Now, where a druggist sells medicine to one, is it not probable that it may be taken by others than his immediate purchaser; and if the wrong article and dangerous, is it not probable that others will receive injury? The conclusion reached is that apothecaries, druggists and all persons engaged in manufacturing, compounding or selling drugs, poisons or medicines, are required to be extraordinarily skilful and to use the highest degree of care known to practical men to prevent injury from the use of such articles and compounds. Where a druggist, or, as in this case, a merchant, sells a poisonous drug to one person, for a medicine which is harmless, by mistake, and it is taken for medicine, without negligence, by a third person, the seller is liable to such third person for damage resulting to him therefrom, notwithstanding there is no privity of contract between the seller and such third person.

Opinion as to Practice of Medicine—Sale of Device.—The Supreme Court of Illinois holds, in the case of People, to Use of State Board of Health, vs. Lehr, that a question was manifestly improper in which a physician was asked to state whether or not, in his opinion, a person prescribing a medical device, claiming that it would cure rheumatism, etc., would be regarded as practicing medicine, as the witness understood the term. The court says that the statute defines the practicing of medicine, and that it was for the jury, and not for a witness, even though he might be called an "expert," to say whether certain conduct amounted to the practice of medicine. In other words, this question sought to have the witness decide the very ultimate question which the jury had been sworn to try, and, consequently, an objection to it was properly sustained. Then it was asked that the jury be instructed that if it found from the evidence that the party charged with illegally practicing medicine prescribed a certain instrument or device to persons suffering from physical ailments, and recommended it as a means of cure or relief for such ailments, and that he did so without first obtaining a license therefor from the State Board of Health, then the jury should find him guilty and assess his fine as provided by statute. But this instruction, in view of the facts of the case, the court holds, did not correctly state the law. It says that the party did not "treat, or profess to treat, operate on or prescribe for any physical ailment, or any physical injury to or deformity of another." He simply offered and recommended the instrument or device in question for sale. He was practicing medicine, within the meaning of the statute, no more than is the druggist or pharmacist who sells and recommends surgical instruments, atomizers, and innumerable other appliances used by the afflicted. If this instruction should be held to announce the correct rule of law, then any neighbor or friend who might prescribe or recommend the use of a particular instrument or device would be guilty of a violation of the statute, which is certainly not in accord with the spirit of the statute or the intention of the legislature. The evidence not showing that he was an itinerant vendor of the device, he could not properly be convicted of violating section 8 of the statute, which provides "that any itinerant vendor of any drug, nostrum, ointment or appliance of any kind intended for the treatment of diseases or injury, who shall, by writing or printing, or any method, profess to cure or treat disease or deformity by any drug, nostrum or application, shall pay a license," etc., admitting that the device in question was an appliance, within the meaning of this statute. This, like all other penal statutes, must be strictly construed. The statute is a wise and humane one, and, within its reasonable construction, to be rigidly enforced; but any attempt to make it cover cases like this would be an abuse, rather than an enforcement of it.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record (N. Y.), May 24.

1 *Radiotherapy for Cancer and Other Diseases. William J. Morton.
2 *Benign Tumors Complicating Pregnancy. Bache M. E. Emmet.
3 *Malignancy Complicating the Pregnant State. S. Marx.
4 Uterine Displacements Complicating Pregnancy. Edward A. Ayers.
5 A New Substitute for Silver Nitrate. Albert C. Barnes and Hermann Hille.
6 Bilious Remittent Fever. R. H. Philliimore.

Boston Medical and Surgical Journal, May 22.

7 *Gunshot Wounds of the Knee-Joint by the Projectile of Reduced Caliber. Louis A. LaGarde.
8 Notes in Cuba. Charles C. Foster.
9 *Birth and Death-Rate as Influenced by Obstetric and Gynecic Progress. (Concluded.) George J. Engelmann.
10 Two Cases of Tetanus Following Vaccination. Lyman Allen.

Medical News (N. Y.), May 24.

11 *Consumption Contracted in Colorado and Methods to Restrict Its Spread. S. G. Bonney.
12 *The Treatment of Puerperal Eclampsia. William E. Parke.
13 *Venesection and Transfusion in Puerperal Eclampsia. R. Abrahams.
14 *Puerperal Hemorrhage. George Seymour.
15 *How Shall We Treat Sepsis Following Abortion or Labor? W. O. Henry.
16 *The Etiology of Puerperal Toxemia. A. Ernest Gallant.

American Medicine (Philadelphia), May 24.

17 *The Physical and Dietetic Treatment of Valvular Heart Disease During the Stage of Perfect Compensation. Carl von Noorden.
18 *Symptomatology, Diagnosis and Differential Diagnosis of Neuritis. Sydney Kuh.
19 *The Vermiform Appendix as a Cause of Intestinal Obstruction. J. E. Summers, Jr.
20 Electrothermic Hemostasis in Vaginal Hysterectomy for Cancer; Report of Two Cases. Andrew J. Downes.
21 Two Cases of Stenosis of the Pylorus. Frank M. Murdoch.
22 Contributions to Practical Therapeutics. Albert C. Barnes and Hermann Hille.
23 Suppurative Otitis Media and Some of Its Dangers. E. Oliver Belt.
24 The Differentiation of the Five Genera of North American Mosquitoes, with Especial Reference to Anopheles. Henry F. Cassidy and Francis C. Bayne.

Philadelphia Medical Journal, May 24.

25 *Note on the Occurrence of Ascites in Solid Abdominal Tumors. William Osler.
26 *On a Possible Cause of Meteorisms and Partial Intestinal Obstruction, with Remarks on the Use of Eserin in Intestinal Atony. Frederick A. Packard.
27 *Insufficientia Pylori as Sequela of Chronic Gastritis, with Report of Twelve Cases Successfully Treated. Mark I. Knapp.
28 *The "Fourth Disease" of Dukes, with Report of an Atypical Outbreak of Scarlet Fever. J. Hall Pleasants.
29 *A Discussion of the Morbid Conditions of the Upper Respiratory Tract, Resulting from the Infectious Diseases. Carolus M. Cobb.
30 An Unusual Case of Diphtheria. J. Newton Hunsberger and D. H. Bergey.

New York Medical Journal, May 24.

31 *The Pathology of the Tissue Changes Caused by the Roentgen Rays, with Special Reference to the Treatment of Malignant Growths. Carl Beck.
32 *Albumin in the Urine: A New Way of Applying Nitric Acid and Other Reagents. L. Napoleon Boston.
33 *Suprapubic Prostatectomy. Floyd W. McRae.
34 *Tracheal Injection in the Treatment of Bronchial and Lung Diseases. Larue D. Rockwell.

Cincinnati Lancet-Clinic, May 24.

35 Report of a Case Illustrated by Photographs. Derrick T. Vail.
36 Hepatitis Suppurativa. Julius H. Jacobson.
37 When I Studied Medicine. (Continued.) George J. Monroe.
38 A Case of Exophthalmic Goiter in a Girl of 11. Alfred Friedlander.

St. Louis Medical Review, May 24.

39 *Conservatism in the Treatment of Inflammatory Affections of the Uterine Adnexa. Hugo Ehrenfest.

Northwestern Lancet (Minneapolis), May 15.

40 A Case of Duodenal Ulcer, Stenosis of the Pylorus, Gastrectasia, Perforation and Death. George D. Head and A. E. Williams.
41 Varieties and Treatment of Hemiplegia. W. A. Jones.
42 Some Observations upon Corneal Ulceration Occurring in the Senile and Debilitated. H. McI. Morton.
43 Report of a Scarlet Fever Epidemic. E. D. Harrington.
44 Inflammation of the Pelvic Connective Tissue. J. H. Rishmiller.

Pediatrics (N. Y.), May 15.

45 Diphtheria. (Continued.) J. C. Cook.

Archives of Ophthalmology (New Rochelle, N. Y.), March.

46 *On the Protection of the Cornea in Some Sightless Stumps. H. Gifford.
47 A Case of Tumor of Optic-Nerve Sheath Removed by Krönlein's Method, with Preservation of the Eye and Good Vision. F. Antill Pockley.
48 Exophthalmos and Loss of an Eye Due to a Blow on the Temple, in a Patient Who Was the Subject of the Hemorrhagic Diathesis. Brown Pusey.
49 The Older and Newer Mydriatics, Miotics and Anesthetics in Ophthalmology. H. Schultz.
50 *The Cycloplegic and Mydriatic Actions of Atroscin and Scopolamin. Walter F. Mackiin.
51 A Case of Lenco-Sarcoma of the Choroid. Albert B. McKee.
52 A Case of Acute Traumatic Glaucoma Without Visible Signs of the Injury. Ed. G. Rust.
53 Investigations on Eye-Magnets. Siegmund Türk.
54 Ulcus Rodens Cornæ. Dr. Hillemanns.
55 Insufficiency of Divergence as an Etiologic Factor in Concomitant Convergent Strabismus; Its Importance, Determination and Treatment. Herbert W. Wootton.
56 Systematic Report on the Progress of Ophthalmology in the Second Quarter of the Year, 1901. Prof. St. Bernheimer, O. Brecht, R. Greeff, C. Horstmann, and R. Schweigger.

American Practitioner and News (Louisville, Ky.), May 1.

57 Valedictory, University of Louisville. Earl R. Snyder.
58 The Improvement in Materia Medica and Therapeutics During the Past Century. John G. Cecil.
59 Nervous Dyspepsia or Gastric Neurasthenia. J. J. Moren.
60 Acute Articular Rheumatism. P. H. Crutchfield.

May 15.

61 Child Labor. Philip F. Barbour.
62 Laboratory Work in General Practice. Samuel E. Woody.
63 Gonorrheal Rheumatism. J. Douglas Westervelt.
64 When to Operate. A. T. McCormack.
65 Why Not Forestall Tuberculosis and Blot It from the Face of the Earth? James A. Burroughs.

Virginia Medical Semi-Monthly (Richmond), May 9.

66 Cancer Cases. Stuart McGuire.
67 Some Abdominal Cases in Women. R. S. Martin.
68 Clinical Observations on the Treatment of Chlorosis and Anemia and Pseudo-leukemia. L. A. Ewald.
69 The Practical Management of Smallpox. Llewellyn Eliot.
70 A Comparison of Typhoid Fever Mortality in Hospital and Private Practice. Arthur J. Hall.
70½ Neuralgia. George W. Day, Jr.

University of Pennsylvania Medical Bulletin (Philadelphia), April.

71 Concerning the Benzoyl Esters of the Urine in Diabetes Mellitus, and the Clinical Significance of an Excess of Glycosuronic Acid. D. L. Edsall.
72 Diagnosis by Means of the Formed Elements of the Blood. C. Y. White.
73 Memoir of the Late John Ashhurst, Jr., A.M., M.D., LL.D. Richard H. Harte.
74 Streptococcus Mucosus (Howard) and Its Relations to Micrococcus Lanceolatus. Warfield T. Longcope.
75 A Series of Twelve Articles on Medical Men Prominent in the Civil and Military Affairs of Revolutionary Times. Francis R. Packard.

May.

76 *The Intercommunicability of Human and Bovine Tuberculosis. Mazyck P. Ravenel.
77 A Contribution Concerning the Clinical Significance of the Readily Eliminable Sulphur of the Urine. David L. Edsall.
78 A Series of Twelve Articles on Medical Men Prominent in the Civil and Military Affairs of Revolutionary Times. Francis R. Packard.
79 Notes on Ten Years' Work of the University Ear Department. B. Alexander Randall.
80 A Case of Unusual Development of the Platysma Myoides. David Riesman and Horatio C. Wood, Jr.
81 A Male Presenting Certain Feminine Characteristics, with Hypoplasia of the Sexual Organs. Joseph Sailer.
82 On the Toxic Action of the Decomposition Products of Lecithin. Horatio C. Wood, Jr.

Chicago Medical Recorder, May 15.

83 Brief Reminiscences of the Origin and Growth of the Chicago Medical Society. N. S. Davis, Sr.
84 Organization of the Medical Profession. J. T. McAnally.
85 Fibroids of the Uterus and Broad Ligaments. Edwin Ricketts.
86 *Fallacies of Cystoscopy. Louis E. Schmidt.
87 A Case of Severe Anemia with Enlargement of the Spleen in an Infant. Frank S. Churchill.
88 *Deep Transverse Arrest of the Head as an Indication for Forceps. Charles B. Reed.
89 Lepra Maculoanesthetica. David Lieberthal.
90 A Case of Ichthyosis Hystrix. E. A. Fischkin.

Ophthalmic Record (Chicago), May.

91 A Compilation of Thirty-two Cases of Glaucoma Reported to the New England Ophthalmological Society Since Its Foundation; The Danger of Mydriasis. Myles Standish.
92 Saddle Bridge Eye-Glasses. Edward Jackson.
93 A Case of Free Cyst in the Anterior Chamber. R. Denig.
94 Further History of a Case of Fistulous Ulcer of the Cornea—Enucleation—Acute Granular Conjunctivitis and Trachoma from Infection by Medium of Artificial Eye. H. V. Würdemann.
95 Simple Method of Suturing the Tendon in Enucleation. Frank C. Todd.

New Yorker Medicinische Monatsschrift, April.

96 Zur Operation der Nasenrachentumoren. F. Maass.
97 Atoxische Wundehandlung. C. L. Schleich.

Therapeutic Gazette (Detroit, Mich.), May 15.

98 *Acetozone (Benzyl-acetyl Hyperoxid) in the Treatment of Typhoid Fever. Eugene Wasdin.
99 *The Use of a Solution of Permanganate of Potassium in the Treatment of Purulent Ophthalmia. Howard F. Hansell.
100 *Sciatic Neuritis and Its Treatment. L. Harrison-Mettler.
101 The Practical Value of Intratracheal Medication. P. S. Donnellan.
102 Adrenalin a Valuable Aid in Surgical Work upon Mucous Surfaces. Flemming Carrow.
103 *The Use of Tuberculin in Medicine. Silvio von Ruck.

Pacific Medical Journal (San Francisco), May.

104 President's Address, Medical Society of the State of California. W. J. G. Dawson.
105 Address of Welcome, Medical Society of the State of California. Wm. Fitch Cheney.
106 Report of a Case of Anesthesia of the Retina. W. F. Southard.
107 A Plea for the Dental Profession; Revolution. J. Duncan Milliken.

Medical and Surgical Monitor (Indianapolis), May 15.

108 Mental Diseases of Children. Wm. B. Fletcher.
109 A Study in the Evolution and Psychology of Sex. (To be continued.) N. E. Aronstam.
110 Large Growths of the Posterior Tip of the Middle Turbinal. John F. Barnhill.
111 The Treatment of Broncho-Pneumonia in Children with the Cold Compress. Louis Burckhardt.
112 The Treatment of Gonorrheal Rheumatism. John A. Sutcliffe.

Physician and Surgeon (Detroit and Ann Arbor), February.

113 *New Views on Obstipation, Mucous Colitis, and Intestinal Autointoxication, with Demonstrations. Thomas C. Martin.
114 Intratracheal Injections in the Treatment of Bronchitis. Willis S. Anderson.
115 Some Reasons Why There Should Be a Hospital for Consumptives in Connection with the University Hospital. George Dock.

Indiana Medical Journal (Indianapolis), May.

116 Thoracic Aneurism of Large Size; Sudden Death; Autopsy. Henry Jameson.
117 Accidents and Complications Following Abdominal Operations and the Treatment; The Danger of Morphin. L. H. Dunning.
118 Gunshot Wounds of the Abdomen. Alois B. Graham.
119 Suppurative Disease of the Antrum of Highmore and Its Diagnosis. L. C. Cline.
120 The Country Doctor's Private Hospital; Letter of Advice to a Friend. J. C. Sexton.
121 Malpractice Suits. George H. F. Howe.
122 The So-called "Proud People" Subjects of Anal Reflex; A Phase of Hysteria. C. E. Wright.
123 Tubercular Empyema. Theodore Potter.
124 Post-operative Pruritus, with Report of a Case. William F. Clevenger.

Journal of Medicine and Science (Portland, Me.), May.

125 *Ablation of Both Mastoids, Followed by Extreme Variations in the Temperature of the Different Parts of the Body at the Same Time, and of the Whole Body at Different Times, Etc. E. E. Holt.
126 Iritis and the Importance of Its Early Recognition. J. F. Hill.
127 Foreign Bodies in the Eye. H. T. Clough.
128 Further Contributions on Hedonal. B. Tendlau.

Denver Medical Times, May.

129 Report of a Case of Exceedingly Rapid and Very Slow Respiration, with Pauses in Respiration Varying from Twenty Seconds to Two Minutes in Duration, in a Patient Suffering from Tubercular Meningitis, Syphilitic Periarteritis of the Pons and Medulla and from Hysteria. J. T. Eskridge.
130 Resection of the Superior and Middle Cervical Ganglia of the Sympathetic for Subacute Glaucoma. Melville Black.
131 Report of Seventy Cases of Acute Lobar Pneumonia. J. N. Hall.

Medical Herald (St. Joseph, Mo.), May.

132 Concussion Cataract—Report of a Case. J. W. Sherer.
133 Typhoid Fever. L. I. Shuck.
134 A Practical Presentation of an Unusual Case of Glaucoma. W. L. Kenney.

Oklahoma Medical News-Journal, April.

135 Bilious Remittent Estivo-autumnal Fever. Ira B. Bartle.
136 Clinical Report of Two Cases (Pyosalpinx, Etc.). A. K. West.
137 Leukemia. L. N. Upjohn.
138 Remarks on Ferruginous Medication. Julian Marcuse.

May.

139 Therapeutics of Small Doses. J. A. Reek.
140 Report of Two Interesting Cases of Labor. J. E. Jordan.
141 Treatment of Gonorrhea. L. W. Palmer.
142 Gonorrheal Rheumatism. Douglas Westervelt.

Providence Medical Journal, May.

143 The Pauper Labor of Providence. F. T. Rogers.
144 Diagnosis and Treatment of Associated Diseases of the Gall-Bladder. Stephen A. Welch.

Merck's Archives (N. Y.), May.

145 *A New Use of Suprarenal Gland. Frank S. Meara.
146 An Index of Diseases Alphabetically Arranged, with Their Modern Treatment. (Continued.) G. Björkman.
147 The Medicinal Treatment of Malignant Tumors. Dr. von Boltenstern.
148 Gonorrheal Rheumatism. J. D. Westervelt.
149 The Antiseptic and Eliminative Treatment of Typhoid Fever. T. Virgil Hubbard.

Proceedings of the New York Pathological Society, February and March.

150 The Significance of Intramedullary Degenerations. M. G. Schlapp.
151 A Lymphocytozoon of the Guinea-pig. L. B. Goldhorn.
152 Paratyphoid Infections. Warren Coleman and B. H. Buxton.
153 A Demonstration of the Technic of the Determination of the Freezing Point of Body Fluids by Means of the Beckmann Apparatus. F. C. Wood.
154 Congenital Stenosis of the Aorta at the Isthmus. E. Libman.
155 A Case of Anthrax. L. T. Lewald.
156 A Case of Hodgkin's Disease. E. L. Dow.
157 Demonstration of Hemolysis. F. C. Wood.
158 Carcinoma of the Pancreas. A. E. Thayer.
159 Carcinomatous Ulceration of Duodenum, with Abscesses of Liver and Pancreas. John H. Larkin.
160 Multiple Emboli Mesenteric Arteries. C. Phillips.
161 Endothelioma of Serous Cavities. C. W. Field.
162 Complete Double Ureter of Each Side, Pervious Throughout. T. C. Janeway.
163 Two Cases of Lymphocytosis Simulating Leukemia. Francis C. Wood.

Kansas City Medical Record, May.

164 Gastroptosis. Emily A. Hill.
165 *The Treatment of Irreducible Backward Dislocation of the Astragalus by Opening the Joint and Repositing Same. W. Jepson.

Therapeutic Monthly (N. Y.), April.

166 On the Etiology, Prognosis and Modern Treatment of Tabes Dorsalis. Johann Hirschkron.
167 Bismuth-Borophenate as a Surgical Dressing. M. A. Auerbach.
168 Sanatoria for Poor Consumptive Patients in Switzerland. Theodore Zangger.
169 The True Suspended Position in Childbirth and the Question of Priority. George J. Engelmann.
170 The Management of Cases of Simple Nervous Insomnia. J. A. Evans.
171 Treatment of Fractures at the Lower End of the Radius. Fielding L. Taylor.
172 The Influence of Superstition in Therapeutic Doctrines. 1. The Doctrine of Signatures. Thomas L. Coley.
173 Chemical Changes in the Body in Which the Methyl Group May Be Involved. William J. Gies.

Nashville Journal of Medicine and Surgery, May.

174 *A Case of Traumatic Tetanus Treated with Beechwood Creosote Hypodermically. George Higginson.

Southern Medical Journal (La Grange, N. C.), May.

175 Medicine as It Relates to Dental Surgery, and Dental Surgery as It Relates to Medicine. E. J. Tucker.
176 Calomel, Its Uses and Abuses. C. W. Kellogg.
177 Eosolate of Quinin: A Clinical Study. J. W. P. Smithwick.

Fort Wayne Medical Journal, April.

178 *The Operative Treatment of Trachoma and Its Sequelæ. Albert E. Bulson, Jr.

---

1. **Radiotherapy for Cancer.**—Morton concludes as follows: 1. Radiotherapy broadens our conceptions of the possibilities of the therapeutics of modern medical science. 2. The *x*-ray has a general application for the relief of pain. 3. As to technic, a standardization as to apparatus and its capacity, and as to duration and frequency of treatments and distance of the tube is recommended to operators. 4. The *x*-ray has a curative effect in internal cancer and other internal diseases. 5. For superficial diseases a medium soft tube may be used; for internal cases a hard tube. The hard tube is applicable, however, in all cases. 6. *X*-radiation is recommended prior to any operation, to clear the tissue of cancer particles and foci, and to circumscribe the disease. 7. *X*-radiation is recommended after operation to preclude a recurrence. 8. *X*-radiation may be recommended in place of an operation, and may be preferable to one for the reason that operation secures but a comparatively moderate percentage of permanent recoveries, and because up to date the *x*-ray procedure shows a continued improvement in cases, and a percentage of cures which will, undoubtedly, compare favorably with surgical operation. 9. There is danger to the patient or uncertainty as to what might be accomplished when the *x*-ray is employed by immature operators. 10. In *x*-radiation we possess more nearly a solution of the problem of curing cancer than by any other method of treatment.

2. **Benign Tumors in Pregnancy.**—The various forms of non-malignant growths that may complicate pregnancy are noticed by Emmet. He enumerates the different forms, including deformities of the spleen, kidney and other viscera, bladder distension, calculus, ovarian tumors, fecal accumulations, exostoses about the pelvis, pus tubes, dermoids, etc. He favors operative treatment in case the tumor is accessible, in the non-pregnant woman, but if the woman has recently become pregnant, he would remove a fibroid of the uterus, if it were large, wherever situated. If it were slow growing and small he would leave it if in the body, but remove it if situated in the lower segment or neck. If the tumor only is discovered when half-way in pregnancy, he would leave it absolutely alone if in the body, but if in the lower segment or neck he would temporize, seeking to crowd it out of the pelvis, and try to tide over until the uterus had become thoroughly accustomed to pregnancy. In the late months he would deal only with those that grow in the neck and of sufficient size to impede delivery. Then he would operate from below. Even then he might possibly decide to await events or induce premature delivery. The tumors may be so general and threatening as to require the removal of the whole uterus even early in pregnancy and such contingencies have to be considered.

3. **Malignant Growths and Pregnancy.**—Marx thinks that in these instances the individual indications should be followed with the hope of saving the life of the child. He holds that deciduoma malignum occurs early in pregnancy.

7. **Gunshot Wounds of the Knee.**—La Garde reviews the more recent experiences in gunshot wounds of the knee as follows: (1) We find that the mortality of gunshot injury of the knee joint in the Civil war was 53.7 per cent., and, as amputation was universally done, all those who recovered escaped with the loss of a limb, unfit for duty; (2) that 33 cases of gunshot wounds of the knee produced by the larger caliber lead bullet in campaign, reported by Reyher and von Bergmann, treated antiseptically, gave a mortality of 11.1 per cent.; (3) that 62 cases produced by a variety of missiles reported by the surgeon general since 1898, similarly treated, gave a mortality of 8 per cent., and that 45.6 per cent. of those who recovered were restored to duty; (4) that of 19 cases in the Santiago campaign by the reduced-caliber bullet the mortality was *nil*, and that 73.6 per cent. of the wounded recovered fit for duty. It is thus seen that the humane features of the reduced-caliber bullet have operated not only in

diminishing the mortality in gunshot injuries of the knee from about 8 or 11 per cent. to *nil*, but that it has increased restorations to duty 28 per cent., as shown by comparing the last two tables. The foregoing figures relating to the humane features of the reduced-caliber bullet established fully the predictions of von Coler, who said at the conclusion of his experiments with the German Mauser that if it be found that wounds by the small bore are aseptic, joint wounds will be the most favorable of all bone injuries to treat.

9. **Birth and Death Rate is Influenced by Obstetric and Gynecic Progress.**—Englemann says that the review of the figures clearly shows that obstetric and gynecic progress has left no very distinct impression on the vital statistics comparative to the decreasing death rate and the control of epidemics of the present day. The birth-rate is not increasing, it is decreasing. While still-births are decreasing in Europe it is not so in this country. The death rate in childbirth has been reduced somewhat by antiseptic practice, but less in this country than in Europe, notwithstanding the supremacy of midwives abroad. It is still far greater than it ought to be and while the results of modern hospital practice are shown, the splendid record of earlier years of the antiseptic era is not everywhere maintained, and in some of the leading maternities of the country the death rate is again increasing. There is a diminution in deaths from puerperal fever, but those from eclampsia seem to be more frequent. Taken altogether there seems to be some obstetric progress, but the figures are influenced by factors obscuring the influence of medical science. In the high death rate of the child in illegitimate labor, is given evidence of premature interference. In the decreasing fecundity we see the deteriorating influence of refinement, luxury, social aspirations, etc., and whatever the motive, the cause, he says, of diminishing fecundity is the intentional limitations of the family, and medical science yields to human vanity and its desires.

11. **Consumption Contracted in Colorado.**—Bonney discusses the statistics as to the indigenous occurrence of tuberculosis in the state and especially in relation to the report of the tuberculosis committee appointed a year or more back by the state society. He considers that the increase of tuberculosis mortality is incident to the increase in population, the unhealthy occupation of a portion of the population in mining, etc., to direct tuberculosis predisposition on the part of those whose parents came to the state suffering from tuberculous infection, and he questions somewhat whether the reference of the disease as being contracted within the state is always correct. He favors compulsory notification and restriction sufficient to the supervision, and the education of the consumptive and the public, establishing detention institutions for the ignorant and vicious who refuse to submit to the necessary sanitary rules, state sanatoria and segregation hospitals for the poor, the regular disinfection of tuberculous infected apartments, prohibition of expectoration, the formation of societies for the study and dissemination of information for the tuberculous and government supervision of public buildings, tenement houses, factories, etc. While not underestimating the possible dangers, he would have the education of the public rather encouraging than otherwise as regards the disease.

12. **Puerperal Eclampsia.**—After first reporting a case, Parke discusses the theories of the prevention and treatment of this disease. For the former he would look for an easily digestible diet, with a minimum amount of nitrogenous matter, careful attention to elimination in all ways and suitable exercise. If all these fail he would anticipate labor. He thinks well of venesection as being of the greatest value in florid, full-blooded persons. Chloral or bromids are useful in the attacks and veratrum viride in the sthenic cases with the use of normal salt solution under the skin or in the bowel. He believes that accouchement forcé would save more children than allowing the labor to proceed during the convulsive seizures in the natural way.

13. **Puerperal Eclampsia.**—Abrahams recommends venesection and transfusion as important measures in puerperal eclampsia. He says the former causes an immediately favorable change in the woman's appearance; the cyanosis of the face; the rigidity of the muscles; the spasms and twitchings are stopped, and the pulse loses its tenseness, while the coma gradually and surely yields. Transfusion improves the pulse; induces free sweating and micturition; produces intense thirst in the awakened patient which causes her to drink copiously, and this is very desirable. The only precaution in regard to the use of blood-letting would be direct transfusion into the circulatory apparatus instead of waiting for its slower absorption by the bowel. He thinks venesection, as a rule, is indicated in nearly all classes of cases.

14. **Puerperal Hemorrhage.**—Seymour advocates Cesarean section in puerperal eclampsia when the mother is in good condition, uninfected, and not exhausted by long labor. The other forms of puerperal hemorrhage are noticed, with the proper measures to be employed.

15. **Puerperal Sepsis.**—The summary of the treatment of this condition is given by Henry as follows: 1. Remove early, with the finger, sharp curette and flushing, all débris, decidua, blood-clots and sloughing tissue which may be infected, from the uterus and from all raw surfaces of cervix, vagina and vulva. 2. Dry all of these raw surfaces and freely apply to them the 95 per cent. carbolic acid, washing away the surplus with sterile water. 3. Unless hemorrhage require, leave no tubes or packing of any kind in either vagina or uterus. 4. Have a simple carbolized, 2 per cent., vaginal douche used twice a day. 5. Open the bowels freely with calomel, ½ grain, every hour for four hours, to be followed by Rochelle salts until sufficient action has occurred. 6. Give quinin, 3 grains, every four hours, followed by tincture of the chlorid of iron, 15 drops, in water. 7. Give good nourishment, with milk, eggs and stimulants every four hours. 8. Let this be the routine early treatment. 9. When fixation of the uterus occurs and infiltration takes place in Douglas' cul-de-sac or in the broad ligaments, or when the tubes or ovaries fill with pus in acute cases, open promptly and drain through the vagina. 10. If multiple abscesses occur in the uterine walls, if the walls become badly infected, or if necessary in order to secure perfect drainage for a badly-infected pelvic cavity, remove the uterus and all else necessary by the vaginal route.

16. **Puerperal Toxemia.**—According to Gallant, puerperal toxemia is due to the implantation of pyogenic bacteria within the genital tract, before, during or after labor. They find there a proper culture soil of right temperature in which they thrive and multiply, producing substances which, when absorbed in the system, cause toxemia and give rise to the symptom-complex designated sapremia and septicemia. The introduction of these micro-organisms in the larger portion of cases (barring gonococcic cases) is an avoidable offense. Unfortunately, it is not rare; therefore, it is the duty of the nurse, student and physician when in charge of an obstetric case to practice thorough and conscientious asepsis.

17. **Valvular Heart Disease.**—One of the greatest therapeutic achievements of late years, according to von Noorden, is that of overthrowing the idea that absolute rest is required in cases of heart disease. The rules of treatment which von Noorden lays down are: 1. To avoid undue exercise in any case of palpitation of the heart or shortness of breath. Patients should not hurry or exert themselves or become mentally excited. Another important matter is the prevention of obesity which increases the heart's labor. In treating this condition we should act with the greatest caution. The arrangement of the dietary differs in every case and should be carefully studied by the physician. In every case where alteration in the weight of the patient is required it should be done slowly. There should be also a selection and proper distribution of the various items. Too copious meals should be always avoided and frequent and light meals are preferable. We can not recommend a permanently vegetarian diet; a reasonably mixed diet is best. Under no circumstances should the stomach be overloaded. The introduction of liquid must be likewise carefully watched. Too much must not be taken at meals. The total quantity allowed

daily is also of importance; a certain amount of restriction is often advantageous, and we should not allow the patient, for instance, as a rule, to drink more than 1¼ liters or 2¼ pints, avoiding strong infusions of tea, coffee and alcoholic beverages unless there is some therapeutic reason for their use. He does not absolutely forbid small quantities of stimulants, even tobacco, in patients with heart disease. Digitalis should be avoided in perfectly compensated cases. Muscular exercise should be advised; the best is slowly walking up hill where that is possible. He thinks rowing properly gauged is of advantage. Bicycling, tennis, golf and such sports invite excess. Room gymnastics have a limited value if not overdone, and massage has its limits of usefulness, but he is very much opposed to allowing a non-medical masseur to vibrate the heart. In patients whose hearts are very excitable and have a most disagreeable sensation at the slightest exertion, which makes the gymnastic treatment almost impossible, vibration is one of the best cardiac sedatives, and he uses a special apparatus for the purpose. Hydriatic treatment is also mentioned, and he speaks of the Nauheim baths as being specially valuable in recent cases, but it is bad practice for those with severe loss of compensation to take them. For the last two or three years he has used the electric baths after the system of Dr. Schnee, consisting of four porcelain tubes, in which the four extremities are immersed, the patient sitting in a comfortable chair. The momentary as well as the permanent effects are similar to those of the carbonated baths and the switchboard permits the use of the different forms of the current as desired.

18. **Neuritis.**—Kuh's article is a review of the subject in all its aspects, including the associated psychoses and trophic conditions which are associated with inflammation of the nerves.

19. **The Vermiform Appendix as a Cause of Intestinal Obstruction.**—Summers reports a case in which intestinal obstruction was caused by a constriction ring produced by the appendix adhering to the mesentery and notices other facts observed of this character, and mentioned by surgical authorities.

25. **Ascites in Abdominal Tumors.**—Osler has recently noticed a case and has compared statistics in the Johns Hopkins Hospital where there have been ten patients of this kind out of 9400 cases, all recovered after the operation. The condition is one to which the attention of the profession has not been specially called. The question of operation is an important one. A solid ovarian tumor is usually benign; the cases in Dr. Kelly's clinic all uniformly recovered.

26. **Intestinal Obstruction.**—Packard reports a case and calls attention to the possibility of the hitherto undescribed condition of an intestinal loop acting as a plumber's trap, producing intestinal obstruction. Such loops might follow adhesions from any inflammatory condition and might remain symptomless until the weakening of the intestinal walls from some cause or other led to accumulation of the contents of the loop sufficient to cause obstruction. In such cases it is doubtful whether remedies tending to render fluid the contents of the intestinal canal are of advantage and he is inclined to think that even they may cause a formation of such a loop in the paretic bowel. The latter part of his article deals with the action of eserin as an intestinal stimulant, with the report of cases in which it was effective in meteorism, and reviews the literature of such action of the drug. In these cases he gave 1/50 of a grain of sulphate of eserin every third or fourth hour. Other authorities have had good and permanent results with it. Von Noorden uses the salicylate of eserin on account of its advantage of preservation in the dry state and it is soluble in water. He says it can be best given in powder with milk sugar.

27. **Insufficientia Pylori.**—This condition is one in which no appreciable quantity of chyme can be aspirated one hour or less after Ewald's test meal, and whatever is aspirated is coarse in appearance. This condition of little or no chyme has usually been interpreted as indicating compensatory hypertrophy of the muscular coat. It usually is due, according to Knapp, to chronic catarrh and the normal closure of the pylorus is due to irritation of the mucous membrane. In the condition here discussed the stomach has become insensitive and there is no irritation to close the orifice. It ends in atrophy of the mucosa and may give no symptoms of the disease. The main phenomena relating entirely to interference with normal function of the intestines are such as headache, vertigo, nausea, intestinal discomfort, constipation, diarrhea, eructation, etc. The treatment depends on the stage of the disease; we should see if there is no gastric digestion present and how readily the stomach empties itself. The drugs used must be calomel, to aid the intestinal digestion, the combination of sodium and magnesium, rhubarb, ammonium chlorid, pancreatin and bile in the form of inspissated oxgall. These are about all the drugs necessary. If the stomach is empty immediately after eating, the drugs can be taken at once, but if there is still some digestion in the stomach they should be timed accordingly. He gives the diet for these cases, forbids the use of coffee and tea, rich cocoa, carbonic acid waters, alcoholics, white meats, beans and peas unless their cellulose covers are removed, turnips, spices, tomatoes in every form, everything prepared with vinegar, grapes, peaches, plums, prunes. Of fruits very little should be taken, and they must be peeled. Milk must not be permitted *ad lib.* He believes in thorough mastication and if the teeth are bad the food should be ground up. Half teaspoonful doses of sulphate of sodium in a glassful of hot water, taken hot, about half an hour before each meal, will clean the stomach. In diarrhea there is but one drug he has learned to rely upon, strychnia, beginning with 1/30 of a grain and running up to even 1/7 three times a day. It causes diminution in the number of stools and increases the consistency. His usual prescription is one-half a teaspoonful of sodium sulphate in a glass of hot water half an hour before meals and the following after meals:

℞. Natr. bicarbonate
Magnes. ust., āā 30
Pancreatin 5

M. Ft. pulv. D. Sig.: Teaspoonful after meals as directed.

How long after meals it should be given must be guided by the result of the examination. He reports twelve cases, all females but one, but he does not venture to say anything in regard to the relative frequency in the two sexes.

28. **"Fourth Disease."**—Pleasants has had a number of cases under his care presenting symptoms suggesting "fourth disease" and analyzes the symptoms. He thinks that Dukes has not established the existence of any new exanthematous disease and that under his so-called "fourth disease" he has included cases of undoubted scarlet fever and probably cases also of rubella. In certain epidemics scarlet fever may present an atypical picture, with many of the classical symptoms absent, rendering a diagnosis difficult or impossible in isolated cases, and a satisfactory classification of exanthematous diseases is hardly to be hoped for until we know more of their etiology. In the meantime we should be slow in accepting new diseases.

29.—See abstract in The Journal, xxxvii, p. 851.

31. **The Roentgen Rays.**—The tissue changes caused by the Roentgen rays with the various grades of *x*-ray burns, are mentioned by Beck, who points out that the characteristic difference between them and ordinary burns is the incubation period in *x*-ray burns. The special point of his paper is the action of these rays in integumental and other malignant disease, which he claims is in the nature of a chronic inflammation. The nutrition of the superficial strata is disturbed, a cell starvation is produced, and if overirradiation is continued, necrosis may result. In this way we understand the curative effect in lupus, carcinoma and sarcoma, especially if they are confined to the integument. We should consider the use of this agency not only in the cure of disease, but in the after-treatment of surgically treated cases. The carcinoma cells, which are often left in the tissues and which can not be reached by the knife, may be the cause of further malignant growths. He remarks that even when cure can not be obtained the influence of the rays may be beneficial in influencing pain, etc., illustrating this fact by the report of cases where the adenosarcomatous growth had reappeared following removal, causing great

pain and extending deeply into the tissues. In such cases the hard tubes must be chosen, while in skin neoplasms soft tubes are preferable. His observations suggest to him the use of the *x*-ray as soon as possible after the removal of the neoplasms and kept up for a period of several weeks. It is advisable to expose for only five minutes at first and after a week for about ten. If after the third exposure two weeks after the first, no reaction follows, the application may be made two or three times daily and at last daily unless reaction shows. During the tentative exposures, the distance of the tube should be four inches, later on it may be one inch only. He has seen no harm from direct contact. He does not favor the use of a shield in neoplasms as the influence of the ray should be extended as far as possible. During the interval between the application xeroform salve (1 to 10 of lanolin) should be employed.

32. **Albuminuria.**—The new method described by Boston consists in using a pipette which he dips into the urine a short distance and closing the top with the finger extracts a small portion. He then washes the outside of the pipette off carefully with water and dries it and then inserts it in a bottle of nitric acid. Slight removal of the finger tends to allow the acid to float the urine up in the pipette, the usual reaction occurring at once at the junction of the two liquids. He believes that this method is better than the usual methods of employing Heller's test. The different reactions of serum albumin, mucin, globulin, urates, uric acid, indican, etc., are described as also other tests and reagents that are used.

33.—See abstract in THE JOURNAL, xxxvii, p. 1481.

34. **Tracheal Injection.**—Rockwell favors the use of the tracheal method of introducing medicines in bronchial and lung diseases, reporting cases where it appeared to be the most effective method. He asks why we should make the stomach the sole distributing point for remedies intended for all parts of the body when we have the right of way by a shorter route.

39. **Inflammatory Diseases of the Adnexa.**—Ehrenfest pleads for conservative treatment in these conditions and concludes that the conservative non-surgical treatment will give good results in almost all cases of acute or chronic non-suppurative inflammations of the uterine adnexa. In suppurative cases the non-operative treatment should be tried, unless symptoms make operation imperative. It gives usually comparatively good results among the well-to-do, but unsatisfactory ones among the patients of the working classes. If operation is decided on the radical operation will be the operation of choice and vaginal drainage the method of necessity. For radical operation the vaginal route should be always given preference.

46. **Protection of the Cornea.**—Gifford employs a method of covering the cornea in sightless stumps in certain cases where the corneal tissue remains and is likely to cause irritation, by the use of conjunctival flaps, the Thiersch flap, or an epithelial lip flap. In most cases where the conjunctiva is used the membrane is excised around the lower half of the cornea for an area about 3/16 of an inch wide at the sides, and 1/8 inch below. Above this zone the membrane is dissected free from the globe as far as the upper fornix, in the neighborhood of which a cross cut is made through the membrane to allow it to be slid down over the cornea without putting too much tension on it. Three sutures below are generally sufficient, but these should be put well into the episcleral tissue nearly as deeply as in the advancement of one of the straight muscles. Dissecting up the conjunctiva both above and below and sewing it together in a straight line across the center of the cornea has not been successful in his hands. If the conjunctiva is atrophic and the space for an artificial eye be too much limited by the operation just described, he uses the epithelial lip flap, a thin flap shaved from the lip with a razor, or the Thiersch flap, dissecting up the epithelium for 1/8 of an inch around the cornea and scraping the latter (taking special care in the neighborhood of the limbus), the flap is spread out carefully over the cornea and tucked under loose conjunctiva on all sides. It is well to bandage both eyes for twenty-four hours after these operations. He has used the Thiersch flap once, but the accumulation of deep epidermis on its surface caused some irritation and he then scraped the skin flap off and substituted a lip flap for it. He thinks, however, with certain precautions this method might succeed.

50. **Atroscin and I-Scopolamin.**—Macklin has investigated these drugs and gives in tabulated form the results with a 1 per cent. solution in castor oil. He finds these rapid and powerful mydriatics, and as cycloplegics they are as potent and reliable as atropin sulphate, while the power of accommodation returns in five days. The advantages of the oily solution are: 1. Only one application is required. 2. More rapid and certain action of the drug. The table shows that mydriasis begins in ten minutes and is complete in twenty. 2. Cycloplegia begins in ten minutes and is complete in about fifty (average). 3. The power of accommodation returns to normal in five days (with occasional slight variations). The drugs never fail to give him satisfactory results and he thinks that ought to always be used in preference to homatropin in school children and all other persons with active accommodation who can possibly afford the necessary five days' time.

76. **Human and Bovine Tuberculosis.**—Ravenel's article is a very important one containing numerous experimental observations and reporting several cases. He thinks that we can, in the absence of evidence otherwise, assume that bovine tuberculosis is virulent to the human species and rather believes that we ought not to entirely exclude bovine infection even in those cases where the abdominal organs yield a culture of feeble virulence, as we know nothing about the effect produced on the bovine bacillus by prolonged residence in the human body. It is at least possible, he holds, for it to become radically changed in the human body so that it will show the cultural and pathologic peculiarities of the human type. His conclusion is that the human and bovine tuberculosis are slightly different manifestations of the same disease, and that they are intercommunicable. Bovine tuberculosis is therefore a menace to public health, to what extent is impossible to determine, but its existence cannot be denied. In the past the tendency has been to exaggerate, but this does not justify us in belittling the risk, and it is folly to blind ourselves to it.

86. **Cystoscopy.**—Schmidt first notes the popularity of the cystoscope at the present time, and then points out what he thinks are some of the fallacies or errors that are likely to be met in its use. We should never be satisfied with the results of trigonum examination unless all the views taken from the different positions of the cystoscopic beak are uniform in their general features. It is not uncommon that a portion of the free plane of the prism is covered by a fold of the urethral mucosa, and the whole field of view is covered with a reddish tinge, giving the idea of inflammation which does not exist. Another thing that leads to error is the fact that the ureteral openings lie in different cases at entirely different distances from the urethral orifice, and they are often overlooked because they are almost hidden in the folds, and the cystoscope is pushed far into the viscus in the search for the ureteral openings, while the prism has already passed them. In cases of inflammation or edema it may be very difficult to find the openings and damage may be done to the patient by poking around and because the cystoscope fails to detect the opening. If there is any doubt as to whether one of the probable ureteral openings or niches is in fact the ureteral entrance, the finger may be introduced either into the vagina in the female or the rectum in the male, and this finger presses the doubtful area toward the cystoscopic window, exposing the bottom of the niche to make possible the decision whether in its depth the ureteral opening is to be found or not. In case the niche can not be observed there is nothing to do but to watch carefully the symmetric area or the place where it ought to be in relation to the other ureter and watch for the flow of urine. This can be facilitated by giving the patient methylene blue some time before the examination. There are also other sources of error in the examination of the internal urethral orifice. The parts are seen when they are very close to the cystoscopic window and are magnified and there are, moreover, changes in the formation and appearances by the introduction of rigid straight instruments of considerable size. Often either

hypertrophied or edematous folds of the internal urethral orifice have imposed upon the observer as tumors or polypi. They are, however, usually multiple and not transparent like polypus. The use of the cystoscope as a preliminary to the Bottini operation is an important matter and he calls attention to the dangers. We should notice the following points to make sure that the barrier belongs to the bladder and can be safely operated on. The protrusion and elevation into the viscus must appear as covered with bladder mucosa and not with the urethral mucosa. The bas fond behind the barrier must be a deep one. If the ureteral orifices can not be seen, there is always cause for suspicion that the tumor was pushed into the bladder. Frequently a mistake is made in the diagnosis of a trabeculated bladder, caused by contraction due to the touch of the beak or heat of the lamp and the trabeculated bladder should be diagnosed only when the trabeculation is a uniform one, all over the fundus and vertex, and when examination of the different parts proves that the protrusion of muscular bundles is a constant one. Edema bullosum is a condition which leads to erroneous diagnosis and tumors which are covered with incrustrations are sometimes taken for calculi; pedunculated tumors, which cover their pedicle, may be considered malignant on account of their broad base. Varicosed nodules occasionally present themselves as tumors. He specially calls attention to the diagnosis of cystoscopic burns as idiopathic ulcers. They, however, heal up in ten or fourteen days, which is never the case with actual ulcers.

88. **Transverse Arrest of the Head.**—Reed summarizes as follows: Deep transverse arrest of the head is a relatively common complication in labor. The diagnosis is easily made from the position of the sagittal suture and the fontanelles. The normal termination of the case can not be awaited in most instances, but forceps should be applied as soon as it is evident that rotation will not occur spontaneously. The blades should be applied in that pelvic oblique diameter toward which the occiput lies. Location of the occiput must be determined before the blades are applied. Traction and rotation must be simultaneous.

98. **Acetozone.**—This substance, benzoyl-acetyl-peroxid, which is also called benzozone, is found a most efficient antiseptic by Wasdin, who says we may conclude: 1. That the peroxid is sufficiently germicidal under conditions favoring its hydrolyzation. 2. That it is innocuous to man and animals, being readily secreted through the kidneys as hippuric acid. 3. That in the treatment of typhoid fever and other bacillary diseases it is directly applicable to destroy the primary colony, provided it can be brought into contact with it. 4. That its special application in typhoid fever enables us to obviate intestinal infection and absorptive toxemia therefrom, thus favoring the formation of protective anti-bodies and limiting, in many cases, the disease to its normal cycle. 5. That in those cases of inefficient reaction in typhoid fever its use tends to make the patient much less uncomfortable, thereby offering better results from appropriate serum therapy.

99. **Purulent Ophthalmia.**—Hansell employs a solution of permanganate of potassium in the treatment of purulent ophthalmia and notices the details. He does not make this solution stronger than 1:600, but employs it in this strength in those severe cases in which the discharge is thick, yellowish and abundant, and the gonococci are abundant, irrigating the eye by means of a nozzle attached to a rubber douche bag, guiding the solution into all portions of the conjunctival sac, and allowing it to discharge over the face on a rubber sheet and then into a receptacle. He repeats this every twenty minutes during the first twenty-four hours, when, if the discharge is lessened, the strength is reduced and the intervals increased. It should be done with a gradually weakened solution up to 1:2000 as long as pus is found in the conjunctiva. He thinks other remedies he has employed, boric acid, bichlorid, formalin, etc., are inferior as germicides or as curative agents to the permanganate.

100. **Sciatic Neuritis.**—Mettler maintains that sciatica is always a neuritis, and that there is no such thing as purely functional neuralgia in these cases. Counter-irritation, even to actual cauterization, the use of vasomotor sedatives internally, cathartics, diuretics and diaphoretics are the chief measures to be depended on in the subacute and acute stages. Analgesics, narcotics and sensory depressants produce less permanent results in sciatica than they do in other forms of neuralgia, doubtless because they do not affect the organic changes underlying the trouble. Absolute and general rest even to the point of strapping the limbs if necessary is the sine qua non of the acute stage. He uses salicylates and colchicum. Nerve-stretching may possibly do some good by breaking up old adhesions and restoring the circulation. In the chronic stage he prefers the subcutaneous use of strychnia in dose of 1/70 to 1/20 of a grain twice daily. Massage, baths and the steady use of mild currents of electricity should be also employed.

103. **Tuberculin.**—Von Ruck defends the use of tuberculin as a diagnostic agent and claims that if properly used it is not dangerous. As a therapeutic measure, he also advocates it and claims that the very best results have been obtained. Those who have failed should consider that the successful employment of tuberculin, both as a diagnostic and therapeutic agent, implies something more than the routine of giving hypodermic injections and if they give the same amount of study to this as they do to other subjects in medicine they would find in it a most favorable adjuvant in the diagnosis and treatment of tuberculosis.

113. **Rectal Valves.**—Martin defends his assertions as to the existence of rectal valves, describes their anatomy and function and their action in producing constipation when they are abnormal. Hypertrophy of the rectal valves should be recognized as the initial step in the formation of stricture. The treatment of valvular obstipation consists in instrumental massage of the obstruction by means of cotton-covered forceps through the proctoscope and spraying the intestinal tract with a solution of nitrate of silver and rectal irrigation by means of saline solutions in a temperature of from 120 to 140. In such cases the anus should be protected by the proctoscope and the patient be cautioned not to lie on his back or to ride in a carriage or on a street car, which would tend to the congestion of the parts.

125. **High Temperature.**—The title of this article explains it, but the details are interesting. The patient appeared to have been somewhat hysterical; the thermometer ranged from 114 to 94 at different periods. The observation was made by a number of physicians in the Maine Eye and Ear Infirmary. The patient was a young woman 21 years of age in whom there was no special disturbance or general symptoms to account for the abnormal temperature. After the operations the temperature remained normal for some time and, therefore, they can hardly be held responsible in their immediate effects. There was certainly some disturbance of the heat-controlling centers, but how is a mystery. The impression of those observing her was that she was hysterical and this only can be given to account for the condition observed.

145. **The Suprarenal Gland.**—A new use of the suprarenal gland here suggested by Meara is the application of a strong preparation to the mucous membrane in pruritus vulvi and ani. He reports cases in which the treatment was a great success.

165. **Dislocation of the Astragalus.**—After reporting a case, as indicated in the title, Jepson says that his own experience and the results of recorded cases lead him to believe that it would be rarely possible with our present knowledge and technic to bring about a reduction of a backward dislocation of the astragalus without opening the joint and bringing about a reposition of the bone by direct manipulation. With our present command of aseptic surgery he sees no reason why this should not be undertaken in all cases uncomplicated by severe infection with good prospects of securing a nearly perfect result. Removal of the astragalus may be reserved for such cases where the bone is completely separated from its ligamentous attachments, consequently having no adequate source of blood-supply. Amputation should be resorted to only in such cases where the dislocation is compound and infected to a degree impossible

of removal, and the patient's life jeopardized by the septic intoxication or infection.

174. **Tetanus.**—In the case described by Higginson, antitoxin and carbolic acid treatment both failed and he started to use creosote in large doses. Twenty minims of beechwood creosote (Merck) was administered in a dram of olive oil, hypodermically, morning and evening, still using chloral and morphin. Benefit was observed in a short time and the treatment was continued for twenty days, diminishing the dose of creosote daily. The patient was then able to stand up, but some rigidity persisted, but after a rather slow convalescence the patient was entirely well and regained his flesh and strength in three months. In no case did the creosote produce any untoward symptoms and at no time during its administration was the urine rendered dark or smoky.

178. **Trachoma.**—The only proper treatment for trachoma in Bulson's opinion is the surgical one and he has found a modification of Knapp's operation, consisting in thoroughly scarifying the larger and thicker masses of trachomatous tissue and then applying the roller forceps, most useful. The scarifying renders it easier to express the follicles without excessive mangling of tissue and possible unnecessary destruction of conjunctiva through the forcible pressure exerted. Following the roller treatment the brushing treatment with 1 to 500 bichlorid solution may be employed, but with less vigor than advocated by Fox and others in the performance of the regular grattage operation. Of course, operative treatment is not applicable to the acute inflammatory type of the disease nor to the exacerbations of the chronic stage which should be treated only with cold applications and antiseptics. In all cases the operation should be supplemented by medicinal applications and rigid attendance to hygiene. The sequelæ of trachoma are also mentioned and he thinks that in entropion the Hotz operation is really the best. Of course, any treatment applies only to cases that have not gone too far and produced structural alteration beyond the possibility of securing absorption in the corneal infiltrates which obscure vision.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), May 17.

1 *A Clinical Lecture on Dysmenorrhea. G. Ernest Herman.
2 *The Problem of the Premature Infant. J. W. Ballantyne.
3 *An Analysis of Forty-six Cases of Cancer of the Breast Which Have Been Operated upon and Survived the Operation from 5 to 32 Years. Thomas Bryant.
4 *A Note on the Operation for Removal of Malignant Disease of the Breast. Douglas Drew.
5 Case of Vesico-vaginal Fistula Cured by a Method Believed to Be New. Frederick J. McCann.
6 A Case of Premature Senility of the Uterus. Augustus W. Addinsell.
7 Case of Inversion of the Uterus. Cecil G. Hoysted.

The Lancet (London), May 17.

8 *The Nature of Discharges and Douches. Wyatt Wingrave.
9 Septic Polyarteritis. G. A. Wright.
10 The Diagnosis of Malaria from the Standpoint of the Practitioner in England. Patrick Manson.
11 *Remarks on the Subsequent History of Children Born Whilst the Mother Was Insane. A. F. Tredgold.
12 Liquid Air as a Freezing Medium in the Laboratory. W. H. B. Stoddart.
13 *Some of the Surgical Aspects of Glycosuria and Diabetes. (Continued.) Llewellyn C. P. Phillips.
14 Some Notes from an Inquiry into the Action of Dinitro-benzene upon the Urine of Man, and Experiments Proving the Innocuousness of Dinitro-toluene upon Animals. R. Prosser White, John Hay and W. J. Orsman.

The Practitioner (London), May.

15 *Observations on the Clinical Course of Pulmonary Tuberculosis as Affected by Modern Methods of Treatment. R. W. Philip.
16 Acute Anterior Poliomyelitis: Infantile Paralysis and Acute Atrophic Paralysis of the Adult. R. T. Williamson.
17 A Case of Removal of the Gasserian Ganglion by Doyen's Method (Modified). William Rose.

Annales Med.-Chir. de Liege, January and February.

18 *Childbirth in Deformed Pelvis. Heuze.—De l'accouchement dans le bassin plat rachitique de 9.5 à 8.5 cm.
19 Nursing Consultations. H. Lambinon.—Consultation des nourissons à la Maternité de Liège.
20 Traitement de l'hypertrophie de la prostate par l'opération de Bottini. Renard-Dethy.

Presse Medicale (Paris), May 3 to 14.

21 (No. 36.) *Les complications orbito-oculaires des sinusites. F. de Lapersonne.
22 Corpuscles vaccinaux de Guarnieri. R. Romme.
23 (No. 37.) *Traitement des anévrismes de la crosse de l'aorte. A. Guinard.
24 (No. 38.) Purpura métamérique. H. Roger.
25 Traitement des sténoses fibreuses du larynx. Collinet.
26 Traitement des maladies de la peau. La méthode aseptique. L. V. Leredde.
27 (No. 39.) La mélancolie intermittente. G. Ballet.
28 *Les indications thérap. dans le tic douloureux de la face. Chipault and A. F. Pilcque.

Revue de Chirurgie (Paris), May.

29 *Les monstres doubles autositaires, opérés et opérables. Marcel Baudouin (Paris).
30 *La solution salée sodique en chirurgie. E. Tavel (Berne).
31 *Sur un nouveau procédé opératoire des hemorroides. J. Potarca (Crajova, Roumania).

Semaine Medicale (Paris), May 7 and 14.

32 De la sténose hypertrophique du pylore (lutte plastique à localisation pylorique; maladie fibroide du pylore; gastrite hypertrophique sténosante). Oettinger (Paris).
33 Are the Anopheles the Only Agents of the Transmission of Malaria? G. M. de Francesco (Monteleone di Calabria).—Les anophèles sont-ils les agents uniques et indispensables de la transmission du paludisme?

Deutsche Med. Wochenschrift (Leipsic), May 8.

34 Die Entwickelung und die Aufgaben der orthopädischen Chirurgie. A. Hoffa (Berlin).
35 *Acute Atrophy of the Bones After Inflammations and Traumatisms of the Extremities. O. Sudeck (Hamburg).—Ueber die akute (trophoneurotische) Knochenatrophie nach Entzündungen und Traumen der Extremitäten.
36 *Die abortive Behandlung des Furunkels (Karbunkels) mit Hilfe subkutaner Desinfektion. A. Bidder (Berlin).
37 The Speech of Persons Deaf or Hard of Hearing. H. Gutzmann.—Ueber die Sprache der Schwerhörigen und Ertaubten.
38 Fall von conservativer Behandlung diabetischer Gangrän. Hartmann (Cassel).
39 *Cancer Research.—Comité für Krebsforschung.

Klin.-Therap. Wochenschrift (Vienna), April 13 to May 11.

40 (Nos. 16 and 17.) Die Musik als Heilmittel. A. Bruck.
41 *Practical Application of Hemolysis in Therapeutics. Von Niessen (Wiesbaden).—Beitrag zur Beurtheilung der Haemolyse.
42 *Advantages of Artificial Mineral Waters. W. Jaworski (Cracow).—Ueber rationelle Zusammensetzung und ther. Verwendung der Mineralheilwässer und der Heilbäder für Sommercuren.
43 (Nos. 18 and 19.) Behandlung der Lungentuberkulose durch Bakterien, deren Producte und Serotherapie. A. v. Weismayr (Alland).

Monatshefte f. Prakt. Derm. (Hamburg), February 1 to May 1.

44 (No. 3.) *Ueber die Aetiologie und Prophylaxe der merkuriellen Stomatitis und Proktitis. M. Bockhart (Wiesbaden).
45 Tar Vasogen. J. A. Goldmann (Vienna).—Die therapeutische Verwendung des "Teervasogen."
46 (No. 4.) *Stypticin als lokales Haemostaticum. R. Kaufmann (Frankfurt a. M.).
47 *Treatment of Leukoplakia Bucco-lingualis. M. Bockhart (Wiesbaden).
48 (No. 5.) Beitraege zur Kenntniss der Urticaria pigmentosa. L. Blumer (Zurich).
49 *Action of Alkaline Iodids on Patients Deprived of Salt. J. Sellei (Budapest).—Die Wirkung der Jodalkalien bei chlorfreier Diät.
50 *Die Massage der Urethra. Berger (Berlin).
51 (No. 6.) Fall von Acanthosis nigricans. P. A. Pawlof (Moscow).
52 Almkvist's Plasma Cells. P. G. Unna (Hamburg).—Die Alkvist'schen Plasmazellen.
53 (No. 7.) Spontaneous and Cicatricial Keloid. C. Berliner (Aix).—Ueber spont. und Narbenkeloide.
54 Treatment of Gonorrhea. P. Taenzer (Bremen).—Zur Behandlung der Blenorrhoe.
55 (No. 8.) New Research on the Staining of Collagen. P. G. Unna.—Neue Untersuchungen ueber Kollagenfärbung.
56 Ueber Pruritus localis nach internem Arsenikgebrauch. E. Doctor (Frankfurt a. M.).
57 (No. 9.) Fat Secreting Glands in the Mouth. Colombini (Sassari).—Ueber einige fettsecernierende Drüsen der Mundschleimhaut des Menschen.
58 Remarks on the Current Receipts for Stains. P. G. Unna.—Einiges ueber unsere Färberezepte.

Muenchener Med. Wochenschrift, May 6.

59 *Spinal Analgesia and the Distribution of the Sensibility According to Segments of the Spinal Cord. F. Neugebauer.—Rückenmarksanalgesie und die Vertheilung der Sensibilität nach Markssegmenten.
60 *Fall von Lungenembolie bei Placenta previa. J. Volgt (Dresden).
61 *Senile Angiomata of the Skin. J. Raff (Augsburg).—Zur Kenntniss der senilen Angiome der Haut.
62 Fall von Perforationsperitonitis geheilt durch Laparotomie. Federschmidt.
63 *Study of 400 Cases of Hay Fever. A. Thost (Hamburg).—Ueber das Heufieber. (Concluded from No. 17.)
64 *Behavior of White Corpuscles in Surgical Affections. M. Wassermann.—Ueber das Verhalten der weissen Blutkörperchen bei einigen chir. Erkrankungen, insb. bei Appendicitis. (Concluded from No. 17.)

Wiener Klin. Wochenschrift, April 24 to May 15.

65 (No. 17.) Zur Frage der Arsenik-Dermatosen. Rille (Innsbruck).

66 *Treatment of Venereal Ulcer with Cold. A. Brandweiner (Vienna).—Behandlung des venerischen Geschwüres mit Kälte.
67 Animalische Effecte der Electricität. S. Jellinek. (Concluded from No. 16.)
68 (No. 18.) *Pathology of the Metabolism. E. Freund (Vienna).—Leistungen und Bestrebungen in der Stoffwechsel-Pathologie. (Concluded in No. 19.)
69 Influence of Condiments on Gastric Functions. V. Korczynski (Cracow).—Ueber den Einfluss der Gewürze auf die sec. und mot. Thätigkeit des Magens.
70 Bisherige Erfahrungen ueber Trachombehandlung mit Cuprocitrol nebst einigen Bemerkung ueber Itrol Credé. V. Arlt (Graz).
71 *Tests of Antiseptics for the Urine. O. Sachs.—Experimentelle Untersuchungen ueber Harnantiseptica. (Concluded from No. 17.)
72 (No. 19.) Ileocecal Valve. O. Kraus (Carisbad).—Zur Anatomie der Ileocöcalklappe.
73 Ueber die Insufficienz der Valvula ileocoecalis. H. Weiss (Vienna). (Concluded in No. 20.)
74 (No. 20.) Zur Histogenese der sog. Krukenberg'schen Ovarialtumoren. G. A. Wagner (Vienna).
75 Myoma teleangiectodes uteri mit reinen Myommetastasen in der Leber und den Lungen. F. Schlagenhaufter.
76 Ueber die Agglutinationskraft und den Bacterienbefund in Föten typhuskranker Mütter. L. Jehle (Vienna).

Giornale Accad. di Med. (Turin), February.

77 *Sopra una Nuova Specie d'Immunita. T. Carbone (Modena).
78 Della tensione superficiale nei liquidi sierosi dell' organismo. E. Buffa.
79 *Alterazioni della Sensibilita cutanea nelle Lesioni Viscerali. E. Tedeschi.
80 Influenza della Eucaina-B sugli Organi gustativi. A. Fontana.

St. Petersburger Med. Wochenschrift, March 30 to May 3.

81 (No. 11.) *Ueber die Diazo-Reaction. M. Johnson.
82 (No. 12.) Die tuberkulöse Spondylitis und die Ausgleichung des Pottschen Buckels. J. Finck (Kharkov).
83 (No. 14.) Delirium Tremens from Abuse of Paraldehyd. A. Behr (Riga).—Beitrag zur Casuistik der Paraldehydelirien und Bemerkungen ueber die Trunksucht der Frauen besserer Stände.
84 (No. 15.) *Zur Prophylaxe des septischen Scharlachs. W. Sohn.
85 Die neuesten Forschungen ueber die Pseudo-Tuberkelbacillen. S. Unterberger.

Cronica Medica (Lima), January to March 31.

86 (No. 316.) La mortalidad por fiebre tifoidea en Lima.
87 (No. 317.) Un caso de raqui-quiniinizacion. E. E. Escomel.

Gaceta Medica (Mexico), February to April.

88 (Nos. 7 and 8.) *Demostracion de la existencia la fiebre tifoidea en Mexico (Capital). A. Gavino.

Revista Centro Med. de Cordoba (Argentina), ii, 6 and 7.

89 *El suero antidifterico en la fiebre tifoidea. B. J. Yanez.
90 *Hot Air in Treatment of Nasal Hydrorrhea. I. Garaizabal.—Tratamiento de la hidrorrhea nasal por el aire caliente.

Revista Medica de Bogota, xxiii, 258.

91 *Profilaxis de la fiebre tifoidea. J. Barrencche.
92 Raquicocainizacion. G. Gomez.

Semana Medica (Buenos Ayres), February 27 to April 10.

93 (No. 9.) *Discusion de las teorias sobre las causas del ozena. R. Razquin.
94 *La atrofia general infantil y las inyecciones de suero artificial. A. M. Vargas.
95 (No. 11.) Tuberculosis of Cecum. M. L. Sanguinetti.—Sintomatologia, diagnostico y pronostico de la tuberculosis del ciego.
96 (No. 12.) *Serum Treatment of Malignant Anthrax. W. E. Escudero.—Tres casos de carbunclo tratados por el suero Mendez.

---

1. **Dysmenorrhea.**—There are two causes of pain in menstruation, in one case it is due to the physiologic congestion of the organs preceding the discharge, in the other to the contraction of the uterus. The former is the discomfort commonly felt by the majority of women. There is one special morbid condition which produces abnormal congestion. If the uterus is bent back and the utero-sacral ligaments are well marked and firm, the veins which return the blood from the corpus will be pressed on and the return of blood be hindered, producing pain both at menstruation and at other times as well. In some cases the pain is referred to the ovaries, but ovarian menstruation has been used as a name, not as an explanation of the case. The severity of the pain depends not only on the local cause but upon the imagination and sensitiveness of the patient. A correct account of these feelings is not always given. The contraction pains are little felt in most women, but in a few they are painful. Actual obstruction is caused rarely from obstruction in the canal. Sometimes the endometrium, instead of breaking down, is shed in large pieces; this may cause obstruction. This special menstruation disorder is rather common, according to Herman. Antiflexion he does not believe is often the cause of pain and stricture of the os externum is never seen except in diagrams. There is little evidence in his mind as to the incomplete development of the uterus being the cause of dysmenorrhea. In most of these spasmodic cases the function commences at the usual age and it has been in his experience quite exceptional to find the uterus comparatively smaller than it ought to be in spasmodic dysmenorrhea. In some of the worst cases there is neither narrowing of the canal nor the passage of membrane. The disorder usually begins before twenty-five years of age, but may begin later. With our present means of investigation there must be a certain amount of unavoidable error in the diagnosis of dysmenorrhea attacks. We have no means of definitely determining the character of the pain or even its presence. The pain of spasmodic dysmenorrhea is short and remittent, not relieved by lying down and has no tendency to a spontaneous cure. Its natural cure is by pregnancy. It is often, however, accompanied by sterility, which may be cured by dilatation. In about one-third of his patients who were married and sterile the cure was followed by pregnancy. The best drugs for the relief of uterine colic are antipyrin and phenacetin. They are adequate in slight cases and their occasional use is not harmful. In some very bad cases powerful narcotics have to be used, but this is a bad plan. In a few cases he has found guaiacum removes the pain. He does not know how it acts nor how to pick out the cases that it will cure. The local treatment is to dilate the cervix. It is not invariably effective, even pregnancy does not always produce a cure, and if all treatment fails the removal of the ovaries may be required. This, however, should be avoided as long as possible, especially in young women, to whom the effects should be fully explained, Herman says, through some near female friend or relative in whom she has confidence.

2. **Premature Infants.**—Ballantyne describes the conditions of the unborn child, and especially the child born shortly before term. The premature infant is a fetus without one of its most important organs, the placenta; it also lacks the liquor amnii and membranes, which together go to make up the fetal annexa until the proper time for birth. Physiologically it is partly a fetus and partly a newborn child. We see fetal physiology trying to cope with neonatal conditions; the neonatal physiology hindered in its action by the persistent fetal conditions. First, the matter of temperature. The fetus is not required to manufacture heat in order to maintain its body temperature; the newborn infant is, and usually succeeds, but the premature infant is usually called upon to do so, and has only the tissue metabolism of fetal life slightly reinforced by that of an imperfectly established pulmonary respiration to aid him. His liver, moreover, which has been engaged in supplying the blood, is called upon to form bile, and to continue to form blood. The blood itself contains more nucleated xanthocytes than the full-term fetus and the jaundice of the newborn, which has been ascribed to breaking down of the xanthocytes, is very common in the prematurely born infant and the most active area, the placental, is cut off and the heart is called upon to send a specially large supply to the lungs, which it can not fully succeed in doing. There are also more exacting demands upon the new function of digestion. All the physiologic activity of the placenta, which has been in full play in its supplying chemical nutrition, is destroyed and its action of keeping out the invasion of toxins and bacilli is lost. The premature infant in its pathology is midway between the fetus and the newborn child and the closure of the umbilical arteries and veins is apt to be incomplete, and offers an avenue for infection and the ordinary routes of infection are also especially vulnerable. On the whole, he offers less resistance to the pathogenic organisms than the full-grown fetus. In managing the prematurely born infant we must try to continue the fetal phase of life after birth occurs; hence, try to keep up animal heat by the incubator, aid the lungs as far as possible by some method of exciting respiration—in this, Ballantyne prefers the alternating flexion and extension of the trunk of the child as it lies in the palm of the obstetrician's hand, having been first

carefully wrapped in cotton wool. Its food requires certain modifications. Human milk is lacking in iron, and he thinks it well to add iron to the food of the prematurely born child, and he has employed it in the form of liquor ferri peptonatus, though he can not say as yet as to any pronounced results from his experiments. If human milk is not available the prognosis is much more serious. It is well to keep the child in the dark as light may stimulate the eye muscles to act and lead to strabismus. With every care the child will often fail to survive. The problem of the premature infant, he says, is urgent.

3. **Mammary Cancer.**—The title of Bryant's paper explains the subject and he finds that the interval which may take place between the primary amputation of the breast for cancer and its occurrence in the scar or the second breast when such occurs is most uncertain. While in one-half the cases tabulated recurrence took place in 5 years or less, in the other half the interval was from 6 to 32 years, and at least in two-thirds of the cases occurred after ten years. Even when two or three operations were undertaken, the prospects of life were not bad. In 14 cases there was recurrence about the scar of the original operation, in the scar of the axilla in 1; in the sternum in 3 cases and in the second breast in 10 cases and in 5 of these the scar of the first operation was likewise involved. He suggests that the surgeons who advocate the clearing out from the axilla of all lymphoid tissue in every case should consider this fact. In only one of the cases he describes was the axilla cleaned out; this is not his custom and these results would not suggest a change of the operation. He thinks that the results of operation would be much better than they are now if they could always be undertaken during the early periods of the disease, as shown by the majority of his cases; that every breast tumor, neither clearly inflammatory nor encapsulated, which seems to involve the gland tissue and may therefore be cancerous, should be at once explored and removed, if found to be cancerous, with the whole gland and then cancerous growths when localized should be similarly treated. In advanced and neglected cases, the more thorough operations of Banks, Halsted, Gould and others may be used, and in cases of recurrence not favorable for operation, unless the removal of the ovaries should be found to be successful in the future, the *x*-ray should be employed.

4. **Mammary Cancer.**—Drew has been in the practice of removing the pectoralis minor in his operation for mammary growths and has found that it produces very little trouble in the after-condition of the patient. He thinks in most cases where this has been left the nerve supply has been cut off and the results are practically the same.

8. **Discharges and Douches.**—The douche or irrigant should have for its object the mechanical removal of morbid secretions, accumulations and foreign bodies or it may be used for antiseptic purposes or for the diagnosis. To be satisfactory in any of these it must conform to certain requirements: 1. It should be solvent of substances to be removed when practicable. 2. The reagent should be itself readily soluble in water and form a clear solution. 3. It should be non-irritating to the mucous membranes and sensitive surfaces. 4. To insure thoroughness it should possess the power of penetrating the surface tissues. 5. It should be miscible—chemically compatible—with the most effective antiseptics. 6. It should be economical in cost and reliably available. The most important of these essentials is the power to dissolve the discharge. It is well to know the character of the discharge, such as catarrhal discharges consisting mainly of the alkaline solution of mucin with globulin and serum albumin. Mucin is readily soluble in a weak solution of alkaline salts, but insoluble in acid, while cells and the serous globulins are soluble in weak solutions of neutral salts. Serous discharges rarely call for special removal except when localized. The pus varies considerably according to its production and its age. Usually it is soluble in a weak solution of neutral or alkaline salts respectively. Cerumen also varies. It is ordinarily soluble in alkaline salts, but it may be so hardened that softening by means of a strong alkaline solution, preferably in glycerin, is often expedient as a preliminary to the douche. Plastic exudation consists chiefly of filamentous fibrin entangling leucocytes, is very difficult of solution and rarely admits of more than a softening process by the neutral and alkaline salts. The same applies to blood clot. Wingrave gives a tabulated statement of the solvents and precipitants, and points out that many of the salts familiarly used, such as mercurial salts, phenol, boric acid, etc., are not solvents, but actually coagulants in soluble compounds. The best solution apparently seems to be the sulphate of sodium which has the power of mixing well with and diluting most substances and penetrating the tissues. Calcium chlorid, though not so good, is valuable as a hemostatic douche. Borax (sodium biborate) has the advantage of possessing some antiseptic properties. The strength of these solutions should be varied, not over .5 to 1 per cent. The salts of zinc are largely astringent and should be only used as such. Carbolic acid should be mixed with a solution of sodium sulphate or carbonate to make it more efficient. Peroxid of hydrogen has the great disadvantage of causing rapid effervescence when mixed with pus, and this is extremely awkward. The best disinfectants for douches are precipitants of proteids, and these are such as carbolic acid and biniodid of mercury, potassium permanganate, and so on. When mixed with sodium sulphate they are very good. He gives a list of formulæ and instructions for the employment of the douche and protests against the old-fashioned syringe, which is an infection-bearing and dangerous instrument. He illustrates his own instruments. No apparatus is satisfactory in which the same aperture suffices for filling and emptying.

11. **Children of Insane Mothers.**—Tredgold has analyzed 38 cases of children born from mothers while they were insane, 13 of these are living, 25 are dead. Twenty-two out of the 25 died before the completion of the first year. Of the 13 living, 10 are normal, 3 of these cases present evidence of morbid heredity. The conclusion which he thinks can be drawn is that the mental and physical condition of the child is in no wise interfered with by the mother's being insane during pregnancy. Neither is the condition of the child influenced by the variety of the insanity, the duration of the attack or the age of the mother, nor directly by the number of attacks from which the mother may have suffered, but its condition is directly dependent upon the presence or absence of morbid hereditary influences.

13. **The Surgery of Glycosuria.**—This article is concluded in this issue and it appears from Phillips' studies that most of the principal major operations have been performed with a large amount of success. The operations of expediency were singularly successful. The percentage of sugar in the urine is no criterion as fatal results have followed from coma where no sugar had been present for some time. We must take into account with the lowered vitality produced by the circulation of the abnormal amount of sugar, the presence of arteriosclerosis and nerve degeneration, especially as regards the occurrence of sepsis. As regards coma he thinks that general anesthesia is attended with some risk, though not every case of coma is necessarily diabetic. Thorough examination of the urine should be made in all cases, not only as to the amount of sugar, but the presence or absence of acetone or acid bodies, etc.; the amount of ammonia must always be estimated. 1. No operation save of the extremest urgency is to be performed if there is over one gram of ammonia excreted in the twenty-four hours, until this has been reduced to the normal amount. 2. An operation should be postponed if there be aceto-acetic acid in the urine, though the ammonia be not markedly increased. 3. Much albumin in the urine is a bar to operation. 4. If serious disease of other organs, such as the liver, be present an operation should be avoided. 5. Rapid wasting in a stout diabetic not obviously dependent on the surgical lesion demanding treatment should be a reason for postponing an operation until the general condition is improved. An operation should be performed: 1, for malignant disease, if, apart from diabetes, such would be urged; 2, in the case of large abdominal tumors, especially in females. 3. In diabetics of good health without extensive arterial or nerve degeneration cosmetic operations may be performed, especially in females. 4.

An emergency operation is to be undertaken even in the most unfavorable circumstances, but a very guarded prognosis is to be given. Save in the last category, if any of the indications against operation be present the operation should be postponed until they are ameliorated. In all cases in which delay does not mean loss of the patient a careful diet should be adopted and drug treatment is necessary. If ammonia be present in excess sodium bicarbonate should be administered daily until the percentage becomes normal. The actual amount required may be as much as 30 or 40 grains per day. If it should make the patient vomit it should be given per rectum. This treatment lessens the risk of sepsis and coma. Local anesthesia is preferable to general, if possible, and if general anesthesia is employed ether may possibly be safer than chloroform. In any case sodium carbonate is to be administered for a few days before and after, and the increased vulnerability of the tissues should be kept in mind, and strong antiseptics should be avoided. The patient should not be considered cured until the wound is entirely healed. In operations on the urogenitals where internal antisepsis is difficult to maintain an internal antiseptic such as urotropin should be administered.

15. **Pulmonary Tuberculosis.**—Philip lays down the following points as regards certain features of the course of pulmonary tuberculosis; the history of the case, when placed on open-air lines, shows a remarkably rapid return of temperature to the normal. In a certain percentage of cases the fall of temperature to normal does not occur so rapidly, but the ultimate return is frequent enough, if proper treatment be maintained throughout, though it may be delayed for several months. The temperature may remain almost continuously normal even when abundant evidence of moisture is present, and other signs suggestive of the existence of considerable disease in a state far from latent. This he thinks is important, but not sufficiently recognized. A low temperature must not be accepted as an expression of the quiescent or chronic stage. When the temperature is disturbed, either continuously or recurrently, such disturbance should not be attributed vaguely to tuberculosis. A definite superadded cause of disturbance should be sought and may commonly be found. It is the height of folly to attribute pyretic disturbance occurring in the course of pulmonary tuberculosis vaguely to the tuberculous disease. Tuberculosis per se plays a minor part in the production of pyrexia and the search for the cause should be thorough.

18. **Childbirth in Deformed Pelvis.**—Heuze reports 23 cases of flat rachitic pelvis between 8.5 and 9.5 cm. in diameter. Only 3 of the 8 patients with pelvis less than 9 cm. bore living children. Version was applied in 12 and only 5 of the children lived, while all were viable when the forceps had been used, with one exception. He concludes that the use of the forceps is no more dangerous for the mother than version, while it is very much less serious for the child.

21. **Orbito-Ocular Complications of Sinusitis.**—Lapersonne is inclined to agree with Luc that all the sinuses are affected simultaneously in a certain number of cases of sinusitis, if not in all, and it is of the utmost importance to examine all the cavities when one is involved. This applies with especial force to the maxillary sinus whose symptoms are apt to mask those of the other sinuses. The anatomic arrangement of the parts explains the frequent coincidence of inflammation of the posterior sinus in case of inflammation of the recesses of the antrum of Highmore, even when there is no fronto-ethmoid suppuration. Some writers classify sinusitis as the fetid variety, due to infection by anaërobics from the teeth, and the non-fetid, due to the ordinary germs entering from the nasal passages. General infection may result from a sinusitis; even broncho-pneumonia has been traced to it in some instances, but orbito-ocular complications can be explained by direct propagation of the process or invasion of germs. One of the most typical examples he relates is that of a young woman who exhibited slight exophthalmus and swelling of the lids during an acute maxillary sinusitis. As these symptoms subsided, evidences of paralysis of the motor oculi developed and on searching, a sphenoidal sinusitis was discovered.

23. **Treatment of Aneurisms of Arch of Aorta.**—Guinard comments on Tuffier's experience with an aneurism of the aorta which he extirpated as described in The Journal of April 12, p. 971. The patient succumbed to secondary hemorrhage from the ligated pedicle which became gangrenous. Guinard thinks that the impossibility of extirpating an aneurism in this location in the majority of cases, and the extreme gravity of this operation in the exceptional instances in which it is practicable, debar it from a place in surgical therapeutics. He prefers simultaneous ligature of the primary carotid and subclavian on the right side. He treated in this way six patients with aneurism of "the base of the neck" and two with aneurisms of the arch of the aorta, before 1896, and since that date six more cases; a total of twelve. Many of the published cases of aneurism supposed to be in the innominate artery were probably located in the arch of the aorta, as the physical signs of these two localizations are nearly identical. The diagnosis can never be more than presumptive except possibly with radioscopy. Consequently, Guinard proclaims that every aneurism of the base of the neck should be treated indiscriminately by a catgut ligature of the two arteries mentioned above. Aneurisms to the left of the innominate trunk are the only ones not amenable to this treatment. In one of his personal cases the dilatation of the aorta had surrounded the brachio-cephalic trunk so that the left subclavian issued directly from the tumor. The carotid and the subclavian were ligated separately. A year after the intervention the patient is still free from attacks of suffocation and from wheezing. In a second case the patient survived only a month, but the tumor subsided after the intervention and death from perforation was averted. In another case the patient was a man 49 years of age. The symptoms of compression in the thorax completely disappeared after the intervention and during the eleven months of observation there was no dyspnea except during unusual exertion. Tardy hemiplegia developed after his first operation of this kind and the patient last operated on has also succumbed. He left the hospital, contrary to directions, the fourth day after the intervention, drove across Paris and climbed to his apartment on the fifth floor, dying suddenly as he lay down on the bed, evidently from fulminating hemorrhage. This catastrophe should not be credited to the intervention, which is simple and comparatively harmless. Guinard has always found the vessels sound even in the immediate vicinity of the tumor and the ligature can be applied with confidence close to it. In one patient the aneurism was supposed to be in the subclavian, but the brachio-cephalic trunk proved to be also involved. The ligature therefore had to be applied outside of the tumor, almost touching it, but the walls of the artery resisted the silk thread like those of a normal vessel. The patient was clinically cured in four months.

28. **Treatment of Tic Douloureux.**—Static electricity seems to have a special action in hysteric tic douloureux, but isolation usually proves the most effectual of all measures in these cases. Potassium bromid is useless in epileptiform tic douloureux, but is sometimes beneficial in cases associated with true epilepsy. Several remarkable cures of this kind have recently been published. Strontium bromid seems to be even more effectual. The bromid must be pure, free from all traces of baryta. Total peripheral resection of the nerve involved has resulted in some cures without recurrence for years, but in case of a primary or secondary "Gasseritis" peripheral resection is, of course, useless. When the pain is in the deep-seated portions of the nerves, the Gasserian ganglion should be resected without wasting time on peripheral measures. Resection of the superior ganglion of the sympathetic is a benign intervention and is proving very effective. Recurrence is liable at first, but the recurrence is much less severe and is liable to yield to therapeutic measures previously quite ineffectual. Resection of the ganglion has a vasomotor influence on the Gasserian ganglion and also on the peripheral branches and bulbar centers of the trigeminal. The harmlessness of this operation and its far-reaching influence promise a future for it in the treatment of certain facial neuralgias.

29. **Double Monstrosities, Operated and Operable.**—Baudouin asserts that there is only a single xiphopagus alive at the present moment, the "Chinese Brothers" with the Barnum and Bailey troupe. They could be separated, as they are evidently operable. Doyen and others who examined them found that the connecting bridge of liver tissue has become almost fibrous from the constant traction, and could easily be divided if the twins desire it when they attain their majority. They are now 17. Baudouin's article is profusely illustrated with cuts of most of the known double human monstrosities. He urges the establishment of a chair of teratology and a museum for the special study of anomalies in this line.

30. **The Salt Soda Solution in Surgery.**—Tavel has been using for ten years a salt-soda solution instead of the usual physiologic saline solution, as he thinks that the fluid should be rendered slightly alkaline as well as saline. It has a remarkable attraction for the leucocytes and thus promotes the physiologic processes of repair while free from the slightest irritating action on the tissues. He aims to stimulate the microbicidal agents of the organism, allowing them free play by moist asepsis with this physiologic salt-soda solution. He reports extensive experimental research which confirms these properties of the salt-soda solution and demonstrates the injury done by "dry asepsis" in many cases, the tendency to adhesions later and the direct harm from exposure of the intestines, etc., to the air. His formula is .75 per cent. sodium chlorid to .25 per cent. dried sodium carbonate. It becomes spontaneously sterile very gradually cold and very rapidly when boiled. He has used it for irrigating the wounds in 80 major operations and the Germans have also introduced it extensively in their clinics. Saenger writes that he has not had a single case of death from infection or physiologic occlusion in 157 laparotomies since he has been using the salt-soda solution, and others report similarly favorable results. Tavel protests against assuming that elaborate operating rooms are necessary for aseptic operations. A small valise for the instruments, dressings, etc., and an hour to transform any room into a suitable operating room, and the surgeon is ready. He boils the tampons, compresses and thread in the salt-soda solution, the instruments in a 2 per cent. solution of borax, and uses a tepid salt-soda solution for irrigating the wound. He lays cloths wrung out of lysol or sublimate solution around the field of operation, with dishes of 1 per 1000 sublimate, or 2.5 per cent. lysol, for disinfecting the hands, rinsing them afterward in the salt-soda solution. With these simple precautions he has operated on numbers of patients at their homes, doing laparotomies, resection of the knee, herniotomies, trephining, etc., and has never had an infection. He urges that students should be especially trained to dispense with costly appliances and learn to "think bacteriologically as well as surgically."

31. **New Method of Operating on Hemorrhoids.**—Potarca describes five cases operated on by the method devised by Vercesco and briefly described at the Paris International Medical Congress. A cylinder of cork 8 or 9 cm. long by 3 to 3.5 in diameter is made with a wire handle and is inserted in the dilated anus until the lower end is on a level with it. The dilator is then removed and the anal tissue is pinned to the edge of the cylinder by a row of Carlsbad pins about 1 cm. apart. They pass through the mucosa and the integument at their junction. The latter is then cut with a bistoury just outside the row of pins, the cylinder serving as a support for the incision which severs the skin from the pinned portion. The mucosa containing the hemorrhoidal nodules is left pinned to the cork and the detached surrounding skin and muscle are pushed back. The cork cylinder is then drawn out and the nodules are extirpated or scraped or the entire diseased tract is ablated, the incision proceeding a little at a time as the suture follows it. The cork cylinder affords a convenient handle and support for both incision and suture. The stump is then sutured to the raw edge of the skin encircling the anus which was first incised, and the operation is completed. Internal and external antiseptic precautions are unnecessary with this simple and rapid operation, which insures the cleanliness and the hemostasis of the field of operation during the entire procedure, by the perfect occlusion of the anal orifice and the stretching of the walls of the anus over the cylinder.

furuncle, pushing it through the indurated tissue, the entering point about 5 to 10 mm. from the outer limit of the induration. A few drops of the carbolic solution are then expelled from the syringe and the latter is withdrawn. It is then inserted on the opposite side of the furuncle in the same way, slanting, until the tip reaches the same point as in the first injection. The fluid in the syringe is then expelled and it flows out through the channel left from the first insertion of the needle, or through the central fistula. The procedure does not have to be repeated, and a 2 per cent. aqueous solution of the carbolic acid is strong enough for the purpose, or even a solution of boric acid. The dressings must be changed the next day, but after the plug has been expelled—which occurs exceptionally early with this treatment—the further care is simple. The furuncle is painless immediately after the injection, but then becomes quite painful, with boring and throbbing pains. They subside in the course of an hour and the relief is permanent. The tissues are so hard and tough on the fingers that prompt

incision down to the bone is the most rational treatment for a panaris and he consequently does not recommend this "subcutaneous disinfection" for this kind of a lesion.

41. **Practical Application of Hemolysis in Therapeutics.**—Von Niessen states that he has succeeded in isolating from the blood of 120 syphilitics the bacillus which he considers the causal agent of syphilis. Cultures were derived in every case without exception. He applies the new theoretical and experimental facts that have been learned in regard to hemolysis to the treatment of chronic infectious diseases, syphilis in particular. For instance, mercury paralyzes to a certain extent the vitality of the protoplasm by coagulating the albumin, and this in turn checks the proliferation of the bacteria in the blood. This is the moment to introduce a new element to destroy the bacteria and aid in their elimination. This may be accomplished by balneotherapy. The abrupt changes in temperature favor rupture of the blood corpuscles and pour their contents into the serum. Another means is the artificial hemolysis which is induced by preparations of iodin. The mercury acts as a stimulant to absorption as it is a foreign body, and this action is followed by stimulation of the eliminating function in the efforts to throw off the foreign body. He observes that much can be learned that will prove useful in therapeutics from study of the causes and processes of hemolysis.

42. **Advantages of Artificial Mineral Waters.**—Jaworski believes that better results can be obtained from artificially compounded mineral waters, made according to rule and to conform to individual indications, than from natural mineral springs water. He gives a table of eighteen different kinds and urges physicians to recommend them to their patients. They can be taken at home, but it is better for the physician to prescribe at the same time the change of air and scene which will supplement to best advantage the action of the mineral waters. He is not restricted to the places where the natural springs are found, with their expensive and frequently unsalubrious conditions, but can send his patient to the mountains, the seashore, a farm, or wherever he deems best, with his supply of artificial mineral water. It is possible for the physician in a climate and environment especially suited to certain affections, to make a specialty of them and with his artificial mineral waters, to combine all the factors most conducive to a cure. In case one kind of water does not prove effectual, it is far easier to change the water than to travel from one watering-place to another in search of the natural springs.

44. **Etiology and Prophylaxis of Mercurial Stomatitis and Proctitis.**—Bockhart emphasizes the fact that the mercury is not directly responsible for the stomatitis or proctitis, but it produces conditions in the mouth favorable for the proliferation of bacteria, and also conditions in the tissues which diminish their resisting power. This combination entails the resulting lesion, and knowledge of this fact indicates the measures for prophylaxis.

46. **Stypticin as a Local Hemostatic.**—Kaufmann lauds the value of stypticin for this purpose. It is a hydrochlorate of cotarnin, and has proved very useful as an internal remedy for uterine hemorrhage. Kaufmann has been using it for two years as a local hemostatic for the urethra. He combines it with gelatin and finds that it is effective only when the mucosa is more or less abraded as it has no action on sound tissue. He also uses it as a hemostatic for parenchymatous hemorrhage of all kinds and in minor operations.

47. **Treatment of Leucoplasia Bucco-Lingualis.**—Bockhart has had sixty patients with this affection. All were men, all smokers and all were syphilitic. The leucoplasia became aggravated usually under mercurial treatment but could be cured by rinsing out the mouth six to twelve times a day with a .5 to 3 per cent. saline solution. The cure was complete in three months to two years, even when smoking was not entirely abandoned. In some of the patients he had the patches rubbed first with balsam of Peru. His patients carry a bottle of the saline solution in their pocket so as to rinse the mouth frequently during the day. Two of the five, who were thus cured so completely that not a trace is left of the trouble, have resumed smoking. When the patients refuse to give up tobacco, at least during treatment, much benefit can be derived from the saline rinsings, but no permanent cure. He found that the leucoplasia became aggravated after application of caustic measures.

49. **Action of Alkaline Iodids on Patients Deprived of Salt.**—Sellei states from his experience with 30 patients that the deprivation of salt does not prevent iodism when the alkaline iodids are administered. Four of the 28 syphilitics showed intolerance and 1 of the 2 free from syphilis. The variation in the proportion of rhodan in the saliva gives no indication of impending iodism.

50. **Massage of the Urethra.**—Berger uses an instrument for massaging the urethra which consists of a long tube with four grooves at the end about 7 cm. long and 2 mm. wide. The outer end flares into a funnel. When this tube is inserted in the urethra the mucosa presses into the grooves and by gently twisting the tube between the fingers to and fro the walls of the urethra undergo a light but effective massage.

By inserting another tube inside the first it is possible to combine irrigation of the urethra with the massage.

59. **Spinal Analgesia and Distribution of Sensibility According to Segments of Spinal Cord.**—Neugebauer states that since he has succeeded in thoroughly sterilizing his solution of tropa cocain by boiling it, his experience with it has been extremely satisfactory. This includes his last series of 40 cases of spinal analgesia. After-effects of some kind were always noticed, but so slight as to be insignificant. He uses .05 or .06 gm. of the tropa cocain and by careful tests in 100 cases has established that the analgesia occurs in conformity with the laws of segmental innervation from the spinal cord as portrayed in the plates of Kocher's recent work on "Injuries of the Spine." This explains the variations in the sensibility of different regions although the segmental distribution is not so clearly circumscribed as in case of localized injuries of the spine. The analgesia commences in the fourth sacral segment, and spreads in turn to the third and second. The sole of the foot does not become analgetic until some time after the dorsum, and Kocher's plate shows a patch on the sole which is innervated from the first sacral segment. He always found that the analgesia reached higher in the back than in front of the body, and that the serosa of the testicles remained sensitive although the skin might be analgetic, and even after total analgesia of the body.

60. **Pulmonary Embolism in a Case of Placenta Previa.**—In the case described by Voigt the patient was debilitated by four weeks of more or less hemorrhage when brought to the hospital. The birth was partially spontaneous after version and was not accompanied by hemorrhage. The mother was recuperating normally when in about an hour symptoms of embolism of the lungs suddenly developed. The symptoms gradually subsided under camphor and saline infusion, but a similar attack occurred again the fourth day, and an abortive one the day after. The patient recovered after thirty-one days of strict rest in bed and general tonic measures. If the hemorrhage in such cases persists after tamponing the vagina it might be advisable to tampon the collum and also to induce delivery, possibly with Bossi's dilator to save time. The four arms of this dilator when in contact form a single small rod like an ordinary uterine dilator. By turning a thumbscrew in the handle the rod separates into four parts which spread parallel and concentrically to a distance of 8 to 10 cm. [Leopold has recently reported very favorable experiences with it. See THE JOURNAL of May 31, p. 1477.]

61. **Senile Angiomata.**—Raff investigated 500 persons to determine the frequency of angiomata of the skin. He found them on 180. They were rare under 15 but were noted in 18.7 per cent. of the 123 subjects between 20 and 30; in 45.3 per cent. of the 75 persons between 30 and 40, and in 54.2 per cent. of the 61 between 40 and 50. The proportion progressively increased with the age. They occur, therefore, more frequently in the prime of life than has been generally supposed.

63. **Study of Hay Fever.**—Thost made a collective inquiry among the victims of hay fever in the North Sea resorts last summer. Four hundred filled out the circulars he distributed, asking for particulars in regard to their affection. Comparing the data thus obtained corroborates the assumption that hay fever, like asthma, is a reflex neurosis in the region innervated by the nerves of respiration. The olfactory nerve is the one principally involved, its idiosyncrasy in respect to the odors or perfume of certain plants being the essential peculiarity of hay fever. No remedy will cure it once for all in a few applications, but the experience of these four hundred persons demonstrates that it can be improved and even cured and the symptoms avoided by symptomatic and local treatment. The places absolutely free from hay fever are those with scanty, low vegetation without much blossoming.

64. **Behavior of the White Corpuscles in Surgical Affections.**—Wassermann has been making an extensive study of the leucocytosis accompanying surgical affections and announces that he found over 25,000 leucocytes constantly in cases of appendicitis or processes in the vicinity in which the general symptoms indicated extensive suppuration and also in those in which it existed but was not revealed by any other symptoms. The only exception were the cases so extremely severe that the organism was incapable of reacting with leucocytosis while the other symptoms were so pregnant that no doubt was possible, and also the chronic cases in which the abscess had become walled off. He invariably found that the cases apparently severe but with low or merely transiently high leucocyte count, all recovered without surgical intervention. He proclaims, therefore, that leucocytosis persistently over 25,000 accompanying appendicitis indicates an operation without delay. Suppuration elsewhere was only accompanied by a moderate leucocytosis in the numerous cases examined of paranephritic or prostatic abscesses, suppurated cervical glands, mastitis and phlegmons, so long as the process was circumscribed. General infections, on the other hand, such as septicemic affections and erysipelas were accompanied by a high leucocytosis. Various bacteria were found in the pus in different cases, the pyocyaneus once, the proteus and anaërobics a few times. The species did not seem to have any influence on the leucocytosis which is essentially an increase in the number of polynuclear neutrophile leucocytes. The patients with mild clinical symptoms of appendicitis operated on exclusively from the indication of the persistently high leucocytosis, all proved to have extensive suppuration not revealed by any other sign. This independence of the leucocytosis from the other signs, the temperature, pulse, general aspect and local findings, confers an unprecedented importance upon it as a differentiating measure for suppuration in the ileocecal region.

66. **The Treatment of Venereal Ulcer with Cold.**—Brandweiner reports from Neumann's clinic that very favorable results have been obtained in the treatment of venereal ulcers by freezing them with ethyl chlorid or methyl ethyl, spraying the part with air at the same time. In three to five minutes the ulcer is frozen and a white snow forms on the surface. There is a smarting at first which soon vanishes but reappears for a brief time later. The procedure is repeated once to three times a day, and three or four applications in the majority of cases transform the ulcer into a clean granulating wound with no specific characteristics. These favorable results were observed in 33 out of the 40 cases thus treated. The cold acts by the same mechanism as heat, inducing hyperemia by the reaction, but its application is much more convenient than that of heated air.

68. **Pathology of the Metabolism.**—Freund is chief of the chemical laboratory at the "Rudolfstiftung," and in this article reviews the research on the metabolism in diabetes and other diseases published during the last few years. He remarks that too little attention has been paid hitherto to the pathology of place. By this he means the presence in the body of substances normally its constituents, but not in their normal place. For example, the substances in the blood cells may become harmful when they are released by the destruction of the cells containing them. He compares them to a ship loaded with heavy lumber. If the ship is wrecked the floating lumber becomes a menace to navigation. This pathology of place is probably the principal factor in the development of fever. He suggests a number of lines for future research, among them the determination of the groups of albuminoids which favor the proliferation of certain bacteria, the typhoid bacillus, for instance, so as to avoid them in feeding typhoid patients.

71. **Tests of Antiseptics for the Urine.**—Sachs reports tests of the antiseptic power of substances administered internally to display their action in the urine. He found that after the ingestion of at least 4 gm. of urotropin a day, the urine acquired marked bactericidal power both for bacteria naturally in or added to it. Salicylic acid ranks next in this respect but sometimes causes unpleasant by-effects in the large doses required, while urotropin, even in the dose of 8 gm. long-continued, causes nothing of the kind. Methylene blue, sandal oil, copaiba, camphoric acid and sometimes oil of turpentine also displayed distinct antiseptic power after large doses. No action of the kind could be detected after administration of potassium chlorate, boric acid or folia uvæ ursi.

77. **New Kind of Acquired Immunity.**—Carbone believes that he has discovered a new means of immunizing the organism against a specific infection by injection of a substance normally in it, the histone, the nucleo-proteid which Kossel discovered in the nucleated red corpuscles in fowls. It has since been established that it is a normal constituent of all the cells in mammals. By the toxic action of the pneumococcus on the cells in the blood, this histone is liberated, and proves one of the principal factors in the development of the infectious syndrome. Carbone now asserts that an injection of histone prepared from the viscera of rabbits, induces the production in the organism of a specific anti-histone immunizing substance which protects the animal against infection with the pneumococcus later. In his tests it never failed to immunize the animal against two or three times the fatal dose of pneumococcus, and against the minimal fatal dose of a streptococcus, and caused much longer survival after infection with anthrax. It may be possible that this new method of immunization may prove useful to supplement the methods of immunizing hitherto in vogue by means of bacteria or their products. He is now engaged in further research in this line, hoping to demonstrate the possibility of aiding the organism in its struggle against disease by accumulating measures of defense, in immunizing it in more than one direction. Carbone describes his technic for testing the serum for its coagulating power which is very much diminished in certain morbid states. He uses an extract of the heads of leeches which allows very exact standardizing.

79. **Alterations in the Sensibility of the Skin in Case of Visceral Lesions.**—Tedeschi describes the changes in the sensibility of the skin which were observed in twenty patients with various visceral lesions. He found that there was a marked coincidence between them and the special lesion, and that the changes occurred in zones similar to those described by Head. They are evidently of reflex spinal origin and may aid in the differentiation of the lesion. A tendency to nervous troubles exaggerates the abnormal sensibility, which may assume the form of hyperalgesia and thermo-hyperesthesia or thermo-hypoesthesia. He gives numerous illustrations showing the constant involvement of certain zones as the accompaniment of certain lesions. For instance, inflammation of the tubes was accompanied by the maximum of hyperalgesia in the twelfth and very rarely in the eleventh dorsal zone, while in appendicitis the maximum was always in the tenth dorsal zone. In case of renal lesions the maximum of hyperalgesia was in the tenth dorsal zone, and if it invaded the eleventh and twelfth, the pelvis and ureters were probably involved. In one case the maximum was in the third sacral segment, and the operation confirmed the presumptive diagnosis of nephrolithiasis, with injury of the bladder from calculi.

81. **Study of the Diazo-Reaction.**—Johnson applied the diazo test in 1221 cases of various diseases. It proved positive in 80.5 per cent. of 728 cases of typhoid fever, in 46 per cent. of pulmonary tuberculosis and in 18.9 per cent. of 90 cases of pneumonia. He thinks that the percentage in typhoid fever is probably actually higher than these figures, as many of the patients were not seen during the early stage of the disease. The diazo-reaction, therefore, can be regarded as an important differentiating measure in dubious cases.

84. **Prophylaxis of Septic Scarlet Fever.**—Sohn calls attention to a case in his experience in which two children in the same family had scarlet fever. One was kept in his usual room while the other, the healthier one, was transferred to a room which had been used eighteen months previously by a person with a persisting suppuration in a fractured leg. The room had been closed since without disinfection. Three days after the child had been placed in this room symptoms of septic scarlet fever developed, fatal in three days, while the other child had merely an ordinary uncomplicated case although the tonsils were hypertrophied. He is inclined to attribute the sepsis to virulent germs in the dust of the spare room.

88. **Typhoid Fever in the City of Mexico.**—Gavino reports that he has recently encountered fifteen cases of typhoid fever, corroborated by the positive serum reaction. This little epidemic is confined to a certain quarter of the capital. Typhoid fever is so rare in the City of Mexico that its existence there has been denied.

89. **Antidiphtheria Serum in Treatment of Typhoid Fever.**—Yanez believes that antidiphtheria serum is effective in other infectious diseases and relates two cases of typhoid fever in which the symptoms were rebellious to ordinary measures, but gradually yielded after injections of Roux's serum had been applied.

90. **Hot Air in Treatment of Essential Nasal Hydrorrhea.**—Garaizabal has only two cases to report, but the success was so complete and permanent that he urges others to try this method of treatment when other measures are unavailing. He directed a current of hot air on the hypertrophied lower turbinate bones and after twenty-five applications for ten minutes a day, the flux was entirely cured. He used an apparatus for the purpose, a small metal box holding live coals, a rubber bulb to pump the air through it and a rubber-tipped metal tube in a wooden handle for direct application to the nose.

91. **Prophylaxis of Typhoid Fever.**—Barreneche observes that infection from water can be guarded against and that infection from dust is by far the most dangerous means of contagion of typhoid fever. He cites as an argument to sustain this assertion the fact that the newly graduated doctors when they commence their service in the hospitals are frequently affected by typhoid fever. They ascribe it to auscultation of the back of typhoid fever patients, as the garments and bed linen are so liable to be contaminated by particles of excreta, which float in the air as the patients are moved.

93. **Etiology of Ozena.**—Razquin does not accept the *Bacillus fetidus ozenæ* described by Perez as the specific agent of ozena, as it is not encountered in every case and as it may be found in persons exempt from the affection. He has also found it in dogs and suggests that the dog may be the intermediate host between man and man. Razquin has never known of a case of direct transmission of ozena from one person to another, and it occurs in some cases with no previous communication with dogs. On the other hand, the arguments in favor of a sinusitis as the primary cause are numerous and convincing. The fetidity he ascribes to secondary infection which has no specific character. Treatment is more rapid and complete the more accessible the primary lesion. Certain writers state that they were unable to discover any indications of sinusitis at the autopsy of patients with ozena, but study of their reports shows that they failed to examine all the sinuses.

94. **General Infantile Atrophy and Its Treatment with Artificial Serum.**—Vargas has for years been treating children under 2 years of age with general atrophy by means of injections of a 1 per cent. solution of sodium chlorid or of magnesium and sodium sulphate. This treatment entails a rapid cure in the benign form. The grave form is accompanied by intestinal lesions which render recovery a rare exception. He illustrates one case in which a child 2 years old looked almost like a mummy before treatment but gained three kilograms in weight and three centimeters in length by the twentieth day after the subcutaneous injections of 100 c.c. of artificial serum were instituted, repeated night and morning. In thirty minutes after the first injection the arterial tension had increased and the pulse risen from 96 to 125, while the body warmth increased .5 of a degree C.

96. **Serum Treatment of Malignant Anthrax.**—Escudero thinks that the attempt to excise the carbuncle is useless later than half an hour after the inoculation, and is thus impracticable in all cases. It merely adds the needless shock of the operation to the clinical syndrome already present. General treatment should include calomel, local application of a 2 per 1000 solution of bichlorid at 95 F., and serum treatment. The three cases he describes all promptly recovered after one to three injections of serum. Another patient succumbed after excision of the pustule in the neck, notwithstanding the serum treatment.

Queries and Minor Notes.

TREATMENT OF TABES BY GOLD OXID, ETC.

ST. LOUIS, MO., May 21, 1902.

To the Editor:—In the last issue of THE JOURNAL I saw, on page 1338, an abstract from a Paris journal on the treatment of tabes by gold oxid and phosphovinic acid. Could you please tell me how phorphovinic acid is made and how the gold oxid is combined, and the dose; also how is the iodin administered?

I have been looking up these remedies and can find nothing that will give me any light on the subject. L. P. W.

ANS.—The phosphovinate of gold is stated to be a combination of ethyl phosphoric acid with the oxid of gold. It is a definite chemical compound with 65 per cent., of the stimulant, the gold, to 35 per cent. of the tonic, the phosphoric acid. The compound is rendered soluble by a slight excess of the ethyl phosphoric acid, and the tonic element is enhanced by the additiou of the phosphovinate of potassium. The iodin is given in the usual form of an alkaline iodid. Jolly explains its transformation and action as follows: During functional activity the cells become acid and do not return to alkaline until they are at rest again. During the acid phase the iodin of the iodid is liberated and acts as a metalloid iodin, powerfully antiseptic, antitoxic and stimulating. As the cells become alkaline again, the iodin resumes the form of an iodid and ceases to be antitoxic although still retaining weak antimicrobian and antiseptic properties. He has succeeded in administering iodin in the form of an alkaline iodid without intolerance or inconveniences, for as long a period as necessary, by combining it with extract of juglans in pilular form, as an adjuvant to the gold and phosphoric acid, commencing with small doses of each and increasing them a little every week. Further details in regard to the production of the substances or the dosage are not mentioned. Jolly and Bouland have been studying the application of gold in therapeutics for years.

WHERE CAN A PHYSICIAN, WHO IS NOT A PHARMACIST, CONDUCT A DRUG STORE?

CHICAGO, May 27, 1902.

To the Editor:—Kindly let me know if there are any states in which a physician can own and take charge of a drug store without taking pharmacy board examinations or employing a registered druggist.

Yours truly,
C. JOHNSON.

ANS.—Probably in none of the Northern States. A physician was formerly granted that privilege in Missouri, but the law has beeu changed. It may be that some Southern State or some territory allows this. It will be necessary to address the boards of the several states to secure more definite information than the above.

MEDICAL REGISTRATION IN FLORIDA.

SUNCOOK, N. H., May 27, 1902.

To the Editor:—What is the law for medical registration in the State of Florida? Please send me the address of Secretary of State Board of Examination, if any. A. M. LAVALLEE, M.D.

ANS.—There is no state board yet, but a board for each of the seven judicial circuits, each of which establishes its own standard for examination. A diploma from a recognized school and an examination before one of these boards are required. The secretary of the Fourth Judicial Circuit Board is Dr. Neal Mitchell, Jacksonville.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A MANUAL OF SURGICAL TREATMENT. By W. Watson Cheyne, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, Surgeon to King's College Hospital, etc., and F. F. Burghard, M.D. and M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London, Surgeon to King's College Hospital, etc. In seven imperial octavo volumes, with illustrations. Volume VI, 498 pages with 124 illustrations. Cloth, $5.00 net. Philadelphia and New York: Lea Brothers & Co. 1902.

SANATORIA FOR CONSUMPTIVES. A Critical and Detailed Description, Together with an Exposition of the Open-Air Hygienic Treatment of Phthisis. By F. Ruffenacht Walters, M.D., M.R.C.P., Fellow of the Royal College of Surgeons. With an Introduction by Sir Richard Douglas Powell, Bart., M.D., F.R.C.P. Second Edition. Cloth. Pp. 446. Price, $5.00 net. London: Swan Sonnenschein & Co., Ltd. New York: E. P. Dutton & Co. 1902.

THE PRINCIPLES OF BACTERIOLOGY: A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Sixth Edition. Enlarged and Thoroughly Revised. With 111 Illustrations, of Which 26 Are Colored. Cloth. Pp. 641. Price, $2.75. Philadelphia and New York: Lea Brothers & Co. 1902.

THE ROENTGEN RAYS IN MEDICINE AND SURGERY as an Aid in Diagnosis and as a Therapeutic Agent. Designed for the Use of Practitioners and Students. By Francis H. Williams, M.D. (Harv.), Graduate of the Massachusetts Institute of Technology. With 410 Illustrations. Second Edition. With Enlarged Appendix. Cloth. Pp. 704. Price, $6.00. New York: The Macmillan Co. 1902.

PRINCIPLES OF SANITARY SCIENCE AND THE PUBLIC HEALTH, with Special Reference to the Causation and Prevention of Infectious Diseases. By William T. Sedgwick, Ph.D., Professor of Biology and Lecturer on Sanitary Science and the Public Health in the Massachusetts Institute of Technology, Boston. Cloth. Pp. 368. Price, $3.00. New York: The Macmillan Co. 1902.

THIRTY-THIRD ANNUAL REPORT OF THE SECRETARY OF STATE ON THE REGISTRATION OF BIRTHS AND DEATHS, MARRIAGES AND DIVORCES IN MICHIGAN for the Year 1899. Fred M. Warner, Secretary of State. Edited by Cressey L. Wilbur, M.D., Chief of the Division of Vital Statistics. Cloth. Pp. 157. Lansing, Mich.: Wynkoop-Hallenbeck-Crawford Co. 1902.

JAHRESBERICHT ueber die Fortschritte in der Lehre von den Pathogenen Mikro-organism unfassend Bacterien, Pilze und Protozoen. Unter mitwirking von Fachgenossen bearbeitet und herausgegeben von Dr. med. P. von Baumgarten und Dr. med. F. Tangl. Sechzenter jahrgang. 1900. Erste Abtheilung. Paper. Pp. 400. Leipzig: Verlag von S. Hirzel. 1902.

THE DIAGNOSIS OF SURGICAL DISEASES. By Dr. E. Albert, Late Director and Professor of the First Surgical Clinic at the University of Vienna. Authorized Translation from the Eighth Enlarged and Revised Edition, by Robert T. Frank, A.M., M.D., with 53 Illustrations. Cloth. Pp. 419. Price, $5.00. New York: D. Appleton & Co. 1902.

HERNIA, Its Etiology, Symptoms and Treatment. By W. McAdam Eccles, M.S. (London.), F.R.C.S. (Eng.), Senior Assistant Surgeon West London Hospital. Second Edition. Cloth. Pp. 233. Price, $2.50. New York: Wm. Wood & Co. 1902.

THE STUDY OF THE PULSE, Arterial, Venous and Hepatic and of the Movements of the Heart. By James MacKenzie, M.D. (Edin.), Burnley. Cloth. Pp. 325. Price, $4.50. New York: The Macmillan Co. 1902.

ACUTE DILATATION OF THE STOMACH. By H. Campbell Thomson, M.D. (Lond.), M.R.C.P., Assistant Physician to the Middlesex Hospital. Cloth. Pp. 54. Price, $0.75 net. New York: Wm. Wood & Co. 1902.

HEALTH, SPEECH AND SONG. A Practical Guide to Voice-Production. By Jutta Bell-Ranske. Cloth. Pp. 158. Price, $1.25. London: Swan Sonnenschein & Co., Ltd. New York: E. P. Dutton & Co. 1902.

HARE-LIP AND CLEFT PALATE. By R. W. Murray, F.R.C.S., Surgeon, Davis Lewis Northern Hospital, Liverpool. Cloth. Pp. 29. Price, $1.20. Philadelphia: P. Blakiston's Son & Co. 1902.

NINETEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF ILLINOIS. For the Year Ending Dec. 31, 1896. Cloth. Pp. 282. Springfield, Ill.: Phillips Bros. 1899.

THE LIFE OF ST. LUKE. By Edward Clapton, M.D., F.R.C.P., Late Physician to St. Thomas's Hospital. Cloth. Pp. 80. Price, $0.60 net. London: J. & A. Churchill. 1902.

THIRTEENTH ANNUAL REPORT OF THE NEW JERSEY TRAINING SCHOOL FOR THE FEEBLE-MINDED GIRLS AND BOYS. Paper. Pp. 85. Vineland, Cumberland County. 1901.

TWENTY-FIRST ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF NEW YORK. For the Year Ending Dec. 31, 1900. Cloth. Pp. 579. Albany: James B. Lyon. 1901.

IL MEDICO PRACTICO. Del Dott. Carlo Muzio. Terza epizione Riffata del Nuovo Memoriale pei Medici practici. Cloth. Pp. 492. Milano: Ulrico Hoepli. 1902.

LA PELLAGRA. Storia—Eziologia-Pathogenesi Profilassi. Del Dott. G. Antonini. Con 2 Tavole Colorate. Cloth. Pp. 166. Milano: Ulrico Hoepli. 1902.

MANUALE DI CHIMICA LEGALE (Tossicologia). Prof. Cav. Nicola Valentini, Chimico Igienista. Cloth. Pp. 243. Milano: Ulrico Hoepli. 1902.

DYNAMIC ASPECTS OF NUTRITION AND HEREDITY. By Frank Horridge. Cloth. Pp. 175. Price, $1.50 net. New York: Wm. Wood & Co. 1902.

REPORT OF THE HEALTH OFFICER OF THE DISTRICT OF COLUMBIA. 1901. Cloth. Pp. 285. Washington: Government Printing Office. 1901.

TRANSACTIONS OF THE RHODE ISLAND MEDICAL SOCIETY for 1901. Paper. Pp. 417. Providence: Snow & Farnham. 1902.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 15 to 21, 1902, inclusive:

Clarence H. Connor, contract surgeon, now in Washington, D. C., will report for duty to the commanding officer, General Hospital, Washington Barracks, D. C.

Elmer A. Dean, lieutenant and asst.-surgeon, U. S. A., relieved from further duty in the Division of the Philippines and will proceed to San Francisco; and on arrival will report by telegraph to the Adjutant-General of the Army for orders.

Benjamin J. Edger, Jr., lieutenant and asst.-surgeon, U. S. A., as Dean, above.

J. M. Espin, contract surgeon, leave of absence from the Department of Cuba extended one month.

James D. Glennan, major and surgeon, U. S. A., leave of absence for fifteen days granted, to take effect about May 19, 1902, on the expiration of which he will report for duty at the U. S. Military Academy, West Point, N. Y., relieving Major William Kneedler, surgeon, U. S. A.

William G. Gregory, contract surgeon, on being relieved from duty at San Diego Barracks, Cal., to proceed to San Francisco for assignment to duty at the General Hospital, Presidio.

John R. Hicks, contract surgeon, leave of absence for one month, with permission to apply for an extension of one month, granted, to take effect on the arrival of Captain Charles F. Kieffer, asst.-surgeon, U. S. A., at Fort Screven, Ga.

William L. Kneedler, major and surgeon, U. S. A., on being relieved from duty at the U. S. Military Academy, West Point, N. Y., will proceed to San Diego Barracks, Cal., for duty at that post, relieving Contract Surgeon William G. Gregory.

William F. Lippitt, Jr., captain and asst.-surgeon, U. S. A., member of a retiring board convened at Baltimore.

Palmer H. Lyon, captain and asst.-surgeon, Vols., leave of absence for ten days granted.

Theodore C. Lyster, lieutenant and asst.-surgeon, U. S. A., from Fort Schuyler, N. Y., to duty at the General Hospital, Presidio of San Francisco.

James E. Miller, contract surgeon, now at Des Moines, Iowa, will proceed to Fort Canby, Wash., to relieve Contract Surgeon Joseph W. Walsh.

George Newlove, contract surgeon, leave of absence extended one month.

Albert E. Persons, lieutenant and asst.-surgeon, U. S. A., from Fort Snelling, Minn., to duty at Fort Flagler, Wash.

Edward W. Plukham, lieutenant and asst.-surgeon, U. S. A., resignation accepted by the President, to take effect June 10, 1902; leave of absence granted until that date.

James Reagles, contract surgeon, from Fort Stevens, Ore., on the arrival of Contract Surgeon R. D. Smith, to duty at Fort Snelling, Minn.

William Roberts, lieutenant and asst.-surgeon, U. S. A., now in Washington, D. C., to report to the commanding officer, General Hospital, Washington Barracks, D. C., for treatment.

Edward R. Schreiner, lieutenant and asst.-surgeon, U. S. A., member of a retiring board at Baltimore.

John M. Shepherd, contract surgeon, from duty at the General Hospital, Presidio of San Francisco to Fort Schuyler, N. Y., for post duty and to relieve Lieutenant Theodore C. Lyster, asst.-surgeon, U. S. A.

Rodney D. Smith, contract surgeon, now at Bloomington, Ind., will proceed to Fort Stevens, Oregon, for duty at that post.

Jesse P. Truax, contract surgeon, from Fort Flagler, Wash., to duty at Skagway, Alaska.

Hugo A. Wahl, contract surgeon, from duty at Fort Strong, Mass., to San Francisco for annulment of contract.

William J. Wakeman, major and surgeon, U. S. A., leave of absence from the department of California extended one month.

Joseph W. Walsh, contract surgeon, from Fort Canby, Wash., to San Francisco, en route for assignment in the Division of the Philippines.

APPOINTMENTS, PROMOTIONS, CASUALTIES, ETC.

Appointments, promotions, casualties, etc., of medical officers of the Army recorded in the Adjutant-General's Office between April 15 and May 15, 1902:

Regular Army Promotions.—Lieutant-Colonel Charles L. Heizmann, deputy surgeon-general, to be assistant surgeon-general with the rank of colonel, April 7, 1902; Major Louis M. Maus, surgeon, to be deputy surgeon-general, with the rank of lieutenant-colonel, April 7, 1902; Captain Charles Willcox, assistant surgeon, to be surgeon, with the rank of major, April 7, 1902.

Died.—Colonel James P. Kimball, retired April 19, 1902, at Tannersville, N. Y.; Major John Brooke, retired, May 12, 1902, at Radnor, Pa.; Major Luther B. Grandy, surgeon, at Lipa, Luzon, April 12, 1902.

Volunteers, Appointments.—Thomas S. Lowe, of Maryland, contract surgeon, to be assistant surgeon, with the rank of captain, March 11, 1902; William A. McVean, of Ohio, contract surgeon, to be assistant surgeon, with the rank of captain, March 14, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy, week ending May 24, 1902:

Asst.-Surgeons C. M. Oman and W. E. Griffin reported at Cavite, May 2 and 12, respectively.

Surgeon R. P. Crandall, detached from recruiting duty and ordered to San Francisco and thence to Guam, L. I.

P. A. Surgeon M. K. Johnson, order of Oct. 5, 1901, modified; detached from duty at Guam upon reporting of relief and ordered home to wait orders.

Asst.-Surgeon J. G. Field, retired, ordered to recruiting duty.

P. A. Surgeon D. B. Kerr, detached from the *Wabash*, and ordered to the Boston Navy Yard.

Asst.-Surgeon R. E. Hoyt ordered to the *Wabash*.

Asst.-Surgeon J. P. Traynor, ordered to the Naval Hospital, New York.

Asst.-Surgeon J. F. Strine, ordered to the Naval Hospital, Norfolk, Va.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 22, 1902:

P. A. Surgeon C. P. Wertenbaker, leave of absence for one day, May 20, 1902, under paragraph 179 of regulations. Detailed to represent the service at the meeting of the Association of Military Surgeons, in Washington, D. C., June 5, 6 and 7, 1902.

P. A. Surgeon J. A. Nydegger, granted leave of absence for ten days from June 2.

A. A. Surgeon Hugh Burford, department letter of May 7, 1902, granting leave of absence for two weeks, amended so that said leave shall be for twenty-one days from May 15.

Senior Pharmacist S. W. Richardson, granted leave of absence for thirty days from June 10.

PROMOTIONS.

P. A. Surgeon J. O. Cobb, promoted and appointed surgeon, to rank as such from April 20.

Asst.-Surgeon Tallaferro Clark, promoted and appointed passed assistant-surgeon, to rank as such from March 27.

Asst.-Surgeon Hill Hastings, promoted and appointed passed assistant-surgeon, to rank as such from March 29.

Asst.-Surgeon C. H. Lavinder, promoted and appointed passed assistant-surgeon, to rank as such from March 27.

BOARDS CONVENED.

Board convened to meet at the Bureau, May 20, 1902, for the physical examination of such officers of the Revenue Cutter Service as may present themselves. Detail for the Board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon B. S. Warren, recorder.

Board convened to meet at the Bureau, June 16, 1902, for the purpose of examining candidates for appointment as assistant-surgeon in the Marine-Hospital Service. Detail for the Board: Surgeon P. H. Ballhache, chairman; Surgeon G. T. Vaughan; P. A. Surgeon H. D. Geddings, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 23, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, May 3-10, 3 cases; San Francisco, May 4-11, 4 cases.

Colorado: Denver, May 3-10, 7 cases.

District of Columbia: Washington, May 10-17, 1 case.

Florida: Jacksonville, May 10-17, 2 cases.

Illinois: May 10-17, Belleville, 2 cases; Chicago, 19 cases, 1 death; Freeport, 4 cases; Galesburg, 4 cases.

Indiana: Indianapolis, May 10-17, 23 cases; South Bend, May 10-17, 3 cases; Terre Haute, May 3-17, 4 cases.

Kansas: Wichita, May 10-17, 5 cases.

Louisiana: New Orleans, May 10-17, 1 case.

Massachusetts: May 10-17, Boston, 46 cases, 6 deaths; Brockton, 1 case; Chelsea, 2 cases; Everett, 1 case, 1 death; Fall River, 3 cases; Lowell, 3 cases; Malden, 6 cases; Newton, 1 case; Somerville, 1 death.

Michigan: May 10-17, Detroit, 2 cases; Ludington, 24 cases, 1 death.

Minnesota: Winona, May 3-17, 4 cases.

Missouri: St. Louis, May 11-18, 43 cases.

Montana: Butte, May 4-11, 6 cases.

Nebraska: Omaha, May 10-17, 6 cases.

New Jersey: Camden, May 10-17, 3 cases; Hudson County, including Jersey City, May 4-18, 74 cases, 17 deaths; Newark, May 10-17, 54 cases, 9 deaths; Plainfield, May 10-17, 1 death.

New York: May 10-17, Elmira, 2 cases; New York, 46 cases, 7 deaths.

Ohio: Cincinnati, May 9-16, 7 cases; Hamilton, May 10-17, 1 case; Toledo, May 10-17, 1 case.

Pennsylvania: Columbia, April 28-May 5, 21 cases; Erie, May 10-17, 12 cases; McKeesport, May 10-17, 1 case; Philadelphia, May 10-17, 12 cases, 1 death; Pittsburg, May 10-17, 9 cases, 2 deaths; Scranton, May 10-17, 2 cases.

Rhode Island: Providence, May 10-17, 1 case.

Tennessee: Memphis, May 10-17, 2 cases, 1 death.

Washington: Tacoma, May 4-11, 1 case.

Wisconsin: Green Bay, May 11-18, 5 cases.

SMALLPOX—INSULAR.

Porto Rico: April 19-May 3, Arecibo, 75 cases; Caguos, 36 cases; Camuy, 56 cases; Hatillos, 7 cases; Ponce, 30 cases; San Juan, 40 cases.

SMALLPOX—FOREIGN.

Austria: Prague, April 12-May 3, 19 cases.

Belgium: Antwerp, April 19-May 3, 25 cases, 2 deaths; Ghent, April 5-May 3, 3 deaths.

Brazil: Pernambuco, March 15-April 15, 52 deaths; Rio de Janeiro, April 6-20, 11 deaths.

Canada: Halifax, May 3-17, 4 cases; Winnipeg, April 26-May 10, 11 cases, 1 death.

China: Hongkong, March 29-April 12, 6 cases, 6 deaths.

Colombia: Cartagena, April 21-27, 2 cases; Panama, April 29-May 12, 80 cases.

France: Paris, April 5-12, 2 deaths; April 19-26, 1 death.

Great Britain: Dundee, April 26-May 3, 2 cases; Glasgow, May 3-9, 2 cases, 1 death; Liverpool, April 19-26, 3 cases; London, April 19-May 3, 617 cases, 85 deaths; North Shields, April 19-26, 23 cases; South Shields, April 19-26, 9 cases.

India: Bombay, April 15-22, 5 deaths; Calcutta, April 12-19, 10 deaths; Karachi, April 13-20, 7 cases, 2 deaths; Madras, April 12-18, 5 deaths.

Italy: Palermo, April 12-May 3, 65 cases, 16 deaths; Rome, March 22-29, 1 death.

Mexico: Vera Cruz, April 26-May 3, 1 case, 1 death.

Russia: Moscow, April 12-26, 10 cases, 6 deaths; Odessa, April 12-May 3, 19 cases, 2 deaths; St. Petersburg, April 12-26, 16 cases, 2 deaths; Warsaw, April 5-12, 1 death.

Straits Settlements: Singapore, March 15-29, 1 death.

Switzerland: Geneva, April 5-19, 2 cases.

Uruguay: Montevideo, April 15-22, 75 cases, 2 deaths.

YELLOW FEVER.

Brazil: Pernambuco, March 15-April 15, 1 death; Rio de Janeiro, April 6-20, 67 deaths.

Costa Rico: Port Limon, May 1-7, 2 cases suspected.

Mexico: Vera Cruz, April 26-May 3, 10 cases, 7 deaths.

CHOLERA.

China: Hongkong, March 29-April 12, 56 cases, 50 deaths.

India: Bombay, April 15-22, 3 deaths; Calcutta, April 12-19, 153 deaths.

Straits Settlements: Singapore, March 15-29, 17 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, May 7-8, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Pernambuco, March 15-April 15, 34 deaths.

China: Hongkong, March 29-April 12, 5 cases, 5 deaths.

India: Bombay, April 15-22, 608 deaths; Calcutta, April 12-19, 588 deaths; Karachi, April 13-20, 161 cases, 132 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, SATURDAY, JUNE 14, 1902. No. 24.

Address.

THE PRESIDENT'S ADDRESS.

DELIVERED AT THE FIFTY-THIRD ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

JOHN ALLAN WYETH, M.D., LL.D.
NEW YORK CITY.

Since the session held at St. Paul a year ago, a former president of this Association, paying the last great debt to nature, has passed

"To where beyond these voices there is peace."

Full of years and beyond the limit allotted by the Psalmist, Professor Edward Mott Moore, born in Rahway, N. J., July 15, 1814, died in Rochester, N. Y., March 3, 1902. He was one of the founders of the New York State Medical Association, a consistent and loyal friend of our national body and of an organized medical profession. Although his achievements in science were of a high order, his life was not circumscribed within the narrow limits of professional work. He was not only a skilful surgeon, bold and original, but more than this, he was a citizen of the highest type. The welfare of his neighbors, of his adopted city, state and the Nation were his. May his noble example be emulated, for it is just as much our duty to be true to the obligations of citizenship as to our profession.

INTERNATIONAL MEDICAL CONGRESS.

Before dealing with the more urgent matters of this meeting, your attention is called to the Fourteenth International Congress of Medicine which is to be held at Madrid from April 23 to 30, 1903.

As your presiding officer I had the honor to receive an appointment from the Secretary of State as a delegate to represent this Association at the Congress, and was requested by him to appoint five additional delegates from this body. In conforming to this request the following gentlemen have accepted commissions, and have received certificates from the State Department to the Congress: Dr. Nicholas Senn of Illinois; Dr. Maurice H. Richardson of Massachusetts; Dr. George Crile of Ohio; Dr. Richard Douglas of Tennessee, and Dr. Edward B. Dench of New York.

It should be the duty and pride of the separate state associations to send at least one delegate to this important meeting, and in doing this to correspond with Dr. Angel Fernandez-Caro, Secretary-General, Fourteenth International Congress of Medicine, Madrid, Spain.

A NEW ERA IN THE HISTORY OF THE AMERICAN MEDICAL ASSOCIATION.

This session marks an era in the history of the American Medical Association, for we meet under changed conditions, and in this our trial year, while we are adjusting ourselves to the new order, we confidently ask and expect to receive not only the consideration and forbearance, but the generous help which should be accorded to this experiment in government by which we earnestly hope to avoid the embarrassments and failures that under the old régime characterized the meetings of a body so large and unwieldy as the general session.

These changes involve not only the government of the Association proper, but also a changed relationship of the state association to the national body, as well as the relationship of the county to the state organization. Under the old organization our business was transacted by delegates from state, district and local affiliated societies in the proportion of one delegate for each ten members, while now, only affiliated state organizations have the right to send delegates, and these are only entitled to one delegate for each five hundred active members, or fraction of this number. These form the House of Delegates which is further reënforced by two members from each of the scientific sections of the Association, and one each from the Army, the Navy and the Marine-Hospital Service. Under the old régime the state association bore the same relationship to the national body as did the city, county and district organizations. Now, only the state association is represented, and they create the legislative body of the American Medical Association. In other words, the House of Delegates is a federation of all the state associations.

The reorganization at St. Paul, having taken away from the county organization its right to send delegates, also deprived the city, district branches and other minor associations of the same privilege, requiring membership in the county society when such exists as a prerequisite to membership in the state and the American Medical Association. This ruling dropped, at least temporarily, from the rolls of the Association a considerable number of physicians who had long been on the roster from state or local bodies which, by the laws then existing, were in affiliation with the National Association. While this action may have seemed unnecessary and unjust to these members (among whom were many of the most loyal and faithful supporters of the national body) for the common good, they should yield to the opinion of the majority, since calm reflection must convince any reasonable mind that one of the wisest steps the Association ever took was when it made the county medical organizations the basis of membership in the national body. There will hereafter be excluded from

membership that fortunately small, but none the less existing group of unworthy members of our profession who, on account of the clumsy rules which formerly prevailed, obtained a place on the roster of the American Medical Association.

To the date of the reorganization in June, 1901, the roster of this Association was so inaccurate and unsatisfactory that the secretary and president-elect undertook the difficult task of obtaining a correct list of members. While one might infer that each organized state and territorial association could, from its records, furnish at short notice the names of all eligible to membership in the American Medical Association, in only a very small proportion of these subordinate bodies was a reliable list available. It then became necessary to direct a circular letter, state by state, to every name on the roster then existing, asking for the necessary information. Since, for final confirmation, these names must be referred back to the subordinate organizations in which membership is claimed, it will be seen that some time must elapse before the completion of a perfectly reliable list. The lack of business-like methods with which our profession is charged is in a manner sustained by this admission, and it emphasizes the necessity of a thorough reorganization of all the societies in affiliation with the national body, upon practically a uniform plan.

A UNIFORM STANDARD FOR ALL STATES.

Scarcely second in importance to a uniform scheme of reorganization is that of a uniform standard of requirements for the practice of medicine in the various states. It is of vital interest to the welfare of the profession that the question of reciprocity or interstate comity should be settled so that without any sacrifice of the very highest requirements, a physician in practice in one state, having gone before a competent board, upon change of residence might be permitted to practice without being subjected to a second state examination, in the place of his adoption. The House of Delegates will, without doubt, act upon this matter at this session.

THE SECTIONS.

Referring to the subdivisions of the scientific work of the Association, Article V of the Constitution empowers the House of Delegates "to authorize new sections which may from time to time be organized, as the necessity for their existence arises." With increasing membership and the consequent larger attendance, it may be imperative in the future to create new sections, but this should be done only after careful consideration, and not until it is demonstrated that the material of high scientific value offered to the twelve sections now existing is more than can be utilized in the time allotted for the meetings.

The by-laws require every member to register in one of the sections, and it would be well to limit each reader to a single paper before the section chosen. The Association should insist that the officers of sections exercise a most rigid scrutiny of the papers referred to them. If we are to achieve our high purpose, if we wish to attract to our organization the great bulk of the better element of the medical profession, we must present through our sections, papers which demonstrate not only the high scientific attainment of the author, but the undoubted value of the material presented. We are judged by our works, and if, at our meetings, and in the publication of our papers in THE JOURNAL which carries them to all parts of the earth, any unworthy material finds a place, it can but reflect discredit upon the Association.

BRANCH ORGANIZATIONS.

Article VI of the new Constitution says: "The House of Delegates shall have authority to provide for and to create such branch organizations as may be deemed essential to the promotion of the welfare of the medical profession."

For the present I would not advise the establishment of these subdivisions, but ultimately it may be found necessary to divide the states and territories according to population and geographical position into district branches where meetings may be held at the convenience of the states represented, and without interference with the annual session of the National Association.

Let us hope that the various tri-state societies and the sectional organizations, such as the Southern Surgical and Gynecological Association, and the equally successful Mississippi Valley Medical Association, and others of like character, attracted by the high and unselfish aims of this organization, may appreciate the vital necessity of a united profession and vote themselves into district branches of the American Medical Association. Truly, in such a union there would be strength so potent, and influence so far reaching that we could safeguard, without doubt, the material interests of the profession, elevate still higher the standard of medical education, secure the enactment and enforcement of just and rigid medical laws, enlighten and direct public opinion in regard to the broad problems of state medicine, and demonstrate to the world the practical accomplishment of our science.

PERMANENT PLACES OF MEETING.

Article VII of the new Constitution, which deals with "Sessions and Meetings," refers the place and time for holding each annual session to the House of Delegates. They are also, under Article IX, empowered to appropriate funds for defraying the expenses of the annual meeting, as well as for enabling the standing committees to fulfill their respective duties.

I would recommend to the consideration of the Association the propriety of selecting in each of the geographical subdivisions of the United States, in which the sessions are successively held, some suitable location which has been found to be well adapted to the work of the organization, and to which we could return when the meeting is again to be held in that section of the country. As a scientific body intent upon fostering the growth and diffusion of medical knowledge, it is of vital importance to avoid in the selection of our place of meeting everything that could detract from the closest attention to the scientific programme. The smaller cities with ample hotel accommodations and halls conveniently located, have always yielded a larger attendance before the sections, and consequently a greater benefit to our members than the cities of larger size with their multitude of distractions. Moreover, it seems scarcely in accord with the dignity of this great body to require through its committee of arrangements that the physicians of the state and place selected for the convention should be held responsible for the expenses of that meeting. Every suggestion of commercialism should be avoided, and this prosperous organization should assume the entire responsibility and management of these annual sessions.

THE COMMITTEE ON MEDICAL LEGISLATION.

One of the most important duties imposed upon the House of Delegates is the selection of those who conduct its business affairs. In the past, the Association has

shown a keen discernment in securing for its trustees and standing committees men, not only of executive ability, but held in high esteem as representatives of a profession, which, according to the Code of Ethics, "should be temperate in all things, and which requires greater purity of character and a higher standard of moral excellence than any other calling."

You will in the regular order of business hear the reports of your five standing committees, and I am called upon to speak of but one, viz.: The Committee on Medical Legislation which the by-laws adopted in June of 1901 directs to be appointed by the president, and to consist of one delegate from each state. In accordance with this requirement I mailed to the president of each state and territorial organization in affiliation with the American Medical Association a letter asking him to nominate one member for this committee. To all replies to this letter the name of the delegate was sent to the chairman of the National Committee on Medical Legislation, Dr. H. L. E. Johnson, Washington, D. C. It will be remembered that at the session in St. Paul in 1901, the Association ruled that the National Committee on Medical Legislation, consisting of Dr. H. L. E. Johnson, Washington City; Dr. William H. Welch, Baltimore, and Dr. W. L. Rodman, Philadelphia, should be continued until the meeting in June, 1902, and should have the same power to act in the interest of the Association that they had previously enjoyed. All the legislative affairs of the Association I have referred to this committee at Washington, and have authorized them to call the full committee on medical legislation for consultation, advice or aid whenever their services might be required.

THE UNITED STATES HEALTH SERVICE.

In his message to Congress, December, 1901, the President recommended the establishment of a Department of Commerce and Industries. In its passage through the Senate the name was changed to that of Commerce and Labor. Before the national legislature at the same time was a bill known as the Perkins-Hepburn Bill to increase the efficiency and to change the name of the United States Marine-Hospital Service to that of the United States Health Service, transferring this from the Treasury to the new department.

The American Medical Association has on several occasions expressed its desire for the establishment of a Department of Public Health, either as a separate department of the Government, or as one of the important bureaus of a department. Probably on account of a lack of thorough organization and coöperation, it has not been able to obtain this important recognition for the medical profession. In view of these repeated failures it would seem advantageous to the scheme of establishing ultimately a Department of Public Health that the Perkins Bill should become a law, because the United States Marine-Hospital Service could then with more propriety be removed from the new Department of Commerce and Labor, into a separate and independent department. This department should be in charge of a medical officer to direct our foreign and insular quarantine, interstate quarantine, the medical supervision of epidemics, and in fact, all matters pertaining to the general health of any group of states, or of the entire country.

The work of this officer and bureau can only be carried out with success by the earnest coöperation of the health officers of the various localities and states, and of the advisory board for the hygienic laboratory provided for in the Perkins-Hepburn Bill, for the national and local authorities acting in harmony would be better able to prevent the importation of disease, and to stamp out epidemics which may occur despite the greatest vigilance, and this with the minimum disturbance of the resident public, and of the commercial interests of more remote sections.

THE ARMY MEDICAL DEPARTMENT.

As the representative organization of the medical profession of the United States, it is our duty to coöperate with the medical corps of the Army in the effort to procure legislation which will not only uphold the rights and dignity of the medical officers in the public service, but will give better protection to the health and lives of our troops.

The status of the Medical Department of the United States Army is fairly stated in a circular issued by the medical officers stationed in the Philippines, in which they claim that the present condition of affairs "is regarded as a menace to the efficiency of the medical department, as it is felt to be unfair and unjust." In no other staff department is promotion so slow as in the medical department. It is graded for rank, promotion and pay below every other staff department of the Army, and, with the exception of second lieutenant, is graded below the line. A medical officer, under the provisions of the present law, to obtain a colonelcy must pass through three times as many files as an officer of the Quartermaster's, Subsistence or Pay departments; through more than twice as many files as an officer of the Engineers' or Ordinance departments, and more than one and one-half times as many as an officer of the signal corps. Officers of the line, having attained the rank of major, have to pass through but four files to obtain the rank of colonel, while the medical officers have to pass through nine files. All these facts are fully appreciated by the younger physicians of our country, and by the volunteer and contract medical officers, hundreds of whom are now serving with troops and are declining to become candidates for a position offering such an unpromising career and so little in the line of promotion and emolument.

The Secretary of War has been officially informed by the Surgeon-General that the number of available medical officers is being rapidly diminished, and he anticipates he will soon be unable to supply the demand for medical officers to replace those constantly returning from the Philippines, unless the prohibition placed by the Secretary of War upon the appointment of additional contract surgeons is removed. He says: "The service would no doubt be more attractive to well-educated physicians if the prospects for promotion were better, and I respectfully commend that Congress be asked at the present session to add to the medical corps of the Army, two colonels, six lieutenant-colonels and twenty-five majors. This would give thirty-three additional vacancies and would furnish an incentive to volunteer medical officers and contract surgeons now in service to seek admission to the regular army. I would also recommend that the age limit for volunteer surgeons and contract surgeons who have rendered satisfactory service for two years or more be raised to thirty-six years."

No one who has carefully studied the subject can but conclude that under the statutes now in force many lives have been sacrificed and much suffering has resulted from lack of thorough coöperation between the officer in command and his chief surgeon, and without doubt it would be to the interest of the service if medical

officers were always consulted with regard to the location of camps and military posts for the purpose of getting expert opinion upon sanitary questions.

In order to impress upon commanding officers the importance of military hygiene, and the greater necessity for this coöperation with the medical corps of the Army, the Surgeon-General has insisted that there should be established at the Military Academy at West Point a course of instruction on military hygiene.

It is the duty of this Association to lend its best efforts to the Surgeon-General, a former president of the American Medical Association, and one not only in a position to suggest the legislation which would best serve the interests of the Army, but one whom we know to be zealous of the interests, rights and dignity of the medical officers of the War Department.

VIVISECTION—SMALLPOX.

The committee to whom was entrusted the question of vivisection has been diligent, and it would seem successful, in its efforts to prevent unwise and injurious restrictions upon this important method of research.

The wide dissemination of the contagion of smallpox in the United States within the last few years demands the most earnest attention of the medical profession. Such ignorance or indifference to the immunizing power of vaccination is a matter of surprise in an advanced stage of civilization and, while laws for compulsory vaccination would without doubt be to the best interests of the whole people, it seems so contrary to the spirit of our institutions as to be impolitic as well as impracticable. It falls upon us as physicians to labor unceasingly to impress upon the communities in which we reside the necessity and safety of this immunizing process.

THE MEDICAL PROFESSION NOT WHAT IT SHOULD BE.

We will be wise if, from time to time, we make a critical analysis of our past, realize exactly what we are doing, and upon this, base such conduct as will assure to our successors a more satisfactory condition of our profession, and a higher achievement of this Association. Being human we are too apt to shut our eyes to unpleasant truths; to exaggerate the value and the importance of our own performances, and to think that what we have been taught to believe, or what we wish to believe is right and unchangeable. Let us ask ourselves plainly: Is the medical profession of the United States what it should be? Has it won the influential position to which it should aspire? Has it gained the power to secure just and proper legislation? Has it lived up to its obligations, and has the American Medical Association, which claims to represent one hundred and twenty thousand regular practitioners of medicine in the United States, fulfilled its mission? How many of us after due reflection can consistently answer these questions other than by saying plainly and regretfully—No. And wherein lies our weakness? To say we are part of a young and scarcely organized country; that our profession is widely dispersed over vast regions so remote from each other that contact and coöperation are difficult will not entirely satisfy the fairly critical mind. Such excuses might have been sufficient at an earlier date, but not now. To say that, despite these and other embarrassments, we of the United States have given to mankind the unequaled boon of ether anesthesia; that, through the achievements of members of our profession and of this Association medical and surgical science has been greatly enriched; that great specialties recognized the world over have been developed; that operations bold and original have been established beyond controversy; and that by reason of these various contributions to the science and art of surgery and of medicine millions of lives have already been saved, together with the merciful mitigation of suffering which all this implies. While a repetition of this may flatter our vanity, it will not wholly satisfy us when in honest purpose we realize how great are our shortcomings.

It is a fact painful to acknowledge that of the three so-called learned professions, the ministry, law, and medicine, ours is accorded the inferior position, and we who day in and out, in every home of the land, are close in the personal friendship of our patients, respected and loved as individuals, are incapable of wielding by organization and discipline the powerful influence of a united profession aiming at a high and honorable purpose. And what have been the results of this house divided against itself? Witness the snail-like progress which marked the various steps in securing our laws for elevating the standard of requirements in medical education and for medical practice: Witness the opposition to our efforts in securing better sanitary regulations, and in the struggle to protect the public from the horde of uneducated or misguided persons who, under the guise of Christian Science, Osteopathy, and other schisms, insist upon being permitted to take charge of and treat human beings suffering from disease without submitting themselves to the state examination legally required of us.

THE NECESSITY OF A BETTER SYSTEM OF EDUCATION AND OF A MORE THOROUGH ORGANIZATION.

There are, in my opinion, two principal causes of this evident weakness of the profession. First: The insufficient methods of medical education which have prevailed for the greater part of the first century of our national existence. Second: The lack of organization.

The Code of this Association says: "Those admitted into our ranks should found their expectations of practice upon the extent of their qualifications." We stand committed as the champion of higher medical education and the elevation of the standard of requirements applicable not only to the entrance examination, but to a rigid examination before the degree is received, as well as by the state before permission to practice is granted. To this rigid examination this Association, by its rules of conduct, demands another important essential. The highest order of learning, the greatest amount of skill may not make one an honor to our calling for "there is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical, and to attain such eminence is a duty every physician owes alike to his patients and his profession."

THE CODE OF ETHICS.

The American Medical Association is the sponsor for organized medicine in the United States, and failure to accomplish this end implies the failure of this Association. We must not fail, nor will we, unless we falter in carrying out the plan of reorganization in the liberal and progressive spirit which characterized the session of 1901. It is our plain duty to endeavor to bring about the adoption by the various constituent bodies of a practically uniform constitution and by-laws for each county, and for each state, modified only as the local conditions may require, and all governed by the same rules of conduct. These rules, as at present given in the Code of Ethics, adopted many years ago by this Association, should be also a subject of serious consideration at this time, for we can not claim consistency or be logical in

argument until there is but one code for the national Association and for all of the state organizations represented in the national body. This, as you well know, does not now prevail. Some years ago there lived and labored among us for the good of mankind and the honor of the profession a man whose genius was of the highest order, and whose fame carried the name of American surgery throughout the civilized world. He was one of those fearless pioneers in science who found his place ever on the frontier clearing the way for those who were to follow. In 1876, at the meeting of the American Medical Association, in Philadelphia, Dr. J. Marion Sims, in his presidential address, referring to the Code of Ethics, says: "The time will come when your organic laws, like the Constitution of our country, will require modifications and amendments to suit a higher intelligence, a broader education and a greater destiny." In my opinion, the time has come when we can not absolve ourselves from the responsibility of doing away with the inconsistencies for which we may now be properly criticised.

Such have been the changes in the statutes of a majority of the states since the Code was adopted by the respected founders of this Association that we find it insisting upon conduct on the part of our members which is contrary to the laws of the states in which they reside. For instance, one section forbids a member of the regular profession to act upon a board of examiners which has to pass upon the legal qualifications of persons not graduates of regular medical colleges, while in thirty-eight of the states represented here, the civil statutes require these boards which are composed in great part of members of the Association to examine, pass upon and sign certificates or licenses to practice of Homeopaths, Eclectics, and other subdivisions of medical practice. In six of the states, including the District of Columbia, the law requires three separate examining boards. In Mississippi, North Carolina and South Carolina, the examining boards are entirely composed of regular physicians, and in one of these states (Mississippi) while none but regulars are allowed on the board, the law explicitly says: "Distinction shall not be made between applicants because of the different systems or schools of practice that may be chosen." In almost all the states and territories regular physicians are compelled by the laws of the state in which they reside to disobey the injunctions of this section of the Code of Ethics.

A modification of this and other sections of the Code must be a part of the liberal plan of reorganization which we have essayed.

In conclusion, I ask this Association to stand for more than the healing art. To labor for the alleviation of suffering and for the restoration of health is a noble avocation, but to teach our fellows how to avoid disaster is a prouder privilege and a higher duty. We should be teachers of men. How better can we protect the public from disease in all its various forms and insidious processes than by perfecting in every county and in every community an organization which shall be ever watchful and insistent upon obedience to the laws relating to the public health.

Death of Torok.—G. von Török died at Vienna, May 20, from the results of a professional infection. He was in his fifty-third year and had been at the head of several Vienna military or civil hospitals in turn. His last work was on the necessity of treating severe cases of tetanus with injections of antitoxin not only under the skin, but directly into the brain and spinal cord.

Orations.

THE RELATION OF MEDICAL SCIENCE TO COMMERCE.

ORATION IN MEDICINE, DELIVERED AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCATION, HELD AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

FRANK BILLINGS, M.S., M.D.
CHICAGO.

I have been informed that there is no rule of the Association which fixes the subject of this address. I hope I may be pardoned when I depart from the custom which my predecessors have usually followed when they confined the subject of the address to the progress of medicine during the year just past.

We live in a period of the greatest activity of the history of the world. Modern inventions annihilate time and distance. Electricity and steam approximate the most distant parts of the civilized globe. Vast amounts of capital are invested in electrical, steam and other related interests.

Large commercial enterprises are carried on or launched into new fields, which require money, the employment of the brightest intellects and skilled and common labor.

Competition is great in all the affairs of men. The struggle for supremacy between nations and between men was never so fiercely contended as now. The world is richer than ever before. Great individual fortunes, the result of the efforts of the few years of a single span of life, are seen everywhere. The wage of the laborer in our country is larger than ever before and he may command the necessaries as well as many of the comforts of life.

This modern restless activity, with its nerve-racking; the evil results of a luxurious life; the moral obliquity which it may breed, as well as many other conditions which affect the health of individuals, while of interest to medicine, do not concern us in the consideration of the broader subject of this paper.

THE BROADER APPLICATION OF MEDICAL SCIENCES.

Medical science is interested in and is of greater importance to the world than ever before, in protecting individuals, states and nations from infectious diseases, which are rendered more dangerous than formerly because of a denser population, increased facilities of communication between the peoples of the earth, by travel and by national and international interchange of food and other commercial products.

Medical science, too, is closely identified with the vast monied interests of the merchant marine and of national and international commerce. Quarantine against the spread of infectious disease is applied wisely or foolishly in direct ratio to our knowledge or ignorance of the cause, the means of transmission and the evolution of disease. So, too, medicine has to do with the knowledge which will enable man to escape from and finally remove the conditions which cause infection and which render a country uninhabitable to civilized man.

Medical science must safeguard man against infection and intoxication from parasitic diseases of animals used for food and from contaminated and adulterated food and drink. Not only from a humanitarian standpoint is medical science related to commercial pursuits, but the sciences related to medicine have done much to preserve animals used for food and to protect many agricultural interests from disease and destruction.

One may say, I think, that in no other pursuit which engages the serious attention of men are there as many earnest, unselfish and philanthropic workers as there are to-day in the broad field of medicine.

In the various departments of science related to medicine one finds educated, skilled, energetic, earnest workers after truth, willing to sacrifice home, friends, health and life for the advancement of the science which has for its primary object the conservation and prolongation of human life. Pecuniary reward for them is never large and never commensurate with the character of the work.

Furthermore, great and astounding as are the modern commercial inventions, the progress made in medical science during the last twenty years is equally great.

Is modern medicine prepared to meet the demands of modern progress concerning the questions which interest humanity and commerce? Let us answer the question by a brief retrospect of the progress of medicine and by a statement of the present status of medical science.

FIRST APPLICATION OF PHYSICAL SCIENCES TO MEDICINE.

From the latter part of the eighteenth to the beginning of the last quarter of the nineteenth century the science of medicine developed steadily upon a rational physical basis. Jenner's discovery of the protection of the human race against variola by vaccination with cow-pox, illuminates with noonday splendor an era otherwise gloomy with its hypotheses, theories and superstitions concerning disease.

This single brilliant achievement of the end of the eighteenth century was the beginning of the evolution in medical science which made the nineteenth century notable. The application early in the nineteenth century of physics, of physiology, of pathologic anatomy and of chemistry, to the study of disease, developed a more exact knowledge than before existed. To Auenbrugger that early period owes much through the discovery of methods of physical examination which were slowly developed and perfected by Corvisart, Laennec, Piorry, Skoda, Wintrich, Traube, Louis, Cheyne Stokes, Graves, Corrigan, Flint, Sendamore and others. Pathologic anatomy made wonderful strides under the labors of Virchow, Rokitansky, Arnold, Stilling and their students. Physiology was developed by the labors of Johannes Müller, Brücke, Helmholtz, Trousseau, Vierordt, Foster, Carpenter, Magendie, and their disciples; and the fuller knowledge embraced in physiologic chemistry was added to the rapidly-broadening field of medicine by Hoppe-Seyler, Schwann, Stricker, Prout, Liebig and others.

BACTERIOLOGY.

The development of the microscope during the second and third quarters of the past century added a mighty weapon to the armamentarium of the physicist. The microscope was an aid to the investigators of pathologic anatomy, of physiology, of chemic physiology and of other subjects, and it was the one necessary means by which the teeming world of bacteria was made visible. This discovery and the knowledge which has come from a study of these infinite and yet often mighty beings has revolutionized medicine.

It was Pasteur's brilliant studies of the infective microbes of air which led to the discovery of the source of contamination of wounds and which made it possible for Lister to evolve a method of protection of wounds from air infection. The aseptic surgery of to-day is but the evolution of Listerism which had its basis of existence in the discoveries of Pasteur. With the microscope Pasteur rid the world of the superstition of spontaneous generation. He proved the infectiousness of dust-borne air through the microbes it carried. He blazed the way for others in the study of bacteria as agents of putrefaction, fermentation and of pathologic infection in animals.

Bacteriology became an exact science with the discovery of Robert Koch of cultural methods which made differentiation of bacteria possible. The causative relation of bacteria to all infective processes was practically proved by the laws promulgated by Koch. In twenty years the bacterial cause of tuberculosis, typhoid fever, cholera, diphtheria, pneumonia, pyogenic processes, erysipelas, gonorrhea, epidemic meningitis, epidemic dysentery, the plague, charbon, glanders, tetanus, influenza, and lepra has been proved.

PARASITES.

The discovery of the hematozoön of malaria by Laveran; the recognition of the ameba of dysentery by Loesch; of the ray fungi and especially the actinomyces as infective agents in the lower animals and in man, and the more exact knowledge of other animal parasites infecting man and animals, which the microscope has made clear, have been as epoch-making in parasitology as the discoveries of Pasteur and Koch in bacteriology.

The recognition of the relation of bacteria, protozoa and animal parasites to infective disease has been the means of a more exact knowledge of the clinical phenomena of disease, of morbid anatomy, of physiology and of physiologic chemistry than would have been possible without it.

TRANSMISSION OF INFECTION.

The knowledge of the cause has led to a study of the life-history of infective organisms outside of as well as in the animal body. The mode of propagation, the means of transmission of infective micro-organism, by fomites and other agents, has become known. The rôle which insects which infest animals play as definitive or intermediate hosts, has been studied and proved. The discovery of Manson of the transmission of *Filaria sanguinis hominis* by the mosquito was of vast importance as a suggestion of the mosquito as a definitive host in malaria. The investigations of Manson, Ross, Celli, Grassi, Dionise, Marchiafava, Bignami, Koch and others have made our knowledge of malaria exact. With the microscope we may now not only recognize malaria and differentiate it from the other infective fevers, but we may also at the same time recognize by an examination of the blood the type of malarial infection and foretell its course. Not only may we recognize the disease definitely and apply the drug treatment more rationally, but the knowledge of the means of its transmission from man to man enables us to apply preventive measures which, as we shall see later, are of the greatest importance from a commercial as well as from a humanitarian point of view. The recognition of the rôle of the mosquito in malaria has been, furthermore, a stimulus to the study of the same insect in relation to other infections.

The brilliant research work of our own Reed and Carroll in 1900 in Cuba, by which they proved that the mosquito of the genus stegomya is the sole means of the transmission of yellow fever from man to man is of great importance as a scientific fact. The influence of this discovery upon mankind as a prophylactic against a disease which has killed multitudes and also from a monetary point of view, in reference to commercial pursuits, is not appreciated at this time as it should be.

Hardly less important is the fact that the *Bacillus pestis* may infect fleas and these in turn infect rats, mice and man. It is important, too, to know that pests like the house fly may be carriers of infective bacteria from refuse filth to our kitchens and tables and contaminate food and thus infect us with typhoid fever, cholera and perhaps other diseases which are propagated by filth.

The study of bacteria in the laboratory and in the blood tissues of infected animals has led to the discovery of the means by which bacteria disturb the animal economy and produce phenomena expressive of disease. The fact that the blood and tissues of infected animals contained a toxin which could also be isolated from pure bacterial cultures in the laboratory and that this toxin when introduced into an animal was capable of exciting the same phenomena of disease as the bacteria themselves, was positive proof that bacteria excite disease phenomena by means of a toxin which they form. The elaboration of antitoxins in the body of the infected animal was also promptly recognized and served to explain not only the self-limitation of many of the infective diseases, but it also helped us to understand the immunity which one attack of some of the bacterial diseases affords.

PROTECTIVE INOCULATION.

Long before bacterial toxins were recognized as the cause of disease phenomena, Pasteur established the principle of protective inoculation with bacteria of lessened virulence, which was brought about by attenuation of the bacteria by a modification of cultural methods and also by serial inoculation of certain lower animals. This he successfully applied to charbon in sheep and cattle and to chicken cholera. In both of these diseases the bacteria were known and the problems of attenuation could be carried on in the laboratory by direct study of the bacteria before inoculation and afterward when they were recovered from the bodies of the animals experimented on.

His final life's work was no less important, in firmly fixing the immunizing influence of attenuated bacterial inoculation in rabies. Here the discovery of the infecting bacterium escaped every known means of recognition by examination of the tissues and blood of the infected animals microscopically and culturally. Apparently there are pathogenic bacteria which we do not know because we have not yet recognized the proper culture material for the successful artificial cultivation of them, nor have we discovered the tinctorial reaction which they may possess and, finally, it is not improbable that they may be infinitely smaller than other bacteria and, therefore, more difficult to recognize.

Pasteur recognized the fact that in hydrophobia the brain and other nervous tissue of an infected animal are capable, when inoculated into another animal's brain, of producing the disease. That the infected brain, used for inoculating animals, contained the bacteria, which caused the disease, was proved by the fact that a stage of incubation occurred in the inoculated animal and that a series of animals were successfully inoculated consecutively from the first. Pasteur then successfully attenuated the unknown bacterium of hydrophobia present in the nervous tissues of an inoculated animal by desiccation of the nervous tissue in a sterile apparatus by methods too well known to repeat. Nor is it necessary to occupy time in repeating the well-known methods pursued by Pasteur and his pupils in the use of the graduated doses of attenuated bacteria contained in the nerve tissues in the prophylactic treatment of rabies. To Pasteur, therefore, do we owe the scientific recognition of the principle of protective inoculation.

It is now a well-known fact, however, that inoculation against disease was practiced by the Chinese 1000 years ago. They inoculated the healthy with smallpox as a protection against the disease. Variolization was also practiced in Europe in the seventeenth and eighteenth centuries. We read that in 1718 Lady Montague caused a son to be inoculated with variola in Italy and that two years later her daughter was inoculated in England. The practice was followed in Ireland long after the successful establishment of vaccine as a protection against variola. Inoculation against syphilis, or syphilization, was also practiced in Europe during the nineteenth century.

To Jenner, however, do we owe the first example of the protective inoculation by means of an attenuated virus. This attenuation we now know was established by the accidental inoculation of milch cows with smallpox, producing a modified disease, vaccinia. That vaccinia, produced in man by inoculation direct from the cow, would protect against smallpox was proved when in 1798 Jenner successfully vaccinated, direct from the cow, the five-year-old lad William Summers.

The thousands of successful vaccinations which have since been performed and the thousands of lives which have been saved by vaccination are proof of its validity and utility. The immunity established by protective inoculation is apparently the same as that induced by an unmodified attack of variola.

SERUM THERAPY.

When chemistry had revealed the nature of bacterial poisons and experiments established their relation to the phenomena of disease, it was proved that substances were formed in artificial culture media and in the blood and tissues of infected animals which had the power to neutralize the effect of the bacterial poison in other animals infected with the same organism. Further investigation showed that an animal inoculated with the laboratory preparation of antitoxin was protected against the disease.

Furthermore, it was found that the blood serum of an animal inoculated with bacteria in a non-fatal and repeated dose contained an antitoxin. When the blood serum of the infected animal was injected into a healthy animal, the latter was protected against the original disease.

Antitoxin was, therefore, proved to be formed in artificial media of bacterial cultures and in the bodies of infected animals. When the antitoxin thus formed was injected into an animal it had the power to protect it against the particular bacterial infection or, if given subsequent to the infection of the animal, to mitigate the severity of the disease or to entirely check it.

Thus, by Koch and his students, was serum therapy established as a principle. Upon this principle there has been established and given to the world the antidiptheritic serum of Behring and of Roux.

A curative or immunizing serum has been developed for Asiatic cholera, tetanus, erysipelas, plague, epidemic dysentery, streptococcus infection and other diseases. While the serum treatment has not proved successful in all the diseases in which it has been used, it has been so successful in some—diphtheria, for instance—as to firmly establish the principle of serum therapy.

INFLUENCE OF BACTERIOLOGY UPON PRACTICAL MEDICINE AND SURGERY.

These practical results in specific prophylactic and curative therapy are but a part, however, of the influ-

ence which bacteriology has had upon medicine. The stimulus, given by bacteriology to the study of pathologic anatomy, physiologic chemistry, clinical phenomena and of physical and chemical changes of the fluids and tissues of the body, has resulted in a knowledge so comprehensive that medical science has been revolutionized within the last twenty years. Speculative theories and hypotheses have given place to facts based upon sound principles proved by experiment and clinical observation.

Bacteriology made possible the comprehension of perfect cleanliness and enables the surgeon to invade every part of the body without fear of infection and has saved thousands of lives which twenty-five years ago perished miserably as the result of disease at that time inoperable, or the result of infection from contact with the surgeon. By means of cleanliness and skill, induced by a broader experience, the surgeon has been able to add to our knowledge information of great value which could have been obtained probably in no other way. He has been able to study disease in the living body and show the relation of a disease process to infection. He has thus been able to clear away many of the misconceptions of symptomatology and diagnosis, especially in disease of the abdominal organs.

Bacteriology has stimulated laboratory clinical diagnosis. Bacterial reaction to sera and blood cultural tests are of the greatest aid to diagnosis. Clinical research work has command of an armamentarium consisting of a knowledge of pathologic anatomy, of physiology, of bacteriology, of chemic physiology and of physics, which allows of a precision in diagnosis never before at the command of the physician.

From the foregoing it seems sufficiently demonstrated that to-day medical science possesses a knowledge so exact that we may answer definitely the question of our relation to the commercial affairs of the world. Infectious diseases which affect agricultural interests, like swine plague, rind pest, fowl cholera, glanders, tuberculosis, actinomycosis, trichinosis, and many of the parasitic diseases of plants and of animals have been studied by scientists with most definite results.

PREVENTION OF INFECTION.

To-day no sane man believes in spontaneous generation. The presence of an infective disease either bacterial, protozoic, parasitic or fungous, means the recognition of progenitors in the near environment of the infected organism. In practically every one of the diseases of animals above named the scientific investigator has already discovered the nature of the infecting agent, knows its life-history, what conditions are most necessary for its propagation and multiplication and what will remove and annihilate so dangerous an enemy.

Our Department of Agriculture, and especially the Department of Animal Industries, has done much to place comparative medicine on a scientific basis. Briefly stated, there is not a fungous-parasitic, animal-parasitic, protozoic or bacterial disease of the lower animals which can not, with our present knowledge, be stamped out for all time.

Why do the acute epidemic infections attack the swine, fowl, and cattle of the agriculturist? Because the causative germ is allowed to live and multiply after a former epidemic, or, it is transplanted from place to place by infected animals or by fomites. All of these acute diseases of the lower animals are preventable. One has but to read of the labors and investigations of Pasteur, in relation to charbon, to the silkworm disease and to fowl cholera to know what indifferent careless methods may do to prolong and propagate an infection. On the other hand, proper precautions as to the destruction by fire of the infected bodies of animals and plants, the application of cleanliness through the use of abundant pure water, pure food, air and sunlight would extinguish an epidemic.

This may imply the loss of infected property by the individual, the municipality, the state or the national government, but fall the loss where it may, it is often necessary to destroy absolutely the infected organism that the greater commercial interests as well as the health of the people may be preserved. For example, actinomycosis of cattle, trichinosis of swine, tuberculosis of cattle, may be absolutely controlled and finally obliterated by proper sanitary measures. The expense of such an undertaking would be relatively great, but under the direction of scientists it can be done. Pasteur, with the aid of the government of France, abolished swine plague, charbon, silkworm disease and other conditions harmful to the agricultural interests, with the result that millions of francs were saved to individuals, to corporations and to the government.

The same happy result would occur here and in addition the health of our people would be protected against the possible infection with tuberculosis, actinomycosis, trichinosis and intoxication from other infected animal foods.

SMALLPOX.

But what of the epidemic scourges of the earth, smallpox, yellow fever, cholera and the plague? No rational individual can for a moment doubt the protective influence of bovine vaccination against smallpox. Let one but look up the statistics of the mortality of this disease in the anti-vaccination period and he will become convinced of the utility of protective vaccination. In London the annual mortality from smallpox from 1660 to 1810 per million of the population was 2040 to 5020, while with vaccination, not adequate, however, the death rate per million was from

1831 to 1835	830
1838 to 1853	513
1854 to 1871	388
1872 to 1882	262
1883 to 1892, only	73

In Germany where variola had decimated the population in the prevaccination period, thorough vaccination has practically stamped out the disease. Compulsory vaccination properly enforced would effectually eradicate the disease and would free commerce of the losses due to quarantine regulations. The question of individual rights, especially under a republican form of government, is debatable when one considers that science has proved the efficacy and utility of protective vaccination against variola; that with modern methods the process is free from the danger of inoculation with any other disease; that vaccinia is practically a harmless disease and, finally, that an individual right may become an evil when the practice of it subjects others to unnecessary risk of health, life and property.

Medical science, therefore, possesses the knowledge to rid the earth of variola. From a humanitarian point of view, this knowledge is priceless. Still, let one but compute the sum saved to the nations of the earth by vaccination, estimating each life saved at $5000, the usual valuation placed upon human life by statute. Great as would be this sum, it is many times less than that saved to the commercial interests of the world by the control of the disease which even inadequate vaccination has afforded. Think for a moment of the loss to

commercial interests by quarantine and other restrictive measures, in the event of an epidemic of variola, without protection from vaccination.

THE PLAGUE.

The plague, the Black Death, which was first recognized in Europe in the year 543 as the *Peste Justinenne*,[1] became pandemic in the fourteenth century and 24,000,000 people are said to have died of it. In 1655, London alone lost 70,000 people from the plague. It disappeared from Europe about 1720. It continued, however, in Egypt, Asia and other Eastern countries in small foci, occasionally occurring as severe local epidemics. In 1830, 60,000 people died of the pest in Bagdad. During the remainder of the nineteenth century it appeared sporadically in Asia, Turkey, Tripoli, Persia and other Asiatic countries. In 1891 it reappeared in epidemic form in middle China. From that date to the present time it spread over China, reaching Canton in 1894, Hong Kong in epidemic form in 1896, and in Bombay the same year. It appeared in Oporto, Spain, in 1899; in Glasgow in 1900 and in San Francisco in 1901, not to mention sporadic cases elsewhere in seaports of Europe and Central and South America.

In 1894 Dr. Yersin, Director of the Pasteur Institute at Hong Kong, discovered the *Bacillus pestis*. He elaborated a serum which has since been used with success as a prophylactic and curative agent. Haffkine prepared a protective vaccine which has also proved successful as a protective inoculation. It has been used in hundreds of thousands of cases in India with no harmful results and is said to reduce the susceptibility at least 75 per cent. and the mortality about 90 per cent.[2]

The plague, the Black Death of the fourteenth century, still exists and rages with fearful mortality in communities which have no regard for hygienic surroundings. It is communicated to people through the abraided skin, or by flea bites, through the respiratory tract apparently by bacteria in dust-laden air and also through the alimentary tract by contaminated ingesta. Modern hygienic measures, which consist of perfect cleanliness, isolation, the destruction of vermin and the use of Haffkine's vaccine as a prophylactic and Yersin's curative serum, serve to control the disease. There can be no doubt that if sanitary authorities will take proper precautions to recognize the disease, proclaim its presence and then control it by the means which science has discovered, that the terrible scourge may be safely held in check and finally abolished from every civilized community.

The value to commerce of the discoveries of science in relation to the plague can not be computed. While the knowledge of its cause and prevention is exact, the impossibility of controlling the unsanitary conditions of the countries of the East and even of our own western world makes it necessary to continue the quarantine regulations which so often restrict commercial ends.

YELLOW FEVER.

The mortality from yellow fever in the United States during the last one hundred years, 1798-1897, has been about 80,665.[3] This gives an average annual mortality of 807. Several severe epidemics have occurred and it has prevailed extensively in smaller towns where the mortality records have not been kept. Hence the above figures do not represent the full annual death rate from the disease. Yellow fever has been the scourge of the West Indies, Central and South America, Mexico and of our Gulf States.

Recognized as an infective disease, indefatigable search has been made for the bacterial cause by many earnest workers. Apparently up to the present time the specific infective germ has not been found. Indeed, from a recent paper[4] by Reed and Carroll, it would seem that the bacterium must be infinitesimally small.

Although we do not know the specific bacterium of yellow fever, a most brilliant discovery has been made of the means of transmission of yellow fever by means of the mosquito (*Stegomyia fasciata*) by two of our countrymen:[5] Walter Reed, Surgeon U. S. A., and James Carroll, Contract Surgeon U. S. A. Twenty years ago Finley associated the transmission of yellow fever with the mosquito, but no proof of this was given until the epoch-making and decisive experiments of Reed and Carroll. Furthermore, these experimenters proved that fomites contaminated with the vomitus and discharges of yellow fever patients do not transmit the disease to man.

In Havana, Cuba, the sanitary authorities of the United States have attempted during the last year or more to test the fact of yellow fever transmission by the mosquito. To this end the city was made clean; the breeding places of mosquitoes in and about Havana were destroyed as far as possible and persons suffering from yellow fever were isolated and protected from the mosquito. Thus the number of mosquitoes were much diminished and care was taken that remaining mosquitos did not become infected by biting yellow fever patients. As a result yellow fever disappeared from Havana and for the first time in years no case had occurred up to May 1 of this year. The usual marine quarantine regulations of the United States restricting the non-immune travel from Cuba was postponed. Furthermore, the Congress of the United States will probably modify the quarantine regulations in reference to yellow fever to meet the more hopeful conditions which the researches of Reed and Carroll have established in relation to the definite transmission and control of the disease.

There can be no doubt of the practical value of this important discovery to mankind. Proper sanitary measures in reference to cleanliness, the destruction of mosquitoes and their breeding-places and proper precautions against the infection of the few undestroyed mosquitoes by isolation of every imported case of yellow fever will eradicate the disease from every civilized country.

MALARIA.

Malaria has not borne as important a relation to commercial communications between peoples as yellow fever and the plague. Nevertheless, it has had an enormous influence upon the health and prosperity of the inhabitants of certain regions where it is endemic and at times epidemic in its prevalence. The principles which prevail to induce malaria in a certain region is the existence of human malaria and of the mosquito of the genus *Anopheles*.

The mosquito is annoying but harmless until she becomes infected with malaria by biting a human being infected with the disease. Such an infected mosquito may inoculate all the people she subsequently stings. In this manner a region ordinarily free from malaria may become infected by the importation of a case of malaria from a distant point. It is also possible that

1. Ph. Hauser: La Peste dan les temps anciens, etc., Paris, 1900.

2. Pacific Med. Jour., January, 1901.

3. Obtained from the records through the kindness of Surgeon-General Walter Wyman, U. S. M.-H. S.

4. The Etiology of Yellow Fever. Am. Med., Feb. 22, 1902.

5. Experimental Yellow Fever, Trans. Assoc. Am. Phys., vol. xvi, 1901.

a mosquito infected with malaria could be transported by railroad or ship in the luggage or clothing a considerable distance and then sting and infect individuals in its new environment.

We have many examples of infection of people in localities usually free from malaria, through its introduction by means of imported laborers employed in the construction of railroads, canals, etc. Malaria was rarely found in Chicago until 1891 when the construction of the World's Fair buildings was commenced. Then it was attributed to the excavations and the turning of virgin soil. The construction of the Chicago Drainage Canal began at the same time and continued until 1900. During that period malaria was constantly present in Chicago and in 1898-9 was augmented by importation of infected soldiers from Cuba and other malarious regions. No one can doubt that malaria was imported in the persons of some of the foreign laborers employed in the above-named enterprises and that the previously innocent anopheles became infected and afterward inoculated many people who suffered from malaria at the period named.

The mortality of malaria in malarious districts with a considerable population is large. Thus Professor Celli[6] says that the mean mortality from malaria in Italy is about 15,000 victims annually, and that about 2,000,000 cases occur in Italy each year. As the mean duration of malaria is generally long, sometimes infecting the individual for years, the loss of labor and of production and the expense entailed in dealing with the disease, amounts to several millions of francs. Furthermore, Celli says that owing to malaria about 5,000,000 acres of land remain uncultivated with a resulting large economic loss. According to the very accurate calculations of Ricchi, the Adriatic Railway Company with 1400 kilometers of road and employing 6416 men, spend on account of malaria alone 1,050,000 francs a year. In the Italian Army in the twenty years from 1877 to 1897 there occurred more than 300,000 cases of malaria. Finally, Celli[6] says malaria annually costs Italy incalculable treasure.

Malaria is so widely disseminated over the world and the opportunity for continued infection of the mosquito so great that it seems almost hopeless to try to eradicate the disease. The principle upon which malaria may be fought has been suggested by science and has proved of value. This consists of the destruction of the mosquito and its breeding places. The prevention of the infection of the remaining mosquitoes by isolation of the malarious individual from the mosquito and the diminution of malarial material in man by an attempt to cure him with quinin and other anti-malarial remedies.

Experiment has already demonstrated that non-immune individuals may live safely in the most malarious districts, with adequate yet simple protection from the sting of the mosquito infected with malaria. Man thus protected against malaria may now explore, settle in and develop regions of the earth hitherto inaccessible because of the danger from the deadly tropical malaria.

This address would become too long were one to take up other infectious diseases, although in some of them the science of medicine has made such successful investigations that the knowledge of the cause, means of propagation and dissemination is exact.

TYPHOID FEVER.

I can not close without saying that if in typhoid fever we could employ, unembarrassed by the great cost of the necessary measures, the precautions which science affords to prevent water and food contamination, that the disease would be effectually abolished. The great cost of the measures necessary to stamp out typhoid fever would, however, be an economic measure, inasmuch as the immense value to the state, of the conservation of the labor of the thousands sick and the lives saved each year would more than compensate for the treasure spent.

VALUE OF MEDICAL SCIENCE NOT RECOGNIZED.

However much medical science has done for humanity and great as the value of the knowledge of infectious disease is to the commercial interests of the world, scientists have not, especially in our own country, received the recognition and financial aid from the state, from corporations or from wealthy individuals which they deserved.

MEDICAL SCIENCE SHOULD RECEIVE FINANCIAL SUPPORT.

Medical science should receive the moral and financial support of states and municipalities in the employment of the measures which science has proved to be efficacious in modifying, restricting and abolishing infectious disease. Wealthy corporations and individuals should establish institutes of original research in properly-constructed and equipped hospitals and laboratories. There the many earnest, indefatigable and conscientious medical investigators could make more perfect the knowledge we already possess of many of the infectious diseases and, unembarrassed by financial needs, could search for the cause, the means of transmission and the prevention and cure of the diseases of which we know but little.

Funds, too, should be created to support the cost of committees of scientific investigators in regions now dangerous to the white man. By such means the many plagues of the tropics would be investigated and conquered. Regions uninhabitable or dangerous to the Caucasian would become accessible to settlement and commercial intercourse. Civilization, humanity and commerce would be advanced and multiplied.

It is right, therefore, that medical science should demand of the monied interests of the world the recognition which, though long withheld, is her just due. This she asks, not that individuals may profit in either fame or fortune, but that she may the more readily rid the world of infectious diseases for the sake of humanity.

6. Malaria According to New Researches, 1900.

SUTURE OF HEART WOUNDS.

ORATION ON SURGERY, DELIVERED BEFORE THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

HARRY M. SHERMAN, A.M., M.D.
Professor of Surgery, Medical Department of the University of California; Surgeon to St. Luke's Hospital; Orthopedic Surgeon to the Children's Hospital.
SAN FRANCISCO, CAL.

THE RECORDED SUTURES OF THE HEART.

In 1896 three operations for the suture of wounds of the heart muscle were done. Two are recorded as having been done in 1897. Four are credited to 1898. In 1899 the heart was sutured eleven times, in 1900 three times, and in 1901 nine times, three of this last set being done in this country. This year two operations have thus far been reported. This makes a total of thirty-four operations in the six years following the first attempt to treat, by a simple surgical procedure, an organ usually supposed to be particularly vulnerable, in fact, so vulnerable that any interference, even for surgical purposes, might be followed by immediate fatal results.

There is more than enough material here for our consideration at this time, and I beg you to follow me in the necessarily brief discussion which I offer you.

In order to start with some knowledge of the results of these operations, before any discussion, in general or in detail, is attempted, a short review of them will be necessary.

REVIEW OF THESE CASES.

As regards the manner of wounding, all these cases, except two, were due to punctured or incised wounds, the two exceptions being bullet wounds. The particular injury to the heart was inflicted on the ventricles thirty-two times, the left ventricle being implicated seventeen times and the right thirteen times. In two cases only were auricles opened, once the right and once the left, and there are three cases in which my information is incomplete. In most of the cases where details are given the pleura is reported wounded, and usually there was a hemothorax, the collection representing, in large part, the overflow from the pericardium.

The practical questions which usually come to the mind of a surgeon in planning an operation to meet these conditions, relate to the method of exposure of the heart, the detail of the treatment of its particular condition, and the method of closing and dressing the wound of the operation.

In the cases reported the heart was reached variously, depending on the location of the original wound in the skin and the choice of the operator, but either a flap of all of the tissues of the thoracic wall was turned up, or a resection of two or more ribs was practiced. The particular detail is of no great moment provided that the heart is properly exposed. The special method of treating the heart wound is of interest for it involves the choice of suture material for a novel situation, the time at which the suture is introduced and tied with reference to the heart beat, and the depth of the stitch in the heart muscle. In our cases three operators are recorded as having used catgut, Fontan of Paris, Marion, and Launay; in all other instances where the suture material was specified silk was used, and in most cases the sutures were interrupted, though in a small number a continuous suture was practiced. It is of interest to note that these operators particularly avoided including the endocardium in the suture. One of them definitely reports introducing and tying the suture during diastole.

As regards the closure of the wounds—the tissues involved in the flaps or incisions were, of course, replaced: in seven instances drainage of the pericardium and pleura was practiced, and in four the pleura alone was drained. The other cases are said plainly to have been closed without drainage, or nothing is said of the matter at all.

RESULTS OF THESE CASES.

Now, of the total number of these cases five died on the operating table, of hemorrhage, and ten died very soon afterwards of the effects of hemorrhage or the shock of the operation; so that nearly half of the cases that survived the injury long enough to be subjected to operation died during or very shortly after that operation. The other group, nineteen in number, had various fortunes, but thirteen of them recovered and only six died. I think it is fair to stop a moment and consider these facts. Surely the fifteen who died of hemorrhage or shock with operation would probably have died of hemorrhage exactly the same without operation. No fatal traumatism is inflicted by exposing the heart; and stopping the hemorrhage from an incised or punctured wound in the ventricles is a simple matter when the heart is once exposed; indeed, pressure with the finger or a tampon will stop it temporarily. At all events the operation and suture did not add materially to the amount of blood lost and so can not be counted as having hastened the death from hemorrhage, and the average amount of shock I can not estimate. But I believe that it is fair to say that these patients had, from the first, practically no chance to recover, and that, if this had been known, the operations need not have been done—but I say this with full appreciation of the fact that the inevitable fatality could not have been definitely predicated in any case. Of the other nineteen, the comment is, plainly, that they had a chance to recover. In each of them the suture of the heart was a successful procedure; in not one instance was the fatal outcome due to a secondary hemorrhage. The six who died succumbed to the common matter of an infection, sequent to wound and operation. Of the thirteen who recovered four did so in spite of a concurrent infection. But the point is that of these thirty-four cases, fifteen had, really, but very slight expectation of benefit from the operation and died probably neither in spite of it nor because of it—nineteen had expectation of recovery from operation, and in thirteen that expectation was realized.

I do not wish you to think that I am trying to make these cases give a better percentage of recoveries than they really do. That percentage, as the whole list stands now, is about one-third. But if we wish to consider only the final success or failure of the suture of the heart muscle we must limit our inquiry to the cases in which this procedure was really tested, and then we see that the percentage of recoveries may be considered a little more than two-thirds.

SLOW ADVANCE IN HEART SURGERY.

The road to the heart is only two or three centimeters in a direct line, but it has taken surgery nearly 2400 years to travel it, for I take it that the operation of opening the chest for an empyema, which was known to Hippocrates, was a direct predecessor of the attempt to treat other thoracic viscera. It does not need to be said that during most of this time surgery stood still and that the advances were little by little. We all know that before the antiseptic and aseptic eras pleurotomy for empyema gave very terrible results, and there could be but scant encouragement to draw surgeons to fresh fields. However, more than a century ago (1798) Desault, with the logic and precision which still characterizes the French school, laid down the rules for opening the pericardium for an empyema situated in that sac, and anticipated much of the technic of to-day, and it took surgery ninety-eight years to pass from the pericardium to the epicardium, across a space that is such only potentially.

It is a little odd that surgeons have hesitated so long to go to the aid of the wounded heart in man. Physiologists for years have experimented on the hearts of animals selected from nearly all the species of the animal kingdom. The special references to this matter are not needed here, but it is germane to the subject to note that the tolerance of the mammalian heart for manipulation, and its persistence of action in spite of wounds and obstacles, have long been known.

The experience of the various operators has been, as might therefore have been expected, that the heart of man was no more resentful of intervention than were the hearts of other mammals, and that it not only could be

handled, and even partially lifted from the pericardium, but that its muscle could be sutured so as to close a wound, just as can be done with the skeletal muscles. However, in the case of the systemic muscles rest can usually be enforced, either completely or partially, during the process of healing, but this can not be done with the heart. Here comes the great difference between the heart muscle and the skeletal muscles, both as regards suture and the reparative process, the heart must continue to act for the whole of the time.

The question now centers, first, on the possibility of properly suturing, that is, placing a practical suture in the moving heart, and second, on the result of the healing process. The first question is one of only technical moment, for the work on animals has shown that it can be done, and the experience of those who have sutured the human heart has not disclosed any special difficulty in the procedure, but the matter and manner of the sutures are debatable. The general advice is that the sutures of muscle should be of silk and it has been most frequently used in the heart muscle, but three of the successful cases, the two of Fontan's and the one of Launay's, were sutured with catgut. Elsberg has advised, as the result of his experiments on rabbits and dogs, that the suture material should be silk, and that the suture be an interrupted one, and very superficially placed, believing that deep sutures will tear out while superficial ones will hold. He also advises that the suture be placed and tied during the diastole of the heart.

EXPERIMENTAL RESEARCH.

To discover, if I might, the exact value of these somewhat confused matters, I have exposed the hearts in eleven dogs, and made wounds of various sizes and in different directions in the left ventricle, limiting myself to that particular cavity as it was the one most frequently wounded. In each instance, except perhaps one, I verified the opening of the cavity of the ventricle by passing an instrument into it so as to get a free spurt of blood during one or two systoles. It was found that this verification was a practical necessity, for the non-penetrating wound of the myocardium will give forth, during systole, a spurt so large that it could easily be confused with one from the cavity of the ventricle. These wounds were then sewed with ordinary commercial cumolized catgut; in some deep and superficial stitches were combined; in some very deep, so as to surely penetrate the endocardium, were used, and in others very superficial stitches; and the variations of interrupted, continuous and recurrent continuous were practiced.

In the earliest operations toothed thumb forceps were used to pick up a few muscular fibers to steady the organ for the making of the incision and placing the sutures. At the first pinch the heart, of course, delayed a systole and then began to beat rapidly and violently and continued this as long as the forceps were in place. It was exactly as if the heart were surprised and at first checked by the intrusion of the forceps teeth, and then recovered to make violent and strenuous efforts to escape from the grip, and if the forceps' hold was continued it usually succeeded in this by the tearing of the fibers. One of my dogs died on the table from hemorrhage due to the tearing of the muscle in the bite of the forceps and my inability to at first catch the edge of the open wound in the bottom of a pericardium overflowing with blood, and although I did finally succeed in getting in two sutures they were placed too late.

A METHOD TO HOLD THE HEART DURING SUTURE.

To overcome this difficulty with the forceps I put into the heart, before incising it, two long suspension loops of silk, dipping the needle carrying them deep into the ventricular wall. These gave complete control of the organ, for they did not tear out, and even though the heart was hanging from them its function continued, and much less tumultuously than it did in the bite of the forceps; and with them the heart could be lifted quite half-way out of the pericardial incision, or it could be swung to one side or the other, or rolled over in either direction, its range of motion being limited only by the great vessels at the base.

I placed these loops side by side and about a centimeter apart, and could then incise between them, hold the wound open, by traction on the loops, to verify penetration and then, crossing the loops, could absolutely stop bleeding and steady the heart, for under this control the point of the incision seemed to be the starting point of the systolic waves.

DIASTOLIC SUTURE UNNECESSARY.

Now, even with the incision coapted and held relatively motionless by the crossed and taut suspension loops—so that the placing of a suture was no more difficult than in an indifferent tissue—I found it impracticable, yes, impossible, to make a diastolic thrust of the needle, to pull the suture into place in the succeeding diastole, and to tie the knots in the ones following. To do this would require a man to work with accuracy, and yet with perfectly-timed breaks in his work, in various fractions of successive seconds—for these hearts are always beating more than one hundred times to the minute. And the impossibility which I encountered has made it very difficult for me to believe that anyone, even if he has attempted it, has ever really done it. Nor can I see what is gained by it.

The heart does not bleed in diastole, it bleeds in systole, and the suture must be tied to be efficient at that time, and the way to do it is to tie quietly and firmly, during the rapid beating of the heart, and to take no account of split second diastoles, but watch the knots as one should watch the knots of the ligature in a major vessel. And the same judgment which controls the tension of the suture should control the depth to which it reaches. I can not agree, from what I have seen of the actual working of the matter, that a superficial suture will hold where a deep one will tear out. One is suturing the myocardium, not the epicardium. Of course, it is inadvisable to penetrate the endocardium, but it is, at the same time, and fortunately, a difficult thing to do. I did it once because I intended to do it, and I had to take a larger needle than I had ordinarily worked with, and definitely carry it through the heart wall and return; and from this I learned that, with the medium-sized, full-curved needle which one would commonly use, the penetration of the left ventricle is not to be feared.

On this point it only remains to be said that, in the case in which the endocardium was included in the stitch, the strand of suture stretched across the cavity of the ventricle was the occasion of the formation of a little globular clot, which was found at the autopsy to be firm and white, and surrounded by a large post-mortem clot.

Elsberg's very complete studies of the healing process showed that the muscular fibers in the bight of the suture atrophy and are replaced by fibrous tissue, and he points out that, very evidently, there would be less of this lower

grade tissue in the case of an interrupted suture; but, so far as I have been able to judge, the difference amounts to very little practically, and the saving of time in the continuous over the interrupted suture is manifest, and it is the method finally advised by Terrier and Reymond a year ago. I had thought that the lessening of the number of knots on the epicardial surface by the use of the continuous suture might be a special point in its favor, but the matter seems to be unimportant, for all knots quickly sink into the tissues, leaving a flush surface which is covered with fibrin.

CAUSES OF DEATH.

For my experiments I have used dogs—primarily because of the size of the heart in the larger dog—and I had the same difficulty that other experimenters have had with the animal, for there is no mediastinum, the whole thorax being lined by one continuous membrane, and as soon as this is opened both lungs collapse, so that artificial respiration by bellows is needed. There are two important points in connection with this fact: a very large serous surface is exposed to the air and to infection, and it is practically impossible to avoid leaving a certain degree of pneumothorax when the chest is closed. Collateral traumatism and infection, then, led to the early death of most of the dogs; indeed, only two lived ten days and then both died of empyema and pyopericardium. This makes it impossible for me to speak as confidently regarding the catgut suture as I should like, for *a priori* I should prefer in this place the absorbable suture, because a stitch once in is there to stay, and the opportunity of going back and removing it, if its presence is resented by the tissues, can not be looked for. Still it is to be noted that one operator, Fontan of Paris, has the distinction of having twice sutured the heart with the recovery of both patients, and Launay has successfully closed two wounds in one heart, the suture material in all three cases having been catgut, and on the other hand, Nietert of St. Louis, has also two successful heart sutures to his credit, his suture material being silk. Still, if it can be shown that the healing process takes place to a practical extent during the persistence of the catgut it will be reasonable to argue that no great objection can lie against the absorbable suture. In Elsberg's paper he asserts that reparative processes are in train in twenty-four hours, in forty-eight hours there is a dense round cell infiltration, by the fourth day spindle cells appear, by the seventh day they replace the degenerated muscle fiber, and by the tenth day the granulation tissue is becoming fibrous tissue. He reports several rabbits killed on the fourteenth day with the wound in the heart firmly healed, and in one instance a rabbit dead of sepsis had a firmly-closed heart wound on the eighth day. In two of my dogs, both dead of sepsis on the tenth day, the heart wounds were firmly closed, with no evidence of leakage or hemorrhage, although in one the infective process had attacked the epicardium and penetrated the myocardium. It does not need to be said that these dogs count for very little; but the inference is simple, from the whole evidence, that wounds of the heart muscle heal very rapidly and that the process may be practically completed quite within the life of a catgut suture. And the evidence of Fontan's two patients, one of whom was infected, and Launay's case of two wounds in one heart, is on the same side, and I shall therefore assume that catgut is, at least, a permissible suture material.

SUCCESS OF THE CLOSURE OF HEART WOUND.

Finally it has to be said that in my dogs these sutures, however placed or tied, always controlled the hemorrhage and closed the opening, and that the healing processes, as they were studied, followed a course practically similar to that in Elsberg's experiments on rabbits, up to the death of my animals. They show that the repair in heart muscle is in no way different from the repair in skeletal muscles, and that it is no more interfered with by the action of the heart than are the nutritive processes of the organ.

I do not know of any of the successful cases of heart suture in man having died later, but there is reference to a case of Izzi's in which the heart was wounded but not sutured, and the man recovered, but on the twenty-eighth day, having left the hospital, he made considerable effort to lift a weight and had rupture of the cicatrix in the heart wall and sudden death. Of course, the wound in this heart had been filled by a coagulum, and in the process of healing this was organized or replaced by cicatricial tissue, and there never had been the proper coaptation of the heart muscle in the edges of the cut.

So far as the heart itself is concerned the proposition for its suture, in case of wound, is properly established; and if it were a superficial organ and easy of access, and if the path by which it is reached could easily be closed again, the whole matter would be eminently simple. The operation would be more frequently done for the occasions demanding it would more frequently arise, and the whole technic would be quickly worked out in detail. But the heart, while it is close to the surface of the body at one point, is not a superficial organ, and to reach it the bony and muscular chest wall has to be traversed—a matter of no special import—and two serous sacs have to be invaded. Herein lies the great difficulty.

INTERFERENCE OF THE PLEURA.

It is true that in a dissection the pericardium can usually be reached without a wound of the left pleura, but it can only be done by taking the pleura definitely into account. The anterior limits of the sac are very various and in the dissecting room it has been found to extend across behind the sternum almost to the right border of the bone. Commonly, it overlaps and lies just internal to the left border of the sternum as far down as the fourth cartilage, and from this point gradually passes downwards and outwards crossing the sternal end of the fifth cartilage and just internal to the middle at the sixth. A wound, therefore, to reach the pericardium and heart without injuring the pleura would have to be placed in the sixth interspace and close to the sternal edge, and be directed almost exactly backwards. This place is so small that practically it is never found, and it is necessary to consider that all wounds which penetrate the pericardium have traversed the pleura, and it is across the same tissue and sac that the surgeon must pass who attempts to repair the wound. There is another point to be considered here. The opening of a serous sac, either accidently or surgically, exposes it to infection, and the serous membrane, by a power inherent in it, deals with such infection as occurs unless the latter overwhelms it. The question has been thoroughly studied by all, in its relation to the peritoneum, but I wish merely to refer to the fact that the peritoneum offers opportunities for the localization of an infection which can not otherwise be disposed of, and that intestinal rest may contribute greatly to this localization. Both the pleura and pericardium differ from the peritoneum in this respect—the surfaces of neither offer pockets or recesses in which an infection may be confined, and constant motion incident to breathing and the

heart beat, tends to disseminate pathogens and to quickly distribute them over the whole surface of the sac.

So far as the arrangement of the lymphatics of the pleura is concerned, its power of absorption should be greater than that of the peritoneum, and in certain cases of infection, as in the empyema of pneumonia, it does show considerable ability to deal with the condition; but in view of the great frequency of infection of the left pleura in connection with heart wounds, I am obliged to believe that the inability to obtain surgical rest for the tissue is a prominent factor in producing and perpetuating the condition.

In writing on wounds of the pleura and lung, Terrier and Reymond claim that infection of the pleura is not likely to occur unless there is a coincident wound of the lung. They argue that the infection probably comes from a bronchus, and base the treatment necessary for a traumatic hemothorax on the presence or absence of hemoptysis. In no one of the clinical histories of these heart wounds which I have seen is there mention of hemoptysis, but they nearly all had hemothorax, large quantities of blood being in the pleura, and a large percentage had a subsequent infection.

SEPSIS AND DRAINAGE.

Of the thirty-four cases, nineteen lived long enough for the development of an infection, and in ten it developed, and of these six died, showing that infection so affects prognosis in these cases that a man infected has not so much as half a chance to recover; or, to put it differently, more than half of the cases were infected, and of these more than half died. It is of particular interest to know the time of the implantation of the infection, and I have found records of nine other cases of wounds of the pericardium and heart which were not submitted to any primary operation, and of these three had local infection, and one had primary local healing but died of a peritonitis. The number of cases is very small, but so far as they go they show that about one-third of them are infected by the wounding instrument and that primary operation increases the chance of an infection to more than half; this, however, must not be taken as counting against the doing of the operation, for its object is to control conditions which lead to certain death, and even with an infection recovery is not impossible. The knowledge of the great likelihood of an infection at the time of the receipt of the wound must be made use of, and one must consider if such a wound is not to be treated as one already infected. If this is done some method of drainage will be employed, and the detail of its arrangement is complicated by this fact, that one serous sac, the pericardium, must be drained across or through another, the pleura. The advice is given, probably in view of this difficulty, that both pericardium and pleura be closed without drainage, but some operators have drained and their results merit consideration. So far as I can learn, eleven of the thirty-four cases had primary drainage arranged, four for the pleura alone, and seven for the pleura and pericardium. Of the eleven seven recovered though two had infection. Of the four who died, two died of sepsis, and two of collapse before the possibility of knowing if sepsis was to develop or not, and if we exclude these last two we have nine cases drained and seven recovering.

Now, on the other side, there were nine cases that had no primary drain, and did have infection, and of these five recovered. The number of cases is small, seven out of nine and five out of nine, but in these cases, as in many, many others, a hair, perhaps, divides the chances of success from those of failure, and where we have only small statistics at hand, it is with those that we must work, and on them base our future actions.

In the drainage of the pericardium there is a point worth mentioning. The material should, of course, be gauze, it may be put in a small space left unclosed at the lowest point of the wound (Mignon et Sieur) and it does not need to go deeply into the sac, for with the patient supine or reclining the heart will sink in any effused fluid towards the dorsal side of the sac displacing the fluid towards the ventral side, where a drain may easily reach it; but the fluid must pass upwards from the pericardium towards the skin opening, and this is, of course, a disadvantage. For the pleura a drain may be arranged to make its exit by the same opening as that for the pericardium or, and this seems the wiser plan, it may have an independent opening near the posterior axillary line, where it will be of most service if empyema does develop, and may, in such a case, obviate the need of a secondary thoracotomy. Of course, if no sepsis supervene all drains should be very shortly removed.

OTHER POINTS TO CONSIDER.

In the time allotted this paper on the program of the Association it has only been possible to discuss the two technical points of suture and drainage, and the matter of the symptoms and the anatomic details of the wounds which have been put on record have, in spite of their importance, been passed by. Very briefly, the symptoms may be listed as consisting of the external wound in the precordial region, the general evidences of hemorrhage, the disturbance of the heart function sequent to the trauma and the acute anemia, and the local signs of the filling of the pericardium and, secondarily and in most cases, the pleura. As regards the wound itself, I believe, from examining the hearts which I have punctured and incised, that the endocardial wound is always smaller than the epicardial wound, excepting, I should imagine, in the bullet wound cases. This difference in the size of the wound at its two limits will explain the living of some with apparently large wounds but from which the amount of bleeding has not been commensurate with the size of the visible wound. It is necessary only to revert to the fact that the different parts of the heart behave somewhat differently when wounded. The thicker wall of the left ventricle offers a greater obstacle to hemorrhage and a better opportunity for suture than any other part; wounds of the right ventricle bleed more and are more difficult to suture, and the thin walled auricles are saved from a lethal hemorrhage, when they are wounded, by the comparatively low pressure of the blood in them, while in their loose structure a practical suture is a difficult thing.

CONCLUSIONS.

The operations which have been recorded mark only the beginning; the heart is now destined to be submitted to many manipulations provided they may be done without stopping its action at once. It is a very unsafe thing to prophesy, but that more will be attempted can easily be inferred, for interference with the mitral orifice has already been suggested, and the immediate neighborhood of the heart has been invaded and a sacculated aneurysm of the aorta has been tied off, the success of this well-executed maneuver being prevented only by the failure of the atheromatous vessel walls to heal. Possibly, the next step may be delayed as long as the application to the heart of common surgical methods was delayed after Desault had taught us to

open the pericardium. Perhaps it may come soon. It is not impossible that a new surgical technic may have to be created, but it is most probable that the next step will be based on the new application of the very old matters of the suture and drainage.

MEMORANDUM OF EXPERIMENTS.

CASE 1.—Mongrel Newfoundland dog, ether, thorax opened to left of the sternum by turning up a flap of bone, muscle and skin. Triangularis sterni was carefully incised, but the pleura was opened and both lungs immediately collapsed. Pericardium was quickly opened and heart was massaged, as its action failed, to keep it going until the trachea could be opened and the bellows apparatus attached. Manipulations were not quick enough and the dog died on the table. A dissection showed that there was but one pleural sac for both sides of the chest, and that the lungs surrounded the heart much more completely than they do in man.

CASE 2.—Mongrel Newfoundland, hypodermic of morphin 0.1; ether. Tube in trachea and connection made with a bellows apparatus which permitted the use of air alone, or of air and ether vapor. Sternum exposed and then split by a costatome. In doing this the left lung was wounded, but the right was not and its inflation proved sufficient for respiratory purposes. Thorax widely opened, pericardium picked up and opened and then, by seizing the edges of the opening with hemostats and lifting, the heart was brought up into the opening in the chest wall. The heart's action was strong and regular. Heart wall caught with toothed forceps; systole postponed, and then rapid and tumultuous heart action, tugging forcibly on the forceps. Punctured wound into left ventricle, parallel with the superficial fibers. Spurt of blood, dark in color (because of collapse of one lung), systolic in time. The action of the heart was so rapid that it was impossible to estimate the amount of diastolic hemorrhage. Two interrupted cumolized catgut sutures, passed deeply but not intended to penetrate the endocardium. Hemorrhage controlled absolutely. Pericardium sponged out and closed by a continuous catgut suture. Chest wall sutured, the sutures drawing together the sides of the split sternum, and dog left with a certain amount of pneumothorax, the right lung being easily inflated, but the left being wholly collapsed and at the back of the chest. Deep

CASES OF SUTURES OF WOUNDS OF THE HEART.*

Operator and Year.	Location of External Wound.	Chamber Wounded and Size of Wound.	Time of Operation After Injury.	Anesthetic.	Results and Remarks.
1. Farina. 1896 . . .	Just above the margin of the left sixth rib, near the sternum.	R. V.; ¼ inch; 3 stitches.	. . . . .	. . . . .	Death on sixth day, from bronchopneumonia.
2. Cappelen. 1896 . .	Fourth left intercostal space in mid-axillary line.	L. V.; 4/5 inch	1 hour.	. . . . .	Death after several days; pericarditis; branch coronary artery cut.
3. Rehn. 1896	Fourth left intercostal space near sternum.	R. V.; 3 stitches . . .	Following evening.	. . . . .	Recovery; empyema.
4. Parozzani. 1897 .	Seventh left intercostal space in mid-axillary line.	L. V.; ¾ inch.	5 hours	None	Recovery.
5. Parozzani.	Third left intercostal space	L. V.; 3/5 inch	½ hour.. . . .	None	Death on second day from anemia (?). Interventricular septum had been cut.
6. Fummi. 1898. . .	Under left nipple.	Apex; cavity not opened; 1 stitch.	Several hours.	. . . . .	Recovery; empyema.
7. Ninni. 1898.. . . .	Fifth left intercostal space	L. V.; 3 stitches . . .	Quickly.. . . .	None	Death on table.
8. Parlavecchio. 1898	Fifth left intercostal space	L. V.; 1½ inch; apex	8 hours	Chloroform.. .	Recovery.
9. Giordano. 1898 .	Second left intercostal space	L. A.; 4/5 inch; 4 stitches.	½ hour	None	Death on nineteenth day from empyema; abscesses of right lung.
10. Nicolai. 1899. . .	Fourth left intercostal space, midway between margin of sternum and nipple.	R. V.	1½ hours . . .	Yes..	Death after twelve hours.
11. Tuzzi..	Fourth left intercostal space	Two wounds; non-penetrating.	. . . . .	None	Death on twenty-second day from empyema; pericarditis.
12. Longo.	Fifth left intercostal space; 2/5 inch internal to nipple.	L. V.; 3 stitches . . .	At once.. . . .	None . . .	Death in fifteen minutes.
13. Ramoni..	At third left cartilage; 4/5 inch from sternum.	R. V.; 2 wounds: 1 non-penetrat.; 4 stitches	. . . . .	None	Recovery.
14. Marion. 1899. . .	Shot through breast	R. V.; catgut sutures.	. . . . .	. . . . .	Death.
15. Rosa. 1899	Fifth intercostal space..	L. V.; 3/5 inch; not certain it penetrated ventricle.	. . . . .	None	Recovery.
16. Horodynski. 1899	. . . . .	R. V.; 1½ cm. long...	. . . . .	. . . . .	Death.
17. Maliszewski. 1899	. . . . .	. . . . .	. . . . .	. . . . .	Death.
18. Maliszewski. 1899	. . . . .	. . . . .	. . . . .	. . . . .	Death.
19. Bufnoir. 1899. . .	Sixth left intercostal space	R. V.; gunshot: 22-calibre.	. . . . .	. . . . .	Death; necropsy showed perforation of ventricle and the anterior opening only had been sutured.
20. Pagenstecher. 1899	Fourth left intercostal space beneath the nipple.	L. V.; near apex: 2 stitches.	16 hours. . . .	None	Recovery.
21. Nanu. 1900.. . . .	Third intercostal space, 4 cm. from edge of sternum.	R. V.: 2 cm. long; 2 interrupted sutures	. . . . .	. . . . .	Death on fifth day from infection of pericardium and pleura.
22. Maselli. 1900. . .	Below and internal to left nipple, cutting sixth rib.	L. V.; near apex; 2 stitches.	1½ hours . . .	. . . . .	Death in twelve hours.
23. Fontan. 1900. . .	Six wounds with scissors between third and seventh ribs in cardiac region.	L. V.; 12 mm. long; continuous catgut sutures; 3 stitches..	6 hours	Chloroform.. .	Recovery.
24. Nietert. 1901.. . .	. . . . .	R. V. penetrated; 3 silk sutures.	. . . . .	. . . . .	Death after thirty-six hours.
25. Vaughan. 1901.. .	Fifth left costal cartilage divided. .	L. V.; 2½ cm. long: continuous silk sutures; 7 stitches.	¾ hour	Ether..	Death on table from hemorrhage about completion of operation.
26. Nietert. 1901 . . .	Left of sternum.	L. V.; not sure cavity was penetrated; 2 sutures.	. . . . .	. . . . .	Recovery.
27. Ninni. 1901 . .	Left of sternum	R. A.	. . . . .	. . . . .	Death in four days; sepsis.
28. Mignon et Sieur. 1901.	. . . . .	R. V	. . . . .	. . . . .	Death.
29. Fontan. 1901. . .	. . . . .	L. V.; catgut sutures	. . . . .	. . . . .	Recovered; had empyema.
30. Brenner.[1] 1901. .	Left of sternum, near sixth cartilage	R. V.; 7 cm	Following day	Yes..	Death on table; degenerate heart muscle.
31. Watten.[2] 1901 . .	Fourth right intercostal space. . . .	R. V.; 3.5 to 4 cm. . .	. . . . .	. . . . .	Recovery; right pleura wounded; pneumothorax.
32. Lastaria. 1901.. .	. . . . .	L. V.	. . . . .	. . . . .	Died soon.
33. Launay.[3] 1902.. .	. . . . .	L. V.; ant. and post. walls; pistol shot: catgut sut. in each	. . . . .	. . . . .	Recovery; no complications.
34. Nietert.[4] 1902 . .	Left sixth interspace, to right of papillary line.	L. V.; far back, 2 cm.; penetration uncertain; 2 interrupted silk sutures	14½ hours. . .	. . . . .	Recovery; purulo-sanguinolent effusion and thoracotomy.

* Cases 1 to 26 inclusive from table of Geo. T. Vaughan, M.D., Medical News, Dec. 7, 1901.
1. Wiener Klin. Woch., 1901, No. 11. 2. Deutsche Med. Woch., 1901, No. 37. 3. La Presse Medicale, March 29, 1902.
4. Phil. Med. Jour., May 3, 1902.

and half deep sutures in the subcutaneous tissues and a subcuticular stitch for the skin. Gauze and collodion over suture line and gauze pads and a body bandage over all. The tube was taken out of the trachea—each cut cartilaginous ring sutured and also the membrane between. The separated muscles put in place, and deep, half deep, and subcuticular sutures as in the chest wound, and then same kind of dressing applied. As soon as the bellows apparatus and the tracheal tube were removed active respiration began. After five minutes it was 17 to the minute and fifteen minutes later it was 16 to the minute. The character of the respiration was good. Twenty-four hours later the dog was in a bad state—he would not stand, nor eat nor drink. Respiration was deep and labored. Dog found dead on the morning of the second day. Heart only examined. The two sutures were easily seen.

Microscopic examination of the wound area. Exudate on pericardium is comparatively thin and consists chiefly of coagulated fibrin in which are polymorphonuclear leucocytes and a large number of small round cells. The pericardium had lost its typical glistening appearance. It is taking part in the inflammatory process on its surface. Considerable amount of altered blood pigment is found in the pericardial exudate. Sutures surrounded by a mass of leucocytes can be seen in this section and the incision extends direct from the pericardium to the endocardium. It is characterized by extensive extravasations of blood, coagulated fibrin, and platelets in which are numerous polymorphonuclear leucocytes. The heart muscle cells on either side of the incision are undergoing either hyalin degeneration or coagulation necrosis. Karyolysis is marked in these cells. In the intermuscular septa between the different fasiculi of muscle fibers are found extensive accumulations of leucocytes, many of which contain pigment granules derived from the blood. No definite evidence is obtained from the section that the repair is advanced to an extent marked by the new formation of blood vessels. The endocardium is somewhat thickened and is covered with an exudate composed of fibrin, leucocytes, red blood corpuscles and blood platelets. The wound in the endocardium is not closed.

CASE 3.—Big short-haired mongrel, hypodermic morphin 0.1; ether. Tube in trachea. Sternum split with a strong knife and lungs not wounded. Bellows at work and thorax opened widely. Pericardium split open and heart lifted to surface as in Case 2. Punctured wound as before, heart steadied by toothed forceps grasping fibers. Strong systolic jets of blood. One suture, cumolized catgut, controlled it, though it was not passed deeply. A second suture, more superficial, was put in. The pericardium was cleared of blood and sutured and all the other tissues closed as in Case 2. Chromicized catgut, thick and strong, was used for the sternum. As the final stitches which closed the subcutaneous tissues over the sternum were placed and tied the lungs were fully inflated to expel all the air possible from the thorax. The dog came out of the ether quickly and whined and struggled. Pulse 156, respiration 18. Two days later the dog was up and about and ate and drank and was friendly. At the end of the week the wound was open somewhat and the dog was weak and sick. He was found dead on the tenth day.

Postmortem.—Tracheal wound healed throughout and without suppuration. Sternal wound healed in part per primam and in part per secundum except that from the upper and lower ends were open sinuses leading in, and from them came seropurulent fluid. The lower sinus communicated by a tortuous narrow (2 mm.) path with the pleural cavities. Muscles and cellular tissues of the thoracic wall show intense inflammatory reaction. Both sides of chest cavity full of serosanguineous exudate, with purulent flocculi. Entire pleura covered with a fibrino-purulent exudate and lungs adherent at places by fresh adhesions. Lungs atelectatic, free borders and surfaces shriveled and puckered. Cut surface of lung shows congestion but is otherwise normal. Pericardium adherent to inner surface of sternum, the incision in it opened and cavity communicating directly with the incision. Pericardial cavity contains small quantity purulent exudate and same is on epicardium and pericardium and an adhesion between these exists along the line of incision in the myocardium. Incision may not have opened ventricular cavity. Diaphragm and liver pushed down by the amount of pleural exudate. No changes in abdominal viscera.

Note.—In the laboratory where this dog was operated upon other dogs had been used for experimental abdominal work, and some bone work had also been done. This dog had had an intestinal suture a month before the heart operation. The intestinal and other abdominal work had been followed by clean aseptic healing. The incisions for the bone filling which were over the trochanters, had in two instances been torn open by the dogs. The heart operation was done with the utmost care to secure aseptic conditions, and in spite of it a massive infection occurred.

Microscopic examination of wound area.—The epicardium over the incision in the heart muscle is covered by a thick partially-organized exudate which consists chiefly of coagulated fibrin with numerous polymorphonuclear leucocytes embedded in the meshwork formed by its filaments. A considerable number of new-formed blood vessels and fibroblasts can be seen making their way from the pericardium into the mass of the exudate. This also contains numerous fat globules. The catgut sutures can be distinctly seen in the myocardium and are surrounded by an intense zone of reaction, the chief part of which consists of polymorphonuclear leucocytes and numerous round cells. Evidence of the formation of a few new blood vessels seen at the periphery of the zone. Specimen not stained for micro-organisms, but the tissues at these points had the appearance of being infected and look like early abscess formation. For a considerable distance beneath the epicardium over the whole area covered by the exudate there is a marked degeneration of the heart muscle cells. They stain poorly, the outlines are not clearly marked, the nuclei show bizarre arrangement of the chromatin and occasional instances of karyolysis. No evidence of fibrillation can be seen in the degenerated cells. In the interspaces between are numerous polymorphonuclear leucocytes and small round cells. Along the line of incision in the heart muscle there is some evidence of healing, the extravasated blood is mostly absorbed and the adjacent walls of the wound bound together by coagulated fibrin. Here and there are occasional spots suggestive of the formation of new blood vessels. Either the incision does not extend to the endocardium or the section of the heart muscle has taken an oblique plane so that in this section at least the endocardium remains unaltered and intact.

CASE 4.—Big shepherd dog, hypodermic of morphin 0.1; ether. Tracheal tube and bellows. Thorax and pericardium opened as in Case 3 and without wounding lungs. Transverse punctured wound in left ventricle, close to apex, violent systolic hemorrhage, the heart beating very rapidly. Muscle in bite of forceps tore out and heart escaped, beating rapidly and bleeding profusely. Finger in apex partly controlled bleeding, but position difficult to maintain because of the action of the heart and a little force tore the opening, making it a 2 cm. rent, and finger passed into ventricle. Dog began to make respiratory efforts in spite of bellows. Edge of wound finally caught with forceps and two sutures hurriedly passed and apparently closed opening and checked bleeding. Heart action getting weaker, but suture of pericardium begun. Heart stopped before completion of pericardial suture.

Heart removed—wound found to be larger than had been thought, and only half of it sutured. Pericardium and thorax full of blood clots. Heart muscle had been torn by the forceps and the finger, and apparently was more than ordinarily friable.

CASE 5.—Big mongrel Newfoundland, hypodermic of morphin 0.1; ether. Tube in trachea and bellows attached. Usual technic to expose heart. Two loops of silk, medium size, each loop about 15 cm. long put transversely into wall of left ventricle 2.5-3 cm. from apex, and about 1.5 cm. apart. The needle carrying the upper loop punctured the coronary vein and it was tied by a catgut suture carried around it by a small needle. The heart could be easily lifted by the loops and swung to right or left, or rolled over in either direction and the complete control was very satisfactory. A transverse puncture was made between the loops and the wound held open by them. The jet of blood, systolic, was very forcible. The

loops were then crossed and the opening closed. The taut loops now steadied the immediate field of operation and made the placing and tying of the sutures a simple matter. Three interrupted catgut sutures were put in, penetrating only 2-4 mm. into the myocardium, and controlled the hemorrhage. Silk loops were removed and there was no particular bleeding from their track.

Early in the operation the left internal mammary had been wounded near the upper part of the incision. As more dissection would have been needed to tie it pressure was tried and seemed to be enough. Bleeding recurred as the chest was being closed, but pressure again seemed efficient. Usual method of closing all cut tissues. In spite of efforts to avoid it considerable air was apparently left in the chest. Usual dressings. Half hour after chest was closed, respiration 26, somewhat labored. Death in less than twenty-four hours.

Postmortem.—Dressings blood-stained. Superficial and deep tissues on both sides of wound infiltrated with blood and a large clot under the right pectoral. The catgut sutures around the sternum had yielded. Pleural cavities full of whipped blood, and large clot in left side—lungs deeply congested, with fibrinous exudate at places on pleura. No healing in pericardial incision, pericardial sac filled with fluid, epicardium injected, but smooth and with no adhesions. Left ventricle in systole, right in diastole. Incision in wall 2 cm. long, closed by three sutures. Slight fibrinous exudate over wound. Internally, wound 6 mm. long, and covered by small fibrinous flake or globular thrombus.

CASE 6.—Boston terrier. Morphin 0.1, ether. Tube in trachea and bellows attached. Usual method of access to the heart; two silk loops in the left ventricle, transversely, near apex. Incision, transverse to superficial fibers, 1 cm. long, between the loops. Systolic spurts of blood, and hemostat introduced into the heart to verify penetration. Three catgut sutures—the middle one superficial, the two outer ones deeply placed to penetrate endocardium—the sutures turned in the edges of the incision somewhat. Usual method of closing incised tissues, except that the halves of the sternum were fastened with heavy black silk. Fifteen minutes after the removal of the tracheal tube, respiration 66 per minute, easily, as a dog breathes when running a little. Death in about 48 hours.

Postmortem.—Extensive submuscular emphysema, and a hemorrhage under the left pectoralis major. Silk sutures on sternum held perfectly. Pneumothorax, with emphysema of the connective tissue in the mediastinum. The air had followed along all structures that traversed the chest, especially the phrenic nerve, the lymph glands and the larger vessels and it worked along the sheath of the vena transversa from the first rib outward into the left axilla with the subclavian vein and so produced the submuscular emphysema, and on the right side, too, it had followed the subclavian vein through the costocoracoid membrane. The left pleura contains about 10 c.c. of bloody serum. Pleural surface covered with fibrinous exudate. Pericardial wound healing. Sac contains about 10 c.c. bloody serum. Pericardium slightly adherent to epicardium by thick fibrino-serous exudate and when the two membranes are pulled apart the "buttered bread" appearance of the surface is presented. Heart, left ventricle in systole, right in diastole. Wound in myocardium extends 1 cm. upwards and medianwards from apex, through septum into left ventricle. Closed by three interrupted catgut sutures. Wound covered by fibrinous exudate. Endocardium smooth except just about wound where there is red subserous hemorrhage. A white thrombus hangs from the strand of catgut in the ventricle, with postmortem clot about it.

Note.—The emphysema in this case had an interior source and can only be accounted for by some wound of the lung which could not be located. Perhaps there was a rupture or a wound when the lungs were distended to fill the chest at the time of the last suture.

CASE 7.—Mongrel Newfoundland, morphin 0.1, ether Tracheal tube and bellows. Usual approach to heart. Two loops, longitudinal, in left ventricle. A long incision, 2.5 cm. between the loops, opening the ventricle widely. Furious systolic hemorrhage. Loops crossed and opening closed and hemorrhage stopped. Rapid, continuous catgut suture from top to bottom of wound and return. One knot. Usual method of closing wounds. Very little air left in thorax. Six days later, dog alive. Later failure of strength and death on the tenth day.

Postmortem.—Body emaciated. Tracheal incision partly healed. Wound in thorax healed except at lower part, where it is somewhat open with sero-sanguineous discharge. Thorax deformed and looks like the pigeon breast of rachitic children. Pericardium adherent to chest wall; two halves of sternum not united but held by the sutures. Pleura everywhere injected and covered by fibrino-purulent exudate. Some adhesions. Some blood-stained fluid in right pleura and more in left. Lungs congested, but no consolidation. Pericardium thickened and injected, and incision only partially healed. Contains a little sero-purulent exudate. Numerous adhesions between epicardium and pericardium, especially on the dorsal aspect, and when separated gave the "buttered bread" appearance. Incision in myocardium covered by fibrinous exudate, and purulent necrotic mass underneath it. Endocardium not examined. Peritoneum injected and with occasional areas of fibrinous exudate. In small intestine, about 30 cm. from the ilio-colic junction, an area of gangrene, 4 cm. long on the lateral aspect of the gut, and in the middle of this a perforation. In the gut mucosa was discolored, and covered by a soft brownish necrotic mass. Nothing else of moment in the abdomen.

Microscopic examination of wound area.—The exudate of the pericardium is even thicker than that of dog No. 2. It has the same constituents except that it is richer in fibrin and platelets and in R.B.C. Exquisite examples of new blood vessels can be followed from the pericardium into the exudate, but these vessels do not appear to be quite as old as those in dog No. 3. The reaction in the endocardium is extensive but does not penetrate deeply into the heart muscle, as in the case of the first section described. The heart muscle cells show just under the pericardium some evidences of degeneration, namely, in the pallor of the sarcoplasm marked karyolysis and in vacuolization. The line of necrosis which corresponds to the cheesy area described in the gross specimen. Sutures surrounded by a mass of polymorphonuclear leucocytes and small round cells showing all the stages of nuclear fragmentation or karyorrhexis. The area around the stitches has almost reached the stage of abscess formation. In many places the degeneration of the heart muscle has extended so far that the karyolysis is complete in the muscle cells and they appear as a pale pink staining mass of cytoplasm which do not even show the characteristic striations of the heart muscle cells. Neither the large nor the small disc of MacCallum are visible, nor are Krause's membranes made out. Under the immersion lens even with hematoxylon stain small masses of bacilli and cocci are visible. These are gathered in the spaces between the dead muscle cells and are also found along the line of incision and in the exudate on the surface as well as about the stitches.

CASE 8.—Big water spaniel, morphin 0.1, ether. The incision in the sternum, made with a costatome, failed to hold to the middle line and the lung was nipped. In opening the pericardium the coronary artery was cut and bled freely, but was easily ligated. In placing the silk suspension loop the rapid motions of the heart prevented accuracy, and the artery was wounded again, and again ligated. The left ventricle was opened by a punctured wound close to the apex, and then a closed hemostat was put in and opened so as to make the endocardial side of the wound the larger. A continuous very superficial suture controlled the hemorrhage. About 5 c.c. normal salt solution (NaCl 6. KCl. 2.5 Ca Cl 0.5 Aqua 1000) with some carmin in it was put into the pericardium and the incision sutured. About 500 c.c. of the same salt solution was poured into the pleura to displace any residual air. The punctured point on the lung was ligated and cut off. The usual method of closing the thorax. The dog lived about 48 hours, and the autopsy appearances were like those of Case 6. The use of the salt solution made no particular difference in the result.

CASE 9.—Big mongrel, morphin 0.1, ether. Tube in trachea. Usual approach to heart. Lung nipped by costatome. Heart punctured with needle—as point entered myocardium a postponed systole, which, when it came, was violent and followed by rapid action gradually slowing to the usual rhythm. The needle was withdrawn after the postponement. This was done to see if the acts of placing a suture could have been done in successive diastoles, and the experiment was repeated, but no diastole long enough for a definite act, like pulling through a suture or tying a knot, occurred. The bleeding from the needle wounds stopped spontaneously and quickly. The right coronary artery was cut and bled by spurts during systole, and was then tied. Transverse incision, 1 1-5 cm. near apex. Two interrupted stitches stopped all hemorrhage. Two c.c. salt solution with carmin in pericardium just before last suture. Pericardium and chest closed in the usual way. Heart beating rapidly and not very forcibly. Dog died in about 48 hours.

Autopsy showed conditions similar to those in Case 6.

CASE 10.—Mongrel fox terrier, morphin 0.1. ether. Tube in trachea. Heart approached in usual way with no collateral injury. No incision in heart. Usual closure of pericardium and thorax. At this point the heart stopped and the chest was reopened and the heart massaged, exciting only feeble fibrillary arhythmical contractions. Strychnin in the femoral vein and in the heart muscle produced no effect.

Death was ascribed to overdose of ether, as the apparatus was set for the administration of ether with the air.

CASE 11.—Small Mongrel. Same operation as Case 10. Again symptoms of heart failure and some delay in the resumption of active respiration, but 4 mgr. of strychnia stimulated both functions. This dog lived two weeks and then had an open wound over the sternum with the loose ends of the costal cartilages projecting from the surface of the wound. He was in good condition and begged for a dead rabbit which was in the laboratory. He was given morphin 0.1 and ether. Tube in trachea through new incision. An attempt to dissect into the pericardium past the lungs, which were assumed to be adherent to the deep side of the cicatrix, failed, and the pleura was again opened. Pericardium was adherent to the cicatrix, was opened, the line of suture had healed perfectly and the visceral side was smooth. Very little fluid in endocardium. No adhesions to heart. As it was out of the question to again close the thorax the dog was permitted to die.

CASE 12.—Small mongrel, morphin 0.1, ether. Tube in trachea. Usual approach to heart. Suspension loops. Punctured wound, longitudinal 1 to 1.5 cm. Three moderately deep interrupted sutures. Usual closure of pericardium. A change in the method of closing the thorax was a failure and the dog died in a few hours.

Two Belgian hares and two rabbits were also used, because of their having two pleuræ separated by a mediastinum, but we failed to be able to open the pericardium without opening the left and sometimes also the right pleura in this quartet and there was no time for further trials.

CLOSING REMARKS.

The early death of these dogs was a disappointment for I had especially desired to see if the cicatrix in the heart muscle would stretch with the lapse of time, or would yield under the strain of rapid and forcible action. As it was, in no instance was death due to the rupture of the wound or to hemorrhage from the failure of a stitch, and in the two dogs which lived long enough to permit a satisfactory observation the wound in the heart was rapidly healing. The supervention of sepsis and its usually rapidly fatal effect was apparently unavoidable, for all the technic of the operating room, even to having the preparation of the dog and the instruments and the operating table in the charge of a male trained nurse, was practiced. As I have said in the body of the paper, the pleura lacks the mechanical arrangements which favor the localization of infection in the peritoneum, and an originally minor infection has opportunity to become a general and extensive one. Drainage of the pericardium and pleura in the dog is not to be thought of, because the pericardium is in the middle of the one pleural sac, and could only be drained through it; and drainage of the pleura would inevitably result in the collapse of both lungs. Therefore, the dogs were permitted to die and no effort was made to help them out of their septic state.

BIBLIOGRAPHY.

Terrier et Reymond: Chirurgie du Coeur et du Pericarde.
Terrier et Reymond: Chirurgie de la Plèvre et du Poumon.
Mignon et Sicur: Bulletins et Mémoires de la Société de Chirurgie de Paris, 1901.
Fontan: Bulletins et Mémoires de la Société de Chirurgie de Paris, 1901.
Nietert: Philadelphia Medical Journal, Dec. 14, 1901.
Nietert: Interstate Medical Journal, December, 1901.
Nietert: Interstate Medical Journal, January, 1902.
Nietert: Philadelphia Medical Journal, May 3, 1902.
Vaughn: Medical News, Dec. 7, 1901.
Berent: Inaugural Dissertation ueber die Heilung von Herzwunden, etc., 1892.
Elsberg: The Journal of Experimental Medicine, September-November, 1899.
Hill: Medical Record, Dec. 15, 1900.
Zulehner: Centralblatt für Chirurgie, No. 4, 1902.
Watten: Centralblatt für Chirurgie, No. 4, 1902.
Ninni: Centralblatt für Chirurgie, No. 8, 1902.
Annals of Surgery, October, 1899.
Tuffier: Intervention Chirurgicale directe dans un anivrysme de la crosse de l'aorte, Ligature du sac, La Presse Médicale, March 19, 1902.
Rotter: Opération type pour les plaies du coeur, abstracted in La Presse Médicale, Fevrier 28, 1900.
Stern: Intervention pour plaie du coeur par arme à fen, abstracted in La Presse Médicale, Mai 23, 1900.
Marion: Intervention pour plaie du coeur, La Presse Médicale, Mars 29, 1899.
Le Dentu: Chirurgie du Coeur, Bulletin de L'Académie de Médicine, Mars 18, 1902.
Brunton: The London Lancet, Feb. 8, 1902.

STATE MEDICINE, PAST, PRESENT AND FUTURE.

ORATION ON STATE MEDICINE DELIVERED BEFORE THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

J. M. EMMERT, M.D.
ATLANTIC, IOWA.

State Medicine had its origin with Moses, the great legislator. The bloodthirsty Egyptians of the dark ages, who in superstitious ignorance destroyed the lives of those among them who differed from their belief or creed, left nothing which the human race could follow for the preservation of health and life. Thirty odd centuries ago, the great law-giver, Moses, laid down sanitary rules, regulations and exercises which are followed at the present day by all civilized and semi-civilized nations.

THE SANITARY CODE OF MOSES.

Some 1300 years before the Christian era, the code contained in the Mosaic Exodus laid down restrictions on every possible act that mankind may perform to impair or impede existence. Such as they are, it is hardly possible to improve upon them at this enlightened day. Moses instructed his people that those sanitary commands were inspired by a Supreme Being; that the only health officer in existence was the Almighty, who could watch over their trespasses against the law. No matter where they might be, or what they might do, the Supreme Overseer would bring them to justice for the violation of the code of health.

It was handed down to the Israelites in an oral way for about one thousand years, when it became corrupt and neglected, like other laws of long standing when there is no one to enforce them.

About six centuries before the Christian era, the great Sanhedrin was formed: it consisted of seventy-two men, who compiled the oral law to a written law, adding to it, besides the moral, every possible sanitary regulation

that may benefit human health and life. This tribunal enacted laws to improve every possible means of securing healthy food, clothing and shelter, and established minor judiciary courts in every possible community, and gave these courts the right to bring before themselves anyone who violated the sanitary measures. The laws of the Sanhedrin were enforced and well kept for hundreds of years, during the time that Judea could establish and enforce its own laws, but when it fell under the sovereignty of the Romans, they were unable to enforce the laws with Roman influence; consequently, they were kept only by the pious Jews.

THE JUSTINIAN LAW.

The infidels could not be compelled to keep the commands under the Roman law. Hence the pious Jews of the sixth century appealed to the Roman Emperor Justinian, under whose reign a code was compiled by sixteen eminent jurists, establishing laws for all Roman states, and quoting decisions mostly from the Jewish Talmud, including many moral and sanitary measures, which is now termed the Justinian Law. Besides adopting many of the Talmudic laws, which did not differ from the Mosaic, they added many practical and sanitary regulations. It is to the Justinian Law that our present civilization is indebted for the abolishment of polygamy. It is to the laws of Justinian that we are indebted for the prohibition of the marriage of consanguinity. The combination of the Mosaic, Talmudic and Justinian laws forms a fair code for the preservation of human life. The Bible itself is one of the very best text-books on hygiene that has ever been written. He who strictly follows its teachings will be a perfect sanitarian. "We must learn," says a distinguished writer. "to regard physical as well as moral sins as greatly displeasing in the sight of God."

FEATURES OF THE MOSAIC LAW.

Jewish hygiene and diet are well known for their regulation to healthy food, for the Jews are restricted to certain fish of the waters and certain beasts of the field. It is from the Mosaic Law that we have learned to legislate against unwholesome food, especially of animal food. Every one of us knows with what care the Jews kill their cattle and their fowls, and with what care the autopsies are made on the animals before they are declared fit for use.

The sanitary laws of Moses provided for the segregation of lepers and the fumigation and destruction of infected clothing. These had great influence on Christian nations when contagion was recognized in epidemics, and probably most of them were, from the standpoint of to-day, either directly or indirectly infectious, and a grand advance in preservative methods became possible. All European nations enforced laws for limiting the spread of leprosy, and these, which have been handed down from ancient times, had merely to be modified in their application in order to exercise a controlling influence on the spread of fulminant febrile diseases.

PESTILENCE AND SUPERSTITION.

Before and after the beginning of the Christian era, plagues, pestilences and famines were classed together as of divine origin. The Greeks and Romans, from the evidences of their authors, resorted to forms and ceremonies to avert epidemics. Statues were erected to Æsculapius and Apollo; Sibylline books were consulted, nails were driven into the walls of the Temple of Jupiter Capitolinus, and the Lectisterne ceremonies were among the remedies applied to epidemics before the time of Christ. Later, festivals, mournings, and founding of religious structures were resorted to in order to appease the divine anger, to which the epidemics were attributed. For hundreds of years, thousands and thousands of human lives were sacrificed from various causes and infectious epidemics, of which we now seldom hear. The so-called sweating plague of the latter part of the fifteenth and the forepart of the sixteenth centuries, has not been heard of since 1551. Black death and epidemics of cholera with its ravages as late as 1848 and 1849, and the last of the tropical countries, yellow fever, to say nothing about the various other zymotic epidemics and infectious diseases, such as typhus, diphtheria, scarlatina, etc., have become a rarity among civilized nations. Livy tells us that during epidemics the Roman citizens shut themselves up in their houses and paid attention to nothing except how to preserve themselves from the pestilence. Boccaccio refers in his tales to the attempts made by Florence to preserve her citizens from the plague which overspread Europe in 1346 by denying access to all sick persons.

THE FIRST QUARANTINE.

The first arrangements for the isolation of the sick and quarantine establishment against infectious diseases reach back to the tenth century. Charles IV, in 1347, made a statute for German states, including certain measures for the isolation of the sick and quarantine establishment against certain diseases.

In 1348, a "Board of Supervision," a sort of council of hygiene which in the end served as a model for all Italy, was first established in Venice. At Majorca, in 1374, a committee of officials presided over by a physician, Lucien Colomines, was appointed with extensive powers, to whom the local magistrates at the outbreak of the plagues were directed to report.

This committee was also allowed a hospital, and it was directed that no ship should discharge passengers nor unload freight without their knowledge, nor should any port sales be held without preceding notice to the sanitary council. Suspected ships were required to keep quarantine for forty days, hence the name quarantine.

In 1348, the year of the extension of the black death, it was noted by many observers, and especially recorded by Gabriel de Mussis, who fled from the Crimea to Plaisance in France, that ships and passengers from the East conveyed the disease. That same year Venice, then the center of maritime commerce, appointed three proveditors of health to take measures for the prevention of the plague. Count Barnabo, in 1374, issued a decree at Reggio, in Italy, that any person attacked by the disease should instantly leave the city, fortress or castle for tents in the open country, until recovered or dead; that persons attending the sick should not consort with others until after the lapse of ten days; that the priests should examine and notify the infected sick to the inquisitors, and that all goods and property of persons infected, or who conveyed infection, should be confiscated to the use of the church, and none but those appointed should, under penalty of death and confiscation, attend upon the plague-stricken.

In 1382, Chalin de Vinario demonstrated that contagion was the cause of the spread of the plague. The following year Count Barnabo prohibited entrance of persons from infected localities under penalty of death; and his successor, Viscount John, in 1399, ordered the city gates to be guarded against admission of strangers from infected places, infected houses to be fumigated and thoroughly ventilated for a long period, clothes and

bedding to be washed and dried in the open air, bedsteads to be exposed for days in the open air, and all refuse matter and rubbish to be burnt.

In 1400 the Berlin butchers were compelled under the law to take the following oath: "I will sell no suckling sow, no consumptive or one-eyed cattle, and no cattle purchased from poor people out of the hospitals."

EXTENSION OF QUARANTINE.

During the fifteenth century, severe measures were employed in times of pestilence. Boards of health were frequently convoked and strict health ordinances issued. "It is forbidden to attend foreign markets and fairs. Whosoever, however, did attend fairs must undergo quarantine, the guard of the gates were strengthened, suspected persons were not admitted and strangers must bring evidence that they had not sojourned in places afflicted by the pestilence. 'Blotterhauser' were built, the attendants were forcibly pressed into service as nurses, the sick were shut up in their houses, suitable directions as to mode of life, even as to purification of the washings of the body and bed, on interment, etc., were published. The council sought to suppress the use of secret remedies, sorcery and necromancy; amulets were interdicted and burned."

The first quarantine port was established at Marseilles in 1526, and during this century the system of quarantine extended to most of the maritime cities of the Mediterranean, and many inland cities adopted similar precautions.

In 1846 the work on contagions and contagious diseases, by Fracastor of Venice, declaring contagion to be exhaled by the body, infecting those at hand directly through the air, and those at a distance through the medium of fomites, induced greater measures of exclusion. By degrees, the practice of quarantine extended over the whole civilized world, and the penalty measures were increased in severity. Torture and death awaited alike those who remained in the city, when ordered out, and those who entered when forbidden access. In the sixteenth century, not only were ships with their passengers and cargo detained in prolonged quarantine, but towns also were surrounded by sanitary cordons and completely blockaded for long periods, and even individual houses in the towns were closed against exit and entrance. Food and necessaries were obtained with difficulty and by the most circuitous methods of exchange, whilst politics, commerce, and social intercourse stagnated.

QUARANTINE IN THE UNITED STATES.

The first quarantine act adopted in the United States under the colonial system was passed by the General Assembly of Pennsylvania in 1700, and was entitled, "An act to prevent sick vessels coming into this Government." It imposed a penalty of one hundred pounds on any infected vessel which landed in the province. Other quarantine acts of greater or less severity were adopted by Massachusetts in 1701, Virginia in 1722, Delaware in 1726, North Carolina in 1775, New York in 1758, Maryland in 1760, etc. The first general quarantine act adopted by Congress was passed Feb. 23, 1799, and was designed to be supplementary to the various state acts. It was entitled, "An act respecting quarantine and health laws."

During the eighteenth century maritime quarantine and lazarets extended, especially on the Mediterranean coast, and increased in importance when inland pandemics subsided in severity. The quarantine services under boards of health, with their stations, lazarets, detentions, disinfections, numerous attendants and complicated ordinances, became large organizations. Europe was less frequently invaded by plague, against which maritime quarantine was almost entirely directed; therefore the lazarets were neglected, and the administration became lax. At the end of the century John Howard made strong protests and, in the beginning of the nineteenth century, cholera and yellow fever made their advent. This revived the interest in the prevention of pandemics, and shook the confidence placed in quarantine, as it was practiced at that time.

INTERNATIONAL SANITARY CONFERENCES.

The severe measures designed for plague in the seventeenth and eighteenth centuries were adopted for cholera and yellow fever in the nineteenth century, and they were embodied with modifications in a lengthy convention, accompanied by an elaborate International Sanitary Code. At the International Sanitary Conference held in Paris in 1851, and represented by twelve European powers. This convention did much to spread ideas of municipal hygiene in place of useless quarantines. Inspection of dwellings and destruction of sources of infection were strongly advocated. In the United States various yellow fever and other epidemics called attention to the subject. In the City of New York, in 1866, a Metropolitan Health Board was established, organized on the same lines as the English sanitary acts. Later, in 1869, Massachusetts established a state board, and other states and cities rapidly followed. Ten years later, in 1879, Congress created a National Board of Health, and to-day municipal hygiene is receiving a great deal of attention.

Municipal hygiene in Europe has been carried to a much further degree than in the United States. At the International Sanitary Conference held in Vienna in 1874, much modification with regard to quarantine was commenced. Inland quarantine was rejected as inadmissible. The Conference of Constantinople recommended the establishment of a strict quarantine in the Red Sea, for the purpose of preventing importation of cholera into Europe, and was met with approval. This was regarded as the strategic point in the line of defense, and therefore tended to weaken reliance upon quarantine in Western ports, and medical inspection was considered as a possible substitute in conjunction with local sanitary measures. Sir John Simon, Medical Officer of the Privy Council, in his memorandum, expressed the views of the local government board upon the prevention of cholera, which greatly influenced the opinions of the delegates. The precautions recommended in detail the various means applicable for the removal of filth, and the protection of water supplies, combined with careful disinfection of the discharges of any person who might be attacked.

In 1881, an International Sanitary Conference was held in Washington, and was attended by the representatives of twenty-seven states, including all the governments of Europe, except Switzerland. They discussed measures desirable to prevent the spread of yellow fever and cholera. No uniform agreement was arrived at on all points, but some of the recommendations were adopted by many of the foreign governments. After the invasion of Egypt by cholera in 1883, and of Europe in 1884, an International Sanitary Conference was held in Rome in 1885. The interested powers were represented by their embassadors or other diplomats, assisted by technical medical delegates. They traced the course of shipping from its point of departure from ports and

cities where cholera is endemic, for instance, Bombay, Calcutta, etc., and followed it through the Red Sea, the Suez Canal, the Mediterranean, to the open ocean. Later they considered the indications for inland precautions, and recommended the security of correct statements of sanitary conditions by the presence on big vessels of government medical officers independent of shipping companies, the disinfection on board, by means of steam chambers, of all soiled or dirty articles, the enforcement of strict precautions against the spread of cholera by the pilgrims to and from Mecca. Respecting the detention of ships, the powers represented expressed opinions that were arranged in the three following groups: Turkey, Spain, Mexico, Brazil, etc., favored the continuance of long quarantines. France, Germany, Austria, Hungary, Switzerland, Russia, Sweden, Norway, Italy and Portugal yielded to the data of modern science; whilst desiring short periods of quarantine they favored such detention as deemed necessary upon travelers and commerce; England and India advocated free passage without detention. Regarding quarantine, however, the opinions of Continental nations have been undergoing modification. At the International Congress of Hygiene, at Paris, during the exhibition of 1889, Dr. Proust, Inspector-General of the sanitary service of France, concluded a report on sanitation in seaport towns with the following propositions: "That it is the duty of governments and municipalities to render ports healthy; that sanitary works for seaport towns are more necessary than for other towns; that it is only after such works that any notable reduction in zymotic diseases and general death rates takes place, and that it is only when ports present a refractory soil for the penetration upon shipping can be suppressed." In spite of the dubious signification of the last resolution, there was ample indication that quarantine was slowly but surely being whittled down to small proportions.

Most of the microphytic diseases are found to prevail more or less in all parts of the civilized world. Certain are more prevalent in temperate zones; others are peculiar to the tropics, and are exotic in relation to this country. There are many diseases indigenous to certain tropical areas, but which are not naturalized in this country, such as Oriental plague, Asiatic cholera, yellow fever, dengue, yaws, elephantiasis, endemic hematuria, and chyluria, Oriental sore, and Madura foot. Besides these, some diseases, such as malaria and dysentery, appear in a more severe form in tropical than in temperate zones. On the contrary, scarlatina, erysipelas, whooping cough, cerebrospinal fever, and what is known as cholera nostras, are more common in temperate zones.

EPIDEMICS IN THE UNITED STATES.

According to the late Dr. Toner, the most important epidemics which prevailed in the United States during the eighteenth century were as follows:

Smallpox: In Boston in 1701, 1702, 1721, 1730, 1752, 1764, 1776, and 1792; in New York in 1721, 1731, and 1752; in Philadelphia in 1730-32, 1736, and 1756; in Charleston, S. C., in 1700, 1717, 1732, 1738, and 1760.

Yellow Fever: In Boston in 1796 and 1798; in New York in 1702, 1732, 1741, 1743, 1791, 1795, 1798, and 1799; in Philadelphia in 1741, 1762, 1793, 1797-99; in Charleston, S. C., in 1700, 1703, 1728, 1732, 1739, 1745, 1748, 1749, 1753, 1755, 1758, 1792, 1794, 1795, 1796, 1797, 1799; in New Orleans in 1769, 1791, 1793-95, 1797, 1799, 1800.

Scarlatina: (According to J. Lewis Smith, first imported into the United States in 1735.) In Boston in 1702, 1735, 1795; in New York in 1792-94.

Measles: In Massachusetts in 1713, 1739, 1769, 1773; in New York in 1788 and 1795; in Philadelphia in 1771, 1773, 1778, 1796; in Charleston, S. C., in 1747, 1759, 1772, 1775.

Angina (Diphtheria): In Kingston, N. H., in 1733-35; in Boston in 1735, 1769; in New England in 1737, 1742, 1787, etc.

GROWTH OF THE HOSPITAL.

The first hospital, or rather pest-house, was established in 1403 by the proveditors of Venice, on an island near that city, but only those actually attacked by plague were at first admitted. Later several other maritime cities in the Mediterranean founded similar institutions.

Hospitals especially for the insane were established first at Feltre, in Italy, then at Seville in 1409, then at Padua, 1410; Saragossa, 1425; Toledo, 1483, and Fez in 1492.

These hospitals may be regarded, however, rather as houses of correction or penitentiaries—in Lubeck these houses of detention were called "Tollkisten" (insane boxes), and were under the charge of the jailer—than as institutions for the care and treatment of the inmates.

In 1460, in Frankfort-on-the-Main, there existed nine so-called insane asylums, each nine feet long, broad and high, one of which contained a crazy woman, another a priest, a third a crazy apothecary. Of medical treatment there was not the least thought. The insane wallowed about in chains and without clothing in these horrible dens, covered with filth and their own excrement, as long as they were able to endure. Toward the close of the Middle Ages, the treatment of the insane became a little better, especially in free cities, where compassionate citizens assumed their care instead of police jailers. This practice first started in Lubeck, in 1478. Proper houses for the guardianship of the insane were also called into existence, gradually, by the example, donations, etc., of others.

MEDICOLEGAL BEGINNINGS.

We find that in the twelfth century there were state physicians and surgeons as advisers in forensic medicine. In 1249, Hugo of Lucca received from the burgomaster a commission to draw up a legal opinion, and as early as 1209 Pope Innocent III recommended the appointment of such physicians in canon law. In France and in the kingdom of Jerusalem sworn surgeons were employed by cities and courts, as medical experts, as early as the thirteenth century. Physicians and surgeons were employed as public witnesses, each in his own department.

In the fourteenth century, city physicians were required to take an oath to conform to certain instructions, the transgression of which involved a penalty. In this same century there existed at Strassburg the so-called "Libenzuehter," who exercised supervision over the moral and sanitary relations of the inhabitants. Strassburg had its first city physician in 1328.

GROWTH OF PHARMACOLOGY.

Arabians first started apothecaries in Europe, in Italy about 1135, and in Spain in 1140, at Cordova and Toledo. Frederick II, in 1224, enacted a pharmaceutic ordinance differentiating the druggist from the apothecary. The former was dealer in spices, essential oils and raw drugs, the latter compounded medicines.

In the thirteenth century there existed in France an "instruction" for apothecaries. The latter formed a guild, about fifth in rank. In the early part of the fourteenth century they were raised to the second rank, their "masters" being allowed to wear long black gowns and wide sleeves and velvet facings, like the judges. They, with the merchants, preserved the standard weights of Paris. The physicians were their overseers. Many compound remedies were prepared by them in the presence of medical magistrates, chief among these compounds being theriaca, which was thus prepared even in the eighteenth century, so as to escape adulteration.

Germany boasts of its first pharmacy in 1233. London was the seat of the first apothecary shop in 1345. In France, in 1330, a law was enacted for the inspection of pharmacies.

The first law under State Medicine regulating apothecaries was enacted at Strassburg in 1400, and at Stuttgart in 1486, which ordinance is still in force, and reads as follows: "That drugs must always be well selected and not decayed; that nothing except what is prescribed shall be put into a medicine, especially nothing dangerous by way of substitution; that the apothecary shall be responsible for his clerks, and shall not give any pernicious drug or any abortive; that the price list of the apothecary shall be correct: that in doubtful cases he shall apply to the physician," etc.

Since the time of Frederick, inspection of pharmacies has been added as a regular public function of physicians. It was practiced at Ulm in 1426, in Frankfort-on-the-Main in 1461 and in Berlin in 1499.

THE FIRST PURE FOOD LAWS.

Spain in 1283 passed an ordinance relating to adulteration of food and delicacies, the sale of poisons, and love potions, infection of the air by putrefying animal matters, etc. Strict imperial ordinances against the "improvement" of wine by sugar of lead, etc., were promulgated by an imperial diet in 1475, by the Emperor Frederick III in 1487, and by Maximilian in 1497.

The penal ordinance of the criminal court directed its attention to the falsification of goods in a special section on "Falscher mit Mass. Wag. und Kaufmannschaft," and their example has been followed in the modern German Empire. Beer, too, was kept under supervision, though this and other industrial productions were mainly controlled by the guilds.

Ordinances of medical police were issued in a few cities; one in Nuremburg in 1518 regarded the sale of food, popular amusements and adulteration of wine, a thing often done even by the ancients.

EARLY RULES GOVERNING AUTOPSIES.

Ordinances that came within the sphere of State Medicine existed even in the Middle Ages, Germany being among the first promoters. Autopsies were, everywhere, made in cases of poisoning. Charles V enacted a criminal ordinance in the year 1530 that definitely determined the cases in which the judge should summon expert medical assistance. These were all cases of infanticide, mortal wounds, apoplexy, poisoning, concealed pregnancy and childbirth, abortion, the practice of medicine by incompetent persons, etc. However, in this ordinance judicial autopsies were not directed. They were opposed by every superstition, and it was not until 1562 that Pare made a judicial autopsy, after which postmortems frequently took place. It was from this time on that reciprocal action upon each other of medicine and jurisprudence became permanent.

THE FOUNDERS OF MEDICAL JURISPRUDENCE.

State Medicine in the seventeenth century occupied considerable attention of the physicians at that time. Many contributed works on this subject; others devoted special time and study to anatomy. In the early part of the century, the Pope's physician, Paolo Zacchias, wrote an independent work, renowned not only for its medical information, but especially for the legal knowledge it contained. Zacchias, I believe, is looked upon as the founder of legal medicine. Later, N. Blegny, Gendrie d'Angers and others, in France, wrote on State Medicine.

But to the Germans, during the seventeenth century, are we indebted for active cultivation of this department. Ludwig von Hoernigk, in 1638 published a work on the duties of the medical profession as a whole; Paul Ammann and Hieronymus Welsch wrote works on the mortality of wounds; Melchior Sebiz, in 1641, likewise wrote on this subject, and on the signs of virginity. John Friedrich Zittmann, Bernard Suerus and John Bohn, the latter the scientific founder of State Medicine in Germany, wrote on these subjects. Conrad Berth Behrens, ordinary physician to the court of Brunswick, and J. W. Pfeizer, wrote on the duties of the forensic physician. The Hollander, Feltmann, expatiated on the examination of corpses, and John Brown on the mortality of wounds.

ACTIVE GROWTH OF LEGAL MEDICINE.

During the seventeenth century, numerous ordinances of medical police, or hygienic ordinances were enacted. This period may be styled the natal era of state police, and the law included ordinances relative to plague, clothing, food, the inspection of provisions, etc.

In the eighteenth century, State Medicine was in high state of cultivation, especially in Germany. Those who are acquainted with the works of Fabricius, Buttner, Ploucquet, Valentin, Ludwig, Tropanneger, Buchholz, Schlegel, Daniel, Platner, Teichmeyer, Alberti, Eschenbach, Metzger, Pyl, Uden, Delius, Baumer, Frank, etc., know to what extent forensic medicine advanced in that country.

In France, the learned Bellocoque, Prevost, Verdier, etc.; in Spain, del Valle, and in England, Farr—all are standard authors on State Medicine.

In the beginning of the nineteenth century, Pater Frank introduced the official distinction of medical police and forensic medicine. He became the champion of hygiene and was followed by Hebenstreit, von Huszty, von Nassynya, Scherf, and others.

The part of State Medicine which deals with practical instruction in sanitary science has, in Europe, been prosecuted in varying degrees in different countries. To such work as that carried on by Parkes, Klein, Creighton, Sanderson, Baxter, Smith and others in England; to the investigations of Pasteur, Chauveau, Duclaux, Chamberland, and others in France, and to the bacteriologic investigations of Koch, and the chemical studies of Pettenkofer, in Germany, are we to attribute the present position of practical knowledge of hygiene.

In some countries the instruction of public hygiene is limited, being usually confined to a course of hygiene in some medical school. In others there are institutes of hygiene on the most extended scale, as, for instance, those at Munich, Leipzig, and Copenhagen. In Hungary the province of instruction in State Medicine is of an extended character.

KNOWLEDGE OF ANATOMY BY THE ANCIENTS.

Autopsies and dissection are said to have been made hundreds of years before Christ. The Talmud thoroughly describes the anatomy, pathology and physiology of man, speaks of the dissection of animals, and also of the human being, teaches how to skeletonize, and cites the case of a prostitute whose body was boiled and afterwards skeletonized. We also know of the two great anatomists, Erasistratus and Herophilus, in 300 B. C.

EARLY DISSECTIONS.

Dissections have been made in every century; always with opposition by the laity. There was no regulation law by which a medical student could obtain material to study the elementary of medicine. However, we find that in the fifteenth century, Italy turned over her condemned criminals to medical colleges. It is related by writers that all condemned criminals of Italy were sent to Pisa for execution, and were frequently turned over to the anatomists of the University, who poisoned and then dissected them.

HUMAN VIVISECTION.

It is claimed, in the History of Louis XI, that a human being was vivisected in France. It states that in 1474 a condemned robber was vivisected for the purpose of finding out where certain maladies were concreted, from which he and numerous other persons were suffering at that time. Opening and incision were accordingly done, the maladies searched for and examined, after which the bowels were replaced and the body was sewn up again. The patient's wound is said to have healed within fifteen days, and he was pardoned and given some money.

In the sixteenth century, vivisection of human beings was charged against three men, viz., Berengar of Carpi, Vesalius and Fallopius in particular, and against the anatomists of the University of Pisa in general.

Berengar of Carpi is believed to have actually vivisected two Spaniards: Vesalius is accused of dissecting a Spanish nobleman, believing that he was dead, and Fallopius is said to have been his accuser. The following paragraph is found in the fourteenth chapter of his work, "De Tumoribus": "Fever resists 'colc' poisons, as I found at Pisa while anatomizing a man. For the prince commands them to give us a man, whom we kill in our own fashion, and anatomize. To whom we gave two drachms of opium, and an attack of ague coming on (for he suffered from quartan) prevented its action. He, delighted, requested a second dose, and that we should intercede for his pardon, if he survived it. We gave him another two drachms, when he had no attack, and he died." Such history sounds possible, but not probable; however, it is from this sort of history that the ignorant public, both European and American, have become prejudiced against medical colleges and believe that human beings are dissected alive.

The regular legal inquest of autopsies and postmortems was first established in Austria, in the early part of the eighteenth century. It was soon followed in France through the influence of Gardanne, and in Germany through that of Hufeland.

The first judicially authorized dissection in the United States was made by Dr. Shippen of Philadelphia, in November, 1762. The case was that of a negro who had cut his throat with a glass bottle, from the effect of which he died; after the coroner's jury had pronounced him guilty of self murder, his body was immediately ordered, by judicial authority, to "Dr. Shippen's Anatomic Theater."

LAWS ON DISSECTION.

The first American anatomy law is the New York Act of 1789; since that time 31 states allow dissection; 19 states have liberal anatomy acts, while 15 have illiberal ones; the laws of 11 states are silent regarding anatomy, excepting their laws on malpractice; 31 states forbid the desecration of graves, while the laws of 14 states are silent regarding either dissection and disinterment; none of the 3 territories allowed dissection.

Ignorant and preposterous opposition of pretenders has always been a snare to the study of pathology. The county commissioners in charge of the Chicago Asylum in 1884, raised religious prejudices against postmortems, and were found to be selling the bodies to medical colleges at $30 each for private profit.

OPPOSITION TO VIVISECTION.

The progress of medical science, especially of physiology, biology, hygiene, etc., has called increasing attention to a higher degree of research in anatomy and physiology; to that end, vivisection of the lower animals is necessary.

At every session of legislative bodies of the various states in the Union, and of every country in Europe, an attempt is made, by a set of so-called "anti-vivisectionists" to influence legislators to enact laws against vivisection.

The fact of the matter is that vivisection is unfortunately a most misleading term to the laity. They seem to have the idea that animals are cut up alive by medical men, and compelled to suffer great pain for unjustifiable objects. A small proportion of the public know that anesthetics are administered beforehand, and that the animal is killed before sensation returns, and that such experiments must be carefully made and free from pain, otherwise they would be useless.

VALUE OF VIVISECTION.

The question, value and character of scientific research, when carried out on living animals, has in late years been aroused by an attempt on the part of the enemies of science to entrap the influence of those who profess better things.

No physiology can advance without vivisection; experiments on living animals are as essential to its progress as is dissection for the study of anatomy. The law of sacrifice is the law of life; therefore, the law of nature, that one thing should be sacrificed for another. It is a common thing for a man to endanger his own life, to save that of another. How many physicians, nurses, etc., have lost their lives while attending to the sick and wounded in infectious diseases and in war on the battlefields.

I maintain that any person who would deny the saving of a human life at the cost of a mere dog, cat or rabbit, is a pretended humanitarian. For instance, a professor showed his students how he had saved the lives of several men by a certain operation on the brain. In order to demonstrate the operation, he performed a *fac simile* operation on a monkey, which also recovered. The professor, in his lecture, informed his pupils that before he ventured the first operation he performed it on a living monkey. Now, according to the opponents of vivisection, it would have been a lesser crime to have let several men die than to have risked the life of a monkey.

VIVISECTION DEVELOPS SYMPATHY.

Regarding the false idea, that a physiologist takes pleasure in making animals suffer, I will say that instead of developing cruelty, the practice of physiology tends

to increase in us the feeling of humanity and pity. The physician who has closely observed human suffering, instead of beind hardened by it, becomes more passionate. So the physiologists, who are acquainted with pain, are full of pity for suffering beings, and I do not hesitate to state that not one of them would be guilty of brutality toward an animal.

OUR DEBT TO VIVISECTION.

Take away from the science of medicine, and the art of surgery, all that with which physiology has enriched it, and the physician and surgeon of to-day would be no better than a mystery man or a quack vendor of chance-gotten drugs. Discard the present system of physiology, and all that has been gained by experiments on living animals, and the whole structure would collapse, leaving nothing but a few isolated facts of human experience.

The physiologic knowledge that we have and that we will gain in the future, if properly legislated in its favor, will benefit suffering humanity. The opponents do not stop to think that vivisection is as justifiable as the killing of animals for food. Physiology demands it for the good of all living creatures, and medical men should carry it out.

Moreover, I doubt if there is a single "anti-vivisectionist" who would miss a beefsteak for the sake of saving the life of a magnificent steer, or who would deny himself of either a veal or lamb chop in order to spare the life of a calf or that of an innocent lamb. Hundreds of millions of living creatures have already been sacrificed by epidemics, contagious and occult diseases, largely through the want of knowledge. It is unnecessary, therefore, to prove the utility and morality of vivisection. Nearly all physicians and all physiologists approve of it.

VACCINATION.

As a prophylactic against dangerous variola, compulsory vaccination was established early in the nineteenth century. It was first made compulsory in Germany in 1807.

Austria, Prussia, and even Russia recognized the value of the vaccine prophylactic, and made the practice general and compulsory throughout its territories, in the early part of the nineteenth century.

In 1853, in England, an Act of Parliament was passed making it a penal offence for any British subject to fail to protect himself by vaccination. In 1864, the American Medical Association, at its fourteenth annual session, held at Chicago, appointed a committee to inquire into the expediency of a national law compelling every individual in the United States to be vaccinated. The committee reported at the fifteenth annual session, at New York, in favor of such a law, but came to the conclusion that general compulsory vaccination in this country, at that time, was impracticable, owing to the unpleasant condition of our nation at that period.

TUBERCULOSIS.

But the time has now come when the medical profession should show the national supremacy, by their united action in demanding enforced national legislation for the protection of its inhabitants from infectious diseases by compelling every man, woman and child not only to be vaccinated, but also to take precaution against infectious tuberculosis.

Koch's first investigations revealed tubercle bacilli in the dust that had been contaminated by the sputa of phthisical patients, and the coma bacilli of cholera in the mud-banks of Indian water-tanks. Kitasato of Japan, and other observers have found tetanus bacilli in the soil.

These and numerous other experiments have proved the presence of pathogenic microbes in the soil. Those investigations endured a great amount of experimental work under the auspices of various governments, such as France, Germany, Austria, England, Russia and the United States. The field of contagious animal diseases is in a much more advanced state, controlled, as it is, by the Bureau of Animal Industries, under the Department of Agriculture.

TUBERCULOSIS MORTALITY.

According to statistics, tuberculosis kills one-seventh of all the population of the world, and one-third of all deaths occurring between the ages of fifteen and sixty years are due to tuberculosis. Furthermore, it destroys four and a half times more people than do smallpox, scarlet fever, typhoid fever and diphtheria combined; that in America 1,200,000 people have the disease at all times, or one in fifty persons.

Dr. Mullins, of Sydney, Australia, reports for a period of twelve years, 17,114 deaths from tubercular disease in New South Wales. Of these 12,430 were from phthisis, 2241 from tabes mesenterica, 1325 from tubercular meningitis, and 1018 from other forms of tuberculosis. During the year 1898, in the state of New York alone, there were 12,979 deaths due to consumption; of this number, 7825 were in the city of New York.

BOVINE TUBERCULOSIS TRANSMISSIBLE.

Dr. Charles Creighton emphatically says: "I can not escape from the conviction that the peculiar errors of nutrition in the domesticated bovine species all over the world are the real fountain and source of human tubercle."

A strong confirmation of the view that bovine tuberculosis is transmissible, at least to young children, is contained in the fact that the mortality of children under five years of age from primary tubercular ulceration of the intestines, and from tuberculosis of the peritoneum and mesenteric glands (tabes mesenterica), is very high.

According to bacteriologic investigation, the bacilli of bovine tuberculosis have been found to be identical with those found in tubercular formations in the human organs, although the disease is anatomically different in man than in cattle. These differences are considered due to differences of soil in the human and bovine tissues, the bacilli engrafting themselves in those tissues which present conditions most favorable to their growth and development.

It has been found that the milk of tuberculous cows containing tubercle bacilli, when administered as food, produced tuberculosis in dogs, guinea-pigs and rabbits.

WHAT STATISTICS PROVE.

Woodhead states that in 127 cases of tuberculosis in children examined by him he found tubercular ulceration of the intestine in 43; whilst in 100 cases, or nearly 79 per cent. of the whole, the glands connected with the intestinal tract were in some stage or other of tubercular degeneration. Woodhead contends that tuberculosis connected with the intestine is of frequent occurrence in children, infection frequently taking place by the alimentary canal.

It is a curious fact that wise men occasionally fall into errors, strange and unaccountable. I trust that the error recently made by Dr. Koch, at the British Congress

of Tuberculosis, that bovine tuberculosis is not infectious to man, will not retard the action and movements of scientists against the dangerous infection from bovine tuberculosis. If Koch does not believe the identity of human and bovine tuberculosis, we will simply refer him to the observations of Tscherming of Copenhagen, Pfeiffer of Weimar, Law of Cornell University, Williams of the Brompton Hospital, Cozette of Noyon, France, and many others who report infectious cases of bovine tubercular infection.

ILLUSTRATIVE CASES.

Tscherming relates the case of a veterinary surgeon, who cut his hand while making a postmortem examination on a tuberculous cow. Although the wound healed, a swelling remained which became ulcerated and refused to heal. Eventually, the whole mass was removed, and microscopic examination revealed the presence of tubercle bacilli. Pfeiffer relates a similar case of a veterinarian, aged 34, of good constitution and free from hereditary taint, who wounded himself deeply in the left thumb. The wound healed, but about six months afterward a cutaneous tuberculosis was diagnosed at the site of the scar. A year later the patient manifested undoubted signs of pulmonary tuberculosis; the sputum was found to contain tubercle bacilli, and the patient died two and a half years after receiving the wound. Postmortem examination revealed tubercular arthritis of the wounded thumb, and extensive tubercle and cavities in the lungs.

Law reports another case of a veterinary surgeon, who was wounded in the hand while operating on a tuberculous cow, and suffered from a tumefaction of the resulting cicatrix, with distinct tubercle bacilli. The tumefaction was surgically removed, and was evidently the means of saving the patient from a generalized tuberculosis.

Cozette, a French veterinarian, relates where a consumptive attendant had infected two cows, which, when handed over for slaughter, were condemned because of their markedly tuberculous condition; however, those two had infected seven others, who became ill, and were killed. Autopsies demonstrated clear cases of tuberculosis.

Law cites the case of a healthy child, aged one and a half years; while at a relative's house for one week it drank the milk of a cow which soon afterwards was condemned and killed. Autopsy revealed generalized tuberculosis. The child gradually emaciated, death occurring three months later from abdominal tuberculosis.

Professor Gosse of Geneva cites the case of his own daughter, who died from intestinal and mesenteric tuberculosis, which he attributed to the milk the girl drank daily, fresh from five cows, on his estate. They were all slaughtered and two of them showed tubercular disease of the udder.

Demine of Berne reports the case where four infants in the Hospital Jenner, whose parents were all healthy, with no tuberculous history, died of intestinal and mesenteric tuberculosis as the result of drinking the unsterilized milk of tuberculous cows.

Brouardel likewise records a case where five out of fourteen young girls living together in a boarding-school became consumptive, subsequent to the daily use of milk from a tuberculous cow. We could cite hundreds of similar cases to convince our friend Dr. Koch of his mistaken ideas of bovine tubercular infection.

Now, if the lactile secretion is infectious, there can be no doubt that the meat from animals which suffer from even a localized tuberculosis is not fit for human consumption; furthermore, we have ample proof that a localized tuberculosis will naturally find its way into the muscular structure or other parts of the carcass used as a food; therefore, such meat should and must be condemned.

IMPORTATION OF DISEASED ANIMALS.

Most all civilized countries have and should have some laws for the prevention of importation of epizootics by foreign live animals. Limited space and other considerations naturally prevent long periods of quarantine or observation and detention of those animals intended for exhibition or re-shipment, or for other special purposes. Many infected animals are slaughtered at the port of arrival, and suspected live animals are frequently excluded.

In 1848, the English Legislature employed numerous means to prevent the importation of sheep, cattle and other animals suffering from contagious or infectious disorders, and gradually further powers were granted until their consolidation and perpetuation in the Contagious Diseases (animals) Act of 1869. Great devastations continued as the result of epizootics, and serious legislative efforts were made until again codified in the existing Act of 1876, to which amendments were added in 1884, 1886 and 1890; so that, as in certain human communicable diseases, the contagious diseases of animals are also subject to compulsory declaration, isolation, and disinfection, with the additional powers of prohibited importance, quarantine and slaughter.

GOVERNMENTAL CONTROL.

In July, 1891, a congress for the study of tuberculosis in man and animals was held at Paris, and the following resolutions were passed:

"It is necessary that all governments should decree the most efficacious prophylactic measures for preventing the extension of bovine tuberculosis. It is urgently necessary to establish a special inspection of meat in all towns, without exception, provided with a public abattoir. It is equally necessary to suppress all private slaughter-houses in towns containing more than 5000 inhabitants, and to replace them, as soon as possible, by public abattoirs; effectual inspection is impossible without this measure."

Tubercular subjects, man and beast alike, should be subject to quarantine restrictions; and its control should be part of the duties of either a national, state or municipal board of health.

The expectoration of sputum of tubercular patients should be prohibited in public places, public vehicles and even on the highways. If the oral secretion is infected with tubercular deposits and dries on the floor it is likely to pulverize and float about as dust; thus inhaled, it is a means of spreading tuberculosis. It may be difficult at first to enforce such an ordinance, but a law of this sort will certainly have a moral effect, and eventually an educative action on the public, who will consider it indecent and disreputable to spit in public places. It will likewise educate the public to look upon public spitters with contempt.

The National Board of Health, which was established in 1878, was appointed and supplied with grants by the Federal Government, which enabled the board to institute investigations of great importance regarding the causation of disease, etc., has unfortunately, through political prejudice, withheld its influence, so that very little practical work has been done, and was finally abolished. But the Marine-Hospital Service, with the late

Dr. John B. Hamilton, and the present Dr. Walter Wyman at the head of that department, protected the country against foreign importation of infectious and contagious diseases.

TUBERCULOSIS SANATORIA.

S. A. Knopf, of New York, before the Conference of the State and Provincial Boards of Health of the United States, delivered an address upon the state and municipal care of consumptives. He believes that a commission should be provided for the examination and care of tuberculous subjects; to determine their physical condition; to investigate their surroundings and the dangers to their families; to render their homes sanitary, if possible, and, if necessary, to endeavor to remove the patients to an institution. Anyone should have the privilege of being examined, and all physicians should have the privilege of recommending patients for examination. The institutions for the care of these individuals should comprise a reception hospital and dispensary, located in the city; a suburban sanatorium, in an elevated region, if possible, this to be used as a temporary hospital for patients subsequently to be sent to a mountain sanatorium, which should, if possible, be elevated from one thousand to two thousand feet above sea level. There should also be seaside sanatoriums for the treatment of children with tubercular disease of the joints and glands, and a maternity sanatorium.

Knopf also quotes the greatest authorities of the world, who are in favor of such a movement—Dettweiler, Leyden, and Liebe of Germany; von Schrotter of Austria; Grancher, Letulle and Petit of France; Weber, Lindsey and Sangmann of Denmark and Sweden; and in the United States, Bowditch, Hamilton, Biggs and Prudden, Lee, Trudeau, Flick, Hinsdale, Otis, Shrady and others, all strong advocates for the establishment of state and municipal sanatoria for the care and treatment of the consumptive poor.

The crowned heads of Europe, such as the Czar of Russia, the Empress of Austria, the King of Saxony, the King of Sweden, and the young Queen of Holland, have placed the sanatoria for the consumptive poor under their high protection, and have opened their private purses for their support. The nobility and the leaders in finance, art, and literature have been eager to imitate the noble example set by their sovereigns, and the latter, too, have given freely toward the erection and maintenance of such institutions.

Thus, in the countries just mentioned, a number of establishments now flourish which are doing a world of good by curing the curable tuberculous cases, and taking care of the hopeless ones, thus diminishing countless centers of infection.

Dr. Knopf justly says: "Let me further advise the statesman, physician or philanthropist who doubts the need of such institutions in the United States, to visit the consumptive poor in the tenement districts of our large cities, and study the hygienic and social conditions of these sufferers in their surroundings."

NATIONAL BOARD OF HEALTH AND EXAMINERS.

It is the duty of every citizen, as well as of the physician, to insist that our National Congress establish a medical bureau of the Department of the Interior, for the purpose of regulating the various professions that battle for the welfare of suffering humanity.

First, to establish a federal board of medical examiners, under the auspices of a medical bureau of the Department of the Interior, so that any physician, dentist or pharmacist may follow his profession in any part of the United States, or in any of its territories, thus granting the privilege to its citizens to invite a physician or dentist from any part of this country to ameliorate their sufferings.

Second, under the auspices of the same bureau, there shall exist a national board of health, consisting of men of learning and ability, competent to make bacteriologic and chemical examinations, for the purpose of preventing the spread of the various contagious and infectious diseases, the adulteration of food, and the sale of infected cattle, and to restrict the sale of the so-called patent medicines.

Third, the bureau shall have jurisdiction over the registration of births and deaths, census and vital statistics in general.

REGULATION OF MARRIAGE.

It is also desirable to have a national law pertaining to marriage and divorce. The unfortunate conditions of either, each state having its own laws, demand immediate action of Congress for the regulation of this evil.

Marriage should be prohibited to blood relations up to the second degree, and to all persons of either sex affected with either congenital or acquired specific or infectious disease, such as venereal or pulmonary affections, confirmed drunkards, criminals, anarchists and degenerate classes.

Each applicant for a marriage license should present a certificate from a medical examiner, appointed for that purpose, stating that the applicant is not affected with any disease or habit that would be derogatory to procreation or offspring. When parents are tainted with specific disease, it is almost invariably looked for and expected with the children. A taint of hereditary drunkenness, insanity, suicide, epilepsy, idiocy, deaf-mutism, cancer, syphilis, gout, rheumatism, tuberculosis or scrofulous diathesis in the blood, are all symptoms of degeneration, likely to be intensified by propagation in succeeding generations, until the tainted family becomes extinct. Intermarriage with those tainted diffuses weakness, deformity, and abnormality through the social structure, deteriorates and contaminates all who issue from such unions.

Intermarriage of distinct diseases are as dangerous as the union of two consumptives. A typical case, cited by Richardson, will corroborate this statement: "A young man, of marked cancerous proclivity, married a woman whose parents had both died of pulmonary consumption. This married couple had a family of five children, all of whom grew up to adolescence, sustaining at their best but delicate and feeble existences. The first of these children died of lupus; the second of simple pulmonary consumption; the third, owing to tubercular deposit in the brain, succumbed from epileptiform convulsions; the fourth, with symptoms of tubercular brain disease, sank from diabetes, the result of the nervous injury; and the last, living longer than any of the rest, namely, to thirty-six years, died of cancer. The parents in this instance survived three of the children, but they both died comparatively early in life; the father from cancerous disease of the liver, the mother from heart disease and bronchitis."

While we have some states prohibiting consanguinous unions, there are others that have not kept abreast with modern civilization, and allow the marriage of near kin. There is not a physician who is entitled to that name who does not know the physiologic reason for prohibiting

consanguinous marriages; but for the benefit of those who do not know, I will state that besides degenerations, a marriage between persons closely allied in blood is apt to produce an offspring feeble in body and a tendency to insanity in mind.

As to confirmed drunkards, I can only repeat what Plutarch says—"One drunkard begets another"; and Aristotle adds: "Drunken women bring forth children like unto themselves." Dr. Howe, in a report to the Legislature of Massachusetts, says: "The habits of the parents of 300 of the idiots were learned, and 145, or nearly one-half, are reported to be known as habitual drunkards." Howe cited a case in which the parents were drunkards, and had seven idiotic children.

PROPHYLAXIS AGAINST ANARCHY.

Another dangerous disease with which the world has to contend, and which has lately shocked our nation, and in fact the whole world, is anarchy. The murderous assault upon the President, aimed as it was at the life of the government, imperiled the security of the whole country. The right of self-preservation is as vital to the State as to the individual.

The entrance of foreign anarchists must be strictly prohibited as well as other infectious matter. Their teachings are as poisonous as the bite of a snake, and as dangerous as the swords and bayonets of a hostile nation. The pestilence of the teachings of the anarchists who dwell amongst us can not but have influence upon their offspring; therefore there must be a law preventing their marriage. The characters possessed by an individual are mainly congenital, peculiar to each individual in type and variation; therefore, the offspring bear a typical likeness and character to the parents.

Criminals and murderers may regret and repent their crimes, confess and receive absolution, and, after their execution, may go direct to heaven; but society is better off with such individuals in heaven than on earth.

A great deal can be said in favor of a national law of divorce. But what mainly interests us is the medical portion. According to medical jurisprudence, impotence in man and sterility in woman, or any impediment to procreation of children, is absolute ground for divorce; however, what we desire to add is that specific and infectious disease endangering offspring shall likewise constitute grounds for divorce.

PUBLIC BATHS.

The public bath is another necessity to municipal hygiene. The ruins of the caracallas of Rome speak clearly of the glorious bathing establishments of the fifth century; though in a state of decay, yet they show the inclinations and habits of the people who prevented municipal filth. It is said that Rome had at one time 856 public baths. In the Middle Ages nearly every village and town is said to have had its bathroom with wooden tubs. Russia, Turkey and Japan are renowned for their public baths, which are accessible to the poorest classes upon the payment of a very slight fee.

France, Belgium and Austria have kept apace with other countries. The United States, unfortunately, has done very little towards this hygienic problem. The only baths provided in this country by municipalities are a few floating or swimming baths in New York and in Chicago. The New York baths were authorized by the Legislature of that state. About twenty such establishments exist in that city to-day. Another act in the Empire State, in 1892, authorized any city, village or town in the state to establish public baths, and to loan, credit or make appropriations for that purpose. I trust that the great state of New York will continue its good work, and that other states will follow. It is admitted, that if you deprive a man of his bath you lower his moral tone: "soapology" and "scrubology" as well as "theology" are recognized by General Booth, of the Salvation Army, as potent Christianizing agencies.

RESTRICTION OF VENEREAL DISEASES.

Compulsory examination of prostitutes is another necessity for the purpose of preventing the spread of venereal diseases. It is said that either the City of New York or Chicago contains, at the present day, venereal infection sufficient to contaminate the male population of the United States in a very short space of time.

We do not want legalized prostitution as it exists in European countries. I do not believe in authorizing houses of debauchery and making of prostitution a regular profession. The State has no right to regulate prostitution. I am proud of my country, which is fortunately free from the incubus of State regulated vice.

All that is desired is a state law for municipal governments, to keep a register of all women known or suspected of prostitution, and that such women shall be liable at any time to be called in for examination. But no certificates should be issued to them, as to their healthy or unhealthy conditions, for such a certificate would simply encourage the vice. However, if found affected with a venereal disease, they should be sent to a detention hospital or sanatorium, and should be detained there until cured.

DETENTION OF SYPHILITICS.

I firmly believe in the law of Massachusetts, for the detention of certain persons affected with syphilis, in which it is enacted that persons suffering from syphilis, and being inmates of any correctional or administrative institution, such as a house of correction, a penitentiary, or a work-house, shall be placed under medical treatment, and be isolated until the medical attendant shall consider further isolation unnecessary; and if, at the date of discharge of a person, syphilitic symptoms are still present, likely to prove a public danger, compulsory detention may be put in force to retain the infected person until such a time as dangerous symptoms have been pronounced to be no longer present.

A suitable hospital or sanatorium devoted to diseases peculiar to prostitutes should be established in each and every city, with the power to place and keep there all women so diseased until cured. The amount of accommodation required should depend upon the size of the population, and there should be at least one bed to every thousand inhabitants. Payment could and should be required from all who possess the means of expense actually incurred, and this would contribute a considerable sum towards the expenditures of such an institution.

It should not be intended as a prison, for such is directly contrary to reformation. Liberal arrangements as a hospital would afford no encouragement to vice, and certainly help wonderfully to eradicate the evil.

ABOLISH THE CORONER.

There is one law, a relic of barbarism, that I should like to see abolished, and I know that the profession would heartily approve of it; that is, the office of county coroner; and in its stead a medical examiner should be created. Such a law was established in Massachusetts

about fifteen years ago, and gives great satisfaction from both a scientific and financial point of view.

CONCLUSIONS.

All foregoing regulations, if established, will, I am sure, tend to improve the moral and physical welfare of our Nation.

State Medicine is a creation of necessity in times of public danger, but its future development will be in proportion to the scientific character of its work, and to the appreciation on the part of the public of the economic and beneficent results of such work.

The world's rapid transit and intercommunication brought on the high state of civilization, and made the whole human race one family, so that people of every color, clime, language, government and creed have become one brotherhood, with a law of love and care for one another which fulfills the golden rule—"love your neighbor as you do yourself."

Original Article.

A SIMPLE AND ACCURATE METHOD OF OUTLINING THE STOMACH.

WILHELM BECKER, M.D.
MILWAUKEE.

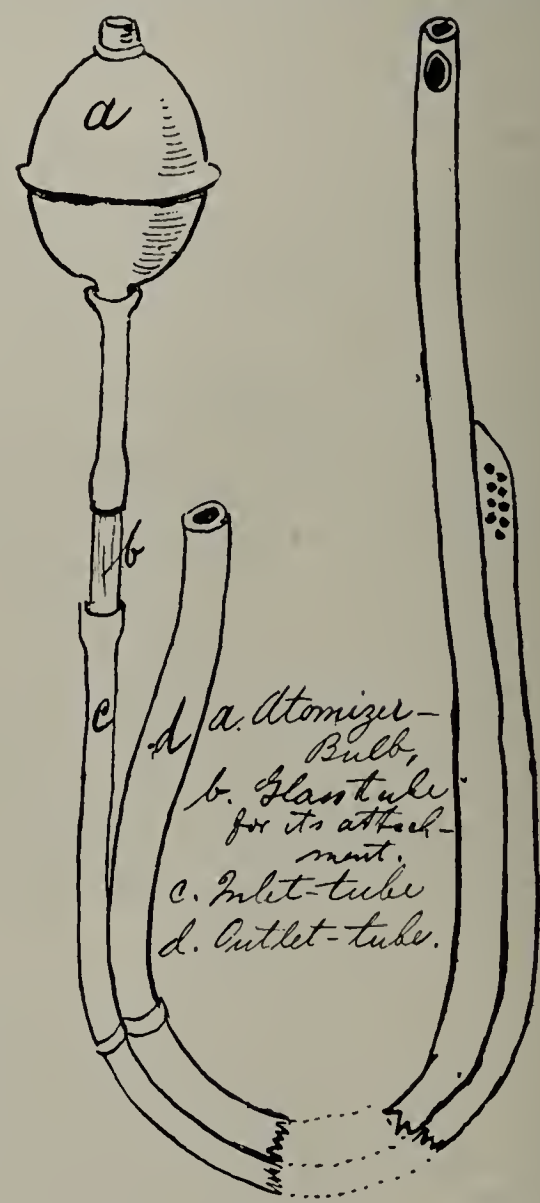
The determination of the outlines of the stomach has always been and always will be a matter of great interest to the gastro-enterologist. It is not necessary to name and describe the advantages and disadvantages of the various methods of outlining the size of the stomach, nor will space allow me to do this.

During the last two years I have tried a simple and accurate method which has given me great satisfaction. By its employment I have determined the size of the stomachs of about three hundred patients of all varieties. A considerable number of these patients were free dispensary patients of the Milwaukee Medical College and I take this opportunity to extend my thanks to Prof. W. H. Nielson for generously placing the gastro-contingency of the college clinic at my disposal.

The following is a short description of the method: The patient's stomach is washed out in the ordinary way. Turck's double tube is best used for this purpose. About two hundred c.c. of clear water are left to remain in the stomach. Next, the patient is placed in a horizontal position upon a table with the tube *in situ*. An ordinary atomizer bulb is attached to the inlet tube. The outlet tube is firmly compressed. This compression is best effected by kinking the outlet. Then a stethoscope is placed over the region of the stomach; air is gently introduced by compressing the atomizer bulb. As the air enters the stomach, passing through the stratum of water which has been left in the organ, a gurgling sound will be produced thereby, which is heard very distinctly with the stethoscope or even by immediate auscultation. In moving the stethoscope downwardly towards the supposed borderline of the stomach, the sound produced will be entirely different as soon as the stethoscope is beyond the border, i. e., the sound will be muffled and indistinct. The difference between the sounds over and beyond the stomach is very marked and even a relatively inexperienced one will not fail to see the difference.

After the stomach is moderately distended, the outlet tube is relaxed and the air let out again. The whole procedure is repeated until the borderline of the organ has been ascertained in all directions, the lesser curvature as well as the greater, the right as well as the left border. In trying to ascertain the location of the lesser curvature, however, it is advisable to attach the atomizer bulb to the outlet tube, since the gastric end of this lies farthest away from the cardia and thereby modifies the sound which would otherwise be too loud to admit of a fine discrimination.

It is essential that the organ should be slightly distended. Organs flabby and empty will transmit the sound easily into the surrounding tissues and organs, the same is true of hollow viscera, distended to the utmost. I would therefore advise not to lose sight of these details, since failure to do so has often marred the clearness of the findings and may be a source of error for the inexperienced. There are other conditions which at times seem to be disturbing factors. I have up to the present time been unable to locate them or to ascertain what they are, and I admit that sometimes the results of this method are not as satisfactory as might be desired.



Continued use of the method will, I hope, enable me to find these disturbing factors.

In conclusion, I would like to point out some advantages of the method.

It requires a simple apparatus and simple technic.

It is more accurate, simpler and less cumbersome, both to physician and patient, than gastro-diaphany.

It is less painful than percussion after distension with CO_2 or air; and since the distension is only a partial one, it will not, as the over-distension for percussion often does, give exaggerated outlines.

It has lately been tried to outline the colon by using a similar method, but I do not anticipate as favorable results as in the case of the stomach.

The findings by means of this method were controlled with Turck's gyromele, the percussion method and on the cadaver. In the cadaver, results are less satisfactory.

Trinity Hospital.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, JUNE 14, 1902.

From the fact that our forms are now closed on Wednesday afternoon, we make no attempt this week to give the proceedings of the American Medical Association. The official report will appear in next week's issue.

THE ADDRESS OF THE PRESIDENT.

Dr. Wyeth's presidential address, which is published in this issue, is suggestive in a number of ways. His suggestion of the need of a uniform standard of medical qualification is brief but timely, and should receive the earnest attention of the profession generally. If its sentiment on this point is strongly and generally voiced, the end will be attained, if not at once, at least at an early date. That it is practicable is beyond question, as our Canadian neighbors have demonstrated. The remarks on section papers and on branch organizations are likewise intimations of what must commend itself to every one. The recommendation of permanent places of meeting, while doubtless not novel to everyone, is worthy of serious consideration whatever may be the outcome of the discussion. The present inadequacy of the Army medical force and the prospect of matters becoming worse before they are better, are living questions not only to medical men, but to all who have the welfare of our country and its soldiers at heart. We believe the Association, both in the session and through its individual membership, will speak with no uncertain voice on this matter. The present status is an illustration and a result of our lack of influence as a profession, due, as he says, to insufficient methods of education and to our lack heretofore of thorough organization. We cannot always, with human nature as it is, prevent quacks gaining the confidence of the public, but we can make ourselves more respected when our essential standards of qualifications are uniformly more respectable and when we have shown that we possess in our professional and civic capacities influence that no one can despise or disregard. All these are possible and we may say are realities of the future, but we need not passively wait for them to come to us.

These are only part of the suggestive features of the address; it is a valuable summary of the leading and living questions to be considered at the present session of the Association. Some of them are to be definitely settled in the near future, others, it may be, only in the remote future. We owe it to ourselves and to all those whose welfare we have at heart, to see that the outcome is not in any way a disappointment.

GAS LEAKAGE IN LARGE CITIES.

There has been a widespread feeling for some time that the immense amount of gas leakage known to take place from the gas mains of large cities constitutes not only a serious menace to property, because of the possibility of explosions and the added risk of fire entailed by the presence of so inflammable an agent, but also a manifest danger to health because of the contamination of the atmosphere of houses by a very poisonous element. At the last meeting of the New York County Medical Society new light was thrown on this interesting subject from the standpoint of the gas expert as well as the physician. Some of the data furnished are rather appalling. The information has evidently been jealously guarded up to this time. When it is realized that gas leakage in such cities as London, New York and Chicago amounts to many million feet of gas per day, some idea is obtained of the enormity of the risk to property and life involved.

Gas leakage is constantly on the increase, and so far no serious consideration has been given to it and no precautions taken to secure mitigation of the evil. Even the boards of fire underwriters confess that they have found gas companies too well entrenched in the legislatures for them to be able to secure legal enactments that would protect cities from the possible effects of the present enormous leakage. The fact of the matter is that it is cheaper for gas companies to pay for this costly item of waste rather than thoroughly relay their leaking mains in such a way as to prevent the loss. Gas mains, as a rule, when originally laid were not of material well calculated to stand the wear and tear of soil conditions for a long term of years. Nor were they primarily intended to carry the amount of gas that latter-day demands have necessitated. Leakage is in inverse ratio to the size of the pipe used to convey gas, but in most cities extra mains of comparatively small diameter have been laid rather than single large mains that would be so much safer. Besides, gas has become more and more dangerous as its manufacture has cheapened. The original coal gas contained about 7 per cent. of the very dangerous ingredient, carbon monoxid. At the present time water gas forms almost exclusively the basis for illuminating gas, and in this product over 30 per cent. of the gaseous materials consist of the odorless, treacherous carbon monoxid.

Street conditions, too, have served to increase the dangers from gas leakage. Most city streets, especially in residence districts, are covered with asphalt. This is, as a rule, impervious to gas and, as the sidewalks as now constructed are equally so, the escaping gas finds its easiest exit from the confined space beneath the pavement through the walls of contiguous houses. Some of the gas, it is true, finds its way into sewers and creates dangers for the workmen in manholes and excavations

or, because of its very high diffusibility, gets into the sewer pipes of houses and finds an avenue even into living rooms. During the process of filtration through the soil the deadly water gas becomes separated from the naphtha compounds with which it was mixed in order to give it illuminating power. It is to these naptha elements that gas owes its characteristic odor. The soil filtration then concentrates the poisonous qualities and removes the only danger signal. The gas is even more diffusible when thus stripped of its carburetted elements. It is not hard to understand, then, how great is the danger from such gas diffusion. In the winter, particularly when the ventilation of basements is imperfect, whatever gas finds its way within the walls becomes mingled with the house air. Even a very small percentage of carbon monoxid causes air to become an actively depressant poison.

At the meeting of the New York County Medical Society Dr. Lloyd called attention to some cases in which it seemed clear that the breathing of gas-contaminated air was the cause for certain obscure pathologic conditions with symptoms of anemia and headache accompanied by febrile disturbance and obstinate to all medical treatment. These cases occurred in small groups in both sexes and yielded to treatment only after removal of the patients from the house in which they had been living. Careful examination of several of the houses showed the existence of serious plumbing defects. It is rather generally conceded now that the evil effects of so-called sewer-gas are really due to contamination with carbon monoxid from escaped illuminating gas. It has long been known that even small proportions of carbon monoxid in inspired air may cause anemic conditions with nervous complications. In a series of lectures delivered in Berlin some three years ago,[1] Prof. Ernest Grawitz, the well-known clinical authority on blood diseases, suggested prolonged gas poisoning as a cause even for progressive pernicious anemia. The greater frequency of this disease in large city life in recent years suggests the possibility of some such cause being at work. The severe secondary anemia in individuals of unstable blood equilibrium, so prone to develop in city residents, might well be due to this hitherto ignored factor.

There is no doubt that this question furnishes important material for careful consideration by the boards of health of all large cities. The amount of gas leakage from city mains should be an item constantly on file for sanitary officials. Physicians should be able to find out from authentic data how much gas is escaping in a given district. The quality of the gas furnished should also be a matter of record, so that there may be some control of the amount of the cheaper, but far more poisonous water gas supplied. This material is being used in increasingly large proportions by gas companies. For the sake of public health, gas companies need to be aroused from their present apathy with regard to these extremely important subjects. If necessary legislative enactments should be secured to regulate the abuses which have apparently been allowed to reach too great proportions without proper protest.

1. International Clinics, Series 9, vol. ii, p. 72.

CITY CHILDREN DURING THE SUMMER.

The problem of what to do with city children during the summer has been much discussed and much good has resulted therefrom. When we remember how high the mortality among young children in large cities rises during the hot months, we can appreciate how important it is to do as much as possible to reduce it. Children whose parents are able to take them into the country, to the seashore or to the mountains during the summer are most fortunate. The great majority of city children, however, must stay at home all summer, and among the poor the mortality from summer diseases becomes very great. The efforts which are being made to provide better conditions for such children who live in crowded quarters are most commendable and deserve hearty support. A recent writer has said that the most noticeable movement in educational lines of recent years has been the rapid development of vacation schools and playgrounds in all the great cities of America. While a comparatively small, open playground is by no means a complete substitute for the country, it is a great improvement upon a narrow, dusty, dirty street with its street cars and other traffic. Many children die each year in cities from injuries by street cars and other vehicles, sustained while playing on streets. Children must play somewhere, and if suitable playgrounds were provided, many of these accidents could be avoided.

While the lot of the poor child in the crowded city during the summer is always sad, it is particularly so when the child is so unfortunate as to be sick. Efforts to get sick children away from the city heat have resulted in the saving of many lives.

The particular method adopted for accomplishing this have varied with the location and surroundings of the city. The new floating hospital or hospital boat planned for Boston is to be most complete. It is to be 192 feet long, 44 feet wide, and is to have four decks. The equipment in every particular is to be equal to that of a first-class hospital on land.

In other cities hospitals and sanatoriums are placed upon piers, so that the little patients have the advantage of fresh, cool air from the ocean or from one of the great lakes. The effect of such air upon sick children is simply marvelous, and those who are rapidly losing ground in their unsanitary, hot homes begin at once to improve after their surroundings are changed. Improved milk supplies have done much to diminish gastro-intestinal diseases among city infants, and practical philanthrophy has found a most useful employment in furnishing pure milk to poor families at a nominal price.

With improved sanitary conditions, pure foods and more fresh air, the infant mortality in cities will be much lower than it is at present, and this will in some measure compensate for a lower birth rate.

THE STIMULUS OF SUNLIGHT.

The effect of sunlight on population has been studied by M. Lugeon in the Canton Valais, Switzerland, and a brief statement of his results is given in *Science*, June 6. He finds that in the principal valley of the canton, between Martigny and the Rhone glacier, there is a marked difference in the populousness of the two sides of the valley; that most exposed to the sun having decidedly the largest population, and this does not appear to altogther depend upon the physical conformation, but he is inclined to attribute it mostly to the different exposure to sunlight. With one or two exceptions all the villages are on the sunny side of the valley and the dwellers on that side form a sort of aristocracy, being more prosperous and better educated and look with some contempt on their poorer neighbors on the shady side. In one village there are actual caste differences corresponding to the difference of exposure to sunlight of the dwellings. Of course, this may be largely a matter of voluntary selection; the abstract is not complete as regards possible physical differences in the people, but the publication of the study is suggestive from a medical as well as from a sociologic point of view.

VACATIONS FOR CITY PEOPLE.

With the beginning of summer the city dweller begins to look forward to his summer outing in the country, and he plans how to escape as much of the heated season in the city as possible. Each year witnesses a more general tendency for business houses to give their employes a chance to spend a short time in the country during the warm months, and a half-holiday on Saturday during the summer has become almost universal. Provisions are made in many cities by which working girls and boys, who are unable to pay for a summer outing in the country at the usual prices, are allowed to obtain it free or at a slight cost. It is impossible to estimate the value which such vacations possess in preserving and restoring health, and if employers fully realized the fact that more and better work can be done by fresh and healthy employes than by exhausted and depressed ones, much more attention would be given to providing the workers with opportunities for more recreation, not only during the summer, but throughout the year, by giving a weekly half-holiday, and by requiring shorter hours of work at such times as business would allow it.

THE INFLUENCE OF VARIOUS BATHS UPON GASEOUS INTERCHANGE.

It has been contended that the hot bath acts especially as a counter-irritant or derivative measure, exerting almost specific influence in the presence of capillary bronchitis, and being comparable to a mustard-plaster applied to the entire body. To determine the part played by the irritation of the skin and also the effect upon the gaseous interchange Dr. H. Winternitz[1] undertook at the Medical Clinic of the University of Halle a series of comparative observations, as a result of which he found that under the influence of sand-baths there occurs such a marked increase in the consumption of oxygen and in the production of carbon dioxid as to exceed considerably that attending even highly febrile processes. At the same time, as compared with hot baths, the increase in bodily temperature is moderate and the change in the general condition slight. Saline baths cause inconsiderable increase in oxidation processes, while baths exerting a markedly stimulating influence upon the skin—such as mustard-baths—cause considerable increase in heat production, in the absorption of oxygen and in the production of carbon dioxid. Absorption of carbon dioxid takes places in carbonated baths, and this is of significance for therapeutic purposes. Sulphurous baths are without effect upon the gaseous interchange

1. Deutsches Archiv für klinische Medicin, 72 B., 3 u. 4 H., p. 258.

REACTIONS AMONG MENTAL HEALERS AND FAITH CURISTS.

Some recent reactions in circles previously devoted to the entire repudiation, not to say villification, of medical science are worth noting. First: Newspapers report that vaccination has been allowed in Dowie's "Zion," and that this leader, being unable to save his own daughter from a painful death, sought the services of a practicing physician. Second: While cases, of course, are not published, owing to established professional ethics, it is well known to the profession that physicians are nowadays often being consulted by Eddyites, even by prominent members of the sect, and that occasionally some of these are to be found in our hospitals. Third: The lecturer for a certain mental-healing society tells her followers distinctly that if they need a physician they had better go to one. However, this advice apparently contains a covert reflection on their inability to be helped by mental influence. Fourth: On account of the learning and practical life of the editor, the most dignified authority on current theory and practice of mental healing is a monthly periodical called *The Higher Law*. For the last year or two its pages have shown more and more acknowledgment of the physical factors in disease. It has been stated there that mental healers are specialists, that the whole truth lies deeper than mental healers have sounded. It is explicitly proposed that believers in the allness of the mind should study physiology, and so get a look at things from a new standpoint. "If a mind-curer helps you, well and good. But do not hesitate to learn from the best doctor at hand."[1] Whether it involves hypocrisy and insincerity, or whether it is accomplished by honest steadying of the reasoning powers, it seems by all these signs that the light of common sense is sure sooner or later to break through any cloud of fanatic prejudice or wilful ignorance which may be raised in these days when so many of the real facts about disease can be readily known.

THE CURATIVE ACTION OF FLUORESCENCE IN MALARIA.

The various forms of phototherapy and radiotheraphy have excited much attention recently and are being given extensive trial in various diseases, especially of the skin. Dr. A. F. A. King in recent articles[2] brings forward a number of facts to show that the curative action of quinin in malaria may be due to its fluorescence where-

1. Editor's Study. The Higher Law, May, 1902.
2. Americ. Journ. Med. Sc., February and June, 1902.

by it produces violet rays of light in the blood. King starts from the assumption that the malarial ameba like *Ameba proteus* streams in red light, but not in violet, hence quinin would arrest sporulation of the malarial parasite. As further evidence, King cites the fact that two other vegetable products, namely esculin and fraxin, both of which produce a blue florescence, are effective remedies for malaria. King then goes on and shows that in 1886 Henry Bence Jones discovered a fluorescent substance in the tissues of guinea-pigs and of man, which substance he called animal quinoidin. Rhoads and William Pepper of Philadelphia two years later took up the question, suggested by Jones, whether there might not be a rapid and marked diminution of normal "animal quinoidin" in malaria diseases, and they found that the fluorescence of the blood of malaria patients is below the normal standard. Furthermore, that this fluorescence is increased by quinin at the same time as the symptoms improve. Mills, in 1875, supports this conclusion. In order to explain the malignant cases of malaria in which quinin fails to cure, King recounts the fact that in these cases the parasite remains hidden in the dark recesses of the body where the fluorescent property of quinin cannot come into play. In these cases sporulation occurs very irregularly, probably because the crescents do not secure sufficient light to sporulate simultaneously in sufficient numbers to generate regular paroxysms. He explains the paroxysms of ordinary ague as the result of sporulation of a number of parasites contained in red corpuscles which are so swollen as to be arrested in the capillaries of the skin, thus exposing the parasites to the light of the sun, the subsequent changes in the skin favoring the repetition of this process. This theory is ingenious and interesting. One obscure point in the exposition concerns the cause of the diminution of the normal fluorescence by malaria. No explanation is offered in regard thereto. Furthermore, it seems a little difficult to account for the regularity of the paroxysms by this theory. The reactions of the malarial parasite to various forms of light certainly seem important enough to merit further study.

ICE PURIFIED IN THE MAKING.

The old idea that ice is purified frozen water receives considerable substantiation through recent investigations. Researches on this subject which were begun in 1888-89 under the direction of the Massachusetts State Board of Health[1] and concluded in 1899-1900, demonstrate the mechanical influence of crystallization in purifying water. Experiments in the physics of freezing natural or artificial ice show the tendency which there is for substances in either solution or suspension in the water to be thrown out of the forming ice. So far as bacteria are concerned it seems these researches show that when the freezing begins at the top, as in the case of winter ice, and does not go to the bottom 90 per cent. and upwards of the bacteria are eliminated. But in ice which includes all of the water, as in shallow pools or in artificial ice, all of the bacteria present are, of course, necessarily included. This agrees with the well-known trick of those ice manufacturers who use impure water and then tap the center of each block before complete consolidation in order to draw off that portion of the water in which the impurities are perceptibly concentrated. In commenting on these valuable researches H. W. Hill[2] calls attention to two other factors which, by the work of Winslow and Park, are proved to tend strongly towards the purity of ice. First, typhoid bacilli, the most dreaded bacteria of water supplies, are destroyed to the extent of 90 per cent. by a temperature of a little above 0 C, a temperature which water passes through just before it freezes, and then, second, in ice itself some 90 per cent. of any typhoid bacilli included die out during the first 24 hours. In a longer time even a greater purification occurs. By reason of all these factors being at work it is claimed that given 1,000,000 typhoid bacilli in a certain quantity of water, all but 100,000 would be expelled by the mechanical process of crystallizing that water, of the remaining all but 10,000 would be killed at the special temperature mentioned, and, finally, only 1,000 would survive a sojourn of 24 hours in the ice itself. This amounts to a purification of 99.9 per cent.—an extremely successful filtration. We may conclude from all this that natural ice properly cut so as to avoid the uppermost layer, which is often impure from matter originally floating on the water and by later accretions from above or by flooding from below, is comparatively innocuous. Particularly at this season of the year it is decidedly comforting to be assured on competent authority that infection through ice is not much to be dreaded.

1. Thirty-second Annual Report, 1901.

2. Johns Hopkins Hospital Bulletin, April, 1902.

THE EYESIGHT OF CHILDREN.

Comment has often been made, much more so in the past than now, on the large number of persons in American cities, including even many children, who wear glasses, and it has been suggested that this state of affairs is the expression of a fad or of a bit of affectation or of avarice on the part of the oculist. The fact is, however, that as a result of our indoor habits, demanding constant use of the eyes at short range, ocular defects that would otherwise cause no trouble and thus remain concealed become manifest as eyestrain in one form or other. To the credit of American ophthalmologists be it said that they were among the first to appreciate the significance of such eyestrain, and to the correction of its causes they have given most assiduous, intelligent and successful attention. We think it may be stated without fear of contradiction that no better refractive work—including muscle-equilibration—is done than that of the ophthalmologists of the United States. As a result of observations made upon children in the public schools the relatively large preponderance of ocular defects has been amply demonstrated and some investigations made by a competent Swiss oculist[1] tend to show that similar conditions exist among the schoolchildren of continental Europe. In the course of examinations into the eyesight of 19,947 children in the public schools of Zurich during the eight years from 1884 to 1902 defective vision was found in 19.1 per cent. of this number, in the following percentages: hyperopia, 1.2; myopia, 0.9; astigmatism, 8.6; spasm of the ciliary muscle, 1.4; strabismus and amblyopia, each 1; corneal

1. Adolph Steiger: Lancet, May 3, 1902, p. 1287.

maculæ, 1.3, and various other defects 1.5. It is uncertain from the accessible report whether a cycloplegic was employed invariably or at all in making the examinations, but the statement that an exact ophthalmometric examination of eyes with defective vision was an absolute necessity for the detection of the large number of cases of astigmatism suggests at least that paralysis of the ciliary muscle was not induced as a rule. It seems also that only those children may have been examined who complained of defective vision or apparently had impaired eyesight. In accordance with the results of the examination, written instructions were given in the case of each child, defining the distance of the seat from the window and from the blackboard, the use of spectacles, etc. The parents were informed when the eyesight was defective and were referred to an ophthalmologist for treatment. The Germans certainly deserve credit for valuable contributions to both the theory of optics and the practical application of optical principles, but they have been slow to make such application to the measurement and adjustment of glasses for the correction of errors of refraction.

Medical News.

DISTRICT OF COLUMBIA.

The New Surgeon-General.—Colonel William H. Forwood, assistant surgeon-general, United States Army, has succeeded Dr. George M. Sternberg as surgeon-general.

Surgeon-General Sternberg's Retirement.—After forty-one years of service in the Army Dr. George M. Sternberg retired, June 8, with the rank of brigadier-general.

University of Georgetown Commencement.—On May 29, the fifty-third annual commencement exercises of the medical department were held, a class of 13 receiving diplomas from Rev. Jerome Daugherty, S. J., president of the University. Colonel Charles Smart, assistant surgeon-general, U. S. Army, delivered the Toner address, and Dr. Joseph A. S. Regli was valedictorian.

Marine-Hospital Positions.—A board of officers will meet at the Marine-Hospital Bureau, Washington, D. C., June 16, to examine candidates for admission to the grade of assistant-surgeon in the U. S. Marine-Hospital Service. Candidates must be between 21 and 30 years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to character.

Public Health and Marine-Hospital Service.—The Senate bill to increase the efficiency of the Marine-Hospital Service by making it the Public Health and Marine Hospital Service, has been favorably reported by the House Committee on Commerce. It continues the present service with the changes of title and with functions pertaining to public health, as well as to marine hospitals. In time of war authority is given the President to utilize the service for military purposes. Provision also is made for co-operation between the Federal and State health and quarantine authorities by means of conferences.

ILLINOIS.

Chicago.

Dr. Gehrmann Resigns.—After an honorable service of ten years, Dr. Adolph Gehrmann, director of the laboratory of the Chicago Department of Health, has resigned and will take complete charge of the bacteriologic and hygienic departments of the Columbus Medical Laboratory.

Students Object to Convocation.—At a recent meeting of the senior class of Rush Medical College, the members objected to the order providing that they receive their diplomas with the academic students at the general convocation, and decided that they preferred a special graduation for the medical department.

Iowa College Alumni Meet.—At the meeting of the Chicago Association of Alumni of the Iowa State Agricultural College, held at the Sherman House, June 6, physicians were much in evidence. Dr. William E. Gamble, president, acted as toastmaster, and Drs. Elbert C. Fortner and Burton Rogers responded to toasts.

Alumni Week at Northwestern.—For the week from June 16 to 21, the alumni committee of Northwestern Medical School has arranged a schedule of clinics, and the wives of the alumni are tendered receptions on four afternoons. The alumni banquet will be held at the Auditorium, June 17, the thirty-sixth annual meeting of the alumni association in Davis Hall, June 18, and the commencement exercises at the Auditorium, June 19.

Increased Death Rate.—An increase of the death rate, amounting to a little more than 11 per cent. over that of the previous week and of about 10 per cent. over that of the corresponding week of last year, is noted in the returns to the registrar of vital statistics, for the week ended June 7, the total, 472 deaths, being forty-nine and fifty-nine, respectively, in excess. The increase is entirely in the ages at the extremes of life, under 1 year and over 60 years of age, at which periods the sudden alternations of temperature produce the most untoward effects.

The Effect of the Drainage Canal.—"What may be expected for the betterment of the public health when the sanitary drainage channel is in full operation and the intercepting sewers are completed has been gratifyingly foreshadowed during the last few weeks," says the report of the commissioner of health. "Contrary to past experience—that is prior to the diversion of the Twelfth and Twenty-second street sewers in 1898, by which all sewage north of Thirty-fifth street to the main river is excluded from the lake—the heavy rains of May failed to affect the sanitary quality of the public water supply to any material extent and there has been no such increase of the impure water diseases as uniformly followed such rains in the past. A most reassuring experience was that of the closing of the dam at Lockport on June 3, on account of the cloudburst at Joliet and vicinity. Although the current of the river was thereby turned back into the lake for several hours, at the rate of some 250,000 to 270,000 cubic feet per minute, the water from all tunnels remained pure until Saturday. This unhoped-for result dispelled the apprehension felt by the earlier promoters of the drainage channel lest a reversal of the current from any cause, but especially from heavy rains, should result in a pollution of the water supply. It is now seen that the continuous current scours the river bottom, so that there is little or no accumulation of sewage or sewage deposits wherever the current reaches. The pollution that now occurs from time to time is due entirely to the sewage from the lake emptying sewers flushed out by heavy rains."

MARYLAND.

Baltimore.

Mortality for the Week.—There were 185 deaths for the week ended June 7, consumption leading with 34.

Fellowships at Johns Hopkins.—The following have been appointed fellows at the Johns Hopkins University for the next year: Ernest G. Martin, Ph.B., St. Paul, Minn., Hamlin University, 1897, physiology; Roy McLean Van Wart, Montreal, Canada, A.B. University of New Brunswick, 1898, pathology, and the Adam T. Bruce fellowship in biology has been awarded to Mr. Reinart Parker Cowles, Los Angeles, Cal.

The Quarter Club reports $2294 collected toward the Sanatorium for Consumptives. The club was founded, February 14, with the purpose of establishing in the Blue Ridge Mountains a modern sanatorium for the treatment of tuberculosis. Many of the churches have helped the cause, especially the synagogues. The money raised will be placed in the hands of the commission on tuberculosis which is to be appointed by the Governor.

Personal.—Dr. Henry H. Flood, physician to steamers, left for New York, June 4, to sail for Norway.——C. E. Brush, Jr., student in the Johns Hopkins University Medical School, will be a member of the biological party sent by the New York University to White's Island, in Hamilton Harbor, Bermuda, for the study of marine fauna this summer.——Dr. Robert A. Ravenscroft, Accident, Garrett County, has been nominated by the President as surveyor of the Port of Baltimore.——Dr. William Osler has entirely recovered his health. He will not go abroad as usual this summer, but will spend the summer in Canada.

Public Baths.—The public baths inaugurated through the liberality of a wealthy citizen, Mr. Henry Walters, have proven a great success. At Bath No. 1, which has been in operation

two years, the attendance increased from 69,774 monthly the first year to 87,000 the second year. Several days this year already 1000 bathers have been accommodated and many have been turned away. The commissioners are considering an increase in size of this bathhouse. Each adult is charged three cents for towel and soap and each child 1 cent. The receipts from this source at Bath No. 1 in two years were $5000. The two bathhouses are open the year round, and Mr. Walters has offered to erect a third. The three outdoor baths are now in good shape for the hot weather. An outdoor bath for women and girls on the water front is also contemplated.

MICHIGAN.

Grand Rapids Medical College graduated a class of 17, June 2.

New Hospitals.—Lockwood Hospital, Petoskey, will be opened for patients soon after July 1.——A site has been secured for a modern hospital in Negaunee.

Cornerstone of New Battle Creek Sanitarium Laid.—The cornerstone of the new sanitarium at Battle Creek was laid with appropriate ceremonies, May 11. The new building will, it is said, be the largest sanitarium in the world. It will be 550 feet long, five stories high, and is to be made as nearly fireproof as modern science can make it. The contractors have promised to have it completed October 1.

Malpractice Suits Fail.—In the damage suit for $10,000, brought by George R. Steele, Mt. Clemens, as executor of his deceased wife's estate, against Drs. Henry G. Berry and Harry F. Taylor of Mount Clemens and Dr. Angus McLean of Detroit, Judge Tucker ordered a non-suit, May 22.——Judge Law of Port Huron summarily terminated the suit of Robert Bartell of Capac against Dr. Ephraim J. Buck for $10,000 on account of alleged malpractice on the grounds that the plaintiff had not made out his case.

NEW YORK.

New City Hospital at Ogdensburg.—The new city hospital at Ogdensburg was consecrated, May 27, and Mayor George Hall, who contributed $20,000 toward its erection, delivered the keys of the institution to Bishop Gabriels.

Personal.—Dr. Allen A. Jones and wife, Buffalo, will spend two months in travel abroad.——Dr. Max C. Breuer, Buffalo, sails for Europe in a few days and will spend three months in post-graduate study at Breslau.——Dr. James H. Burtenshaw, New York, has been appointed adjunct professor of gynecology at the New York Polyclinic Medical School and Hospital.

Registration of Nurses.—The recently-organized New York State Nurses' Association is considering the question of registration which will ultimately place training schools for nurses under the supervision of the Board of Regents, the idea of the registration being the protection of the public against impostors and a raising of the standard of the various training schools.

New York City.

The New York Ophthalmic and Aural Institute, under charge of Dr. Herman Knapp, is to move from its old quarters in East Twelfth Street to a new edifice on Central Park West and Sixty-fourth Street.

Cornell Medical Graduates.—At Carnegie Hall on June 4, 42 men and 9 women received diplomas from President J. G. Schurman of Cornell University. This was the first class to take the full course in medicine under Cornell auspices. The address to the class was made by Dr. T. Gaillard Thomas.

The Summer's Work Among the Poor.—Dr. Herman M. Biggs, chief medical officer of the Department of Health, has submitted a report of the work of the summer corps of physicians, who attend the sick in the crowded tenement districts during the summer season, and a prospectus of the work planned for this year. It is proposed to increase the number of physicians from 42 to 75, and to begin the work about June 15, instead of July 1, as heretofore. To meet the extra expense this will necessitate Health Commissioner Lederle has asked the Board of Estimate for a special appropriation of $10,000, in addition to the $10,000 provided by the legislature for the Borough of Manhattan and $5000 for Brooklyn. It is proposed to extend the work of the summer corps this year to include vaccination in the tenement houses and measures for the prevention of malarial fever, which Dr. Biggs says is increasing steadily in Manhattan and Brooklyn despite the fact that it is distinctly a preventable disease.

PENNSYLVANIA.

Philadelphia.

For Jewish Hospital Nurses.—Mrs. Sarah Eisner has offered to donate a sum not exceeding $20,000 for the purpose of erecting and furnishing a suitable building, to be known as the "Elsner Building for Nurses."

Hospital Beneficiaries.—The will of Valentin Geng, of Upper Darby township, Delaware County, probated at Media, June 3, bequeaths $36,000 to charity. The hospitals which are beneficiaries are: St. Mary's Hospital, Philadelphia; Presbyterian Hospital, Philadelphia; German Hospital, Philadelphia, and Jewish Hospital, Ogontz, $5000 each, and the Chester Hospital $1000.

New Chair of Clinical Medicine.—Drs. Julius L. Salinger and Thomas G. Ashton have been elected to the new chair of clinical medicine established by the Board of Trustees of the Jefferson Medical College. The new chair is in reality a split-off from the former professorship of theory and practice of medicine held by Professor James C. Wilson. Dr. Wilson will become professor of medicine under the new arrangement, which becomes effective when the college year opens, next October.

GENERAL.

Cholera in Manila continues to be reported at the rate of three to ten cases a day. The natives cause great trouble by concealing cases of sickness.

Naval School Goes to Washington.—The medical school at the Brooklyn Navy Yard has been ordered transferred to Washington, D. C., in accord with the plan of the government to make the latter city the home of Federal education. Rear Admiral Rixey, surgeon general of the navy, said that the Navy Department proposed to assign to this school immediately after appointment every young medical officer who enters the service. He will there be grounded in the rudiments of his work as a naval officer and will also be given an opportunity to complete his professional education. Older medical officers will eventually be assigned to the school, but this can only be done when an increase of the corps is granted by Congress. One of the great advantages to follow the establishment of the school in Washington is that it will enable officers to attend the lectures given by army officers at the Army Medical College and those given by experts of the Department of Agriculture.

Smallpox.

Illinois: During May smallpox was reported in 33 counties and in 55 localities.

Chicago: Twenty new cases of smallpox were discovered during the week ended June 7, of which number 12 were colored persons, and at the close of the week there were 55 cases under treatment in the Isolation Hospital, 14 having been discharged. Of those now in the hospital 24 are white and 34 are colored, a proportion of 44 per cent. of the former and 56 per cent. of the latter. And yet the colored form only 1.3 per cent. of the total population. Not one of the colored persons showed any sign of having ever been vaccinated, and among the whites only one, who had a faint scar, forty years old.

Maryland: The State Board of Health has been formally notified of the prevalence of smallpox in Williamsburg, Dorchester County. The postmaster and station-master are both down with the disease. No mail will be delivered and no trains will stop there, so that the town is practically cut off from the world. The health officer of the county, Dr. Steele, diagnosed the disease as genuine smallpox, though of a mild grade.

New York: Twenty-five cases of smallpox have developed in Gowanda, N. Y., and it is feared two of those afflicted will die. A case of what was supposed to be chicken-pox developed in the family of Adelbert Stage. It was later diagnosed as smallpox. Members of the family have been in attendance at the public schools, exposing every pupil. Schools, churches and the theater have been closed. There are at present about 30 cases in Hope Hospital, Rochester. "During the last five years and including the present outbreak we have had but three patients who had ever been vaccinated," says Dr. George W. Goler, health officer. "At the hospital now there is but one patient that has been vaccinated and that one is a woman 30 years old who was vaccinated when an infant and has not been vaccinated since."

Puerto Rico: The epidemic of varioloid at Arecibo is now well under control. Several weeks ago there were 150 cases and now the medical officers report that there are only about 50.

FOREIGN.

Yellow Fever in Mexico.—An epidemic of yellow fever of a virulent type has broken out at Vera Cruz.

Victim of Plague.—Dr. Wray, L.R.C.P. and L.R.C.S. Edin., 1870, who was government medical officer of Brisbane, Australia, died from plague, May 9.

Exposition of Appliances Used in Medical Instruction.—Berlin is holding an exhibition of aids and appliances for the instruction of medical students.

Another Charlatan Fined in Germany.—The courts at Zittau condemned to a fine of 100 marks and costs, the manufacturers of an emulsion that was claimed to be a cure for tuberculosis.

Deaths Abroad.—Dr. K. F. Skrzeczka, Geheimer Ober-Med.-Rath, at Steglitz, May 20.——T. v. Kazmarsky, professor of gynecology at Budapest.——L. Secretan, professor of internal medicine at Lausanne.

Tuberculosis Sanatorium in Australia.—The foundation-stone of the new convalescent home for consumptives at Northwood, N. S. W., was laid, May 13. The home will have 100 beds. The funds are from an anonymous gift of $500,000.

Personal.—Dr. Herman Bryan, who has been resident physician at the Chester (Pa.) Hospital for the past year, will sail, June 21, for China, to assume charge of the hospital of the Presbyterian board of missions at Hai Nan, south of Hong Kong.

Hospital Collection in Sydney.—An annual event in Sydney is the collection taken for the hospitals, the entire city being canvassed by the women. The government gives an amount equal to the total sum raised. The collection this year on May 3 was nearly $20,000.

Seegen Prize for Biologic Research.—Professor J. Seegen has given 5100 marks to the Vienna Academy of Sciences, to be awarded as a prize for the best work on the problem whether a portion of the nitrogen of the albuminates in the organism is excreted in gaseous form through the lungs or the skin. The competing articles must be in German or French and be received by the Academy before February 1, 1904.

Is a Child Viable that Lived Twenty-five Days?—The French laws of inheritance through the offspring are involved in a case at present in the courts. After a pregnancy of six and one-half months, the mother died during childbirth and the child died after remaining alive twenty-five days in the incubator. The mother's dowry returns to her family if the child was not viable. Otherwise, it is shared by the husband.

Physician Awarded Damages.—The Belgian courts recently awarded $100 damages to a physician of Dijon who had been assaulted in his office and bitten in the thumb by a young man whom he knew to be syphilitic. He sued for $20,000. The medical experts testified that the young man was not in the contagious stage of syphilis, and the court awarded damages for merely the time lost by the physician, who refrained from practicing until the experts had examined the young man.

Death of Kussmaul.—Germany celebrated, on February 20, the eightieth birthday of Adolf Kussmaul and now the cable brings us the news of his death. He was professor at Heidelberg, Freiburg and Strassburg in turn, and after the age limit had been extended in order to keep him, finally retired to Heidelberg. He was the son of a physician and spent many years in his youth in practical research in pathologic anatomy which laid the foundation for unusual achievements in later life. His explanation of the essence of the epileptic seizure is one of the corner-stones of our present knowledge and his work on "Disturbances in Speech" forms part of von Ziemssen's "Manual of Special Pathology." His studies of tetanus and bulbar paralysis, congenital anomalies of the uterus, paracentesis in pleuritis, periarteritis nodosa, diabetic coma and embolism of the mesenteric artery are well-known works, but his widest fame rests on his research on the stomach functions and his introduction of the stomach pump as a means of treating dilatation of this organ. The stomach pump opened a new era for the study not only of the pathology but of the physiology of the stomach. One of his most important contributions to science is his famous article, "die peristaltische Unruhe des Magens, das Platschgeräusch und Galle im Magen." He published not long ago a fascinating book of reminiscences, "Memories of the Youth of an Old Doctor." His only son died before him.

LONDON LETTER.

The Smallpox Epidemic.

The number of cases of smallpox in the metropolitan hospitals, which had been 1515, 1442, 1419 and 1360 in the four preceding weeks, further declined this week to 1344; 307 new cases were admitted during the week against 250, 248 and 233 in the three preceding weeks.

Vital Statistics in 1900. Lowest Birth Rate on Record.

The annual report of the Registrar General on England and Wales has just been issued. The births numbered 927,062, equal to an annual rate of 28.7 per 1000—the lowest on record since the establishment of civil registration in 1837. The rate is 1.3 below the average rate in the ten years 1890-1899. The decline in the birth rate has been continuous since 1895, when it was 30.2 per 1000. The death rate was 18.2 per 1000 against 17.4, 17.5 and 18.2 in the three preceding years; the mean rate in the ten years 1890-1899 was 18.3. The proportion of deaths of infants under one year to registered births was 154 per 1000 against an average of 153 in the ten preceding years. The mortality from alcoholism was 132 per million among males and 95 among females, both of which are the highest rates recorded. The mortality from cancer has continuously increased in recent years; in 1900 it was 16 per cent. in males, and 10 per cent. in females in excess of the decennial average, and in each case exceeded the highest previously recorded. The mortality from pulmonary tuberculosis was considerably lower than in the preceding ten years, the decrease amounting to 2 per cent. among males and 12 per cent. among females. A very curious fact is that a marked decline in the marriages of widowers and widows has been in progress for the last thirty years. In 1871-75, of 1000 marriages 138 were of widowers and 100 of widows; in the successive quinquennial periods the numbers are respectively 136 and 98, 126 and 89, 119 and 83, 112 and 79; in the year 1900 the decrease is greatly accentuated, the numbers being 94 and 68.

Labor Casualties.

The annual report of the Chief Inspector of Factories and Workshops for 1901, which is just issued, forms a most interesting and valuable record of the casualties of peace, which during the year amounted to 83,760. Fatal accidents were fewer than in 1900, amounting to 1035 against 1045. This is the first interruption of the increase which has gone on year by year from 455 in 1895 to 1045 in 1900. The report shows, with certain reservations, continued improvement in the methods of fencing machinery. There were several serious explosions, the most disastrous being that of spirit vapor in the drying stove of a felt hat works whereby 14 lives were lost. Continued advance has been made in securing means of escape in case of fire. A satisfactory decrease in lead poisoning is recorded, which is mainly due to improvement in two trades—white lead and pottery. But in certain branches of manufacture, particularly in the making of electric accumulators, there has been a marked increase of plumbism.

Plague in Sydney.

According to a telegram of May 24 there have been 126 cases of plague in Sydney and 33 deaths. Fifty-three cases have been cured and there are 40 in hospital. Rats seem to have been the source. A plague-infected rat was found in a block in which no case had occurred. It is feared that a large number of infected rats are at large. The disease has attacked the animals in the Zoological Gardens. In April, 21 quadrupeds and some birds died suddenly. It has been proved that the majority of the marsupials died of plague; the cause of death of the other animals is not known. The gardens are near the principal garbage pit whence the rats come.

Abstaining Doctors.

The British Medical Temperance Association, which has just met in annual congress, bears witness to the gradual increase of medical abstainers. According to the twenty-sixth annual report there are in England and Wales 307 members and 120 student associates. Several leading physiologists have been gained by the association. In conjunction with the American Medical Temperance Association the British association intends to publish a manifesto declaring that experiments have proved that even a small quantity of alcohol prevents perfect mental action and interferes with the tissues and cells, and that a moderate quantity taken for a number of years produces gradual deterioration of the tissues and hastens senile changes.

The Etiology of Leprosy; Commensal Communication.

At the Royal Medical and Chirurgical Society Mr. Jonathan Hutchinson made a communication on this subject based on the experiences gained in his recent tour in South Africa. A preliminary notice of his views has already been given (THE JOURNAL, April 26, p. 1091). Among other conclusions Mr. Hutchinson has arrived at the following: 1. Leprosy was al-

most if not absolutely unknown in South Africa before the Dutch occupation of the Cape and their introduction of Malays from Java to establish a fish factory at Capetown. 2. Salt fish and rice was the staple food of the Dutch farmers and their Hottentot slaves at the time leprosy was first observed, in 1756. The disease first spread around Capetown, then over South Africa. 3. Leprosy prevails very slightly in towns (unlike highly-infectious maladies) but affects chiefly agricultural laborers. Though widely spread, the disease is unequally distributed—dotted about among the mining and agricultural population of Cape Colony, who use very largely badly-cured salt fish. 4. In the Kaffir kraals of Natal the disease is communicated from person to person by eating food from a leper's hands contaminated by food containing the bacillus. The disease is not contagious in the ordinary sense of the term, but only in this special manner, which Mr. Hutchinson proposes to call "commensal communication." He thinks that the two hypotheses of fish production and commensal communication together explain the difficulties hitherto felt in regard to leprosy, such as its not spreading in civilized communities, its irregularity and uncertainty even among the most careless, the frequency with which young children suffered, the universal but varying disproportion of the sexes, and the scattered distribution without, as in South Africa, any foci of great prevalence. The facts in favor of the view that the bacillus is received through the stomach are very strong. The first symptoms are those of a blood disease. There is never a primary sore or other indication of local infection. The earliest phenomena, whether of the skin or nervous system, are, as a rule, bilateral and imply blood communication. It is impossible to believe in communication by the breath, for attendants in leper houses and others in constant and close communication with lepers never take the disease. Similarly, contagion through the skin is incredible. Husband and wife rarely suffer together; many inoculation experiments have failed. Such contamination of food as described could only occur under conditions of extreme carelessness in feeding. Hence, among the cleanly communities of Europe and America, the disease was not communicated.

Correspondence.

The Prevalence of the Individual Communion Cup.

PHILADELPHIA, June 6, 1902.

To the Editor:—Your recent editorial reference to the encouraging progress in the adoption of individual communion cups, among other things pertaining to church hygiene, prompts me to submit the following figures, which give an approximation of the status of the movement nearly to date:

About 1500 churches, representing nearly 600,000 communicants, are now using individual cups, and would not revert to the commonly-used cup. About 70 per cent. of these churches are of the Baptist, Congregational and Presbyterian denominations, and nearly equally distributed among these three. The Christian (Disciples), Lutheran, Methodist and Reformed churches follow in about equal proportion. There are a few Protestant Episcopal, Universalist, Swedenborgian, and other scattered denominations using the cups.

Almost three times as many churches now use individual cups as compared with 1898. The reform began in 1894, when hardly a score of churches were using them. By far the greatest proportion of churches are in New York, Pennsylvania, and the New England states. However, the states of the middle west are rapidly increasing in the number of these churches, while Colorado and California have many in the list. It may be interesting to note that one or more churches have made the change even in Mexico, Porto Rico, the Sandwich Islands, Japan, Burma and New Zealand.

It is extremely rare that any antagonistic official action is taken by ostensibly representative ecclesiastic bodies, the matter usually being left to each local church to investigate and decide. The only opposition that has come to my notice for many years was lately that of the Lutheran ministerium meeting at Easton, Pa., at which its action of 1895 was reaffirmed, condemning the use of individual cups, apparently for dogmatic and ritualistic, certainly not for cleanly or sanitary reasons. The Church of England is taking more than transitory interest in the matter of a sanitary administration of the communion, as witnessed by the church papers and the London *Lancet*, and the suggestions regarding the revival of the ancient custom of intinction, or of each communicant dipping a piece of bread into the wine. Very truly yours,

HOWARD S. ANDERS, M.D.

A Voluntary National Examining Board.

ORANGEBURG, S. C., June 3, 1902.

To the Editor:—It strikes me that the idea of a Voluntary National Board of Medical Examiners would be feasible. There might be a central examining board at Washington, consisting of leaders in the profession, while there could be subsidiary boards holding their meeting in various geographical centers of the country, say at New York, Chicago, Atlanta, St. Louis and Denver. These subsidiary boards (as well as the central board at Washington if desirable) could be elected by the National Confederation of State Medical Examining and Licensing Boards, and should consist of members of the state examining boards or men suggested by said boards—one for each state in each subsidiary district. The central board at Washington could be elected by the American Medical Association or the Confederation from recognized professional leaders. Under this arrangement the local or state boards could recognize the certificates of the central or subsidiary boards, and if not legally now, could soon secure such amendments in each state to render such recognition permissible. I believe some such arrangement as this to be entirely feasible and the solution of the whole matter.

WILLIAM R. LOWMAN, A.M., M.D.

An Addition to Dr. Montgomery's Article.

CHICAGO, June 6, 1902.

To the Editor:—Will you do me the favor to publish the two following foot-notes, which by mistake were omitted from the article on Cutaneous Blastomycosis published in the last issue of THE JOURNAL:

"In photographing cultures, Tube 18 (Fig. 32) was accidentally substituted for an almost identical growth on glycerin agar, the plan being to show the variations of the organism on the same medium. The mistake was not discovered in time to secure a new cut."

"Figs. 17, 19, 26, 28, 29 and Figs. 36 to 41 are from sections and cultures prepared by a former assistant, Dr. H. T. Ricketts, from our Cases 3, 4, 5. and 8, on which cases he did most of the laboratory work for us."

Case 12 should have a reference to the foot-note appended to Case 13. Very truly yours,

FRANK HUGH MONTGOMERY.

Miscellany.

Dysentery.—The *Cleveland Medical Journal* comments on the researches of Simon Flexner and his students, which, he says, have proved beyond doubt that "the acute American dysentery is identical with the corresponding disease of other temperate regions and of the tropics, and is caused by the same micro-organism." Flexner holds out strong and immediate hope that as a result of these studies there will shortly be presented to the world a well-tested and curative serum that will protect against the disease and mitigate an attack. He goes further and hints that Vedder and Duval have produced such a serum which now only awaits thorough trial before being finally announced. As dysentery is one of the most widespread of diseases and as, especially in hot climes, it is the direct cause of a great number of deaths, this discovery, if finally confirmed, will be of an amount of good to mankind that will hardly be second to that which has come from the discovery of vaccine and of diphtheria antitoxin. "Thus the specters pass."

The Principles of the American Medical Association.—Nations, governments and societies owe their stability, strength and progress to the association of individuals whose aims are

worthy, whose aspirations are high, whose designs are wise and whose purposes are steadfast, who thus may hope to reach the goal of their ambition and win the object of such organization. How does the American Medical Association respond to this test? 1. Worthy aims: The union of all the members of our noble profession of every state and territory in a representative society for the scientific study of all that relates to our profession, the public welfare and the nation's good, as well as the cultivation of social good-fellowship. 2. High aspirations: The attainment of the highest ideals in medical education and practice, and the application of the golden rule in dealing the one with the other. 3. Wise designs: The presentation at the annual meeting and through the columns of THE JOURNAL, free from all sectarian narrowness, of the results of individual efforts and the latest progress in our arts. 4. Steadfast purposes: The indefatigable pursuit during the past fifty-four years of these ennobling precepts has added constantly to our numbers and influence, and advanced our knowledge and the scientific character of our work, which is studied and assimilated by our brethren throughout the world.—*N. Y. State Jour. of Medicine.*

Married.

F. GOODWIN DU BOSE, M.D., to Miss Aimee Nelson, both of Selma, Ala., June 11.

CARL ANSON CLEMONS, M.D., to Miss Marie Gunther, both of New York City, June 4.

J. CHESTON KING, M.D., Atlanta, Ga., to Miss Mary Barr of Homewood, Ala., June 5.

FRED J. HART, M.D., Barrie, Ont., to Miss Nellie Bain of Winnipeg, Manitoba, June 4.

WILLIAM D. INGLIS, M.D., Claysville, Pa., to Miss Alice Cockins of Canonsburg, Pa.

R. W. JONES, M.D., Wausaukee, Wis., to Miss Helen Worthington, of El Paso, Ill., June 4.

DANIEL J. HEALY, M.D., Lexington, Ky., to Dr. Louise Bergman of Louisville, Ky., June 15.

JOSEPH LYON MILLER, M.D., Thomas, W. Va., to Miss Pamelia Doreas Hampton, at Ashland, Ky., June 3.

Deaths and Obituaries.

Joseph Eastman, M.D.

"In the death of Dr. Eastman, June 5, the community loses a surgeon of renown and a citizen of prominence. His life was a life filled with constant work and bearing the fruits of such work in things accomplished and good done. He won the respect and esteem of his day and generation, the love and affection of all that knew him well. The end coming still in the prime of life might seem untimely, but no life ends untimely that has been filled with devotion to duty."

The medical profession of the United States will unite in endorsing the eulogy of Dr. Eastman with which this notice begins. His services to medicine and surgery, and especially abdominal surgery, were inestimable, and his personal qualities were such as to make him beloved of all who knew him.

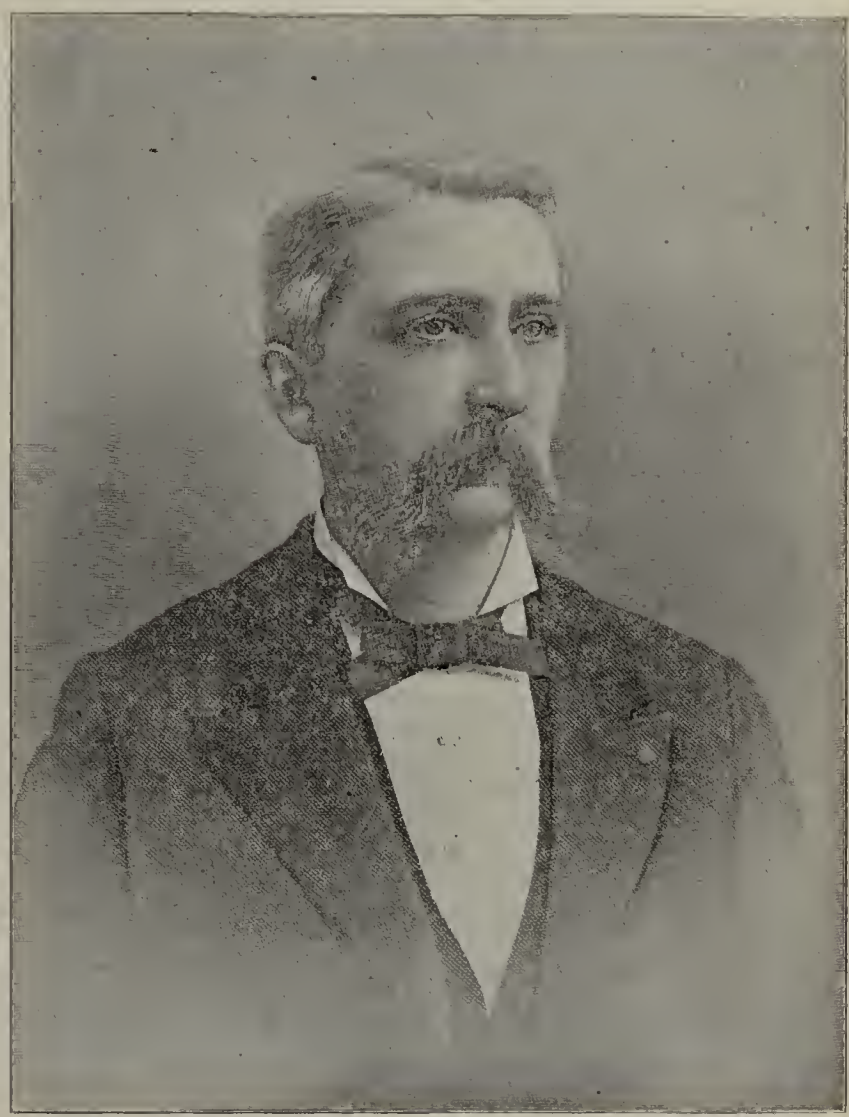
Joseph Eastman was born in Fulton County, N. Y., January 29, 1842. At the outbreak of the Civil war he enlisted in the Seventy-seventh New York Volunteer Infantry, and after an attack of typhoid fever was put on light duty at Mount Pleasant Hospital, Washington, D. C. Here he showed such ability as a nurse that he was appointed hospital steward in the army. During his service of three years he attended medical lectures at the University of Georgetown, was graduated in 1865, and at once passed the examination for the Army and was commissioned assistant surgeon of volunteers. In this capacity he served until mustered out in May, 1866.

He settled in Brownsburg, Ind., and practiced there for seven years, during which time he attended lectures in Bellevue Hospital Medical College, New York, from which he was graduated in 1871. Four years later he was made demonstrator of anatomy in the College of Physicians and Surgeons, Indianapolis, and moved to that city. For nine years he was consulting surgeon to the Indianapolis City Hospital, and for eight years thereafter, assistant to Dr. Theophilus Parvin.

In 1879 Dr. Eastman was one of the organizers of the Central College of Physicians and Surgeons, Indianapolis, and accepted the chair of anatomy and clinical surgery. After having taught anatomy in both colleges for seven years, a special chair was established in the Central College of Physicians and Surgeons—that of diseases of women and abdominal surgery—which he held up to the time of his death. For several years he was president of this college. After 1886 he limited his practice to diseases of women and abdominal surgery.

He was a frequent contributor to medical literature. In 1890 he was a delegate to the International Medical Congress at Berlin, and in 1893 was chairman of the Section of Diseases of Women in the American Medical Association at its Milwaukee meeting. He had been a member of this association since 1872, and from 1894 to 1900 was a member of its board of trustees.

About a year ago Dr. Eastman became ill and the disease was eventually diagnosed as malignant disease of the liver. Nothing could be done to stay the progress of the disease, and he died, June 5, at the age of 60.



JOSEPH EASTMAN, M.D.

His funeral was held, June 8, under the charge of George H. Thomas Post, G. A. R., of which Dr. Eastman was a member. The Marion County Medical Society held a special session, May 6, at which memorial addresses were made by Drs. G. W. H. Kemper and George R. Greene, both of Muncie; Dr. Barnett Wallace of Franklin, and Indianapolis physicians. At a meeting of the faculty and alumni of the Central College of Physicians and Surgeons, presided over by Dr. John T. Scott, the following resolutions were adopted:

"*Resolved*, That the faculty and alumni of the Central College of Physicians and Surgeons have met with an inexpressible loss in the death of Dr. Joseph Eastman, who was not only the father of the institution, but the most beloved and respected teacher and friend of all its students. His unequaled skill as a surgeon, his able lectures, his world-wide reputation, his lofty character, his wonderful success achieved by his own efforts and indomitable courage in spite of great obstacles have been a large part of the glory of this college in the past and will be an inspiration in the future."

William G. Bibb, M.D. Vanderbilt University, Nashville, Tenn., 1877; Bellevue Hospital Medical College, New York, 1878, one of the foremost physicians of Alabama, died at his home in Montgomery, May 31, from paralysis, after a long

illness, aged 48. He practiced in Montgomery until 1881, when he was elected professor of materia medica and therapeutics in the Medical Department of the University of Tennessee, Nashville, and removed to that city. In 1897 he was particularly active in combating yellow fever, and never recovered from the effects of his exhaustion. In 1899 he was stricken with paralysis. He was a member of the Montgomery County Medical and Surgical Society, which adopted resolutions of respect, sorrow and sympathy.

Dallas Bache, M.D. Jefferson Medical College, Philadelphia, 1860, colonel and assistant surgeon general, U. S. Army, retired, died at his home in San Diego, Cal., June 2. He entered the army as assistant surgeon in 1861 and served in the field during the entire Civil war. After the war he was stationed for a time in San Francisco, and for a number of years was the chief surgeon of the Department of the Platte, with headquarters at Omaha. Later he was stationed at Washington as assistant surgeon general. He remained on duty there until his health failed, and then went to San Diego. He was a member of the Association of Military Surgeons of the United States.

Edwin V. Spencer, M.D. Western Reserve University, Cleveland, Ohio, 1851, an old and beloved physician of Mount Vernon, Ind., died at his home in that place, May 28, from angina pectoris, aged 77. He first located at Beaver Dam, Pa., but in 1857 moved to Mt. Vernon, Ind., where he practiced continuously until his last illness. He was a member of the American Medical Association.

Cloyes W. Gleason, M.D. University of Pennsylvania, Philadelphia, 1844, died at his home in Philadelphia, May 30, aged 81 years. He was the first professor of anatomy and physiology at the Woman's Medical College of Pennsylvania, and had practiced in Philadelphia for 35 years, until his retirement in 1897.

Thomas F. Corson, M.D. University of Pennsylvania, Philadelphia, an assistant surgeon in the Civil war, who served with the Sixty-seventh Pennsylvania Volunteer Infantry, and subsequently a practitioner in Philadelphia, died at his home in Philadelphia, May 29, from septic infection, aged 62.

Milton Bettman, M.D. Johns Hopkins University, Baltimore, 1901, a promising young physician of Cincinnati, who had been doing post-graduate work abroad, died from appendicitis in Paris, after a short illness, May 30, aged 27.

Alfred Lee Royce, M.D. a surgeon in the United States Navy and chaplain of the Naval Home in Philadelphia, recently died from nephritis, in New York City, aged 56.

Societies.

COMING MEETINGS.

Colorado State Medical Society, Pueblo, June 17, 1902.
American Medico-Psychological Association, Montreal, June 17-20, 1902.
Minnesota State Medical Society, Minneapolis, June 18, 1902.
Medical Society of New Jersey, Atlantic City, June 24-26, 1902.
Washington State Medical Society, Tacoma, June 24-26, 1902.
Michigan State Medical Society, Port Huron, June 26-27, 1902.
Medical Association of Nevada, Virginia City, July 7, 1902.
American Ophthalmological Society, New London, Conn., July 16, 1902.

Essex North District (Mass.) Medical Society.—This Society held its annual meeting at Lawrence, May 7, electing Dr. John F. Croston president, and Dr. Maurice D. Clarke secretary, both of Haverhill.

Eastern Oregon District Medical Society.—This Society will meet at Hot Lake, Ore., July 16. Reduced rates have been secured on all O., R. and & N. lines and a large and enthusiastic meeting is expected.

Glynn County (Ga.) Medical Society.—This Society was organized at Brunswick, May 23, with the following officers: President, Dr. Judson A. Butts; vice-president, Dr. John C. Egelston; secretary, Dr. Robert E. Lee Burford, and treasurer, Dr. W. Churchill Hatcher, all of Brunswick.

Miami Medical Society.—The forty-ninth annual meeting of this Society was held at Loveland, Ohio, May 20. Dr. Con W. Gatch, Milford, was elected president; Dr. Nelson B. Van Winkle, Blanchester, vice-president; Dr. John D. Wakefield, Loveland, secretary, and Dr. Aaron Morris, Goshen, treasurer.

The Alumni Association of the Woman's Medical College has elected the following officers for the ensuing year: President, Dr. Louise Erich; vice-president, Dr. Sue Radcliffe; secretary, Dr. Anna C. Shipley; treasurer, Dr. Jennie N. Broune; executive committee, Drs. Fannie E. Hoopes, Charlotte S. Murdoch, and Mary N. Broune.

Connecticut Valley Medical Association.—The annual meeting of this Society was held in Bellows Falls, Vt., May 13. Dr. Frederick L. Osgood, Townshend, Vt., was elected president; Dr. Gardner C. Hill, Keene, N. H., vice-president; Dr. J. Sutcliffe Hill, Bellows Falls, Vt., secretary, and Dr. Edward R. Campbell, Bellows Falls, Vt., treasurer.

Adams County (Ill.) Medical Society.—At its annual meeting, held in Quincy, May 12, the following officers were elected: Dr. William F. Gilliland, Coatsburg, president; Drs. Edmund B. Montgomery and John D. Justice, Quincy, vice-presidents; Dr. John A. Koch, Quincy, secretary, and Dr. Levin H. A. Nickerson, Quincy, treasurer.

Franklin District (Mass.) Medical Society.—This Society held its annual meeting at Greenfield, May 13. Dr. Halbert G. Stetson, Greenfield, was elected president; Dr. Francis J. Canedy, Shelburne Falls, vice-president; Dr. Benjamin P. Croft, Greenfield, secretary and treasurer, and Dr. Charles Bowker, Bernardston, commissioner of trials.

Good Samaritan Hospital (Cincinnati) Ex-Internes' Association.—The annual meeting and banquet of this body were held at Cincinnati, May 5. The election of officers resulted as follows: Dr. Theodore Potter, Indianapolis, president; Drs. Isaac D. Jones, Cincinnati, Stephen C. Markley, Richmond, Ind., and B. F. Beech, Cincinnati, vice-presidents; Dr. Robin W. C. Francis, Cincinnati, secretary, and Dr. John P. Miller, Cincinnati, treasurer.

Franklin County (Vt.) Medical Society.—The annual meeting of this Society was held in Richford, May 8. The business transacted included a revision of the by-laws, and it was voted to reorganize and affiliate with the Vermont State Medical Society and the American Medical Association, in accordance with the plans, and in compliance with the terms suggested by these bodies. The officers elected were as follows: Dr. E. Paul Lunderville, St. Albans, president; Dr. Eber L. Washburn, East Berkshire, vice-president, and Dr. James N. Jenne, St. Albans, secretary.

Worcester District (Mass.) Medical Society.—This Society held its annual meeting in Worcester, May 14. Dr. Edward W. Taylor, Boston, delivered an address on "Some Fundamental Points in Neurological Diagnosis." The following officers were elected: Dr. Samuel B. Woodward, Worcester, president; Dr. Walter P. Bowers, Clinton, vice-president; George E. Emery, Worcester, secretary; Dr. George O. Ward, Worcester, treasurer; Dr. Roscoe W. Swan, Worcester, orator; Dr. Charles H. Perry, Worcester, commissioner of trials, and Dr. Albert C. Getchell, Worcester, librarian.

Essex South District (Mass.) Medical Society.—The ninety-eighth annual meeting of this Society was held in Salem, May 13. Dr. George Z. Goodell, Salem, read a paper on "Medical Aspects of Salem Witchcraft," and Dr. Ernest W. Cushing, Boston, delivered an address on "The Abuse of Medical Charity." Dr. Charles W. Haddock, Beverly, was elected president; Dr. Edward L. Pierson, Salem, vice-president; Dr. Harry E. Sears, Beverly, secretary; Dr. George Z. Goodell, Salem, treasurer; Dr. George K. Blair, Salem, librarian, and Dr. Justin Allen, Topsfield, commissioner of trials.

Academy of Medicine of Cleveland.—The consolidation of the Cleveland Medical Society and Cuyahoga Medical Society into a new organization, to be known as the Academy of Medicine of Cleveland, has been completed. The Academy is to meet monthly and sections devoted to various branches of medicine and surgery are to be formed. These are to meet from time to time at the rooms of the Cleveland Medical Library. At the first meeting, held May 24, Dr. Frank E. Bunts was elected president; Dr. William T. Howard, vice-president; Dr. Walter H. Merriam, secretary, and Dr. John M. Ingersoll, treasurer.

Iowa Medical Women's Society.—This Society held its annual meeting at Des Moines, May 20. The morning session was devoted to business; in the afternoon Mrs. Ella Hamilton Durley welcomed the visitors on behalf of the City Federation of Clubs, papers were read and officers elected, and in the evening a banquet and reception were held. The following are the newly-elected officers: Dr. Jessie V. Smith, Winterset, president; Drs. Mamie A. Coveny, Clinton, and Sophie H. Scott, Des Moines, vice-presidents; Dr. Agnes Eicheiberger, Sioux City, treasurer; Dr. Jennie McCowen, Davenport, corresponding secretary, and Dr. Mary A. Breen, Lemars, recording secretary.

Alumni Association of Jefferson Medical College.—The annual banquet of this Association took place at the Art Club, Philadelphia, May 28. A hundred members and guests were present. Dr. William H. Hartzell, Allentown, president of the association, was toastmaster. Prof. Edward P. Davis, Philadelphia, responded to the toast "The Faculty"; Dr. George B. McClellan, Philadelphia, "The Alumni," and Dr. John M. Fisher, Philadelphia, "The Demonstrator." Officers of the Association were elected as follows: President, Dr. Thomas D. David, Pittsburg; recording secretary, Dr. Frank C. Hammond; corresponding secretary, Dr. Charles S. Barnes; treasurer, Dr. William M. Sweet, all of Philadelphia.

Greene County (Ohio) Medical Society.—In order to encourage a fraternal interest and to bring the profession into closer unity, the Greene County Medical Society, in celebrating its fifty-second annual meeting, June 5, at Xenia, decided to entertain, and issued invitations individually to the physicians of Clinton County and to every member of the Montgomery County Medical Society. Besides the 30 members of the Society about 75 were present from the adjoining counties. Dr. Charles A. L. Reed of Cincinnati was the Society's honored guest, and presented a preliminary report of original research work relative to "Restorative Treatment of the Uterine Appendages." Following the discussion and banquet an excellent program was carried out.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-seventh Annual Meeting, held at Atlantic City, N. J., May 27-29, 1902.

President, Seth C. Gordon, M.D., Portland, Maine, in the Chair.

An Address of Welcome was delivered by Dr. Philander A. Harris, of Paterson, N. J., to which President Gordon responded.

Wandering Spleen.

DR. THOMAS A. ASHBY, Baltimore, reported "A Case of Wandering Spleen Packed in the Pelvis and Complicated by Typhoid Fever; Splenectomy, with Recovery." The author drew attention to the anatomy and function of the spleen. He said its size was influenced by bodily nutrition, the organ being large in the well-nourished, and small in the poorly-fed individuals. In 1887 McCann reported 19 cases of splenectomy, with 13 recoveries. These cases were reported by 18 different surgeons. Sixteen were observed in women, and 3 in men. In properly selected cases there was no doubt that the spleen could be removed with as good results as those which followed the removal of the uterus, the ovaries, or kidney.

The chief interest in his case was from the standpoint of diagnosis. The patient, a young woman, had lived all her life in a malarial section of country, and had had repeated attacks of malarial fever. She had contracted a malarial spleen which, from its increased size and weight, had exercised such traction upon the splenic ligaments as to permit the spleen to wander down into the pelvis, where it became impacted behind the uterus and filled the pelvic basin. How long it had remained in this position there was no way of determining. In the meantime, she became infected with the typhoid organism and developed typhoid fever. In the initial stage of the disease her temperature took a high range, and pelvic pains were soon felt. Her family physician, being called in at once, palpated the abdomen, and finding a large mass in the pelvis, well above the brim, with marked tenderness and high temperature, concluded that he had a large inflammatory tumor to deal with. At this time there were no typical symptoms and there were no typhoid cases in her family or neighborhood. He at once brought the patient to the hospital for treatment. At the time of the first examination the physical signs were markedly those of an inflammatory mass in the pelvis. There was pain on pressure, a doughy sensation to the touch, and the skin over the region of the tumor was so red and shiny that the surface indications were those of a suppurating mass ready to break through the skin. When anesthetized the following morning the physical signs had markedly changed, and Dr. Ashby's diagnosis, before opening the abdomen, was that of an ovarian cyst or myomatous tumor. He determined to make an incision to find out the true character of the condition and to remove the same. As soon as the incision was made, the spleen was discovered, and its removal at once decided upon. The enlarged size of the organ, length and weakness of its ligaments made an attempt at its restoration and attachment to its normal position a physical impossibility. The only safe course was to remove the organ, and this was done without the least difficulty, as its pedicle was not larger than one's little finger at the point of its attachment under the diaphragm. It was ligated in section, and the stump well covered with peritoneum. The subsequent behavior of the patient's temperature could not be accounted for until the typical typhoid reaction was obtained some six or seven days after the operation. From that time on the typhoid condition was regarded as the primary disease, and was treated accordingly. The abdominal section presented no features to occasion the least alarm. Patient ran the regular course of the fever, and her convalescence was uneventful. Her health since her recovery has been better than prior to the attack of typhoid fever.

DRS. I. S. STONE, WILLIAM T. HOWARD, LAPTHORN SMITH, A. PALMER DUDLEY, J. WESLEY BOVEE and JOSEPH E. JANVRIN reported cases of splenectomy.

The Medical Side of Gynecology.

DR. EDWARD W. JENKS, Detroit, said that there was a medical side to gynecology which could not be ignored, for a special training, together with a thorough knowledge of general medicine, were prerequisites for the making of an ideal gynecologist. Fully one-half of the women seeking advice and relief from disorders peculiar to their sex were suffering from some deranged condition of the eliminative organs, as shown by constipation or defective elimination of solids in the urine. Even where there were lesions in the pelvic organs, no relief from distressing symptoms could be secured until the underlying constitutional causes of pain and general poor health were first ascertained and removed. There were many derangements of the system which closely resembled diseases of the pelvic organs. Pain in the back, the commonest complaint of women, might be due to coccygodynia, myalgia, chronic malarial toxemia or other constitutional causes; pain in the abdomen sometimes attributed to the ovaries might be due to habitual constipation, or to an atonic condition of the large intestine.

He was convinced that some of the medical schools were responsible for the neglect of medical gynecology. Surgical technic was taught in all its refinements, but symptomatology, differential diagnosis and the treatment of diseases of women amenable to medicinal remedies could not receive adequate attention in the brief time devoted to them, if one judged by the results. The glamor of gynecologic surgery had obscured the commonplace, but equally important, study of gynecologic medicine. He made an eloquent plea for the medical side of gynecology, and urged that it be not relegated to obscurity in our zeal to advance gynecologic surgery. He entered his protest against so many calling themselves gynecologists who ploughed only in one furrow of the field of gynecology, while the field itself was only a part of the great domain of medicine and surgery.

Lacerations of the Cervix Uteri and Pelvic Floor.

DR. W. L. BURRAGE, Boston, read a paper on these conditions, in which he made a plea for their more careful study, their diagnosis and treatment. He said the glamor of successful abdominal surgery had left the less dangerous and less showy plastic surgery in the background. Lacerations of the cervix and pelvic floor merited a more careful study than they had received; that if they were repaired early, fewer major mutilating operations would be called for later; that the normal conditions were the ones the gynecologist should endeavor to restore, and until he was successful in doing this no attempt should be made to improve nature. Emmet gave the principles underlying repair of lacerations of the pelvic floor to the profession in 1883. These had been generally accepted as correct, and as yet no one had proved them to be erroneous. He urged the members of the society to stand by these principles and to devote their energies to perfecting details of operative technic rather than to invent or advocate operations which involved principles diametrically opposed to those of Emmet.

He had operated for laceration of the cervix two hundred and one times, and for lacerated perineum and pelvic floor a hundred and sixty-two times.

Symposium on Retrodisplacements of the Uterus.—Etiology, Pathology and Symptoms.

DR. MATTHEW D. MANN, Buffalo, N. Y., discussed this part of the subject. He believed that the round ligaments were important factors in holding the uterus in place, and that they acted in the manner pointed out by Kellogg. If the ligaments be stretched, the uterus falls behind the center of gravity, and the round ligaments are not able to pull it far enough forward, so that the intra-abdominal pressure falls on the posterior wall, with every effort to increase backward displacement. Weakening of the pelvic floor, relaxation of the pelvic outlet as the result of childbearing, with or without rupture of the perineum, will allow the uterus to sag downward, and the fundus to fall backward. Relaxation of any of the supports of the uterus tends to backward and downward displacement of the uterus, and if the ligaments and pelvic floor are relaxed, then eventually there will be prolapse to a greater or less extent, dependent upon the amount of relaxation. He spoke of the utero-vesical ligament as having considerable influence in the production of uterine displacement. He mentioned other factors which caused the uterus to become displaced backward, one of which was rupture of the perineum, which enables the vaginal walls to come down. If these came down, with cystocele or rectocele, then the vaginal wall, dragging upon the cervix, pulls the organ downward, and tips it over backward.

In displacement of the uterus the circulation and nutrition of the organ are interfered with, so that in a short time the woman would get a chronic congestion, with thickening and enlargement of the connective tissue of the uterus. This might be called, for want of a better term, chronic metritis.

Another cause of displacement of the uterus was laceration of the cervix, which allowed the organ to sink down into the pelvis, to turn slightly backward, the displacement going on from bad to worse. He had seen two cases of displacement of the uterus, one following whooping-cough in an adult, the other from straining at stool. In the latter case the uterus was forced outside of the body from constant straining at stool, although the hymen was intact. He then mentioned the symptoms of retrodisplacement of the uterus and among them he spoke of backache, bearing-down pains in the pelvis, etc. He did not believe that every case of posterior displacement of the uterus caused symptoms, but the majority of cases of backward displacement did cause symptoms. A woman with a backward displacement of the uterus would not continue to be well. She might be well for the time, but eventually she would suffer. He did not believe a backward displacement of the uterus could exist for any great length of time without the woman suffering more or less. Besides the symptoms familiar to the gynecologist, he thought there were a great many reflex symptoms. A woman with a retrodisplaced uterus might suffer a great deal from reflex symptoms without the presence of pelvic symptoms. He cited cases in point.

(*To be continued.*)

MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA.

Thirty-fifth Annual Meeting, held at Parkersburg, May 21-23, 1902.

President, G. A. Aschmann, M.D., Wheeling, in the Chair.

Welcome.

The Society was welcomed to Parkersburg by Hon. J. W. Vandervort, mayor of the city, and Dr. Thomas A. Harris, Parkersburg, responded on behalf of the Society. The meeting proved to be the most successful ever held by the society. The attendance was large and eighty new members were taken in, which is more than twice the largest number ever taken in at one meeting. The scientific quality of the papers read was exceptionally high and the animated discussions added much to their value.

President's Address.

DR. GUSTAVUS A. ASCHMANN, Wheeling, in his address discussed chiefly the reorganization of the Society on the plan suggested by the American Medical Association. This plan he favored strongly. He also advocated the erection of a state hospital for the treatment of tuberculosis.

State Medicine.

DR. WILLIAM S. KEEVER, Parkersburg, delivered the address on State Medicine, in which he showed clearly and succinctly the benefits the Society and the profession would derive from needed legislation.

Smallpox.

DR. W. O. MAGILL, Morgantown, read an interesting essay on "The Etiology of Smallpox; With Special Reference to Its Microbiology and Demonstration of Its Microbe."

Tuberculosis.

DR. CHARLES F. ULRICH, Wheeling, delivered an address on the "Hygienic Treatment of Tuberculosis," in which he thoroughly discussed the origin and treatment of the disease in all its stages.

DR. JOHN L. DICKEY, Wheeling, then read a paper in which he detailed the treatment in the past.

DR. WILLIAM A. CALDWELL, Morgantown, next described the modern methods of treatment.

The reading of these papers was followed by a vigorous discussion, opened by Dr. William W. Golden, Elkins.

Among the other papers were the following: "An Analysis of 150 Operations for the Radical Cure of Hernia," by Dr. Frank Martin, Baltimore; "Movable Kidney," by Dr. Robert J. Reed, Wheeling; "Some Features of Medical and Surgical Study in London and Berlin," by Dr. A. S. Grimm, St. Marys; "Intestinal Anastomosis," by Dr. John R. Cook, Fairmont; "Tonsillitis," by Dr. V. T. Churchman, Charleston; "Tubercular Peritonitis," by Dr. J. Schwinn, Wheeling; "Some of the Effects of Typhoid Fever on the Nervous System," by Dr. C. C. Hersman, Pittsburg; "Spinal Anesthesia with Report of Cases," by Dr. O. O. Cooper, Hinton; "On the Management of Rectal Diseases," by Dr. Wm. M. Beach, Pittsburg; "The History of a Bullet in the Apex of a Human Heart for Thirty-five Years," by Dr. E. T. W. Hall, Weston; "Quarantine," by Dr. T. L. Barber, Charleston, W. Va.

Banquet.

On May 22, the annual banquet tendered by the local medical profession was held at the Blennerhassett Hotel and was attended by about 125. Dr. Hiram B. Stout, Parkersburg, was toastmaster and Drs. Charles F. Ulrich, Wheeling; Brooks F. Beebe, Cincinnati; Louis D. Wilson, Wheeling; Timothy L. Barber, Charleston, and Edwin S. Ricketts, Cincinnati, and others responded to toasts.

Reorganization.

On the third morning the most important transaction was the discussion of the motion to make a general revision of the Constitution and By-Laws of the organization, to be in entire conformity with those of the American Medical Association. The Society has grown with such rapidity and to such size that such a step was found to be not only expedient, but necessary. The adoption of the Constitution and By-Laws of the National Organization was made by unanimous vote of the meeting. A number of departures, however, had to be made on account of the very small number of county societies now in the state. From now on the Society is to be known as the West Virginia State Medical Association.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. Hiram B. Stout, Parkersburg; vice-presidents, Drs. Robert A. Haynes, Clarksburg, Spencer S. Wade, Morgantown, and Harriette B. Jones, Wheeling; secretary, Dr. William W. Golden, Elkins; treasurer. Dr. Vincent T. Churchman, Charleston; delegate to the American Medical Association, Dr. L. D. Wilso, Wheeling, and alternate, Dr. D. P. Morgan, Clarksburg.

Charleston was selected as the meeting-place for May, 1903.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Follicular Conjunctivitis.

Follicular conjunctivitis, according to Drs. Wood and Woodruff, in *Med. Standard*, is a catarrhal conjunctivitis to which has been added an overdevelopment or hypertrophy of the lymph follicles. They recommend as treatment the local application of cold compresses followed by a mild antiseptic lotion similar to the following:

℞.	Acidi hydrocyanici dil.	gtt. i	06
	Acidi boracici	ʒss	2
	Sodii boratis	gr. xl	2 66
	Aq. destil.	℥ii	60

M. Sig.: One or two drops to be instilled into the eye once or twice daily.

In cases of trachoma or chronic granular conjunctivitis the conjunctival sac should be thoroughly cleansed with boracic acid or weak bichlorid solution and later some astringent preparation applied, such as the following:

℞.	Cupri sulph. vel. acidi tannici	gr. x	66
	Vaselini	ʒi	30

M. Ft. ung. Sig.: Apply between the lids once or twice daily. In the early stages, when the granulations are excessive and prominent, massage of the lids with the following is recommended by them:

℞.	Hydrarg. oxid. flav.	gr. v	30
	Lanolini	℥ss	30
	Vaselini	℥ss	30

M. Sig.: To be applied to the lids and thoroughly rubbed in.

Iodic Acid in Trachoma.

According to *Merck's Archives*, Dr. Ichile, in *Rev. de Ther.*, states that iodic acid liberates iodin, and hydriodic acid is formed, destroying the follicles, killing the microbes and favoring leucocytosis. No scars result from the cauterization. In acute and subacute forms of granular conjunctivitis the author employs 5 per cent. solutions of iodic acid for irrigating the mucous membrane. In the initial period of trachoma he uses instillations of a 3 per cent. solution. In the cicatricial form of trachoma an ointment is preferable, as follows:

℞.	Acidi iodici	gr. xii	75
	Lanolini	ʒvi	24
	Olei olivæ	ʒvi	24

M. Sig.: To be applied locally once daily.

The action of the iodic acid may be assisted by the simultaneous administration of potassium iodid.

For massecing the palpebral mucous membrane the following salve is used:

℞.	Acidi iodici	gr. xv	1
	Sodii iodidi	gr. lxxv	5
	Acidi borici	ʒiiss	10
	Vaselini	℥iii	90

M. Sig.: Apply locally by massage to the mucous membranes.

Iodic acid is a colorless solid appearing in the form of rhombic crystals; it is soluble in water, insoluble in alcohol; for use as a caustic it is made up in the form of sticks. In employing about the conjunctival membrane, the strength of solution mentioned in the foregoing should be used.

Treatment of Lupus with Permanganate.

Butte, as stated in *Amer. Med.*, recommends the following: The entire locality affected with lupus is carefully washed either with ichthyol soap or with the following antiseptic emulsion:

℞.	Hydrarg. bichloridi	gr. v	30
	Tinct. benzoini	m. lxxv	5
	Tinct. saponis	℥iss	45
	Aq. destil	℥vii	210

M. Sig.: As a wash locally.

After applying this, follow with a compress saturated with a warm 2 per cent. solution of potassium permanganate, to be kept on fifteen minutes. This treatment is to be repeated every day. In about ten days the tubercles are covered with a blackish coating and to the touch they no longer give the sense of elevation, but are atrophied and what is left of them is of a soft consistence. After the first ten days, the treatment is to be applied only every other day, but must be continued for a period of two or three months. At the end of this time no more tubercles are to be seen and the skin presents a smooth appearance; though it is red and cicatricial in character, the process seems to be arrested. Should any new tubercles reappear, a few applications of permanganate causes them to disappear.

A Spray in Asthma.

Dr. A. Abrams, in *Med. Fortnightly*, recommends the following as a spray in treatment of asthma:

℞.	Antipyrini	gr. xv	1
	Pyridin	ʒi	4
	Sod. nitritis	ʒii	8
	Tr. lobeliæ (ethereal)		
	Tr. belladonnæ		
	Tr. stramonii, āā	ʒv	20
	Tr. ipecacuanhæ	ʒiv	15
	Glycerini q. s. ad	℥iv	120

M. Sig.: To be used in the form of a spray.

[It has been a question among the profession as to how much of the respiratory tract can be reached by means of inhalation. It would seem more improbable that the bronchioles could be reached by means of a spray.]

Scrofulous Conditions in Children with Enlarged Lymphatics.

The following outline of treatment is recommended by *Merck's Report* in the treatment of enlarged lymphatic glands of a scrofulous nature in children:

℞.	Iodipin	℥i	30
	Spts. vini gallici	ʒii	8
	Yolk of eggs (2)		
	Olei aurantii	gtt. iii	20
	Olei vel. menthæ pip.	gtt. ii	12
	Olei morrhuæ	℥vi	180

M. Sig.: One or two teaspoonfuls three times a day.

It may be given plain as follows:

℞.	Iodipin	℥i	30
	Olei aurantii	m. ii	12
	Olei morrhuæ	℥vii	210

M. Sig.: One teaspoonful three times a day in milk. The alterative properties of the cod-liver oil are reinforced by the absorbent and resolvent properties of the iodin in the iodipin which contains 10 per cent. of iodin. At the same time the following ointment should be applied at night or in severe cases night and morning:

℞.	Guaiacol.	ʒi	4
	Ung. pot. iodidi	ʒiii	12
	Lanolini	ʒiv	15

M. Ft. unguentum. Sig.: Apply at night and wash the in the axillæ.

Medicolegal.

Admissible Evidence of Undertaking of Physician.—The Supreme Court of Minnesota holds, in the case of Pickler vs. Caldwell, that an offer of evidence, at the trial of an action brought to recover for professional services, to show that a party had volunteered to call upon the suing physician for an invalid, and did afterward call, when the physician offered, through him, to effect a cure or make no charge, with a communication to the invalid of what had occurred at the physician's office, was improperly excluded, under issues that presented the question whether the physician's treatment had benefited the invalid. The court thinks that an offer of that character would tend to establish a relationship of principal and agent between the party and the invalid, and that the statements made to him by the physician, communicated and

acted upon, would have a proper legal tendency to support the defense.

Liability for Use of Property for Pesthouse.—The Supreme Court of Washington holds, in the case of Brown vs. the County of Pierce and the City of Tacoma, that where property was seized and used for a pesthouse the owners were entitled to recover the actual value of the use of the property for that particular purpose. It holds that the jury was properly instructed in this case as follows: "The measure of damages in a case of this kind would be and will be what you believe from the evidence would be the fair and reasonable rental value of that property for the purpose for which it was taken and used. It is what damage the property sustained by reason of having been used for a pesthouse. And you must arrive at the measure of damages—ascertain the measure of damages—from the evidence, not from any preconceived notions of your own, but from the evidence brought out upon the trial, and from that come to your conclusion." Here, the county physician assisted in finding the house in question, in connection with a representative of the city health department, caused patients to be sent there, and attended them in person. He also testified that on the same day of the selection of the house he reported to the chairman of the County Board of Health, and asked him how he was to care for the patients; to which the chairman replied that he should go ahead and use his best judgment, which he said he did. From this the court thinks that it was properly a question for the jury whether the patients were county charges, and, if so, whether their treatment in the house by the county's physician was an occupation for the use of the county, and acquiesced in by the county authorities. In times of pestilence action must be promptly taken, and health boards may not be able to meet quickly for formal action. Some one should therefore have power to act. Even though it were true that the physician mentioned was not county health officer, but only county physician, if nevertheless he attended patients quarantined in this building, acting as county physician in behalf of those for whom the county assumed to care, the court does not see that it was material whether he was a fully qualified health officer or not. If he was the qualified health officer of the county, as he testified, under the exigency calling for immediate action, he had sufficient power to act without express authorization by the board of county commissioners.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, May 31.

1 *Report of the Presence of Anguilluia Aceti in the Urine of Two Patients Mistaken for Strongyloides Intestinalis. Frank Billings and Joseph L. Miller.
2 *Pneumococcus Arthritis. Rufus I. Cole.
3 *Some Modifications of the Author's Original V-Shaped Operation for Deflection of the Septum. D. Braden Kyle.
4 *Bubonic Plague: Remarks on Diagnosis, Dissemination of Bacillus Pestis, and Prophylaxis, with Report of a Case. Joseph J. Curry.
5 *Mensuration as an Aid to the Diagnosis of Pulmonary Tuberculosis. Charles R. Upson.
6 A Case of Parovarian Cyst Complicated by the Presence of a Myomatous Uterus Filling the Pelvis; Operation; Extensive Adhesions; Accidental Incision of the Bladder; Phlebitis on the Twenty-first Day. G. H. Brown.
7 *The District of Columbia Cancer Record for Twenty Years. Clarence A. Smith.

Medical Record (N. Y.), May 31.

8 *The Treatment of Cholelithiasis. Howard Lilienthal.
9 *Acroparasthesia (the Parasthetic Neurosis); the Analysis of One Hundred Cases. Joseph Collins.
10 *The Symptoms of Chronic Non-Alcoholic Gastritis. George R. Lockwood.
11 Post-operative Obstruction in a Case of Sarcoma of the Uterus and Mesenteric Cyst, Due to Incarceration of the Small Intestine in a Hole in the Mesentery. Charles S. Hamilton.
12 Report of a Case of Tubal Pregnancy Diagnosed One Week Previous to Rupture, Verified by Operation Following Rupture—Recovery—Presentation of Rare Specimen. Edward N. Liell.

New York Medical Journal, May 31.

13 *The Surgical Treatment of Prostatic Hypertrophy. Charles H. Chetwood.
14 How to Conduct a Normal Labor. James Moran.
15 *Conservatism in Abdominal and Pelvic Surgery. Edwin Ricketts.
16 *Colon Bacillus Infection. J. Holcomb Burch.
17 *Fractures of the Upper Third of the Femur. W. Burt.

Boston Medical and Surgical Journal, May 29.

18 *Remarks on Intestinal Obstruction by Bands Following Operations on Peritoneal Cavity with Report of Cases. F. B. Lund.
19 Papilloma of Bladder, with Operation; Report of a Case. G. H. Washburn.
20 Three Cases, Two of Papilloma of the Bladder, and One in Which the Diagnosis of Papilloma Was Made, But Which Turned Out to Be Something Else. F. B. Harrington.
21 Small Papilloma of Bladder Characterized by an Excessive Hemorrhage; Removed by Suprapubic Cystotomy. Maurice H. Richardson.

Medical News (N. Y.), May 31.

22 *A Contribution to the Subject of Infant-Feeding. S. Henry Dessau.
23 *The Bacterial Pathology, Symptomatology, Diagnosis, Treatment and Quarantine of Tonsillar Inflammations. William G. Bissell.
24 *The Diagnostic Uses of Gonococcus. E. D. Boudurant.
25 *Poisoning by Aconite (the Condon Case) and the Physiologic Analysis of Alkaloids. William S. Magill.
26 *Some Suggestions Relative to the Treatment of Tuberculosis. F. M. Pottinger.
27 The Smallpox Problem. Ernest Wende.

St. Louis Medical Review, May 31.

28 President's Address, Missouri State Medical Association. J. D. Griffith.

Cincinnati Lancet-Clinic, May 31.

29 *General Remarks on Alcoholic Psychoses. Brooks F. Beebe.
30 Methods of Artificial Dilatation of the Os in Parturition. H. F. Gau.
31 Appendicitis. B. Merrill Ricketts.
32 Penetrating Foreign Body in the Eyeball Which Had Been Successfully Extracted by Means of the Electro-Magnet. Derrick T. Vail.

Medical Age (Detroit, Mich.), May 25.

33 Four Cases of Extra-uterine Pregnancy Treated by the Vaginal Route. Frank L. Adams.
34 Empyema of the Frontal Sinus. H. Bert Ellis.
35 What Should the Patient Know About His Disease and Treatment? J. Howe Adams.

Quarterly Journal of Inebriety (Hartford, Conn.), April.

36 *Clinical Treatment of Inebriety. T. D. Crothers.
37 Alcoholism and Crime—How We Should Deal with the Criminal Alcoholic. Heinrich Stern.
38 Sweating in Electric Light and Hot Air Cabinets. Dr. Krebs.
39 *The Relation of Alcoholism to Tuberculosis. T. N. Keiynack.
40 Alcohol as a Factor in the Causation of Disease. G. Sims Woodhead.
41 Is There Hope for the Drug Fiend? David Paulson.
42 Dipsomania. Lucius W. Baker.

Brooklyn Medical Journal, May.

43 On the Field of Vision. Ernest Schaick.
44 Blood Examination as an Aid to the General Practitioner. Warren S. Simmons.
45 Feeding in Chronic Nephritis. William P. Pool.
46 Case of Spina Bifida. C. L. Kerr.
47 A Consideration of the Sequelæ of Gynecologic Operations. Henry C. Keenan.
48 Practical Points in the Treatment of Empyema Thoracis. Russell S. Fowler.
49 Milk Commission of the Medical Society of the County of Kings. Elias H. Bartley.
50 Some Traumatic Neuroses and Their Treatment. J. Sherman Wight.

Interstate Medical Journal (St. Louis), April.

51 *Cesarean Section in Cases of Placenta Previa. Friedrich Schauta.
52 The Treatment of Tuberculosis. Wm. C. Glasgow.
53 *Hematemesis in Pernicious Anemia. Francisco T. B. Fest.
54 Ligation of Arteries—Cocain Anesthesia. B. Merrill Ricketts.
55 A Unique Case of Hereditary Lues. Martin F. Engman.
56 Functional Symptoms in Organic Diseases, Illustrated by the Presence of a Bilateral Abducens Paralysis in a Case of Typhoid Fever. Sidney I. Schwab.

May.

57 *Muco-membranous Colitis in Children (Mucous Disease, Eustace Smith's Disease), with Report of Two Cases. John Zahorsky.
58 *Review of the Pathologic Anatomy of Amebic Dysentery. C. Fisch.
59 Therapeutic Value of Work in Hysteria and Neurasthenia. Sidney I. Schwab.
60 Report of a Case of Necrosis of the Frontal and Contiguous Bones. Louis Rassieur.
61 A Case of Acute Articular Rheumatism of the Crico-Arytenoid Joints. William E. Sauer.
62 Case of Collateral Circulation After Tearing of Both Radial and Ulnar Arteries. William J. Kress.

Iowa Medical Journal (Des Moines), May 15.

63 Anesthesia. S. A. Brown.
64 Intra-abdominal Lesions Following Traumatisms. J. E. Summers, Jr.
65 Gonorrhea. J. H. Burlingame.
66 Some Remarks on Typhoid Fever in Children. H. Scott.

67 The Antitoxin Treatment of Diphtheria. M. E. Silver.
68 Notes on Some Uncommon Diseases of the Thoracic Viscera. Edward Hornibrook.
69 Some Nasal Conditions Causing Headache. George Park.

Medical Times and Register (Philadelphia), May.

70 The Modern Treatment of Consumption. B. H. Detweiler.
71 Abscesses, Adenomas, Adipose Tumors, Aneurisms, Callosities, Hemorrhoids, Torticollis, Specific and Malignant Diseases of the Rectum and Ulceration. W. H. Walling.

American Journal of Insanity (Baltimore), April.

72 *Etiology of Paresis. Arthur W. Hurd.
73 *The Early Diagnosis of Paresis. F. X. Dercum.
74 The Comparative Frequency of General Paresis. Charles G. Wagner.
75 *Treatment of Paresis; Its Limitations and Expectations. Edward Cowles.
76 *Heredity, with a Study of the Statistics of the New York State Hospitals. William C. Krauss.
77 Senility and Senile Dementia. William L. Russell.
78 *Some Observations upon the Elimination of Indican, Acetone and Diacetic Acid in Various Psychoses. Isador H. Coriat.
79 Studies in the Manic-Depressive Insanity, with Report of Autopsies in Two Cases. Stewart Paton.

Canada Lancet (Toronto), May.

80 Gastro-jejunostomy. J. A. Grant.
81 Diphtheria of the External Ear. G. H. Carveth.
82 Treatment of Chronic Prostatic Enlargement. J. W. Shaw.
83 The Skill of A. Paget. H. S. Hutchinson.
84 The New Medical Building of the University of Toronto. J. J. Mackenzie.

St. Paul Medical Journal, June.

85 *The History of Typhoid Fever in the Hospital at St. Peter During the Past Ten Years. H. A. Tomlinson.
86 *The Surgical Significance of Carbuncle of the Upper Lip and Face. James E. Moore.
87 Inguinal Buboes. Burnside Foster.
88 Spinal and Intra-neural Anesthesia. Madge T. Holman.
89 *A Simple Hydriatic Procedure. J. R. Leadsworth.
90 Coin in the Esophagus for Five Months. A. R. Colvin.
91 Foreign Bodies in the Vermiform Appendix. F. J. Campbell.
92 The Removal of a Twenty-five Cent Piece from a Child's Gullet After Remaining There Nine Months. Frederick Leavitt.

Canadian Journal of Medicine and Surgery (Toronto), June.

93 Duncombe vs. the Mutual Life Insurance Company of New York. Arthur J. Johnson.
94 The Treatment of Sciatica. Vernon A. Chapman.
95 A Case of Congenital Tooth. Geo. H. Carveth.
96 Case of Tumor of the Superior Maxilla. Charles F. Forshaw.

Cleveland Medical Journal, May.

97 *The Physiologic Pathology of the Circulation in Acute Pneumonia. A. S. Maschke.
98 *A Critical Résumé of the Remedies Used in the Treatment of Pneumonia. John B. McGee.
99 A Case of Caisson Disease, with Unusual Hypopyrexia and Recovery. Louis W. Ladd.
100 A Brief Résumé of Puerperal Sepsis and Its Treatment on Surgical Principles. R. E. Skeel.
101 A Case of Mitral Stenosis. W. J. Pettus.

Medical Examiner and Practitioner (N. Y.), May.

102 *The Relation of Irregular Pulse to Cardiopathic States. Joseph M. Patton.
103 Sub-standard Risks. Charles B. Soule.
104 Legal Prohibitions of Unprofessional Mental Healing. Charles M. Demoud.
105 Examination of Urine. E. L. Fisk.
106 The Detection and Estimation of Sugar in the Urine by the Elliott Method. Walter Jaquith.

Medical Sentinel (Portland, Ore.), May.

107 Report of Two Cases of Acute Suppurative Inflammation of the Middle Ear, and a Case of Carcinoma of the Nasal Septum. M. A. Hughes
108 Treatment of the Morphin Habit. Robt. L. Gillespie.
109 Complete Absence of Vagina—Report of Case. Samuel J. Stewart.

Clinical Review (Chicago), June.

110 Bony Union After Intra-capsular Fracture of the Neck of the Femur; Perineal Prostatectomy; Cystic Ovary Complicated with Myo-fibroma of the Uterus; Strangulated Umbilical Hernia; Empyemia of the Frontal Sinus; Osteomyelitis Involving the Shaft of the Tibia; Relapsing Carcinoma of the Submaxillary Region; Epithelioma of the Lower Lip; Non-union Following Fracture of the Tibia and Fibula. N. Senn.
111 *Sleep and Insomnia. L. L. Skelton.
112 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Carolina Medical Journal (Charlotte, N. C.), May.

113 Why Not Forestall Tuberculosis and Blot It from the Face of the Earth? Jas. A. Burroughs.
114 Some Remarks on Cataract—Experience Gleaned from Over Five Hundred Cases. Joseph A. White.
115 Appendicitis and When to Operate. H. S. Lott.
116 Early Diagnosis of Tuberculosis the Most Valuable Factor in the Treatment. C. V. Reynolds.

Southern California Practitioner (Los Angeles), May.

117 *Report of Three Cases of Abdominal Aneurism. C. C. Browning.
118 Placenta Previa—Report of Cases. M. L. Moore.
119 Salicylic Intoxication. Francis H. Atkins.
120 Phthisiophobia. F. M. Pottinger.
121 *Ovarian Transplantation. Robert T. Morris.
122 Sterilized Grape Juice. Louis C. Smith.
123 The Medical History of Dr. Samuel Johnson. Francis R. Packard.

Charlotte Medical Journal, May.

124 Same as No. 113.
125 Pernicious Anemia. H. M. Fletcher.
126 Surgical Treatment of Dysmenorrhea. H. B. Weaver.
127 A Few Practical Remarks on the Application of the Obstetric Forceps. L. C. Stephens.
128 The Passing of the Preceptor. Edwin Ricketts.
129 Report of an Unique Case. John L. Jelks.
130 An Address on "The Consideration of the Physician from a Philanthropic Aspect and as a Member of Society." J. W. McCanless.
131 The State Society and the American Medical Association. G. W. Pressly.
132 Typho-malarial Fever from a Clinical Standpoint. Wm. E. Anderson.
133 The Therapy of Iron and Its Compounds. H. K. Aiken.
134 Case of Pneumonia with Pyemia as Complication. James A. Knight.
135 Creosote in Pneumonia. J. A. Gracey.
136 Salpingitis. Walter Lenehan.
137 A Plea for Typho-Malarial Fever. J. D. Hopper.
138 Injuries of the Knee-Joint with Report of Cases. J. B. Johnston.
139 Anesthesia. E. W. Carpenter.

Alabama Medical Journal (Birmingham), May.

140 Annual Message of the President, Medical Society of the State of Alabama. Edwin L. Marechal.
141 *The Treatment of Cold Abscesses. Wisner R. Townsend.
142 Certain Newer Uses of Electricity in Medicine and Surgery. G. Betton Massey.
143 The Medical and Legal Profession and Their Relation to Each Other. John B. Duke.
144 Some Reasons for the Past Failures in the Treatment of the Morphin Habit. George E. Pettey.
145 Twin Pregnancies and Cases. Hugh Boyd.

Annals of Ophthalmology (St. Louis), April.

146 *Glaucoma—An Experimental Study. Edward B. Coburn.
147 A Clinical and Pathologic Report of Two Cases of Glaucoma. Howard F. Hansell.
148 *Note on the Visual Field in Glaucoma. Harry Friedenwald.
149 Mauthner's Method of Diagnosing Paralysis of Depressors or Elevators of the Eyes. E. F. Snydacker.
150 The Toxic Amblyopias. J. P. Nuel.
151 A Theory of Binocular Perspective, and Some Remarks upon Torsion of the Eyes, the Theory of Vicarious Foveae, and the Relation of Convergence to the Perception of Relief and Distance. Frederick H. Verhoeff.

Medical Times (N. Y.), May.

152 Compatible Medication, or the Physical Forces in Scientific Formulation. E. C. Hebbard.
153 The Falling Birth-Rate. A. L. Benedict.
154 The Pretubercular State. W. S. Phillips.

Proceedings of the New York Pathological Society, April.

155 Persistence of Varieties of the Bacillus Diphtheriæ and of Diphtheria-like Bacilli. Anna W. Williams.
156 Sponge Found in Operation Wounds. Eugene Hodenpyl.
157 Proteosoma-malaria in Sparrows. W. N. Berkeley.
158 Multiple Diverticula of the Colon; Fibromyoma of the Stomach. J. D. Condit.
159 False Diverticula of the Sigmoid Flexure; Aneurismal Dilatation on the Ductus Arteriosis in a Male Infant; Specimen of Conglomerate Tubercles of Liver. Otto H. Schultze.
160 A Specimen of Rhabdomyoma of the Testis; A Specimen of Myoma of Small Intestine. F. C. Wood.
161 A Surgical Needle Encysted in the Abdominal Cavity. Warren Coleman.

Woman's Medical Journal (Toledo, Ohio), May.

162 Puerperal Eclampsia. L. Estelle Paullin.
163 Folk-lore Medicine in Literature. Eliza H. Root.
164 Varicose Veins of the Right Upper Extremity in a Child. Bertha E. Bush.

Pennsylvania Medical Journal (Pittsburg), May.

165 *Address in Mental Disorders. Robert H. Chase.
166 *A New Method of Performing the Operation of Nephropexy. H. D. Beyea.
167 The Value of the Tallquist Hemoglobin Scale to the General Practitioner. M. H. Fussell.
168 *Instrumental Perforation of the Uterus. Wilmer Krusen.
169 Amyotrophic Lateral Sclerosis, with Report of a Case. Thomas L. Coley.
170 The True Value of Local Treatment in Gynecic Practice. Frank C. Hammond.
171 *Surgical Treatment of Enteroptosis. John G. Clark.
172 *The Ultimate Results of Operation for Cancer of the Uterus. Charles P. Noble.
173 *The Kidney Complications of Typhoid Fever. James E. Talley.
174 *Duration of Immunity by Diphtheria Antitoxin. Henry D. Jump.

---

1. **Anguillula Aceti in the Urine.**—Billings and Miller report a case in which a form resembling the *Anguillula stercoralis* was found present in the urine. They compared this species with the common vinegar eel and found a very close resemblance, the chief point of difference being in the males, where the *A. aceti* is slightly longer, and the young forms differ

in that the esophageal enlargement does not appear so early in the *A. acti*. The females of the free form of *A. stercoralis* are less than half the length of the females of the *A. acti*, but possess the same esophageal enlargement. The females of the parasitic generation correspond in length with the *A. acti*, but do not have the esophageal enlargements. The nematode found in the urine resembles in every particular the *A. acti* and one seems justified in these two cases in saying that the worm present was the *A. acti* or vinegar eel.

2. **Pneumococcus Arthritis.**—Two cases of this rare condition are reported by Cole, who reviews the previously collected cases by Cave, and adds 11 more, including those here published. In a study of 42 cases altogether, one being omitted, however, as not being sufficiently thoroughly examined, he finds that they can be divided into two great groups: 1, those appearing as complications or sequelæ of acute lobar pneumonia, 34 of the 41 cases belonging to this group; 2, cases of arthritis preceding or occurring independently of acute lobar pneumonia. There were eight of these, and two histories of which are here reproduced. The most important facts in regard to pneumococcus arthritis, many of which have already been pointed out by Cave, are stated as follows: 1. A tendency to involvement of the larger joints, though small joints may be involved. 2. A tendency to the involvement of more than one joint (13 out of 41 cases). 3. A tendency to involvement of joints already the seat of a chronic affection. (In 13 cases a history either of chronic rheumatism, old injury, previous arthritis or gout.) 4. The effusion is usually purulent, but may be serous. 5. The mortality is high (28 deaths, 13 recoveries). 6. The clinical features of the condition and the prognosis depend more on the septicopyemia, of which it is usually but a manifestation, than on the joint lesion itself. When recovery occurs, the course is usually a long, slow one, and usually ankylosis of the joint results. 8. The local treatment should consist in free opening and draining of the joint. The fact that in a few cases of mild infection of the smaller joints spontaneous recovery has occurred, might justify one in adopting conservative methods in such cases. He also reviews Cave's summary of the experimentally produced acute pneumococcus arthritis and mentions the experimental conditions produced by Bezançon and Griffon by modifying the resistance of the animal experimented on in relation to the virulence of the pneumococcus.

3. **Septal Deflections.**—Kyle reports certain slight modifications of his V-shaped cut in correcting septal deviations and describes a simple method of correcting deviations of the septum with external deformity as follows: First a small oblique incision is made through the skin into the nasal cavity on the convex side of the deflection just at the point of junction of the cartilage and bone, through which the small saw or file saw is then inserted and a V-shaped portion of cartilage removed. This should extend down on the septum a sufficient distance to break up all resiliency, and the amount removed should be sufficient to render the cartilaginous portion of the nose entirely pliable. The external wound is then closed by one suture, as it is not necessary to make an incision over ⅛ to ¼ inch in length. It is then sealed with collodion over cotton. The internal deformity is corrected the same as given above where no external deformity exists. It is of importance that a sufficiently large V-shaped piece be removed in order to render the septum perfectly pliable; in other words, to remove all redundancy. The principle involved in correcting the external deformity is identically the same as for the correction of the internal deflection of the septum. The prime object in all septal operations is to remove redundancy and break up resiliency. General anesthesia is preferable, although the operation can be done under local anesthesia.

4. **Plague.**—Curry reports a case occurring in a civilian employé of the quartermaster's department at Manila, with bacillary diagnosis, etc. He describes the different types of the disease, calling attention to the walking cases. The diagnosis must largely depend upon laboratory examination in the early stages. He considers plague a place infection depending largely on dirt and frequently due to inoculation from skin diseases, and the possibility of infection through coitus is also worthy of consideration. Pulmonic plague must often be due to inhalation of infected dust and animal experimentation shows that it may occur through the gastro-intestinal tract by infected food. For prophylaxis he insists on, 1, cleanliness; 2, the destruction of rats and mice; 3, protection of food and drink from all possible contamination by insects; 4, special attention to all skin diseases or abrasions through which the disease might be introduced.

5. **Phthisis.**—The measurements of the height, weight, respiratory power and the mobility and vital capacity of the chest, are dealt with by Upson. He holds that persons of more than average stature seem to be rather liable to the condition. In most cases of pulmonary tuberculosis there is a certain relation between the respiratory power and the vital capacity. In the early stages the inspiratory power is often lowered, while the expiratory power is unimpaired; but is lowered later. He has not infrequently tested the impairment of the chest movement in persons showing but few other signs and calls attention to certain changes in the shape and size of the neck noticed on the side of the affected lung, consisting in wasting at its base and perhaps a slight flattening apparent on that side owing to the flattening of the summit of the chest. He gives a tabulated statement of his measurements of individuals after and before the inception of the disease, showing the weight, length and semicircumference of the chest, its mobility, thoracic perimeter, respiratory power in inches of mercury and semicircumference of the neck. He is so convinced of the value of the signs obtained by mensuration that he uses it as a routine method, and always when, as is usually the case, a number of following symptoms are present, viz.: prominent bright eyes, often with dilated pupils; morning pallor; a feeling of fatigue on arising in the morning, even after a good night's rest; more or less shortness of breath on slight exertion; a quickened pulse unaffected by a change of position; an evening rise of temperature, and a dry hacking cough on assuming a recumbent posture. These measures give good warrant for treating the cases as tubercular.

7. **Cancer.**—Smith has analyzed the cancer statistics of the District of Columbia and draws the following conclusions: 1. On the basis of comparing cancer deaths with those of 30 years and over, no increase of the disease is found in the last decade over the preceding. 2. Classification of cases into accessible and inaccessible reveals practically no increase in the former but entirely in the latter, probably the result of improved diagnosis and certification of deaths. 3. Aside from cases of the female generative organs, the sexes are equally liable to the disease. 4. The white and colored races are alike subject to cancer, the latter showing a greater increase in cases of the uterus and liver. 5. While cancer deaths during the last decade have increased over those of the previous decade by a larger percentage than those from any other disease, we are not justified in attributing this to an increase in the disease itself.

8. **Cholelithiasis.**—Lilienthal reports 10 cases of operation for cholelithiasis, mostly cholecystectomies, which he considers the best operation when practicable. The gall-bladder has perhaps a function, but he does not think it has ever been discovered.

9. **Acroparasthesia.**—The first part of Collins' article is historical. He thinks the condition not uncommon; 100 cases have come to his hand in the last five years, excluding all such as were associated with neuritis, arthritis, rheumatism, gout, etc. The symptom is in many cases simply numbness, but there is a wide variation in the type and it may vary in severity from slight disagreeableness to severe pain. The average age of his cases was 39, the range was from 17 to 79 years; 69 were females and 31 males: 34 were Americans; 41 Russian Jews; 15 English, Scotch and Irish, and the remainder German and French. He finds that men are apparently more often affected than has been previously supposed and that many of his patients were tailors. The disorder seems to stand in close relationship to occupations which produce fatigue and ex-

haustion of the upper extremities, as in tailors, dressmakers, etc., or those that necessitate keeping the hands in water. He sees little connection between it and exposure to cold and inclement weather. It is quite noticeable that gastro-intestinal disorder is frequently present. As regards its pathogenesis he seems to favor the idea of autointoxication either from intestinal indigestion, exhaustion, etc., though nothing is really positively known in regard to the matter. The principal thing in the treatment is the removal of the cause and the treatment of the accessory conditions that exist. Constipation should be looked after, with rest and a nourishing diet; new environments are necessary for early and complete cure. Tonic hydrotherapy, regulation of diet and the use of such tonics as iron, arsenic and strychnia will generally relieve. He has had gratifying results from the use of electricity, both the galvanic and the Franklinic currents, and he has also in some cases, where the attacks occurred early in the morning, seen good results follow the taking of a small quantity of trional or sulfonal on retiring.

10. **Chronic Non-Alcoholic Gastritis.**—Lockwood reports a number of cases and offers the following conclusions: 1. In uncomplicated chronic gastritis not of alcoholic origin, if the muscular power of the stomach be good, the only symptom apt to be referred to the stomach is acidity. This occurs in about half of the hyperacid cases, but may be observed in the cases of complete achylia. Cases with normal acidity, and the vast majority of cases of anacidity, give no gastric symptoms. 2. The hyperacidity cases may give a course resembling that of a neurosis in that the symptoms are intermittent and are easily influenced by nervous conditions. It would seem, however, that a long-continued gastric neurosis was exceedingly rare, and that the great majority of such neuroses were rarely the neurotic outbreak of an organic lesion. 3. In gastritis, contrary to the accepted teachings, the following negative facts are to be noted: (*a*) The appetite is good. The few exceptions are observed in advanced atony, where the quantity of food is not well born, and in cases of neurasthenia. In neither case, however, is the gastritis itself the cause of the anorexia. (*b*) Pain occurs in two ways: (1) From acidity, differing in no way from similar pain in cases of nervous hyperacidity; (2) From gas. This latter pain differs in no way from that observed in cases of simple atony without gastritis, so that pain does not seem to be a symptom of gastritis proper. (*c*) Nausea does not occur in relation to meals. Patients with atony, and those who are neurasthenic, may complain of nausea, but the nausea is not related to meals and does not interfere with a normal appetite. It usually occurs when the patient is tired or nervous. (*d*) Vomiting does not occur in the non-alcoholic cases. (*e*) Unless there be diarrhea the nutrition is good, and, as a rule, the patients are not anemic. Exceptions may be made in cases of atony, but in these cases the anemia may well be the primary condition. 4. If the muscular power be poor, gas is present as a prominent symptom. This is more apt to occur in hyperacid cases, and is probably due to swallowed air. As this same symptom is observed in a similar number of cases of simple atony, the symptom is not directly due to the gastritis. 5. Gastritis may give rise to severe and long-continued diarrhea and emaciation, which may be mistaken for colitis, or malignant diseases of the colon. The diagnosis, however, should present no difficulty if a careful examination be made. These cases are more common than is usually supposed, and occur both in the hyperacid, and in the anacid cases. Between the two a diagnosis is possible only by gastric analysis. 6. Biliousness and its allied symptom-complexes are rarely, if ever, due to a primary functional disturbance of the liver, but are almost regularly due to an intestinal toxemia, traceable to some derangement of gastric chemistry, whereby improperly prepared chyme enters the intestine. 7. Anemia and constipation are the chief and only symptoms in a great many cases of even well-marked gastritis, and their continuance without apparent cause should justify an analysis of the gastric contents.

13. **Prostatic Hypertrophy.**—Chetwood gives the history of operations for this condition and refers to his former article in the *New York Medical Record* of May 18, 1901, in which he described his method of galvano-caustic incision of the prostate through a perineal opening. He has not altered the technic but has improved the instrument to some extent, giving it different side-blades to be changed at will and flexing the beak at an obtuse instead of a right angle. A small non-conducting metal piece 1/16 of an inch in height has been applied to the upper portion of the proximal side of the platinum blade to protect the sphincter muscle. The steps of the operation consist in opening the urethra upon a grooved staff. Digital exploration of the bladder is then made through this opening, and a correct knowledge of the nature and extent of the prostatic growth obtained. In some cases, in which the perineal distance is extreme and it is impossible to reach beyond the vesical neck, a specially devised retractor is employed to shorten the distance and to facilitate examination. The number of the galvanocaustic incisions varies according to the nature of the growth and the manner in which it obstructs the bladder outlet. Generally speaking, such obstruction is produced by an obtruding middle lobe which blocks the orifice, by intravesical and urethral hypertrophy of the two lateral lobes which elevate a median fold of mucous membrane and flatten the vesical orifice, or by intra-urethral prostatic nodules. A median lobe is treated with one incision through the center or one on each side, when the intermediate portion may be excised. The bilateral enlargement is treated with two ample incisions directed at an angle toward the median line, which serve to widen the flattened urethral outlet and to drop the elevated fold of mucous membrane. Intra-urethral nodules are best enucleated in the usual way, and the operation completed by an intravesical galvanocaustic incision, if such is required. He reports a number of cases that have been operated on with good results and offers the following conclusions: Palliative measures should not be persisted in when they fail after reasonable trial to produce and maintain an abatement of symptoms. A first infection of the bladder is not alone sufficient excuse for operation unless palliative measures fail to promptly subdue inflammatory conditions. Recurring infection of the bladder or ascending infection of the kidney is sufficient warrant for operative interference. There is a growing tendency toward earlier operation than was formerly practiced. The greater number of cases of prostatic hypertrophy can be satisfactorily reached through a perineal incision. In the large majority of cases, the requirements of any operation upon the prostate consists in the removal of the obstructing area and depressing the bladder opening into the prostate, so that the *bas fond* may be properly drained. In many cases the obstructing area of the hypertrophied gland can be satisfactorily reached and effectually removed through a perineal opening by means of galvanocaustic incisions.

15. **Conservatism in Abdominal and Pelvic Surgery.**—Ricketts thinks that conservatism is gaining ground with the specialist, but the occasional operators are extending their performances with bad results. He thinks that the general practitioner relying upon medical treatment and delay is sometimes more to be commended than the non-conservative extirpationists with their incomplete work.

16. **Colon Bacillus Infection.**—Burch reports a case, one of a class which he has met frequently of late and which has given him considerable trouble as to diagnosis. The cases referred to are fevers the duration of which is from seven to ten days. The attack is usually ushered in by a period of malaise that continues several days, the patient becoming rapidly worse until at last he is confined to his bed and the gradually rising temperature reaches its limit on about the fourth day, from which time it remains about 102 F. in the morning and from 103 to 104 in the afternoon. There is almost always some gastro-intestinal disturbances, sometimes diarrhea, less frequently constipation. The abdomen is at times distended and very often the case is accompanied with ileocecal regurgitation. The tongue is dry and often foul; there is sometimes mild delirium and almost always more or less headache. The whole clinical picture is that of typhoid fever and in every case there has been diminished leucocytosis. The urine fre

quently contained traces of albumin and sometimes granular casts. Indican was present in every case. The urine contained peculiar motile organisms resembling Eberth's bacillus. The Widal-Johnson reaction has been absent in every case throughout its entire course, but by employing a broth-culture of the bacilli found in the urine and the technic of the Widal reaction, agglutination was manifest in every case. He questions whether this is an abortive typhoid fever or whether of a peculiar type especially of infection due to the colon bacillus. All the patients had been working in the open air and ate heartily; ceased working and ate as before. This produced a condition of self-infection developing organisms with toxins which perhaps produced the symptoms. The question is, however, would not this also favor the Eberth bacillus as well and have we not here a mixed infection? He refers to the findings by Sacquépée in regard to the various races of the colon bacillus obtained from typhoid fever cases, and the only difference between his observations and the cases which came under Ricketts' eye were that in the former typhoid infection was severe, while in the latter it was of a mild type. Neither was the Eberth bacillus isolated, nor were agglutination reactions from broth cultures of the typhoid bacilli present.

17. **Fractures of the Femur.**—Burt holds that the use of Buck's apparatus with the femur in the straight position is certainly justified in some cases of fracture of the upper third of the femur and reports a case where this method succeeded while extension and inclined plane failed. The tendency of the upper fragment to tilt forward is completely overcome by the Buck apparatus, which brings both fragments into a straight line. The pelvis does the tilting, which often makes the fractured limb to appear longer, and for this reason he takes exception to the necessity of abducting the limb before applying the apparatus. He thinks those that favor pinning their faith to flexion should not depreciate those who have greater confidence in the straight position.

18. **Intestinal Obstruction by Bands.**—The rarity of such peculiarities seem remarkable when we consider the facts, as Lund remarks. He insists on the importance of adopting all means to prevent their formation, though it is probable that in many cases they disappear in time. Cases of incomplete removal of a septic organ, as where the inflamed stump of a Fallopian tube is left projecting into the abdomen, result in a constantly acting focus of infection and morbid growths; the omentum and appendices epiploicæ may also thus form bands causing intestinal strangulation. Meckel's diverticulum attached by one end to the abdominal wall and the other to the movable intestine, affords the best possible condition for angulation of the bowel. The coil of the intestine to which it is attached may become rotated on itself and thus twisted and strangulated as shown in a case here reported. Operations upon the lower part of the peritoneal cavity are naturally more likely to be the cause of internal strangulation of the bowel, on account of the gravitation of the loops of the intestine into that portion of the cavity. The symptoms of strangulation by adhesions are those of acute obstruction from other causes. Four cases are reported in detail.

22. **Infant Feeding.**—Dessau finds that for the vast majority of infants of all classes, the simplest and best food for daily use is a fair average quality of cow's milk, diluted with water according to the age and digestive capacity of the child. The "top milk," or the upper portion of milk that has been allowed to stand in a vessel at a temperature not above 60 degrees F. for from four to six hours, is sometimes preferable. The proportion of fat to proteids is much greater in such milk and will better bear diluting. A pinch of either table salt or phosphate of sodium is added, because cow's milk contains no soda salts, while human milk does, and a heaping teaspoonful of raw cane sugar to the quart. The mixture is placed in a double cooker, with cold water in the outer vessel, and allowed to remain on the fire for ten minutes after the water has begun to boil. This is virtually Pasteurizing the milk, which has become modified by dilution and the addition of salts and sugar. The principal and most important object of this process is not so much to attack germs as it is, as before mentioned, to act upon the casein in such manner that the character of the curd will be modified by the milk-curdling ferment in the child's stomach, analogous to rennet in the stomach of the calf, without doing injury to other nutritious components, as the nucleins, globulins, and calcium salts. His experience with the use of steamed milk for the past six years has been extensive and quite satisfactory.

23. **Tonsillary Inflammations.**—The various forms of tonsillar disease are reviewed by Bissell, including the follicular tonsillitis which he describes and does not consider necessary to quarantine, being due to the staphylococcus aureus or albus, the type in which the Klebs-Loeffler bacillus is present, in which antitoxin treatment should be employed—not, however, to the neglect of local measures. The prognosis is favorable if proper treatment is adopted early and also in the streptococcus cases which are also severe, but are resistant to antitoxin and should, he thinks, receive some quarantine attention. Further, he mentions tonsillar inflammation from the micrococcus of sputum septicemia which may be fatal. The treatment is the same as that of the streptococcus; the organism is, however, a common inhabitant of the human mouth and rarely infects, and quarantine seems hardly required. Brief mention is made of *Oidium albicans* as the cause of tonsillar inflammation, which is usually easily relieved by stimulating alkaline washes and tonics and requires no quarantine. In three cases an organism corresponding to the colon bacillus was found in tonsillar abscesses. He mentions, in conclusion, methods of disinfection, noticing a new form of paraformaldehyd candle which has been introduced, and says that the best results are obtained with the room nearly air-tight, using one candle to every 300 c.c. feet and arranging the surfaces of the articles so as to give full exposure, leaving the room for six or twelve hours, and using cleaning processes over the hard surfaces to supplement the procedure. Formaldehyd gas, while very diffusible, has slight penetrating properties. He says: "These facts demonstrate that to thoroughly disinfect a room and its contents, we should not depend solely upon formaldehyd, but that in rooms having glazed surfaces, china, marble, metal and the like, subsequent washing with solutions possessing recognized germicidal properties, as 5-per-cent. solution of formalin, 5-per-cent. carbolic acid, etc., should be employed. Thus, it is shown that while in formaldehyd gas we now have an efficient and harmless disinfectant for such objects as laces, plush, velvet, curtains, table-covers, hangings, and the like, when not of too heavy texture for which heretofore no satisfactory household method of disinfection had been devised, and while in many cases its action upon all objects may be efficient and satisfactory, and its action upon metals, picture frames, etc., harmless and non-corrosive, in cases of serious infection, in which it is possible that infectious matter, such as blood, saliva, sputum, feces, pus or urine may be dried upon wood floors, chamber-vessels, basins, washstands, glasses, metal bedsteads and other hard surfaces, its action should be supplemented by a cleansing and disinfecting solution possessing solvent and penetrating powers."

24. **The Gonococcus.**—The importance of the bacteriologic diagnosis of gonorrhea is insisted on by Bondurant and he thinks culture examinations in doubtful cases will amply repay for all the trouble. No one should treat urethral inflammation without making or having made an examination for specific disease.

25. **Aconite Poisoning.**—Magill reports a case of aconite poisoning which is of some importance as showing the possibility of demonstrating the presence of the alkaloid of this substance. There are few cases now recorded of aconite poisoning and in this one the amount of the poisoning for the first time could be positively determined. He says that to say, as has been said in recent years, that the combination of alkaloids in case of poisoning renders the toxicologic work impossible or its evidence valueless, is worse than pretense; it is ignorance. Throughout a long series of experiments they have yet to find an alkaloid they were not able to identify by these methods of animal administration and analysis, alone or conjoined with methods of chemical examination and control.

26. **Tuberculosis.**—Pottinger believes in the use of culture products in the treatment of tuberculosis as well as on its diagnosis, and disproves the idea that mere open air and change of climate is sufficient. Care without climate is better than climate without care.

29. **Alcoholic Psychoses.**—The mental disturbances from alcoholism are discussed by Beebe who takes rather the view that it leads to irresponsibility and that the inebriate is practically insane. He thinks we should preach the truth in regard to the action of alcohol and control the sale of the article; prevent the marrying of alcoholic subjects at almost any hazard, especially those whose intellects are involuntarily paralyzed by this agent, keeping them from propagating their species by shutting them up in well-organized institutions and building up as far as possible the damaged brain cells, before permitting their enlargement.

36. **Clinical Treatment of Inebriety.**—According to Crothers, inebriety is both a neurosis and psychosis and it is curable at some stage or other of its existence and at all stages can be checked. It requires the treatment for the conditions of poisoning, starvation and exhaustion. We should reach these conditions by elimination by the skin, bowels and kidney, brain and nerve rest, building-up treatment, mental and physical treatment and breaking up complications that have developed. We should study the exciting causes with the object of removing them or preventing or diminishing their power and influence. We should also consider the conditions that have grown out of the use of alcohol and the use of drugs to restore the patient and enable him to dispense with them in the future. The last point he mentions is the importance of individual treatment.

39. **Alcohol in Tuberculosis.**—Kelynack points out the close relation of alcohol to tuberculosis, showing by testimony of the various authorities how the spread of alcoholic habits aids in the production of tuberculous disease.

51. **Cesarean Section in Placenta Previa.**—Schauta questions the value of Cesarean section in this condition and says that for many years he has used the method of bimanual version followed by the attachment of a weight of about three pounds to the fetal leg which is brought down through the vagina. The expulsion of the fetus, assisted somewhat by the continued traction exerted by the weight, is left to the natural sources until the umbilicus emerges from the vulva. From this point the case is managed in accordance with the usual method of dealing with breech presentations. A compilation of his cases during the past ten years shows a total of 234, of which 16 ended fatally. In some of these cases placenta previa could hardly be credited with the mortality. Even allowing this, however, the percentage, 6.8, is not a high mortality, especially in view of the condition in which the patients are brought to the hospital. The advocacy of Cesarean section in all cases, which necessarily includes all cases where the simplest opening of the amniotic sac suffices to stop the hemorrhage, hardly deserves serious consideration. He, therefore, limits his remarks to severe cases of central or total placenta previa. To replace version by Cesarean section in those cases would only add dangers to those already existing. The operation can not be at once performed even in well-equipped hospitals, while version is always available. Deep narcosis is necessary and there must be a certain amount of blood lost, for often copious hemorrhage can not be avoided. The placenta must be peeled off after removal of the fetus with the danger of uterine atony. He does not perform conservative Cesarean section in cases that were handled before entrance by untrustworthy people, provided the indication for operation is not absolute. Very few cases brought to the hospital conform to this indispensable requirement. The question whether the section promises to reduce maternal mortality in these cases, he thinks must be answered in the negative. As regards the chances of the fetus, he believes that they would be better if Cesarean section could be performed immediately on the appearance of the first hemorrhage, but if we look over the reports of cases we find only a small number of these children are fully developed. In his 234 children, only 92 were matured and the mortality of premature children is much more in these cases because they suffer from asphyxia due to the partial separation of the placenta from the uterus, and, therefore, he holds that we would not obtain better results as regards fetal mortality by operation.

53. **Malarial Hematemesis.**—From experience in tropical practice, Fest finds that hemorrhage or black vomit is not so rare in severe malarial cases, and reports instances. The blood in these cases is loaded with plasmodia and pigmentation increases the coagulability. The brain, in a case examined, was studded with many fine hemorrhagic dots. The enlarged blood corpuscles blocked the lumen of the capillaries and the thrombosis ensued, causing coma. Hematemesis is caused by a similar process in the gastric mucosa. The convulsive contractions during the vomiting strains the engorged capillaries and they rupture. Cachexia is no necessary condition for the symptom. Treatment must be anti-malarial and he uses hypodermics of quinin so as not to lose time and to prevent more vomiting. Medication by the mouth must not be considered until the stomach is perfectly at rest. If the hematemesis has been extensive, normal salt solution should be injected; to prevent collapse, dilute the blood, and thus diminish the formation of capillary thrombi.

57. **Muco-Membranous Colitis in Children.**—Zahorsky concludes that muco-membranous colitis is a rare condition in children and that there is no evidence of its special existence in children excepting those in which the name mucous abscess can be applied. The pathologic process and clinical history is similar in children and adults and the term mucous disease should be dropped.

58. **Dysentery.**—Fisch describes the intestinal changes in amebic dysentery, consisting largely in colonic alterations, thickening, ulceration, the process involving the submucous tissue, ulceration formed by submucous degeneration which extends into the intra-muscular layers with proliferation of connective tissue and absence of exudative process in the ordinary sense of the word. The connective tissue increase does not lead to fibrous interstitial substance, but to a homogenous, clear-looking, gelatinous material; in later stages this becomes edematous. The peritoneum is involved, leading to adhesions, the mesenteric glands are swollen, liver abscess may occur and also necrosed areas in the liver. The lung may also become involved as he finds in one of his cases observed, the foci of softening, in the lung tissue, containing glairy, whitish red material with shreds of necrotic tissues intermixed and apparently without any indication or without any relation to bronchial lesions, but corresponding closely to those found in the liver and intestines. The lesions of bacillary dysentery have nothing in common with those described. The agglutination test is distinctive.

72.—See abstract in THE JOURNAL of February 15, p. 472.

73.—Ibid.

75.—Ibid., p. 473.

76. **Heredity.**—Krauss has investigated the subject of heredity as shown in the statistics of the New York asylums for the insane for the years 1895-96 and 1898-99 and also for the whole period since Oct. 1, 1888. He finds that taking cases only where data can be obtained, the percentage of heredity was in 1895-96, 39.2, in 1898-99, 41, which was very nearly the percentage for the whole period since 1888. These percentages vary largely in the different hospitals, some showing very much greater proportions than others. They indicate that maternal transmission is increasing rapidly over paternal transmission in cases of the insane in this district.

78. **Indican, Acetone and Diacetic Acid in Insanity.**—Coriat's article is an elaborate clinical paper reviewing the subject of indicanuria, acetonuria, etc., in the insane. He finds that it has been observed that the elimination of indican is greater in depressed and akynetic cases, but he does not see the reason to believe it due to intestinal auto-intoxication. Its origin is obscure and the significance can not be determined

or even hinted at without further study. We must first know more about the physiologic and pathologic chemistry of the various psychoses. As regards acetone and diacetic acid, the results are also inconclusive. He thinks their appearance may be referred to abnormal metabolism due to inhibition processes. He has not been able to detect the relation of acetone to fear, as pointed out by Marro. Auto-intoxication as a factor in producing akynetic conditions clinically manifested by the presence of acetone or diacetic acid in the urine, can, he thinks, be definitely ruled out.

85. **Typhoid Fever.**—Tomlinson gives a history of the experience in the insane asylum at St. Peter's, with this disease, which seems to be almost endemic there, appearing in the fall for a number of years in succession. Its source has been rather mysterious; the water and milk supply can be safely excluded. The recent experience of one of the nurses shows a possible source. A patient who had been in bed for some time and who was very filthy and destructive began to have fever and the nurse was apparently infected from this individual. He holds that the specific bacterium may exist in the intestines without causing the disease; that the source of infection has been present in the hospital for many years and that from time to time fresh infection takes place from patients or employes who have had an unrecognized attack of typhoid fever, or may be the immune carriers of the germ. In the time of overcrowding and when there are many destructive and filthy patients together, there is likely to be recrudescence of this state. The principal means of contagion are undoubtedly the hands and clothing of the patients and nurses by which the milk or food are contaminated or the patient infects himself from his own excreta. He warns that it is possible for a person to be infected with the bacillus of Eberth and carry it in the intestinal canal for an indefinite period of time, without sufficiently multiplying the bacilli to give rise to symptoms and then under the influence of some of the causes above mentioned, the contents of the intestinal canal become a medium of infection, and the lowered vitality admits of its rapid proliferation and resulting general infection. All the cases developing in the hospital, apparently *de novo*, have had a history corresponding to these conditions.

86. **Carbuncle of the Upper Lip and Face.**—This condition is described by Moore, who reports several cases. He does not believe that the conservative or expectant treatment is applicable excepting in those cases where the disease is so situated and is so mild that the natural tendency is to recovery. It is never indicated when the disease is on the upper lip or face. In this location it has had a mortality of 50 per cent. and is not to be trifled with. After thrombosis and embolism has occurred all treatment is hopeless. For cosmetic reasons early operation is also advisable.

89. **Cold Friction.**—Leadsworth advocates under this name a procedure which consists in the application to the surface of a body of a series of wet rubbings on one part after another, taken in systematic order until the whole surface has been vigorously reactive. The application is graduated by temperature and the degree of saturation of the mit which may be made of some rough material, a close-woven woolen cloth resembling haircloth being the best. He thinks this is indicated in all cases requiring tonic application; it is invaluable in neurasthenia and it affords the best of all means for training patients to endure the contact of cold water with the surface. It can be advantageously employed in anemia, chlorosis, tuberculosis, post-febrile convalescence, cardiac dropsy, anasarca from kidney disease, chronic toxemia accompanied by spasm of the peripheral vessels, cardiac inefficiency and wherever cold in any form is indicated. It is specially indicated, he thinks, in chronic disease where there is general torpidity of the bodily functions.

97. **Pneumonia.**—Maschke has experimented on cats and rabbits and concludes as follows: "The pneumococcus damages the circulation in the rabbit by paralyzing the vasomotor centers in the prolonged cord. This vasomotor paralysis leads to a fall in the arterial pressure, and causes, further, a changed distribution of the blood in the organism. The splanchnic vessels are overdistended, those of the brain, muscles and skin, empty. The heart is not concerned in these disturbances and is only damaged in consequence of its own deficient coronary circulation, which is secondary to the vasomotor paralysis. Romberg, as above stated, found in the hearts of patients dead from croupous pneumonia just as slight pathologic changes as were evidenced in the hearts of the infected rabbits. The close correspondence between these experimental findings and the clinical and postmortem findings in croupous pneumonia in the human subject makes it extremely probable that these deductions apply *in toto* to the human, provided we can disregard the factor of mechanic obstruction." He says, aside from minor factors, the sum of our knowledge of the state of the circulation in pneumonia is as follows: "The deleterious action of pneumonia on the circulation is primarily due to the accompanying toxemia, not to fever *per se*, but may possibly be secondarily somewhat influenced by the mechanic obstruction. The toxemia produces this circulatory depression, not by poisoning the heart or the heart-centers and nerves, but by directly poisoning the vasomotor centers in the prolonged cord and thus producing a vascular dilation. The heart is only affected late in pneumonia, and then because of its own deficient coronary circulation brought about by the abnormal distribution of the blood-supply."

98. **Treatment of Pneumonia.**—The various remedies used in pneumonia are reviewed by McGee. Quinin has been practically discarded as an abortive agent and of the cardiac depressants, veratrum viride is probably the only one administered with this end in view, and this only to a very limited extent. In fact, the use of cardiac depressants is generally condemned by the profession in this disease. Alcohol is a drug of uncertain status, but it is of the greatest value when given with judgment, though not as a routine remedy. In the asthenic and elderly, in the alcoholic and in the presence of toxemia with a weak heart and nervous symptoms, when well-borne, it is of the greatest value. In bronchial pneumonia, especially in children, it can be used with benefit. In some cases of pneumonia with very slight lung involvement, but with extreme toxemia, alcohol is often of value, as aiding the patient in resisting infection. Nitroglycerin may be of some use in the case of cyanosis, but he doubts its value, as a rule. Death in pneumonia often occurs from heart failure, hence the use of strychnia, which is more used as a routine practice than probably any other drug. As a respiratory stimulant it excels and it is a real stimulant for all the medullary centers. Its use should be reserved until the condition calls for it, and then given in full dose, 1/30 or 1/20 of a grain, given every few hours. Digitalis is advisable to support the heart in some cases, but the medium dose is the best and given at long intervals. The creosote derivatives have been highly praised of late. Carbonate is the form probably most used. He has used guaiacol carbonate in 5-gr. doses every few hours for sometime past and apparently with benefit, so that he gives it now almost as a matter of routine. It apparently has an antiseptic effect upon the pneumococcus or its toxins and it may produce an antipyretic effect. The serum treatment of pneumonia is still in the experimental stage but deserves further trial. Normal salt solution is sometimes of value in facilitating elimination. Remedies such as opium and oxygen may be required for special indications, but not to cure pneumonia in a specific sense.

102. **Irregular Pulse.**—Patton finds that irregular pulse is not usually an invariable manifestation of myocarditis or myocardial disease; nor is it a usual manifestation, and that the degree of irregularity has no relation to the extent of the myocardial involvement. The symptom has no special indication *per se* in relation to insurance examination other than to demand investigation of its cause, particularly as to the presence of cardiac, cardio-vascular, or nephritic lesions, the presence of which may be indicated by such irregularity, but just as frequently is not.

111. **Insomnia.**—Skelton groups the causes of insomnia into the following: 1. The interference with the normal with-

drawal of stimuli. Irritation of the sensory nerves. 2. Irritation of the visceral organs. 3. Over-activity, irritable exhaustion of the cerebral neurons. 4. Intoxications of cerebral neurons. 5. Hereditary unbalanced and irritable neurons. The employment of narcotics is the most irrational treatment, as in most cases of insomnia a toxemia is present and the toxic factor is often so prominent as to force itself on the attention. It is not necessary that afferent sensations should be consciously appreciable to produce insomnia. The treatment consists in the management of the clinical condition and he outlines in a general way his experience as follows: 1. The induction of muscle fatigue by walks in the open air or by massage. Many people can not sleep because their muscles are not tired and their nervous system is over-excited. 2. The clearing away of intestinal and hepatic accumulations by sulphate and salicylate of soda, combined or not with citrate of potash and lithia. This diminishes auto-intoxication and irritation from distended viscera and aids the circulatory equilibrium. 3. The giving of a proper amount of easily-digested food. 4. The use of a hot bath. 5. Proper sleeping rooms, where seclusion can be had; the victim of insomnia should sleep alone. As regards the action of hydrocarbons, hypnotics and narcotics, we should remember that they interfere with normal metabolism and are purely symptomatic in their usefulness, and have objectionable secondary and side effects, and are used only because of ignorance of the underlying cause of the symptoms, of our inability to control these causes. In a general way we may formulate the indications for their use as follows: Insomnia from pain: Morphin, coal-tar products and large doses of chloral. Insomnia from delirium and reflex irritability: Chloral, trional, sulphonal. Insomnia from delirium and chronic insanity: Hyoscyamin, combined with morphin. Insomnia from "nervousness," "worry": Bromids, given in sufficient doses—twenty grains three or four times in the daytime—is incomparably the best and safest hypnotic. It is to be recollected that morphin increases reflex irritability. The chlorals depress the medulla and are dangerous in heart and vascular diseases, lung, kidney and stomach irritalibity. Sulphonal and trional cause nephritis.

117. **Abdominal Aneurism.**—Browning reports three cases treated by rest, restricted diet, administration of gelatin, iodid of potash, etc., with good results.

121. **Ovarian Transplantation.**—Morris calls attention to a matter of priority. His first publication on the subject of ovarian transplantation was several months ahead of that of Knauer, and he attributes Knauer's work and publication to the fact that one of his assistants when in Europe talked about his experiments there and found a great deal of skepticism manifest. He thinks this is parallel with other facts. He had demonstrated in Germany how moist blood clot could be utilized by surgeons before publishing his paper on the subject and on his return to this country found that a German surgeon who had been most skeptical had secured priority of publication and the method is now known by his name only.

141. **Cold Abscess.**—The management of this form of tubercular disease is summed up by Townsend as follows: 1. Carefully treat the joint disease. 2. If abscess appears, endeavor to keep it sterile. 3. Aspiration, unless there is some indication for incision. 4. If the abscess is sterile and incision is decided on, do so under strict aseptic precautions. 5. If abscess becomes infected, open at once. 6. Use sterile water or sterile salt solution for cleansing the cavity, in both the sterile and the infected cases.

146. **Glaucoma.**—Coburn has experimented to induce glaucoma in animals by studying the course of the lymph streams in the anterior segment and endeavoring to affect them, studying the effect of increased pressure on the anterior and posterior chambers, by experiments with the results of introduction of foreign material into the eye, and with the indirect introduction of substances through the circulation and the closure of channels of exit by affecting the changes in the ciliary region and aqueous. The animals employed were cats and albino rabbits. The summary of the results is as follows: 1. Intraocular changes may be induced by deleterious substances in the circulation. 2. The effect of irritating material in the circulation induces, first, congestion of the ciliary body and iris and then vesical formation in the ciliary region followed by fibrinous exudate into the anterior and posterior chambers. 2. Fibrinous and albuminous exudates have a predilection for the anterior chamber, depositing or forming on the anterior surface of the iris and in Fontana's spaces. 4. These deposits, usually accompanied by deep anterior chamber, block up the exit at the angle and increase the tension. When the irritation is brief the exudate may be absorbed and the tension return to normal. If the irritation is sufficiently prolonged or intense, glaucomatous iritis with its attending evils may ensue. 5. The cause of glaucoma is apparently some lesion which pushes the iris and lens forward, making the anterior chamber shallow and blocking the exits at the angle with the root of the iris. This cause is to be found in the ciliary body and processes. He remarks that while these experiments have not added directly to our knowledge of the cause of glaucoma, they have thrown new light on the functions of the ciliary body and iris and on the conditions in which serous and fibrinous iritis and cyclitis occur, showing that the intraocular circulation of certain substances is quite sufficient to produce these diseases. Therefore, the constitutional element should not be disregarded in their treatment.

148. **The Visual Field of Glaucoma.**—Variations of the visual field in glaucoma as studied by Bunge, Bjerrum and others are reviewed by Friedenwald, who concludes that Bjerrum's view that the defect is due to interruption in the course of the nerve fibers as they pass through the excavated portion of the papilla is best corroborated. He finds no correspondence whatever between the defect and the course of the arteries, and he is convinced that however important the sclerotic changes in the vessels may be in the pathology of glaucoma, they are not the cause of the interesting forms of field defects as first described by Bjerrum.

165.—See abstract in THE JOURNAL, xxxvii, p. 929.

166.—Ibid., p. 1059.

168.—Ibid., p 1057.

171.—Ibid., p. 995.

172.—Ibid., p. 1057.

173.—Ibid., p. 1058.

174.—Ibid., p. 997.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), May 24.

1 *Myasthenia and Ophthalmoplegia. William R. Gowers.
2 Traumatic Epilepsy with Adhesion of Skin to Brain; Treated by Insertion of Gold Foil. Rushton Parker.
3 A Case of Complete and Temporary Paralysis of the Limbs of a Child. Judson S. Bury.
4 Case of Sporadic Cretinism, in Which a Relapse Occurred Owing to Omission of Thyroid Extract. Arthur Hall.
5 Myxedema in Mother and Child. S. W. MacIlwaine.
6 *Diazo-Reaction as a Method of Diagnosis in Clinical Medicine. H. W. Syers.
7 Three Cases of Cerebrospinal Fever Treated with Antipyrin. E. C. Freeman

The Lancet (London), May 24.

8 *Thirty Years' War Against Lunacy. T. Claye Shaw.
9 Acute Pleurisy with Effusion. George R. Murray.
10 A Contribution to the Study of Tropical Abscess of the Liver. Rickman J. Godlee.
11 *Is Chloroform More Dangerous Than Ether? H. Challice Crouch and Edred M. Corner.
12 The Feeble-Minded and Crime. Mary Dendy.
13 Improvements in the Operation for the Radical Cure of Inguinal Hernia by the Use of Some New Instruments and Gold-wire Sutures. Iginio Tansini.
14 A Case of Perforation of the Rectum into the Peritoneal Cavity; Laparotomy; Suture; Recovery. G. R. Turner.
15 A Short Note on the Use of Linen Sewing-Machine Thread for Ligatures and Sutures. Arthur E. J. Barker.
16 Meningo-Encephalocele. Edgar Du Cane.
17 Observations on Diet. Harry Campbell.

Journal of Tropical Medicine (London), May 15.

18 The Sleeping Disease (Doenca Da Domno). Report Sent to the Portuguese Minister of Marine by the Scientific Committee Sent to Study the Sleeping Sickness in West Africa, on Feb. 21, 1901.

19 The Duration of the Latency of Malaria After Primary Infection, as Proved by Tertian or Quartan Periodicity or Demonstration of the Parasite in the Blood. (Continued.) Attilo Caccini.

Archives de Neurologie (Paris), May.

20 Cas d'hystéro-épilepsie à crises distinctes, avec ecchymoses spontanées et accès de fièvre hystérique. Mutterer (Mulhausen).
21 *Observation de paralysie générale gémellaire homomorphe. P. Keraval (Armentières).

Bulletin de l'Acad. de Med. (Paris), May 6.

22 Impotence from Abuse of Tobacco. Le Juge.—Impuissance provoquée par l'abus du tabac.

May 13.

23 *Sur les accidents et la mort par le chloroforme. Laborde.

Semaine Medicale (Paris), May 21.

24 *Valvular Affections of the Heart Induced by Muscular Effort, from the Standpoint of Industrial Insurance. F. De Quervain (Chaux-de-Fonds).—Des lésions valvulaires du coeur par effort au point de vue des accidents du travail.

Centralbl. f. Chirurgie (Leipsic), May 10.

25 *Gauze Veils for Aseptic Operations. F. Wenzel (Bonn).—Die Verwendung von Gazeschleiern bei aseptischen Operationen.
26 Exclusion of Intestine. F. Kammerer (New York).—Zur Frage der Darmausschaltung mit totaler Occlusion.

May 17.

27 Technische Bemerkungen zur Winkelmann'schen Hydrocelenoperation. W. Mintz (Moscow).

Centralbl. f. d. Grenzgebiete (Jena), May 10.

28 *Ueber die Behandlung des Ileus mit Belladonnapräparaten. F. Honigmann (Breslau).—Collective Review. (Concluded from No. 7.)
29 *Die chir. Komplikationen der Influenza. J. Ruhemann (Berlin).—Collective Review.
30 Muskelatrophien nach Frakturen, Luxationen und arthritischen Gelenkserkrankungen. G. Flatau (Berlin).—Collective Review. (Concluded from No. 8.)

Dermatologische Zeitschrift (Berlin), April.

31 Unusual Gonorrheal Affections. J. Heller (Berlin).—Beiträge zur Casuistik seltener gonorrhoischer Erkrankungen.
32 Ueber das Vorkommen des Bacterium coli commune bei postgonorrhoischer Urethritis. R. Ledermann (Berlin).
33 *Praktische Methode der Prophylaxe der Gonorrhoe. C. Fermi (Sassari).
34 Das Atoxyl (Metaarsensäureanilid), ein neues Arsenpräparat und dessen dermatotherapeutische Verwendung. W. Schild (Berlin).

Deutsche Med. Wochenschrift (Leipsic), May 15.

35 Determination of Outline of Right Heart by Auscultatory Percussion. C. A. Ewald (Berlin).—Ueber die Bestimmung der rechten Herzgrenze durch auskultatorische Perkussion.
36 *Determination of Outlines of Internal Organs by "Stick Auscultation." E. Reichmann (Berlin).—Weitere Mittheilungen ueber die Grössenbestimmung innerer Organe durch die "Stäbchenauskultation."
37 *Diagnostic Significance of Old Tuberculin. Bandelier.—Ueber die diagnostische Bedeutung des alten Tuberkulins.
38 Operation for Large Umbilical and Cicatricial Hernia. Heinrich (Bremerhaven).—Ueber Operation grosser Nabel- und Bauchnarbenbrüche.
39 *Zur Technik der Mikroskopie der Fäces. P. Cohnheim (Berlin).
40 *Chlorinated Lime in Treatment of Ulcus Cruris. W. Zeuner.—Zur Behandlung der Unterschenkelgeschwüre.
41 The Antituberculosis Campaign in Russia. A. Hippius (Moscow).

May 22.

42 Ueber Pneumococcensepsis. A. Prochaska (Zurich).
43 *Die Hydrotherapie der Tabes. S. Munter (Berlin).—Ibid. A. Eulenburg (Berlin).
44 *Intermittent Hydrarthrosis. O. Burchard (Riga).—Ueber intermittirende Gelenkwassersucht.
45 Bone Charcoal as Substitute for Iodoform. A. Fraenkel (Vienna).—Knochenkohle als Ersatz für Iodoform.

Mittheilungen a. d. Grenzgebieten (Jena), ix, 4 and 5.

46 *Gallstones. A. Merk (Heidelberg).—Zur Pathologie und Chirurgie der Gallensteine.
47 *Metastatic Kidney Abscesses. M. Jaffe (Posen).—Zur Chirurgie des metastatischen Nierenabscesses.
48 Rigid Spine. A. Magnus-Levy (Strassburg).—Ueber die chron. Steifigkeit der Wirbelsäule.
49 *Influence on the Organism of Artificial Fistula Between Gall-Bladder and Intestine. A. Radsiewsky (Kiev).—Die künstliche Gallenblasendarmfistel und ihr Einfluss auf den Organismus.
50 *Importance of Kidney Affections in Respect to Pregnancy and Childbirth. H. Fehling.—Ueber die Bedeutung der Nierenerkrankungen für Schwangerschaft und Geburt.
51 *Infantile Stenosis of the Pylorus. Trautenroth (Bochum).—Die Pylorusstenose der Säuglinge.
52 Falsche Divertikel der Flexura sigmoidea und des Processus vermiformis. V. E. Mertens (Breslau).
53 Eine Operative Heilung von Gastritis phlegmonosa diffusa. Lengemann (Berlin).
54 Study of Influence of Cerebral Compression on the Intracranial Circulation and Its Manifestations. Harvey Cushing (Baltimore).—Physiol. und anat. Beobachtungen ueber den Einfluss von Hirnkompression auf den Intracraniellen Kreislauf und ueber einige hiermit verwandte Erscheinungen.

Muenchener Med. Wochenschrift, May 13.

55 *Ueber Paranephritis und Pyonephrose nach Hautfurunkeln. A. Cahn (Strassburg).
56 Laryngeal Tuberculosis. R. Freytag (Magdeburg).—Ueber Kehlkopftuberkulose.
57 *Influencing the Liver by the Diaphragm, and Massage of the Liver. K. Walz (Oberndorf).—Ueber die Beinflussung der Leber durch das Zwerchfell und ueber Lebermassage.
58 *The Need of Food at High Altitudes. K. E. Ranke (Arosa).—Der Nahrungsbedarf im Hochgebirgs-Winter.
59 *Foreign Bodies in the Uterus. F. A. Hermann (Fürth).—Ueber das Vorkommen von Fremdkörpern im Uterus.
60 Reflexkrämpfe bei Ascaris lumbricoides. J. P. Naab (Diabeklr).
61 Prevention of Puerperal Fever. M. Hofmaier (Würzburg).—Zur Verhütung des Kindbettfiebers.

Therapie der Gegenwart (Berlin), May.

62 Influence of the Position of the Body on Gastric Motor Function. J. v. Mering (Halle).—Einfluss verschiedener Körperlagen auf die motorische Funktion des Magens.
63 Roborat in Diet of Consumptives. S. Cohn (Berlin).—Das Pflanzeneiweiss "Roborat" in der Ernährung Tuberkulöser.
64 Diphtheriestatistik und Serumbehandlung. W. Feilchenfeld.
65 New Purgative. Z. v. Vamossy (Budapest).—Ueber ein neues Abführmittel (Purgen).—Ibid. E. Unterberg.
66 *Klin. und anat. Beitraege zur Atmokausis uteri. Hammerschlag (Königsberg).
67 Diphtheria Statistics of a General Practitioner. C. Jaenicke (Apolda).
68 A New Substitute for the Salicylates. Pieper.—Rheumatin—ein neues Ersatzmittel für Salicyl. Präparaten.

Wiener Klin. Rundschau, March 30 to May 11.

69 (No. 15.) Research on the Nature of Immunity. F. Obermayer.—Biologische-chemische Studie ueber das Eiklar.
70 (Von Leyden Number.) *Blood Pressure in Chronic Nephritis. E. v. Czyhlarz (Vienna).—Ueber das Verhalten des Blutdruckes bei chron. Nephritis.
71 *Diagnosis of Pleuritic Effusions. A. v. Koranyi (Budapest).—Ein Beitrag zur Differentialdiagnostik pleuritischer Ergüsse.
72 Central Innervation of the Larynx. A. Onodi (Budapest).—Die Lehre von der centralen Innervation des Kehlkopfes.
73 Zur Frage der chronischen Myelitis. A. Pick (Prague).
74 *Einiges ueber Mumps (Parotitis epidemica). F. Pick (Prague).
75 Ueber das Coma dyspnoicum bei Uraemie. F. Pineles (Vienna).
76 Contribution to the Malaria Question. S. Purjesz (Kolozsvar).
77 *Ueber Puerperal-Rheumatismus. G. Singer (Vienna).
78 Nervöse Hyperthermie. A. Strasser (Vienna).
79 *Treatment of Tuberculous Hemoptysis. A. v. Weismayr (Altland).—Die tuberculöse Haemoptoe und ihre Behandlung.
80 *Diet and Treatment in Chronic Kidney Affections. J. Wiczkowski (Lemberg).—Zur Ernährung und Therapie der chron. Nierenkranken.

Hospitalstidende (Copenhagen), April.

81 (No. 17.) *Den akut hemorrhagiske Pancreatitis. L. Kraft. (Concluded from No. 15.)
82 Lysoform. F. Pontoppidan.
83 (No. 18.) Oversigt over den radikale Mastoidaloperations Historie og Teknik. J. Moeller.

Gazzetta degli Ospedali (Milan), May 4 to 18.

84 (No. 48.) *Cured Case of Exophthalmic Goiter. L. C. Massini.—Sulla malattia dei Flajani.
85 Contributo allo studio delle uretriti non gonococciche. T. Vincenzo.
86 *Spinal Cocainization in Sciatica. A. Magri.—La rachicocainizzazione nella sciatica.
87 Note cliniche ed osservazioni esperimentali sul piramidone. G. Vincenzo.
88 (No. 51.) Contributo alla statistica delle localizzazioni rare delle cisti da echinococco. A. Mori.
89 *Splenectomia per milza malarica ptosica. F. Carini.
90 Azione dell' Eroina sulla pressione arteriosa. P. R. Zavaldi.
91 (No. 54.) *Di una nuova ipotesi sulla patogenesi delle seborree. D. G. Tito.

Hygiea (Stockholm), May.

92 *Difficulty in Diagnosing Certain Cases of Typhoid Fever and Appendicitis. K. Dahlgren (Uppsala).—Diagnostika svårigheter vid vissa fall af febris typh. och epityphlitis.
93 *Om betydelsen af hyperplastika och tuberkulösa processer i farynxtonsillen. B. Floderus. (Concluded from preceding number.)

---

1. **Myasthenia and Ophthalmoplegia.**—Gowers calls attention to a peculiar facial expression which he calls the nasal smile, as characteristic of the myasthenic cases. Its features are absence of normal movement from the corner of the mouth, which either carries the furrow from the nose around the corner of the mouth or produces a separate depression there. Loss of power in the eyeball muscles is also a symptom of myasthenia which has not been fully recognized and which is prominent in three cases here reported. It resembles at first sight the ophthalmoplegia from nuclear degeneration, but there are differences; one the great escape of muscles moving the eye downward and the implication in various degrees of those moving the eye-

balls upward. The constant and irregular action of the lateral muscles was most incomplete, showing remarkable variations in the different periods. In all cases the light-reflex of the iris was perfect and he thinks this is the rule. Accommodation seemed to be impaired in two cases. Ptosis was a marked feature. The two features of "nasal smile" and ophthalmoplegia are the ones to which he wishes to call attention and the significance of the fact of the former that it corresponds more closely to that in idiopathic muscular atrophy than to known affections of the nervous system. The distribution of symptoms in the muscles is also more analogous to muscle atrophy than to central nervous disease, but the ophthalmoplegia from its resemblance to the nuclear form is more suggestive of central disorder. The microscope gives very little revelation as regards the nature of this affection. The definition of the trouble, nutritional disorder impairing the vital processes in the muscles, is little more than the statement of the symptoms. The toxic theory of the disease is considered by Gowers to have very little positive evidence in its favor and little benefit seems to have resulted from treatment.

6. **The Diazo-Reaction.**—Syers has investigated some 125 cases of typhoid with the diazo-reaction and finds that no striking practical points of value are shown and, according to him, it is of little value. In the early stages it gives a negative result, and when the reaction is positive the disease is usually so far advanced that there is no question as to the diagnosis. He thinks we overvalue laboratory tests.

8. **Lunacy Administration in England.**—The history of lunacy administration for the last thirty years is reviewed by Shaw, who notes the advances that have been made, perhaps not so much in the proportion of cures as in the better management of patients, thus lessening the number of accidents. He lays much of the comparatively easy management of the insane of late years to the disuse of stimulants both on the part of the patients and the attendants. Another reform which has come into vogue of later years is undivided authority in asylums, giving the medical superintendent more complete power; another seems to be clinical instruction in insanity; and still another the accommodations for the insane, which are greatly improved. The patients are more comfortably and sanitarily managed. As regards the results in the statistics of cures and deaths we must wait. He thinks it would be a good idea to have a temporary detention hospital for acute cases thoroughly equipped with a complete visiting staff of neurologists and specialists. He speaks rather favorably of the utility of surgery in insanity, especially operations on the brain. The home management of the insane he does not look upon with favor. Asylum statistics are not considered by him as on a whole specially valuable, some of the tables being valueless, others being misleading. Heredity, he thinks, is over-estimated, and in conclusion he insists on the close connection between the studies of neurology and insanity, which at present in Great Britain are almost divorced.

11. **Chloroform and Ether.**—Crouch and Corner believe from their statistics, which cover more than 3000 anesthesias in the St. Thomas Hospital, that ether in its way is less safe than chloroform. There were ten cases of respiratory complications, all from ether administration, the patients all having been in good condition and the anesthetic being given under favorable conditions by the house officers. All were trunk cases, and such as required bandaging, that of necessity restricted the chest and abdominal movements. In one case of broncho-pneumonia the outcome was fatal. In 600 patients who had chloroform none developed any respiratory trouble. They, therefore, recommend chloroform in all long operations on the trunk. All the cases had the preliminary administration of nitrous oxid and they think from their analysis that the ether was more or less responsible for the complications. In a postscript they speak also of two cases of death during anesthesia, one from ether and one from chloroform. In neither case did they credit it to the anesthetic. They strongly recommend changing the anesthetic to chloroform after ether has been given to the patient for a time.

21. **General Paralysis in Twins.**—The case described by Keraval relates to twins, married men, with no known personal or hereditary morbid antecedents nor abuse of liquor. They did not live together. Both developed typical general paralysis, one at the age of 39 and the other at 47, thus eight years apart, and in each it assumed an exactly similar form (délire de négations). The clinical history of each reads precisely tho same, the same ideas, expressed in the same phrases, with the same reactions and the same evolution.

23. **Prevention of Accidents from Use of Chloroform.**—THE JOURNAL has described at various times Laborde's method of resuscitating in cases of apparent death by rhythmic traction of the tongue, and the physiologic processes on which it is based. The method was first worked out to reduce the laboratory expenses from the number of dogs that died under chloroform in the experimental researches. It has since been applied in innumerable cases of apparent death in man and animals and has proved wonderfully successful, especially in chloroform mishaps. Laborde in this communication studies the physiologic processes involved in general anesthesia and proclaims that it is the surgeon's duty to suppress the primary, reflex functional arrest of respiration caused by the intensity of the patient's emotion, or by irritation from the fumes of the anesthetic, or by both combined. This is easily accomplished, he asserts, by a preliminary injection of some analgesic or by local cocainization. He prefers a combination of 10 cg. of morphin hydrochlorate; 5 cg. of atropin sulphate, which is a physiologic-toxic but not therapeutic antagonist of morphin; 1 gm. of spartein sulphate, which has a direct stimulating action on the heart muscle, with 10 c.c. of distilled water as the vehicle. Of this, a dose of 1 c.c. is sufficient. This preliminary injection prevents all danger of primary functional arrest of respiration. It should invariably be supplemented by applying special traction forceps to the tongue so as to be ready to practice rhythmic traction at the slightest suspicion of trouble. The forceps should be placed on the tongue at the commencement of the anesthesia. He thinks that surgeons who fail to take these precautions are directly responsible for the accidents that are liable without them. He has the assistant smooth the chest with slow rhythmic friction as a soothing measure to tranquilize the patient.

24. **Valvular Affections Induced by Muscular Effort.**—De Quervain observes that while these affections are less frequent than what he calls traumatic lumbago and "force hernia," yet they are assuming great importance in these days of increasing industrial insurance. Several recent Paris and Berlin theses have been devoted to this subject, founded on personal observation of such cases, and De Quervain adds another to the list. The records demonstrate that a predisposing cause was apparent in nearly every instance, some acute infectious disease or arteriosclerosis, nephritis, gout, syphilis, or some chronic intoxication as from alcohol. Tabes seems to afford a peculiar tendency to laceration of the aortic valves. But it is possible that a violent effort might injure a sound heart in this way. The effort was a sudden movement to avoid a fall, or the exertion of lifting a heavy weight, with or without the basis of exaggerated continuous muscular exertion. The left heart was almost invariably the site of the injury. It did not affect the mitral valve itself in 12 cases reported by Dreyfuss, but merely the chordæ tendinæ or the columnæ carnæ. In several cases vegetations were scattered on the lacerated fragments and on the valves, but it was impossible to determine whether these were primary or secondary to the injury. The aortic valves were involved twice as frequently as the mitral. In the personal case described the subject made a sudden, violent effort to prevent the fall of a large cask of wine he was unloading. He was 35 years of age, previously healthy, with no morbid antecedents except a few alcoholic excesses several years before. He felt as if he had been struck in the chest with a whip and had immediate epistaxis, followed by gradual cyanosis, rapid pulse and constant distress. In three weeks an intense and harsh systolic souffle was audible over the mitral valve, and the patient died

with symptoms of infectious endocarditis and cerebral embolism seven weeks after the accident. The autopsy showed recent endocarditis and laceration of chordæ. The prognosis of such lesions is generally unfavorable, and they materially impair the working capacity if the subject survives. The diagnosis is based principally on the sensations at the time, the rapid development of cardiac disturbances and the more or less pronounced hemoptysis during the first few days. The development of infectious endocarditis later is a point in favor of the traumatic origin of the trouble, if the subject had no suppurative affection at the time inducing a special predisposition to endocarditis.

25. **Gauze Veils for Aseptic Operations.**—This communication from Witzel's clinic describes a headgear which is a combination of cap, mask and beard protector in a single piece. It is merely a square of gauze, or a piece 80 cm. long by 50 wide. The gauze is folded between the first and second third and a slit about 30 cm. long is cut in it. A strong thread is fastened at each end of this slit or a couple of tapes sewed on. The gauze is then thrown over the head, bringing the slit opposite the eyes. The tapes or threads are then tied at the back of the neck and as the large apron is put on, the loose edge of the gauze in front is tucked loosely into the neck of the apron. The head, face and mouth are thus completely covered and only the eyes left exposed. The gauze is so light and the entire contrivance is so loose that it causes no discomfort even on the warmest day, while it guarantees absolute asepsis as the gauze can be easily sterilized folded in a towel. Witzel makes the square out of three layers of gauze, although two layers might be sufficient, he observes. He does not use gloves in aseptic operations as he thinks that scrupulous avoidance of infection is the best means of ensuring asepsis, but considers a head covering an absolute necessity.

28. **Treatment of Ileus with Preparations of Belladonna.**—By grouping and tabulating the results of the treatment of ileus with atropin in the published reports, Honigmann shows that failure is inevitable in case of "strangulation ileus" or incarcerated hernia, and the procedure is directly injurious in such cases. On the other hand, it sometimes proves very effective in cases of ileus from occlusion as also in any dynamic or functional interference with the permeability of the intestines. The effect of the belladonna preparations is essentially sedative. No data have been recorded as yet which indicate that they are capable of stimulating the movements of the intestines. The soothing effect of atropin in subcutaneous injection is frequently apparent after even a small dose, not more than .5 to 2 mg., but in other cases not until after repeated and larger doses. The single dose of 5 mg. recommended by Batsch should never be given to start with. It is better to commence with .5 mg. doses to test the individual susceptibility. People over 50 display evidences of intoxication after small doses more than younger subjects with large doses. Atropin does not seem to possess any particular advantage over opium, while it has the disadvantage of easily inducing symptoms of intoxication. It should, therefore, be administered only in case of the failure of opium. When the injection of atropin has not produced the desired effect in the first two days, in the passage of flatus and stools, the euphoria following its use should not delude the physician or patient into further delay of the necessary surgical intervention. Only in those cases in which an operation is absolutely refused or is impossible for any reason, should the atropin treatment be longer continued.

29. **Surgical Complications of Influenza.**—Ruhemann has been able to collect one hundred communications on this subject. They show a remarkable range of post-influenza affections which includes ulcerative stomatitis, general osteomalacia, suppurative parotitis, abscesses in lungs or throat, gangrene of the lungs, epididymitis and orchitis, pyemic joint affections, thrombosis, tendency to hemorrhages and surgical affections of the eye and ear. Franke has observed a number of nervous affections on a neuritic basis which simulated surgical lesions and led to mistaken intervention, as for instance, neuritis of the intercostal and lumbar nerves which simulated peritonitis or appendicitis; neuritis of the axillary nerve which simulated rheumatism of the shoulder, and of the obturator nerve simulating a knee affection. Ruhemann concludes by warning against undertaking any surgical intervention not indicated by some complication of influenza, during convalescence from influenza or during the prevalence of an epidemic of la grippe. Demons has especially urged to refrain from surgical intervention on the upper air passages during recovery from influenza as the danger of suppuration has impressed him as particularly imminent at such times. By this precaution it is possible to avoid the pyemia liable to occur in such cases, so puzzling for the surgeon who overlooks the cause in the latent influenza infection.

33. **Practical Method of Prophylaxis of Gonorrhea.**—Fermi reaffirms the great advantages of his simple and practical method of curing gonorrheal infection in men. It is absolutely harmless and secures more certain and permanent cures than other measures in vogue while its action is so prompt that it can be called abortive. He uses a bulb syringe with which he injects about 100 to 200 c.c. of a 1 per 2000 solution of permanganate, or of 1 per 5000 solution of nitrate of silver, or 2 or 3 per 1000 solution of protargol. The fluid is forced into the urethra and then aspirated again into the bulb, reinjected and reaspirated a number of times in succession, which only requires a few seconds. The bulb full of the reaspirated fluid is put in its small metal box and slipped into the pocket. The procedure is repeated three times a day, but the total time spent on it is not more than twenty or thirty minutes. The same fluid is used over again each time during the day, which renders this method of treatment easily practicable. Nothing has to be carried on the person excepting the bulb syringe. The inflammation is reduced by keeping the penis wrapped in a strip of gauze 50 by 8 cm. applied very loosely and held by two bands around the trunk. It is moistened three or four times a day with cold water without removing the bandage for the purpose.. Both rinsing and the application of cold water should never be neglected before retiring. The fluid used first in the morning is thrown away. This method has been applied on a large scale in the Italian army and has proved superior to all others, it is stated.

36. **Improved Technic for Stethoscopy.**—Reichmann's improvement consists in a round stick about 7 cm. long by .5 cm. in diameter. It is grooved with a screw thread and the fingers are rubbed up and down on the stick held perpendicularly on the skin while listening through a stethoscope. The sound varies with the organs beneath and the information thus obtained is proving surprisingly accurate and valuable. The technic was described in THE JOURNAL of December 14, 1901, p. 1642. In his present communication Reichmann corroborates the importance of this "Stäbchen-Auskultation." The sticks can be made of wood, ivory, rubber or bone. He prefers the latter. It serves better than any other measure at our disposal to determine the size and the outlines of internal organs and their position in regard to each other, but it imparts no information in regard to the normal or pathologic structure of single organs.

37. **Diagnostic Significance of Tuberculin.**—Bandelier is chief of the Cottbus sanatorium for pulmonary diseases. He applies tuberculin when the patients leave, as a means of determining the thoroughness of the clinical cure. He has found that 60 per cent. of all the patients no longer react to a dose of 10 mg. of Koch's old tuberculin. He does not include in this list those who were treated with tuberculin, but merely those for whom it was applied as a diagnostic measure. He urges others to adopt it as the most reliable means of early diagnosis and as the most certain means of determining the extent of the cure.

39. **Improved Technic for Microscopy of the Feces.**—Cohnheim recommends for the purpose of obtaining a scrap of feces for microscopic examination, a small instrument which consists of a stout glass tube about seven inches long, terminating in a small hollow olive provided with a fenestra. It can be readily inserted in the rectum, and fluid feces fill the

bulb at once, while by twisting the tube in the fingers, the fenestra scrapes into the bulb a small plug of feces if they are solid. The little instrument is easily cleaned and disinfected by forcing water through it from the open end of the tube. By its use the physician can usually obtain at any moment sufficient feces for the miscroscope while the patient is spared the inconvenience of bringing it in some receptacle to the office. Another advantage is that infusoria can be inspected alive while they are always dead by the time the feces derived in any other way reach the microscope.

40. **Chlorinated Lime in Treatment of Ulcus Cruris.**—Zenner's experience with a hundred cases of ulcus cruris treated with a 1 per cent. filtered solution of chlorid of lime, has convinced him that this simple, old-fashioned remedy is the most effective of all at our command. He applies it on several thicknesses of gauze and then wraps the leg in a tricot bandage, commencing at the toes. The purulent secretions dry up almost at once; the lesion presents a clean granulating surface and the formation of skin is exceptionally perfect. He has found it also an excellent means of treating infected wounds of the tibia.

43. **Hydrotherapy of Tabes.**—Munter describes the scientific basis for hydrotherapy of tabes in its effect on the normal supply of blood and the course of the nerve stimulus. The function of the nerves is remarkably influenced by the blood supply, as he demonstrated some years ago by his experiments on tendon reflexes in dogs. Compression of the abdominal aorta, even for a few seconds, suspends the tendon reflex, and it reappears again as soon as the normal flow of blood is restored. The blood vessels are not found much altered in tabes. Cases of tabes have been observed in which the abolished knee-jerk returned after the subject had become hemiplegic, and on the affected side. This indicates that even in degenerated nerve fibers the intact remainder can be stimulated to increased function. These and similar facts which he cites suggest a basis for successful functional and nutritional influencing of the nerve elements by thermic stimuli and hydrotherapy in general. His experience has shown that the most effective means of treating the attacks of pain is with a bath of forty-five to sixty minutes, at a temperature of 95 F., with or without the addition of a little salt ("1 per cent. Sool"). The temperature is kept at the same point and all irritation avoided, the patient afterward returning directly to bed. This bath serves as "practice" for the nerves, while the brief application of cold has a tonic, stimulating and strengthening effect on the nerves. Tabes induces a peculiar sensitiveness to cold and its prolonged application is almost certain to cause recurrence of pains. He therefore warns against a temperature less than 85.5 F. except for a brief dash of quite cold water for five to ten seconds and no more. He describes his method of applying these therapeutic measures, modifying them to the individual case and promoting reaction in every way after the tonic baths. He advises the baths once to three times a week, continuing them for a year or longer, instead of crowding a large number into a short space of time. Electric, Faradized water baths have also proved useful, but he rejects as injurious steam, sand and electric light baths. If a sweat bath is needed dry heated air is the best for tabes. Even in advanced cases these hydrotherapeutic measures may benefit and can do no harm if all tendency to induce hyperfunction is carefully avoided. By the combination of hydrotherapy with the usual measures it may be possible to arrest the degenerative process and provide a substitute for the lost fibers by training the remaining intact elements.

Ibid.—Eulenburg approves of Munter's statements in general, and in particular of his denunciation of baths below 85.5 F. even of carbonated waters. But at the same time he states an exception should be made for the local application of cold along the spine in the form of "Chapman's back tube," or some similar contrivance. He has been using them for thirty years and found them extraordinarily beneficial in the local and violent radiating pains of the early stages of tabes. He commends these appliances as a convenient and effective measure too little appreciated as yet. They can be used at home while most hydrotherapeutic measures require a special equipment. He concludes by protesting against the use of the term "pseudotabes" which is so currently employed. He thinks that it is merely a cloak for "pseudo-diagnostic uncertainty or incompetence." Certain cases of syphilis of the spinal cord present the clinical manifestations of tabes, but it is a syphilitic affection and requires antisyphilitic treatment. Neurasthenia is sometimes erroneously diagnosed as tabes, and neurasthenic tabophobia is of even more frequent occurrence. None of these should be labeled "pseudotabes."

44. **Intermittent Hydrarthrosis.**—Burchard describes a case of idiopathic intermittent hydrarthrosis. The attacks corresponded to some extent with the menstrual periods and vanished during pregnancies. They also alternated with attacks of bronchial asthma, one substituting and excluding the other. Fifty-seven cases have been recorded in the literature and 41 out of 55 were idiopathic. Spontaneous cutaneous hemorrhage may occur in the course of intermittent hydrarthrosis. The records seem to indicate that the vascular system in such persons is exceptionally unstable, actual vasomotor ataxia.

46. **Pathology and Surgery of Gallstones.**—Merk reviews the experiences of the various Heidelberg surgeons, which include 128 cases since the last report was published. He concludes from them and other data that the formation of gallstones is an occurrence which happens only once during life. Complete removal of all the stones is followed by the permanent cure of the trouble. This operation is simple and free from danger in the early stages of biliary lithiasis, so long as the stones remain in the gall-bladder, which is almost exclusively the seat of their formation. But when the stones have once passed into the lower biliary passages the prospect of a radical cure with a single operation diminishes with the increasing difficulty and danger of the intervention. The disturbances and lesions which they have caused have then to be taken into account. The operations reviewed were performed by Czerny, 85; Jordan, 17; Marwedel, 20, and Petersen, 6.

47. **Metastatic Kidney Abcesses.**—Jaffe reports five cases of abscesses in the kidney in men. The staphylococcus was derived from four of them. They were metastatic to a furuncle on the neck in two cases, to a parotitis, a carbuncle or an abscess in the tonsil in the other patients. The interval in the latter case was four weeks. The symptoms were deceptively slight. Fever did not appear until that from the primary lesion had vanished. A chill was the first sign of trouble. Pain in kidney region was not noted until several days after the febrile temperature. The abscess in the kidney healed rapidly after nephrotomy in all except one case. This was a debilitated man of 55 with gonorrhea. The renal lesion recurred and required nephrectomy as the last resort, to which the patient succumbed.

49. **Artificial Gall-Bladder Intestinal Fistula.**—Radsiewsky has collected 56 cases and tabulates the details of the reason, operation and results. They show that the fistula is not in itself a source of danger in the sense of infection of the walls of the biliary passages or of the liver. But the walls of the biliary passages become dilated and thicker, with neoformation of lymph follicles in the hypertrophied mucosa of the gall-bladder. Microbes also find their way far into the liver and the biliary passages display a mild catarrhal condition. Retention of the contents of the biliary passages causes serious consequences. The prognosis depends mainly on the underlying affection.

50. **Kidney Affections and Pregnancy.**—Fehling mentions that eclampsia has occurred in his experience in only 5 per cent. of his patients with "pregnancy albuminuria." The prognosis of "pregnancy kidney" is usually favorable in the absence of eclampsia and premature detachment of the placenta. The latter is almost invariably fatal for the fetus. In case of chronic nephritis pregnancy should be prevented. If a preexisting chronic nephritis becomes much aggravated during a pregnancy the family physician should consult with an obstetrician as to the advisability of inducing premature delivery.

51. **Infantile Stenosis of Pylorus.**—Trantenroth has been studying twelve cases of stenosis of the pylorus in nurslings.

Five entailed a fatal termination. He concludes that organic stenosis can be cured only by operative intervention, and that the functional nature of the stenosis is no contraindication to an operation, as it is absolutely impossible in most cases to distinguish between these two forms.

55. **Furuncles as Source of Paranephritis and Pyonephrosis.**—Cahn describes three cases in which a paranephritic abscess formed soon after the healing of a furuncle. Busquet has described a similar case. Cahn also reports a paranephritic abscess apparently spontaneous but finally accepted as traceable to a preceding follicular tonsillitis. No cause could be discovered in a fifth case. All were accompanied by delirium and severe general symptoms and all were promptly cured by evacuation of the abscess. He has known of instances in which osteomyelitis or joint suppurations followed furuncles on the skin, and concludes with the history of a case of protracted renal lithiasis in which suppurative pyelitis suddenly developed consecutive to a furuncle. This is the only case in his experience in which a suppurative pyelitis developed that did not have its origin in the bladder.

57. **Influencing the Liver by the Diaphragm, and Liver Massage.**—Walz analyzes the effect of deep inspiration and expiration on the liver and asserts that both have a powerful effect in stimulating the circulation in the liver. Moebius first called attention to this means of influencing this organ and semi-facetiously entitled it "massage of the liver." Forced expiration has a marked effect on the emptying of the gall-bladder. De Fruneric has recently published a systematic study of actual massage of the liver. He states that direct massage stimulates the extrahepatic circulation and reduces the congestion in the portal veins. It also stimulates the functions of the liver cells in acute and chronic insufficiency of the organ. He witnessed the disappearance of sugar from the urine in certain cases of diabetes, also improvement in gout and in passive congestion of the organ in cardiac affections and in malaria, and in certain cases of catarrhal icterus and gall-stones after the acute attacks were past. Direct massage is contra-indicated, he states, in case of carcinoma, fatty cirrhosis, amyloid degeneration, echinococcus or abscesses in the liver. He observed hemorrhage and cardiac collapse after too abrupt application of the massage. Moebius' respiration massage, on the other hand, is entirely harmless.

58. **The Need of Food at High Altitudes.**—Ranke has been making a study of the effect of climate and temperature on the nutrition. He finds that in the tropics there is a conflict between the heat generated and the metabolism and strength. The reverse occurs in the cold of high altitudes. All the vital processes are stimulated instead of being depressed and the metabolism as a whole is promoted in every direction.

59. **Foreign Bodies in the Uterus.**—Hermann has observed two cases of hairpins in the uterus. One patient was a girl of 15 and one a woman of 32. He reviews 21 other cases that have been published and concludes that foreign bodies may remain in the uterus for a relatively long period without causing severe trouble. They seldom induce septic processes. The foreign body is usually a fragment of a hairpin, and it is easily overlooked in the investigation unless the dull curette is used. Eight cases are on record in which a pessary slipped into the uterus from the vagina.

66. **Atmocausis Uteri.**—Hammerschlag reviews the results of the application of steam to the interior of the uterus in forty-four cases. It proved, to say the least, fully as effective as curetting and it succeeded in many cases where the latter failed. It was the direct means of saving life in a few instances of hemophilia. It is especially effective in preclimacteric hemorrhages and in hemorrhage from a myomatous uterus. He does not approve of any local treatment of puerperal affections and states that inflammatory processes in the vicinity of the uterus are a direct contra-indication for atmocausis, as also deformities of the organ. It may serve to induce artificial sterility by obliteration of the uterine cavity. Successful cases of this kind have been reported.

70. **Blood Pressure in Chronic Nephritis.**—Von Czyhlarz examined twelve patients with chronic nephritis in regard to the blood pressure during the course of treatment. He found that in every case the blood pressure diminished, although no symptoms were apparent which indicated weakness of the heart. This decrease in the blood pressure is evidently connected with the improvement induced by the rest in bed, etc. As the headache, vertigo and other subjective symptoms vanished with the lower blood pressure, he is inclined to consider them—to some extent, at least—as directly due to the high blood pressure.

71. **Differential Diagnosis of Pleuritic Effusions.**—Koranyi uses the forefinger of the left hand instead of the stick which Reichmann recommends (see above). He taps with the right forefinger on the second joint of the left forefinger placed perpendicularly on the skin while listening through the stethoscope. By this means it is easy to differentiate a pleural effusion from pneumonia. The best point for the auscultation is on the scapular line inside the dulness, following the line downward. If there is a pleural effusion the sound changes at the costal arch while in case of pneumonia without exudate the sound changes two finger-breadths above this. In case the effusion is bilateral the change occurs at the same height on each side. This auscultatory percussion is more valuable in differentiating a pleural effusion than percussion of Traube's space, as it can be extended over the entire chest.

74. **The Blood Count in Mumps.**—Pick relates that more than 623 cases of mumps have occurred in Prague during the last seventy-one weeks and the epidemic has included an unusual number of adults. The blood count in ten cases examined showed that the number of leucocytes was constantly normal. The lack of hyperleucocytosis may aid in differentiating mumps from orchitis of other origin, gonorrheal for instance, which was accompanied by a leucocytosis of 8000 to 16,000 in four cases examined. Its absence in mumps classes the disease as a purely serous exudation in the group with serous pleuritis or articular rheumatism.

77. **Puerperal Rheumatism.**—Singer has observed six cases of articular rheumatism or its equivalent endocarditis, developing during a febrile puerperium. He described some time ago a case of gonococcus pyemia following on the enucleation of a myoma. The primary gonorrheal affection had occurred years before and the coccus had probably been lying latent in the tissues until new and favorable conditions for its growth were produced by the operation. The same mechanism probably explains the rheumatism which accompanies or directly follows a childbirth. Lebert has described a fatal case of endocarditis commencing in the fourth month of pregnancy. Lenhartz has witnessed two fatal cases of puerperal nephritis or acute articular rheumatism in both of which numbers of streptococci were found. Puerperal rheumatism differs in no respect from the ordinary acute articular rheumatism and it can be classified as of gonorrheal origin or as due to the staphylococcus or streptococcus. In case of valvular affections of unknown etiology, the possibility of previous puerperal infection should be borne in mind.

79. **Treatment of Tuberculous Hemoptysis.**—Weismayr is superintendent of the Alland Sanatorium and proclaims that he has not had a single case of severe hemorrhage from the lungs since he adopted the method of treating hemoptysis which he outlines. He aims to arrest it in its incipiency and not allow severe hemorrhage to occur. Traces of blood in the sputa after coughing or one or two bloody expectorations in the early morning do not indicate special medical intervention beyond imposing quiet. But if traces of blood are noted frequently in the sputa or the patient spits pure blood and it is traced to the lung, he should go to bed at once, with absolute physical and mental repose. The diet should be mostly liquid, and some narcotic should be administered to suppress coughing. Even the slightest hemorrhage may be from some large vessel and any indiscretion may bring an outpour. If the hemorrhage is considerable from the start, expectoration of the accumulated blood must be promoted and narcotics of any kind are strictly contra-

indicated. The patient should lie propped up in bed with an ice bag over the heart, but the first and most important measure is to wrap each limb with a bandage commencing at the periphery. It should be applied only tight enough to check the return flow of venous blood and not enough to prevent the inflow of fresh blood. This has a remarkable effect in reducing the blood pressure and will frequently arrest the hemorrhage at once. The patient "bleeds into his limbs" as it were. The bandage that is most annoying is removed first, thus gradually removing them all in turn, but with long intervals between them. Expectoration should be promoted by every means, deep breathing to excite coughing, even an emetic, but he has never had to resort to these, as the bandages to the extremities and the avoidance of narcotics have always answered the purpose. So long as fresh blood can be detected in the sputa the patient should take nothing but cold milk, sipping a little very slowly and often, possibly every fifteen minutes. Solid and warm food, alcohol, coffee, tea and the like must be strictly avoided and constipation prevented by irrigations. The patient should not leave the bed for at least three days after the sputa have been entirely free from blood and he should afterward refrain from every thing calculated to increase the blood pressure.

80. **Diet and Treatment in Chronic Kidney Affections.**—During the last two years Wiczkowski has been making careful investigation of the effects of a milk diet, white meat and dark meat in turn for one or two weeks at a time in 85 cases of chronic kidney affections. He was unable to discover any evidence showing that the diet in a single instance had an influence on the amount of albumin eliminated. On the other hand, the patients who were allowed to eat at will enjoyed their food with so much more relish that their general condition far surpassed those on the milk or other special diet. He found, however, that one or two tablespoonfuls of olive or cod-liver oil had an unmistakable effect in diminishing the albuminuria and edema, while the general health also improved under it. It seems as if the fats promoted the digestion of albumin. He found venesection useful in case of uremic symptoms. In three cases the effects of the venesection surpassed all expectations as it was followed by complete recovery after three weeks in one case and after two and four months in the others.

81. **Acute Hemorrhagic Pancreatitis.**—Kraft produces evidence to prove that fat necrosis is not necessarily a sign of a preceding pancreatitis but may have some other origin. On the other hand, the absence of fat necrosis is not a sign that there has been no pancreatitis. He adds that there is not a single pathognomonic sign on record in pathologic anatomy to reveal that the subject has passed through an acute hemorrhagic pancreatitis. It may develop without causing a single symptom or merely vague ones with no characteristic features, although resistance and tenderness in the epigastrium are usually noted. Reviewing twelve cases he has had occasion to observe he notes that one simulated appendicitis, one ileus and several gallstone colic or perforation of the stomach. This variety in the symptoms he ascribes to the fact that the pancreatitis causes first merely loss of appetite and vague digestive disturbances with general lassitude, until the hemorrhage occurs and stretches the capsule and with it the parietal peritoneum which Lennander has shown is the only portion of the peritoneum which is sensitive. The intensity of the pain is proportional to the amount of the hemorrhage and the attack recurs with a new hemorrhage. The intervals are free from pain so long as the hemorrhages are small. Hemorrhage in the pancreas itself causes pains in the region of the umbilicus and they do not radiate. If a hemorrhage occurs which bursts the capsule and the blood settles at the root of the mesentery or, as is more liable, flows down between the two sheets of the mesocolon corresponding to the transverse and ascending colon, the pains shift more to these points, and there is constant tenderness on pressure and more or less pain. The inflammation may remain restricted to the pancreas or may spread in various ways. The most frequent is the invasion of the omentum. The foramen of Winslow may become closed in the course of the inflammatory process by deposits of fibrin, thus limiting its further extension as occurred in one of the cases described. Or the inflammation may spread along the under surface of the liver and cause tenderness in this region, or along the colon into the greater cavity of the peritoneum. The inflammation in exceptional cases follows the same route as the hemorrhage and causes extraperitoneal inflammation between the two sheets of the ascending mesocolon or in the mesentery. The pancreatitis may terminate in complete recovery and we have no means of knowing how often this happens. The severe forms are generally fatal. Only two of the twelve cases described terminated in recovery. In the others there were evidences of coincident tuberculosis, syphilis, cardiac affections or cholemia. Laparotomy was done in one case on account of gallstones and as an exploratory measure in another, but death soon followed in each instance. One of the patients who recovered was a woman of 56 who had exhibited symptoms of a gastrointestinal catarrh for a few months when suddenly pains developed accompanied by menacing collapse. The symptoms suggested perforation of the stomach, but the excruciating pain might also be explained by hemorrhage in the pancreas. The latter diagnosis was confirmed by the discovery of two fluctuating tumors to the rear of the stomach. The tumors gradually decreased in size as pancreatin was administered. The patient slowly recovered her usual health. The second case commenced suddenly with gastrointestinal symptoms as in the preceding case, nausea, oppression in the cardia, eructations and some diarrhea. These symptoms amended, but suddenly severe, non-radiating pain developed in the umbilical region. It lasted fifteen minutes. The patient was a machinist, 38 years old. A similar attack recurred the next morning, the pains also localized at the umbilicus but extending rather more to the back. The acute pains subsided in the course of a few hours, but left a dull pain rather below and to the rear of the stomach. During the attack of pain he vomited once and eructations were frequent, with passage of flatus and stools. The abdomen was hard, especially above the umbilicus, where it was somewhat distended. There was considerable tenderness over the abdomen, but it did not extend into the flanks and no tumor could be palpated. The diet was regulated and opium given, with pancreatin, and two months after the beginning of his illness he was able to resume work. The slow recovery confirmed the diagnosis of acute hemorrhagic pancreatitis. The age was also a point in its favor. The urine was apparently normal in both these cases. Kraft's patients were between 24 and 40 except one, who was 70, four who were between 50 and 60 and one, 44 years old. Each case is described in detail with the postmortem findings at ten autopsies. Gallstones were found in only two, but in another there was compression from a cyst in the pancreas and in another there was thrombosis in the portal vein. Pancreatin seemed to exert a very favorable influence on the course of the affection in the two cases in which it was administered.

84. **Cure of Exophthalmic Goiter.**—Massini's treatment was a combination of complete psychic repose, regulation of the diet, pills of carbonate of iron and Faradization, applying the positive pole to the back of the neck and the negative to the eyes, throat or heart. When the patient left the hospital the pulse had been reduced from 155 to 75 or 80, and there was no trace of the goiter nor tremor.

86. **Spinal Cocainization in Sciatica.**—Cavazzani of Venice has been systematically applying this method of treating sciatica and reports brilliant results from it. All his patients were cured and none has had a recurrence since, some for more than a year. He proceeds according to Tuffier's directions except that he allows 2 or 3 gm. of the cerebrospinal fluid to flow. He collects it in a porcelain vessel already containing 2 cg. of cocain hydrochlorate in the form of a powder. It rapidly dissolves in the fluid and the whole is then reinjected slowly through the same needle. There were no by-effects noticeable in any of the twenty patients thus treated except transient nausea in one case, not sufficient to induce vomiting.

89. **Splenectomy for Movable Malarial Spleen.**—The spleen weighed 1980 gm. and was 14 by 25 cm. in size. The patient was restored to comparative health by its removal.

91. **Toxic Origin of Seborrhea.**—Tito suggests that seborrhea may be due to the elimination of toxins elaborated in the organism. It usually follows some protracted illness, and is in turn followed by a greater or less degree of neurasthenia.

92. **Difficulty in Diagnosing Certain Cases of Typhoid Fever and Appendicitis.**—Dahlgren's article is based mainly on the work of Thayer, Deaver, Cushing and other Americans, with his own experiences. He agrees with the recent communications in regard to the importance of the leucocyte count for the differentiation.

93. **Significance of Hyperplastic and Tuberculous Processes in the Pharyngeal Tonsils.**—Floderus believes that a large proportion of scrofulous children are tuberculous. He found enlarged submaxillary glands in 92.06 per cent. of several hundred children investigated, and enlarged jugular glands in 91.6 per cent. The pharyngeal tonsils were enlarged in 48.89 per cent. of the cases of much hypertrophy of the jugular glands, and the tonsils proper in 32.59 per cent. He emphasizes the importance of these findings as a menace to the future health of the child, believing that the morbid pharyngeal tonsils in particular are the source of descending tuberculosis later. The adenoid child is thus especially predisposed to secondary tuberculosis.

Queries and Minor Notes.

MEDICAL PRACTICE IN COLORADO AGAIN.

INTERIOR, VA., June 2, 1902.

To the Editor:—Please give me the law for medical registration in Colorado, and the name and address of the secretary of the Board. C. S. K.

ANS.—A diploma from a legally chartered medical college, recognized by the Board of Examiners, showing attendance on four courses in four separate years, or a satisfactory examination. Secretary Board of Examiners, Dr. S. D. Van Meter, Denver.

MUST INTERNES BE LICENSED PHYSICIANS?

CHICAGO, May 25, 1902.

To the Editor:—Must a hospital interne in New Jersey have a license while serving his interneship? If not, will he also be allowed to go out on the hospital ambulance? J. H. G.

ANS.—The law in regard to state medical examination in New Jersey does not apply to any one while actually serving as a member of the resident medical staff of any legally incorporated charitable or municipal hospital or asylum.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 22 to 28, 1902, inclusive:

William B. Banister, major and surgeon, U. S. A., member of a retiring board to meet at the War Department, Washington, D. C.; also member of a board to meet at Washington, D. C., to examine officers of the Army for promotion.

William H. Block, captain and asst.-surgeon, Vols., on the expiry of his present leave of absence, will report for temporary duty at Fort McHenry, Md.

August von Ciossman, contract surgeon, member of a board at Jefferson Barracks, Mo., to examine officers of the Army for promotion.

Christopher C. Collins, lieutenant and asst.-surgeon, U. S. A., from duty at the General Hospital, Presidio of San Francisco, to Manila, P. I., for assignment in the Division of the Philippines.

Elmer A. Dean, lieutenant and asst.-surgeon, U. S. A., now at San Francisco, to report for duty at the General Hospital, Presidio of San Francisco.

Joseph H. Ford, lieutenant and asst.-surgeon, U. S. A., member of a board to meet at Washington, D. C., to examine officers of the Army for promotion.

Edward F. Geddings, lieutenant and asst.-surgeon, U. S. A., from duty at Morro Castle, Santiago, Cuba, to duty at the Indianapolis Arsenal, Department of the Lakes.

Edward T. Gibson, captain and asst.-surgeon, Vols., relieved from further duty on the transport *Crook*, and assigned to duty in the Division of the Philippines.

Luther S. Harvey, captain and asst.-surgeon, Vols., leave of absence on account of sickness is further extended fifteen days.

Deane C. Howard, captain and asst.-surgeon, U. S. A., from duty in the Artillery defenses of Havana, Cuba, to duty at Morro Castle, Santiago, Cuba, relieving Lieutenant Edward F. Geddings, asst.-surgeon, U. S. A.

George B. Jones, contract surgeon, former orders revoked; as soon as his services can be spared in the Department of California he will report for transportation to Manila, P. I., for assignment in the Division of the Philippines.

William P. Kendall, major and surgeon, U. S. A., detailed to represent the Medical Department of the Army at the Eleventh Annual Meeting of the Association of Military Surgeons of the United States, to be held at Washington, D. C., June 5 to 7, 1902, in addition to those already designated for this duty.

Theodore C. Lyster, lieutenant and asst.-surgeon, U. S. A., former orders relieving him from duty at the General Hospital, Presidio of San Francisco, to proceed to Manila, P. I., for assignment, revoked.

Clarence J. Manly, lieutenant and asst.-surgeon, U. S. A., leave of absence extended one month.

Paul Mazzuri, captain and asst.-surgeon, Vols., leave of absence for one month, with permission to apply for an extension of one month, granted.

James C. Merrill, major and surgeon, U. S. A., member of a retiring board to meet at the War Department, Washington, D. C.

William H. Moncrief, contract surgeon, member of an examining board at Jefferson Barracks, Mo., vice Contract Surgeon August von Ciossman, relieved.

William H. Pomeroy, contract surgeon, leave of absence for two months, with permission to go beyond sea granted, to take effect about June 18, 1902.

John M. Shepherd, contract surgeon, former orders directing him to proceed to Fort Schuyler, N. Y., amended so as to direct him to proceed to Fort Hamilton, N. Y., for duty.

John H. Stone, captain and asst.-surgeon, U. S. A., member of an Army retiring board at Washington, D. C., vice Major James C. Merrill, surgeon, U. S. A., relieved.

Francis A. Winter, captain and asst.-surgeon, U. S. A., member of a board at Jefferson Barracks, Mo., to examine officers of the Army for promotion.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending May 31, 1902:

Surgeon J. H. Field, appointed surgeon from May 19.

Asst.-Surgeon W. H. Uish, granted sick leave for 3 months.

Pharmacist R. Waggener, ordered to Key West Naval Station.

Pharmacist S. W. Douglass, detached from Key West Naval Station and ordered to Naval Proving Ground, Indian Head, Md.

P. A. Surgeon F. L. Benton, detached from the *Columbia*, May 31, and ordered to duty with a recruiting party, leaving New York on that day.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 31, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, May 10-17, 5 cases; San Francisco, May 11-18, 1 case.

Colorado: Denver, May 10-17, 1 case.

Illinois: Chicago, May 17-24, 14 cases.

Kentucky: Covington, May 10-24, 22 cases; Lexington, May 10-17, 2 cases.

Louisiana: Shreveport, May 17-24, 1 case.

Massachusetts: May 17-24, Boston, 28 cases, 6 deaths; Fall River, 1 case, 1 death; Lowell, 3 cases; Malden, 2 cases; Melrose, 2 cases, 1 death; Somerville, 1 case.

Michigan: Detroit, May 17-24, 6 cases.

Minnesota: Minneapolis, April 18-May 17, 23 cases; Winona, May 17-24, 4 cases.

Missouri: St. Joseph, April 1-30, 50 cases, 2 deaths.

New Hampshire: Nashua, May 17-24, 2 cases.

New Jersey: Camden, May 17-24, 2 cases; Newark, May 17-24, 53 cases, 8 deaths.

New York: New York, May 17-24, 36 cases, 11 deaths; Yonkers, May 16-23, 1 death.

Ohio: Cincinnati, May 16-23, 14 cases; Cleveland, May 9-16, 8 cases, 4 deaths; Dayton, May 17-24, 2 cases.

Pennsylvania: Johnstown, May 17-24, 4 cases; Philadelphia, May 17-24, 30 cases, 3 deaths.

Tennessee: Memphis, May 17-24, 8 cases.

Utah: Salt Lake City, May 10-17, 1 case

Washington: Tacoma, May 11-18, 1 case.

SMALLPOX—FOREIGN.

Belgium: Liege, April 26-May 3, 1 death.

Canada: Winnipeg, May 10-17, 3 cases, 1 death.

France: Paris, April 26-May 3, 4 deaths; Rheims, April 25-May 4, 2 cases, 1 death.

Great Britain: Glasgow, May 9-16, 1 case; Jarrow-on-Tyne, May 3-10, 2 cases; London, May 3-10, 248 cases, 44 deaths; New Castle-on-Tyne, May 3-10, 1 case; South Shields, May 3-10, 6 cases.

India: Calcutta, April 18-26, 6 deaths; Madras, April 19-25, 1 death.

Italy: Palermo, May 3-10, 9 cases, 2 deaths.

Japan: Formosa, Tamsui, Jan. 1-31, 15 cases; Nagasaki, April 21-30, 1 case.

Mexico: Vera Cruz, May 10-17, 6 cases, 5 deaths.

Russia: Moscow, April 26-May 3, 8 cases, 1 death; St. Petersburg, April 26-May 3, 7 cases, 1 death.

Straits Settlements: Singapore, March 29-April 12, 1 death.

Turkey: Smyrna, April 27-May 4, 2 deaths.

YELLOW FEVER.

Mexico: Vera Cruz, May 10-17, 14 cases, 8 deaths.

CHOLERA.

India: Calcutta, April 19-26, 146 deaths.

Straits Settlements: Singapore, March 29-April 12, 48 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, May 8-13, 5 deaths.

PLAGUE—FOREIGN.

China: May 19, Canton, epidemic; Yityang, epidemic; Talieung, epidemic.

India: Calcutta, April 19-26, 577 deaths.

Japan: Formosa, Tamsui, Jan. 1-31, 159 cases, 141 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, SATURDAY, JUNE 21, 1902. No. 25.

Original Articles.

ANALYSIS OF NINETY-SIX OPERATIONS FOR THE RELIEF OF TUBERCULOSIS OF THE TESTICLE.*

ORVILLE HORWITZ, B.S., M.D.,

Clinical Professor of Genito-Urinary Diseases, Jefferson Medical College; Surgeon, Jefferson Medical College Hospital, Philadelphia Hospital, State Hospital for the Insane.

PHILADELPHIA.

It is only within a recent period that the profession has begun to realize the fact that tuberculosis of the genito-urinary organs is a disease of very common occurrence; the infection by the tubercle bacillus taking rank next in point of frequency to the gonococcus. This has naturally resulted in attracting unusual attention, while the subject is being carefully studied by many of the most eminent men in the medical world; but, it is curious to note, after consulting the literature of the subject, what great diversities of opinion exist touching the most essential features of the disease as well as the best methods of treatment. During the past twelve years, as unusual facilities for observing and studying tuberculosis of the genito-urinary organs have fallen to the share of the writer, it has occurred to him that a brief account of his experience with one of the most common forms of the affection, tuberculosis of the testicle, might not be uninteresting to the profession and at the same time serve to shed some light on the questions that are as yet undecided and still under discussion. The cases operated upon are those that came under his cognizance at the Philadelphia Hospital and the Jefferson Medical College Hospital and may be classified as follows:

JEFFERSON HOSPITAL.

Localized tubercular abscess of the testicle	8
Tubercular abscess of the epididymis	2
Sinus of scrotum following tubercular abscess of testicle	3
Epididymectomy (single), partial resection of the vas deferens	13
Epididymectomy (single), complete resection of the vas deferens	4
Epididymectomy (double), partial resection of the vas deferens	4
Castration for tubercular testicle with radical cure of hernia	1
Castration with complete resection of vas deferens	8
Castration for tubercular testicle (single)	36
Castration, tubercular testicle (double)	3
Castration, resection of vas deferens and seminal vesicles	3

PHILADELPHIA HOSPITAL.

Castration, tubercular testicle (single)	4
Epididymectomy, partial resection of vas deferens	3
Epididymectomy, complete resection of vas deferens	1
Tubercular abscess, drainage and use of curette	3
Total	96

The foregoing exhibits a list of 55 castrations and 25 epididymectomies. The excess of the first-named operation is due to the fact that when many of the orchidectomies were performed, epididymectomy was not an established surgical procedure, but was generally unknown, although it had been performed as early as 1850 by Jarjavay. It is only within the last twelve years that contributions have been made to the literature of this subject; for these the profession is indebted to the pens of Bardenheuer, Tuffier, Villeneuve, Duplay, Humbert, Legars, Guyon, Mynter, Senn, Murphy, and Young, who have taught that the conservative course is the proper one to pursue when the epididymis alone is infected by the tubercular bacillus. Many cases where castration was performed would at the present time be deemed suitable for resection of the epididymis.

It is interesting to note that as far as can be ascertained the disease began in the epididymis in 48 cases, in the testicle in 27 cases, and in the remaining 21 cases the primary location of the disease was in:

Kidneys in	3 Cases
Prostate gland, vesicles, or bladder in	14 "
Lungs in	3 "
Hip joint in	1 "

HEREDITY AS AN ETIOLOGIC FACTOR.

Heredity seems to play but a slight rôle as a factor in cases of primary tuberculosis of the testicle in the adult, as in but a few instances could a predisposing family history be obtained. That the disease is in rare instances congenital is shown by the fact that a case is reported in the *British Medical Journal*, 1884, by Dreschfeld, of a child born with a tubercular testicle. Jacobson states that "Giralds is said to have met with a similar condition in an infant at term." Koenig saw a child in whom the disease developed a few days after birth. Tuberculosis of the testicle in children has been reported by Koenig, Lannelongue, and Julien; the latter records six cases, occurring in children under one year of age. This clinical evidence proves conclusively that heredity may be a factor in causing the disease. From the writer's experience he is inclined to believe that tuberculosis of the seminal glands in young children is so rare as to be ranked as a medical curiosity. Dr. Edwin Graham, Professor of Diseases of Children in the Jefferson Medical College, whose experience with dis-

* Read before the American Association of Genito-Urinary Surgeons, at Atlantic City, April 29-30, 1902.

cases of children is very large, at least three thousand patients being annually treated at his clinic, states in a personal communication that he has "never met with a case of the kind, either congenital or otherwise." This accords with the experience of the writer. Of the 96 patients who submitted to operations, the youngest was 15 years of age and the oldest was 61, the average being about 30. In rare instances the disease has been known to occur very late in life. Gibson reports a case under his care where the individual was 81 years old. In fact, tubercular diseases of the testicle in the very young, or in those advanced in years, is a very infrequent occurrence, the ailment being most commonly met with between the ages of 20 and 40, the time during which sexual vigor is most active. This view is in accord with that held by most observers.

TRAUMATISM AS A CAUSE.

Authorities differ as to the frequency of slight traumatism as a factor in the production of testicular tuberculosis. Jacobson, Lydston, Murphy and others incline to the belief that injuries so slight as to be soon forgotten, in many instances, after the lapse of several weeks, are followed by tuberculosis of the organ. This view is founded on the well-known fact that the bacillus gains ingress into the body through the skin, lungs, gastro-intestinal and genito-urinary tracts, entering the circulation most commonly, according to Bugge, by means of the mediastinal glands. Tubercle bacilli have been detected in the normal epididymis, testicle and circulation and a slight injury, which creates a "locus minoris resistentiæ," may so alter the tissue that the germ, which hitherto was harmlessly circulating in the blood or innocuously resting in an organ, may become obstructed in the inflamed area, finding a suitable soil for its multiplication, and thus giving rise to tubercular infection. The truth of this proposition has been demonstrated experimentally by injecting into the blood of the peritoneum of animals, sputum containing tubercle bacilli; and then bruising the testicle, when it has been found that tuberculosis of that organ almost invariably supervenes. It would appear, therefore, that anything that causes an inflammatory condition of the part will predispose to a tubercular disease of the testicle: hence, a gonorrheal epididymitis is frequently the forerunner of tuberculosis. Experience proves that when tuberculosis follows a gonococci infection of the epididymis that the disease is always located primarily in this structure: a knowledge of this fact has an important bearing on the proper method of treatment.

CAUSATION BY GONORRHEA.

A brief account of the following case will serve to exhibit the effect produced by the action of the gonococci as a predisposing cause of tubercular epididymis:

CASE 1.—J. H., 23 years of age, became an outdoor patient in the genito-urinary department of the Jefferson Hospital during the last week of July, 1900, suffering from an attack of acute anterior urethritis. About the middle of August he developed a severe attack of epididymo-orchitis of the right testicle and was admitted to the wards of the institution. In the course of two weeks the acute inflammatory symptoms subsided, leaving the globus minor hard, nodular, and tender; one week later it was found that the head of the epididymis was also similarly involved. There was still a slight mucoid discharge from the urethra. A bacteriologic examination showed that the gonococci had disappeared; tubercle bacilli could not be found. The condition was clearly a tubercular infection and an operation was advised. This diagnosis was not in accord with that of one of our colleagues who met the writer in consultation; he was inclined to look upon the condition as a chronic inflammatory condition following the gonorrheal infection. The epididymis together with a portion of the vas deferens was resected. The organ was found to contain cheesy masses which were tubercular, the globus minor containing a small circumscribed abscess about the size of a large pea. In this case no history of an hereditary tendency to disease could be obtained. The patient rapidly improved in health and strength and, when last seen a few weeks since, was in perfect health.

TUBERCULAR VARIETY OF INFECTION.

That a severe injury of the testicle is but rarely followed by a tubercular infection of the part is a fact to which the profession has assented since Volkmann first made the statement in 1855, who claimed that a severe injury was followed by such active tissue change during the process of repair that the growth and multiplication of the bacilli were prevented. That tuberculosis may occasionally follow a grave injury to the organ is elucidated by the following case:

CASE 2.—S. M., aged 40, occupation mounted policeman. Admitted to the Jefferson Hospital in October last. Stated that one year and a half previous to his admission, while on horseback, the animal unexpectedly bucked and threw him forward on the pummel of the saddle, striking the left testicle a severe blow which rendered him sick and faint. Intense pain in the part was experienced, the scrotum becoming enormously swollen and discolored. He was confined to his bed for six weeks, the inflammatory symptoms gradually subsiding, leaving the organ much enlarged and somewhat tender. Its normal size was not regained. He suffered considerable pain from time to time. Ten days before his admission to the institution, he again struck the organ a severe blow against the corner of an ash box. The scrotum immediately became distended and, according to the individual's statement, as black as his shoe, giving rise to greatly increased pain.

The scrotum was distended; there were pseudo-fluctuation and ecchymosis. The testicle was painful and the upper portion seemed to have undergone a cystic change, fluctuating on palpation. On opening the tunica vaginalis it was found to contain a small quantity of recent blood together with a disorganized blood clot, evidently the remains of an old hematoma. The upper portion of the testicle was the seat of a large abscess, and numerous large tubercular deposits were found throughout the organ. Report from the pathologic laboratory proved the organ to be tubercular.

ANATOMIC REASON FOR TUBERCULOSIS.

It is very difficult to procure a preceding history of cases that present themselves; where traumatism has occurred it is usually so slight that the patient can seldom recall the incident. It appears probable that in the majority of cases where there is a primary tubercular infection of the epididymis, without any predisposing cause being discovered, that the bacillus is carried to the organ by means of the blood. It is well known that this germ may be present in the circulation without producing harm; as has already been pointed out, it has even been detected in the normal testicle, the resisting power of the structure being lowered by an inherited tendency, traumatism, disease of the testicle, or gonorrheal orchitis. Saltzmann advances a theory which appears to be very reasonable; that is, that the frequency of a primary tubercular epididymis is due to an anatomic cause. It is well known that the spermatic artery bifurcates just before it enters the epididymis; this, with the fact that the vessels which ramify throughout the structure are smaller and more tortuous than those of the testicles, leads him to infer that the bacilli floating in the blood are more apt to become lodged in the epididymis than in the testicle. This idea seems to be verified by the clinical observation that in the primary infection the begin-

ning of the disease in the majority of instances will be found to be located in the globus major. Where the tubercular trouble is secondary to an infected focus in some other portion of the genito-urinary tract, the first part of the epididymis to become diseased is, as a rule, the globus minor, which is, as is well known, the usual seat of induration left by a gonorrheal epididymitis; so that a tubercular induration beginning in the lower portion of the epididymis often makes a differential diagnosis of the two conditions extremely difficult unless there is evidence to show that the condition of the testicle is due to a descending tubercular infection.

INFECTION VIA LYMPH CHANNELS.

Whether primary infection ever takes place through the lymph channels is a question which is still *sub judice*, and will probably remain so since a convincing demonstration of an infection taking place in this manner does not seem possible. The consensus of opinion is that infection by this means must be extremely rare as the lymph current is directed away from the organ rather than towards it. That a secondary infection of different structures very commonly takes place by means of the lymph channels appears to be very probable when the investigations of the lymphatic vessels of the testicle by Most are considered; he used the method of injection suggested by Gerota[1] and found that by injecting the testicle that he was enabled to fill the thoracic duct; that the testicle was very rich in lymphatic vessels which united in from four to six trunks, passing up alongside the spermatic vessels of the cord, ultimately emptying into the receptaculum chyli.

IS TUBERCULOSIS TRANSFERRED IN VENERY?

M. Verneuil believes that cohabitation with women suffering from tuberculosis of some portion of the genital tract is frequently responsible for primary infection in the male. The writer never met with a case which could be traced to this act; while admitting that it may be possible, its occurrence must be very rare. If men contract tuberculosis from intercourse with women who suffer from a tubercular infection of some portion of the genitalia the converse should be equally true; yet such does not seem to be the case. It frequently happens that men with tuberculosis of either one or both testicles have connubial intercourse with their wives who remain free from infection. One case is recalled where the epididymis, vesicle and vas deferens were involved on both sides, the diseased condition being of long standing. The wife, at the time that her husband was operated on being seven months advanced in her pregnancy, was delivered at term of a healthy child. An examination of both the man and woman, one year after the operation, was made and it was found that both enjoyed good health; the woman was free from all symptoms of tubercular disease.

TUBERCULOSIS BECOMING A GENERAL INFECTION.

That primary tuberculosis of the epididymis may result in a general infection is shown by the history of the following case:

Case 3.—Colored man, admitted to the Jefferson Hospital in December last. Family history regarding malignant and tubercular diseases, negative. No venereal history. Two years ago, first noticed a painless lump in the epididymis of the left side. One year later he began to suffer from an irritable bladder, passing water frequently both by day and night. The right testicle soon became enlarged and tender. Two months before entering the hospital he developed a very troublesome cough, attended ocasionally by a slight spitting of blood. He lost 40 pounds during the last year, is very weak and suffers from constant night sweats. Examination revealed tuberculosis of the left and right testicles, vas deferens, seminal vesicles and probable involvement of the prostate and bladder. There was beginning tuberculosis at both apices. Tubercular bacilli were found in the urine. In this case there is scarcely any doubt that the general infection was an ascending one.

1. Arch. f. Anat. u. Physiol. Anat. Abth., 3 u. 4 S., 113, 1899.

SOURCES OF TUBERCULOSIS.

In the twenty-one cases in whom the seat of primary invasion of the bacilli was either the lungs, kidney, bladder, prostate gland, or seminal vesicles, a reliable history was obtained either from the physicians in attendance or from the individuals themselves. The history here given of a case where the beginning of the tubercular infection was in the hip joint is unusual and unique.

Case 4.—W. S., aged 23, medical student. Tubercular history on his mother's side. Enjoyed good health until four years of age, when he sustained a slight fall which was followed by hip-joint disease; an abscess formed which terminated by sinuses leading down to the joint. The patient was an invalid for several years. The fistulous tract gradually healed, leaving the head of the bone displaced upwards and backwards, the limb being shortened and atrophied. There is no venereal history. Two years before his first visit he noticed that the epididymis on the left side was enlarged, nodular, but painless. A few months later the other side became similarly affected. Two months before he was first seen the parts became tender and the seat of neuralgic pains. A double epididymectomy was performed and the vas deferens removed as high as the external abdominal ring. Both structures were found to be the seat of extensive tubercular disease. Eighteen months have elapsed since the operation; the patient has gained in weight and is in strong and good physical condition.

THE RELATION TO POTT'S DISEASE.

Murphy says that "Pott's disease of the spine has frequently been observed to follow tuberculosis of the testicle." Observations lead to the belief that diseases of the spine either preceding or following testicular tuberculosis must be very uncommon. In none of the cases under the observation of the writer did this condition pertain. Dr. H. A. Wilson, Clinical Professor of Orthopedic Surgery at the Jefferson Medical College Hospital, in a personal communication in reference to this subject says: "Careful search in the records of my private practice and the very large orthopedic service at the Jefferson Medical College Hospital fails to reveal a single instance wherein a tubercular spinal disease was followed by or existed with tubercular disease of the testicle. I have no recollection of ever having seen such a condition in my service at the Philadelphia Hospital, Polyclinic or Women's Medical College Hospital. While I would not say that such conditions were impossible, I must consider them as extremely rare or else I would have seen illustrations."

URETHRITIS AS A FACTOR.

The following remarkable case shows the existence of a secondary infection of the testicle following a primary invasion of the urethra:

Case 5.—The patient, aged 25, was first seen during the month of January, 1901. He had had repeated attacks of gonorrhea since the age of 16. He was suffering from a tight stricture in the lower third of the penile urethra, which was resilient and had to be kept constantly dilated. Two weeks before his first visit, after a debauch, he had an attack of retention of urine, which he tried to relieve by the use of the catheter; the instrument was broken in the attempt, resulting in free hemorrhage. On examination, a large periurethral abscess was found, which was opened and drained, and an operation on the stricture was advised. This was declined. The patient was

lost sight of for a month when he consulted the writer's colleague, Dr. H. R. Loux, who courteously furnished the future history of the case. He found that the under surface of the penis was nearly destroyed by what appeared to be a phagadenic ulcer. The stricture was operated on and an attempt made to arrest the ulcerative process without success, and a few weeks later it became necessary to amputate the organ at the peno-scrotal junction. A short time afterwards the glands in the left groin became diseased and were removed, after which the patient convalesced and remained in good health until last February, when the removal of the left testicle became necessary by reason of miliary tuberculosis. The pathologic report by Professor Coplin showed the condition of the penis to be tubercular.

CASES OF INEXPLICABLE URETHRITIS.

In six of the cases a history of unexplainable urethral discharge preceded by several weeks the development of the disease of the testicle. In two instances the discharge was purulent in character; in one, tinged with blood, the others being mucoid. One of the cases is so instructive that a brief account is deemed pertinent.

Case 6.—Minister, aged 30, unmarried, affected with a muco-purulent discharge, occurring principally in the morning; no pain or irritability of the bladder. Had existed for two weeks previous to his first visit. He denied ever having been exposed to any danger of contagion. The urine was slightly cloudy, containing a small amount of pus, mucin in solution, and epithelial cells. Neither gonococci nor tubercle bacilli could be detected. An endoscopic examination of the urethra showed well-marked congested patches in the vicinity of the bulb and the prostatic portion of the canal. The case was recorded as one of probable non-specific urethritis; the individual's statement regarding his not having been exposed to the danger of infection was taken *cum grano salis*. The condition was unimproved by treatment. Nine weeks after he was first seen a hard nodule developed in the globus minor of the left epididymis, which was painless and persistent. The case was diagnosed as tubercular and the epididymis resected. A microscopic examination of the removed structure verified the correctness of the diagnosis. When the individual became convalescent, the discharge completely disappeared.

TUBERCULAR CAUSE OF URETHRITIS.

This case teaches that when an unexplainable urethritis arises which is chronic from the onset we should be on our guard against a development of tuberculosis in some portion of the genito-urinary tract. In every case examination should be made of the secretion for the presence of tubercle bacilli, both before and after stripping the seminal vesicles. The urethral discharge in these cases may be due to various causes. Probably the most common is a catarrhal condition of the prostatic urethra. Jacobson states that when the discharge is either a clear viscid fluid, or opaque and whitish, which drops from the meatus, unattended by inflammatory symptoms, the cause is usually due to a hypersecretion of the prostatic fluid, owing to the slow formation of tubercles in the gland. Tubercular blennorrhea has been known to be due to the formation of small tubercular abscesses in the prostatic gland. Delbeau asserts that the condition is at times produced by an ulceration, tubercular in character, in the posterior urethra; when this condition exists there is burning pain on micturition, frequent urination, terminating in hematuria. Finally, a tubercular focus located in some portion of the mucous membrane of the urethra may cause an exacerbation of chronic gonorrheal lesion in some portion of the canal.

ONSET MAY RESEMBLE ORCHITIS.

The onset in all the cases of primary infection of the epididymis was slow and insidious, except in six instances, in four of which the symptoms simulated exactly those produced by an acute epididymo-orchitis. In the two remaining instances the onset was violent, probably due to a mixed infection, and an abscess formed within a few days after the onset of the disease. The beginning frequently resembles that of an ordinary orchitis and renders the diagnosis obscure, as the following case exemplifies:

Case 7.—M. J., affected with syphilis 15 years before; was under treatment for three years, no symptoms since. Slight attack of gonorrhea when 20 years of age. Two weeks before seen, he slipped on the ice and gave the testicle a wrench, which immediately became the seat of acute pain. The pain did not disappear as the patient expected, but increased in severity as the day went on. By night the organ was swollen and very tender.

A diagnosis of orchitis was made and the case was treated as such. In view of the fact that there was an old syphilitic history in the case, specific treatment was pushed, on the supposition that the condition might be due to gummatous formation. On examination, two weeks after the illness began, a large abscess was discovered, and an operation advised. On removing the testicle a tubercular abscess was found, with tubercular foci scattered throughout the organ, the epididymis being apparently healthy.

It is now eighteen months since the operation and the individual enjoys good health.

In this case there was an antecedent history of syphilis and slight traumatism. The rapid development of orchitis with the formation of the abscess would hardly have led anyone to infer a tubercular infection. It is probable that the tubercular foci were already present in the body of the organ, which gave rise to no appreciable symptoms until the slight injury acted as sufficient cause to lower the resisting power of the structure to such an extent that active symptoms immediately followed.

THE PRIMARY FOCUS.

In fifteen cases, the primary seat of disease was found to be located in the testicle, thus verifying the statement made by Reclus[2] in 1876, who states it as his belief that the testicle is often the starting-point of tubercular invasion and that in these cases only about from 5 to 6 cm. of the vas deferens is apt to be diseased. Senn says that this experience does not coincide with his own, he having usually found that the entire cord is involved. The writer's experience is similar to that of Reclus. In most of the cases in which the testicle alone was involved the epididymis was flattened and appeared to be blended with the organ so as to be indistinguishable on palpation. In eight cases the vas deferens was involved throughout its entire length. In five instances the seminal vesicles were secondarily involved, this condition subsiding after castration. The tubercles were found to be unusually large, yellow hard nodules, situated most commonly in the parenchyma of the gland. This condition was first described by Rindfleisch as characteristic of this form of tubercular disease. In five of the cases, miliary tubercles existed. The morbid growth of a testicle in this condition is often very slow and may obtain a voluminous size without being attended by inflammatory symptoms. The tumor is usually periform in shape, varying from a hen's egg in size to that of a large orange. In one instance the growth was the size of the doubled fist. When this condition pertains, especially if there is no involvement of the cord, the differential diagnosis between chronic diffuse syphilitic orchitis, malignant disease, and tuberculosis of the testicle is often

2. Du Tubercle du Testicle et l'orchite Tuberculose, Thèse de Paris.

extremely difficult. In not a few of the cases active syphilitic treatment had been employed for some time before the patient came within the writer's cognizance under the belief that the condition was specific in character. If a tuberculous focus in other parts of the body can be excluded and a typical reaction can be obtained by means of the tuberculin test, the condition may be regarded as tubercular. This proof is believed to be of great value in explaining a vague diagnosis in cases where a normal temperature exists and where the tubercular lesion is confined to one organ. When the condition is complicated with hydrocele, a portion of the fluid should be withdrawn, by means of a sterilized aspirating needle and examined for tubercle bacilli; or inoculations of a guinea-pig should be attempted. Specific treatment should always be fairly tried before proceeding to operate in doubtful cases.

VALUE OF TUBERCULIN.

The annexed case is of interest as showing the value of the tuberculin test when making a diagnosis.

Case 8.--G. H.; aged 30; occupation, clerk. Family history negative. Suffered from hernia on right side at the age of 20, which was not followed by any complications. History of slight injury to the right testicle while riding a bicycle 8 months before his present trouble began. Eighteen months previous to his admission to the Jefferson Hospital he observed that the testicle on the right side began to undergo a painless enlargement. The gland was as large as one's fist, pear-shaped, of solid consistency, somewhat nodular at the upper portion; it was hard and elastic; the skin of the scrotum, the prostate gland, vesicles and bladder were normal. The epididymis could not be distinguished from the abnormal growth. The vas deferens was natural in point of size; the inguinal glands on the right groin were slightly enlarged. Malignancy was suspected. The tuberculin test gave a decided reaction. Examination, after castration, showed large tubercular deposits.

HYDROCELE.

Of the 96 cases, hydrocele was present in 16, being less by half than the number (one-third) in which, according to Jacobson, the complication may be looked for. Hydrocele was found to be very uncommon where the epididymis alone was involved, it being generally associated with the tubercular condition of the testicle or a tubercular epididymo-orchitis. In several of the cases the tunica vaginalis was much thickened, and in a few adherent to the gland. In no instance was the accumulation of the fluid of hydrocele of very large quantity, the largest amount being met in a case of primary infection of the epididymis; this individual applied to the hospital for the relief for a supposed hydrocele, not being aware that the gland was diseased. In five cases the fluid was drawn and examined for tubercle bacilli with negative results in four instances. Whether the tunica vaginalis was diseased or not it was always removed when castration was performed. Fourteen cases were treated by drainage and the use of the curette; three sinuses of the scrotum, of long standing, leading to a diseased focus of the testicle, received similar treatment. The following were the results obtained.

AFTER-HISTORIES OF CASES.

In one case castration became necessary three months after the operation for the relief of an intractable sinus of the scrotum. In eleven cases in which advanced phthisis was complicated with disease of the testicle the drainage in each was followed by a sinus, which did not heal, but was accompanied by a purulent discharge. The evacuation of the discharge was necessary simply as a palliative measure, the physical condition of the individuals being a contraindication to any radical procedure. Most of these patients were lost sight of shortly after leaving the hospital. A few whose future could be traced lived for a year or so after the operation, dying finally of lung complication. In a case in whom the lung trouble was of recent origin, the individual, after the operation, was sent to Las Vegas, New Mexico, where he resided for eighteen months. When he returned he had gained in weight and strength. The abscess had healed, leaving the testicle slightly enlarged and nodular. All symptoms of lung complication had disappeared. Of the 4 cases where the epididymis was involved, 1 recovered, 1 submitted to an epididymectomy two months later, and 2 were lost sight of after leaving the hospital; when last seen there were suppurating sinuses leading to the diseased organs. In one case the vas deferens, vesicles, prostate and bladder were involved when the abscess of the testicle was evacuated. The person was lost sight of two months after the operation and is in all probability long since dead. In one case marked improvement of the general health followed the operation; when last seen there still existed a sinus in the scrotum attended by a slight purulent discharge.

PALLIATION USUALLY UNWISE.

A study of the treatment employed seems to indicate that drainage and the employment of the curette should be reserved for those cases where an extensive tubercular disease of other structures of the body renders anything but a palliative operation justifiable. In all other conditions it is a dangerous procedure and should not be employed. That life may be prolonged and sometimes a cure effected after an operation, by proper hygienic surroundings and removal to a suitable climate, together with the administration of anti-tubercular remedies, is in a measure shown by the benefit which accrued to the patient who was fortunate enough to be enabled to spend a year and a half in the tropics. Occasionally, good results will be obtained by the treatment here described, especially if the tubercular foci are destroyed by the employment of either the thermocautery or an application of chlorid of zinc; a treatment suggested by Lonquet. It is believed that more or less danger arises from the employment from this treatment where a radical operation may be performed. It is therefore not recommended, as it is apt to be followed by an extension of the disease and is always attended by prolonged suppuration, so that valuable time is lost, and an opportunity to perform a radical operation is missed, a secondary infection of other structures having taken place.

It seems to be clear that in cases where there is no contra-indication, the physical condition of the individual being such as to warrant a radical operation, that either the epididymis, testicle, together with a portion or the whole of the vas deferens should be removed, depending upon the extent of the disease. Epididymectomy was chosen where the epididymis alone was involved. In four instances a double operation was necessary. In twenty, the vas deferens was resected at the external abdominal ring. In the remaining five cases the canal was followed down into the pelvis, until the top of the seminal vesicle was reached, and then removed. In performing this operation, the method employed was that suggested by Villeneuve: an incision was made parallel to Poupart's ligament, through the tissues until the peritoneum was exposed, which was pushed aside and the vas deferens followed until the vesicle was reached. The advantage of this operation is that it can be performed by visible inspection.

VON BUNGNER'S METHOD CONDEMNED.

The method suggested by von Büngner of grasping the vas at the external abdominal ring and attempting to

remove as much of the structure as possible by avulsion, is referred to only to be condemned as unsurgical and dangerous; several cases are on record where severe hemorrhage has followed. The complete resection of the vas deferens was reserved for those whose tubes seemed to be diseased throughout their entire length. In a few instances on tracing an enlarged and thickened cord through the inguinal canal, it was observed that when the internal ring was reached the vas deferens became apparently normal in character until it approached the vicinity of the seminal vesicle where it again became enlarged and tortuous. When this condition pertains the vesicle is found to be involved. The contents of the diseased canals usually consist of a white cheesy matter, in which, in some cases, tubercle bacilli are lodged. It is interesting to note that in some instances, where the epididymis was tubercular, that, although the vas deferens was enlarged and thickened, a microscopic examination elicited the fact that the condition was due to inflammatory changes and not to the presence of tubercle. This condition corresponds to what has occasionally been found to exist in an apparently diseased ureter, associated with tuberculosis of the kidney; the enlarged and tortuous condition of the ureter being supposed to be due to tuberculous disease.

PARTIAL VASECTOMY.

It is not urged that a total resection of the vas deferens should always be performed, although it is believed that it would be proper to do so. Several instances have come under observation where an enlarged and unsound vas deferens was removed at the external abdominal ring, leaving the remainder, which was apparently diseased, behind. These individuals recovered and have continued to do well since the operation. It is usual with the writer to resect the vas deferens at the external abdominal ring if the morbid condition is arrested at that point. If the disease extends throughout the entire length of the canal, or if the testicle and the vesicular portion is involved, the intermediate structure being apparently healthy, the entire vas deferens is to be removed. In fourteen of the cases operated on the seminal vesicles were apparently implicated, there being symptoms referable to infection of the prostate gland and bladder. In all, the vesicular, prostatic and bladder symptoms disappeared after epididymectomy, except in one instance, where the individual in whom the epididymis was removed, had both vesicles involved. The patient improved in health and strength after the operation, but returned to the hospital four months later with active vesicular and bladder symptoms together with tubercular meningitis, of which he died. No autopsy was permitted. It is presumed that the reason why the portion of the diseased vas deferens which remains after an operation is harmless is that it becomes functionless. It is probable, as has been claimed by Delbet, that the subsidence of the symptoms arises from the circumstance that the purulent products which are derived from the epididymis are cut off, in this manner stopping the supply of irritating material which is constantly being supplied to the vesicles and adjacent organs.

RESECTION OF SEMINAL VESICLES.

In view of the fact that epididymectomy, together with the resection of the diseased portion of the vas deferens, will in the majority of instances be followed by subsidence of the prostatic and urinary symptoms, with the return of the individual to health, it becomes a difficult question to determine exactly what cases justify the removal of the seminal vesicles which are secondarily infected. This question has given rise to a good deal of controversy and is still unsettled. A consideration of tuberculosis of the seminal vesicles not being germane to the subject under discussion, the condition will only be alluded to as briefly as possible. Resection of the seminal vesicles for tubercular disease is a formidable operation and the results have been far from gratifying, most of the cases yielding sooner or later to some secondary development of the disease. Clinical evidence has demonstrated that in a large percentage of cases, where tubercular involvement of the vesicles associated with a primary infection of the epididymis has existed, that complete subsidence has taken place after an epididymectomy; it is believed to be wise to be satisfied with the removal of the epididymis and as much of the vas deferens as may be necessary, taking care to watch the patient assiduously. Should the prostatis or urinary symptoms continue, resect the seminal vesicles secondarily. From the frequency with which the remaining testicle becomes diseased after an epididymectomy or castration of one side, it would seem that in those instances where both the vesicles and the prostate are probably involved that the wiser course is to combine with the removal of the testicle the resection of the vesicles as well, provided the patient's condition will warrant the procedure. To ascertain whether the vesicles or prostate are implicated may sometimes be determined by the following expedient:

Irrigate the urethra and bladder with a boric acid solution; pass a Swinburne posterior urethroscope down to the prostatic urethra. Let an assistant then massage the vesicles, forcing the secretion directly into the prostatic urethra and into the lumen of the endoscope, which can be collected on a loop of sterilized platinum wire and either a stain or culture made for the tubercle bacilli, or inoculating experiments attempted. If the endoscope is not available the urethra and bladder can be irrigated, and a small quantity of the solution allowed to remain in the bladder. The prostate gland and vesicles are then stripped, a small rubber catheter inserted, and the water drawn and examined. The insertion of the catheter prevents the danger of mistaking smegma bacilli for tubercle—a mistake which, unfortunately, is frequently made. Should the secretion show the presence of tubercle bacilli, it is fair to presume that the seminal vesicles and the prostate gland are diseased.

RESULTS AFTER EPIDIDYMECTOMY.

Out of 25 epididymectomies, 11 cases have been followed. One died 4 months after the operation of tubercular meningitis. One developed phthisis 2 years after the operation. One returned 6 months after the operation, needing an epididymectomy on the other testicle with resection of the vesicles. One individual returned to the hospital 3 months after operation with an enormous tubercular abscess of the abdominal wall. This was opened and drained; convalescence was slow; but at this time, 2 years since operation, he is in perfect health. The remaining 7 cases are still in good health, although 6 years have elapsed since the first patient was operated on. Five out of the 6 individuals have had the advantage of fortifying their constitutions by a sojourn in New Mexico or southern California of a year or more.

In none of the cases in which epididymectomy was performed did either atrophy of the testicle or diminution of the sexual vigor follow. It was frequently observed that a painless orchitis followed the operation, which usually subsided in the course of a few days. Out of 55 castrations, 3 were double, all in comparatively

young men. In no instance did any demoralizing effect result from the removal—a condition which is sometimes to be apprehended. Many of the patients in whom castration became necessary, on account of the formation of abscesses and sinuses attended by prolonged suppuration, suffered from tubercular deposits in other portions of the body, so that the operation was merely palliative. The writer has been able to follow the history of 19 individuals on whom this operation was performed. Three died within 5 months after the operation of miliary tuberculosis. One died 2 years after leaving the hospital of tuberculosis of the prostate gland, bladder and kidney. Two died in from 6 months to 4 years of phthisis. One returned in a year for resection of the epididymis of the remaining testicle, together with the vesicles. One year and a half after operation, during which time he has lived in southern California, his general health has been good. One case, 8 months after the first operation, returned for the removal of the other testicle which was the seat of a large tubercular abscess. The remaining 11 patients continue to enjoy good health. The period which has elapsed since their several operations varies from 7 months to 14 years.

MENTION OF SOME UNSATISFACTORY METHODS.

A few cases have been reported in which apparent cures of a tubercular focus, located in the epididymis, have followed a ligation of the spermatic cord, depending on the circulation of the tunica vaginalis to nourish the testicle—a method of treatment first suggested by Mauclaire. This operation is still on trial, but as it did not appeal to us as a rational procedure it was not employed. We agree with Murphy who, writing on this subject, says: "It is certainly not radical."

It is proper to state that the injection of a 10 per cent. emulsion of iodoform, as well as that suggested by Lannelongue of 3 drops of a 5 per cent. solution of sulphate of zinc into the diseased area were both tried in a number of cases and found to be unsatisfactory. In most instances the introduction of these remedies gave rise to pain, often hastening suppuration, the patient finally requiring a radical operation, and no advantage having been gained by the delay. At least a dozen individuals who have a tubercular infiltration into the epididymis on one or both sides are at this time under observation. In some the condition has existed for several years, yet they seem to enjoy perfect health; in a few instances localized abscesses have formed, which have healed, leaving depressed cicatrices. These patients have each refused an operation.

LATENT TUBERCULOSIS.

This condition is considered to be fraught with danger. The constitution seemingly sufficiently fortified to enable the sufferers to keep the disease in abeyance for an indefinite period, yet it is liable at any time to break out and manifest very serious symptoms, the focus of the disease being probably encapsulated. Doyen reports a case where the condition lay dormant in the epididymis for 18 years, extravasation of the urine finally taking place from a tubercular involvement of the urethra. The patient succumbed to miliary peritonitis. Similar cases have been observed by Reclus, Barling, Jacobson, Senn and others. Jacobson, writing on this subject, says: "Occasional encapsulating and partial calcification of caseous deposits in the epididymis must not be looked upon as a sign that the disease is now quiescent, at an end, or no longer a cause for anxiety."

This view is illustrated by the following case:

Case 9.—The patient was first seen 6 years ago when 21 years of age; he had a quiescent tubercular nodule in the left epididymis. His general health was excellent. Operation was advised, but refused. The individual was lost sight of until five months ago, when he again presented himself for treatment. A tubercular involvement of the testicle, seminal vesicle, prostate gland and bladder was found to exist. It is believed that in all cases of apparently quiescent tubercular foci that a radical operation should be performed.

VALUE OF CLIMATIC TREATMENT.

The writer has been frequently told by his western confrères that the cases of tubercular epididymis which come under their care are cured by sojourning in lower California and that operations in these cases is not necessary. Instances are frequently met of these so-called cures where the disease has suddenly become active, extensively involving adjacent organs. In one case which came under the cognizance of the writer, where the primary focus of the disease was quiescent in the epididymis, after living a year in New Mexico, was followed by tuberculosis of the kidney. It is not intended to disparage the benefit to be derived by proper hygiene and a life in a suitable climate, but it is believed that change of climate should not be sought until the primary tubercular focus has been removed. A number of patients have come under observation whose circumstances were such that they were enabled, after submitting to operations, to live an active outdoor life in a climate conducive to strengthening their resisting powers, and to prevent further invasion of the disease. Their present good health, and the immunity from disease which they have enjoyed, are doubtless due to these causes.

CONCLUSIONS.

An impartial study of the cases herein recounted seems to warrant the following conclusions:

1. A primary tubercular infection of either the epididymis or testicle may occur, the former being by far the more common.

2. A primary infection of the epididymis, secondarily that of the testicle, is more common than the descending one.

3. Primary involvement of either the epididymis or testicle usually takes place through the circulation, the soil being predisposed to the location of the tubercle bacillus either by a slight traumatism or by some infective condition which has given rise to inflammation of the organ, most commonly an attack of gonorrhea.

4. Secondary tubercular involvement of the epididymis or testicle sometimes follows a primary focus of the disease in other portions of the body, more commonly in those organs that are in a direct anatomic connection with the sexual glands, such as the seminal vesicles, prostate, urethra, bladder, ureter or kidney.

5. The invasion of the testicle may be rapid, associated with acute inflammatory symptoms, an abscess soon developing; or the onset may be slow, the symptoms simulating those of either chronic syphilitic orchitis, or malignant disease of the organ.

6. The tuberculin test should always be employed in doubtful cases where only one focus of the disease is known to exist.

7. In doubtful cases associated with hydrocele, the fluid should be examined for the tubercle bacilli and inoculating experiments made.

8. The injections of either emulsions of iodoform or of sulphate of zinc into the diseased part are not to be recommended.

9. In all cases of encapsulated caseous nodules quiescent in the epididymis, epididymectomy should be performed.

10. Epididymectomy together with resection of the vas deferens is not attended by either atrophy of the testicle or sexual weakness.

11. The drainage of tubercular abscesses followed by the use of the curette is only to be employed where radical treatment is not permissible, as it is attended with more or less danger and is generally unsatisfactory in its results.

12. In instances where the epididymis alone is involved, a resection of the diseased structure is all that is required; whether a partial or complete resection of the vas deferens is to be undertaken is still undetermined.

13. Double orchidectomy should be performed when both glands are diseased, provided there is not extensive co-existing tubercular infection of other organs.

14. Whether infected seminal vesicles should always be removed at the time that the epididymis or testicle is resected is a question open for discussion. From the fact that in a large majority of cases the removal of the primary seat of the disease is followed by a subsidence of the tubercular involvement of the vesicles, it is deemed wiser, as a rule, to wait and remove the vesicles later, if necessary.

15. Hygienic and climatic influences play as important parts after operations in fortifying the constitution against further invasion as they do in other tubercular conditions.

16. The anti-tubercular remedies are of great value in controlling the disease and should always be employed in conjunction with whatever surgical procedure may be deemed necessary.

WHAT OF THE FUTURE?

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON OBSTETRICS AND DISEASES OF WOMEN, AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

J. H. CARSTENS, M.D.
DETROIT, MICH.

This question we may well ask ourselves, for we certainly will have other things to do than to take out tumors and diseased tubes. The obstetric part of our section has virtually been settled. Obstetrics is based on purely mechanical laws, and in the vast majority of cases nature needs no help. The small percentage of abnormal cases that require the assistance of the obstetrician are now well understood. The patients are under observation from the beginning of pregnancy, many of the cases which would be serious are recognized before that time, and by the induction of premature labor and other methods many of the more severe cases, I might say severe confinements, are prevented.

Even the severe cases that are allowed to go on to full term can be delivered safely, for mother and child, by Cesarean section. The dangers of the physiologic process of confinement are now virtually nil.

Formerly one woman out of forty died, to-day, as reported at the Preston Retreat, 1,000 cases without a death. In private practice 500 and more cases have been reported without a death, and the other day I saw in a journal that at a lying-in hospital there had been 1,900 consecutive cases without a death, hence it seems to me that I can truthfully say that the moot questions in the obstetric part of our Section have virtually been all settled.

As our program shows, very few papers are presented on this subject. I have urged a number of members to write papers on this subject especially, so as to make some kind of show for obstetrics, but it is hard work. Every possible abnormal condition has been dilated on and from so many different standpoints that it is almost impossible for anyone to write a paper without repeating what has been said many a time before, yes, it is even difficult to write a paper that presents a subject from a slightly different angle; hence, no one wants to write a paper that is simply obstetric literature; consequently all our papers are on gynecology, and what kind of gynecology? Not that of the past, of Ferguson's speculum and the application of tincture of iodin and leeches and tampons and douches with occasional perineorrhaphy, no, that kind of gynecology is past. The papers we have to-day are the papers of mechanics, of surgery of the pelvis, the removal of tumors, the removal or partial removal of the uterus, ovaries or tubes or the anchoring of the same as nearly as possible in the normal condition if they are displaced. In the last few years our special effort has been to preserve as much as possible the generative organs, where formerly we were more anxious to remove them entirely; now we select our case most carefully and preserve the whole organ, or, if we cannot do that, we preserve as much as we possibly can.

The various moot questions in this branch of our Section, that is, the gynecologic, are consequently also being settled. Very soon there will be nothing more to write about. With the thousands of workers in different parts of the world, a little is added here and a little there, and soon all disputed points will be made clear and settled, and what then? Our Section's work will be done, very little new can be presented and few papers will be reported; very rare cases only or resumés of some subject. We have nearly arrived at this point, and therefore I throw out the question: "What of the Future?"

The general practitioner of the country is the one who attends the cases of confinement occurring in his neighborhood. Some of us may drift into the ranks of the general practitioner; the other part of our Section, of the surgical habitus, swing off and join the ranks of the general surgeon, and but little more will be left of our Section.

That will be the end unless we find something else that could be properly brought before our Section and that we, with our experience with women, could properly handle, discuss and settle in the interests of the race.

When we consider that nation which has been the mighty ferment and a great factor in the civilization of the race during the last three centuries, when we consider that France is a decadent race, has virtually reached its limitation of growth, that without emigration its population does not increase, there is food for thought.

When we consider that England is beginning to get in the same condition, that even in Germany the proportion of children to the families is very decidedly diminished, then we can easily see that there is other work for the gynecologist and obstetrician.

In our own country the decreasing fecundity of American women is so well known and has reached a stage where barely one child is found in the family on an average, and when we consider that the New England states have not grown—in fact, would have decreased in population were it not for the influx of foreign population and by the admixture of new vigorous blood—when we furthermore consider that even this very prolific foreign element in one generation has its fecundity diminished, the question becomes a serious one.

Malthus, more than a century ago, was afraid that the world would be over-populated, but he did not under-

stand the process of evolution and that nature always provides means to prevent over-production.

We to-day may not believe that a nation should be gauged by the number of inhabitants, but rather by the mental caliber of its citizens, still we cannot ignore the fact that mental caliber without physical vigor is a very serious state of affairs. With the physique kept up at the highest point, mental improvement should go on as required by advancing civilization.

When we consider that a young woman who is married insists on not having children right away or having children later in life, that she makes use of every possible trick to prevent or destroy pregnancy, thus ruining her health and destroying her power of reproduction at a later period when she is so anxious to have children and has found out that life is hardly worth living without children—without some object or aim to live for—when we have this old question brought to our attention we can readily see that there is something for us to do besides operating.

When we consider that lack of moral training that is often given by a selfish mother, who says before marriage: "I do not want my daughter to be troubled with children," we may well despair in our efforts. Then we can easily see that the work we may do in the medical societies, and of which the great public hears nothing, is of very little use, unless we, as individuals, each in our respective community, forge to the front and see that education and a higher and nobler standard of womanhood is inculcated in the mind of the rising generation.

When we consider that in a republican form of government all are equal and that all soon become ambitious, all want to shine, all are striving to get the best education obtainable, that some parents are denying themselves so that their children can acquire a better education and that the young people do all kinds of work and struggle along as well as they can, so that they may obtain an education, then it can readily be seen that the resulting product of such educational system will not be evenly balanced, there must be a disproportion between the physical and mental condition, hence not a normal condition, or there must be a degeneracy of both the body and the mind.

We know that when a highly civilized nation comes in contact with one which is low in intellectual development, that the latter nation will go under and finally be exterminated. It is the inability of the lower to keep pace with the rapid strides of the more enlightened nation. The change and the demand are too great and sudden.

The same thing occurs with individuals who have no hereditary tendency to mental training. If for generations the life has been a monotonous one, like "the man with the hoe," you might say, and you try all at once to educate the brain to the highest degree, something will give away—it should be gradual, little by little, generation after generation, and then the system can adjust itself to the various conditions required.

Take our school system: the children are stirred up to ambition, are urged to set their mark high and all to become teachers, lawyers, ministers and physicians. They have but one trait of the mind, ambition, but they have no mental capacity, cannot grasp principles, they learn with great difficulty, they forget easily, and in order to keep up they must study, and study hard. They work after school hours, yes, work to 12 and 1 o'clock at night. They get up early in the morning to review their lessons before school hours, and the result is inevitable. Insufficient sleep, hasty meals and lack of exercise will produce a partly educated mind and a physical wreck.

If such a person be a female it is all the worse. If such education is without much effect on the body up to puberty it certainly will be after. The tremendous demands made on the organism during the stage of rapid development from childhood to womanhood requires that the strain on the brain by excessive study should certainly be lessened, especially so during the menstrual period. There seems to be no provision made anywhere in our schools for this, and the more I see of it the more I am inclined to think that somewhere a change should be made.

Either there should be an absolute separation of the education of the sexes at puberty or the education should be so elastic that the young woman should be allowed to leave school for a few days or a week during every month without it being charged up to her or putting her back from her place in school. This is the point I think that requires our serious consideration. If the woman is of the age when she is fully developed physically, her menstrual function firmly and fully established, then there will be, probably, no objection to co-education. It is during this stage of development, it seems to me, that the great mischief is done.

I think the tremendous strain on the brain at this period required by our educational system must certainly effect the physical condition, and the result is, in many cases, neurasthenia, hysteria and broken-down women whose capacity for reproduction is very limited. If there is a puny child born it will probably go through the same course that its mother did and be physically worse.

This great problem so affecting the future of the race should receive our serious consideration. There are many other ponts in connection with this problem. The boy is less affected by that kind of training as his sympathetic nervous system is less called on than that of the female. Besides he has greater liberty of action, has more out-door exercise and grows up to vigor and manhood. When he marries one of the women with the educated mind, which he admires, and a broken-down system, which he does not see, it will only take a short time for him to see the mistake he made.

He is strong and robust, with sexual vigor, she is weak and without passion, and it will not take long for trouble to arise. She is glad to be left alone as much as possible, and he finds company somewhere else. He picks up disease and gives it to her, and then we are called upon to remedy the trouble. Many women have told me that they were glad that their husbands let them alone and went somewhere else, they were perfectly satisfied. Think of such a view of life.

In this connection I might mention the question of prostitution. Venereal diseases are spread in many places and ways, but no doubt principally in brothels, especially of the lower kind. We must discuss this question thoroughly and come to some conclusion and then go before the public and insist on how it should be managed and controlled. Public opinion is adverse to regulation and control, but I see no other way to prevent the spread of private diseases. We must first clear up this question in our own minds and then educate the public.

Again, we find another condition where a young, vigorous woman, with the right kind of brains, grasps things properly, will go through the same educational system quickly and lightly, with plenty of time to thoroughly masticate her food, plenty of time for exercise and fresh air. She passes through it with a fine trained mind and healthy body. She has ambition. She marries a rich but older man. The man is past his prime, this

woman, strong, passionate, with a natural desire for a family, finds that she has made a mistake. She is suffering from sexual passion, super-abundant vitality which should be given vent by child-birth and lactation, and which is suppressed until nature rebels, and there is an explosion somewhere. She also ends with neurasthenia, hysteria, insane asylum, morphin or whisky.

When we consider that next to self-preservation, the preservation of the species is the strongest law of nature and that it permeates every organized being, from the dull monad of the primeval sea to the complicated organism of man, even increases with each higher nervous organization, then we must see that erotism plays a very important part in the life of a human being. We all see cases of young women suffering from ungratified sexual passion who perhaps do not even know what sexual intercourse is.

Holy horrors! This is a tabooed subject and must not be spoken of; it is dirty; it is vulgar. "To the pure all things are pure." We must speak of these things. We must learn about them and understand them, and then we can show the public at large what is normal and healthy. Only when we understand this ourselves can we find a remedy for the many abnormal or pervert conditions.

There is a history of another kind; with advancing civilization, if you can call it advancing civilization; there is the struggle for the mighty dollar; there is the ambition to shine, to appear big, to appear smart and rich. Young women want to marry a man with money or a large income. Young men see what women demand in the way of finery and style, that with a modest income they cannot afford to marry, so they postpone it until later in life, and women are thus thrown on their own resources when the parents become feeble and old and die. They must work early in life, the parents plan to give them a training or education where then can make an honest living, and they are all struggling for the highest positions that they can get; that of teachers, nurses, stenographers, bookkeepers, etc.

The competition in these various professions is great, all are getting overcrowded; every young woman wants something of that kind, none of them want to do housework. In order to prevent an overflood the requirements for all these positions are raised higher and higher year by year. Greater mental capacity is demanded to acquire the knowledge for any one of these more learned professions. When the knowledge is acquired the patient is broken down. Many fail in their calling which they have chosen, they made a mistake, they should have been something else. It is for us to solve this question of mental capacity and shove men and women into that direction, into that channel of activity, for which their mental and physical capacity is most capable.

This should be one of our great works to study and elucidate this great problem of the proper vocation of each individual. As a rule, all these kinds of persons finally become drones in their chosen position, filling it competently, but, as a rule, keep on the even tenor of the way, although "hope springs eternal in the home breast," but few find the hero of their ideal, few get married and thus live an unnatural life. Somewhere the nervous system will be unhinged and, although nature is wonderfully kind and compensating for weaknesses and defects, there is a limit even to nature, and after a series of years, generally during the period of the menopause, something snaps, some part of the system gives way and an invalid is the result

It may be uphill work, but we must help to eradicate this notion that men can be gauged only by the number of the mighty dollars they have and not by the good they do.

In this connection I might call attention to another point that seems to be overlooked, and that is the everlasting suggestions to young girls about their pelvic organs. A young girl will grow up, have menstruation established and have no trouble, but as the result of suggestions from her mother, sisters or others, she may develop trouble. Always being asked if she has any pain, and wondering that she has not; asked if she has any discharge, and wondering that she has not; always being asked about the excessive flow—these constant suggestions, this constant calling attention to the womb and ovaries, will make the young girl think about her menstrual function, and a slight deviation from the usual will, after a time, attract her attention, and she will begin to think about it more, and, as congestion of any part of the body, say the hand, can be brought about by having the mind dwell upon it, so congestion of the pelvic organs can be brought about by thinking of it, and congestion is only a pre-stage of inflammation and pathologic changes.

With this thinking and worrying about the disturbances we have gynecologic tinkering, and then we have but one step more to chronic invalidism. It makes my heart ache when I see young girls and women subject to local treatment, injections, supports, etc., for months and years, when all they need is a normal mode of living, proper food and proper exercise. A little hyper-secretion from the glands of the mucous membrane of the vagina or the uterus does not require local treatment always; it needs the treatment of the physiologist, that is all. I do not want to derogate proper local examination and treatment in special cases, what I protest against is the zeal with which this is carried in in simple ordinary cases.

More physiology is needed. We have all had patients come to us from a distance of hundreds of miles, expecting to go under a serious operation. On examination we find that all they need is to drink three pints of water a day, and with this advice we often send them home disappointed.

We have all had patients come to us from a great distance who were suffering from auto-infection, the result of constipation, and who need, instead of an operation, a proper regulation of diet and vigorous abdominal massage.

Many of the nervous cases sent to us, who are supposed to suffer from reflex-neurosis, are found to suffer from some of the protean symptoms of syphilis which have been overlooked because they are the latest manifestations found in the third generation and which are easily remedied by constitutional treatment.

How many brain diseases and diseases of the nervous system have been considered due to pelvic troubles simply because the patient was a female; every case of consumption or Bright's disease and every dyspepsia or appendicular colic; everything is supposed to be due to the diseases of the ovary or the uterus, if it occurs in a woman.

How we must constantly be on our guard and be broad general practitioners if we do not want to get in the path of the narrow specialist; to simply know a little part of the body, but forget the great wonderful complicated mechanism of the whole human organism.

In answering the question, "What of the Future?" I would say that we must have more papers and more discussion on the subjects to which I have called atten-

tion. We must get closer to the people in general and do more missionary work from house to house.

We must discourage the constant tendency of suggestions to young girls and women about the menstrual function. We must teach that this physiologic process in a healthy body will be taken care of by nature without artificial assistance.

We must see to it that the young woman has a sound body if she wants to acquire knowledge; that it is more important to have a healthy body than to possess great learning. We must oppose the cry that too much is being taught in our higher schools or the universities, that the demand on the mind is too great, as that is entirely wrong. We must teach that everybody was not born to attain this higher education, that only those should attend the higher institutes of learning who have the attributes of the mind which enable them to learn easily and quickly, and that even these require plenty of exercise and fresh air.

We should insist that gymnastics and systematic physical exercise should be taught in every school of the land, from the lower to the highest, and that the curriculum of study should embrace the most systematic course of gymnastics to produce a sound body with a sound mind.

We should thoroughly study the effects and the results of erotism on the human body. We should study how we can more thoroughly bring about a more perfect marriage relationship and prevent the frequent mismating, as shown in our courts.

In fact, we must more thoroughly study the exact positions of individuals, every combination of physical and mental condition and their most fit place and most proper vocation in life. We must branch out, we must look ahead, we must be the counsellors and the guides of the race in the future.

PHYSICAL DIAGNOSIS AS RELATED TO DENTAL COLLEGE CURRICULA.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON STOMATOLOGY, AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

A. H. PECK, M.D., D.D.S.
CHICAGO.

In view of the fact that during the past two years a number of the state boards of dental examiners throughout the country have added the subject of physical diagnosis to their list of studies, which must be passed to secure a license to practice dentistry in their respective states; also, that I have for some years been impressed with the desirability and, I may say, the necessity, of adding this subject to our dental college curricula, I concluded this would be as fit a subject as any for my paper at this time.

Heretofore this subject, whenever taught at all, has received what I may term unconscious attention from various teachers; that is to say, in the regular teaching of their departments they have naturally referred to phases of physical diagnosis, but not until the past year has the subject been made a separate department and a complete course of instruction given.

The knowledge of man has steadily increased, keeping apace with civilization. Man has been brought to a higher plane through scientific investigation; his mind broadened and ripened in the fields of research. The furtherance of their profession and the elevation of their fellow-men have ever been uppermost in the minds of the great men of the past.

As you are familiar, it was discovered ages and ages ago that teeth were filled with pieces of wood, ivory and other materials, as evidenced by the researches of the catacombs of Rome and Naples, thus assuring us that the art of preserving teeth was known to our ancestors of those very early times. Unfortunately, however, we do not know who the great dentists of those ages were, as the records of this work have been lost. Had this work been entirely satisfactory to these dentists and their patients, the latter being pleased and contented with such operations, our profession would never have attained to its present high, enviable position in this professional world.

Dissatisfaction with prevailing methods, and the laudable desire to excel, set men to thinking and to doing, the result being that dentistry has developed from a humble trade to an honored profession, affording a field for usefulness to thousands and whereby the suffering of the entire civilized world can be and is, in a great measure, alleviated.

During the past few years the courses of study have been lengthened in all professional schools. Only a short time has elapsed since a medical student could graduate after attending two courses of instruction of six months each, but now one is required to attend four years of nine months each, after having gained a good scientific or classical education as a foundation upon which to build his professional knowledge, thus requiring from six to eight years of college work to receive his degree of doctor of medicine. Let us not forget that dentistry has by no means been slumbering all the while, for the educational requirements for admission to a dental college have been steadily advancing, and the number of years and length of terms increasing, until now schooling equal to the second year of high-school work is required, and in another year four years of seven months each will be required.

Only a few years ago a student received a few lectures on physiology, when that part of his course was considered finished, but now it is one of the most important branches he has. Histology, pathology and bacteriology have become important subjects, and the dentist would also be considered very lame without a knowledge of anesthesia and oral surgery. More than this, the amount of practical work that must be done as a part of the dentist's preliminary education has more than doubled. What is the object of this advance? It is that his knowledge may be broadened, extended and that he may be placed on a higher plane with mankind, as well as that he may be better able to satisfy himself and his patients after engaging in the practice of his chosen profession.

We, as professional men, are continually being called upon to give opinion as to the etiology and prognosis of certain diseases, and who will attempt to gainsay the statement that this we should be not only willing but able to do, and it is imperative that we be as nearly correct in such counsel as possible. At times we find this easy, and again it taxes us to the limit, if not beyond; all our knowledge and reason is called into play before we are able to make definite statements.

It is not always an easy matter to tell just how much vitality a patient has, nor how much of a nervous shock one can endure, nor how long one can remain in a dental chair at a sitting without sustaining material injury. This we, as dentists, should know, so that our patients, on leaving our offices, will have received professional benefit instead of injury.

Who of you have not seen or are not cognizant of neurotic patients who were nervous wrecks for days after

having had a large amount of dental work done? With the requisite knowledge and the exercise of forethought and judgment, all this can be avoided. A few more sittings of shorter duration would have completed the work, at the same time acting as a stimulus rather than a nervous shock. This knowledge we can gain only by a thorough study of our patients, and an understanding of the cause or causes of their ailments.

I hope to see the time when a dentist will inquire into the health and symptoms of his patients before deciding on the amount of work that is proper and safe to be done at any one sitting, as should a physician before prescribing a certain amount of a drug or drugs that are to be given for an ailment of the patient.

To judiciously outline our work we, as dentists, must have as thorough a knowledge as possible of the various diseases of mankind, especially those affecting the vital organs or those organs most likely to suffer when shock is inflicted. The symptoms of these diseases, also the physiologic changes that may occur, are necessary to be understood. Who of us would keep a patient, afflicted with organic heart disease, in our chair for an unusually long and fatiguing operation if we be able to inform ourselves of the true condition of these parts.

There is only one way for us to gain this knowledge, and that is for us to familiarize ourselves with the normal heart, as to location, size, beat, rhythm and sounds, thus enabling us to recognize pathologic conditions when present. How embarrassing it must be for any dentist, after advising the administration of a general or local anesthetic, to be told, on consulting the family physician, that such a course would mean certain death to the patient, whether true or not.

Physical diagnosis is the term used to designate those methods which are employed in the detection of disease during life by the anatomic changes produced by it. The nature and extent of such changes can only be recognized and appreciated by the divergence which they cause in the affected organs from the known physical condition of these organs when in health.

The significance of physical signs in disease cannot be determined by theory; only by clinical observation confirmed by observation after death can this significance be determined.

If it be granted that it is at all desirable that the dentist shall possess this knowledge I am talking about, it at once becomes evident that he must enter into a systematic and thorough study of the only methods by which these physical signs can be determined in the living subject, and these methods are: 1, Inspection; 2, palpation; 3, mensuration; 4, percussion; 5, auscultation; 6, radioscopy.

Some of these methods have been in use for many centuries. Palpation, for instance, was used in the Neolithic or polished stone age, 1500 B. C., to demonstrate the presence of fluctuation, while radioscopy is practically new. This method is the outcome of the discovery of the x-ray, by which, with the use of the fluoroscope, tumors or solid bodies are located in various parts of the body, that were impossible of discovery before. Fractures of bones, the exact kind and position, are determined by looking at the bone direct. Tumors of the internal organs are observed by this means, thus enabling one to diagnose conditions which were impossible of discovery before the x-ray was in use.

One must also be conversant with the various areas into which the body is divided, and which are bounded by definite anatomic relations. This is necessary that one, being familiar with the normal size and location of an organ, can determine whether it is in its proper position.

It is necessary to know that the first area from a physiologic standpoint is the supra-clavicular region; and that this area is definitely bounded below by the inner three-fifths of the clavicle, internally by the trachea, and superiorly by a line extending from the junction of the outer with the middle third of the clavicle to the top of the trachea. Also, it is necessary to know that normally within this area are to be found the apex of the lung, the carotid artery, the subclavian artery, the subclavian vein and the jugular vein.

Next below this is the clavicular region, which is that part of the thoracic cavity lying back of the inner three-fifths of the clavicle. An understanding of the anatomic boundaries and contents of this region is also necessary, but with which I shall not inflict you in this paper.

The most important regions, from the standpoint of the dental practitioner, are the following: Infra-clavicular, the boundaries of which must be carefully studied, that one may recognize the presence of the vital anatomic structures and organs in their normal positions. In this region are to be found, on the right side, lung tissue, the ascending vena cava, the right bronchial tube lying back of the sterno-costal articulation and also a small portion of the arch of the aorta. On the left side are found the pulmonary artery from its origin to its bifurcation, the left bronchial tube lying a little below the second sterno-costal articulation.

The next region of special importance to the dentist, and which lies immediately below the preceding one, is called the mammary region.

The lowest region in the anterior aspect of the thoracic cavity is called the inferior mammary.

Centrally located is the sternum, this area being divided into three regions: (1) The supra-sternal; (2) the upper sternal, and (3) the lower sternal.

The back is divided into three regions: (1) The supra-scapular; (2) the infra-scapular, and (3) the inter-scapular.

All these regions should be carefully studied, as indicated above, in the two instances in which the boundaries and contents are stated.

A knowledge of the size and exact location of the heart is especially important. In the average subject the base of this organ is found at the second intercostal space, the apex beat or the maximum impulse being at the fifth intercostal space, from three-fourths to an inch to the left of the sternum. It must be understood that the apex beat does not locate the apex of the heart, the latter being about an inch to the left of the beat.

The anatomy of the heart must be studied. It is necessary to know that there are four different valves, and what is expected of them in the performance of their normal function, and that the positions on the chest where the sounds made by the valves can be most distinctly heard are not immediately over the organ.

I thus briefly outline this foundation work that there may be no mistake as to what I consider necessary in the schooling of prospective dentists, that they may be able intelligently to apply the six methods of eliciting the physical signs of the various pathologic conditions of those diseased organs bearing directly on the practice of dentistry.

It is also necessary to be thoroughly conversant with the meaning of these various methods of physical diagnosis, how each is to be employed, and what is to be learned by it; that inspection means only that which can be determined by looking at the patient without further means of diagnosis; that palpation means the examina-

tion of the parts by the laying on of the hands, and in this method only the tips of the fingers may be used, or the palms of the hands as a whole; that with mensuration certain facts are to be determined by the process of measuring; that by percussion is meant the tapping of the chest to elicit certain sounds under the varying conditions; that there are different methods of percussion, the immediate and the mediate; that auscultation is the act of listening for sounds within the body, chiefly to ascertain the condition of the lungs, heart, pleura and other organs; that there are different methods of auscultation, the immediate, which is the application of the ear directly to the part, and the mediate, which is by use of the stethoscope. The pulse is such an accurate index to many of the lesions of the heart, it is necessary that one shall understand it in all its variations.

Thus would I have dental students instructed. I trust this paper will receive full and unrestricted discussion, for I want to know whether, in your judgment, this branch should be added to the curriculum of our dental institutions of learning.

This is a subject that has engaged my attention for some time, and it was my desire more than two years ago to present this subject to the profession and urge its teaching in our schools, but listening to the advice of trusted friends that the time was not ripe for it I desisted. During the past year it has been taught in the institution with which I am connected.

As I see it now, I cannot understand how anyone can advise otherwise.

I hope to see prospective dentists so instructed in the future that they shall be able to recognize diseased conditions of at least these vital organs, and thus be enabled to avoid serious and possibly fatal mistakes. When this knowledge is acquired and successfully practiced, the dentist at once gains the implicit confidence of his patients, his word with them becomes law, and his opinion is sought and respected. Such a dentist is a real benefactor in the community in which he resides and his success is assured.

He also has the satisfaction of knowing he is one who has participated in that "higher education," the practice of which can only result in assisting to elevate the standard of his profession, and to place it on a higher plane in its relation to other progressive professions.

THE EMBRYOLOGY OF THE DENTAL PULP.*

R. R. ANDREWS, A.M., D.D.S.
CAMBRIDGE, MASS.

At the invitation of the secretary of our section to present a paper on some subject connected with the dental pulp, I shall consider at this time the dental pulp in its embryologic aspect. Such an aspect appeals to me the more strongly from the fact that I have given special attention in earlier research work to dental embryology. In a general way, I shall consider the growth of the dentine germ from the earliest signs of its development, the formation of the dentine from the germ, and lastly, the fully formed and functionally mature pulp. This subject may not offer anything that is particularly new, but there are several points that I have recently been trying to clear up, and a discussion of them may prove of general interest to the Section on Stomatology.

At about the end of the second and the beginning of the third month of intra-uterine life, in the embryonic tissue of the jaw, we shall find the primary specialization of cells which are to form the dentine germ, and from which come the cells which afterwards form the dental pulp. It is in no special zone or layer of this connective tissue that the dental germ is formed, but the formation seems wholly influenced by the contact with an enamel organ. In the presence of this organ, the connective tissue cells become stimulated and active. It would appear as though they offered a resistance to its further growth, and from this resistance the enamel organ was made to expand, thus becoming flattened and broadened. The stimulation and activity of the cells is shown by their rapid growth, which clouds the part at this point, becoming a dense focus of new growth. The tissue is seen to be actively building itself up, and this results in the formation of a papilla, around which the enamel organ is growing like a cap or helmet. This process of new growth is a beautiful illustration of anabolic metabolism. The papilla grows to a cusp or cusps, and now becomes the dentine germ. At the end of the third and at the beginning of the fourth month, the dentine germ is rather a homogeneous structure. Round cells are very numerous; they have relatively large nuclei and nucleoli. As the germ assumes the cusp shape, multiplication of cells takes place around the blood vessels, which have grown into the base of the germ, and a jelly-like layer has formed around its outer surface. It will be found that the dental germ will grow into the depressions of the enamel organ of a bicuspid or molar tooth, and these growths will become the dentine cusps. We also notice that the different layers of the enamel organ are now formed, and that the sacullus is now forming its layers about both enamel organ and dentine germ. When this process is completed, these are enclosed in a sac, and thus become a dental follicle. Within the area of the dentine germ are contained all of the cells which shall develop later into the mature dentine, and into the pulp of the fully-formed tooth.

The round cells around the rim of the dentine papilla appear to be in a protoplasmic substance, sometimes called a zone of amorphous material. It is a hyalin structure on the outermost surface of the germ. The cells just within become richer in protoplasm, and many processes are seen to be forming from them. They are becoming branched cells, a little later the cells at the surface grow larger and assume a columnar shape which may be caused by mechanical compression. We also see just within this layer of cells some that are pear-shaped, conical, cylindrical, and spindle-shaped. There are some authorities who have spoken of what they call elementary cells on the outer layers, and from which they say the odontoblasts are formed, but I have never observed anything but globular masses that are not cells, and which are found in the protoplasmic substance of the rim spoken of above. At the beginning of the fifth month these cells on the surface are seen to be undergoing a histologic differentiation, as stated above, and are becoming specialized or formative cells, the odontoblasts. They are membraneless and little more than masses of protoplasm, which are seen to be filled with great numbers of bright, glistening globules of different sizes. The so-called "conjugation cells" of the German authorities are what I believe to be the pear-shaped fiber-forming cells. These are seen to be sending their processes into the intercellular spaces of the odontoblasts, and thus I believe the fiber to be formed. At this time dentinification is about to begin. How does this process of calcification take place? This

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Stomatology, and approved for publication by the Executive Committee.

we do not wholly understand, nor do we understand the chemical or physical properties of the building materials. At this time the blood supply is evident, and at the seventh month there is a perfect vascular system consisting of arteries, veins and capillary network.

As I have said, the details of the vascular mechanism by which the odontoblasts are supplied with lime necessary to form calcified structure have not as yet been clearly worked out. Capillaries near the formative cells do not communicate directly with the cells, and must therefore pass the lime through the intracellular substance. The inorganic calcium which is necessary, manifestly cannot be supplied as such by the organic formative cells, but must make its initial entrance into the body from without. This entrance in the fetal state must necessarily be through the maternal circulation, and after birth it must come from the food which passes through the alimentary canal. From here it must be carried to the specialized formative cells which superintend the process of dentinification, and there is but one such distributer, the blood supply.

After the absorption of food into the circulation by the intestinal epithelium, chemical analysis of the blood shows the presence of two calcium salts, the insoluble phosphate ($Ca_3(PO_4)_2$), and the soluble carbonate ($CaH_2(CO_3)_2$). It can be readily understood that the soluble carbonate can be absorbed, but how the insoluble phosphate can be absorbed is still a mooted question. It is believed, however, that it is absorbed in that same loose chemical combination with proteid in which it is found before absorption in the casein of milk, and the yolk of egg. Chemical analysis has shown these two foods to be very rich in calcium. The casein and caseinogen of cow's milk, according to Bunge, contains more calcium to the liter than does lime water. Caseinogen, according to Soldner, contains 1.65 to 2.36 per cent. of calcium. The proportion of calcium in combination with the proteid of egg-yolk has been found to be about the same.

The loose calcium-proteid combination, arriving during its passage through the dental pulp capillaries, within the radius of the special physiologic motive force of the odontoblasts, is acted on by this vital force, and thus becomes ingested by the cells. We believe that it here becomes modified by the cytoplasm of the cell, by a chemical combination with its organic substance, and in this way calco-spherites are formed. Within the cells these globules seem to have the property of coalescing, and as they are placed by the cell against the surface to become calcified they are found to be in many cases large globular or irregular-shaped masses. These masses, merging with others, smooth out and form the layer always found between organic and calcified tissues, where the process of calcification is taking place. This is the layer known to investigators as borderland tissue. Hoppe-Seyler asserts that the lime which hardens bone, dentine and enamel is a double salt of carbonate and phosphate of calcium, having the formula $Ca_{10}\ CO_3\ (PO_4)_6$, one equivalent of calcium carbonate with three equivalents of calcium phosphate.

The various processes of dentinification have been demonstrated to me by many hundreds of sections cut from developing teeth, at a time when calcification was beginning, and from tissue prepared as near the life of the animal as it could be, and prepared with the least possible manipulation consistent with perfect specimens.

The formation of dentine from the dentine germ proceeds substantially in the following manner: We notice that the hyalin substance on the rim of the germ, which is a protoplasmic basis substance that surrounds the outer ends of the formative cells, is filling up with glistening, irregular-shaped masses that appear semisolid, many of them being globular, but all tending to form a layer of substance which is involving a portion of the outer ends of the odontoblasts. We notice that these cells themselves are filling with bright, but minute, globular bodies, which are the calco-spherites, that seem to have their origin within the cytoplasm of the cell; these grow larger, probably by merging with others, as they are conveyed to the calcifying surface of the layer of the rim. Mr. Mummery of London has described a network of connective tissue fibers which were seen in bundles between the odontoblasts, and even enveloping them and passing out from them, forming a network just in advance of the main line of calcification. This network of fibers, the fibers of Mummery, serves, during the formation of the layers of dentine matrix, as a scaffolding, among which the gelatinous tissue and the calco-spherites are deposited. I have described a similar network in developing enamel, in a paper read in Berlin in 1890. In this way the calcifying layers are formed until the dentine is completely calcified. This process is not continuous, but occurs in laminæ, as indicated by the contour lines seen in the forming specimens that have been stained. The layer which is forming is a new product in which the lime is held in some sort of a chemical combination. In this condition it is known to be calco-globulin, and a further chemical change forms it into the fully calcified structure. Thus the dentine is formed, layer by layer, and stage by stage. We cut our sections, if we are studying the forming dentine, at a period of growth covering one of these stages, and we do not always get the same picture. Sometimes our section will show the globular formation stage, sometimes in the stage that shows the continuous band of calco-globulin, and sometimes, though rarely, we get a picture that shows no appreciable layer between the odontoblasts and the calcified dentine. Sudduth has stated that the thickening of the dentinal wall is accomplished by a single layer of odontoblasts which begin the process, and these same cells persist throughout the life of the pulp. I cannot, with my present knowledge, agree with this statement, for I have seen earlier layers of odontoblasts being apparently used up or engulfed within the layer forming, and other formative cells developing from the cells of the pulp tissue just within. Oblique sections of forming dentine, and of the layer of borderland tissue, also show parts of the formative cells which have become fused with it. Dr. Frank Abbott makes the statement that he has seen from time to time dentine forming cells replaced by others, which, he says, are seen to be forming at their inner side. The layer of calco-globulin has been called collagen; I do not believe that it is collagen. It was also formerly known as the "membrana preformativa," but this is not a membrane. The layer of odontoblasts was also known as a membrane, the "membrana eboris;" neither is this a membrane.

Morgenstern calls the layer of borderland tissue "dentinogenous substance," and thinks that it is produced by the odontoblasts giving up part of their substance, and that a segmentation of the odontoblasts has taken place, somewhat as the enamel rod is formed into segments.

There appears to be a lack of knowledge about the dental fiber, its canal and the so-called sheaths of Neuman. We speak of the dentine tubes, or of the dentine tubuli. A tube is any long and hollow cylinder—a pipe; tube or tubulus is certainly a mismomer. We should

speak of it as the dentinal canal or dentinal canaliculus, for a canal is a duct in a body for the passage of fluids, a duct through which anything may be conducted. If we examine the cross section of the developing tooth again, where only a narrow layer of dentine has been formed, we see on the edge of the fully calcified layer, between it and the formative cells, the transparent, hyalin layer already spoken of. It is somewhat irregular, as if it were formed by the merging of globular masses, a transitional tissue, mind you, which a further stage in the hardening process will completely calcify. It then becomes matrix or basis substance. It is formed by microscopic globules, calco-spherites, within the odontoblasts. These cells appear to superintend the laying of the globules which are arranged in the substance of the gelatinous tissue, a layer of which has been formed by the pulp to receive them; they are deposited against the fully-calcified matrix within the fibers of Mummery. This is the hyalin layer already spoken of. It is a layer of borderland tissue that is singularly indestructible in acids or in caustic alkalies. I have already stated that there appear to be two kinds of cells concerned in the formation of dentine; one, a fiber-forming cell, with a long process running into the canals; the other, a matrix-forming cell, the true odontoblast. This is usually square and abrupt against the dentine, and the process or processes which it appears to have, in many cases, I have found, belong to the fiber cells deeper within the pulp tissue. As the dentine layer forms, the fiber of the fiber cell lengthens, and against the surface or sides of this lengthening fiber the same hyalin layer is left uncalcified, as is found against the forming matrix next the formative pulp.

We frequently see two fiber cells merged into one, caused by the lessening circumference of the forming dentine; they have merged together, one losing its identity completely at that point, and so it is with the odontoblasts. It appears to me clear that all the branching of the canaliculi must be from the merging of these fiber cells, thus forming branches of the main fiber. The so-called sheath, then, is a transition tissue, probably the same as the tissue which remains uncalcified in the interglobular spaces in dentine. It is in no sense a separate tissue, and sheaths can only be demonstrated after full decalcification, when acids have completely destroyed the matrix. In cross section of the canals in dentine this borderland tissue can be stained by a preparation of nitrate of silver. It acts precisely the same as it does on the hyalin layer of forming dentine; it stains it black. Both tissues are matrix tissues in a partial state of calcification, and full calcification will take place in this borderland tissue against the fiber as age comes on, when the dentinal canals are found to be much smaller in diameter than they are in the young tooth. We may assume, then, that the so-called sheath of Neumann is but a transitional tissue only partially calcified, which may fully calcify in the future. It lines the canals in the dentinal matrix, and is only a sheath when acids have destroyed its adjoining more fully calcified substance.

In these various processes we have considered the calcification of the deciduous central incisor. The process begins about the fourth month, the crown is nearly formed at birth, and the tooth root fully formed at the eighteenth month. Thus far it has been my purpose to describe the various processes of dentinification taking place before and after birth, as demonstrated by research work. In describing these it has seemed necessary to repeat descriptions in order to make the subject matter clear. In concluding, a brief description of the germ tissue remaining after full calcification has taken place, will be given. This germ tissue now becomes the normal pulp, which is the source of nutrition and nerve supply to the tooth. The main mass of this organ is made up of a semi-gelatinous matrix thickly studded with cells which do not in themselves form a continuous tissue, that is, they are not in contact with each other. They are imbedded in a jelly-like substance, in which many fine fibers are seen. In the center of the pulp tissue the cells are less numerous than they are near the formed dentine. The cells against the dentine are no longer square and abrupt against it. They are now oval or pear-shaped, with the pointed ends conveying a fiber to a canal in the calcified matrix.

The study of many sections of the pulp of fully formed teeth has led me to believe that the pear-shaped cells fringing the outer surface of the pulp, and having fibers running into the canals of the dentine matrix, are not cells having the same functions as did the formative cells, or odontoblasts, which were square and abrupt against dentine, while it was forming. There are indications that the pear-shaped fiber cells have a membrane, and they remain pear-shaped throughout the vitality of the pulp. When the pulp is irritated by the approach of caries, or from abrasion, or from some stimulation from without, the fiber cells do not appear to take part in the formation of secondary dentine, the dentine of repair; but new formative cells are seen to be developing from the cells of the so-called conjugation layer just within.

Weil has described an intermediary layer just within the odontoblastic layer, which consists of a large accumulation of spindle-shaped cells, somewhat different from the embryonic connective tissue cells of the main mass, which varies in breadth according to age. This intermediary layer represents the remains of what the Germans call the conjugation cell layer, a layer of reserve material, which seems to be a product of the growth changes of the pulp. I doubt if there is more than a remnant of it in adult teeth. Some authors assert that the cells in the center of the pulp degenerate, that the nucleus disappears, and that there is a partial loss of their protoplasm. This is undoubtedly the case in older pulps which no longer show the rich ramifications that the younger ones do. Lymphatic vessels have never been demonstrated with certainty in the pulp tissue. There is a network of undulating fibers which run from the root to the crown, parallel to the axis of the tooth. The interspaces between these cells and fibers being filled with a protoplasmic substance, their histologic nature has not been determined. It is stated that the cells of the pulp show characteristic differentiation at different times in its life. There are three kinds of cells which have their origin from the embryonic connective tissue cells by metamorphosis. These are round cells with large nucleus and scanty protoplasm; spindle-shaped cells; and irregularly shaped cells, which have branching processes that freely anastomose with the spindle-shaped cells and with themselves. The changes in the cells seem to begin at the periphery and proceed toward the center of the pulp. At the periphery we have the pear-shaped cells, then the spindle-shaped conjugation layer of cells, then the spindle-shaped and irregularly shaped cells with their anastomosing processes, and lastly, the connective tissue elements in the central portion of the pulp, which seem to be scant in protoplasm. These cells are not very numerous, and are in a jelly-like matrix. The blood vessels enter at the apex, the trunk vessels resting near the center of the pulp. Sometimes as many as three arteries are seen

to enter the apical foramen. They then divide into innumerable branches, and form an extensive network of capillaries near the layer of the pear-shaped cells next the formed dentine. There are numerous veins also found, and these are somewhat larger than the arteries. Black tells us that the blood vessels of the pulp are remarkable for the thinness of their walls, and that the smaller veins seem to be nothing more than endothelial cells which are placed edge on edge, or margin on margin. The arteries have a circular and longitudinal layer of muscular fibers, but these are very thinly distributed. The capillary network is so rich near the pear-shaped cells in the forming tooth that when they are injected and shown under the microscope there seems to be little room for any other tissue. The nerves of the pulp are many, the fibers being medullated and non-medullated, which enter the pulp through the apical foramen in bundles of various sizes. As they pass into the pulp they break into branches and form a rich network, a delicate plexus of fine nerve filaments next the outer pear-shaped cells. It is not known just how these communicate with the fibril. It has been asserted that the finer fibers may pass between the pear-shaped cells and wind themselves around the dentinal fibrils, passing thus into the canal. Sudduth inclines to the view that the terminal fibers unite with the pear-shaped fiber cells, and that sensation is thus transmitted by the dentinal fibril to the terminal branches of the nerves. In form a mature pulp is shaped nearly the same as the tooth to which it belongs.

GANGRENE FOLLOWING THROMBOSIS OF THE ABDOMINAL AORTA AND ITS BRANCHES.

R. EDWARD GARRETT, M.D.
ASSISTANT PHYSICIAN, MARYLAND HOSPITAL FOR THE INSANE.
CATONSVILLE, MD.

Rarely are there offered any better opportunities for observing arteriosclerosis in all its degrees and varieties than are found among the patients of the state hospitals for the insane. In many of these institutions it is a routine practice to note the condition of the arterial system of each patient.

It is now a well-established fact that arteriosclerosis is frequently hereditary and often congenital; indeed, it is not rare to find it markedly present in subjects (especially degenerates and imbeciles) as young as twelve years of age.

The following case is reported not only because of its unusual occurrence, but also on account of the absence of certain pathologic lesions which one would expect to find.

HISTORY.

The patient, Mrs. ——, aged 34, was admitted to the Maryland Hospital for the Insane April 25, 1900, suffering from melancholia agitata (puerperal in origin) which is now fast terminating in dementia.

Etiology.—Just previous to the outbreak of mental trouble, it is reported that she was prematurely delivered of a six months' child because of eclampsia, but an examination of the urine revealed only a trace of albumin, no casts could be demonstrated and no sugar was found—an ophthalmoscopic examination being rendered impossible by the restless condition of the patient.

On admission she was spare, but not emaciated, the heart and lungs were normal and the general physical condition somewhat below par. There is a moderate amount of arterio sclerosis; no history of lues. The mental condition has no bearing upon the subject under discussion, except that at times she is much agitated and restless, walking the floor at night and offering considerable resistance when bathed and dressed. Between the time of admission and the date of the present illness there is nothing of interest to note.

On March 5, 1902, she became irritable and complained of pain in the legs with inability to stand or walk. She was put to bed, but as no redness or swelling was visible, and as the patient had previously been hypochondriacal, no importance was attached to the symptoms. Temperature 100 F. The following day the pulse became feeble and rapid (140 to 160) with profound syncope, quickly lapsing into a semicomatose condition, which continued for several hours, after which she gradually regained consciousness and the pulse became stronger and less rapid—pulse 100, temp. 100.8 F. A few days later a dry gangrene appeared in the small toe of the right foot, the remaining toes and foot following in quick succession. On examining into the circulation, the arteries on both sides from slightly above the bifurcation of the abdominal aorta to the popliteal (inclusive) were found to be obliterated. In the position of the femorals, hard, nonpulsating cords could be distinctly felt running down either thigh—which could be traced upwards under Poupart's ligament into the pelvis. The abdominal aorta could plainly be felt pulsating an inch below and to the left of the umbilicus, but could not be gotten below this point, the pulsation in the iliacs was likewise lost (while in another patient of similar adipose tissue and build, the arterial blood current in the iliacs could be distinctly felt).

Amputation was done through the right thigh at the junction of the upper and middle third, the Esmarch bandage was used, but was probably an unnecessary precaution, as the superficial femoral was clogged with a blood clot, the profunda, although patent at the point of incision, was probably occluded above; both of which were ligatured, however, together with a few of the smaller vessels. The operation was done as rapidly as possible, and there was no hemorrhage. The wound healed *per primam* with the exception of a small blood clot, which broke down and granulated.

The patient made a good recovery, but was purposely kept in bed longer than usual because of the doubtful condition of the left leg, which remained pale and cold, the difference in surface temperature being well marked between the thigh which, by collateral circuation, was not any too well nourished and the leg which was struggling for life.

Present Condition.—At the present writing, 37 days after the first symptoms, the foot and toes are still intact. Just which vessels are taking part in the collateral circulation can, of course, only be surmised—and just why it was established in one leg and not in the other cannot be explained.

The dissection of the amputated part shows the femoral and popliteal arteries to be occluded by a firm, hard thrombus, extending in one continuous clot from the point of incision in the femoral down through the popliteal to within about an inch of where the anterior tibial is given off. The veins were normal.

Microscopically, the sections show the clot within the lumen of the vessel to be in an advanced stage of organization, small vessels and some young fibrous tissue can be seen forming. The intima is normal, showing no proliferation of endothelium, the media shows the hyalin degeneration only very slightly and the adventitia is somewhat thickened. There is no evidence of any acute inflammatory trouble. This slight change in the media is somewhat inconsistent with the clinical condition found, and because of this lack of microscopic evidence to indicate that the clot was caused *per se* by the vascular lesion, it is thought that some unascertained coexisting exciting cause was responsible to a greater extent than usual.

THE QUESTIONABLE ORIGIN.

The writer has been unable to decide to his own satisfaction whether the case is a traumatic one due to some unknown self-inflicted or accidental injury or whether it is one of those cases of so-called spontaneous coagulation due to certain febrile affections, such as is described by Pearce Gould of London, who reports cases following influenza.

It is possible that either of the above exciting causes could have been instrumental in producing thrombosis

in one already predisposed by even as moderate an amount of arteriosclerosis as the one in question.

My thanks are due to the Superintendent, Dr. J. Percy Wade, for the privilege of reporting the case.

Clinical Report.

MATERNAL IMPRESSION "MARKS" CHILD FOR A FROG.

J. W. COOLIDGE, M.D.
BRISTOL, N. H.

Mrs. R., aged 31, of good intellectual ability, and not superstitious, gave birth, March 13, 1902, to a stillborn, seven months' male child.

Fetal movements were noticeable the previous evening and death seemed to have been due to a long second stage, it being 3½ hours in length.

The child having no neck, the head was almost immovable on the shoulders, so much so that it was a left brow presentation,

the left shoulder following immediately, and so rigid were these parts that the maternal coccyx was strained backward sufficiently to cause extreme pain for a few days.

The child's eyes protrude far beyond the brows, and there appears to be no brain cavity, except two little sacs on the back of the head, with a smaller one between and posterior (cerebellum).

There are two parallel lines of bony prominences extending from the back of the head downward as far as the last dorsal vertebra, separated by a space a little more than an inch wide, over which there is no skin, leaving the flesh like a fresh wound. The bony prominences are bordered by a thin osseous scale, and this for the upper two thirds by a narrow line of fine hair. The body and extremities are otherwise normal.

Mrs. R. has one child four years old and has had one abortion. She is not easily frightened, and at first could remember nothing to account for the deformities. Later she remembered carrying out a frog the cat had killed and brought into the house at about the third month of her pregnancy.

The gross appearance of the child's back is that of the back of an injured frog when he elevates the flat surface extending backward from the head.

[The case described above is a form of monster belonging to the group of exencephalus. The deformities in these monsters, as well as in the anencephali and in the cases of spina bifida, is started by a failure of the posterior vertebral plates to close over the neural canal in early embryonic development. This deformity, cranio-rachischisis, may be due to an excessive formation of cerebrospinal fluid or to some thing that interferes with the union of the posterior lamina, e. g., adhesions of amnion to the edges of the medullary groove.

The belief that an idea of the mother during pregnancy can have any influence on the causation of such a deformity has no support from any scientific observation and is almost incredible. The mother has no connection with the child in utero except through the blood supply. There is no nervous connection, and even if there were it is difficult to imagine how the amniotic adhesions could be produced by an idea or mental condition of the mother.

This matter is of considerable importance because of the widespread belief in the efficacy of maternal impressions in producing deformities and "mother marks." This belief among mothers leads to much useless and harmful anxiety during pregnancy, for all women are liable to see unusual sights that may frighten or disgust them. Moreover, if a deformed child is born the mother is very apt to blame herself or some other innocent party for the assumed causation of the trouble. A physician, therefore, instead of searching out some forgotten incident that by the exercise of a lively imagination can be made responsible for the deformity, should rather seek to educate his patients to remove their fears and superstitions.—Editor Journal A. M. A.]

Uniform Preparation of the Cinchona Alkaloids.—Myttenaere, of Hal, Belgium, states that the methods of preparing cinchona bark according to the various pharmacopeias causes a difference of 2.2 to 6.8 per cent. of the alkaloid in the resulting extracts. He states that this variation can be prevented and the identical results always attained, if ammonia be used instead of fixed alkalies for extracting the alkaloid, and pure chloroform instead of the various mixtures proposed.—*Gaz. Méd. Belge.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, JUNE 21, 1902.

SARATOGA MEETING.

The Saratoga meeting of the American Medical Association, while not showing as large a registration as that of the preceding two or three years, was in every way a success. The Section work was especially good in every Section, and all were well attended. Nearly every year there is some Section that "falls down," but in this regard the Saratoga meeting proved an exception. The high standard of the papers read, and the scientific and practical nature of the discussions, were noticed by every one. The Section officers deserve the highest praise for the work they accomplished and congratulations on the result of this work. The fact that there were no general meetings to interfere with the morning meetings of the Sections gave much more time to the scientific work of the Sections, which proved very satisfactory.

The House of Delegates proved to be a truly representative body, only two states being without representation, and its *morale* showed that it stood for the best and the scientific in the American medical profession. It accomplished a very large amount of work and in a most satisfactory manner, in spite of the fact that its rules, plan of work, etc., all had to be formulated at this session. With a system, rules of order, etc., finally adopted, it will be able hereafter, with the aid of a few committees, to be more deliberate than was the case at the first session. It was evident to all that the House of Delegates is a great improvement on the old general meetings.

Saratoga proved a most satisfactory place of meeting. There was no crowding, the hotel accommodations being ample. A serious fire of Monday night disarranged places of meeting for the Sections, but only to a slight degree. The profession and citizens of Saratoga did remarkably well, and received well-deserved thanks for their painstaking efforts to make the meeting a success from the social side.

THE NEW PRESIDENT OF THE ASSOCIATION.

The election of Dr. Frank Billings as President of the Association for the ensuing year meets with general favor on all sides. A more generally satisfactory choice could hardly have been made. In the first place, all who know something of the personality of the new President find in him a fortunate blending of qualities that go to make successful leaders in professional and educational affairs. Energetic, forceful, judicious, and withal sympathetic—these are some of the more prominent general characteristics that have placed Dr. Billings in such high esteem in the community and in the American medical profession. Not yet fifty years of age, his professional career began as interne in the Cook County Hospital after graduation from the Chicago Medical College (now the Northwestern University Medical School) a little over twenty years ago. This was followed by a period of arduous study in Vienna, where his industry and comprehensive grasp of clinical problems soon attracted the special attention of his teachers, all of whom followed his subsequent development into a leading practitioner and teacher with personal interest. Returning to Chicago he became identified with his *alma mater*, and, passing rapidly through

FRANK BILLINGS.

subsidiary positions, soon gained the professorship of medicine and leading official posts in that institution. When the reorganization of Rush Medical College was commenced some five or six years ago, Dr. Billings was made the head of the Medical Department and Dean of the Faculty, and as such he has taken a leading part in the new development of this school. For years he has been a leading practitioner in internal medicine in the Northwest, whose advice and skill as a diagnostician have been and are widely sought. Needless to say he has always been prominent in all endeavors toward raising the standards of medical education and the better organization of the medical profession, taking an active and prominent place in local, state and national societies. From time to time he has made valuable con-

tributions to medical literature, among the more recent being clinical studies in cirrhosis of the liver, the address in Boston before the Massachusetts Medical Society on the spinal cord lesions of pernicious anemia, and the address in medicine at the Saratoga meeting. As a teacher he is valued especially for his clearness, thoroughness and the application of modern methods in clinical medicine, encouraging investigation and research on part of assistants and students. Finally, mention should be made of his exemplary conduct as a citizen of a young metropolis in devoting much time and energy to the improvement in the management and to the upbuilding of its medical and scientific institutions. These are some of the principal achievements of the vigorous and progressive man, animated throughout by high principles, to whom the distinguished office to which he has just been elected truly may be said to come as a well-merited honor.

A SUGGESTION FOR SURGEONS AND OPERATORS.

The operating surgeon should study pathology. The rapid strides of surgery in the last few decades are to be attributed largely to refinements of technic and diagnosis, the elimination of infection and improvements in the mechanical aids to operating. A certain degree of familiarity with the gross appearances of pathologic conditions, as well as a better understanding of regional anatomy, are no doubt gradually acquired in the operating room; a deftness, sometimes mistaken for skill, and the possesion of an analytical mind that enables more exact diagnoses to be made are also desirable—attributes that, however, are not always met in the same individual. But these qualifications, valuable though they are, should not be striven for to the exclusion of a knowledge of pathologic anatomy, and this to be useful can only be obtained by painstaking study and labor.

Nevertheless, it cannot be denied that, generally speaking, the local surgeons of the smaller hospitals that are so universally springing up in places of a few thousand inhabitants, like their more noted confrères of the cities, of whom naturally more is expected, are satisfied with such details of pathologic anatomy as can be obtained in the living body. The specimen is examined or the necropsy made by a pathologist and the surgeon receives a report; with the operation brought to a successful termination, his interest too commonly is wholly transferred to the patient; the cause of the malady and its modus operandi receive scant attention at his hands. Few surgeons take time to dissect and study diseased tissue or tumors that they remove, in short, to store up in their memories more exact impressions of pathologic anatomy than those acquired in hurried operations. Some few, it is true, are interested in promoting such studies by those less occupied than themselves and who aim at surgery as a vocation, but their number is small when compared with the many whose interests are still firmly absorbed by details of operative technic and post-operative therapy.

It is a well-known fact that surgeons are seldom seen at the autopsies of their own patients, and anything more than their occasional presence at the meetings of pathologic societies has long since ceased to be expected. There are few fields that offer greater opportunities for development, especially in this country, where, as before stated, the progress in surgery has been in other directions. A striking contrast is afforded by the close touch maintained by the physician with morbid anatomy. Not only is he usually the strongest factor in securing privileges of postmortem examination, but many of his problems for investigation come from the material and data obtained in this manner. His greater development is shown by the desire that the examination be complete and thorough, whereas the surgeon often specifies that the entire examination must be made through a laparotomy incision.

It has been, therefore, an entirely natural occurrence to have from various sources such expressions as we noticed recently[1] relative to the too frequent recourse to operative procedures in general surgery and the surgical specialties. There is an echo to some of the statements referred to of Reginald H. Fitz of Boston, in those of Ewing who, in a timely article, attempts to estimate the malignancy of carcinoma of the mammary gland by combining the appertaining clinical and pathologic data.

The extremes and various degrees of malignancy manifested by tumors and thoroughly appreciated by the pathologist are almost unknown to the average surgeon. Ewing points out in a forcible manner that the various forms of mammary carcinoma demand recognition by the surgeon when tables of cured cases are compiled, especially when carcinoma accidentally discovered in breasts removed for benign processes and inflammation are included with the permanently cured. The value to be derived by the surgeon from a perusal of Ewing's article must of necessity be small; he may be interested in knowing that papillary growths of cysts of the mammary gland and other forms of adeno-carcinoma demand a consideration definitely separated from that given to true carcinoma; but these names can carry to his mind no ideas of practical utility unless they are associated with distinct recollections of the associated pathologic anatomy.

The temptation spontaneously arises to suggest more thorough coöperation between pathologist and surgeon as a remedy for the evils that have been hinted at; but this, it is at once apparent, could but counteract wrongs that already exist. The real corrective that is indicated is for the surgeon to ascertain for himself the facts that are being brought to his notice alike by pathologists and physicians. By such means he may forestall the outcry against too prevalent operating; close familiarity with pathologic anatomy will not only teach accurate diagnosis, but, better than all else, it furnishes the knowledge for correct prognosis, and it is the danger and futility of certain operations that are being called to the attention of operators.

---

1. The Journal A. M. A., April 26, 1902, p. 1082.

MYELORRHAPHY.

Nerve suture is a recognized surgical procedure, though it is not so very long since it wore off its novelty, so that its literature ceased to grow with every successful repetition of the operation. It is a long step, however, though perhaps not an unanticipated one, from nerve suture to suture of the spinal cord itself. We know that nerve fibers regenerate in the peripheral portion of a severed nerve, but this does not prove that they would effectively do so in the more complicated nerve center, though the course of certain surgical lesions suggests the possibility. Experimental results on animals have, however, pointed to the probability of such occurrence. In the *Philadelphia Medical Journal* of June 7, Drs. F. T. Stewart and R. H. Harte report a case that is especially noteworthy as demonstrating this fact under conditions as convincing as those of the best conducted experiment. The patient, a waitress, had been shot twice with a 32-caliber revolver, one ball entering about one inch to the right of the seventh dorsal spine and passing directly into the spinal canal. There was immediate and complete abolition of motion and sensation below a line transecting the lower part of the tenth dorsal spine and a point three and one-quarter inches above the umbilicus. The line of demarcation was sharply defined and was superimposed by a belt of hyperesthesia reaching as high as the ensiform cartilage, but this also became anesthetic just before the operation. The superficial and deep reflexes could not be elicited. The temperature was subnormal, 97.6; the pulse 120 and fair, and the mind clear. Three hours after the accident operation was performed. An incision about five inches long was made over the dorsal spines with the eighth dorsal spine for its center. After dissecting back the muscles on either side the right lamina of the seventh dorsal vertebra was found crushed in and left lamina of the same vertebra fractured at its base. The spine and lamina of the seventh and eighth dorsal vertebra were removed and the rent in the membranes, through which could be seen the leaden bullet and a number of small fragments of bone lying between the ends of the severed spinal cord, exposed. The spinal cord was entirely severed and after removing the bullet and the lacerated nerve tissue, the distance between the segments of the cord was three-quarters of an inch. This observation was verified by the assistants. The wound was flushed with salt solution and the ends of the cord approximated with three chromicized catgut sutures passed by means of a small staphylorrhaphy needle, one suture being passed antero-posteriorly through the entire thickness of the cord and the other two transversely. The procedure was difficult on account of the narrow space, the consistency of the cord and the wide interval between the fragments, the catgut frequently tearing out before the ends were finally brought together. The dura could not be approximated. A small gauze drain carried down to the cord was allowed to remain for twenty-four hours. The muscles were united with deep sutures of catgut and the skin closed with silkworm gut. The patient was in a better condition after than before the operation.

Sensation began to appear in the form of pain on pressure or squeezing as early as the fifth day and passive movements were felt on the fourteenth day. On the twenty-first day bladder sensation returned and the patellar reflex was detected for the first time. At the end of two months the patient was out of bed in a wheeled chair, could move the right big toe and feebly flex the knee. The progress was steady after this. Visceral function returned and now, sixteen months after operation, the patient can voluntarily flex and extend the limbs and rotate the thighs and is able to stand with either hand on the back of the chair, thus supporting much of the weight of the body. The sensations of touch, temperature, pain and position are general. The difference between heat and cold is not quite fully felt. Pinpricks can be localized as low as a line running two and one-half inches below the umbilicus. A single pinprick can be differentiated from several and from a sharp blow of the pencil as far as the knee, but localization is not accurate. Reflexes have reappeared to a large extent and are reinforced by muscular exertion of the face or arms. Trophic changes and degeneration reactions are absent. Bladder and bowel control have been regained to a large extent since the eighth month. As Stewart and Harte remark, this seems to be the first clinical myelorrhaphy performed on man, and as such it will stand as a landmark in spinal surgery. The fact that it was a practical resection of the cord and approximation of the divided ends adds to its interest. The partial return of function under the conditions existing suggests the possibility of a still better result in cases where such tension and tearing and mangling of the spinal tissue could be avoided. The authors have succeeded in approximating the cut ends after resection of an inch of the cord in the cadaver; that they were thus successful under the much less favorable conditions with a separation of three-fourths of an inch in the patient, indicates the tolerance of the parts as well as the skill and boldness of the operators.

The operation will doubtless be repeated from time to time; it is one that seems certainly justifiable, and even better results may be hoped for in some future cases. It is only another step to spinal grafting, even if the lower animal tissues cannot be utilized. This is certainly not beyond the legitimate possibilities of the scientific imagination. As it stands, the case is one of the most notable in the surgery of the nerve centers.

HYPODERMIC PARAFFIN INJECTIONS.

Since hypodermic and submucous injections of paraffin were first introduced by Gersuny in 1900, the method has been applied to a variety of conditions with most gratifying results. Solid and liquid paraffins are mixed in such proportions that the mixture has a melting point of from 96.8 to 104 F. This is sterilized by boiling, drawn into a sterilized syringe while liquid and in-

jected after cooling partially, the material passing from the needle as a semi-solid thread. If paraffins of a lower melting point are used they do not become firm enough, and if those which require a higher temperature to melt are employed, the heat needed to keep the paraffin soft enough to allow it to be injected may do harm. Sterile paraffin is devoid of any toxic properties and when injected hypodermically produces no reaction. In places where the paraffin is not subjected to pressure, it remains where injected, and finally becomes encapsulated and of the hardness of cartilage. The mass becomes surrounded by a connective tissue capsule, but it is probably never absorbed. Schleich's infiltration anesthesia may be employed if the injection is made into tissues which do not readily yield.

Injections of paraffin have been used largely for the correction of defects and for cosmetic purposes. Successful treatment of nasal deformities, especially depression of the bridge, has been reported by various operators. Depressions of the surface after resection of the superior maxilla, resection of ribs, etc., have been overcome by these injections. The difference in the appearance of the two sides of the face in progressive facial hemiatrophy has been corrected by the injection of paraffin beneath the skin. Excised testicles may be replaced by ones of paraffin which do not differ in external appearance from the natural organs. Most gratifying results have followed the use of the injections for the relief of incontinence of urine due to injuries of the urethra and vagina, and for incontinence of feces from fistula in ano, etc. It has been recommended for narrowing the inguinal ring in hernia, and for the prevention of vaginal prolapse. After enucleation of the eyeball, it has been employed to improve the shape of the stump with evident success. The field of usefulness for this method of treatment appears to be large, and new opportunities will constantly occur in which it may be applied. With a certain amount of artistic talent, most remarkable cosmetic effects may be expected from its use.

NEW JOURNAL.

American Gynecology is the title of a new journal which is announced to begin publication from New York City in July, and which will be devoted to gynecology, abdominal surgery and obstetrics. The journal will be owned and controlled by a stock company consisting solely of members of the profession interested in its special field. It will be conducted under the able editorial management of J. Wesley Bovée, M.D., Washington, D. C.; Charles Jewett, M.D., New York; Charles P. Noble, M.D., Philadelphia; Reuben Peterson, M.D., Ann Arbor, Mich., and J. Whitridge Williams, M.D., Baltimore.

SURGEON-GENERAL FORWOOD.

The new Surgeon-General of the Army, Brigadier-General William H. Forwood, has had a long and honorable record in the service. Entering the army in 1861 as an assistant-surgeon, he was present at many engagements up to October, 1863, when he was severely wounded. During the remainder of the civil war his duty was chiefly in charge of hospitals and depots, but later he was again in active service on the frontier in Indian campaigns in the 60's. He has held many important positions in the medical department of the army since the civil war, such as president of the army medical school, and of the army medical examining board and other boards, head of the medical service in army departments, etc. Besides his medical writings, which are numerous and include monographic articles on military surgery in systematic treatises and text-books, he is the author of a number of scientific papers, botanical,

WILLIAM H. FORWOOD.

geological, etc., in government publications and elsewhere. His retirement under the age limit will occur next September.

LATENT PNEUMONIA.

Now and again death takes place abruptly, without premonition, or possibly after some trivial cause not sufficient in itself to bring about the fatal event. If such an occurrence be sequent to injuries received at the hands of another, or alleged thus to have been inflicted, it may become a matter of medicolegal importance to determine the exact part played by all of the possible etiologic factors. Under such circumstances postmortem examination may at times disclose some wholly unsuspected morbid condition as the cause for the sudden taking off. The most common cause for such an event is disease of the heart, particularly involving the aortic leaflets and orifice, while among the acute inflammatory disorders that may pursue a latent course throughout the entire period of their existence pneumonia is one of the most common, if not the most com-

mon. As the result of an analysis of 33 cases of the latter kind in which death took place suddenly and unexpectedly, the patient exhibiting no obvious sign of disease, Mr. Harvey Littlejohn[1] affirms that pneumonia may be completely latent during its whole course. The form of the disease most liable to be latent is basal lobar pneumonia. On the other hand, alcoholic apical pneumonia is rarely latent during its whole course. The disease may be latent even though the whole of one lung or a considerable portion of both lungs is affected. In cases of latent pneumonia, sudden death most commonly occurs during the stage of gray hepatization. The condition is practically confined to individuals addicted to excessive alcoholic intemperance. Complete consolidation of the whole of one lung is not inconsistent with a person having continued to lead an active life up till the time of death. Latent pneumonia is most frequent as a cause of sudden death during the winter months. It is most common after the age of 40 years and in the male sex. The explanation of the latency is to be found in the quantity of alcohol consumed after the onset of the disease, first, in masking the ordinary signs and symptoms by dulling sensibility; second, by its stimulating effect, thus enabling the person to go about until he suddenly collapses and dies. In medicolegal cases the discovery of latent pneumonia may satisfactorily explain the death of an individual and thus allay suspicion connected with the case. On the other hand, the existence of pneumonia, even in an advanced stage, will not preclude the possibility of an individual having died from other causes, natural or violent, and of his having been at the time of receiving an injury in a state of apparent good health.

1. Edinburgh Medical Journal, April, 1902, p. 317.

THE PATHOLOGIC EXHIBIT AT SARATOGA.

While not so large as the exhibit at St. Paul a year ago, the exhibit at Saratoga with its well-arranged specimens, 1300 or more in number, proved fully up to the standard of former exhibits as regards quality and general educational value. Dr. Jeffries and his co-workers deserve hearty thanks for their successful efforts, which meant to these gentlemen and others much hard, and at times not very interesting work. The exhibit was visited by large numbers, the well-lighted hall being crowded much of the time. The unrestrained admission of the laity, including minors, was probably not altogether desirable from various points of view and ought to be better controlled at future meetings. The proposed enlargement of the scope of the exhibit, which was urged in the address of the chairman of the Section on Pathology and Physiology, will surely meet with general approval. It is the intention hereafter not to limit the exhibit so much as heretofore to pathologic anatomy, but to make a "scientific exhibit," including suitable materials of anatomic, physiologic, pathologic and bacteriologic interest, not intending thereby, however, to open the doors, even the slightest, for commercial concerns, such as instrument makers and others. The suggestion to appoint a director of the exhibit and to pay him something for his work is also calculated to still further improve and develop the undertaking in the right direction. Among the individual exhibits it may be permissible to refer especially to the large, interesting, and well-mounted collection of pathologic specimens from Rush Medical College. The idea exemplified in the arrangement and labeling of the specimens in this group seemed to be to make everything so clear that "he who runs may read." And this feature was certainly worthy of emulation. This group contained an instructive series of specimens illustrating adrenal tumors (hypernephromas) of the kidney and elsewhere, and their metastases into various parts, including the bones. In view of the frequency and clinical importance of this form of tumor, these specimens were shown at a most opportune time, because of the need now of popularizing what has been learned during recent years of hypernephromas. Reference may be made also to a specimen of a white rat that by some misfortune early in life lost one hind extremity and part of its tail, the stump of which had been adapted to do the service of the absent member—an excellent illustration of adaptation under unusual circumstances. The collections of appendices vermiformes by Dr. Emerson and by Dr. Abbe were artistic and instructive. Among other collections may be mentioned those from the Post-Graduate School of New York, from the University of New York, from the Albany Medical College—an interesting group of bone specimens from the Western Reserve Medical School, and the anatomic specimens from the Medical Department of the University of Illinois. It will be noticed that the institutional exhibits were limited to a rather small number of institutions, so that there remain rich sources for future meetings. Among individual exhibits that by Ravenel of Philadelphia, illustrating the development of bovine tuberculosis from the injection of the bacillus of human tuberculosis and its products was especially noteworthy because of its bearing upon the question of the dangers of bovine tuberculosis. Close examination of the specimens could only strengthen the position of Ravenel and others in their attack on Koch's views. The models of smallpox lesions shown by Dr. Ewing; Dr. Newborn's cultures of fungi causing hair diseases; and Dr. Rosenow's cultures of the tubercle bacillus also merit mention. The *x*-ray pictures of the intestinal movements from the Harvard Physiological Laboratory were among the more remarkable of the large series of photographs placed on exhibition by various persons. Even this very incomplete list will indicate the scope and educational value of the exhibit, the influence of which, if continued and enlarged, in the final instance can not but lead to an increased general interest in the scientific aspects of medicine.

Study of the Autointoxications of Pregnancy.—A recent Geneva thesis by J. Olivier reports the results of the investigation of the eliminating power of pregnant women by means of methylene blue or rosanilin. The elimination was found normal in many cases which presented the severest symptoms clinically. In other cases, the elimination was notably defective while the course of the pregnancy and puerperium was normal. In five cases of eclampsia, the elimination was defective in all but one. In this patient the elimination was perfectly regular, but the symptoms were far more severe in this case, and it terminated fatally. Olivier concludes that renal or hepatic insufficiency is not inevitably necessary to the production of autointoxication. The pathogenesis in certain cases evidently includes an overproduction of toxins. The elimination of such excessive amounts is impossible in spite of the integrity of the natural emunctories.

Medical News.

IDAHO.

Addition to Hospital.—An addition to St. Alphonsus Hospital, Boise, is under construction. It will be of brick, two stories high, 42 to 100 feet, will contain 23 rooms for patients, operating and dressing rooms, etc., and will cost about $25,000.

Quack Doctor Convicted.—F. W. Martin, who has been professing to cure cancer and other diseases, agreed to cure a cancer for a woman in Shelley, and had taken her husband's notes for $175 and $25 in cash, but never did anything beyond sending her a box of salve and some powders. He was arrested and tried for practicing medicine without a license, pleaded guilty, and in default of money to pay his fine is now working out his sentence in the Bingham county jail.

ILLINOIS.

Macomb Hospital.—Under Roman Catholic auspices a modern hospital to accommodate from 40 to 60 patients is to be erected at Macomb, at a cost of $25,000.

Robbins Resigns.—Dr. Joseph Robbins, superintendent of the Illinois Central Hospital for the Insane, Jacksonville, has resigned on account of lack of harmony among the attaches. The resignation takes effect July 1.

The Wabash Hospital.—The Wabash Railroad Company will pay $7500 for the site of its division hospital at Decatur, and per contra, the city agrees to furnish water to the hospital at four cents a thousand gallons until $7500 worth has been used.

State Board Loses Suit.—Attorneys for the State Board of Health lost their case against Mrs. Mabel A. Jackman, who was charged with practicing medicine without a license. On February 13 Mrs. Jackman was fined $100 by Justice O'Donoghue. The case was appealed and Judge Kavanagh reversed the decision. Mrs. Jackman claims to be a spiritual healer, and says she has never offered medicine in healing.

Chicago.

Underdosage of Patients.—The medical officer-of-the-day, after an interval of rest, comes to the front with the statement that nurses are not giving patients at the County Hospital as much medicine as the physicians direct.

Personal.—Dr. and Mrs. Arthur R. Elliott have sailed for Europe.——Dr. Arthur M. Corwin has been appointed professor of diseases of the nose, throat and ear, in the Chicago Clinical School.——Dr. Albert B. Hale will spend the summer in Germany, returning about September 15.

Improved Public Health Conditions.—The Department of Health reports that public health conditions continue to improve, as is to be expected at this season of the year. Next to November, the month of June has had the lowest mortality rates of any of the months during the last twenty years. Last week's total deaths were 461.

Unlicensed Hospital Burned.—On June 9 a building occupied as a hospital for inebriates and operated by an ex-hernia curer of Denver, who now poses as a philanthropist, caught fire, and ten lives were lost, the list including two physicians. The Health Department had repeatedly been asked to issue a hospital permit for this institution and had, after repeated inspections, invariably declined.

INDIANA.

Morbidity.—Diseases prevailed in the following order in May: Rheumatism, tonsillitis, bronchitis, pneumonia, measles, diarrhea, pleuritis, influenza, erysipelas, scarlet fever, whooping cough, typhoid fever, cholera morbus, diphtheria, dysentery, puerperal fever, cerebro-spinal meningitis.

Preventable Mortality.—In the annual report of the State Board of Health it is shown that 9377 deaths occurred from preventable diseases. Consumption caused 4662 deaths; typhoid fever, 1198; scarlet fever, 149; diphtheria, 554; diarrheal diseases, 2501; puerperal fever, 292, and smallpox, 21.

Hospital for the Incurable.—In response to the offer of an anonymous individual who offered to give $5000 toward the building of a hospital for incurables at Indianapolis, provided a like amount was subscribed, the Flower Mission has received subscriptions amounting to $5016. It is proposed to erect the building on the City Hospital grounds.

May Deaths.—The statistics of the State Board of Health for May show that there were 2502 deaths in that month for the state—a rate of 11.7 per 1000 per annum. The city deaths numbered 1065, a rate of 14.6 per 1000 per annum, and the country deaths 1437, a rate of 10.2 per 1000 per annum. The city rate is 2.9 higher than the rate for the whole state and the country rate is .5 lower than the rate for the whole state. By important ages the deaths were: Under 1 year of age, 353; from 1 to 5, 126; from 5 to 10, 60; from 10 to 15, 47; 65 and over 658. Twenty-eight per cent. of the deaths were of those over 65. By important causes, the deaths were: Consumption, 344; pneumonia, 192; typhoid fever, 32; diphtheria, 26; measles, 19; whooping cough, 14; scarlet fever, 5; diarrheal diseases, 30; cerebro-spinal meningitis, 21; influenza, 14; puerperal fever, 16; cancer, 104, and violence, 140.

MARYLAND.

Midwife Fined.—A midwife of Baltimore was fined $20 and costs, last week, for treating a new-born infant suffering with purulent conjunctivitis contrary to law, which requires such cases to be reported at once to the health commissioner or turned over to a physician.

Personal.—Dr. Smith H. McKim of the Hospital for Crippled Children, Baltimore, who spent several months in orthopedic work in England, France and Germany, has returned to the city.——Among the passengers sailing from Baltimore, June 10, for Bremen were Drs. Louise Erich and Albert Haas. ——Dr. Harry Baetjer has sailed for Europe, where he will investigate the *x*-ray apparatus at the leading universities in the interest of the Johns Hopkins University. Dr. Thomas R. Barber, of Granite, Baltimore County, was run over on June 12 and had his leg broken.

Faculty Changes in University of Maryland.—The vacancy in the chair of surgery in the University of Maryland, created by the resignation of Dr. L. McLane Tiffany, has been filled by the election of Dr. Randolph Winslow, who has for several years filled the chair of anatomy and clinical surgery and prior to that was professor of surgery in the Woman's Medical College. Dr. J. Holmes Smith, demonstrator of anatomy, has been advanced to the chair of anatomy in the same institution, Dr. D. M. R. Culbreth has been made professor of materia medica and Drs. Frank Martin and St. Clair Spruill have been made clinical professors of surgery. Dr. Joseph W. Holland has been made demonstrator of anatomy.

Johns Hopkins Commencement.—The commencement of the Johns Hopkins University was held on June 11. Among the graduates were 57 in medicine, of whom 5 were women. President Remsen announced that $908,000 of the $1,000,000 endowment fund had been collected and announced himself confident that the balance would be raised by July 1. The following are the "honor men" of the medical class: Henry William Oehsner of Waumandee, Wis., S.B. Univ. of Wisconsin, 1898, first honor, followed in order by Thomas W. Clarke, M.D., Utica, N. Y.; John Auer, M.D., Chicago; John B. Briggs, M.D., Baltimore; Carl H. Horst, M.D., Butte, Mont.; Alice W. Tallant, M.D., Boston; John W. Churchman, M.D., Burlington, N. J.; Camillus Bush, M.D., Woodland, Cal.; Carey P. Rogers, M.D., Raleigh, N. C.; Otis B. Wight, M.D. Stanford Univ., California; Nellis B. Foster, M.D., Utica, N. Y.; Edmund W. Meisenhelder, M.D., York, Pa.; Charles B. Wright, M.D., Grand Forks, N. D., and Henry W. Cook, M.D., of Baltimore. The following appointments in the medical faculty were announced: William G. MacCallum, M.D., now associate, to be associate professor of pathology; Guy L. Hunner, M.D., now instructor, to be associate in gynecology; Walter Baumgarten, M.D., to be assistant in medicine; Florence R. Sabin, M.D., to be assistant in anatomy, and Benjamin R. Schenck, M.D., to be instructor in gynecology.

OHIO.

Personal.—Dr. Edwin S. Ricketts has been elected to the chair of abdominal and gynecological surgery in the Cincinnati College of Medicine and Surgery.

Western Reserve Commencement.—Western Reserve University held its seventy-sixth annual commencement and the fifty-eighth annual commencement of its medical department at Cleveland, June 12. A class of 36 was graduated in medicine.

Surgeons of the Fourth.—The new medical staff for the Fourth Regiment is as follows: Dr. J. Wilson McMurray, Marion, surgeon-major; Dr. Sterling B. Taylor, Columbus, assistant surgeon, and Dr. Cassius M. Shepard, Columbus, assistant surgeon.

Faculty Changes.—The Medical College of Ohio, the medical department of the University of Cincinnati, announces the following additions to the faculty for the session of 1902-3: Dr. Charles A. L. Reed has been appointed professor of clinical gynecology; Dr. A. H. Freiberg, professor of orthopedic sur-

gery; Dr. Charles Seth Evans, professor of genito-urinary surgery; Dr. J. W. Rowe, adjunct professor of obstetrics, and Dr. Robert Caruthers, adjunct professor of surgery.

PENNSYLVANIA.

Philadelphia.

Reception for Surgeon-General of Navy.—The Medical Club gave a reception and banquet in honor of Surgeon-General Pressley M. Rixey, U. S. Navy.

Gift to University.—An anonymous gift of $100,000 has been recently made to the University of Pennsylvania, to be applied to the building fund of the new medical laboratories.

Personal.—Dr. William Thompson has resigned as attending surgeon to Wills Eye Hospital and is succeeded by Dr. William Campbell Posey.——Dr. Sarah H. Lockrey has been elected to the staff of visiting physicians of the West Philadelphia Hospital for Women, vice Dr. Ida E. Richardson, deceased.

Hospital Bequests.—The late F. G. Dreer left by will about $100,000, to be divided, after ten years, among the Frederick Douglas Hospital, Presbyterian Hospital, German Hospital, and other charitable institutions. Should his sons die without children over $200,000 is to be divided among a large number of hospitals, homes, etc.——The late Dr. Hulshizer left a large part of his library to St. Joseph's Hospital with an additional bequest of $500 on the death of his widow.

Municipal Hospital Inadequate.—The present Municipal Hospital, which treats contagious diseases, exclusively, is inadequate in capacity and equipment for the purpose. Money has been appropriated for a new hospital, but great difficulty is experienced in selecting a suitable site, especially because the residents and property-holders near all proposed sites make such strenuous objections to the pest-house. Dr. John V. Shoemaker, president of the Board of Charities, proposes, as a plan in solution of the problem, to place the Municipal Hospital in connection with the Philadelphia Hospital (Blockley), the former replacing the insane department and almshouse now connected with the latter. In such an event, the insane department and almshouse would be removed to some isolated, ample place, perhaps Petty's Island.

GENERAL.

Quarantine Island at Honolulu.—Kuahua Island in Pearl Harbor, near Honolulu, is to be transferred to the United States for use of troops who are quarantined, to avoid the unpleasant necessity of keeping soldiers and officers restricted to crowded quarters on shipboard in sight of land, in cases of ships with contagious disease aboard. This provision for comfortable quarters for several thousand men is especially valuable now in view of the cholera and plague in the Asiatic ports from which our transports come.

San Francisco Plague Report.—*Fifty-fifth Case*: Lee Mon, aged 42, Chinese printer, died at 731 Washington Street at 1 p. m. on May 19, 1902. Autopsied at 3:36 p. m. Body that of an unusually well-nourished, muscular Chinese male. Rigor mortis just beginning. Pupils moderately dilated. Sclera showed great injection of blood vessels and a few small hemorrhages. No evidence that "black san" treatment was given patient during life. Two or three small hemorrhages into the skin over the abdomen. Right inguinal region more prominent than left, and over this area of prominence the skin had a yellowish anemic appearance, probably due to pressure from the edema beneath. This yellowish area extended along Poupart's ligament, from the pubes to the anterior-superior spine, a line from the anterior-superior spine dropped downward for three inches, thence across to the center of Scarpa's triangle to a point about three inches below Poupart's ligament and thence back to the pubes. Palpation in this region showed a mass of enlarged glands so matted together by infiltration that it was impossible to feel any individual gland but only the whole indurated mass, which constituted an important plague indication. Incision, crucial in shape, was made over this area. Flow of edematous fluid followed the knife-cut. Subcutaneous tissue found injected and edematous. The glands were enlarged, hemorrhagic with areas of necrosis. Incision made on the opposite side showed normal inguino-femoral region. There was no wound to account for the glandular enlargement mentioned, nor lesion of the penis, and by far the greater—five-sixths—of this glandular mass lay below Poupart's ligament. Two old atrophic scars, one on the right leg, two inches above the ankle, lying over the anterior aspect of the tibia. These scars were probably the result of injuries received many years ago. There was no enlargement of the axillary glands noticed on palpation, nor the cervical glands. The appearance of the body before the autopsy justified a provisional diagnosis of plague, which was made. Smears from one of these enlarged glands showed plague-like bacilli in great numbers. Long median incision made. Subcutaneous blood vessels distended. Muscles a little darker than normal in color, moist, unusually firm and well developed for one of this race. Peritoneal cavity opened. Intestines in normal position. Omentum very rich in fat, did not cover intestines, but was retracted up to the costal border. Blood vessels of omentum injected, but there were no hemorrhages. No fluid in abdominal cavity. Appendix normal, pointed toward pelvis. Liver extended two finger breadths below costal border, near the median line. Spleen not adherent to abdominal wall. Spleen enlarged about twice, or little less, its normal size. Of a uniform dark bluish color, with the exception of a few areas which were light pink. Section of one of these showed the characteristic wedge shape of infarct. Organ soft, showed no subcapsular nodules. Cut very easily. Cut surface very rich in blood. Slight bulging of the pulp. No connective tissue increase. Thorax opened by removal of sternum; lungs met in median line, did not completely collapse. Left pleural cavity contained about a pint of clear serum. Pleura not adherent and showed no evidence of present or previous pleurisy. Right, in same condition—that is to say, hydrothorax. Lungs crepitated throughout. Vesicles about borders distended. Organ considerably larger than normal, pitted on pressure, cut easily. Cut surface poor in blood. Air, blood and serum exuded in normal proportions. Moderate pulmonary emphysema. Pericardium opened. Contained a small quantity of straw-colored fluid. Heart surface covered with fat. Apex formed entirely by the left ventricle, which was firm and decidedly hypertrophied. Right ventricle normal in consistency and size. Vessels not tortuous. Pericardium smooth and showed neither injection of vessels nor hemorrhage, except in one small area, where there was a patch of slightly dilated vessels. Heart removed. Mitral valve very much thickened and sclerotic. Left ventricle muscle thickened, but normal in color and appearance. Aortic valves normal. Aorta showed numerous plaques, which did not, however, obstruct coronary openings. Left kidney removed. Fatty capsule unusually rich. Capsule tense, organ rather soft. Capsule strips off very easily. Cut easily. Cut surface rich in blood. Injected, blood-stained, with areas of loss or diminution in contrast between cortex and pyramids. Cortex normal in breadth (acute nephritis). Liver enlarged, soft, of a light yellowish color, interspaced with areas of venous congestion. Capsule, transparent, smooth and glistening. Cut very easily, and showed a light yellowish cut surface—was quite rich in blood. There was no increase in connective tissue, nor change in the structural appearance, fatty infiltration and congestion being the only abnormal conditions. Bladder one-half full; peritoneal surface slightly injected. No involvement of the iliac glands on either side. Mesenteric glands not enlarged, mesentery very rich in fat. Intestines appeared normal. Stomach empty, but not injected. Gall-bladder moderately distended, but emptied on pressure. Anatomic diagnosis: Chronic endocarditis, pulmonary emphysema, fatty infiltration of the liver, double hydrothorax, acute nephritis, acute adenitis, the latter probably due to plague infection. Probable cause of death, bubonic plague. Smears from the spleen showed plague-like bacilli in small numbers. The organisms from the inflamed glands and from the spleen were morphologically and tinctorially pest-like. Animal inoculation was positive. This man died after an illness of only a few days and was attended by a Chinese physician. The origin of the infection could not be traced.

Fifty-sixth Case: Chin Kee, a Chinese male about 25 years of age, died, May 25, at 811 Jackson Street. He had a very large bubo in the left axilla. The glands were very large, dark purple, hemorrhagic and necrotic. Smears from the glands showed numerous plague bacilli. No autopsy was performed.

An Unsettled Case, May 26, Lum Ying Hein was autopsied at the Federal morgue. He was 25 years of age and died at 847½ Clay Street, at 9 a. m. of the same day. There was very slight enlargement of the glands of the groins and axilla and they were slightly injected. No regular bubo. A very few bipolar bacilli were found in smears from the glands and spleen. The man had been sick four days with high fever commencing with chill. This may turn out to be another case of plague. No other cause of death found at autopsy. Animal inoculations not completed.

Fifty-seventh Case.—Hong Quai, aged 4, died at 742 Pacific Street, May 29. Body that of a well-nourished, well-developed Chinese boy, showing no external marks of violence and having the postmortem rigidity and lividity generally well marked.

The distal phalanges of the thumbs were flexed under the fingers. The skin was free from exanthem, but on both legs were several scratch marks. The joints seemed normal, as did the genito-perineal region. There were no visible lesions on the scalp. On the right neck there was a visibly and palpably enlarged post-cervical gland, about 7 cm. in diameter, which was firmly seated. Exuding from the nose and mouth was a frothy discharge. There was a visibly and palpably enlarged gland, about 6 cm. in diameter, and immovable in the left axilla. The omentum was somewhat injected and covered the intestines, which were clear, moist and showed no hemorrhages. The true pelvis was filled with a clear straw-colored serum. The gall-bladder was distended with bile which had stained the surrounding tissues. Other organs presented no extraordinary features. There was a decidedly hemorrhagic condition around the left axillary gland which showed macroscopic evidence of pest as did the post-cervical gland. Stained smears from the glands and spleen showed the presence of an organism which was morphologically the bacillus of plague.

The Sternberg Dinner.—A highly representative gathering took place June 13, at Delmonico's to do honor and to pay homage to the retired Surgeon-General, George M. Sternberg. Representative practitioners of the East and the West, of the North and the South, were present, and the occasion was a most enjoyable one. Dr. E. G. Janeway, in his introductory remarks, first read a telegram from Major-General H. C. Corbin, in which he offered congratulations to Dr. Sternberg and his sense of appreciation of duty well done. Dr. Janeway further remarked that on being retired at the age of 64 it could well be said that Dr. Sternberg did not retire on any grounds of insufficiency; he was not responsible for the date of his birth, and it was by Act of Congress that he was forced to give up this particular line of activity. He expressed the hope, however, for this illustrious student of bacteriology, Fellow of the American Association of Hygienists, Commissioner on the Study of Yellow Fever, author and worker, that many years would be left him in which he could carry on his work.

In response to this toast General Sternberg said that words failed him in which to express his high appreciation of the compliment paid him by making him the guest of honor. Such a compliment, coming from the leading members of the medical profession at a time when by the operation of law he had reached the end of his active service as a medical officer of the Army, was especially gratifying. Accepting this testimonial as evidence of approval of his efforts for the promotion of medical science and of the interests of the Medical Corps of the Army, he thanked one and all most sincerely. At the same time he felt that the results accomplished have fallen much below his earnest desires and perhaps have not been commensurate with the opportunities he had had. His first efforts in the field of etiology and prevention of infectious diseases were made at a time when no one in this country was prepared to give instruction in methods of research, and he was to a large extent thrown on his own resources. The tubercle bacillus, the typhoid bacillus and many other well-known pathogenic micro-organisms had not yet been discovered and a most promising field of investigation was presented to his view, for he was strong in the belief that infectious diseases must be due to infectious agents capable of self-multiplication —i. e., to living disease germs. It so happened that the principal problem which he was called upon to solve was one of the most difficult that has engaged the attention of investigators, and one in which bacteriological methods have proved to be of no avail except in establishing a negative proposition—i. e., that yellow fever is not due to a micro-organism of this class. The time and persistent work devoted by him to an investigation of the etiology of this disease might have given more fruitful results had his attention been turned in some other direction, but while he met with serious disappointment in his failure to discover the yellow fever germ, he had the satisfaction of knowing that his researches cleared the way for the subsequent demonstration by Reed and his associates, of the method by which this disease is transmitted from man to man. When he commenced his research work he had to provide his own microscope and material. There not only was no bacteriological laboratory or apparatus at any military post, nor even at any medical school or university in the country. The Medical Corps of the Army is to-day in a high state of efficiency and he expressed himself proud to have been the chief of this *corps d'élite* during a period when its efficiency and usefulness had been put to so severe a test. The profession, also, has reason to be proud of its members who are attached to the military service of the country. Our senior surgeons have been called upon to fill positions of great trust and responsibility during the past four years, and have, as a rule, acquitted themselves with great credit. As chief surgeons in the Philippines, in Cuba and in Porto Rico, they have been to a large extent responsible for the administration of the affairs of the Medical Department, and have been called on not only to protect troops from the ravages of infectious diseases, but to perform a similar service for the natives of the various islands in which American soldiers have been called to serve. In all of these islands smallpox was widely prevalent, and in all it has been practically stamped out. In Cuba yellow fever was a scourge which threatened to do us greater injury than the bullets of our foes. But thanks to Reed and his colleagues, we now know how to prevent its extension and have practically stamped it out in the city of Havana, which has for many years been its principal endemic focus in the West Indies. In the Philippines, bubonic plague has been kept in check by the strenuous exertions of our medical officers, and the latest reports indicate that it has almost disappeared from the city of Manila. Unfortunately, Asiatic cholera has recently gained a foothold in Manila and the neighboring provinces. Colonel Maus, who is at present acting as Commissioner of Public Health, is fighting this scourge with every means known to science and hopes to be able to avert a serious epidemic. As sanitarians, as surgeons, as all-round practitioners of medicine, and as scientific investigators, the Army has in its ranks many medical officers who are an honor to the Corps and to the profession. The general hospitals at the Presidio, at Fort Bayard, at Washington Barracks, and at Hot Springs, Ark., are models which bear comparison with the best civil or military hospitals in any part of the world. The same is true of our principal hospitals in the Philippines. In this country nearly every military post of any importance has a modern hospital well adapted to the requirements of the military service, provided with a well-equipped laboratory for clinical and research work, and an operating room which would be regarded with satisfaction by any surgeon accustomed to the precautions necessary for successful aseptic surgery. In closing, General Sternberg thanked his audience again and most sincerely for the testimonial of their esteem. He said: "Your endorsement of my life work is of more value to me than military honors or financial competency. I have at times felt discouraged and disposed to think that I have fallen far short of what might reasonably have been expected in view of my opportunities. But it is reserved for the very few to accomplish great things and the physician who has won the esteem of those of his profession who are best qualified to judge of his work may well be satisfied although he realizes that he has but a small share in promoting the advancement of scientific medicine and the interests of our beloved and humane profession."

Dr. Alexander H. Smith responded to the toast "The United States Army." He had watched the career of General Sternberg, and throughout the Spanish war had felt great pride in his achievements. He had seen that the medical department was not second-best, but first-best notwithstanding all the drawbacks; the results were more satisfactory and the criticism less than in any other department of the service, and Dr. Janeway then and there demonstrated that a medical man might have executive ability outside his own lines.

Colonel Henry Lippincott said that the Army and his own corps all gravitated towards General Sternberg; their respect and love reached out in his direction. The work that Dr. Sternberg had done, finding ten years ago the miserable old stuff left from the Civil war, in remodeling and reconstructing the corps so thoroughly and fundamentally, was a matter to be proud of, and they were proud to have such a medical man in the army; they honored the man who made it possible and owed him a debt of gratitude.

Speaking on the work of the Army in Cuba, Dr. William Osler, Baltimore, said that it was a happy expression, "Peace hath her victories no less renowned than war." A foe worthy of the best of America's steel had been encountered and no chapter in the history of medicine will be able to stir the blood of the American profession as will that Which will tell of the battle of yellow fever. Here was the foe that General Sternberg had fought, and with success; he would go down to posterity with the honor of a battle long fought and valorously won. The victory was accomplished in a way that reflected great credit on the army and on the state. The work of Reed and Carroll was a piece of work well planned and well carried out, a demonstration to the entire world.

Major W. C. Gorgas said that had their work not been as successful as good fortune had made it, General Sternberg would have received the entire blame, the success was his also. When Havana was occupied in 1899 he became a health officer in the spring with no very clear idea of what to do and at first he had devoted his attention to organization and development of a sanitary department; work was started in on all lines, good as well as bad, bad as well as good. There

was little yellow fever in the spring of that year, but in the fall and winter there was a great deal. In 1900, though the general sanitary condition had immensely improved, yellow fever was still present and the epidemic was of a severe character. There were over 1400 cases, and 300 deaths, and he felt discouraged at the little progress made. In 1900 Dr. Reed, chief of the Bureau, first directed work along the lines of the theory of the mosquito infection, and he proved that the mosquito can be infected only during the first three days of the disease, and that there is a period of from 12 to 25 days when the bite of the stegomyia can convey the disease. In February, 1901, the Sanitary Department was reorganized and turned its attention to study the local conditions and their relation to the spread and development of the mosquito. The rain-barrels, the family cisterns, all breeding the stegomyia, the Chinese gardens from which came anopheles, all these were studied in much detail, and a large force of 150 men was put to work. There were but few cases of yellow fever at the time, and the mosquitoes of the neighborhood were killed by fumigation, pyrethrum powder proving a very efficient mosquitocide. In January of 1901, the city was free from yellow fever; in July the suburbs received a certain amount of reinfection; but on Sept. 28, 1901, the last case of yellow fever occurred. Since that time the land has been practically free, since Havana has been the center of infection. The success had been due to the study of the mode of propagation, which discovery had been made possible by the enthusiastic co-operation of General Sternberg.

Dr. John A. Wyeth of New York, the retiring President of the American Medical Association, then introduced Dr. Frank Billings, the recently elected President of the American Medical Association.

Dr. Billings said that he would not feel he could add anything to what had been so well said, but that he desired to speak for the American Medical Association, the representative body of American physicians. It was a great pity, he thought, that this Association does not embrace all; the reasons for this are not hard to find, however; it is in part due to the great extent of our country and the relative difficulties in transportation facilities. But these are being steadily overcome, and he hoped the time would shortly come when the entire body medical would be found standing together with all misunderstandings laid aside; that physicians would not be considering each other as doctors, but rather as men and more particularly as gentlemen who were meeting on common ground. When that day should come, and as he saw it it was very rapidly approaching, there would be no difficulty with ethics, and the new organization which had proved so successful under the guiding administrations of Dr. Wyeth and Dr. Simmons would go forward, and that the higher standards of professional integrity and scientific research would go forward through the broadening and uplifting influences of the American Medical Association.

Dr. W. H. Welch, Baltimore, spoke of that side of the work of Dr. Sternberg most familiar to him, namely, his work in bacteriology. Dr. Sternberg, he said, was the pioneer worker in bacteriology in this country; he had been compelled to acquire the technic from reading, and we all knew how he had perfected a technic equal to that of the best. Dr. Sternberg had made many important discoveries; his work on disinfection and disinfectants would stand as a monument alone. It was as the first and isolated micro-organism of pneumonia, and his work with yellow fever would stand forever. He said that it was so common a thing, in these busy days, to forget the steps which led up to any important discovery. All that Dr. Sternberg had done in the study of yellow fever was necessary work and it had to be done in just the way that he did it. The ground had first to be cleared; if it were not so the discovery would not have been possible, and later discoverers themselves would have had to hunt out the large host of micro-organisms which Dr. Sternberg had described and laid aside. This careful work had practically resulted in the view that a bacteriological origin for this disease could not be claimed, and it was on a priori grounds that he himself had felt that Sanarelli's bacillus was not the cause of yellow fever. His study of others' discoveries was most careful, and most critical; it was not wasted endeavor. The problem still remains, however, what the cause is, although the method of eradication has been demonstrated in a most complete and authoritative way. He expressed the wish that Dr. Sternberg would come back to his old love, and to his test-tubes, and he welcomed him to many years of fruitful work.

Smallpox.

Indiana: Smallpox is the most prevalent malady. It was reported from 60 counties. The total number of cases reported was 692, with one death. The greatest number, 53, was reported from Knox County. In the preceding month 878 cases of smallpox were reported in 55 counties and six deaths. It appears, therefore, that cases and deaths decreased, but area of prevalence increased.

Ontario: Dr. Bryce, secretary of the Ontario Board of Health, says that the smallpox situation in the province is getting better gradually. He hopes to see the province clear of the disease in a month or two. Two or three new cases have developed in Toronto in the past two weeks.

London: The number of patients in the metropolitan hospitals, which had been 1419, 1360 and 1344 in the three preceding weeks, has further declined to 1274; 251 new cases were admitted during the week, against 248, 233 and 307 in the three preceding weeks. During the fortnight ending May 29, 580 cases were admitted as compared with 478 in the preceding two weeks; 78 died, as compared with 91, and 577 were discharged recovered, as compared with 467. During the year 1901 the rate of smallpox mortality was 16.1. The epidemic began on August 20, and therefore has now lasted nine months. It is anticipated that in the next three months it will proceed at a much slower rate. From the metropolitan area alone nearly 7500 cases have been received, giving an incidence of about 1 in every 615 of the population. Local outbreaks have from time to time occurred, but they have been stamped out by the vigilance of the health authorities. Large sums of money have been spent in providing extra accommodation which, in a few weeks, will be ample for all purposes—sufficient for 3000 or 4000 patients. At present there is accommodation for 1800. The maximum number under treatment during the present epidemic has been 1604.

CANADA.

Medical Society in Nova Scotia.—The next annual meeting of the Medical Society of Nova Scotia will be held on July 2 and 3 at New Glasgow.

Maritime Medical Association.—The next annual meeting of the Maritime Medical Association will be held at Charlottetown, P. E. I., on July 9 and 10.

Militia Medical Course.—The course of instruction for the medical officers of the Canadian militia has commenced at Ottawa. Surgeon-Major Gorrell of Ottawa is in charge.

Kingston Medical and Surgical Society.—The following have been elected officers of the Kingston Medical and Surgical Society for the ensuing year: President, Dr. W. T. Connell; vice-president, Dr. Forster; secretary, Dr. Mylks.

Resignation and New Appointment.—Dr. R. F. Ruttan has resigned the registrarship of the Medical Faculty of McGill University. He has been appointed professor of chemistry in succession to Dr. Girdwood. He has been registrar for the past eleven years.

Medical Examinations at McGill.—McGill held her closing exercises last week, a very large graduating class in medicine receiving diplomas. This year the Holmes gold medal goes to the province of New Brunswick, that honor having been won by Mr. R. McL. Van Wart, B.A., Fredericton.

Montreal General Hospital Superintendent.—Dr. E. M. Von Eberts, for some years the medical superintendent of the Montreal General Hospital, will leave that institution September 1. Dr. W. G. Turner, senior house surgeon, has been appointed his successor. Dr. Turner was graduated two years ago from McGill, and has since been connected with the hospital.

Toronto University Convocation and Alumni Meeting.—The annual commencement exercises at Toronto University were held June 13. Among those who received the honorary degree of Doctor of Laws were: President Ira Remsen of Johns Hopkins University, Dr. W. H. Drummond, the doctor-poet of Montreal, and Dr. R. A. Reeve, dean of the medical faculty. A very large class received the degree of M.B. Dr. R. A. Reeve was re-elected president of the Alumni Association.

Rockefeller Appointments.—Dr. W. M. Ford, who was appointed Rockefeller fellow of bacteriology on the foundation of that benefaction at McGill last year, has been appointed one of the investigators at the Rockefeller Institute at New York. The choice of his successor has been left to the faculty. Dr. P. G. Woolley, fellow in pathology at McGill, has been appointed bacteriologist in the United States bacteriological laboratories at Manila.

Ontario Asylum Changes.—Owing to the recent death of Dr. Reynolds, of Hamilton, Ont., Asylum, at Baltimore, several changes have been rendered necessary in the Ontario asylum service. Dr. Beemer, assistant superintendent of the asylum at London, has been appointed assistant superintendent at

Hamilton. Dr. Bell of the Toronto Asylum has been transferred to London, while Dr. J. C. Mitchell, recently elected president of the Ontario Medical Association, Enniskillen, has been appointed assistant physician at Toronto Asylum.

Staff Appointments, Royal Victoria Hospital, Montreal.—The Royal Victoria Hospital, Montreal, has made fifteen appointments to the resident medical staff for the year ending August 31, 1903, as follows: Admitting officer, Dr. A. G. McAuley; medicine, Drs. Colin K. Russell, W. W. Francis, J. R. Byers, J. C. Colby; surgery, Drs. E. Penner, E. J. Mullally, J. D. Dixon, J. L. D. Mason; ophthalmology and laryngology, Dr. Newbold C. Jones; gynecology, Dr. James R. Goodall; anesthetist, Dr. L. C. Harris; locum tenens, Drs. Herman K. Stockwell and J. A. MacNaughton; externe in medicine, Dr. F. C. L. Cantlie.

Medical Library for Halifax.—The late Dr. Charles Cogswell of London, N. S., donated $5000 to the Medical Society of Nova Scotia, the interest of which is to be applied toward a library for the profession in Nova Scotia. The Halifax Medical College has also received several donations of books and journals, and a joint committee of these two bodies is endeavoring to make arrangements by which the profession may take advantage of these donations. Halifax is to have a magnificent library building for the public through the generosity of Mr. Carnegie, and it is proposed that the medical profession take steps to secure a share of the space available for books.

FOREIGN.

New Mexican Hospital.—Seven hundred thousand dollars have been raised for the construction of the new hospital at Merida, Mexico. The grounds have been purchased and work on the institution will commence at once.

Hongkong Quarantine Raised.—The quarantine, which for about two months had been in operation at Hongkong, was raised May 1, and vessels from that port are free to enter United States ports unless sickness should develop on board during the voyage.

Deaths in the Profession Abroad.—Professor Polaillon of Paris; Professor Chartier of Nantes; A. Guarino, professor of clinical medicine at Naples, and K. von Böhm, Vienna, for years chief of the general hospital and prominent as an expert in questions of ventilation.

Congress of Medical Examiners for Insurance Companies.—It is announced that the third international congress will be held at Paris in May, 1903. Brouardel will preside, and A. Siredey has been appointed secretary general. For further particulars address the latter at rue Taitbout 180, Paris, France.

Honors to Lacordaire.—The *Gazette Méd. de Paris* observes that in doing honor to the memory of Rochambeau the people of the United States should also recall the name of Dr. Lacordaire. He was a physician who accompanied the French troops to aid us in our struggle for independence. He served as a private soldier and died in France in 1804.

Queen Wilhelmina's Physicians Honored.—Professor Roosenstein, the pathologist of Leyden University, has been promoted to the rank of Commander of the Order of the Lion of the Netherlands, and Drs. Konwer, Roessingh and Pott have been appointed knights of the same order, in recognition of their services to Queen Wilhelmina of Holland in her recent sickness.

The Approaching International Medical Congress.—Among the Germans who have promised to deliver addresses at Madrid, in 1903, are Leopold on "Treatment of Placenta Previa"; Krause on "Laryngeal Tuberculosis"; Hoffa on "Tuberculosis of the Joints"; Leyden on "Subdural Cocainization"; Ehrlich on "The Hypnotica," and Liebreich on "The Relations Between the Chemical Composition and the Physiologic Action of Drugs."

Discuss Licensing Prostitution in Sweden.—The Society of Physicians of Sweden is divided on the wisdom of the system now in use in that country of state regulation of prostitution. A request has been made by the women of the country to abolish the system. Seventy-two physicians condemn the proposal entirely; sixty, while unable to agree with the women, declare that radical reforms in vice regulation are imperative and recommend that the board of health supersede the police as regulators of vice and surround the problem with elaborate legal formalities instead of leaving it to the whims of police officials. It is also suggested that municipalities establish homes where erring girls can obtain a new start in life.

Centennial of the "Internat" in France.—The French minister of the interior at the commencement of the nineteenth century was a physician, and he founded the system of interne service in the hospitals, with competitive examinations. The centennial of this institution was celebrated at Paris, May 24, with much ceremony. The festivities lasted three days and included a banquet and a gala celebration at the Opera Comique, when a series of musical and dramatic sketches of various phases of interne life were presented, with one act from Molière's "Médecin malgré lui." A handsome monument was dedicated to the memory of the internes who have died victims of their professional duties. Thirty-five names are inscribed on the pedestal, and the scene in relief on the monument portrays a tracheotomy on a suffocating child done by an interne and two assistants, with a Sister of Charity holding the child's head. This scene was selected, as many of the internes succumbed to diphtheria contracted during these emergency operations. The monument stands in the inner court of the Hotel Dieu.

LONDON LETTER.

Losses in the Boer War.

The War Office has issued a detailed return of the total British losses in the Boer war from the commencement, on Oct. 11, 1899, to May 31 last, the day on which peace was declared. The total casualties are 97,477, but this huge total includes over 75,000 sent home as invalids the great majority of whom have recovered. The actual reduction of the military forces through the war is 28,434, which is made up as follows: Killed in action, 5774; died of wounds, 2018; died in captivity, 102; died of disease, 13,250; accidental deaths, 798; missing and prisoners, 105; invalids sent home who have died, 508, and invalids who have left the service unfit, 5879. The total number wounded in the war is 22,829.

Reunion of Obstetricians and Gynecologists.

On the occasion of the coronation arrangements have been made for a reunion of obstetricians and gynecologists. A reception will be held at the Royal Medical and Chirurgical Society's rooms, 20 Hanover Sq., June 24, by Sir John Williams Bart., M.D., Dr. Peter Horrocks (President of the Obstetrical Society) and Dr. Halliday Croom (President of the British Gynecological Society). To this reception all medical practitioners interested in obstetrics and gynecology are invited. It is hoped that not only the obstetricians and gynecologists of London, but also those from Great Britain, the Colonies, and abroad, who may be in London at the time, will be brought together. A dinner will take place in the Whitehall Rooms, Hotel Metropole, under the chairmanship of Sir John Williams.

Ear Disease in the Children of the Poor.

The Committee of the Otological Society appointed to consider the desirability of securing for the children of the poorer classes systematic detection and treatment of ear disease, have arrived at the following conclusions: (1) There exists among the children of the poor a large amount of preventable and curable ear disease. (2) It is not sufficiently recognized that ear disease in childhood tends to considerable loss of hearing, health, and life, and militates against the child's education. (3) Ear disease in children is often not treated, partly from neglect, partly from ignorance and belief in popular fallacies, especially inability of parents and teachers to detect it. (4) Any scheme to secure children against the consequence of ear disease must provide for thorough systematic examination and treatment. (5) In consequence of the national importance of the subject we recommend that a memorial embodying this report be submitted to the President of the Committee of the Council on Education.

Why Men Become Doctors.

Many years ago, in 1869, Sir James Paget published a most interesting essay on "What Becomes of Medical Students?" He found that of 1000 students at St. Bartholomew's Hospital, 23 achieved distinguished success, 66 considerable success, 507 fair success, 124 very limited success, 56 failed entirely, 96 left the profession, 87 died within 12 years of commencing practice, and 41 died during pupilage. Dr. A. Keith, lecturer on anatomy at the London Hospital, has investigated the supplemental subject, "The motives which induce men to adopt medicine as a profession." His results are equally interesting. He finds that 100 London hospital students may be divided into seven groups, composed as follows: (1) 7 had no choice, the profession was chosen for them; (2) 30 were born in the profession and grew up in it; (3) 10 adopted it as a boyish ideal at a very early age; (4) 12 adopted it by a process of exclusion—it was the profession they had the least objection to; (5) 7 chose it because it was the nearest akin to their favorite subjects—zool-

ogy or chemistry; (6) 31 adopted it from some accidental circumstance; (7) 3 drifted into it—they could not tell why. Sir Benjamin Brodie, the eminent surgeon, belongs to the first class. More than a century ago he was sent to St. George's Hospital by his father, a vicar. His heart was in literature and philosophy, but by the application of a strong sense of duty, medical study, which at first was repulsive, because tolerable and at last fascinating. Of the 7 men in this group one became a distinguished success, one will become a distinguished success, 3 will become average successes and 2 still object to medicine and would willingly give it up. Three acquiesced passively in their father's wish, 4 objected actively; the 2 who still object belong to the latter group, but one of them, at least appears likely to do well in practice. While the second group does not show a large proportion of distinguished successes, it also shows only a small proportion of failures. If heredity played any part the largest proportion of successes and distinguished successes should be in this group. One member is the sixth of a consecutive series of medical generations, and 3 belong to a third generation. Thus there is nothing approaching in medical caste in England, and inheritance of distinguished professional ability is comparatively rare. Of the 10 in group 3, 2 are already distinguished successes, 4 are still young, but will be or are already considerable successes. The remaining 4 are or will be successes. Many men select medicine by a process of exclusion. Most of these had drifted on late at school or at the university, putting off the choice of a profession as late as possible. This list does not contain any distinguished success, but the great majority have or will enjoy more than an average amount of success. Very few are failures. As a rule they turn out first-class clinicians. As the natural sciences which form the groundwork of medicine do not offer the same certainty of a livelihood as medical practice many men with a taste for zoology or chemistry adopt medicine. Only 7 have been included in this group because in them this taste was the sole or principal factor in determining their choice, but there were quite as many in other groups with a predilection for natural science. Of these 7, 2 are distinguished successes; all the others are more than average successes—perhaps less in income and practice than in reputation. Of accidental circumstances which led men into medicine, Dr. Keith instances a love of horses, companionship and rivalry. This group, as might be expected, includes all sorts and conditions of medical men—the faddist pure and simple, the scientist, and the able surgeon, the happy-go-lucky, and the absolutely incompetent individual. It embraces the extremes—the solid successful practitioner forms a minority. The last group—of men who can not tell how or why they entered medicine—is small, but it shows the haphazard manner in which men set out on their course of life. The age at which men select medicine as a profession varies widely: 10 did so very early, at 6 or 7; 27 early, at 10 to 14; 33 about 16; 17 before 20, and 13 after 20.

Correspondence.

The Physician and Marriage.

DENVER, June 10, 1902.

To the Editor:—At a recent meeting of a medical society the subject of how physicians may aid in securing proper marriage restrictions was discussed. One physician took the ground that the matter lay in the hands of the medical profession; that if the latter would make it a point to advise their constituents, that a great deal could be accomplished. A second thought a health certificate should be required as well as a license to marry. Another physician said his experience would not bear out the statement that the family physician could be of much service to the state by gratuitous advice. He gave it as his judgment that after two young people had determined to marry it was too late for the family physician to offer any suggestion; that whatever the physician could do had to be prior to that time.

The experience of every physician will bear out the statement that it is seldom that a physician's advice is sought in such matters, and that when given it is generally not taken. The proper solution of marriage restrictions is an important question, but it is doubtful if even a certificate from the family physician would solve it. E. g. I know of a family into which a physician would not allow a child of his to marry on account of hereditary disease. Yet, if asked by an outsider he would never have said anything that would have impaired the matrimonial chances of that family because of his relation to them. My attention has recently been drawn to this question in the loss of two infants. Three years ago, M. C., a young man of high moral character, but scrofulous from childhood, married a neurasthenic girl, the latter's parents being extremely delicate. A child was born—scrawny, a very thin body, and in a month a marked case of mal-nutrition. Every care could not save it. It lacked from birth what its parents failed to give it *vis naturæ*. The second was that of a baby, both of whose parents were very small. Consumption was hereditary on one side and catarrh on the other. This baby was exactly like the former. Change of climate, consulting eminent physicans in the east proved of no avail; it died because it had not been well born. Yet the entire family would resent what is evident to any student of heredity—those parents should not have married each other. It might have been possible for any one of them to have married partners when the offspring would have been different. Yet the family physician knew that nothing else could be expected. An article in the *Columbus Med. Jour.*, September, 1898, says: "Heredity takes the line of least resistance." In the above cases heredity simply followed the line of least resistance. Here is a case under my own observation at present: Mr. K. is engaged to marry Miss B. K. suffers from chronic vulgaris pemphigus, family history fair. Miss B. belongs to a consumptive family. Every aunt and uncle who have reached maturity have died of consumption. K. is aware of his own condition as well as Miss B.'s family history. He might in his condition marry a strong, healthy girl, with a clear family record and marry with impunity. Scrofula would be the line of least resistance in his present marriage.

A greater interest in the problem on the part of the profession at large and more education for the laity is probably as much as can be accomplished at present until we come to marry as much for our children as for ourselves.

FRANCIS DEAN.

Outlining the Stomach.

BUFFALO, JUNE 16, 1902.

To the Editor:—The method of outlining the stomach proposed in your issue of June 14 by Dr. Wilhelm Becker may be still further simplified. The location of the stomach in a general way, by auscultation of some noise made within it, either by blowing air through a tube, producing bubbles by introducing air from beneath the surface of water, employing a whistle, bell, electric buzzer, etc., has been practiced for years. Dr. Becker's device depends upon the general principle of visceral transonance, better known under its common subdivision of auscultatory percussion. I have occasionally been able to map out the stomach by the vibrations set up by the heart beating against the distended stomach and have sometimes taken the trouble to do so during the use of my endogastric spray, which is, for present purposes, practically identical with Dr. Becker's method.

The only objection to such a method is the unnecessary trouble involved. We may just as well set up vibrations from without as from within, as by the ordinary method of auscultatory percussion, which has been too much neglected. In cases in which the colon is so much dilated and distended as to have nearly the same vibration tone as the stomach, it may be impossible to distinguish their line of separation and the false conclusion of an enormously dilated stomach will be drawn. In such instances, I have been able to make the differentiation by inducing vibrations with a tuning fork. (See latest issue of *International Clinics.*)

A. L. BENEDICT.

Ophthalmoscope Loaned by Dr. Derby.

BALTIMORE, JUNE 14, 1902.

To the Editor:—My attention has been called to an error in my address on the "History of the Ophthalmoscope," published in the issue of March 1, 1902. On page 551, the loan of Ruete's ophthalmoscope is incorrectly ascribed to Dr. Jeffries. Dr. Hasket Derby of Boston loaned this rare instrument and a number of others, and has since then given them to the Museum of the Surgeon General in Washington. Yours,

HARRY FRIEDENWALD.

Married.

MAX MAILHOUSE, M.D., to Miss Celia B. Katz of Chicago, June 3.

FREDERICK MENGE, M.D., to Miss Alberta Richards, both of Chicago, June 11.

WARD E. POTTER, M.D., to Miss Ida Belle Bradley, both of Chicago, June 19.

WILLE C. KNIGHT, M.D., to Miss Mildred Read, at Newport News, Va., June 4.

LOUIS H. JONES, M.D., to Miss Emily Johnston, both of Wall Lake, Iowa, June 5.

R. J. MITCHELL, M.D., to Miss Bertha Leyhe, both of Lancaster, Mo., May 29.

EDWIN F. YANCEY, M.D., to Miss Beulah Harris, both of Sedalia, Mo., June 4.

JOHN PASCHAL, M.D., to Miss Julia Kate Tucker, both of Hurtsboro, Ala., June 5.

HENRY VON DEESTEN, M.D., to Miss Etta Lang, both of Hoboken, N. J., May 26.

JOHN M. YEAGER, M.D., to Miss Mollie May Smith, both of Marlinton, W. Va., June 4.

DAVID H. REEDER, M.D., Chicago, to Miss Maude Angela Warner, Baltimore, May 29.

ANGUS MCEACHERN, M.D., to Miss Jennie Hamilton Hislop, both of Detroit, Mich., June 4.

ADOLPH TYROLER, M.D., Williams, Ariz., to Miss Freda Barth of Albuquerque, N. M., June 2.

LISTON H. MONTGOMERY, M.D., to Mrs. Olive Branch Montgomery, both of Chicago, June 8.

W. C. TAYLOR, M.D., Branchville, Texas, to Miss Nona Gladden, at Calvert, Texas, May 18.

WILLIAM AUSTIN GOODALL, M.D., to Miss Elizabeth Anderson, both of New York City, May 11.

LOUIS J. GORDON, M.D., to Miss Mollie Smith, both of Pocahontas, Ill., at St. Louis, Mo., May 29.

A. C. VANDINE, M.D., Clendennin, W. Va., to Miss Nora Osborne, at Charleston, W. Va., June 4.

SOL. M. HARTZELL, M.D., Cleveland, Ohio, to Miss Elsa Leona Hirshberg of Youngstown, Ohio, June 3.

EDWIN A. LONG, M.D., Johnson City, Tenn., to Miss Jane Pierson Hardy of Bristol, Tenn., May 28.

FRANCIS MICHAEL O'GORMAN, M.D., to Miss Gertrude Elizabeth Hart, both of Buffalo, N. Y., June 10.

WILLIAM B. WELCH, M.D., Fayetteville, Ark., to Miss Julia Garside of Colorado Springs, Colo., June 5.

HENRY EVERETT MONROE, M.D., Oakland, Ill., to Miss Irma Enfield Tackett of Shelbyville, Ill., June 4.

MARVIN GRIMES, M.D., Hardin, Mo., to Miss Maud Andrews of Norborne, Mo., at St. Louis, Mo., May 27.

ARTHUR EDWIN BEYER, M.D., Guttenberg, Iowa, to Miss Jessie Edythe Morse of Elkader, Iowa, June 4.

GEORGE BIXFORD VAN DOREN, M.D., Watertown, N. Y., to Miss Emma Cooper of Syracuse, N. Y., June 4.

GEORGE DELAVAN UPSON, M.D., Cleveland, Ohio, to Miss Louise Catherine Tiedemann of Chicago, June 11.

HARVEY SIDNEY SMITH, M.D., East St. Louis, Ill., to Miss Lucy Maud Clanahan of Springfield, Ill., June 11.

CHARLES EDWIN BRIGGS, M.D., Calumet, Mich., to Miss Jean Hamilton McDermid, at Seaforth, Ontario, June 7.

TRAFFORD B. SALISBURY, M.D., to Miss Minnie Shreve Busbey, both of New York City, at Tucson, Ariz., June 2.

FRANCIS H. GLAZEBROOK, M.D., Morristown, N. J., to Miss Grace Eugenie Squire of Elizabeth, N. J., June 3.

EDWIN GLADMON, M.D., Southern Pines, N. C., to Miss Catherine Melden Grover of Raleigh, N. C., May 17.

EDGAR C. HUDDLESTON, M.D., Hannibal, Mo., to Miss Ella Lavoo of Carriers Mills, Ill., at Harrisburg, Ill., June 2.

JUD MITCHELL, M.D., Atchison, Kan., to Miss Beatrice Mahan, of St. Joseph, Mo., at Leavenworth, Kan., May 26.

HOWARD E. BARRETT, M.D., Mountcalm, Texas, to Miss Mattie Kirkland of Axtell, Texas, at Waco, Texas, June 4.

LEO FRANK ADT, M.D., Troy, N. Y., to Miss Edith Moore of St. Croix, Danish West Indies, at New York City, June 3.

MARION SIMS MIDDLEKAMP, M.D., Colorado Springs, Colo., to Miss Rose Koch, of Palmyra, Mo., at Colorado Springs, Colo.

ALBERT T. CHAMBERS, M.D., of the Baltimore Health Department, to Miss Marguerite E. Linthicum, of Baltimore, June 5.

JOHN ALEXANDER ARBUCKLE, M.D., Lewisburg, W. Va., to Miss Jessie Wallace Marshall of Richmond, Va., at Baltimore, June 3.

CHARLES NORTON BARNEY, M.D., First Lieutenant and Assistant Surgeon, U. S. Army, Key West Barracks, Fla., to Miss Helen Bourdel Young of Morristown, N. J., June 5.

Deaths and Obituaries.

George Worth Woods, M.D., medical director (rear admiral) U. S. Navy, retired, died at San Francisco, June 10, aged 64. Dr. Woods was well known in army and navy circles, was a frequent contributor to the literature, and was an active member of the Association of Military Surgeons of the United States. His last duty prior to his retirement was that of medical director at the U. S. Naval Hospital, Brooklyn, N. Y. In his memory one of his friends at Vallejo, Cal., says: "Beloved Dr. Woods! He whose great heart was filled with love and sympathy and human kindness, is no more, yet must the memory of his unselfish life ever be uplifting to those who knew his love or were soothed by his ministrations. Nowhere will he be more deeply mourned than in Vallejo, and the Navy Yard, although among his friends are numbered those from every clime."

Stephen Henry King, M.D. Harvard Medical School, Boston, 1872, who sailed for Europe, May 21, died in London, June 5, from pneumonia, aged 58. Dr. King has been a resident of Baltimore for several winters past, and was a well-known figure in Johns Hopkins circles. Dr. King was a native of Lowell, Mass. He practiced in Lowell, Mass., and Providence, R. I., until 1892, when he moved to Baltimore and took special courses in Johns Hopkins University.

Agnes B. Robinson-Messner, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1896, died at her home in Philadelphia, June 5. She was the daughter of the late Dr. Charles M. Robinson, of Philadelphia. On graduation she received the gold medal for the year. In 1901 she also won the John B. Deaver prize. She was assistant demonstrator of anatomy at the Woman's Medical College.

Allen Jones, M.D. Western Reserve University, Cleveland, Ohio, 1853, who had practiced in Trumbull County, Ohio, for nearly 50 years, had twice represented the county in the general assembly, and served throughout the Civil war as surgeon of the Thirteenth Ohio Volunteer Infantry, died at his home in Kinsman, June 7, after a lingering illness.

Curtis E. Munn, M.D. Harvard University Medical School, Boston, 1866, a pioneer physician of Kansas, a member of the American Medical Association, bacteriologist of the State Board of Health, lecturer on hygiene and sanitation at the State University and lecturer on bacteriology at Kansas Medical College, died at Topeka, June 7.

Gilman P. Robinson, M.D. Harvard University Medical School, Boston, 1893, lecturer on diseases of children in the Atlanta College of Physicians and Surgeons, and a specialist on that branch, died at his home in Atlanta, May 26, from tuberculosis and nephritis, after an illness of several months, aged 46.

Otis R. Freeman, M.D. Dartmouth Medical College, Hanover, N. H., 1843, who is said to have been the oldest practicing physician in America, died at his home in Freehold, N. J., June 9, after a short illness, aged 92. During the Civil war he served as surgeon on the staff of General Corcoran.

John Sell Edmund Cotman, M.R.C.P. Edinburgh, 1882; L.R.C.S. Edin. and L.M., 1880; L.S.A., 1879, a member of the common council of London, England, was found dead by the roadside at Langdon Hills, England, May 30, aged 54. His death was due to heart failure and heat exhaustion.

Samuel R. Cochrane, M.D. University of Buffalo, N. Y., 1867, surgeon of the One Hundred and First New York Volunteer Infantry in the Civil war and for more than 30 years a practitioner of Albion, N. Y., died at his office in that town, May 24, from an overdose of chloroform, aged 63.

T. Ritchie Stone, M.D. University of Vermont, Burlington, 1884, a prominent physician of Washington, D. C., and a member

of the staff of the Emergency and Columbian University hospitals, died suddenly at his home, June 1, from angina pectoris following an attack of acute indigestion, aged 45.

Joseph Scholl, M.D. University of Tuebingen, Germany, 1850, a resident of Washington, D. C., since 1861, one of the oldest members of the local medical society and one of the incorporators of the Emergency Hospital, died at his home in Washington, June 6, aged 79.

William D. Duff, M.D. Missouri Medical College, St. Louis, 1876, for 15 years a practitioner of Garden Grove, Iowa, but for the last year a resident of Blockton, Iowa, was shot and instantly killed in Garden Grove, June 7, by a farmer with whom he had had trouble.

Newton P. Holdom, M.D. Rush Medical College, Chicago, 1846, who settled in Illinois in 1836, was an Argonaut of 1849, and served as county physician of Cook County in 1876 and 1877, died at the home of his son in Detroit, Mich., June 8, aged 81.

James W. Jennings, M.D. Cincinnati College of Medicine and Surgery, 1873, who retired from practice at Millersburg, Ind., a year ago, died at the home of his daughter in Lima, Ohio, May 30, after an illness of ten months, aged 64.

Andrew T. Steele, M.D. Rush Medical College, Chicago, 1875, a member of the Aesculapian Society of the Wabash Valley, died at his home in Charleston, Ill., May 27, from paralysis, after an illness of ten months, aged 57.

John B. Wilson, M.D. Kentucky School of Medicine, Louisville, 1888, of Laramie, Wyo., a member of the American Medical Association, died at a hospital in Denver, Colo., where he had undergone an operation on the liver, May 20.

James A. Black, M.D., 1894, a practitioner of Bond County, Ill., for 35 years, assistant surgeon of the Forty-ninth Illinois Volunteer Infantry in the Civil war, died at his home in Pleasant Mound, June 1, after a short illness, aged 67.

Thomas J. Brown, M.D. Vanderbilt University, Nashville, Tenn., 1885, died at Johns Hopkins Hospital, Baltimore, May 26, aged 39. Dr. Brown had practiced in Pratt City for several years, until his health failed about a year ago.

G. F. German, M.D., a veteran of the Seminole war, an assistant surgeon in the Mexican war and a practitioner in Texas until 1884, when he moved to Ellensburg, Wash., died at his home in that place, May 23, aged 83.

John D. Hayes, M.D. Columbus (Ohio) Medical College, 1878, a member of the American Medical Association, and prominent as a physician and citizen of Somerset, Ohio died at his home in that city, May 18, aged 49.

Hezekiah P. Meade, M.D. New York Medical College, New York City, 1853, for 45 years a practitioner of Morrisville, N. Y., died at his home in that place, May 24, from malignant disease of the throat, aged 72.

John R. MacKenzie, M.D. University of Nashville, Tenn., 1862, late mayor of Weatherford, Texas, and an ex-confederate soldier, died at his home in Weatherford, May 26, after an illness of two weeks, aged 68.

Emmons Thomas Wilcox, M.D. New York University, 1876, a well-known physician of Frankville, Iowa, died in a hospital in New York City, May 26, shortly after an operation on the kidney, aged 50.

William Craig Burke, M.D. New York University, 1844, for many years a practicing physician of New York, died at the residence of his son in Cheyenne, Wyo., May 24, after a brief illness, aged 90.

William Christie Wilson, M.D. Tulane University, New Orleans, La., 1848, died at his home in New Orleans, from paralysis, June 8, aged 78. He had practiced in New Orleans for more than fifty years.

Moses D. Schmalhorst, M.D. Beaumont Hospital Medical College, St. Louis, 1893, of St. Louis, Mo., died, June 2, from sepsis at the Rebekah Hospital, St. Louis, after an illness of several weeks, aged 35.

James Hayes, M.D. Toronto (Ont.) University, 1866, died suddenly at his home in Simcoe, Ont., May 30. He was at one time mayor of the town and was for several years chairman of the local school board.

John J. Briley, M.D. Western Pennsylvania Medical College, Pittsburg, 1896, died at his home in Lawrenceville, Pa., June 4, from typhoid fever, after an illness of two weeks, aged 28.

Andrew L. Longshore, M.D. College of Physicians and Surgeons, Baltimore, 1893, died at his home in Newberry, S. C., May 29, from typhoid fever, after an illness of three weeks, aged 33.

Gaylord Brown Miller, M.D. Berkshire Medical College, Pittsfield, Mass., 1852, died at his home in Grand Rapids, Mich., May 25, from paralysis, after an illness of three weeks, aged 71.

Benjamin A. Church, M.D. New York University, 1878, died suddenly from heart disease associated with long-standing nephritis, June 5, at his home in Oneonta, N. Y., aged 47.

William Mason, M.D., at one time dean of the faculty of medicine of Buffalo, N. Y., died at Vergennes, Vt., June 1, from general paresis, after an illness of several years, aged 64.

Stephen A. Young, M.D. Cooper Medical College, San Francisco, Cal., 1876, died at his home in Portland, Ore., May 29, from paralysis, after an illness of four years, aged 62.

Samuel C. Fitzgerald, M.D., U. S. Army, died at the United States General Hospital at Washington Barracks, D. C., June 1, from abscess of the liver, after a prolonged illness.

Andrew P. Nelson, M.D. Vanderbilt University, Nashville, Tenn., 1884, died at his home in Winchester, Tenn., May 24, from tetanus, after an illness of one week, aged 40.

Fletcher W. Brockway, M.D. University of Buffalo, N. Y., 1883, was instantly killed by being thrown from a wagon, near his home in Erin, N. Y., May 30, aged 49.

W. D. Buchanan, M.D. University of Vermont, Burlington, 1882, for many years a practitioner of Cambridge, Vt., died at his home in Jeffersonville, Vt., March 25.

Walter R. Godfrey, M.D. Rush Medical College, Chicago, 1852, a pioneer physician of La Porte County, Ind., died at La Porte, June 7, at an advanced age.

Walter S. Kearney, M.D. Leonard Medical College, Raleigh, N. C., 1891, assistant city physician of Huntington, W. Va., died at his home in that city, May 23.

O. M. Starr, M.D. Atlanta (Ga.) Medical College, 1880, died at his home in Newnan, Coweta County, Ga., May 28, from paralysis, after a short illness.

William H. Fesker, M.D. Medical College of Ohio, Cincinnati, 1900, died at his home in New Bremen, Ohio, June 5, from rheumatism of the heart.

James S. Hottel, M.D. University of Virginia, Charlottesville, 1896, died at Conicville, Shenandoah County, Va., June 3, from typhoid fever, aged 32.

William A. O'Bryan, M.D. Kentucky School of Medicine, Louisville, 1868, died at his home in Kansas City, Mo., May 28, from pneumonia, aged 59.

Samuel R. S. Smith, M.D. Jefferson Medical College, about 1850, died at his home in Ardmore, Pa., from pneumonia, after a short illness, aged 80.

A. L. Elder, M.D. Cincinnati College of Medicine and Surgery, 1875, died at his residence in Hebron, Neb., June 5, after a lingering illness.

State Boards of Registration.

The Indiana Board has notified eight persons who are practicing medicine at South Bend and New Carlisle in St. Joseph County, of their failure to comply with the law in that they have not filed their certificates with the county clerk. Five others are practicing without certificates and have been ordered to cease. The board will prosecute the violators if its instructions are not obeyed. There seems to be activity along this line in a number of states.

Milwaukee Medical College Matter.—The investigation of this college by the Wisconsin Board of Medical Examiners has been completed. The faculty were summoned before the board to defend the college against the charges, which included the following: That the college received insufficiently-prepared applicants to advanced standing, that diplomas were given to persons deficient in training, and that students were authorized to practice independently before the completion of their college course. The investigation has occupied many weeks. The charges were preferred by the Milwaukee County Medical Society. The report is as follows:

We find that the Milwaukee Medical College is a living enterprise and institution of learning which Milwaukee and the state of Wisconsin should be proud of and take pride in its welfare, if properly conducted.

Second. We find that some of the charges of irregularity that have been brought against the Milwaukee Medical College are based on facts though not necessarily committed with any intention of evading the law.

Third. We find that certain discrepancies in the manner of graduating the students from the college, brought out by the investigation, are not in themselves a sufficient evidence of a habitual and intentional disobedience of medical laws, although they are subject to criticism.

Fourth. We find further from the evidence brought out during the investigation that the charges are overdrawn and though not wholly disproven are of such a nature that some must be considered conjectural.

Fifth. We find that these charges are considered timely and justifiable in an attempt to abrogate or improve existing conditions in college.

Sixth. This board will insist in the future that those in control of the college shall strictly conform to the rules and the letter of the law.

The Oregon Board, at Portland, April 5, gave 34 applicants a written examination on 9 subjects, with 90 questions, and found 31 able to attain a grade of 75 per cent. The other 3 could not receive license to practice medicine in Oregon. The list follows:

PASSED.

Sch. of Pract.	College.	Year. Grad.	Per-cent.
R.	University of Oregon	1902	83.6
R.	University of Oregon	1902	84.2
R.	University of Oregon	1902	84.9
R.	University of Oregon	1902	85.2
R.	University of Oregon	1902	85.7
R.	University of Oregon	1902	86.8
R.	University of Oregon	1902	81.3
R.	University of Oregon	1902	83.1
R.	University of Oregon	1902	89.3
R.	University of Oregon	1902	86.2
R.	University of Oregon	1902	83.8
R.	University of Oregon	1902	85.8
R.	University of Oregon	1902	80.0
R.	University of Oregon	1902	82.9
R.	Willamette University	1902	83.2
R.	Willamette University	1902	84.9
R.	Willamette University	1902	83.6
R.	Willamette University	1902	88.4
R.	Willamette University	1902	85.0
R.	University of Tennessee	1893	80.2
R.	University of Vermont	1892	81.0
R.	Northwestern University Medical Sch.	1898	78.8
R.	Medical College of Indiana	1898	80.9
R.	U. of Iowa, 1874; Jefferson Med. Coll.	1877	79.7
H.	Cleveland Homeo., 1898; Jefferson Med. Coll.	1900	92.2
H.	Univ. of Mich., Homeo. Med. Coll.	1901	80.3

FAILED.

R.	Gross Medical College	1889	38.8
R.	Undergraduate	..	17.3
H.	Chicago Homeo. Medical College	1895	67.2

Idaho Practice Law Constitutional.—Dr. L. F. Inman of Lewiston, who had been refused a license by the Idaho State Board of Medical Examiners on the presentation of a diploma from the notorious Chicago fraud, the Independent Medical College, was arrested for practicing medicine without a license and convicted. He sought release from the sheriff's custody by a writ of habeas corpus from the District Court. This was refused and he tried the Supreme Court and was again refused. The decision is at length, and affirms the validity of the medical practice law of Idaho. Extracts are as follows: We find nothing in this act which attempts to deprive anyone of a vested right. It is true that persons who are actually engaged in the practice of medicine or surgery under the laws of 1887, and persons who had acquired a license from the board, under the defunct act of 1897, are not required to undergo an examination before the board of examiners under the act in question; and it is also true that such persons are only required to pay to the board a fee of $5, while all other persons, required to take an examination, are required to pay a fee of $25. These provisions are not, in our opinion, open to the objection of "class legislation," or "special immunities." The act makes certain evidence prima facie sufficient to admit the applicant to license and to continue the practice of medicine and surgery, or either, without examination. This provision, and the provision requiring that the fee of $5 should be paid applies to all persons who stand in the same position, that is, those who under the act need not take the examination. It is not an unreasonable requirement, nor class legislation, to require that those applicants who do not possess the prima facie evidence required by the statute to entitle them to license without examination, to pay to the board of examiners a fee of $25. It is argued on behalf of the petitioner, too, that no one, under the provisions of the act in question, can take the examination and acquire license who is not a graduate of a reputable college of medicine in good standing; and that the board is made the judge of what is a reputable school of medicine, and therefore vested with judicial power, in contravention of the provisions of our constitution. We think that the provisions complained of are reasonable and the proper exercise of the police power of the state. Similar legislative acts have so often been held to be a proper exercise of the police power of the state as to make citation of authority upon that question almost unnecessary. It has often been held that it is competent for the legislature to provide for a board who shall pass upon the competency of applicants to practice medicine and surgery. The vesting of such power in the board does not grant to it such judicial power as renders the act objectionable under the provisions of Section 2 of Article V of our constitution. A careful perusal of the act in question, and of all its parts, shows a carefully guarded intent on the part of the framers of the act, and on the part of the legislature in enacting it, to protect the health and lives of the inhabitants of the state; to prevent incompetent persons from practicing medicine and surgery; and at the same time, to work no injustice upon the part of applicants for license, recognizing the rights of the old practitioners, under the act of 1887, who were not graduates of any medical school, recognizing the rights of those who, under said act, had diplomas from medical schools, and who were actually engaged in the practice of medicine at the time of the passage of the act in question; and by providing in express terms for a review, by the courts, of the action of the State Medical Board in all cases in which they should refuse an applicant a license. Under the provisions of said act, all applicants must be persons of good moral character, free from criminal practices, and that they should not be convicted criminals; a wise, humane, proper and legitimate exercise of the police power of the state.

The Missouri Board, on April 2, at Kansas City, and on April 15 and May 8 at St. Louis, examined 221 applicants for license, of whom 118 passed 75 per cent. and 103 failed. The non-graduates numbered 97, of whom 24 passed and 73 failed. We tabulate the graduates below:

PASSED.

Candi-date.	Sch. of Pract.	College.	Per-cent.
50	R.	Marion-Sims-Beaumont Medical College	84
54	R.	Marion-Sims-Beaumont Medical College	80
55	R.	Marion-Sims-Beaumont Medical College	75
59	R.	Marion-Sims-Beaumout Medical College	75
64	R.	Marion-Sims-Beaumont Medical College	83
73	R.	Marion-Sims-Beaumont Medical College	75
76	R.	Marion-Sims-Beaumont Medical College	83
77	R.	Marion-Sims-Beaumont Medical College	80
78	R.	Marion-Sims-Beaumont Medical College	82
79	R.	Marion-Sims-Beaumont Medical College	81
80	R.	Marion-Sims-Beaumont Medical College	85
81	R.	Marion-Sims-Beaumont Medical College	84
82	R.	Marion-Sims-Beaumont Medical College	80
83	R.	Marion-Sims-Beaumont Medical College	83
95	R.	Marion-Sims-Beaumont Medical College	83
227	R.	Marion-Sims-Beaumont Medical College	87
46	R.	Marion-Sims-Beaumont Medical College	82
47	R.	Marion-Sims-Beaumont Medical College	76
48	R.	Marion-Sims-Beaumont Medical College	83
162	R.	Marion-Sims-Beaumont Medical College	77
166	R.	Marion-Sims-Beaumont Medical College	83
171	R.	Marion-Sims-Beaumont Medical College	76
57	R.	Washington University, St. Louis	76
58	R.	Washington University, St. Louis	82
84	R.	Washington University, St. Louis	78
85	R.	Washington University, St. Louis	81
144	R.	Washington University, St. Louis	75
203	R.	Washington University, St. Louis	75
97	R.	Missouri Medical College (now Wash. Univ.)	82
56	H.	Hahnemann Medical College, Chicago	81
251	H.	Hahnemann Medical College, Chicago	85
184	H.	Hahnemann Medical College, Chicago	83
68	R.	Barnes Medical College, St. Louis	77
69	R.	Barnes Medical College, St. Louis	76
111	R.	Barnes Medical College, St. Louis	81
122	R.	Barnes Medical College, St. Louis	78
136	R.	Barnes Medical College, St. Louis	78
139	R.	Barnes Medical College, St. Louis	76
141	R.	Barnes Medical College, St. Louis	80
142	R.	Barnes Medical College, St. Louis	79
152	R.	Barnes Medical College, St. Louis	80
155	R.	Barnes Medical College, St. Louis	81
167	R.	Barnes Medical College, St. Louis	82
168	R.	Barnes Medical College, St. Louis	80
178	R.	Barnes Medical College, St. Louis	82
185	R.	Barnes Medical College, St. Louis	76
206	R.	Barnes Medical College, St. Louis	83
207	R.	Barnes Medical College, St. Louis	87
65	R.	Ensworth Medical College, St. Joseph	75
218	R.	Ensworth Medical College, St. Joseph	76
66	R.	Kansas City Medical College	75
67	R.	Kansas City Medical College	75
215	R.	Kansas City Medical College	75
220	R.	Kansas City Medical College	80
221	R.	Kansas City Medical College	76
234	R.	Kansas City Medical College	80
235	R.	Kansas City Medical College	70
243	R.	Kansas City Medical College	78
245	R.	Kansas City Medical College	83
70	R.	Keokuk (Iowa) Medical College	79
86	R.	St. Louis College of Physicians and Surgeons	75
88	R.	St. Louis College of Physicians and Surgeons	82
229	R.	St. Louis College of Physicians and Surgeons	79
247	R.	St. Louis College of Physicians and Surgeons	77
104	R.	St. Louis College of Physicians and Surgeons	85
132	R.	St. Louis College of Physicians and Surgeons	76
163	R.	St. Louis College of Physicians and Surgeons	78
173	R.	St. Louis College of Physicians and Surgeons	77
189	R.	St. Louis College of Physicians and Surgeons	80

Candidate.	Sch. of Pract.	PASSED. College.	Per-cent.
190	R.	St. Louis College of Physicians and Surgeons.	79
87	R.	Central Medical College, St. Joseph	75
217	R.	Central Medical College, St. Joseph	80
96	H.	Kansas City Homeopathic Medical College	80
213	R.	University of Michigan	83
216	R.	University Medical College of Kansas City	78
219	R.	University Medical College of Kansas City	85
223	R.	University Medical College of Kansas City	80
253	R.	University Medical College of Kansas City	81
225	R.	Medico-Chirurgical College, Kansas City	80
232	R.	Medico-Chirurgical College, Kansas City	77
233	R.	Medico-Chirurgical College, Kansas City	80
237	R.	Medico-Chirurgical College, Kansas City	79
226	R.	Meharry Medical College, Nashville, Tenn	85
228	R.	Woman's Medical College, Chicago	83
231	R.	Rush Medical College	75
244	R.	Rush Medical College	82
240	E.	American Medical College, St. Louis	79
241	R.	Columbia University	80
246	?	St. Louis Medical College*	81
252	R.	University of Kansas	86
42	E.	California Medical College	76
130	R.	Royal College of Physicians and Surgeons	82
140	R.	University of Georgia	77
150	R.	University of Pennsylvania	76
186	E.	Lincoln Medical College	78
		FAILED.	
52	R.	Marion-Sims-Beaumont Medical College	70
60	R.	Barnes Med. Coll., and Coll. P. & S., St. Louis	66
102	R.	Barnes Medical College, St. Louis	65
109	R.	Barnes Medical College, St. Louis	71
153	R.	Barnes Medical College, St. Louis	65
164	R.	Barnes Medical College, St. Louis	70
169	R.	Barnes Medical College, St. Louis	65
208	R.	Barnes Medical College, St. Louis	70
209	R.	Barnes Medical College, St. Louis	71
212	R.	Ensworth Medical College, St. Joseph	65
71	R.	Keokuk (Iowa) Medical College	70
72	R.	Keokuk (Iowa) Medical College	64
100	R.	St. Louis College of Physicians and Surgeons.	73
101	R.	St. Louis College of Physicians and Surgeons.	70
259	R.	St. Louis College of Physicians and Surgeons.	68
105	R.	St. Louis College of Physicians and Surgeons.	67
107	R.	St. Louis College of Physicians and Surgeons.	71
112	R.	St. Louis College of Physicians and Surgeons.	50
172	R.	St. Louis College of Physicians and Surgeons.	70
179	R.	St. Louis College of Physicians and Surgeons.	71
188	R.	St. Louis College of Physicians and Surgeons.	60
224	R.	Central Medical College. St. Joseph	73
211	H.	Kansas City Homeopathic Medical College	60
255	R.	University Medical College of Kansas City	65
258	R.	University Medical College of Kansas City	65
242	R.	College of Physicians and Surgeons, New York	71
205	H.	Homeopathic Medical College, St. Louis	60
191	R.	Washington University†	..

* Report failed to state which one is meant.
† Percentage not given.

Book Notices.

THE SYSTEM OF PHYSIOLOGIC THERAPEUTICS, A Series of Eleven Volumes. Vol. I.—Electrotherapy—Apparatus and Method of Handling. Edited by George W. Jacoby, M.D., New York. Pp. 242. 163 Illustrations. Vol. II.—Electrotherapeutics. Edited by George W. Jacoby, M.D. Pp. 323. 217 Illustrations. Vol. III.—Climatology and Health Resorts. Edited by F. Parkes Weber, A.M., M.D., F.R.C.P. (London), and Guy Hinsdale, A.M., M.D., Philadelphia. Colored Maps. Pp. 336. Vol. IV.—Health Resorts. Edited by F. Parkes Weber, M.D., and Guy Hinsdale, A.M., M.D. Pp. 420. Vol. VI.—Dieto-therapy and Dietetics. Edited by N. S. Davis, Jr., A.M., M.D. Pp. 420. Cloth. Price, $22.00 net. Under the General Editorial Charge of S. Solis-Cohen, A.M., M.D. Philadelphia: P. Blakiston's Son & Co.

The forementioned volumes being those of the eleven which have been issued, are unique in their method of presenting the different subjects. The first and second volumes deal with the physics and therapeutics of the different forms of current and with electro-diagnosis. The second volume, thoroughly illustrated, contains interesting articles from such experienced men as Drs. Da Costa, Jackson, Scheppegrell, Martin and Ohmann-Dumesnil. The third and fourth volumes are devoted to climatology and health resorts. The first part of Vol. III treats of the factors of climate, and the second part describes health resorts and mineral springs and in this connection discusses the climatic treatment of various diseases. Volume IV also contains a special article on the Hawaiian Islands by Dr. Titus Munson Coan of New York. Volume VI, which should be in the hands of every general practitioner, is devoted to alimentary therapeutics and dietetics. This volume certainly fills a vacancy in the field of therapeutics. The various diseases are taken up in their order, and the articles of diet best suited for the patient in the different stages of the disease, are mentioned. This volume also contains tables of dietary and relative values of foods.

MENTAL GROWTH AND CONTROL. By Nathan Oppenheim, M.D. Cloth. Pp. 295. Price, $1.00. New York: The Macmillan Co. 1902.

This is a little work on what might be called practical psychology, teaching young men and women how to educate their mental faculties, and, so far as we can see, the work is one than can be endorsed—with possibly one exception. The author's recommendations in regard to religious matters might be open to the same objection of insincerity which he makes himself. The average sincere religionist would not accept his idea that there is little difference between one religion and another, the whole thing being simply what he calls being religious, though there is a good deal of psychologic truth in the statement that if we cultivate all the emotions, and live the life of a believer, actual belief will come, as was pointed out long ago by Pascal and many others. Still one should have convictions, and they are really the things that make any religion respectable, though they need not be incompatible with tolerance. Aside from this possible criticism we can see nothing in the book which ought not to be endorsed, and we can cordially recommend it to the average young man and woman.

THE DIAGNOSIS OF SURGICAL DISEASES. By Dr. E. Albert, Late Director and Professor of the First Surgical Clinic at the University of Vienna. Authorized Translation from the Eighth Enlarged and Revised Edition, by Robert T. Frank, A.M., M.D., with 53 Illustrations. Cloth. Pp. 419. Price, $5.00. New York: D. Appleton & Co. 1902.

As the translator says, works on surgical diagnosis are comparatively few in the reach of American readers, hence he has rendered a service in translating this eighth enlarged and revised edition of Albert's work. The publishers have brought out the volume in excellent shape, and we believe it will be considered a valuable contribution to our medical literature.

Miscellany.

Longevity and the Physician.—The mortuary statistics of life insurance companies place physicians low on the list as regards longevity. There are perhaps many reasons why this should be so, since the arduous nature of his calling is generally acknowledged. Beside the physical work and under many circumstances this is excessive, there is a burden of responsibility and a wear and tear on the sensibilities that undoubtedly tends in certain susceptible organizations to an early break-down and, unfortunately, in not a few instances leads its votaries to resort to stimulants or narcotics. In men who have passed the meridian of life, the irregularities and harassments of a general practice, added to the unnatural stimulus of sharp competition (for many middle-aged physicians are as jealous of their clientele as though they were beginners), must necessarily do something to shorten the latter years of life, as they certainly destroy its comforts and leisure. Still, the medical profession has had and has now, many conspicuous examples of longevity, which will readily occur to the reader. It would seem that foreign medical men more frequently reach the age limit than do Americans, which only indicates that we suffer from the prevailing national vice of leading too strenuous an existence. The oldest practicing physician in the United States is said to be Dr. O. R. Skinner, of Freehold, N. J., who is in his 93d year. He was a surgeon in the Civil war. He is kept busy with his professional duties and answers promptly all calls. His long life is probably due in part to the fact that most of it was passed prior to the general use of the telephone.—*Carolina Med. Jour.*

The Effects of Alcoholic Stimulants.—Kidney and liver diseases, with their consequent heart failure and arterial degeneration, are so common that it behooves the physician to carefully inquire into the habits of patients and of those examined for insurance. An applicant will always minimize the amount of alcohol consumed, says the *Medical Examiner and Practitioner.* The steady drinker is a more dangerous life risk than the occasional one who gets drunk. The constant presence in the blood of the deleterious products produced by alcohol will ultimately lead to degenerative changes in the vascular apparatus, and connective changes are sure to follow. Examiners can, by tact, frequently arrive at a proper judgment of the habits of an applicant, and at the time of the examination observe the force and volume of the pulse. They can also ascertain its tension, and thus be able to judge of the condition of the arterial changes. Then, again, by carefully examining the heart sounds, as to regularity, rhythm, accentuation and rapid-

ity, they can form a fair idea as to its condition. By carefully mapping out the cardiac area they can gather whether or not it is enlarged, and if so, the direction in which the enlargement extends. By carefully comparing this data with the habits of the applicant, often a judgment can be reached which will enable the examiner to say whether or not any cardiac changes have taken place. One of the most dangerous cardiac changes, which is sometimes present but often overlooked by the hurried and careless examiner, is a fatty degenerated heart with dilatation. This condition is sometimes present in those individuals who combine over-indulgence in alcoholic stimulants with extreme physical exertion; the athletic heart of the middle-aged person. These are dangerous cases for the life insurance company.

Early Medicine in Maryland, 1636-1671.—Light has been thrown upon this period by Dr. Walter R. Steiner, in a recent paper read before the Johns Hopkins Historical Club. There is no reference to priest physicians, so numerous in New England. Medicine was learned in apprenticeships of three to seven years. Doctors were styled "physicians and chirurgeons." Some are spoken of as "barber chirurgeons." One, George Binx by name, is entitled "Licentiate in Physicke." Eight served as "burgesses" in the Assembly. Among these, Dr. Thomas Gerard, who came over in 1638, was most prominent. He was elected to it in 1639, and served almost continuously until named as one of the Council in 1643. In 1640 he was made Lord of St. Clement's Manor in St. Mary's county, where he presided over a sort of independent ("leet and baron") court. He was a devout catholic and incurred the displeasure of the protestants by interfering with their worship. The Assembly was held at his house for some weeks in 1660. At first he was true to Lord Baltimore, but later fell away and was found guilty of treason, although subsequently pardoned. On one occasion, when on trial for certain alleged misconduct, a witness testified that he "had drunk something extraordinary, but was not so much in drinke but he could gett out of a cart's way." He probably early gave up practice to devote himself to his public duties. He was a man of wealth and was always assessed more than any other doctor. His name appears frequently in the court records as suing and being sued or as acting as juryman, administrator or attorney.

Another physician prominent in public life was Dr. Luke Barber, who was mediator between the Royalists and Puritans and was taken prisoner at the battle of Providence (Annapolis) March 23, 1655. Lord Baltimore granted him 1,000 acres at Porttobacco on acount of his services. He was also Lieutenant-Governor and member of the Governor's Council.

Richard Purlivant, assemblyman, received land "for having transported himself at his own charge into the Province" and "having practiced his art to the benefit of the inhabitants of our Isle of Kent." John Robinson, assemblyman, was apprehended for debt. Alexander Pulton, or Putton, assemblyman, in 1642, received 150 pounds of tobacco "as surgeon's pay in the late expedition." Suits were frequent in those days for tobacco and corn due for medical and surgical attendance and physic. "Breathing a vein" was an item in the bills. There is a record of a suit brought by Peter Sharp against Peter Godson, both physicians. This Peter Godson and his wife seemed to be continually in hot water.

Although there were no women doctors then, one woman, Katherine Hebden, wife of Thomas Hebden, a practitioner of medicine, gave physic to Richard Lawrence and was paid there for 1,900 pounds of tobacco by the sheriff by order of the court. It is recorded also that she "did chirurgery upon the legg of John Greenwell, the man servant of Edw. Hall."

Among drugs used was "Mithradate," a panacea, which recalls the famous antidote of King Mithridates.

Jacob Lumbrozo, a Jewish physician from Lisbon, Portugal, arrived in Maryland in 1656 and settled in Charles county, where he enjoyed a lucrative practice. About two years later he was accused of blasphemy, but escaped trial through the general amnesty granted at the succession of Richard Cromwell. He died in 1666.

Witchcraft obtained but slight hold in the province, but one execution taking place in 1684.

Obstetrics was in the hands of midwives, several of whom are mentioned by name.

Juries of women were impaneled from time to time to report on the condition of members of their sex suspected to be pregnant or to have destroyed their infants. Such are recorded in 1656 and 1657.

Inquests were held early and the causes of death diligently searched into. On Jan. 31, 1637, twelve planters held inquest on a man killed by the fall of a tree, their verdict being that the tree should be forfeited to the Lord Proprietor. On March 23 and 24, of the same year, inquests are held on the bodies of two men drowned. Again in 1642 there is an inquest on an infant, and in 1643 a very striking one, signed by George Binx, foreman, in which a very complete examination was made of the abdomen of an Indian who had been shot. The George Binx, Licentiate of Physicke," mentioned above. In 1657 two surgeons, Mr. Richard Maddokes and Mr. Emperor Smith, performed an autopsy upon the body of a man killed by his master, and received a hogshead of tobacco, to be divided equally between them. In 1648 an autopsy was made on a man who was "found dead upon the sands of Poynt Looke out in St. Michael's Manor," with evidences of foul play. On July 20, 1670, John Stansley and John Peerce, chirurgeons, were ordered to view the head of Benjamin Price, and "certify what their opinions are touching the death of the said Price," who was thought to have been killed by the Indians. By an act of the Assembly of 1671 the coroner's fee for an autopsy was fixed at 250 pounds of tobacco.

The above records seem to show that the early Maryland doctors were men well abreast of their times and who served well their day and generation. Dr. Steiner's paper, which is based upon the Maryland archives (published recently by the state), will appear in full in the *Johns Hopkins Bulletin.* It is one of the most important contributions to the medical history of the state.

Association News.

AMERICAN MEDICAL ASSOCIATION.

Fifty-third Annual Meeting, held at Saratoga Springs, N. Y., June 10-13, 1902.

GENERAL MEETING.

Official Minutes.

Tuesday, June 10—First General Meeting.

The Association met in Convention Hall, and was called to order at 11:15 a. m., by the President, Dr. John A. Wyeth of New York.

Prayer was offered by Rev. T. F. Chambers of Saratoga Springs, after which Dr. George F. Comstock of Saratoga Springs was introduced and read his report as Chairman of the Local Committee of Arrangements.

Report of the Committee of Arrangements.

Mr. President, Ladies and Gentlemen and Members of the American Medical Association: The Committee of Arrangements acknowledges the honor that was conferred on this village in its selection as the place of meeting for this annual session of the American Medical Association, and greets you with a program of entertainment that we hope will be carried out to your satisfaction.

Knowing fully that the material resources to be found in a large city, such as where the meetings have usually been held, were not to be had in a small community like Saratoga Springs, it was a satisfaction to know that the invitation was in a large measure considered as from the New York State Medical Association, and it is with great pleasure that we acknowledge the helpful support of the officers and members of that affiliated body, in the discharge of the duties that were placed upon us as a committee.

In some respects, the committee has found its problems made less difficult than those that might arise in other places, and in particular, that "magnificent distances" do not separate the places of meeting.

It is with regret, however, that just at the time of meeting, some places that had been secured for section meetings ceased to be available, and hence a few changes were necessitated. This was the case in the Section on Physiology and Pathology, which has been changed from the Grand Union Club room to a room accessory to the Congress Hall ballroom, and the Section on Stomatology, from G. A. R. Hall to the Grand Union Club room (upstairs). The pocket-card directory found

in your envelopes was issued before these changes were made, but a revised edition has been printed on pink paper, and that should be regarded as official, although, after the printing of this second card, only yesterday, fire rendered further changes necessary, and the House of Delegates is moved to a room upstairs in the Town Hall, known as the Hibernian Room, and the gynecologic loses its proximity to the Surgical Section, in being necessarily moved to the Town Hall Auditorium.

The visiting ladies are invited to meet the local ladies' committee at an informal reception in the parlors of the United States Hotel, this afternoon, at 4 o'clock, when acquaintances may be made and information imparted.

The program for entertainment is as follows:

On Tuesday evening, at 8:30, there will be a piazza concert at the United States Hotel, at which will be given both vocal and instrumental selections.

On Wednesday, at 9:30 a. m., there will be an instrumental concert in Congress Spring Park, and at 1:30 p. m. there will begin a carriage drive around the village for the visiting ladies, starting from the United States Hotel and including a visit to "Yaddo," from 5 to 7 p. m., on the invitation of Mr. and Mrs. Spencer Trask. In this invitation to "Yaddo" the physicians are specially included. It is feared that a sufficient number of vehicles is not available to carry them as well as the ladies, but as it is not a long walk out Union Avenue, one of the pleasantest streets of the village, it is hoped that many of the gentlemen will go for the exercise, and the pleasure of a visit to this beautiful home.

On Wednesday evening, at 9 o'clock, the management of the United States Hotel will give a reception and ball in honor of the Association.

On Thursday an excursion to and through Lake George will leave on the Delaware & Hudson railroad at 8:30 a. m., returning in ample time for dinner.

The final entertainment will be the reception given by the New York State Medical Association to the President of the American Medical Association in the United States Hotel at 9 p. m., Thursday.

With the exception of the visit to "Yaddo," the reception and ball by the United States Hotel, and the reception to the President, these entertainments are for the visiting ladies only.

The committee wishes earnestly to impress on the members and the visiting ladies the importance of wearing the badges that have been provided, particularly in connection with these entertainments.

The arrangements and places for the Section dinners will be announced at the Section meetings this afternoon.

The Transportation Committee will be found, during business hours, at 361 Broadway, under the American-Adelphi Hotel, where arrangements for return tickets are to be made.

Dr. H. L. E. Johnson, of the District of Columbia, presents this flag to the American Medical Association and begs that they accept it. The Board of Trustees recommend that it be adopted by the Association as their colors and that it fly at all meetings of the Association.

Elaborate preparations have been made for a Canadian and New England excursion, which will leave Friday morning at 8:30, going through Lake George or, if preferred, at 10 a. m., connecting at Fort Ticonderoga, omitting the excursion through Lake George.

If the party is sufficiently large it would be feasible to have it divided, one-half leaving on Friday morning and the other half on Saturday morning and joining at Montreal. A large number have already registered for this excursion, and a most enjoyable trip is anticipated by the promoters of the same. All those desiring to indulge in this most delightful trip through Canada and New England should register with the chairman of the Transportation Committee at the Adirondack Spring Parlor before 8:30 a. m. Thursday.

Presentation of Flag.

Dr. H. L. E. Johnson, of Washington, D.C., presented a large and beautiful banner to the Association.

The President, on behalf of the Association, said he felt empowered to express to Dr. Johnson the thanks of the members for the donation of this flag, and expressed the hope that it would be the flag of the Association for many, many years to come.

President Wyeth then introduced the Hon. S. F. Nixon, Speaker of the New York State Assembly, as "the friend of organized and scientific medicine in the Empire State; a man who has never turned his back upon any measure we have brought before the legislature." [Applause.]

Mr. Nixon was warmly received. He delivered the following address of welcome.

Address of Welcome.

Mr. President, Ladies and Gentlemen: I am never introduced to an assemblage, the majority of whom reside outside of the limits of the State of New York, as the presiding officer of the lower body of the Legislature but there comes to my mind a little incident which occurred in the city of Washington during the time when the Hon. Thomas B. Reed was Speaker of the House of Representatives, and during those times when speakers not only at Washington, but in some of the civil divisions of the United States were subjected to criticism, so I feel, as a matter of fairness to myself, that I am entitled to relate it.

A father sat with his little son in the gallery of the House of Representatives, and during the time of a heated debate the little fellow leaned over the gallery side and said to his father: "Papa, who are those gentlemen that I see down on the floor below?" And he said: "My son, those are the speakers of the House of Representatives." And still he looked at them for a moment or so, and finally observing a stolid gentleman who sat on the rostrum, he said: "Papa, who is that gentleman sitting on the rostrum with a gavel in his hand?" He said: "My son, he *is* the House of Representatives." [Laughter.]

After some of the things with which the delegates from this state are familiar as having occurred at Albany during years past, I desire to say I accept only individual responsibility rather than responsibility for all of the members of the Legislature. [Laughter.]

I assure you I appreciate the honor done me, when my friend, Dr. Ferguson, was deputized to invite me to welcome this great assemblage on behalf of the State of New York, and I promise you, on behalf of this commonwealth, that no matter where your convention may be held, whether in the East, in the West, in the North or in the South, you will not meet with a higher degree of appreciation than by the people of this state. [Applause.] It occurred to me that there might be a tinge of professional courtesy in connection with that invitation. The analogy came to my mind that the Legislature occupies the same position towards the body politic that the physician does toward the body physical. True it is, you elect yourselves and are subjected only to the will of Providence, while we are elected annually or biennially and are subjected to the will of the people. You never make a mistake in diagnosing a case; but if we make a mistake and diagnose some public demand contrary to the judgment and desires of the divisions which we represent, we are retired to the political convalescent ward, and from that ward many states will never return. [Laughter and applause.]

It is unnecessary for me to state that the State of New York is glad to have your convention within its borders. We are glad to have you conduct your deliberations here, because we believe your convention here will be productive of possibly more good than in any other locality in the United States.

New York has always been in favor of the elevation of the standard of education. We are in absolute sympathy with the principles upon which and for which your Association was organized. I believe it was in a New York State medical convention in 1844 or 1846 that the idea of a National Association first had its inception. [Applause.] You are organized for the better education of medical students, not alone from the standpoint of medicine, but you are organized for the purpose of having them acquire a better preliminary education. Your Association was organized at a time when those colleges which would give degrees for the least expenditure of time and money were receiving the patronage of all classes of students who were endeavoring to acquire a professional education, and it is due to your Association, which I believe became permanent in 1847, that this standard has been elevated, and that you have to-day placed the medical colleges of the United States upon a plane equal, if not superior, to those of the old world. [Applause.] I believe that without any criticism or egotism I can say that the State of New York is and has been foremost in educational work of any state in the Union, and we are endeavoring from a legislative standpoint, with the hearty co-operation of the several divisions of this state, to have our standard of education as near ideal as possible. New York State, early in her history, established a common school system, which has become the fundamental basis of the educational system of all our states. We established first free public libraries, we built and maintained the first normal school for the training of teachers, and teachers trained in our normal schools can be found throughout the length and breadth of the civilized world. We established the first system for the supervision of schools; in fact, inso-

far as educational matters are concerned, New York State has always forged to the front and has always endeavored to reach as near the goal of perfection as possible. New York State has always endeavored to increase the standard of the preliminary education of medical students, and to-day seventy-nine of the eighty medical colleges of the United States accept a medical student from New York State who has a certificate for admission at its full faced value. While it is impossible to prescribe any well-regulated rules for admission to the medical profession, owing to the varied conditions of population, of general development and of education, yet, it seems to me, it would seem that instead of having one standard for each of our states, we might have several standards that would answer for all. It would seem that similarity of conditions in various states can be so grouped that there would be only a small number of standards instead of, I believe, forty-five for admission to the practice of medicine. [Applause.] While I appreciate it is not within the province of the state to interfere with the well-regulated springs of the profession, yet it occurs to me that one of the principal and most important functions is to place the standard of requirement, so far as our professions are concerned, absolutely the highest. [Applause.] We are called upon to regulate many matters by legal enactment.

You will recall that in Biblical history it is said of one of the ancient kings, I believe Asa, when he was sick betook himself unto the Lord and not unto his physician, and he rests with his fathers. [Laughter.] I understand that there are those within recent times who have followed the example of Asa, and rumor states to me with the same result. [Laughter.]

The nineteenth century represents practically the climax of achievement. Within each decade inventions and developments have come to us which, when considered individually, are marvelous from a mechanical and commercial standpoint. The material condition of things has been absolutely changed. The locomotive and the steamboat were the forerunners of business advancement; the telephone and the telegraph were found necessary for the transaction of the large volumes of business which we to-day enjoy. But the advancement in the mechanical world does not mark any greater strides of development than those which have come to us within the same length from the medical world. [Applause.] What steam and electricity have done for commercial development, the discovery of anesthetics and antiseptics has done for the medical world, and the grand achievements of this profession during the past fifty years have been fully abreast and in keeping with the advancement of all material things. The opportunity for advancement in the medical world has been due very largely to the munificent gifts of some of our men of wealth, who, following the example of John Harvard, have endowed medical colleges and hospitals throughout the United States [applause] until, I understand, to-day the opportunity for a finished medical education is equally as good in the United States as it is in the old world.

When we come to consider the conditions of to-day as compared with those of the early days, it seems almost like a marvel. When we come to consider the improvements which have come to us, during the past fifty years, we wonder what is in store for the genius of the twentieth century. You will recall, possibly, a little incident that was directed to my attention a short time ago. A student in a medical college in connection with Bowdoin University went into the anatomical laboratory one day and met one of the professors. He was studying anatomy, and he desired to impress upon the mind of his preceptor his desire to become extremely advanced, and so he said to the professor: "Is there not some new book upon anatomy that we have not got in our library?" And the old gentleman turned to him and said: "Young man, I don't know of a single new bone in the human body that has been discovered during the past ten years." [Laughter.]

There is no doubt but that some of the opportunities which existed in the early days of the nineteenth century exist to-day in the advancement of science. We as a nation to-day occupy a proud position, and have ever occupied such a position from the day of our inception. We have accomplished during the past six or seven years such brilliant achievements that we are the wonder and admiration of the civilized world. [Applause.]

I remember hearing a toast which was offered some time ago by an American who sat at a table in London with some of his English friends, and the first suggestion was from an Englishman, who said: "I desire to propose a toast to that country upon which the sun never sets." An American resident said: "I desire to propose a toast to that nation which is bounded on the north by British America, on the south by the Gulf of Mexico, on the east by the Atlantic, and on the west by the Pacific ocean." And then another Englishman, a little more enthusiastic than the former, said: "I desire to propose a toast to that nation whose campfires, when lighted at night, are the beacon lights through the length and breadth of the civilized world." Another American said: "I desire to propose a toast to that country which is bounded on the north by the north pole, on the south by the south pole, on the east by the rising and on the west by the setting sun." [Applause.] Finally, a little fellow who had not entered very much into the spirit of the affair, said: "While I agree with all of the suggestions made by my American friends, I desire to propose a toast to that nation which is bounded on the north by the aurora borealis, bounded on the south by the position of the equinox, bounded on the east by primeval chaos, and bounded on the west by the day of judgment." [Laughter and applause.]

With this expanse of territory which has come to us, with the accumulated advantages of the past century, what will it not be possible for American pluck and American genius to accomplish?

I appreciate that I am encroaching somewhat upon the time of my friend who sits behind me. I wish that I might give to you a welcome upon the part of the state that you can construe as literally as you can his welcome to this beautiful village of Saratoga. I can only give that which I have, and I simply represent a very small part of the state. But the terms Brackett and Saratoga for a number of years have been synonymous, and I wish to say to you confidentially, that the good things which he offers to you you can take absolutely literally, because they're his.

I desire, again, on behalf of the people of this great commonwealth, to welcome this Association to the State of New York, and I trust that the few days you will remain with us may be fraught with both pleasure and profit. [Applause.]

The President then introduced Senator Edgar T. Brackett, of Saratoga, who delivered an address of welcome on behalf of the citizens of Saratoga Springs.

Address of Welcome by Senator Brackett.

Mr. President and Members of the American Medical Association: You have been welcomed to New York State by the distinguished speaker of our State Assembly. It is my pleasing duty to welcome you to a more circumscribed locality, the village of Saratoga Springs. When I was selected to welcome this body on behalf of the village of Saratoga Springs, I gave earnest thought to the matter, and I say to you in confidence, that I recognized the faces of many of you whose acquaintance I made in the city of Albany. I say to you in confidence, which I hope you wont repeat, that the only reason which has occurred to me in considering your invitation is that I was selected last winter after having been buncoed by the Osteopath bill. [Laughter.]

Saratoga Springs is the greatest health-giving resort on the continent, and I extend to you the warmest reception as the healers of this western hemisphere. If I were disposed to stand here and advertise Saratoga and its products I could give a multitude of reasons why you should meet here. But becoming modesty forbids me to say more than that you have chosen this place for your meeting in the month of June, which is a compliment. It is a place which, for more than a hundred years, has been the resort of the health-seeker and of the recreation seeker. It is known that the original inhabitants came here recognizing that it was a place where they could cure their ills. You will find here mineral springs such as do not exist elsewhere on the globe. We have saline springs, alkaline springs, iron springs, sulphur springs, etc., and our water is good for any condition of the stomach, the bowels or kidneys. [Laughter.]

Such a place as this cannot fail to be interesting to the physician, and such it has always been, and it is to this place to which I am deputed to welcome you, which I do most heartily.

Measuring the life of your profession it is but a short period from the time of Valentine Mott to the year 1902, and yet in the thirty-seven years that have passed since Mott joined the silent majority greater results from the standpoint of a layman and one outside of the profession have been accomplished than were brought about in the twenty-two hundred and fifty odd years previous, dating from Hippocrates. If the question was asked a student in what age he would prefer to have lived, I can see embarrassment on his part in the answer. One would say in the age that saw Washington and the birth of the Republic. Another would say the age that gave us Lincoln and the new birth of freedom; a third would find his choice in the age of McKinley for its magnificent strides of progress. [Applause.] If the question was asked of a member

of my own profession I can readily see there would be reasons for diverse conclusions, and one might say in the age of the great Mansfield, who developed the commercial law of England, which remains to-day practically the same as when it left his formative hand. Another would find his choice perhaps in the age when John Marshall reigned in our Supreme Court; still another would find a choice in the age of Everett and Carpenter, and each would have reason for his choice. But I cannot imagine, Mr. President, a question put to a member of the medical profession which would permit of any other answer than that it is a joy to live in the age that saw Lister and Pasteur, and the later work of our own great Marion Sims. [Applause.] When history shall come to record her impartial account of the doings of your profession, as she writes of Harvey, there will be put beside his name, "Well Done." As she recounts the doings and achievements of Jenner, she will add "with praise." When she comes to put on the page an account of anesthesia and the painlessness of operations she will add the words, "Cum Magna Laude," which are dear to every scholar's heart.

It was the opinion of some one—I can not give his name, but I think it was a German scientist—who said that disease was created virtually for the purpose of giving the physician training and development, and that it was the duty of us weak mortals to suffer in order that your profession might attain its ripest fruit. Mr. President, I can not agree with the ultimate conclusion of that learned member of your profession.

I cannot refrain from saying, in closing this address of welcome, that the world recognizes the high character of your work; it recognizes your achievements, and you have the thanks and gratitude of the sick world. [Applause.]

President's Address.

At this juncture Dr. Alonzo Garcelon of Maine, the first vice-president, took the chair, and President Wyeth delivered his address.

Oration on Surgery.

Tuesday evening, at 7:30 p. m., Dr. Harry M. Sherman of California was introduced and delivered the Oration on Surgery.

(General Meetings continued on page 1662.)

PROCEEDINGS OF THE HOUSE OF DELEGATES.

TUESDAY, JUNE 10—FIRST SESSION.

The House of Delegates convened in the Children's Dining Room of the United States Hotel, and was called to order by the President, Dr. John A. Wyeth, of New York, at 3 p. m.

The Secretary called the roll of registered delegates, 92 being present.

Business Committee Appointed.

The President suggested, for the purpose of more perfect organization, and in order that business might be transacted promptly and expeditiously, the appointment of a committee to which resolutions on new business could be referred, and then subsequently reported back to the House of Delegates by this committee for final disposition.

Dr. J. N. MacCormack, Kentucky, accordingly offered a resolution, which, after being discussed by Drs. Reed, Moyer, Ferguson, Bishop and McMurtry, was amended by Drs. Moyer and Bishop, and the resolution as amended and adopted is as follows:

Resolved, That a Business Committee be appointed, consisting of five members, who shall be in continuous session in the House of Delegates during its sessions, and to whom shall be referred all resolutions, after being read, on new business. The Business Committee shall report, with recommendations, as soon as practicable, on all resolutions so referred, and may be discharged from the consideration of any resolution by a majority vote of the House of Delegates. This committee shall be asked, if they wish, to make a report before a motion to adjourn is put.

The President appointed as a business committee Drs. J. N. MacCormack, chairman, Kentucky; P. Maxwell Foshay, Ohio; Harold N. Moyer, Section on Nervous and Mental Diseases; E. D. Ferguson, New York; and T. J. Murray, Montana.

The President then delivered a brief address. Among other things, he spoke of the critical period through which the Association is now passing because of the change of organization, and of the fact that after fifty-three years of trial the original plan had not secured that concert of action in the entire profession which had been hoped for. As a result there had been accepted one year ago the plan of the Committee on Organization, and the testing of it by experience at the present meeting. Forbearance and charity are therefore required of all toward those who differ, in order to bring about the union desired by all. He advised the appointment of a Committee on Sections and Section Work; composed of members of the House who have had experience as chairmen of Sections, the chief duty of such committeemen being to advise or aid the inexperienced chairmen-elect of each Section in the organization of that Section, the arrangement of the material, program, etc.

The need of interstate comity, or reciprocity, he said, requires the attention of the delegates, and the plan of Dr. W. L. Rodman was spoken of as "worthy of careful consideration."

As to the management of the annual meetings, and the payment of expenses, it was recommended that the House of Delegates, with the Secretary acting as its agent, hereafter assume the responsibility and management of the annual meetings.

The retention of the national committee of three on medical legislation was advised as a part of the Committee on Medical Legislation.

The establishing of a Department of Public Health at Washington was held to be one of the duties incumbent upon the Association, and the necessity of the continuance of the Committee on National Legislation was emphasized, as well as our common duty to impress on the community in which we reside the necessity for and the safety of the immunizing process of vaccination.

The appointment of an officer who shall act as a national organizer of the profession was earnestly recommended, one who, specially fitted for such work, would add largely to the membership of the Association by visiting those states or territories where, as yet, medical organization and society work are practically neglected.

On motion of Dr. H. Bert Ellis, California, the address was referred to the Business Committee.

The Secretary presented his report.

Report of the Secretary.

To the House of Delegates of the American Medical Association—GENTLEMEN:

STATE SOCIETIES AND REORGANIZATION.

Agreeable to instructions contained in a resolution adopted at the last meeting of this Association, I have been in correspondence, during the past year, with the officers and members of each of the state and territorial societies in affiliation with this Association, in regard to a uniform and more systematic organization of the profession of the whole country.

In my correspondence, I dwelt on the necessity of the changes recommended by the American Medical Association and asked each society to take up the matter at its next meeting. Almost without exception, the state and territorial societies, through their officers, have shown not only a willingness but an earnest desire to co-operate with the American Medical Association in this work of reorganization.

As correspondence progressed it soon became evident that the various state societies, or the committees representing them, while anxious to conform to the recommendations of the American Medical Association, were at a loss to know how to arrange their constitution and by-laws so as to incorporate the principles recommended, and many of the members of these committees wrote me asking if the American Medical Association could not suggest a form that could be adopted by all state societies that desired to do so.

On investigating the matter, I found that the Committee on Reorganization, in its report at St. Paul, recommended that a small committee be appointed to co-operate with the state societies in this work, and that, while this recommendation had been adopted, no action had been taken on this point specifically, and no committee appointed. I, therefore, called Dr. Wyeth's attention to this matter, and he appointed as the committee to formulate a constitution and by-laws for state societies the original Committee on Reorganization, viz., Dr. J. N. McCormack, Dr. P. Maxwell Foshay and Dr. George H. Simmons. This committee will, I presume, report to you direct.

Several of the state societies have adopted this constitution and by laws, some with slight modification and others exactly as submitted by the committee, except verbal changes. Among these are Kentucky, Missouri, Ohio and Tennessee. California has adopted the general principles, as well as much of the wording of our Constitution and By-Laws; Illinois adopted a new constitution and by-laws prepared by its own committee. This adopts nearly all of the principles recommended by the American Medical Association. But few of the state societies appointed committees last year so they were not able to take final action in changing their constitution and by-laws. All

of the states thus far heard from have appointed committees on organization so that we may expect next year to see most of the state societies falling in line.

This work of organization, permit me to say, is only just begun, and it devolves upon this Association to keep up its work of stimulating the state societies so that these bodies may stimulate organization in the counties. It is only through a centralized effort that the work can be accomplished. The beginning thus far made, and the unanimity with which all the state and territorial bodies agree to co-operate should stimulate the American Medical Association to every effort possible, so that the much-desired organization of the profession of the whole country may be accomplished within a very short time.

MEMBERS IN THE AMERICAN MEDICAL ASSOCIATION NOT MEMBERS OF AFFILIATED SOCIETIES.

On March 8, the Secretary of the New York State Medical Association forwarded a list of 161 names of members of the American Medical Association residing in New York who were not members of the New York State Medical Association or any of its branches, and asked that these be dropped from the roll of members of the American Medical Association. I declined to take this action, because I could find nothing in the Constitution and By-Laws authorizing me to do so. While it is plain that such membership as that referred to is not possible if the By-Laws are enforced, there is nothing to indicate who shall take action, and I so informed the officers of the New York State Medical Association.

I would call attention to the necessity of a modification of the By-Laws, specifically stating what shall be done in such cases, and who shall do it. This can probably be done by resolution. The By-Laws do not state who shall take action, whether it shall be the President, the Treasurer, the Secretary or the Judicial Council.

In this connection I beg to call attention to the fact that there are many men holding membership in the American Medical Association in practically every state and territory who are not entitled to membership even under the old Constitution and By-Laws. These became members while eligible, but have lost their membership in the society through which they obtained their membership, either by change of location, by expulsion or suspension, by the society becoming defunct or in other ways. Whatever the cause there has been no way of keeping in touch with such matters in the past, since there has been no close relationship between this Association and its subordinate branches and no attempt to report to the higher body on the part of the lower. In the future, when we become organized according to the proposed plan, it is presumed that a systematic method of reporting by the county society to the state society, and by the state society to this Association will be adopted and carried out. The present conditions are certainly not satisfactory. We have had on our books as members until quite recently, and probably have yet, men who are the veriest quacks and the most notorious advertisers in the country. This has occurred from the fact that it is impossible to keep in touch with each individual member unless it is done systematically by such reporting as it is hoped will soon be adopted.

VERIFICATION OF MEMBERSHIP QUALIFICATION.

On my suggestion, the President, last February, authorized me to proceed to verify the membership list by sending to each member a blank on which he should give all necessary information in regard to his membership and other biographical information. The former was put in the form of questions to elicit the following points: When the member joined the Association; through what society; if there is a county society in his own county, and if so, if he belongs to it: and also if he belongs to his state society. The biographical information asked for, while it has no relation to membership, we thought would be advisable to obtain at this time as a basis for a biographical list of members in the future. For various reasons it has been impossible to make much more than a beginning in this work. We have covered only seven states, viz., Alabama, Arkansas, Arizona, California, Colorado, Connecticut and New York (the blanks received from New York shows only 104 not eligible) with the following results: Alabama—Blanks sent, 86; returned, 73; not returned, 13; eligible, 71; not eligible, 2. Arkansas—Blanks sent, 108; returned, 94; not returned, 14; eligible, 88; not eligible, 6. Arizona—Blanks sent, 18; returned, 12; not returned, 6; eligible, 8; not eligible, 4. California—Blanks sent, 366; returned, 289; not returned, 77; eligible, 268; not eligible, 19. Colorado—Blanks sent, 283; returned, 224; not returned, 59; eligible, 201; not eligible, 23. Connecticut—Blanks sent, 149; returned, 121; not returned, 28; eligible, 121. New York—Blanks sent, 744; returned, 611; not returned, 133; eligible, 507; not eligible, 104. This makes a total from the seven states of 158 not eligible to membership. The total number of those not responding, even after a second request, is 330, and it is fair to presume that these have not responded, in many instances at least, because such response would show them to be ineligible to membership.

The total number of members in these states, Jan. 1, 1902, was 1726, showing that over 9 per cent. are not eligible to membership. The same percentage covering the whole country would show that there are over 1000 members in the American Medical Association who are not eligible to membership, if the Constitution and By-Laws are strictly enforced, but this will probably be below rather than above the real number.

ENFORCEMENT OF LAW NECESSARY TO SUCCESSFUL ORGANIZATION.

With the knowledge obtained from the study of the question during the past three years, and from the correspondence, I do not believe that we should allow matters to go on in the future as we have done in the past. There should be a rigid enforcement of the Constitution and By-Laws in every instance, for only in this way can we have an organized profession. By dropping certain ones under the rules, we may lose temporarily, but I believe that we will gain many more than we will lose. This assertion is based on individual cases that have come to my knowledge. Nevertheless, I can not but believe that we should act in a conservative manner toward those who are now in the Association and who are not eligible to this membership. We find that there are men who have been members of the Association for 25 years, and more, but who for some reason have no society affiliation, and yet stand well in the profession and in the community in which they live. It seems to me that it would be very much better to notify all such that their membership must terminate in a definite length of time, say six months, or at the outside one year, provided they do not affiliate themselves with a recognized branch of this Association. This would be very much better than to drop their names without any ceremony and without giving them a chance to rehabilitate themselves. I think the vast majority of these men will gladly conform to the Constitution and By-Laws if they are given time and are courteously requested to do so.

THE PRESENT REQUIREMENTS NOT NEW.

There seems to be prevailing a feeling that the By-Laws in the new Constitution requiring members to hold membership in their local society is new. To show that this is not so, and that Section 3 of Chapter I is merely restating what has always been regarded as fundamental, I quote from Article I of the Constitution printed in 1891:

"No individual who shall be under sentence of expulsion or suspension from any state or local medical society of which he may have been a member, or whose name shall have been, for non-payment of dues, dropped from the rolls of the same, shall be received as a delegate to this Association, or be allowed any privilege of a member, until he shall have been relieved from the said sentence or disability by such state or local society, or shall have paid up all arrears of membership; nor shall any person not a member and supporter of a local medical society, where such one exists, be eligible to membership in the American Medical Association."

Article XIV, p. 17, of the same Constitution says: "That the Permanent Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the Secretaries are, by special resolution, requested to send to him, annually, a corrected list of the membership of their respective societies." This was adopted so that those who were not members of affiliated societies might be dropped from membership in this Association.

Bearing on the same subject I quote from the Transactions of the American Medical Association, Vol. XXX, p. 57, 1879, the following decision by the Judicial Council: "A gentleman who is not in affiliation with a county, district or state medical society, where such organizations exist, is not entitled to be registered as a permanent member upon the claim of having been a delegate from a body not now entitled to representation in this body."

ABSTRACTS WITH TITLES.

The official program this year contains 390 titles, 132 of which have no accompanying abstract. (35 men have 2 papers, 1 has 3 papers, and 1 has 4 papers.) Section 5 of Chapter IX is definite in regard to this matter, and the attention of the Section officers was called to it. If it is your desire that this By-Law be enforced, I suggest that a resolution

be adopted covering the matter, and if the Secretary is to enforce it, the resolution should so state. (It is my opinion that the minimum number of words in these abstracts should be 25 and the maximum 150, not 50 and 200 as at present.)

Considering the fact that the Section officers, with only an occasional exception, are new each year and unacquainted with the work or rules governing the Section, I would suggest that the Secretary be authorized to send a circular each year to the Section officers, calling attention definitely to all the rules and by-laws relating to their duties. I have done this for the past two years, but only in a vague and general way, as I did not feel authorized to do more than this.

I would also suggest that printed slips be furnished Section officers, to be sent to all whose names are to appear on the program, these slips to contain the rules governing titles, abstracts, time at which these shall be in, rights of publication, etc., so that authors, too, may know what is expected of them. Most of the difficulties connected with the Section programs come from the fact that too often neither the Section officers nor the authors of papers know what is expected of them. If those who desire to read papers before the Sections are definitely and early informed that under no circumstances can their titles appear on the program unless they are members of the Association, and unless their titles, together with a brief abstract of the paper, are in the hands of the Section officers thirty days before the meeting, etc., there will be no difficulty.

A resolution has been adopted by the Association on two occasions, limiting the number of papers in a Section to 35, but this is not a part of the By-Laws. If it is your desire that this rule shall be adopted for the future, and enforced, a resolution or an amendment to the By-Laws should be adopted, and this be incorporated in the instructions to Section officers.

ASSOCIATE MEMBERS.

The new Constitution wisely provides that "Representative teachers and students of allied sciences not physicians" may become associate members, the idea being to have such men as physiologists, pharmacists, etc., take part in some of the Sections. According to the Constitution, however, these must be elected by the House of Delegates. Would it not be better to have them become associate members in the same manner as members by invitation? Under the present circumstances, the names of these men appear on the program before they are elected.

THE DENTISTS.

I wish to call attention to the fact that we have a Section on Stomatology and that we have dentists as members and that dentists often make application for membership and yet the Constitution and By-Laws make no provision for such members. The only reference made to dentists in the old Constitution is in Article 3, under "Delegates," where it says that delegates shall receive their appointment by their respective state societies, etc., and "from oral and dental societies in good standing." At the Chicago meeting of the Association in 1887, the following resolution was adopted:

"*Resolved*, That the regular graduates of such dental and oral schools and colleges as require of their students a standard of preliminary or general education, and a term of professional study equal to the best class of medical colleges of this country, and embrace in this curriculum all the fundamental branches of medicine; differing chiefly by substituting practical and clinical instruction in dental and oral medicine and surgery, in place of practical and clinical instruction in general medicine and surgery, be recognized as members of the regular profession of medicine, and eligible to membership in this Association on the same conditions and subject to the same regulations as other members."

At the present time we have no method of admitting dentists, and I would suggest that this matter be considered.

(Signed.) GEORGE H. SIMMONS, M.D., Secretary.

On motion of Dr. Daniel R. Brower, Illinois, the report was referred to the Business Committee.

Dr. H. Bert Ellis moved that the Secretary be instructed to communicate with the different Sections, informing them that their banquets must not conflict in time with the meeting of the general session this evening, the Address on Surgery being at 7:30 p. m. Seconded.

After some discussion, the motion was put and declared lost.

Report of Board of Trustees.

The joint report of the Board of Trustees and the Treasurer for the fiscal year, Jan. 1 to Dec. 31, 1901, was presented by Dr. T. J. Happel, president of the board, as follows:

To the Officers, Members, and House of Delegates of the American Medical Association:

Your Board of Trustees, in compliance with the requirements of our constitution and by-laws, would submit the following annual report to you, and ask that you examine carefully, criticise, commend, condemn or suggest as your judgment may direct. Under the plan of reorganization, you have more time for the consideration of the business matters of the Association, and hence we ask your closest scrutiny of the work of the year. We do not claim to be infallible, and would be glad to have any suggestions presented that you may, as an advisory body, see fit to offer. The report as presented includes the business done in both the Treasurer's and THE JOURNAL office. The by-laws require your Treasurer to make his report to the Board, and the Board to the House of Delegates. While this is the case, we have in this report endeavored to so arrange the items as to show the two sections of the report separately.

Instead of the usual debit and credit exhibits showing the cash receipts and disbursements for the year, we present you the report of the auditors employed to examine the books and accounts, vouchers, etc., of both THE JOURNAL and the Treasurer's offices.

Submitted in this form you have the entire business of the whole year before you; Exhibit A dealing with THE JOURNAL affairs; Exhibit B with the Treasurer's receipts and disbursements; and Exhibit C being in brief a statement of the condition of your affairs Dec. 31, 1901.

We submit, first, the auditors' report:

CHICAGO, Feb. 7, 1902.

To the Board of Trustees, American Medical Association, Chicago.

GENTLEMEN:

We beg to report result of audits of the accounts of your Association; the accounts of George H. Simmons, manager of your publication, THE JOURNAL, and of your Treasurer, Dr. H. P. Newman, for the fiscal year ending Dec. 31, 1901.

We have followed the same line of examination as in our previous audit, and find the accounts correct, in good condition and transactions intelligently explained.

We notice that the circulation of your publication has increased from 17,446 to 22,049, and that the cost of publishing has decreased from $5.18 to $4.81 per year, which is certainly very gratifying.

We have prepared a schedule of members of your Association who are delinquent for the years 1899 and 1900 and find that 167 have not paid for the year 1899 and 459 for the year 1900. This list is at your disposal or will be retained by us until the next annual audit, when the same will be verified with amounts received from such delinquents during the year and for the addition of those who may be found at that time delinquent for the year 1901.

We attach herewith balance sheet for the fiscal year of THE JOURNAL office, see Exhibit A; statement of receipts and disbursements of your Treasurer, see Exhibit B; and statement of the conditions of your business, Dec. 31, 1901, see Exhibit C.

Congratulating you upon the very good showing for the year and the evidences of prosperity exhibited, we are,

Very truly yours,

HAWLEY, JONES & CO.

(See Exhibit A, on next page.)

Report of the Treasurer.

To the Officers, Members and House of Delegates of the American Medical Association:

The growth of the Association, which it is our common privilege to serve, is markedly shown in the report which I have to offer of the receipts and disbursements of the moneys in my charge, the addition of new members and the financial standing of the Association.

In the eight years of my tenure of office I have had to report nothing but continuous growth and prosperity. Each year has shown a longer list of new members, proportionately a shorter list of delinquents and greater promptness on the part of the

EXHIBIT A.—BALANCE SHEET, JOURNAL OFFICE, FOR THE YEAR ENDING DEC. 31, 1901.

1901.	Miscellaneous—Paper.		Loss and Gain.		Capital Account.		Assets.	Liabilities.
Jan. 1—Inventory	$250.00							
Purchases	2,838.81							
Dec. 31—Inventory		$290.00		.....	.....	.....	$290.00	
Loss and gain		2,798.81	$2,798.81					
	$3,088.81	$3,088.81						
1901. Journal Paper Stock								
Jan. 1—Inventory	468.83							
Purchases	30,146.17							
Dec. 31—Inventory		780.00		.....	.....	.....	780.00	
Loss and gain		29,835.00	29,835.00					
	$30,615.00	$30,615.00						
Ink			1,753.31	.....	.....	.....	37.50	
Editorials, news and reporting			5,762.09					
Electros			926.94					
Second-class postage			7,591.37					
Salaries and pay-roll			40,416.01					
Rent			1,500.00					
Electric power			891.61					
General expense			2,822.41					
Binding			298.61					
Bindery supplies			94.78					
Machinery supplies			858.82					
Traveling expenses			182.98					
Depreciation, type			199.41	.....	.....	.....	797.65	
Depreciation, metals			161.22	.....	.....	.....	644.88	
Advertising commission			247.69					
Subscription commission			5,537.15					
Postage stamps			3,138.92					
Collection and exchange			567.99					
Depreciation, machinery			1,863.01	.....	.....	.....	16,808.25	
Depreciation, press room furniture and fixtures			7.30	.....	.....	.....	799.35	
Depreciation, office furniture and fixtures			78.39	.....	.....	.....	1,426.00	
Advertising			.....	$62,233.36				
Subscriptions			.....	33,793.45				
Reprints			.....	1,250.36				
Buttons			.....	149.86	.....	.....	264.00	
Sales			.....	1,455.40				
Jobbing			.....	5,224.25				
Discount			1,566.05	1,104.53				
Binders			.....	74.65				
Advertising transportation			383.88					
Office jobbing			560.10					
Loss and gain, bad debts			2,936.91					
Exchange			164.29					
H. P. NEWMAN, TREASURER.								
Requisitions		$9,000.00						
Account	$997.37							
Membership commission	197.20							
Transfers	7,463.00							
Balance	342.43	.....	.....	342.43				
	$9,000.00	$9,000.00						
Balance to capital account			.....	7,516.77	$7,516.77			
			$113,145.06	$113,145.06				
1901. CAPITAL ACCOUNT.								
Jan. 1—Balance			.....	.....	.....	$34,947.07		
H. P. Newman, Treasurer, linotype machine			.....	.....	.....	3,100.00		
H. P. Newman, Treasurer, press and motors			.....	.....	.....	568.50		
Dec. 31—Balance			.....	.....	31,098.80	.....	.....	$31,098.80
			.....	.....	$38,615.57	$38,615.57		
Cash			.....	.....	.....	.....	522.11	
Reprint ledger			.....	.....	.....	.....	749.75	
Bills receivable			.....	.....	.....	.....	1,042.52	
Accounts receivable, sundry			.....	.....	.....	.....	990.14	
Accounts receivable, advertising	$33,948.90							
Less unearned, advertising	24,776.51		.....	.....	.....	.....	9,172.39	
Accounts payable			.....	.....	.....	.....	.....	3,123.49
Accounts payable, Section reprints			.....	.....	.....	.....	.....	102.25
			.....	.....	.....	.....	$34,324.54	$34,324.54

members in meeting their financial obligations. The summing up of the work for the year is therefore an agreeable task and carries but one regret, that the execution of the duties of this office has in a few instances given rise to slight misunderstanding by reason of the enforcement of the requirements incident to the changing of the fiscal year from June to January. Also there does not seem to be a clear interpretation of the rules governing the discontinuance of memberships for cause, whether such unpleasant task devolves upon your secretary and treasurer or upon the local organization which stands or has once stood sponsor for such membership. It would seem eminently fitting that this entire matter be recommended to the House of Delegates for definite and final action.

The following comparisons will perhaps call more particular attention to the satisfactory figures in our detailed report:

The entire membership fees for 1900 were $46,700; for 1901, $51,555, a net gain of $4855. Dec. 31, 1900, we had 9841 members, and in December, 1901, there were 11,121, a gain of 1280.

In January, 1896, the receipts were $1600; in the same month in 1897, $4080; in 1898, $4895; in 1899, $8745; in 1900, $10,215; in 1901, $13,750, and in 1902, $17,625.

Up to June 1 of the present year we have collected in fees $31,566, of which $4640 is from the new members, as we have enrolled 928 since January 1.

EXHIBIT B.

Annual report of the Treasurer of the American Medical Association for the fiscal year commencing January 1, 1901, and ending December 31, 1901:

H. P. Newman, M.D., in account with the American Medical Association, Dr.:

RECEIPTS.

1901.		
Jan. 1—Balance on hand	$15,512.23	
June—Registration fees St. Paul meeting	5,050.00	
Dec. 31—Interest on government and city bonds	860.00	
Dec. 31—Membership fees for the year (not including registration fees at St. Paul meeting)	46,505.00	$67,927.23

ASSETS, JANUARY 1, 1902.

U. S. Government Bonds (face value)	$10,000.00
Chicago City School Bonds (face value)	14,000.00
Cash on hand (including balance in National Bank of Illinois)	30,760.48
	$54,760.48

DISBURSEMENTS.

1901.	
Feb. 21—Auditing accounts, Journal and Treasurer's office	$200.00
March 1—Trustees' expenses attending annual meeting at Chicago	710.38
March 1—Contribution to expenses of National Committee to International Medical Congress	50.00
March 1—Safety deposit box and bank services as trustee of bonds	20.00
March 1—Chicago City School Bonds (including interest and premium)	15,168.13
May 6—Press, five motors and balance on linotype machine for Journal	3,118.50
June 7—Expenses, Trustees and officers at St. Paul meeting	1,794.48
June 7—Incidental expenses of President's office for the year	111.48
June 7—Expense of Committee on National Legislation	371.13
June 7—Expense of Transportation Committee	56.91
June 7—Expense of Board of Trustees, Secretary's office	50.00
June 7—Expense of Local Registration Committee at St. Paul	331.50
June 7—Stenographic reports of proceedings at St. Paul meeting	1,523.62
June 7—Expense of Reorganization Committee	400.00
June 7—Sundries and supplies for Treasurer's office	71.33
July 1—Membership dues refunded	55.00
July 1—Express charges on programs to St. Paul meeting	17.60
July 3—Journal subscriptions taken at St. Paul meeting	595.00
July 6—Premium on Treasurer's bond	100.00
July 22—Expenses of Pathological Exhibit at St. Paul	594.87
Aug. 19—Engraving stationery for officers of Association for the year	240.00
Sept. 13—Delegates' and members' certificates for 1901 and 1902	219.95
Nov. 6—Collection charges on bank drafts	50.90
Dec. 31—Postage for Treasurer's office for the year	560.00
Dec. 31—Journal requisitions for the year	9,000.00
Dec. 31—Treasurer's honorarium for the year	1,000.00
Dec. 31—Card index and cabinet for Treasurer's office	35.97
Dec. 31—Salary of clerk in Treasurer's office for the year	720.00
Dec. 31—Cash on hand (including balance in National Bank of Illinois)	30,760.48
Total	$67,927.23

Audited and found correct.

American Medical Association comparative statement for the years 1900 and 1901:

December 31, 1900, number of members		9,841	
December 31, 1901, number of members		11,121	1280
Dec. 31, 1900—New members during the year	1,544		
New members at Atlantic City	372	1,916	
Dec. 31, 1901—New members during the year	1,722		
New members at St. Paul	232	1,954	38
Dec. 31, 1900—Number of discontinuances during the year	520		
Dec. 31, 1901—Number of discontinuances during the year	674		154 Restored to June 4.
Number of three-year delinquents Jan. 1, 1901		196	
Number of three-year delinquents Jan. 1, 1902		169	70 Since paid.
Number of two-year delinquents Jan. 1, 1901		275	
Number of two-year delinquents Jan. 1, 1902		322	85
Number of one-year delinquents Jan. 1, 1901		1,212	
Number of one-year delinquents Jan. 1, 1902		1,293	655
Dec. 31, 1900—Membership fees paid during the year		$46,700	
Dec. 31, 1901—Membership fees paid during the year		51,555	$4,855
Cash collected during January, 1901		$13,750	
Cash collected during January, 1902		17,625	$3,875
Cash on hand June 1, 1902 (including $1,902.39 in National Bank of Illinois)			$12,568.16

ASSETS JUNE 1, 1902.

U. S. Government Bonds (face value)	$10,000.00
Chicago City School Bonds (face value)	14,000.00
Cash on hand (including balance in National Bank of Illinois)	12,568.16
	$36,568.16
Real estate (purchase price)	$42,500.00
New members this year to June 1	928

Comparative statement for the years from 1895-1901 (inclusive):

1895—Membership fees for the year	$18,760	
Registration fees at Baltimore meeting	4,610	$23,370
1896—Membership fees for the year	$23,130	
Registration fees at Atlanta meeting	2,945	$26,075
1897—Membership fees for the year	$24,620	
Registration fees at Philadelphia meeting	7,580	$32,200
1898—Membership fees for the year	$28,945	
Registration fees at Denver meeting	4,815	$33,760
1899—Membership fees for the year	$32,840	
Registration fees at Columbus meeting	6,125	$38,965
1900—Membership fees for the year	$40,550	
Registration fees at Atlantic City meeting	6,150	$46,700
1901—Membership fees for the year	$46,505	
Registration fees at St. Paul meeting	5,050	$51,555

Respectfully submitted,
H. P. NEWMAN, Treasurer.

EXHIBIT C.

STATEMENT OF CONDITION, DEC. 31, 1901.

ASSETS.

Treasurer, cash	$30,760.48	
U. S. Bonds, par value, $10,000.00	10,812.50	
Chicago City School Bonds, par value, $14,000.00	15,168.13	$56,741.11
JOURNAL cash	522.11	
JOURNAL type	797.65	
JOURNAL machinery and plant	16,808.25	
JOURNAL press room, furniture and fixtures	799.35	
JOURNAL office, furniture and fixtures	1,426.00	
JOURNAL metal	644.88	
JOURNAL bills receivable	1,042.52	
JOURNAL accounts receivable, reprints	749.75	
JOURNAL accounts receivable, advertising	10,162.53	
JOURNAL paper stock inventory	1,070.00	
JOURNAL buttons, inventory	264.00	
JOURNAL ink inventory	37.50	34,324.54
		$91,065.65

LIABILITIES.

Accounts payable	$3,225.74
Net worth	$87,839.91
Net worth, 1900	61,821.80
Increase during year 1901	$26,018.11

ANALYSIS FOR 1901.

Income from all sources	$157,645.86
Less membership commission	197.20
	$157,448.66
Less transfers	7,463.00
	$149,985.66

EXPENSES.

JOURNAL		$113,740.06
JOURNAL gain		$36,245.60
Treasurer and Association expenses	$9,230.12	
Treasurer and JOURNAL account	997.37	10,227.49
Net gain for year		$26,018.11

INVESTMENTS.

The investment referred to in our last annual report of a sufficient amount of money which, when added to the $10,000 in government bonds already owned by the Association, would make about $25,000, which was approved by the Association, was made by the purchase of fourteen (14) Chicago City school bonds of a par value of $1000 each, which cost, including premium and interest, $15,168.13. This gave us an interest-bearing investment of $24,000, which yielded us an income of 3½ per cent., bringing in $860 in 1901.

The manner in which these moneys was used does not properly belong in this report, which includes the fiscal year of 1901, beginning Jan. 1, 1901, and ending Dec. 31, 1901, but reference will be made to this matter as an addendum to this report.

PLANT.

Our report shows an addition to the plant of one press, five (5) motors, and one linotype machine, costing $3118.50. This, added to the $9648.25 paid out in 1900 and $2700 in 1899, makes a total for new machinery of $15,456.75 paid out in the past three years.

The inventory of the machinery, made by our expert accountants, foots up only $16,808.25. You can then see that no overvaluation is placed on anything, as we now have on hand, in addition to what we have purchased in the last two years, nearly every piece of machinery contained in the inventory presented at Atlantic City.

PRESS ROOM AND OFFICE FURNITURE AND FIXTURES.

Additions have been made to both these departments amounting together to $355.99, and a card index cabinet has been placed in the Treasurer's office. Many more conveniences have been needed, but the want of floor space has prevented the addition of many things necessary and essential to the economical management and running of the plant.

During the whole year the work in the mechanical department of THE JOURNAL has been much hampered by this lack of floor space. This was one of the most serious questions confronting your Board of Trustees at their last annual meet-

ing in Chicago. The lease on the floor occupied by us was soon to expire, and we were met with a demand for about double the rent we were then paying, and the further knowledge that we would have to secure more floor space than we then had. The floor space was so contracted that it was not possible to keep on hand more than one week's supply of paper. The increased business of THE JOURNAL was such as to require another press and automatic feeder and folder with no floor space on which to advantageously arrange for them. In addition to the press mentioned, or in the place of it, your Board acted favorably upon the request of the Editor for the purchase of a double flat-bed perfecting press, to be bought as soon as a place could be gotten in which this press could be located. When these purchases are made, and the plant properly installed, you will be able to boast of an up-to-date printing establishment.

ADVERTISING DEPARTMENT.

To the ordinary JOURNAL reader, it would appear to be an easy matter to lay down an inflexible rule by which the advertising department of any publication should be governed—that this should be like the laws of the Medes and Persians—but when brought face to face with many propositions, it is found to be a very difficult matter to decide what to do in each individual case. The Trustees are endeavoring to eliminate from the pages of THE JOURNAL all advertising that could be considered objectionable from an ethical standpoint.

Some money has been lost to THE JOURNAL by the enforcement of the rule given above, but advertisements of a better class take the place of every one that drops out. We feel that we are making steady improvement along these lines.

COMPARATIVE STATEMENT OF TREASURER'S RECEIPTS.

	1900.	1901.	1902.
January	$10,215.00	$13,750.00	$17,625.00
February	2,375.00	3,175.00	3,305.00
March	2,355.00	2,850.00	3,820.00
April	1,950.00	2,165.00	.....
May	2,985.00	3,170.00	.....
June*	6,150.00	5,050.00	.....
July	2,430.00	3,930.00	.....
August	1,885.00	1,380.00	.....
September	1,740.00	1,470.00	.....
October	4,295.00	3,725.00	.....
November	2,125.00	2,470.00	.....
December	6,795.00	8,765.00	.....
	$45,300.00	$51,900.00	.....

Excess of membership fees of 1901 over 1900....$6,600.00

	1900.	1901.	1902.
Receipts for the first quarter...	$14,945.00	$19,775.00	$24,740.00

JOURNAL COMPARATIVE STATEMENTS.

The following comparative statement indicates the increase in advertising collections during the past three years:

	1898.	1899.	1900.	1901.
Totals	$23,629.71	$33,760.82	$44,060.70	$59,441.82

Indicating a gain for 1899 over 1898 of.....$10,131.11
Indicating a gain for 1900 over 1899 of..... 10,299.88
Indicating a gain for 1901 over 1900 of..... 15,381.12

The following is a comparative statement of the net subscriptions for the years 1898, 1899, 1900 and 1901:

	1898.	1899.	1900.	1901.
Totals	$6,746.55	$12,283.52	$23,697.03	$33,793.45

Indicating a gain for 1899 over 1898 of..... $5,536.97
Indicating a gain for 1900 over 1899 of..... 11,408.51
Indicating a gain for 1901 over 1900 of..... 10,096.42

January 1—	1899.	1900.	1901.	1902.
Total number of members	7,997	8,445	9,841	11,107
Total number of subscribers	2,453	4,633	8,339	10,795

	1898.	1899.	1900.	1901.
Receipts of Journal office	$33,566	$52,106	$74,175	$99,119

The following table shows the total number of copies issued each year, total number of pages, and amount of paper stock used:

	Total No. Copies.	Pages.	Reams.	Lbs. of Paper.	Tons.
1898	597,282	4,756	3,395	321,525	157
1899	710,950	5,382	4,832	461,420	230
1900	907,200	6,087	6,747	607,230	303.5
1901	1,146,575	6,510	9,052	814,680	407

The following shows the annual cost of paper stock for the past three years:

1899.	1900.	1901.
$22,724.00	$25,598.00	$29,835.00

Profits of THE JOURNAL and of the Association for the last three years are as follows (no systematic closing of books at end of year previous to 1899):

	Journal Profits.	Assoc'n or True Profits.	A. M. A. Expense.
1899....	$22,451.24	$16,616.85	$5,843.39
1900....	21,984.79	14,802.22	7,182.57
1901....	36,245.60	26,018.11	10,227.49
	$80,680.63	$57,487.18	$23,253.45

In explanation of the above table, the first column, "JOURNAL Profits," indicates the profits that THE JOURNAL would have made had it not been charged with the expenses of the Association proper.

The second column, under "Association or True Profits," is given the net profits after the payment of the expenses of the Association.

The third column, "A. M. A. Expenses," indicates the expenses attached to the Association, and it will be seen that this item is growing each year. These expenses are shown by Exhibit B in the Treasurer's report. It was thought best to make this distinction each year so that THE JOURNAL may have credit for what expenses strictly belong to it. While part of the expenses charged up in Exhibit B belong to those connected with collecting the annual dues from members, and thus strictly belong to THE JOURNAL, the other items have no relation to THE JOURNAL at all. Besides the items given in Exhibit B the Association is also charged by THE JOURNAL with stationery, etc., supplied to the Section officers.

The following indicates the amount paid for second-class postage for the past four years:

1898.	1899.	1900.	1901.
$2,759.31	$3,905.65	$5,616.06	$7,591.37

It must be remembered that THE JOURNAL has had during the year 178 pages of advertising from which it received no income. These pages contained a weekly report of the Officers and Committees of the Association, Contents and Digest, JOURNAL and Association announcements, etc., and deprived the JOURNAL of just that much space.

With the increase in the circulation of THE JOURNAL, the Editor has been able to obtain a substantial advance in space rates. All advertisements being payable monthly prevents the possibility of much loss from failures to collect. That business in this department continues good is evidenced by the fact that up to May 1 no requisitions have been made upon the Treasurer for any money wherewith to meet accounts in THE JOURNAL office. January, 1902, advertisements yielded $6967.05; February, $4617.17; March, $4936.53, making for the first quarter of 1902 $16,510.75, as compared with $14,485.53 for the same length of time and for the same months for 1901, thus showing a gain of $2025.22 for the first quarter of 1902 as compared with the same quarter of 1901.

SUBSCRIPTION DEPARTMENT.

Our subscription department shows a healthy gain for 1901, as compared with 1900—it being 26 2/3 per cent.—the total number of copies issued in 1901 being 1,146,578, and in 1900 907,200, while as compared with 1898, the gain is nearly 100 per cent., the number of copies issued being 597,282.

The following is the detailed count of the mailing list by states, indicating the gains and losses in the States for the year 1901:

	Gain.	Loss.
Alabama	35	..
Arkansas	87	..
California	147	..
Cuba	2	..
Colorado	31	..
North Dakota	40	..
District of Columbia	..	10
Georgia	..	16
Idaho	8	..
Indian Territory	68	..
Kansas	74	..
Louisiana	84	..
Maryland	91	..
Michigan	79	..
Missouri	167	..
Mississippi	88	..
New Mexico	6	..
Nevada	1	..
North Carolina	18	..
Ohio	42	..
Oregon	82	..
Rhode Island	69	..
Tennessee	16	..
Utah	6	..
Virginia	..	16
Wyoming	6	..

	Gain.	Loss.
Alaska	..	1
Arizona	..	2
Canada	..	9
Connecticut	77	..
Delaware	..	3
South Dakota	100	..
Florida	17	..
Illinois	244	..
Indiana	162	..
Iowa	162	..
Kentucky	132	..
Maine	71	..
Massachusetts	111	..
Minnesota	268	..
Montana	51	..
Nebraska	28	..
New Hampshire	52	..
New Jersey	88	..
New York	181	..
Oklahoma	55	..
Pennsylvania	103	..
South Carolina	..	12
Texas	376	..
Vermont	21	..
Washington	90	..
West Virginia	18	..

* The month of June of each year represents the registrations at the annual meetings.

	Gain.	Loss.		Gain.	Loss.
Wisconsin	98	..	U. S. Army	48	..
U. S. Marine-Hospital	6	..	Hawaiian Islands	..	..
Mexico	4	..	Philippine Islands	4	..
Porto Rico	..	3	Foreign	..	20
Total gain	3814		Total loss		92

The figures given below indicate the count of the mailing list, Jan. 1, 1902, compared with that of Jan. 1, 1899, 1900 and 1901:

	January 1			
	1899.	1900.	1901.	1902.
Copies to members	7,997	8,445	9,841	11,107
Copies to subscribers	2,453	4,633	8,339	10,795
Copies to advertisers	200	233	306	272
Copies to exch. (domestic)	149	153	149	140
Copies to exch. (foreign)	56	59	49	47
Copies to Med. Coll. and Librs.	104	108	113	117
Copies to subscription agents	....	4	45	72
	10,959	13,635	18,842	22,550

Indicating an increase for January of the year 1900 over 1899 of 2,676
Indicating an increase for January of the year 1901 over 1900 of 5,207
Indicating an increase for January of the year 1902 over 1901 of 3,708

We have presented this report dealing in figures more than usual in order that any of you who care to study them carefully may have data upon which to begin.

We feel that the Association can boast of as good a medical publication as is issued anywhere in the world, and one that now has the largest bona fide circulation. If every member could be made to feel that he is a part owner of this publication, and as such, is to that extent responsible for its success or failure, and would aid to the extent of securing one new subscriber, the possibilities of THE JOURNAL would be unlimited. We feel that when the full effect of the reorganization scheme is experienced and the medical profession is properly organized in accord with that scheme, every county medical society will become an agency by means of which THE JOURNAL's circulation will be largely increased.

While the Board of Trustees and the Editor have labored together for financial success, the idea of maintaining the quality of THE JOURNAL has never been permitted to become a secondary issue. It has been kept prominently to the front.

SECTION PAPERS AND ABSTRACTS.

The Board of Trustees had instructed the Editor to comply with the letter of the law in getting out programs for the Saratoga meeting, but it has been impossible for him to do this inasmuch as no explicit rules had been adopted by the Association. We refer to this matter to ask the House of Delegates to rule definitely in regard to all matters connected with the number of papers in each section; the parties who may or may not be invited to read papers before the sections; the question of abstracts of papers; the publication of papers read, and the date at which all titles of papers must be in the hands of the Editor, from and after which time no changes are to be made in the program.

We would again emphasize the fact that too many papers are entered on our programs, many of them not to be read but to advertise the parties who have entered their names. Not more than thirty papers, if all are read, can be well discussed and disposed of in each section at our annual meetings; hence your secretaries of sections should be notified not to exceed that number in the program of their sections.

The appended table shows the number of papers on the programs of the sections for the years 1897, 1898, 1899, 1900 and 1901, and the number of these papers complying with the requirements of our by-laws in regard to abstracts at the St. Paul meeting.

	1897.	1898.	1899.	1900.	1901
Practice of Medicine	93	45	83	59	43
Obstetrics and Diseases of Women	49	57	69	56	37
Surgery and Anatomy	46	71	72	55	41
Hygiene and Sanitary Science	46	33	26	11	16
Ophthalmology	70	56	58	40	35
Diseases of Children	53	62	37	45	35
Stomatology	16	16	14	23	18
Nervous and Mental Diseases	51	89	43	44	32
Cutaneous Medicine and Surgery	23	24	21	17	23
Laryngology and Otology	82	38	47	49	34
Materia Medica, Pharmacy and Therap.	28	81	59	48	35
Physiology and Dietetics	37	43	32	26	12
Pathology and Bacteriology	..	..	..	18	30
	594	615	561	491	391

1901.

	No. Papers Abstracted.	No. Papers Not Abst.	Total on Program.
Practice of Medicine	27	16	43
Obstetrics and Dis. of Women	31	6	37
Surgery and Anatomy	14	27	41
Hygiene and Sanitary Science	3	13	16
Ophthalmology	26	9	35
Diseases of Children	28	7	35
Stomatology	..	18	18
Nervous and Mental Diseases	24	8	32
Cutaneous Medicine and Surgery	4	19	23
Laryngology and Otology	..	34	34
Materia Medica. Phar. and Ther.	13	22	*35
Physiology and Dietetics	..	12	12
Pathology and Bacteriology	16	14	30
	196	205	391

1900: Total number papers 491
Total number abstracted 229
Total not abstracted 262

* One no title.

In Program for 1901. Practice of Medicine, of papers abstracted, eleven abstracts have less than 50 words; 5 less than 25 (one only 9); 16 ranging between 15 and 110. In Obtetrics, 14 contain less than 50 words, 4 less than 25 (as low as 9); 15 between 50 and 139. Surgery and Anatomy; 5 less than 50 (none less than 31); 9, 50 to 139 (this last same paper in program of Obstetrics). Of the three papers showing abstracts in Section on Hygiene and Sanitary Science, one has 18, one 24, and one 50 words.

All papers not read will be treated as volunteer papers, and no papers from members of the medical profession in the United States who are not members of the American Medical Association will be allowed on the program. All papers read in the sections, to be entitled to publication in THE JOURNAL, must have the approval of the three members of the Executive Committee of the section in which they were read, this approval to be evidenced by the signatures of the members to such papers.

RECOMMENDATIONS.

We would recommend that definite action be taken along the following lines:

1. Instruct the Secretary and Editor to enter the title of no paper on the program of any Section which is not received, together with an abstract of the paper (containing not less than 50 nor more than 200 words), at least thirty (30) days before the annual meeting of the American Medical Association.
2. Place the name of no member of the medical profession on the official program who is not either a "member," a "member by invitation," an "honorary member" or an "associate member."
3. Limit the number of papers in each Section to thirty (30).
4. Fix the amount of money, if any, to be paid by the Trustees to the secretaries of the Sections for postage, etc.
5. Require all committees to limit their expenditures to the sum appropriated to their respective uses, notifying them that moneys expended; or contracts made beyond the sum appropriated will not be paid by the Association.

ACCOUNTS AND EXPENSES.

Your Board has had before it several accounts for postage and other expenses presented by the secretaries of some of the sections. We have been forced to decline to pay these bills, as we could find no authority for so doing. If such accounts are to be paid, a definite amount of money, not to exceed $10, should be appropriated to the secretary of each section to cover postage and the incidental expenses of his office. He is furnished by THE JOURNAL office with his stationery, and up to this time he has been expected to pay his own postage. If any other course is to be pursued the House of Delegates should speak in no uncertain terms.

When an appropriation is made for any specific purpose no more than that amount should be spent by the committee for the use of which the appropriation is made. We are thus plain and explicit because with an appropriation of $400 made by the Association for a pathologic exhibit the sum of $594.87 was expended, nearly $200 of the amount being for repairs, shelving, etc., in the exhibit room. Your Board doubted its right to pay this part of the bill, but in view of the importance of the exhibit we did meet it, but at the same time did not intend that such action could or should be taken as a precedent.

IN CONCLUSION.

Your Board, at the Chicago meeting, was confronted with two questions of much magnitude and importance to the Association: First, the status of the Association in view of the amendments to our constitution and by-laws; and second, the best plan by which relief could be gotten for the overcrowded floor space in our rented quarters.

To determine the first question and thus to enable us understandingly to discuss and solve the second your Trustees deemed it best to secure the advice of able legal counsel, and to be guided by the opinion thus gotten. This was done as a result of the last meeting of the Board at St. Paul. The resident trustee, Dr. E. Fletcher Ingals, at some future meeting of the House of Delegates will report upon this matter. The opinion given by the attorney justified your Board in taking up and acting on the second question.

The Secretary and Editor reported an early expiration of the lease upon the floor space, in the building occupied by THE JOURNAL office, and that at the end of the present lease we would be expected to pay double the amount of rent for the same floor, and that we could not secure room enough for THE JOURNAL work in the building, and besides that some new machinery needed would be too heavy to be placed anywhere in a building except in the basement. The Resident Trustee had been requested to inspect and report upon any desirable lots that might be put upon the market.

When the Trustees met in February, Dr. Ingals was able to price to the Board eight or ten plats of ground, some with and some without buildings. We inspected several of these pieces of property, and finally instructed the Resident Trustee to purchase a piece of property.

This property is on the corner of Dearborn Avenue and Indiana Street, and had on it five houses. This purchase was made and the title passed to the Association through a guarantee company on March 3 for the sum of $42,646.96. This includes all fees connected with the purchase. Two of the houses have been torn down and on the site occupied by them we have in process of erection a "Home for THE JOURNAL and a Headquarters for the American Medical Association." The other three houses are rented out and we will get a good interest on our money for that part of the property, and as soon as the new building is ready, we will be in fine shape. When the building is completed the property will have cost us about $70,000. Of this amount we had on hand, April 1, after paying out the $42,646.96 for the building, nearly $12,000. This does not include the money invested in the United States Government or Chicago City bonds, which amounts to $24,000 face value.

The former rental expense of the JOURNAL office was $1500. We could not renew our lease and secure space enough for our growing business for $5000. Now we will pay out nothing for rent, thus saving the $5000 mentioned above, and in addition will receive $2000 per year as rental from our three (3) houses, making in this way a total of $7000, which represents an income of 10 per cent. on the $70,000 invested in the "Home for THE JOURNAL," as compared with a possible 3½ per cent. income from our bonds. The taxes and insurance on the buildings would be offset by the increased facilities for work in our new building and the resultant possibility of more work at a less expense.

Respectfully submitted,

T. J. HAPPEL, Pres.,
E. E. MONTGOMERY, Vice-Pres.,
JOSEPH M. MATHEWS,
MILES F. PORTER,
E. FLETCHER INGALS,
W. L. RODMAN,
W. W. GRANT,
JOHN F. FULTON,
H. L. E. JOHNSON, Sec.

On motion of Dr. A. E. Baldwin, Section on Stomatology, the report was referred to the Business Committee.

Dr. E. Eliot Harris, New York, presented the following resolution:

For more than a year some of the members of the Council of the New York State Medical Association have been engaged in a critical examination of the ethical part of the laws of the American Medical Association, resulting in the preparation of a revision of the Code of Medical Ethics. This revision has been approved by the council of the New York State Medical Association, and the delegates have been instructed to present it to the House of Delegates at this session.

Resolved, That the President appoint a committee of five to examine and report for final action at the annual session in 1903 the proposed revised code of medical ethics which is herewith submitted in writing;

Resolved, That the proposed revised code of medical ethics be published in the Association's JOURNAL three times before the meeting in 1903.

Code of Medical Ethics.

CHAPTER I.—OF THE DUTIES OF PHYSICIANS TO THEIR PATIENTS AND OF THE OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

ARTICLE I.—DUTIES OF PHYSICIANS TO THEIR PATIENTS.

SECTION 1.—Physicians should not only be ever ready to obey the calls of the sick, but should be mindful of the high character of their mission and of the responsibility they must incur in the discharge of momentous duties. In their ministrations they should never forget that the ease, the health, and the lives of those entrusted to their care depend on skill, attention, and fidelity. In their deportment they should unite tenderness, cheerfulness and firmness, and thus inspire all sufferers with gratitude, respect and confidence. These observances are the more sacred because, generally, the only tribunal to adjudge penalties for carelessness or neglect is their own conscience.

SEC. 2.—Every case committed to the charge of a physician should be treated with attention and humanity, and reasonable indulgence should be granted to the caprices of the sick. Secrecy and delicacy should be strictly observed; and the familiar and confidential intercourse to which physicians are admitted, in their professional visits, should be guarded with the most scrupulous fidelity and honor.

SEC. 3.—The obligation of secrecy extends beyond the period of professional services; none of the privacies of individual or domestic life, no infirmity of disposition or flaw of character observed during medical attendance should ever be divulged by physicians, except when imperatively required to do so by the laws of the state. The force of the obligation of secrecy is so great that physicians have been protected in its observance by courts of justice.

SEC. 4.—Frequent visits to the sick are generally requisite, since they enable the physician to arrive at a more perfect knowledge of the disease, and to meet promptly every change which may occur. But unnecessary visits are to be avoided, as they give undue anxiety to the patient.

SEC. 5.—Ordinarily, the physician should not be forward to make gloomy prognostications, but should not fail, on proper occasions, to give to the friends of the patient timely notice of danger when it really exists; and even to the patient, if absolutely necessary. This notice, however, is often so peculiarly alarming when given by the physician, that its deliverance ought to be declined whenever it can be assigned to any other person of good judgment.

SEC. 6.—The physician should be the minister of hope and comfort to the sick, since life may be lengthened or shortened not only by the acts but by the words or manner of the physician whose solemn duty is to avoid all utterances and actions having a tendency to discourage and depress the patient.

SEC. 7.—The medical attendant ought not to abandon a patient because deemed incurable; for, continued attention may be highly useful to the sufferer, and comforting to the relatives, even in the last period of the fatal malady, by alleviating pain and by soothing mental anguish.

SEC. 8.—The opportunity which a physician has of promoting and strengthening the good resolutions of patients suffering under the consequences of vicious conduct ought never to be neglected. Good counsels, or even remonstrances, will give satisfaction, not offense, if they be tactfully proffered and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

ARTICLE II.—OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

SECTION 1.—The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease, and health, for the welfare of those who avail themselves of their services, are surely entitled to the highest private and public recognition.

SEC. 2.—The first duty of a patient is to select as medical adviser one who has received a sound general and special education, whose habits are good, and who is not devoted to any pursuit incompatible with professional obligations.

Sec. 3.—The sick should always apply for advice in what may appear to be a trivial case, for the slightest accident may result gravely. It is also important that the patient seek assistance in the forming stage of a violent disease and communicate unreservedly to the physician its supposed cause.

Sec. 4.—The patient should be on friendly terms with the medical adviser and bear in mind that physicians are under the strongest obligations of secrecy.

Sec. 5.—Women should never allow feelings of delicacy to prevent their disclosing the seat of their peculiar complaints. Howsoever commendable a modest reserve may be in the common occurrences of life, its strict observance in medicine is often attended with serious consequences, and a patient may sink under a painful disease which might have been prevented had timely intimation been given to the physician.

Sec. 6.—The obedience of a patient to the directions of the physician should be prompt and implicit. Failure in one particular may render an otherwise judicious treatment dangerous and even fatal. This remark is equally applicable to the unauthorized renewal of prescriptions, and to diet, drink, raiment and exercise.

Sec. 7.—As patients become convalescent they are apt to suppose that the rules prescribed for them may be disregarded, and the consequence, but too often, is a relapse of the disease.

Sec. 8.—Patients should never allow themselves to be persuaded to take any medicine whatever that may be recommended to them by the self-constituted doctors who are so frequently met with and who pretend to possess infallible remedies for every disease. Howsoever simple some of their prescriptions may appear to be, it often happens that, besides being in themselves injurious, they are productive of much mischief by contravening the plan of treatment adopted by the physician in attendance.

Sec. 9.—Whenever possible the patient should avoid even friendly visits of a physician who is not the regular attendant. But when such visits are received, there should be no conversation on the subject of the patient's disease, as a word may be spoken, without any intention of interference, which may destroy confidence in the course pursued and induce the patient to neglect the prescribed directions.

Sec. 10.—The patient or relatives should never send for a consulting physician without the express consent of the medical attendant.

Sec. 11.—Patients should, whenever practicable, send for their physicians in the morning, before the usual hour for going out, and this gives them the opportunity to so apportion their time as to prevent interference of engagements.

Sec. 12.—Except in emergencies patients should avoid calling on their medical advisers during the hours devoted to meals or sleep.

Sec. 13.—The sick should be always in readiness to receive the visits of the physician, as detention, even for a very short time, is often of serious import to some other sufferer.

Chapter II.—Of the Duties of Physicians to Each Other and to the Profession at Large.

Article I.—Duties for the Support of Professional Character.

Section 1.—Every individual on entering the profession, and thereby becoming entitled to all its privileges and immunities, incurs an obligation to maintain its dignity and honor, to exalt its standing and to extend the bounds of its usefulness.

Sec. 2.—The physician should observe strictly such laws as are instituted for the government of the members of the profession; should honor the fraternity as a body; and, by unwearied diligence, should resort to every honorable means of enriching the science, and, at the same time, entertain a due respect for those seniors who, by their labors, have contributed to its advancement.

Sec. 3.—There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes alike to the profession and to patients. It is due to these, as without it their respect and confidence can not be commanded; and to the profession because no scientific attainments can compensate for the want of correct moral principles.

Sec. 4.—It is incumbent on physicians to be temperate in all things, for the practice of medicine requires the unremitting exercise of a clear and vigorous understanding; and in emergencies—for which no physician should be unprepared—a steady hand, an acute eye, and an unclouded mind are essential to the welfare, and even to the life, of a human being.

Sec. 5.—It is derogatory to the dignity of the profession to resort to public advertisements or private cards inviting the attention of persons affected with particular diseases, offering advice and medicine gratis and promising radical cures; or to publish cases and operations in the daily prints, or to suffer such publications to be made; to invite laymen (other than relatives who may desire to be at hand) to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success; or to employ any of the other methods of charlatans.

Sec. 6.—Equally derogatory to professional character it is for a physician to hold a patent for any surgical instrument or medicine; or to dispense, or promote the use of, a secret medicine, whether it be composed by this physician or the exclusive property of others, for if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality, and if mystery alone give it public notoriety, such craft implies either disgraceful ignorance or fraudulent avarice. It is highly reprehensible for physicians to give certificates attesting the efficacy of secret medicines, or of any of the other substances that may be used medicinally.

Article II.—Professional Services of Physicians to Each Other.

Section 1.—All practicing physicians and their immediate dependents are entitled to the gratuitous services of any one or more of the physicians residing near them.

Sec. 2.—Physicians afflicted with disease should not, as a general rule, undertake the treatment of their own sickness, nor of that of members of their family, for obvious reasons. In such circumstances they are peculiarly dependent upon each other; therefore, kind offices and professional aid should always be cheerfully and gratuitously afforded. Visits ought not, however, to be obtruded officiously, as such civility may give rise to embarrassment or interfere with that choice on which confidence depends.

Sec. 3.—When a physician is summoned, from a distance, to the bedside of a colleague in easy financial circumstances, a compensation, proportionate to traveling expenses and to the pecuniary loss entailed by absence from the accustomed field of professional labor, should be made by the patient or relatives.

Article III.—Of the Duties of Physicians as Respects Vicarious Offices.

Section 1.—The affairs of life, the pursuit of health and the various accidents and contingencies to which a physician is peculiarly exposed sometimes require the temporary withdrawal of this physician from daily professional labor and the appointment of a colleague to act for a specified time.

Sec. 2.—The colleague's compliance is an act of courtesy which should always be performed with the utmost consideration for the interest and character of the family physician, and when exercised for a short period half of the pecuniary obligations for such services should be awarded to the acting physician.

Article IV.—Of the Duties of Physicians in Regard to Consultations.

Section 1.—The broadest dictates of humanity should be obeyed by physicians whenever and wherever their services are needed to meet emergencies occasioned by disease or accident.

Sec. 2.—The good of the patient being the sole object in view, any physician having a license to practice medicine conferred by a medical board authorized by the state may be aided in consultation.

Sec. 3.—No physician who indicates to the public that his practice is based on a sectarian system of medicine shall be entitled to professional fellowship or to recognition in medical bodies.

Sec. 4.—Consultations should be promoted in difficult cases, as they give rise to confidence and more enlarged views in practice.

Sec. 5.—The utmost punctuality should be observed in the visits of physicians when they are to hold consultations, and this is generally practicable, for society has been so considerate as to allow the plea of a professional engagement to take precedence over all others and to be a good reason for the relinquishment of any present occupation.

Sec. 6.—As professional engagements may sometimes interfere and delay one of the parties, the physician who first arrives should wait for a reasonable time, after which the consultation should be considered as postponed to a new appointment.

Sec. 7.—In consultations no rivalship or jealousy should be indulged; candor, probity and all due respect should be observed toward the physician in charge of the case.

Sec. 8.—The attending physician should be the first to question the sick, after which the consultant should have the

opportunity to make such further inquiries as may be necessary.

SEC. 9.—After due examination of the patient, both physicians should retire to a private place for deliberation; and the one first in attendance should communicate the directions, agreed upon, to the patient or friends, as well as any opinion which it may be thought proper to express.

SEC. 10.—No statement or discussion of the case should take place before the patient or friends, except in the presence of all the physicians attending, and by their common consent; and no opinions or prognostications should be delivered which are not the result of previous deliberation and concurrence.

SEC. 11.—The opinion of the physician in attendance should be delivered first to the patient or friends; and when there are several consultants they should deliver their opinions in the order in which they have been called.

SEC. 12.—No decision should restrain the attending physician from making such variations in the mode of treatment as any subsequent unexpected change in the character of the case may demand. But at the next consultation reasons for the variations should be stated. The same privilege, with its obligation, belongs to the consultant when sent for in an emergency during the absence of the family physician.

SEC. 13.—The attending physician, at any time, may prescribe for the patient; not so the consultant, when alone, except in a case of emergency or when called from a considerable distance. In case of emergency the consultant should do what is needed, and in the other case should do no more than make an examination of the patient and leave a written opinion, under seal, to be delivered to the attending physician.

SEC. 14.—In consultations theoretical discussions should be avoided, as occasioning perplexity and loss of time. For there may be much diversity of opinion concerning speculative points, with perfect agreement in those modes of practice which are founded not on hypothesis, but on experience and observation.

SEC. 15.—All discussions in consultation should be held as confidential. Neither by words nor manner should any of the parties to a consultation assert or intimate that any part of the treatment pursued did not receive his assent.

SEC. 16.—Should an irreconcilable diversity of opinion occur when several physicians are called upon in consultation, the opinion of the majority should be considered as decisive; but if the numbers be equal on each side, then the decision should rest with the attending physician.

SEC. 17.—It may happen that two physicians can not agree in their views of the nature of a case and of the treatment to be pursued. In the event of such disagreement a third physician should, if practicable, be called in and, if circumstances prevent the adoption of this course, the patient or friends should make the selection. The physician so designated should take charge of the case and the other should then gracefully retire from any further deliberation in the consultation, or participation in the management of the case.

SEC. 18.—As circumstances sometimes arise to render a special consultation desirable, when the continued attendance of two physicians might be objectionable to the patient, the physician whose assistance is required in such cases should sedulously guard against all future, unsolicited attendance. Such consultations requiring an extraordinary portion of time and attention, at least a double fee should be expected.

SEC. 19.—A physician who is called in consultation should observe the most honorable and scrupulous regard for the character and standing of the attending physician, whose conduct of the case should be justified as far as can be, consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in the attending physician.

ARTICLE V.—DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

SECTION 1.—Medicine being a liberal profession, those admitted to its ranks should found their expectations of practice entirely on the extent of their medical education.

SEC. 2.—The physician, in his intercourse with a patient under the care of another physician, should observe the strictest caution and reserve; should give no disingenuous hints relative to the nature and treatment of the patient's disorder, nor should the course of conduct of this physician directly or indirectly tend to diminish the trust reposed in the attending physician.

SEC. 3.—The same circumspection should be observed when, from motives of business or friendship, a physician is prompted to visit a person who is under the direction of another physician. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made, no particular inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

SEC. 4.—A physician ought not to take charge of, or prescribe for, a patient who has recently been under the care of another physician in the same illness, except in case of a sudden emergency, or in consultation with the physician previously in attendance, or when that physician has relinquished the case or has been dismissed in due form.

SEC. 5.—Placed in the position stated in the preceding section, the physician should never throw out damaging insinuations on the practice previously adopted, and, indeed, should justify it if consistent with truth and probity; for it often happens that patients become dissatisfied when they are not immediately relieved, and, as many diseases are naturally protracted, the seeming want of success, in the first stage of treatment, affords no evidence of a lack of knowledge or skill.

SEC. 6.—When a physician is called to an urgent case, because the family attendant is not at hand, unless assistance in consultation is desired, this physician should resign the care of the patient immediately on the arrival of the family physician.

SEC. 7.—It often happens, in cases of sudden illness, or of accidents and injuries, owing to the alarm and anxiety of friends, that several physicians are simultaneously summoned. Under these circumstances, courtesy should assign the patient to the first who arrives and who, if necessary, may invoke the aid of some of those present. In such a case, however, the acting physician should cause the family physician to be called, and should withdraw unless requested to continue in attendance.

SEC. 8.—Whenever a physician is called to the patient of another physician during the enforced absence of that physician the case should be surrendered on the return of the absentee.

SEC. 9.—A physician, while visiting a sick person in the country, may be asked to see another physician's patient in consequence of a sudden aggravation of the disease. On such an occasion the immediate needs of the patient should be attended to and the case relinquished on the arrival of the attending physician.

SEC. 10.—When a physician who has been engaged to attend an obstetric case is absent and another is sent for, delivery being accomplished during the vicarious attendance, the acting physician is entitled to half the fee, but must resign the patient on the arrival of the physician first engaged.

ARTICLE VI.—OF DIFFERENCES BETWEEN PHYSICIANS.

SECTION 1.—Diversity of opinion and opposition of interest may, in the medical as in other professions, sometimes occasion controversy and even contention. Whenever such cases unfortunately occur and can not be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians or a court-medical.

SEC. 2.—A peculiar reserve must be maintained by physicians toward the public in regard to some professional questions, and as there exist many points in medical ethics and etiquette through which the feelings of physicians may be painfully assailed in their intercourse, and which can not be understood or appreciated by general society, neither the subject-matter of their differences nor the adjudication of the arbitrators should be made public.

ARTICLE VII.—OF PECUNIARY ACKNOWLEDGMENT.

SECTION 1.—There is no profession by the members of which eleemosynary services are more liberally dispensed than the medical, but justice requires that some limits should be placed to their performance.

SEC. 2.—Poverty, mutual professional obligations, and certain of the public duties named in Sections 1 and 2 of Article I, of Chapter III, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by the rich, or by societies for mutual benefit, for life insurance, or for analogous purposes, or any profession or occupation, can be admitted to possess such privilege.

SEC. 3.—It can not be justly expected of physicians to furnish certificates of inability to serve on juries, or to perform militia duty; or to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without a pecuniary acknowledgment. But to persons in indigent circumstances such services should always be cheerfully and freely accorded.

SEC. 4.—Some general rules should be adopted by the physicians in every town or district relative to the minimum

pecuniary acknowledgment from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

SEC. 5.—It is derogatory to professional character for physicians to pay or to offer to pay commissions to any person whatsoever who may recommend to them patients requiring general or special treatment or surgical operations. It is equally derogatory to professional character for physicians to demand or to receive such commissions.

CHAPTER III.—OF THE DUTIES OF THE PROFESSION TO THE PUBLIC AND OF THE OBLIGATIONS OF THE PUBLIC TO THE PROFESSION.

ARTICLE I.—DUTIES OF THE PROFESSION TO THE PUBLIC.

SECTION 1.—As good citizens it is the duty of physicians to be very vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to subjects especially appertaining to their profession, as on questions of sanitary police, public hygiene and legal medicine.

SEC. 2.—It is the province of physicians to enlighten the public in regard to quarantine regulations; to the location, arrangement, and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the sanitary police of towns, as drainage, ventilation, etc.; and in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering people, even at the risk of their own lives.

SEC. 3.—Physicians, when called on by legally constituted authorities, should always be ready to enlighten inquests and courts of justice on subjects, strictly medical, such as involve questions relating to sanity, legitimacy, murder by poison or other violent means, and various other subjects embraced in the science of medical jurisprudence. It is but just, however, for them to expect due compensation for their services.

SEC. 4.—It is the duty of physicians, who are frequent witnesses of the great wrongs committed by charlatans, and of the injury to health and even destruction of life caused by the use of their treatment, to enlighten the public on these subjects, and to make known the injuries sustained by the unwary from the devices and pretensions of these artful impostors.

SEC. 5.—Physicians ought to use all the influence which they possess, to discourage pharmacists from vending the secret or other medicines of charlatans, or from being in any way engaged in their manufacture.

ARTICLE II.—OBLIGATIONS OF THE PUBLIC TO PHYSICIANS.

SECTION 1.—The benefits accruing to the public, directly and indirectly, from the unwearied labors of the profession, are so numerous and important that physicians are entitled to the utmost consideration and respect from the community.

SEC. 2.—The public ought to entertain a just appreciation of medical qualifications; to make a proper discrimination between true science and the assumptions of ignorance and charlatanism; and to afford every encouragement and facility for the acquisition of thorough medical education.

Dr. Charles A. L. Reed, Ohio, moved the adoption of the resolution, which was seconded by several delegates, and referred to a special committee to be appointed by the Chair.

Dr. MacCormack moved, in order to expedite business, that the reports of the Secretary and the joint report of the Board of Trustees and Treasurer be referred to a special committee of three to be appointed by the Chair. Carried.

Dr. Charles A. L. Reed presented an affidavit regarding Dr. Wende, of Buffalo, who had been denied admission as a member of the House of Delegates from one of the Sections, and moved that it be referred to the Business Committee. Seconded.

After some discussion by Drs. John B. Roberts, Pennsylvania; Charles A. L. Reed and P. Maxwell Foshay, Ohio, the Chair ruled that this matter should go before the Judicial Council.

Report of Judicial Council.

Dr. Frederick Holme Wiggin presented the report of the Judicial Council, as follows:

SARATOGA SPRINGS, N. Y., June 10, 1902.

The Council met at 9 a. m., in the parlor of Cottage 4, United States Hotel, there being present the following members: Dr. C. S. Rodman, chairman; Drs. G. B. Gillespie, R. C. Moore, N. Fred Essig, J. B. Murphy, H. H. Grant, J. B. Roberts, Preston H. Bailhache, Philip Marvel and F. H. Wiggin, secretary.

The following resolution in the matter of the charges preferred against Dr. Edwin Rosenthal, Philadelphia, was unanimously adopted:

The Judicial Council reports that it has investigated the matter of the alleged advertisement of a certain antitoxin in the address of Dr. Edwin Rosenthal, Chairman of the Section of Diseases of Children in 1900, and renders the following decision:

Dr. Edwin Rosenthal, as chairman of the Section of Diseases of Children, did use his official position in a way to advertise a certain firm of manufacturers of antitoxin, but this action was unintentional on his part, and uninfluenced by the said firm.

The Council adjourned to meet at Parlor 4, United States Hotel, Wednesday, June 11, 8:30 a. m.

FREDERICK HOLME WIGGIN, Secretary.

It was moved and seconded that the report be adopted.

After some discussion as to the proper disposition of this report by Drs. Bishop, Roberts, Baldwin, the Chair ruled that the matter stand as reported, and that no further action was necessary.

Dr. Emil Mayer, Section on Laryngology and Otology, moved, seconded by Dr. Geo. C. Stout, of the same Section, that when the House of Delegates adjourns, it does so to meet on Wednesday, June 11, at 2 p. m. Carried.

The President called for the report of the Committee on National Medical Legislation.

As this report was long, Dr. E. D. Ferguson moved that it be postponed until the next session of the House of Delegates. Carried.

Dr. E. D. Ferguson offered the following resolution, which was referred to the Business Committee:

Resolved, That the Nominating Committee for this annual session of the House of Delegates be constituted by the division of the country into nine (9) geographical districts, the delegates from each district to meet immediately at the close of this session and select one of their number in each district to serve on the Nominating Committee, such selections to be certified and made known to the Secretary, so that he can announce them at the opening of the second daily session. The delegates representing the twelve sections of the Association shall act, for this purpose, with the delegates from the States in the geographical district where they reside, and the delegates representing the Army, the Navy, and the Marine-Hospital Service are assigned to the District of Columbia. The nine geographical divisions shall be constituted as follows:

First, or New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Second, or Middle Atlantic: New York, New Jersey, Pennsylvania, Delaware, Maryland.

Third, or South Atlantic: District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Florida, Porto Rico.

Fourth, or South Central: Alabama, Mississippi, Louisiana, Tennessee, Arkansas.

Fifth, or Central: Kentucky, Missouri, Ohio, West Virginia, Indiana.

Sixth, or North Central: Michigan, Illinois, Wisconsin, Minnesota, Iowa.

Seventh, or Northwestern: New Mexico, Indian Territory, California, Kansas, Arizona, Nevada.

Eighth, or Central Western: Oregon, Utah, Colorado, Nebraska, Oklahoma, Texas.

Ninth, or Southwestern: Hawaii, Washington, Idaho, Montana, North Dakota, South Dakota, Alaska, Wyoming.

Reports of Lists of Members by Secretaries of State Societies.

Dr. E. D. Ferguson presented the following:

Resolved, That on or about the first day of January, in each year, the Secretary of the American Medical Association shall call upon the secretaries of the affiliated state organizations for a correct list of the members of the several state and local associations entitled to membership in the American Medical Association from their several states. He shall also ask for a supplementary list of new members and of members who have been dropped on or before the first day of May in each year, and it shall be his further duty to furnish a copy of these lists to the Treasurer of the American Medical Association for his guidance.

The Secretary is hereby instructed to remove from the roll of membership of the American Medical Association such names as are not on these certified lists of members, furnished by the secretaries of the state and local organizations.

Resolved, further, That a sufficient number of copies of the above resolutions be sent to the secretaries of the affiliated state associations for their use.

On motion, these resolutions were referred to the Business Committee.

Dr. Ferguson also presented the following, which was referred to the Business Committee:

Resolved, That no exhibit in the Exhibition Hall shall be allowed at the future meetings of the American Medical Association by the Committee of Arrangements unless the articles to be exhibited would be eligible to advertisement in the JOURNAL of the Association.

The Secretary of the American Medical Association shall pass on each application for space in the Exhibition Hall, and his decision shall be final.

Dr. William A. Evans, Section on Physiology and Pathology, presented the name of Henry Baldwin Ward, professor of zoology and dean of the University College of Medicine, University of Nebraska, Lincoln, for associate membership.

On motion of Dr. H. Bert Ellis, Professor Ward was elected an associate member.

Dr. R. Harvey Reed, Wyoming, presented the following resolution, which was adopted:

Resolved, That the delegate of each of the nine sections be posted in the United States Hotel office, and that they meet in Parlor A at 10 a. m., June 11, 1902, for the purpose of selecting the member of the Nominating Committee from their respective district.

Dr. H. V. Würdemann, Section on Ophthalmology, presented the following resolution and moved its adoption:

WHEREAS, By an unanimous vote of the Section on Ophthalmology the name of Professor O. Haab, the eminent ophthalmologist of Zurich, Switzerland, is offered to the House of Delegates of the American Medical Association for election as an honorary member of the Association, be it

Resolved, That Professor O. Haab, of Zurich, be elected an honorary member of the American Medical Association, and the Secretary be instructed to transmit him the usual notification.

This was seconded by Dr. H. Bert Ellis and carried.

The Secretary read the following from the Richmond Academy of Medicine and Surgery, which was referred to the Business Committee:

RICHMOND, VA., June 5, 1902.

Dear Doctor Edwards:—At a meeting of the Richmond Academy of Medicine and Surgery, held to-night, it was resolved that that body request the Virginia members of the House of Delegates of the American Medical Association to ask the latter to define the ethics of regular practitioners consulting with homeopaths and other irregular practitioners. I was instructed to communicate this to you and to ask you to seek the co-operation of your fellow Virginia delegates in the matter. MARK W. PEYSER, Secretary.

Personal Medical Advertisements.

The Secretary read the Kyger resolutions passed by the Kansas City Academy of Medicine, relative to the abolition from newspapers of personal advertisements, which were referred to the Business Committee.

WHEREAS, It can and has been shown, by ample statistics, that the American race is rapidly decreasing in its birth-rate, thereby threatening ultimate and complete decadence of the race, and

WHEREAS, Such decadence has become so apparent that it should claim the serious attention of those of influence and power to in any degree lessen this evil, and

WHEREAS, Without a special effort to investigate, it must have been observed by the most indifferent with what flagrant violation of all sense of delicacy the public press gives place to advertisements of nostrums and means intended to prevent or cut short pregnancy; these advertisements appearing in a column of the paper set apart for such purpose under the name of "Personal Medical Advertisements," and referred to as "Guarantees," "Sure Relief," "Sure Prevention," etc., occupying in some Sunday editions of reputable papers as much as two columns destined to fall into the hands of all classes, and

WHEREAS, We recognize the press as a most potent factor in the education of the masses: be it

Resolved, By the Academy of Medicine of Kansas City, Mo., that we respectfully recommend that a censorship over the public press should be exercised to the end of correcting such practice of publishing advertisements as those referred to in our whereases. Be it further

Resolved, That it should be deemed of sufficient moment for the attention of the Post-Office Department of the United States of America restricting or prohibiting the distribution of such papers, periodicals or magazines through the United States mail if they continue to so prostitute their columns with such matter. And be it further

Resolved, That a copy of these resolutions be sent every State Medical Association in the United States urging their co-operation in this movement by the adoption of these resolutions.

Resolved, That we request the Secretary of every State Medical Association adopting these resolutions to forward two copies, one to the American Medical Association and the other to the Postmaster-General petitioning for relief from this destructive influence.

JOHN W. KYGER, M.D.
H. C. CROWELL, M.D.
B. H. ZWART, M.D.
Committee.

Report of the Committee on Reciprocity in Medical Licensure.

The Secretary read the report of the Committee on Reciprocity in Medical Licensure from the American Academy of Medicine, as follows:

It is recommended that the following propositions be endorsed and urged upon the medical profession:

1. That in states which have a provision for the admission of licentiates of other state boards without examination, lists of those states the licenses of which will be so recognized, be formed and published as soon as possible; and that, in forming such lists, a rather liberal spirit be shown in the determination of what constitutes equality of requirement. In no two states, not even in the same state through a series of years, can it be expected that the standard of requirement will be exactly the same. Yet abuses likely to arise from any moderate difference in requirement can readily be guarded against by a demand for a moderate period (three years) of actual practice in the state from which the original license had been obtained.

2. That in states giving discretionary power to the examining boards, the license obtained in another state, by passing a good state examination, or even the diploma of one of the better medical colleges, be accepted after five years of practice as evidence of a sufficient training in such branches as chemistry, anatomy, physiology and pathology; and that the examination of the candidates presenting such evidence be confined to the other or so-called practical subjects.

3. That in all states in which sufficient discretionary power to do these things has not been lodged with the state board of medical examiners, the effort should be made to obtain the necessary authority, guarded by an efficient, but not too oppressive, requirement of a period of actual practice in the state from which the original license was obtained.

4. That these steps shall be taken in each separate state, irrespective of formal reciprocity or of what any state so recognized may or may not do in this direction, or of the establishment of a national board of medical examiners, or of any other desirable measures. Such other measures can be promoted independently, and will be assisted rather than hindered by the carrying out of the above suggestions.

Respectfully submitted:
Edward Jackson, L. Duncan Bulkley, N. S. Davis, Jr.

On motion, the report was referred to the Business Committee.

Dr. MacCormack, chairman of the Business Committee, reported that the Committee had considered the matter of the Richmond Academy of Medicine and Surgery, and requested that the House of Delegates send it back to the Virginia State Medical Society.

On motion, it was so ordered.

Dr. H. S. McConnell, Pennsylvania, moved that the Business Committee be requested, at the session to-morrow, to suggest the number of committees the House of Delegates should have in order to expedite business. Carried.

The Business Committee, through Dr. MacCormack, reported that it had considered the resolution offered by Dr. Ferguson creating a nominating committee, and recommended that it be passed.

On motion of Dr. H. Bert Ellis, the report was adopted and the recommendation concurred in.

On motion, the House of Delegates adjourned until Wednesday, June 11, at 2 p. m.

WEDNESDAY, JUNE 11.—SECOND SESSION.

The House of Delegates was called to order at 2:15 p. m. by the President.

The Secretary called the roll of delegates, and there were seventy-five present.

The Secretary read the minutes of the previous session, which were approved.

Committee on Code Revision.

The President announced as the committee on the resolution of Dr. Harris, namely, Committee on Revision of Code of Ethics, Dr. E. Eliot Harris, New York; Dr. William H. Welch, Baltimore; Dr. T. J. Happel, Tennessee; Dr. Nicholas Senn, Chicago, and Dr. Joseph D. Bryant, New York.

Judicial Council.

Under reports of committees, Dr. Wiggin presented the following report of the Judicial Council:

The complaint of Dr. C. G. Kuhlman against the California State Medical Society, referred to the Council by the House of Delegates, was considered, and on motion it was voted to refer the matter to the California State Medical Society, with the request that they make answer, and that both parties be notified of the time and place of the hearing before the Judicial Council next year.

The protest of Dr. Ernest Wende against the action of the Association last year in dropping his name from its membership roll, and consequently from that of the House of Delegates for 1902 and 1903, to which he had been elected by a Section, referred to the Judicial Council by the House of Delegates, was then taken up, and the following resolution was unanimously adopted:

That the decision of the Judicial Council in the case of Dr. Ernest Wende, of Buffalo, in regard to his membership in the American Medical Association is that, as previously ruled by the Judicial Council, and according to the Constitution and By-Laws of the American Medical Association, Chapter I, Section 3, the said Dr. Ernest Wende is not a member of the American Medical Association.

Nominating Committee.

The Secretary announced the Nominating Committee.

First District—S. C. Gordon, Maine.

Second District—W. S. Foster, Pennsylvania.

Third District—George M. Kober, District of Columbia.

Fourth District—G. C. Savage, Tennessee.

Fifth District—Wm. H. Humiston, Section on Obstetrics and Diseases of Women.

Sixth District—William A. Evans, Section on Physiology and Pathology.

Seventh District—H. Bert Ellis, California.

Eighth District—J. C. E. King, Utah.

Ninth District—R. Harvey Reed, Wyoming.

The next order was the report of the Business Committee, which was read by the Chairman, Dr. MacCormack, as follows:

New Committees.

The Business Committee recommends that so much of the resolution creating it as requires it to be in continuous session during the session of the House of Delegates be repealed.

On motion, the recommendation was concurred in.

It recommends that the following special committees be appointed by the President:

1. A committee of three on Sections and Section Work.
2. A committee of three on Revision of the List of Members.
3. A committee of five on Finance.
4. A committee of five on Relation of Dentists and Pharmacists.
5. A committee of three on Organization.
6. A committee of nine on Transportation and Place of Meeting.

On motion, this section of the report was adopted.

Your Committee further recommends that the action taken by the House at its first session referring the reports of the Secretary and Board of Trustees to a special committee of five be rescinded, and that so much of the address of the President as refers to Sections be referred to the Committee on Sections and Section Work; that so much of it as relates to Reciprocity in Licensure to practice medicine and to a Voluntary National Licensing Board be referred to the Committee on Medical Legislation; that so much of it as relates to alterations in the Constitution and By-Laws, and to continuing the work of encouraging the organization of state and county societies, be referred to the Committee on Organization; that so much of it as relates to the appointment of a national organizer jointly to the Committee on Organization and the Board of Trustees, be referred to the latter, with power to act.

On motion, this part of the report was adopted.

Your Committee recommends that so much of the report of the Secretary as relates to membership lists of members, and the enforcement of the provisions of the Constitution and By-Laws in regard to the same, be referred to the Committee on Revision of the List of Members; that so much of his report as relates to programs of sections, papers, abstracts and titles, be referred to the Committee on Sections and Section Work; that so much of said report as relates to dentists and their eligibility for membership be referred to the Committee on Relation of Dentists and Pharmacists; that that portion of the report of the Board of Trustees referring to the number of papers, the parties who may read them, and their publication, be referred to the Committee on Sections and Section Work; that the portion of it relating to the accounts of Section officers and the appropriation of money for meeting their expenses be referred to the Committee on Sections and Section Work.

On motion of Dr. Ellis, this section of the report was adopted.

A motion was then made and carried that the report of the Business Committee be adopted as a whole.

The President announced the following committees, as provided for by the report of the Business Committee:

Committee on Sections and Section Work: Drs. L. S. McMurtry, Section on Obstetrics and Diseases of Women; William Osler, Maryland; Emil Mayer, Section on Laryngology and Otology; Victor C. Vaughan, Michigan, and N. S. Davis, Jr., Section on Hygiene and Sanitary Science.

Committee on Revision of List of Members: Drs. William T. Bishop, Pennsylvania; F. H. Wiggin, New York; George H. Simmons, Secretary of the Association.

Committee on Finance: Drs. W. H. Sanders, Alabama; John B. Roberts, Pennsylvania; J. A. Dibrell, Arkansas; D. C. Hawley, Vermont, and Harold N. Moyer, Section on Nervous and Mental Diseases.

Committee on Organization: Drs. J. N. MacCormack, Kentucky; P. Maxwell Foshay, Ohio, and George H. Simmons, Secretary of the Association.

Committee on Transportation and Place of Meeting: Dr. Thomas Hunt Stucky, Kentucky; W. G. Harrison, Alabama; R. Harvey Reed, Wyoming; Seth C. Gordon, Maine; Philip Marvel, New Jersey; Geo. C. Bryan, New Mexico; H. A. West, Texas; George R. Dean, South Carolina, and H. Bert Ellis, California.

Dr. H. L. E. Johnson, of Washington, D. C., read the report of the Committee on National Medical Legislation, which will be published later.

On motion of Dr. John B. Roberts, the report was received in its entirety and referred to the Business Committee.

The next order was the report of the Committee on Organization, which was presented by Dr. Foshay.

Committee on Organization.

During the past year two separate tasks were assigned to this committee. At the last annual meeting of the Association your committee was ordered to take the new constitution and by-laws and make such verbal and other alterations as might be necessary to secure a complete, harmonious and well-constructed instrument. In accordance with these instructions, we submit a copy of the constitution and by-laws corrected in only a few particulars.

In the second place, the committee was assigned the duty of drafting a constitution and by-laws for State Associations which should embody the principles adopted by this Association at its last meeting. The committee held two meetings during the winter, one at Cincinnati and one at Cleveland. At these meetings and by correspondence your committee formulated such an instrument which has since been adopted without material change by the State Associations of Tennessee, Kentucky, Ohio, Arkansas and Missouri. In other states this constitution and by-laws will soon be submitted for consideration and adoption. Your committee herewith submits a copy of this document, and asks the House of Delegates to give to it the stamp of the Association's approval. [This constitution and by-laws appeared in the issue of THE JOURNAL of May 3.]

In furtherance of the plan to put into execution a complete plan of professional organization, your committee would respectfully suggest that this or some other committee be charged with the duty of drafting a constitution and by-laws for county societies. There is a great demand for such a document from all over the country just as there was for a state plan.

The cordial spirit in which the medical profession of the entire United States has received and endorsed the efforts of the committee has been most gratifying, and encourages the belief that the profession is fully ready for the adoption of a full, dignified and correlated system of organization. This will require considerable work for some time to come, in order that the new constitution and by-laws shall be used to full advantage. The plan proposed is, of course, not self-operative. It is important, therefore, that the House of Delegates should, to the fullest extent, provide means to continue and perfect the organization of this profession. A committee, therefore, should again be charged with this duty, and in addition we recommend that the Board of Trustees be authorized to employ a national organizer to assist in carrying on this work.

During the year the committee was at some slight expense, and submits its accounts.

Dr. H. Bert Ellis moved that the report of the committee be adopted; that the Committee on Constitution and By-Laws be continued, and empowered to make such verbal corrections as may be necessary. Carried.

Dr. Foshay read the second part of the report concerning the drafting of Constitution and By-Laws for State Associations.

On motion of Dr. H. A. West, Texas, the report of the committee and the constitution were adopted, and a vote of thanks extended to the members for the efficient work done by them.

Dr. Foshay read the following resolution, which was adopted:

Resolved, That State associations or societies in counting members for a basis of delegate representation in this House shall count only members in good standing, who pay regular dues to the State association, either directly or indirectly through County societies.

Honorary Members.

Dr. Foshay moved that all nominations for honorary membership, when received from any of the Sections, shall be referred without debate to an appropriate committee, and that the election of honorary members shall be a special order of business immediately following the election of officers on the fourth day of the annual session.

Dr. H. S. McConnell, Pennsylvania, moved its adoption. Seconded and carried.

Vaccination.

Dr. Foshay read the following memorial from the Academy of Medicine of Cleveland to the House of Delegates of the American Medical Association, urging federal standardization of vaccine and federal inspection of the manufacture of vaccine:

WHEREAS, A widspread distrust of vaccination as a means of protection from smallpox prevails among people of all classes; and such distrust appears to have arisen from observed defective protection of bad effects attributed to vaccination: and

WHEREAS, The production and use of a reliable and safe vaccine virus is of the highest importance as the chief agency by which smallpox can be controlled, and that such virus can be produced has been shown by the results in Germany, France and England, under government methods and control; therefore be it

Resolved, First, that the Academy of Medicine of Cleveland, through its Council, acting at the suggestion of its Committe on Public Health, do hereby request the House of Delegates of the American Medical Association to petition Congress to pass at once such legislation as will place the production of vaccine virus under the direct control and supervision of the United States Government, under either the Agricultural Department or the United States Marine-Hospital Service.

Resolved, Second, that the House of Delegates of the American Medical Association be requested to appoint a committee to draft proper rules and regulations and methods for such control and supervision, and to urge their adoption as part of such proposed legislation, to be applied and enforced after the manner of the present cattle inspection and quarantine.

Resolved, Third, that the words "control and supervision of the United States Government" as used above are to be interpreted as meaning that vaccine virus offered for sale in this country must conform to the bacteriologic and other standards set by the proposed legislation, and that only virus properly certified as having reached such standard shall be sold or otherwise offered for use in the United States. (Referred to the Business Committee.)

Surgeon-General Sternberg.

Dr. R. Harvey Reed offered the following preamble and resolutions:

WHEREAS, Surgeon-General George M. Sternberg has just been retired from the Army after more than forty years of faithful and distinguished service, not only on numerous battle fields and in the face of cholera and yellow fever epidemics, but also as chief of the medical corps which he has elevated to its present high standard by precept and example, and notably by the establishment of the Army Medical School; and

WHEREAS, His contributions to science and strong personal efforts as a pioneer in bacteriology at remote and isolated military posts have stimulated medical research and the advancement of American medicine more especially, in the field of hygiene and sanitary science,

Resolved, That the thanks of the American Medical Association be tendered to him for his beneficent labors in scientific medicine;

Resolved, That the Committee on National Legislation be instructed to secure the passage by Congress of the provisions of Senate Act 5213, so that Dr. Sternberg's services to his country and to humanity may receive official recognition and reward.

The resolutions were adopted.

Vote of Thanks to Yellow Fever Investigators.

Dr. Victor C. Vaughan offered the following resolutions, which were adopted:

WHEREAS, The members of the American Medical Association believe that the recent work of the U. S. Army surgeons in Cuba in relation to the discovery of the method of transmission of yellow fever is of such magnitude and far-reaching beneficence as to rank only second with Jenner's discovery of vaccination, and

WHEREAS, The practical value of this discovery has been proven by the complete eradication of this scourge from Havana,

Resolved, That the thanks of this Association be tendered the gentlemen who accomplished this brilliant result, and particularly to Drs. Walter Reed, James Carroll, A. Agramonte, W. C. Gorgas, and to Leonard Wood, who recognized the importance of the work and made it possible by his hearty encouragement and assistance.

Resolved, That this Association while deeply deploring the death of Dr. Jesse W. Lazear, who died a martyr to science, admires and gratefully acknowledges the heroic devotion of this physician and some of the members of the Hospital Corps to cause of humanity;

Resolved, That these resolutions be published in THE JOURNAL, and that copies be transmitted to Drs. Reed, Carroll, Agramonte, Wood, Gorgas, and Mrs. Lazear.

A Public Health System.

Dr. W. H. Sanders presented the following report and propositions, which were referred to the Business Committee.

The American Medical Association, composed, as it is, of physicians representing every state and territory of the United States, believing it one of the highest functions and most imperative duties of all wise and well-organized governments to protect their people, as far as may be done, from infectious and contagious diseases, deems this annual session an appropriate occasion for formulating and announcing the fundamental principles which, in its judgment, should underlie such a public health system as will be best adapted to the conditions prevailing in this country and as will possess the elements of efficiency and perpetuity.

The principles are embodied in the following propositions:

1. Under a series of concentric governments, such as exist in this country, a public health system should be so constructed that all municipalities, counties and states shall, under a reasonably uniform system, do such sanitary work as properly and legally belongs to them in their respective attitudes toward the constitutions of the several states, and the Constitution of the United States.

2. After the principle stated in the foregoing proposition has been complied with, all sanitary work remaining unprovided for would naturally and necessarily devolve upon the remaining one of the concentric governments, namely, the general government.

3. The physicians of the country who, by virtue of their daily contact with disease, occupy the most favorable positions for the early recognition and prompt notification of the presence of contagious and infectious diseases, and who, by virtue of expert knowledge of the subject, are best qualified to direct and supervise the application of the teachings of sanitary science, should constitute integral and responsible factors in the creation of a public health system—hence the thorough, logical and harmonious organization of the medical profession, county, state and national, should be fostered by appropriate legislation on the part of the states and the nation.

4. A public health system should be widely divorced from politics, and absolutely released from domination by commercial influence.

5. Boards of health should be composed of physicians only; likewise, health officials should be physicians, and should be either nominated or elected by the organized members of the medical profession in their respective jurisdictions.

6. The cardinal constitutional principle of local government should be jealously guarded and no attempt should ever be made to overthrow it by centralizing in the general government public health or police powers, which, according to numerous decisions of the Supreme Court, belong absolutely to the states.

7. Were the above principles incorporated into the construction of a public health system, it is believed that a symmetrical, harmonious and coherent one could be built up, the roots of which would be deeply planted in the soil of every state, and one which by a process of natural growth and development would soon project itself into a National Bureau of Public Health, with jurisdiction over such sanitary questions only as lie outside of the domain of state powers, the exercise of which would broadly promote the general welfare.

Committee on Credentials.

Dr. John B. Roberts offered the following resolutions, which were referred to the Business Committee:

Resolved, That the Chair appoint a committee of five, to be known as the Committee on Credentials and Registration.

Resolved, That it shall be the duty of this Committee to keep two registration lists, one of delegates, and one of alternates, and to have one of its members or a clerk constantly in the hall of meeting of the House of Delegates during all sessions of the House;

Resolved, That a delegate compelled to be absent from any session of the House may be represented by a duly accredited and registered alternate, provided that the name of the alternate be first reported to the Committee on Credentials and Registration at its desk in the hall of meeting.

Resolved, That these resolutions be standing resolutions of the House, and that the Chairman each year hereafter appoint a committee on Credentials and Registration prior to the opening of the annual session of the American Medical Association.

Dr. Charles S. Rodman, Connecticut, offered the following amendment to the by-laws:

To amend the by-laws relating to time of meeting:

Repeal Section 3 of Chapter VIII and enact as follows, namely:

The House of Delegates shall meet at 10 o'clock on the day before that fixed as the first day of the annual session. It may adjourn from time to time as may be necessary to complete its business, provided that it shall not meet at hours that conflict with the general meetings of the Association. (To lie over one year.)

Dr. Rodman also offered the following:

Resolved, That the American Medical Association recommends to the affiliated state societies the introduction at the next legislative sessions of their respective states, of an amendment to their medical practice acts as follows:

The provisions of this act shall not apply to those who have successfully passed the medical examinations of the United States Army, Navy, or Marine-Hospital Service.

(Referred to the Business Committee.)

Senn Medal.

The secretary read the following report of the Committee on the Senn Medal:

The Committee on the Senn Medal begs to report as follows: The majority of the committee recommends that no prize be given this year. The minority recommends that the Senn Prize Medal be given to the essay on "Practical Surgical Anesthesia;" nom de plume, "Fiat Lux."

HERBERT L. BURRELL, Secretary.

Dr. H. Bert Ellis moved the adoption of the majority report. Carried.

The president called for the report of the Committee on Award of Association Medal.

In the absence of Dr. H. A. Hare, chairman, Dr. Lewis S. McMurtry, Section on Obstetrics and Diseases of Women, said that the committee simply desired at this time to report progress, but that a further report would be presented later.

The reports of the Committee on Rush Monument Fund and on Scientific Research were called for, but no reports from these committees were made.

On motion the House of Delegates adjourned until 10 a. m. Thursday.

THURSDAY, JUNE 12—THIRD SESSION.

The House of Delegates was called to order at 10 a. m. by the president.

In the absence of the secretary Dr. Foshay called the roll of delegates.

The minutes of the previous meeting were read, and, after some minor corrections, were approved.

The president announced as the Committee on the Relation of Dentists and Pharmacists Drs. Geo. W. Guthrie, Pennsylvania; Charles J. Kipp, New Jersey, and Thomas D. Coleman, Georgia.

The next order was the report of the Business Committee, which was read by Dr. MacCormack.

Business Committee.

The committee recommends that the propositions embodied in the report of Dr. Sanders, of Alabama, be referred to the Committee on Medical Legislation.

The committee recommends that the resolution of Dr. Rodman in regard to certain state laws also be referred to the same committee.

The committee recommends that the resolutions of Dr. Kyger in regard to newspaper advertising be indefinitely postponed.

The committee recommends that when the House of Delegates adjourns it adjourn until 4:30 this afternoon.

On motion of Dr. McConnell the report of the Business Committee was adopted.

The report of the Nominating Committee was read by Dr. R. Harvey Reed, the secretary of the committee.

Nominating Committee.

SARATOGA, N. Y., June 11, 1902.

Your Nominating Committee met at 5 p. m. and organized by electing Dr. S. C. Gordon, of Maine, chairman and Dr. R. Harvey Reed, of Wyoming, secretary.

Roll call showed all members present.

On motion of Dr. Humiston, Ohio, it was decided to proceed at once with nominations for the president.

Dr. Frank Billings of Chicago was placed in nomination by Dr. Wm. A. Evans, Section on Physiology and Pathology, and on motion Dr. Billings was made the unanimous choice of your committee for president of the Association for the year 1903. Other officers were nominated as follows:

For First Vice-President—Dr. J. A. Witherspoon, Nashville, Tenn.

For Second Vice-President—Dr. G. F. Comstock, Saratoga Springs, N. Y.

For Third Vice-President—Dr. C. R. Holmes, Cincinnati.

For Fourth Vice-President—Dr. James H. Dunn, Minneapolis, Minn.

For Treasurer—Dr. H. P. Newman, Chicago.

For Secretary—Dr. Geo. H. Simmons, Chicago.

For Trustees (For Three Years)—Dr. E. E. Montgomery, Philadelphia; Dr. H. L. E. Johnson, Washington, D. C., and Dr. A. L. Wright, Carroll, Iowa.

For Judicial Council (For Three Years, 1905)—Dr. Philip Marvel, Atlantic City, N. J.; Dr. Geo. Cook, Concord, N. H., and Dr. N. S. Davis, Jr., Chicago, Ill.

For Two Years (1904)—Dr. T. C. Martin, Cleveland, O.; Dr. J. B. Roberts, Philadelphia, and Dr. Christopher Tompkins, Richmond, Va.

For One Year (1903)—Dr. F. H. Wiggin, New York City; Dr. G. B. Gillespie, Covington, Tenn., and Dr. D. C. Peyton, Jeffersonville, Ind.

For Oration on Medicine—Dr. J. M. Anders, Philadelphia.

For Oration on Surgery—Dr. A. F. Jonas, Omaha, Neb.

For Oration on State Medicine—Dr. W. H. Welch, Baltimore, Md.

On motion by Dr. Humiston, Ohio, the secretary was instructed to prepare a ticket and have the names selected by this committee for the several offices and positions printed thereon, with sufficient space between each name for interlining and a small square at the side for an "X" to indicate the choice of any voter for any particular person, and that said ballots be used for casting the final ballot by the House of Delegates for the officers of their choice.

The committee adjourned to meet on June 12 at 9 a. m.

S. C. GORDON, *Chairman.*

R. HARVEY REED, *Secretary.*

Association Medal.

Dr. H. A. Hare, Philadelphia, reported on behalf of the Committee on Association Medal:

The Committee on the Association Medal for 1902 respectfully reports that owing to a misunderstanding it was not notified of its appointment until March, 1902. No essays were received. The committee believes it is desirable that rules should be prepared governing the competition for the medal, as to the length of the essay, the subject or subjects upon which it shall be prepared, the method of its publication, and the best means of publishing the fact that the prize may be competed for. H. A. HARE, *Chairman.*

On motion of Dr. Ellis the report was referred to the Business Committee.

Dr. H. Bert Ellis, speaking on behalf of the Committee on Transportation and Place of Meeting, said that they had selected Dr. Thomas Hunt Stucky chairman of the committee, he to select such other associates as he might deem best fitted for the position. Hot Springs, Ark., was selected as the place for holding the next meeting.

On motion of Dr. Charles A. L. Reed this matter was referred back to the Nominating Committee to be acted upon in connection with the report of that committee tomorrow.

Sections and Section Work.

Dr. L. S. McMurtry made the following report of the Committee on Sections and Section Work:

The Committee on Sections and Section Work recommends that the by-laws be amended by the following clauses:

I. That the number of papers upon the program of each section shall not exceed forty.

II. That no member shall read papers before more than two sections in any one year, and these papers must be on different subjects.

The Committee offers the following:

Resolved, That the Secretary of the Association be authorized to send immediately after each annual meeting, a circular to the Section officers, calling attention to all the by-laws and rules relating to their duties.

Resolved, That the retiring President at each annual meeting shall call together for reference the President-elect, the Secretary of the Association, and the officers of the Sections to plan the work for the coming year.

Resolved, That it shall be the duty of the President of the Association to enforce the by-laws and rules relating to the work of the Sections.

Resolved, That there shall be appropriated a sum not to exceed twenty-five dollars annually to cover the postage of officers of Sections.

Dr. Charles A. L. Reed moved that the report of the committee be received and adopted, with the exception of that part which relates to the amendment to the constitution and by-laws; and that that part which relates to the expenditure of moneys be referred to the Board of Trustees.

After considerable discussion by several of the members the motion was carried.

Associate Members.

Dr. Victor C. Vaughan, a member of the Committee on Sections and Section Work, asked for an interpretation of Section 5 of the Constitution as to associate members, which reads as follows:

"Representative teachers and students of the allied sciences, not physicians, may become associate members by vote of the House of Delegates." He said a gentlemen, a distinguished physiologist, who is not a member of the Association, is to read a paper before one of the sections this afternoon, and he wanted to know whether the committee was barred from electing such men as associate members. He asked an interpretation of the two words, "not physicians," and suggested that such men be designated as "unregistered or unlicensed practitioners." If this were done, some of the best men, who were doing good scientific work, could be elected associate members.

Dr. John B. Roberts moved that the words suggested by the committee be incorporated and the committee so instructed. Carried.

In accordance with that interpretation, Dr. Vaughan presented the following names for associate membership: R. H. Chittendon, of Yale; La Fayette Mendel, of Yale; A. R. Cushing, of the University of Michigan; F. G. Novy, of the University of Michigan; John J. Abel, of Johns Hopkins; W. H. Howell, of Johns Hopkins; J. Erlanger, Johns Hopkins; W. T. Porter, Harvard; W. B. Cannon, Harvard; Simon Gage, Cornell.

On motion these gentlemen were elected to associate membership.

Informal Ballot for Officers.

The Business Committee recommends the following amendment to the by-laws:

That Section 4, Chapter 7, of the by-laws, entitled "Committees on Nominations," be repealed, and the following be inserted in lieu thereof:

Section 4.—Nominations for officers shall be by informal ballot in the House of Delegates, unless otherwise ordered by a majority of the delegates present when such nominations are made. Twenty votes shall be necessary to a nomination, and after the nominations are made the balloting shall continue until some nominee has received a majority of the votes present. After the second formal ballot the nominee receiving the lowest number of votes shall be dropped, and so on in each successive ballot until an election is had.

President Pro Tem.

Dr. McConnell, of Pennsylvania, offered the following, which was referred to the Business Committee:

The president of the Association having too many duties to perform, in order to relieve him to a certain extent and to expedite the business of the House of Delegates,

Resolved, That the House of Delegates at the commencement of each annual session, elect a President *pro tem.*, whose duties shall be to assist the President in every manner and to preside in his absence. The said President *pro tem.* shall retain his office until his successor is elected and have authority to convene the House of Delegates at the hour designated, beginning with each annual session.

Committee on Legislation.

The following amendments, which had laid over for one year, were then read by Dr. MacCormack, of Kentucky, of the Business Committee.

Amendment to the constitution and by-laws, offered by Dr. L. B. Tuckerman, Cleveland, Ohio: Amend Section 3, Chapter VII, of the by-laws, by substituting the following:

Section 3.—*Committee on Legislation:* The Committee on Legislation shall consist of three members appointed by the president of the association for a term of three years. One member shall be a resident of Washington, D. C., one of Baltimore, and one of Philadelphia. It shall be the duty of the committee to represent before Congress the wishes of this Association regarding any proposed legislation that in any respect bears upon the promotion and preservation of the public health, or upon the material or moral welfare of the medical profession. This committee shall also invite to a conference once a year, or oftener if need be, one delegate each from the medical service of the United States Army, the United States Navy, and the Marine-Hospital Service, one from the Bureau of Animal Industry, and one from each affiliated state or territorial society; such conference to meet in Washington to consider questions of medical and sanitary legislation, and to report back to this Association and to the several state and territorial societies.

Dr. MacCormack offered as a substitute for the proposed amendment of Dr. Tuckerman the following:

Amend Section 3, Chapter VII, of the by-laws, by striking out said section and inserting in lieu thereof the following:

Section 3.—*Committee on Medical Legislation:* The Committee on Medical Legislation shall consist of three members appointed by the president, one for a term of one year, one for a term of two years, and one for a term of three years, but whose successors shall each be appointed as vacancies occur for a term of three years, and an auxiliary committee to be composed of one member from each state and territorial society represented in this Association, to be appointed annually by the president of this Association upon the nomination of such state or territorial society, and one member from the Army, Navy, and Marine-Hospital Service, to be nominated by the chief officer of these respective departments and appointed by the president of this Association. It shall be the duty of the committee to represent before Congress and elsewhere the wishes of this Association regarding any proposed legislation that in any respect bears upon the promotion and preservation of the public health or upon the material or moral welfare of the medical profession. This committee shall invite to a conference once in each year, or oftener if need be, the auxiliary committee herein created, at which shall be considered questions of national anad state legislation, with the view of uniting all of the influences of the entire profession throughout the country in support of all proper legislation and of securing uniformity in the same, so far as may be possible and expedient.

Amendment to the constitution and by-laws, offered by Dr. T. J. Happel, Tennessee:

Chapter IX, Section 7, as follows: Strike out the following words of Section 7, Chapter IX, "reprints and transactions of Sections, including its list of members, its rules of order, its list of officers, as now published, shall be paid for out of the funds of the Association, and furnished free to members of the Association."

Dr. Harris, of New York, moved that both amendments be referred to the Business Committee, with instructions to report at the afternoon session. Carried.

Scientific Research.

Under the head of unfinished business the report of the Committee on Scientific Research was read as follows:

Your committee begs to report that owing to its recent appointment no steps could be taken during this year to encourage scientific research by the utilization of the generous appropriation of the Association. The chairman and members of the committee appreciate the opportunity afforded them to influence wholesome, scientific work, and desire especially to make

it clear to the members of the House of Delegates that the failure of the committee to act has been unavoidable. Through the illness of the chairman of the committee before the appointment of the present one, no action could be taken last year. The appointment of the present committee dates from March 21, 1902. It is hoped that next year through early advertisement in the columns of the Journal applications may be received by the committee for participation in the grants established by the Association. There will doubtless be sufficient applications to permit a careful selection of scientific workers.

Alfred Stengel, *Chairman.*

On motion the report was accepted and the committee continued.

It was moved by Dr. H. O. Walker, Michigan, duly seconded, that an appropriation of $500 be set aside by the Board of Trustees for the Committee on Scientific Research. Carried.

National Tuberculosis Commission.

A resolution by Dr. S. A. Knopf, of New York, of the Section on Hygiene and Sanitary Science, was read, and, on motion of Dr. H. Bert Ellis, was referred to the Committee on Legislation.

The resolution is as follows:

Resolved, That in view of our knowledge that several European governments have established national governmental tuberculosis commissions and recognizing the fact that tuberculosis is likewise with us a very prevalent and a preventable disease, the Section on Hygiene and Sanitary Science recommends that the American Medical Association address an appeal requesting the proper authorities to create a United States National Tuberculosis Commission for the study, investigation and prevention of tuberculosis in man and beast.

Dentists as Associate Members.

Dr. A. E. Baldwin offered the following, which was referred to the Business Committee:

Resolved, That it shall be a standing rule of the House of Delegates that the Section on Stomatology may—under Article 3, Section 5, of the Constitution, and Chapter I, Section 7, of the By-Laws—receive as associate members each year dentists of recognized and eminent standing who shall qualify as associate members and shall pay into the Treasury of the Association $5.00, thus entitling them to the Association Journal for such year or years as they shall qualify as above.

Dr. William A. Evans offered resolutions from the Section on Physiology and Pathology, and as they involved the expenditure of money he moved that they be recommended to the Board of Trustees for favorable action. Carried.

Louisiana Purchase Exposition.

Dr. E. Eliot Harris, of New York, offered the following resolution, which was referred to the Business Committee:

Resolved, That the American Medical Association views with satisfaction the efforts that are being made by the managers of the St. Louis World's Fair to make the Exposition of 1904 the occasion for presenting to the world the most advanced medical scientific thought of the twentieth century, and that the enterprise is commended to the hearty sympathy and support of the medical profession of the United States.

International Medical Congress of 1906.

Dr. Charles A. L. Reed offered the following resolutions:

Resolved, That the American Medical Association hereby extends a cordial invitation to the International Medical Congress to hold its session for 1906 in the United States of America, at a city hereafter to be selected.

Delegates.

Resolved, That John A. Wyeth, Charles A. L. Reed, William Osler, J. B. Murphy, Raymond Gulteras, L. S. McMurtry, J. M. Matthews, Howard A. Kelly, Walter Wyman, Victor C. Vaughan, Thomas D. Coleman, Nicholas Senn, J. N. Wear, L. H. Laidley, T. H. Stucky, T. J. Murphy, N. S. Davis, Jr., E. Eliot Harris, H. V. Würdemann, Casey A. Wood, Gen. George M. Sternberg, C. J. Kipp, and George A. de Schweinitz be and are hereby appointed delegates from the American Medical Association to the International Medical Congress to be held at Madrid in 1903; that the Secretary be and is hereby instructed to issue Delegates' Certificates to such additional members as may apply for the same; and that the delegates from this Association be and are hereby instructed to carry the foregoing invitation.

The president read the names of five delegates whom he had appointed by request of the Secretary of State as delegates to the International Medical Congress as follows: Dr. Nicholas Senn, Dr. Maurice H. Richardson, Dr. George W. Crile, Dr. Richard Douglas, and Dr. Edward B. Dench.

On motion the resolutions were adopted.

Halls and Rooms for Meetings.

Dr. David C. Peyton, Indiana, offered the following resolution, which was referred to the Business Committee:

Resolved, That hereafter the ordinary and necessary expenses for halls and rooms for the General and Section Meetings, and for Registration, shall be borne by the Association, and shall be paid by the Treasurer when certified by the Chairman of the Local Committee of Arrangements, after approval by the Board of Trustees; that hereafter the ordinary and necessary expenses for the Hall of Exhibits shall be paid by the Association when certified by the Secretary of the Association and approved by the Board of Trustees, and that the Secretary shall have charge of the assignment of spaces and charges therefor, the fund thus derived to be turned into the Treasury of the Association.

Incorporation.

Dr. E. Fletcher Ingals, Chicago, was accorded the privileges of the floor. He said the articles of incorporation under which the Association had been acting for two or three years were imperfect in some respects, according to the laws of the State of Illinois. As a member of the Board of Trustees he explained the salient features of a lengthy report, which was prepared by an attorney engaged by the board, the attorney having suggested such alterations as were necessary to remedy the existing defects in the articles of incorporation.

Dr. MacCormack offered the following resolution:

Resolved, That this part of the report of the Board of Trustees be referred back to the Board of Trustees, with a view to inquiring as to the advisability of incorporation in some other state or under national law.

On motion of Dr. Harris the resolution was referred to the Business Committee, with instructions to report this afternoon.

The secretary stated that Dr. J. R. Pennington, of Chicago, made his report last evening to the general meeting, presenting the portraits of Drs. Henry O. Marcy, James F. Hibberd and Paul F. Eve, and the following resolution was passed:

Resolved, That the portraits be accepted by the Association and the Committee continued to another year.

On motion the action of the General Meeting was endorsed.

On motion the House of Delegates adjourned until 4:30 p. m.

Thursday, June 12—Fourth Session.

The House of Delegates met at 4:30 p. m., and was called to order by the President.

In the absence of Secretary Simmons, Dr. Foshay called the roll of delegates.

The reading of the minutes of the previous session was postponed.

Report of Business Committee.

Dr, MacCormack presented the report of the Business Committee, as follows:

The Business Committee refers back the report of the Committee on Association Medal, with the recommendation that this Committee be authorized to make rules of competition for the medal.

The Committee would recommend that the resolution of Dr. Knopf be referred back to the Section on Hygiene and Sanitary Science, whence it came, for further elaboration.

Regarding the resolution offered by Dr. Baldwin, Section on Stomatology, the Committee recommends that it be referred to the Committee on Relation of Dentists and Pharmacists of this Association.

On motion, these recommendations were endorsed.

With reference to the resolutions of Dr. Peyton, Indiana, in regard to the Association assuming the expenses of its own meeting, the Business Committee has been in conference with the Board of Trustees for some time, and after a full interchange of views, the Committee recommends that the resolutions be postponed until next year.

It was moved and seconded that the recommendations be postponed and referred to the Board of Trustees. Carried.

In regard to the memorial from the Academy of Medicine of Cleveland, the Business Committee recommends that the House of Delegates endorse the principles embodied in the resolutions, and the Committee recommends further that the resolutions be referred to the Section on Hygiene and Sanitary Science with the request that this Section appoint a special committee to report back to the House of Delegates at its next annual meeting.

The Business Committee recommends that the substitute proposed this morning for the printed amendment to the constitution in regard to the Committee on National Legislation be adopted.

The Business Committee recommends that the amendment offered by Dr. Happel last year be adopted.

New Committees Recommended.

The Business Committee recommends that two additional standing committees be established, to be appointed by the President, and to consist of five members each:

1. A Committee on Public Health.
2. A Committee on Medical Education.

The Committee recommends that when the House adjourns this afternoon it adjourn to meet at 9 o'clock to-morrow morning, but that it shall convene in this hall at 7 o'clock this evening as a committee of the whole for a general discussion of the methods of professional organization.

It was moved that the recommendations of the Committee be adopted. Carried.

Dr. Arthur D. Bevan, Section on Surgery and Anatomy, presented a resolution with reference to the division of fees and commissions and asked that it be referred to the Committee on Revision of the Code of Ethics.

Dr. E. Eliot Harris, New York, said there was a provision in the Code of Ethics that had been presented before a previous session of the House of Delegates which covered practically the same ground.

Dr. H. Bert Ellis, California, moved that the resolution be referred to the Committee on Revision of Code of Ethics. Seconded.

After some discussion by Dr. Moyer, it was moved that the resolution be laid on the table. Seconded.

The President put the motion to table, and it was carried, there being 36 in favor of tabling the resolution and 19 against it.

Against Voluntary National Examining Board.

On motion of Dr. MacCormack, Dr. A. Walter Suiter, Secretary of the National Confederation of Medical Examining and Licensing Boards, was given the privileges of the floor.

He said that at a meeting of the Confederation, held Monday afternoon, the subject of a "Voluntary Board of National Examiners" was discussed, and subsequently referred to a committee. This committee reported as follows:

Your committee, to whom was referred the proposition originally made and discussed in the medical press by Dr. W. L. Rodman, Philadelphia, for the establishment of a voluntary board of national examiners, with instruction to consider the same and report thereon to this Confederation as to its feasibility, begs leave to report as follows:

In the opinion of your committee, this Confederation can not endorse nor approve such a proposition for the following reasons, namely:

1. A voluntary national examining board would have no power, no authority, or legal right to exist.
2. No guarantee could be given of the continuance or permanency of such voluntary board, even were the laws of the several states so modified as to meet its requirements.
3. Being a voluntary board, there could be no legal manner of constituting, changing, or limiting its membership, or defining its duties.
4. Such a board would be representative of the profession only and of the regular profession alone.
5. Without the endorsement of a state board authorized by law to grant a license to practice, a certificate of qualification from the proposed voluntary board could have no legal value whatever; and under the existing laws of the several states, the state examining boards are required to conduct the examinations and such boards can not evade, nor surrender such duty even if they desired to do so.
6. To attempt the stupendous task of securing the passage of amendments to the existing laws regulating the practice of medicine in the several states would entail enormous labor and expense, and would probably endanger the laws themselves.

Edwin B. Harvey, Massachusetts,
George W. Webster, Illinois,
Augustus Korndoerfer, Pennsylvania,
Eugene Beach, New York,
W. A. Spurgeon, Indiana,
Committee.

On motion of Dr. Harold N. Moyer, the report was referred to the Committee on National Legislation.

Dr. Würdemann presented recommendations from the Section on Ophthalmology regarding tests of sight and hearing for railroad employes, which were referred to the Business Committee.

The Secretary read a report from the Board of Trustees recommending that a sum of not to exceed $15 be appropriated as postage for each section.

On motion the recommendation was concurred in.

Prophylaxis of Venereal Disease.

Dr. Henry D. Holton was accorded the privileges of the floor, and presented on behalf of the Sections on Hygiene and Sanitary Science, and Cutaneous Medicine and Surgery the following resolutions, and asked their adoption and the appointment of a committee:

The following resolution introduced by Dr. Ludwig Weiss of New York City, and seconded by Dr. L. Duncan Bulkley of the same city, was adopted by the Section on Cutaneous Medicine and Surgery at its meeting, June 12, 1902, and a committee, consisting of Drs. Weiss and Bulkley of New York and Dr. Frank Montgomery of Chicago, was appointed to present the same to the Section on Hygiene and Sanitary Science of the American Medical Association:

Whereas, There is a burning necessity to check the spread of venereal diseases, and assuming that the states can not with impunity ignore the condition, it lays in the province of the medical profession the task of recommending to the respective state legislatures and municipalities means, not regulamentative, but social, economic, educative and sanitary, in their character to diminish the danger from venereal diseases;

Resolved, That the Section on Cutaneous Medicine and Surgery of the American Medical Association invites the Section on Hygiene and Sanitary Science to co-operate with the Section on Cutaneous Medicine and Surgery to bring about a propaganda in the different states looking toward the proper recognition of the dangers from venereal diseases, and to arrange for a national meeting under the auspices of the American Medical Association for the prophylaxis of venereal diseases similar to the International Conference for the Prophylaxis of Venereal Diseases which meets again this year under the authority of the Belgian government at Brussels.

Henry W. Stelwagon, *Chairman.*

Dr. W. H. Sanders, Alabama, offered the following in connection with the previous resolution:

Resolved, That a joint committee of six from the Sections on Hygiene and Sanitary Science and Cutaneous Medicine and Surgery be appointed by the President to stimulate study in and uniform knowledge of the subject of the prophylaxis of venereal diseases, and to present to the American Medical Association a plan for a national meeting similar to the International Conference for the Prophylaxis of Venereal Diseases, which meets again this year in Brussels under the auspices of the Government of Belgium.

On motion, these resolutions were referred to the Business Committee.

Dr. E. D. Ferguson, New York, offered the following:

Resolved, That the Board of Trustees be hereby requested to print annually in The Journal of the American Medical Association a list of the names of the members by states.

On motion, this resolution was referred to the Business Committee.

The Scientific Exhibit.

The acting Secretary read the following recommendations from the Section on Physiology and Pathology concerning the Pathologic Exhibit, which had been referred to the Board of Trustees:

1. That the name be changed to "Scientific Exhibit."
2. That the Scientific Exhibit be placed in entire charge of a director, who shall be chosen by the Board of Trustees and be paid reasonable compensation in addition to his expenses.
3. That the Director shall also be the chairman of the committee in charge of the appropriation of the Association for the encouragement of research work.
4. That the exhibit be continued under the conditions suggested, and that an appropriation for its maintenance be made, at least as large as heretofore.
5. That the Secretaries of the various Sections shall constitute an advisory committee to the Director of the exhibit.

The Board of Trustees recommends the continuance of the appropriation of $400, but that the appointment of a director on a salary be deferred for this year.

On motion, the report was adopted.

Amendments Proposed.

The Secretary read the following proposed amendments to the Constitution to lie over until next year:

Amend Section 1, Article IV, of the Constitution as follows: After the word "service" at end of paragraph, add "and the officers of the Association."

Amend Section 4, Article VIII, as follows: Strike out all after the word "to" in the second line, and insert "the office of President or Vice-Presidents."

Amend Section 10, Chapter III, of the By-laws, as follows: Strike out the words "A majority" in the first line, and insert "one third."

Amend Section 1, Chapter IV, of the By-laws, as follows: Add to the section the following, "A majority of all votes cast being necessary for election."

Former Secretary Atkinson Ill.

A communication was read from Dr. J. R. Jones of Philadelphia regarding the illness of Dr. William B. Atkinson, and on motion of Dr. N. S. Davis, Jr., the President was instructed to send a message of sympathy to Dr. Atkinson.

On motion, the House of Delegates then adjourned until 9 o'clock, Friday morning.

Friday, June 13—Fifth Session.

The House of Delegates was called to order at 9 a. m. by the President.

Place of Meeting.

Dr. S. C. Gordon, of Maine, chairman of the Nominating Committee, said that several invitations had been received inviting the Association to hold its next meeting in New Orleans, La. He therefore moved to reconsider the action of the Committee on Place of Meeting. Carried.

He then moved that New Orleans be substituted for Hot Springs. Seconded.

After some discussion by Drs. D. C. Peyton of Indiana and H. A. West of Texas, the substitute was carried by a very large majority.

The next thing in order being the election of officers, the President appointed as tellers Drs. R. Harvey Reed of Wyoming and William Britt Burns, Section on Practice of Medicine. The ballots cast resulted in the election of the officers named by the Nominating Committee in the third session, Thursday morning, and the selection of New Orleans as the place for holding the next annual meeting.

The President declared the officers duly elected.

Dr. John B. Roberts, Philadelphia, presented his resignation as a member of the Judicial Council, and asked that it be accepted.

On motion of Dr. R. Harvey Reed of Wyoming the resignation was laid on the table.

On motion of Dr. J. N. MacCormack of Kentucky the thanks of the House of Delegates were tendered to the delegation from Arkansas for their kind and courteous invitation in inviting the Association to hold its next annual meeting at Hot Springs, with the regret that it was inexpedient to accept it.

Dr. William S. Foster, Pennsylvania, moved the adoption of the following resolution:

Resolved, That the sum of four hundred dollars, or so much thereof as may be necessary, be hereby appropriated to pay the traveling and other necessary expenses of the Committee on Organization, upon accounts presented by the members thereof, to the Board of Trustees. Carried.

Dr. MacCormack read the report of the Business Committee:

The Business Committee recommends that arrangements be so made at the next annual session that the House of Delegates shall hold its first meeting at 8 p. m. of the day preceding the first day of the General Meeting, in some commodious and centrally-located hall.

It recommends that before final adjournment to-day a new Business Committee be selected from the hold-over delegates to serve through the next annual session.

Dr. H. A. West of Texas moved that the recommendations of the Business Committee be adopted. Seconded and carried.

Dr. J. N. MacCormack, Kentucky—The Business Committee has a supplementary report to make. It recommends that the resolutions offered by Dr. W. H. Sanders and Dr. Henry D. Holton, from the Sections on State Medicine and Sanitary Science, and Cutaneous Medicine and Surgery be adopted, and that authority be given for the appointment of the committees mentioned and action asked for.

On motion of Dr. West, the report was adopted.

Dr. MacCormack—The Business Committee recommends that the resolution which came from the Section on Ophthalmology be referred back to that Section, with the request that a conference be held with the leading railway surgeons who have had a large experience, and report next year.

Dr. H. A. West of Texas moved the adoption of the recommendation. Carried.

Dr. P. Maxwell Foshay of Ohio reported on behalf of the Business Committee, stating that the Committee had held a conference with the Board of Trustees in reference to articles of incorporation. The Committee had gone over the points of conflict, and had found that the changes proposed by the attorney for the Board of Trustees were not such as to cause any real disability to the operation of the new method of organization. He indicated what these changes were, and urged that they be adopted.

On motion of Dr. R. Harvey Reed of Wyoming the report was adopted.

Dr. E. D. Ferguson of New York offered the following:

Resolved, That the present Constitution and By-laws, up to and including the amendments made yesterday, or as amended under pending amendments at the annual session of 1903, be regarded in the conduct of business in this House of Delegates as the rules of order and standing rules until the verbal changes authorized in the Constitution and By-laws cease to be legally necessary, and are changed again to correspond with such rules of order and standing rules thus provided.

On motion of Dr. H. A. West of Texas the resolution was adopted.

Dr. Harold N. Moyer, Section on Nervous and Mental Diseases, offered the following:

Resolved, That when we adjourn this meeting, we adjourn to meet in the library room, 103 State Street, Chicago, Ill., Monday, June 16, at 5 p. m.

Resolved, That at such adjourned session no business shall be transacted excepting ratification of the work heretofore done.

On motion, the resolutions were adopted.

Dr. R. Harvey Reed of Wyoming moved a reconsideration of the action on the report of the Business Committee regarding examination of railway employes, which had just passed. Carried.

Dr. H. V. Würdemann, Section on Ophthalmology, read the following resolution:

Resolved, That the committee on examination of eyes and ears of railroad employes (from the Section on Ophthalmology) be instructed to bring the resolution of the American Medical Association in reference to the examination of eyes and ears of railroad employes before the railroads of the United States in every manner possible, and that the Editor of The Journal of the American Medical Association be instructed to print two thousand copies of the resolution and to send the same by mail, or otherwise, to addresses which may be furnished him.

Dr. Reed of Wyoming then moved that the resolution be deferred, and that three or more competent railroad surgeons be called in conference with the committee and report next year. Seconded.

After considerable discussion, the motion was put, declared lost, and the original motion to adopt was carried, there being 24 for and 16 against the adoption of the resolution.

Date of Meeting in 1903.

The next order of business was fixing the time of meeting.

Dr. MacCormack of Kentucky moved that the next meeting be held at such time as may be fixed by the incoming President and Secretary, after consultation with the Committee of Arrangements at New Orleans, the suggestion being made, however, that, if possible, it be between May 1 and 15. Carried.

Committee on Membership.

Dr. Wm. T. Bishop, Pennsylvania, read the report of the Committee on Membership as follows:

Resolved: 1. That the Secretary of the Association shall complete the verification of the list of members on the plan already begun, and obtain, so far as possible, correct information from the members themselves and from other sources as to the qualification of every person who now claims membership in this Association.

2. That all those who now claim membership, and who are not eligible according to our laws shall be notified by the Secretary of such fact, and that they must furnish satisfactory evidence of their qualification for membership as required by our laws on or before January 1, 1903.

3. That not later than March 1, 1903, the Secretary is directed, after notification, to drop from the roll of members all who are not eligible to membership in this Association.

4. That the word "local" in line 9, section 3, chapter I, of the By-laws, shall be construed, in this connection, to apply to the state organization, or one of its recognized branches of the state in which the person holds his legal residence.

5. That a member of this Association removing from one county or state to another may continue to hold his membership in this Association for a period not to exceed two years, without joining an affiliated society in his new place of residence, provided, however, that during this time he retains his original membership in the county or state society from which he removed.

Dr. Bishop moved the acceptance of the report and concurrence in the recommendations. Carried.

Dr. William H. Welch of Maryland moved that a special committee of five be appointed by the President to consider the

questions of a National Examining Board for License to Practice and of Interstate Reciprocity, and all other matters relating to these allied subjects, and that the resolutions presented to the House of Delegates by the National Confederation of State Medical Examining and Licensing Boards be referred to this committee; that this committee report to the House of Delegates at the next annual meeting.

Dr. MacCormack of Kentucky seconded the motion, and in addition moved that the recommendations which came from the confederation be referred to the same committee.

Dr. Welch accepted the amendment and the motion as amended was carried.

Dr. W. H. Sanders, Alabama, said that on Wednesday he submitted a series of propositions to the House of Delegates, which were referred to the Committee on Medical Legislation. He said he had a right to expect that some action be taken in regard to these propositions, and he therefore called for the reading of them.

Dr. George M. Kober of the District of Columbia moved that inasmuch as the propositions submitted by Dr. Sanders had been referred to the Committee on Legislation, that the House of Delegates give no expression in regard to them until the Committee was heard from. Carried.

Dr. H. O. Walker, Michigan, moved that the Business Committee for the ensuing year consist of Drs. Harold N. Moyer, Section on Mental and Nervous Diseases; William S. Foster, Pennsylvania; Charles A. L. Reed, Ohio; T. J. Murray, Montana, and H. A. West, Texas. Seconded and Carried.

Dr. Osborne, Section on Materia Medica, Pharmacy and Therapeutics, moved that the recommendations made by Dr. Charles S. Rodman of Connecticut in regard to medical practice acts, at a previous session of the House of Delegates, which were referred to the Committee on Legislation, be taken from that Committee and referred to the new committee of five to be appointed in accordance with the resolution of Dr. Welch. Carried.

Dr. Arthur D. Bevan, Section on Surgery and Anatomy, presented the following:

Resolved, That the House of Delegates recommend the adoption by the county medical societies in affiliation with this body, the following resolution:

Resolved, That any member of the county medical society proven guilty of division of fees, either the giving or the receiving of a part of a fee without the full knowledge of the patient, be held guilty of misconduct, for which he may be expelled from the county medical society.

He moved that this be the sense of the House of Delegates. Seconded by Dr. Walker and carried.

Dr. Floyd W. McRae, Georgia, offered the following:

Resolved, That it is the sense of the House of Delegates that it is unprofessional to electioneer in any way for any office or position in the gift of the American Medical Association, and that in future all such efforts will be discountenanced in every way.

Resolved, further, that this resolution be printed in The Journal of the American Medical Association. Seconded.

Dr. P. Maxwell Foshay, Ohio—I have drawn a similar resolution in conjunction with Dr. MacCormack, and wish to say, before presenting it, that the House of Delegates of the American Medical Association is a legislative body that is truly representative of the American medical profession. For all time to come the House must be conducted with parliamentary form and proper dignity in keeping with its status as a deliberative assembly speaking for a learned profession. It must ever keep in mind its dual functions of encouraging scientific research and of guarding the material interests of the medical profession. The history of our Association is one of splendid accomplishment under adverse conditions. The resolution herewith offered is not submitted in any spirit of criticism of either the near or remote past, but wholly as a declaration addressed to the future, to establish beyond question in one small but important particular, the determination of this assembly to fitly represent the highest aims of modern medicine. In the firm belief that "the office should seek the man," and that nothing less is in accord with the high aims of our profession, we ask this assembly thus to declare its purpose:

Resolved, That it is the sense of the House of Delegates of the American Medical Association that the solicitation of votes for office is not in keeping with the dignity of the medical profession, nor in harmony with the spirit of this Association, and that such solicitation shall be considered a disqualification for election to any office in the gift of the Association.

I move that the resolution be substituted for the one offered by Dr. McRae. Seconded.

Dr. McRae accepted the substitute, and it was carried.

Dr. N. S. Davis, Jr., Section on Hygiene and Sanitary Science, offered the following amendment:

Moved, to omit from Chapter IX, Section 3, of the By-laws, the last sentence.

Dr. J. N. MacCormack, Kentucky, moved to amend Section 3, Article IX of the By-Laws by striking out the words "Each section shall elect annually two representatives to the House of Delegates," and insert in lieu thereof the following:

Each Section shall have the privilege of sending to the House of Delegates one delegate for every five hundred members registered in such Section at the annual session at which such delegate is elected, and one for any additional fraction of that number; but each section shall be entitled to at least one delegate.

Dr. MacCormack moved to amend Section 5, Chapter III of the By-Laws, by repealing said section.

The Secretary announced the Committee on Medical Legislation, which was appointed by the President, as follows:

Drs. R. M. Cunningham, Ensley, Alabama; William Duffield, Phœnix, Ariz.; C. R. Shinault, Helena, Ark.; George H. Evans, San Francisco, Cal.; Charles S. Rodman, Waterbury, Conn.; H. L. E. Johnson, Washington, D. C.; R. D. Murray, Key West, Fla.; T. D. Coleman, Augusta, Ga.; L. P. McCalla, Boise, Idaho; Carl E. Black, Jacksonville, Ill.; W. N. Wishard, Indianapolis, Ind.; B. F. Fortner, Vinita, I. T.; H. B. Young, Burlington, Iowa; Clarence A. McGuire, Topeka, Kan.; J. N. MacCormack, Bowling Green, Ky.; Edmond Souchon, New Orleans, La.; E. McE. Van Ness, Baltimore, Md.; James F. A. Adams, Pittsfield, Mass.; Charles E. Hooker, Grand Rapids, Mich.; H. M. Bracken, Minneapolis, Minn.; William M. Paine, Aberdeen, Miss.; F. W. McGrimmon, Butte, Mont.; J. W. Parsons, Portsmouth, N. H.; J. E. Pickard, Virginia City, Nev.; Philip Marvel, Atlantic City, N. J.; G. W. Harrison, Albuquerque, N. M.; E. Eliot Harris, New York City; Richard H. Lewis, Raleigh, N. C.; H. A. Beaudoux, Fargo, N. D.; N. R. Coleman, Columbus, Ohio; S. E. Josephi, Portland, Ore.; John B. Roberts, Philadelphia, Pa.; Gardiner T. Swarts, Providence, R. I.; E. F. Parker, Charleston, S. C.; T. J. Happel, Trenton, Tenn.; J. D. Osborne, Cleburne, Tex.; A. C. Ewing, Salt Lake City, Utah; H. D. Holton, Brattleboro, Vt.: E. T. Brady, Abingdon, Va.; J. B. Eagleson, Seattle, Wash.; W. P. Goff, Clarksburg, W. Va.; and U. O. B. Wingate, Milwaukee, Wis.

The Secretary presented the following resolution, which was adopted at the fourth meeting of the Section of Materia Medica, Pharmacy and Therapeutics:

Resolved, That a rule should be adopted to govern future sessions of this Association, instructing exhibitors to limit the distribution of samples and advertising matter to persons wearing the official badges of the Association.

It was moved and seconded that this resolution be adopted. Carried.

The Secretary read the following from the same section:

The Section on Materia Medica, Pharmacy and Therapeutics, at its fifth meeting, unanimously endorsed the inclosed bill, H. R. 123, report No. 1701, "To adopt the weights and measures of the metric system," as the standard weights and measures in the U. S., and asked its reference to the Association, and, if approved, its immediate transmission to the Congress now in session.

Dr. N. S. Davis, Jr., Section on Hygiene and Sanitary Science, moved that the resolution be adopted, and that it be referred to the Committee on Medical Legislation, with instructions to push its adoption by Congress. Carried.

Dr. William S. Foster, Pennsylvania, offered the following resolutions of thanks:

Resolved, That the thanks of the Association are extended to Dr. George F. Comstock, Chairman of the Committee of Arrangements, and his associates, for their careful and efficient preparation for this meeting.

Resolved, That the thanks of the Association be extended to the citizens of Saratoga Springs;

Resolved, That in view of the fact that a committee of ladies of Saratoga has provided so delightful an entertainment for the visiting ladies of the American Medical Association, a vote of thanks is due and hereby cordially tendered them; therefore, be it

Resolved, That the visiting ladies of the American Medical Association do hereby express their thanks for, and appreciation of, the kindness and courtesy shown them, and for the delightful entertainments provided for them by the ladies of Saratoga during the days of the Association.

On motion the resolutions were unanimously adopted.

The President announced the following committees:

Committee on Reciprocity.—Drs. W. L. Rodman, Philadelphia, Pa.; William H. Welch, Baltimore, Md.; Joseph M. Mathews, Louisville, Ky.: Henry Beates, Jr., Philadelphia, Pa., and T. J. Murray, Butte, Mont.

Committee on Public Health.—Drs. Charles O. Probst, Columbus, Ohio; J. N. Hurty, Indianapolis, Ind.; W. H. Sanders, Mobile, Ala.; H. A. West, Galveston, Tex., and Dr. W. C. Gorgas, U. S. Army.

Committee on Medical Education.—Drs. Arthur D. Bevan, Chicago, Ill.; F. W. McRae, Atlanta, Ga.; Rudolph Matas, New Orleans, La.; R. A. Marmion, U. S. Navy, and C. A. Daugherty, South Bend, Ind.

Committee on Prophylaxis of Syphilis.—Drs. Henry D. Holton, Brattleboro, Vt.; George M. Kober, Washington, D. C.; W. H. Sanders, Mobile, Ala.; Ludwig Weiss, New York City; L. D. Bulkley, New York City, and Frank H. Montgomery, Chicago, Ill.

Committee on Credentials and Registration.—Drs. George H. Simmons, Chicago, Ill., chairman; P. Maxwell Foshay, Cleveland, Ohio, and H. O. Walker, Detroit, Mich.

There being no further business to come before the House of Delegates, the President thanked the members of the House for their consideration and courtesy toward him. He said he wanted to say this much in regard to the Association as the retiring President: "It stands to-day in a position of prominence that it has heretofore never achieved, and in the spirit of progress and of reconciliation I think I can see for it in the future a greatness that probably none of us yet have dreamed of. I hope we will all work to that end, and that any prejudices which may have been instilled into us by early associations will be dissipated, and that we will go out from the House of Delegates as leaven that will have its effect upon the whole loaf. I have to thank you from the bottom of my heart for your kindness to me." [Applause.]

Dr. L. S. McMurtry, Kentucky, moved that the thanks of the House of Delegates be tendered to the President, Dr. Wyeth, for the ability and courtesy with which he had discharged his duties. Seconded and carried by rising vote.

The House of Delegates then adjourned *sine die.*

The following constituted the House of Delegates:

List of Delegates.

Alabama—W. H. Sanders, Mobile; W. M. Wilkerson, Montgomery; W. G. Harrison, Talladega.
Arizona—W. H. Ward, Phoenix.
Arkansas—James A. Dibrell, Little Rock.
California—H. Bert Ellis, Los Angeles.
Colorado—C. K. Fleming, Denver.
Connecticut—Charles S. Rodman, Waterbury; Charles E. Brayton, Stonington.
Delaware—Willard Springer, Wilmington.
District of Columbia—George M. Kober, Washington.
Florida—R. D. Murray, Key West.
Georgia—Floyd W. McRae, Atlanta; Thos. D. Coleman, Augusta.
Idaho—
Illinois—J. L. Wiggins, East St. Louis; O. B. Will, Peoria; John T. McAnally, Carbondale; D. R. Brower, Chicago; H. Hatch, Quincy; J. B. Murphy, Chicago; George N. Krider, Springfield; George W. Webster, Chicago.
Indian Territory—
Indiana—David C. Peyton, Jeffersonville; G. W. H. Kemper, Muncie; William N. Wishard, Indianapolis; Edwin Walker, Evansville.
Iowa—George F. Jenkins, Keokuk; J. R. Guthrie, Dubuque,
Kansas—
Kentucky—J. N. MacCormack, Bowling Green; Thomas Hunt Stucky, Louisville.
Louisiana—
Maine—Seth C. Gordon, Portland.
Maryland—William Osler, Baltimore; W. H. Welch, Baltimore.
Massachusetts—Horace E. Marion, Boston; Chas. H. Williams, Boston; J. F. A. Adams, Pittsfield.
Michigan—H. O. Walker, Detroit; Victor C. Vaughan, Ann Arbor.
Minnesota—A. W. Abbott, Minneapolis.
Mississippi—J. C. Hall, Anguilla.
Missouri—
Montana—T. J. Murray, Butte.
Nebraska—B. B. Davis, Omaha.
New Hampshire—Ira J. Prouty, Keene.
New Jersey—Charles J. Kipp, Newark; Luther M. Halsey, Williamstown; Philip Marvel, Atlantic City.
New Mexico—George C. Bryan, Alamogordo.
New York—E. D. Ferguson, Troy; E. Eliot Harris, New York City; C. A. Wall, Buffalo.
Nevada—
North Carolina—Jas. A. Burroughs, Asheville.
North Dakota—I. N. Wear, Fargo.
Ohio—P. Maxwell Foshay, Cleveland; Charles A. L. Reed, Cincinnati; Frank Warner, Columbus.
Oklahoma Territory—
Oregon—Andrew C. Smith, Portland.
Pennsylvania—A. P. Hull, Montgomery; Webster B. Lowman, Johnstown; George W. Guthrie, Wilkes-Barre; William S. Foster, Pittsburg; John B. Roberts, Philadelphia; H. S. McConnell, New Brighton; William T. Bishop, Harrisburg.
Rhode Island—John Champlin, Westerly.
South Carolina—George R. Dean, Spartanburg.
South Dakota—J. L. Stewart, Irene.
Tennessee—G. C. Savage, Nashville.
Texas—H. A. West, Galveston.
U. S. Army—D. M. Appel.
U. S. Marine Hospital Service—Walter Wyman.
U. S. Navy—R. A. Marmion.
Utah—J. C. E. King—Salt Lake City.
Vermont—D. C. Hawley, Burlington.
Virginia—J. R. Gildersleeve, Tazewell; Landon B. Edwards, Richmond; E. G. Williams, Richmond.
Washington—P. W. Willis, Seattle.
West Virginia—L. D. Wilson, Wheeling.
Wisconsin—W. T. Sarles, Sparta; J. R. Barnett, Neenah.
Wyoming—R. Harvey Reed, Rock Springs.

Sections.

Cutaneous Medicine and Surgery—William T. Corlett, Cleveland, Ohio.
Diseases of Children—A. C. Cotton, Chicago; S. W. Kelley, Cleveland, Ohio.
Hygiene and Sanitary Science—S. G. Bonney, Denver, Colo.; N. S. Davis, Jr., Chicago.
Laryngology and Otology—Emil Mayer, New York, N. Y.; George C. Stout, Philadelphia, Pa.
Materia Medica, Pharmacy and Therapeutics—O. T. Osborne, New Haven, Conn.; A. B. Lyon, Detroit, Mich.
Nervous and Mental Diseases—Harold N. Moyer, Chicago; H. A. Tomlinson, St. Peter, Minn.
Obstetrics and Diseases of Women—William H. Humiston, Cleveland, Ohio; Lewis S. McMurtry, Louisville, Ky.
Ophthalmology—H. V. Würdemann, Milwaukee, Wis.; J. A. Lippincott, Pittsburg, Pa.
Physiology and Pathology—William A. Evans, Chicago.
Practice of Medicine—W. Britt Burns, Memphis, Tenn.; J. M. Anders, Philadelphia, Pa.
Stomatology—G. V. I. Brown, Milwaukee, Wis.; A. E. Baldwin, Chicago.
Surgery and Anatomy—Arthur D. Bevan, Chicago.

GENERAL SESSIONS.

WEDNESDAY, JUNE 11, 7:30 P. M.—SECOND MEETING.

The meeting was called to order by the President. He introduced Dr. Frank Billings, Chicago, who delivered the Oration on Medicine.

On motion of Dr. E. F. Ingals, Chicago, a vote of thanks was extended to Dr. Billings for his instructive and admirable address.

DR. J. RAWSON PENNINGTON, Chicago, chairman of Committee on Portraits of ex-Presidents, presented the following report:

Mr. President, your Committee has been assiduous in its efforts to secure the portraits of ex-Presidents of the American Medical Association. The responses have been encouraging and lead to the hope that within the next few years the Association will be able to adorn its present home in Chicago with the memorials of those who have given their best efforts to the Association, and whom the Association has in turn honored with its highest office.

Of the several portraits that are in preparation those of Dr. Paul F. Eve, deceased, President in 1857; Dr. Henry O. Marcy, President in 1892, and Dr. James F. Hibberd, President in 1894, have been received, and will now be formally presented to the Association by gentlemen who have been selected for this purpose.

Presentation of Portrait of Dr. Paul F. Eve.

Dr. Lewis S. McMurtry, Louisville, Ky., said:

Mr. President: It has been a custom of our profession since the earliest times to preserve some personal memento of those whose labors have enriched medical science. In the archives of the medical societies of London, Edinburgh, Paris and other centers of medical learning will be found the portraits and papers of the immortals of our profession. It is a

most worthy custom. In our American Hall of Fame it is eminently appropriate that a conspicuous place be conceded to the portrait of Paul F. Eve, of Nashville, Tenn. A great teacher and practitioner of surgery, he advanced the knowledge and molded the practice of the American profession in the middle decades of the nineteenth century. He labored incessantly with tongue, pen and sealpel to enrich the fund of scientific knowledge and to promote its diffusion among American physicians and surgeons. He was modest; he was gentle and kind; he was brave and true, and imbued throughout his career with one earnest purpose—to advance science and mitigate suffering. He was the tenth President of the American Medical Association and presided over its deliberations in 1854. Of his numerous valuable contributions to medical literature, his work entitled "Remarkable Cases in Surgery" will ever remain among the choicest of medical classics. His life was an unbroken series of laborious years. His name and fame are perpetuated in his old home by his two distinguished sons, Drs. Duncan and Paul F. Eve, of Nashville, Tenn., both eminent teachers and practitioners of surgery. [Applause.]

Presentation of Portrait of Dr. Henry O. Marcy.

Dr. W. A. Evans, Chicago, said:

Mr. President, Ladies and Gentlemen: It is proper that, a better organization accomplished, we pause and look back over our career since its somewhat nebulous beginning in this state more than half a century ago. It is not only proper, but wise, for hope, for posterity lies close to pride of ancestry. When the children of Israel looked from the mountains into the promised land they gave some time to the consideration of the way along which they had come. We have been a great, wild, loose force and many master minds have worked to co-ordinate us. Amongst those who have labored to convert these possibilities into potentialities is a certain ex-President, born in New England in 1837. Whilst he was born in New England, he was also born of New England. The race finding incentive to do in the difficulties that the land presented, such environment has taught them that no opposition is insurmountable. He has found more than the usual lot of opposition; it has only served to goad his endeavor. A great scientist, yet a good citizen; a forceful organizer, yet a human man, and a Christian gentleman; one wishes to say to him as said Ruth to Naomi: "Whither thou goest, I will go; thy people shall be my people, and thy God my God."

Ladies and gentlemen, in behalf of his family and friends, I present you this portrait of your President in 1892, Henry O. Marcy, of Boston. [Applause.]

Dr. Marcy, being present, was called for, and made one of his happy speeches.

Presentation of Portrait of Dr. Hibberd.

Dr. Charles A. L. Reed, Cincinnati, spoke as follows in presenting the portrait of Dr. James F. Hibberd:

The task that has been imposed upon me by your Committee is exceedingly agreeable, because it gives me an opportunity to speak, not only of a venerable and venerated friend, but one who must be accepted as the highest type of our profession—a general practitioner. He came of a worthy lineage and in his veins courses the blood of a meek people, who, landing on the shores of the Delaware, said to the red man: "Peace to thee and thine." It was well on to a century ago that he was born; it was in 1816, in the historic county of Frederick in Maryland. And when he attained his youth he was sent down the Potomac to the beautiful city of Alexandria, there to study under the shadow of the Capitol and amid scenes hallowed by footprints of patriots. Thence, a little later, he for a year strolled beneath the elms and breathed deeply the academic atmosphere of old Yale; and before the century had run half its course he won his doctorate in medicine from that great institute of learning, the College of Physicians and Surgeons of New York. His professional career began in the great forest, now no more, but that then stretched vast and verdant and ombrous from the Allegheny mountains to the prairies. During the period of his residence in this part of what is now the Middle West, he showed that he was more than a mere doctor by serving three years in the Ohio Legislature. For a year he sailed the high seas, a surgeon on a ship. Then came the Mexican war, followed by the acquisition of California, and we find the young doctor, the young legislator, in the added rôle of the Argonaut. There on the golden strand of the Pacific he is discovered giving his beneficent skill to the hardy pioneer, and with his broad humanity and his great intelligence helping to fashion the splendid society that to-day adorns our western metropolis. After seven years of this experience he returned again to the Middle West and found congenial life where the Friends had gathered from the East and from the South and had built a college and around it a city. But the quietude of this life was soon interrupted by a call to professorial labors in that great institution of learning, the Medical College of Ohio, now the Medical Department of the University of Cincinnati. It was the beginning of the "sixties," and into that lecture room there came a discordant note—it was the first alarm of that fratricidal strife that presently convulsed the country. There was no hesitation. The blood of them that fashioned the Republic now coursed with militant impulses through the veins of the Quaker. The office, the lecture room, home itself were deserted for the long march, the bivouac, the hospital, the field of carnage—for Stone River and Murfreesborough, and there gave of his own blood to the vicarious offering on the altar of Liberty and Union. But when peace again came with its blessings, the doctor, the legislator, the Argonaut, the traveler, the soldier, returned to the quiet pursuits of his profession, only to be rewarded by the organized profession of the great state of Massachusetts with a prize for an essay. It was on "The Part Taken by Nature and Time in the Cure of Disease," and in diction and research and advanced thought it was worthy a Sydenham and a Hilton.

But the doctor was still something more than a doctor; he was the leading citizen of his city, over whose interest he was elected to preside as chief executor and guardian of those about him; he protected them by administering the health laws of his state within his county for the long period of eighteen years. But in the midst of all he went to the societies and wrote articles able and strong. The University of his state, seeing his work, invested him with the Doctorate of Laws, and then, nine years ago, this Association, the organized body of the profession he yet honors and loves, laid its laurel wreath upon his brow. There was a certain charm in the fact that after more than forty years the humble Argonaut of '49 should return to the Golden Gate laden with the most conspicuous honors of his profession. And now, in the enjoyment of a peaceful old age, with faculties all alert, this father—no, this elder brother of ours, sends his greetings to a reunited profession. I now have the pleasure of lifting the veil from the portrait of James Farquhar Hibberd, of Richmond, Ind. [Applause.]

Dr. William A. Evans moved that the portraits be received and the committee continued. Carried.

Thursday, June 12, 7:30 p. m.—Third Meeting.

Dr. J. M. Emmert, Atlantic, Iowa, delivered the Oration on State Medicine. A vote of thanks was extended to Dr. Emmert for his address.

Friday, June 13, 12 m.—Fourth Meeting.

The General Meeting was called to order by the President.

The Secretary presented a summary of the proceedings of the House of Delegates, including the officers elected for the ensuing year.

The next business in order was the installation of officers. The retiring President, Dr. Wyeth, said: "The King is dead; long live the King! I introduce to you your new President, Dr. Frank Billings of Chicago." [Applause.]

Dr. Billings, in accepting the Presidency, said:

I can not express in words my feelings at this moment. I would that words could express what my heart feels! I have had conferred upon me what I consider the greatest honor in the gift of the medical fraternity of America. There is no greater body of men and women than the members of the American Medical Association, and to be chosen President of such an organization should be the fulfillment of the ambition of any man. Again, this position has been held by some of the most eminent men of this country. When one follows these eminent men, it must be a source of pride, and it is to me.

The reorganization of this Association, which occurred last year, has had its successful beginning at this meeting, and the success of this meeting is due, in great measure, to the earnest work done by him who has preceded me. He has set a pace, a mark, for me to follow. Without your help I can do nothing. With it I can carry on, with the aid of the great men in this Association, much. I therefore bespeak your help. [Applause.]

Dr. Foshay offered the following:

Resolved, That when we adjourn this meeting, we adjourn to meet in the library room, 103 State Street, Chicago, Monday, June 16, at 5 p. m.

Resolved, That at such adjourned session no business shall be transacted excepting ratification of the work heretofore done.

On motion the resolutions were adopted.

Adjourned.

Societies.

COMING MEETINGS.

Medical Society of New Jersey, Atlantic City, June 24-26, 1902.
Washington State Medical Society, Tacoma, June 24-26, 1902.
Michigan State Medical Society, Port Huron, June 26-27, 1902.
Medical Association of Nevada, Virginia City, July 7, 1902.
American Ophthalmological Society, New London, Conn., July 16, 1902.

Caldwell County (Mo.) Medical Society.—The physicians of the county met at Kingston, June 2, and organized a medical society, with Dr. Benjamin F. Carr, Polo, president, and Dr. William Shouse, Kingston, secretary.

Albert Lea District Medical Society.—The third annual meeting of this Society was held in Albert Lea, Minn., May 20. The following officers were elected: Dr. Albert C. Wedge, Albert Lea, Minn., president; Drs. Peter H. Vesterborg, Forest City, Iowa, William L. Palmer, Glenville, Minn., and Ferdinand A. Christensen, Lake Mills, Iowa, vice-presidents; Dr. Hamilton H. Wilcox, Albert Lea, Minn., secretary, and Dr. John P. von Berg, Albert Lea, Minn., treasurer.

Chickasaw Medical Association.—This Association, at its fifth semi-annual session at Ardmore, I. T., May 22, elected Dr. James W. Gilbert, Roff, president; Drs. John R. Runyan, Ada, H. P. Wilson, Wynnewood, and John W. Smith, Ardmore, vice-presidents, and Dr. Edgar E. Chivers, Earl, secretary and treasurer, and discussed the recent act of the Chickasaw legislature requiring all physicians of this nation to be examined before a medical board appointed by the governor, and for such examination to pay a fee of $25, but action was deferred until the legality of the law could be inquired into. Wynnewood was selected as the next place of meeting.

Arizona Medical Association.—The tenth annual meeting of this Association was held in Tucson, May 28 and 29, under the presidency of Dr. Hiram W. Fenner of that city. The following officers were elected: Dr. William Duffield, Phoenix, president; Drs. William V. Whitmore, Tucson, Arthur W. Olcott, Tucson, and Logan D. Dameron, Phoenix, vice-presidents; Dr. Charles H. Jones, Tempe, secretary, and Dr. William N. Bell, Wickenburg, treasurer. The Association will meet next year in Phoenix. It has adopted the rules and by-laws of the American Medical Association, making eligible to membership all regular physicians who do not classify themselves under creeds. The tendency in this Association is to unify the practice of medicine.

Association of Surgeons of the Southern Railway Company.—The seventh annual meeting of this Association was held in Washington, D. C., June 5, 6 and 7, Dr. Thomas H. Hancock, Atlanta, Ga., in the chair. In his address, the president advocated a strict physical examination of every employe of the road and asserted that a mere examination of employes for color blindness and deafness was not sufficient, but that every muscle and organ of each man should be subjected to a thorough inspection. The following officers were elected: Dr. Rhett Goode, Mobile, Ala., president; Drs. T. P. MacMahan, Illinois, and Matthew W. O'Brien, Alexandria, Va., vice-presidents, and Dr. J. J. Harrison, London, Tenn., secretary and treasurer. The next convention will be held in Old Point Comfort, Va., in June, 1903.

American Laryngological, Rhinological and Otological Society.—The eighth annual meeting of this Society was held in Washington, D. C., June 2, 3 and 4. The opening session was held at the Cosmos Club, when an address of welcome was delivered by Surgeon-General George M. Sternberg of the U. S. Army. In his presidential address Dr. Charles W. Richardson, Washington, deplored the superficial preparation of many young men who begin the practice of specialties, and urged that the fellows of the Society do all in their power to encourage the thorough education of persons who are to take up some specialty. He said that general practice is the best possible preparation for men who desire to specialize, and deplored the tendency of young physicians to take up some special branch of medicine or surgery before they have acquainted themselves thoroughly with general practice. The election of officers resulted as follows: Dr. Joseph A. Stucky, Lexington, Ky., president; Drs. Marshall R. Ward, Pittsburg, Pa.; Lewis C. Cline, Indianapolis, Ind.; Dunbar Roy, Atlanta, Ga., and Patrick F. Gildea, Colorado Springs, Colo., vice-presidents and chairmen of sections; Dr. Wendell C. Phillips, New York City, secretary, and Dr. Ewing W. Day, Pittsburg, Pa., treasurer. The next meeting will be held in Lexington, Ky. The Society was received by President Roosevelt on the afternoon of June 3, and the annual banquet was held at the New Willard on the evening of the same day.

AMERICAN ACADEMY OF MEDICINE.

Twenty-Seventh Annual Meeting, held at Saratoga Springs, N. Y., June 7 and 9, 1902.

The President, Dr. V. C. Vaughan, Ann Arbor, Mich., in the Chair.

Medical Licensure.

A proposition to amend the constitution whereby the payment of the sum of $20 at one time would free a member from the payment of any subsequent annual dues was carried.

DR. EDWARD JACKSON submitted the report of the Committee on the Investigation of Reciprocity in Medical Licensure, which is identical with the report of a similar committee to the American Medical Association given in this issue. This report was referred to the council.

The report of the secretary on the "Results of the Examinations for Medical Licensure for 1901," which was next given, was a tabulation of the examinations before the various state boards of medical examiners arranged in each state by colleges showing the number passing and the number failing in each college, and under each college showing the number of graduates of that college passing or failing in each state.

"The Personal Equation in Marking Examination Papers," by Dr. Charles McIntire, gave some facts to determine the validity of objections to reciprocity. A series of questions, with their answers, selected at random and from students of various systems of practice, were submitted to a number of examiners. The paper tabulates the results of the markings.

DR. VAUGHAN said that it was gratifying that the markings by the state examining boards and the colleges were so close. Much was heard of the charge that the state boards are more exacting and try to cut down the number of those entitled to practice medicine on the "trades union" line, but here was shown a tabulation showing that the marks of the state boards were fully as liberal as those of the colleges.

Alcohol Not a Food.

The afternoon session was opened by the paper of Dr. Knopf of New York on "The Family Physician of the Past, Present and Future." The paper incidentally referred to alcohol, and a warm discussion arose as to whether it was to be considered a food.

MR. TAYLOR, of the Board of Regents of New York, said that in a recent discussion the views of Professor Atwater of Wesleyan University were diametrically opposed to those of Mrs. Hunt, a leader of the Women's Christian Temperance Union, and he desired to know the judgment of the academy.

DR. DIDAMA said he had been present at the discussion referred to by Mr. Taylor. The majority of those who favored Professor Atwater's views were teachers who felt that they had already too many studies to teach, and did not want to add to them the teaching of temperance and physiology. Professor Atwater's statements had been answered by Mrs. Hunt. Quotations had been made from some of the most prominent authorities from abroad and Professor Atwater had gone away with the opinion of the people against him—except some of the teachers who wanted to teach less and some who themselves wanted to drink.

DR. W. S. HALL said the whole matter rested on the definition of a food. If we define a food as a substance which is oxidized within the body, then there is nothing more to say about it. Because a substance possesses characteristics similar to another substance, it is not justifiable to conclude that it is to be classed with that other substance. It is not until we take into consideration the whole influence of alcohol that we see the many reasons why it should not be classed as a food.

This discussion led to a resolution by Dr. Cross that in the opinion of the academy alcohol should not be classified among alimentary substances. The report of the council on Monday was that the question, not being one of medical sociology, did not lie within the province of the academy and that it be laid on the table.

The Physician as an Accountant.

DR. C. M. CULVER of Albany read this paper and said that if the physician's bookkeeping were carefully done there would be more ability to press toward the real aim of his high calling. Slovenliness in bookkeeping was almost as unpardonable as the same quality in linen.

"Pure Science vs. Applied Science in Medicine" was read by Dr. Winfield S. Hall of Chicago.

Combined Liberal Arts Medicine Course.

The report of the Committee on Time Allowance in the Combined College and Medical Course was given by Dr. A. L. Benedict of Buffalo, with statistics gathered from the schools of the country.

Concerning the resolution of Dr. Winfield S. Hall that it is the opinion of the academy that the combined collegiate and medical course should occupy seven years, the council on Monday recommended the adoption of the following resolution: "That it is the sense of the academy that an adjustment can be made between bacca-laureate and medical courses by which the course could be shortened."

In the evening, the president's address, "The Religion of Science," was given by the president, Victor C. Vaughan of Ann Arbor.

The Medical Profession and Social Reform.

Mr. Edward T. Devine, of the United Charities of New York, read this paper at the Monday session. He believed that physicians should take that part of the general public which had shown an interest in social welfare increasingly into their confidence, and should welcome more emphatically than heretofore the co-operation of the public press, of charitable agencies and public officials, including those who from any point touch officially the living conditions of the masses—clergymen, employers, labor leaders and many others.

DR. DANIEL R. BROWER of Chicago, in the discussion, said that he had been for a number of years an advocate of public lectures by physicians on matters pertaining to sanitary science and, from time to time, as opportunity presented, he had had interviews with newspaper reporters and had otherwise given information on common topics pertaining to the question of preventive medicine, and he did not feel that this was in violation of the code of ethics.

DR. H. A. TOMLINSON, of St. Peter, Minnesota, thought it took a long time for the profession to learn that nothing in the way of reform in regard to social conduct could result, except in so far as the public opinion was educated and demanded it. From his own experience Dr. Tomlinson could not speak with any confidence as to the advantage of newspapers as proper mediums for the dissemination of knowledge on matters of hygiene. He was sure that no one would ever induce him under any circumstances to say a word to a newspaper reporter. He had never known a newspaper report of any medical or sanitary undertaking to be other than the most absolutely contorted and twisted production possible. That which was the most trivial was made the most important and that which was the very essence was entirely ignored.

DR. WALTER L. PYLE of Philadelphia thought the newspaper the most valuable means of dissemination of medicine and hygiene, but he did not think this was best accomplished by a personal interview filtered through the pen of the reporter; rather, that the newspaper should have a medical editor who shall edit or pass censure upon medical matters of direct interest to the public.

DR. P. MAXWELL FOSHAY of Cleveland advocated medical societies having a committee on public health which should consider epidemics when they are present, and other matters of importance and that the results of these considerations shall be published over the name of the medical committee of such and such a medical society. In that way the objection of professional advertising is entirely eliminated and matters pertaining to health are brought into contact with the public in general.

DR. ROSA ENGLEMANN of Chicago believed that a very great amount of good would be wrought by the introduction of these subjects into the public schools by people fitted for the purpose; that children in the schools should be taught something of the communicability and prevention of disease. Through them this knowledge would reach parents.

DR. W. S. HALL of Chicago spoke of numerous "mothers' clubs" in Chicago which medical men were invited to address; he thought no physician was justified in setting aside such invitations.

The Political Side of Medicine.

DR. JOHN B. ROBERTS had come gradually to believe that for a doctor to neglect personal attention to civic and political problems is selfish and unjustifiable. The man of education, brains and capability owes a certain part of his day to the community in which he lives and to association with which his personal success and happiness are due. If he does not give it he is not doing his full duty to mankind. The greater the advantages he possesses the greater the call to serve God by serving man. Few men, as a class, have greater personal capacity than physicians. Few, then, owe more to the state. Time, he said, may be required to convince the community that sanitary plumbing, pure water and compulsory vaccination pay. Men of lower ideals may deny that official dishonesty and public indecency sap the vigor of a village or town and inevitably lead not only to higher taxes, but also to diminished personal safety. It may not be clear to all his fellows that widespread education of the young and systematic beautification of towns and cities attract desirable residents, raise the value of property and increase the happiness of all.

The belief was entertained that the American Medical Association would exert a more potent influence than it has in state and national politics, as since its reorganization it is much better fitted to make its wants known and to have its advice sought and heeded. Its Committee on National Legislation, which meets yearly at Washington, was mentioned as an instrument of increasing competency.

The Monday afternoon session was opened by the reading of the paper of Dr. D. C. Hawley of Burlington, on "The Relation of the Physician to Politics."

Compensation for Medical Services Rendered the State.

DR. T. D. DAVIS of Pittsburg believed there was no reason for the inadequacy of pay except that physicians underrate their own services. There is no remedy except through the profession itself.

Medical Representation in Hospital Management.

DR. AUGUSTUS A. ESHNER of Philadelphia said that the physician is by reason of his training, his attainments, position and his relations with others, especially fitted for hospital management. Medical representation on hospital boards can be given (1) by electing one or more members of the staff to membership on the board; (2) by periodic conferences between the staff and the board; (3) by conferences between a committee of the staff and the board or a committee of the board.

DR. P. MAXWELL FOSHAY believed that the physician could take an active part in a portion of politics with benefit to himself, the profession and the community. The damage which comes from entering politics comes, he said, from the motives with which one enters.

DR. ESHNER assented to Dr. Roberts' proposition in that a medical man is first a citizen and secondarily a physician; and, that inasmuch as the administration of civic affairs constitutes an important phase of politics, it seemed to him that it was the bounden duty of the physician to participate in these affairs, and therefore, to participate in politics.

May Hospitals Steal?

DR. P. MAXWELL FOSHAY of Cleveland in this paper related an instance of a hospital surgeon innocently operating without charge on an employe of a large corporation whose surgeon had offered to do the work for a good fee. Employing corporations, he said, were learning to reduce fees by putting employes in hospital wards where physicians give their services free of charge, thus robbing the profession of some income. He believed it was suicidal to allow the custom to go unchecked. Hospitals should adopt adequate means for rigidly investigat-

ing the ability to pay fees of those who ask for treatment or medicine or the profession would become thoroughly disorganized.

"Good Vision as a Factor in the Educational Process" was the title of a paper read by Dr. S. D. Risley.

State Aid for Medical Schools and Hospitals.

DR. CHARLES MCINTIRE of Easton in this paper gave in tabulated form a statement of the custom of each state in making appropriations for hospitals and medical schools.

Children in Cities.

DR. ROSA ENGLEMANN of Chicago spoke of the children of the poor in cities as of paramount interest, since the submerged fourth (not tenth) live "below the poverty line." Children of the poor, America's future citizens, unless given full opportunity for moral, physical and mental development will become a menace to the integrity of the state. Need of industrial education to fit for useful and lucrative service was urged. School assembly halls as civic and social centers eventually would care for neighborhood wants, such as public baths and small parks.

New Officers.

The Nominating Committee reported the following nominations which were adopted unanimously: President, Charles McIntire, Easton; vice-presidents, William R. White, Providence, R. I.; George Dock, Ann Arbor; Rosa Englemann, Chicago; and D. C. Hawley, Burlington, Vt.; secretary, A. R. Craig, Columbia; treasurer, Edgar M. Green, Easton; assistant secretary, John S. Davis, University of Virginia.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-seventh Annual Meeting, held at Atlantic City, N. J., May 27-29, 1902.

(Continued from p. 1590.)

President, Seth C. Gordon, M.D., Portland, Maine, in the Chair.

Non-Operative Treatment of Retrodisplacements.

DR. F. H. DAVENPORT, Boston, read a paper with this title, taking up three points: First, the methods of non-operative treatment; second, the indications for their employment, and, third, the results.

The only important method of non-operative treatment is that by pessary. Twenty-five years ago it was practically the only method, and for that reason it was developed to a remarkable degree, not only as regards the variety of displacements, but also the numerous forms of pessaries devised for their relief. Massage, electricity and general tonic treatment can not properly be called methods, but are merely adjuncts. The choice, then, lies between treatment by operation and that by pessary. With the development of surgical procedures, that by supports was thrown into the background and neglected. There are cases, however, which are well adapted to the pessary treatment. Such are, first, cases of simple retroverted uterus without complication, which have presumably lasted only a short time; second, retroversion following childbirth; third, cases complicating neurasthenia as a result, where operation is inadvisable until the patient's health is built up.

The pessary treatment is not applicable to cases in young girls where local treatment of any kind is inadvisable, to cases complicated with lacerations, or to cases of long-standing, where secondary changes in the circulation of the uterus have followed. Many of these which should be operated on refuse operation and choose the pessary. What, then, are the chances of cure? The author's own statistics have shown that of all cases treated by pessary, about one-third are cured either anatomically or symptomatically by the use of a pessary for from one to two years. In selected cases the showing would be far better. Such success, however, presupposes close study of the case, care in the selection of the pessary and constant supervision while it is worn.

The only displacements which need correction are prolapse and retrodisplacements, and the latter may be usually corrected by one of two varieties of pessaries, the Langford and the Albert Smith. The treatment by pessary, therefore, while it should be scientific, is simple.

The Alexander Operation.

DR. CLEMENT CLEVELAND, New York, in a paper on this subject described the Alexander operation in detail. Although usually performed for retrodeviations of the uterus, he has found it useful in the cure of forward displacements. The selection of cases, however, is very important. In cases where adhesions exist, it is better to follow some of the other methods or resort to the vaginal route. In cases where the Alexander operation is not indicated, he prefers the operation devised by Dougal Bissell, and styled by him "internal shortening of the round and broad ligaments," with which the writer has had many good results.

To obtain the best results from the Alexander operation, a pessary should be worn before, and for two months after, the operation. It is also advisable that the patient should wear one for a few months after confinement. The patient should be kept in bed for three weeks after the operation, and the dressings should be changed daily. The main point in the performance of this operation is to reach the external ring with a clean cut from the surface. To a beginner the great stumbling-block is the mistaking the superficial fascia for the aponeurosis of the external oblique. The Doctor believes that by including in the first suture the pouch of the peritoneum or infundibuliform process, it not only strengthens the attachments of the ligaments, but adds to the support of the uterus. Sterilized iron-dyed silk is recommended to hold the ligaments.

Hernia, as a result of this operation, is rare, and when met is due either to faulty technic or suppuration. The chief causes of failure are, 1, suppuration in the wounds, and 2, the too tightly tying of the ligament sutures.

In comparison with other methods, the writer prefers the Alexander operation for an uncomplicated case of displacement. In his opinion, the vaginal method of operation should be confined to women who have borne children.

Suspension of the Uterus.

DR. HUNTER ROBB, Cleveland, Ohio, in speaking of the advantages, disadvantages and results of suspension of the uterus, insisted that suspension and fixation are not interchangeable terms, the latter procedure being always undesirable. Before we are able to speak with certainty as to the results we must have more accurate data, which can only be obtained by a more rigid classification and a subsequent analysis of sufficiently larger series of, 1, uncomplicated cases of malposition; 2, those cases of malposition in which other pathologic conditions are present, but in which the malposition is the indication for operation; 3, those cases in which the suspension is only a supplementary operation.

Robb believes that in suspension we have a method of permanently relieving a large percentage of patients suffering from obstinate retroflexion. Difficulties in future pregnancies are mainly the result of fixation operations and not of suspension. Hernias, adhesions and localized or general sepsis are due to faulty technic and should not occur.

Intra-Abdominal Shortening of the Round Ligaments per Vaginam for the Cure of Retrodisplacements.

In a paper with this title, DR. J. RIDDLE GOFFE, New York, said that gynecologists are uniformly agreed that the ligament which serves the most important functions in supporting the uterus is the sling of tissue reaching from the promontory of the sacrum, known as the utero-sacral ligaments, to the posterior wall of the cervix, plus the utero-vesical ligament reaching from the anterior wall of the uterus to the symphysis pubis. This is reënforced by the cellular tissue and ligamentous structure in the base of the broad ligament. So long as the utero-sacral ligaments retain their proper tone and length, swinging the cervix high in the hollow of the sacrum, retroversion of the uterus is impossible. It is for some malign influence affecting the utero-sacral ligaments, therefore, that we must look for the cause of retrodisplacements of the uterus, and it is consequently to the repair or the recovery of function

in the utero-sacral ligaments that we must look for restoration to normal condition. Unless the indirect result of any operation for maintaining the uterus in its normal position is to enable the utero-sacral ligaments to involute and recover their tone and sustaining power, that operation becomes a failure. That this can be secured by direct operative procedure upon the utero-sacral ligaments themselves, he is convinced from experience.

The next most favorable tissue to utilize for this purpose is the round ligament. This is attested by the results secured by many operators upon the round ligament in various ways. Alexander and others have demonstrated that the round ligaments, when shortened at the external abdominal ring, are efficient in maintaining the uterus in its normal position when applied to cases of retrodisplacement uncomplicated by inflammatory process. Olshausen has shown that the round ligaments when caught up near to the uterus and attached at the edges of the abdominal incision are efficient and satisfactory in restoring the uterus to its normal position. Wylie, Mann, and many of their followers have had complete satisfaction in simply doubling the round ligaments upon themselves and stitching them in that position through an abdominal incision. Duhrssen, Wertheim and Vineberg have presented most conclusive statistics bearing upon the entire efficiency of shortening the round ligaments through the vaginal incision by catching them up near the horns of the uterus and stitching them to the anterior vaginal wall. The same German operators, Duhrssen, Wertheim, etc., and in this country Byford and the essayist attest to the equal efficiency of operating through the anterior vaginal fornix, and doubling the ligaments on themselves in accordance with the Wylie-Mann suggestion. He had not found a method which had given him such universal satisfaction as this. He reported 130 cases that he had subjected to this procedure during the past sixteen years, and he knew of only three failures, and these were due to some departure from the regular procedure in which a modification was attempted. Among these cases ten are known to have become pregnant and eight have gone to full term, the pregnancies resulting most comfortably and satisfactorily, the uterus retaining its proper position thereafter. Of the miscarriages, one was in a syphilitic negress, and in the other the cause could not be learned.

The superiority of this method over others depends, therefore, upon the general question of the value of the vaginal route of attack over the abdominal route, and the incomparably wider field of application as compared with the Alexander operation.

Among his cases he finds six of congenital retroversion in young, unmarried women, whose ages ranged from 19 to 27 years. In these cases, although the vagina was small and the hymen intact in all of them, he was able to perform this operation and effect a complete cure in all.

Operation on the Utero-Sacral Ligaments in the Treatment of Retroversion.

DR. J. WESLEY BOVEE, Washington, D. C., said that the first operation for shortening the utero-sacral ligaments through the vagina was done by him June 28, 1897, and since that time he has had seven other cases, all successful. By the abdominal route he began shortening these ligaments Feb. 21, 1900, and since then on three other ocasions has the operation been done.

The method of shortening these ligaments through the vagina, as he has planned and practiced it, is to place the patient in the extreme lithotomy or Simon's position, and with a self-retaining perineal retractor in place, the posterior lip of the cervix is grasped with a vulsellum forceps and drawn forward. An antero-posterior incision is made through all the structures of the posterior vaginal fornix, except the peritoneum, and extending approximately from the cervix to the rectum. By careful dissection the ligaments are brought plainly into view. Then, grasping one of them with a forceps midway between the extreme points to be united and lessening the traction on the cervix at the same time, the fold of the ligament is brought down into the vagina; then a curved needle, armed with kangaroo tendon, is passed through the ligament at the extreme points noted and another through the loop thus formed and through the posterior portion of the cervix below the insertion of the ligaments. When the other ligament has been treated in a similar manner, the two deep sutures are tied, and then the others. The wound is now spread well open and the two ends of it approximated by a continuous kangaroo tendon suture. When the wound is closed it appears to have been originally a transverse one. Sometimes he has modified it by separation of the anterior vaginal wall from the uterus and converting the wound into a longitudinal one or by transplanting the wall higher on to the uterus. When adhesions have been thought to exist in the retro-uterine space, the cul-de-sac has been entered and the adhesions separated. In all instances he has shortened the round ligaments through the anterior fornix.

By the abdominal route the plan he has followed is to use the Trendelenburg position, remove the intestine and omentum from the pelvis, and by the use of a special long retractor hold the uterus and appendages well forward and upward. Then, tracing the utero-sacral ligaments with the fingers to properly locate them, a longitudinal incision is made through the peritoneum near the inner margin of one of them. The ligament is then partially dissected loose and is treated much as by the vaginal route. The peritoneum is closed by a purse-string suture, or by the plan of closing the vaginal wound. The other side is treated similarly and the abdomen closed. He has in a few instances shortened the round ligaments at the same sitting. The results of the various operations for shortening the utero-sacral ligaments were given.

As to the advantages of the operation, the extraperitoneal shortening of these ligaments, with the adjoining portion of the vaginal wall, is practically devoid of danger, and is frequently indicated. The abdominal route is less frequently required. Yet, with the abdomen opened, perhaps for some other purpose, shortening of these ligaments would be very little extra risk to the patient, or an extra tax upon the part of the surgeon. It does not have the same conditions incident to ventrosuspension and ventrofixation which are considered by some as real dangers, and it is supporting nature's supports to this important reproductive organ.

A Further Contribution to the Study and Practical Significance of Lactation Atrophy of the Uterus.

DR. HIRAM N. VINEBERG, New York, read this paper. Although the writer six years ago drew the attention of the profession to lactation atrophy the subject has not yet received the consideration that it deserves, as is evidenced by the literature and the recent text-books on obstetrics. It is a physiologic process accompanying lactation, with or without amenorrhea, the atrophy or superinvolution being temporary only, the return to the normal size being in some cases dependent upon the cessation of lactation. In others, again, the regeneration of the uterine tissue occurs while lactation is still going on. It is not to be confounded with what is commonly known in this country as hyperinvolution, which is usually permanent in its character, although in some rare cases it terminates in this form. While the author has seen during his ten years' service at the dispensary over five hundred cases of lactation atrophy, he has not met with more than twenty cases of permanent hyperinvolution.

When the atrophy is slight and is manifest only by a thinning of the uterine walls, it is known as "eccentric atrophy," when it is more marked, as is evidenced by a marked diminution in the size of the uterus, the term "concentric atrophy" is employed.

The cervix usually participates in the atrophic process, but the ovaries do not, as a rule. The hyperinvolution or atrophy is fully established between the eighth and twelfth week, and persists for a variable period in different nursing women, its persistence usually being dependent upon the continuance of lactation. Anemia does not play an important rôle in the causation of the condition, as has been stated by some writers, notably Engström. The author had the blood examined in a series of cases and he found that the degree of atrophy bore no relation to the diminished number of red blood cells and to the

lowered percentage of hemoglobin. Cases with the smallest uteri had the highest number of red blood cells and the highest percentage of hemoglobin.

Hyperinvolution may occur independently of lactation, as shown by Hansen and P. Müller. Most writers hitherto have concerned themselves chiefly in showing that lactation atrophy is not an injurious condition, and that it seldom leads to permanent atrophy. But the writer drew attention to its decidedly beneficial effects upon the uterus in bringing about a normal hyperinvolution. Women, therefore, who nurse their babies are rarely the victims of subinvolution, with its usual sequel, chronic metritis, one of the most unsatisfactory and rebellious conditions to treat. When, as is usually the case among the better classes, the mother is unable or disinclined to nurse her baby, it is the duty of the attending obstetrician to keep the parturient under observation and treatment until nearly the same degree of hyperinvolution is established as obtains in lactation. This period will seldom be less than eight weeks and frequently will extend to three months. Unfortunately, the importance of this desideratum is very generally not recognized. The accoucheur rarely considers it necessary to examine the parturient after the second or third week.

In concluding, the writer drew attention to a peculiar circumstance, that in the class of women from whom he draws his material in dispensary practice uterine cancer is exceedingly rare. From the fifteen hundred to sixteen hundred new patients he sees yearly, not more than one or two are the victims of cancer of the uterus. One would expect almost the opposite if improper attendance during the puerperium and lacerations of the cervix play any rôle in the causation of that dread disease. He asks the question whether the circumstance that these women are shielded, in a great measure, against the occurrence of chronic metritis, renders them less susceptible to the development of uterine cancer?

President's Address.

This was delivered by Dr. Seth C. Gordon, Portland, Me., on "The Relation of the Gynecologist, Obstetrician and General Surgeon." He said it was the custom of late years to say that gynecology had passed its usefulness, and had become merged into general surgery, and that there no longer existed the necessity for attempting to prolong the life of this hopelessly-doomed department of medicine. With this proposition he took issue, and maintained that until modern obstetrics approached more nearly to the ideal standard, there would be a large field for the gynecologist proper. Scientific gynecology had its birth in America, and was founded by Marion Sims. No gynecologic surgery prior to his day had made any impression on surgical practice that had endured until the present time. That which the keen, brilliant genius of a Sims made possible, the intelligent, patient, practical common sense of an Emmet made probable to every afflicted one of womankind. The field was wide and from all parts of the country came the sufferers from childbed injuries, many of which were due to faulty obstetric work of that day. Among the causes were long-delayed use of the forceps, careless and needless use of forceps, a disregard of the accidents occurring, and a total lack of aseptic precautions during the progress of labor. From the first came vesico-vaginal fistula; while from the second came lacerations of the uterus and perineum, many of which could have been remedied had the accoucheur regarded them at all, and treated them according to the best-known surgical principles. The great fault lay in entirely ignoring such accidents.

There were many faults yet to be overcome in the practice of obstetrics before the millenium shall dawn for the gynecologist. While public institutions are doing good work in eliminating germ diseases, and bringing the mortality almost to the vanishing point, much missionary work needs be done among professional men in private practice.

The criticisms he offered were: 1. The too early use of the forceps. When the pendulum began to swing from rarely using the forceps, it went to the opposite extreme, using them far too often. A very large majority of cases will, if left alone, terminate naturally. 2. Cases of accidents occurring in labor are not properly repaired at the time.

The fashion of late seems to be to prohibit antiseptic douches after labor. While it may be necessary in normal labors, with no accidents, lacerations should be kept surgically clean, and it can be done only by frequent irrigation and germicides. Surgical cleanliness on the part of the accoucheur and patient from the beginning of labor until convalescence, insure safety to one and duty well performed on the part of the other.

As an additional safeguard against laceration of the perineum, he believes the timely use of anesthetics invaluable. It prevents the use on the part of the patient of the voluntary muscles, which do much to cause this accident. His preference as an anesthetic is the A. C. E. mixture, given only during pains. It acts promptly, and does not excite the patient.

Post-partum hemorrhage is not due to the use of an anesthetic, but to the carelessness of the attendant. A steady, careful, persistent manipulation of the uterine tumor during the expulsion of the child and placenta, and continued until firm contraction is produced, insures safety in almost every case. His own experience fully justifies him in making the assertion that a strict observance or adherence to this rule will nearly always prevent post-partum hemorrhage.

Modern methods of Cesarean section had given such good results in diminishing mortality, that the barbarism of craniotomy had practically ceased, and the morbidity which furnished such abundant gynecologic material had correspondingly decreased. This great progress was practically due to anesthesia, asepsis and improved technic, and for this credit should be given to gynecologists who had perfected the operative details of abdominal section, made possible by the discovery of anesthetics and clean surgery.

Laceration of the cervix, especially of long-standing, was not always an indication for trachelorrhaphy, destruction or extreme atrophy of tissue of the cervix being a decided contraindication to the operation. Thousands of women suffered much more after trachelorrhaphy than before. The cervical canal was closed too much, drainage prevented, and often infection developed in the uterus and tubes, and the last condition was much worse than the first. Emmet never taught such gynecology as that. He did not even teach that all lacerations of the cervix required an operation. On the contrary, he believed that many of them did not require any interference, simply because they were not producing any morbid symptoms. The tendency had been too much in the direction contrary to Emmet's teaching, with the result that gynecology had been brought into disrepute. Many symptoms attributed to laceration of the cervix had been found to be due to disease of the other pelvic organs.

The plastic operation of perineorrhaphy, so often done by the general practitioner, to say nothing of the general surgeon, was far too often apologetic, when compared with the work of Emmet, Thomas, Marcy and others throughout the country.

The best work for malignant disease of the pelvic organs had been done by gynecologists. Probably no man could show better results in the way of relief and even cure of cancer of the uterus than Dr. John Byrne. Whether hysterectomy in any stage of the disease was to be the ideal method was by no means well settled. He believed that a more careful examination and more close observation of women under the care of physicians would detect malignant disease in its earlier stages, at a period when hysterectomy might be the ideal operation.

Much yet remained to be done with plastic operations about the vagina, not only in relation to prolapsed uteri, but for vesicocele, and diseases of the urethra, especially that of caruncle. Incisions into the posterior cul-de-sac for acute inflammatory attacks, whether attended with pus or not, well deserve the attention of the gynecologist. While this was one of the early gynecologic operations for pelvic abscess, without reference to ulterior results, it was now well known that thousands of women could be saved from long and painful illnesses and subsequent hysterectomy by the timely common-sense application of the surgical principle of removing the products of inflammation as soon as formed.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Turpentine in Parasitic Skin Diseases.

Dr. L. Leven, according to *Merck's Archives*, employs applications of oil of turpentine in the treatment of pityriasis versicolor and tinea tonsurans. In the first affection a cotton pledget is soaked in turpentine and vigorously rubbed on the diseased skin. This should be done once daily. If the lesions are extensive, only small areas should be thus treated at each sitting. For the second disease the author recommends the use of compresses soaked in turpentine and applied to the affected areas morning and evening. The good results show themselves in a very short time.

Treatment of Gastric Ulcer.

The following treatment of gastric ulcer recommended by Pariser, appearing in *Med. Standard*, consists in absolute rest in bed as most essential in the treatment. He also recommends a mixture of chalk and talcum, with or without magnesia in place of the bismuth. He finds this mixture fully as effective as bismuth. It forms an aseptic crust over the ulcer. The patient drinks two ounces in a glass of water on an empty stomach and then lies quietly on his back for forty-five minutes.

[The position of the patient is of importance, as the great majority of gastric ulcers occur on the posterior wall.]

Abortive Treatment of Gonorrhea.

Influenced by the belief that there must be some period in the beginning of an attack of gonorrhea when gonococci lie so superficially that it is possible to destroy them by means of chemical substances without injury to the urethral mucous membrane, Dr. A. Blaschko[1] has for a long time applied himself to the problem of the abortive treatment of the disease. Only those cases are available for such treatment in which the inflammation of the urethra has not existed for more than three days, in which the discharge is not yet abundant and the inflammatory reaction on the part of the urethral mucous membrane is not marked. If viscid pus can be expressed from the urethra and if the mucous membrane is markedly sensitive to the stream of urine, abortive treatment should not be undertaken. The cases most suitable for abortive treatment are those in which a few days after infectious intercourse the patient is conscious in the morning of a sense of tickling or a slightly painful sensation in the urethra and then consults the physician. Serous, turbid or mucoid secretion, perhaps containing a few flocculi of pus, can be expressed from the urethra. Microscopically, numerous pus-corpuscles and epithelial cells are present, with few gonococci and these largely free. Later, the epithelial cells diminish and the pus-corpuscles increase in number and the gonococci are principally contained within the latter. The condition described appears, as a rule, from four to seven days after infection. Cases are to be excluded from abortive treatment in which the morbid process makes such rapid progress that the posterior portion of the urethra is at once involved, as shown by turbidity of the second portion of urine passed in separate glasses. The plan of treatment consisted at first in injecting from 2½ to 3 drams of a 2 per cent. solution of silver nitrate and allowing this to remain for from 20 to 30 seconds, and followed by two syringefuls of sterile water. This procedure is repeated on the second and third days, but with a 0.2 per cent. solution of silver nitrate. The first injection is scarcely, if at all, painful, the subsequent ones but slightly, if at all so, and they are followed by a slight bloody discharge shortly becoming purulent. On the succeeding day pain and discharge will, as a rule, have subsided and in the latter numerous epithelial cells, few pus-corpuscles and scarcely any gonococci will be found. In case of failure to abort the disease the secretion will not subside, or it increases after a few days' diminution. At a later date, protargol in 4 per cent. solution, albargin in 1 or 2 per cent. solution, or a combination of silver and gelatose were employed instead of the silver nitrate, but these were permitted to remain in the urethra from 3 to 5 minutes and the urethra was not subsequently washed out with plain water. The injection of these solutions may be repeated in the strength named or this may be reduced one-half or one-quarter. Success can be hoped for in about 50 per cent. of properly selected cases.

1. Berliner klinische Wochenschrift, May 12, 1902, p. 430.

Medicinal Treatment of Tuberculosis.

While admitting the value of hygienic measures in the treatment of tuberculosis, Professor Errico de Renzi[1] properly contends that medicinal measures should not be neglected. As he points out, there need be no antagonism between the two, but the one should be made supplemental to the other. From this standpoint he discusses ichthyol, ichthoform and sodium salicylate as having rendered him most valuable service.

Ichthyol was employed especially in severe cases. The most pronounced and almost constant effect was amelioration of the bronchial catarrh, as manifested by diminution in expectoration and partial subsidence of râles. In addition there was progressive increase in weight and improvement in the general condition, with increased arterial tension and without unpleasant secondary effects. If possible, large doses should be administered for long periods of time. The drug may be given in pill-form, but it appears to be more efficacious when given in solution. The following formulæ have proved useful:

℞. Ammonii sulpho-ichthyolatis .....ʒvi 25
Syrupi limonis
Syrupi aurantii corticis, āā.....℥iss 50
Alcoholis, 80 per cent.
Aquæ destil., āā.....℥ii 60

M. Sig.: Take one teaspoonful in water three or four times a day.

℞. Ammonii sulpho-ichthyolatis.....ʒvi 25
Aq. destil. .....℥ii 60
Elix. simplicis.....℥vss 165

M. Sig.: One dessertspoonful in a glass of water once or several times daily.

For the first week half a dessertspoonful of the mixture dissolved in half a glass of water was given morning and evening; in the second week this was given four times a day, and so on progressively until from eight to ten dessertspoonfuls were given daily, representing about two drams of ichthyol daily.

Another useful combination is the following:

℞. Ichthyolis .....ʒiiss 10
Syr. simplicis .....ʒv 20
Aq. menth. pip. .....℥iiss 80

M. Sig.: One dessertspoonful in a glass of water in two equal parts.

Generally two dessertspoonfuls may be given at once and the dose be increased daily from two dessertspoonfuls until two drams of ichthyol are taken daily.

Ichthyol may be employed also by inhalation, a bit of cotton saturated with it being introduced into a respirator. It has proved particularly useful in correcting the offensive odor of the sputum.

Ichthoform, a product of the union of ichthyol and formaldehyd, is to be preferred to the former for therapeutic purposes on account of its freedom from taste and odor. It appears in the form of a brownish powder, which is insoluble in ordinary solvents. Its employment is indicated in cases attended with increased elimination of the ethereal sulphates (active intestinal fermentation, coprostasis, ileus, diffuse peritonitis, with intestinal atony or tuberculous enteritis). Ichthoform may be administered in doses of gr. iss (.09) to gr. v (.30) from thrice to six times daily. Its general effects resemble those of ichthyol, an especially beneficial influence being exerted upon the intestinal derangements so common in cases of tuberculosis, flatulence, intestinal pain and diarrhea being controlled. Sodium salicylate may be employed for the relief of fever. It can be given in doses of 15 grains (1 gm.) from four to six times daily, followed by from six to eight ounces of water.

1. Berliner klinische Wochenschrift, May 5, 1902, p. 397.

Medicolegal.

Inspection of Laundries a Proper Health Measure.—The Supreme Court of Louisiana holds, in City of New Orleans vs. Kee, that a city ordinance is a health ordinance and constitutional, its expressed purpose being to maintain cleanliness, and to compel laundrymen to use only clean water for washing clothes, and to prevent the employment of persons who have diseases that are contagious, and to prohibit them from washing the clothes of persons afflicted with any contagious or infectious disease. It says that the control and regulation of the laundry business have generally been held to be vested in municipal corporations. And it holds that a reasonable fee, in this case 25 cents, imposed by the ordinance to pay the inspector for his services may properly be charged to the owner of the business, the inspection being made for the benefit of the business itself, as well as in behalf of the public health.

Communications to Company's Physician Privileged.—In the case before the Court of Appeals of St. Louis, of Haworth vs. the Kansas City Southern Railway Company, it appeared that the party suing, after he had been injured while in the company's employ, was driven to the office of one of its local physicians. The latter examined and dressed the wound, and drove the man to the depot in his own buggy, when he went to the company's hospital at another point. At the trial, the company offered the physician as a witness, and, among other things, counsel asked him what was the result of his examination of the party. This being objected to, counsel offered to prove by the witness that he made an examination of the party suing just after he received his injury; that he made such examination, not as the physician of the party, but as the physician of the company; that the party knew at the time that he was such a physician; and that nothing was discovered but a scalp wound. The witness was permitted to testify that, as the party went away from his office, he did not notice anything wrong about his walking. But the court holds that the judge rightly refused to permit this physician, who attended the party professionally, to testify what he learned while treating him, it being objected to as privileged.

Use and Criticism of Opinions of Medical Experts.—The Supreme Court of California says, in re Blake's estate, that the law was correctly stated in the following instruction given to the jury: "The law recognizes and receives the testimony of duly qualified medical expert witnesses. Such an expert must, of course, be qualified according to law. A mere opportunity afforded for observation will not constitute a person an expert. He must have been educated in the business about which he testifies, or it must be first shown that he has acquired actual skill and scientific knowledge concerning the subject-matter involved. When such experts are, however, duly qualified, the law recognizes and receives their testimony; and, in arriving at a conclusion concerning the issues involved in this cause [a contest of will case where the mental capacity of the testator was challenged], you may take into consideration their testimony, and award to it such value as, in your judgment, it deserves." But the judge went further, and showed the jury that he had a very poor opinion of testimony of this character. The jury was told that it was unsatisfactory, and the reason why it was so. It was further told that it was unreliable, and the reason why it was so. Not only this, but to make assurance doubly sure, it was told that opinions of experts were not entitled to as much weight as facts, and that such opinions based upon the same supposed conditions were often diametrically opposed to each other. This leads the Supreme Court to state that, while the opinion of the judge might have reasons to support it, it was not proper for him to give his opinion to the jury. Neither was it proper for him to give the jury, in the instruction, an argument as to the reasons why such evidence, in his opinion, was unreliable and unsatisfactory. The Code, it says, makes the testimony of physicians admissible in such a case. The jury may determine whether or not the opinion is reliable. The opposite party is given full opportunity to cross examine, and show the reasons upon which the opinion is based. He is further given full opportunity to argue before the jury the credibility of such evidence, and of all evidence, and the jury will thus probably arrive at the truth. There is no law that declares that the testimony of experts is unsatisfactory and unreliable. If so, the law should not allow it to be given in evidence.

Hospital or Trustees Not Liable for Surgeon's Negligence.—The Supreme Court of Michigan holds, in the case of Pepke vs. Grace Hospital and others, that a hospital which is organized and maintained as a charitable institution is not liable for the negligence of its house surgeon in performing an operation. The trustees of the hospital in question it says are laymen. The rules of the hospital provide for a medical board of 25 physicians and surgeons of the city of Detroit, who have charge of all the surgical matters in the hospital. They examine applicants for appointment upon the medical staff, and recommend such appointments to the trustees. The house surgeon charged with malpractice was appointed by the trustees upon the recommendation of the medical board. He was first appointed, after his examination, junior assistant, where he served six months; then senior assistant, where he served another six months. He was a graduate of a medical college of good standing. No complaint whatever was made by any person that he was inexperienced or incompetent. No intimation had ever been made by any one to the trustees that he was incompetent to fill the position. The trustees, who are laymen, the court continues, must naturally leave the competency of their physicians and surgeons to the judgment of those competent to determine such matters, since they are not qualified to make the determination themselves. They performed their full duty toward the patrons of the hospital in appointing a competent board to examine applicants, and in acting upon its report by the appointment of this surgeon. The testimony on the part of the superintendent of the hospital was that, as a surgeon, he was considered one of the most competent young men they ever had in the hospital. As before stated, no charge of incompetency had ever been made against him. The trustees were therefore, the court holds, not negligent in retaining him. Even if this were not a charitable institution, the full duty of the trustees in employing and retaining him was performed. Moreover, there was no evidence of negligence on the part of the surgeon. The family physician of the patient testified that he would have tried to have saved more of the arm which was amputated, but, on cross-examination, admitted that he did not consider it negligent to do what was done, different medical and surgical men of equal experience having different views in such cases; and the sole testimony as to the propriety of attempting to save more of the arm in the amputation rested entirely upon the family physician's testimony. But the court does not think that this testimony was of any probative force to show negligence on the part of the attending surgeons, or to justify the submission of the question of malpractice to the jury.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal, June 7.

1 Cerebral Localization and Brain Function. (To be continued.) L. Harrison Mettler.
2 *The Complications of Phimosis, with Treatment. Frederic Griffith.
3 *Some Considerations on the Hygienic and Prophylactic Treatment of Myopia. Alexander Duane.
4 Gunshot Wounds of the Stomach, with Report of a Case. Paul F. Eve.
5 A Case of Transverse Fracture of the Sternum. Walter J. Robbins.

Philadelphia Medical Journal, June 7.

6 *The Proposed National Examining Board—A Second Paper. William L. Rodman.
7 *Operations upon the "Green Groin." Joseph Price.
8 *A Case of Severed Spinal Cord in Which Myelorrhaphy Was Followed by Partial Return of Function. Francis T. Stewart and Richard H. Harte.
9 *Avulsion of the Scalp, with Report of a Case. W. Troy Bivings.
10 *Two Cases of Progressive Muscular Dystrophy in Brother and Sister. Augustus A. Eshner.

11 Directions to Patients Suffering from Venereal Diseases. Colin L. Begg.

Boston Medical and Surgical Journal, June 5.

12 Cystoscopic Appearances in Non-tubercular Cystitis and Pyelonephritis in Women. (To be continued.) Edgar Garceau.
13 *Some Problems Concerning Venereal Diseases. Marshall H. Bailey.
14 A Case of Meningeal Hemorrhage and Nephritis Supervening upon a Purpuric Diathesis of Twenty-five Years' Duration. Robert T. Edes.
15 A Case of Thrombosis of the Central Vein of the Retina Complicating Carcinoma of the Uterus. Charles J. Aldrich.
16 A Case Mistaken for Phthisis Produced by Half of a Small Dental Plate Lodged in the Right Primary Bronchus. George F. Pope.

Medical News (N. Y.), June 7.

17 *The Advantages of Early Surgical Intervention in Borderland Cases. Roswell Park.
18 *A Review of the Progress of Therapeutics for the Last Twelve Months. Reynold W. Wilcox.
19 The Renal Complications of the Acute Diarrheas of Infancy. John L. Morse.
20 *The Use and Abuse of Digestive Ferments. John C. Hemmeter.
21 *A New Method of Treating the Morphin and Alcohol Habits. H. A. Hare.
22 *The Comparative Physiology of Faith Cures. Pearce Bailey.

American Medicine (Philadelphia), June 7.

23 *On Heredity in Bilateral Cystic Kidney. William Osler.
24 *Prognosis of Pleurisy with Serous Effusion. Richard C. Cabot.
25 *A Preliminary Report on Sterilization of Rubber Gloves, etc., by Formaldehyd Gas, and on the Use of Mild Antiseptics Inside the Gloves. A. Goldspohn.
26 A Case of Meningomyelitis Occurring During Convalescence from Typhoid Fever. Theodore Diller.
27 Notes on the Tests for Gastric Acidity: The Tungstate Method for Combined Chlorids. A. L. Benedict.
28 *Dermatitis Medicamentosa: Report of a Case. J. B. Shelmire.
29 The Work of Jenner and His Most Faithful Disciple, Waterhouse. Wm. M. Welch.
30 Medical Paris. Nicholas Senn.
31 Asiatic Cholera in Manila Richard P. Strong.

Medical Record (N. Y.), June 7.

32 *The Role of Inhibition in the Normal and in Some of the Pathologic Phenomena of Life. S. J. Meltzer.
33 *The Merits of the Various Incisions for Appendicitis. John A. Wyeth.
34 *Report of a Case of Cesarean Section, Followed by Hysterectomy for Impacted Cervical Fibroid and Prolapse of Gangrenous Umbilical Cord in a Septic Woman; Recovery. Abram Brothers.
35 External Speech-Physiology or So-called Lip-Reading. Cora D. Gorton.
36 *A New Method of Operating for Obstinate Cases of Rectovaginal Fistulæ. Hiram N. Vineberg.

Cincinnati Lancet-Clinic, June 7.

37 Slight Deafness. Dudley S. Reynolds.
38 Ectopic Gestation, with Special Reference to Diagnosis. Chauncey D. Palmer.

Pediatrics (N. Y.), June 1.

39 A Case of Hypertrophic Cirrhosis of the Liver. Isaac A. Abt.
40 Degenerative Bulbar Paralysis. Alfred C. Cotton.

International Medical Magazine (N. Y.), May.

41 *On the Indications for Reduction Cures. Carl von Noorden.
42 The Radical Operation for Inguinal Hernia. B. Brindley Eads.
43 The Study of Urine in Young Children. J. Madison Taylor.
44 Urinalysis in Children. Floyd M. Crandall.
45 Urinalysis in Gynecic Surgery. Wilmer Krusen.
46 The Study of the Urine in Genito-Urinary Diseases. H. M. Christian.

Medical Fortnightly (St. Louis), May 26.

47 Medical Knowledge in Japan. Albert S. Ashmead.
48 President's Address, Tri-State Medical Society. John C Murphy.
49 Cataract Operation in the Very Old. Albert B. Hale.
50 A Sporadic Case of Infantile Myxedema Resulting in a Cretinoid Condition. James F. Clarke and William McGrew.
51 Hydrophobia. F. Savary Pearce.

Virginia Medical Semi-Monthly (Richmond), May 23.

52 Union by Primary Intention. Stuart McGuire.
53 Cancer of Eye-Lids Treated by X-Ray. W. L. Kenney.
54 Fibroids of the Uterus and Broad Ligaments. Edwin Ricketts.
55 Puerperal Fevers—From a Surgeon's Standpoint. Emory Lanphear.

Kansas City Medical Index-Lancet, June.

56 Enteroptosis and Pregnancy. Charles D. Aaron.
57 Some Recent Discoveries About Atoms and Their Electric Charges. Lucien I. Blake.
58 Hereditary Dangers and Radical Remedies. J. M. Latta.
59 Address on the Treatment of Pneumonia. C. F. Wainwright.
60 After-Treatment of Operations for Hemorrhoids. J. M. Frankenburger.

Brooklyn Medical Journal, June.

61 The Effect of Modern Educational Methods on the Health of the Pupil. Henry A. Fairbairn.
62 Hematoma of the Ovary. Edwin Ricketts.
63 Faults in Needles and Needle-Holders with Improvement. J. E. Langstaff.
64 Pathologic Conditions Dependent on Fractures Involving the Frontal Sinuses. Russell S. Fowler.
65 Some Phases of Local Anesthesia. Walter C. Wood.

Ophthalmic Record (Chicago), June.

66 *An Additional Case of Amblyopia with Central Color Scotoma and General Defective Color Perception Following the Ingestion of Jamaica Ginger. Swan M. Burnett.
67 The Crossed Cylinder and Its Uses. Mark D. Stevenson.
68 *A New Method of Treatment for Chronic Intraocular Diseases, Such as Atrophy of the Optic Nerve, Choroidal Troubles, etc. S. B. Muncaster.

The Post-Graduate (N. Y.), May.

69 Syphilis of the Cord, with Report of a Case. W. P. Wilkin.
70 The Influence Immigration Has on the Spread and Increase of Trachoma in the United States. A. Edward Davis.
71 Examination of the Blood. Hermann Lenhartz.
72 Clinical Notes. Seneca D. Powell.
73 Carbonic Gas Baths and Douches. A. Rose.

Dominion Medical Monthly (Toronto), May.

74 *A Surgical Procedure for the Relief of Ovarian Tension-Pain. H. Howitt.
75 Clinical Notes from the Use of Urotropin in Pyuria. Frederick Fenton.

Illinois Medical Journal (Springfield), May.

76 Some Observations on the Use of Electricity as a Therapeutic Agent. James C. Gill.
77 Heart Strain; Its Results and Treatment. J. M. G. Carter.
78 Etiology and Prophylaxis of Insanity. Frank H. Jenks.
79 Asthma of Nasal Origin. Its Radical Cure. P. J. H. Farrell.
80 The Condition of the Kidneys, with Regard to the Employment of Diuretics. Arthur R. Elliott.
81 Laceration of the Perineum, and Repair of the Parts. A. C. Ragsdale.

Medical Review of Reviews (N. Y.), May 25.

82 Hip-Joint Disease: The Cause of Its Deformities and Its Proper Mechanical Treatment, with a Description of "Phelps' Lateral Traction Splint." A. M. Phelps.

The Laryngoscope (St. Louis), May.

83 *Deformities of the Bones of the Face and Nose. Eugene S. Talbot.
84 Superumerary Uvula. Joseph Mullen.
85 A New Field of Hearing Chart. Derrick T. Vail.
86 The Nose and Throat in the History of Medicine. (Continued.) Jonathan Wright.
87 Pneumatic Massage in Aural Practice. Edwin Pynchon.
88 *Ichthargan: Its Use in Nose and Throat Diseases. Beaman Douglas.

Proceedings of the Pathological Society of Philadelphia, May.

89 *The Intercommunicability of Human and Bovine Tuberculosis. Mazyck P. Ravenel.
90 Uterus, Gross Specimen and Sections; Also Sections of the Liver, Kidney, and Bladder from a Case of Puerperal Sepsis Due to Mixed Infection by the Cocci of Suppuration and the *Bacillus Coli Communis* and Other Organisms; Also a Preliminary Consideration of a Morbid Process Affecting Unstriped Muscle (Particularly the Elastica), and Not Heretofore Described. W. M. L. Coplin.
91 Multiple Infection by the *Bothriocephalus Latus;* Specimen of Two Entire Worms. Robert N. Willson.

Memphis Medical Monthly, May.

92 Address, Medical Society of the State of Tennessee. Deering J. Roberts.
93 Diphtheria and Diphtheritic Antitoxin as a Specific. O. S. McCown.
94 Fevers of Northeastern Arkansas. F. R. Wheeler.
95 Atresia of the Vagina, with Report of Case. Allen E. Cox.
96 Scarlet Fever. L. A. Yarbrough.
97 A Case of Acute Dementia Following Gunshot Wound. G. B. Gillespie.

Medical Mirror (St. Louis), May.

98 *Some Experiences with Blood Examination. John B. Deaver and Edward Kemp Moore.
99 *The Care of Consumptives in State and Private Sanatoria in Massachusetts. Vincent Y. Bowditch.

New England Medical Monthly (Danbury, Conn.), May.

100 Autobiography of the Late J. Milner Fothergill, M.D., London, Eng. (Continued.)
101 Carbonate of Creosote in Pneumonia. W. H. Thomson.
102 La Grippe. W. B. Parsons.
103 Tripartition in the Study of the Female Pelvis. A. Ernest Gallant.
104 Cholelithiasis, with Clinical Reports. J. W. P. Smithwick.
105 Some Further Experiences with Soluble Silver. A. Dworetzky.

June.

106 Autobiography of the Late J. Milner Fothergill, M.D., London, Eng. (Continued.)
107 Optic Neuritis in the Young, with Report of Five Cases. William Cheatham.
108 Diphtheria. C. B. Newton.
109 Surgical Convalescence, with Report of Blood Count in Twenty Cases. Stuart McGuire.
110 Uricacidemia, Hay Fever and Asthma. Wm. R. Lowman.

Southern Practitioner (Nashville, Tenn.), June.

111 *Bichlorid of Mercury in the Treatment of Smallpox. E. W. Riddings.
112 Malignant Disease of the Rectum. A. B. Cooke.
113 Dysmenorrhea. H. S. Drake.

Georgia Journal of Medicine and Surgery (Savannah), April.

114 Treatment of Acute Puerperal Sepsis from a Surgical Standpoint. Hiram N. Vineberg.
115 The Time for Operation in Appendicitis. A. M. Cartledge.
116 Gonorrheal Rheumatism. J. Douglas Westervelt.

Louisville Monthly Journal of Medicine and Surgery, June.

117 Fibroid Tumors and Pregnancy. Louis Frank.
118 Typhoid Fever. Ben Carlos Frazier.
119 Injuries of the Membrana Tympani. Samuel G. Dabney.

Medical Standard (Chicago), June.

120 Commoner Diseases of the Eye: How to Detect and How to Treat Them. Casey A. Wood and Thomas A. Woodruff.
121 Care of the Stomach and Bowels. A. M. Leonard.
122 Practical Dietetics. A. L. Benedict.
123 Nutrition as Now Understood. E. M. Epstein.
124 A Surgical Clinic. Nicholas Senn.
125 Pain and Its Indications. Edward C. Hill.

Canadian Practitioner and Review, May.

126 Two Cases of Removal of the Gall-Bladder by Finney's Method. Ingersoll Olmsted.
127 Three Cases of Puerperal Septicemia, Treated with Antistreptococcus Serum. K. C. McIlwraith.
128 A Case of Vomiting of Pregnancy. Everett S. Hicks.
129 Complicated Pregnancy Requiring Surgical Interference. T. K. Holmes.

Albany Medical Annals, June.

130 The Influence of the Discovery of the Relation of Bacteria to Disease on the Practice of Medicine Exclusive of Surgery. (To be continued.) H. Judson Lipes.
131 Muscular Anomaly: Complete Absence of the Long Tendon of the Biceps Muscle of the Left Arm. Joseph D. Craig.

---

2. **Phimosis.**—This article points out the probable causes of the condition, which Griffith thinks is rarely congenital, but usually due to irritation occurring after birth. The pathologic consequences are numerous. A large proportion of the cases recover spontaneously. He insists on the importance of early examination of the genitals in both sexes as the analogous condition exists in each, and as far as the nervous symptoms are concerned the results are the same in both. If dilatation is attempted, an important point is not to do it too frequently, as it may produce fissures and scars which defeat the object. The latter part of the article is devoted to the subject of circumcision, its methods, etc. He does not hold it as positively proven that the circumcised are more exempt from venereal diseases than the uncircumcised.

3. **Myopia.**—A recapitulation of Duane's article is given as follows: 1. Making the patient employ the full correction of his myopia all the time and both for distance and near. This is of prime importance in all varieties of myopia, low, medium and high, and, if applied early, may check the progress of the myopia altogether. 2. Proper attention to illumination, the size and legibility of the print, the quality of paper used in the books read, the relative height and disposition of the seat and desk, and the many other factors that have been brought out by the zealous investigators into the subject of school hygiene. These are important but subsidiary matters. 3. In low and medium myopia, moderate restriction of near work, or rather its better distribution, so that it is done mainly by daylight and not for too long at any one time. Furthermore, momentary rest of the eyes at frequent intervals during the work. These rules to be the more strictly enforced, the higher the myopia and the younger the patient. 4. In high myopia with evidences of progress, much more stringent restriction of near work. Open-air work to be encouraged and the adoption of confining and eye-taxing occupations forbidden. 5. In medium and especially in high myopia, plenty of sleep and out-of-door exercise. 6. Re-examination of the patient at frequent intervals (which in the case of high myopia should be very frequent), to determine how much the myopia has increased. If it has increased, the glasses should be increased also up to the full strength, and the hygienic regulations above detailed modified accordingly.

6.—This article is in substance the same as the communication in The Journal of June 7, p. 1525.

7. **"Green Groin."**—This is the name that Price gives to the condition that perhaps can be more readily understood under the name of gangrene of the appendix. His article is a strong statement of the surgical side of the case in the treatment of appendicitis. He points out that many cases of appendicitis simulate typhoid, and this is a point that should be borne in mind, especially where the diagnosis is obscure. He urges surgical interference, early, late and at all times and considers the indications exactly the same whether the peritonitis be circumscribed or general. He criticises the imperfect toilet and inefficient operations.

8.—See editorial in this issue, p. 1626.

9. **Avulsion of the Scalp.**—Bivings gives a review of the old literature on the treatment of scalped head, showing the crude methods in early times in this country by boring holes through the skull and obtaining cicatricial tissues by the growths which come through them. He reports and illustrates a case of avulsion, in which skin grafting was performed and emphasizes the following points: 1. The benefit of shaving, thoroughly scrubbing and rendering scalp wounds as aseptic as possible at the first dressing, thereby securing freedom from virulent bacteria and preventing meningitis, cerebritis, etc., by extension per diploic veins. 2. The superiority of the Thiersch method of skin-grafting over all other methods tried. 3. The fact that skin-grafts taken from the body of the patient grow far better than grafts from the skin of other people. 4. The error of always attributing in surgical work a rise in temperature to wound infection, and to suggest a thorough physical examination for some existing complication.

10.—See abstract in The Journal, xxxvii, p. 927.

13. **Venereal Diseases.**—Bailey reviews what has been done to check the progress of venereal diseases, holding that regulation is a failure and that education of the public is required so that measures preventing the marriage of those who are infected may become the rule. He thinks no one should allow a daughter to marry without a clear medical record on the part of the intended husband.

17. **Early Surgical Intervention.**—Park's article is a plea for early operative surgery in cases which may require it more obviously later, cancer for instance. He claims that well-founded suspicion justifies operation for its determination and relief. The danger of procrastination is, he holds, far greater than that of early operation. Other disorders mentioned are epilepsy, in which he thinks much good can be done by surgery on the brain if taken sufficiently early. Most operations done for this cause are done too late to be of use. Meningitis is another disease which may be profitably operated on in many cases, and lumbar puncture is a measure which has not come into sufficient favor with physicians. He advocates the early use of antitoxin in tetanus by the intracerebral method and speaks also of the surgical treatment of nervous gland disease, tuberculosis of the cervical glands, pulmonary disease and gangrene, empyema, pericardial effusion, liver abscess, tumors, pancreatic disease, splenic disorders, kidney affections, gastric and intestinal cancer and other growths, tuberculous peritonitis, etc.

18. **Review of the Progress of Therapeutics.**—This article is too elaborate to be abstracted.

20. **Digestive Ferments.**—Hemmeter remarks on the irrational use of various digestive ferments which are usually prescribed in the shotgun way against the target labeled dyspepsia. The substances may be considered as by-products of the large packing houses, are widely advertised and are prescribed often for this reason where they can do no good, but may often do harm. We should not attempt to coddle the stomach and prevent it doing its own work by pouring pepsin or hydrochloric acid into it. It is best not to do the work for it. As regards pepsin, of which many preparations are now on the market, some of them having very little value, he holds it is prescribed only too often, and he has ceased to use it himself. Pancreatin is another sometimes active preparation, which spoils, however, and loses its digestive power with age. It should not be used with pepsin, as it is destroyed in the gastric juice. There is but one distinct indication for its use, and that is permanent deficiency or complete absence of HCl enzyme formation of the stomach. He speaks in conclusion of pankreon, the last addition to the ferments, which has some advantages in cases of gastric achylia and chronic atrophic gastritis and intestinal atrophy.

The chief guiding line for all rational employment of all agents designed to aid the digestive processes should be careful examination of the stools. If possible, the disorder should be treated without any ferment whatsoever, and this is practicable in most cases. It is only in the rare combinations of intestinal disease with gastric atrophy that the use of such a ferment as pankreon seems rational on theoretical grounds.

21. **Drug Habits.**—Hare refers to a former communication by Dr. Lott of Cameron, Texas, which was published in the *Therapeutic Gazette* of February, 1902, and abstracted in THE JOURNAL of March 22, ¶144, p. 793, in regard to the use of hyoscin in the treatment of the alcohol and drug habits. He has himself since tried the plan in six cases which gave extraordinary results from the following points of view: 1. The patients can take massive doses for days at a time, as much as one-fourth of a grain each day with no bad effects on any of the vital functions. 2. They suffered very little if at all from the immediate withdrawal of morphin. 3. The desire for the drug was largely if not entirely dissipated after a few doses. He details several of his cases and remarks on the extraordinary fact that such large doses of hyoscin can be taken in these conditions, and says that Dr. Lott deserves a great amount of credit for his courage in carrying out this treatment. It has been so successful in Hare's hands that he will adopt it in the future. While the few cases in his experience do not justify advising the treatment as universally applicable, the results obtained seem to justify the communication.

22. **Faith Cures.**—Bailey attributes the prevalence of faith cures to the existence of a class of defective persons in whom the subconscious self predominates and that it indicates a tendency which Loeb calls tropism, an automatism unguided by intellectual control. Practically these adherents of faith cures are of a lower type, a defective one. He thinks there is no use antagonizing them; these delusions should be given the widest possible latitude to kill themselves. Crazes of all sorts are self limited and self-destructive.

23. **Bilateral Cystic Kidney.**—Osler reports a case in which the patient's mother died of the same disease and refers to other instances in the literature noted by Morris, Bar and Borelius.

24. **Pleurisy.**—Cabot has studied the outcome of cases of pleurisy where there was reason to believe serous effusion existed, but where there was no evidence of tuberculosis either in the lung or elsewhere. The questions sought to be solved were what chances these patients would have to become tuberculous later, and if so, what would be the average progress of the case? Also the problem of permanent and complete recovery and the length of time after which the patient can consider himself free from the danger of contracting tuberculosis. He followed up 152 cases of pleural effusion by letter and personal observation out of a total number sought for of about 300. From his statistics he is led to the following conclusions: 1. Eighty per cent. of the patients, having uncomplicated serous pleurisy, who have been followed for five years or more are in good health. (More than half of these have been followed for ten years or more.) 2. Ninety per cent. are apparently in full health at the end of from two to five years—that is, the pleurisy has no immediate connection with any other affection. 3. Fifteen per cent. of the patients sooner or later developed demonstrable tuberculosis of lung or bone. But in only 3 per cent. has this tuberculosis manifested itself within two years of the date of pleural effusion. 4. The type of tuberculosis which occurred in these cases was, as a rule, mild and of slow course. Death did not occur until five years or more after the pleurisy in one-half of the 23 patients who developed obvious tuberculosis. Six of the 23 are still alive, in despite of the tuberculosis, after periods of 10, 9, 6, 4, 2 and 1 years. 5. Nevertheless, a very rapid form of tuberculosis may develop many years after the pleurisy—9 years and 16 years respectively in two cases of this series—so that the patient is never safe from the possibility of death from tuberculosis merely because his pleurisy lies 10 or 15 years behind him. 6. A study of the clinical records of the whole group of patients under consideration shows that among those who have remained in perfect health for five years or more only 25 per cent. had any family history or past history of tuberculosis, while of those who have become tuberculous two-thirds had tuberculosis in their immediate family, or in their own past history. A careful history, therefore, is of great importance in the prognosis of pleural effusion. On the other hand, the physical signs during the course and convalescence of the pleurisy were not markedly different in the group of cases in which tuberculosis later developed from the signs in those who have remained well. 7. Recurrence of the pleurisy itself in patients who have recovered from the original attack occurred in only five cases, or 3 per cent. of this series. Reaccumulation of the fluid immediately after tapping is rare, occurring in only two cases, or 1.3 per cent. 8. Among the 14 patients who, after recovering from the pleurisy, died of some other disease, not one developed any disease which could reasonably be considered a result of the pleurisy—the causes of death were alcoholism, hepatic cancer, dysentery, pulmonary embolism, mitral stenosis, aortic regurgitation, chronic nephritis (3), cerebral hemorrhage, measles, pneumonia (3). 9. Finally, he would call attention to the fact that he has made no attempt to discover what percentage of this whole group of cases is due to tuberculosis. So far as his statistics go the cases may be all of tuberculous origin. What his figures do tend to prove is, that whether pleurisy means tuberculosis or not, the outlook is bright provided no family history of tuberculosis clouds it. If pleurisy means tuberculosis, it is a very mild form of tuberculosis, and one from which recovery is usually complete under proper treatment. Even if the lungs are attacked later the type of the disease is unusually mild. He remarks in conclusion that the data in regard to fatal cases are much more easily gathered than those of persons alive and well, who are readily lost from sight.

25.—See abstract in THE JOURNAL, xxxvii, p. 850.

28. **Mercurial Dermatitis.**—The case reported by Shelmire was one of very serious erythematous eruption produced by the ingestion of mercury, a cause which has been questioned by some authorities. He reviews the opinions to some extent, which seem to support the possibility of such occurrence and consequently reports his case.

32. **Inhibition.**—Meltzer's article discusses the phenomena of inhibition, which he believes has the same extent as irritability and is, like it, a vital process. He thus formulates the general biologic law of irritability. All the living tissues are irritable, that is, they respond to stimulation with a vital reaction. This reaction can be either the manifestations of their specific activity, and we shall henceforth term it excitation, or it can be an inhibition of an existing activity. Rest, he says, is as much a vital manifestation as activity. His discussion of the subject is elaborate, showing the rôle of inhibition and applying his theories to pathologic states as well as normal. To be appreciated, however, the article must be read.

33. **Appendicitis.**—Wyeth employs two incisions in appendicitis, the "gridiron" or McBurney incision, and the "clean-cut" through all the tissues from the skin into the peritoneal cavity. The former should be selected when the conditions permit. As he practices it, it is done as follows: A cut through the skin, at least three and oftentimes four inches in length, is made, and this, while parallel with the linea semilunaris, is made nearer the iliac spine, so that immediately beneath the cut through the skin the transverse fibers of the internal oblique and the transversalis muscles may be encountered. If the incision is made over the linea semilunaris, the separation of the muscular bundles will not give sufficient room, necessitating the division of this fascia, which, in his opinion, should be avoided when possible. When the external oblique aponeurosis is reached it is split in the direction of its fibers, and the edges held apart with retractors. With two dissecting forceps the muscular bundles of the internal oblique and transversalis are next separated down to the peritoneum, and these are strongly retracted with dull instruments. The peritoneum is now in sight and may be incised in any direction, preferably in the direction of the incision through the skin. This peritoneal incision should be about one inch in length. An opening of this

size permits the introduction of one or two fingers, enables the operator to feel and detach, by breaking up any adhesions, and to bring the appendix and a very small portion of the cecum through the opening into the wound where it can be easily held until the mesoappendix is tied off and the organ itself tied with a silk ligature about one-quarter of an inch from the cecum and then removed. He prefers the silk ligature to any other method of treating the stump. He has used it in all of his operations except one, and has no reason to regret using it in any instance. The funnel-shaped stump left beyond the ligature is thoroughly swabbed with pure carbolic acid. He uses a running catgut suture for the peritoneal wound, and loose kangaroo tendon suture for reapproximating the separated muscular bundles of the transversalis and internal oblique; interrupted kangaroo tendon for the external oblique fascia, and silkworm gut sutures for the skin, which completes the technic. He says this incision should be used in all "clean" cases, in those operated upon in the period of quiescence, and in others when the inflammatory and septic processes are limited either within the lumen of the appendix or about its walls, and there is no more than a limited local peritonitis. When there is well-marked abscess and the process has gone far enough to wall-off from the peritoneal cavity the diseased organ and pus which is around it, he does not approve of enucleation of the abscess wall formed by adhesions in such a narrow incision, and it is safer to enlarge the opening and have a free field of operation than run any risk of spreading sepsis. Here an incision shorter than three inches is usually advisable, and it is best simply to incise, puncture and drain the abscess if it is well marked, the operation resolving itself then to simply opening the abscess and supporting the muscle fibers after the McBurney method, and puncture of the peritoneum adherent to the abscess wall. But when a condition of sepsis prevails, such as requires careful operation to prevent general peritonitis, he resorts to the clean through-and-through incision, including the peritoneum. When this is to be made it should be over and parallel with the linea semilunaris, in order to avoid cutting the transversalis and internal oblique muscles through their fibers which retract and leave a weak line of union. The peritoneum is to be sutured with catgut, the aponeurosis of the semilunaris with kangaroo tendon, and the skin incision with silkworm gut or with a single row of sutures of the last-named material, including the skin with the aponeurosis. He calls attention to the error of tying kangaroo sutures so tightly as to destroy the vitality of the muscles as he has sometimes observed. When the gridiron incision is used it may not be necessary to keep the patient in bed as long as when a through-and-through incision is employed, but he thinks it well to keep the patient in a recumbent position for at least three or four weeks after the operation and at least six weeks with a through-and-through incision, not even sitting up. Since he has followed this rule he has not had a single case of ventral hernia even following in some instances extensive incisions.

34. **Cesarean Section.**—The title of this article explains it, but the interesting features of the case are summed up by Brothers as follows: 1. The fact that the woman had spontaneously given birth to three living children, although the tumor must have been of some years' growth. 2. The recovery of the mother after cord and uterine contents had undergone decomposition with resulting maternal sepsis. 3. The mental derangement which showed itself about the ninth day and was evidently the direct result of the operation. 4. The escape of the intestines for several hours after the spontaneous reopening of the wound, without fatally influencing the progress of the case. 5. The desirability in sepsis preceding delivery (in cases requiring Cesarean section) of immediately combining abdominal hysterectomy with Cesarean section. The risk of additional shock is fully met by the advantage of removing from the woman's system the infected uterus. I have, in similar cases, known women to die of subsequent septicemia after the uterus had been emptied through the natural passages. Hence, sepsis preceding delivery offers to me a strong indication for the removal of the uterus either at the time of delivery or shortly afterwards if the septicemia does not rapidly abate.

36. **Rectovaginal Fistulae.**—The method employed by Vineberg in his first case is given by him as follows: 1. Operation on the patient consisting of the usual method of splitting the sphincter, denuding the edges of the fistula and suturing it separately was a failure. It then occurred to him to excise the rectal mucosa to a point beyond the fistula, draw down the mucosa and suture it to the skin as in a Whitehead operation for hemorrhoids. This he accordingly did, and excised about an inch and a half of the rectal mucosa. He then dissected the rectal mucous membrane to fully an inch beyond the cut border, so as to be able to bring it down to the cutaneous border of the anus without undue traction. The mucosa was then sutured to the skin by a number of catgut sutures and with a couple of deep silkworm-gut sutures. Patient made good recovery, having primary union throughout, and has been perfectly free from any rectal symptoms since. He says he thinks an important feature in the success of the method lies in dissection of the rectal mucous membrane beyond the excised portion so as to be able to attach it to the cutaneous margin of the anus without any tension. Failure to do this is the frequent cause of bad results in the Whitehead operation. He intended to publish this operation after first performing it as it was then original with him, but procrastinated, and since then both Dudley and Segond have published cases operating in the same way. To the latter falls the credit of priority, though both Dudley and himself had devised the operation independently.

41. **Reduction Cures.**—The subject of reduction cures for obesity is noticed by von Noorden, who criticises the routine method of treatment of some physicians. Before entering into the treatment of an obese patient, he should first of all decide the question as to whether an actual reduction cure is indicated or whether the treatment should be restricted to the prevention of further fat deposits and to the removal of dangerous and disturbing complications. The physician and patient may differ on the question; reduction cures have become so popular that many patients demand them. They do not ask the doctor whether he considers the cure necessary but just ask for his prescription and directions. It often happens that the patient may expect local treatment when the physician thinks general is demanded, or vice versa. He argues against considering reduction cures as weakening cures, which they should not be if carried on under proper indications and with proper choice of procedure and rapidity.

66. **Methyl Alcohol Amblyopia.**—Burnett reports a case of methyl alcohol amblyopia due to drinking Jamaica ginger, in which he observed central color scotoma, involving all colors except blue in the least affected eye, and the general perception of other colors, except blue, was either absent or not of a normal character. Corresponding with this scotoma for colors there was also a reduction of form sense as shown by the diminished visual acuteness. All these conditions point rather to a neuritis affecting principally the papillo-macular bundles, but at the same time not sparing the others, as shown by the affected color sense all over the whole field.

68. **Ophthalmo-Oscillator.**—Muncaster calls attention to an instrument devised by Dr. Henry F. Garey under this name as affording a method of treatment of chronic intraocular diseases, such as nerve atrophy, choroidal troubles, etc. The method consists of causing an oscillation of the eye forward and backward, and its application is adapted to each individual case. This oscillation is produced in such a way that the forward movement of the eye is made by intermitting vacuums produced in the cup, which is placed over the eye, and the backward movement by the eye being pulled back by the elasticity of the tissues to which it is attached. The oscillation of the eye produced in this manner causes an alternate stretching and relaxation of the nerves attached to its posterior portion, powerfully stimulating increased nutrition and light perception. He reports cases in which this has been used to advantage.

74. **Ovarian Tension Pain.**—Howitt considers that many cases of severe ovarian pain are due to overgrowth of the cortical region or the capsule of the ovary and that relief can

be obtained by conservative operation. He thinks that in order to make such an operation justifiable the pain and general disorder should be disabling. The surgeon, as a rule, should be able to satisfy himself by examination that the ovaries are somewhat enlarged, more or less rounded in shape, tense and abnormally sensitive. There should be a history of aggravation of the symptoms before or during menstruation or from anything that excited ovulation. The operation which he has performed consists in exposing the ovary guarded by a sterile sponge or gauze and making a number of cross cuts through the dense capsule in such a manner as to divide it into small islands not more than a square line in depth. The tension is manifested by the way in which the first incision gaps. All the cysts are opened, those larger than a grape are enucleated, while the cavities of the smaller are merely touched with pure carbolic acid. In his practice when the capsule is thick he shaves off one or two rows from end to end of the organ and then from side to side, thus exposing a cross of denuded tissue, but not removing any portion of the normal ovarian tissue. At the completion of the procedure the organ is not only reduced in size and weight but also regains its size and shape. Hemorrhage has never been troublesome, nor have adhesions given rise to complications. The relief of the pain and the worrying reflex has been very satisfactory. He briefly reports two cases out of the 14 in all for which he has advantageously operated.

83. **Deformities of the Bones of the Face and Nose.**—Talbot discusses the subject elaborately and holds that traumatism can not be taken as the common or exclusive cause of septal deformity, and criticises other theories. He thinks the findings in normal vaults and jaws conclusively disprove the theory that high vaults and contracted arches are the cause of septal deviation.

88. **Ichthargan.**—This material, which is a compound of silver and ichthyol and chemically known as silver-thio-hydrocarbo-sulphonate, is readily soluble in water, glycerin and dilute alcohol, but insoluble in absolute alcohol, ether and chloroform. It should be kept in colored bottles. It is precipitated by sodium chlorid and albumin, but the latter precipitate is redissolved by an excess. It contains 30 per cent. of silver and 15 per cent. of sulphur, both in organic combination with the bases from the ichthyol sulphonic acid. It is, therefore, the strongest of all the silver compounds. Douglas quotes experiments by Aufrecht as to its penetrating and bactericidal power and its comparatively non-toxic action. Aufrecht took 3/10 of a grain of ichthargan in three successive doses, and on the fourth day one-half a grain without unpleasant effects. For nose and throat work it must be used in preparations from 1/50 to 1/10, 1/20 being suitable for general use. He finds it of value as an anesthetic, antiseptic, antiphlogistic, stimulant, alterant, and as a modifier of nasal secretion. The anesthetic effect is not very marked. The antiseptic effects are plainly shown in its deodorizing properties, and as an antiphlogistic it has an important action on the respiratory mucous membrane, first producing anemia, followed by no reaction unless very strong solutions are used, and tolerance may be established by continuous use. As a stimulant it acts as an alterant, producing more healthy circulation, diminished congestion and lessening exudation and probably acts directly on the cell protoplasm itself. In modifying secretion it seems to act by lessening leucocytosis. He thinks good results can be obtained in atrophic rhinitis, acute catarrhal rhinitis, tonsillitis and inflammation of the lingual tonsil. It can be safely recommended in certain laryngeal affections, such as acute catarrhal laryngitis of adults, in a spray, and in laryngitis sicca and in chronic atrophic trachitis where there is abundance of dry saliva and scales. He reports two cases of atrophic rhinitis where it was used with advantage.

89. This article has appeared elsewhere. See The Journal of June 7, ¶76, p. 1539.

98. **Blood Examination.**—This article was abstracted in The Journal, Vol. xxxvii, p. 1563, and noticed again in the present volume, p. 421, ¶45.

99.—This article has appeared elsewhere. See The Journal of March 29, ¶100, p. 846.

111. **Smallpox.**—Ridings is an advocate of bichlorid of mercury in the treatment of smallpox, applying it in solution of 1 to 250 to 1 to 1000 as a spray to the nose, mouth, eyes and ears, with a saturated solution of boric acid over the eyes. The bichlorid solution is sponged thoroughly also over the whole surface. He agrees with Bibb that when thus applied it is the rational treatment and will prevent itching, foul odors and pitting, and will destroy the virus in the vesicles and pustules, thus rendering the scabs harmless, and reducing the danger of infection to a minimum.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), May 31.

1 *Removal of Prostatic Adenomata. William Thomson.
2 Chronic Hypertrophy of the Prostate; Freyer's Operation; Recovery. John Smyth.
3 *Further Remarks on Myasthenia. William R. Gowers.
4 *Further Remarks on Finsen's Light and X-Ray Treatment in Lupus and Rodent Ulcer. Malcolm Morris and S. Ernest Dore.
5 *The Therapeutic Employment of X-Rays. G. H. Lancashire.
6 The Curative Effect of the X-Rays on Callous Sinuses of the Abdominal Wall. D. Berry Hart.
7 Case of Sarcoma of the Face. Reginald J. Gladstone.
8 *A Plea for the Adoption of a More Accurate and Scientific Method in the Investigation and Treatment of Lateral Curvature of the Spine. Archibald Young.

The Lancet (London), May 31.

9 *The Powers of Natural Resistance or the Personal Factor in Diseases of Microbic Origin. Stephen MacKenzie.
10 Supposed Intestinal Obstruction, Due to a Vascular Lesion. Herbert W. Page.
11 *The Congenital Factor in Hernia. R. Hamilton Russell.
12 Complete Relaxation of the Abdominal Wall Under Anesthetics. J. Blumfeld.
13 Urethral Hemorrhage in Gonorrhea. J. F. Dobson.
14 Remarks on Certain Methods of Physical Diagnosis in Diseases of the Chest. A. G. Auld.
15 Case of Arthritis Accompanying Ophthalmia Neonatorum. C. O. Hawthorne.
16 The Advisability of Preliminary Tracheotomy and Ligature of the External Carotid in Severe Operations About the Face. Charles R. Keyser.
17 Notes on Two Cases of "Ulcerated Sore Throat." Edward C. Bousfeld.
18 Radical Cure of Inguinal Hernia. John O'Conor.
19 A Case of Appendicitis with General Peritonitis; Recovery After Removal of Appendix, Followed by Secondary Incision into the Cecum for Extreme Paralytic Distension. Frank Cole Madden.
20 Observations on Diet. Harry Campbell.

Annales de Dermatologie (Paris), April.

21 Sur la botryomycose humaine. E. Bodin (Rennes).
22 Sur les affections dites parasyphilitiques. Leredde.
23 Sur les leucémides. C. Audry.
24 Les parapsoriasis. L. Brocq.
25 *Diagnostic clin. et histologique de l'ulcus rodens. Dubreuilh.
26 Spoon-Nails. Freche.—Coelonychie.
27 *Year's Experience with Phototherapy. Gastou.—Un an d'application photothérapique de l'appareil Lortet-Genoud.
28 *Les indications et contre-indications de la photothérapie dans le traitement de la tuberculose cutanée depuis Finsen. Leredde and Pautrier.
29 *Iron Lamp for Phototherapy. A. Broca and Chatin.—Appareil photothérapique employant l'arc au fer sans réfrigérants.
30 Troubles trophiques des cheveux. Dubreuilh.
31 Sur les lésions de la séborrhée et en particulier de la séborrhée senile. Audry.
32 Study of Epidermic Cysts. W. Dubreuilh.—Kystes épidermiques. Ibid. C. Audry.
33 *Ignipuncture of Cancer followed by Application of Copper Sulphate or Natural Copper Waters. Moreau (Toulouse).—Traitement du cancer par l'ignipuncture interstitielle profonde suivie d'application de solutions cuivriques ou eaux cuivriques naturelles.
34 Statistics of Direct Contagion of Alopecia. Hallopeau.—Statistique peladique.

Nouvelle Iconographie de la Salpetriere (Paris), xv, 1.

35 *Contribution clinique à l'étude de la topographie des atrophies musculaires myélopathiques. R. Cestan.
36 Documents iconographiques relatifs aux myopathies. P Marie and others.
37 Sur un nouveau cas d'amytrophie à type Charcot-Marie. F. Soca (Montevideo).
38 De la myotonie atrophique. G. Rossolino (Moscow).

Presse Medicale (Paris), May 17 to 24.

39 (No. 40.) Aseptic Method of Treating Cutaneous Affections. L. V. Leredde.—Traitement des maladies de la peau. La méthode aseptique.
40 *Sutures par Agrafage. P. Desfosses.
41 (No. 41.) *L'arthritisme. Traitement par la thérapeutique oxydante. E. Fiquet.

42 (No. 42.) *Cure radicale de l'hypertrophie de la prostate. Indications de la prostatectomie. J. Albarran.
43 Influence de la régime alimentaire sur la genèse de la lithiase biliaire. E. Dufourth (Vichy).
44 Le nucléinate de fer. J. Dumont.

Revue de Medecine (Paris), May.

46 Bed Treatment of Epileptic Delirium. E. Marandon de Montyel.—Traitement du délire épileptique par l'alitement.
47 Eruptions from Juice of Certain Trees. J. Regnault.—Eruptions et édèmes produits par le suc délétère des arbres à laque.
48 *Rhythmic Jerking of the Head in Persons with an Affection of the Aorta. C. Valentino.—Des secousses rhythmiques de la tête chez les aortiques.
49 Le vertige psychique. N. Vaschide.
50 Autochthonous Dislocation of the Heart. A. Ferrannini (Rome).—Dislocations autochthones du coeur.

Berliner Klin. Wochenschrift, May 5 to 19.

51 (No. 18.) *Medicinal Treatment of Tuberculosis. E. De Renzi (Naples).—Beitrag zur medicamentösen Behandlung der Tuberculose.
52 *Treatment of Sciatica. L. Brieger (Berlin).—Ueber Ischiasbehandlung.
53 *The Antroscope. M. Reichert.—Ueber eine neue Untersuchungsmethode der Oberkieferhöhle mittelst des Antroskops.
54 *Das Problem der Hemiplegie. M. Rothmann. (Concluded from No. 17.)
55 (No. 19.) *Zur Abortivbehandlung der Gonorrhoe. A. Blaschko.
56 Tuberculin in Treatment of Tuberculosis. C. S. Engel (Berlin).—Ueber die Behandlung der Tuberculose mit Tuberculin.
57 Noch einige Erfahrungen ueber Exstirpation der Hypophysis cerebri und ueber Transplantation von Carcinom und Thyroidea auf die Hypophysis. F. F. Friedmann.
58 *Diabetes and Paralysis of the Bladder. C. Posner.—Diabetes insipidus und Blasenlähmung.
59 (No. 20.) New Operation for Conical Cornea. J. Hirschberg.—Eine neue Operation gegen Hornhaut-Kegel.
60 Application of Laws of Physics and Chemistry to Pathology of Stomach. M. Bial (Kissingen).—Ueber die Anwendung physikalisch-chemischer Gesetze auf eine Frage der Magen-Pathologie.
61 Ueber Degenerationsformen von Pneumokokken in pleuritischen Exsudaten. L. Michaelis.

Centralblatt f. Chirurgie (Leipsic), May 31.

62 *Anesthesin in Treatment of Wounds. Lengemann.—Anästhesin in der Wundbehandlung.

Deutsche Med. Wochenschrift (Leipsic), May 29.

63 *Atypical Manifestations in Course of Secondary Syphilis. S. Schoenborn (Heidelberg).—Einige atypische Erscheinungen im Verlaufe sekundärer Syphilis.
64 *Cancer à deux, 2 Fälle, nebst einem beitrage zur Statistik des Carcinoms. Radestock.
65 Ueber Endocarditis. Litten. (Concluded from No. 21.)
66 *Costal Sign of Enteroptosis. B. Stiller (Budapest).—Zur Lehre der Enteroptose und ihres Costalzeichens.
67 *Subkutane Injektionen von Yohimbin. A. Eulenburg.
68 *Superiority of Anesthesin to Cocain. Dunbar.—Anesthesin.

---

1. **Prostatic Adenomata.**—Thomson refers to Freyer's work on the subject and especially mentions the difference of opinion in regard to the capsules of the prostate, pointing out that there are three things which are mentioned under this name: 1. The proper capsule indicated by Freyer, which is a special envelope, belonging to the prostate itself, and, although thin, is firm in texture, and defines clearly the form and limits of the prostate. 2. A layer of thinned prostate which remains in certain cases when a large adenoma is enucleated. 3. This is formed by the normal reflection of recto-vesical fascia. The question as to whether the whole prostate can be removed is also mentioned and he finds the testimony a little perplexing. However, it is not of much particular interest beyond emphasizing the importance of accuracy in the use of the term in the description of the operative procedures. It is not of much matter to the patient whether a complete prostatectomy or removal of the adenomata is performed if the mechanical obstruction is relieved.

3. **Myasthenia.**—Gowers reports another case which is of interest as presenting—like those previously noticed—an ophthalmoplegia, but where the peculiar "nasal smile" was not present. There was also a marked difference between the two sides, especially in the face and hands, and there was some local diminution of electric excitability and slight atrophy of the muscles. The development of epilepsy in this case is also a fact of unusual interest of which he has seen no mention in other recorded cases.

4. **X-Rays.**—Morris and Dore point out the advantages and disadvantages each of the *x*-ray and the Finsen light treatment. The latter is tedious and costly, but they do not consider the *x*-ray an adequate substitute. In the majority of cases the Finsen method is more reliable in lupus or rodent ulcer and apparently gives more permanent results. The effects are more easily controlled and the scars better. They think the therapeutic effect in both is much greater when reaction occurs.

5. **X-Rays.**—Lancashire reviews the effects of the *x*-rays and finds them of special value in hypertrichosis, coccogenic sycosis, lupus and rodent ulcer.

8. **Skoliosometer.**—Young describes an instrument formed to some extent on the von Mikulicz plan but without his special recording instrument, consisting of two limbs graduated on the metrical scale, and fixed by an accurately adjusted central frame exactly at right angles to each other. Both limbs slide freely in the central frame, and each is graduated in both directions from zero at its midpoint. He thinks this apparatus a great advantage in making accurate measurements in case of lateral curvature of the spine, also in chest measurements. He believes that such an instrument as this would be of service, also in craniometric work.

9. **The Personal Factor in Microbic Disease.**—This article by MacKenzie is largely on the same line of thought as that of Howship-Dickinson noticed in a previous issue. MacKenzie speaks particularly of the importance of the soil in cases of tuberculosis as being a matter of which we must take most account. He holds that the microbe is comparatively unimportant of itself, but that it is too great a stretch of truth to say that tuberculosis is one of the more curable diseases. We may arrest tuberculosis under our treatment, but we can not make sure that it will remain inactive. One point, however, to which he calls special attention is the fact that the decrease in the mortality from consumption which has been going on for the last fifty years, not only in Great Britain, but also in other countries where statistical evidence is available, preceded the exact knowledge which we now have of the pathology of tuberculosis and the discovery of the bacilli. This diminution was going on under unfavorable conditions before any effective measures were begun to destroy or disinfect the sputa or separate the sick from the healthy. It has also gone on in spite of the great migration from country to town. There is no doubt that it has been due to measures which have increased the resistance by improved sanitation, better drainage, sewage and better housing, clothing and feeding of the population. He also refers to other diseases, such as rheumatic fever and appendicitis, calling attention to the fact that whether we establish the bacterial nature of rheumatism or not the personal factor will be as important in the future as in the past, and our clinical acquisitions will not be lost. Similarly with appendicitis, which seems on the other hand to be more common, thus reversing the conditions in tuberculosis, there seems to be, as Treves has remarked, not infrequently a family or hereditary tendency. We must bear in mind in all these groups of diseases, he thinks, that the soil as well as the seed is of utmost importance.

11. **Hernia.**—Russell states his belief in regard to hernia, based on his operative experience, which he had strongly enunciated in a previous article as follows: 1. Oblique inguinal hernia is invariably caused by the presence of a congenital sac, which in the vast majority of cases is provided by patency of the whole or a portion of the processus vaginalis. 2. There is no evidence in favor of the view that congenital weakness of the abdominal wall in the inguinal region is a factor in the causation of inguinal hernia. 3. While actual weakness of the abdominal wall in the inguinal region is frequently met and is an occasional cause of recurrence after operation, such weakness is not congenital, but is an acquired weakness due to the existence of a hernia and the use of a truss during a lengthened period. 4. Complete removal of the sac, when performed before the abdominal wall has sustained such damage, will not be followed by recurrence. 5. The causes of recurrence after operation are three in number—viz.: 1, the above-mentioned

acquired weakness; 2, incomplete removal of the sac; 3, traumatism, the result of misguided methods of operating. The arguments on which these are based were published before. He has since seen other cases which nearly double the number, and which have only strengthened his views. Instead of weakness being congenital and hernia the consequence, it is the hernial sac that is congenital and the weakness that is ultimately acquired. He goes into the anatomy and embryology to explain this fact, the details of which can not be reproduced, and applies it not only to inguinal, but to femoral hernia, which, if anything, is the most likely to be the acquired form, according to the usual opinion.

25. **Ulcus Rodens.**—Dubreuilh distinguishes the nodular, the atrophic and the boring type of ulcus rodens. It invariably commences with a nodule. It may ulcerate early or not until after a few months, or may persist indefinitely without ulceration. The nodular variety is therefore merely an ulcus rodens arrested in its early stage.

27. **Years' Experience with Phototherapy.**—Gastou has employed the Lortet-Genoud apparatus for phototherapy in 121 cases of various forms of cutaneous tuberculosis and 25 of other cutaneous affections. This apparatus was described and illustrated in The Journal of July 20, 1901, p. 229. He reports eminently favorable results in a third of the cases of ordinary and erythematous lupus, but in cutaneous tuberculids and in boring lupus only one-sixth of the cases manifested any improvement. Dispensary patients usually wait until lupus is practically incurable before they apply for treatment, and as 40 to 200 sittings are necessary to cure or even improve a case of lupus, it is easy to understand why better results were not obtained with the ordinary class of out-patients. They abandon treatment before positive results have been secured. Only 46 of the 121 patients with cutaneous tuberculosis completed the course. Of these, 11 were cured, 12 partly cured and 7 not benefited, out of 30 with tuberculous lupus. Three were completely and 7 partly cured in 10 cases of erythematous lupus, and 1 completely and 5 partially cured in 6 with cutaneous tuberculids. When the patient applied in the early stages of lupus it was possible to cure him in the course of two months and in the best possible conditions, without pain or the knife.

28. **Indications and Contra-Indications for Phototherapy of Lupus.**—Leredde observes that phototherapy is the only means of treating lupus which realizes the two indispensable conditions of action below the surface, sparing sound tissue and homogeneous action. It does not cure every case, but its failures are rare and are usually due to the consequences of previous methods of treatment. Physicians may try other and simpler measures first, but if the patients are not cured after a few months, phototherapy should be applied. Ablation should be the rule when complete reunion by primary intention can be counted on. Of the 43 cases of severe lupus he has been treating, he reports 8 completely and 7 almost completely cured by the phototherapy. All were cases of long standing and had been treated for years by various means. Fourteen other patients have been cured of one or more patches, and the cure of the rest of the lesions is only a question of a little more time. In two cases marked by exuberant vegetations, the application of potassium permanganate as recommended by Butte aided in reducing the excrescence and cleared the field for the phototherapy. The results of the phototherapy in erythematous lupus were 3 failures, 3 improved and 11 completely cured out of a total of 23 patients treated, while 6 more exhibited a "segmentary cure," that is, one patch was cured. To fully appreciate these results he reviews the previous treatments inflicted upon this group of patients. They include 802 seances of Galvanocauterization, 382 of scarification and 462 of the high frequency current. None of them had had even a single patch cured by any of these measures. The cases which promised to be the most rebellious were sometimes most rapidly cured. He thinks that phototherapy should be pushed until there is formation of cicatrices. It is liable to fail in the vegetating, elephantiasic type of lupus or where there is deep sclerosis, unless the field can be cleared for the action of the light. Phototherapy is contra-indicated in case of lupus of the trunk or limbs which may heal more rapidly under other measures owing to the existence of a plane of hypodermic cleavage which generally prevents the progression of the lesion into the depths. Every case of erythematous lupus should receive energetic treatment from the start. Finsen has demonstrated that the longer it lasts the deeper and more rebellious it becomes. If it still proves obstinate after a course of phototherapy, radiotherapy should be given a trial, and in certain limited regions ablation might be indicated. Scarifications or cauterizations should be carefully avoided during a course of phototherapy as, to mention only one reason, they prevent the penetration of the light.

29. **Iron Lamp for Phototherapy.**—Broca's apparatus is a modification of Bang's which has been mentioned in The Journal. The lamp is constructed to produce as many chemical rays and as few light rays as possible, by using iron for the arc. The contrivance for compressing the part is ingenious. A metal cap fits over the head. It contains an air cushion at the back and has buttons along the edge in front. The compressor is a piece of quartz set in a framework that has projecting strips of metal tape which button on the buttons on the headpiece. When all is in position the air cushion is inflated and the compressor screwed to the proper angle. The compression is perfect by this means.

33. **Ignipuncture of Cancer Followed by Application of Solutions of Copper.**—Moreau reported in 1900 that he had been able to cure 42 cases of cancer of the skin or mucosa with no recurrence for more than three years and he now reports sixty-six additional cases. He uses the finest point of the Paquelin or Galvanocautery for his interstitial ignipunctures, with care to have them especially deep around the edges of the neoplasm. Two days later he rinses and dresses the wound with a 1 per cent. solution of ammoniacal copper sulphate or sprays the wound for a long time twice each day with the natural copper waters of the Trebas springs. The natural copper water seems to be especially beneficial, exerting both a healing and cicatrizing action, while the application is not painful as in case of aristol and potassium chlorate.

35. **Topography of Myelopathic Muscular Atrophy.**—The *Iconographie*, as its name implies, makes a specialty of illustrations of patients. Cestan's and the other articles are accompanied by a wealth of photographs.

40. **Suturing by Means of Clamps.**—The Journal has referred several times to the method of suturing devised by Michel, which consists in placing a row of double-pointed clamps or agrafes along the wound. This article gives illustrations of the "revolver" used to drop the clamps in place, the pincers to squeeze the points closer together, and the forceps to remove them later. It states that a number of surgeons use this method of suturing cutaneous wounds almost exclusively. The skin is not pierced by the points and the clamps leave no trace if properly placed.

41. **Arthritism and Its Treatment by Oxidizing Measures.**—Fiquet explains the arthritic tendency as the result of insufficiency of the phenomena of oxidation which normally occur in the tissues under the influence of the soluble elements which we call oxydases. On account of this lack of sufficient oxidation, the system becomes loaded with the refuse of unoxidated matters which induce gout, lithiasis, obesity, etc. The treatment should aim to promote the processes of oxidation. If an immediate effect is necessary alkaline waters will answer the purpose, but for a more pronounced general effect iron waters are preferable or, better still, a combination of Vichy and some iron water or their equivalents. The best clinical results have been obtained, he states, with iron crenate as a drug or in the waters of Forges-les-Eaux. The properties of crenic acid enhance the efficacy of the iron.

42. **Radical Cure of Hypertrophied Prostate.**—Albarran's long experience has demonstrated to his satisfaction that the contractility of the bladder is not entirely lost in "prostatic patients," and that after removal of the prostate the bladder

regains its contracting power. This has occurred in all of his patients operated on by perineal prostatectomy. He has performed the operation 35 times and has lost but one patient. The latter succumbed to progressive cachexia from bilateral pyelonephritis. The others rapidly recovered, proving the benignity of the intervention. One of the cured patients was 73 years old and had been using the catheter for eleven years. The prostate weighed 230 gm. Albarran's operation is a perineal subcapsular prostatectomy by systematic morcellement. Of the 31 patients operated on by this method and followed to date, 28 are completely cured and 2 are practically cured while one patient requires another operation on account of a persisting fistula. Figures, he adds, can give no idea of the benefit derived. Invalids have been restored to active life and the transformation is complete. He does not operate if there is fever but applies palliative measures until a favorable moment arrives. Infection of the bladder and even general infection of vesical origin may be an indication for this perineal prostatectomy. Eleven of the above patients had stones in the bladder, and the removal of the prostate has prevented further trouble from the stones which previously used to accumulate behind the enlarged gland.

48. **Rhythmic Jerking of the Head in Affections of the Aorta.**—Valentino has observed or collected fourteen cases of insufficiency of the aortic valve or of aneurism of the arch of the aorta, which were distinguished by a rhythmic jerking of the head. This is not a constant sign, but it is so peculiar and striking when it does exist, that it attracts the physician's attention at once, as possibly the first indication of a serious lesion in the cardiac region. All nervous affections must be excluded before the diagnosis is certain.

51. **Medicinal Treatment of Tuberculosis.**—A résumé of this article will appear in the "Therapeutics" column of THE JOURNAL.

52. **Treatment of Sciatica.**—Skillful application of the Scottish douche, hot baths and massage has cured all but one in twenty-four cases of sciatica which Brieger has had occasion to treat. The bath at 100.5 F. should be in a large tub and many movements which are otherwise painful can be performed in the water as the heat soothes the aching parts and relaxes the muscles. Massage immediately after the bath is borne much better, and the final cure is hastened. One of the three patients treated in his institution was cured in forty-six days after a year of sciatica. The second was cured in eleven weeks after eighteen months of sciatica, and the third in thirteen days after two years of the affection. This latter patient was a corpulent woman of 54. She received six Scottish douches and two hot baths of ten minutes each, at 98.5 F. and then two at 104 F. for fifteen minutes. When she left she was able to walk erect without support, and there was scarcely a trace of spontaneous pain, although stretching the knee with the thigh flexed was still slightly painful. The ambulant patients received a Scottish douche and massage two to four times a week. All of the cases were extremely severe and had been previously treated in vain with the entire array of the usual measures. The one case rebellious to these hydrotherapeutic measures and massage confirmed Winternitz's statement that when they fail some complication of the sciatica can be positively assumed.

53. **The Antroscope.**—Reichert treats suppuration in the maxillary sinus by way of the alveole after extracting a tooth. He inserts a hard rubber plug about 7.5 to 8 mm. in diameter and 28 long with a projecting base. This keeps the hole open and allows visual inspection of the cavity by the little instrument he has devised for the purpose, on the principle of the cystoscope. It is about 13 cm. in length and revealed the presence of a tumor or cyst in the three cases in which he has applied it to date.

54. **The Problem of Hemiplegia.**—Rothmann argues to prove that the restitution of active movements in persons affected with hemiplegia is not due to the recuperation of the tracts which have been injured. Restitution of active movements is due to the substitution of other tracts for the injured ones. It is consequently a therapeutic indication of the greatest importance to exercise the paralyzed limbs and practice the muscles of the new routes as soon as possible after the onset of the paralysis. These therapeutic exercises may be effectively supplemented by transplantation of tendons into the paralyzed muscles.

55. **Abortive Treatment of Gonorrhea.**—This article will be reviewed in the "Therapeutics" department of THE JOURNAL.

58. **Diabetes Insipidus and Paralysis of the Bladder.**—Posner describes the case of a man of 48 with polyuria and retention of three-fourths of the urine, which averaged four to six liters a day. Except for a slight cystitis which developed after the catheter was used, he was apparently normal in other respects. The specific gravity of the urine was always below 1005. Posner believes that the trouble was a primary degeneration of the bladder, commencing at the age of 42. It is possible, however, that the paralysis of the bladder is the consequence of distension of the organ by unheeded polyuria. Still another possibility is that both the paralysis and polyuria are the results of some single, unknown cause. But the probabilities are in favor of the assumption that the primary affection was the loss of the nerve impulse warning that the bladder is full and should be emptied. This assumption is sustained by the fact that the patient is constipated to an extent that suggests paresis of the intestinal muscles. In a second patient enuresis was the first symptom noted. Posner, therefore, believes that this ensemble constitutes a new affection, which he designates polyuria with paralysis of the bladder without mechanical cause.

62. **Anesthesin in Treatment of Wounds.**—Lengemann reports that anesthesin has been extensively used at von Mikulicz' clinic and with extremely favorable results. It was principally employed externally as a local anesthetic for granulating surfaces before cauterizing them with the nitrate of silver pencil. It was strewed on the surface as a dry powder and in a few minutes the part had lost its sensitiveness. It was also used to dust painful ulcerating carcinomata, etc., and always with fine results.

63. **Atypical Manifestations in Course of Secondary Syphilis.**—In this communication from Erb's clinic a case is related among others in which it was difficult to decide whether the affection was a recurring exanthem in scarlet fever or a recurring mercurial scarlatiniform erythem.

64. **Conjugal Cancer and Statistics of Cancer.**—Radestock has observed two cases of "cancer à deux." In one case the wife died with cancer of the ovary on a hereditary foundation and seven years afterward the husband, 55 years of age, became affected with cancer of the intestines. In the second case the wife died in consequence of a rapidly developing malignant neoplasm of the esophagus. Three weeks after her death the husband began to complain of similar disturbances and soon died with evidences of a cancer of the esophagus at about the same point. Radestock does not believe in the contagious character of cancer, but admits that this latter case is curious. He has been making an investigation in regard to the occupation of the persons less than 41 years of age who have succumbed to cancer in the last ten years in his district. He found that 49 out of a total of 452 persons dying from cancer—1890 to 1893—were between 30 and 41. Of this number, 17 were men; 10 were workers on iron and 9 of these were affected with carcinoma of the stomach. He also found that 95 out of 846 deaths from cancer reported between 1894 and 1899 were persons of this age, and 13 of the 31 men were workers on iron. Ten of these 13 had been affected with carcinoma of the stomach, 2 of the esophagus and in 1 the site was not mentioned. Another curious fact is that no person employed in the manufacture of textiles could be found in the list of cases of carcinoma under 41.

66. **Costal Sign of Enteroptosis.**—Stiller reiterates his previous statements in regard to the value of the sign of the floating rib for the diagnosis of enteroptosis, nervous dyspepsia and neurasthenia. It enlightens the specialist in stomach dis-

cases as to the nature of the dyspepsia observed and enables him to distinguish between the organic and the functional forms, between the congenital and the acquired tendency. It is a positive sign for the neurologist, and reveals the congenital basis for the dyspeptic form of the neurasthenia. It is a guide for the gynecologist by which he is able to distinguish between genuine enteroptosis and the ptosis induced by purely mechanical causes. It indicates that displacements of the uterus in such cases are only partial manifestations of the general tendency and that this and not the displacement of the uterus is the cause of the nervous-dyspeptic disturbances. The costal sign is also a valuable guide in pediatrics as it warns to use extra exertions to preserve children thus stigmatized from the neurasthenia and nervous dyspepsia to which they are otherwise doomed.

67. **Subcutaneous Injections of Yohimbin.**—Eulenburg has used yohimbin extensively in his practice and states that it has proved invariably successful in curing neurasthenic impotency in his experience. It is more certain and reliable in its action administered in subcutaneous injection.

68. **Anesthesin.**—Dunbar recommends anesthesin which is the ester of para-amido-benzoic acid, as not only a substitute for cocain but as a local anesthetic far surpassing the latter in its effects while it is absolutely non-toxic. He injects into or beneath the skin the following combination: Anesthesin hydrochlorate, .25; sodium chlorate, .15; morphin hydrochlorate .015, and aqua dest., 100. The anesthesia induced is the most perfect that it is possible to conceive, he states, while it persists at its height for more than thirty minutes. The solutions are stable and the favorable way in which wounds heal after its application suggests that it may possess certain antiseptic properties. He recommends it urgently to all surgeons.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

AMERICAN EDITION OF NOTHNAGEL'S ENCYCLOPEDIA. Diphtheria.—By Wm. P. Northrup, M.D., of New York. Measles, Scarlet Fever, and German Measles.—By Professor Dr. Th. von Jurgensen, Professor of Medicine in the University of Tubingen. Edited, with Additions, by William P. Northrup, M.D., Professor of Pediatrics in the University and Bellevue Medical College, New York. Handsome Octavo, 672 Pages, Illustrated, Including 24 Full-page Plates, 3 of Them in Colors. Cloth, $5.00 net; Half Morocco, $6.00 net. Philadelphia and London: W. B. Saunders & Co. 1902.

MINOR SURGERY AND BANDAGING, Including the Treatment of Fractures and Dislocations, the Ligation of Arteries, Amputations, Excisions and Resections, Intestinal Anastomosis, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By Henry R. Wharton, M.D., Professor of Clinical Surgery in the Woman's Medical College of Pennsylvania. Fifth Edition, Enlarged and Thoroughly Revised, with 509 Illustrations. Cloth. Pp. 621. Price, $3.00. Philadelphia and New York: Lea Brothers & Co. 1902.

THE NEUROSES OF THE GENITO-URINARY SYSTEM IN THE MALE, WITH STERILITY AND IMPOTENCE. By Dr. R. Ultzmann, Professor of Genito-Urinary Diseases in the University of Vienna. Second Edition. Revised, with Notes and a Supplementary article on Nervous Impotence, by the translator, Gardner W. Allen, M.D., Surgeon in the Genito-Urinary Department of the Boston Dispensary; Illustrated. Pp. 198. 12mo. Price, Extra Cloth, $1.00 net, Delivered. Philadelphia: F. A. Davis Company. 1902.

A PRACTICAL TREATISE ON SMALLPOX. Illustrated by Colored Photographs from Life. By George Henry Fox, A.M., M.D., Consulting Dermatologist to the Health Department of New York City. With the Collaboration of S. D. Hubbard, M.D., S. Pollitzer, M.D., and J. H. Huddleston, M.D. In Two Parts. Price, $3.00. Philadelphia and London: J. B. Lippincott Co. 1902.

DISEASES OF THE NOSE, PHARYNX, AND EAR. By Henry Gradle, M.D., Professor of Ophthalmology and Otology, Northwestern University Medical School, Chicago. Handsome Octavo of 547 Pages, Profusely Illustrated, Including Two Full-page Plates in Colors. Cloth, $3.50 net. Philadelphia and London: W. B. Saunders & Co. 1902.

THE PRACTITIONER'S MANUAL: A Condensed System of General Medical Diagnosis and Treatment. By Charles Warren Allen, M.D., Consulting Genito-Urinary Surgeon to the City (Charity) Hospital. Second Edition, Revised and Enlarged. Cloth. Pp. 889. Price, $6.00. New York: William Wood & Co. 1902.

PRACTICAL DIETETICS, with Special Reference to Diet in Disease. By W. Gilman Thompson, M.D., Professor of Medicine in the Cornell University Medical College in New York City. Second Edition, Enlarged and Thoroughly Revised. Cloth. Pp. 828. Price, $5.00. New York: D. Appleton & Co. 1902.

A PHYSICIAN'S PRACTICAL GYNECOLOGY. By W. O. Henry, M.D., Omaha, Neb., Professor of Gynecology in the Creighton Medical College. With Five Full-page Illustrations and Sixty-one Illustrations in the Text. Cloth. Pp. 229. Price, $2.00. Lincoln, Neb.: The Review Press. 1902.

A LABORATORY GUIDE IN ELEMENTARY BACTERIOLOGY. By William D Frost, M.S., Instructor in Bacteriology, University of Wisconsin. Illustrated. Second Revised Edition. Cloth. Pp. 355. Price, $1.50. Madison, Wis.: Published by the Author. 1902.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY, Thirteenth Session, Held at Niagara Falls, N. Y., May 27, 28 and 29, 1901. Edited by Walter Lester Carr, M.D. Volume XIII. Cloth. Pp. 294. Reprinted from Archives of Pediatrics. 1901.

FIFTEENTH BIENNIAL REPORT of the Superintendent of the Iowa Hospital for the Insane at Independence to the Board of Control of State Institutions for the Period Ending June 30, 1901. Paper. Pp. 63. Dubuque: Telegraph-Herald. 1902.

A TEXT-BOOK OF INSANITY. By Charles Mercier, M.B., M.R.C.P., F.R.C.S., Lecturer on Insanity at the Westminster Hospital. Cloth. Pp. 222. Price, $1.75. London: Swan Sonnenschein & Co., Ltd. New York: The Macmillan Co. 1902.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Volume XIV. Fourteenth Session, Held at Richmond, Va., Nov. 12, 13 and 14, 1901. Cloth. Pp. 435. Published by the Association. 1902.

MEDICO-CHIRURGICAL TRANSACTIONS. Published by the Royal Medical and Chirurgical Society of London. Volume LXXXIV. (Second Series, Volume LXVI. Cloth. Pp. 564.) London: Longmans, Green & Co. 1901.

A CATALOGUE OF THE OFFICERS AND FELLOWS, of the Massachusetts Medical Society, Honorary, Active and Retired, Borne upon the Rolls. Jan. 1, 1902. Paper. Pp. 142. Boston: Published by the Society.

SECOND ANNUAL REPORT OF THE NATIONAL JEWISH HOSPITALS FOR CONSUMPTIVES, at Denver, Colo., 1901. Paper. Pp. 95.

Queries and Minor Notes.

AMERICAN FORK, UTAH, June 3, 1902.

To the Editor:—In one of the back numbers of THE JOURNAL, I saw that you reported two medical colleges that are recognized which offer a three-years' course instead of four. You would favor me by sending the addresses of those colleges. H. E. R.

ANS.—We know of no medical college of any importance that continues to give degrees after 1902 after only a three-year course. There is but one, the N. C. Medical College, a small institution in a small town, Davidson, N. C., that so far as we know has not announced a change to a four-year course.

New Patents.

Patents of interest to Physicians, etc., May 20 and 27:

700,631. Modified milk and obtaining same. Emil von Dungern, Frankfort-on-the-Main, Germany.
700,528. Inhaler with nasal attachment. George H. Maurer, Washington, D. C.
700,232. Portable inhaling apparatus. Jean Planeur and L. Dutremblay, Paris, France.
700,370. Pill machine. Wm. Rabich, St. Louis.
700,561. Medical cabinet. Winfield S. Rowley and L. B. Freeman, Indianapolis.
701,124. Vaginal syringe. Charles F. Allen, Hueneme, Cal.
701,130. Apparatus for testing the volume of air from the lungs. Michael Benedict, New York City.
700,728. Binaural stethoscope. Robert C. M. Bowles, Boston.
700,733. Pocket spittoon. Richard Buettner, Brooklyn, and X. Marx, New York City.
701,185. Electrotherapeutic apparatus. George W. Euker, Richmond, Va.
700,938. Bandage. Robert W. Johnson, New Brunswick, N. J.
700,939. Surgical absorbent dressing. Robert W. Johnson, New Brunswick, N. J.
700,940. Bandage. Robert W. Johnson, New Brunswick, N. J.
700,783. Galvano-electric therapeutic chain. August Kruger, Stettin, Germany.
701,075. Catheter or the like instrument. Richard P .McCully, Brooklyn.
701,070. Nursing bottle. John W. Minwegen, Chicago.
700,805. Capsule. George H. Paine, Germantown, Pa.
700,806. Manufacture of capsules. George H. Paine, Germantown, Pa.
700,838. Atomizer. Cyrus J. Seltzer, Philadelphia.
700,995. Air-forcing device for atomizers. Charles J. Walz, New York City.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 29 to June 4, 1902, inclusive:

James K. Ashburn, contract surgeon, member of an examining board at Omaha, Neb., vice Lieut.-Col. Charles K. Winne, deputy surgeon-general, relieved.

Wilmont E. Brown, contract surgeon, now at Coolville, Ohio, to duty at Fort Casey, Wash., to relieve Contract Surgeon William M. Hendrickson.

Robert P. Cooke, contract surgeon, now at Jefferson Barracks, Mo., to report for duty at Fort H. G. Wright, N. Y.

Walter Cox, lieutenant and asst.-surgeon, U. S. A., from Washington, D. C., to duty at Fort Banks, Mass.

William D. Crosby, major and surgeon, U. S. A., member of a board at Fort Barrancas, Fla., to examine officers of the Army for promotion.

Thomas Devereux, contract surgeon, now at Minneapolis, Minn., to report for duty at Fort Snelling, Minn.

Haywood S. Hansell, contract surgeon, now at Atlanta, Ga., to report for duty at Fort McPherson, Ga.

Herbert I. Harris, contract surgeon, to duty with troops at Chickamauga Park, Ga.

Philip F. Harvey, lieut.-col. and deputy surgeon-general, relieved from further duty in the Division of the Philippines, to proceed to San Francisco, and report to the Adjutant-General of the Army for further orders. William M. Hendrickson, contract surgeon, on being relieved from duty at Fort Casey, Wash., to return to his home at Wrangel, Alaska, for annulment of contract.

John H. Hess, supervising dental surgeon, to represent the Dental Corps of the Army at the annual meeting of the National Dental Association to be held at Niagara Falls, N. Y., July 26, 1902.

Jefferson R. Kean, major and surgeon, U. S. A., relieved from further duty in the Department of Cuba, to take station in Washington, D. C., until further orders.

Thomas J. Kirkpatrick, captain and asst.-surgeon, U. S. A., member of a board at Fort Barrancas, Fla., to examine officers of the Army for promotion.

Samuel A. Maxwell, contract surgeon, now at Trinidad, Colo., to report for duty at Fort Grant, Ariz.

Charles F. Morse, contract surgeon, now at Montpelier, Vt., to report for duty at Fort Ethan Allen, Vt.

George J. Newgarden, captain and asst.-surgeon, U. S. A., on being relieved from duty at Fort Mason, Cal., to report for transportation to Manila, P. I., for duty in the Division of the Philippines.

Shannon Richmond, captain and asst.-surgeon, Vols., having tendered his resignation, is honorably discharged from the service of the United States, to date from May 31, 1902.

John W. Ross, U. S. Navy, retired, is relieved from duty under the War Department, to take effect June 15, 1902, when he will report in person to the Secretary of the Navy.

Cary R. Snoddy, contract surgeon, now at Nashville, Tenn., to duty at Fort Thomas, Ky.

Henry D. Snyder, captain and asst.-surgeon, U. S. A., to report June 9, 1902, to Colonel Calvin DeWitt, assistant surgeon-general, president of the examining board convened at the Army Medical Museum Building, Washington, D. C., to determine his fitness for promotion.

William Stephenson, major and surgeon, U. S. A., relieved from further duty in the Division of the Philippines, and will proceed to Fort Mason, Cal., to relieve Captain George J. Newgarden, asst.-surgeon, U. S. A.

James S. Wilson, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), relieved from further duty in the Division of the Philippines, and will proceed to San Francisco, and on arrival will telegraph to the Adjutant-General of the Army for orders.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending June 7, 1902:

Medical Inspector E. H. Green, detached from duty as a member of the Medical Examining Board, Washington, and ordered to the *Wisconsin* as fleet surgeon of the Pacific Station.

P. A. Surgeon D. B. Kerr, detached from the Boston Navy Yard, June 5, and ordered to duty with a recruiting party.

Surgeon H. T. Percy, detached from the Naval Recruiting Rendezvous, Philadelphia, Pa., and ordered to the *Indiana*.

Surgeon C. Biddle, detached from the *Indiana*, and ordered to the Naval Recruiting Rendezvous, Philadelphia.

Surgeon John W. Ross, retired, relieved from duty with the War Department in Cuba, to take effect June 15, and to report to the Secretary of the Navy on that date.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the fourteen days ended June 5, 1902:

Surgeon Preston H. Bailhache, leave of absence for five days from May 21, 1902, under paragraph 179 of the regulations. Bureau letter of May 10, 1902, directing Surgeon Bailhache to represent the service at meeting of American Congress of Tuberculosis, at New York City, revoked. Detailed to represent service at meeting of American Medical Association, at Saratoga Springs, N. Y., June 10 to 13.

Surgeon G. W. Stoner, detailed to represent service at meeting of American Congress of Tuberculosis, at New York City, June 2, 3, 4.

Surgeon A. H. Glennan, detailed for duty in office of U. S. Consul-General, at Havana, Cuba.

Surgeon P. M. Carrington, granted leave of absence for fifteen days from June 6, 1902; fifteen days' leave of absence granted by Bureau letter of May 2, 1902, revoked. Detailed to represent service at meeting of American Medical Association, at Saratoga Springs, N. Y., June 10 to 13; upon completion of detail to rejoin station via Washington, D. C.

Surgeon L. L. Williams, detailed to represent service at meeting of Association of Military Surgeons, at Washington, D. C., June 5, 6, 7.

Surgeon G. T. Vaughan, detailed to represent service at meeting of Association of Military Surgeons at Washington D. C., June 5, 6, 7.

Surgeon J. O. Cobb, granted leave of absence for fifteen days from June 6.

P. A. Surgeon Rupert Blue, to proceed to Sheboygan, Wis., for special temporary duty.

P. A. Surgeon J. L. Greene, to proceed to Immigration Depot, New York City, and report to Surgeon R. W. Stoner for temporary duty.

P. A. Surgeon Hill Hastings, to proceed to Cananea, Mexico, for special temporary duty.

Asst.-Surgeon John McMullen, granted five days' extension of leave of absence from May 29.

Asst.-Surgeon H. C. Russell, granted leave of absence for one week from May 24, 1902, under paragraph 181 of the regulations. Granted two weeks' extension of leave of absence from May 30.

Asst.-Surgeon R. H. von Ezdorf, detailed for duty in the Division of the U. S. Consul-General at Havana, Cuba, for duty at Matanzas.

Asst.-Surgeon F. E. Trotter, detailed for duty in the office of U. S. Consul-General, at Havana, Cuba.

A. A. Surgeon F. Duffy, Bureau letter of May 15, granting leave of absence for six days from May 19, amended so that said leave shall be effective May 28.

A. A. Surgeon S. B. Foster granted leave of absence for eight days.

A. A. Surgeon A. W. Slaughter, granted leave of absence for fourteen days from June 1.

A. A. Surgeon W. H. Marsh, granted leave of absence for sixteen days from June 3.

A. A. Surgeon E. L. Stewart, granted leave of absence for thirty days.

Junior Pharmacist W. C. Phillips, granted five days' leave of absence from May 11, 1902, under paragraph 201 of the regulations.

BOARDS CONVENED.

Board convened at New Orleans, La., May 30, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: P. A. Surgeon C. P. Wertenbaker, chairman; Asst.-Surgeon J. W. Schereschewsky, recorder.

Board convened at San Francisco, June 7, 1902, for the physical examination of officers of the Revenue Cutter Service. Detail for the Board: P. A. Surgeon W. G. Stimpson, chairman; P. A. Surgeon H. S. Cumming, recorder.

Board convened at Washington, D. C., June 12, 1902, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Surgeon G. T. Vaughan, chairman; Asst.-Surgeon B. S. Warren, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended June 7, 1902:

SMALLPOX—UNITED STATES.

Colorado: Denver, May 17-24, 7 cases.

Florida: Jacksonville, May 24-31, 1 case.

Illinois: Chicago, May 24-31, 12 cases; Freeport, May 17-24, 4 cases.

Indiana: May 17-24, Indianapolis, 14 cases; Terre Haute, 1 case.

Kansas: Wichita, May 17-24, 5 cases.

Kentucky: Covington, May 24-31, 8 cases.

Louisiana: New Orleans, May 24-31, 2 cases.

Maine: Biddeford, Jan. 1-May 29, 2 cases.

Massachusetts: Boston, May 24-31, 23 cases, 3 deaths; Brockton, May 17-24, 1 case; Cambridge, May 10-31, 12 cases; Everett, May 24-31, 1 case; Lawrence, May 17-24, 2 cases; Malden, May 24-31, 3 cases; Melrose, May 24-31, 2 cases; Newbern, May 24-31, 2 cases.

Missouri: St. Louis, May 18-25, 25 cases.

Montana: Butte, May 18-25, 4 cases.

Nebraska: Omaha, May 17-31, 47 cases.

New Hampshire: Nashua, May 24-31, 2 cases.

New Jersey: Hudson County, including Jersey City, May 18-25, 36 cases, 1 death.

New York: Elmira, May 17-31, 1 case, 1 death; New York, May 24-31, 63 cases, 2 deaths.

Ohio: Cincinnati, May 23-30, 11 cases; Cleveland, May 17-31, 68 cases, 9 deaths; Hamilton, May 24-31, 2 cases; Toledo, May 17-24, 6 cases.

Pennsylvania: Erie, May 17-24, 2 cases; Johnstown, May 24-31, 2 cases; Philadelphia, May 24-31, 9 cases, 5 deaths.

Tennessee: Memphis, May 24-31, 12 cases.

Utah: Salt Lake City, May 17-24, 6 cases.

Vermont: Rutland, April 26-May 31, 13 cases, 1 death.

Washington: Tacoma, May 18-25, 1 case.

Wisconsin: Green Bay, May 18-June 1, 5 cases; Janesville, May 17-24, 2 cases; Milwaukee, May 17-31, 12 cases.

SMALLPOX—FOREIGN.

Austria: Prague, May 3-17, 8 cases.

Belgium: Antwerp, May 3-17, 14 cases, 4 deaths; Brussels, May 10-17, 1 death.

Canada: Halifax, May 17-31, 2 cases, 1 death; Quebec, May 3-24, 34 cases; Winnipeg, May 17-24, 2 cases.

France: Paris, May 10-17, 2 deaths.

Great Britain: Birmingham, May 10-17, 4 cases, 1 death; Glasgow, May 16-23, 4 cases; Liverpool, May 10-17, 1 case; London, May 10-17, 233 cases, 37 deaths.

India: Bombay, April 22-29, 7 deaths.

Italy: Naples, May 10-17, 5 cases.

Mexico: City of Mexico, May 11-25, 1 death; Vera Cruz, May 18-24, 1 case, 3 deaths.

Russia: Moscow, May 3-10, 16 cases, 1 death; Odessa, May 3-17, 15 cases, 3 deaths.

YELLOW FEVER.

Colombia: Panama, May 10, 8 cases, 6 deaths.

Mexico: City of Mexico, May 11-18, 1 death; Vera Cruz, May 18-24, 36 cases, 15 deaths.

CHOLERA—INSULAR.

Philippines: Manila, March 20-April 18, 278 cases, 208 deaths; Bataan Province, March 30-April 18, 241 cases, 166 deaths; Bulacan Province, March 30-April 18, 123 cases, 89 deaths; Camarines Province, March 30-April 18, 204 cases, 113 deaths; Cavite Province, March 30-April 18, 5 cases, 5 deaths; Ilocos Norte Province, March 30-April 18, 1 case, 1 death; Laguna Province, March 30-April 18, 1 case, 1 death; Pampanga Province, March 30-April 18, 29 cases, 30 deaths; Rizal Province, March 30-April 18, 47 cases, 34 deaths.

CHOLERA—FOREIGN.

India: Bombay, April 22-29, 2 deaths.

PLAGUE.

India: Bombay, April 22-29, 520 deaths; Karachi, April 26-May 4, 127 cases, 105 deaths.

The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

Vol. XXXVIII. CHICAGO, SATURDAY, JUNE 28, 1902. No. 26

Original Articles.

A CONTRIBUTION TO THE TREATMENT OF PNEUMONIA WITH ANTIPNEUMOCOCCIC SERUM.*

BRICE W. GOLDSBOROUGH, M.D.
Vice-President Medical and Chirurgical Faculty of Maryland; Chief of Staff United Charities Hospital.
CAMBRIDGE, MD.

One can but feel a very natural hesitation in presenting to this society any views on the treatment of pneumonia, because I very fully realize that the experience of all of us must have been, in the treatment of this grave disease, one of disappointment and, at times, of despair. As for myself, during the past twenty odd years, I have, in my vain endeavor to save the lives of those intrusted to my care and who were the victims of this disease, used nearly all of the many treatments which have been suggested. Each fall I have read the views of my brethren in the great medical centers, have earnestly studied their methods, and with renewed hope and fresh courage I have again entered into the battle with this disease.

Each spring, looking back over the results of these various treatments and endeavoring to be honest with myself, I have been forced to the humiliating conclusion that none of these treatments were satisfactory. Many were saved, but the per cent. of mortality was so great that I was forced to confess that the treatment of this disease could very properly be placed among the opprobria of medicine.

It would be a waste of time to name the various treatments of pneumonia I have used, but if I did so it would at least demonstrate in some degree the spirit of dissatisfaction and unrest which has had possession of me, and, I believe, in a large measure, the whole profession. Where so many radically different treatments are recommended it can be generally said none are entirely satisfactory.

With these treatments, many of them diametrically opposed and some of them suggested mainly by empiricism and tradition, I have had the same unsatisfactory results, and from all the many treatments which have been recommended, I believe a careful investigation will show the same percentage of deaths.

Therefore, when, some years ago, Dr. William H. Welch read his memorable paper before this society on the subject of pneumotoxin and antipneumotoxin, I am sure I was not alone in once again taking fresh hope, and in feeling that a foundation had been laid upon which, in time, we should be able to build a rational scientific treatment of this disease. In addition, I was so much impressed with the discussion and the conclusions then drawn that I felt that if the Johns Hopkins had done nothing else, this work alone would surely immortalize both the man and the university. I say this not yielding to any one my feeling of personal obligation for the marvelous leavening effect this school has had upon the medical profession of my state.

We have outgrown empiricism and tradition and, while I am fully aware the number of cases I have to report are few, the results have been to me astonishing and gratifying, and I am persuaded that any discussion upon so vital a subject cannot fail to be of use to all of us, and perhaps of some benefit to our patients.

During the past three years I have uniformly used the cold-water baths to reduce temperature in pneumonia. In cases where the temperature was exceedingly obstinate and stubborn and the baths were given with much shock, I have used small doses of antipyretics, but only in small doses, and only when the importunities of the patient and family rendered it practically impossible to give the cold-water baths. In the onset of this disease, unless otherwise indicated, I give a purgative. I use whiskey or brandy after the baths and moderate doses of strychnia, when indicated. In some of my cases where prostration was extreme, I used carbonate ammonia and digitalis. Occasionally I have given guaiacol or creosote. Milk and beef peptonoids were generally used for nourishment.

I mention these remedies, but I feel so confident of the curative effect of the serum administered early and in large doses, that, for myself at least, I should feel culpable to a great degree had I a case of pneumonia and failed to use the serum. In all the cases I report there was a marked change within eight hours of administration and in many there was a crisis successfully passed within forty-eight hours. As the serum in no way interferes with other remedies that might be used, there can be no legitimate excuse for not using it, and if this was done the combined experience of the profession would demonstrate, I believe, beyond all cavil, the wonderful curative effect of this remedy. I injected 20 c.c. of H. K. Mulford's serum and repeated in eight hours if there was not a very marked change for the better. I have used in some cases three injections, in others one was sufficient.

We cannot expect in cases of catarrhal or bronchopneumonia—with a possibility of a fixed infection—to obtain the same results as in cases of lobar pneumonia, but my own experience is that in such cases the serum is of great benefit.

The experiments of Prof. Victor C. Vaughan have shown the fact of the double toxin character of the

* Read before the Medical and Chirurgical Faculty of Maryland, April 23, 1902.

SUMMARY OF CASES OF PNEUMONIA TREATED BY ANTITOXIC SERUMS.

Cases Treated by	References.	No. of Cases Treated.	No. of Recoveries.	No. of Deaths.	Percentage of Deaths.	Remarks.
Klemperer, G. and F.	Berl. Klin. Wochenschrift, Aug. 31, 1891, xxviii, 869.	6	6	0	0	Details indefinite. Audeoud (loc. cit.) credits the Klemperers with 10 other successful cases.
Redner	Klemperer, G., Wien. Med. Woch., May 28, 1892. xlii, 882	20	20	0	0	Details indefinite.
Neisser	Deutsch Med Wochenschrift, Berl., 1892, xviii, 593.	3	3	0	0	
Foa.	Semaine Méd., Par. 1891, xi. 440	1	1	0	0	
Hughes, W. E, and Carter, W. S.	Therap. Gazette, Philadelphia, Oct. 15, 1892, xvi, 668.	1	1	0	0	Treated with serum from convalescents.
Audeoud, H.	Revue Méd. de la Suisse Romande, Genève, 1393, xiii, 130	3	3	0	0	Treated with serum from convalescents.
Janson, C.	Hygiea, Stockholm, 1892, liv, 368.	10	9	1	10	
Lava, G.	Gior. d. r. Accad. di Med. di Torino, 1893, 3 ser., xli, 33.	10	10	0	0	
Washburn, (and others?).	Brit. Med. Jour., Lond., Dec. 25, 1897, 1849.	6	6	0	0	
Spurrell.	" " " April 17, 1897, 973.	1	0	1	100	
Cooke, A	" " " May 22, 1899, 1278.	2	2	0	0	
Hartnett.	" " " May 22, 1897, 1279.	1	1	0	0	
Weisbecker.	Münch., Med. Wochenschr., Feb. 15 and 22, 1898. pp. 202, 238.	21	21	0	0	Treated with convalescents' serum.
		several		2	?	Gives details of 21 cases, with no deaths, and then says "several' other cases were also treated, but gives no details other than that in the whole number only 2 deaths occurred, 1 in a man aged 78, 1 a case of emphysema. [Thayer, loc. cit., credits Weisbacher with 26 cases.]
(Clinic).	De Renzi, Riv. Clin. e Terap. Napoli, 1896, xviii, 503	14	12	2	14.3	
Pane, N., and De Renzi.	Riforma Med., Roma, 1897, pt. ii, 40.	2	2	0	0	
		23	31	2	8.6	At last extremity when treated.
Maragliano	Pane, Gazz. d. Osp., Milano, 1898, xix, pt. ii, 1321.	5			?	Results doubtful.
Capua.	Pane, Gazz. d. Osp., Milano, 1898, xix, 132.	1	1	0	0	
Monda		3	3	0	0	
Ferrara.		1	1	0	0	
Rossi, G		1	0	1	100	
Pecoraro		1	1	0	0	
Fazio, F		1	1	0	0	
De Renzi.		1	1	0	0	
Nascimbene	Sieroterapia, Roma, 1898, ii, 4.	1	1	0	0	
Sciandone	" " 1898, ii, 25.	5	5	0	0	
Caruso and Stagnitta	" " 1898, ii, 41.	2	2	0	0	
Muzzarelli	" " 1899, iii, 13.	1	1	0	0	
Bondi.	Cited by Tomasini, loc. cit.	22	19	3	13.6	
Massalongo and Franchini	Riforma, Medica, Roma, 1898, ix, 246	10	?	?	?	Prognosis in all 10 cases unfavorable; results not stated.
Marone, A	" " " 1898, i, 582	1	1	0	0	
Croce, S.	Gazz. d. Osp. Milano, 1898, xix, pt. i, 375.	1	1	0	0	
Cantieri, A.	Clin. Med. Ital., Milano, 1898, xxxvii, 689; also Riforma Med., Roma, 1898, iv, 246.	17	15	2	11.8	
Bruchi, C.	Cantieri, loc. cit.	1	1	0	0	
Bargellini	" " "	1	1	0	0	
Pacchiotti, F.	" " "	1	1	0	0	
Aiello, S	Gazz. Med. Sicil., Catania. 1899, ii, 13.	4	4	0	0	
Recupito	N. Riv. Clin.-Terap., Napoli, 1899, ii. 79	1	1	0	0	
Margotta, C	Gior. Med. d. r. Esercito, Roma, 1899, xlvii. 796.	1	0	1	100	
Capri, G	Sieroterapia, Roma, 1899, ii, 4.	1	1	0	0	
Dagnini and Silvani.	Sieroterapia, Roma, 1899, iii, 7	6	0	6	100	
		8	1	7	87.5	One in 8 days; 4 in from 2 to 3 months; 1 in 5 months.
		11	9	2	18.2	
Banti and Pieraccini.	Settimana Med., Firenze, 1899, liii, 285	21	15	6	28.6	These authors are much criticised by Pane for injecting large quantities of serum intravenously, which may interfere with the curative action of the serum. The only 2 cases treated by serum subcutaneously were cured.
Tomasini, S.	Sieroterapia, Roma, 1900, iv, 49	5	5	0	0	
Gamba.	Cited by Thayer, Progressive Medicine, March, 1899, 388	2	?	?	?	Two cases under treatment, both doing extremely well; final result not stated.
D'Ambrosio.	Cited by Tomassini (loc. cit.) from La Moderna Cura Scientificica della Pulmonite." editore N. Jevene, Napoli, 1899.	1	1	0	0	
Ettari.		1	1	0	0	
Papi		1	1	0	0	
Sacchitelli		1	1	0	0	
Vincenzi		3	2	1	33.3	
Belfiore.		1	1	0	0	
Spolverini, L. M	Bull. d. r. Accad. Med. di Roma, 1900, xxvi, 79	11	8	3	27.3	Pane's serum.
		9	9	0	0	Normal serum.
		7	6	1	14.3	Convalescent's serum.
Silva	Quoted by Belfanti and Zeuoni, Lavore Cong. di Med. Interna, Roma, 1899, p. 218.	5	3	2	40	
Rodini, T.	Lavore Cong. di Med. Interna, Roma, 1899, p. 378.	2	2	0	0	
Lambert.	Jour. Am. Med. Assn., Chicago, April 14, 1900, xxxiv, 900	12	9	3	25	Two of the fatal cases were alcoholics.
Bozzolo.	Cited by Lambert, loc. cit.	5	4	1	20	
Fanoni, A.	Pediatrics, N. Y., May 15, 1900, ix, 393	18	17	1	5.5	
Elfstrom, C. E	Brooklyn Med. Jour., 1900, xiv, 603.	14	11	3	21.4	Treated with blood from pneumonia cases, heated to 60 deg. for 1 or 2 hours.
Rosenthal, E	Jour. of Scientific Medicine, Chicago, Jan., 1900, ii, 23	2	2	0	0	
Canby, Everhart, Frey	Canby, Maryland Med. Jour., Balt., March, 1900, 113.	4	4	0	0	
Wilson, J. C	Jour. Am. Med. Assn., Chicago, Sept. 8, 1900, xxxv, 595.	18	14	4	22.2	
Kelly, A. O. J.	Ibid., p. 599.	1	0	1	100	Alcoholic and hopeless before serum was begun.
Rochester.	Boston Med. and Surg. Jour., June 14, 1900, cxlii, 639.	1	?	?	?	Treated with convalescent's serum; improvement for 24 hours; no other details.
Tyler	Jour. Am. Med. Assn., Chicago, June 1, 1901, xxxvi, 1540	6	5	1	16.7	Fatal case a neglected alcoholic.
Holmes.	Ibid, p. 1544.	1	0	1	100	Complicated with phthisis.
Sweeney, E. A	Trans. Luzerne Co. (Pa.) Med. Soc., 1901, ix, 147	1	1	0	0	
Sears, G. G.	Boston Med. and Surg. Jour., Dec. 5, 1901, cxlv, 639.	12	8	4	33.3	One of the fatal cases was alcoholic. In addition, another case (Case xiii) was moribund when serum was given, and hence not included in statistics.
Eichberg, J.	American Med., Phila., April 26, 1902, iii, 690	6	5	1	16.7	
Talamon, Ch	Méd. Moderne, Paris, Feb. 27, and March 6, 1901, xii, pp. 65, 73.	50	43	7	14	Treated with *antidiphtheritic* serum.
Raynaud, L	Ibid., March 27, 1901, xii, 99	1	1	0	0	Treated with *antidiphtheritic* serum.
Landricux and Legros	Rev. Gin. de Clin. et de Therap., Jour. des Practitiens Paris, 1901, xv, 785.	10	8	2	20	Treated with *antidiphtheritic* serum.

Summary (including 61 cases treated with antidiphtheritic serum):

Total recoveries 377
Total deaths 70
Total cases 447
Percentage of deaths 15.7

pneumotoxin, but they have also shown that the antitoxin with the presence of one of these toxins is a specific, in the mixed toxin it has a marked beneficial effect—while in one it does not seem to act at all. The practical lesson, it seems to me, is that we should use the serum in all cases, as it is impossible to determine with just what exact type of toxin we are dealing.

The harmless action of the serum in all conditions is another strong reason for its use. In the tabulation there are 447 cases; some treated with antitoxin serum, some with blood from convalescents and 61 cases with antidiphtheritic serum. The percentage of deaths in the 386 cases treated with the antipneumococcic serum—to which may be added my own 9 cases with two deaths—gives a percentage of 16 5-10 per cent. The investigations of Dr. William Osler of the percentage of deaths from pneumonia in the various hospitals in America show that the best results obtained are 25 per cent., and in some instances as high as 35.

One of my cases was practically in extremis when treated, and the other was a patient already affected with a mortal disease. In many of the cases reported as fatal the serum was administered when the case was already hopeless and the tabulation and the results and conclusions drawn from it are by no means an absolutely fair presentation of the curative action of the serum in the treatment of pneumonia. The cases which have been treated with antidiphtheritic serum are simply reported as a striking instance of the fact that the minds of the profession, generally, all the world over are looking for some serum which seems to offer the only reasonable scientific method of successfully combating this disease. In conclusion, it appears to me that this remedy deserves a more thorough and a fairer trial at the hands of the profession.

CASE 1.—W. H. L., age 5, May 7, 1900, case of Dr. John Macc's, Cambridge, with an attack of broncho-pneumonia, subsequent to an attack of measles. When seen by me was in a deep stupor, with a temperature of 105, pulse 150, respiration 50, and in a state of extreme prostration. He was receiving the usual expectant treatment of pneumonia. I administered 20 c.c. of the serum, and in about eight hours there was a marked improvement in the patient's temperature, pulse and a return of consciousness. Notwithstanding the favorable action of the remedy and the request of both attending physicians, the family refused to permit of a second injection. The little patient relapsed again into his former condition and died May 12. Both lungs were involved in the inflammatory process.

CASE 2.—W. M., boy, aged 3, Feb. 6, 1901, broncho-pneumonia, both lungs involved, temperature 103 to 105, pulse 120 to 150, respiration so embarrassed that he had to be held in erect position, crepitation over lower lobes of both lungs, constant cough, expectoration free. At six o'clock p. m. 20 c.c. of the serum were administered and in six hours there was a marked change for the better. From this time on there was a gradual improvement in all the symptoms, and by the fifth day convalescence was established. The injection of the serum was followed by a rash which produced some discomfort, but disappeared in about forty-eight hours.

CASE 3.—Mrs. B. Mc., aged 24, confinement, Feb. 25, 1901, during an attack of influenza. Fourth day after confinement had chill, temperature, 105, pulse 120, rusty expectoration, cough and all the local signs of lobar pneumonia of the lower lobe of the right lung. Forty-eight hours afterward gave an injection of 20 c.c. of the serum. In eight hours there was a drop in the temperature. The patient had a fair night's rest. From this time there was a decline in all symptoms and in less than one week from the initial chill the temperature and pulse were normal and the patient was discharged.

CASE 4.—O. D., boy, aged 11, March 4, 1901. Had an attack of lobar pneumonia, lower lobe of both right and left lung involved, chill, rusty sputa, cough, temperature 104, pulse 130, all the local signs of the disease were present. Forty-eight hours from the initial chill 20 c.c. of the serum were injected. In ten hours the fever was lowered and all the symptoms were improved. Convalescence was established in less than a week.

CASE 5.—E. M. W., girl, age 4 years. Lobar pneumonia, lower lobe of the right lung, Jan. 25, 1902, chill, fever from 101 to 104, pulse from 120 to 150, respiration from 30 to 40, cough and free expectoration, all the local signs of disease were present. Second day of illness, the diagnosis having been made, 20 c.c. of the serum were injected, but was not followed by any marked reaction. In about eight hours second dose was given, and this was followed by only slight improvement. The next morning the third injection was given, and by night temperature was normal and convalescence was very rapid. One week represented the whole period of professional services rendered.

CASE 6.—T. W. S., Jr., boy, aged 2 years, 9 months. Had an attack of pertussis and acute catarrhal bronchitis. Feb. 2, 1902, had a chill, broncho-pneumonia of the right lung developed. Temperature from 103 to 105, pulse 140, respiration was very rapid and labored, at times 60. Dilatation alæ nasi was very marked, stupor was profound; with difficulty small quantities of nourishment were administered, 20 c.c. of the serum were injected the next day. In eight hours there was a rapid decline in temperature, pulse and respiration and a return of consciousness. I discharged the case the sixth day convalescent.

CASE 7.—R. R., youth, aged 19, lobar pneumonia, lower lobes both lungs, temperature at first visit 105 4/5, pulse 140, cough frequent, expectoration very bloody, some pain over right lung, all local signs of disease were present. Twenty c.c. of the serum were injected in the afternoon, which injection in eight hours was followed by a marked decline in the intensity of the symptoms, but I gave him a second injection, and on the fifth day of the disease the temperature was normal and convalescence was established.

CASE 8.—C. H. K., male, aged 62, was admitted to the Charity Hospital, Cambridge, Jan. 28, 1902, with a osteosarcoma of tibia. The glandular system was pretty generally involved. The odor was indescribable and the mass was curetted, with a hope of relieving this condition; finally, for relief of pain and other reasons, an amputation of thigh was done February 7. February 23, lobar pneumonia of the lower lobe of the right lung developed with all the local signs and constitutional symptoms. The following day the lower lobe of the left lung became involved. Three injections of the serum, at intervals of eight hours, were given, with some slight improvement, but the patient died March 4, 1902. We considered it more than probable that we were dealing with a case of metastasis.

CASE 9.—S. J., boy, aged 6 months, had an attack of acute catarrhal bronchitis, March 24, 1902, became worse and I was called to see him, rectal temperature 105, pulse 150, respiration 50 and very labored, complete loss of voice, absence of cough, at times respiration was so difficult that it seemed the patient would be asphyxiated. A chest examination revealed the presence of broncho-pneumonia of both lungs. No lesion in nose or pharynx, a diagnosis of laryngeal diphtheria and subsequent broncho-pneumonia was made; 2000 units of diphtheria antitoxin were injected, and three hours later 20 c.c. of pneumonia antitoxin were injected. I fully expected to be compelled to intubate this case, but there was a gradual improvement of all the symptoms, though I was compelled to repeat the injection of diphtheria antitoxin three times. This case recovered after an illness of two weeks. No other treatment was given save stimulants and cold-water baths to reduce temperature.

German Physicians Recommend Cremation.—Several thousand German physicians have signed a petition to the Reichstag asking that the burning of bodies of persons dying of contagious diseases should be made obligatory.—*Medical Age.*

ON THE IMMUNIZATION TREATMENT OF HAY FEVER.*

E. FLETCHER INGALS, M.D.
CHICAGO.

Prompted by the favorable reports of Dr. H. Holbrook Curtis upon his so-called immunization treatment of hay fever by the *Ambrosia artemesiefolia,* my associate, Dr. John Edwin Rhodes, and myself last summer decided to give the treatment a careful trial. We tried to obtain from the leading druggists in this city reliable preparations of the drugs, but found they were not kept in stock and therefore we corresponded with some manufacturing chemists with a hope of obtaining the desired remedies, but were unsuccessful. Parke, Davis & Co. had no preparation from either of the plants, but agreed to make a collection during the flowering season and prepare fluid extracts at once. However, these were not obtained in time for the trial. Subsequently, Mr. Baker, of the firm of Gale & Blocki, agreed to have the fresh ambrosia collected as soon as the flowering season came on and make from it a fluid extract which could be prepared in time for the latter part of the hay fever season. He found in their stock a fluid extract of the *Solidago odora* (golden rod) prepared by Wyeth & Co. Later he discovered in the city a normal tincture of *Ambrosia artemesiefolia* prepared by Merrill & Co. which is equivalent to a fluid extract. Dr. Curtis stated that by trying various substances he found that if a patient was rendered immune to one, he was thereby also made immune to some of the others. Curtis employed only the liq. ambrosiæ prepared by Fraser & Co., the constituents of which are not given.

PHYSIOLOGIC PROPERTIES.

As many patients are affected by the pollen from golden rod, it appeared to us best to use preparations from both this and the ragweed, instead of relying upon either one alone. By referring to the literature, I found in the U. S. Dispensatory and in King's American Dispensatory that the *Solidago odora* was formerly used in the treatment of flatulent colic, amenorrhea, nausea, dysentery, diarrhea, cholera morbus, etc., and that it was sometimes added to nauseating medicine for the purpose of rendering it more agreeable to the taste. It was credited with carminative and diuretic properties and the preparation from the flowers was said to be aperient, astringent and diuretic.

As it is stated in the U. S. Dispensatory that this preparation has been recommended in the treatment of amenorrhea, it is interesting to note that one patient claimed that the medicine had caused menorrhagia. With the occurrence of the excessive flow, she had discontinued the medicine and upon repeatedly recommencing its use, the menorrhagia had as frequently reappeared so that she was obliged to stop its use altogether.

The dose of the infusion made with one ounce of the plant to the pint of water was from one to two fluid ounces which would equal m.xxx-lx of the fluid extract.

The *Ambrosia artemesiefolia* (Roman wormwood, ragweed or hogweed) appears to have similar effects to those of *Ambrosia trifida* (tall ambrosia or great ragweed) which is reputed by eclectics to be slightly stimulant, astringent, hemostatic and antiseptic. It is said to have been successfully employed in bleeding from the nose and other hemorrhagic discharges where the flow is of small amount. It has also been employed for the relief of hysteria and other nervous disorders.

Ambrosia artemesiefolia is said to be very useful in hemorrhoidal tumors and in some forms of ulcers and it has been used as a tonic after intermittent fever and to alleviate mucous discharges. The dose is given as from one to two fluid ounces of an infusion, repeated in from one to four hours. This is prepared with ½ ounce of the tops to a pint of water. This would equal m. xv-xxx of the fluid extract. It is thought that it would prove fully as efficacious if not more so than *Ambrosia trifida.*

Before we discovered the preparations, the hay fever season was so nearly upon us that some of our patients were clamoring for relief. To one of these I gave Fraser's liq. ambrosia with careful instruction for its use, but he happened to be a man peculiarly susceptible to the influence of drugs, from some of which he had previously experienced unpleasant symptoms. After taking a few doses of the liquid, his stomach was disturbed and he felt uncomfortable sensations which appeared to him like those he had formerly experienced from taking an opiate; therefore, he declined to take it. As we were not familiar with the composition of this liquid, we could not urge its continuance.* but within a few days we secured the preparations above referred to and decided to administer them together, but free from any other drugs, hoping thereby to obtain some accurate information for the benefit of hay-fever sufferers. With this in view, I wrote to 100 of my hay-fever patients from whom I thought it likely that I could obtain reports, suggesting that they give the so-called remedy a trial. I stated frankly that it was an experiment in which I hoped for their coöperation. I stated that the medicine had been highly recommended for hay fever, but that I could not promise definite results, although I could assure them that no injury would follow the trial. So much time had been expended in searching for the remedies that about this time the hay-fever season had begun and consequently many of the patients had already gone away for the summer to escape the attack. Some of those to whom I wrote were afraid to try the experiment and thus it turned out that only 20 attempted the treatment.

METHOD OF ADMINISTRATION.

In order that the investigation might be carried out accurately, each of these patients was supplied with medicine from the same lots which were secured by Gale & Blocki and the two fluid extracts were combined in equal proportion in all cases. The patients were directed to take a dose of the mixture about 10 minutes before each meal and one at bedtime, each dose to be followed with a free drink of water to prevent any possible disturbance of the stomach. They were given medicine droppers with which the medicine was to be measured, the droppers having first been tested so that it was found that 3 drops of the mixture equaled one minim. They were directed to drop the medicine into an empty capsule just before taking, which was thought to be the pleasantest means of administration, or they were allowed to take it upon a lump of sugar, in water, or in a little tea or coffee, as they preferred. The first dose of the medicine was to be 6 drops (2minims); each succeeding dose was at first directed to be 2 drops larger, but shortly afterward it was made 6 drops (2 minims) larger until an adult patient reached the maximum dose of 60 drops (20 minims) of the combined fluid extracts.

* Read before the American Laryngological Association, Boston, May, 1902.

* Prof. J. W. Salisbury of Rush Medical College subsequently made a thorough examination of this liquid and failed to discover opiates, cocain, hyoscyamin or atropin; therefore, the patient's symptoms probably were not dependent upon the medicine.

In a few cases the dose was increased to 30 minims 4 times daily.

The patients were directed to continue the remedy for a week or two, providing it acted favorably. Then if no symptoms of the disease were present it was to be discontinued, but it was to be taken again upon the first appearance of any symptoms of the affection. They were directed, farther, that if at any time the remedy caused disagreeable sensations in the stomach, or elsewhere, the dose should be diminished at once but subsequently gradually increased again, and each was asked to keep a careful record whether favorable or unfavorable, of the pulse, temperature, the condition of the digestive organs and the symptoms referable to the eyes, nose, throat or lungs.

ACCESSORY LOCAL TREATMENT.

In my desire to give these patients relief and believing that a local application might be helpful, I also gave these patients the adrenalin in a prescription as follows:

℞. Resorcin ..... grs. v
Adrenals (Armour's) (vel. adrenalin chlorid grs. ss) ..... ʒii
Acid boric ..... grs. xvi
Aqua camphor, hot ..... ℥½
Glycerin ..... ʒ½
Aqua. dest., hot, q. s. ad ..... ℥ii

Mascerate for four hours, then filter. Sig.: Use as a spray to nose and eyes 5 or 10 times a day when needed.

This was also to be used half as often throughout the hay-fever season even when there was no irritation. At first, with a view to local immunization, I directed the patients to add to each ½ ounce of the spray about 1-3 of a minim of the internal remedy and to increase the quantity each day about 1-3 of a minim until 6 minims had been added to the ½ ounce. Before long I became convinced that this was an irritant and did no good; therefore, it was discontinued.

COLLECTION OF THE DATA.

At the close of the hay-fever season, I sent to each of these patients the following letter and enclosed a list of numbered questions which would aid them in giving me systematic information upon the desired points.

THE LETTER TO PATIENTS.

Mr. ———— OCTOBER 29, 1901.

Dear Sir:—Now that the hay fever season for 1901 is over, I desire to obtain all possible information pro and con about the remedies we have been trying this summer for relief of the disease. I desire to publish this information for the use of the profession and the benefit of the public, but of course shall not publish names.

Will you kindly send me as soon as practicable careful answers to the questions on the enclosed sheet. Please number answers to compare with questions. I hope you will give me your unbiased views whether favorable or unfavorable to the remedy, as my only object is to record the actual facts for the benefit of others. In recording your impressions, it is necessary to take into consideration the weather and the condition of other hay fever patients in your vicinity at the time as well as your own experience during former years.

Yours very truly. E. FLETCHER INGALS.

1. Sex. Age. Occupation.
2. What year were you first affected with hay fever?
3. What has appeared to you to be the cause of the disease in your own person and what conditions or objects have been most active in exciting its paroxysms?
4. Have you had it every year since first attacked; if not, what years have you escaped?
5. Have your various attacks been mild, moderate, or severe?
6. To what do you attribute your escape from the attacks, or mildness of the symptoms during any of these years?
7. What have been your prominent general or special symptoms during the various attacks?
8. How have the attacks begun?
9. At what date?
10. At what date have your symptoms usually subsided?
11. How constant have your symptoms been during the hay-fever season during previous years?
12. Have you had asthma with these attacks?
13. If so at what time has it usually appeared and disappeared?
14. How was it influenced this season by the remedies?
15. Have you suffered any sequelæ after heavy frosts have checked the acute symptoms; if so, what have been your symptoms?
16. What symptoms had you of the disease this season and on what dates?
17. Has your pulse or temperature shown the presence of fever; if so, how much and how often?
18. At what time did you begin the use of the two special remedies that we have employed this year?
19. How have the remedies affected your appetite, digestion, nervous system, strength or general feeling?
20. Did you or did you not get relief from either or both of them?
21. What amounts of either or both were you using at the time of relief or apparent ineffectiveness of the remedies?
22. What have been your special experiences with either or both of the remedies in small or large doses; or in recommencing their use after they had been discontinued?
23. Do they appear to you to have prevented, retarded or cured the paroxysm of the disease?
24. What is your final estimate of the remedial value of these remedies?
25. In what manner have you taken the internal remedy?
26. Have you been annoyed by its taste; if so, have you discovered any agreeable way of taking it?
27. With what regularity have you employed these remedies?

RESULTS OF THE TREATMENT.

I have received replies from 18 of these and from two others I have been unable to obtain any information, although 2 or 3 letters have been written to each of them. Twelve, or 67 per cent., of these assert that they were relieved by the internal remedies. In several cases as the symptoms subsided, the medicine was discontinued, whereupon the symptoms reappeared, but again speedily disappeared upon recommencing the use of the medicine. Thirteen, or 72 per cent., believed they were benefited by the spray, while some found it deleterious, and one found it injurious, even when it contained none of the fluid extract. Sixty per cent. of the whole number were subject to asthma during the attack and just half of these reported benefit or entire relief from the asthmatic symptoms as a result, as they believed, of the internal medicines. Three, or 17 per cent., were benefited, but felt doubtful whether it was due to changes in the atmosphere or to the medicine and the same number asserted that they were unable to observe any effects whatever from the drugs. Of these last, however, all three report their trouble as severe, rather than mild or moderate, while one was also an asthmatic. In two cases it caused disturbance of the stomach and in one, already cited, it appeared to cause menorrhagia.

Some of the patients had few or no symptoms of hay fever until some time after the hay-fever season usually began with them, which at first it was hoped was due to the remedies, but the subsequent development of the symptoms led part of these to believe the medicines were of no value.

POLLEN OF OTHER PLANTS A FACTOR.

When we remember that the pollen of other plants besides the two used in this experiment may also be the

exciting cause of hay fever in certain cases, the failure to obtain relief by some of these patients does not supply positive proof that the extracts of solidago and ambrosia are not beneficial, for it is possible that with these patients the negative results might have been avoided had we added to the remedies the fluid extracts from various other blossoms, such as those of Indian corn, timothy, June grass, etc.

In some of the persons experimented on, the dosage may have been much too small, yet in others an attempt to increase the dose appeared to disturb the digestive organs. It will be remembered that the minimum dose of this mixture was only 1/22 of the minimum dose recommended by authors for the administration of these drugs, and that the dose we employed of these 2 fluid extracts was less than ¼ of the average maximum doses of the two as recommended by the authors consulted.

OTHER EFFECTS OF THE REMEDIES.

It will be observed that in the literature, the preparations of golden rod are reputed to possess diaphoretic properties. Some of these patients noticed peculiar sweating while taking the medicine, similar to that they had experienced in former years during the beginning of the hay fever. Solidago has been used as a febrifuge. Some of these observers believe that the remedy prevented the burning sensation from which they had suffered in former years during the hay fever. Ambrosia is classed by the eclectics as a hemostatic, especially valuable in epistaxis. The same property may possibly account for the dryness of the nasal mucous membrane experienced by some of the persons who used these remedies, a property, by the way, which if found to be constant would make this a useful remedy not only in hay fever, but in some other disorders affecting the nasal mucous membrane.

ETIOLOGY IN THESE PATIENTS.

Of the 12 patients who believed themselves benefited by the remedy, 3, or 25 per cent., attributed the attacks to ragweed, none to golden rod and 9, or 75 per cent., to other things, as car smoke, odor of flowers and weeds, night air, dusty weather, dust from grain and new-mown hay. Of the patients who experienced no relief, 3, or 50 per cent., attributed the attack to ragweed, 2, or 33 per cent., to golden rod, and 1, or 17 per cent., to other things, such as damp, warm or cloudy weather. Of these getting relief, 5, or 42 per cent., report their cases as severe, 5, or 42 per cent., moderate, and 2, or 17 per cent., as mild to moderate. The shortest time with these patients during which they had been subject to hay fever was 3 years and the longest 30 years; 6, or 50 per cent., being less than 10 years' duration, and 6, or 50 per cent., above 10 years; 9, or 75 per cent., were of 7 years' or more duration. Of those not obtaining relief, all state their cases as severe and the duration was 9 to 25 years. Of those relieved by the medicine, in 9 cases, or 75 per cent., the trouble had returned every year since its commencement, while in only 3, or 25 per cent., of the cases had there been years when the symptoms did not appear, 2 of these being explained by the patients going to Europe during the hay-fever season. Of those not relieved, all had had the symptoms return every year with the hay-fever season.

RELIABLE PREPARATION OF DRUG NEEDED.

These remedies are used very little in medicine, therefore doubt arises as to the effectiveness of the preparations employed. It is not improbable that the particular lots that we experimented with had been in stock many years and may have lost their virtue. It would appear necessary that the plant in order to furnish an effective remedy should be gathered during the flowering season, whereas with the remedies we employed, it is not unlikely that but little care was taken in selecting the crude plant. Fraser's liq. ambrosia is a proprietary preparation, the constituents of which are not known to the profession; therefore, careful physicians will hesitate to recommend it, and when it is taken no one can know certainly to what its good or ill effects may be due.

PLANS FOR FURTHER TRIAL.

From these considerations, I was induced to urge Parke, Davis & Co. to prepare standard fluid extracts from both of these plants gathered during the flowering season. This they have done so that they may be employed next summer. In order to make the administration as easy and pleasant as possible for the patient, they have at my request also put up the remedies in chocolate-coated tabloids of the fresh extract, of two sizes; each of the smaller tablets represents 2½ minims of each of the fluid extracts. These are to be used at the beginning and while the dose is being increased; the larger tablets each represent 10 minims of each of the fluid extracts which is the full dose that was generally employed by us during the past year, although twice this quantity might well be tried. The manufacturers assure me that the remedies will be quite as effective in this form as in any other and therefore with the quality assured and the administration made easy, we hope to give it a more thorough trial another year, and I hope that each of you will lend your aid to this investigation.

34 Washington Street.

A NEW METHOD OF TREATING THE BROAD LIGAMENT STUMPS IN VAGINAL HYSTERECTOMY.

E. C. DUDLEY, A.M., M.D.
CHICAGO.

In the operation of vaginal hysterectomy the broad ligament stumps are usually treated in one of two ways:

1. They may be ligatured, cut short and returned to the abdominal cavity and the vaginal wound closed, according to the nature of the case, with or without drainage. The objections to this method are apparent; they are: first, the dangers which always arise from the intraperitoneal ligature of a mass which may slough or at least become infected; second, the stumps having been returned to the peritoneum, the broad ligaments can not perform their functions of holding up the pelvic floor, especially holding up the rectum, vagina and bladder. In consequence, these viscera are apt to descend with resultant cystocele, rectocele and enterocele vaginalis.

2. In order to avoid such evil effects, it has been customary to draw the stumps down into the vagina and fasten them there with the same sutures which are used to close the vaginal wound. This makes the operation extraperitoneal and enables the ligaments to perform their functions of holding up the rectum, vagina and bladder.

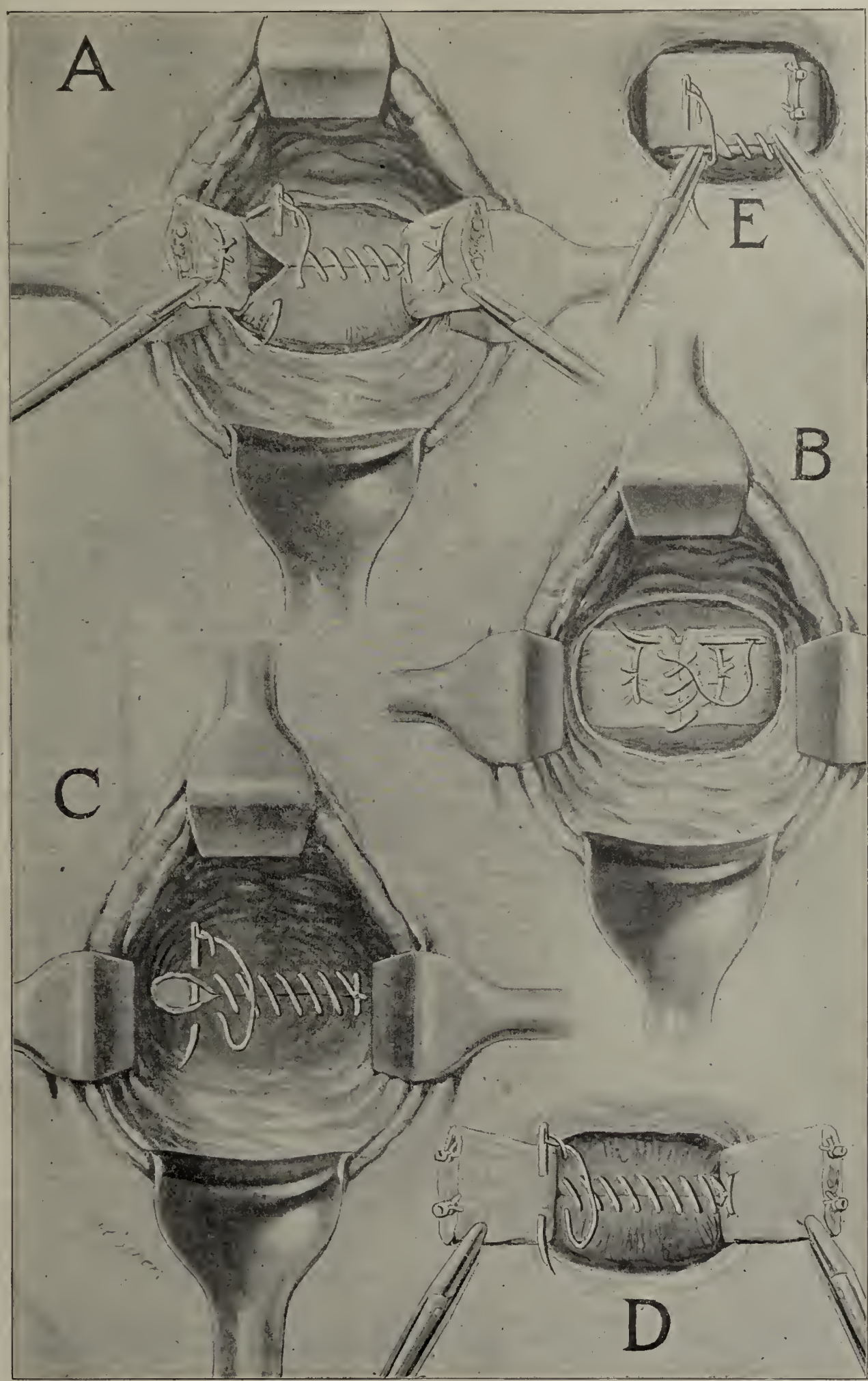
In some cases the ligaments are so short and rigid that they can not be drawn into the vagina and therefore must be returned to the abdominal cavity. Usually, however, it is quite possible to make the operation extraperitoneal by fastening the stumps below the level of the vaginal wound. The ligatures on the stumps are usually applied *en masse* around the entire ligament in such a way that the ligatured portion will slough. It is better to apply the ligatures so that no sloughing will occur,

that is, to let the ligatures include only that portion of the ligament through which the arteries pass.

OPERATION PROPOSED.

The accompanying plate shows a very practical method of treating the ligatured ends of the broad ligaments in such a manner as to avoid sloughing of the ligatured stumps and to fix them in the vaginal wound. The method here illustrated is only applicable to those cases in which the ligaments are sufficiently long to permit either end-to-end approximation or the folding of one on the other and the fixation of them in the vaginal wound between the vaginal and peritoneal sides of it. The explanation of the procedure is as follows:

Fig. A. The ligaments, having been ligatured *en masse* in such a manner as to avoid sloughing of the ligatured stumps, are drawn down into the vagina by means of pressure forceps. The anterior and posterior peritoneal margins of the vaginal wound are being whipped together by a continuous catgut suture. At either end of the line of union this continuous suture secures the broad ligaments so that they can not slip back into the pelvic cavity. Only one ligature is here



shown on each broad ligament. In the majority of cases more than one ligature may be required.

Fig. B. The anterior and posterior peritoneal margins having been united as shown in Fig. A, the broad ligaments are brought together by end-to-end approximation and united by a continuous catgut suture. The united ends of the broad ligaments are now in contact with and in front of the united peritoneal margins, Fig. A.

Fig. C. The anterior and posterior margins of the peritoneal wound have been united and the broad ligaments have been approximated, end to end, by continuous sutures as already shown in Figs. A and B. The anterior and posterior margins of the vaginal mucosa are being united by a continuous catgut suture, making a line of union from side to side. This suture completes the operation.

Fig. D. In some cases the broad ligaments are so long that instead of uniting them end to end they may be folded one upon the other and so fastened together. The anterior and posterior peritoneal margins have been united in precisely the same manner as shown in Fig. A.

Fig. E. The anterior and posterior peritoneal margins of the vaginal wound have been united by a transverse line of union as shown in A and D. The ends of the broad ligaments have been folded on themselves and are being united by a continuous catgut suture along their lower border. A similar suture should be introduced along the upper border. The ligaments having been thus united are to be covered by the upper and lower margins of the mucosa as shown in Fig. C.

The method of fixing the ends of the broad ligaments between the peritoneal and vaginal sides of the wound will be found to have great value, when practical, for the ligaments so fixed can then perform the very important function of holding the pelvic viscera high up in the pelvis and of preventing the unfortunate prolapse of the pelvic floor (rectum, vagina and bladder), a not uncommon and most unfortunate result of hysterectomy when performed by the older methods.

In vaginal hysterectomy for carcinoma and metritis the broad ligaments will frequently be sufficiently long to permit end-to-end approximation, but they will not in most cases, permit the overlapping as illustrated in Figs. D and E. This method of overlapping the ligaments, however, will always be possible in the operation of vaginal hysterectomy when performed for complete procidentia uteri and is strongly urged in that class of cases.

When the ligaments are not sufficiently long for end-to-end approximation, they may be fixed in the vagina in the ordinary manner, or if not sufficiently long for this, may have to be returned to the pelvic cavity.

Observe in Figs. E and D the isolated ligature of the arteries. This form of ligature will usually be quite practical except for very short and very large ligaments, and when practical, should always be employed. It insures normal circulation in the stumps and is a safeguard against sloughing.

In hysterectomy for carcinoma it is desirable to remove as much as possible of the broad ligaments; hence this operation will be found more especially applicable for the non-malignant cases.

1617 Indiana Avenue.

Test for Dog Sausages.—It has been suggested to use the blood serum for examining meat in sausages. It is possible by this test to establish the absence or presence of meat from horses, dogs, etc.—*St. Louis Courier of Medicine.*

THE PHYSICIAN AS A SOCIAL ECONOMIC FACTOR.*

EDGAR J. SPRATLING, B.S., M.D.
FORSYTH, GA.

In the long-forgotten ages, while men yet lived in caves, the figure that stood out in boldest relief was the medicine man. When society began slowly and timidly to organize itself into a body politic, the chipped flint doing duty as both tool and weapon, the grain about which it crystallized was the ever present medicine-man-priest. To him came his tribe, singly and collectively, asking enlightenment and guidance. His war chief, however brave, however fierce, was only tribal warrior leader, he himself being the real ruler, holding the scepter of life and death over his people. His remedies were few and therapeutically worthless, but his dogmas were all powerful. This picture is faithfully reflected among all primitive peoples even unto this day.

As culture made progress slowly, very slowly at first, but gaining rapidity with the passing of the centuries, the priest-physician was found ever in the forefront, grasping every idea and using each thought put forth by members of any other calling. The lowliest peasant and the veriest tyrant sought the opinions and advice of the astute jugglers in human frailties.

What was true as to influence wielded by the medicine man of the ages past ought to be and will be many times manifolded for the enlightened medical man of to-day. Surely if any profession has the right to be proud of its achievements the great family of physicians stand possessed of that honor. See what has been done in lengthening life: From 1890 to 1900 four years have been added to the average longevity of those within the statistical area. It is our first and very pleasant duty to lengthen life, and who can gainsay our success? Is it fair to other professions that we be compared to them? If so, have the lawyers decreased crime or the preachers lessened infidelity? Only in the fields of applied science and the mechanical arts do we find any approach to the record made in medicine.

Twenty years ago tuberculosis was a mystery—deadly as the embrace of the boa—fatal as the sting of the asp—but to-day the great medical laboratories, the doctors' manual training schools, have laid bare its erstwhile mysteries and are rapidly loosening its deadly grasp and plucking its fatal fangs.

Twenty years ago the paranoiac murderer hanged beside the wilful assassin, but to-day the keen-thinking equity-loving physician guides court and jury into the path of actual justice.

Gentlemen, have we done and are we doing our best here? Are we not yet prone to sit in the galleries, silent and helpless, while we are needed in the arenas? We owe the public the benefit of our learning and skill, whether dealing with the criminal, the lunatic, the inebriate or the physically unsound. The fulfillment of this duty will lead to the broadening and deepening of our influence. Let us wake up here and do our fuller duty, gain the greater influence and accomplish the most good.

Twenty years ago men about to enter new business relations did not first obtain their physician's opinion, but they are doing it now among the most intelligent classes, and within a few years the physician's permission will be a *sine qua non* among men about to make radical changes in life, as well as in the choice of callings. The writer can recall numerous interviews like these:

* Read before the Medical Association of Georgia at its Fifty third Annual Meeting, Savannah, April, 1902.

"Doctor, I'm about to go into cotton manufacturing, what do you think of it?" "Your lungs are not suited; stick to your farm." "See what you think about my going on the road." "Your stomach will not stand the irregularities." "What do you think my boy should be?" "A mechanic." "Do you think daughter should marry?" "Yes."

Brothers, there is where our power lies; why the future will find us such potent social economic factors—the real arbiters of the great body politic of society. And think of the social power we even now wield. Neither the preacher nor the prize fighter, neither the school girl nor her grandfather, neither the college boy nor his mother, neither the banker nor the gambler, neither the lawyer nor the laborer, the soldier or the sailor can boast of freedom from the doctor's dictum. The army and navy of every civilized country are dependent for their efficiency and perpetuity upon their surgeons' examinations. No immigrant may enter this broad, fertile, sunlit land of ours till the stamp of medical approval rests upon him.

We usher, with gentlest hand and warmest heart, our fellow man into this joyous life, and we lead him tenderly, affectionately, regretfully down the valley of the shadow of death; the first to greet and the last to take leave. And while walking beside him from cradle to grave, we warn him of, and lead him by, the pitfalls of disease and suffering, mental and physical.

This we are to do, not only for the individual, but for the public. The writer expects to see the day when the laws of the states shall provide that one chair in every council, commission and legislative body be filled by a medical man. The people will demand this and the law will give it; we have only to stay awake and be aggressive.

The architect of to-day does not plan a building without its sanitary arrangements being approved by medical science. Does the great steamship, throbbing with life and energy, fearlessly riding the wave, outliving the gale, dare to enter or leave port without having its bill of health viséed by the medical man? The immense life insurance companies, the most successful corporations the commercial world has ever seen, are entirely dependent for their very existence upon the diagnostic and prognostic skill of their medical examiners.

Did you ever feel totally unworthy of the power that you wield? No? Then you have never had to sit in the sacred privacy of your office and tell a well-beloved friend, "Your business days are over, you are far gone in diabetes;" or to another, "Steps in your family's behalf must be taken for you are paretic." Those things make evil days for the tender-hearted doctor; but, brother physicians, when these evils come, think neither of friendship nor of friend, but remember only what is best for those to be left behind, the widow and babes, the relations and last but not least, the public. Harden your hearts unto all save duty.

A thousand years ago the leper and him who was stricken by a plague were shunned of man and beast, outcasted, stoned. A hundred years ago the insane rattled their chains in noisome cells, with vermin for sole companionship. (Blessed be the memory of Dorothea Dix.) Our fathers saw hospital gangrene work its loathsome will undisturbed. We ourselves have seen diphtheria kill in its own peculiarly horrible way while we stood helpless by. In those days, too, our power and influence were less than to-day, when almost every disease has been made to come forth and stand in the brilliant sunlight of scientific research. And as we become more and more the master of disease, we stand nearer and nearer to the mastery of the patient and through him the family and society at large.

The true physician is ever a man of the greatest influence. His education, training, ways of thinking, broad views, non-sectarian and non-partisan feeling make him a marked man in his community. He is a veritable Abou Ben Adhem; that sweet dream of peace and its awakening are his. He loves his fellow man regardless of color, creed, kith or kin. He is in turn beloved by every one; even the mothers in Israel drop their knitting to smile on him as he passes. And parents lead their children to him to have their futures forecasted, to have them gauged and placed in life's line of battle.

And here, gentlemen, our greatest greatness in the near future will lie. Not in dictating business ventures for the grownup people, but in strengthening and shaping the body and mind of the baby in the cradle, the boy in school, the girl in college and both entering life's work. It is ours to read the physical index and decide how far the body may be depended upon with and without our help. And ours it also is to note the mental gauge and determine its strength and weakness, its shadows and sunbeams, its stability and variability and the directions of its rovings, and finally to guide it into paths whose stepping stones across life's quagmires are best suited to its stride.

Could we ask for firmer standing ground or a longer lever with which to move the world?

Medical News' Opinion of the Saratoga Meeting.—This year's meeting was especially noteworthy for the high character and practical value of the scientific contributions to the program. * * * The social features were well calculated to furnish very pleasant relaxation for those in attendance. The number of members registered this year was not as large as for several years past, but the lack in numbers was compensated for by the interest evinced by all. Rarely have Section meetings been so faithfully attended. In a word, this year's meeting of the National Association has proven to be another step forward in scientific work and in professional organization.

The election of Prof. Frank Billings, M.S., M.D., to the presidency of the American Medical Association is significant of the progressive spirit which animates the medical profession. Dr. Billings, well known from his numerous contributions to internal medicine and from his position as professor of medicine and dean of the faculty of Rush Medical College, Chicago, is a representative of the educational product of the middle West, which, during the last two decades, has contributed largely to the list of leaders in the educational and scientific work of the country. There is scarcely an educational institution of prominence in the eastern or western states that has not availed itself of the sterling qualities possessed by these men of the prairie and lake region. The expansiveness and freedom of the great West has communicated somewhat of its comprehensiveness and vigor to men and institutions, and the strenuous life so necessary to the rapid development of vast natural resources, along absolutely new lines and on a scale never before attempted, is now producing results in fields of endeavor which lie outside the domain of commerce, but in which the same breadth of mind, the same boldness and freedom in action are essential. In selecting Dr. Billings for its president the American Medical Association is but following the lead of many American colleges in giving practical recognition to exemplars of typical Americanism as applied to professional and educational matters. The address delivered by Dr. Billings at the Saratoga meeting, and published in this issue, is indicative of the mental grasp which has placed Dr. Billings in the twenty-one years of his professional career in the front rank of practitioners in the nation, and finally in the distinguished position to which he has now been elected.—*American Medicine.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, JUNE 28, 1902.

THE HOUSE OF DELEGATES.

Without detracting from the merits of other medical bodies in this or other countries, or from other divisions of the Association under the present or former plan of organization, the House of Delegates, if it fulfills the high purposes for which it was created, is destined to become one of the most useful and potent factors which has ever been formed for uniting and elevating the medical profession. In one sense it is only the agent, mouthpiece or executive committee of the Association, and in another is the creature of the state, and ultimately of the county societies, but there is still another in which it is an independent body, cut off from all political entanglements and alliances, and free to determine all questions coming before it with an eye single to the good of the whole profession. And this spirit and purpose was plainly manifest at the Saratoga meeting. While there was evident at the outset, as might have been and was expected by those most directly responsible, some of the crudeness and friction incident to the operation of all new machinery, this soon cleared away, and the whole time appeared to be utilized by the ninety-six delegates composing the House in an emulation "as to who could best work and best agree." That the importance of its work was very generally appreciated in advance was shown by the fact that the various state societies and sections chose their delegates from among their best members, and that such men as Welch, Osler, Reed, Vaughan and others of equal or scarcely less distinction, chosen as delegates, gave up important scientific work in the sections, for which they had made laborious preparation, in order to devote their entire time to delegate duties. It was no slight honor to serve in the combined capacity of a United States medical Senator and Representative of a great state of this Union, or of an equally great scientific section, and a large majority of the delegates evidently appreciated and were equal to the honor. With such a personnel and moved by such purposes, it goes without saying that the best thought of such a body will be given to the proper fostering of the scientific spirit, not only of the Association as an annual gathering, which is bound to follow, but, what is infinitely more important, to creating, arousing or encouraging, as conditions may require, and through such instrumentalities as may be developed, the same spirit in each of its affiliated state and county societies, and ultimately in each physician embraced within any of these jurisdictions, which means the entire profession.

Among the subordinate but by no means unimportant duties imposed upon this body is the selection of all the officers of the Association. Ineligible for any official preferment themselves by provision of the constitution, and all forms of candidacy and electioneering by any member or his friends having been properly placed under the ban, delegates will have time and opportunity to fairly and deliberately select the officers from the highest and most efficient class of members, and thus indirectly stimulate all who are ambitious for preferment, and who might have been led to hope for it in the past through other methods, strive to make and keep for themselves a position in this class. In order that the best men in the profession may be induced to serve as delegates it was determined that the House shall meet one day in advance of the General Meeting in the future, that its work may be mapped out and gotten into the hands of the committees for such digestion and perfection as will permit it to be finished with the deliberation its importance demands, and yet at such hours as will interfere as little as possible with section work. These and other similar problems are important, but are matters of detail which may be safely entrusted to time and the good judgment of the profession; but the very existence of the House of Delegates as an accomplished fact—evidently in the minds of the Association in a nebular way, but certainly the fruition of the labor and hope of thoughtful members for a generation—marks an epoch, and we believe an epoch for great and continuous good to the medical profession and people of these United States.

THE TETANUS EPIDEMIC.

We shall have this year our usual tetanus epidemic. Most of the cases will develop from ten to fourteen days after the Fourth of July. Commonly it will be found that a burn, inflicted by fireworks, often not of a serious character, or some slight wound from a toy pistol, preceded the development of the disease. The noisy annoyance and the yearly crop of deaths from tetanus are a high price to pay for the fostering of patriotism that is supposed to go with the present form of celebration of the glorious Fourth, but it seems idle to hope that the annual nuisance will be done away with—in our generation at least. So long as the horse remains with us, then, to discharge large numbers of tetanus bacilli on our city streets where tardy street cleaning permits the excreta to dry and so constitute an important part of street dust and dirt, the conditions necessary for the development of tetanus will obtain and the disease will continue to be a feature of city life at this time of the year.

The first question is that of prophylaxis. Tetanus develops especially after wounds deep in the tissues, or those that are seared by heat; in a word, after wounds in which the bacillus is protected from contact with the oxygen of the air in the presence of which the anaërobic germ will not grow. When wounds present themselves, therefore, which have been exposed to contamination

with street dirt, or with barnyard refuse, the ideal surgical treatment is not to encourage rapid superficial healing, but to be sure that the wound heals from the bottom and that any foreign material present is thrown off in the process. For this purpose it may be necessary to open the wound more freely and to permit some free bleeding to take place. With regard to superficial burns, it is especially important to remove all seared tissues and, as far as possible, to permit healing to begin only from freshly bleeding surfaces.

The tetanus bacillus does not produce pus. In fact, as a rule, it gives but very slight and sometimes no local reaction in the tissues where it is buried. The toxins of the bacillus, however, find their way to the cells of the central nervous system and uniting with them produce very serious changes, soon noticed in their effect upon the muscles, whose nerve supply is regulated by the affected cells. The first symptoms of tetanus, then, as seen clinically, are not the beginning of the disease, but, as has been well said, the preliminary signs of death from tetanus because of irremediable damage to the central nervous system. This emphasizes the necessity for thorough opening of suspected wounds at the time of primary treatment, even though it may involve additional pain and some risk of searring. Cauterization or the use of strong antiseptics in suspected wounds seems eminently inadvisable, since these measures leave a set of dead cells *in situ* that may serve as a protective barrier for the anaërobic bacilli against the bactericidal oxygen of the air.

The use of antitetanic serum for prophylactic purposes before the development of tetanus symptoms has been suggested, but at best is of only temporary benefit. The serum is not a germicide; but serves only to neutralize the toxins of the tetanus bacilli. Whatever tetanus toxins are in the circulation at the time of the injection will be rendered innocuous, but those due to the further growth of the bacilli will be very little hampered in their action. Subcutaneous injections of the serum after the symptoms of tetanus have declared themselves, are of very slight avail. At this time the toxins of tetanus have formed inalterable compounds with certain of the components of the nerve cells, causing irreparable injury. In conjunction with other and more effective treatment, subcutaneous injections of tetanus serum may be of service because they neutralize the toxins constantly given off from the focus of tetanus bacilli present in the tissues, and so serve as a defense against further toxic invasion until nature's protective powers are sufficiently aroused to render their aid unnecessary.

Experience has shown that the bringing of the antitetanus serum directly in contact with the nerve tissues constitutes the only hopeful method of treatment. This may be accomplished either by subarachnoidal or subdural injections. Subarachnoidal injections are made through a lumbar puncture. Dr. Jacob[1] of Berlin, one of Professor Leyden's assistants, has reported six cures out of nine cases treated by this method. Three of the cases suffered from tetanus of the severest type. Two of the patients had temperature of over 40 C. (104 F.) when the injections were given, and there are good authorities who hold that when tetanus patients develop a temperature above 39.5 C. (about 103 F.), the case will always terminate fatally. A third case was one of tetanus puerperalis. The death rate from this form of the disease is said to be, practically, 100 per cent., and besides the affection was of severe type and had a very short incubation period, making the prognosis, if possible, still more hopeless.

It would seem, then, that this method of treating tetanus should be given a trial, especially in cases where the circumstances are not such as to encourage the subdural injection of the antitetanic serum. By the subdural method the serum is introduced beneath the membranes of the brain after previous trephining. The results thus far obtained by this method have been very promising. It is, of course, a very serious operation, but the fatality from tetanus is so large as amply to justify the procedure. It is not invariably successful because if the tetanus toxins have affected very many nerve cells recovery can not be looked for. The method has proved life-saving, however, in many apparently hopeless cases, and so far has not seemed to add any considerable risk to those of the tetanus itself.

1. Leyden Festschrift, vol. ii, 1902.

SOME REFLECTIONS ON HEMIPLEGIA.

The return of a varying degree of motor power in members paralyzed as a result of hemorrhage into the brain, occlusion of a cerebral vessel and secondary softening and other cerebral lesions has been attributed in part to the escape from destruction of certain nerve fibers, with their release from pressure and from the effects of the inflammatory process and in part to the assumption by the corresponding centers in the opposite hemisphere of the functions subserved by those of the injured side. The heightening of the reflexes and the development of contractures have in their turn been attributed to the removal of the inhibitory action of the higher over the lower centers through interruption of their channels of communication; and also to the irritation arising out of the sclerosis of the motor tracts.

For some time evidence has been accumulating that tends to throw doubt upon these explanations for well-recognized phenomena. It has been shown that, in addition to the motor fibers that pass directly from the cerebral cortex to the pyramidal tracts, through the pons and medulla to the spinal cord, there are others that are diverted first to the optic thalamus and the quadrigeminate bodies, and that it is largely through these that restoration of motor function and exaggeration of reflexes and contractures take place in the sequence of hemiplegia of cerebral origin. This aspect of the subject has been recently discussed at some length by Dr. Max Rothmann,[1] who, as a result of his studies,

1. Berliner klinische Wochenschrift, April 28, May 5, 1902.

concludes that hemiplegia in man, and its consequences, are not caused by destruction of the pyramidal tracts alone, but that, in addition, interruption of other cerebrospinal paths must have taken place. In case of excision of the portion of the cerebral cortex controlling the muscular activity of the extremities, or in case of total destruction of the posterior limb of the internal capsule, the resulting hemiplegia is due to complete loss of conduction of motor impulses from the cortex. Under such conditions, the paths between the quadrigeminate bodies and the spinal cord, and their connections with the optic thalamus, are at first unable properly to maintain the motor functions, and transmit to the spinal cord only impulses for maintaining the tendon-reflexes. The partial restoration of active movements that sets in in the course of several weeks is the result of the gradually developing independent motor function of the optic thalamus, or of the quadrigeminate centers, and has no connection with the reëstablishment of the pyramidal tract or the vicarious action of the cerebral cortex of the opposite hemisphere.

The fact that restoration of only certain groups of muscles takes place in human beings, in contradistinction from apes, with persistent paralysis of the antagonists, and that contractures develop in consequence, is due to peculiarities in innervation of the arms and legs arising out of the assumption of the erect attitude by the former. Inasmuch as in case of restoration of movement, the condition is not one of reëstablishment of previously injured paths, but of an education of new paths, the institution of exercises of the paralyzed parts, and especially of the muscles that would otherwise remain paralyzed, is indicated as early as possible after development of the paralysis. Such treatment by exercises will in some cases be advantageously supplemented by tendon transplantation of the paralyzed muscles.

VARIETIES OF ENDOCARDITIS.

Endocarditis, like the inflammatory process in general, may result from a variety of irritating factors, mostly bacterial in character. In consequence of the reaction between the morbific agents and the invaded tissues, there may develop irregular roughening or elevation of the endocardial surface, or polypoid or villous formations, or ulcerations, or even suppuration, representing the different pathologic types of endocarditis, with corresponding clinical variations. The several lesions would seem to be the expression of modifications in the intensity of the morbid process rather than of any specific pathogenic activity on the part of the causative micro-organisms. Some observations in support of this view were communicated at a recent meeting of the Royal Medical and Chirurgical Society by Drs. F. J. Poynton and Alexander Paine,[1] who had previously isolated from the blood, during life, in cases of acute rheumatism and from the lesions after death a diplococcus susceptible of culture on artificial media and which, when injected into lower animals, gave rise to symptoms and lesions of the same disease, with the presence of the identical micrococcus in the blood and tissues. In the course of further investigations they were able to demonstrate a close clinical relationship in some cases between rheumatism and so-called malignant endocarditis. This result was reached from clinical observation, from a study of the morbid anatomy and from bacteriologic and experimental investigations.

With the diplococcus isolated from seven cases of malignant endocarditis it was possible to develop the same disease in lower animals. A like result could be brought about with the diplococcus of rheumatism, and, conversely, it was possible to produce rheumatism with the micro-organism that caused malignant endocarditis. The diplococcus found in the two conditions exhibited slight but not essential differences, those associated with malignant endocarditis being smaller and more rapid in growth. Both possessed acid-producing properties, which it was thought might play some part in the rheumatic process. A distinction was found to exist between the vegetations upon the cardiac valves in cases of rheumatic endocarditis and in those of cases of malignant endocarditis, numerous diplococci being present in the necrotic tissue in the latter, while there was none in the former. Between these extremes there were all gradations. The tendency for malignant endocarditis to occur in damaged valves was thought to be due to a lack of resistance in these structures.

The foregoing observations go to show that so-called malignant endocarditis represents an intense or virulent inflammation of the lining membrane of the heart, differing only in degree from other forms of the same morbid process, and also that the same lesions may be induced by the same micro-organism as appears to give rise to acute rheumatism. There is, further, not wanting collateral evidence that the disorder may be caused also by other micro-organisms.

1. Lancet, April 12, 1902, p. 1036.

THE INDEX OF CURRENT MEDICAL LITERATURE.

The readers of THE JOURNAL will note that the Index of Current Medical Literature in this, the concluding number of the volume, contains not only the American, but also the European titles. Heretofore this has been—since the discontinuance of the publication of the Index Medicus—the most complete index of papers in the medical publications of this country. With the present additions, which nearly double its size, it affords an index also of most of the leading foreign journals, sufficient, it is thought, for many purposes, for the consultors of foreign medical literature. With the abstracts given, THE JOURNAL reader should be kept well posted as to what is being done in medical science abroad. There is a utility in this which we believe will be appreciated by American workers, as the *Bibliographia Medica*, the successor to the *Index Medicus*, is not readily available to many in this country and its continuance is, moreover, an uncertainty. Unless we have evidence which has

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION

1902-1903

GENERAL OFFICERS

PRESIDENT—FRANK BILLINGS	Chicago
FIRST VICE-PRESIDENT—J. A. WITHERSPOON	Nashville, Tenn.
SECOND VICE-PRESIDENT—G. F. COMSTOCK	Saratoga Springs, N. Y.
THIRD VICE-PRESIDENT—C. R. HOLMES	Cincinnati
FOURTH VICE-PRESIDENT—JAMES H. DUNN	Minneapolis
SECRETARY—GEORGE H. SIMMONS	61 Market St., Chicago
TREASURER—HENRY P. NEWMAN	100 Washington St., Chicago

BOARD OF TRUSTEES.

E. E. Montgomery, 1703 Walnut St., Philadelphia, 1905.
H. L. E. Johnson, 1821 Jefferson Place, Washington, D. C., 1905.
A. L. Wright, Carroll, Iowa, 1905.
Miles F. Porter, Ft. Wayne, Ind., 1903.
E. Fletcher Ingals, 36 Washington St., Chicago, 1903.
W. L. Rodman, 1626 Spruce St., Philadelphia, 1903.
John F. Fulton, St. Paul, Minn., 1904.
T. J. Happel, Trenton, Tenn., 1904.
W. W. Grant, Denver, Colo., 1904

JUDICIAL COUNCIL.

Term expires 1903: F. H. Wiggin, New York City; G. B. Gillespie, Covington, Tenn., and D. C. Peyton, Jeffersonville, Ind.

Term expires 1904: T. C. Martin, Cleveland, Ohio; J. B. Roberts, Philadelphia, and Christopher Tompkins, Richmond, Va.

Term expires 1905: Philip Marvel, Atlantic City, N. J.; George Cook, Concord, N. H., and N. S. Davis, Jr., Chicago.

SECTION OFFICERS

PRACTICE OF MEDICINE—Chairman, W. S. Thayer, Baltimore; Secretary, James B. McElroy, Stoval, Miss. Executive Committee—George Dock, Ann Arbor, Mich.; J. M. Anders, Philadelphia; Frank A. Jones, Memphis, Tenn.

OBSTETRICS AND DISEASES OF WOMEN—Chairman, A. Palmer Dudley, New York City; Secretary, C. L. Bonifield, Cincinnati, Ohio. Executive Committee—W. E. B. Davis, Birmingham, Ala.; Henry P. Newman, Chicago; J. H. Carstens, Detroit, Mich.

SURGERY AND ANATOMY—Chairman, James E. Moore, Minneapolis; Secretary, John C. Munro, Boston. Executive Committee—H. O. Walker, Detroit; A. J. Ochsner, Chicago; DeForest Willard, Philadelphia.

HYGIENE AND SANITARY SCIENCE—Chairman, H. M. Bracken, Minneapolis, Minn.; Secretary, G. T. Swarts, Providence, R. I. Executive Committee—Arthur R. Reynolds, Chicago.

OPHTHALMOLOGY—Chairman, John E. Weeks, New York City; Secretary, Frank Todd, Minneapolis, Minn. Executive Committee—H. V. Würdemann, Milwaukee; J. A. Lippincott, Pittsburg, Pa.; Frank Allport, Chicago.

DISEASES OF CHILDREN—Chairman, John C. Cook, Chicago; Secretary, Thos. S. Southworth, New York City. Executive Committee—Edwin Rosenthal, Philadelphia; Samuel W. Kelley, Cleveland; H. M. McClanahan, Omaha.

STOMATOLOGY—Chairman, M. L. Rhein, New York; Secretary, Eugene S. Talbot, Chicago. Executive Committee—M. H. Fletcher, Cincinnati; R. R. Andrews, Cambridge, Mass.; A. H. Peck, Chicago.

NERVOUS AND MENTAL DISEASES—Chairman, F. W. Langdon, Cincinnati; Secretary, F. Savary Pearce, Philadelphia, Pa. Executive Committee—Hugh T. Patrick, Chicago; H. A. Tomlinson, St. Peter, Minn.; Richard Dewey, Wauwatosa, Wis.

CUTANEOUS MEDICINE AND SURGERY—Chairman, John A. Fordyce, New York; Secretary, R. R. Campbell, Chicago. Executive Committee—L. Duncan Bulkley, New York; W. L. Baum, Chicago; Henry W. Stelwagon, Philadelphia.

LARYNGOLOGY AND OTOLOGY—Chairman, Geo. L. Richards, Fall River, Mass.; Secretary, J. F. Barnhill, Indianapolis, Ind. Executive Committee—C. R. Holmes, Cincinnati; J. N. Mackenzie, Baltimore; G. Hudson Makuen, Philadelphia.

MATERIA MEDICA, PHARMACY AND THERAPEUTICS—Chairman, Solomon Solis-Cohen, Philadelphia; Secretary, C. S. N. Hallberg, Chicago. Executive Committee—Leon L. Solomon, Louisville, Ky.; N. S. Davis, Jr., Chicago; George F. Butler, Alma, Mich.

PHYSIOLOGY AND PATHOLOGY—Chairman, Victor C. Vaughan, Ann Arbor, Mich.; Secretary, Joseph McFarland, Philadelphia. Executive Committee—W. S. Hall, Chicago; L. Hektoen, Chicago; Frank B. Wynn, Indianapolis.

GENERAL INDEX.

Use of the index will be facilitated by bearing in mind that subjects are frequently given under two or more headings, e. g., brain, cerebral, tumors, etc.; heart and cardiac; cirrhosis, liver and hepatic; child, children and infant; gland, thyroid, etc. Often, too, writers treat of the eye, ear, nose and throat under one head, etc., and the titles do not always permit of indexing under the several headings. The "General Index" contains only titles of articles, editorials, society reports, abstracts, and miscellaneous matter appearing in The Journal; the book notices, deaths, societies, marriages, authors, and titles of articles mentioned in the "Current Medical Literature" department are indexed and arranged under their separate headings instead of in the body of the "General Index."

Abbott, A. C., pseudotubercle bacilli, 1325
A. W., intestinal exposure, 125
Abdominal and pelvic surgery, conservatism in 1595
aorta, ligation of, for aneurism, 734
disease, diagnosis of, 731
inflammation, quiescent or latent period in, 1479
injuries, grave, 125
muscles, congenital absence of, 64
pain, 731
traumatisms without external evidence, 1302
wall, reefing the, 486
wounds, closure of suppurating, 1697
Ability and size of head, 1236
Ablatio placentæ, 132
Abortion case, circumstantial evidence in, 420
is it justifiable in insane, 69, 213
tubal, 1100
Abrams, A., Roentgen rays in pulmonary disease, 1142
Abrahams, R., puerperal eclampsia, 724
Abscess, hepatic, 135, 605
ischeo-rectal, 354
subphrenic, 132
Abscesses, pelvic, bowel perforations and, 762
Abstracts, a valuable feature, 587
of papers, physicians should furnish, 1456
The Journal, 776
Abt., I. A., pathologic specimens, 1102
Accident insurance, septic poisoning in, 612
Accidents, communications to physicians about, 667
Accouchement forcé, puerperal toxemia treated by, 417
Accountant, physician as an, 1665
Acetonuria, glycosuria and, in phosphorus intoxication, 140
Acetozone, 1540
Achondroplasia, 137
Achylia, gastric, 1193
Acid, butyric, 539
cinnamic, in tuberculosis, 544
oxalic, solubility of, in urine, 547
Acid-proof bacilli in non-tuberculous sputum, 1310
Aconite poisoning, 1596
Acromegaly, treatment of, with pituitary bodies, 295
Acroparasthesia, 1594
Action of silver nitrate and chromic acid in chronic glossitis under the influence of the electric current, 1427
Actinic light, penetration of body by, 1183
Actinomycosis in man, treatment of, 1189
of face, primary cutaneous, 738
Acute congestive or inflammatory glaucoma, 1351
anterior poliomyelitis in a youth. Remarks on sensory symptoms, 1357
intestinal obstruction, 707
morphin poisoning in infant, recovery, 459
Adaptability of Southern California and similar climates to the needs of consumptives, 289
Address, Association of American Physicians, 1324
Tennessee State Medical Society, 1026
Adenoid vegetations, tuberculosis of tonsils and, 358
and enlarged tonsils, operative treatment of, 837
and tonsils, pathology of, 837
Adenomata, prostatic, 1676
Adhesions, inferior peritoneal, 140
Adiposis dolorosa, 731
Adler, I., effects of tobacco, 1325
Adnexa, inflammatory diseases of, 1539
Adrenal disease, state of blood associated with, 36
substance in typhoid hemorrhage, 966
Adrenalin, 478, 1404
diabetes from injection of, 465
in anesthetics, 730
Aged, diet of the, 1412
Agglutination, improvements in technic of, 1375
of red corpuscles by malaria serum, 1481
of tubercle bacilli, clinical utilization of, 740
test with vibriones, 210
Agglutinations, diagnostic value of, in mixed infection, 1448
Agglutinins in blood, 1114
Agreement between the history of yellow fever and its transmission by the culex mosquito (Stegomyia of Theobald), 993
Alabama medical news, 330, 1012, 1449
Albiotrophy, 1188
Albuminuria, 1539
cyclic, 1185
from egg albumin, mechanism of, 977
functional, 946
in pregnancy, 1276
peculiar emulsion in eclampsia and uremia, 487
splenic, 795
Alcohol, 67, 426, 902, 1185
a dangerous food, 651
and morphin habits, cure of, 490
as therapeutic agent, 842
corrodes, 1257
effect of, on natural immunity, 39
in tuberculosis, 1597
not a food, 1664
text-book teaching of, 902
therapeutic value of, 878
Alcoholic psychoses, 1597
stimulants, the effects of, 1638
Alcoholism, apomorphin in, 788
fight against, in France, 1317
in Russia, 408
Alexander-Adams operation, topography of uterus and bladder after, 621
Alexander operation, 669, 1666
Alexia from cyst caused by bullet wound, operation, death, 379
postoperative, 1410
Alexins, absorption of, 203
in milk and in infant serum, 1412
visible action of, 210
Alimentary canal, external exploration of, 906
infection, 1121
Alkaline iodids, action of, 1546
Alkaptonuria, congenital, 679
Allen, S. B., diabetic affections of eye, 604
Allowing physician to publish article in case, 1397
Allport, F., visual defects in railroad service, 382
Allyl sulphid, in tuberculosis, 1121
Alopecia areata of dental origin, 973, 1337
Altitude, influence of, 287
Amaurosis, 1472
alcoholic, 352
Ambler, C. P., public sanitaria, 160
Amblyopia, functional, 131
American Association of Life Insurance Examiners, 1530
Association of Pathologists and Bacteriologists, meeting of, 876
decadence, 1185
journalism, 1096
Medical Association membership, 1025
Medical Association, next meeting of, 1011, 1232
Medical Association, principles of, 1586
Medical Association, the, 411
Medical literature, 178
Medical Temperance Association, 1455
Society of Naturalists and affiliated societies, 109
Urological Association, 1530
Ammonium compound, comparative toxicity of, 1324
Amputation of the penis, followed by multiple pregnancy in wife, 1442
Amputations, 846
Amyloid degeneration, intestinal tuberculosis and, 432
Amylolytic ferment in children, 544
Analgesia, spinal, 1547
Analysis of fifty-two cases of tetanus following vaccinia, 1147, 1223
of ninety-six operations for relief of tuberculosis of the testicle, 1607
Anastomosis, intestinal, 480, 1003, 1399
ureteral, 1039
Anatomic factor in production of baldness, 814
Andrews, E. W., recurrence of gallstones, 957
R. R., embryology of dental pulp, 1619
Anemia, pernicious, 430
pernicious, hemochromatic bodies in, 734
pernicious, history of forty cases, 148
pernicious, pathology of, 1524
pernicious, pigment patches in, 285
severe, of gastrointestinal origin, 487, 812
splenic, and its varieties, 1392
Anesthesia, 425, 845, 1333
combined ethyl bromid and chloroform, 141
in the plethoric, 1181
in throat surgery, 671
infiltration, 131
nitrous oxid and ether, 965
paralysis, peripheral, 535
report of death from chloroform, 247
Anesthesin, 1679
Anesthesin in wound treatment, 1678
Anesthetic, a new local, 1480
Anesthetics, 355
curative effects of, 1117
death from, under insurance policy, 1533
Anesthetizers, skilled, 471
suggestions to, 730
Aneurism, abdominal, 1599
aortic, 134
aortic, direct surgical intervention for, 975
aortic, wiring of, 50
arteriovenous, 1479
arteriovenous from subclavian vessels, 597
cardiac, 135
ligation of abdominal aorta for, 734
notes on, 1483
of aorta, 1323
of arch, treatment of, 1544
of arch of aorta, 344
thoracic, 279
traumatic, 206
Aneurisms, traumatic arteriovenous, 242, 318
traumatic arteriovenous, of subclavian, 103, 173
traumatic, treated by proximal ligature, 904
Angina, nervous, 1347
novel treatment for, 265
pectoris, 538
ulceromembranous, 538
Angiomata, senile, 1547
Angioneurotic edema, 179, 847
Angiosclerosis in pulmonary circulation, 210
Angiotribe, the, 354, 1266
Angnillali aciti in urine, 1593
Animal experimentation and the antivivisectionists, 880
Ankle bone, fracture of, and septic pneumonia, 475
Ankle-clonus, 1473
Ankles, weakness of, 969
Ankylosis of joints, 52
Anopheles of Baltimore, 791
Annual meeting, the, 1447
Anthrax, malignant, serotherapy of, 1548
Antidiphtheric serum in sepsis, 792
serum ,preventive injections of, 1045
serum, value of, 602
Antiphthisis serum, T. R., 900
Antiplague vaccination at Campos, success of, 681
Antisepsis in midwifery, 1037
internal, dangers of, 1338
Antiseptic dressing, 847
Antiseptics, urinary, 1547
Antistreptococcus serum in relation to puerperal sepsis, 1060
serum, the, 1040
Antithermic therapeutics, 1193
Antitoxin, 973
Antitoxins and vaccines, official control of, 118
Antivaccination, object lesson in, 518
Antivaccinationists, hard facts for, 1171
Antivenene, 843
Antroscope, the, 1678
Antrum disease, 63, 1279
Anus, artificial, 1041
Aorta, association of pupil disturbances of lesions of, 851
embolism of bifurcation of, 838

Aortitis, latent syphilitic, and visceral neuralgia, 484
Aphasia, 130
Aphonia in aneurism of eye, significance of, 1264
spastic, treatment of, 680
Apomorphin in alcoholism, 788
in hysteria and epilepsy, 544
Apoplexy, cerebral, 843
Appendectomy, surgical history, 46, 336
Appendicitic symptoms in infectious disease, 430
Appendicitis, 53, 424, 426, 430, 846, 1036, 1037, 1108, 1183, 1266, 1276, 1332, 1474, 1673
and gall-bladder disease, 1036
and infectious diseases, 181
and typhoid, 278
chronic, 1284
conservative treatment of, 413
diagnosis of, 138
drainage in, 540
embolism of lungs after operations for, 678
examining for, 1190
experimental, 1049
gangrenous, without symptoms, 964
gauze packing in, 899
in pregnancy, 205
instrument to facilitate drainage in, 1095
leucocytosis in, 1037
medical management of, 1390
rheumatic, 1109
Appendix, foreign bodies in, 845
Applicants to medical societies, unjust rejection of, 257
Areas of white and gray matter in spinal cord, 606
Arizona, climatography of, 229
Arkansas medical news, 1311
Armstrong, G. C., typhoid fever, 824
G. E., typhoid perforation, 1466
Army, ophthalmic work in, 429
Arrhythmia cordis, 1346
Arsenic and increase of cancer, 1453
as normal constituent of tissues, 711
medicolegal relations of, 1182
relation of, to alcoholic neuritis and beri-beri, 827
Arteries, ligation of, 1101, 1184
torsion of, 790
Arteriorenal disease, 1184
Arteriosclerosis, 1400
and cerebral disease, 907
cold as cause of, 486
new clinical standpoints in regard to, 907
treatment of, with Truneck's serum, 623
Trunecek's serum for, 484
Arteritis, obliterative, 905
Arthritis coxæ, 137
deformans in child, 271
differentiation from tuberculosis, 797
pneumococcic, 892, 1325, 1594
pneumococcus, 136
tuberculosis and, 902
Arthritism, oxidizing measures of, 1677
Artificial mineral waters, 1546
Asbestos dishes for consumptives, 338
Asch's operation, 1280
Ascites in abdominal tumors, 1538
surgical treatment of, 1137, 1191
Asepsis in surgery, 489, 899
mechanical, 900
Ashby, T. A., wandering spleen, 1589
Asphyxia, traumatic, 202

Association, American Medical
Abstracts of papers, 1643
Address of welcome by Hon. S. F. Nixon, 1640
Address of welcome by Senator Brackett, 1641
Advertisements, personal medical, 1653
Amendments proposed, 1659
Annual Announcement, 954
Associate members, 1644, 1657
medal, report of committee on, 1656
membership, 1025
Board of Trustees, report of, 1644
Business committee appointed, 1642
Business Committee, report of, 1656, 1658
Code of Medical Ethics, 1649
Committee of Arrangements, report of, 1639
Association, American Medical
Committee on Code Revision, 1653
Committee on National Legislation, conference of, 1023
Committee on National Legislation, conference of, 1023
Committee on National Legislation, special report, 1173
Committee on National Legislation, third annual conference of, 836
Committee on Organization, 1654
Committee on Transportation, report of, 722
Committees announced, 1661
Credentials, Committee on, 1655
Delegates from sections, 1527
Delegates, list of, 1662
Dentists as associate members, resolution on, 1658
Dentists in Association, 1644
Exhibits, suggestion as to, 1527
Election of officers, 1660
Geographical districts, division into, 1652
Halls and rooms for meetings, resolution on, 1658
Honorary members, 1655
Hotel rates, 1025
Incorporation defects in articles of, 1658
Informal ballot for officers, 1657
Installation of officers, 1663
International Medical Congress of 1906, delegates to, 1658
Judicial Council, report of, 1652
Judicial Council, special report of, 1653
Legislation, Committee on, 1657
Louisiana Purchase Exposition, resolution on, 1658
Medical Legislation, Committee on, appointment of, 1661
Meeting of 1903, date of, 1660
Members not in affiliated societies, 1643
Membership qualifications, 1643
Membership, report of Committee on, 1660
National Examining Board, objections to, 1659
New committees, 1654
New committees recommended, 1659
New members, 121, 409, 661, 955, 1245
New president of, 1624
Nominating Committee, 1654
Nominating Committee, report of, 1656
Official minutes of general meeting, 1639
Pathologic exhibit, 887
Preliminary programs of sections, 1246
Presentation of flag, 1640
Presentation of portrait of Dr. Paul F. Eve, 1662
Presentation of portrait of Dr. H. O. Marcy, 1663
Presentation of portrait of Dr. Hibberd, 1663
of, 1657
President, pro tem, resolution
President's address, 1642
Proceedings of House of Delegates, 1642
Proposed amendments, 1527
Public health system, proposal of, 1655
Railroad rates to Saratoga meeting, 1173, 1245
Reciprocity in medical licensure, report of Committee on, 1653
Reduced railroad rates, 1460
Representatives from State societies to House of Delegates, 1527
Representatives to House of Delegates, list of, 1460
Resolutions in regard to Surgeon-General Sternberg, 1024
Resolutions of thanks, 1661
Saratoga Springs Hotel, 955
Saratoga Springs meeting, descriptions of accommodations, etc., 1252
Scientific exhibit, recommendations for, 1659
Scientific research, committee on, 1657
Secretary, report of, 1642
Sections and section work, report of committee on, 1657
Senn medal, the 1656
State societies and re-organization, 1642
State societies, list of members of, 1652
Surgeon-General Sternberg, resolutions in regard to, 1655
Association, American Medical
Surgery, oration on, 1642
Treasurer, report of, 1644
Trustees, February meeting of, 780
Tuberculosis Commission, National, 1658
Vaccination, memorial on, 1655
Venereal disease, prophylaxis of, resolutions in regard to, 1659
Yellow fever investigators, vote of thanks to, 1655

Asthma, 1404
dyspeptic, 310
exaggeration of knee-jerk in, 544
Astragalus dislocation, 734
dislocation of, 1540
treatment of irreducible backward dislocation of, 51
Asymmetry, human, 413
Asystolia, progressive, due to subacute myocarditis, 208
splenic-hepatic, 283
Ataxia, hereditary cerebral, 900
hereditary cerebellar, 194
Atmocausis uteri, 1604
Athyroidism, functional, 650
Atomization, inhalation and, 526
Atresia, congenital anal, 351
Atrophy, general infantile, and artificial serum treatment, 1548
optic, Brown-Sequard injections in, 741
topography of myelopathic muscular, 1677
Atropia poisoning, case of, 1081
Atroscin and I-scopolamin, 1539
Attendants and nursemaids, 1364
Atypical forms of disease, 1431
Auriculo-ventricular opening, occlusion of, 1481
Auscultation, 619
Automatism, unconscious, 315
Automobile, the, 801, 1049
Auto-nephrotoxins in operations on the kidneys, 254
Autotoxemia as factor in neuroses, 363
Ayers, E. A., symphysiotomy, 645
E. A., use and abuse of forceps, 724
S., unconscious automatism, 315

Babcock, R. H., pleurisy with pneumonic induration, 269
W. W., blood abnormalities, 1391
Bacillus coli, 423, 965
coli communis in human infections, 930
typhosus, isolation of, from unusual case, 443
Bacon, C. S., management of umbilical cord, 1071
Bacteria, cadaveric, 65
effects of color on, 1039
in school dust, 210
with capsules, differentiating study of, 546
Bacterial cells, study of, 1325
Bactericidal power of certain urinary disinfectants, 266
Bacteriemia, 1285
Baines, A., epidemic of mumps, 1390
Baker, C. H., cycloplegics, 1135
Balantidium coli in intestinal diseases, 1234
Baldness, anatomic factor in, 814
Baldwin, J. F., prevention of pelvic disease, 437
Ballenger, W. L., treatment of otorrhea, 1262
Banti's disease, 1481
Barber shops, hygiene of, 589
Barker, L. F., cells and fibers of spinal cord, 606
L. F., functions of cerebellum, 194
L. F., the unveiling of the cell, 577
Barnes, A. C., new dry surgical dressing, 1207
C. S., transverse position, 1462
Barrow, D., cholelithiasis, 1389
Basedow's disease, 1699
Bate, R. A., cholelithiasis, 1389
Beard, R. O., practical dietetics, 299
Beck, C., Roentgen rays, 28
C., surgery of liver, 1063
J. C., tubal obstruction, 1262
Beehler, L. L., atropia poisoning, 1081
Belgium, overcrowding of profession in, 408
Benjamin, A. E., suture holder, 601
Benedict, C. S., smallpox, 958
Berg, A. A., systemic infection, 1493
Beri-beri, causation of, 1244
Bernays, A. C., ligation of common iliac, 1103
A. C., prostatectomy, 123
Berthelot's jubilee, 265
Bevan, A. D., laryngeal carcinoma, 1466
A. D., surgery for gallstones, 957
Bibliographia Medica, 112, 606
Bicycle riding, 1186
Bile-duct obstructions, 1188
Bile pigments and bile acids, 352
Bilharzia of rectum, surgical aspects of, 1285
Biliary flow, the, 844
lithiases, 409
passages, diseases of, 1401
passages, position of patient in operating on, 799
Biller, J. G., treatment of neurasthenia, 4
Billings, F., clinical manifestations of cirrhosis of liver, 1496
F., diagnosis of gallstones, 957
F., hepatic cirrhosis, 1393
Biltong, 1187
Birth and death rate and gynecic obstetric progress, 1537
Birth rate, lowest on record, in England, 1585
Black, N. M., plea for early treatment of squint, 1362
Blackwater fever, 428, 489, 543, 1130
Bladder, absorption by, 1409
bacteriology of infections of, 1409
Bladder-descent and sacculation, 63
Bladder disturbances in syringomyelia, 137
female, improved method of examining, 1299
new treatment of exstrophy of, 211
stammering of, 542
stone and tumor in, 1038
urethral reinfection from, 673
Blaisdell, F. E., blister beetles, 605
Blastomycetes, relation of, to cancer, 1278
Blastomycetic dermatitis, immediate diagnosis of, 313
Blastomycosis, cutaneous, 1486
cutaneous, note on, 1586
of skin, 867
Blind eyes, enucleation of, 1263
Blindness, transient monocular, 1418
Blister beetles, species of, in U. S., 605
Blood abnormalities, microscopic diagnosis of, 1391
agglutinative power of, influence of antipyresis on, 1193
alkalinity of, in disease, 621
biologic test for, 207, 1114, 1189
corpuscles, counting, 1182
diagnosis, 1476
examination, 62, 844, 965, 1273
examinations, 1675
examinations from standpoint of general practitioner, 233
examinations, value of, in typhoid and malarial fever, 1374
ferments, clinical interests of, 208
refractometric examination of, 1339
serum, nature of, 1120
Blood-serum of convalescents, treatment of scarlet fever with, 1165
Blood in consumptives, the, 431
in infancy and childhood, 65
letting, disuse of, 155
microscopic investigation of, in diagnosis of intra-abdominal suppuration, 977
pressure, 134
pressure in phthisis, 140
serum test, 1275
test, biologic, modification of, 852
Boden, Thomas P., case of, 757
Boldt, H. J., gonorrheal pyosalpinx, 344
H. J., pubo-ovarian abscess, 890
Bolton, B. M., tetanus toxin in horse, 1325
Bone charcoal for iodoform, 1047
cyst of middle turbinate, 1267
grafting, 1266
marrow in infectious diseases, 1284

Bone marrow, repair of, 209
suture, clasp for, 283
Bones, post-typhoid affectious of, 487
trophoneurotic atrophy of, 1545
Bonney, S. G., consumptiou in Colorado, 346
Book review criticized, 776
Books received, 69, 142, 213, 362, 433, 490, 547, 741, 801, 853, 910, 977, 1121, 1285, 1413, 1549, 1679
Boston, L. N., dysentery, 1099
L. N., turbidity of uriue, 446
Bottiui operation, 124, 791, 1274
operation, new electrocautery incisor for, 86
operation, the, 1275
Bovee, J. W., retroversion, 1667
Bowel perforations, pelvic abscesses and, 762
Bracken, H. M., tuberculosis, 157
Bradycardia, 1350
Brain abscess, 130
foreign bodies in, location of, by radioscopy, 1047
softening of, around tumors, 800
surgery, 791
tumor, 235, 612
tumors, operative treatment of, 1046
tumors, osteoplastic trephiuing for, 800
Bray, H. A., diseases of rectum, 415
Brayton, A. W., blastomycetic dermatitis, 313
Bread, living on, 9
Breast milk, 1273
tubercular enlargement of, 1184
Brickner, W. M., uses of x-ray, 1465
Bridge, N., management of tuberculous lung, 21
N., Southern California, 289
Bridges, W. O., differential diagnosis of typhoid, 1300
Brief Review of Finsen's phototherapy, 919
summary of the clinical, pathologic aud bacteriologic features of cutaneous blastomycosis (Blastomycetic dermatitis of Gilchrist) from the observations of Dr. James Hyde and the writer, with illustrations from thirteen cases, three of them hitherto uupublished, 1486
Brigadier-General George M. Sternberg, 1172
Bright's disease, 62, 1273, 1471
disease, etiology and treatment of, 54
disease, retinal lesious and, 614
British Naval Medical Service, new regulations for, 1243
Bromids, substitution of, for salt, 1046
Bronchial lymph nodes, enlarged, 1276
Bronchiectasis, 1189
Bronchitis, 846
Brookes paste, 851
Brooks, H., prostatic hypertrophy, 1051
Brothers, A., ectopic gestatiou, 1101
Brower, D. R., multiple neuritis, 1175
Brown, F. T., renal tuberculosis, 1261
G. V. I., hare-lip and cleft palate, 169, 237
Brown-Sequard injectious in optic atrophy, 741
T. R., leucocytes in diagnosis, 473
Brunson, R., ocular affectious secondary to syphilis, 1263
Bubonic plague, 677
plague, antiquity of, 1120
Buchanan, J. M., insanity, 1268
Bulkley, L. D., extragenital syphilitic infection, 98
Bullet wound, alexia from, 379
Burden of proof in malpractice case, 840
Burrage, W. L., cervical aud perineal lacerations, 1589
Burroughs, J. A., creosote in tuberculosis, 291
Butler, G. F., anto-toxemia, 363
G. F., ueglected therapeutic measures, 155
Buttermilk for infant feeding, 487

Cabot, R. C., pleurisy with effusion, 1392
Cacodylates, therapeutic value of, 1086
Cacodylic medication, study of, 1337
Caisson disease, 1336
Calcium chlorid, hemostatic en dovenous injections of, 1413
monosulphid in diphtheria, 141
sulphid, 1335
Calculi, urinary, 400 operations for, 1340
vesical, 970
California, climate of, 426
medical news, 40, 182, 256, 330, 405, 466, 520, 653, 829, 881, 1012, 1166, 1237, 1377, 1521
Campbell, J. T., aneurism, aortic, 344
O. B., myomectomy, 52
Canada medical news, 44, 116, 185, 259, 334, 408, 468, 524, 594, 656, 717, 775, 832, 884, 951, 1016, 1090, 1170, 1241, 1315, 1382, 1452, 1523, 1632
Canadian ananias, a, 1310
Cancer, 429, 1278, 1594
parasitic disease, 1532
contagiousness of, 1413
early diagnosis of cervical, 518
etiology of, 180
ignipuncture of, 1677
in Germany, 851
in India, 1702
increase of, 1018
influence of, on stomach secretion, 141
inoculation of, in animals, 544
investigation, 1171
mammary, 282, 849, 969, 1543
mammary, diagnosis of, 1174
metastatic, in internal genitalia, 1480
of cecum aud sigmoid, 1045
of penis, 499
oöphorectomy in, 282
radiotherapy for, 1536
rectal, 723
rectal, improved technics for, 1480
research, 1243, 1454
research, committee for, 1545
research committee, meeting of, 1546
treatment of, 430
uterine, abdominal hysterectomy for, 1183
uterine, vaginal hysterectomy in, 1474
Caput obstipum, 1283
Car sanitation, 45
Carbohydrates, special rôle of, 738
subcutaneous injections of, 1043
Carbon bisulphid poisoning, 790
Carbuncle of upper lip aud face, 1598
Carbuncles, reported treatment of, 1545
Carcinoma and malaria, 622, 1456
cecal, 279
early recurrence of, in vaginal scar, 345
etiology of, 711, 976
gastric, 1700
gastric, from gastric ulcer, 693
in skin alterations, 1410
laparatomy for, 898
laryngeal, 1466
of epiglottis, 1394
parasitic nature of, 138
rectal, diagnosis and treatment of, 416
survival after extirpation of, 211
uteri, extirpation of glauds in, 1702
uterine, 1183
uteriue, influence of pregnancy ou, 140, 480, 1184
uterine, treatment of unremovable, 1184
Carcinomatous growths, treatment of, by caustics, 616
Card announcement in country papers, 213
Cardiac inadequacy, 1281
neuroses, 672
Cardia, surgical treatment of spasm of, 1048
Cargile membrane, the, 1472
Carotids, compression of, 1277
Carpenter, F. B., hepatic abscess, 605
Carstens, J. H., case of hepatopexy, 1294
J. H., conservative treatment of appendicitis, 413
J. H., what of the future in obstetrics and diseases of women, 1614
Carter, W. S., prevention of tuberculosis, 1464
Case illustrating plastic surgery of eyelids, 763
Case in which a large bone cavity was healed by means of Thiersch grafts, 1433
of atropia poisoning, with high temperature and recovery, 1081
of Brown-Sequard's paralysis, 685
of infantile cerebral palsy, with autopsy findings, 1068
of right cecal hernia, complicated by hydrocele aud suppurative appendicitis, 1075
of systemic infection by a paracolon bacillus probably secondary to typhoid fever, with the clinical picture of acute cholecystitis, 1493
of Thomas P. Boden, the consumptive Irish immigrant, 757
Casselberry, W. E., resection of superior maxilla, 1394
Castration by steam to uterus, 1047
ovarian treatment after, 139
Cataract operation in the aged, 1175
Catarrh, dry aural, treatment of, by pneumatic cabinet, 622
treatment of acute, 488
Catarrhal deafness, constitutional state vs., 472
Catgut ligatures, 966
method of sterilizing, 1120
Catheter, simple fastening for permanent, 139
sterilization, 966
Catheterization of ureters in radiography, 1409
Cattle plague, study of, 738
Cauda equina, lesious of, 1195
Causes of death, revised classification of, 1242
Cavernous sinus, thrombosis of, 1331
Cecum, inflammatory growth of, resection of bowel, 344
Celiac plexus, hypophrenic pains in neurosis of, 741
Cell, the unveiling of the, 577
Cells and fibers in spinal cord, 606
of sensory ganglia, pathology of, 1341
Celluloid, danger of, 737, 1383
Census of France, 1901, 409
Cephalalgia, lumbar puncture for, 975
syphilitic, relief of, by lumbar puncture, 851
Cephalic index, the, 280
Cerebellum, functions of, 194
Cesarean section, 875, 903, 1674
section in placenta previa, 1597
section under spinal anesthesia, 1355
Chancre of tonsils, 1390
soft, artificial susceptibility toward bacillus of, 253
Chancres, extra-genital, 847
Changes of substance in the organism, 1186
Charaka-samhita, 1457
Charging wrong persons, 726
Charlatanism and cheek, 403
Cheatham, W., chancre of tonsils, 1390
Cheese, tubercle bacilli in, 1012
Chemistry, some clinical aspects of, 1359
Chicago Medical Society, fifty years' history of, 1027
Chickeu-pox, 788
Childbirth in deformed pelvis, 1544
Children in cities, 1666
medical treatment of, 64
pseudo-appendicitis in, 204
with three legs, 1456
Children's testimony, 482
China, medical reports from, 265
Chinese in San Francisco, 135
Chloroform, 1280
and ether, 1601
and gaslight, 1318
and ether, discovery of, 623
anesthesia, death from, 335
anesthesia in heart disease, 738
deaths from, 1114, 1188
death under, from heart paralysis, 740
icterus, 1340
in heart disease, 850, 974
internal use of, and its dangers, 977
prevention of accidents from, 1601
Chloroma, 1407
Chlorosis, 1403
Choked disc, pathogenesis of, in brain tumor, 488
Cholangitis, 1180
Cholecystectomy vs. removal of mucosus of gall-bladder, 1102
Cholecystitis, 1180
and cholangitis, 431
meningitis and five months' fetus, 443
symposium on, 781
Cholelithiasis, 205, 1331, 1339, 1594
cholecystitis and cholangitis, 1180
medical aspects of, 938
medical treatment of, 1389
surgical treatment of, 1389
Chorea, acute, 1369
acute, recovery, 1369
etiology and treatment of, 265
treatment of, 213
Chorio-epithelioma malignum, 967
Choroid, injuries of, 84
Church, A., multiple neuritis, 1264
hygiene, 1448
Cicatrix after laparotomies, solidity of, 1283
Cigar clippers, infection from, 713
Circumcision, 427
Cirrhosis, alcoholic, treatment of, 535
Dr. Billings on, 1026
hepatic, 278, 535, 1393, 1496
hepatic, classification of, 529
hepatic, diagnosis of, 535
hepatic, etiology of, 535
hepatic, medical treatment of, 530
hepatic, surgical interventiou in, 484
in childhood, 530, 535, 1038
Cisson, E. O., faucial and submerged tonsil, 1262
City children during the summer, 1580
Clark, J. F., sporadic infantile myxedema, 1102
L. P., infantile cerebral palsy, 1068
Claudication, intermittent, 669, 1036, 1110
Clavicle, treatment of dislocation of, through open wound, 52
Clavicles, symmetrical ignored fractures of, 976
Cleft palate, 67, 237, 537
palate, hare-lip and, 169
Clemensen, P. C., Finsen's phototherapy, 919
Cleopatra of Egypt as a physician, 800
Clevelaud, C., Alexander operation, 1666
medical journals, consolidations of, 411
Climate or spectacles, 481
Climates, American and Swiss, 288
Climatography of Arizona with special reference to the climatic treatment of tuberculosis, 229
Clinical manifestations of the early stages of cirrhosis of liver, 1496
Clonus, two unusual forms of, 1473
Club-foot, 355
treatment of, 620
Club practice, medical, 328
Cocain, experimental research and, 492
habit, the, 38, 1337
Cocainization, intraspinal, 1112
Cohen, B., management of normal labor, 724
Cold, a, describing pneumonia as, 348
abscess, 1599
as cause of arteriosclerosis and joint deformities, 486
effects of exposure to, 488
friction, 1598
pneumonia and exposure to, 660
weather accountable for turbidity of urine, 446
Cole, W. U., necrosis of bones of skull, 249
Coles, S., transverse position, 1462
Colic, biliary, 1389
Colitis, muco-membranous, 1597
College girl, health of, 1110
Colleges combine, 1011
Collins, J., neurologist's art, 1216
Collodion, discovery of, 141
Colloid silver, intravenous injections of, in sepsis, 976
Colon bacillus, 788
bacillus, growth of, in milk, 1046
bacillus, identification of, 135
bacillus infection, 1101, 1595
Colorado medical news, 256, 330, 590, 1087, 1237, 1377, 1521

Colorado, medical practice in, 1606
Colorado's attitude toward consumptives, 1164
Colostomy for chronic dysentery, 359
Colporrhaphy, new method of, 1696
Colpotomy, superiority of, for pyosalpinx, 1045
Combined liberal arts medicine course, 1665
Commerce, relation of medical science to, 1555
Commercialism in medical education, 879
vs. sanitation, 945
Commission evil, remedy for, 264
Communications, privileged, 202
Company's physician, communications to, are privileged, 1670
Comparative values of cycloplegics, 1135
Compensation for medical services rendered state, 1665
treatment of recent disturbances in, 1412
Concha bullosa, 1394
Congress of Gynecology and Obstetrics, fifth international, 399
Conjugal cancer and statistics of cancer, 1678
Conjunctivitis, bacteriology of, 791
considered etiologically, 57
phlyctenular, 1120
Connecticut medical news, 330, 590, 770, 1377
Consciousness, 480
Constipation, unprecedented case of, 1304
Constitutio lymphatica, recent contributions on, 838
Constitution of California Medical Society, revision of, 1266
Consumption, 278
contracted in Colorado, 346, 1537
transmission of, 672
Consumptive health-seekers, barring of, 254
the ambulant, 1273
Consumptives, asbestos dishes for, 338
nervous symptom in, 1409
Contracted pelvis, pregnancy and, 433
Contribution to treatment of pneumonia with antipneumococcic serum, 1681
Contributions of Helmholtz to physical science, 562
of Helmholtz to physiology and psychology, 558
Conus medullaris and cadua equina, lesions of, 58
medullaris, lesions of, 1195
Convulsions, treatment of, 1121
utility of, 1333
Coolidge, J. W., maternal impression "marks" child for a frog, 1623
Copper as nervin, 157
Cordier, A. H., gastrojejunostomy, 582
Cornea, protection of, 1539
Cornwaldt's disease, 482
Coronary arteries, obstruction of, 1281
Corpus callosum, 280
Correction of deflections in nasal septum with minimum of traumatism, 636
Cortical function, the, 356
Corwin, A. M., carcinoma, 1394
Counterirritation in Southern Luzon, 50
County health officer, duty of city to pay, 1178
societies, importance of, 325
society controversy, 1026
society membership, 659
Cowles, E., paresis, 473
Cow's milk, action of heat on, 614
milk and infant tuberculosis, 426
Coxa vara, "growing," 1480
Crafts, L. M., incipient amytrophic sclerosis, 377
Craig, R. W., climatography of Arizona, 229
Credulity and medicine, 828
Creosotal, 479
in pneumonia, 135, 776, 793
in tuberculosis, 289
Cretinism, 733
Crile, Geo., eucain and cocain, 491
Criminals, identification of, 513
Croftan, A. C., soluble ferments in digestion, 1123
Cross examination from medical authorities, 667
Crothers, T. D., dementia preceding and following inebriety, 307
Croup, treatment of, 1339
Crouse, H. W., poisonous snakes and spiders of Texas, 1463
Culver, C. M., physician as an accountant, 1665
Curettage, 354
of puerperal uterus, 423
Curry, J. J., blackwater (hemoglobinuric) fever, 1130
Cycloplegics, comparative value of, 1135
Cystic affections, 1479
Cystitis and pyelitis, differentiation of, 1117
Cystocele, 277
operation for, 56
Cystoscope, the, 425
Cystoscopy, errors of, 1539
in the female, 1332
suprapubic, 679
Cystotomy, suprapubic, 352
Cytotoxinic intoxication, histological alterations of, 1325
Cysts, mesenteric, 139
Czolgosz case, the, 202, 480
postmortem, 202
responsibility of, 252

Dacryo-adenitis, tubercular, 65
Daland, J., vaccination, 268
Damages in eye injuries, 1264
Dandruff, 67
Danysz's bacillus, 977
Davenport, F. H., retrodisplacements, 1666
Davis, B. D., anchoring kidney, 124, 1208
E. P., ectopic gestation, 1696
E. P., polyhydramnios, 1462
N. S., Sr., fifty years' of Chicago Medical Society, 1027
N. S., Sr., heart failure in pneumonia, 891
N. S., remedial agents, 1415
T. D., compensation for medical services, 1665
T. G., methylene blue in operations on fistulous tracts, 1503
Deadly drug, mistake in furnishing, gross negligence, 667
Deaf-mutism, middle-ear disease in, 1184
Deafness, 1330
myelocene in, 971
Death from boxing, English view of, 769
Deaths, sudden, of gastric origin, 974
Deaver, J. B., appendicitis, 53
J. B., medical education, 683
Debt of otology to Helmholtz, 561
Deciduoma malignum, 57, 1276
Decidnomata and moles, relations between, 209
Deformed pelves, expectant treatment during period of dilatation in, 738
Degeneracy and assassination, 65
legislation against, 462
DeLee, J. B., relaxation of pubic joints, 33
Delevan, D. B., diseases of upper air passages, 1466
Delirium, acute, 1174
Dementia preceding and following inebriety, 307
senile, 1341
Dengue, 536
Denison, C., tuberculin, 366
Dental analgesia, electricity for, 1282
caries, 489
pulp, embryology of, 1619
Dentistry, asepsis in, 1183
Dentists, physicians and, 327
Dercum, F. X., paresis, 472
Dermatitis, blastomycetic, 1356
mercurial, 1673
Dermatomycoses in their relation to Allen's iodin test, 690
Dermatomyiasis, 371
Dermatoses, linear, 208
malarial, 968
Dermoids, 615
De Schweinitz, E. A., tuberculin, 57
Devine, E. T., medical profession and social reform, 1665
Diabetes, 615
adrenal, 137
as a manifold disease, 402
chromic acid, 622
from injection of adrenalin, 465
importance of potatoes in, 136
insipidus and mellitus, relations of, 487
Insipidus and paralysis of the bladder, 1678
Diabetes, is there a renal, 976
Langerhan's islands and, 433
mellitus, 604, 1039
mellitus, potato in treatment of, 738
ocular affections of, 1181
pancreas in, 426, 1518
prognosis and treatment of, 604
suprarenal, 1118
surgical aspect of, 604
Diabetic coma, 787
Diagnosis, 616
modern methods of, 473, 477
of smallpox, 215
prevention and treatment of puerperal infection, 1005
Diagnostic value of tuberculin, 996
Diarrhea, chronic dyspeptic, 139
pancreatogenic fatty, organotherapy of, 620
Diathesis uric acid, 1330
Diazo reaction, 975, 1548, 1601
Dietetic aphorisms for infant life, 1329
preparations, modern, 891
Dietetics, teaching of practical, 299
Differential diagnosis of typhoid fever, 1300
Digestion, neuropathic accidents of, 485
soluble ferments in, 1123
Digestive ferments, 1672
Digital examination in labor, 478
Digitalis, 277, 1332
oily solution of, for subcutaneous injection, 1409
"Dilution test," the, for functional capacity of kidneys, 1338
Diphtheria, 65, 1040
antitoxin, 277, 1281
authorized means to prevent spread of, 1327
bacilli in noma, 326
bacillus, state of, in alimentary canal, 681
calcium monosulphid in, 141
mortality from, in Germany, 1412
post-scarlatinal and rhinorrhea and otorrhea, 136
preventive serotherapy of, 1282
relations in spindle-spirillæ symbiosis and, 975
treatment of, 735
treatment of, with antitoxin, 1008
Directory, physicians, 324
Discharges and douches, 1543
Disease germs, length of life in droplets of dust, 546
Disinfectants, experiments with, 885
Disinfection and health departments, 828
Displaced heart, 834
District of Columbia medical news, 40, 182, 256, 405, 466, 520, 653, 771, 829, 947, 1087, 1237, 1521, 1583
Doctor's bill, promise of third party to pay, 273
Domestic animals and infectious diseases of man, 1520
Domestic medical news, 44
Dominion Medical Council, 1315
Dominion registration, 1382
Donaldson, H. H., cells and fibers of spinal cord, 606
H. H., gray matter in spinal cord, 606
H. H., spinal ganglion cells, 606
Dowd, C. N., enlarged lymph nodes, 838
Drainage, peritoneal, 65
canal, effect of, 1583
Drayton, H. S., nervous relation in diseases of nutritive system, 7
Dressing, new dry surgical, 1207
Drug effects, unusual, 1333
habit, the, 793
habits, 1673
manufacture, the, 1401
Druggists, prescribing by, 1299
Drugs, sale of, by physician, 475
Drunkard's liver in child, 1411
Ductless glands, 801
Dudley, A. P., Dudley's operation for recto-vaginal fistula, 345
E. C., hystero-myomectomy, 805
E. C., vaginal hysterectomy, 1686
W. H., metamorphopsia varians, 12
Dudolf, R. D., purulent pericarditis and empyema, 1030
Dunning, L. H., morphin after abdominal section, 925
Dysentery, 1586, 1597
acute, in United States, 590
amebic, 1099, 1186, 1334
amebic, in children, 253
asylum, 795
bacillary, 1099, 1334
bacillus, agglutination of, 1190
colostomy in chronic, 359
experimental, 36
ipecac in, 1334
pathogenic unity of, 797
potassium permanganate in, 411, 880
rectal injections in, 489
symposium on, 1099
treatment of, 1099, 1334
Dysmenorrhea, 284, 1542
intranasal treatment of, 907
nature of, 621
treatment of, 210
Dyspeptic asthma, 310
Dystocia from fibroma, surgical intervention for, 208

Ear, acute diseases of, 1297
disease in life insurance, 1472
drum, diagnosis of perforation of, 251
in influenza, 278
Eastman, J., uterine fibromyoma, 52
Echinococcus cyst, retroperitoneal, 1101
disease, 279
Eclampsia, 670
cases, study of, 741
pathogenesis of, 1046
puerperal, 1337, 1389, 1537
puerperal, pathogenesis and therapeutics of, 890
puerperal, treatment of, 889
puerperal, venesection and transfusion in, 724
treatment of, 210
Economic limitations of visual acuity in various trades and professions, the, 380
Ectopia of the testicles, treatment of, 1480
Eczema, clinical importance of seborrheic, 1191
Eddyism, 480
a wise coroner's jury and, 465
jargon of, 181
Edema, acute suffocating pulmonary, 619
Edwards, A. R., Brown-Sequard's paralysis, 685
A. R., hepatic cirrhosis, 529
A. R., pulsations in chest, 1393
Ehrlich's triacid stain, 681
Einhorn, M., dyspeptic asthma, 310
Eiskemp, G. H., psychology and modern medicine, 1103
Elbow fractures in children, 969
Electric currents, injuries from powerful, 622
ozonation, 479
shocks, 849, 972
Electrical injury, neuritis, epilepsy, etc., from, 377
in renal disease, 351, 615
not an expert on effect of, 667
Electro-bougie, Eustachian, 1277
Elliot, G., anatomic factor in baldness, 814
Elsner, H. L., inaugural address, 412
H. L., value of modern methods of diagnosis, 473
Elting, A. W., tendon transplantation, 473
Ely, A. H., colon bacillus infection, 1101
W. S., human asymmetry, 413
Embalming, relation of physicians to, 1519
the dead, 1478
Embolism of superior mesenteric artery, 1046
pulmonary, 1037
pulmonary, after laparotomies, especially in appendicitis, 678
Embryology of dental pulp, 1619
Emergency case of Cesarean section under the positive indication, with termination in recovery, 875
Emerson, C. P., clinical aspects of chemistry, 1359
Employe, injured, neglect of, 1178
Employment as therapeutic agency in public institutions, 1447
Empyema, 1393
rib resection in, 1074
Encephalitis, etiology of acute hemorrhagic, 433
Encephalitis, traumatic, 901

Encouragement from lay press, 265
Endocarditis, acute, 900
acute and chronic forms of malignant, 800
healed ulcerative, 1393
mitral, with gurgitations, aortitis, etc. 283
treatment of septic, 1119
varieties of, 1692
Endo-vesical operations, 1102
End-to-end approximation of broad ligaments and other points of technic in abdominal hystero-myomectomy, 805
Engelmann, R., children in cities, 1666
English, W. T., pulmonary fearlessness, 223
Enteroptosis, 1111
costal-sign of, 1678
movable kidney and neurasthenia, 485
Enuresis, 357, 1112
Enzymes, reversibility of, 220
Eosinophile count, 730
Epidemic, power of board to employ physician during, 60
Epidural injections in children, harmlessness of, 1282
Epignathus, 899
Epilepsy, 281
apomorphin in, 544
case of, with possible medico-legal complications, 473
dietetic treatment of, 487
its etiology, pathology and treatment briefly considered, 1126
nasal vertigo and, 976
serotherapy in, 789, 843
Epinephrin, 64, 791
Epipharyngeal tonsil, nature and histopathology of, 25
Epiplopexy, 968
Epistaxis, family form of recurring, 64
Epithelioma, cutaneous, 422
Roentgen rays in, 1100
Epityphilitic abscesses, treatment of, 1048
Equine mortality, 411
Ergot in puerperal fever, 799
Erysipelas, bacteriology of, 1182
in negro, 477
Erythroderma, congenital ichthyosiform, 677
Escaped patients, liability for spread of smallpox by, 726
Eshner, A. A., medical representation in hospital management, 1665
A. A., serratus magnus and trapezius paralysis, 300
Eskridge, J. T., brain lesions from syphilis, 1
Eskridge-Parkhill memorial, the, 1164
Esophagoscopy, gastroscopy and celioscopy, 361
Esophagus, artificial, 678
dilatation of, 1190
idiopathic enlargement of, 424, 546
primary sarcoma of, 392
traction diverticulum in, 680
Ether anesthesia, 670
anesthesia, operating in first stage of, 1116
Etiology and spread of typhoid, 979
Eucain, experimental research and 492
European eye and ear study, time for, 1703
Eustachian tube, value of electrolysis in, 1262
Evans, W. A., gallstones and fat necrosis, 958
Eve, P. F., gunshot wounds of stomach, 1026
Evolutionary aspect of infectious diseases with especial reference to the local venereal diseases, 1287, 1366
Ewing, J., constitutio lymphatica, 838
Examination of the genito-urinary patient by the general practitioner, 570
Examinations, preliminary, for medical degree, 38
Examiners, a voluntary board of National, 1215
Examining board, a broader national, 1385
board, a national not a local, 1376
physician's statement, 273
board, volunteer National, 1232
Exhumation and autopsy months after death, 199
Expectoration, albuminous, 1038
Experience of Syracuse, N. Y., with the compulsory tuberculin test of all dairies furnishing milk to the city, 226
Experimental and clinical research into cocain and eucain, 492
Expert evidence in testamentary capacity, 609
fees, 726
testimony, 840
Experts for state, examinations made by, 1103
Extent of injuries, evidence derived from, 1469
Extra-uterine pregnancy, 631
Extremities, asphyxia of, and renal insufficiency, 1189
Exudates, cytodiagnosis of, 1411
Eye defects in children, 732
dental affections and, 482
diabetic affections of, 604
diagnostic value of certain alterations in, 432
injury to, 609
larva in, 213
Eyeball, perforating wounds of, 1421
Eyelids, plastic surgery of, 763
Eyesight of children the 1582
Eye strain, 847

Face and nose, deformities of bones of, 1675
Facial expression otitic origin of asymmetry in, 797
palsy, catarrhal inflammation of middle ear and, 1375
Fairchild, D. S., sarcoma of uterus, 1059
Faith cures, 1673
Fallopian tubes, aspiration of exudates by, 1283
Family periodic paralysis and allied neuroses, 826
physician, the modern, in large city, 1372
Farm colonies and tent life for tuberculous, 423, 464
Fat metabolism, 221
necrosis, gallstones and, 958
Fats, extermination of, 211
Fear in its relation to disease, 225
Fearlessness, pulmonary, 223
Febris innominata, 482
Feces, microscopy of, 1602
Fecundation, problem of, 265
Fee, division of, 329
Feeding of children, the, 1474
Feeing the nurse, 46
Femur, fractures of, 426, 479, 1596
Fenger, Dr. Christian, 769
Fergusou, A. H., median perineal prostatectomy, 501
A. H., prostatectomies, 123
Ferments in pathology, 766
Fever, nature of, 621
of Hodgkin's disease, 648
puerperal, 673
puerperal, ergot in, 799
Few Personal recollections of Helmholtz, 557
"Fiat capsula," mood of, 69
Fibroids, uterine, treatment of, by electricity, 52
Fibroma, esophageal, spontaneous expulsion, 338
Fibromata, ovarian, 1697
Fibro-myoma, 906
of uterus, surgical procedures in removal of, 52
Fibromyomata complicated with pregnancy, 52
vaginal, 673
Fibrosarcoma of soft palate and tonsil, 1393
Fielder, F. S., vaccination, 959
Filariasis, 1114
Finger amputations, 897
Finlay, C., yellow fever, 993
Finsen's institute, visit to, 188
phototherapy, 977
phototherapy, brief review of, 919
Fire places, danger of unprotected, 588
Firestone, J. H., sterile soap machine, 659
First aid in railroad wrecks, 202
Fishbone, removal from bronchus of, in child, 285
Fissure, anal, treatment of, 361
Fistula, artificial gallbladder in intestinal, 1603
in ano, 426, 427, 1277
vesicovaginal, 611
Fistulæ, rectovaginal, 1674
vesico- and recto-vaginal, 1185
Five Maine murders, 730
Fixation of a movable liver and report of a case of hepatopexy, 1294
Flap-treatment of cicatricial contraction, 488
Flatfoot-connection between sciatica, meralgia and, 361
treatment of, 1702
Flexner, S., bacillary dysentery, 1099
S., cytotoxinic intoxication, 1325
S., hemolymph glands, 1392
Floods, sanitation after, 845
Florida, medical registration in, 1549
Fluctuation in pleuritic effusions, diagnostic significance of, 139
Fluorescence in malaria, curative action of, 1581
Food factors in childhood, 418
intoxication, 1474
preservation, 1185
Foot-wear, 351
Forceps, obstetric, 351, 352
use and abuse of, 724
Forearm, oblique fracture of, 506
Foreign bodies, extraction of metallic, with maguet, 358
body within the orbit, 1428
medical news, 44, 117, 185, 260, 408, 469, 524, 594, 657, 717, 832, 884, 951, 1017, 1091, 1170, 1242, 1315, 1382, 1452, 1524, 1584, 1633, 1695
Formaldehyde, 734
influence of, on urine, 1412
Formalin, 482
in tuberculosis, 767
Formol, treatment of whooping cough by, 739
Forwood, Surgeon-General, 1627
Foshay, P. M., may hospitals steal, 1665
new era in medicine, 625
Fornier, medal for, 50, 339
Fourth disease, 619, 1110, 1165, 1538
"Fourth Disease," rubella, scarlatina and, 136
Fovea, vicarious, 481
Fracture, influences of, on circulation and respiration, 546
of metacarpal bones, and oblique fracture, simple or compound, of forearm, 506
Fractures, experimental study of treatment of, 977
in children, 278
in newborn, etiology and diagnosis of, 1461
Fraenkel's bacillus, experimental vaccination with, 213
Franco-Prussian war, American hero of, 887
Fraternal unity, the dawn of, 650
Fraternity, have we a, 192
Fraudulent use of another's fame, 1011
Freeman, L., spina bifida, 755
R. G., milk modifications, 473
Freer, O. T., deflections of nasal septum, 636
O. T., laryngitis, 1394
Freezing point of blood or urine, 35
French Medical Congress, 1316
Friedenwald, H., history of ophthalmoscope, 549
Frenkel's therapeutic exercises, 908
Fright, physical injuries caused by, 1468
Frisbie, E. G., gastrectomy, 56
Fry F. B., acute anterior poliomyelitis, 1357
Fuetterer, G., gastric carcinoma, 693
G., treatment of ulcer of stomach, 76
Function of soluble ferments of blood in intra-cellular digestion, 1123
Furnishing physician, power of director, 273
Further report of a previously recorded case of blastomycosis of the skin; systemic infection with blastomycosis; death; autopsy, 867
Furuncles and carbuncles, Gersuny's treatment of, 602
as cause of pyonephritis and pneonephrosis, 1604
Fussell, M. H., non-tuberculous pneumothorax, 1393
Future, what of the, 1614

Galen's works, new complete edition of, 338
Gallbladder and ducts, surgery of, 670
disease, appendicitis and, 1036
inflammation, remote results of, 968
operations, 956
rupture of, treatment of peritonitis due to, 740
Gallbladder, surgery of, 900
suturing to parietes, 1079
the, 1389
use of, to restore prolapsed liver, 803
Gallstone ileus, 1047
surgery, 1401
Gallstones and fat necrosis, 958
diagnosis of, 957
intestinal obstruction from, 535
pathology and surgery of, 1603
recurrence of, 957
Galvanocauterizations, intra-ocular, 1118
Gangrene following thrombosis of abdominal aorta and its branches, 1622
of penis, 1261
peripheral, 1370
pulmonary, operative treatment of, 799
Gardner, A. N., care of insane, 1265
Garrett, R. E., gangrene following trombosis of abdominal aorta and its branches, 1622
Gas leakage in large cities, 1579
Gasseous interchange, influence of baths on, 1581
Gasserian ganglion, operations on, 1046
Gastrectomy, 56
Gastric affections, surgical intervention in, 909
catarrh, chronic, 353
chemistry, 898
conditions, 1699
function, influence of commoner drugs on, 73
functions, new method of testing, 1480
hemorrhage, operator's intervention for, 1048
hyperasthesia and its management, 79
perforation, supposed, 1699
ulcer, feeding in, 795
Gastritis, chronic non-alcoholic, 1595
Gastroenteroptosis, 1027
Gastroenterostomy for severe hematemesis, 355
posterior, 1282
reflux in, 208
Gastrointestinal affections, infantile, 681
Gastrojejunostomy, 1476
for stenosis of pylorus, post-mortem six years later, 582
Gastroptosis, 424
Gastroscopy and celioscopy, 361
Gastrostomy, 739
Gauze veils for aseptic operation, 1602
Geib, D., unprecedented case of constipation, 1304
Gelanthum, 353
Gelatin, 1329
as a food and therapeutic agent, 1444
as hemostatic, 797
food value of, 432
in hemoptysis, 211
injections as cure for melena neonatorum, 360
tetanus after injections of, 651
tetanus germs in, 740
treatment, alimentary, 1282
General medical news, 115, 259, 524, 593, 656, 716, 774, 832, 883, 949 1015, 1089, 1169, 1240, 1314, 1380, 1452, 1523, 1584, 1695
Genital malformations, 723
Genito-urinary patient, examination of, 570
Georgia medical news, 182, 405, 466, 771, 947, 1166, 1311
Germau, W. H., rapid sugar testing, 317
Medical Congress, 1316
Surgical Congress, 1171
Germany, increase of physicians in, 255
quack medicines in, 645
Gerster, A. G., surgical aspect of diabetes, 604
Gersuny's paraffin injections, 1000
treatment of furuncles and carbuncles, 602
Gestation, ectopic, 195, 1101
ectopoid, 206
Gifts of patient to physician invalidated, 1092
Gilbert, J. A., lung development of the child, 1436
Gilchrist, H. L., sanitary census of Manila, 988
Glands, digestive, work of, 1210
Glandular fever, 427
Glass, unbreakable, 765
Glasses, fitting of, 481
the misuse of, 1263

Glaucoma, 792, 1599
acute inflammatory or congestive, 1351
prognosis of operation for, 678
sympathectomy in, 1401
visual field of, 1599
Glimpses of the practice of medicine and surgery in Britsh and Spanish Honduras, 1079, 1152
Glossitis, chronic, 1427
fatal membraneous, 1390
Glycolysis, 359, 545
Glycosuria and acetonuria in phosphorous intoxication, 140
and insanity, 282
connection between psoriasis and, 620
experimental, 1393
the surgery of, 1543
Goat's milk, 1096, 1282
Goff, J. R., retrodisplacements, 1666
Goiter, 1333, 1407
exophthalmic, 204, 621
exophthalmic, cure of, 1605
exophthalmic, pathogensis of, 1193
exophthalmic, sympathectomy in, 1480
injury of, from contusion, 1340
medical and surgical treatment of, 413
Gold ball implantation, 350
in treatment of tabes, 1338
Goldsborough, B. W., treatment of pneumonia with antipneumococcic serum, 1681
Gonococcus, simplified technic for staining, 177
the, 1596
Gonorrhea, 969, 1475
abortive treatment of, 1678
balsam and salicylate treatment of, 284
of prostate, 414
prophylaxis of, 1602
Goodfellow, G., new method of prostatectomy, 1391
Goodspeed, A. W., contributions of Helmholtz to physicial science, 562
Gordon, S. C., President's address, 1668
Gottheil, W. S., skin affections, 1466
Gout and obesity, 790
Gradle, H., perforating wounds of eyeball, 1421
Grandin, E. H., vesical calculus, 1101
Grant, W. W., fracture of metacarpal bones, etc., 506
Granular degeneration of red blood cells, 326
Grave abdominal injuries without external evidences of traumatism, 1302
Greece, alcoholism in, 681
"Green groin," 1672
Green, R. H., prostatic hypertrophy, 1051
Greenley, T. B., typhoid fever, 708
Gregory testimonial banquet, the, 1085
Grosse, A. B., scleroderma, 416
Guaiacol, benzoate of, 672
in infantile tuberculosis, 132
treatment of gonorrheal affections with, 1049
Gunshot wounds, abdominal, 134
wounds of knee, 1536
Gynecology for the insane, 1086
medical side of, 1589

Hahnemann on sectarianism, 1096
Hahnemannism extraordinary, 254
Haig, A., living on bread, 9
Haight, A. T., new aseptic throat mirror, 1161
Hair, premature whitening of, 795
the whitening of, 178
Hairpin, surgical uses of, 1035
Hale, A. B., cataract operation, 1175
A. B., Foreign body within the orbit, 1428
Hall, J. N., bronchial obstruction in phthisis, 838
J. N., embolism of aorta, 838
J. N., iliac vein thrombosis, 838
J. N., shoulder joint in phthisis, 838
R. B., diagnosis of abdominal and pelvic tumors, 927
R. B., prevention of pelvic inflammatory diseases after marriage, 440
W. S., contribution of Helmholtz to physiology and psychology, 558
Halley, G., etiologic factors of tumors, 52
Hallucinations and illusions, 901
Halstead, A. E., Meckel's diverticulum, 124
Hammond, F. C., shoulder presentation, 723
P., acute diseases of ear, 1297
Hand, wounds of the, 789
Hands, stigmata of, 480
Hanna, J. W., tetanilla, 1176
Happel, T. J., injuries of tarsus, 1027
Hare, G. A., hydrotherapy, 1265
H. A., treatment of dysentery, 1099
Hare-lip, 733
and cleft plate, surgical correction of malformation and speech defects of, 169
Harriman, W. E., typhoid epidemic, 509
Harrington, A. J., fatal membranous glossitis, 1390
Harris, H. F., somatic cells in infection, 633
M. L., ascites, 1137
M. L., injuries of knee-joint, 51
P. A., suppurating abdominal wounds, 1697
Harrison, G. T., puerperal eclampsia, 890
Harvard cancer committee, second annual report of, 1083
Harvey, a German precursor of, 800
Havana, health of, 328
Havana's excellent sanitary results, 1236
Hay fever, 207, 1547
immunization treatment of, 1684
Hayden, J. B., teratoma of testicles, 1261
Haynes, I. S., surgical anatomy of lung, 57
Hay's reaction for biliary acid, a correction, 1085
Head, healed bullet wounds of, 1190
transverse arrest of, 1540
Headache, ocular defects and, 713
Health boards, number of physicians allowed on, 532
of people, the, 850
officer, authority required for appointment of, 962
officers, permanent tenure of office for, 1520
reports, 70, 142, 214, 286, 434, 490, 548, 624, 682, 742, 802, 854, 910, 978, 1050, 1122, 1194, 1286, 1342, 1414, 1482, 1550, 1606, 1680, 1684
Hearing before board of health, 1104
tests, sources of error in, 1475
Heart affections, diet in chronic, 845
affections, treatment of rheumatic, 1118
affections, traumatic, 1193
comparative measurements of, 210
disease, 616
disease, chloroform anesthesia in, 738, 797, 850, 974
disease, congenital, 1323
disease, frequency of embolism in, 339
disease in pregnacy and labor, 539
disease, pleuritic effusions in, 544
disease, treatment of, 1029
disease, tuberculosis in, 279
disease, valvular, 1537
in pregnancy, condition of, 1393
murmur, posture and, 904
murmurs, physiologic, 1036
neuroses of, 1345
of child, 542
organic diseases of, 700
strain, 277
surgery of, 1045, 1330
suture, 123
the "frosted" or zuckerguss 1411
wounds, suture of, 1560
Heath, W. H., state supervision of marriage, 82
Hebrew insane, the, 901
Heiman, H., stomatitis due to Vincent's bacillus, 837
Helmholtz and the public lecture platform, 586
debt of otology to, 561
personal recollections of, 557
Helmholtz's contributions to physical science, 562
contributions to physiology and psychology, 558
Hematemesis, malarial, 1597
Hematoporphyrinuria, 1471
Hematuria, 1408
and movable kidney, 790
idiopathic or congenital hereditary and family, 1446
renal, of telangiectatic origin, 1310
Hemiplegia, hysterical, 203
some reflections on, 1691
the problem of, 1678
Hemochromatic bodies in pernicious anemia, 734
Hemoglobinometer, 211
Hemoglobinuria, 1190
after quinin, 545
experimental, from bacterial toxin, 68
Hemolymph glands, 1392
glands, significance of, 944
Hemolysin, bacterial, 677
Hemolysis in therapeutics, 1546
Hemolytic experiments, 676
substances, clinical application of, 544
Hemophilia, joint lesions in, 1524
Hemoptysis, 1038
gelatin in, 211
treatment of, 1412
treatment of tuberculous, 1604
treatment of, with subcutaneous gelatin injections, 622
Hemorrhage, cerebral, management of, 613
puerperal, 1537
uterine, 1108
Hemorrhoids, 614, 1275
internal, 964
internal, removal of, under local anesthesia, 1076
new method of operating on, 1545
operative treatment of, 415
prostatic hypertrophy and, 1334
Hemostasis of broad ligament, 1501
Henning, G. B., pneumonia, 1026
Henry, W. O., sepsis, 124
Hepatic drainage, 62
lesions in infancy, 1403
Hepatopexy, case of, 1294
Hepatoptosis and hepatopexy, 1045
Heredity, 614, 1333, 1597
as cause of insanity, 371
problem of, 388
Herman von Helmholtz, the inventor of the ophthalmoscope, 552
Hernia, 796, 1040, 1676
incarcerated, 1283
inguinal interstitial, 485
phlegmon around, 799
right cecal, 1075
service view of, 871
strangulated, 538
Herpes after spinal cocainization, 208
zoster, 279, 538
Herrick, J. B., healed ulcerative endocarditis, 1393
J. B., pneumococcic arthritis, 892, 1325
J. B., pseudo-cirrhosis, 530
J. F., conglomerated cystic kidney, 1103
Herter, C. A., experimental glycosuria, 1393
Higgins, F. W., blood examination, 223
High altitudes, need of food at, 1604
altitudes, respiratory interchanges at, 136
standard, lay opinion, 1164
Hille, H., new dry surgical dressing, 1207
Hip-joint, bloodless method of treating congenital luxation of, 1480
1181
disarticulation, hemostatis of,
Hippocratic oath, 1027
Hippus, 965
History of invention and development of ophthalmoscope, 549
of Sections of American Medical Association, 1504
of Sections, corrections in, 1695
Hodgkin's disease, 201, 1333
disease and sarcoma treated by x-rays, 166
disease, fever of, 648
Hog cholera, sero-vaccination of, 282
Holmes, B., chloroform anesthesia, 247
Homeopathic school of medicine, one thing needed by, 464
in modern medicine, 1118
what we can learn from, 975
Honduras, British and Spanish, medicine and surgery in, 1079, 1155
Honorary members, 1446
Hookworm, new species of, 1399
Hopkins, S. R., Cesarean section under spinal anesthesia, 1355
T. M., operating table, 1023
Hoppe, H. H., neuroses of heart, 1345
Horwitz, O., tuberculosis of testicle, 1261, 1607
Hospital deadbeats, 1519
liability for refusal of admission to, 785
management, medical representation in, 1665
question, the, 770
surgeons, privileged communications to, 60
Hospitals, 125
may they steal, 1665
our, 759
Hot-air treatment in rheumatism, 615
Hotz, F. C., misuse of glasses, 1263
Houghton, E. M., pharmacology of suprarenal glands, 150
House of Delegates, the, 1443, 1690
House-fly, transmission of germs by, 1291
Howard, Jr., W. T., sarcoma of esophagus and stomach, 392
Hubbard, S. D., smallpox, 958
Huizinga, J. G., the punctumeter, 1095
J. G., vicarious menstruation from the retina, 1442
Human milk, new reaction of, 622
Humerus, forward luxation of, 977
fractures of, 1036
suturing head of, to acromion, 739
Humiston, W. H., prevention of pelvic disease, 442
Huntington, T. W., bowel perforations, 762
T. W., fracture of vertebra, 1391
T. W., peripheral gangrene, 1370
Hurd, A. W., symposium on paresis, 472
Hydatid fluid, freezing point of, 975
Hydrarthosis, intermittent, 1603
Hydrocele, 965
treatment of, 140
Hydrocephalus, unilateral, 901
Hydrochloric acid, free, 1040
Hydrocyanic acid disinfection, 66
Hydrogen dioxid, irrigation of intestines with, 358
dioxid, precautions necessary with, 1257
Hydrophobia, 1332
experiences with, 681
in Mexico, Pasteur treatment of, 50
rabies and Dr. Dulles, 45
Hydrotherapy, 842, 1265
Hygiene and sanitation, 1267
Hyperemia, practical application of artificial, 1118
Hyperkeratosis lacunaris pharyngis, 908
Hyperplasia, fibrous pathogenesis of, 68
Hyperthermia, 1409
Hypertrophy, prostatic nature of, 1051
Hypnotics—their use and abuse, 873
Hypnotism, 202
medical use of, 141
Hypochondria, 536
Hypodermic, paraffin injections, 1626
neuritis from, 378
Hysterectomy, advantages of complete and partial, 1696
recovery after, 133
vaginal, 1686
vaginal, for hemorrhage, 890
Hysteria, 783
and neurasthenia, 1473
Hystero-myomectomy, approximation of broad ligaments in, 805

Iatrophobia, 945
Ice purified in the making, 1582
Ice-pack, 732
Ichthargan, 1675
Ichthyol in tuberculosis, 205
Ichthyosis, permanently cured, case of, 339
Icterus, pathogenesis of, 1412
Idaho Medical News, 1629
Identification of criminals through the fundus of eye, 513
Idiots, Mongolian, little finger in, 132

Ileus, acute, sepsis, iodoform intoxication or incontrollable vomiting, which? 486
atropin treatment of, 680
treatment of, 977
treatment of, with belladonna, 1602
Iliac vein thrombosis after typhoid, 838
Illing, W. P., tropa-cocain in spinal anesthesia, 758
Illinois medical news, 41, 113, 182, 256, 330, 405, 466, 520, 591, 653, 714, 771, 829, 881, 947, 1012, 1087, 1166, 1237, 1311, 1377, 1449, 1521, 1583, 1629
Immediate diagnosis of blastomycetic dermatitis, 311
Immunity, natural, and bacterial sera, 546
new kind of acquired, 1548
Immunization treatment of hay fever, 1686
Immunizing serum, administration of, by the mouth, 40, 118
Importance of heredity as cause of insanity, 371
Improved method of examining the female bladder, 1299
Inaugural address, Medical Society of the State of New York, 412
Incipient amyotrophic lateral sclerosis with recovery, 377
Incision, post-cervical, 133
Incurable conditions, relief of, by surgery, 1266
Index of current medical literature, 1692
India, letter from, 596
Indian sanitarium, 187
Territory medical news, 521
the civilized, 788
Indiana medical news, 183, 257, 331, 466, 591, 772, 947, 1087, 1238, 1378, 1450, 1629
Indications for myomectomy in young married, report of four cases of strangulation of fibroids during puerperal involution, 642
for and utility of altitude treatment in pulmonary tuberculosis, 287
Individual communion cup, the, 1586
Inebriety, clinical treatment of, 1597
dementia associated with, 307
Infancy, kidney and bladder in, 1035
Infant diet, 422, 732, 1040,
feeding, 1596
medical services for, 726
mortality in institutions, causes of, 1046
Infection and auto-infection, 740
mechanical protection against, 621
role of certain granular and non-granular cells of, 633
Infections, 793
Infectious diseases, etiology of, from new point of view, 486
diseases, prophylaxis in, 1447
Influenza, surgical complications of, 1602
Ingals, E. F., immunization treatment of hay fever, 1684
E. F., prognosis and treatment of suppurative pleurisy, 1028
Inhalation and atomization, 526
Inheritance, theories of, 207, 282
Inhibition, 1673
and the hypnotic state, 1703
Injured persons, duty of company assuming charge of, 127
Injuries, pointing out physical signs of, 667
Injury, aggravation of, 1178
followed by quick consumption, 199
Inorganic ferments, 1373
Insane criminal, the, 280
examination of stomach contents in, 280
hindrance to care of, 1265
hospitals for the, 281, 713
identification of, 280
mothers, children of, 1543
provisions for, 901
Insanity and care of insane, 1268
glycosuria and, 282
heredity as cause of, 371
in French army, 974
indican, acetone and diacetic acid in, 1597
law of, 532
pathology of, 901
pelvic lesions in, 540
puerperal, 849, 904
treatment of, 671
Insects and disease, 426
Insects, susceptibility of, to tuberculous and diphtheric toxins, 853
Insomnia, 1598
Instrumentation and medical technique, evolution of, 1189
Insufficientia pylori, 1538
Intellectual activity, controlling center of, 1307
Intemperance and life insurance, 1175
Intent of physician, opinion of patient as to, 348
Internal pudic nerve, resection of, 738
International Congress for the Protection of Children, 1384
Internes, must they be licensed physicians, 1606
Interviewitis, 583
Intestinal anastomosis, 1699
approximation, 279
disorders of infants, 1412
exclusion, remote results of, 359
exposure, immediate effects of, 125
laceration from horse's kick, 1048
movements, 615
obstruction, 1538
obstruction by bands, 1596
obstructions, malignant, 618
Intestine, rupture of, 968
Intestines, absorption of food by, 339
extensive resections of, 1480
small, attempts to disinfect, 799
small, multiple strictures of, 1045
Intra-abdominal operations, shock of, 197
Intracranial lesions, traumatic, 277
Intratracheal medication, 1275
Intubation, peroral, 284, 853
perforated tubes for, 1456
prolonged, 750
Iodic purpura, 427
Iodoform and carbolic acid intoxication, 480
odor, 1305
Iodo-mercury cacodylate in syphilis, 208
Iodophilia, 519
Iowa medical law and osteopathy, 519
medical news, 42, 183, 331, 466, 521, 653, 830, 947, 1013, 1087, 1238, 1522
Iron, 1475
absorption of, 1121
Irwin, J. W., appendicitis, 1390
Isolation of bacillus typhosus from unusual localizations—cholecystitis, meningitis and five months' fetus, 443
Isthmus canals, 478
Izal, 430

Jaccoud, Prof., retirement of, 409
Jackson, E., report on medical licensure, 1664
F. W., complications and sequelæ of rheumatism, 1030
G. T., ringworm, 473
Jamaica as health resort, 425
Japan, medical journals in, 1086
Jaundice, 278
nervous, 877
obstructive, 428
Jaws, growing together of, 1481
Jejunostomy, gastric contraction and, 358
Jelks, J. T., incurable conditions, 1266
Jenks, E. W., medical side of gynecology, 1589
Jepson, W., dislocation of astragalus, 51
Jez's anti-typhoid extract, 433
Johnson, J. L., the gall-bladder, 1389
Joint disease of children, 1273
disease, tuberculous, 899
neurosis and joint neuralgia, 285
tuberculosis, 1330
Jonas, A. F., floating kidney, 1268
A. F., gall-bladder suspensory ligament for prolapsed liver, 122, 803
Jones, H. I., ocular lesions associated with constitutional diathesis, 815
J. D., unprecedented case of constipation, 1304
Journal, new, 1627
of Obstetrics and Gynecology of the British Empire, 335
Judson, A. D., spinal braces, 508
Jung, F. A. R., pepsin digestion, 1210
Justus test, the, 1402

Kane, E. O., intestinal anastomosis, 1003
Kansas medical news, 257, 591, 881, 1311
Kashmir, malignant disease in, 1702
Keichner, W. I., tetanus following vaccination, 268
Kentucky medical news, 591, 772, 830, 881, 1013, 1167
Keratosis, tonsillar, 614
Kernig's sign, 1403
Kidney abscess, metastatic, 1603
affections, diet and treatment in chronic, 1605
anchoring of, 1208
and bladder in infancy, 1035
bilateral cystic, 1673
conglomerated cystic, 1103
cystic, 898
decapsulation of, for chronic Bright's disease, 718
disease, dry angina and, 1338
experimental transplantation of, 1048
floating, 616, 619, 965, 1268
incising, 1118
movable, heredity in relation to, 974
new method of anchoring, 124
suppuration, 1332
surgery of, 541, 1048
Kidneys, functional capacity of, 1338
methylene blue test of, 546
morbid changes in, with thyroid insufficiency, 569
polycystic degeneration of, 1049
varieties of tumors in, 140
Kiernan, J. G., problem of heredity, 388
Kipp, C. J., glaucoma, 1351
Klebs, A. C., modern dietetic preparations, 891
Knapp, H., personal recollections of Helmholtz, 557
Knee, disorders of, 1402
osteitis of, 1186
resection of, 1284
synovitis of, 900
Knee-joint auscultations, 352
internal derangement of, 282, 481, 905, 1187
internal injuries of, 51
Knopf, S. A., case of Thomas P. Boden, 757
Knott, B. D., spina bifida, 125
Koch-Weeks bacillus, the, 1273
Koch's change of views, 180
Krauss, W. C., toxic dosage in nervous disease, 472
W. M., hygiene and sanitation, 1267
Kreutzmann, H. J., uniform principles in operations for cystocele, 56
Kruse, W., rectal cancer, 723
Kuh, S., acromegaly, 295

Labor, casualties, 1585
management of normal, 724
Laboratory apparatus, 1699
Laceration, perineal, operations for, 56, 62, 129
Lacerations, cervical and perineal, 1589
Lachrymal reflex, 1471
Lactation atrophy of uterus, 1667
Lady doctor, boycott of, 186
Lagophthalmos, artificial post-operative, in Egypt, 1285
Laity, medical lectures to, 776
Laminectomy, successful, 461
Lanphear, E., puerperal state, 1176
Laparotomies, needless, 351
sterilized vellum to prevent adhesions after, 733
Laparotomy dressings, 969
Lartigau, A. J., adenoids and tonsils, 837
A. J., bacillus coli communis in human infections, 930
Laryngitis, ending in abscess, 1394
tea-kettle, 213
Laughing, attacks of irresistible, 1411
Laundries, inspection of, 1670
Lavage, gastric, contra-indications of, 212
Lawrence, F. F., extra-uterine pregnancy, 631
Lay view of physicians, 1096
Lead poisoning, 615
poisoning, experimental, 1412
poisoning, lead in viscera in, 851
Le Boutillier, W. G., surgical procedures for pulmonary tuberculosis, 57
Leg, cause of first fracture also that of rebreaking, 1103
ulcer, cure of, by nerve stretching and vein resection, 738
Legacies and medical men in France, 1317
Legislation against degeneracy, 462
Legs, ambulant treatment of tubercular joint disease of, 799
Leipziger, H. A., hemorrhage after tonsillotomy, 1103
Lemke, A. F., arthritis deformans, 271
Lens, dislocation of, 1263
displacement, congenital, 1039
Leprosy, 1183
etiology of, 1585
in South Africa, 1091
Lesions of conus medullaris and cauda equine, 1195
Leucocyte count in children's disease, 1276
Leucocytes as aids to diagnosis and prognosis, 473
Leucocytosis after violent exercise, 615
and blood changes 1114
Leucoplasia bucco-lingualis, 1546
Leukemia, 729
lymphatic 1111
myelogenous, 680
Lewi, M. J., professional midwife, 413
Lewis, C. C., mammary gland, 1390
J. A., fracture and malpractice suits, 1389
M. J., thermic fever, 1392
Libby's method of treating otitis, 1409
Libman, E., systematic infection, 1493
License, want of, 840
Licenses, revocation of, 339
Lichen, planus hypertrophicus, 93
Lieberthal, D., lichen planus hypertrophicus, 93
Life insurance, rectal examination for, 539
Ligation of common iliac, 1103
Lipemia, traumatic, 1340
Lipase, 220
Liquid air as vaginal and uterine disinfectant, 486
Lithiasis biliary, prevention and treatment of, 1339
Lithotomy, 68
advantages of median, 487
suprapubic, 847
Liver abscess, 597, 1110
alteration of, from renal impermeability, 431
destruction of albuminoids in, 1048
influencing of, by diaphragm and massage, 1604
primary tuberculosis of, 1038
prolapse, use of gall-bladder as suspensory ligament for, 122
rupture of, 1702
secretions in therapeutics, 1333
surgery of, 1063
treatment of traumatisms of, 486
work on massage of, 1703
Lobinger, A. S., rib resection in empyema, 1074
Localization in "motor" cerebral cortex, 207
Locomotor ataxia., 674
London, health of, 186
letter, 117, 186, 334, 469, 525, 595, 657, 833, 885, 951, 1017, 1091, 1171, 1242, 1316, 1383, 1452, 1524, 1585, 1633, 1695
Long bone, regeneration of, 1192
Longevity and the physician, 1638
skin diseases and, 539
Lord, J. P., Thiersch, grafts in bone cavity, 1433
Louisiana medical news, 1312
medical practice act not unconstitutional, 475
Lues, statistical study of results of, 741
Luetic sores, primary, on lower lip, 605
Lumbar puncture after skull fracture, 1409
puncture, relief of syphilitic headache by, 851
puncture, technic of, in intraspinal hemorrhage, 906
Lunacy administration in England, 1601
Lunatics, wills of, 230
Lung, chronic distension of, 678
development of the child, 1436
disease, surgical treatment of, 798
gangrene of, 845
proper management of tuberculous, 21

Lung, surgical anatomy of, 57
Lungs new test of, for forensic cases, 741
Lupus, improvements in treatment of, 621
Luxations, manual reposition of, 1284
Lydston, G. F., evolutionary aspect of venereal disease, 1287
G. F., venereal disease, 1366
G. F., vesical capacity, 391
Lyman, C. B., chronic nephritis, 1030
Lymph nodes, surgical treatment of enlarged, 838
Lymphangiectasis, filarial, 489
Lymphocytosis, 134
Lymphoma, generalized malignant, 208
Lyons, A. B., standardization of drugs, 17

McAnaly J. T., organization of medical profession, 1027
McBride, J. H., management of neurasthenic 855
McCaskey, G. W., alexia from bullet wound, 379
G. W., anemias secondary to gastro-intestinal disease, 812
G. W., brain tumor, 235
McCone, J. F., accouchement forcé, 417
McCormack, J. N., value of state control and vaccination in the management of smallpox, 1434
McCrae, T., pernicious anemia, 148
McDaniel, O., isolation of bacillus typhosus, 443
McFarland, J., problems of serum therapy, 435
J., vaccine virus, 217
McGugan, A., heredity as cause of insanity, 371
McIntire, C., state aid, 1666
McKinley physicians' bills, 39
McKinney, R., nasal tumors, 765
R., pathologic tonsils, 1027
McLean, M., long mucous polyp, 345
McMurtry, L. S., shock of intra-abdominal operations, 197
Mabbott, J. M., pneumogalactocele, 473
Maggots in alimentary canal, 361
Maine medical news, 592, 1522
Malaria, 733, 1037, 1115
action of antiperiodic drugs on parasite of, 623
after abdominal operations, 65
carcinoma and, 622
eradication of, 1243
Malaria, hemorrhagic pancreatitis in, 737
latent and masked, 612, 973, 1038
methylene blue in, 1049
mosquitoes and, 519
practical points concerning, 463
quinin bihydrobromate in, 736
resolution on prophylaxis of, 282
some interesting questions in 711
Malignant, disease, cutaneous symptom accompanying, 212
Malpractice, anticipating injury from, 1327
case, difference in, on second trial, 894
case, skill and contributory negligence in, 609
damages, 840
effects of prior condition on action for, 420
suits, fracture and, 1389
Malum perforans pedis, 1703
Mammary gland, the, 1390
gland, the, primaparæ, 1107
Management of the umbilical cord, 1071
Manila, sanitary census of, 988
Mann, M. D., uterine retrodisplacements, 1590
Manning, J., transmission of germs by house-fly, 1291
Marriage, medical examination in, 790
prevention of pelvic inflammatory diseases after, 440
state supervision of, 82
the physician and, 1634
Marrow and spleen cells, 1272
Marston, D. W., rotary and lateral curvature and Pott's disease of the spine, 1437
Martin, F. H., treatment of fibroids with electricity, 52
T. C., removal of hemorrhoids under anesthesia, 1076
W. A., new adenoid curette, 1442
Maryland, early medicine in, 1633
Maryland Medical news, 42, 114, 183, 257, 331, 406, 467, 592, 654, 714, 772, 830, 881, 948, 1013, 1088, 1167, 1238, 1312, 1378, 1450, 1522, 1583, 1629
Massachusetts medical news, 258, 406, 654, 1239, 1378, 1522, 1693
Massage, 157, 1234
Massage and osteopathy, 340
pneumatic, 1264
urethral, 1546
Mastitis in typhoid, 539
Mastoid surgery, 351, 1109, 1330
Matas, R., traumatic arterio-venous aneurism, 103, 173, 242, 318
Maternal impression "marks" child for a frog, 1623
Mayer, A., prognosis and treatment of diabetes, 604
Mayo, C. H., prostatectomy, 123
W. J., acute pancreatitis with fat necrosis, 107
W. J., gall-bladder operations, 956
Maxilla, resection of superior, 1394
Measles, 428, 1108
sequel of, 1472
Meat preservatives, 679, 844
Meckel's diverticulum at navel, 1277
diverticulum, intestinal obstruction from, 124, 1277
Median perineal prostatectomy, total removal of prostate gland, six cases, 501
Medical armamentarium, plea for greater uniformity in, 15
aspects of cholelithiasis, 938
assistance, liability for failure to furnish, 475
balloon ascents, blood and respiration in, 137
colleges, state regulation of, 38
degree, preliminary examinations for, 38
defense, organized, 37
education, 683, 1175
education and the state, 861
education, commercialism in, 879
education, endowment of, 828
education for women, 1454
examiner, agency of, 895
examiners, court can not supplant board of, 199
Examiners, National Board of, 188, 1384
experts, use and criticism of opinions of, 1670
libraries for military stations, 403
licensure, 1664
literature, foreign current, 255
organization, progressive, 1184
police powers of state, the, 1083
practice act, constitutionality of, 1327
practice laws, 1703
Press, International Conference of, 1316
profession in England, 1092
profession, organization of, 460
society, the, humble suggestion, 325
students, too many, 1309
witnesses, court not entitled to introduce, 609
Medicated lavage, 1703
Medication of the respiratory tract by antiseptic nebulae, 709
specific, 842
Medicine in Egypt, 1317
new era in, 625
Melanoderma of billiary origin, 1479
Melena neonatorum, gelatin in, 1703
neonatorum, gelatin injections for, 360
Membership in county and national societies, 718
in county society, is it necessary, 525
Memorial institute for infectious disease, 110
Meniere's symptom complex cured by electricity, 139
Meningitis following suppurative otitis media, 196
pneumonic, 544
respiration in tubercular, 672
serous, cured by trephining, 485
tuberculous, etiology and morbid anatomy of, 136
Menopause, non-surgical premature, 674
the, 967
Menstrual troubles of utero-ovarian origin, 358
Mental aberration, sudden and temporary, 315
defectives, 732
faculties, localization of, 1038, 1403
healers and faith curists, reactions among, 1581
Mentally unbalanced, benefits of surgery for, 976
Meralgia parasthetica, 885
Mercurial stomatitis and proctitis, 1546
Mercurol, 1112
Mercury and iodids, dangers of simultaneous administration of, 138
colloid or soluble, 1340
Metabolism, pathology of, 1547
Metacarpal bones, fracture of, 506
Metallic plate in trephined skull, 69
Metamorphopsia varians, 12
Meteorism means of combating 1117
Methemoglobinuria, malarial, 1186 1186
Method of suturing the gall-bladder to the parietes in gall-bladder operations, 1078
Methyl alcohol amblyopia, 1674
alcohol blindness, 62, 206
Methylene blue, 1503
blue as sedative, 897
blue in buccal infection, 408
blue test of function of kidneys, 546
Metrorrhagia, 206
Mettler, L. H., sciatica, 1264
Mexico, infectious fevers in, 488
Michigan medical news, 42, 183, 331, 467, 521, 654, 772, 882, 1088, 1239, 1378, 1450, 1584, 1693
Micrococcus catarrhalis, 546
Microscopic and clinical diagnosis, simple methods of preserving specimens for, 741
methods, use of simple, by general practitioner, 1391
Middle-ear inflammations, 1185, 1262
Middle turbinate, in chronic diseases, 130
Midwife, what shall be done with the professional, 413
Midwives, inefficiency of self-constituted, 1455
Milk and infant mortality, 1266
artificial, 64
clabbered, for infants, 487
diet for adults, 797
fibrin ferment in, 1309
microscopic examination of human, 545
modifications, 473
percentage, 1330
supply, improvement of, 1309
the boiling of, 736
Milks, organic medicated, 1282
Miller, J. S., paracenthesis, 838
Miners' diseases, 1334
Minnesota medical news, 42, 406, 654, 948
Mississippi delta, continued fevers of, 1186
medical news, 948
Missouri medical news, 184, 258, 406, 522, 654, 714, 830, 948, 1088, 1167, 1312
Mistakes in sale of drugs, liability to users for, 1534
Mitral obstructions, 1399
stenosis, surgical treatment of, 589
Modern subjection of science and education to propaganda, 455
Modified treatment of typhoid fever, 708
Moles, pigmented, nature of cells in, 826
relations between deciduomata and, 209
Molluscum contagiosum, 1278
Monstrosities, double, 1545
Montana medical news, 1312
Montgomery, E. E., genital malformations, 723
F. E., hysterectomy, 1696
F. H., cutaneous blastomycosis, 1486
G. W., myositis syphilitica, 605
Moore, B. S., compulsory tuberculin test for dairies, 226
J. E., dislocation of clavicle, 52
Morphin after abdominal section, 925
habit, failures in treatment of, 1266
Morrow, H., luetic sore on lower lip, 605
Morton, H. H., cancer of penis, 499
Mosquito investigations at New Orleans, the, 206
Mosquito and malaria, 519
Mouth, disinfectants for, 1120
Mucin, 1115
Mumps, blood count in, 1604
epidemic of, 1390
involvement of ovaries in epidemic of, 1481
Murphy, J. B., joint ankylosis, 52
J. B., the prostate, 743, 816
J. C., medical education, 1175
J. W., nasal obstructions, 1262
Murray, R. A., placenta previa, 1696
Muscular contraction, inhibition of, 613
Muscular tension, insufficient, 1192
Musser, J. H., chronic myocarditis, 71
Myasthenia, 1676
and ophthalmoplegia, 1411, 1600
gravis, 58, 255, 536, 672
Myasthenic symptom-complex, 1520
Mycosis, faucial, 55
Mydriatics, 480
Myelitis, consecutive to acute disseminated and cephalomyelitis, 547
Myelocene in deafness, 971
Myeloma, multiple, 204
Myelorrhaphy, 1626
Myocarditis, 1181
chronic, 71, 277
Myoma, 1702
Myomata, vaginal, enucleation of, 209
Myomectomy, 52
indications for, 642
Myopia, 1672
Myositis fibrosa, 134
syphilitica, 605
Myxedema, sporadic infantile, 1192

Nagel, C. S. G., conjunctivitis, 57
Nammack, C. E., diabetes mellitus, 604
Narcolepsy, 278
Narcosis, Japanese method of, 1096
Nargol, 844
Nasal hydrorrhea, hot air in treatment of, 1548
obstructions, 1390
obstructions, best means of removing, 1263
septum, correction of deflections of, 636
septum, discussion on deflections of, 662
septum, perforation of, 1277
Nassau, C. F., operative treatment of hemorrhoids, 415
National board of health, 1172
Board of Medical Examiners, 108
examining board, voluntary, 1586
legislation, 1388
Naughton, M. T., Cesarean section, 875
Nebraska medical news, 331, 830, 1014, 1168
Nebulae, antiseptic, in treatment of respiratory tract, 709
Necrosis of bones of skull, case of, 249
Need of much more accurate knowledge concerning both the immediate and remote effects of the remedial agents in general use, 1415
Negative "effort" in paralyzed muscles, 906
Negro, future of, 482
Nephrectomy, 68, 1400
pregnancy after, 138
Nephritis, acute hemorrhagic, 482
albuminuria induced by massage in, 798
blood-pressure in chronic, 1604
chronic, surgical treatment of, 1030
in malaria, 132
interstitial, 792
operative treatment for chronic, 110, 796
renal hemorrhage and, 740, 798
scarlatinal, 877
treatment of acute, 1412
Nephrolithotomy, 68
Nephropexy, technic of, 733
Nerve grafting, 360
stimulants, production of, by the organism, 1285
Nerves, regeneration of, 649
Nervous system and circulation defense of the organisms, 906
Neuralgia, trifacial, 842
Neurasthenia cordis, 1346
enteroptosis, movable kidney and, 485
post-operative, 1182

Neurasthenia, surgery in, 790
treatment of, 4, 1116
Neurasthenic, management of, 855
Neuritis, 1538
multiple, 424, 1175
multiple, definition and pathology of 1264
sciatic, 1540
surgical treatment of, 1264
traumatic, and neuralgia, from hypodermic injection, 378
treatment of, 1264
Neurologist's art, 1216
Neuron retraction, 280
Neuroses and auto-toxemia, 363
of the heart, 1345
traumatic, 672
Neutral red, differentiation of typhoid and colon bacilli by, 679
New adenoid curette forceps, 1442
aseptic throat mirror, 1161
coupler for rapid intestinal anastomosis, 1003
dry surgical dressing, 1207
Era in Medicine—what it means to Cleveland, 625
Hampshire medical news, 467, 1313
Jersey medical news, 43, 331, 772, 1014, 1379
method for the removal of internal hemorrhoids under local anesthesia, 1076
method of anchoring the kidney, 1208
method of dealing with bowel perforation communicating with pelvic abscesses, 762
method of treating the broad ligament stumps in vaginal hysterectomy, 1686
Mexico medical news, 332, 592, 1451
patents, 70, 213, 362, 548, 681, 801, 853, 1050, 1193, 1341, 1482, 1679
York medical news, 43, 114, 184, 258, 332, 407, 467, 522, 592, 654, 715, 773, 830, 882, 948, 1014, 1088, 1168, 1239, 1313, 1379, 1451, 1584, 1693
York osteopathy bill, 402
York societies, proposed union of, 413
Newman, H. P., hemostasis of broad ligament, 1501
Niles, H. D., our hospitals, 125, 759
Nineteen years' experience with creosote in tuberculosis, 291
Nitrous oxid and ether anesthesia, 965
Noble, C. P., treatment of pelvic suppuration, 413
Nocturnal enuresis and pollutions, treatment of, 741
Noma, diphtheria bacilli and, 326
Non-resident, not liable for medical services for, 348
physician, registration of, discontinued, 46
Norbury, F. P., delirium, 1174
North Carolina medical news, 407, 831
Nose, bacteria in, 66
bacteriology of, 1448
fractures of, 414
syphilitic lesions of, 1277
Nostrils, illustration of defect in, 851
Note on gauging vesical capacity, 391
Notes on aneurism, 1483
Nucleases, bacteriolytic action of, in immunity, 679
Nurses and matrimony, 1011
Nursing and the physician, 1443
Nutritive system, nervous relation in diseases of, 7

Obesity, 964
and glycosuria, relations between, 1120
gout and, 790
hydroplasmic, 449
hyperplasmic, 448
metabolic, 448
treatment of, 447
Obstetric forceps, 1185
and diseases of women, what of the future in, 1614
surgery and, 964
the future of, 1473
Obstruction, acute intestinal, 707
Occipito-posterior position, 204
Ocular fundi of animals, examination of, 887
lesions associated with constitutional diathesis, 815
pain, 430
paralysis, diagnosis of, 281
Oculists as physicians, care required of, 726
Oculo-pupil sensory reflex, the 1048
Odors, heredity in, 1409
Officers of Association, list of, 1512
Ohio medical law, 1235
medical news, 333, 655, 715, 773, 831, 882, 949, 1169, 1313, 1522, 1629
Ohmann-Dumesnil, Dr., treatment of syphilis, 1102
Oidiomycosis, cutaneous, 204
Oil in abdominal operations, 1190
Olive oil in pyloric stenosis, 1119
Oophorectomy in cancer, 282
Open letter of Dr. Wyeth to the medical profession, 1232
Operating table, 1023
Operation for spina bifida, with report of a successful case, 755
Ophthalmia, infantile, 1110, 1189
purulent, 1540
sympathetic, 902, 1476
Ophthalmo-oscillator, 1674
Ophthalmoplegia, myasthenia and, 1600
Ophthalmoscope, Helmholtz, 551
history of, 549
inventor of, 552
refraction, 552
Ruete's, 551
stationary, 478
the loan of Ruete's, 1634
Ophthalmoscopes, descriptive list of, 566
Opotherapy after castration, 139
ovarian, 543
Optic neuritis, 137, 618
Oral pathology, 1333
Orbit, foreign body within, 1428
Orchidopexy, method of, 359
Organic transformation, influence of nervous system on, 1120
Organization of the medical profession, the, 113, 176, 250, 324, 400, 460, 514, 584, 1027
teach students importance of, 339
Organotherapy, 1281
in uremia, 517
of pancreatogenic fatty diarrhea, 620
Oriental sore, phototherapy for, 853
Origin of carcinoma of the stomach from chronic round ulcer of the stomach, 693
Orthodiagraphs, study of heart with, 360
Orthopedics, ovarian, 1048
Osler, W., amebic dysentery, 1099
W., notes on aneurism, 1483
W., splenic anemia, 1392
Osteitis deformans, 65
Osteoarthritis, femoral, of children, 544
Osteogenesis, imperfecta, 210
Osteomalacia, cure of, by castration, 1191
Osteopathy, 527
bill, the New York, 340
Illinois medical practice act and, 962
in New York, 329
Iowa medical law and, 519
Osteophytes, nasal, 538
Otitis, influenzal, 1334
Libby's method of treating, 1409
Otorrhea, microscope in, 425
treatment of, 1262
Ovarian disease as factor in pseudo-cyesis, 888
pain, 734
tension pains, 1674
transplantation, 1599
transplantations, 615
Ovaries and Fallopian tubes, surgical conservatism of, 1440
Ovum, utilization of extra-embryonal part of, 1116
Oxalates in urine, prevention of precipitation of, 241
"Oxydonor" patent, decision on, 127
Ozena, etiology of, 1548
Ozena phototherapy of, 1120

Paddock, C. E., hygiene of pregnancy, 1176
Pain, new principles of combating, 1119
Palatal deformities, 1280
Palmar reflex, 1399
Palsy, infantile cerebral, 1068
Pancreatitis, acute hemorrhagic, 1605
Pani-ghao, 489
Panama and Nicaragua canal, sanitary aspects of, 203
Pancreas, sarcoma of, 845
spontaneous evacuation of cyst, in, 761
surgery of the, 612
Pancreas, symposium on diseases of, 473
Pancreatic disease, 423, 729
Pancreatitis, case of acute, 107
chronic interstitial, 1403
hemorrhagic, in malaria, 738
Papers, fraudulently obtained from medical department, University of Michigan, 658
Papilloma laryngis in children, treatment of, 909
vesical, 56
Papular disease, rare, 354
Paracentesis, new canula for, 838
Paracolon bacillus, infection by, 1493
Paraffin injection treatment of Gersuny's, with report of cases, 1000
Paralysis, general, in twins, 1601
infantile, 64, 1403
Parametritis posterior, 673, 1047
Paramyoclonus multiplex, 1045
Parasyphilis, treatment of, 1282
Parathyroid glands, the, 1236
Paratyphoid, 401
Paratyphus, 425
Paresis, 204, 965
frequency of, 1471
symposium on, 472
Paris Academy of Medicine, prizes awarded by 172, 193
letter, 260, 408, 658
milk supply of, 409
Park, R., cancer a parasitic disease, 1532
T. D., milk and infant mortality, 1266
W. E., eclampsia, 889
Parker, R. M., Gersuny's paraffin injections, 1000
Parotid glands, surgical affections of, 417
Partnership, with unlicensed non-diplomaed brother, 69
Patella, congenital luxation of, 1283
Pathologic exhibit at Saratoga, 1628
Society of Philadelphia, annual exhibit of, 1085
Patrick, H. T., hereditary cerebellar ataxia, 194
H. T., myasthenia gravis, 58
Patrol ambulance, the, 1401
Peabody, G. L., need of sanatoria for tuberculosis, 196
Pearce, N. H., electrolysis in Eustachian tube, 1262
Peck, A. H., physical diagnosis as related to dental college curricula, 1617
Pellagra, infantilism from, 1121
Pelvic deformities, 1107
disease, preventiou of, 437, 442
lesions, treatment of, 1027
suppuration, 1040
Pelvis, intervention in deformed, 1115
lowering the, in operations on biliary passages, 622
Penis, cancer of, 499
Pennsylvania medical news, 43, 115, 185, 259, 333, 468, 523, 593, 655, 715, 773, 831, 883, 949, 1014, 1089, 1240, 1314, 1380, 1451, 1522, 1584, 1693
Pentosuria, differentiation of, 1284
Pepsin digestion, Pawlow on, 1210
Percussion, auscultatory, 619
improved method of, 1339
Perforating wounds of the eyeball and sympathetic inflammation, 1421
Pericarditis, obliterative, 843
purulent, and empyema, 1030
Pericardium, puncture of, 1412
Perineal laceration, 967
Peristalsis, intestinal, 1121
Perithelial tumor, congenital, 1702
Peritoneal adhesions, avoidance of post-operative, 1702
Peritonitis, 729
acute, 206
gonococcal, 967
inoperable septic, 1344
tubercular, 141, 358, 612, 1393
Peritonsillar abscess, 1183
Perityphlitis, operative intervention for, 361
Personal factor in microbic disease, 1676
Pertussis and its treatment, 908
paralysis of sense organs after, 852
vaccination in prophylaxis of, 1049
Peruvian mummy, inquest on, 187
Pesthouse, liability for use of property for, 1592
Peterson, ovarian fibromata, 1697
Pettey, G. E., morphin habit, 1266
Phagocytic action, 358
Phantom tumors, 282
Pharmacy, practical, for the physician, 672
Philadelphia Municipal Hospital, 834
Philip, J. H., x-ray in determining limits of frontal sinus, 764
Philippines, health of troops in, 1314
Phimosis, 1672
Phlebitis in secondary syphilis, 739
Phlegmon and fistula, submaxillary, 535
Phosphoric acid, indications for treatment in, 431
Phosphorus, 849
in rhachitis, 212
intoxication, glycosuria and acetonuria in, 140
intoxication, peripheral gangrene in, 285
Phototherapy, improved light generators for, 432
in Spain, 805
iron lamp for, 1677
of lupus, indications and contra-indications for, 1677
years' experience with, 1677
Phrenic nerve injuries, 538
Phthisiophobia, 179, 278, 1332
Phthisis, 1594
bronchial obstruction in, 838
notification of, 1180
pulmonary, 1115
splenic leukemia in, 1479
thoracic, 1280
Physical diagnosis as related to dental college curricula, 1617
Physician as a social economic factor, 1688
in politics, the, 602
self-sacrificing, 465
Physicians and dentists, 327
as pharmacists, 1549
Physician's business, damages for injury to, 1033
directory, a, 526
Pierce, N. H., epipharyngeal tonsil, 25
Pigment patches in pernicious anemia, 285
Pile shield, the, 941
Pitfield, R. L., simple microscopic methods, 1391
Pituitary body, pressor substance of, 677
Placebo, the nemesis of, 1081
Placenta, premature detachment of normally located, 210
previa, 202, 851
previa, Cesarean section in, 276, 1597
previa, pulmonary embolism in, 1547
previa, treatment of, 1696
Plague, 545, 850, 1115, 1409, 1594
and rats on ship, 1317
in Australia, 1383
in India, 815
increase of, in India, 596
quarantine in India, 596
rats and the, 1479
serotherapy of, 1412
Plastic surgery in ophthalmology, 1102
surgery with cases—formation of new cheek, 1203
Plea for early treatment of squint, 1362
Pleth, V., the pile shield, 941
Pleura, sclerosis of, 851
Pleural effusions, cyto-diagnosis of, 1453
Pleurisy, 616, 846, 1110, 1673
mediastinal serous, 1409
with effusion, 1392
with more or less permanent pneumonic induration, 269
reactions of tuberculin in convalescents from, 853
suppurative, prognosis and treatment of, 1028
Pleuritic effusions, differential diagnosis of, 1604
Pleuritis, malignant, 1281
with effusion, early symptom of, 1283
Plimmer's bodies, 1474
Pneumatic cabinet, treatment of dry aural catarrh with, 622
differentiation in the treatment of organic disease of the heart, 700
Pneumaturia, 339
Pneumococcus, inflammations of mucous surfaces caused by, 255
Pneumogalactocele, 473

Pneumonia, 613, 787, 792, 906, 1026, 1272, 1273, 1462, 1472, 1558
and exposure to cold, 660
antipneumococcic serum in treatment of, 1681
creosote in, 135, 776
delirium in croupal, 1481
grippal, 733
heart failure in, 891
latent, 1627
lobar, 131
post-laparotomy, 35
suprarenal extract in, 1037
treatment of, 163
Pneumothorax, spontaneous non-tuberculous, 1393
Poisoning in history, 766
simulation of, 1281
Poisonous snakes and spiders of Texas, 1463
Poisons and defective renal elimination, 652
Poliomyelitis, acute anterior, 1357
Political side of medicine, the, 1665
Polyhydramnios, 1462
Polyp, long mucous, 345
Ponto-bulbar heat center, the, 143
Population of France, movement of, 1096
Portal congestion, fatal hemorrhage in, 1411
Porter, M. F., brain tumor, 235
fibromyomata in pregnancy, 52
W., aphonia, 1264
Posey, W. C., transient monocular blindness, 1418
Post-dysenteric affections, 432
Post-graduate course, a novel, 648
Potable waters, bacteriologic examination of, 135
Potassium nitrate and nitrite in arterial hypertension, 1410
permanganate in dysentery, 880
Potatoes, importance of, in diabetes, 136
Pott's disease, 1437
disease, Calob's treatment of, 1317
disease, treatment of, 139
Poultice method, the, in abscess cavities, 673
Practice of medicine, opinion as to, 1534
Prairie itch, 213
Preble, R. B., cholelithiasis, 938
Prefrontal lobe, symptomatology of lesions of, 710
Pregnancy, appendicitis in, 205
benign tumors in, 1536
carcinoma uteri in, 480
diagnosis of early, 1401
early sign of commencing and of death of fetus, 284
ectopic, 352, 631, 669, 899
extra- and intra-uterine, 1474
hygiene of, 1176
kidney affections in, 1603
latent endometritis in, 283
malignant growths in, 1536
relaxation of pubic joints during, 33
signs of commencing, 908
study of autointoxication of, 1628
traumatisms of, 1108
Preliminary report of the transmission of pathogenic germs by the common house-fly, 1291
Premature infants, 1542
Prepared food, stain analysis of, 432
Preputial adhesions, 970
Prescribing, informal, its dangers, 1009
Prescription, compound, 156
of liquor by physicians also pharmacists, 1533
renewal of, 1308
President McKinley's case, physicians honorarium in, 945
new, of Association, 1624
President's address, American Gynecological Society, 1668
address, American Medical Association, 1551, 1579
address, Tennessee State Medical Society, 1026
Preston, J. H., Hippocratic oath, 1027
Presumptions where persons asked for certain drug, 348
Prevention of pelvic disease before and during puberty, 442
of pelvic disease during and after labor, 437
of pelvic inflammatory diseases after marriage, 440
Primary sarcoma of esophagus and stomach, 392
Primroses, cutaneous affections of, 1703
Prince, A. E., section of rectus, 1263
Privilege in Nebraska, board of health record, 1033
limitation of, after death of patient, 349
limiting, to physicians of state, 1270
telling of character of injury not waiver of, 961
under North Carolina law, 199
waiver of, 1333
Privileged medical communications, 899
Problem of heredity, the, 388
Problems of serum therapy, 435
Procidentia uteri, 276
Professional standing, transferable record of, required, 324
Profits of a medical journal, 1456
Projectiles, modern small-bore, 540
Prolonged intubation, 750
Propaganda, subjection of science to, 455
Proposed constitution and by-laws for state societies, 1155
Prostate, hypertrophy of, 672, 969, 1043, 1051, 1274, 1595
massage of, 480
radical cure of hypertrophied, 1677
radical treatment of hypertrophied, 799
gland, total removal of, 501
the, 743, 816
Prostatectomy, 732, 1260, 1277
gonorrheal, 1274
median perineal, 501
new method of, 1391
perineal, 1182
symposium on, 123
Protargol, 540
Prostatitis, gonorrheal, 669
Protelds, biological relationship of, 64
Proteosuria, 789
Prout, T. R., infantile cerebral palsy, 1068
Prudery or politics, 404
Pruritus vulvæ, etiology and treatment of, 798
Pseudo-angina pectoris, myogenic, 1119
Pseudo-appendicitis in children, 204
cirrhosis, hepatic pericarditic, 530
cyesis, ovarian disease and, 888
leukemia, 1110
tubercle bacillus, 1112
Psilosis, 789
Psoriasis and glycosuria, connection between, 620
Psychic treatment, 280
Psychiatry in twentieth century, 792
Psychology as applied to modern medicine, 1103
Pterygium colli, 1702
Puberty, prevention of pelvic disease before and during, 442
Pubic joints, relaxation of, during pregnancy, 33
Public service, 70, 142, 214, 286, 362, 434, 490, 548, 742, 624, 682, 801, 853, 910, 978, 1050, 1122, 1194, 1286, 1341, 1413, 1482, 1549, 1606, 1679, 1704
unrest, 352
Puerperal fever, antipyrin in, 1339
infection, diagnosis, prevention and treatment of, 1005
infection in private practice, 1008, 1243
sepsis, antistreptococcus serum in, 1060
sepsis, diagnosis and treatment of, 724
sepsis, recent publications on prophylaxis and treatment of, 739
state, surgery of, 1176
Pulmonary circulation, the, 972
Pulsations in chest, non-aneurysmal, 1393
Pulse, dissociated venous, 1480
irregular, 1598
Punctometer for measuring the range of accommodation, 1095
Pupil disturbances and aortic lesions, 851
technique of examination of, 1117
Pure food law, salicylic acid in fruit syrup under, 1104
Purpura hemorrhagica, 133
Pusey, W. A., x-rays, 166, 912
W. A., x-rays in malignant tumors, 1175
Putnam, H. C., attendants and nursemaids, 1364
Putrefaction, intestinal, 1193
Pyelitis, acute in infancy, 152
Pyemia, puerperal, surgical treatment of, 1192
Pylorus, cicatricial stenosis of, 739
congenital stenosis of, 207
diagnosis of insufficiency of, 602
infantile stenosis of, 1603
palpation of, 1341
Pynchon, E., pneumatic massage, 1264
Pyosalpinx, colpotomy for, 1045
gonorrheal, resembling tubal pregnancy, 344
Pyramidal tract, primary degeneration of, 1473

Quack advertisements in Germany, 408
methods in high places, 588
Quacks, legal and medical, 661
Qualifications, insufficient allegation of, 895
Question of spinal braces in lateral curvature, 508
Quimby, C. E., Bright's disease, 54
C. E., organic disease of heart, 700
C. E., treatment of pulmonary tuberculosis, 58
Quinin bihydrobromate in malaria, 736
hemoglobinuria after, 545
importance of, in wound treatment, 1481

Rabies, 206
Rachford, B. K., ammonium compound, 1324
Rachitis, antiquity of, 431
phosphorus in, 212
thymus gland and, 546
Radio active substances in therapeutics, 425
Radiotherapy, improved technic for, 677
Railroad cars, hygiene of, 403
service, visual defects and, 382
Railway emergency supplies, 1085
Randall, B. A., debt of otology to Helmholtz, 561
Ranney, G. E., antistreptococcus serum in puerperal sepsis, 1060
Ransohoff, J., papilloma of bladder, 56
Rapid sugar testing with Haines' and Purdy's solutions, 317
Ratification of employment of physicians, 127
Rats, test of bacillus pathogenic for, 679
Ravitch, M. L., silver nitrate and chromic acid on chronic glossitis, 1427
Rawed peritoneal surfaces, 133
Reciprocity, A. M. A. as basis of, 336
in medical licensure, 1526
Rectal diseases, 844
stricture in women, 900
Rectocele, operation for, 56
Recto-vaginal fistula, Dudley's operation for, 345
Rectum, diagnostic value of digital examination of, 415
Rectus muscles, section of, 1263
Recurrent nerve, paralysis of, 1120
Red blood cells, granular degeneration of, 326
corpuscles, granular degeneration of, 1284
Reddick, J. T., puerperal eclampsia, 1389
Reduction cures, 1674
Reed, B., influence of drugs on gastric function, 73
C. A. L., spinal cocainization, 528
R. H., abdominal injuries, 125
R. H., abdominal traumatisms without external evidence, 1302
R. H., amputation of penis, followed by multiple pregnancy in wife, 1442
Reflex, frontal (ophthalmic), 489
Reflexes in early childhood, 1412
Refraction errors, 203
investigation of blood, urine, etc., by, 265
Regeneration of nerves, 649
Regenticides, 536, 1404
Reichert, E. T., ponto-bulbar heat center, 143
Relation of medical science to commerce, 1555
Relationship of antistreptococcus serum to the treatment of puerperal sepsis, 1060
Remedial agents, need of more accurate knowledge concerning, 1415
Renal impermeability, alteration of liver from, 431
tension, 792
Report of cases treated with Roentgen rays, 912
of death from chloroform anesthesia, 247
of typhoid epidemic at Iowa State Agricultural College, 509
Reprints, whence they come and whither they should go, 1018
Respiration, artificial, 351
Respiratory interchanges at high altitudes, 136
Responsibility, graduated, 280
Rest and exercise in treatment of tuberculosis, proper adjustment of, 825
Retina, detachment of, in nephritis of pregnancy, 679
treatment of detachment of, 1481
Retraction ring, the high, 673
Retrodisplacement, 1474
Retrodisplacements, intra-abdominal shortening of round ligaments for, 1666
non-operative treatment of, 1666
uterine, 967
uterine, symposium on, 1590
Retroflexion and prolapse, uterine, operative treatment of, 486
Retroversion and retroflexion, 967
operation on utero-sacral ligaments for, 1667
Revaccination, 357
Reversibility of enzymes and its application to physiologic and pathologic processes, 220
Reynolds, D. S., nasal obstructions, 1390
E., myomectomy, 642
Rheumatic creaking in shoulder joint in phthisis, 838
fever, 203
Rheumatism, acute articular, pathogenesis of, 1030
chronic, 899
complications and sequelæ of, 1030
hot-air treatment of, 615
prognosis and treatment of, 1030
puerperal, 1604
symptomatology and diagnosis of, 1030
tuberculous, 209
Rhinitis atrophic, mechanical cure of, 50
Rhinophyma, treatment of, 1120
Rhinorrhea and otorrhea, post-scarlatinal diphtheria and, 136
Rhode Island medical news, 774
Rhodes, J. E., congenital heart disease and aortic aneurism, 1323
Rhythmic jerking of head in aortic disease, 1678
Rickets from obstetric standpoint, 1039
Ricketts, B. M., heart suture, 123
B. M., ligation of arteries, 1101
E., pelvic lesions, 1027
E., surgical conservatism of the ovarian and fallopian tubes, 1440
Ridings, E. W., smallpox, 1027
Ries, E., cholecystectomy, 1102
Rixford, E., parotid glands, 417
Ringworm, 473, 479
Robb, H., uterine suspension, 1666
Roberts, D. J., president's address, 1026
J. B., political side of medicine, 1665
Robertson, C. M., fibrosarcoma, 1393
Robinson, E. F., service view of hernia, 871
F. B., splanchnoptosis, 1176
Robison, J. A., medical treatment of hepatic cirrhosis, 530
Rodman, W. L., voluntary board of national, 1215
Roe, J. O., fractures of nose, 414
Roentgen rays, 28, 352, 1538
rays, bactericidal action of, 977
rays, cases treated by, 912
rays in epithelioma, 1100
rays in pulmonary disease, 1142
rays in therapeutics, 942
Rogers, A. W., hynotics, 873
Role of certain non-granular and granular somatic cells in infection, 633
Root, A. G., sarcoma of tonsil, 413
Rosenthal, E., prolonged intubation, 750
Ross, G. C., carcinoma of rectum, 416

Rotary and lateral curvature and Pott's disease of the spine, 1437
Roulet, A., mammary cancer, 1174
Round ligament ventrosuspension, 202
Rubella, scarlatina and "Fourth disease," 136
Rudis-Jicinsky, J., shoulder dislocation, 51
Russell, F. H., fatal vaccination infection, 34
Ruth, C. E., plastic surgery, 1203

Sacrococcygeal dimple, the, 1403
Sacral cord, the, 280
St. Petersburg, hospitals of, 620
Saline injections and retention of chlorids in certain morbid states, 1479
Salt soda solution, the, in surgery, 1545
Sanatorium treatment, questions of, 1703
San Francisco plague, 1381
Francisco, politics and public health in, 880
Francisco press, the hysterical, 1518
Sand filtration, 965
intestinal, 948
Sanitaria, public, 160
Sanitary misconception, 1165
Saratoga meeting, 1624
meeting, opinion as to, 1689
meeting, rates to, 1446
meetings, 1455, 1526
Sarcoma, and Hodgkin's disease treated by x-rays, 166
idiopathic cutaneous, 680
of pancreas, 845
of tonsil, 413
of uterus, 1059
primary pancreatic, 603
tubular perivascular, 615
Scalp, avulsion of, 1672
Scapula, alar, 300
Scarlet fever, 355, 1115
fever, necrotic inflammation of esophagus and stomach in, 680
fever nephritis, 1046
fever, prophylaxis of septic, 1548
fever, study of sore throat in, 1479
fever, traumatic, 620
fever, treatment of, with blood serum of convalescents, 1165
fever, venesection in uremia after, 908
Schamberg, J. F., diagnosis of smallpox, 215
Scheffer, Emil, 327
Schell, J. T., pseudo-cyesis, 888
Schmidt, L. E., Bottini operation, 124
Schmidt, L. E., endo-vesical operative procedures, 1102
Schnaper, E., primary sarcoma of pancreas, 603
Scholars and their rewards, 946
School girls, health of, 1109, 1110
hygiene, 430, 789, 967
Schooler, L., prostatectomy, 123
Schools in their effect on health of growing girls, 1162
of medicine, 328
Sciatica, (71) 357, 1264
meralgia, and flat-foot, connection between, 361
proposed operative treatment of, 798
spinal cocainization of, 1605
treatment of, 431, 1678
Sclerodactylia, scleroderma and, 536
Scleroderma and sclerodactylia, 536
present aspect of, 416
Sclerosis, incipient amyotrophic lateral, 377
multiple, differential diagnosis of, 1703
of pleura, radioscopic diagnosis of, 851
Scott, J. W., tuberculosis, 1463
Screen, prophylactic, 670
Scully, T. P., goiter, 413
Scurvy, 282
Sea, medicine and life at, 137
Sears, G. G., hepatic cirrhosis, 1393
Seborrhea, 902
toxic origin of, 1606
Secretary of Board of Health, treatment of cases by, 127
Sections of American Medical Association, history of, 1504
permanent secretaries for, 1516
Sedgewick, W. T., subjection of science, 455
Seed and the soil, the, 1445
Sefton, F., epilepsy, 473
Senn, N., medicine and surgery in British and Spanish Honduras, 1079, 1152
Sensation, residual, 791
Sepsis, post-puerperal, in abortion, 124
puerperal, 1537
treatment of, 1047
Septal deflections, 1594
deviations, 1334
Septic poisoning in accident insurance, 612
processes, carbolic treatment of, 799
Septicemia, puerperal, 1037
Serodiagnosis of tuberculosis, 362
Serpent bites, deaths from, 596
Serratus magnus and trapezius paralysis, 300
Serum diagnosis in pulmonary tuberculosis, 1445
exanthemata, 1702
from convalescents, treatment of acute disease with specific, 1116
therapy, 63, 800, 966, 1334
therapy, problems of, 435
Service view of hernia, 871
Sewage purification, 1036
Sexual inversion, 480
Seymour, W. W., suturing gall-bladder to parietes, 1078
Sham operations in imaginary diseases, 546
Shambaugh, G., bone cyst of turbinate, 1267
G. E., concha bullosa, 1394
G. E., latent frontal sinusitis, 343
Shattuck, F. C., peritonitis, 1393
Sheldon, J. G., blastomycetic dermatitis, 1356
Sherman, H. M., peripheral gangrene, 1370
Ship physicians in Byzantine epoch, 623
Shock, 1108
saline solution in, 1332
Short cord, 1276
cuts into medical profession, 943
Shotwell, W. E., embolism of aorta, 838
Should the physician charge, 1193
Shoulder, congenital elevation of, 130
dislocation, old, 51
joint in phthisis, rheumatic creaking in, 838
presentations, recurrence of, 723
Sideroscope, the, 413
Silk tendons to correct deformities, 360
Silver nitrate, cholagogue effect of, 1284
Simple and accurate method of outlining the stomach, 1578
Simpson, W. K., adenoids and enlarged tonsils, 837
Sinus, frontal, absence of, 769
frontal, x-ray in determining limits of, 764
Sinusitis, case of latent frontal, 343
orbito-ocular complications of, 1544
Slippy, B. W., lesions of conus medullaris and cauda equina, 58, 1195
Sisson, E. O., injuries of choroid, 84
Skin affections, illustrations of, 1466
colloid degeneration of, 673
diseases, 900
diseases and longevity, 539
disorders, malarial, 898
eruptions, 1407
eruptions and visceral lesions, 517
flaps in plastic surgery, 660
grafting, 969
Skoliosometer, 1676
Skull and its contents, 67
osteoplastic trephining for brain tumors, 800
Slagle, C. D., acute morphin poisoning in infant, 459
Sleep, 1266
Smallpox, 63, 728, 737, 1314, 1332, 1337, 1381, 1388, 1584, 1675
and mercury bichlorid 1027
and its differentiation, 958
contagiousness of early, 547
diagnosis of, 215, 1102
failure of city to warn employe as to, 532
in London, 186, 334
in Scotland, 1242
its treatment, 958
Smallpox patient, can not employ physician for, 420
resolutions on, Philadelphia County Medical Society, 341
state control of vaccination and 1434
Snively, I. N., treatment of heart disease, 1029
Snow, S. F., catarrhal deafness, 472
Soap, liquid, 1096
machine, a sterile, 659
Soaps, disinfecting, 799
Sobel, J., iodin test, 690
Social reform, the medical profession and, 1665
Sodium cinnamate in tuberculosis, 732
methyl arsinate, 851
Soft palate, mechanical appliances in, 537
Solanum carolinense, 1331
Solitary abscess of the left lobe of the liver simulating abscess in the abdominal wall, 1440
Solly, S. E., altitude treatment in tuberculosis, 287
Some acute diseases of the ear; their diagnosis and treatment, 1297
atypical forms of disease, 1431
clinical aspects of chemistry, 1359
observations on resection of the ribs in empyema, 1074
points in the differential diagnosis of abdominal and pelvic tumors, 927
points in the management of the neurasthenic, 855
Sound, the vibrating, 1191
South Dakota statutes, compliance with law presumed, 1103
Southern California, adaptability of climate of, for consumptives, 289
Spaulding, A. E., drainage of appendicitis, 1095
Specialists, skill required in, 1270
Specific gravity, corporeal, 447
Spectacles, climate or, 481
Speculum, weighted vaginal, 1471
Speech defect, peripheral, 901
defects due to cleft palate, 237
physiology, external, or so-called lip reading, (35) 1671
Sphincter ani, an artificial, 1037
Splanchnoptosis, 968, 1176
Spiedel, E., biliary colic, 1389
Spina bifida, 755, 1473
bifida, surgery of, 125
Spinal anesthesia, experiences with, 212
braces in lateral curvature, 508
cocainization, 528
cocainization and lumbar puncture, physiologic effects of, 340
cocainization, experimental, 603
cord anesthesia, 494
fracture, 425, 790
ganglion cells, number and size of, 606
ligaments, rupture of, 202
Spindle-spirillæ symbiosis and diphtheria, relations between, 975
Spine, lateral curvature of, 1341
surgery of, 671
Spleen, resection of, under hemostasis by steam, 359
wandering, 223, 1589
Splenectomy, 208, 901
for movable malarial spleen, 1605
Splenic anemia, with ascites, 111
Splenomegalia, chronic, 620
Spondylitis deformans, 899
Sponges, removal of, 1397
Sprains, electric treatment of, 283
new treatment for, 409
Spratling, E. J., physician as social economic factor, 1688
W. P., epilepsy, 1126
Sprue or psilosis, 789, 844
Sputum, sedimentation process for study of, 801
Squint, plea for early treatment of, 1362
Stab wounds of abdomen, 1471
Standardization of crude and galenical preparations, 17
Staphylococcal and streptococcal infection, 972
Staphylococcus serum injections, 1044
State aid for medical schools and hospitals, 1666
board of health and compulsory vaccination, 1270
board of health, duty of secretary of, 532
State care of insane, 1107
Medical Examining and Licensing Board, National Confederation of, 1456
Medicine, past, present and future, 1590
reciprocity, nucleus of, 254
societies, proposed consitution and by-laws for, 1155, 1163
societies, reorganization of, 1084

STATE BOARDS OF REGISTRATION.
British Columbia Medical Council, organization and examination, 1457
Colorado examination, 1093
California, Chinese doctor arrested, 1318
examinations, August and December, 1901, and April, 1902, 1319
Cherokee board, 1457
Confederation of state examining boards, constitution of, 1457
Delaware examiners appointed, 411
District of Columbia, provisional license not given in, 659
of Columbia examinations, January, April, 411, 1319
Examinations in many states, 1019
Fraudulent diploma, 1093
Georgia licenses, 1093
Idaho examination, April, 1319
practice law constitutional, 1637
Illinois examination, January, 1019
more study required in, 1318
Indiana board, notification to unlicensed practitioners by, 1636
examination, January, April, 601, 1093
Iowa examinations, January, 601
Kansas examination, April, 1319
Louisiana examination, May, 1457
Maine examination, March, 1019
Manitoba examination, May, 1457
Maryland examination, date of, 1457
Milwaukee Medical College trial, 1636
Minnesota examinations, January, April, 337, 1094
notice to applicants, 337
Mississippi examination, number passed, 1457
Missouri examinations, January, April, 1019, 1637
Montana examination, April, 1319
osteopaths, 1019
New Jersey examinations for past year, 1318
York examination, January, 1019
North Carolina examination, announcement of, 1457
Carolina, regular meeting of, 337
Dakota examination, January, April, 337, 1094
Oregon examination, January, April, 1319, 1637
Pennsylvania examination, December, 1901, 1019
organization of examining board, 1318
Rhode Island examination, April, 1457
Tennessee examination, April, 1318
Texas examination, May, 1318
Utah examinations, January, April, 659, 1093, 1319
Vermont examination, January, 886
Virginia examination, December, 1901, 1019
Washington examination, January 717
Wisconsin examination, January, April, 601, 1457

Statements to physician, 961, 1397
Static electricity in insane, 1331
Statistical report, Texas medical Association, 1463
Statistics, unfair deductions from, 1244
Steam saw for a liver resection, the, 1410
Stein, O. J., middle-ear infection, 1262
Stengel, A., condition of heart in pregnancy, 1393
Stenosis, aortic, 1401
intestinal segment of intestine above, 976
laryngeal, indications for operative treatment of diphtheric, 329

Stenosis, pyloric, 1276
pyloric, gastrojejunostomy for, 582
syphilitic, of small intestine, 1338
Sterility, 285, 1111
Sterilization of consumptive women, 1410
Sterilized vellum for prevention of adhesions, 733
Stern, H., pathogenesis of rheumatism, 1030
H., treatment of obesity, 447
Sternberg, Surgeon-General, retirement of, 1519
Stethoscopy, improved technique of, 1602
Stirpiculture, human, 943
Stitch abscess, 279
Stockton, C. G., gastric hyperesthesia, 79
Stomach, cortical center for, 306
and intestinal affections, diabetic treatment of, 741
gunshot wounds of, 1026
hour-glass, 1473
operations, death from, 1700
outlining the, 1634
pathological anatomy of, in ulcus or carcinoma, 141
primary sarcoma of, 394
seeing outline of, 1481
size of, and cutaneous affections 975
surgery of, 1331
tonic contraction of, 851
tube, guide for, 212
tube, the, 62
ulcers, surgeon's view of, 1700
Stomachs, accurate method of outlining, 1578
Stomatitis due to Vincent's bacillus, 837
uremic, 1409
Stone, I. S., colporrhaphy, 1696
Stowaway, medical treatment of, 420
Strabismus, 964, 1332
in children, 1111
when not to operate in, 1112
Strangulation, intestinal, cause of death in, 1046
Street cars, sanitary condition of, 1181, 1449
Streptococcus toxin, 1190
Stricker, L., apoplexy in visual center, 55
Stricture, perineal section in, 671
rectal, in women, 1333
Strictures, gonorrheal, in female urethra, 265
Strongyloides intestinalis, 204
Strontium, bromid of, 482
Strumectomy, consequences of nearly total, 661
Strychnin, tolerance of, 741
Stubbert, J. E., pulmonary tuberculosis, 57
Stypticin, 1546
Subclavian vessels, traumatic arteriovenous aneurisms of, 173
Substitution extraordinary, 39
Sudden and temporary mental aberration—unconscious automatism—temporary irresponsible states, 315
Sugar and progress, 1165
in urine, nitropropiol test of, 1121
new simple nitropropriol test for, 486
testing, with Haines' and Purdy's solution, 317, 598
Suggestion in medicine, 478
Suker, G. F., dislocation of lens, 1263
Sullivan, J. C., smallpox, 1102
Sulphaturia and sulphated saline injections, 1480
Sulphite of soda as meat preservative, toxic effects of, 679
Summer diarrhea, 1273
Sunlight and population, 1581
Suppuration, acute pelvic, 729
mastoid, 134
Supra-orbital reflex, 966
Suprarenal capsules, difference in action between extracts of medulla and cortex of, 488
extract, 203
extract, sugar-forming ferment in, 351
gland, blood-pressure raising principle of, 153
gland, pharmacology of, 150
gland, the, 1540
Suprarenals, internal secretion of, 1049
Surgeon-General Sternberg, 1011
Surgeons and operators, suggestions for, 1625
Surgeon's negligence, hospitals or trustees not liable for, 1670
Surgery as last resort, 1404
Surgery, danger from, 945
for gallstones, 957
of the liver, 1063
Surgical conservatism of the ovaries and Fallopian tubes, 1440
correction of malformation and speech defects due to or associated with hare-lip and cleft palate, 237
intervention, early, 1672
operations, experimental investigations on, 516
operations, proposed inspection of, by laity, 769
serious effusions, cytology, cryoscopy and hematolysis in, 739
tendencies, criticisms of some, 1082
treatment of ascites due to cirrhosis of liver, 1137
Suspension, uterine, 1666
Suture holder, a 601
of arteries, 966
of heart wounds, 1560
Suturing by means of clamps, 1677
Swedish pharmacopeia, the new, 770
Sympathetic ganglion, reflexes from, 968
neuralgia of, 800
Sympatheticectomy, 479
Sympathectomy in glaucoma, 1401
Symphysiotomy, 645
drainage after, 1410, 1702
Synopsis of the sanitary census of Manila, 988
Syphilides, plantar and palmar, 1109
Syphilids, primary pigmented, 909
Syphilis, 351, 968, 1410
acquired, in girl of eight years, 837
bacteriology of, 1163
brain lesions from, 1
congenital, 899
domestica, 1038
hepatic, 350
in France, prophylaxis of, 339
iodo-mercury cacodylate in, 208
lactate of mercury in treatment of, 974
nervous, 537
ocular affections secondary to, 1262
of alimentary canal, 909
origin of, 623
phlebitis in secondary, 739
prenatal, 1102
Prokhoroff's method of treating 974
rectal, 425
secondary, atypical manifestations of, 1678
Syphilitic infection, extragenital, 98
Syringomyelia, ascending neuritis in etiology of, 851
bladder disturbances in, 137

Tabes dorsalis, mechanism of laryngeal palsies of, 1374
dorsalis, 1049
gold in treatment of, 1338
hydrotherapy of, 1603
intermittency of Argyll-Robertson sign, 283
re-education of trunk in, 431
treatment of, by gold oxid, 1549
Tachycardia, 1348, 1479
Takamine, J., blood-pressure raising principle of suprarenal gland, 153
Taking injured person to hospital against his will, 609
Tarsus, injuries of, 1027
Taste, the nerves of, 1121
Taxation, college infirmary not exempt from, 60
Taxis, dangers of, 622
Tayler, H. C., echinococcus cyst, 1101
H. C., tubal abortion, 1100
Taylor, J. L., atypical forms of disease, 1431
Teaching of practical dietetics in medical schools, 299
Temperature, high, 1540
high, in children, 970
Tendencies, surgical, 131
Tendo achillis, ruptured, 429
Tendon implantation into bone, 1481
transplantation, 473, 1049, 1184, 1400
Tennessee medical news, 716, 1014, 1169, 1094
Testamentary capacity, expert evidence and, 609
Testicle, teratoma of, 1261
transplantation of, 1191
Testicles, new conservative operation on, 1046
Testimony by patients, 1178
Testis, undescended, 848
Tetanilla, 1176
Tetanus, 1285, 1541
after injections of gelatin, 651
and vaccination, 1474
antitoxin, 67
epidemic, the, 1690
following aseptic celiotomy, 354
following vaccination, 268, 336, 768, 1147, 1223
from carious tooth, 661
instillation of serum in spinal canal for, 977
subarachnoid serum treatment of, 602
the alleged vaccin and antitoxin in cases, 62
toxin in horse, 1325
Texas medical news, 334, 883, 1694
Therapeutical measures, neglected, 155
Therapeutics, review of progress of, 1671
suggestive, 1111
Thermic fever, 1392
Thermometer, an antiseptic, 107
Thiersch grafts in bone cavity, 1433
Thiosinamin, 423
in esophageal stenosis, 800
Thomas, H. M., antiseptic nebulæ, 709
H. M., hemorrhage following tonsillotomy, 342
Thompson, J. A., mycosis of fauces, 55
Thomson, W. H., rheumatism, 1030
Thoracic injuries, 1473
Thoracoplasty for chronic purulent pleurisy, 1283
Thorax, artificial pneumothorax as preliminary to operations on, 486
Three cases of paralysis of the serratus magnus and the trapezius—alar scapula, 300
Three-year medical college, 1679
Throat mirror, new aseptic, 1161
surgery, anesthesia in, 671
Thrombosis, 1701
lateral sinus, 1403
Thymus gland and rachitis, 546
Thyroid enlargement, 845
treatment, mental development of cretinous child under, 681
Tibbals, F. B., ectopic gestation, 195
Tic doloroux, 1544
Tichenor, W. A., retroverted uteri, 1176
Tiffany, F. B., plastic surgery in ophthalmology, 1102
Tinnitus aurium, 481, 1333
Tobacco, effects of on tissues of rabbits, 1325
ocular and visual disturbances from, 1193
Tongue and lip centers, 536
Tonsil or adenoids, hemorrhage after ablation of, 909
the faucial and the submerged, 1262
Tonsillar inflammations, 1596
Tonsilitis, follicular, 278, 728
suppurative 1181
Tonsillotomy, fatal hemorrhage after, 852
hemorrhage after, 342, 1103
Tonsils, pathologic, 1027
Tonsils, pharyngeal, hyperplastic and tuberculous processes in, 1606
the, 278
Torticollis, bloodless treatment of muscular, 853
true, 674
Town population, physical deterioration of, 1453
Toxemia, puerperal, 1537
Toxic dosage in treatment of nervous diseases, 472
Toxinemia, 1047
Toxins, plasma-destroying, in organism, 284
Toxins, production of remarkably virulent bacterial, 679
Tracheal injections, 1539
Trachoma, 790, 1541
of genital tract, 1184
Traction diverticulum in esophagus, 680
Trainmaster, employment of surgeon by, 1032
Transient monocular blindness, 1418
Transvaal medical practice, 1315
Transverse position with impaction, 1462
Trauma in genesis of tumors, 359
Traumatic arterio-venous aneurisms of subclavian vessels, 242, 318
Traumatisms and signs, modifications of reflexes in, 620
Treatment of acromegaly with pituitary bodies, 295
of inoperable septic peritonitis, 1344
of obesity, 447
Trephining, 1473
Trichinosis, sporadic, 134
Trigeminal neuralgia, resection of cervical sympathetic for, 623
Tropa-cocain in spinal anesthesia, 758
Tropa-cocainization, one hundred cases of spinal, 545
Trophoneurosis, 131
Tropical diseases, 204, 538, 1107
Tropics, food of American soldiers in 192
Trunecek's serum for arteriosclerosis, 484, 485, 623
Trypanosoma in tsetse fly disease, study of, 738
Tsa-tsa for leprosy, 1380
Tubal obstruction, thiosinamin and electrolysis in treatment of, 1262
sterilization, artificial, 1702
Tubercle bacilli, effects of gastric juice on, 463
bacilli in cheese, duration of life of, 1190
bacilli, to obtain rapid proliferation of, 909
Tuberculin, 281, 1540, 1701
diagnostic significance of, 1602
diagnostic value of, 996
present status of, 57
test, compulsory for dairies, 226
treatment, present status of, 679
uses of, 366
value of, 207
Tuberculophobia, 598
Tuberculosis, 131, 277, 427, 481, 482, 536, 537, 670, 671, 791, 792, 846, 897, 1112, 1331, 1334, 1476, 1590, 1597, 1700, 1701
altitude treatment in, 287
and arthritis, 797, 902
and climate of Arizona, 229
antitoxin power of alcohol in, 908
blood pressure in, 140
bovine, 201
compulsory notification of, 976
early diagnosis of pulmonary, 730
experimental inoculation with, 1412
forced feeding in, 736
formalin in, 767
genesis of pulmonary, 1411
hematogenous, 111
home treatment of, 791
human and bovine, 39, 63, 187, 670, 736, 1453, 1539
ichthyol in, 205
in Canada, 616
in heart disease, 279
in state institutions, 157
incipient, 1112
infantile, guaiacol in, 132
infection, 671
inherited, 1402
intercommunicability of human and bovine, 1517
intestinal, 204
intestinal, and amyloid degeneration, 432
laryngeal, 481, 1275, 1277
laryngeal, in children, 485
laryngeal, treatment of, 1120
lymphatic, 358
mechanical predisposition to, 1358
medicinal treatment of, 1678
medicinal treatment of fever in, 211
need of sanatoria for, 196
new etiology of, 486
nineteen years' experience with creosote in, 291
of cervical glands, 902
of intestine, medical treatment of chronic, 335
of seminal tract, 1261
of the stomach, 1376
of testicle, 1261, 1276
of testicle, analysis of cases of, 1607
of tonsils, 358
open-air treatment of, 736
pancreas in, 1481
peritoneal, 132
peritoneal, surgery for treatment of, 181
popular deception in, 1465
prehistoric American, 1404

Tuberculosis, prevention of, 186
prevention of, in Texas, 1464
primary intestinal in children, 132
pulmonary, 1044, 1544
pulmonary, early diagnosis of, 57, 207
pulmonary, etiology of, 850
pulmonary, indications for abortion in, 909
pulmonary, sanatorium treatment of, 69
pulmonary, serum diagnosis in, 445
pulmonary, surgery of, 57
pulmonary, treatment of, 58
pure urea in treatment of, 67
rectal temperature in, 63
renal, 1261
respiratory exchanges in, 589
rest and exercise in treatment of, 825
sanatorium, 423
sanatorium and tuberculin treatment of, 678
sanatorium, munificent gift for, 186
serodiagnosis of, 362
serotherapy of, 433, 1275
sodium cinnamate in, 732
statistics of hereditary, 138
surgical, treatment of, by high frequency current, 738
surgery and, 353
temperature fluctuations in, 132
temperature in, after exertion, 211
to promote natural processes in, 138
transmissibility of human, to animals, 283
transmission of, 134
treatment of, 353, 538, 547, 977, 1463
treatment of, with cinnamic acid, 544
treatment of, with sulphid of allyl, 1121
voice from Damascus on, 140
Tuberculous infection, localization of, 1449
Tubes, tumors of, 209
Tubo-ovarian abscess resembling appendicitis, 890
Tumors, 737
diagnosis of abdominal and pelvic, 927
etiologic factors of, 52
general pathology of, 676
histogenetic and comparative study of malignant, 799
inoperable, 277
malignant, 205, 538, 1278
nasal, 765
trauma in genesis of, 359
Turck, F. B., gastro-enteroptosis, 1027
R. C., right cecal hernia, 1075
Turpentine in infectious diseases, 829
Two cases of peripheral gangrene associated with localized disease of the arteries, 1370
uncommon cases of nasal tumors, 765
Tympanites and phantom tumors, 678
Typhoid, 65, 281, 489, 534, 675, 732, 972, 979, 1115, 1188, 1273, 1278, 1337, 1408, 1479, 1598
and appendicitis, differential diagnosis of, 1606
appendicitis and, 278
bacilli, early diagnosis of, 679
bacilli in blood of typhoid patients, 586
bacilli in feces, 966
bacilli in sputa, 851
bacillus, intercellular constituents of, 210
bacillus, isolation of, 623, 972
bacteriologic diagnosis of, 277
case of, 824
castor oil in, 1404
chloroform water in treatment of, 1341
differential diagnosis of, 1300
diphtheria antitoxin in treatment of, 1548
early diagnosis in relapse of, 484
early diagnosis of, by bacilli in blood, 430
Eberth's bacillus in blood of, 408
epidemic at Iowa State Agricultural College, 509
epidemics, lessons from, 588
feeding in, 489
iliac vein thrombosis after, 838
in City of Mexico, 1548
inoculation for, 1408
kidney complications of, 1402
mastitis in, 539
Typhoid, modified treatment of, 708
patients, solid food for, 140
perforation, 281, 1466
prophylaxis of, 1548
protective inoculation against, 404
rare complications of, 1010
specific treatment of, 1048
spine, 130
staphylococcus infection, 208
value of gelatinized urine method of bacteriologic diagnosis of, 623

Uhlrich, C. F., tuberculosis, 1590
Ulcer, chronic round, of stomach, 76
duodenal, 1116
duodenal, and its surgical treatment, 68
gastric, 617, 1284
gastric, indications for operation in, 488
gastric, operative treatment of, 488
Ulcerations, uremic, gastric and intestinal, 620
Ulcero-cancer, pre-pyloric, 208
Ulcers, growth of epithelium in, 844
Ulcus cruris, chloronated lime in treatment of, 1603
rodens, 1677
Umbilical cord, management of, 1071
cord, reposition of prolapsed, 338
Umbilicus, sensory area of, 537
Uncinariosis, 279, 973
Undertaking a physician, admissible evidence on, 1591
Uniformity in state medical organization, plan for, 1456
Unique case, an, 1695
United States health service, proposed, 111
States, hospital and universities in, 1282
States pension examiners meeting, 1455
University of Michigan, fraudulently obtained papers of, 658
Unpatentable devices for treatment of disease, 198
Unprecedented case of constipation, 1304
Unveiling of the cell, the, 577
Upper air passages, province of general physician in diseases of, 1466
Urea estimation, 844
in treatment of tuberculosis, 67
Uremia, lesions of myocardium in, 208
organotherapy in, 517
therapeutic value of venesection in, 140
Uremides, 283
Urethra, new tissue formation in, 902
reflex in irritable, 659
traumatism of, remote results of surgery in, 1045
Urethral discharge, 845
fever, 1192
Urethritis, chronic posterior, 902
suprarenals in, 969
Uric acid, 842
acid, rapid quantitative test of, 620
Urine, determining age of infant by, 1120
fecal matters in, 648
separation of, 431
simple bedside test of, 432
the, in nutritional diseases, 484
turbidity, cold weather accountable for, 446
Urines, pseudo-fibrinous formation in, 211
Urticaria, chronic, retarded from healing ear by, after operation, 284
of upper respiratory tract, 790
Use and abuse of morphin after abdominal section, 925
of gall-bladder to restore a prolapsed liver, 803
of tropa-cocain in spinal anesthesia, 758
Uses of tuberculin, 366
Uterine growth, faulty, 613
prolapse, 1473
Uterus, bisection of, 1272
foreign bodies in, 1604
inversion of, 480
pathologic status of retroverted, 1176
rupture of, 361
rupture of apparent healthy, 187
rupture of, in cicatrices, 679
sarcoma of, 1059
the menstruating, 1276

Vacations for city people, 1581
Vaccination, 424, 478, 897, 1040, 1115, 1180, 1184, 1336
infection, case of fatal, resembling appendicitis, 34
in Porto Rico, 1181
making it fashionable, 1456
modern methods of, 136
physicians who oppose, 339
proper method of, 526
symposium on, 782
technique, value and object of, 268
tetanus following, 336, 768
what constitutes efficient, 959
Vaccinations, recent, 267
Vaccine, inoculation of, from calf to calf, 1193
virus, glycerinated vs. dried, 1306
virus, its preparation, and complications attending its use, 217
Vaccinia, analysis of cases of tetanus following, 1147, 1223
generalisata, 673
Vagus reflex, the, 352
Valentine, F. C., examination of the genito-urinary patient, 570
Value of methylene blue in operating on the fistulous tracts, 1503
of state control and vaccination in the management of smallpox, 1434
Valves, rectal, 130, 788, 1540
Valvular deflections from muscular efforts, 1601
Vander Poel, J., gonorrhea of prostate, 413
Van Hook, W., surgical treatment of neuritis, 1264
Varicose veins, 794, 1110
Variolation, 1412
Varney, H. R., Roentgen rays in epithelioma, 1100
Vascular mole with severe vomiting, 738
Vasectomy, 788
Vaughan, V. C., bacterial cells, 1325
V. C., typhoid fever, 979
Venereal disease, evolutionary aspect of, 1287, 1366
disease, newer significance of, 37
diseases, 1672
diseases, public prophylaxis of, 387
ulcer, cold treatment of, 1547
Venesection in uremia, therapeutic value of, 140
Venom and antivenene, 788
Ventrofixation, 729
and its influence on labor, 276
Ventrosuspension, uterine, 734
Veratrum, 969, 1112
Vermiform appendix and intestinal obstruction, 1538
appendix as a gland, 1471
Vermont medical news, 408
Vertebra, fracture of, 1391
Vertigo, malarial, 1341
nasal, and epilepsy, 976
Vesical calculus, 1101
capacity, note on gauging, 391
Vicarious menstruation from the retina, 1442
Vincent's angina, contagion of, 1479
bacillus, stomatitis due to, 837
Vineberg, H. N., early recurrence of carcinoma, 345
H. N., lactation atrophy of uterus, 1667
H. N., resection of bowel, 344
Virginia medical news, 1694
Visceral lesions, alteration of skin sensibility in, 1548
Visceral lesions, cutaneous sensibility in, 1121
Visual acuity, economic limitations of, 380
center, apoplexy in, 55
center lesions, 967
centers, 733
Vitopathy at Rochester, N. Y., 285
Vocal nodules, 66
Volkmann's contracture, 357
Voluntary Board of National Examiners, a, 1215, 1318, 1385
national examining board, a, 1447, 1516, 1524, 1526
Vomiting, hysteric, in children, 975
of pregnancy, 969
Von Leyden, Professor, 1372
Vulvo-vaginitis, gonorrheal, in children, 276

Wagner, C. G., paresis, 473
Wahrer, C. F., intemperance and life insurance, 1175
Wahrer, C. F., medical armamentarium, 15
Waiver of privilege when several physicians are employed, 840
Walker, C. S., acute chorea, 1369
J. W., blastomycosis, 801
Walls, F. X., cirrhosis in childhood, 530
Ward, E. B., sleep, 1266
Warden, C. C., fever of Hodgkin's disease, 648
C. C., solitary abscess of the left lobe of the liver simulating abscess of the abdominal wall, 1440
Washington's medical law, 1413
Weakly children, treatment of, 1338
Wearing apparel, new, and hygiene, 479
Weber, L., symptomatology and diagnosis of rheumatism, 1030
Webster, G. W., popular instruction in tuberculosis, 1465
J. C., improved method of examining female bladder, 1299
Welch, W. M., vaccination, 267
Wells, B. H., vaginal hysterectomy, 890
E. F., treatment of pneumonia, 163
H. G., reversibility of enzymes, 220
W. A., medical education and the state, 861
Weltkakels, S., acquired syphilis 837
Wescott, C. D., enucleation of blind eyes, 1263
C. D., plastic surgery of eyelids, 763
Wetherill, H. G., inoperable septic peritonitis, 1344
Weymann, M. F., identification of criminals, 513
What amount of visual defects disqualify in railway service, 382
one society does, 1096
Wheaton, C. L., acute intestinal obstruction, 707
White corpuscles, behavior of, and genital suppuration, 1410
corpuscles, behavior of, in surgical affections, 1547
Whooping cough, new treatment for, 1318
cough, treatment of, by formol, 739
Widal reaction, 966
Wiggin, F. H., deciduoma, maligna, 57
F. H., puerperal sepsis, 724, 1005
Will of the people, the, 776
Williams, F. H., *x*-ray in cancer, 959
Wilison, R. N., tetanus following vaccinia, 1147, 1223
Wilson, J. C., presidential address, 1324
W. R., fractures in newborn, 1461
Wing, E., hysteria, 783
E., treatment of neuritis, 1264
Winters, J. E., food factor during childhood, 418
Wisconsin law in confusion, 1178
medical news, 716, 1694
Withington, C. F., empyema, 1303
Woman, the future, 829
Women, medical education for, 1306
physicians, appointments of, 112
Wood, C. A., Herman von Helmholtz, 553
C. M., diagnostic value of tuberculin, 996
Word-blindness, 619
Work of the digestive glands, (Pawlow) and estimation of pepsin digestion by modern instruments of precision, 1210
Wound imprudently treated, 348
Wounds, acetic acid and alcohol for treatment of, 1481
Würdemann, H. V., economic limitations of visual acuity, 380
H. V., eye injuries, 1264

Xiphopagons twins, recent operation on, 1244
X-light, 1275
X-ray and calculous nephritis, 479
burns, 132, 278, 788, 843, 1465
diagnosis of foreign bodies in eye, 478
in acne and sycosis, 1404
in brain tumors, 536
in determining the limits of the frontal sinus, 764

X-ray precancerous keratosis, 479
treatment of malignant growths, 787, 1175
treatment of skin cancer and sycosis, 479
tube, regulation of, 1465
X-ray, use of, in cancer, 959, 1036
uses of, 1465
X-rays, 1676
in determining true and false gems, 1171
in legal medicine, 423
in so-called sprains, 423
X-rays, treatment of sarcoma and Hodgkin's disease by, 166
Yates, H. W., meningitis from otitis media, 196
Yellow fever, 130, 203, 231, 356, 536, 671, 787, 898, 993, 1404
Yohimbin, hypodermatics of, 1679
Young, H. H., electrocautery for Bottini operation, 86
H. H., tuberculosis of seminal tract, 1261
Young's modifications of Freudenberg's prostatic incisors, 1454

INDEX OF DEPARTMENTS.

BOOK NOTICES.

Abel, C., Gynecological Pathology, 338
Albert, E., Diagnosis of Surgical Diseases, 1638
Alcoholism, 1020
Accessory Sinuses of Nose, Their Surgical Anatomy and the Diagnosis and Treatment of Their Inflammatory Affections, 1458
Allchin, W. H., Manual of Medicine, 190
Allingham, H. W., Diagnosis and Treatment of Diseases of the Rectum, 190
American Edition of Nothnagel's Encyclopedia, 599
Anatomy in Its Relation to Art, 262
Appendicitis: Its Pathology and Surgery, 599
Aschoff, L., Principles of Pathological Histology, 48
Atlas and Principles of Bacteriology, 190
Baker, M. N., Municipal Engineering and Sanitation, 780
Ball, J. B., Handbook of Diseases of Nose and Pharynx, 190
Bannister, H. M., Practical Manual of Insanity, 1093
Bracken, H. M., Disinfection and Disinfectants, 1459
Brower, D. R., Practical Manual of Insanity, 1093
Brunton, L., Disorders of Assimilation, Digestion, etc., 1386
Causes of Death Among the Assured in the Scottish Widows' Fund and Life Assurance Society, 1459
Century Book for Mothers, 49
Chemical Pathology in Its Relation to Practical Medicine, 780
Civilian War Hospital, 1093
Clinical Hematology, 262
Clinique des Maladies du Systems Nerveux, Hospice de la Saltpetriere, 836
Coakley, C. G., Diseases of Nose and Throat, 190
Compend on General Pathology, 1093
Complete Exposc of Eddyism or Christian Science, 599
Cotterell, E., The Pocket Gray, 1021
Crothers, T. D., Morphinism and Narcomania, 1020
Cryer, M. H., Studies of the Internal Anatomy of the Face, 189
Cure of the Morphin Habit without Suffering, 1021
Curschmann, H., Typhoid and Typhus Fevers, 119
Da Costa, Jr., J. C., Clinical Hematology, 262
Diagnosis and Treatment of Diseases of the Rectum, 190
of Nervous and Mental Diseases, 190
of Surgical Diseases, 1638
Diseases of the Nose and Throat, 190
Disinfection and disinfectants, 1459
Disorders of Assimilation, Digestion, etc., 1386
Dorland, W. A. N., Modern Obstetrics, General and Operative, 189
Drinkwater, H., First Aid to Injured and Ambulance Drill, 190
Eckley, C. B., Regional Anatomy of the Head and Neck, 262
W. T., Regional Anatomy of the Head and Neck, 262
Ellis, H., Studies in the Psychology of Sex, 1459
Experimentelle und Kritische Beitraege zur Haendedisinfectionsfrage, 189
Fagge, C. H., Text-book of Medicine, 189
Finsen, N. R., Phototherapy, 262
First Aid to Injured and Ambulance Drill, 190
to the Injured and Sick, 1459
Gaylord, H. R., Principles of Pathological Histology, 48
Genito-Urinary Diseases and Syphilis, 1459
Gorham, F. P., Laboratory Course in Bacteriology, 1459
Gynecological Pathology, 338
Hadley, W. S., Nursing, General Medical and Surgical, 1021
Halliburton, W. D., Kirke's Handbook of Physiology, 1021
Handbook of Diseases of Nose and Pharynx, 190
Hardesty I., Neurological Technique, 190
Herter, C. A., Chemical Pathology in Its Relation to Practical Medicine, 780
Hollander, B., Mental Functions of the Brain, 599
Horrocks, W. H., Introduction to Bacteriologic Examination of Water, 836
Hughes, A. W., Manual of Practical Anatomy, 1386
Hygiene for Students, 1093
Introduction to Bacteriologic Examination of Water, 836
to Chemical Analysis, 1021
Jennings, O., Cure of Morphia Habit without Suffering, 1021
Jewett, C., Manual of Childbed Nursing, with Notes on Infant Feeding, 1386
Kimber, D. C., Text-book of Anatomy and Physiology for Nurses, 1459
Kirke's Handbook of Physiology, 1021
Laboratory Course in Bacteriology, 1459
La Malattie del Sangue, 599
Lehmann, K. B., Atlas and Principles of Bacteriology, 190
Lessons on Massage, 1459
Life of Pasteur, 337
Lockwood, C. B., Appendicitis: Its Pathology and Surgery, 599
McClellan, G., Anatomy in Its Relation to Art, 262
Manual of Childbed Nursing, with Notes on Infant Feeding, 1386
of Clinical Diagnosis by Means of Microscopic and Chemical Methods for Students, Hospital Physicians and Practitioners, 598
of Medicine, 190
of Physical Diagnosis, 1021
of Practical Anatomy, 1386
Marshall, J. S., Principles and Practice of Operative Dentistry, 1020
Memoirs and Letters of Sir James Paget, 119
Mental Functions of the Brain, 599
Growth and Control, 1638
Microbes and Health, 190
Modern Obstetrics, General and Operative, 189
Morphinism and Narcomania, 1020
Morton, H. H., Genito-Urinary Diseases and Syphilis, 1459
Mosquito Brigades and How to Organize Them, 779
Municipal Engineering and Sanitation, 780
Murray, W., Rough Notes on Remedies, 1021
Neumann, R. O., Atlas and Principles of Bacteriology, 190
Neurological Technique, 190
Nursing, General, Medical and Surgical, 1021
Official List of Legally Qualified Physicians, State of Illinois, 1093
Oidiomycosis (blastomycosis) of Skin and Its Fungi, 836
Ophthalmic Myology, 952
Oppenheim, N., Mental Growth and Control, 1638
Outlines of Gynecological Pathology and Morbid Anatomy, 338
Paget, Sir James, Memoirs and Letters of, 119
Palmer, M. D., Lessons on Massage, 1459
Peabody, F. W., Complete Expose of Eddyism or Christian Science, 599
Penrose, C. B., Text-book of Diseases of Women, 600
Pershing, H. T., Diagnosis of Nervous and Mental Diseases, 190
Phototherapy, 262
Pocket Gray, the, 1021
Polk's Medical Register and Directory of U. S. and Canada, 1386
Pollak, G., Century Book for Mothers, 49
Poore, G. V., Treatise on Medical Jurisprudence, 189
Practical Manual of Insanity, 1093
Principles and Practice of Operative Dentistry, 1020
of Pathologic Histology, 48
Progressive Medicine, 599
Pye-Smith, P. H., Text-book of Medicine, 189
Quain's Dictionary of Medicine, 1459
Rebuschini, E., Le Malattie del Sangue, 599
Recherches Cliniques et Therapeutiques sue L'Epilepsie, L'Hysterie, et L'Idiotie, 1021
Regional Anatomy of the Head and Neck, 262
Reid, G. A., Alcoholism, 1020
Ricketts, H. T., Oidiomycosis (Blastomycosis) of Skin and Its Fungi, 836
Roberts, C. H., Outlines of Gynecological Pathology and Morbid Anatomy, 338
Rockwood, E. W., Introduction to Chemical Analysis, 1021
Ross, R., Mosquito Brigades and How to Organize Them, 779
Roentgen Rays in Medical Work, 1021
Rough Notes on Remedies, 1021
Savage, G. C., Ophthalmic Myology, 952
Schaeffer, R., Experimentelle und Kritische Beitraege zur Haendedisinfectionsfrage, 189
Simon, C. E., Manual of Clinical Diagnosis by Means of Microscopical and Chemical Methods, 598
Standard Medical Directory of North America, 1092
Struempell, A., Text-book of Medicine for Students and Practitioners, 190
Studies in the Psychology of Sex, 1459
of the Internal Anatomy of the Face, 189
Syphilis, 1093
System of Physiologic Therapeutics, 1638
Text-book of Anatomy and Physiology for Nurses, 1459
of Diseases of Women, 600
of Medicine, 189
of Medicine for Students and Practitioners, 190
Thayer, A. E., Compend on General Pathology, 1093
Treatise on Medical Jurisprudence, 189
on Orthopedic Surgery, 599
Thresh, J. C., Water and Water Supplies, 262
Turner, A. L., Accessory Sinuses of the Nose, Their Surgical Anatomy, 1458
Typhoid and Typhus Fevers, 119
Tyson, J., Manual of Physical Diagnosis, 1021
Underhill, A. F., Valid Objections to So-called Christian Science, 1021
Valid Objections to So-called Christian Science, 1021
Vallery-Radot, R., Life of Pasteur, 337
Walsh, D., Roentgen Rays in Medical Work, 1021
Warwick, F. J., "First Aid" to the Injured and Sick, 1459
Water and Water Supplies, 262
Whitman, R., Treatise on Orthopedic Surgery, 599
Willoughby, E. F., Hygiene for Students, 1093
Wilson, S. J., Microbes and Health, 190
Yale, L. M., Century Book for Mothers, 49

DEATHS AND OBITUARIES.

Abbott, Oscar D., 120
Abell, Matthias, 1527
Adair, Lyman, J., 601
Adams, Zabdiel B., 1320
Adamson, Christopher, 1387
Ade, Samuel G., 1387
Ahl, John, 1022
Akard, George W., 48
Akins, Wm. T., 722
Allen, Henry, 1173
Allingham, Luther W., 470
Anderson, D. M., 411
Andrews, John B., 527
Andrews, William H., 1458
Angell, Charles, 1258
Archambeault, Louis J., 337
Archer, George W., 1527
Arnold, Henry Harrison, 1258
Arnold, J. Newton, 1458
Ashton, Lawrence, 779
Atchison, James T., 1022
Babcock, Moses T., 953
Bache, Dallas, 1588
Bacon, Edward K., 660
Badad, Nathan M., 411
Baden, Joseph Abdell, 337
Bailey, Orrin M., 722
Bain, Wm. L., 1094
Baird, Jacob A., 527
Baird, Loretta J. Pettit, 48
Baker, Joseph H., 601
Baldwin, Henry R., 470
Baldwin, Ira W., 527
Balinski, Prof. I., 1091
Ball, Robert Tabney, 722
Ball, W. F., 779
Ballay, Dr., 524
Bard, Cephas L., 1172
Barnum, Charles J., 120
Barrickman, William S., 48
Barron, A. Lee, 779
Barrows, Frederick M., 120
Bartlett, Charles E., 1095
Battle, Green B., 1537
Bayles, George, 46
Beale, Edward N., 835
Becherer, Albert A., 836
Beely, Dr., 1453
Bell, John H., 48
Bell, Sylvester D., 336
Bellus, George W., 411
Benepe, Seth M., 721
Benn, Emily A., 121
Bernard, Thomas H., 264
Bernier, Edward, 1527
Berry, Chas. H., 1022
Bettman, Milton, 1588
Bibb, Wm. E., 721
Bibb, William G., 1587
Bigelow, John F., 48
Biggs, John F., 1095
Bishop, George W., 886
Bishop, Henry M., 886
Black, Francis M., 470
Black, James A., 1636
Blackman, Alf. H., 779
Blackstone, Benjamin D., 411
Blaise, Prof., 260
Blank, Charles, 779
Blau, John H., 1022
Blocksom, Joseph T. V., 1094

Bloodgood, Delavan, 953
Bodkin, Dominick G., 410
Bolduc, Theodule, 832, 887
Bond, Sterling P., 527
Bonesteel, Samuel A., 470
Booth, Joseph A., 722
Bourlier, Prof., 260
Bowell, Bowen Combs, 954
Bowers, Andrew J., 779
Bowman, William E., 47
Bowne, S. Townsend, 954
Breed, Simon P., 954
Brickhouse, William E., 779
Briley, John J., 1636
Brockway, Fletcher W., 1636
Brooke, John, 1458
Brown, David F., 835
Brown, Thomas J., 1636
Brown, W. C., 337
Brownrigg,, John, 336
Brumfield, Will C., 1022
Brunson, Robert A., 264
Bruzelius, Prof. R. N., 1091
Bryan, Thomas, N., 954
Buchanan, J. J., 192
Buchanan, W. D., 1636
Buchner Prof. Hans, 1091
Bucke, R. M., 594
Burdick, Daniel W., 1387
Burke, Ulick W. C., 1022
Burke, William C., 1636
Burks, Charles R., 953
Burnett, Charles H., 410
Burr, William J., 1387
Butcher, Thomas S., 886
Butt, Richard L., 47
Bye, John M., 1321
Byrd, William E., 1321
Cachot, Maximilian A., 1320
Calhoun, Christopher P., 1458
Campbell, Donald S., 47
Campbell, Matthew, 1094
Canfield, F., Antes, 1258, 1320
Carleton, Wellington, 722
Carlyle, Paul, 886
Carpenter, Charles Francis, 191
Carpenter, Charles O., 779
Carreau, Joseph S., 192
Carrico, Thomas A., 192
Carson, Lewis E., 120
Carter, Chas. H., 1094
Castle, Frederick A., 1258
Cave, Thomas, 779
Chapin, Andrew B., 779
Chapman, William H., 779
Chase, Clinton S., 48
Cheney, Hugh L., 721
Christenson, Andrew J., 192
Christian, John H., 835
Church, Benjamin A., 1636
Clark, A. Campbell, 45
Clark, John J., 835
Clark, Wm. H., 601
Clemens, Francis, Jr., 410
Clemmer, James N., 1458
Clymer, Meredith, 1172
Cochrane, Samuel R., 1635
Cogswell, Rupert D., 527
Collins, William W., 779
Conner, Benson G., 470
Cooke, Geo. A. M., 1095
Corley, James A., 1387
Corliss, Allen T., 836
Corr, Albert C., 953
Corson, Thomas F., 1588
Cortelyou, Peter R., 527
Cotman, John S. E., 1635
Coventry, John, 656, 660
Cox, Braxton D., Jr., 1094
Cox, Grant G., 1527
Crain, James H., 1259
Cramer, E., 469
Crane, James B., 601
Crawford, Wm. S., 721
Cronin, Frank M., 120
Crounse, Conrad J., 48
Crouzat, Prof., 1091
Curtiss, Harvey W., 1320
Cushing, George W., 886
Cutts, Rollin E., 886
Dailey, Robert W., 1095
Dalgleish, Henry T., 527
Darby, Elizabeth A., 192
David, William C., 264
Davis, P. A., 1095
Davis, Robert P., 954
Deane, James R., 47
Desjardins, Alfred, 1387
Detwiler, Moses H., 1095
Deutsch, Jacob, 1258
Devine, George C., 120
Dickerson, D'Estaing, 1320
Dix, Tandy L., 886
Dixon, George E., 48
Dixon, John, 1095
Dixon, Levi M., 48
Dixon, William C., 191
Doan, Joshua M., 192
Dodds, Ford S., 1527
Dooley, John T., 601
Dougal, Charles H., 1258
Dowd, John F., 1094
Drake, A. Philo, 779
Drayer, Peter, 47
Du Hadway, Caleb, 47
Dudley, William A., 470
Duff, William D., 1636
Earle, John Charles, 1458
Eastman, Joseph, 1587
Eaton, Leonidas H., 835
Eccles, John, 1022
Eddy, John L., 1022
Elder, A. L., 1636
Elder, William T., 1458
Eldridge, Erwin J., 886
Ellegood, Robert G., 886
Elliott, John A., 1458
Ely, John F., 954
English, Thomas Dunn, 953
Eskridge, John T., 263
Evans, Reuben O., 886
Ewing, Alice, 660
Farrell, F. A., 120
Farrington, James, 336
Faust, Jonathan, 1095
Fazio, E., 1242
Feehan, Edward Lawrence, 1320
Fella, John B., 48
Fenger, Christian, 718, 769
Ferguson, Richard, 721
Ferguson, Smith T., 192
Fesker, William H., 1636
Fife, J. A., 524
Filatow, Prof. Nil, 657
Finney, James Francis, 1320
Fisher, Thompson D., 1022
Fitzbutler, Henry, 120
Fitzgerald, Samuel C., 1636
Fletcher, Alfred F., 836
Flower, P. D., 601
Forbes, Charles, 192
Fortier, Dr., 185
Fortier, Joseph J., 835
Foster, Henry W., 470
Fowler, Allen, 1386
Freeman, Nathaniel M., 1175
Freeman, Otis R., 1635
Freeman, Russell B., 834
French, George W., 1387
Fritts, Stewart A., 1458
Frusci, Dr., 1453
Fulmer, Philip F., 1258
Furbeck, Peter R., 337
Furber, E. E., 954
Furman, John H., 1387
Gainey, Wiley Elias, 48
Galbraith, David C., 721
Gallagher, Joseph H., 1095
Garibaldi, G., 469
Gardiner, Agnes M., 410
Garland, Zenas T., 470
Garrett, Charles C., 192
Gay, Fernando C., 1358
Gemy, Prof., 260
German, G. F., 1636
Geyer, John, 120
Gibbs, Anson A., 836
Gilkeson, Irvine W., 471
Gillmer, Mauricio W., 835
Gilman, Uriah, 886
Gilroy, Andrew, 48
Gleason, Cloyes W., 1588
Glenn, Geo. S., 601
Goddard, Kingston, 336
Godfrey, John W., 1387
Godfrey, Walter R., 1636
Goltz, F. L., 1453
Goodell, Jonathan W., 835
Goodsell, E. A., 1458
Gordon, Edward P., 1095
Gougenheim, A., 469
Grandy, Luther B., 1094
Gray, G. C., 192
Green, Henry D., 1321
Griffith, Harry J., 192
Grim, William L., 1258
Grimes, Robert B., 410
Grinnan, Andrew G., 1387
Gundrum, Frederick, 336
Gunnell, Francis M., 1022
Guyer, Oscar K., 954
Habart, J., 1242
Hadley, J., Milton, 47
Hadley, Sherman J., 721
Hagan, Arthur R., 470
Hall, John Storrs, 779
Hamilton, George J., 1387
Hamilton, M. W., 120
Hanes, Wm. B., 721
Hansom, Thomas C., 886
Harley, John H., 411
Harnish, Charles A., 470
Harris, William R., 1458
Harshberger, Abram, 1173
Hart, Vincent T., 887
Harvey, William C., 1387
Hausman, William, 264
Hay, Elizabeth P., 1458
Hayden, Chas. N., 1022
Hayes, James, 1636
Haynes, John D., 1636
Hays, Frank M., 192
Hazeltine, William V., 1258
Hebrank, Edmund R., 411
Heeren, John J., 660
Henderson, Alexander H., 1173
Henshaw, George Bridges, 48
Herr, Martin, L., 527
Hertzmann, Jerome, F., 954
Hess, Geo. A., 527
Hibbard, W. W., 192
Hibler, Augustus, 337
Hill, Charles D., 779
Hill, Emily A., 527
Hill, Henry Howard, 1527
Hill, John W., 836
Hill, Richard W., 191
Hinchliffe, Harry P., 1173
Hine, James, 527
Hines, Andrew J., 410
Hines, James W., 779
Hirner, Carl Gottlieb, 1022
Hogan, H. H., 887
Hoge, Eugene C., 1094
Holbrook, James L., 527
Holden, Leonard P., 1258
Holdom, Newton P., 1636
Holland, Joseph B., 600
Holland, Joseph W., 1258
Holly, Dexter C., 600
Holub, Emil, 832
Homans, John 11, 1320
Hooper, Nathan E., 1458
Hottel, James S., 1636
Hottenstein, Cyrus D., 1320
Houston, Lock E., 471
Howell, A., 192
Hudnall, Samuel H., 121
Hudson, Abijah T., 527
Hudson, Geo., W., 471
Hudson, Salmon, 47
Huger, Wm. E., Jr., 1022
Huidekoper, Rush S., 47
Hulbert, George F., 1173
Hulshizer, Allen H., 1458
Hunn, George, 660
Hunter ,George Z., 660
Hyland, Henry Ayres, 721
Ileff, Elias P., 48
Ilowiecki, Joseph, 779
Inzani, G., 1242
Irwin, Charles N., 1387
Isbester, Richard T., 886
Isom, Thomas Dudley, 1320
Ives, Hiram Leonard, 48
Jackes, George W., 717, 779
Jackson, Alexander, 47
Jackson, Cassius O., 471
Jackson, E. Boylston, 1458
Jackson, Thomas L., 887
Jacobs, James Kent Harper, 47
James, George W., 192
Jarisch, Prof. A., 951
Jeffries, Washington D., 527
Jenkins, J. H., 1458
Jenner, Robert A., 1387
Jennings, Howard, 601
Jennings, James W., 1636
Jett, William N., 660
Johnson, Cornelius A., 1258
Johnson, William Hilleary, 47
Johnston, William W., 835
Jones, Allen, 1635
Jones, Joseph, 660
Jones, Leroy E., 192
Jones, Nelson E., 47
Jones, S. Seabury, 410
Jordon, De Witt J., 47
Joyce, Thomas A., 120
Julian, Alpheus H., 779
Kalindero, Dr., 1453
Kamerer, Joseph W. B., 264
Kaposi, Moritz, 833
Karns, William D., 1320
Keables, Thomas A., 779
Kearney, Walter S., 1636
Kearns, Wm. D., 722
Keene, Joseph W., 471
Keene, Lorenzo S., 835
Kelley, Joseph P., 779
Kennedy, Chas. H., 527
Kermott, C. H., 48
Key, Axel, 260
Keyes, William H., 1173
Kibler Benj. F., 48
King, George, 1258
King, Stephen H., 1635
Kingsley, Albigence W., 731
Kinnamon, Ambroso M., 264
Kirkpatrick, Joseph T., 779
Kitchen, Benj. F., 721
Knight, Gazaway B., 192
Kline, Harry D., 337
Koonz, William, 191
Kussmaul, Adolf, 1585
LaJoie, Louis Z., 601
Lagle, Luther, 192
Lancaster, N. A., 779
Landrum, Z. P., 1387
Lane, George H., 836
Lane, Levi Cooper, 600
Lanier, Sidney J., 1387
Lark, Wm. W., 660
Law, A. John, 264
LeBaron, Dr., 469
Leaning, John Kennington, 1022
Lee, William E., 1023
Leeds, Albert R., 835
Levingston, Marc, 835
Lewis, Amos C., 120
Lewis, D. A., 953
Lewis, Francis W., 721
Lewis, Louis, 660
Linn, Henry C., 1022
Lippitt, William F., 835
Loehlein, Hermann, 45
Loeling, Gerhard, 886
Loggins, Lee A., 192
Longshore, Andrew L., 1636
Loomis, William S., 1320
Lord, Charles Y., 1458
Luckie, Dabney, 527
Lynn, Fred, 722
Lyons, James R., 836
Lytle, James P., 1258
McArthur, Edwin A., 1173
McCaffrey, P. J., 121
McClanahan, John P., 601
McCloughan, Joseph F., 1527
McClure, William Hannibal, 410
McConkey, William J., 48
McCord, Thomas C., 527
McCoy, Alexander, 1022
McCoy, George W., 1458
McCuistion, Benj. F., 722
McCullough, Alexander J., 1258
McDavitt, James E., 1173
McDonald, John R., 192
McDonough, Charles, 1320
McFarlane, Daniel, 47
McGurty, P. H., 1527
McIlwaine, George D., 120
McIntyre, John H., 1094
McKay, Jessie Florence, 1095
McKean, Wm., 600
McKillop, James T., 1095
McKitrick, Daniel W., 660
McLaren, James, 717, 779
McLeod, Duncan, 120
McManigle, Stephen H., 264
McRill, Shannon, 192
MacCormac, Sir William, 469, 885
Mackall, Richard C., 601
MacKenzie, John R., 1636
Mackie, James S., 120
Madden, Thomas More, 1242
Madison, William M., 722
Mahon, Alfred Neale, 264
Mann, Calvin A., 1258
Maris, Edward A., 1173
Martin, Herbert E., 527
Martin, John Wesley, 411
Marvin, Charles W., 1320
Mason, Milton P., 121
Mason, William, 1636
Massie, Charles G., 835
Masson, Louis D., 264
Masten, Charles H., 1320
Masterson, William H., 1173
Mavrogeny, Spirido, Pasha, 524
Mayfield, John C., 47
Meacham, Franklin A., 1015, 1094
Mead, Hezekiah P., 1636
Mehring, Peter, 48
Menard, Rudolph R., 721
Merrill, Leroy A., 120
Metcalf, John T., 470
Middleton, William D., 953
Miller, Gaylord B., 1636
Miller, John S., 1320
Milling, John T., 1387
Million, John L., 527
Mills, Gilbert P., 954
Miner, Herkimer B., 721
Minor, Orrin E., 48
Möller, Dr., 1453
Molloy, Matthew H., 1258
Monroe, Isaac T., 120
Montague, Alexander, 1527
Moore, Alvin A., 1095
Moore, Edward Mott, 720
Moore, James Nott, 1258
Moore, John A., 660
Moore, John T., 660
Moorehouse, Edgar W., 1458
Morgan, John H., 1458
Morgan, Sidney O., 1387
Morris, Joseph, 411
Morse, Charles S., 1458
Morton, John H., 779
Muir, William S., 953
Mulvane, Phineas I., 191
Mund, Conrad, 722
Mundé, Paul Fortunatus, 469
Munn, Curtis E., 1635
Munn, James Henry, 47
Murdock, Frederick J., 48
Murphy, James, 836
Murphy, Robert W., 48
Murrey, Henning H., 660
Muzzy, Arthur T., 779
Myer, Jesse, 601
Nash, William H. H., 953
Neblett, William R., 722
Nellis, Theodore W., 1094
Nelson, Andrew P., 1636
Nevin, James K., 1527
Newcomb, Scott C., 192
Newell, Charles H., 722
Newell, N. J., 601
Nichols, A. L., 192
Nicholson, John C., 721
Northrup, John A., 411
Nywall, Andrew G., 886
O'Bryan, William A., 1636
O'Farrell, Gerald D., 953
Oliver, Edward S., 887
Onstott, J. W., 1022
Ord, William Miller, 1527

Ostrander, Nathaniel, 527
Parkhill, Clayton, 263
Parkhurst, Harvey, 337
Parks, Theodore H., 722
Parsons, Warren, 1527
Pasley, Julius C., 1023
Pease, Ora S., 410
Peck, Oscar W., 601
Penrose, Thomas N., 527
Pernice, H., 469
Perry, Fred James, 47
Peter, Armistead, 527
Peters, Harry, 337
Phelps, Charles Abner, 1258
Pickett, Levi E., 1259
Pierrepont, William Augustus, 192
Piersol, Justinian K., 192
Pinckard, James J., 1023
Piza, M., 1091
Plank, David A., 1095
Plank, Edward H., 527
Poe, William J., 1022
Pomeroy, Oren D., 886
Poole, Yancey L., 1173
Pope, Benjamin Franklin, 411
Pope, Benjamin Franklin, U. S. A., 527, 600
Pope, Joseph L., 1387
Portzer, Frank L., 953
Prall, Samuel O., 337
Pratt, Pierson J., 1386
Presby, William H., 779
Prescott, Royal B., 191
Price, Eleazor, 337
Price, Green R., 48
Priddy, Burk, 192
Putnam, Frederick Augustus, 953
Pyatt, Eleazer A., 1527
Pyle, Edwin W., 527
Ramsey, Geo. M., 1094
Rankin, Andrew C., 779
Reimstad, Sven S., 954
Rendu, B., 1242
Reynolds, Ephraim M., 191
Reynolds, Frank R., 1458
Richards, Daniel W., 886
Richardson, Ida E., 1386
Richardson, John E., 886
Riegel, Thomas F., 1387
Ricker, Richard B., 1094
Rickey, Ray, 1387
Ridenour, William H., 601
Roberge, David, 656
Robert, B., 1242
Robertson, Charles B., 1095
Robinson, Gilman P., 1635
Robinson-Messner, Agnes B., 1635
Rodman, James, 191, 262
Rodman, Samuel H., 527
Roe, John W., 1259
Römpler, Dr., 1453
Rogers, Dryden, 887
Rogers, Samuel S., 779
Rowland, J. Walter, 1258
Royce, Alfred Lee, 1588
Runcie, John W., 48
Russell, E. Fred, 1259
Russell, Francis H., 722
St. John, Hunter, 779
Sauderson, Alexander J., 264
Satterfield, Cornelius E., 835
Saul, Geo. M., 779
Saunders, Walton, 471
Sawyer, James, 47
Schaper, Charles, 192
Scheffer, Emil, 337
Schlernitzauer, Adolph, 1387
Schmalhorst, Moses D., 1636
Schobl, H., 1242
Scholl, Joseph, 1636
Schwartz, Edwin, 470
Scott, O. B., 886
Scribner, John K., 722
Secretan, L., 1585
Seip, George W., 660
Seler, Charles A., 886
Shamhart, Samuel S., 192
Sharpneck T. H., 1094
Shaw, James B., 191
Shepard, William F., 1095
Shipman, Norbourne N., 191
Shoemaker, Jesse Groome, 47
Shurtleff, Geo. A., 600
Shutt, John T., 1320
Simmons, M. C., 660
Sinnett, Edwin, 721
Skaro, Joseph G., 527
Skillman, Henry M., 834
Skrzeczka, K. F., 1585
Slayden, Campbell, 1387
Smith, Cyrus, 1458
Smith, Elias, 779
Smith, George S., 1095
Smith, James W., 47
Smith, Jarvis E., 779
Smith, Manning T., 954
Smith, Newman W., 527
Smith, Samuel R. S., 1636
Smith, Thomas H., 601
Smith, Walter M., 1458
Smith, William H. C., 527
Smith, William Merwin, 337
Sommerville, Richard H., 954
Soule, Ervin L., 1458
Soupart, Dr., 469
Sparham, Terrence, 264
Sparks, H. W., 722
Spearman, William C., 721
Speer, Moses W., 471
Speucer, Charles Winston, 337
Spencer, Edwin V., 1588
Spilman, F. J., 411
Sporry, Alfred J., 954
Sproull, Charles G., 410
Spurrier, John H., 264
Stack, John P., 527
Stafford, John J., 953
Stauley, Elwood, 191
Stark, John, 47
Starr, O. M., 1636
Stearns, Daniel Waldo, 191
Steele, Andrew T., 1636
Steese, Edward, 192
Stone, George H., 411
Stone, T. Ritchie, 1635
Stone, Ulric D., 1321
Sutton, Benjamin F., 835
Swank, Le Roy, 835
Sweeney, James M., 264
Sweetland, Warren Montgomery, 336
Sweney, Robert Leeper, 264
Tall, Reuben J. H., 1458
Tarkington, Joseph A., 1320
Tarleton, Charles L., 953
Tate, Robert W., 47
Taylor, James, 1258
Taylor, James M., 660
Taylor, James Watt, 954
Taylor, Sullivan A., 660
Taylor, T. W., 527
Temm, Joseph, 660
Thomas, G. W., 527
Thomas, Joseph Diehl, 191
Thombs, Pembroke R., 1258
Thompson, Anson S., 264
Thompson, Frank Harold, 832, 953
Thorp, E. L., 836
Thuman, George H., 264
Timary, Nicholas, 264
Timberlake, John R., 835
Titterington, James L., 120
Titus, Arthur, 778
Todd, Lyman Beecher, 1320
Toven, Andrew G., 1095
Townsend, Morris W., 721
Trau, Adam, 527
Trautmann, F., 1452
Tucker, Ervin A., 721
Tucker, Frederick F., 527
Tuckerman, Louis B., 779
Tupper, Horace, 1094
Turnbull, Theodore, 722
Turner, Joseph P., 1259
Tuttle, Franklin B., 1173
Tyler, Lachlan, 411
Ulmer, Charles F., 954
Umstad, H. U., 411
Underwood, David J., 954
Upham, J. Baxter, 835
Van den Berg, Henry, 1527
Van Eman, John H., 1386
Vedder, John, 1527
Vest, J. W. H., 1022
Vest, Richard S., 527
Vincent, C. Jane, 191
Vinke, Henry Herbert, 1022
Von Hebra, Hans, 1242
Von Kazmarsky, T., 1585
Von Ziemssen, Hugo Wilhelm, 260
Wagner, A. Dixon, 832
Wakefield, Luclus L., 48
Walker, D. R., 1173
Wallis, James M., 120
Walser, Theodore, 1172
Warner, George M., 834
Waterman, Thomas, 48
Watkins, Henry E., 337
Watkins, William Hamilton, 1527
Webb, F. E., 121
Webb, Samuel C., 120
Weidman, William Murry, 527
Wellman, G. M., 337
Wells, William R., 411
Weston, John N., 264
Whedon, James S., 192
White, James S., 527
White, John L., 1386
White, Marcellus M., 1095
Whitehead, Everett J., 48
Whitesell, Harry W., 954
Whittington, Otis O., 1258
Wlest, Samuel S., 1258
Wilcox, Emmons T., 1636
Wilcox, William P., 264
Wiley, Alfred S., 48
Wiley, John B., 1387
Wilkins, Joseph, 470
Williams, E. Harold, 1173
Williams, E. Newlin, 721
Williams, George G., 835
Williams, William H., 191
Williams, William L., 1022
Williamson, Alexander L., 471
Wilson, Harry G., 410
Wilson, John B., 1527, 1636
Wilson, Nicholas J., 48
Wilson, Robert Q., 1022
Wilson, William C., 1636
Wilson, William M., 1259
Wimermark, Arvid H., 1387
Winslow, Joseph W., 721
Wirgman, Charles, 1173
Wise, Julius, 1178
Wixom, William, 337
Wolff, Julius, 717
Wolverton, Abby J., 121
Wood, John R., 120
Wood, William, 1022
Woods, George W., 1635
Woodward, Charles E., 471
Wray, Charles J. H., 1585
Young, Daniel S., 660
Young, Jacob, 954
Young, John D., 192
Young, Stephen A., 1636
Young, William W., 192
Zabrzewska, Marie E., 1386

DISCUSSIONS.

Abt, I. A., 530, 755, 1265
Adler, L. H., 416
Allen, C. W., 97, 101, 960
Allport, F., 386, 387
Anders, H. S., 1029
J. M., 1099
Andrews, E. W., 415, 1467
Anthony, H. G., 97
Austin, D. P., 959
Ayers, E. A., 724
Babcock, R. H., 271
Baer, A. W., 1265
Baldwin, L. B., 101
Ballenger, W. L., 342
Bandler, Dr., 1101
Barker, L. F., 195, 606, 607
Barnes, C. A., 723
Baruch, S., 1031
Beard, R. O., 148
Beates, H., 72
Bernays, A. C., 53, 123
Bevan, A. D., 270, 414
Bierwirth, J. C., 605
Biller, J. G., 6
Billings, F., 1392
Blumer, G., 473
Boldt, H. J., 890
Bond, C. S., 1392
Bonney, S. G., 292
Bouffleur, A. I., 415
Boyd, F., 1389
Bracken, H. M., 232
Brannan, J. W., 54
Branth, J. H., 959
Bridge, N., 232, 294
Brill, N. E., 605
Brodhead, G. L., 891
Brooks, J. G., 1388
Brower, D. R., 195, 784, 1265, 1665
Brown, S., 194
Browning, W., 473
Bulkley, L. D., 97, 102, 103
Burckhardt, L., 755
Burns, T. M., 1030
Cabbott, Dr., 1292
Campbell, R. R., 98, 102
Carson, N. B., 1467
Casselberry, W. E., 270, 343, 1324
Chapin, H. D., 838
Cheatham, W., 1390
Churchill, F. S., 892
Clark, J. G., 197, 889
Cohen, B., 724
Coley, W. B., 960
Coomes, M. F., 1390
Corlett, W. T., 97, 102
Corwin, A. M., 663, 1324
Crothers, T. D., 310, 375
Da Costa, J. C., 781, 1462
Daland, J., 782, 1029, 1030
Danforth, I. N., 1028
Davis, B. B., 53
Dr., 1463
E. P., 1462
G. G., 782
Jr., N. S., 21, 270
Deaver, J. B., 54, 197, 782
Dercum, F. X., 472
Dewey, R., 375
Dickerson, W. L., 21
Dixon, A., 1389
Dolz, W., 959
Donaldson, H. H., 606
Dorning, J., 418
Downes, A. J., 416, 890
Drayton, H. S., 9, 376
Drew, C. A., 310, 376
Dudolf, R. D., 1030
Edson, C., 347
Egbert, S., 83
Elgin, W. F., 268
Ely, A. H., 1101
Engbert, J. W., 607
Englemann, R., 1665
Eshner, A. A., 1391, 1665
Ewing, J., 1392
Favill, H. B., 531
Fenger, C., 414
Fenton, T. H., 1029
Ferguson, A. H., 271, 415, 1467
E. D., 54
Fiedler, F. S., 959
Fischer, L., 1031
Fisk, S. A., 347
Flexner, S., 1100, 1325
Foshay, P. M., 1665
Foster, F. P., 782
Frank, L., 1390
Franklin, C. P., 269
Freer, O. T., 342, 343, 664
Freudenthal, W., 197
Fuetterer, G., 79, 81
Fussell, M. H., 1391
Gibbon, J. H., 1099, 1100
Gilmer, T. L., 1265
Golden, S. J. K., 755
Goldspohn, A., 415
Gossett, W. B., 1389
Gottheil, W. S., 1466
Gradle, H., 342, 664
Graham, D. W., 415
Grandin, E. H., 890, 891
Grinker, J., 1265
Hall, G. W., 1265
W. S., 9, 11, 1664
Hallberg, C. S. N., 20, 294
Hammoud, F. P., 54
L. J., 1462
Hanna, H., 269
Hare, H. A., 1100
Harris, Dr., 1393
E. E., 55
M. L., 1467
Harrison, G. T., 724
Harsha, W. M., 415
Haynes, I. S., 54
Hazen, C. M., 12
Heidingsfeld, M. L., 56, 98
Henrotin, F., 414
Henry, W. O., 53
Herrick, J. B., 78
Herzog, M., 445
Holinger, J., 342, 343
Holmes, C. R., 529
E. W., 416
Hopkius, G. C., 960
H. R., 472
Hoppe, H. H., 56
Hotchkiss, L. W., 54
Huddleston, J. H., 783
Hughes, W. E., 782
Hulshizer, A. H., 416
Iugals, E. F., 663, 1029, 1324, 1394
Jacobi, A., 838
Dr., 1393
Janeway, E. G., 197
Jeffries, F. M., 57
Jonsson, C., 80
Karkels, M. S., 604
Kiuyoun, J. J., 783
Klebs, A. C., 270, 294, 892
Knopf, S. A., 58, 196
Knott, Van B., 53
Krusen, W., 889
Kuh, Dr., 1265
S., 195, 784
La Fleure, Dr., 1393
Lambert, A., 605
Langdon, F. W., 529
La Place, E., 197, 782
Lapsley, F. L., 1388, 1389
Lee, E., 418
E. H., 415
Leipziger, H. A., 1101
Lewis, J. A., 1389
Libman, E., 837
Lieberthal, D., 98, 102
Lodor, C. W., 58
Dr., 784
Loomis, H. P., 58, 197
McArthur, L. L., 414, 1467
McBride, J. H., 5
McCormack, A. T., 1390
J. N., 1389
McCoy, M., 81
McCrae, T., 81
McGugan, A., 376
McLean, M., 890, 1101
MacRae, Jr., D., 53
Manges, M., 1031
Martin, E., 197
Marx, S., 724, 890, 891
Massey, G. B., 416
Mayer, A., 605, 1031
E. E., 375
Mayo, C. H., 53, 123
W. J., 414, 958
Meltzer, Dr., 1325
Minor, C. L., 293
Dr., 294
Montgomery, D. W., 97, 101, 102, 1392
L. H., 84, 1265
Moore, A. S., 233
J. E., 53
R. C., 293
Morton, W. J., 960
Moyer, H. N., 6, 1101
Murphy, J. B., 414
Murray, R. A., 891
Musser, Dr., 1325, 1392
J. H., 782

Newman, R., 1466
Nicholson, Dr., 1463
Noble, C. P., 889
Norbury, F. P., 1102
Ochsner, A. J., 414
E. H., 271
Osborn, G., 1589
Osborne, O. T., 73
Osler, W., 1100, 1325, 1393
Packard, F. A., 1391
Park, R., 473
Patrick, H. T., 58, 195, 606
Patton, J. M., 1028
Paulson, D., 12
Pearce, F. S., 6, 376
Pennington, J. R., 272
Pfeiffer, O. J., 347
Phillips, W. C., 413
Pierce, N. H., 342
Piffard, H. G., 960
Prebie, R. B., 271, 893
Prewitt, F. V., 1390
Price, J., 197
M., 416, 889
Pruyn, C. P., 1265
Pyle, W. L., 1665
Pryor, W. R., 724
Punton, J., 6
Putney, J., 12
Quimby, C. E., 54
Quinlan, F. J., 838
Quinn, W. A., 1390
Reagor, Dr., 1026
Reed, B., 81
Reynolds, D. S., 1388, 1389
M. H., 232
Rhodes, J. E., 1324
Richmond, W. W., 1388
Riggs, C. E., 6
Risley, S. D., 15
Robertson, C. M., 664
W. E., 1029
Robinson, J. F., 376
Robison, J. A., 892, 1029
Rochester, DeL., 292
Rodman, W. L., 416
Rosenau, M. J., 783
Rosenthal, E., 755
Sailer, J., 781
J. A., 1391
Salmon, D. E., 231, 233
Savage, G. C., 15
Schachner, A., 1390
Schauffler, W. G., 58, 1466
Schmidt, L. E., 101
Schooler, L., 51, 53
Sell, E. H. M., 197
Sewall, H., 346
Shambaugh, G. E., 343
Shurly, B. R., 755
Simpson, W. K., 838
Smith, A. H., 1031
Solis-Cohen, S., 782
Solly, S. E., 73, 294
Southworth, T. S., 418
Speldel, E., 1389
Stein, O. J., 1394
Stengel, A., 1100
Stern, H., 80, 1031
Stockton, C. G., 81
Strickler, L., 529
Stubbert, J. E., 197
Stucky, T. H., 1390
Sturgis, F. L., 1261
Styles, Dr., 1392
Sumney, H. C., 98
Syms, P., 54
Tate, R. B., 56
Taylor, L. H., 383
Thayer, W. S., 473
Thomson, W. H., 1031
Tichenor, W. A., 53
Tiffany, F. B., 1101
Tomlinson, Dr., 376
H. A., 6, 1665
Tompkins, W. W., 80
Tuckerman, L. B., 84
Turnure, P., 960
Tyler, G. E., 347
Tyson, J., 1100
Vickery, H. F., 1392
Valentine, F. C., 84
Vaughan, V. C., 1664
Vineberg, H. M., 890
Waldo, R., 724
Walker, J. W., 1265
Wallace, C. H., 53
Walls, F. X., 271, 892
Webster, G. W., 893
Walsh, James J., 605
Warren, J. N., 53
Waxham, F. E., 347
Weber, L., 197, 413
Webster, G. W., 892
Wells, E. F., 272, 893, 1028
Wesbrook, F. F., 445
Wesseis, Dr., 1029
Wiggin, F. H., 724
Will, O. B., 1265
Willard, D., 197
Williams, C. H., 386, 387
F. H., 960
Willson, R. N., 269
Wilson, A. M., 21
D. G., 81
F. C., 1390
J. C., 782
W. R., 1462
Wing, E., 195
Winters, J. E., 418
Wolfe, S., 1029
Wulling, F. J., 20
Wurdemann, H. V., 386
Yale, L. M., 418
Young, H. B., 383
Zwisohn, L., 724

EDITORIALS.

Ability and the size of the head, 1236
Abstracts a valuable feature, 587
Acid-proof bacilli in non-tuberculous sputum, 1310
Adrenal disease, state of the blood associated with, 36
Adrenalin, diabetes from injection of, 465
Agglutination, improvements in technic of, 1375
in mixed infections, diagnostic value of, 1448
Albuminuria, functional, 946
Alcohol a dangerous food, 651
effect of, on natural immunity, 39
therapeutic value of, 878
American Association of Pathologists and Bacteriologists, meeting of, 876
Medical Association, next annual meeting of, 1011, 1232
medical literature, 179
Society of Naturalists and Affiliated Societies, 109
Anemia, splenic, with ascites, 111
Animal experimentation and the antivivisectionists, 880
Annual meeting, American Medical Association, 1447
Antidiphtheric serum, value of, 652
Antitoxin in treatment of diphtheria, 1008
Antivaccination, object lesson in, 518
Antivivisectionists, animal experimentation and, 880
Appendicitis and infectious diseases, 181
Arsenic as normal constituent of tissues, 711
relation of, to alcoholic neuritis and beri-beri, 827
Ascites, splenic anemia with, 111
Athyroidism, functional, 650
Auto-nephrotoxins in operations upon the kidneys, 254
Balantidium coli (Stein) in intestinal diseases, 1234
Barber shops, hygiene of, 589
Baths, influence of various, on gaseous interchange, 1581
Bibliographia Medica, the, 112
Biliary acids, Hay's reaction for, 1085
Blood examination, value of, in differentiation of typhoid and malarial fevers, 1374
Boxing, English view of death from, 769
Cacodylates, therapeutic value of, 1086
Canadian Ananias, a, 1310
Cancer, cervical, early diagnosis of, 518
etiology of, 180, 711
Catarrhal inflammation of middle ear as a factor in the production of facial palsy, 1375
Chancre, bacillus of soft, artificial susceptibility toward, 253
Charlatanism and cheek, 403
Cheese, tubercle bacilli in, 1012
Children, amebic dysentery in, 253
Church hygiene, 1448
City children during the summer, 1580
Club practice, medical, 328
Cocain habit, the, 38
Colleges combine, two more, 1011
Colorado's attitude toward consumptives, 1164
Commercialism in medical education, 879
vs. sanitation, 945
Constitution for state societies, proposed, 1163
Consumptive health-seekers, barring of, 254
Consumptives, Colorado's attitude toward, 1164
Coroner's jury and Eddyism, wise, 465
Credulity and medicine, 828
Czolgosz, responsibility of, 252
Degeneracy, legislation against, 462
Degeneration, glandular, of red blood cells, 326
Dentists, physicians and, 327
Diabetes as manifold disease, 402
from injection of adrenalin, 465
pancreas in, 1518
Diphtheria bacilli and noma, 326
treated with antitoxin, 1008
Disinfection and health departments, 828
Domestic animals and infectious diseases of man, 1520
Dysentery, acute, in United States, 590
amebic, in children, 253
experimental, 36
Edema, angioneurotic, 179
Embalming, relation of physician to, 1519
Employment as therapeutic agency in public institutions, 1447
Endocarditis, varieties of, 1692
Eskridge-Parkhill memorial, the, 1164
Examining board, a national not a local, 1376
Exhibit of Pathological Society of Philadelphia, 1085
Eyesight of children, 1582
Fame, fraudulent use of another's, 1011
Family physician, modern, in large cities, 1372
Farm colonies and tent life for the tuberculous, 464
Fee, division of, 329
Fenger, Christian, 769
Ferments in pathology, 766
Fibrin ferment in milk, 1309
Fireplaces, unprotected, danger of, 588
Fluorescence in malaria, curative action of, 1581
Foreign current medical literature, 255
Formalin in tuberculosis, 767
Forwood, Surgeon-General, 1627
Fourth disease, the, 1165
Fraternal unity, dawn of, 650
Future woman, the, 829
Gas leakage in large cities, 1579
Gelatin as food and therapeutic agent, 1444
Girls, growing, effects of schools on health of, 1162
Glycerinated vs. dried vaccine virus, 1306
Gregory testimonial banquet, 1085
Gynecology for insane, 1086
Hahnemannism extraordinary, 254
Hair, whitening of, 178
Harvard Cancer Committee, second annual report of, 1083
Havana, health of, 328
Havana's excellent sanitary results, 1236
Hay's reaction for biliary acids, 1085
Headache, ocular defects and, 713
Health officers, permanent tenure of office for, 1520
Helmholtz and public lecture platform, 586
Hematuria, idiopathic or congenital hereditary and family, 1446
renal, of telangiectatic origin, 1310
Hemiplegia, some reflections on, 1691
Hemolymph glands, significance of, 944
High standards—a lay opinion, 1164
Homeopathic School of Medicine, the one thing needed by, 464
Honorary members, American Medical Association, 1446
Hospital dead-beats, 1519
question, the, 770
House of Delegates, 1443, 1690
Human stirpiculture, 943
Hypodermic paraffin injections, 1626
Iathrophobia, 945
Ice purified in making, 1582
Index of current medical literature, 1692
Infectious disease of man, domestic animals and, 1520
diseases, memorial institute for, 110
diseases, prophylaxis in, 1447
Inflammations, membranous, of mucous surfaces, caused by the pneumococcus, 255
Informal prescribing and its dangers, 1009
Inorganic ferments, 1373
Insane, gynecology for, 1086
hospitals for the, 713
Intellectual activity, center controlling, 1307
Intestinal diseases, balantidium coli (Stein) in, 1234
Iodophilia, 519
Iowa medical law and osteopathy, 519
Jargon of Eddyism et id genus omne, 180
Jaundice, nervous, 877
Journal, new, 1627
Kidneys, auto-nephrotoxins in operations on, 254
Koch's change of views, 180
Larynx, indications for operative treatment of diphtheritic stenosis of, 329
Letter of Dr. Wyeth to medical profession of U. S., 1232
Malaria, mosquitoes and, 519
practical points concerning, 463
some interesting questions in, 712
Massage and gymnastics as therapeutic measures, 1234
Medical colleges and medical education, state regulation of, 38
defense, organized, 37
degree, preliminary examination for, 38
education, commercialism in, 879
education, endowment of, 828
education for women, 1306
libraries for military stations, 403
police powers of state, the, 1083
profession, short cuts into the, 943
students, too many, 1308
Memorial institute for infectious diseases, 110
Mental healers and faith curists, reactions among, 1581
Military stations, medical libraries for, 403
Milk, fibrin ferment in, 1309
supply, improvement of, 1309
Mosquitoes and malaria, 519
Myasthenia symptom-complex, 1520
Myelorrhaphy, 1626
National Board of Medical Examiners, 108
Nephritis, chronic, operative treatment for, 110
scarlatinal, 877
Nerves, regeneration of, 649
Neuritis, alcoholic, and beri-beri, relation of arsenic to, 827
New York osteopathy bill, 402
osteopathy in, 329
Noma, diphtheria bacilli and, 326
Non-tuberculous sputum, acid-proof bacilli in, 1310
Nose, bacteriology of, in health and disease, 1448
Nurses and matrimony, 1011
Nursing and the physician, 1443
Ocular defects and headache, 713
Ohio medical law, the, 1235
Organo-therapy in uremia, 517
Osteopathy in New York, 329
Iowa medical law and, 519
Palsies, laryngeal, mechanism of, complicating tabes dorsalis, 1374
Pancreas in diabetes, 1518
Paralysis, family periodic, and allied neuroses, 826
Parathyroid glands, the, 1236
Paratyphoid, 401
Pathologic exhibit at Saratoga, 1628
Pathologic Society of Philadelphia, annual exhibit of, 1085
Phthisiophobia, 179
Physician, a self-sacrificing, 465
to embalming, relation of, 1519
Physicians and dentists, 327
honorarium in President McKinley's case, 945
in Germany, increase of, 255
political influence of, 404
Pigmented moles, nature of cells in, 826
Pneumococcus, membranous inflammations of mucous surfaces caused by, 255
Pneumonia, latent, 1627
Poisoning in history, 766
Poisons and defective renal elimination, 652
Political influence of physicians, 404
Politics and public health in San Francisco, 880
Prefrontal lobe, symptomatology of lesions of, 710

Prescriptions, renewal of, 1308
President, address of, American Medical Association, 1579
new, of the Association, 1624
President's physicians, late, Nation should pay, 39
Prophylaxis in infectious diseases, 1447
Prudery or politics, 404
Puerperal infection in private practice, 1008
Pyelorrhaphy, 1626
Quack methods in high places, 588
Railroad car, hygiene of, 403
Railway emergency supplies, 1085
Rates to Saratoga meeting, 1446
Red blood cells, glandular degeneration of, 326
Renal elimination, defective, poisons and, 652
Rest and exercise in treatment of tuberculosis, 825
Roentgen rays in therapeutics, 942
San Francisco, politics and public health in, 880
press, the hysterical, 1518
Sanitary misconceptions, 1165
Saratoga meeting, 1624
rates to, 1446
Scarlet fever treated with blood-serum of convalescents, 1165
Scheffer, Prof. Emil, 327
Scholars and their rewards, 946
Schools in their effects on health of growing girls, 1162
of medicine, 328
Secretaries, permanent, for the sections, 1516
Sections, permanent secretaries for, 1516
Seed and the soil, 1445
Serum diagnosis applied to pulmonary tuberculosis, 1445
immunizing, administration of, by mouth, 40
Short cuts into the medical profession, 943
Sinus, frontal, absence of, 769
Skin eruptions and visceral lesions, 517
State, medical police powers of, 1083
reciprocity, nucleus of, in licensing, 254
societies, reorganization of, 1084
Stenosis, diphtheritic, of larynx, indications for operative treatment of, 329
mitral, surgical treatment of, 589
Sternberg, surgeon-general, 1011
surgeon-general, retirement of, 1519
Street cars, sanitary conditions of, 1449
Substitution extraordinary, 39
Sugar and progress, 1165
Sunlight, the stimulus of, 1581
Surgery, danger from, 945
Surgeons and operators, suggestions for, 1625
Surgical operations by laity, proposed inspection of, 769
operations, experimental investigations relating to, 516
tendencies, criticisms of some, 1082
Syphilis, bacteriology of, 1163
Tetanus after injections of gelatin, 651
after vaccination, 768
epidemic, the, 1690
Tubercle bacilli, effect of gastric juice on, 463
bacilli in cheese, 1012
Tuberculosis, formalin in, 767
hematogenous, 111
human and bovine, 39
human and bovine, intercommunicability of, 1517
of peritoneum, surgical treatment of, 181
of the stomach, 1376
pulmonary, serum diagnosis applied to, 1445
respiratory exchanges in, 589
rest and exercise in, 825
Tuberculous, farm colonies and tent life for, 464
infection, localization of, 1449
Typhoid bacilli in blood of typhoid patients, 586
epidemics, lessons from, 588
fever, protective inoculation against, 404
rare complications of, 1010
United States Health Service, proposed, 111
Uremia, organo-therapy in, 517
Vacations for city people, 1581
Vaccination, tetanus after, 768
Vaccine virus, glycerinated vs. dried, 1306
Venereal disease, newer significance of, 37
Visceral lesions, skin eruptions and, 517
Voluntary national examining board, a, 1232, 1447, 1516
Von Leyden, Professor, 1372
Whitening of the hair, 178

MARRIED.

Abbott, Alfred J., 660
Adams, John M., 1258
Adams, Wilmer, 336
Addy, Arnold T., 1094
Adt, Leo F., 1635
Albright, C. B., 600
Allen, J. Ray, 526
Anderson, John C., 722
Arbuckle, John A., 1635
Armstrong, Henry E., 1022
Bacon, Herbert, 336
Bailey, Louis J. C., 119
Bakke, Ole H., 1526
Baptist, Harry, 1258
Barbee, Hugh A., 46
Barney, Charles N., 1635
Barnsback, Roy S., 526
Barrett, Howard E., 1635
Barry, Ray K., 191
Baumeister, Charles F., 1094
Beattie, James G., 1320
Beatty, George Wesley, 336
Beaty, William S., 336
Berghall, Henry V., 834
Berry, J. E., 469
Beyer, Arthur E., 1635
Billig, George W., 1458
Billingslea, Charles Clarence, 262
Blair, Henry A., 119
Bolster, Augustus S., 119
Bower, E. Zeigler, 834
Boyd, E. T., 46
Briggs, Charles E., 1635
Brimble-Combe, William, 191
Brinson, Fair B., 886
Brockmeyer, Frank A., 1458
Buckwalter, John Cassel, 46
Burdett, Harry E., 336
Burton, Edmund F., 834
Bussey, Joseph C., 1022
Calkins, Dwight, 336
Callihan, Richard G., 191
Carhart, George A., 1386
Carruthers, C. K., 526
Carter, James C., 46
Carter, Roscoe A., 46
Carver, William, 46
Cary, Edwin L., 191
Chambers, Albert T., 1635
Chipman, James H., 600
Chisholm, Miles D., 1526
Clark, R. F., 886
Clemons, Carl Anson, 1587
Cleverdon, Lawrence Alexander, 262
Coates, Benjamin O., 191
Cobb, John T., 1258
Coe, John William, 46
Congdon, Charles E., 336
Congdon, Martin P., 120
Conrey, Albert F., 1526
Conway, Robert J., 1320
Coombs, David H., Jr., 1258
Cordonier, S. H., 119
Cornwell, Benjamin W., 953
Coulter, John E., 1258
Councill, Malcolm S., 1022
Croff, James B., 119
Crosby, Isaac F., 1320
Cushing, William H., 1022
Cutts, C. A., 886
Darrow, Edward, 1320
Davis, James H., 336
Davis, Thomas Jefferson, 1022
Davis, William A., 1172
Day, Edwin S., 191
Death, Hugh J., 46
Deering, Albert B., 46
Denny, C. M., 953
Dice, William G., 1172
Douglass, William, 1172
Dowdall, William T., 526
Drake, Frederick Phineas, 336
Drewry, Herbert R., 1172
Dunlap, Thomas Grear, 1172
Du Bose, F. Goodwin, 1587
Durrum, James C., 191
Dye, E. A., 1094
Early, Bernard H., 120
Easterling, Alfred Henry, 722
Eaton, Andrew B., 410
Ellis, Charles A., 46
Evans, Edwin J., 191
Fisk, William B., 120
Fleming, Hugh P., 1022
Foote, Charles Given, 1526
Fowler, Charles Clarke, 1094
Frederick, Silas C., 886
Freeman, Charles M., 120
French, S. Bernard, 1526
Gallihier, Robert L., 191
Gelpi, Paul Joseph, 46
Geruon, Talbot C., 469
Gilbert, Oscar M., 834
Gilliford, A. R., 886
Gillin, W. F., 469
Gladmon, Edwin, 1635
Glazebrook, Francis H., 1635
Goodall, William A., 1635
Goodman, Henry Cyril, 1094
Gordon, Louis J., 1635
Graham, Charles R., 46
Greever, C. W., 119
Grimes, Marvin, 1635
Griswold, William Church, 1172
Groh, John R., 778
Guertin, Augustus, 600
Gulon, Edward, 834
Hager, Walter Aldmond, 191
Haile, Joseph E., 526
Hallum, M. M., 1022
Hammat, Charles R., 1258
Hank, Edward Garnette, 1172
Hargens, Charles William, 722
Harrison, Lynn, 46
Harscher, Andrew, 46
Hart, Fred J., 1587
Hart, Henry G., 1094
Hart, S. P., 119
Hartzell, Sol. M., 1635
Haynes, Elmer E., 119
Healy, Daniel J., 1587
Hearst, William L., 1386
Heazlitt, Ledre, 1258
Hedges, Charles W., 120
Heinrich, Gustavus A., 1526
Heise, William F. C., 526
Henderson, Estelle H., 47
Henning, Edward R., 953
Herman, Frank M., 1258
Higbee, J. H., 886
Hilgard, George E., 1172
Howard, Edward, 191
Hoye, John C., 1022
Huddleston, Edgar C., 1635
Hunn, William B., 191
Hunter, Warren H., 119
Hursh, G. Wogan, 191
Inglis, William D., 1587
Isborne, Benj. D., 722
Jackson, Frank S., 886
Jackson, George E., 1320
Jacobs, Henry Barton, 953
Jaeger, Alfred S., 526
Janeway, Henry Harrington, 46
Jelks, Miss Julia Roberta, 1022
Jennings, J. Leonard, 119
John, Peter, 119
Johnson, Albert C., 1386
Johnson, Arthur M., 1022
Johnson, Elizabeth, 1022
Johnson, Fred, 262
Jones, Horace L., 119
Jones, Louis H., 1635
Jones, R. W., 1587
Joyce, Thomas A., 119
Kendrick, James F., 46
Kennedy, Louis T., 1022
Kiefer, Hugo A., 600
Killip, Thomas A., 778
Kimmons, A. J., 1094
King, J. Cheston, 1587
King, Thomas A., 1386
Kiser, Jefferson D., 1320
Kline, Linus Ward, 410
Knight, Willie C., 1635
Knittle, Edward H., 191
Koehler, Gustav, 1258
Kornemann, Henry A., 1172
Lackey, Robert P., 120
Lamb, Edward T., 1386
Lee, Solomon S., 834
Leighton, Charles Milton, 191
Lemke, August Frederick, 46
Lenfestey, James Percy Snelling, 191
Lenz, George, 1536
Lewis, Livingston L., 953
Lindsay, Eugene C., 119
Livingston, Hugh, 46
Lloyd, Cyrus D., 660
Lloyd, Samuel E., 46
Lonergan, W. J., 46
Long, Edwin A., 1635
Luehrsmann, Bernard H., 1458
McArtney, William N., 336
McCannel, Alexander J., 191
McEachern, Angus, 1635
McGettigan, Charles D., 410
McGovern, James T., 1258
McLean, Robert A., 262
McWilliams, Jacob M., 1022
Mallhouse, Max, 1635
Maisner, Emil, 660
Martin, Eugene, 262
Martin, George E., 46
Martin, Jeremiah N., 1172
Matchan, W. G., 1320
Madajesky, Ernest H., 1458
Meharg, W. C., 46
Menge, Frederick, 1635
Meredith, Humbert, 834
Metzler, Willis M., 722
Middlekamp, Marion S., 1635
Miller, John DeM., 119
Miller, Joseph Lyon, 1587
Miller, Otis W., 46
Mitchell, Henry H., 722
Mitchell, Jud, 1635
Mitchell, R. J., 1635
Moate, Thomas, 119
Moffett, Chas. C., 46
Moll, Gustavus W., 1386
Monroe, Henry E., 1635
Montgomery, Liston H., 1635
Mooney, James J., 1258
Moore, Amos F., 262
Moore, Dickson L., 886
Morrow, Thomas Miller, 953
Moulton, H. P., 953
Murphy, William B., 469
Nickolai, H. C., 953
Norberg, George B., 46
Norment, Henry T., 336
O'Gorman, Francis M., 1635
O'Reilly, Thomas W., 722
Parker, Henry J., 600
Parrish, Nicholas C., 526
Paschal, John, 1635
Patton, David H. R., 120
Pearson, Robert B., 46
Pender, George E., 600
Perry, Middleton L., 410
Pettyjohn, Joseph, 1458
Pickett, Ambris C., 410
Pipes, John R., 46
Pond, Gardner P., 660
Pool, C. Bret, 953
Potter, Samuel B., 526
Potter, Ward E., 1635
Prather, John E., 1526
Pressly, William C., 119
Pringle, Jesse A., 834
Ramsey, Clarence S., 600
Ramsey, Walter Reeve, 1022
Range, Robert A., 120
Reycraft, John J., 834
Rayl, William L., 191
Read, Eleanor C., 119
Reeder, David H., 1635
Reid, William A., 191
Rhodes, Ora M., 1458
Rice, William G., 262
Rietz, Paul C., 119
Ritchie, Harry P., 1094
Ritchie, William J., 1022
Russell, Frank H., 262
Russell, Walter A., 1172
Sage, Arthur Gray, 953
Salisbury, Trafford B., 1635
Sandford, Edmund C., 191
Sanger, Eugene B., 1172
Sawyer, William E., 46
Schoff, Charles H., 600
Schoonmaker, Irving R., 722
Senkler, George E., 191
Sheafe, Joseph, 1386
Shellman, Arthur P., 1094
Shera, George W., 120
Shollenbarger, William L., 119
Shouse, William S., 600
Siegel, John H., 262
Simon Saling, 1094
Sistrunk, Robert D., 119
Sitzer, George D., 1022
Slote, Leal K., 1386
Small, Arthur A., 1320
Smith, Alexander C., 1094
Smith, Harvey, S., 1635
Smith, Stanley, 1258
Snider, J. T., 1172
Spain, Robert T., 191
Spear, Herman S., 336
Squires, Frederick E., 191
Stein, Otto J., 1258
Stevens, Samuel, 1526
Stewart, Walter B., 410
Stewart, W. E., 722
Street, Graham, 953
Street, Thomas H., 1320
Strong, David Charles, 46
Swenson, Carl G., 1172
Tanksley, William Houston, 1022
Tanner, Frederick N., 120
Taylor, G. C. Truehart, 46
Taylor, J. F., 46
Taylor, W. C., 1635
Taylor, Wilfred, 660
Thomas, M. H., 1022
Tilley, Ralph C., 119
Tinch, Edward T., 1259
Tope, U., 410
Trask, Harrison Joseph, 1258
Tubbs, Ray Burney, 1022
Tucker, James P., 526
Tupper, Virgil L., 46
Tyroler, Adolph, 1635
Underwood, John B., 778
Upson, George D., 1635
Van Doren, George B., 1635
Van Riper, Paul, 119
Vandine, A. C., 1635
Veckl, Victor G., 191
Vernon, H. S., 191
Von Deesten, Henry, 1635
Voorhees, James Ditmar, 953
Walker, Frank, 953
Walsh, Harry, 1022
Waters, John Bradford, 46

Weaver, Louis F., 46
Weeks, David F., 778
Welch, William B., 1635
Wellenreiter, Otto F., 120
Wells, Henry Gideon, 1022
Weston, Numa T., 1258
Wheat, J. Edgar, 46
Whitmore, Frank B., 1526
Wilkins, John G., 660
Willard, Henry S., 469
Wille, Clarence W., 1022
Williams, Harry E., 120
Wilson, Francis Walter Ernest, 1022
Winn, Albert, 1386
Wood, Elmer U., 119
Wood, Roscoe M., 834
Wright, C. E., 191
Wynn, J. W., 600
Yancey, Edwin F., 1635
Yates, J. J., 46
Yeager, John M., 1635
Zaiser, Albert Charles, 191

MEDICOLEGAL.

Abortion case, circumstantial evidence in, 420
Accidents, communications to physicians about, 667
Admissible evidence of undertaking of physician, 1591
Admission to hospital, refusal of, 785
Allowing physician to publish article in case, 1397
Anesthetics, deaths from, under insurance policy, 1533
Board of health, number of physicians allowed on, 532
of health record, 1033
of medical examiners, court can not supplant, 199
Cause of first fracture that also of rebreaking leg, 1103
Charging wrong person, 726
Communications to company's physician privileged, 1670
to physicians about accidents, 667
Compulsory vaccination, state board of health and, 1270
County health officer, duty of city to pay, 1178
Curettement, 1327
Deadly drug, mistake in furnishing, gross negligence, 667
Death from anesthetics under insurance policy, 1533
Describing pneumonia as cold, 348
Diphtheria, authorized means to prevent spread of, 1327
Doctor's bill, promise of third party to pay, 273
Drugs, mistakes in sale of, liability to users for, 1534
Electricity, who is expert on effects of, 667
Employing physician, 273
Employment of physician, ratification of, 127
of surgeon by trainmaster, 1032
Epidemic, power of board to employ physicians during, 60
Evidence derived from test of extent of injury, 1469
Examining physician's statement, 273
Exhumation and autopsy months after death, 199
Expert fees, 726
evidence and testamentary capacity, 609
testimony, 840
Experts for state, examinations made by, 1103
Extent of injury, evidence derived from test of, 1469
Eye, injury to, 609
Fracture of ankle bone and septic pneumonia, 475
Fright, recovery for physical injuries caused by, 1468
Furnishing physician, 273
Health officer, authority required for appointment of, 962
Hearing before board of health, entitled to, 1104
Hospital surgeons, privileged communications to, 60
or trustees not liable for surgeon's negligence, 1670
Illinois medical practice act and osteopathy, 962
Inadmissible evidence, 1270
Infant, medical services for, 726
Injured employe, neglect of, 1178
person taken to hospital against his will, 609
persons, duty of company assuming charge of, 127
persons, statements of, of physicians, 961
Injury, aggravation of, by not observing instructions, 1178
followed by quick consumption, 199
to the eye, 609
to physician's business, damages for, 1033
Insanity, the law of, 532
Inspection of laundries a proper health measure, 1670
Intent of physician, opinion of patient as to, 348
Liability for failure to furnish medical assistance, 475
for refusal of admission to hospital, 785
to users for mistakes in sale of drugs, 1534
Louisiana medical practice act not unconstitutional, 475
Malpractice, anticipating injury from, 1327
case, burden of proof in, 840
case, difference in, on second trial, 894
case, skill and contributory negligence in, 609
effect of prior condition on action for, 420
damages, 840
Medical assistance, liability for failure to furnish, 475
authorities, cross-examination from, 667
experts, use and criticism of opinions of, 1670
practice act, constitutionality of, 1327
examiner, agency of, 895
witnesses, court not entitled to introduce, 609
Non-resident, township not liable for medical services for, 348
North Carolina law, privilege under, 199
Oculists as physicians, care required of, 726
Osteopathy, Illinois medical practice act and, 962
"Oxydonor" patent, court of appeals on, 127
Patient, opinion of, as to intent of physician, 348
Pesthouse, liability for use of property for, 1592
Physician accompanying another, 1178
sale of drugs by, 475
Power of director, 273
Practice of medicine, opinion as to, 1534
Prescription of liquor by physician also pharmacist, 1533
Privilege in Nebraska, 1033
limitation of, after death of patient, 349
limiting of, to physicians of state, 1270
telling character of injury not waiver of, 961
under North Carolina law, 199
waiver of, when several physicians are employed, 840
Privileged communications to hospital surgeons, 60
Qualification, insufficient allegation of, 895
Sale of device, 1534
of drugs by physician, 475
Salicylic acid in fruit syrup under pure food law, 1104
Secretary of board of health, treatment of cases by, 127
of State board of health, duty of, 532
Signs of injuries, pointing out the, 667
Smallpox, failure of city to warn employe as to, 532
liability for spread of, by escaped patient, 726
patient, can not employ physician for, 420
South Dakota statute, compliance with law presumed, 1103
Specialists, skill required in, 1270
Sponges, removal of, 1397
State board of health and compulsory vaccination, 1270
Statements to physician long after accident, 1397
Stowaway, medical treatment of, 420
Surgeon, skill required of, 1397
Surgeon's negligence, hospital or trustees not liable for, 1670
Taxation, college infirmary not exempt from, 60
Testamentary capacity, expert evidence and, 609
by patient, 1178
Title of doctor, use of, 1178
Undertaking of physician, admissible evidence of, 1591
Unpatentable devices for treatment of disease, 198
Want of license, 840
Wisconsin law in confusion, 1178
Wounds imprudently treated, 348

SOCIETIES.

Aberdeen District (S. Dak.) Medical Society, 888
Academy of Medicine of Cleveland, 1588
Adams County (Ill.) Medical Society, 1588
Addison Couty (Vt.) Medical Society, 1322
Alameda County (Cal.) Medical Society, 471
Albert Lea District Medical Society, 1664
Albany (N. Y.) Medical College Alumni Association, 1388
County (N. Y.) Medical Association, 1098
Alexandria County (Ill.) Medical Association, 51
Allen County (Ind.) Medical Society, 51
Alpha Kappa Kappa Fraternity, 194
Alton (Ill) Medical Society, 722
American Academy of Medicine, 1260, 1664
Association of Genito-Urinary Surgeons, 1260
Association of Pathologists and Bacteriologists, 956
Association of Urologists, 781
Chemical Society, 194
Climatological Association, 1174
Gynecological Society, 1387, 1589, 1666, 1696
Laryngological Association, 1387
Laryngological, Rhinological and Otological Society, 1664
Medical Editors' Association, 1388
Medico-Psychological Association, 1530
Orthopedic Association, 1322
Roentgen Ray Society, 1696
Society of Naturalists, 44
Therapeutic Society, 1098, 1461
Androscoggin County (Me.) Medical Association, 267
Appanoose-Wayne County (Iowa) Medical Association, 1388
Arizona Medical Association, 1664
Arkansas Medical Society, 1461
Ashtabula, Lake and Geauga Counties (Ohio) Medical Society, 266
Association Générale des Médecins de France, 1170
of American Medical Colleges, 1169
of American Physicians, 1324, 1392
of C., H & D. Surgeons, 1388
of Central Railway of Georgia Surgeons, 1259
of House Physicians of Harper Hospital (Detroit), 1026
of Medical Officers of the Army and Navy of the Confederacy, 888, 1260
of Surgeons of the Southern Railway Company, 1664
Atchison County (Mo.) Medical Association, 267, 412
Atlantic County (N. J.) Medical Society, 471
Austin (Texas) Academy of Medicine, 1322
(Texas) District Medical Society, 193
Flint Medical Association, 1259
Aux Plaines Medical Association 472
Baltimore Medical and Surgical Association, 267
Barnstable District (Mass.) Medical Society, 1531
Barry and Eaton (Mich.) Medical Association, 1322
Bay County (Mich.) Medical Society, 603
Bayonne (N. J.) Medical Society, 266
Belmont County (Ohio) Medical Society, 193
Berkshire District (Mass.) Medical Society, 1322
Blue Earth County (Minn.) Medical Society, 1098, 1259
Bond County (Ill.) Medical Society, 193
Boone County (Ark.) Medical Society, 1174
Braineard District (Ill.) Medical Society, 1260
Brashear (Ky.) Medical Society, 471
Bridgeport (Conn.) Medical Association, 266
Bristol North District (Mass.) Medical Society, 1259
Broome County (N. Y.) Medical Association, 1098
Buffalo Academy of Medicine, 1461
Buncombe County (N. C.) Medical Society officers, 267
Butte (Mont.) Medical Society, 1025
Caldwell County (Mo.) Medical Society, 1664
California Academy of Medicine, 605, 1391
Camden (N. J.) City Medical Society, 266
Camden District (N. J.) Medical Society, 1530
Canadian Association for the Prevention of Tuberculosis, 1016, 1090
Medical Association, 832
Canton (Ohio) Medical Society, 193
Cape May County (N. J.) Medical Society, 1387
Carbon County, (Pa.) Medical Society, 1174
Carroll County (Ark.) Medical Society, 1387
Cass County, (N. Dak.) Medical Society, 1098
Cecil County (Md.) Medical Society, 1531
Central Illinois Medical Association, 1322
Medical College (St. Joseph, Mo.) Alumni Association, 1322
Michigan Medical Society, 888
Texas Medical Association, 412
Charity Hospital (New Orleans) Alumni, 1322
Charleston (W. Va.) Medical Association, 266
Chattanooga (Tenn.) Medical Society, 837
Chautauqua County (N. Y.) Medical Association, 472
Chepalis County (Wash.) Medical Society, 603
Chesterfield County (Va.) Medical Association, 122
Chicago Laryngological and Climatological Society, 342, 662, 1323, 1393
Medical Society, 269, 413, 529, 956, 1027, 1264
Medical Society and Chicago Neurological Society, 1264
Medical Society and the Chicago Society of Internal Medicine, 269, 529
Medical Society and Chicago Surgical Society, 956
Neurological Society, 58, 194, 606, 783
Society of Internal Medicine, 269, 529, 891, 1028
Surgical Society, 956, 1466
Chickasaw Medical Association, 1664
Cincinnati Academy of Medicine, 55, 528, 722
Hospital Society of Internes, 1522
Obstetrical Society, 471
Society for Medical Research, 267
Clark County (Ky.) Medical Society, 412
County (Ohio) Medical Society, 341, 1026, 1260, 1323
County (Ohio) Medical Society and the Academy of Medicine, 341
Cleveland (Ohio) Medical Society, 267
Clinton County (Ill.) Medical Society, 1387
County (Iowa) Medical Society, 266
County (Pa.) Medical Society, 121
Coles County (Ill.) Medical Society, 267
College of Physicians and Surgeons (Baltimore) Alumni Association, 1323
Columbia County (N. Y.) Medical Association, 412
Columbus (Ohio) Academy of Medicine, 193
Comanche County (Okla.) Medical Society, 471
Congress of French Physicians of America, 717
Connecticut Valley Medical Association, 1588
Cripple Creek District (Colo.) Medical Society, 472
Cumberland County (N. J.) Medical Society, 1098

Cuyahoga County (Ohio) Medical Society, 1098
Dearborn County (Ind.) Medical Society, 956
Delaware State Medical Society, 722
Delta County (Mich.) Medical Society, 1259
Denison (Texas) Medical Association, 1026
Denver and Arapahoe Medical Society, 346, 838, 1030
Detroit Medical Society, 195, 1100, 1259
Detroit Physicians' Association, 1322
District Medical Society of Hunterdon County (N. J.) 1260
Medical Society of Middlesex County (N. J.), 1269
Douglas County (Kan.) Medical Society, 528
Dutchess County (N. Y.) Medical Association, 412
Duval County (Fla.) Medical Society 266
Eastern Hampden (Mass.) Medical Association, 662
Ohio Medical Society, 603, 1260
Orange District Medical Society, 1588
Edinburgh Medico-Chirurgical Society, 335, 885
Obstetrical Society, 187
Edwards County (Ill.) Medical Society, 1098
Egyptian Medical Congress, 717
Elkhorn Valley (Neb.) Medical Society, 193
Erie County (N. Y.) Medical Association, 956, 1461
Essex District (N. J.) Medical Society, 1098
North District (Mass.) Medical Society, 1588
South District (Mass.) Medical Society, 1588
Fairfield County (Conn.) Medical Association, 1098
Faulkner County (Ark.) Medical Society, 1026
Federation of French Anti-Tuberculosis Institutions, 885
Florida Medical Association, 1098, 1267
Floyd County (Ind.) Medical Society, 781
Fond du Lac County (Wis.) Medical Association, 1259
Fort Wayne (Ind.) Medical College Alumi Association, 888
Fox River Valley (Wis.) Medical Association, 603
Franklin County (Ohio) Medical Society, 837
County (Vt.) Medical Society, 1588
District (Mass.) Medical Society, 1588
Frederick County (Md.) Medical Society, 267
French Congress of Internal Medicine, 1316
Fresno County (Cal.) Medical Society, 266
Fulton County (Ohio) Medical Association, 1387
Gallia County (Ohio) Medical Society, 1461
Genesee County (N. Y.) Medical Association, 1461
Garrard County (Ky.) Medical Society, 528
German Congress of Internal Medicine, 524, 1316
Medical Society (San Francisco), 121
Congress of Surgery, 594, 1171
Giles County (Tenn.) Medical Society, 528
Glynn County (Ga.) Medical Society, 1588
Golden Belt (Kan.) Medical Association, 1026
Good Samaritan Hospital (Cincinnati) Ex-Internes Association, 1588
Grand Rapids (Mich.) Academy of Medicine, 662
Grecian Medical Congress, 1017
Greene County (Ohio) Medical Society, 1589
Guilford County (N. C.) Medical Society, 1260
Hamilton (Ontario) Medical Association, 51
Hampden District (Mass.) Medical Society, 1174
Hampshire District (Mass.) Medical Society, 1388
Hancock County (Ill.) Medical Society, 1387
County (Ohio) Medical Society, 662
Hardeman County (Tenn.) Medical Association, 781
Harrisburg (Pa.) Academy of Medicine, 471
Harrison County (Texas) Medical Society, 662
Hartford (Conn) Medical Society, 266
County (Conn.) Medical Society, 1174
Hempstead Memorial Academy of Medicine (Portsmouth, O.), 1531
Hennepin County (Minn.) Medical Society, 781
Henry County (Tenn.) Medical Society, 1025
Hill County (Texas) Medical and Surgical Association, 1259
Hospital Medical Society (Rochester, N. Y.), 122
Houston (Texas) District Medical Association, 266
Hudson County (N. J.) Medical Association, 1460
Huntington (W. Va.) Medical Society, 266
Illinois State Medical Society, 1388, 1464
Indiana State Medical Society, 1531
International Association of Railway Surgeons, 1323
Conference for the Prophylaxis of Syphilis and the Venereal Diseases, 833
Conference of the Medical Press, 524, 1316
Congress of Dermatology, 657
Congress of Electrotherapy and Radiography, 1017
Congress of Hydrology, Climatology and Geology, 185
Congress of Psychology, 524
Medical Congress, 833, 1017
Iola (Kan.) Medical Society, 1025
Iowa Central Medical Society, 122
Medical Women's Society, 1588
State Medical Society, 1531
Italian Anti-pellagra Congress, 44
Jackson County (Ala.) Medical Society, 266
County (Mich.) Medical Society, 266
Jacksonville (Ill.) Medical Club, 528
Jefferson County (W. Va.) Medical Society, 956
Medical College Alumni Association, 1589
Jo Daviess County (Ill.) Medical Society, 1260
Johnson County (Ill.) Medical Association, 1259
County (Iowa) Medical Society, 266
County (Texas) Medical Society, 888
Kalamazoo (Mich.) Academy of Medicine, 528
Kankakee Valley District Medical Society, 1174
Kansas Medical Society, 1461
City (Mo.) Academy of Medicine, 193
Kendall County (Ill.) Medical Society, 603
Kentucky School and Hospital Medical Society, 122
State Medical Society, 1388
King County (Wash.) Medical Society, 662
Knox County (Ill.) Medical Society, 1259
LaCrosse County (Wis.) Medical Society, 266
Lamoille County (Vt.) Physicians' Association, 122
Lancaster City (Pa.) Pathological Society, 193
City and County (Pa.) Medical Society, 193
Lane County (Ore.) Medical Society, 193
Lawrence County (Pa.) Medical Association, 121
Leavenworth County (Kan.) Medical Society, 528
Lee County (Ark.) Medical Society, 956
Lewis and Clark County (Mont.) Medical Society, 1322
Linn County (Mo.) Medical Society, 1322
Litchfield County (Conn.) Medical Association, 412, 1260
London Clinical Society, 335, 525, 951, 1017
Lorain County (Ohio) Medical Society, 412
Los Angeles (Cal.) Academy of Medicine, 193
Angeles County (Cal.) Medical Association, 121, 528
Louisville (Ky.) Clinical Society, 837
Lucas County (Ohio) Medical Society, 266
Lyun (Mass.), Medical Fraternity, 662
Lyon County (Kan.) Medical Society, 1025
Macon County (Mo.) Medical and Surgical Society, 1259
Macoupin County (Ill.) Medical Society, 1259
Madison County (Ala.) Medical Society, 193
Mahoning County (Ohio) Medical Society, 341
Manchester (N. H.) Medical Association, 722
Manitowoc County (Wis.) Medical Society, 193
Marion County (Iowa) Medical Society, 1461
County (Kan.) Medical Association, 193
County (Ohio) Medical Society, 267
Maryland Public Health Association, 1460
Massachusetts Medical Society, 1388
Medical and Chirurgical Society of Richmond (Va.), 662
Association of Alabama, 1266
Association of Berrien County, (Mich.), 121
Association of Georgia, 1268
Association of Missouri, 1532
Association of the District of Columbia, 1025
Association of Troy (N. Y.), 340
Club of Philadelphia, 341
Society of California, 1265
Society of London, 658
Society of the District of Columbia, 266, 412, 472
Society of the Missouri Valley, 662
Society of the State of New York, 266, 412, 472
Society of the State of West Virginia, 1590
Memphis (Tenn.) Medical Society, 51, 662
Mercer County (Ill.) Medical Society, 1259
Miami Medical Society, 1588
Middle Tennessee Medical Association, 1531
Middlesex County (Conn.) Medical Society, 1259
North District (Mass.) Medical Society, 1388
Milwaukee County (Wis.) Medical Society, 194, 1098
(Wis.) Medical Society, 341
Mississippi State Medical Association, 1267
Valley Medical Association, 1174
Montgomery County (Ala.) Medical Association, 122
County (Ind.) Medical Society, 956
Montreal Medico-Chirurgical Society, 44, 656
Morgan County (Ill.) Medical Society, 471
Nashua (N. H.) Medical Association, 341
Nashville (Tenn.) Medical and Surgical Association, 888
National Association for the Prevention of Tuberculosis, 186, 951
Nebraska State Medical Society, 1461
Nevada State Medical Society, 341
New Britain (Conn.) Medical Society, 193
Castle County (Del.) Medical Society, 662
Haven County (Conn.) Medical Society, 1259
London County (Conn.) Medical Association, 1025
Mexico Medical Society, 1174
York Academy of Medicine, 51, 196, 418, 662, 782, 837, 959, 1030
York County Medical Association, 57, 603, 724, 958, 1260
York Neurological Society, 603
York Obstetrical Society, 344, 890, 1100
York State Charities Aid Association, 51
York State Medical Association, Fifth District Branch, 53, 1465
Newport (R. I.) Medical Society, 528
Noble County (Okla.) Medical Society, 888
North Central Ohio Medical Society, 956
East Missouri Medical Association, 1322
Texas Medical Association, 122
Northwest Medical Society of Philadelphia, 1029
Northwestern Ohio Medical Association, 122
Ohio State Medical Association, 1531
State Pediatric Society, 1174
Valley Medical Association, 1322
Oklahoma County (Okla.) Medical Association, 51
Olmsted County (Minn.) Medical Association, 341
Omaha (Neb.) Medical Society, 341, 1268
Ontario Hospitals Association, 594
Medical Association, 832
Medical Defense Association, 185
Medical Library Association, 44
Orange County (Cal.) Medical Association, 1025
County (N. Y.) Medical Association, 341
County (Tex.) Medical Society, 193
Orleans Parish (La.) Medical Society, 51
Otsego County (N. Y.) Medical Association, 528
Page County (Iowa) Medical Society, 837
Palmetto Medical Association, 1388
Panhandle (Tex.) Medical Association, 837
Pasadena (Cal.) Medical Society, 603
Passaic (N. J.) Medical Society, 340
Pawtucket (R. I.) Medical Association, 888
(R. I.) Medical Society, 341
Pennsylvania Society for the Prevention of Tuberculosis, 1174
Perry County (Ind.) Medical Society, 1098
Pettis County (Mo.) Medical Society, 341
Philadelphia Academy of Surgeons, 341
College of Physicians, 194
College of Physicians—Section on Gynecology, 122
County Medical Society, 197, 341, 781, 1099
County Medical Society, North Branch, 267, 415, 888, 1391
Obstetrical Society, 193, 723, 1461
Physicians' Club of Chicago, 1696
Club of Dayton, Ohio, 888
Club of Newark, N. J., 888
Pike County (Ill.) Medical Society, 1322
Plains (Texas) Clinical Society, 1174
Platte County (Mo.) Medical Society, 1696
County (Neb.) Medical Society, 340, 603
Plymouth District (Mass.) Medical Society, 1259
Polk County (Iowa) Medical Society, 1026
Portsmouth (N. H.) Medical Society, 528
Pottawatomie County (Okla.) Medical Society, 662
Practitioners' Club (Louisville, Ky.), 837
Prince George County (Md.) Medical Association, 267
Public Health Association of California, 1260
Pulaski County (Ill.) Medical Society, 51, 1026
Putnam County (Tenn.) Medical Society, 722
Ramsey County (Minn.) Medical Society, 603
Randolph County (Ill.) Medical Society, 1388
County (Ind.) Medical Association, 603
Rappahannock Valley (Va.), Medical Society, 1025
Redlands (Cal.) Medical Society, 603
Rensselaer County (N. Y.) Medical Association, 341
Richmond (Va.) Academy of Medicine, 122
Riverside County (Cal.) Medical Society, 341

Rock Island County (Ill.) Medical Society, 603
Rockland County (N. Y.) Medical Association, 1259
Royal Medical and Chirurgical Society, 657
St. Clair County (Ill.) Medical Society, 837
Joseph County (Ind.) Medical Society, 603
Joseph (Mo.) Medical Society, 194, 267
Salt Lake (Utah) Medical Society, 122
Samoset Medical Association, 193
San Diego County (Cal.) Medical Society, 1098
Francisco County (Cal) Medical Society, 56, 416, 1461
Joaquin Valley (Cal.) Medical Society, 837
Saratoga County (N. Y.), Medical Association, 837
Savannah (Ga.) Medical Society, 341
Shelby County (Tenn.) Medical Society, 603, 662
Smith County (Tex.) Medical Society, 956
Society of Physicians and Surgeons of Louisville, 340
Somerville (Mass.) Medical Society, 781
South Carolina Medical Association, 121, 1260
Texas Medical Association, 122
Southern Idaho District Society, 1098
Medical Association of Manitoba, 832
Southwest Missouri District Medical Association, 1388
Southwestern Iowa Medical Association, 662
Kentucky Medical Association, 1388
Springfield (Mo.) Medical Society, 340
(Ohio) Academy of Medicine, 193
Stark County (Ohio) Academy of Medicine, 888
State Association of Colored Physicians of Florida, 1322
Sanitary Association (Minn), 341
Steele County (Minn.) Medical Society, 471
Steuben County (N. Y.) Medical Association, 194, 1098
Suburban Medical Society (Chicago), 122
Summit County (Ohio) Medical Society, 341
Talladega County (Ala.) Medical Society, 341
Tarrant County (Tex.) Medical Association, 1174
Tazewell County (Ill.) Medical Society, 1461
Tennessee State Medical Society, 1026
Terrell (Tex.) Medical Society, 1025
Texas Medical Association, 1463
Tidewater Medical Association, 1098
Tipton County (Tenn.) Medical Society, 1098
Toledo (Ohio) Medical Association, 266
Tolland County (Conn.) Medical Society, 1259
Toronto Clinical Society, 524, 717, 1030, 1390
Tri-State Medical Association of W. Md., W. Va. and W. Pa., 51
Medical Association of the Carolinas and Virginia, 51
Medical Society of Iowa, Illinois and Missouri, 781, 1101, 1174
Undergraduates' Medical Society of McGill, 656
Union Medical Society of Northern Michigan, 194
University of Buffalo Medical Department Alumni Association, 1323
of Chicago Medical Club and Rush Medical Society, 1267
of Texas Medical Club, 1025
Upper Des Moines (Iowa) Medical Association, 471
Vanderburg County (Ind.) Medical Society, 888
Vigo County (Ind.) Medical Society, 193
Wapello County (Iowa) Medical Society, 412
Warren County (N. Y.) Medical Association, 412
Washington County (Texas) Medical Association, 1098
(D. C.) Medical Society, 341
(D. C.) Obstetrical and Gynecological Society, 341
Watonwan County (Minn.) Medical Association, 193
Waynesboro (Pa.) Academy of Medicine, 1026
Weber County (Utah) Academy of Medicine, 267
County (Utah) Medical Society, 51
West Chicago Medical Society, 837
Pennsylvania Hospital (Pittsburg) Resident Physician Association, 1098
Western Alumni Association of the University and Bellevue Hospital Medical College, 888
Ophthalmologic and Oto-Laryngologic Association, 1262
Surgical and Gynecological Association, 51, 122
Will County (Ill.) Medical Association, 412
Windham County (Conn.) Medical Society, 1098, 1259
County (Vt.) Medical Society, 1260
Winnebago County (Iowa) Medical Society, 1461
Winona County (Minn.) Medical Society, 412
Wisconsin State Medical Society, 1388
Woman's Medical College, Baltimore Alumnæ Association, 1588
Worcester District (Mass.) Medical Society, 1588
North District (Mass.) Medical Society, 1260
Wyoming County (N. Y.) Medical Association, 267
Yakima County (Wash.) Medical Association, 412
York County (Maine) Medical Society, 412

THERAPEUTICS.

Acne rosacea, 532
Adenitis in children, 348
Amblyopia, toxic, 1533
Amenorrhea, atonic, 59
Angina, diphtheritic and scarlatinal, 1269
Anorexia, bitters in, 126
Antineuralgia ointment, 1105
Antipyretics in children, 475
Anus, pruritus and fissures of, 198
Apomorphin in hysteria and epilepsy, 1395
Arthritis, rheumatic, 1105
Aspirin in rheumatism, 666
Asthma, 1396, 1533
spray in, 1591
Atoxyl, 1395
Atropin in acute pulmonary edema, 198
Barber's itch, 126
Bitters in anorexia, 126
Blepharitis marginalis, 725
Breasts in nursing mothers, care of, 1032
Bright's disease, acute, 894
Bromipin in epilepsy, 1031
Bronchitis, acute laryngitis and, 1395
an inhalant in, 531
chronic emphysematous, in children, 785
chronic, in children, 1533
terpin hydrate in, 474
with bronchoplegia, 419
Bronchoplegia, bronchitis with, 419
Bursæ of knee, 1105
Cacodylic acid in diseases of the skin, 1396
Camphor and menthol, use of, combination of, 725
Carbuncle, 198, 1396
Catarrh, acute bronchial, 59
chronic gastric, 1177
gastric, ichthargin in, 1396
Chafing, 126
Chalazion, 784
Chancre, soft, salicylic acid for, 1396
Chilblains, 1532
itching of, 348
Children, adenitis in, 348
Chordee, 126
Congestion, passive, of liver, due to incompetent heart, 273
Conjunctiva, hyperemia of, 1104
Conjunctivitis, catarrhal, 126
Conjunctivitis, cuprol in, 1104
follicular, 1326, 1591
granular, 1532
Corrosive sublimate in pertussis, 1327
Coryza, 608
Cracked nipples, 666
Cuprol in conjunctivitis, 1104
Cystitis, 1032
Dandruff, 1269
removal of, 419, 1326
Dentition, 1467
Diabetes in children, 666
sodium citrate in, 420
Diarrhea in infants, 1396
in tuberculosis, 784
Diet in pregnancy, 1533
Diphtheria and tonsillitis, mercury in, 348
Disinfection of a room, 1177
Dose, estimating size of, for children, 607
Drugs, endermic administration of, 419
Dysentery treated with peroxid of hydrogen, 1269
Dysphonia, 126
Ecchymosis, 1177
Eczema, 1269
subacute vesicular, 608
Edema, acute pulmonary, atropin in, 198
Enuresis in children, 893
in females, 1032
Epilepsy, 1032
convulsions in, 785
diet in, 1467
Ergotin per rectum in metrorrhagia, 347
Erysipelas, 126, 1468
Eye, contagious diseases of, 475
Fat diet in gastric hyperacidity, 1532
Fever, 784
Flatulency, 1326
Folliculitis barbæ, 1326
Formalin in glycerin, 419
Frost bites, itching from, 126
Galactogogue, as a, 1532
Gallstone colic, 1031
Gasoline poisoning, 420
Gastralgia, acute, 725
Gastric hyperacidity, fat diet in, 1532
Gastric ulcer, 839
Gastro-enteric infection of infants, 725
Gastropathies of cardiac origin, 1269
Glutol in preventing pitting of smallpox, 1326
Glycerin, formalin in, 419
Glycero-phosphates, 1268
Goiter, exophthalmic, 1326
Gonorrhea, abortive treatment of, 1669
Gout, 60
Granular lids, 608
Guaiacol inunctions in tuberculosis of childhood, 608
Heart, passive congestion of liver due to incompetent, 273
Hemorrhage of bowels in typhoid, 726
Hemorrhoids, 608
Hernia, strangulated, ether compresses in, 126
Hiccough due to gastric indigestion, 347
Hoarseness, 126
Hordeolum, 725
Hyperemia of conjunctiva, 1104
Hypodermic medication, 347
Hysteria and epilepsy, apomorphin in, 1395
Ichthargin in gastric catarrh, 1396
Ichthyol in trachoma, 531
Incompatibilities, 125
Indigestion, gastric, hiccough due to, 347
Influenza, 784
Inhalations and atomization, 474
Intestinal toxemia, 839
Iodic acid in trachoma, 1591
Iritis, specific, 1177
Itching from frost bites, 126
in scarlet fever, 1105
Knee, bursæ of, 1105
Lactid acid in alopecia, 273
Laryngismus stridulus, 347
Laryngitis and acute bronchitis, 1395
Leucorrhea, local treatment of, 784
Liniments, use of, 419
Liver, passive congestion of, due to incompetent heart, 273
Lumbago, 1396
Lupus erythematosus, 1032
treated with permanganate, 1591
Malaria, chronic, enlarged spleen in, 784
Malarial attacks, 1468
Medicine, administration, per os, 531
Mercury in diphtheria and tonsillitis, 348
Meta-arsenous-acid-anilid, 1395
Methylene blue in otitis media, 531
Metric system, 608, 665
Metrorrhagia, ergotin per rectum in, 347
Mouth wash, antiseptic, 475
Nasal ointment, 474
Nephritis, scarlatinal, treated with hot water irrigations, 273
Neuralgia of fifth nerve, 1105
Neurasthenia, 1177
drug treatment of, 894
Normal salt solution, 1326
Ointments, 419
Orchitis, 1468
Otitis media, acute, 1396
methylene blue in, 531
Otorrhea, 785
Oxalic sediment in urine, 1468
Oxyurides, 1467
Pain previous to menstruation, 1269
Pertussis, corrosive sublimate in, 1327
Phosphoric acid, indications for use of, 1105
Pitting in smallpox, 1468
of smallpox, glutol in preventing, 1326
Pneumonia, 1269
salicylates as antiseptics in, 198
Pregnancy, diet in, 1533
Prescription writing, 197, 272, 347, 419
Prostatic congestion, 1177
Pruritus, 666
and fissures of anus, 198
ani, 1533
Puerperal convulsions, 1467
Quinin, agreeable methods of administering, 348
as dressing, 1105
as styptic and antiseptic, 347
in children, administration of, 1468
Rectal alimentation, 960
Retention cyst, 784
Rheumatism, aspirin in, 666
Salicylates as antiseptics in pneumonia, 198
Salicylic acid for soft chancre, 1396
Scabies, 1032, 1269
Scarlatina, throat symptoms in, 666
Scarlet fever, 893, 1105, 1468
itching in, 1105
to promote elimination in, 608
Seborrhea sicca, 1532
Scrofulous conditions in children with enlarged lymphatics, 1591
Sodium citrate in diabetes, 420
Sodium persulphate in tetanus, 785
Spartein, 1533
Spray in asthma, 1591
Stomach tube, improved method of introducing, 273
Suppurating wounds, 1105
Suppositories, 419
Stye, 725
Synovitis, 1269
Terpin hydrate in bronchitis, 474
Tetanus, sodium persulphate in, 785
Throat affections, 1177
Thrush, 1396
Tinea tonsurans, 126
Tonsillitis, diphtheria and, mercury in, 348
Toxemia, general, 1105
Trachoma, ichthyol in, 531
iodic acid in, 1591
Tuberculosis, diarrhea in, 784
inhalations in, 1177
of childhood, guaiacol inunctions in, 608
medicinal treatment of, 1669
Turpentine as antiseptic, 725
in parasitic skin diseases, 1669
Tympanites, 1105
Typhoid, hemorrhage of bowels in, 726
Ulcer, gastric, 1669
Urethritis, gonorrheal, 1032
Urine, incontinence of, 1326
Vaginismus, 1177
Vaginitis, gonorrheal, 839
Vomiting, uncontrollable, 1105
Warts, 475
Worms, 1105

CURRENT MEDICAL LITERATURE

INDEX OF TITLES

Explanation: This index covers titles and subjects of original articles published in most of the leading medical journals of the world during the past six months. The titles, and the journals in which they appeared, were published weekly in the Current Medical Literature department, to which references are made. The figures in ( ) refer to the paragraph; the number following, to the page in The Journal. For instance, "Abdomen, gunshot wounds of, (60) 61" refers to page 61 of The Journal, on which is found opposite paragraph 60, the title of paper and name of author, viz., "Gunshot Wounds of the Abdomen. Edmund D. Clark." This title is listed under the journal in which the article appeared: "Indiana Medical Journal, December." Titles of articles which appeared in The Journal are indicated by an asterisk (*) before the page number.

Abasia, (17) 349
Abdomen, gunshot wounds of, (60) 61, (151) 534, (97) 350, (137) 964
wounds of, (5) 421, (106) 1272
Abdominal cases in women, some, (67) 1535
cavity, bougie removed from, (20) 727
cavity, reducing size of, by doubling abdominal wall, (41) 483
contusions associated with rupture of intestine, (79) 963
incision, closure of, (18) 533
inflammation, grave, quiescent or latent period in, (3) 1476
injuries, grave, without external evidences of traumatism, (84) 477, *1302, (46) 1398
lesions, diagnosis in, (145) 1035
muscles, congenital absence of, (43) 61
operations, accidents and complications following, (117) 1535
operations on women, few, (148) 1035
operations, report of, (79) 723
operations, technic in, (41) 1106
organs, valuable points in diagnosis of diseases of, (25) 727
pain, significance of, (12) 668, (24) 727
palpation in diagnosis of diseases of stomach and pylorus, (128) 728
section, (83) 61, (63) 274, (56) 896
surgery, advance in clinical symptomatology in relation to, (150) 477
surgery, cases in, (90) 971
typhus, treatment of, (86) 668
typhus, Hygiene and Diagnosis of, (97) 1179
wall, complete relaxation of, under anesthetics, (12) 1675
wall, spontaneous rupture of, (114) 350
wall, suture of, (76) 963
Abiotrophy, (7) 1186
Ablatio placentæ, (64) 128
Abnormal physical conditions in children, some, (9) 1335
Abortion, artificial, in pelvic deformity, (22) 1701
criminal, (27) 421, (68) 668, (117) 669
criminal, in extrauterine fetation, (37) 274
modern indications for, especially in tuberculosis, (62) 904
treatment of, (3) 60, (71) 61, (81) 971, (113) 1180
Abscess, amebic, of liver, (129) 129, (31) 1106
cerebral, (26) 1470
chronic, of liver, (129) 787
ischio-rectal, early and radical treatment of (57) 349
pelvic, and embolism of pulmonary artery, (87) 477
Abscesses in tubercular bone lesions, (110) 275
mesenteric, with secondary thrombosis of mesenteric and portal veins, 184) 897
Abscesses, subphrenic, after appendicitis, (52) 128
Acanthosis nigricans, (51) 1541
Accouchement forcé, (123) 1107
Acetanilid poisoning, fatal case of, (113) 129
Acetic acid in alcohol for treatment of wounds, (130) 1478
Acetonuria, (33) 1042, (109) 1279
or aldehiduria? (181) 1478
Acetopyrin, (61) 794, (95) 1187
Acetozone in typhoid, (98) 1535
Achylia gastrica, (112) 350, (148) 477, (84) 1187
Acid, anti-uric, treatment in dyspepsia, (131) 350
carbolic, (146) 201
carbolic, and tansy poisoning, (114) 62
free hydrochloric, variations in production of, in the infant stomach from various foods, (108) 1034
notes on salts of sulpho-carbolic, (54) 200
Acne and sycosis treated by exposure to Roentgen rays, (67) 1398
circumcision for relief of, (35) 476
treatment of, (85) 128, (9) 1041
vulgaris, (89) 200
Aconite, poisoning by, (25) 1592
Acquired characters, non-heredity of, (41) 349
Acromegaly, (193) 484
with pituitary bodies, treatment of, *295
Acroparasthesia, (9) 1592
Actinic light, penetration of human body by, (29) 1178
Actinobacillosis, (172) 1478
Actinomycosis, causal agent of, (60) 1701
distribution in France of human, (27) 1113
human, cases of, (110) 62
in man, frequency and prognosis of, (22) 1186
of liver, (128) 534
primary cutaneous, of face, (40) 735
Addiment, disappearance of, from anti-microbic sera, (12) 276
Addison's disease, (26) 349, (49) 541
disease, suprarenal extract in, (114) 1035
Address, Association of American Physicians, (23) 1398
Cincinnati Obstetrical Society, (37) 1034
Columbus Academy of Medicine, (164) 534
Idaho State Medical Society, (90) 896
Intercolonial Medical Congress, (19, 20, 21, 22) 1278
Medical Society of the State of Alabama, (140) 1593
Medical Society of State of California, (104, 105) 1535, (119) 1470
Medical Society of State of New York, (2) 841
Medical Society of the State of Pennsylvania, (53) 200, (69) 1328
Medical Society of State of Tennessee, (92) 1671
Address, Missouri State Medical Association, (28) 1592
Oklahoma Territorial Medical Association, (133) 201
Pathologic Society of Philadelphia, (125) 787
Russell Springs Medical Society, (76) 350
St. Louis Medical Society, (42) 274
San Francisco Medical Society, (139) 129
San Joaquin Valley Medical Society, (168) 1329
Seaborn Medical Association of Virginia and North Carolina, (53) 476
Southern Surgical and Gynecological Association, (17) 533
Tennessee State Medical Society, (119, 178) 1329
to Nurses, (8) 199, (70) 274, (30) 610
Tri-state Medical Society, (48) 1671
Tri-State Medical Society of the Carolinas and Virginia, (147) 1035
University Medical School, (81) 350
University of Louisville, (57) 1535
Vanderbilt University, (36) 1271
Vermont State Medical Society, (170) 201
Western University of Pennsylvania, (95) 477
Adductor longus, syphilitic contracture of, (151) 1478
Adenocarcinoma, multiple primary, of liver with cirrhosis, (62) 1470
Adenoid curette forceps, new, *1442
vegetations, (90) 1113
vegetations and palatal arch, (28) 1106
vegetations, hemorrhage after ablation of, (75) 904
Adenoids, complication following removal of, (34) 1398
diagnosis of, (162) 787
in relation to structural changes, (86) 1329
of pharynx, (52) 1034
Adenoma of ovary, (170) 477
Adenomata, prostatic, removal of, (1) 1675
Adhesions, healed fibrous, of pericardium, pathology of, (64) 533
new method of breaking down recent, (8) 356
Adhesive straps for prevention of lacerations of perineum in forceps delivery, (115) 669
Adiposis, case of, (70) 61
dolorosa, (28) 727, (21) 1271
Adenocarcinoma of liver, (44) 786
Adolescence, obesity of, (7) 962
Adrenal glands, cutaneous pigmentation with lesions in, (182) 897
substance in intestinal hemorrhage of typhoid, (30) 963
tumor, specimens from death from, (107) 842
Adrenalin, (124) 728
as addition to solutions in local anesthesia, (17) 727
Adrenalin, chlorid in ophthalmic nasal and aural surgery, (14) 1476
chlorid, observations on, (154) 1035
chlorid solution as hemostatic in surgical procedures, (157) 275
chlorid solutions in ophthalmic practice, (9) 970
glycosuria following injections of, (9) 476
in surgical work upon mucous membranes, (102) 1535
in the urethra, (100) 1399
therapeutic value of, (149) 422
value of, in rhino-laryngology, (116) 1478
Advancement operation performed with aid of new tendon tucker, (117) 787
Aetoxyl, (36) 1187
African arrow poisons, (34) 1187
Aged, diet of, (139) 1406
Agglutination, (46) 1187
and bacterial findings in child of woman dead of typhoid, (76) 1542
in malarial blood, (124) 1478
of red blood cells, (62) 1336
of red corpuscles, study of, (152) 1478
Agglutinins, studies about, (133) 964, (2) 1112
Agrafage, sutures by, (40) 1675
Agricultural accidents, insurance against, (98) 534
Air, effect of heated and moist, on respiratory changes, (98) 1113
superheated compressed, in chronic catarrhal otitis media, (112) 1272
Air-passages, foreign bodies in, (42) 421
upper, foreign bodies in, (75) 422
suggestions on treatment of inflammatory conditions of, (149) 1035
Akataphasia as result of focal affection, (107) 1279
Alaska, aspect of disease in, (7) 533
Alboferrin, clinical experiences with (67) 848
Albumin, anilin dyes as means of precipitating, (114) 1043
in urine, (32) 1535
new test for, (5) 786
preparations in feeding the sick, (58) 1113
simple test for, (42) 428
testing, (93) 533
Albuminuria, (140) 1035
and life insurance, (87) 728
by egg albumin, mechanism of, (82) 971
cyclic, (75) 1179
hypostatic, of splenic origin, (4) 793
in form of emulsion in eclampsia and uremia, (56) 483
induced by massage in nephritis, (40) 794
significance of, in pregnancy, (73) 1271
Albumosuria, myelopathic, (60) 617
Alcarnose, dieto-therapeutic value of prepared food, (67), 1701

Alcohol and insanity, (17) 61
as factor in causation of disease, (40) 1592
as hand disinfectant, (66) 1042
effect of on digestion, (127) 62
effects of, on longevity, (120) 1272
food value of, (120) 611
hereditary effects of, (101) 422
in breast milk, influence on nurslings of, (94) 1336
in carbolic acid poisoning (124) 842
in tuberculosis, (35) 903
influence of on human organism, (15) 841
influence of, on metabolism of albumin during fever, (59) 1477
relation of, to living nature, (119) 896
some truths concerning, (119) 1107
therapeutic value of, (42) 61, (12, 13, 14) 841, (68) 1179
toxic and dehydrating action of, (26) 483
what is the true value of, (156) 1329
Alcoholic intoxication, mental forms of, (36) 1278
psychoses, general remarks on, (29) 1592
stimulants and medical selection for life insurance, (151) 1035
stimulants, physiologic action of, (110) 534
stimulation, mild, (155) 611
Alcoholism and crime, (37) 1592
in Greece, (85) 675
in Morocco, (39) 1278
to tuberculosis, relation of, (39) 1592
Aldehyduria or acetonuria? (181 1478
Alexia from cyst caused by bullet wound, *379
post-operative, (73) 1405
Alexins, absorption, by tubercle bacilli, (32) 200
in milk, (123) 1406
in serum of children, study of, (106) 971
study of, (64) 1042
Alfred Nobel prizes, (57) 668
Alimentary canal, external exploration of, (22) 903
canal, fate of diphtheria bacillus in, (82) 675
canal, obstructions of, (111) 1470
infection, study of, (102) 1113
Alkaline iodids on patients deprived of salt, action of, (49) 1541
wash, best, (172) 201
Alkalinity of blood in disease, (52) 617
Alkaloids, comparison of Stas-Otto and Kippenberger methods of determining, (44) 903
Alkaptonuria, congenital, (54) 675
Allen's iodin test, dermatomycoses in relation to, *690
Allyl, sulphid of, in tuberculosis, (110) 1114
Almkvist's plasma cells, (52) 1541
Alopecia areata, complete baldness from, (5) 1186
areata, moniliform hair associated with, (4) 1186
areata, non-contagiousness of, (25) 793
areata of dental origin, (27) 970, (17) 1335
circumscripta, (126) 1471
direct contagion of, (34) 1675
from eruption of wisdom tooth, (24) 1476
premature, remarks about, (127) 1107
Alterations in nerve centers from general ethyl chlorid narcosis, (69) 848
Amalgam in bone-filling, (110) 422
Amaurosis, alcohol, (25) 349
treated by subcutaneous injection of strychnia, (29) 1470
Amblyopia from carbon bisulphid poisoning, (73) 786
functional, relation of sympathetic nervous system to, (25) 128
Jamaica ginger, (66) 1671
toxic, (53) 1405
Amblyopias, the toxic, (150) 1593
Ameba enteritidis, dissemination of, (59) 1187
Amenorrhea, opacities of vitreous and, (76) 786
Ameuorrhea, treatment of, (114) 842
American hospitals, visit to, (82) 484
race, on decadence of, (99) 1179
universities, operative medicine at certain, (19) 903
Ametropia, difficulties in fitting of glasses in, (116) 477
Ammonia in urine, elimination of, (94) 971
Amnesia from medicolegal standpoint, (38) 1278
Amniotic band causing amputation of finger, (111) 896
Amputate, how, where and when to, (90) 841
Amputation, precarpal, (49) 1477
prescaphoid and transcuboid, (21) 541
Amputations, technics of, (113) 1399
Amygdalotomy rash, (4) 60
Amyloid degeneration and intestinal tuberculosis, (48) 428
Amylolytic ferment in blood serum of children, (35) 541
Amyotrophy of Charcot-Marie type, (37) 1675
Anacardium, semi-carpus, therapeutics of, (15) 1113
Anaerobic cultivation of bacteria, apparatus for, (135) 669, (72) 971
Anal reflex, subjects of, (122) 1535
Analgesics, non-toxic, (22) 674, (64) 1405
Analyses, value of, in diseases of stomach, (74) 61
Anastomosis between nerve cells, (160) 1478
intestinal, (121) 201
intestinal, with Murphy button, (134) 275
intestinal, with suturing of intestinal wall, (58) 476
rapid intestinal, new coupler for, *1003
ureteral, (60) 128
Anemia, fatal, with unusual blood lesions, (11) 1476
Gude's peptomangan in, (158) 669
idiopathic and pernicious, study of, (147) 787
of gastro-intestinal origin, (55) 483
pernicious, *148, (25) 668, (108) 1406, (125) 1593
pernicious, can it be diagnosed from the blood, (45) 356
pernicious, hyperchromic bodies in, (100) 728
pernicious, nature and treatment of, (106) 201
pernicious, observations on, (11) 428
pulmonary, (14) 610
severe, with enlargement of spleen in infant, (87) 1535
symptomatic, (125) 669
treatment of, (164) 897
Anemias secondary to gastro-intestinal disease, *812
Anencephalus, case of, (81) 1106
Anesthesia, (113) 62, (63) 1592, (139) 1593
accidents of, (82) 1328
as local anesthetic, (85) 1477
bile burns in, (34) 1179
chloroform, (67) 1405
cocain, technic of, (102) 129
during sleep, (109) 896
general, in plethoric, (16) 1179
general, in throat surgery, (29) 668
local, (31) 1470
local, some phases of, (65) 1671
massive infiltration, with weak analgesic solutions, (32) 128
partial, value of, (10) 128
spinal and intra-neural, (88) 1593
spinal, with tropacocain, in genito-urinary surgery, (124) 1471
various methods of producing, (63) 61
Anesthesin in treatment of wounds, (62) 1676
to cocain, superiority of, (68) 1676
Anesthetic in operations on respiratory tract, management of, (35) 421
Anesthetics, administration of, (88) 350
curative effect of, (47) 1113
Anesthetizers, suggestions to, (16) 727
Aneurism, abdominal, three cases of, (117) 1593
Aneurism, aortic, (94) 477, (135) 1107, (42) 1477
aortic, recurrent laryngeal paralysis due to, (155, 156) 201
aortic, treated by silver wire and electricity, (110) 129
arteriovenous, surgical treatment of, (7) 1476
dissecting, of arch of aorta, (176) 897
interventricular, (132) 129
ligation of abdominal aorta for, (90) 728
notes on, *1483
of aorta simulating mediastinal abscess, (79) 128
of aorta, surgical intervention for, (50) 971
of heart, largest recorded, (130) 129
of innominate artery, (139) 275
ruptured abdominal, simulating pancreatitis, (138) 669
saccular, arising from ascending and transverse parts of arch of aorta, (103) 1107
thoracic, of large size, (116) 1535
traumatic, (127) 201
traumatic, treated by proximal ligature, (4) 903
Aneurisms of aortic arch, treatment of, (23) 1541
of thoracic aorta, cause of death in, (80) 275
traumatic arterio-venous, of subclavian vessels, *173, *242, *318
Angina cruris, (7) 1033
dry, and Bright's disease, (28) 1335
Ludwig's, complicating typhoid, (37) 128
pectoris, (61) 274, (146, 151) 275, (98 122) 350, (63) 533, (166) 611
Angioma, inflammation and enlargement of, (58) 1336
intramuscular cavernous, (97) 1042
Angiomata and carcinomata, relations between, (50) 541
of skin, diagnostic importance of, (99) 1477
of skin, senile, (61) 1541
Angiotribe, the, (66) 349
Anguillula aceti, presence of, in urine, (1) 1592
Anilin dyes as means of precipitating albumin, (114) 1043
Animal diseases and public health, (168) 201
extracts, therapeutic status of, (98) 1106
holder, a new, (177) 897
Ankle clonus, muscle factors concerned in, (52) 1470
Ankylosing inflammation, chronic, of spine, (72) 848
Ankylostomiasis, (76) 275, (6) 841
Ankylostomum duodenale, way in which the, enters the human subject, (22) 970
Anomalies in thorax as predisposition to pulmonary phthisis and emphysema, (33) 428
Anopheles in vicinity of Baltimore, (83) 786
mosquitoes in Tezpur, Assam, (108) 484
observations on habits of, (107) 484
occurrence and habitat of, (63) 610
sporozoan parasite of, (137) 897
Ano-rectal anatomy, (4) 127
Ante-partum diagnosis, (47) 786
Anterior chamber, case of free cyst of, (93) 1535
Anthrax, case of, (155) 1536
serum treatment of, (96) 1542
Anti-diphtheria serum in sepsis, (143) 787
serum, personal experience with, (122) 611
serum, preventive injections of, (21) 1042, (44) 1405
serum, efficacy of, (111) 842
serum in typhoid, (89) 1542
Antihemolysins, congenital, (82) 904
Antimicrobes vs. antitoxin, (158) 611
Antimony associated with arsenic, test for, (33) 848
Antiperiodic drugs on malarial parasite, action of, (76) 617
Antiphthisis serum T. R., use of, (36) 896
Antiplague vaccination at Campos, success of, (89) 675
Antipyrin in sepsis, (45) 1335
Antirabic vaccination in New York Pasteur Institute, (27) 1034
Antisepsis, dangers of internal, (24) 1335
Antiseptic dressing, surgical cases treated with, (127) 842
nebulæ as medication for respiratory tract, *709
solutions in aural cavity, experiments with (74) 533
Antiseptics, relational use of, (152) 669
Antistreptococcus serum and sepsis, relation of, *1060
serum, concerning the (107) 1034
serum, injections of, in smallpox, (49) 1278
Antithermic therapeutics, (93) 1187
Antitoxin, antimicrobes vs., (158) 611
in diphtheria, status of, (39) 896
Antitoxins and vaccine virus, responsibility for deaths from, (159) 534
Antitussin in whooping cough, (109) 963
Antivaccinators, the, (49) 1405
Antivenene, venom and, (18) 668, (23) 786, (21) 841
Antral suppuration, maxillary, (12) 1179
Antrectomy, contribution to study of, (117) 1272
Antroscope, the, (53) 1676
Antrum of Highmore, suppurative diseases of, (119) 1535
of Highmore, treatment of certain purulent conditions of, (24) 61
Anus, preternatural, of traumatic origin, (81) 904
treatment of fissure of, (78) 357
Aorta and pulmonary artery, abnormal communication between, (161) 1478
congenital stenosis of, at isthymus, (154) 1536
ligation of abdominal, for aneurism, (90) 728
Aortitis, latent syphilitic, and visceral neuralgia, (2) 483
Aphakia, operative, in malignant myopia, (116) 787
Aphasia after evacuation of brain abscess, study of, (14) 128
case of subcortical, (179) 1407
Aphonia, spastic, treatment of, (80) 675
Aphtha, cachectic, (46) 735
Apnea, traumatic, (15) 200
Apomorphin hydrochlorate in alcoholism, (24) 786
in hysteria, hystero-epilepsy and epilepsy, (17) 541
Apoplexies, etiology of, (65) 61
Apoplexy, cerebral, (19) 841
Apparatus for class work, cheap and convenient (22), 1698
for continuous traction and for reduction of fractures, (44) 1477
for re-educating movements of, (23) 541
Appendicitic symptoms in course of certain infectious diseases, (26) 428
Appendicitis (122, 125) 62, (104) 129, (81) 357, (172) 477, (113) 787, (31) 1592
acute, what can we diagnosticate in, (32) 1034, (13) 1106, (102) 1399
and diseases of pelvic organs, (142) 129
and typhoid, differential diagnosis of, (143) 1272
and when to operate, (115) 1593
as related to life insurance, (88) 533
avoidable complications of, (49) 794
case of, in which appendix was lodged in, and adherent to, the femoral canal, (12) 1041
cases of, treated by operation, (30) 668
chronic, (86) 1279
complicating pregnancy, labor and puerperium, (82) 200
conservative surgical treatment of, (72) 728
conservative treatment of, and fallacy of starvation cure, (4) 349, (86) 477
contribution to etiology of, (6) 1033

Appendicitis, diagnosis and treatment of, (108) 422
diagnosis between, and atypical cases of typhoid, (34) 274
diffuse peritonitis from, (16) 421
early and accurate diagnosis and prompt operation in, (93) 1106
experimental, (143) 1043
fatal vaccination which resembled, *34
fate of unoperated cases of, (26) 896
from general practitioner's standpoint, (56) 1328
from oxyuris, (50) 1698
from standpoint of the patient, (120) 201
from swallowed foreign bodies, (37) 1405
fulminant, with unusual complications, (152) 1035
gangrenous, fatal case of, (3) 962
leucocytosis as point of prognosis in, (25) 1034
lymphatic and portal infections following, (32) 421
medical aspects of, (82) 841
medical treatment of, (101) 1470
merits of various incisions for, (33) 1671
non-surgical treatment of, (149) 129
observations on, (70) 786
papers on diagnosis of, (36) 1179
pathology of, (13) 895, (67) 1106
perforative in a femoral hernia, (159) 1406
question of drainage in, (143) 534
rare complications of, (65) 786
rheumatic, (14) 1106
selected cases of, (67) 1271
some remarks on, (120) 1470
subphrenic abscesses after, (52) 128
surgical points on, (116) 728
surgical treatment of, (102) 1470
technic of examining for, (65) 1187
time for operation in, (115) 1672
time to operate in, (46) 786, (89) 841, (51) 1179
treatment of, (2) 616, (128) 669
unique cases of, (147) 422
unsuccessful operations for, (142) 477
what can we diagnosticate in acute, (62) 1179
when to operate in, (148) 611, (114) 1470
with general peritonitis, (19) 1675
with report of cases operated, (85) 61
Appendix, function of, (69) 668
progress made in surgery about region of, (50) 1328
vermiformix, advisability of removing, after suppuration, (9) 428
vermiformis, the, (101) 477
Aqua fluoroformi, (98) 61
Argentamin in ocular therapy, (157) 669
Argentina, campaign against tuberculosis in, (174) 1478
Arizona, climatography of, *229
Arm, preservation of useful, in spite of crushing of upper arm, (110) 1043
Army medical school, function of, (1) 1033
medical service, reorganization of, (1) 735
post exchange or canteen, history of, (33) 610
Arrhenal in malarial fever, (21) 1476
Arsenic, arsenical paralysis from, (52) 1271
dermatoses, (65) 1541
in hair of beri-beri patients, (8) 616
in malarial fevers, (25) 735
the Haines case and medicolegal relations of, (18) 1179
Arterial duct, histogenesis of, (52) 1042
Arteries, carotid, tortuosity of, (21) 356
cerebral, syphilitic disease of, (60) 1470
ligation of, (43) 1179, (54) 1592
torsion of, (59) 786
Arteriosclerosis, (86) 200, (129) 1329
and nervous system, (23) 963
cardiac manifestations of, (145) 897
cold as cause of, (46) 483
explanation of action of iodin in, (95) 1477
in relation to cerebral affections, (32) 903
isolated calcification of elastic intima in, (145) 1406
management and treatment of, (141) 611
newer clinical standpoints in regard to, (33) 903
remarks on, (11) 1398
treatment of, with Trunecek's inorganic serum, (74) 617
Arterio-ureteral crossing, distal, (74) 1271
Artery, embolism of branch of central retinal, treated with massage, (48) 610
internal iliac, distribution of branches of, (89) 728
utero-ovarian, (63) 349
Arthritis accompanying ophthalmia neonatorum, (15) 1675
gonorrheal, (15) 786
multiple, in child, (62) 727
pneumococcic, accompanying acute croupous pneumonia, (25) 421
pneumococcus, (2) 1592
varicellic, (28) 1113
Arthritism, (41) 1675
Artificial eye, implantation of gold ball for support of, (1) 349
mineral waters, advantages of, (42) 1541
pneumothorax as preliminary to extirpation of tumors, (47) 483
Ascarides, perforation of intestine by, (121) 1478
Ascaris lumbricoides, reflex convulsions from, (60) 1600
Asch's operation of deviation of nasal septum, (3) 1278
Ascites due to cirrhosis of the liver, surgical treatment of, *1136
epiplopexy in cirrhosis of liver with, (163) 964
in solid abdominal tumors, note on occurrence of, (25) 1535
lactesent, (25, 33) 1476
surgical treatment of, (55) 356, (8) 533
treated by transplanting omentum between peritoneum and abdominal wall, (66) 786
various phases of, (106) 963
Asepsis and antisepsis, (88) 1336
mechanical, (42) 896
vs. antisepsis in normal labor, (126) 350
Aseptic surgery, remarks regarding practice of, (31) 896
Ashhurst, Jr., John, memoir of, (73) 1535
Asiatic cholera in Manila, (31) 1671
Asphyxia, (15) 200
of extremities, (27) 1187
Asphyxiation, coal-gas, (56) 668
Aspirin, (94) 841, (37) 903
anti-rheumatic and anti-neuralgic action of, (136) 275
in ophthalmic practice, (88) 61
in therapeutics, (37) 1113
report on, (119) 62
rheumatism treated by, (45) 668
Assassins of public men, mental condition of, (43) 727
Association for prevention of tuberculosis, (112) 275
Astasia, (17) 349
Astasia-abasia, traumatic, in epileptic, (101) 1113
Asthenia, cardiac dilatation and, treatment of, (15) 428
Asthenopia, (13) 1469
Asthma, (96) 841
bronchial, auto-neuro-therapeutic method in, (78) 617
dyspeptic, *310
dyspepticum, (32) 1278
knee-jerk in, exaggeration of, (28) 541
of blood origin, (72) 1398
of nasal origin, (79) 1671
treated with silver nitrate injections, (144) 964
Astigmatism like myopia, is, (119) 728
with the rule, (65) 896
Astragalus, treatment of reducible backward dislocation of, by opening the joint and repositing same, (103) 728, (165) 1536
Asylum dysentery, general remarks on, (6) 793
Asymmetry, human, (21) 1034
Asytolia, hepatic, liver-spleen syndrome in, (123) 1478
Ataxia, exercise treatment of, (133) 1406
hereditary cerebellar, (54) 896
Atmokausis uteri, (66) 1600
Atmospheric pressure for human organism, importance of slight variations in, (105) 1477
Atoms and their electric charges, some discoveries about, (57) 1671
Atoxyl, a new arsenic preparation, (34) 1600
Atresia and stenosis, congenital, of rectum and anus, (7) 349
congenital, of anterior nares, (63) 848
of vagina, (95) 1671
Atrophy, acute, of liver, (133) 1478
infantile and artificial serum injections, (94) 1542
infantile, treatment of, (37) 610
muscular, (152) 201, (152) 611
muscular, after fractures, (30) 1600
myelopathic muscular, (35) 1675
of bones after inflammation and traumatism of extremities, (35) 1541
of bones and osteomalacia, rare form of, (45) 794
of optic disc, Brown-Séquard's injections in, (86) 736
primary infantile, and soluble ferments, (23) 1113
progressive unilateral, of face and tongue, (144) 129
unilateral progressive facial, (23) 1328
Atropia poisoning with high temperature and recovery, *1081
Atropin treatment of ileus (61) 675
Atroscin, cycloplegia and mydriatic actions of, (50) 1535
Attendants and nursemaids, *1364
Attic of the nose, (129) 477
Atypical forms of disease, some, *1431
Auditory canal, external, plea for more careful removal of foreign bodies from, (135) 728
Auricle, accidental removal of, by midwifery forceps, (4) 275
and auditory canal, congenital absence of, (44) 533
Auricles, clinical exploration of, (27) 674
Auriculo-ventricular opening, occlusion of, (173) 1478
Auscultation, decay of, and use of binaural stethoscope, (17) 616
Autodigestion or autolysis, (136) 1406
Auto-intoxication and disease from practitioner's standpoint, (9) 610
and its treatment, (118) 963
Auto-neuro-therapeutic method in bronchial asthma, (78) 617
Autoplasty for large wound in hip and buttocks, (47) 1405
Auto-toxemia as factor in neuroses, *363
Axillary region, papular disease affecting, (78) 350
vein, rupture of, in reducing old shoulder dislocation, (70) 1470

Babes-Ernst corpuscles and virulence of bacteria, (62) 971
Baccelli's method of treating foot and mouth diseases, (62) 848, (70) 1187
Bacilli, differentiation of typhoid and colon, with neutral red, (44) 675
of human and fowl diphtheria, relations between, (162) 1478
virulent diphtheria, in simple rhinitis, (41) 675
Bacillus aërogenes capsulatus, case of, (5) 1033
coli communis in human infections, *930
coli communis in water, rapid method of detecting, (19) 421
coli communis, observations on, (14) 962
diphtheriæ, persistence of varieties of, and of diphtheria-like bacillus, (155) 1593
Bacillus dysenteriæ, etiologic significance of, (43) 1187
pathogenic for rats, tests of, (39) 675
Sanarelli, experimental investigations on, (118) 201
tuberculosis, bacilli which resemble, (96) 1106
tuberculosis, eggs in cultivation of, (3) 1033
typhosus, brain abscess in typhoid due to, (64) 1034
typhosus, isolation of, from unusual localizations, *443
Bacteria, apparatus for anaërobic cultivation of, (109) 534, (135) 669
influence of discovery of relation of, to disease, (130) 1672
pathogenic, observations on variations of, (72) 610
with capsules, study of, (60) 541
Bacterial grouping, an unusual, (106) 842
Bacteriemia, (57) 963, (102) 1279
Bacteriohemagglutinins and antihemagglutinins, (66) 617
Bacteriohemolysin and antihemolysin, (60) 1336
Bacteriology, clinical, (49) 128, (103) 611
pathologic necessities a consideration of, (153) 477
Bacterium coli as pyogenic coccus, (75) 1477
new pyogenic branching, (61) 971
Bacteriuria lactis aërogenes, bacteriuria vesicalis post-gonorrhoea due to, (50) 1113
vesicalis post-gonorrhoea due to bact. lactis aërogenes, (50) 1113
Balantidium infection of large intestine and stomach, case of, (168) 1478
Baldness, anatomic factors in production of, *814, (112) 1107
Banti's diseases, (55) 903, (105) 971, (156) 1478
disease, case simulating, (82) 1477
disease, splenectomy and Talma operation in, (147) 1478
Basedow's disease, (9) 1698
disease, sympathectomy in, (176) 1407
Bassini's operation for femoral hernia, (147) 129
Bed treatment of insane, (52) 786
Beef-worm in orbital cavity, (13) 276
Beer poisoning, arsenical, (5) 1700
Bell's palsy, double, (151) 201
Benzoate of guaiacol, (59) 1328
of guaiacol, uses of, (38) 668
Benzoyl esters of urine of diabetes mellitus, concerning, (71) 1535
Beri-beri, (117) 1107, (85) 1271
Beta-eucain acetate, (166) 897
eucain as anesthetic, (159) 669
Bicycle riding, physiology and therapeutic application of, (120) 1180
Bigelow, Henry J., (49) 1106
Jacob, (120) 534
Bilateral cystic kidney, heredity in, (23) 1671
Bile acids, experiments on the intermediary circulation of, (86) 275
pigment and bile acids, experiments on formation of, (29) 274, (7) 349
salts, Hay's reaction for, (3) 970
subphrenic abscesses containing, (57) 1336
Bilharzia of rectum, surgical aspects of, (114) 1279
Biliary and pancreatic statis due to atresia of papilla, (174) 897
lithiasis, prophylaxis and treatment of, (51) 1336
passages, diagnosis of diseases of, (16) 1398
passages, position of patient in operating on, (54) 794
Biliary passages, surgery of, (46) 848, (146) 897, (161) 1329
Billious remittent fever, (6) 1534
Biltong, composition and nutritive value of, (2) 1186
Binocular perspective, theory of, (151) 1593
Biologic blood test, modification of, (64) 848

Bionomies, (118) 201
Birth- and death-rate as influenced by gynecic and obstetric progress, (28) 1470, (9) 1534
Birth-marks, (48) 1179
Birth-rate, the falling, (153) 1593
Bismuth-borophenate as surgical dressing, (167) 1536
Black jaundice, (171) 477
vomit in inflammation and injury of peritoneum, (6) 533
Blackwater fever, (88) 484, *1130
fever in quartan fever, (40) 541
fever, native remedy for, (8) 540
Bladder, absorption by, (31) 1405
and urethra, "stammering," (4) 540
bacteriologic study of, (20) 1041
bacteriology of infections of, (28) 1405
case of perforation of, (104) 1279
cases, some obstinate, (41) 610, (168) 787, (162) 897
diabetes and paralysis of, (58) 1676
descent and sacculation, operative treatment of, (21) 61, (62) 786
exstrophy of, (137) 62
female, improved method of examining, *1299
loss of base of, (59) 274
needle removed from, (3) 274
note on application of lithotripsy and lithotrity to stone in, (6) 1335
pathologic anatomy of, (19) 1041
stone in, (61) 128
study of innervation of, (61) 356
troubles in women, (149) 534
tuberculosis of, (138) 534
urinary, surgery of, (43) 841
Blastomycetes, (138) 1272
relation of, to cancer, (139) 1272
Blastomycosis, cutaneous, cases of, (66) 1398
cutaneous, summary of features of, *1486
of skin, case of, *867
Blepharitis, treatment of, (65) 904
Blind, suggestions for, (24) 1187
Blindness from congenital deformity of occiput, (72) 275
from methyl alcohol, (15) 61, (148) 201
transient monocular, *1418
venereal disease as cause of, (119) 1114
Bloch's Hemenolepsis lanceolata as human parasite, (61) 1187
Blood, alkalinity of, in infections, (14) 727
cells, marrow and spleen cells in their relation to, (2) 1271
changes in, in intoxication with benzine bodies, (50) 617
clinical examination of, (104) 669
coagulation, effect of injection of organ extract on, (78) 484
contrast staining of, (48) 1113
corpuscles, new method of estimating number of, (17) 1179
corpuscles, resistance of, in aged insane, (70) 794
count, surgical convalescence with report of, (109) 1671
diagnosis by means of formed elements of, (72) 1535
examination, (77) 1271
examination as aid to general practitioner, (44) 1592
examination, experiences with, (98) 1671
examination from standpoint of
examination of, (71) 1671
general practitioner, *233
examination in diagnosis, value of, (18) 61
examination of, in relation to surgery, (8) 1271
examination, present status of, (41) 61
examination, refractometric, (43) 1335
examination, some experience with, (45) 421
examination, value of, (18) 963
examinations and their clinical value, (53) 1698
Blood examinations, fresh, (153) 1035
examinations in disease, (127) 129
films and malarial parasites, rapid method for differential staining of, (73) 610
formed elements of, diagnosis by means of, (163) 1471
in cases affected with filariasis and bilharzia, (9) 1476
in disease, alkalinity of, (52) 617
in filariasis, (123) 534
in infancy and childhood, (78) 61
in life insurance examination, (90) 533
in relation to surgery, examination of, (29) 841
lymph cells and inflammatory processes of Limulus, (74) 610
microscopic examination of, for diagnosis of intra-abdominal suppuration, (89) 971
new method of determining stability of, (72) 904
of consumptives, investigation of, (35) 428
of fasting dogs, physico-chemical research on, (178) 1407
poisoning and amputation, (58) 483
poisoning, treatment of, (66) 61
post-operative changes in, (94) 129
pressure in chronic nephritis, (70) 1600
pressure, observations on, (124) 129
pressure-raising principle of suprarenal gland, *153
vessels, certain diseases of, (6) 1700
"Blood relationship" of man and anthropoid apes, (8) 428
Blood, report on biologic test for, (3) 1112
review of recent works on, (140) 1406
serum, differences between fetal and maternal, (55) 1113
serum, nature of, (94) 1113
serum test for, (29) 1271
test, biologic, (20) 1186
value of differential count in diagnosis of, (181) 897
vessels, certain diseases of, (2) 793, (9) 903
vessels of submaxillary gland, (87) 1470
Bloodless treatment of congenital luxation of hip-joint, (43) 1477
Blood-staining, vital, results of, (44) 428, (42) 541
Boards of public health, suggestion for, (25) 1187
Boden, Thomas P., case of, *757
Boer war, wounds from fire-arms and artillery in, (47) 1042
Boils, paranephritis and paranephrosis from, (55) 1600
Bone cavity, large, healed by Thiersch grafts, *1433
charcoal as substitute for iodoform, (91) 1042, (45) 1600
chips in osseous cavities, use of, (126) 534
cysts, (103) 1271
Bone-filling with amalgam, (110) 422
Bone focus in cervix of fetal uterus, (74) 675
marrow and blood in infectious diseases, (129) 1478
marrow in infectious diseases, (91) 1279
Bones and joints, tubercular disease of, (129) 611, (139) 787
differentiation of inflammatory processes and neoplasms of, by Roentgen rays, (53) 128
post-typhoid affections of, (48) 483
Borax and boric acid as food preservatives, (28) 841
Borderland cases, advantages of early surgical intervention in, (17) 1671
Boro-chloretone, new surgical dressing, (53) 1034
Bossi's dilator, (68) 1477
Boston Academy of Medicine, proposed, (39) 533
Bothriocephalus latus, (112) 611, (128) 897
latus, multiple infection by, (91) 1671
latus, specimen of, (115) 534
Bothriocephalides, revision of system for, (60) 1187
Botryo-mycosis (21) 1675
Bottini's operation for complete retention of urine, (89) 96
operation for enlargement of prostate, (76) 1106, (138) 1471, (20) 1541
operation, indications for and limitations of, (26) 1271
operation, present state of, (84) 61
Bottle-fed babies, (52) 533
Bovine tuberculosis, probable inoculation with, (32) 1042
Bowel perforation, new method of dealing with, *762
troubles, infantile, tannopin in, (99) 610
obstruction of, by enterolith, (49) 200
Braces, elastic, (78) 1336
Brachial plexus, subcutaneous injury of, (67) 1470
Brain abscess, case of, (89) 477
abscess, otitic, case of, (10) 841
abscess, successful operation upon, (13) 128
and appendix, surgery of, (160) 477
and nervous system, anatomy and physiology of, (140) 62
complications in suppurative ear disease, (92) 610
compression of, in hyperostosis cranii, (105) 611
development, abnormal, (92) 275
injuries of, (127) 787
lesions resulting from syphilis, *1
meninges and sinuses, otogenous disease of, (69) 421
pathologic anatomy of sarcomata of, (92) 1187
primary pigmented sarcoma of fourth ventricle of, (183) 897
softening, (143) 62, (159) 201
softening around certain tumors, (71) 794
syphilis and general paresis clinical differentiation of, (141) 534
traumatism, cases of, (106) 422
tumor, *235, (76) 1470
tumor localized clinically and by Roentgen ray, (28) 533
tumor, pathogenesis of choked disc in, (75) 484
tumors, operative treatment of, (44) 1042
Branching in bacteria with reference to B. diphtheriæ, (71) 610
Brand treatment of typhoid, (152) 275
Braun's bladder in obstetrics, (64) 1477
Bread in folklore therapeutics, (162) 1406
living on, *9
Breast, cholesteatoma of, (21) 483
milk, modifications of, by maternal diet and hygiene, (17) 1271
operation for malignant disease of, (4) 1541
results of operation in malignant disease of, (6) 847
Breasts, enlargement of, in acute tuberculosis, (46) 1179
prophylactic care of, (43) 963
Breath, peculiar odor of, in incipient tuberculosis, (47) 541
Breeding healthy human beings, (73) 1279
Bright's disease, chronic, cured by operation, (7) 60
disease, etiology and treatment of, (17) 200
disease, operative treatment of chronic, (137) 787
disease, questions of priority in surgery of, (16) 1271
disease, surgical treatment of, (3) 1469
British and Spanish Honduras, glimpses of practice of medicine and surgery in, *1079
Congress on Tuberculosis, notes on, (7) 668
Broad ligaments, suggestion for treatment of, in removal of uterine hemorrhage, (88) 1034
Bromid-albumin compounds in nervous affections, (68) 484
Bromid eruption, two cases of rare, (69) 1398
of strontium, the, (139) 477
Bromids for salt, study of substitution of, (70) 1042
Bromocol in epilepsy, (58) 794
Bronchi, syphilitic stenosis of, (175) 897
Bronchiectasis, (17) 1186
Bronchitis and coughs, treatment of, (113) 842
fibrinous, cases of, (72) 533
intratracheal injections in, (114) 1535
therapy of chronic, (83) 896
Bronchopneumonia, (27) 727
treatment of, with cold compress, (111) 1535
Bronchus, right, Durham tube in, (6) 476
Brookes' paste in cutaneous affections, (54) 848
Brown-Sequard's injections in atrophy of optic disc, (86) 736
paralysis, case of, *685
paralysis, wound of spinal cord with manifestations of, (76) 904
Buboes, inguinal, (87) 1593
Bubonic plague, (4) 1592
plague, antiquity of, (87) 1113
plague at the Cape, (115) 1114
plague, case of, (16) 1034
plague, prophylaxis and treatment of, (39) 1271
plague, unusual form of, (18) 1113
"Buchold," anatomic and pathologic specimens, (110) 1329
Buffalo lithia water, (116) 842
Bufonin and bufotalin, (59) 1477
Bulbar paralysis, case of asthenic, (37) 1701
paralysis, degenerative, (40) 1671
Bullous ulcer of leg, recurring, (19) 674
Burns, extensive, case of, (139) 1107
from celluloid, (12) 735
scalds and their treatment, (48) 1328
treatment of, (124) 1107
treatment of severe, (98) 786, (85) 896
Bursitis, chronic nasopharyngeal, (154) 477
Butter, tubercle bacilli in, (65) 971
Buttermilk in infant-feeding, (49) 483, (112) 1406
Butyric acid in stomach contents, recognition of, (112) 534

"Cabbage hernia," causal agent of, (47) 428
Cacodylic medication, (50) 1336
Cadaveric fauna, (104) 1113
Cadavers, dissecting-room, bacteriologic study of, (80) 61
new method of preserving, (76) 848
Caffein and other heart remedies, (91) 1336
Cairo, Egypt, surgical notes in, (41) 896
Caisson disease, observations on, (3) 1335
disease, with unusual hypopyrexia, (99) 1593
Calcium chlorid, hemostatic action of endovenous injections of, (170) 1406
sulphid, (31) 1107
sulphid, modern pharmacology of, (166) 1329
Calculi, bilateral nephrotomy for large, (141) 1043
in bladder, operative treatment of, (65) 484
new method of cutting urinary, (161) 477
Roentgen method in, (34) 610
urinary, (149) 611
urinary, 400 operations for, (56) 1336
vesical, perineal operations for, (161) 964
Calculosis in female urethra, (96) 1187
Calculus, impacted, in female urethra, (42) 1470
impacted, in urethra in children, (74) 275
impacted urethral, in boy, (41) 1470
renal, composed of calcium oxalate, (166) 1471
renal, points relating to, (17) 668
vesical, urethrotomy and cystotomy for, (114) 275
California, climate of, (89) 422
Calomel, uses and abuses of, (172) 1329, (176) 1536

Calorimetry vs. thermometry, (91) 200
Campaign, plan of, (45) 274
Camphor-menthol in diseases of nose and throat, (157) 129
Camphoroxol and menthoxol in suppuration of middle ear, (117) 728
Canada, statistics of tuberculosis in, (138) 611
Canadian medical graduate in London, the, (77) 1398
Cancer, (48) 61, (61) 668
aud tuberculosis, simultaneous invasion of rectum by, (84) 357
cases, (146) 1035, (66) 1535
conjugal, (64) 1676
cured with induction-galvano-faradism, (129) 1107
cutaneous, treated by *x*-rays, (110) 963
gastric, surgical treatment of, (51) 1271
ignipuncture of, followed by application of copper sulphate, (33), 1675
in animals, inoculation of, (26) 541
in German empire, (56) 848
in India, (13) 1700
in Sweden, suggestions for inquiry in regard to, (113) 1114
is it due to a parasite, (71) 350
malaria treatment of, (68) 1701
metastatic, in the inner genital organs from tumor formation, (65) 1477
modern methods of diagnosis of, (131) 964
negative results of cancroin in, (30) 483
of both lips, simultaneous and independent, (36) 1113
of breast, (131) 1035
of breast, analysis of cases of, which survived operation, (3) 1541
of breast, modification of Halsted's operation for, (121) 963
of breast, oöphorectomy in, (3) 275
of breast, operations for, (2) 275
of cecum and sigmoid flexure, (28) 1042
of cervix uteri with reference to diagnosis, (163) 534
of esophagus cured by cancroin, (31) 541
of eyelids treated by *x*-ray, (53) 1671
of head of pancreas, (126) 896
of lungs, (104) 1329
of penis, *499
of prostate, (28) 1328
of pylorus, partial gastrectomy for, (6) 356
of rectum, (162) 477
of rectum, improved technic for operating on, (69) 1477
of rectum, operated on by Murphy method, (2) 1398
of skin, (85) 1179
of stomach, case of, (45) 841
of testicle in abdominal ectopia, (11) 483
of uterine cervix, (172) 534
of uterus, (132) 422, (133) 477
of uterus, abdominal hysterectomy for, (11) 847
of uterus, abdominal pan-hysterectomy for, (10) 276
of uterus, clinical and anatomic study of, (37) 1042
of uterus, ultimate results of operation for, (172) 1593
outlook for hysterectomy for, (82) 1106
pathology and etiology of, (130) 964
plea for more rational treatment of, (139) 422
possible predisposing cause of, (5) 428
radiotherapy for, (1) 1534
rectal, (53) 841
relation of blastomycetes to, (139) 1272
research, (39) 1541
research, committee for, (44) 541
research on contagiousness of, (169) 1406
statistics, principles of, (46) 675
study of, in domestic animals, (48) 1042
Cancer, successful treatment of, (21) 428
summary of researches on, (141) 1272
thrombus, (130) 787
tissue, study of, (76) 971
treatment of, (132) 964
uterine, treated with cancroin, (10) 540
views on causation of, (113) 275
Cancers and inflammatory and infectious processes, (87) 200
Cancroin, negative results of, in cancer, (30) 483
Canned meats, (37) 1278
Caput obstipum, (74) 1279
Carbohydrates, absorption of, from rectal mucosa, (57) 1477
in utilization of salts in organism, (23) 735
surgical use of subcutaneous injections of, (4) 1041
Carbolic acid for cure of hydrocele, (9) 962
acid gangrene, (33) 1034
acid poisoning, alcohol in, (124) 842
acid poisoning, case of, (89) 1399
injections in tetanus, (116) 1477
Carbon bisulphid poisoning, amblyopia from, (73) 786
dioxid in air, rapid method of determining, (96) 1336
Carbonate of creosote in pneumonia, (27) 476
Carbonic acid in tuberculosis, (154) 669
gas baths and douches, (73) 1671
Carbuncle, abortive treatment of, (36) 1541
malignant, of upper lip, (7) 199
of upper lip and face, surgical significance of, (86) 1593
papilloma of, (79) 61
treating a, (153) 275
Carcinoma and alterations of the skin, (74) 1405
gastric, surgical treatment of, (45) 1698
and malaria, (65) 617
and sarcoma, parasitic origin of, (53) 735
bronchiogenic, (101) 1279
cervical, practical aspects in treatment of, (90) 610
epidermoid, (96) 728
epithelial, (82) 728
etiology of, (47) 841
gastric, extent of gastric digestion in, (80) 1179
gelatinous, of peritoneum, (20) 200
mammary, (59) 896
mammary, laparotomy in, (8) 895
metastatic, of spine and meninges, (55) 1179
multiple, of central nervous system, (53) 1701
of breast treated by x-radiance, (143) 1329
of cecum, (67) 274, (4) 1398
of cecum, symptomatology of, (91) 728
of corpus and cervix uteri, diagnosis of, (46) 896
of liver in childhood, (118) 1406
of nasal septum, (107) 1593
of pancreas, (158) 1536
of pylorus, specimen showing result of gastro-enterostomy for, (178) 897
of scalp, (70) 963
of stomach from chronic round ulcer, *693
of uterus, pathology and pathologic diagnosis of, (38) 1179
of uterus, vaginal hysterectomy for, (37) 1179
primary, of ampulla of Vater, (14) 1278
primary, of body of uterus, (122) 963
primary, of liver, (105) 1107
primary, of urethra, (59) 476
primary, of uterine fundus, (30) 349, (47) 963
recurrent, of breast, (112) 422
recurrent, Roentgen-ray treatment of, (6) 540
secondary, of lung, (128) 787
uteri, extirpation of glands in, (19), 1701
uteri, radical operation not justifiable in treatment of, (41) 1179
Carcinoma uteri, surgical aspects of, (54) 476, (40) 1179
Carcinomata, angiomata, relations between, (50) 541
Carcinomatous growths treated by caustics, (142) 611
Carcinosis, experimental, (48) 1405
Cardano, Geronimo, notes on life and writings of, (31) 421
Cardiac inadequacy, (12) 1278
neuroses, identification of, (31) 668
therapeutics, (160) 201
Cargile membrane, report of, experiments with, (27) 1470
Caroid, fifty infants treated with, (130) 350
Caroline Islanders, medical practice among, (95) 61
Carotid arteries, research on temporary closure of, (97) 1271
artery, ligation of common, for hemorrhage of cheek, (114) 129
Carrying babies, methods of, (41) 200
Carus' curve, bimanual direction of head in, (7) 128
Case, an interesting, (51) 533
report of, illustrated by photographs, (35) 1535
reports, (96) 1187
Casein by rennet and lactoserum, comparative study of coagulability of, (78) 736
Caseinogen, digestion of, (105) 1113
Castor oil in treatment of typhoid fever, (101) 1399
Castration by application of steam to interior of uterus, (84) 1042
Catalepsy due to ingestion of muscadines, (57) 274
Cataphoric medication, (88) 963
Cataract, analysis of operations for extraction of, (13) 1186
concussion, (132) 1536
juvenile, (101) 1107
operation in the aged, (49) 1671
senile, spontaneous cure of, (13) 1335
some remarks on, (114) 1593
study of operations for, (148) 897
with unusual complications, (136) 728
chronic dry, of middle ear, treated by pneumatic cabinet, (57) 617
chronic gastric, treatment of, (55) 349
drug treatment of, (63) 896
nasal, home treatment of, (133) 129
naso-pharyngeal, cause of middle ear deafness, (62) 61
suffocating, (95) 841
treatment of, (69) 484
Catarrhal affections, formalin in, (68) 736
otitis media, superheated compressed air in therapeutics of chronic, (112) 1272
Catgut as a suture and ligature material, (33) 963
method of sterilizing, (79) 1113
Catheter, a, (66) 476
Catheters, "gum-elastic," neglected methods for sterilization of, (34) 963
inoculation and disinfection of, (93) 1405
Cattle plague, modifications of leucocytes in, (17) 1041
plague, study of, (21) 735
Cauda equina and conus medullaris, lesions of, *1195
Cavernous sinus, thrombosis of, (21) 1328
Cecum and colon, anomalous position of (5) 1271
carcinoma of, (67) 274
non-descent of, (125) 1329
review of works on affections of, (72) 1279
Celioscopy, (68) 356
Celiotomy, aseptic, tetanus following, (65) 349
Cell activity, surgical, (75) 1106
Cell groups of sacral region of spinal cord in man, arrangement and function of, (107) 275
inclusion, cell degeneration in tumors, (52) 1187
inclusions in cancer, (140) 1272
the unveiling of the, *577
Celluloid, burns from, (12) 735
Centenarianism, cult of, (55) 533
Central American canals, necessity for sanitary safeguards on, (35) 896
nervous system, method of teaching macroscopical anatomy of, (78) 1179
nervous system on organic transformations, influence of, (91) 1113
Cephalalgia, lumbar puncture of, (46) 970
syphilitic, explanation of, by lumbar puncture, (29) 848
Cephalic index, the, (106) 275, (103) 534
Cephalo-pelvic disproportion, management of cases of, (5) 1106
Cerebellum, organic disease of, (53) 349
tumor in, (108) 971
tumors of, (59) 356
Cerebral compression, study of influence of, on intratracheal circulation, (54) 1600
cortex, what is the function of, (102) 350
localization and brain function, (11) 1698
localization and brain tumor, (1) 167
Cerebrospinal cord lesions, intractable, orthopedic operations for, (20) 1469
fever, notes on, (22) 1405
fever treated with antipyrin, (7) 1599
fluid, chromo-diagnosis of, (32) 617
fluid in nervous and mental affections, (18) 541
Cervical glands, treatment of tubercular, (39) 128
loop, the, (44) 1034
Cervix, uteri, technic of amputation of, (50) 963
Cesarean section, (156, 157) 897, (49) 1698
section according to Fritsch, (52) 675
section, case of, (110) 669, (25) 970
section complicated by pyosalpinx, (109) 669
section, emergency case of, *875
section followed by hysterectomy, (34) 1671
section for placenta previa, (33) 1698
section, impropriety of, in placenta previa, (4) 274
section in cases of placenta previa, (51) 1592
section in eclampsia, (51) 675
section under spinal anesthesia, *1355
section, two cases of, (48) 1698
sections, six, (108) 669, (129) 964
Chancres, extra-genital, (130) 842
Chancroid of eyelid, (4) 841
Change of color upon pigment bacteria, effects of, (71) 1034
Chattanooga school children, measurements of, (26) 668
Cheek, formation of new, *1203
Cheese, duration of life of tubercle bacilli in, (51) 1187
Chemistry, (124) 534
of stomach, (9) 895
some clinical aspects of, *1359
Chest aspiration, accidents in, (56) 200
diseases, remarks on certain methods of physical diagnosis in, (14) 1675
Chiasm, intracranial disease involving the, (56) 1179
Chicago Medical Society, reminiscences on growth and development of, (83) 1535
Chicken-pox in convalescence from smallpox (19) 786
or smallpox, difficulty in diagnosis, (11) 1700
vaccination and, (129) 728
Child-bearing among natives of Africa, (123) 201
Child labor, (61) 1535
Childbirth in deformed pelvis, (18) 1541
true suspended position in, (169) 1536
Childhood, reflexes in early, (127) 1406
tuberculosis and, (105) 786
Children, abnormal physical conditions in, (8) 1186, (9) 1335
are women losing power to nurse their, (34) 541
elbow fractures in, (68) 274

Children, mental diseases of, (108) 1535
mild epidemic of uncertain nature in, (61) 727
necessity for special study and experience in treating, (30) 61
pseudo-appendicitis in, (42) 200
study of alexins in serum of, (106) 971
weakly, treatment of, (37) 1335
Children's Hospital, Boston, cases from, (38) 274
testimony, unreliability of, (144) 477
Chinosol, (69) 1279
Chloretone, clinical observations on uses of, (55) 1698
spinal anesthesia and, (127) 964
Chlorids, retention of, and saline injections, in certain morbid states, (32) 1476
Chloro-anemia, (139) 1329
Chlorosis and anemia and pseudo-leukemia, treatment of, (68) 1535
Chloroform and ether anesthesia, (21) 1186
anesthesia in case of heart disease, (26) 735, (23) 793
anesthesia, report of death from, *247
causation of death during administration of, (1) 1112, (6) 1186
death during administration of, (6) 1278
death from, (23) 1600
icterus, (67) 1536
in heart disease, (21) 847
in labor, (165) 534
internal use of, and its dangers, (87) 971
is it more dangerous than ether, (11) 1599
water in typhoid, (97) 1336
Chloroma and leukemia, (40) 356
case of, (2) 1404
study of, (41) 356
Chlorosis and its relation to the eye, (42) 1398
dietetic treatment of, (88) 841
papillo-retinitis due to, (50) 610
Chloruria in nephritis, (41) 1477
Choked disc in brain tumor, pathogenesis of, (75) 484
disc, pathogenesis of, in cases of brain tumors, (72) 357
Cholagogues, (112) 963
Cholangitis, (18) 727, (1) 1179
experimental, of autoinfectious origin, (36) 428
Cholecystitis, *443, (18) 727, (1) 1179
acute, with gangrene, (60) 533
chronic tubercular, (50) 903
etiology of, (41) 1398
pathology of, (40) 1398
surgery of, (39) 1398
typhoid, cases of, (11) 60
Cholecystotomy, (85) 786, (39) 841
Choledochotomy, (43) 668
case of, (101) 1329
Cholelithiasis, (18) 727, (46) 841, (123) 1035, (40) 1335
cholecystitis and cholangitis, (1) 1179
complications and sequels of, (93) 1034
indications for surgical treatment of, (25) 1328
medical aspects of, *938
medical treatment of, (94) 1034
pathology and etiology of, (111) 201
symptomatology and diagnosis of, (81) 422
treatment of, (8) 1592
with clinical reports, (104) 1671
Cholemia, hemorrhagic family, (25) 428
Cholera, antibodies against bacteriolytic immune bodies of, (34) 428
infantum, (89) 61
Cholesteatoma of brain, case of, (54) 1470
of breast, (21) 483
of middle ear, somnolence and loss of memory from, (39) 786
Cholesterin crystal giant cells, (103) 842
giant cells, (133) 897
Chondroitin-sulphate, experimental feeding with, (54) 1477
Chorea, acute, *1369
Chordee, management of, (130) 1107
Chorea and helminthiasis, (80) 484
case of, (145) 62
progressive chronic, (39) 541
senile, (88) 1399
Chorio-epithelioma malignum, (45) 963
Choroid plexus, function of, (166) 1406
Christian science trial, recent, (108) 201
Chylous ascites cured by laparotomy, (96) 1042
Cicatrix after laparotomies, solidity of, (78) 1279
Cigarette inebriety, (123) 896
Ciliary processes in pupillary region, (52) 610
Cinchona, physiologic action of, (94) 786
Cinnamic acid in tuberculosis, (19) 541, (153) 1406
Circumcision and venereal diseases, (130) 422
for relief of acne, (35) 476
Cirrhosis, alcoholic, of liver, (10) 533
atrophic, in childhood, (114) 1406
cardiac, of liver, (82) 357
congenital hepatic, case of, (117) 896
fatty, in liver of dog, (131) 787
hepatic, ascites due to, (29) 727
hepatic, classification of, (43) 1034
hepatic, clinical manifestations of early stages of, *1496
hepatic diagnosis of, (11) 533
hepatic, etiology of, (9) 533
hepatic, in infancy and childhood, (47) 1034
hepatic, surgical interference in, (41) 274
hypertrophic and atrophic (7) 786
hypertrophic hepatic, (39) 1671
infantile hepatic (12) 533
of liver, hippocratic finger i (7) 483
of liver, operative treatment of, (150) 129
surgical intervention in biliary and alcoholic, (9) 483
surgical treatment of ascites in, (67) 1187
City consumptive hospitals (22) 1328
Civil service principles, advantages of, in state hospitals for insane, (133) 275
Clabbered cow's milk, artificially, (52) 483
Claudication, intermittent, (3) 667
intermittent, terminating in gangrene, (26) 1106
Clavicles, symmetric and ignored fractures of, (51) 971
Clayton Parkhill, (89, 90) 1106
Cleanliness and surgical success, (148) 422
Cleft palate, (10) 674, (11) 735
palate, congenital, operation for, (65) 421
palate, congenital, treated by mechanical appliances, (42) 533
palate, operations for, (41) 533
palate, procedures for repair of, (116) 62
palate, surgical correction of malformation and speech defects due to or associated with hare-lip and, *169
Cleopatra, was she a physician? (69) 794
Cleveland, new era of medicine and, *625
vital statistics of, (90) 1034
Climate or spectacles, (118) 477
Climato-therapy, foundation of, (4) 483
Climatology, experiments in, (91) 1399
Clinic, system in the, (29) 793
Clinical laboratory as aid in diagnosis, (104) 422
lectures, (94) 728
medicine, art of, (95) 484
microscopy, (54) 349
notes, (72) 1671
Clinics, notes from, (95) 728
Clonus, two unusual forms of, (53) 1470
Clove hitch, how to make the, (122) 842
Club-foot, (82) 350
treatment of, by ablation of all tarsal bones, (28) 617
Cocain and eucain, experimental and clinical research into, *491
anesthesia, (54) 1592
as antidote for morphin poisoning, (25) 61
as intoxicant, (14) 1113
chemic aspects of, untoward effects in spinal anesthesia, (114) 534
intoxication and its demoralizing effect, (4) 1335
Cocainization, spinal, (46) 533
Coccidium infection of rabbit's liver, (135) 1272
Cod-liver oil, (165) 897
oil in consumption, does it pay to give, (149) 728
Coffee and tea as precipitants for poisons, (65) 610
Coin in esophagus for five years, (90) 1593
Cold abscess, treatment of (141) 1593
as cause of arteriosclerosis, (46) 483
extreme, influence of, on pathogenic germs, (119) 1478
iron rays of dermo lamp, action of, (26) 903
why does one take, (59) 727
Colic, hemorrhage, renal and nephritis, (60) 736
Colitis, muco-membranous, in children, (57) 1592
Collagen, new research on staining of, (55) 1541
Collateral circulation after tearing of both radial and ulnar arteries, (62) 1592
College-bred women, (117) 1180
College girl, effect of public school education on health of, (24) 1106
men, gymnastic training of, (159) 964
Collodium sacs, improved method of making, (63) 1470
Colloid cancer of stomach and omentum, (47) 128
degeneration of skin, (76) 668
silver, (110) 1477
Colon bacillus, behavior of, (63) 971
bacillus, identification of, (128) 129
bacillus, identification of, by reactions in media containing neutral red, (21) 786
bacillus in milk, growth of, (62) 1042
bacillus infection, (16) 1592
enteroptosis with reference to displacement of, (57) 1106
multiple diverticula of, (158) 1593
Color perception on pulse curves, influence of, (99) 971
Colorado, evolution of medical institutions in, (88) 1106
Fuel and Iron Company's Hospital, history of, (89) 275, (52) 349
hospital, mixed clinic in, (45) 1106
Colostomy, temporary, in chronic dysentery, (47) 356
Colpotomy in pelvic suppuration, (110) 1279
superiority of, in treatment of pyosalpinx, (23) 1042
Coma in monkeys from beta-oxybutyric acid infusions, (133) 669
Commerce, relation of medical science to, (2, 6, 19) 1698
Commission evil, (130) 201
Common bile duct, surgical treatment of obstruction in, (10) 1186
Compatible medication, (152) 1593
Compensation, treatment of recent disturbances in, (137) 1406
Condiments, influence of, on gastric functions, (69) 1542
Confinement cases, analysis of 700, (21) 1113
Congestion, pulmonary and pneumonia, mental hebetude or stupor of, (40) 200
Conical cornea, additional case of, (81) 1034
cornea, new operation for, (59) 1676
Conjunctiva, intact, no general infection from, (47) 1187
tuberculosis of, (3) 1404
Conjunctivitis, (74) 668
bacteriologic element in etiology of acute catarrhal, (90) 786
corneal complications in, due to Koch-Weeks' bacillus, (23) 1271
Conjunctivitis, gonorrheal, with involvement of mucous membrane of nose and upper lip, (69) 1106
neonatorum, (125) 275
phlyctenular, cause and treatment of, (88) 1113
prophylaxis of purulent, (35) 1113
some phases of, (115) 728
tubercular dacryo-adenitis, and, (47) 61
Conservatism in abdominal and pelvic surgery, (15) 1592
in abdominal and structure, (79) 477
Conservative gynecology and electricity, (137) 534
Constipation, prognosis and treatment of, (59) 349
treatment of habitual, (16) 786
unprecedented case of, *1304
Constitution and by-laws for state societies proposed, *1155
Constitutional diathesis, ocular lesions associated with, *815
Consumption, (40) 274, (151) 897
and general hospitals, (5) 735
contracted in Colorado, (11) 1534
does it pay to give cod-liver oil in, (149) 728
factors influencing death rate from, (150) 422
mission of societies for preventing, (13) 1271
modern treatment of, (70) 1593
origin of modern treatment of, (6) 735
struggle against, (30) 1698
suppression of, (119) 350, (155) 477
transmission of, (50) 668
treatment of, in local sanatoria, (109) 62
Consumptive, ambulant, danger to public from, (19) 1271
what shall we do with the, (20) 533
women, artificial sterilization of, (78) 1405
Consumptives, adaptability of southern California to needs of, *289
family of, (40) 1278
in state and private sanatoria in Massachusetts, care of, (100) 841, (99) 1671
kidney in, (20) 541
model sanatoria for, (3) 1700
nervous system in, (57) 1405
treatment and care of, (73) 1113
what shall we do with our, (122) 1107
Contagion, one way to fight, (36) 786
Continued fevers of Mississippi delta, (111) 1180
fevers of South, (112) 1180
Contract medical attendance on sick clubs, (2) 1335
practice, (9) 616
Contractio previa, cervical segment and, (87) 1042
Conus medullaris and cauda equina, lesions of, *1195
Convulsion, occasional, value of, in certain cases, (91) 1329
in children, (121) 1272
puerperal, (38) 128
treatment of, (111) 1114
Cornea, conical, with hyperopic refraction, (120) 275
further history of case of fistulous ulcer of, (94) 1535
protection of, in some sightless stumps, (46) 1535
suppuration of, (63) 128
Corneal ulceration occurring in senile and debilitated, (42) 1535
Coronary arteries, obstruction of, (17) 1278
Coroner's inquest, anachronism of, (22) 533
investigations, plea for better practice in holding, (128) 1035
Corporal punishment in schools and the home, (121) 350
Corpse-fat, study of formation of, (106) 1113
Cortex, cerebral, tumor of, (5) 847
study of excitability of, after exclusion of cerebrospinal tracts, (64) 541
Coryza, use of cinchonin sulphate in, (120) 963
Cosmic influences, critical days and, (42) 356
Cough, (116) 201

Cough, in influenza simulating whooping cough, (65) 727
notes on treatment of, (155) 669
Counter-drainage, (116) 422
Country doctor's private hospital, the, (120) 1535
practice, surgery in, (30) 1278
Coupler, new, for rapid intestinal anastomosis, *1003
Cow's milk and infant tuberculosis, (7) 421
milk as infant food, action of heat on, (42) 610
Coxa vara, study of, (83) 848
Coxalgia, genu recurvatum in, (50) 1477
luxations of hip-joint in, (25) 1113
Coxitis, incipient tubercular, (112) 422
tubercular, (40) 1698
Craniotomy, (135) 129
Creatinin excretion, (126) 787
Crede's colloid silver, injection of, in septic affections, (80) 971 971
Cremation a sanitary necessity, (97) 129
Creosotal in treatment of acute non-tubercular diseases of respiratory organs, (145) 1272
Creosote, carbonate of, in pneumonia, (101) 1671
in pneumonia, (127) 350, (155) 787, (135) 1593
in tuberculosis, experience with, *291
Crepitant râle, the, (51) 476
Cretinism, (35) 668, (99) 1329
sporadic, (95) 1399
sporadic, with relapse owing to omission of thyroid extract, (4) 1599
symptomatology of, (60) 727
Cretinous child, mental development of, treated with thyroid extract, (81) 675
Crime and its remedy, (95) 534
Criminals, identification of, through fundus of eye, *513
Critical days and cosmic influences, (42) 356
Crossed cylinder in determination of refraction, (120) 787
cylinders and their uses, (67) 1671
eyes in children, management of, (95) 1106
Croup, membranous, (151) 477
treatment of, (53) 1336
Cuba, notes in, (8) 1534
Cubital nerve, paralysis of, (92) 904
Cuprol for conjunctival inflammations, (66) 668
"Cure," significance of term, in medicine, (15) 1476
Curettage, (69) 350
of puerperal septic uterus, (6) 421
Curette, abuse of, (118) 1180
Curriculum, the medical, (21) 970
Curvature of spine, treatment of rotary lateral, (58) 1698
Cutaneous affections, aseptic method of treating, (39) 1675
affections, Brookes' paste in, (54) 848
diseases, therapeutics of, (38) 896
Cycloplegics, comparative value of, *1135
Cylindruria in artificial stagnation of bile, (33) 1335
Cyst, a branchial, (20) 1271
dermoid, of iris, (77) 786
hydatid, of liver, (125) 422
large multilocular, (170) 477
large ovarian, (167) 1471
ovarian, report of cases of, (158) 477
recurrent branchial, (117) 350
tubo-ovarian, (111) 1329
Cystic affection, (34) 1476
Cystinuria, transitory, associated with diaminuria, (58) 1398
Cystitis, (145) 964
and pyelitis, differentiation of, (45) 1113
and pyelonephritis, cystoscopic appearances in, (12) 1671, (31) 1698
complicated by chronic malaria, (163) 897
gonococcus, (21) 793
in female, (128) 275
Cystocele, (48) 963
operations, plastic use of uterus in, (16) 274
Cystology, cryoscopy and hematolysis in clinical diagnosis, (45) 735
Cystoma, polypous, of mucous glands in labium minus, (50) 675
Cystomata, bilateral ovarian, vesicular mole accompanying, (48) 675
ovarian, histogenesis of, (35) 1042
Cystoscope, a new, (37) 786
the, (85) 422
Cystoscopic appearances in non-tubercular cystitis and pyelonephritis in women, (12) 1671
Cystoscopy and catheterization, (31) 1278
fallacies of, (86) 1535
on technic of, (34) 1328
suprapubic, (45) 675, (7) 1041
Cystotomy, suprapubic, (30) 1179
suprapubic, in female, (127) 1471
suprapubic, in operations on the prostate, (24) 349
Cysts, abdominal, study of, (72) 675
congenital, of tongue, (9) 793
dermoid, and teratomata of anterior mediastinum, (66) 610
epidermic, study of, (32) 1675
hydatid, in liver, (167) 1406
in facial and pharyngeal tonsils, (32) 61
of ureter, (4) 1328
placental, causation of, (62) 1477
vaginal, (38) 735
Cytases, (15) 1041
Cytodiagnosis in exudates and transudates, (100) 1406
Cytoprecipitin, diagnostic value of, (111) 1477
Czolgosz case, medical aspects of, (77) 477
case, epilepsy and, (111) 477
postmortem examination of, (10) 199, (22, 26, 28) 200
trial, execution, autopsy, mental status of, (9) 199, (21, 25, 28) 200, (78) 477, (11) 540, (12) 616, (75) 610

Dacryo-adenitis, tubercular, and conjunctivitis, (47) 61
Dandruff, (135) 62
Danysz's rat bacillus, (83) 971, (42) 1187
Darier's disease, etc., (22) 1335
Dawning century, medicine of, (104) 1399
Daylight in schools, Wingen's method of testing, (62) 675
Dead, embalming of, (2) 1476
Deaf and dumb, early care of, (36) 200
mutes in early childhood, (63) 1336
Deafness, curability of, (106) 477
middle-ear, naso-pharyngeal catarrh as cause of, (62) 61
new treatment of, (10) 1328
of middle-ear origin, treatment of, (2) 970
slight, (37) 1671
unilateral, cured by operation, (64) 896
Death, rapid or sudden, of gastric origin, (31) 970
Death-rate, birth- and, as influenced by gynecic and obstetric progress, (9) 1534
high, in tropics, some causes of, (3) 1106
of rich and poor, (66) 1328
Deciduoma malignum, (64) 1271
Defectives, treatment of, (25) 476
Defense of organism, nervous system and circulation in, (18) 903
Deflections of nasal septum with minimum of traumatism, correction of, *636
Deformed pelves, expectation during period of dilatation in, (30) 735
Deformities following osteitis of knee, correction of, (1) 60
paralytic, operations for, (12) 1328
pathogenesis of spinal, (80) 1336
static, etiology of, (83) 1336
Deformity of biliary passages, rare, (66) 675
Degeneracy and political assassination, (69) 61
stigmata of, (150) 1035
Degeneration, intramedullary, of central nervous system, secondary to brain tumor, (134) 669
Degeneration, manual stigmata of, (73) 476
Delinquents, juvenile female, (75) 476, (81) 1398
Delirium, acute, (76) 610
acute, following grippe, (154) 275
epileptic, bed treatment of, (46) 1676
in croupal pneumonia, (131) 1478
tremens from abuse of paraldehyd, (83) 1542
tremens, treatment of, (41) 963
Delivery, retard, the, (23) 274
Dementia, acute, followed by gunshot wound, (97) 1671
paretic, (86) 422, (157) 1329
paretic, etiology of, (50) 200
preceding and following inebriety, *307
precox, (82, 90) 275
senile, infection, (89) 1336
syphilitic, (159) 1471
Dengue, (24) 533
Dental affections and those of eye, relation between, (132) 477
affections, importance of instruction in, in medical schools, (88) 904
analgesia, new process of, by electricity, (54) 1279
caries, (101) 484
college curricula, physical diagnosis as related to, *1617
profession, plea for, (107) 1535
pulp, embryology of, *1619
surgery, asepsis in, (31) 1179
surgery, medicine as it relates to, (175) 1536
Dentist and surgeon, relation between, (60), 1698
Dermatitis, blastomycetic, cases of, (86) 1179
blastomycetic, immediate diagnosis of, *313, (115) 350
blastomycetic, of Gilchrist, (66) 1398
case of blastomycetic, *1356
exfoliative, due to quinin, (102) 1329
exfoliativa following abdominal operation, (52) 274
exfoliativa, study of case of, (173) 897
medicamentosa, (28) 1671
medicamentosa, case of, (10, 11) 1033
vegetating, developing during infantile eczema, (77) 668
Dermatologic diagnosis, common mistakes in, (148) 1272
therapy, small points of practical, (95) 422
Dermatomycoses in relation to Allen's iodin test, *690
Dermoid cyst of mouth, (75) 841
cyst of ovary, (185) 897
cyst, suppuration of, of ovary, (68) 963
Dermoids, sequestration and other, (72) 1106
Desquamation in scarlet fever, supposed infectivity of, (11) 1112
Detachment of retina, treatment of, by injections of sodium chlorid, (178) 1478
Dextrocardia, congenital, (38) 786
study of case of, (143) 1478
Diabetes and the eye, (12) 962
and paralysis of bladder, (58) 1676
bronzed, (27) 793
chromic acid, (63) 617
experimental suprarenal, (57) 1113
galvanism and, (108) 477
glycosuria and, (89) 736
insipidus, (33) 1398, (8) 1469
is there a renal, (56) 971
mellitus, (10) 610, (177) 1407
mellitus and insipidus, relations between, (57) 483
mellitus, histopathology of pancreas in, (102) 422
mellitus hydrotherapy of, (82) 1701
mellitus, investigation into cause and treatment of, (73) 1034
mellitus, potato in, (27) 735
mellitus, prognosis and treatment of, (140) 611, (74) 1398
metabolism in, (102) 534
pathology of, (55) 610
surgical aspects of, (140) 897
treatment of, (31) 1042
Diabetic coma, (4) 785
Diagnosis, medical, and modern discoveries, (8) 793
Diagnosis, method of teaching, in Northwestern Medical School, (114) 611
on value to physician of modern methods of, (1, 8, 12) 476, (78) 533
Diagnostic acumen in skilled practitioner, (93) 1179
Diarrhea, (37) 476, (35) 841
in children, 54) 1698
infantile, etiology and treatment of, (76) 1271
organotherapy of pancreatogenic fatty, (40) 617
summer, contribution to study of, (10) 1271
summer, etiology and treatment of, (145) 275
treatment of chronic, (69) 1405
Diarrheas, acute infantile, renal complications of, (19) 1671
Diathesis, fatal hemorrhagic, (65) 128
hemorrhagic, exophthalmos in patient subject to, (48) 1535
Diazo-reaction as means of diagnosis in clinical medicine, (6) 1599
reaction, study of, (41) 970
reaction, the, (81) 1542
Diet, observations on, (17) 1599, (20) 1675
Dietary changes in infants and children, (123) 275
Dietetic aphorisms, (1) 1328
Dietetics, practical, (116) 1035, (96) 1399, (122) 1672
practical, in medical schools, teaching of, *299
Digestion, certain neuropathic accidents of, (24) 483
influence of appetite in, (161) 897
newest physiology of, in relation to treatment, (109) 842
Digestive apparatus, affections of, (179) 1478
diseases, diagnostic points in, (63) 1271
ferments, use and abuse of, (20) 1671
glands, work of, and estimation of pepsin digestion by modern instruments of precision, *1210
organs in infant, facts relating to, (108) 728
Digital examination by vagina, abandonment of, (7) 476
Digitalis, (140) 201, (103) 1180
action of, (12) 274
in oily solution of subcutaneous injection, (40) 1405
physiologic dosage of, (70) 1113
prolonged medication with reference to, (10) 274
use of, based on cardiac pathology, (32) 1328
Dilatation, cardiac, and asthenia, treatment of, (15) 428
of esophagus without intrinsic stenosis, (93) 896
of heart in children, (19) 428
saccular, of esophagus without anatomic stenosis 21) 421
Dinitro-benzene, inquiry into action of, on human urine, (14) 1541
Dionin in affections of respiratory organ, (62) 1113
Diphtheria, (156) 669, (7) 727, (129) 1035, (60) 1328, (32) 1398, (45) 1535, (108) 1671
albuminuria in, (47) 1701
and diphtheritic antitoxin as specific, (93) 1671
antitoxin and vaccine virus, responsibility of deaths following, (6) 60
antitoxin, duration of immunity by, (25) 274
antitoxin eruptions, (7) 674
antitoxin treatment of, (15) 1278, (67) 1593
bacillus in alimentary canal, fate of, (82) 675
bacillus, on difference in action of homeoplasmatic and heteroplasmatic toxins produced by, (48) 1187
bacteriologic diagnosis of, (121) 1279
Behring's latest theory in regard to, (54) 428
diagnosis and quarantine of, (105) 1034
diagnosis and treatment of, (134) 842
epidemiology of, (49) 1336
in Vienna hospitals, (51) 483
involving pharynx, larynx, trachea, bronchi and probably esophagus and stomach, (6) 786

Diphtheria, laryngeal, intubation in, with reference to influence of antitoxin, (49) 476
local application of formalin in, (56) 903
meningitis in infants consecutive to, (173) 1406
mortality in Germany, (122) 1406
of conjunctiva treated by antitoxin, (109) 1470
of external ear, (81) 1593
phases of, (54)421
present status of, (57) 61
relations between bacilli of human and fowl, (162) 1478
resolutions on preventive serotherapy in, (52) 1278
serum treatment, waves of epidemics and, (61) 1113
statistics and serum treatment, (64) 1600
statistics of a general practitioner, (67) 1600
success of serum treatment of, (64) 1701
toxin, heart failure from, (80) 1187
tracheotomy and intubation as stenosis operation in, ((113) 1406
tracheotomy and intubation in, (61) 1042
treated with antitoxin and pilocarpin, (109) 1034
treatment of, (162) 611, (174) 477, (133) 728
unusual case of, (30) 1535
Diphtheric membrane, specimen of, (105) 896
toxins, vascular lesions induced by, (16) 1041
Diplegia, spasmodic infantile, (126) 1478
Diplococcus pneumoniæ infection of mucous membranes by, (11) 1186
Diplosarcoma and osteochondroma of traumatic origin, (72) 1336
Dipsomania, (162) 534, (42) 1592
Disc, impacted metallic, in esophagus, (62) 421
Discharges and douches, nature of, (8) 1541
Disease, causation of, (106) 1329
germs, length of life of, in droplets and dust, (62) 541
local manifestations of, (139) 611
principles determining geographical distribution of, (16) 1335
Disinfection, technic of, (52) 1405
Dislocation of clavicle, treatment of, through open wound, (66) 1470
of upper arm, voluntary, (86) 971
Distoma, study of, (43) 675
District of Columbia cancer record for twenty years, (7) 1592
Diuretics, condition of kidneys with regard to employment of, (80) 1671
Divergence, insufficiency of, as etiologic factor in strabismus, (55) 1535
Divorce, (138) 1329
Doctor as an ethical leader, (62) 668
Doctors and doctors, (94) 1179
Doctor's fee, the, (71) 1328
Doctors, why they disagree, (4) 1469
Dormiol in epilepsy, (106) 1477
Dorsal luxation of thumb, (46) 1477
Dose measures, popular, (16) 610
Double monsters, (29) 1541
Drainage after abdominal section, (57) 1328
hepatic, (19) 61
in appendicitis, question of, (143) 534
Dropsy, combined fetal and maternal, (99) 484
idiopathic, case of, (175) 477
without albuminuria, (52) 1106
Drug effects, unusual, upon nervous system, (96) 1329
fiend, is there hope for, (41) 1592
giving, passing of, (3) 476
habit, the, and its cure without pain, (144) 787
habituation, modern treatment of, (33) 841
manufacturer, doctor, druggist and, (58) 896
Drug manufacturer, therapeutics and the, (20) 1398
Drugs, indigenous, and their uses, (18), 1700
some new, (106) 350
standardization of crude and galenical preparations, *17
Drumstick fingers with atrophy of terminal phalanges, (97) 1477
Dry heat in treatment of disease, (48) 349
hot air, therapeutics of, (83, 86) 610, (74) 963
points vs. glycerinated virus, (6) 1179
Ductus arteriosus, closure of, (25) 1701
thyroglossus, cyst originating from, (76) 1179
Duncombs vs. the Mutual Life Insurance Company of New York, (93) 1593
Duodenal ulcer, case of, (40) 1535
Duodenum, carcinomatous ulceration of, (159) 1536
round ulcer of, (43) 1113
Durham tube in right bronchus, (6) 476
Dust from nest of mud wasp, ocular infection from, (83) 1034
Dwarf growth, tardy rachitic, (52) 1477
Dyes, organic hair and fur, (119) 963
Dynamic medication, (104) 728
Dysentery, (132) 1107
acute, (164) 964
amebic, (109) 1180, (146) 1329
amebic, clinical thoughts concerning, (181) 534
amebic, in children, (135) 422
amebic, review of pathologic anatomy of, (58) 1592
bacillary, (147) 1329
treatment of, by rectal injections, (93) 484
chronic, temporary colostomy in, (47) 356
etiology of acute, (66) 971, (72) 1328
in New Orleans, (151) 1329
in United States, (96) 610
ipecac in, (149) 1329
pathogenic unity of, (30) 793
Flehn's method of treating, (33) 541
treatment of, (152) 1329
tropical, (150) 1329
tropical, with liver abscess, (148) 1329
Dysmenorrhea, (138) 422, (90) 963, (71) 1179, (113) 1671
clinical lecture on, (1) 1541
emergency treatment of, (72) 668
in woman suffering from chronic endometritis, (70) 1179
intranasal treatment of, (28) 903
nature of, (49) 617
surgical treatment of, (126) 1593
Dyspepsia, anti-uric acid treatment in, (131) 350
nervous, (92) 786
nervous, or gastric neurasthenia, (59) 1535
Dystocia, case of, (164) 1329
following ventrofixation, (8) 274
new symptom in diagnosis of, (66) 1271
Dystrophy, progressive muscular in brother and sister, (10) 1670

Ear, affections of, (57) 727
cases, recording of, (113) 1272
diseases of, of interest to insurance examiners, (30) 1370
external, diphtheria of, (81) 1593
foreign bodies in, (86) 533
lesions, somnolence caused by, (102) 201
nose, and throat, removal of foreign bodies from, (143) 1035
outer, serous cysts of, (100) 1042
some acute diseases of, *1297
Earache, causes and treatment of, (49) 349
Ears and what we should know about them, (165) 611
foreign bodies in, (39) 963
Eberth's bacillus in blood in typhoid, (14) 483
Echinacea angustifolia, (117) 1470
Echinococcus cyst, multilocular, of liver, (186) 897
cyst, rare localization of, (88) 1600
cysts, abdominal, (14) 1271
disease in North America, (84) 275, (47) 421
Eclampsia, (37) 483
case report, (54) 1701
cases, study of, (83) 736
Cesarean section in, (51) 675
due to tendency to convulsions in pregnancy, (45) 428
in Mecklenburg-Schwerin, (36) 483
pathogenesis of, (35) 483, (38) 1042
puerperal, (167) 201, (60) 668, (162) 1593
puerperal, and septicemia, (142) 1107
puerperal, case of, (136) 787
puerperal, some points in treatment of, (10) 1335
puerperal, treatment of, (15) 356, (12) 1534
puerperal, venesection and transfusion in, (13) 1534
treated by Stroganoff's method, (13) 668
treatment of, (47) 1336
Ectasia, corneal, with preservation of central transparency, (157) 201
Ecthol in treatment of eruptive fevers, (45) 1034
Ecthyma, (95) 129
Ectopia of testicles, points in treatment of, (45) 1477
Eczema and pruritus of anus and rectum, (163) 669
chronic, treatment of, (8) 674
infantile, neurotic element in, (29) 128
madidans, chronic, (139) 62
Eddy, Mrs., some quotations from, (56) 1698
Eddyism vs. the Scriptures, (86) 350
Edema, acute, of epiglottis, (92) 200
acute suffocative pulmonary, (2) 356, (16) 616
angioneurotic, (16) 61, (125) 842
of larynx, (102) 61
Educational methods, effect of modern, on health of pupil, (61), 1671
problem, a suppressed, (119) 422
Egg-albumin, experiments on effects of injection of, (59) 1034
mechanism of albuminuria by, (82) 971
Eggs in cultivation of bacillus tuberculosis, (3) 1033
Elbow fractures in children, (68) 274, (92) 728, (84) 963
Elbow-joint, operative relief of impaired function of, (122) 1035
Electric current, injuries from powerful, (55) 617
light and hot air cabinets, sweating in, (38) 1592
Electric-light bath, heart murmurs produced by, (8) 1033
Electric ozonation, influence of, on disease, (24) 476
shocks, (12) 847
shocks at 500 volts, (15) 970
Electricity as therapeutic agent, (76) 1671
in gynecologic work, (87) 610
in renal disease, (81) 610
some newer uses of, (142) 1593
vital effects of, (67) 1542
Electrocautery, incisor for Bottini operation, (82) 786
incisor, new combined, for Bottini operation, (77) 1106
Electrolysis, (74) 1106
in treatment of stricture of urethra, (102) 971
Electrostatic modalities upon hyperemia and pain, effects of, (73) 963
Electrotherapeutics, (131) 728
general considerations of, (71) 963
Electrotherapy, (134) 129, (180) 1478
reflections on, (97) 904
Electrotherm compresses, (119) 1279
Elephantiasis of labium majus, (60) 476
sporadic, cases of, (50) 356
Emboli mesenteric arteries, multiple, (160) 1536
Embolism of branch of central retinal artery treated with massage, (48) 610
of popliteal artery, case of, (61) 1179
pulmonary, after operations upon bladder and prostate, (20) 1034
study of, (65) 1042
Embolus, pulmonary, of placenta previa, (60) 1541
Embryotomy on living child, (86) 1405
Emergency surgery in country, (146) 728
surgical cases, conservative treatment of, (56) 727
Emmenagogues, (53) 786
Emodin and purgatin as purgatives, (70) 484
Emphysema complicating pneumonia, (64) 727
of lung, does it result from playing wind instruments, (107) 1477
subcutaneous, due to trach a ulceration, (90) 1470
Empyema, (81) 533
and atelectasis, (15) 727
displacement of fluid of, by normal saline solution, (13) 421
of frontal sinus, (66) 841, (34) 1592
of maxillary sinus, radical operations in, (64) 617
purulent peritonitis associated with, (10) 1278
sacculated, high temperature with, (166) 477
scarlatinous, of the anterior-superior squamomastoid cells, (65) 841
some observations on resection of ribs in, *1074
thoracics, practical points in treatment of, (48) 1592
tubercular, (123) 1535
Encephalitis, etiology of acute hemorrhagic, (55) 428
traumatic, (72) 896
Encephalocele, surgical treatment of, (182) 1407
End neurons, centrifugal conduction in sensory, (39) 1701
Endocardial and exocardial murmurs, (92) 533
Endocarditis, (65) 1676
acute, (43) 896
acute or infective, (59) 610
malignant, acute and chronic forms of, (75) 794
observations on nature and diagnosis of, (96) 477
septic, treatment of, (67) 1113, (147) 1272
tuberculosis and, (81) 275
Endometritis, intra-uterine medicator for, (144, 160, 162) 669
Endothelioma compressing spinal cord, (28) 1476
of serous cavities, (161) 1536
Endovesical surgery with reference to cystoscopy and ureter catheterism, (114) 422
End-to-end approximation of broad ligaments in abdominal hystero-myomectomy, *805
Enema, death following an, (33) 1179
English army, sanitary service of, (80) 668
Enlargement of hands and feet on neuritic basis, (67) 541
Enteric fever, (169) 611, (126) 1035
fever, feeding in, (102) 484
fever in armies, prevention of, (5) 674
fever in inoculated, (20) 356
fever in warfare, difficulties of preventing, (6) 903
fever, milk or whey in, (14) 903
or typhoid fever, (143) 275
Enteritis, pathologic report of case of, with anemia, (137) 422
pathologic anatomy of, (77) 904
Entero-colitis, muco-membranous, (25) 541
Enterolith, obstruction of bowels by, (49) 200
Enteroptosis and pregnancy, (56) 1671
as cause of movable kidney, (17) 483
clinical and pathological observations of, (56) 1106
costal signs of, (66) 1676

Enteroptosis, surgical treatment of, (171) 1593
with reference to displacement of colon, (57) 1106
Enterorrhaphy by Connell suture, (112) 1035
Enucleation forceps, a new, (120) 477
simple method of suturing tendon in, (95) 1535
Enuresis, (115) 275, (113) 1107
and pollutions, nocturnal, treatment of, (73) 736
in children, difficulties of treating, (165) 669, (98) 841
in females, suggestion for treatment of, (16) 356
nocturna, urotropin for, (80) 422
Enzymes in tetanus cultures, (91) 1187
proteolytic, diffusion of, (107) 1114
reversibility of, *220
Eosolate of silver for urethritis, (44) 668
Eosinophile cells of blood, (148) 275
count, value of, in diagnosis of human blood, (22) 727
Eosinophilia, cases of, (148) 275
Epidemic, mild, of uncertain nature, in children, (61) 727
Epidermis, human, vital processes in, (74) 848
Epididymitis and orchitis treated with guaiacol, (136) 1043
Epidural injections in children, harmlessness of, (60) 1279
method and its indications, (16) 1106
Epiglottis, acute edema of, (92) 200
cystic tumor of, (59) 848
Epignathus, (29) 896
Epigrams, surgical and medical, (99) 786
Epilepsy, (66) 200, (1) 275, (50) 1470
a case of Jacksonian, (84) 1271
and retrograde amnesia, (35) 1405
bromocol in, (58) 794
choreic, operative treatment of, (40) 1701
dietetic treatment of, (60) 483
dormiol in, (106) 1477
due to large exostosis of skull, (138) 1107
etiology, pathology and treatment of, *1126
injury to cranial bones before closure of fontanelles causing, (80) 728
Jacksonian, (159) 897
nasal vertigo and, (54) 971
serotherapy in, (35) 786, (24) 841
some phases of, (97) 728
symptomatic, with circumcision and recovery, (92) 350
traumatic, with adhesion of skin to brain, (2) 1599
trephining in cortical, (72) 1477
two cases of, (43) 200
with night terrors, impellant ideas, etc., (58) 421
with stigmata of degeneracy, (47) 1470
Epileptics, education of, (13) 970
Epinephrin, simple method of preparing, (81) 786
to Fehling's solution, behavior of, (45) 61
Epiphyses, traumatic detachment of, (28) 735
Epiplopexy in cirrhosis of liver with ascites, (77) 963, (163) 964
Episiotomy, advantages of, (19) 274
fomentations and, (11) 128
Epistaxis, (115) 1107
recurring, family form of, (44) 61
rheumatism as cause of, (15) 735
Epithelioma amputated from penis, (104) 201
case of, treated by scraping and healed by x-ray, (6) 1404
cutaneous, x-ray treatment of, (2) 421
of upper lip, (68) 1698
Epithelium, metaplasia of, (45) 1042
Epityphlitic abscesses, treatment of, (125) 1043
Ergographic studies on epileptics, (125) 1478
Ergotin as prophylactic and specific in puerperal fever, (56) 794
Erie county, century of medical history in, (157) 534
Eruptions associated with malarial infection, (64) 963
from juice of certain trees, (47) 1676
Eruptive fevers, ecthol in treatment of, (45) 1034
Erysipelas, bacteriology of, (22) 1179
facial, (167) 534
in negro, (2) 476
in red light, treatment of, (78) 1187
phlegmonous, of arm, requiring amputation at shoulder-joint, (47) 476
some clinical characteristics of, (133) 1471
Erythema exudativum multiforme bullosum, case of probable, (175) 1329
following injection of antidiphtheria serum, (114) 728
in infectious diseases, (64) 904
induratum scrofulosorum, nature of, (121) 129
intermittent scarlatiniform, (28) 1477
scarlatiniform desquamativum recidivans, (120) 1406
Erythrocyte, studies of granular degeneration of, (61) 1398
Erythroderma, congenital ichthyosiform, with hyperepidermotrophy, (18) 674
Eserin in intestinal atony, (26) 1535
Eskridge, J. T., his extra-professional life, (70) 668
Esophagoscopy, (68) 356
Esophagotomy, internal, of Abbe sawstring method, (50) 61
Esophagus and stomach, primary sarcoma of, *392
artificial, (34) 675
differentiation and treatment of affection of, (110) 971
dilatation of, (31) 1187
foreign bodies in, (171) 534, (48) 1271
foreign body in, (5) 1278
idiopathic dilatation of, (21) 421
stricture of, (44) 274
stricture of, gastrostomy and retrograde dilatation of, (50) 61
study of idiopathic enlargement of, (69) 541
thiosinamin in stenosis of, (67) 794
traction diverticulum in, (71) 675
ulcer of, diagnosed as tuberculosis, (5) 727
Estivo-autumnal fever, bilious remittent, (135) 1536
malarial infection, cases of, (21) 1179
Ether, (161) 422
anesthesia, mentholization of air-passages in, (176) 1329
"Rausch" in operating, (42) 1113
Ethics, medical, (20) 970
of the medical profession, the, (85) 1398
professional, (30) 128
Ethyl chlorid narcosis causing alterations in nerve centers, (69) 848
Eucain and cocain, experimental and clinical research into, *491
Eucain-B, influence of, on gustatory organs, (80) 1542
Europe, observations in, (105) 728
European clinics, recollections of, (87) 963, (121) 1470
eye hospitals, visit to some, (105) 61
Eustachian tube, electro-bougie in treatment of, (116) 1272
Examiners, a voluntary board of, *1215
Exanthem in varicella, abnormal development of, (108) 1477
Exanthemata, infectious, diagnosis of, (48) 1106
Exclusion of intestine as preliminary to extirpation of cecal tumor, (99) 1042
Exophthalmic goiter, serum treatment of, (55) 1701
Exophthalmos and loss of eye due to blow on temple, (48) 1535
Exostosis of femur due to traumatism, (36) 610
Expectorant, antispasmodic, (155) 1035
Expectoration in Cleveland, observations on, (95) 1034
Exploratory operations, (161) 129
Exposure to cold, effects of, (71) 484
Expulsion, both too rapid and slow, should be prevented, (8) 128
Exstrophy of bladder, (137) 62
Extremities, study of disease of, affecting young cattle, (67) 971
Exudates, mast-cells in, (65) 675
Eye as factor in medical diagnosis, (100) 1106
commoner diseases of, (136) 62, (137) 275, (118) 1035, (120) 1672
complications of measles, (25) 1470
defects which may cause mental dulness and deficiency in children, (39) 727
diseases due to abnormal conditions of circulatory system, (26) 61
examination of, for general purposes, (107) 963
foreign bodies in, (95) 200, (143) 1107, (127) 1536, (32) 1592
foreign body in, for 26 years, (82) 1034
hospitals of France, Germany and England, (149) 964
mechanism of movements of, (32) 970
muscles, test for equilibrity of, (17) 895
when not to operate in anomalies of extrinsic muscles of, (114) 1107
Eyeball, first treatment of penetrating wounds of, (91) 422
histologic description of, (109) 129
penetrating wounds of, (148) 728
perforating wounds of, and sympathetic inflammation, *1421
spontaneous rupture of, (30) 421
Eyelid, chancroid of, (4) 841
syphilitic ulcer of, (84) 1034
Eyelids, noma of, in infant, (121) 275
plastic surgery of, *763
Eye-glasses, saddle bridge, (92) 1535
Eye-magnets, investigations on, (53) 1535
Eyes and ears, examination of school children, (84) 128
Eye-strain, (119) 842
as cause of persistent headache, (126) 1272
as a cause of gastro-intestinal neuroses, (149) 1471
symptoms of, (137) 728
Eye symptoms, diagnostic value of, (136) 129
troubles due to affections of the teeth, (130) 275

Face and nose, deformities of bones of, (83) 1671
Facial epilepsy, focal, (25) 1698
expression in disease, (90) 1179
expression, otitic origin of asymmetry of, (31) 794
hirsuties, (112) 1470
paralysis, (88) 1179
Facts vs. fallacies in rectal diseases, (44) 476
Faith cures, comparative physiology of, (22) 1671
Fallopian tubes, aspiration of exudates of, (68) 1279
Fango treatment in Caucasus, (90) 904
Fat, biology of, (67) 356
embolism after fracture, (10) 1404
secreting glands in mouth, (57) 1541
Fatty degeneration, evolution of, (73) 794
Faults of medical men, (93) 200
Favus, ringworm and, (58) 61
Febris innominata, (159) 477
Fecal accumulation in lower rectum, (131) 275
Feces, diagnostic value of macroscopic examination of, (60) 896
microscopy of, (39) 1600
Fecundity, decreasing concomitant with progress of obstetric and gynecic science, (28) 349
Feeble-minded and crime, (12) 1599
Feeding, natural and artificial, of healthy infants, (91) 896
of children during their second year, (106) 1470
Fehling's solution, behavior of epinephrin to, (45) 61
Felt hat making, (1) 674
Female bladder, stone in, (15) 1698
breast, growths in, (125) 964
genitalia, connection between dyspeptic disturbances and affections of, (46) 1113
Femur, bony union after intracapsular fracture of neck of, (110) 1593
case of fracture of neck of, (49) 533, (78) 1328
congenital fissure of neck of, (87) 1279
exostosis of, due to traumatism, (36) 610
fractures of upper third of, (17) 1592
sarcoma of, (47) 727
static relations of, (75) 1336
suggestion in treatment of fracture of, (51) 1328
tendency of upper fragment to tilt forward in fracture of upper third of, (21) 476, (34) 668
Feristolo in treatment of tuberculosis, (90) 736
Ferments, primary infantile atrophy, and soluble, (23) 1113
soluble, of blood, functions of, in intracellular digestion, (164) 1471
Ferruginous medication, remarks on, (138) 1536
Fetus, influence of diphtheric toxin on, (68) 904
papyraceus, cases of, (75) 1042
Fever, cerebrospinal, (166) 201
during delivery, etiology of (33) 483
during puerperium, (71) 128
during puerperium, significance of, (107) 669
in childhood, diagnostic value of, (157) 1406
nature of, (51) 617
of Hodgkin's disease, (1) 199
puerperal, (143) 964
continued, nature of, (141) 1107
Fibroid, ectopoid gestation complicating, (139) 201
tumors of helix after piercing for earrings, (129) 275
multiple uterine, complicated by three months' fetus, (83) 1271
strangulation of, during puerperal involution, *642
Fibroids of uterus and broad ligaments, (54) 1671
Fibroma and fibroadenoma of mamma, hyperplasia of connective tissue in, (32) 356
molluscum, case of, (65) 533, (110) 611
of abdominal muscularis, (96) 786
of labium majus, (60) 476
of mesentery, (177) 1329
of soft palate, (172) 1407
of upper dorsal region, (34) 533
Fibromata mollusca, (97) 275
Fibromyoma, hysterectomy for soft, (14) 356
uterine, treatment of, (15) 903
Fibromyomata, clinical evolution and degeneration of, (115) 971
management of, complicated with pregnancy, (41) 727
uteri, operative treatment of, (69) 1698
uterine, operative treatment of, (164) 1478
Fibrosarcoma of uterus, (71) 1271
uterine, (114) 201
Fibula, forward dislocation of head of, (69) 533
Field of vision, the, (43) 1592
Filaria dermarqualii, notes on, (89) 484
Filariasis, condition of blood in, (5) 1112
human, observations on, in Trinidad, W. I., (84) 484
in Calcutta police force, prevalence of, (16) 1113
report of blood in, (123) 534
Filtering apparatus, practical, (71) 971
Finger amputations, (4) 895
to expel the blood from the, (70) 1701

Finger-nails, significance of transverse striæ of, (77) 610
Finsen light and x-ray treatment in lupus and rodent ulcer, (4) 1675
Finsen's light treatment, (79) 1187
phototherapy, brief review of, *919
phototherapy for Oriental sore, (85) 848
Firearms, wounds from, (80) 1279
Fissure of anus in nursling, (95) 1179
Fistula, branchial, study of case of, (163) 1478
cervico-vesico-vaginal, (73) 350
in ano, (123) 1272
in ano and phthisis, (93) 422
influence on organism of artificial, between gall-bladder and intestine, (49) 1600
vesico-vaginal, (98) 275
Fistulæ, intestinal, (54) 668
rectovaginal, new method of operating for, (36) 1671
treatment of recto-perineal and recto-vaginal, by drawing down rectal mucosa, (47) 970
treatment of vesico-vaginal and recto-vaginal, (74) 1179
vesico-vaginal, improved method of closing, (3) 610
Flagellosis, parasitifying, of horses, (175) 1478
Flap treatment of cicatricial contraction, (73) 484
Flash lights, intoxication from chemicals used, (78) 971
Flat feet, weakened, method of treating, (121) 534
Flat-foot, (71) 357
treatment of, (30) 1701
Floating kidney idolatry, (151) 611
Floods, sanitary methods to be adopted after, (74) 841
Fluoroformol, (98) 61
Folk-lore medicine in literature, (163) 1593
Folliculitis exulcerans serpiginosa nasi, (121) 1043
Fomentation and episiotomy, (11) 128
Food factor as cause of health and disease in childhood, (1) 421
intoxication and infection, on outbreak of, (83) 1470
preservatives, (151) 964, (101) 1179, (20) 1698
Foot and mouth disease, nervous system in, (88) 1042
human, arboreal traits in, (89) 1470
intercuneiform bone of, (70) 610
Footwear, proper, (121) 534
proper, and treatment of weakened and flat feet, (12) 349
Forced feeding in tuberculosis, effects of, (8) 735
Forceps, (36) 727
bile-duct, (72) 128
deliveries, two difficult, (40) 610
delivery, some thoughts on indications of, (82) 422
in labor cases, when should we use, (165) 1329
operation in obstetrics, (144) 275
supra-vaginal hysterectomy, (49) 421
Forearm, oblique fracture of, *506
Foreign bodies, free, in pericardium, (31) 1476
bodies in ears, (39) 963
bodies in eye localized by Roentgen rays, (17) 476
bodies in eye, x-ray diagnosis and operation in injuries for, (16) 476
bodies, extraction of, from air-passages, with magnet, (27) 356
bodies in air-passages, (42) 421, (75) 429
bodies in trachea and esophagus, (112) 62
bodies, method of locating, by means of x-ray, (26) 341
body in eyeball, (95) 200
body within the orbit, *1428
Formaldehyd and disinfection, (144) 1329
in germicidal diseases, (120) 728
influence of, on constituents of urine, (134) 1406
Formalin in diphtheria, local application of, (56) 903
in skin diseases, (161) 669
local uses of, (135) 477
upon tuberculous guinea-pigs, effect of, (105) 842
Forman in catarrhal affections, (68) 736
Formol in whooping cough, (48) 735
Fothergill, J. Milner, autobiography of late, (151) 669, (160) 897, (100, 106) 1671
Fourth disease, is there a, (18) 616
disease of Dukes, (28) 1535
disease, rubella and, (25) 1106
Foveæ, vicarious study of, (115) 477
Fowl plague, (69) 971, (41) 1187
Fracture, compound, of skull, case of, (78) 1470
of base of skull followed by meningitis and hemiplegia, (57) 1470
of carpal scaphoid and dislocation forward of the central fragment, (65) 1470
of femoral neck in old man, (35) 1470
of femur, (97) 422
of femur, suggestion in treatment of, (51) 1328
of humerus, treatment of, (56) 786
of internal malleolus and tibia, (160) 534
of neck of femur, (49) 533, (78) 1328
of upper arm by muscular effort, (50) 848
of the upper third of the femur, (17) 1592
unrecognized, (124) 422
Fractures, (138) 201
and dislocations, x-ray in, (134) 201
and resections of long bones and joints, results of personal methods of treating, (32) 1701
complications of, and their management, (155) 275
experimental study of treatment of, (92) 971
in children, unnoticed, (35) 274
influence of, on circulation and temperature, (53) 541
of clavicle, symmetric and ignored, (51) 971
of femur with ambulatory pneumatic splint, treatment of, (170) 534
of long bones of upper and lower extremities, (123) 611
of lower end of radius, treatment of, (171) 1536
of shaft of femur, apparatus for treatment of, (90) 422
of sternum, (164) 787
x-ray in diagnosis and wiring in treatment of, (23) 610
Fraternalism in medicine, (126) 129
Freezing point of body fluids, determination of, by the Beckman apparatus, (153) 1536
French climatic resorts, index of, (29) 735
Frenkel's therapeutic exercises, (45) 903
Friedreich's ataxia, (12) 428
Friends, to my, (70) 675
Frog's heart, study of, (62) 617
Frontal bone, fracture of, (29) 786
lobes, tumors and injuries of, (38) 1701
sinus, empyema of, (66) 841, (34) 1592
sinuses, pathologic conditions dependent on fractures involving, (64) 1671
Frosted heart, (102) 1406
Frozen sections, observations on technic of, (131) 669
Functional tests of hearing, sources of error in, (139) 1471
Fundamental principles of medicine, value and importance of teaching, (75) 1328
Fundus, acid and alcohol-proof, from sputum of case clinically resembling typhoid, (107) 896
Fundus of eye in general diseases, (46) 428
Fundus, uterine, primary carcinoma of, (30) 349
Fungus, atypical acid and alcohol-proof, from sputum of case resembling tuberculosis, (71) 421
Furunculosis, treatment of, (9) 1041
Fussy practice, (135) 201
Future, what of the, *1614

Galactomanometer, a, (95) 1336
Galactorrhea, case of, (34) 476
Gall-bladder and appendix, differential diagnosis between disease of, (19) 1034
and bile-ducts, surgical treatment of results of inflammation of, (81) 963
and bile passages, analysis of operations on, (83) 1328
and duct operations, technic of, (64) 274
and ducts, surgery of, (18) 610, (14) 668
diagnosis and treatment of associated diseases of, (144) 1536
diseases of, (180) 534
empyema of, (17) 1398
method of suturing, to parietes in gall-bladder operations, *1078
removal of, by Finney's method, (126) 1672
rupture of without injury to liver, (21) 727
surgery of, (45) 896
surgical malposition of, (13) 61
the, (61) 1328
use of, to restore prolapsed liver, (104) 1272
Gall's special organology, (80) 1398
Gallstone ileus, (92) 1042
Gallstones, (91) 350, (50) 727, (46) 1600
cholecystitis and cholangitis, report on subject of, (157) 477
complicated with empyemia of gall-bladder, (33) 476
indications calling for operative interference in, (32) 1179
localization of, in gall-bladder, (162) 201
medical treatment of, (130) 728
surgery of, (18) 1398
with interesting complications, (140) 129
Galvanism and diabetes, (108) 477
as remedy for uterine hemorrhage, (119) 534
Galvano-cauterization, intra-ocular, (59) 1113
Galvano-cautery in ophthalmology, (122) 201
Ganglionary reactions in children, (33) 617
Gangrene, case of moist, (25) 1179
chronic operative cure of, of pharynx, (110) 1406
diabetic, conservative treatment of, (38) 1541
following thrombosis of abdominal aorta and its branches, *1622
of lung, medical and surgical aspects of, (64) 841
of lung with rupture and fetid pleurisy, (113) 534, (109) 611
of lungs, operative treatment of, (44) 794
peripheral, associated with localized disease of arteries, *1370
precipitated by influenza, (3) 727
primary, of tonsils, (12) 1700
pulmonary, (114) 896
pulmonary in infant, (115) 896
senile, of right foot, (139) 964
spontaneous, of both lower limbs in man aged 36, (12) 1476
Gartner's tonometer, use of, (103) 669
Gas, hydrocyanic acid, in public health work, (108) 62
phlegmons in man, (75) 1279
Gas-forming bacillus, new, (152) 1406
Gasserian ganglion, case of removal of, (34) 1106
ganglion, removal of, by Doyen's method, (17) 1541
ganglion operations on, (42) 1042
Gastric acidity, notes on tests for, (27) 1671
affections, (25) 617
affections, surgical intervention in, (98) 904
Gastric conditions found in forty healthy individuals, (23) 1698
diseases, nervous, (146) 669
functional signs, diagnostic value of, (106) 728
functions, new technic for testing, (88) 1477
lavage, (62) 1328
motor function, influence of position of body on, (62) 1600
perforation, supposed, in which no explanation of symptoms was found, (10) 1698
ulcer and perforation, surgery of non-malignant, (10) 1112
ulcer, perforation of, (71) 1398
ulcer, surgery of non-malignant, (10) 1041
ulcers, origin of, (102) 1042
Gastritis, chronic, (107) 1107
chronic non-alcoholic, symptoms of, (10) 1592
chronic, treatment of, (40) 1271
idiopathic acute diffuse phlegmonous, (130) 669
phlegmonous, case of, (172) 897
phlegmonosa diffusa, operative cure of, (53) 1600
pneumococcic case of, (11) 1186
recurrent, (110) 842, (97) 896
Gastro-enteric disturbances, functional, (73) 1179
Gastro-enterostomy, (110) 842
by the Y process, (25) 1335
in pyloric obstruction, (100) 963
indications for, (120) 842
McGraw's method of, (52) 735
posterior, (62) 1279
with enterostomy done with elastic ligature, (4) 421
Gastro-intestinal affections, infantile, (88) 675
disease, anemias secondary to, *812
diseases, modern methods of diagnosis and treatment of, (15) 668
therapy, (54) 274
Gastro-jejunostomy, (143) 129, (148) 1471, (80) 1593
for stenosis of pylorus, *582
Gastropsia in its relation to hyperchlorhydria and tachycardia, (48) 128
Gastroptosis, (101) 786, (61) 1106, (127) 1329, (164) 1536
and gastric motor insufficiency, (96) 200, (22) 421
diagnosis in treatment of, (97) 477
extreme, case of, (6) 1271
Gastroscopy, (68) 356
Gastrostomy, (43) 735
and retrograde dilatation, (50) 61, (165) 201, (19) 533, (168) 534
in infant, (8) 786
Gastrotomy for removal of foreign bodies, (18) 1106
Gauze packing in appendicitis work, disadvantages of, (14) 895
veils for aseptic operations, (25) 1600
Gelanthum in lupus erythematosus, (39) 349
Gelatin as hemostatic, history of, (37) 793
effect of digestion of, on its styptic properties, (2) 1328
good of, (38) 428
hemoptysis treated by subcutaneous injection of, (56) 617
injections, subcutaneous, in melena neonatorum, (65) 356
tetanus germs in, (77) 971
General practice and minor surgery, (100) 275
reading, value of, to young practitioner, (96) 896
Genital apparatus, study of innervation of, (61) 356
prolapse, (69) 786
G. U. Critic, reply to, (121) 1107
Genito-urinary organs, briefs on surgery of, (91) 61, (130) 62, (146) 611
patient, examination of, by general practitioner, *570
Geographical distribution of disease, principles determining, (18) 970, (14) 1186
German measles, scarlet fever and, (18) 616
Gestation, atypical ectopic, (53) 274
early ectopic, remarks on, (33) 349

Gestation, ectopic, (91) 1470, (38) 1671
ectopic, etiology and histology of, (51) 963
ectopic, etiology of, (113) 669
ectopoid, complicating fibroid (139) 201
ruptured tubal, and the physician, (76) 1328
triple ectopic, (3) 199
tubal, with rupture and hemorrhage into peritoneal cavity, (13) 356
Giant, absorption and incrustation of elastic fibers in, (102) 842
cells, notes on absorption and incrustation of elastic fibers in, (132) 897
Giantism, infantile, (67) 200
"Gland fever" in children, (73) 848
Glanders, case of, (129, 141) 669
Glandular fever, (155) 422
Glaucoma, (146) 1593
acute congestive or inflammatory, *1351
acute traumatic, without visible signs of injury, (52) 1535
cases reported to New England Ophthalmological Society since its foundation, (91) 1535
clinical and pathologic report of two cases of, (147) 1593
nature and diagnosis of, (132) 787
notes on visual field in, (148) 1593
prognosis of operation for, (28) 674
resection of cervical sympathetic ganglia in, (13) 1398
simple chronic, cases of, in which operation is unadvisable, (10) 349
subacute of superior and middle cervical ganglia of sympathetic for, (130) 1536
to thrombosis of retinal veins, relations of, (2) 428
unusual case of, (134) 1536
Gleet, clinical notes on, (18) 200, (3) 349
what is, and how is it to be treated, (62) 349
Glioma, subcortical, (12) 61
Glossitis, action of silver nitrate and chromic acid on, *1427
Glycerinated virus, standard, have we a, (5) 476
Glycolysis, (57) 848
critical study of, (44) 356
study of, (38) 541
Glycosuria, alimentary, (140) 477
alimentary treatment of, (55) 1279
and diabetes, (89) 736
and diabetes, surgical aspects of, (4) 1476, (13) 1541
and insanity, (14) 276
following injections of adrenalin, (9) 476
ocular affections associated with, (7) 1179
pancreas and liver affection without, (79) 971
Glycosurics report on acceptability of, (97) 534
Glycosuronic acid, excess of, in diabetes mellitus, (71) 1535
Glycozone, use of, (32) 1370
Goat's milk for infant feeding, (51) 1278
Go-carts for paralysis of legs, (69) 356
Goiter, diagnosis and treatment of various forms of, (7) 1404
etiology of, (75) 533
exophthalmic, (75) 61, (81) 200, (53) 617, (97) 668, (5) 903, (38) 1535, (34) 1600
exopthalmic, illustration of, (14) 847
exophthalmic, pathogenesis of, (94) 1187
exophthalmic, sympathectomy in, (71) 1477
exophthalmic, treated by thyroidectomy, (94) 896
familiar cases of, (93) 477
study of, (81) 1328
traumatic hemorrhage in, (64) 1336
treatment of, (68) 786, (66) 1106, (36) 1470
Gold ball, implantation of, for better support of artificial eye, (1) 349
experiences with salts of, (41) 1328
wire and automatic retractors for herniotomy, (115) 1477
wire in operating on inguinal hernia, (24) 1113
Golgi methods for theory of neuron retraction, (101) 275
Gonococcemia, (181) 1407
Gonococcus, biology of, (64) 971
diagnostic uses of, (24) 1592
Gonorrhea, (37) 668, (65) 1592
abortive treatment of, (55) 1676
acute, (103) 477
cardiac complications of, (86) 1271
chronic, dilating irrigations in treatment of, (72) 61
chronic, efforts and aims in treatment of, in regard to consent to marry, (77) 484
chronic, treatment of, (34) 1335
immunity following and its influence in curing, (93) 963
in female, (29) 421, (156) 964, (146) 1471
modern therapy of, in male, (47) 1106
notes on treatment of, (134) 422
of prostitutes, (38) 1335
prophylaxis of, (33) 1600, (101) 971
prostate gland in, (28) 128
treatment of, (125) 728, (163) 1329, (141) 1536, (54) 1541
treatment of, with reference to bladder irritation, (12) 1186
Gonorrheal affections, unusual, (31) 1600
Gonorrheics, remarks on routine examination of, (155) 129
Gout and obesity, respiratory conditions dependent on, (60) 786
its pathology and prophylactic therapeutics, (109) 422
observations on pathologic forms of, (15) 847
pharyngeal, (25, 33) 1476
spa treatment of, (32) 1106
Gouty and rheumatic patients, what percentage of, develop tuberculosis, (144) 897
Government action re tuberculosis, (75) 200
Graduated responsibility is legal recognition of, practicable, (91) 275
Grancher's spleno-pneumonia, case of, (70) 904
Granuloma, traumatic, of bladder, (80) 1042
Granulose, intestinal bacteria that form, (75) 357
Grape juice, sterilized, (122) 1593
Gray hair and emotional states, (3) 793
Greece, alcoholism in, (85) 675
Greek in medicine, (59) 1470
"Green groin," operations on, (7) 1670
Gregory, E. H., lecture of, (39) 421
remarks on work of, (40) 421
"Ground-itch" and presence of larvæ of ankylostoma duodenale in soil, relation between, (85) 484
"Growing" coxa vara, (48) 1477
Gruppa Pemphigus, (93) 1336
Gualacol in infantile tuberculosis, (44) 128
Guarnieri's vaccino-corpuscles, (22) 1541
Gude's peptomangan, (90) 128
peptomangan in anemia, (158) 669
Gullet, child's, removal of twenty-five-cent piece from, (92) 1593
Gumma of spermatic cord, (139) 534
Gunshot and stab wounds of stomach, (61) 610, (169) 897
wound of right lung, (161) 201
wound of stomach, (32) 476
wounds illustrating emergency service, (60) 274
wounds of abdomen, (60) 61, (107) 129, (97) 350, (151) 534, (118) 1535
wounds of chest, (141) 62
wounds of hip joint by reduced caliber projectiles, (46) 349
wounds of stomach, with report of cases, (4) 1670
wounds on Isthmus of Panama, (5) 1179
Gymnastics, respiratory, (15) 727, (10) 895
Gynecic practice, local treatment in, (6) 274, (170) 1593
Gynecologic conditions, medicinal treatment of some, (72) 1179
operations, consideration of sequelae of, (47) 1592
pathology, report of, (99) 1470
Gynecologic patients, office treatment of, (138) 477
patients treated with peptomangan, (152) 129
practice among insane, (68) 128
patients, general treatment in, (62) 476
practice, unusual conditions in, (116) 669
Gynecology, contemporary, (82) 610
remarks on conservative, (106) 1180
sketch of evolution of, (156) 611, (168) 897

Haab magnet, observations on, (102) 611
giant magnet, (49) 610
"Habit tic," case of, (80) 1106
Hahnemann, S., teaching and influence of, (154) 1329
Haines' and Purdy's solutions in rapid sugar testing, *317
Hair, changes in color of, (98) 1279
trophic disorders of, (30) 1675
trophoneurosis affecting the, (34) 128, (100) 201
pin, surgical uses of, (4) 1033
Half-hitch suture, (118) 669
Hallucination, a, (105) 963
Hallucinations, (23) 61
and illusions, (70) 896
Halsted's operation for cancer of the breast, modification of, (121) 963
Halux varus, (82) 1336
Hand, infected wounds of, (32) 786
"Hanging block" for microscopic examination of developing bacteria, (136) 897
Harelip, (104) 350, (63) 727
malformation and speech defects due to or associated with, *169, *237
Hay fever, (158) 201, (48) 786
and asthma, nasal surgery for, (42) 476
fever, immunization treatment of, *1684
study of cases of, (63) 1541
Hay's reaction for bile salts, (3) 970
Head, case of injury of, (28) 61
healed bullet wounds of, (64) 1187
injuries to, (124) 201
presentation on, prolapse of foot in, (156) 1406
sections showing relation between nose and accessory cavities, (126) 477
Headache, (107) 350
nasal conditions causing, (69) 1593
Headaches, functional, (105) 422
Head-tetanus following eye-injury, (52) 841
Health of girls, effects of school upon, (21) 1106
of the people, the, (13) 847
officer of Jefferson county, report of, (134) 1272
Hearing chart, new field of, (85) 1671
sources of error in functional tests of, (139) 1471
tests of Chicago school children, results of, (54) 1271
Heart affections, diet in certain, (71) 841
affections in syphilis and gonorrhea, (15) 483
affections, treatment of rheumatic, (63) 1113
apex of, and its vicinity, (42) 1405
autochthonous dislocation of, (50) 1676
beat, influence of heating and food on, rapidity of, in fasting animals, (108) 1114
best methods of outlining, 52) 1113
blood pressure under influence of acute overstraining of, (9) 1271
congenital disease of, (3) 903
chronic muscular diseases of, (116) 963
determination of outline of right, by auscultatory percussion, (35) 1600
dilatation of, (107) 1399
dilatation of, in children, (19) 428
dilatation of, in rheumatism, (9) 1700
disease, chloroform anesthesia in, (26) 735, (23) 793
disease, chloroform in, (21) 847, (29) 970
Heart disease, complications in, resulting from, (110) 1399
disease, congenital, (112) 896
disease, valvular, in relation to pregnancy and labor, (111) 534
diseases, lung complications due to, (108) 1399
diseases, on treatment of, (101) 611
enlargement of, (27) 1476
future role of experimental medicine in study of action of, (86) 904
hypertrophied and dilated, prognosis and treatment of, (17, 18) 428
hypertrophy and dilatation of, (14) 428
hypertrophy of the, (106) 1399
in diseases of lungs, (15) 727
largest recorded aneurism of, (130) 129
lesion, congenital, (44) 610
mammalian, activity of, with more modern conception of diseases of, (49) 841
murmur, anemia, normal salt gaseous infiltration, (55) 1477
solution in, (102) 533
murmurs, physiological, produced by electric-light bath, (8) 1033
murmurs, posture and, (2) 903
muscle and heart valves, relative importance of diseases of, (39) 200, (100) 534
neuroses of the, *1345
of the child, the, (7) 540
organic disease of, pneumatic differentiation of treatment of, *700
practical thoughts on diseases of, (103) 129
spontaneous rupture of, (111) 611, (20) 1106
stoppage of, in death from violence, (116) 534
stimulants in acute diseases, should we use, (117) 842
strain, (77) 1671
strain, (11) 274
strain in life insurance, (91) 533
study of, by means of orthodiagraph, (62) 356
surgery of, (14) 1328, (22) 1042
suture of stab wound of, (40) 963
traumatic affections of, (81) 1187
valvular affections of, induced by muscular effort, (24) 1600
wounds of, (179) 534
wounds, suture of, (3, 7, 18, 39) 1698, *1560
Hearts, hypertrophied and dilated, (20) 428
Heat in therapeutics, application of, (36) 793
proportions between, emitted and surface of body, (27) 541
stroke in the tropics, (132) 1043
Hebrew insane, notes on, (71) 896
Hedonal as hypnotic, (104) 896
further contributions on, (128) 1536
in treatment of insomnia, (55) 274
study of, (169) 1478
Helix, fibroid tumors of, after piercing for earrings, (129) 275
Helmholtz contribution to physical science, *562
contributions of, to physiology and psychology, *558
debt of otology to, *561
a few personal recollections of, *557
Helminthiasis, chorea and, (80) 484
multiple paralysis and, (175) 1407
Hemagglutinins of normal sera, (80) 357
Hematemesis in pernicious anemia, (53) 1592
normal saline solution in, (5) 1041
Hematologist, the clinician and, (55) 786
Hematology, (107) 201
Hematoma, intra-peritoneal retro-uterine, (142) 728
of ovary, (39) 610
retroperitoneal, simulating torsion of ovarian cyst, (126) 1043

Hematoporphyrinuria, case of, (6) 1469
Hematuria, (140) 422, (2) 1179
from movable kidney, (41) 786
"idiopathic" or congenital hereditary and family, (14) 1405
malarial, (171) 477
Hemianesthesia of over eight years' duration, (70) 841
Hemiathetosis, pathologic anatomy of, (58) 356
Hemiatrophy, facial, (11) 199
lingual, (153) 201
Hemicephalia and hereditary syphilis, (91) 904
Hemichorea and parotitis complicating diabetes, (15) 276
Hemihypertonia postpapoplectia, (53) 1398
Hemiparesis, hysteric, with Bell's palsy, case of, (92) 1034
Hemiplegia associated with complete hemianesthesia and unilateral muscular atrophy, (95) 350
hysterical, treated with suggestion, (31) 200
infantile, (99) 1406
problem of, (54) 1676
with aphasia, (65) 200
varieties and treatment of, (41) 1535
Hemiplegic contraction, etiology and physical treatment of, (58) 541
Hemoglobin, escape of, from corpuscles treated with sublimate, (104) 1477
from blood corpuscles, escape of, (58) 617
Hemoglobinuria, (63) 1187
basophilic granulations in reds in, (131) 1043
Hemolymph gland of sheep and goat, changes in, produced by splenectomy, (86) 1470
Hemolysis, demonstration of, (157) 1536
practical application of, (41) 1541
by salts, checking, (61) 541
experimental study of, (63) 356
produced by certain bacteria, (12) 674
Hemolytic experiments, methods of conducting, (11) 674
substances, (30) 541
Hemophilia, remarkable loss of weight in, (70) 728
treated with calcium chlorid, (13) 1476
Hemoptysis, (54) 1034
parasitic, (58) 1271
treated by subcutaneous injection of gelatin, (56) 617
treatment of, (138) 1406
tuberculous, treatment of, (79) 1600
Hemorrhage, (143) 422
case of, persisting notwithstanding curettage, (10) 1106
cerebellar, (50) 533
cerebral, (101) 963
cerebral, management of, (22) 610
fatal, in chronic portable congestion, (101) 1406
gastric, and perforation, surgery of, (46) 200
gastric, is operation indicated in, (112) 1043
puerperal, (14) 1534
puerperal, after-care of, (32) 1405
resulting from caries of temporal bone, (130) 1406
secondary, on fifth day after tonsillotomy, (141) 1471
severe vaginal, (153) 129
treated with suprarenal capsule, (30) 200
urethral, in gonorrhea, (13) 1675
uterine, galvanism as remedy for, (119) 534
Hemorrhages, alveolar, during pregnancy, (64) 476
from rupture of pregnant tube, (10) 483
nasal and uterine, method of controlling, (112) 728
Hemorrhagic diathesis, the, (89) 1179
typhoid fever, (20) 421
Hemorrhoids, after-treatment for operations for, (60) 1671
considerations of operations for, (38) 610
injection treatment of, (96) 61
operative treatment of, (55) 1271
internal, new method of removal of, under local anesthesia, *1076
Hemorrhoids, internal, treatment of, (5) 962
new operation for, (118) 611, (31) 1541
results of Langenbach's operation for, (79) 1279
treated by arsonvalization, (64) 736
Hemostasis, electrothermic, in vaginal hysterectomy for cancer, (20) 1534
of the broad ligament, *1501
Henoch's purpura, case belonging to erythema group of, (7) 1328
Hepatic insufficiency, (20) 841
lesions in infancy, (56) 1398
Hepatitis suppurativa, (36) 1535
Hepatopexy, case of, and fixation of movable kidney, *1294
hepatoptosis and, (29) 1042
Hepatoptosis and hepatopexy, (29) 1042
Hereditary dangers and radical remedies, (58) 1671
Heredity, (74) 350, (31) 610, (131) 897, (65) 1328, (138) 1329
and environment, duties of physician with regard to, (147) 728
in bilateral cystic kidney, (23) 1671
in odors, (58) 1405
in relation to movable kidney, (33) 970
law of, (37) 421
problem of, *388
study of, (27) 1698
what shall we do with, (94) 1329
with study of statistics of New York state hospitals, (76) 1593
Hermann's sinus, cystic degeneration of, and genesis of anal fistulæ (105) 1042
Hermaphrodite, dubious sex of, (79) 1042
Hermaphroditism, (25) 1476
lateral, (48) 356
Hernia, (115) 842
and accident insurance, (85) 728
case of diaphragmatic, (24) 1271
congenital factor in, (11) 1675
femoral, Bassini's operation for, (147) 129
gangrenous, (65) 1336
gangrenous umbilical, cured by resection of liver, (76) 1279
in relation to life insurance, (84) 728
incarcerated, (77) 1279
incarceration of appendix in, (28) 1701
indications for operation in, (149) 477
inguinal, best operation for radical cure of, (16) 1700
inguinal, improvements in operation of, (13) 1599
inguinal, radical cure of, (18) 1675
inguinal, radical operation for, (42) 1671
inguinal, the preferable operation for, (173) 1329
inguinal, unusual complication of, (23) 1034
inguino-interstitial, (20) 483
injection method in, (94) 61
irreducible and strangulated, (48) 533
left cecal, statistical study of, (93) 129
new method of dealing with peritoneum in operations for, (11) 793
obturator, of bladder and Fallopian tubes, (57) 128
of Meckel's diverticulum (102) 1271
phlegmon around, (65) 794
radical cure of, (97) 1034
radical cure of umbilical and ventral, in adult, (84) 422
retroperitoneal, (77) 675
right cecal, complicated by hydrocele and suppurative appendicitis, *1075
ruptured umbilical, (21) 727
service view of, *870
strangulated, (40) 128, (48) 421, (71) 476
tic family, a, (36) 841
umbilical and cicatricial, operation for, (38) 1600
ventral, cause and prevention of, (18) 533
umbilical, (34) 786
Herniotomy, (127) 1471
Herniotomy, emergency, with secondary enterostomy and occlusion of portion of ileum, (81) 668
gold wire and automatic retractors for, (115) 1477
Heroin, (94) 841
action of, (66) 1279, (90) 1600
clinical notes on, (143) 201
hydrochlorate, remarks on, (44) 421
Herpes of male urethra, recurring, (103) 1477
tonsurans and favus in children, Roentgen treatment of, (78) 904
zoster and its relation to internal inflammations, (66) 533
zoster ophthalmicus, (86) 128, (24) 963
zoster, origin and nature of, (85) 275
Heterakis perspicillium, pigeon epizootic due to, (49) 1187
Heterophoria, new use of prisms in, (115) 787
High altitudes, need of food at, (58) 1600
temperature in toxemias of young children, (159) 787
temperature, significance and treatment of, (141) 964
Hip disease, early diagnosis and treatment of, (42) 668
excision of, for congenital dislocation, (35) 1271
traumatic perineal dislocation of, with dissection of joint, (97) 484
joint, bloodless treatment of congenital luxation of, (43) 1477
disease, (82) 1671
disease, treatment of, (58) 349
dislocation, old, (55) 1106
dislocation, the bloodless treatment of congenital, (73) 1336
hemostasis in disarticulation of, (11) 1179
luxations of in coxalgia, (25) 1113
method of detaching, (106) 1043
spontaneous luxation of, in acute infectious diseases, (109) 1043
subluxations in congenital dislocation of, (93) 1279
Hip joints, anchylosis of both, (112) 971
Hippocratic finger in cirrhosis of liver, (7) 483
Hippus, (11) 962
Hirschberg's hand-magnet, (49) 610
Hirsuteness, example of universal, (11) 1041
Hodgkin's disease, case of, (156) 1536
disease, etiology of, (63) 1328
disease, fever of, *648, (1) 199
Homeopathy and modern medicine, (60) 1113
what we can learn from, (44) 970
Hookworm, new species of, (1) 1398
Hospital for Insane at Independence, Iowa, work in, (73) 896
management in relation to medical profession, (20) 847
Hospitals and universities in the U. S., (50) 1278
for insane in N. Y., proposed change in, (1) 610
of London, Paris and Berlin, reminiscences of, (107) 62
of Manila, brief description of, (53) 1106
our, *759, (108) 1272, (99) 1336
Hot air in rheumatism, gout and sciatica, (48) 903
Hotel Dieu Hospital, clinical cases in, (125) 534
Hour-glass contraction of stomach, specimen of, (140) 669
contraction of uterus and retained placenta, (134) 534
stomach, (69) 1470
Human fetus, urine of, (106) 1279
milk, new differentiating reaction of, (67) 617
serum, iso-agglutinating action of, (171) 897
viscera, weights of, (17) 793
Humerus, forward luxation of, (104) 971
luxation of, (70) 1279
Humerus, supracondyloid fracture of, (142) 1034
treatment of fractures of anatomical neck of, (18) 1034
treatment of fracture of, without coaptation splints, (56) 786
Hydatid fluid, freezing point of, (40) 970
Hydrarthrosis, early syphilitic, (24) 617
intermittent, (44) 1600
Hydrencephalocele, case of, (23) 476
Hydriatic procedure, simple, (89) 1593
Hydrocele, (112) 422
and hematocele, radical cure of, (21) 1405
double, in infant, (73) 275
radicale cure of, by minute injections of carbolic acid, (9) 962
Hydrocephalus, (35) 727
from obliteration of aqueduct of Sylvius, (30) 848
idiopathic internal unilateral, with recurrent hemiplegic attacks, (75) 896
Hydroa gestations due to staphylococcus albus, (17) 356
Hydrogen dioxid for lavage of intestine, (25) 356
dioxid, uses of, (113) 350
peroxid in lupus vulgaris, (7) 735
Hydrophobia, (113) 201, (51) 1671
and the Pasteur method, (27) 1328
experiences with, (84) 675
is it a myth, (97) 841
to fetus, non-transmission of, (83) 675
Hydronephrosis, acquired, (90) 350
Hydrotherapy, (89) 786
in neurasthenia, (58) 841
in tuberculosis, (91) 971
practical experience with, (16) 841
principles of, (3) 1271
scientific, (51) 541
scientific, and courses of mineral waters, (54) 483
Hygeia, (33) 786
Hygiene, a question of public, (73) 904
expositions, arrangements of, (119) 1043
report of committee on, (80) 786
Hygienics of the schoolroom, (154) 1471
Hymen, imperforate, case of, (86) 841
Hyoid region, tumors of, (66) 1336
Hyperemia, application of artificially induced, (65) 1113
Hyperkeratosis lacunaris pharyngis, (34) 903
Hyperextension, chronic arterial, potassium nitrate in, (96) 1406
Hypernephroma of kidney, malignant medullary features of, (84) 1470
Hyperopia and conical cornea, (118) 275
Hyperplasia of the nasal mucous membranes, case of, (140) 1471
Hyperplastic tissue, recurrent, in orbit, following enucleation, (45) 1470
Hyperthermia, (56) 1405
nervous, (78) 1600
Hypertrophy, cardiac dilatation and, (16) 428
chronic prostatic, (2) 1675
compensating, of kidneys, (38) 617
lecture on prostatic, (142) 1329
of the heart, (106) 1399
of heart, role of nephritis in production of, (29) 541
of prostate, (96) 963
of prostate, fatal false passage in, (87) 477
of prostate in absence of testicles, (124) 62
prostatic, (28) 1271
prostatic, diagnosis and operative treatment of, (25) 1271
prostatic, nature of, *1051
prostatic, radical cure of, (42) 1676
prostatic, relation of, to hemorrhoidal operations, (155) 1329
prostatic, suprapubic drainage and myomectomy in, (11, 48) 668

Hypertrophy, prostatic, surgical treatment of, (46) 1106, (13) 1592
Hypnotic, an efficient, (111) 350
new, clinical observation on, (76) 476
Hypnotics, use and abuse of, *873
Hypnotism in treatment of morphin habit, (5) 1469
Hypnotism, therapeutic value of, (4) 199
Hypochondria, (33) 533
Hypochondriasis, hysteria, neurasthenia and, relations and distinctions of, (60) 841
Hypothesis, experiment of extirpation of, (57) 1676
Hysterectomies, (115) 611
recovery following, (66) 128
ten, (102) 1107
two, for fibroid tumor, with marked anemia, (97) 1470
Hysterectomy, abdominal, for cancer of uterus, (11) 847
abdominal, for fibroma, with a five-month gravid uterus, (89) 668
abdominal, for rupture of uterus, (113) 1043
and removal of fetus, (15) 349
contrasted cases of, (11) 276
for soft fibromyoma, (14) 356
in puerperal infection, (113) 1279
supravaginal, for fibroids, after-histories of cases of, (12) 541
two unique cases of, (22) 1398
vaginal, (53) 896, (128) 1043, *1686
vaginal, for cancer, in pregnancy, (70) 1271
vaginal, with four and one-half months' pregnancy and closed cervix, (61) 476
vaginal, why it should be done in early history of cancer of uterus, (93) 1470
Hysteria, (105) 1272
anomalies in gait and attitude of, (96) 1279
apomorphin in, (17) 541
association of, with insanity, (55) 896
etiology and treatment of, (14) 1698
in nose, throat and ear disease, (62) 841
in the male, (44) 1398
psychological study of, (41) 1698
study of, (52) 428
throat reflexes in, (42) 1335
with insanity, association of, (67) 728
Hystero-epilepsy, (20) 1600
Hystero-myomectomy, abdominal, end-to-end approximation of broad ligaments in, *805

Ice-pack, the, (33) 727
Ichthargan, (88) 1671
Ichthargan in gonorrhea, (64) 1113
Ichthyol in tuberculosis, (103) 201, (118) 842, (27) 903
in venereal catarrh, (75) 848
Ichthyosis, (77) 896
hystrix, (90) 1535
Icterus, biliary capillaries in pathogenesis of, (146) 1406
pregnancy, (104) 1406
Idiocy, amaurotic family, (165) 477
Idiot, Mongolian, little finger of, (45) 128
Ileocecal valve, (72) 1542
Ileum, invagination of, following appendicitis, (56) 274
Ileus, pseudo-ileus, sepsis, (42) 483
treatment of, (61) 675, (93) 971, (28) 1600
Illusions, hallucinations and, (70) 896
Imbecility, Monoglian, case of, (91) 1271
Immigration, influence of, on trachoma in U. S., (70) 1671
Immune serum, bactericidal, (61) 1336
Immunity, duration of, by diphtheria antitoxin, (174) 1593
natural, study of, and bactericidal sera, (63) 541
new form of, (77) 1542
research on nature of, (69) 1600
Immunization with immune substances, (44) 1187
Impetigo contagiosa, (95) 129
Impotence from abuse of tobacco, (22) 1600
varicocele, hydrocele and other genito-urethral disorders, (153) 787
Impotency, sexual, electric treatment of, (34) 848
with theory, comments and cases, (118) 1470
Incision in vaginal section, (77) 128
Pfaunenstiel's high transverse, of fascia, (88) 1405
Incubator baby, feeding of, (150) 787
Index of diseases with their modern treatment, (159) 129, (115) 1035, (146) 1536
Indian medicine, (87) 1329
the civilized, (12) 786
Indians and French Canadians, medical facts and usages among, (93) 1399
Indican, quantitative determination on, (105) 1406
Indigestion, intestinal, (114) 1180
Induction-galvano-faradism, (164) 669
Industrial accidents in Germany, (35) 1278
Inebrity, clinical data relative to, (107) 477, (36) 1592
dementia preceding and following, *307
medical care and treatment of, (21) 128
pathologic, (121) 896
study of, (120) 896
Infancy, hepatic lesions in, (56) 1398
Infant feeding, (96) 422, (57, 60) 1042, (48) 1336, (22) 1592
feeding, artificial, (38) 727, (142) 1471
feeding, buttermilk in, (49) 483
feeding, problems in, (110) 1035
feeding, rational, progressive principle in, (105) 1470
incubation with presentation of new incubator, (90) 477
mortality, causes of, in institutions, (58) 1042
small, its curve of weight, (102) 1336
Infants, arrangement of hospitals for, (55) 1042
in institutions, care of, (63) 1042, (99) 1279
Infection and auto-infection, (58) 736
and contagion, (82) 1271
mechanical protection against, (45) 617
of breast during lactation, management of, (118) 422
Infections, remarks on, (136) 477, (156) 787
Infectious diseases, etiology of, (38) 483
diseases, evolutionary aspect of, with reference to local venereal diseases, *1287, *1366
fevers in Mexico, (81) 484
Infective diseases, review of literature on, (71) 533
"Infective endocarditis" treated by antistreptococcic serum, (10) 1476
Infective material, investigation into, of dwellings of consumptives, (127) 669
Inflammation and sclerosis, (17) 274
Inflammatory processes and neoplasms of bones, differentiation of, by Roentgen rays, (53) 128
Influenza, (165) 964, (54) 1328
and coughs, treatment of, (104) 963
ear complications and sequelæ of, (27) 274, (27) 896, (113) 1329
infantile, (126) 1406, (132) 1471
surgical complications of, (29) 1600
treatment of, (51) 896
unusual complication of, (10) 356
Inheritance, theories of, (5) 275
Inhibition and hypnotic states, (73) 1701
in normal and pathologic phenomena of life, (32) 1671
Injuries, desperate, what is our plain duty in, (105) 350
Insane, acutely, outline of care of, (23) 668
aged, resistance of blood corpuscles in, (70) 794
asylums in Denmark, (22) 793
bed treatment of, (52) 786
criminal, the, (96) 275
examination of stomach contents in, (93) 275
glycosuria in, (105) 1279
Insane, identification of, (103) 275
mother, subsequent history of children born of, (11) 1541
state care of, (1) 1106
twentieth century methods of provision for, (67) 896
Insanity, (121) 728
acute syphilitic, (51) 668
and alcohol, (17) 61
and crime, (125) 1272
and poisons, (69) 476
as it concerns the general practitioner, (123) 842
borderland of, (38) 1328
cure of, by surgical removal of nerve irritation, (97) 786
emotional or impulsive, (43) 476
etiology and prophylaxis of, (78) 1671
glycosuria and, (14) 276
home treatment of, (87) 275
importance of heredity as cause of, *371, (90) 668
in the army, (35) 970
influence of acute disease on, (144) 1035
pathology of, (74) 896
puerperal, (4) 847, (7) 903
simulation of, (107) 422, (113) 738
static electricity in, (16) 1328
sympathetic, in twin sisters, (43) 1328
what it really is, (91) 610
Insects, relation of to spread of disease, (99) 422
Insomnia in everyday practice, (99) 129
massage in treatment of, (87) 904
simple nervous, management of cases of, (170) 1536
treatment of, by hedonal, (55) 274
various types of, (114) 963
Inspection of meat and cattle by Bureau of Animal Industry of U. S., (141) 201
Insufficientia pylori as sequelæ of chronic gastritis, (27) 1535
Intemperance and life insurance, (49) 1470
Interlobar pleuræ, radioscopic examination of, and diagnosis of sclerosis, (39) 848
Internal secretion of certain glands, morphology of, (79) 904
table, fracture of, with laceration and contusion of temporal and sphenoidal lobes, (38) 841
Intestinal anastomosis, (13) 1698
anastomosis, instrument for facilitating, (82) 963
approximation, mechanical vs. suture methods for, (66) 274
disorders in infancy, causes of, (128) 1406
exposure, immediate effects of, (47) 1398
invagination, spontaneous cure of, (81) 848
mucosa, research on toxicity of, (26) 1187
obstruction, *707, (54) 1106, (96) 1271, (134) 1471, (35) 1698
obstruction due to gallstones, (13) 533
obstruction from malignant disease, treatment of, (5) 616
obstruction, supposed, due to vascular lesion, (10) 1675
obstructions by bands, (18) 1592
occlusion, acute, in children, (125) 1406
putrefaction with varying diet, (83) 1187
sand, contribution to study of, (8) 847
stenosis, segment of intestine above an, (52) 971
suture, (72) 1470
toxemia to arteriorenal disease, relation of, (67) 1179
wall, changes in, after incarceration, (69) 1336
Intestine, abnormal development of, and obstruction of bowel, (126) 422
and stomach, large balantidium infection of, (168) 1478
chronic hyperplastic tuberculosis of, (61) 200
exclusion of, (49) 356, (26) 1600
large, deformities of, (70) 1477
large, sarcoma of, (120) 129
Intestines, extensive resection of, 1477
Intestines, injuries of, (154) 1406
movements of, studied by Roentgen rays, (67) 610
worms in, (133) 534
Intraabdominal operations, shock of, (105) 201
Intracellular digestion, function of soluble ferments of blood in, *1123
Intracranial lesions, (14) 274, (117) 1399
Intramedullary degeneration, significance of, (150) 1536
Intraocular diseases, chronic, new method of treatment, (68) 1671
Intraspinal cocainization, analgesia by, (133) 1107
Intraspinal injection, further observations on, (134) 477
Intratracheal medication in diseases of respiratory tract, (44) 1271, (101) 1535
Intrauterine injections, contra-indications for, in inflammation of adnexa, (167) 1478
Intubation, prolonged, *750
stenosis, operative avoidance of, in larynx and trachea, (116) 1406
Intubations of larynx, observations on, (156) 129
Intussusception, (40) 727, (98) 963, (23) 1278, (18) 1476
Invalid's restaurant and catering establishment, (56) 541
Iodic purpura with fever, (144) 422
Iodin in arteriosclerosis, explanation of action of, (95) 1477
reaction, for bacteriologic diagnosis, importance of, (76) 357
Iodoform and carbolic acid intoxication, (65) 476
poisoning, case of, (160) 422
Iodophilia, (64) 610
Iodyloform in inguinal lesions, value of, (92) 1477
Ipecac in dysentery, (149) 1329
Iridocyclitis, case of syphilitic, (66) 963
Iris, circular rupture of, (117) 275
dermoid cyst of, (77) 786
primary sarcoma of, (51) 841
Irish immigrant, the consumptive, *757
Iritis, (108) 1180, (126) 1536
malarial, (3) 533
unusual result in case of, (121) 787
Iron, absorption of, (123) 1114
indifferent compounds of, (124) 669
lamp for phototherapy, (29) 1675
modern pharmacology of, (130) 1471
nucleinate of, (44) 1676
study of utilization of, (88) 971
therapy of, and its compounds, (133) 1593
Irregular pulse, explanation of, (120) 1279
pulse, relation of, to cardiopathic states, (102) 1593
Itching, treatment of, (142) 787
Itrol Crede, (70) 1542
Izal in phthisis, (10) 428
oil as intestinal disinfectant, experiments with, (9) 847

Jamaica as health resort, (87) 422
dogwood, active principle of, (81) 1470
Japan, medical knowledge in, (47) 1671
Jaundice, epidemic catarrhal, (19) 356
obstructive, surgical treatment of, (1) 428
surgical significance of, (51) 274
Jaw, lower, method of substitution and partial resection of, (105) 1336
lower, phlegmon and fistula of, (4) 533
Jaws, growing together of, (177) 1478
Jejunostomy, general contraction of stomach and, (36) 356
Jejunum, rupture of, (12) 793
Jenner and Waterhouse, work of, (29) 1671
Jews in medicine, (154) 611
Jez's antityphoid extract, experimental tests of, (56) 428

Jodko-Narkiewicz's apparatus, modification of, for monodic galvanization, (61) 848
John Sealy Hospital, obstetrical service of, (44) 200
Johns Hopkins, observations in, (147) 477
Johnson, Samuel, medical history of, (1) 841, (123) 1593
Joint affections, chronic, thiosinamin in, (18) 421
"Joint derangement" from movable bodies of joints, (21) 1470
Joint disease, tubercular, of legs, ambulatory treatment of, (53) 794
disease, tuberculous, (32) 896, (9) 1328
disease, acute infantile, (11) 1271
distended, note on relief of, by establishment of subcutaneous leakage, (9) 1404
Jolles' clinical ferrometer, value of, (43) 903
Jurisprudence, (87) 61
Justus test, value of, (27) 1398

Keloid, spontaneous and cicatricial, (53) 1541
Keratitis, rare forms of, (86) 675
relapsing traumatic bullous, (118) 787
superficial punctate, unusual case of, (74) 786
Keratodermia, symmetrical, and leprosy, (87) 484
Keratoma, hereditary, (70) 736
Keratomalacia, (44) 848
Keratosis follicularis, case of, (65) 963
lacunar, of tonsils, (60) 610
nigricans, (68) 617
precancerous, probably due to *x*-rays, (18) 476
Kernig's sign, (49, 50) 1398, (153) 1478
Kidney abscesses, metastatic, (47) 1600
affections, importance of, in respect to pregnancy and childbirth, (50) 1600
and bladder, diseases of, in infancy, (2) 1033, (59) 1042
as pathologic factor, (131) 842
bilateral cystic, diagnosis of, (6) 895
cystic, surgery of, (59) 128
disease, diet in, (82) 1187, (80) 1600
disease, dilution experiments in diagnosis of, (36) 1335
effects of heart disease on, (109) 1399
experimental transplantation of, (122, 123) 1043
floating, as cause of obstructive jaundice and hepatic colic, (21) 616
in consumptives, (20) 541, (35) 735
methods of incising, searching and suturing, (3) 540
movable, (2) 540, (41) 786, (33) 1328, (130) 534
new method of anchoring, *1208
polycystic, (145) 1043, (30) 1405, (30) 1476
primary tumors of, (63) 904
prolapsed, diagnostic palpation of, (130) 1035
prolapsed, technic of fixation of, (33) 128
stone in, (126) 964
surgical diseases of, (18) 1278
tuberculosis of, treated surgically, (100) 786
Kidneys, compensatory hypertrophy of, (38) 617
condition of, with regard to employment of diuretics, (80) 1671
functional diagnosis of, (69) 1042
influence of disturbance in function of, (80) 904
pus in, (78) 1034
results of surgery of, (95) 1042, (33) 1328
subcutaneous injuries of, (52) 356, (69) 675
Klossiella muris, (62) 1034
Knee, diagnosis and management of more common lesions of, (25) 1398
effects of osteitis of, (4) 1179
fractures of semilunar cartilages of, (1) 1186
improved method of resecting, (82) 1279
Knee, simple traumatic synovitis of, (37) 896
Knee-jerk in asthma, exaggeration of, (28) 541
Knee-joint, auscultation of, (21) 349
effusion after traumatism, aspiration in, (149) 669
gunshot wounds of, (7) 1534
injuries of, with report of cases, (138) 1593
so-called internal derangements of, (8) 276, (131) 477, (14) 735, (12) 903, (124) 1329
Knock-knee, acquired, (69) 963
Koch-Weeks' bacillus, corneal complications in conjunctivitis due to, (23) 1271
Konig's, Franz, 70th birthday, in honor of, (55) 735
Koplik's spots in measles, (176) 534, (116) 1114
Krause's anatomosis clamp, advantages of, (73) 971
Kroenlein's operation for exposure to posterior orbital space, (96) 668
Krukenberg's ovarian tumors, histogenesis of, (74) 1542
Kuhn's peroral intubation, (77) 848
Kumyss, value of, (90) 1336
Kussmaul's, Adolf, in honor of, 80th birthday, (59, 77) 736
Küstner's high arc incision, (87) 1405

Labor case, an unusual, (52) 896
chloroform in, (165) 534
easement of, by use of heat and retained injection, (46) 610
induction of, (63) 1179
management of normal, (141) 897, (92) 1329, (14) 1592
pelvic fracture during, (63) 476
report of two interesting cases of, (140) 1536
technic of, in private practice, (55) 476
Laboratory diagnosis, practical, (128) 201
work in general practice, (62) 1535
Labyrinth of dancing mouse, anatomy and physiology of, (61) 617
spongifying of, (104) 842
suppuration of, (34) 617
Laceration of intestine by horse's kick, (103) 1042
of perineum, (81) 1671
of perineum in labor, (1, 2, 3) 127, (49) 963
Lacerations, vaginal and cervical, (62) 128
Lachrymal apparatus, diseases of, (22) 1271
reflex in anesthesia, (10) 1469
Laennec, (101) 841
Lagophthalmos in Egypt, artificial post-operative, (111) 1279
La grippe, (109) 350, (120) 1035, (94) 1271, (127) 1272, (122) 1470, (102) 1671
acute delirium following, (154) 275
clinical variations of, (139) 1035
influence of, (65) 1698
theory of, and of exhaustion following same, (128) 1107
Lamblia duodenalis, first American case of infection with, (108) 1329
Lamp, therapeutic portable, (57) 541
Landry's paralysis, case of, (105) 477
"Landwehr's rubber" in diabetes insipidus, (52) 848
Langenbeck's operation for hemorrhoids, results of, (79) 1279
Langerhan's islands in pancreas and diabetes, relation between, (49) 428
Laparotomies, needless, (19) 349
Laparotomy dressings, (140) 964
for perforation in typhoid, (77) 277
peritoneal adhesions after, (33) 1701
preparation of patient for and treatment after, (142) 669, (62) 1698
Laryngectomy, (57) 428
Laryngitis, tuberculous, principles of treatment of, (64) 421
Larynx, central innervation of, (72) 1600
edema of, (102) 61
Larynx, external operations on, (1) 1278
observations on intubations of, (156) 129
rare deformity of, (60) 421
treatment of fibrous stenosis of, (25) 1541
tube for chloroform narcosis without a mask, (67) 675
Las Vegas, N. M., visit to, (106) 61
Lateral cervical triangle, (97) 610
chain theory of Ehrlich, (62) 1398
curvature of spine, plea for more accurate and scientific method of treatment of, (8) 1675
curvature, question of spinal braces in, *508
Laughing, attacks of irresistible, (98) 1406
Lavage, medicated, or organism, (71) 1701
of intestines in children, (37) 735
Lay medical education, (58) 200
Lead deposits in cornea, (53) 1179
Lead poisoning, (22) 428, (56) 533, (91) 675, (26) 793, (26) 848, (96) 904, (89, 109) 1477
poisoning, experimental, (57) 610, (144) 1406
poisoning, hitherto undescribed localization of, (102) 1477
poisoning, paralysis in, (32) 735
Leben of Egypt, the, (22) 735
Lecithin, toxic action of decomposition products of, (82) 1535
Leg ulcer, principles for treatment in, (122) 1114
Legal profession, medical and, and their relation to each other, (143) 1593
Leiomyoma of skin, (6) 1328
Lemniscus, termination of external, (95) 1406
Lens, dislocation of, (128) 842, (80) 1034
Lenses, centering and decentering of, before the eye, (117) 477
Leper family, instances of spontaneous cures in, (26) 1179
Lepra and syringomyelia, (34) 1405
maculoanesthetica, (89) 1535
to animals, negative attempts to convey, (55) 1187
Leprosy, (83) 904
and congenital symmetrical keratoderma, (87) 484
autopsy findings in case of, (127) 897
spread of, and examination of fish hypothesis, (5) 1404
Leucemides, the, (23) 1675
Leucocyte count in diagnosis of diseases of children, (88) 1271
count in diagnosis of suppurations, (71) 1405
Leucocytes, diagnostic value of variations in, (4) 1112, (158) 1471
phagocytic power of, estimating, (18) 356
physiologic, of rabbits, (134, 135) 897
Leucocytosis after violent exercise, (68) 610
as point of prognosis in appendicitis, (25) 1034
Leucoencephalitis, acute epizootic, in horses, (63) 200
Leucoplakia buccalis, (153) 1329, (47) 1541
Leucorrhea and gonorrheal vaginitis, new treatment of, (56) 61
treatment of, (158) 964
Leucosarcoma of choroid, (51) 1535
Leukemia, (137) 1536
chloroma and, (40) 356
chronic lymphatic, in infant, (75) 275
diabetic, (78) 1477
lymphatic, (123) 129, (70) 1106
myelogenous, (58) 675
myeloid, case of unusual, (39) 1187
preceded by mucosanguinolent colitis, (10) 727
splenic, and phthisis, combined, (8) 1476
Leukemioid affection, a, (88) 1187
Libby's method of treating otitis, (68) 1405
Library, medical, how to use a, (83) 422
Licenses, interstate medical, changes necessary to secure, (54) 61
Lichen planus, (18) 1335
Life, how to live to prolong, (80) 1271
insurance examinations, where can they be best made, (99) 534, (131) 1329
insurance, modern, (83) 738
insurance, rectal examination for, (87) 533
risk, the good, (96) 534
Ligaments, spinal, rupture of, (12) 200
Light and radiance in treatment of diseases, (15) 1034
in tuberculosis, (41) 1271
treatment of staphylococcus pyogenes aureus, (26) 1278
Lightning-stroke in South Africa, notes on, (91) 484
stroke, recovery from, (55) 1336
Linen sewing-machine thread for ligatures and sutures, (15) 1599
Lingual glands, pathology of, (45) 970
Linsley, J. H., biography of, (171) 201
Lip-reading, so-called, or external speech-physiology, (35) 1671
Lipemia, traumatic, (70) 1336
Lipoma of vulva, (100) 1470
Lips, malignant disease of, (32) 356
Liquid air as freezing medium in laboratory, (12) 1541
air in experimental infection of vagina and uterus, (32) 483
Lithemic condition, the, (80) 533
Lithiasis, biliary, effect of diet on, in origin of, (43) 1676
biliary, experiences with, (49) 848
pulmonary, (161) 611
Litholapaxy and lithotrity to stone in bladder, (5) 1335, (48) 1470
under cocain, (87) 1179
Lithopedion, case of partly-formed, (87) 786
Lithotomists and oculists of preceding centuries, (71) 617
Lithotomy, suprapubic, technique of, (126) 842
Lithotrity, modern, (116) 1279
Liver, acute yellow atrophy of, (54) 1179, (72) 1271
adenocarcinoma of, (44) 786
alterations in, from renal impermeability, (30) 428
amebic abscess of, (129) 129, (31) 1106
application of secretions of, to diseases of that organ, (58) 1328
abscess of, (129) 787, (60) 1179, (118) 1279
cardiac cirrhosis of, (82) 357
complications in, resulting from heart disease, (110) 1399
cystic, (23) 128
destruction of albuminoids in, (124) 1043
hydatid cyst of, (125) 422
influencing of, by diaphragm, and massage of liver, (57) 1600
movable, fixation of, and case of hepatopexy, *1294
neuro-psychic disturbances in, atrophy of, (130) 1043
operative treatment of cirrhosis of, (150) 129
partial resection of, for angioadenoma, (73) 128
percussion of lower border of, (14) 533
primary carcinoma of, (105) 1107
prompt intervention in traumatisms of, (23) 483
recovery after operative treatment of multiple abscesses of, (75) 1187
ruptures of, (36) 1701
stab wounds of, (36) 1405, (35) 1701
steam saw for resection of, (75) 1405
surgery of, *1063, (114) 1114
three cases of sutured and cured wounds of, (144) 1478
Liver-spleen syndrome in hepatic asystolia, (123) 1478
Locomotor ataxia, (61) 349, (46) 476, (58) 1179, (40) 1328, (64) 1698

Locomotor ataxia, laryngeal crisis of, (138) 964
ataxia, treatment of, (149) 201, (123) 669
London paste for reduction of nasal obstruction, (138) 728
Longitudinal sinus, subcutaneous laceration of, (104) 1042
Louisiana Leper Home, history of, (87) 1399
Lowit's blood parasites, (148) 1406
Ludwig's angina complicating typhoid, (98) 1034
Lues cerebri, (123) 1279
hereditary, unique case of, (55) 1592
pulmonary, acquired, (28) 274
statistical study of consequences of, (80) 736
Lumbago, (110) 350
Lumbar puncture in treatment of accidents consecutive to fracture of skull, (51) 1405
puncture, technique of, in intraspinal hemorrhage, (21) 903
region, topography of, (43) 848
Lunacy, thirty years' war against, (8) 1599
Lung, chronic distension of, (31) 675
complications due to heart disease, (108) 1399
development of a child, *1436
disease, surgical treatment of, (42, 43) 794
foreign body in, (18) 1328
gunshot wound of right, (161) 201
secondary carcinoma of, (128) 787
tuberculous, proper management of, *21
Lungs and pleura, diseases of, (68) 1328
embolism of, after laparotomies, (35) 675
gangrene of, after aspiration of a fragment of straw, (118) 1043
Lupus erythematosus cured by x-ray, (122) 129
erythematosus gelanthum in, (39) 349
histo-pathologic modifications observed in, (170) 1478
laryngeal, (64) 1398
light cure in, (54) 727
mechanical predisposition of affections, mucous membrane in, (69) 1701
of face, nose, pharynx and larynx, (60) 421
progress in Finsen's treatment of, (46) 617
vulgaris, hydrogen peroxid in, (7) 735
vulgaris treated with urea pura and x-rays, (10) 847
Luxation, incomplete backward, of foot, (51) 1477
Luxations, manual reduction of, without narcosis, (83) 1279
Lye, accidents from swallowing, (50) 1701
Lying-in-Hospital of City of New York, Society of, (75) 1034
Lymph glands, tuberculosis of, (33) 356
nodes, enlarged, in children, (89) 1271
Lymphangiectasis, cases of, (1) 1041
of filarial origin, operative treatment of, (83) 484
Lymphemia, acute, and estivo-autumnal malaria, (25) 896
Lymphocytes, granules in, (78) 675
Lymphocytosis simulating leukemia, cases of, (163) 1536
Lymphocythemia, case of, (58) 1279
Lymphocytosis without granular enlargement, complicated with pneumonia, (117) 129
Lymphocytozoon of guinea-pig, (151) 1536
Lymphoid or adenoid tissues, hypertrophy of, (7) 1700
Lympho-sarcoma, epipharyngeal, (61) 421
Lysoform, (82) 1600

Macadamized streets from a sanitary point of view, (107) 1336
Macrodactylia, (76) 484
Maggots and intestinal myiasis, (74) 357
Mahan Board in action, (84) 668
Malaria, acute, hemorrhagic pancreatitis in, (17) 735
are anopheles the only agents of transmission of, (33) 1541
carcinoma and, (65) 617
diagnosis of, from standpoint of English practitioner, (10) 1541
different methods of treating, (22) 541
duration of latency of, after primary infection, (17) 970, (15) 1335, (20) 1405, (19) 1600
epidemiology of, (84) 904
following abdominal operations, (59) 61
in Algeria, (47) 1278
latent, (50) 1034
methylene blue in, (139) 1043
nephritis in, (36) 128
parasite, convenient terminology for various stages of, (8) 903
polyneuritis consecutive to, (86) 1477
question, contribution to, (76) 1600
skin eruptions in, (7) 895
sulphate of quinin in, (47) 668
Malarial and back water fever of west coast of Africa, (156) 422
blood, agglutination in, (124) 1478
fever, chronic, trated by quinin bihydrobromate, (2) 735
fever, etiology of, (166) 787
fever, hemorrhagic, (105) 129
fever in China, notes on, (18) 847
fever in great lakes of Central Africa, (17) 674, (19) 735, (19) 847
fever in St. Lucia, W. I., (86) 484, (15) 674
fever, intermittent, new factor in etiology and treatment of, (100) 1329
new factor in etiology of, (62) 533
fever, pathological anatomy of, (95) 610
fever, pernicious, case of, (139) 669, (180) 897
fever, tertian estivo-autumnal, case of, (122) 1272
fever treated with arrhenal, (21) 1476
fevers, latent and masked, (8) 610
fevers, suggestions for prevention of, (13) 1112
germ, theory to explain how man and anopheles originally became infected with, (16) 1405
infection, clinical notes on, (28) 1034
organisms, meaning of recent discoveries concerning, (126) 201
parasite, action of antiperiodic drugs on, (76) 617
parasite, crescent form of, (56) 421
Malay, trachomatous spots in the, (72) 786
Malformation and speech defects, surgical correction of, due to or associated with hare-lip, *169
congenital, (9) 1033
of thorax as predisposition to pulmonary affections, (64) 484
Malignant growths, treatment of, by x-ray, (112) 477
Malpractice suits, (121) 1535
Malum perforans pedis, etiology of, (56) 1701
Malunion, corrected, in fractures of radius and ulna, (66) 1034
Mamma, hyperplasia of connective tissue in fibroma and fibroadenoma of, (31) 356
Mammals, blood vessels of, in relation to those of man, (7) 847
Mammary gland, malignant disease of, (89) 610
glands in primiparæ, (4) 1106
Manic-depressive insanity, studies in, (79) 1593
Manila, synopsis of sanitary census of, *988
Manual dilatation, avoid, (21) 274
Marasmus infantilis, neuropathologic aspect and neuropathy of, (44) 1179
Marie's "osteoarthropathie hypertropiante," (35) 1187
Marriage, (138) 1329
Marriage, medical examination as prerequisite to, (61) 786
Massage in diseases of female pelvic cavity, (129) 201
in neurasthenia, (63) 841
of prostate gland, indications and limitations of, (88) 477
of urethra, (50) 1541
principles and indications for, (32) 541
Mast-cells, study of, (64) 675
Mastitis complicating typhoid, (116) 129, (122) 534
Mastoid antrum, suppuration of middle ear and, (108) 787
disease, (111) 62, (160) 129, (130) 350
gouges, description of set of, (78) 728
operation, (120) 350, (15) 1106, (5) 1328, (84) 1329, (83) 1600
operation, radical, indications for, (57) 1698
specimen, stereopticon demonstration with, (52) 1698
suppuration, symptoms showing necessity for operative interference in, (118) 129
surgery, acute, conservative element in, (9) 349
trephining operations, modern, (65) 1034
Mastoids, ablation of both, followed by extreme variations in temperature of body, (125) 1536
Materia medica and therapeutics during past century, improvement in, (36) 1398, (58) 1535
medica, teaching of, (70) 356
Maternities and pre-maternities, (11) 356
Maternity statistics, five years of, (34) 483
Matter and mind, body and soul, (19) 895
Mauthner's method of diagnosing paralysis of depressors or elevators of eyes, (149) 1593
Maxilla, superior, tumor of, (96) 1593
Maxillary antrum, suppuration of, (26) 970, (2) 1278
sinus, diseases of, (122) 728
Measles and the phases of the moon, (85) 736
complications and sequelæ of, (24) 1470
early diagnosis of, (158) 422
eye complications of, (25) 1470
general treatment of, (11) 1106
Koplik's sign in diagnosis of, (12) 1033, (115) 1114
osteomyelitis following, (89) 128
pemphigus contagiosus in, (119) 1406
study of urine in, (93) 1113
Meat and milk, tuberculous observations concerning infectiousness of, (22) 668
Meatus urinarius, abnormally small, (58) 786
Mechanism, guide the, (20) 274
Meckel's diverticulum and its relation to ileus, (22) 476
diverticulum, inflammation and gangrene of, (107) 1043
diverticulum, intestinal obstruction from, (100) 1271
diverticulum, intussusception of, (65) 274
diverticulum, perforated, (111) 1035
diverticulum, patent at navel, (101) 1271
Medical armamentarium, plea for greater uniformity of strength and exactness in, *15
certificates in cases of accidents (60) 903
clinic, a, (160) 787
communication, privileged, (14) 200
curriculum, first-year, (122) 422
department of Pan-American exposition, (83) 200
diagnosis at Berlin, second report of institute for, (73) 1042
education, *684, (17) 841
education, address on, (117) 963
education of the state, *961
education of women in Russia, history of, (136) 1471
ethics, (93) 1271, (182) 1478
examiner, environment of, (86) 728
Medical examiner for life insurance, present status of, (152) 422
fees, necessity for revising, (121) 422
history, suggestions concerning, (137) 1471
instruction, (136) 201
journals, (103) 350
jurisprudence, (77) 350, (130) 1272
legislation in Ohio, (49) 1271
legislation, personal liberty plea and, (12) 421
man and his education, (142) 62
organization, (42) 1179, (116) 1180
Paris, (30) 1671
practice acts, failure of, (158) 897
practice then and now, (178) 534
profession and public unrest, (38) 349
profession, organization of, (84) 1535
profession, relation of, to department of public health, (83) 350
progress, thoughts concerning, (98) 129
regulations in Germany and Austria, new, (38) 903
schools, teaching of practical dietetics in, *299
societies, (121) 1035
Society of County of Erie, concerning welfare of, (155) 534
Society of the County of New York and its objects, (35) 61
Society of Tennessee, history of, (55) 1328
therapeutics, limitations of, (32) 610
witnesses, duties and rights of, (94) 422
Medication, compatible, (140) 1107
specific, (7) 841, (96) 1179
Medicine a science, (80) 896
and surgery in British and Spanish Honduras, glimpses of practice of, *1079, *1152
in ancient Egypt, (63) 484
in Flanders in 14th century, (164) 1406
is it founded on truth, (59) 200
microscope in, (89) 350
new era of in Cleveland, *625
of the dawning century, (104) 1399
some twentieth century ideas in, (146) 477
when I studied, (38) 963, (38) 1106, (39) 1328, (37) 1535
Melancholia, intermittent, (27) 1541
simplex, (8) 841
transitoria simplex, (8) 841
Melanoderma, biliary, (35) 1476
Melano-sarcoma of ciliary body and iris, (40) 848
Melanosis of cerebrospinal meninges, (108) 611, (87) 1106
Melena neonatorum, treatment of, (61) 1701
Membrana tympani, injuries of, (119) 1672
Meniere's disease, (30) 1335, (63) 1398
Meningeal hemorrhage, (14) 1671
Meningitis, *443
antisyphilitic treatment in, (32) 848
case of which Kernig's sign was absent, (51) 1398
epidemic, cerebrospinal, (40) 727, (20) 1113
etiology of, (117) 1406
from extension of acute purulent otitis media, (68) 421
non-suppurative, (59) 1279
peri-arteritis, and hysteria, irregular respiration in, (59) 668
pneumonic, (16) 541
rheumatoid, (146) 1272
serous, cure of by trephining, (22) 483
traumatic, with effusion, (19) 1328
tubercular, (127) 422, (7) 1335
Meningocele, occipital, removal from infant of large, (9) 356
Meningo-encephalocele, (16) 1599
Meningomyelitis during convalescence from typhoid, (26) 1671
Menopause, non-surgical premature, case of, (112) 669
observations on, (52) 963

Menstrual troubles of utero-ovarian origin, medical treatment of, (26) 356
Menstruation, age of first, in North America, (16) 533, (25) 610
notes on, (57) 896
painful, surgical treatment of, (163) 201, (64) 349
vicarious, from retina, *1442
Mental aberration, sudden and temporary, *315
culture, need of, (31) 128
defectives, recognition and training of, (31) 727
disorders, address in, (165) 1593
faculties, localization of, (48) 1398, (63) 1034
healing, legal prohibition of unprofessional, (104) 1593
impression "marks" child for a frog, *1623
Mentally unbalanced, benefits of appropriate surgery for, (55) 971
Menthoxol and camphoroxol in suppuration of middle-ear, (117) 728
Meralgia, (71) 357
Mercurial compounds, organic, (26) 1476
stomatitis and proctitis, etiology and prophylaxis of, (44) 1541
Mercurol, Winfield Ayres' experience with, in syphilis, (150) 669
Mercury benzoate in syphilis, (24) 541
colloid or soluble, (54) 1336
in treatment of syphilis, (128) 350
recovery of, from animal tissue, (81) 61
Mermaid, case of sympus, or, (93) 350
Mesenteric arteries, traumatic rupture of, (80) 963
Mesometrium, variations of, (61) 1478
Metabolism, physiology and pathology of, (57) 1034, (68) 1542
Metacarpal bones, fracture of, *506, (107) 1272
Metamorphopsia varians, *12
Meteorism, means of combating, (53) 1114
possible cause of, (26) 1535
Methemoglobinuria, pathology of malarial, (110) 1180
Methods and combinations, some, which have proven particularly valuable, (119) 1272
Methyl alcohol, blindness from, (15) 61, (148) 201
group, chemical changes in body, (173) 1536
Methylene blue as sedative, (1) 895
blue in chronic pyelitis, (83) 1405
blue in malaria, (139) 1043
blue in operating on fistulous tracts, value of, *1503
blue test of renal function, (66) 541
blue, Vincent's angina cured with, (23) 428
Metritis, chronic painful, operative treatment of, (97) 1187
hysteric, (66) 1477
septic, (147) 1471
Metrorrhagia at extremes of life, (145) 201
Mexico, infectious fevers in, (81) 484
sorcery, medicine and surgery in ancient, (79) 1179
Micro-bacilli in sebaceous glands of nose, (165) 1471
Microbes, acid proof, (56) 1187
Micrococcus catarrhalis as disease germ, (68) 541
Microcephaly, case of, (106) 611
Micro-organisms, passage of, through cutaneous lesions, (113) 1477
Microphotograms, method of producing, (130) 897
Microscope in diagnosis of suppurations of middle-ear, (67) 421
in medicine, (89) 350
Microscopic slides, new cabinet for, (60) 1398
Microtechnical factors concerned in producing segmentation and fragmentation of myocardium, note on, (85) 1470
Micturition in children, involuntary, (53) 533
Middle-ear, danger of expectant treatment of suppuration of, (53) 971
inflammations in childhood, (45) 1179
does early treatment of acute inflammation of, prevent more serious complications, (84) 1179
relations and treatment of suppurations of, (108) 787, (47) 1179, (67) 1328
suppuration, treatment of, (25) 1278
suppuration, treatment of thrombosis of lateral sinus following, (52) 1398
tubercular disease of, (134) 611
two cases of suppurative inflammation of, (107) 1593
Middle turbinate body and chronic diseases, (24) 128
Midwife, professional, what shall be done with the, (79) 786, (124) 787
Midwifery, unnecessary antiseptic treatment in, (31) 1034
Miescherschen schlauche in heart of elk, (136) 669
Military surgery from standpoint of American surgeon, (48) 896
Militia medical officer and his papers, (83) 668
Milk commission of the Medical Society of the County of Kings, (49) 1592
diet for adults, (35) 793
fermented, as food, (22) 735
human, quality of, determined by microscope, (43) 541
infection, acute, (48) 200
iodated, in rhino-laryngeal therapeutics, (103) 61
mother's, (51) 61
production under hygienic conditions, (123) 1470
question, the, (45) 1405
should it be boiled? (3) 735
simple method of determining percentages of, (3) 1328
sterilization of, for infants, (67) 1042
Milks, artificial, (37) 61
medicated, (57) 1279
Mind and body, (28) 1179
is it an entity? (6) 962
Miner, some pathologic conditions to which the, is liable, (134) 1329
Miotics, older and newer, (49) 1535
Mirror table for diagnosis of flat-foot, (97) 971
Mississippi delta, continued fevers of, (111) 1180
Mistakes in practice, (135) 275
Mitral obstruction, new study of, (7) 1398
Modern medicine, progress of, (142) 201
surgery, growth and development of, (156) 477
Mole vesicular, with severe vomiting, (31) 735
Molecule, proteid, researches on chemistry of, (104) 275
Molluscum contagiosum, (136) 1272
Monohydric magnesium phosphate, (12) 1404
Monster per defectum, (113) 896
Morbid obsessions and impulses, clinical study of, (78) 610
Mortiz's method of outlining the heart, (68) 675
Morphia injection, poisoning by, treated by infusion of salt solution, (5) 1476
Morphin after abdominal section, use and abuse of, *925
and alcohol habits, new method of treating, (21) 1671
and allied drug habits, (81) 128
and chloroform as adjuvants, (22) 274
habit, some reasons for past failures in treatment of, (144) 1593
habit, treatment of, (108) 1593
poisoning, acute, in an infant, *459
poisoning, cocain as antidote for, (25) 61
Morphinomania, (93) 610, (34) 1113
Mosquito, the, (104) 611, (104) 1180
Mosquitoes, differentiation of five genera of North American, (24) 1534
in New Orleans, (118) 201
Mosquitoes, role played by, in tropical pathology, (23) 1405
Motor insufficiency, gastric, gastroptosis and, (96) 200
Mouth and throat, affections of, associated with fusiform bacillus and spirillum of Vincent, (59) 533
bacteriologic tests of current disinfectants of, (81) 1113
hygiene of, (43) 610
treatment of indeterminate ulcerative neoplastic lesion of, (23) 903
Movable kidney, (170) 897, (17) 963, (34) 970, (99) 1034
Mucin in affections of nose, throat and ear, (12) 1112
Mucosa, uterine, special form of hyperplasia of, (67) 1477
"Mumme" in infant feeding, (57) 794
Mumps, (74) 1600
epidemic, involvement of ovaries in, (171) 1478
Municipal sanitation from executive standpoint, (9) 1469
Murders, five Maine, (23) 727
Murphy button, intestinal anastomosis with, (134) 275
Muscadines, catalepsy due to ingestion of, (57) 274
Muscles, insufficient tension of, (77) 1187
Muscular anomaly, (131) 1672
Mushroom poisoning, (117) 201
Mushrooms, study of, (46) 1278
Music as a remedy, (40) 1541
Musical sensations, psycho-mechanics of, (72) 1701
Muskoka Cottage Sanatorium, report of, (82) 477
Mutism, hysterical, in history, (118) 1272
Myasthenia and ophthalmoplegia, (107) 1406, (1) 1599
remarks on, (3) 1675
gravis, (87) 350, (31) 533, (58) 668, (13) 903
Mycosis fungoides, (104) 1034, (146) 1478
Mydriasis, danger of, (91) 1535
simultaneous paretic, (86) 1034
spastic, from foreign body in ear, (62) 1701
Mydriatics in errors of refraction, (114) 477
older and newer, (49) 1535
Myletis, chronic, (73) 1600
consecutive to diffuse encephalomyelitis, (70) 541
exhibiting results of co-ordination exercises, (59) 421
puerperal, (34) 349
Myelorrhaphy, (8) 1670
Myeloma, multiple, case of, (62) 200
Myelotoxic serum, (114) 1477
Myiasis, intestinal, and maggots, (74) 357
subcutaneous, case of, (12) 1335
Myocarditis, chronic, (9) 274, (50) 421, (14) 1179
Myogenic rigidity of spine, (71) 1042
Myoma, a large, (104) 1336
cases of, (26) 1701
of broad ligament, (45) 727
selection of operation for, (40) 483
teleangiectodes uteri, (75) 1542
Myomata, uterine, indications of treatment of, (5) 128
Myomectomy in treatment of fibromyoma, (42) 727
in young married women, indications for, *642
on pregnant uterus without interruption of gestation, (148, 162) 129, (156) 275
Myopathies, illustrations of, (36) 1675
Myopia, hygienic and prophylactic treatment of, (3) 1670
Myosarcoma of uterus, (114) 669
Myositis fibrosa, (92) 129
Myotonia, atrophic, (38) 1675
Myotomy, vaginal, (76, 84) 1405
vaginal vs. abdominal, (84) 1405
Myotonia congenita, (46) 128
Myxedema, ((112) 129, (109) 477, (5) 1599
infantile, sporadic case of, resulting in a cretinoid condition, (50) 1671

Nail, surgical removal of, (48) 848
Nails, recent work on affections of, (31) 903
Narcolepsy, pathogenesis of, (32) 274
Narcosis, selection of general anesthetic for brief, (86) 61
Nargol in ophthalmic practice, (50) 841
Nasal hydrorrhea, hot air in treatment of, (90) 1542
obstruction, reduction of, with London paste, (138) 728
reflex, amusing instances of, (145) 728
septum, correction of deflections of, with a minimum of traumatism, *636
septum, deviation of, (103) 1034, (114) 1329
septum, perforation of, (97) 1399
tumors, operations for, (96) 1535
National examiners, voluntary board of, (24) 1398
examining board, proposed, (6) 1670
physical development, (69) 274
Native methods of cure, (162) 422
Natural resistance, powers of, or personal factor in diseases of microbic origin, (9) 1675
Nausea and vomiting, attending anesthesia prevention of, (126) 62, (6) 668
Nebraska State Medical Society, history of, (45) 1398
Nebraska's medical pioneers, (125) 201
Necrosis, anemic, (131) 129
of bones of skull, *249, (60) 1592
of jaw following measles, (73) 275
Necrotic inflammation of esophagus and stomach in scarlet fever, (75) 675
Needle removed from bladder, (3) 274
Needles and needle-holders, faults in, with improvement, (63) 1671
Negative effort, persistence of, in paralyzed muscles, (24) 903
Roentgen diagnosis in suspected calculous nephritis and urethritis, (20) 476
Negro as surgical subject, (124) 611
future of, from standpoint of southern physician, (152) 477
shall he practice medicine, (174) 534
traits, (102) 668
Neoplasms complicating pregnancy and labor, (85) 533
metastatic lime in, (34) 1701
Nephrectomy, (26) 533, (5) 540, (12) 1398
for tuberculosis of ureter, (117) 62
Nephritis, (39) 794, (65) 1106
acute influenzal, in childhood, (25) 841
acute treatment of, (135) 1406
albuminuria induced by massage in, (40) 794
chloruria in, (41) 1477
chronic, (99) 1106
chronic, feeding in, (45) 1592
chronic interstitial pathologic process in, (83) 128
chronic interstitial, retinal lesions of, (35) 610, (67) 668
hemorrhagic, complicating influenza in infant, (164) 477
in malaria, (36) 128
in production of hypertrophy of heart, role of, (29) 541
interstitial, treatment of, (123) 787
non-tubercular chronic, operative treatment of, (18) 793
ophthalmoscopic examinations in, (28) 896
remarks on etiology and pathology of, (106) 1107
scarlatinal, and its treatment, (37) 200
syphilitica acuta praecox, (68) 1042
relation of, to cardiac disease, (109) 1107
Nephrolithiasis, diagnosis and surgical treatment of, (85) 1329
Nephropexy for prolapse of kidney, (60) 1106
technic of, (88) 728, (166) 1593
Nephroptosis, (58) 1106
Nephrorrhaphy, ultimate result of, (59) 1106
Nephro-ureterectomy, (10) 421
Nerve grafting, (51) 356

Nerve stimulants, production of, by organism, (95) 1279
Nerves, relation between elements of, (76) 1701
Nervous affections, few cases of, (51) 903
Nervous and mental affections, cerebrospinal fluid in, (18) 541
children, (42) 848
disease, influence of injuries on production of, (64) 668
diseases, extension in treatment of, (1) 483
disorders, relation of local disease to, (8) 962
health, acquirement of, (72) 476
system, principles of symptoms in diseases of, (99) 1399
Neuralgia, (119) 1035, (70½) 1535
cerebral, important factor in, (53) 200
trigeminal, (67) 786, (5) 841
trigeminal, treated by resection of cervical sympathetic, (75) 617
Neuralgias, nasal conditions as cause of, (154) 964
Neuralgic condition, relief of pain in, (57) 533
Neurasthenia, (53) 421, (139) 728, (55) 841, (92) 896
and hysteria in diseases of nose, throat and ear, (62) 841
drug treatment of, (56) 841
gastrica, (103) 963, (37) 1398
hydrotherapy in, (58) 841
massage in, (63) 841
prevention of, (20) 1179
sanatorium treatment of, (61) 841
surgery in its relation to, (63) 786
treatment of, *4, (59) 841, (33) 1113
Neurasthenic crises, (42) 903
educational management of, (57) 841
some points in management of, *855
Neuritis, alcoholic multiple, case of, (55) 1398
ascending, in etiology of syringomyelia, (28) 848
double optic, intracranial thrombosis as cause of, (7) 616
multiple, causation of, (26) 421
optic, in young, (107) 1671
sciatic, treatment of, (100) 1535
symptomatology and diagnosis of, (18) 1534
traumatic, of median nerve, (144) 534
Neurological fragments, (11) 903
Neurologist's art, the, *1216
Neurology, outsider's glimpses of, (39) 61
Neuronophagi, (39) 1405
Neuroses, auto-toxemia as factor in, *363
of the heart, *1345
of otitic origin, intratympanic surgery in, (37) 848
Neutral red in differentiation of typhoid and colon bacilli, (44) 675
Nevi treated by electrolysis, (157) 964
Nevus verrucosus associated with certain anomalies of the pigment, (7) 356, (9) 786
Newborn, assimilation in, (111) 1406
New-born infant, the, (20) 895
New clothes, disinfection of, (6) 674
methods of treatment, recent observations on, (122) 1180
problem, our, (155) 897
remedies, (119) 1180
New York Clinics, (110) 201
Conference of Charities, (68) 896
Post-graduate Medical School, clinical demonstration at, (38) 200
New Zealand, school life in, diseases incidental to, (1) 356
Nicaragua vs. Panama, sanitary aspects of, (10) 476
Nickel stick for carrying aseptic cotton in canterizing uterus, (82) 1405
Night cries in hip and Pott's disease, (28) 793
mosquito, parasite of common, (128) 62
Nitroglycerin in vascular disturbances of some functions of brain, (101) 201
Nitrous oxid and oxygen as an anesthetic, (46) 1271
oxid gas and ether, anesthesia by, (21) 963
Nodding spasms with nystagmus, (51) 1698
Noma of eyelids in infant, (121) 275
typhoid complicated by, (78) 275
Nome, health conditions at, (47) 896
Normal saline solution, use of, (47) 274
salt solution, hypodermoclysis in, in anemic heart murmur, (102) 533
Northeastern Arkansas, fevers of, (94) 1671
Nose and accessory sinuses, malignant disease of, (47) 349, (143) 611
and throat disease, camphor-menthol in, (157) 129
and throat in history of medicine, (100) 61, (128) 477, (117) 1329, (86) 1671
and throat, general practitioner and diseases of, (30) 786
and throat, treatment of syphilitic lesions of (114) 1272
and throat work for general practitioner, (121) 62, (131) 422, (145) 611, (132) 1035, (136) 1107, (115) 1399
deformed, operations for, (42) 786
finger in the autoplastic restoration of, (80) 1701
normal, functions of, (136) 1329
peculiar affection of, (18) 1405
rhinoliths and foreign bodies in, (12) 1106
some bacteria found in, (101) 61
Nosoparasitism and orthoparasitism, (60) 794
Nostril, restoration of defect in, (45) 848
Nucleases, bacteriolytic action of, as cause of immunity, (38) 675
Nurse, duties of, in abdominal surgery, (110) 1107
the discreet, (61) 61
Nursing, ethics of, (153) 964
Nursing consultations, (19) 1541
Nutrition as now understood, (123) 1672
Nutritive system, nervous relation in diseases of, *7
Nystagmus, nodding spasms with, (51) 1698

Obesity and glycosuria, relations between, (82) 1113
of adolescence, (7) 962
on treatment of, *447
Obstetric criticisms, some, (169) 1329
work, best methods of conducting private, (69) 128
Obstetrical forceps, the, (144) 275, (14, 29) 349, (141) 728, (69) 1179, (127) 1593
service of John Sealy Hospital, (44) 200
Obstetrician as preventive gynecologist, (145) 1329
Obstetrics and diseases of women, what of future in, *1614
as specialty in America, future of, (33) 1470
and gynecology, glance at science of, (96) 971
and gynecology, recent works on, (57) 903
questions in, in case of pelvic deformity, (26) 674
relation of surgery to, (1) 962, (125) 1107
study in, (55) 727
surprises met with in practice of, (77) 1328
Obstipation, new views on, (113) 1535
Obstruction, acute intestinal, (33) 61
intestinal, caused by compression of ileum, (22) 786
of bowels, operation for, (40) 61
Occipitoposterior positions, (45) 200
Ocular defects, influence of, on nervous system, (95) 786
injuries, rare, (129) 1406
lesions associated with constitutional diathesis, *815
pain, (6) 428
secretions, bacteriologic study of, (39) 970
Oculist's relation to general practitioner, (41) 668
Oculo-pupillary sensory reflex, (129) 1043
Odors, heredity in, (58) 1405
O'Hagan, Charles J., (132) 728
Ohio medical colleges, requirements for entrance to, (149) 897
medical legislation in, (49) 1271
Oidiomycosis of skin and its fungi, (79) 200
Oil in abdominal operations, (29) 1187
Oklahoma medical laws, (137) 201
Olive oil in stenosis of pylorus and duodenum, (68) 1113
Omodynia and its pathogenesis, (75) 1113
Oöphorectomy in cancer of breast, (3) 275
in malignant ulcer of breast, (11) 841
Opacities of vitreous and amenorrhea, (76) 786
Operate, when to, (64) 1535
Ophthalmia, purulent, of newborn, (100) 422, (27) 1106, (18) 1186, (50) 1271
neonatorum and trachoma, protargol in, (166) 534
neonatorum caused by diplobacillus of Morax and Axenfeld, (68) 533
neonatorum, desirability of further data concerning prevention of, (35) 349
sympathetic, (98) 1329
operations, one thousand, (104) 477, (66) 727, (78) 896, (82) 1179
work in Army, reflections on, (3) 428
Ophthalmology, galvano-cautery in, (122) 201
older and newer mydriatics, miotics and anesthetics in, (49) 1535
progress of, in second quarter of, 1901, (56) 1535
externa, monocular, (78) 1398
Ophthalmoplegia, myasthenia and, (107) 1406, (1) 1599
Ophthalmotonometer, new model of, (97) 1113
Ophthalmoscope, a new, (84) 1034
Thorner stationary, comparative value of, (4) 476
history of invention and development of, *549
Opiates, treatment of acute poisoning by, (29) 1278
use of, (28) 421
Opium, alkaloids of, (65) 1405
in lead poisoning and cardiac disease, (56) 533
Opotherapy, ovarian, (15) 541
renal, (27) 1335
Optic neuritis, double, (60) 963
neuritis in young, (64) 1106
nerve in relation to nervous disease, (76) 422
Oral pathology and general medicine, (89) 1329
Orbit, bullet-wound of, (59) 1271
foreign body within, *1428
subperiosteal hemorrhage of, (46) 1034
Orbital cavity, beef-worm in, (13) 276
cavity, penetrating wound of, for partial detachment of retina, (116) 275
tumor, rare, (7) 970
Orchidopexy, method of, (39) 356
Orchitis, acute, (48) 274
Orcin test, spectroscopy of, (25) 903
Organic diseases, functional symptoms in, (56) 1592
Organization, objects of, (100) 668
of the medical profession, the, *176
Organotherapy, (9) 1278
Organs, new method of demonstration of framework of, (84) 786
Orthodiagraph, study of heart by means of, (62) 356
Orthoparasitism and nosoparasitism, (60) 794
Orthopedic surgery, development and function of, (34) 1541
Osseous cavities, use of bone chips in, (127) 534
Ossification of muscle, participation of periosteum in, (29) 356
Osteitis deformans, (46) 61, (2) 10, (43) 1106
Osteitis, of knee, correction of deformities following, (1) 60
Osteo-arthritis of hip, peculiar form of, (36) 541
of spine, (21) 895
Osteomalacia, atrophy of bones and, rare forms of, (45) 794
cure of, (68) 1187
Osteomyelitis and tuberculosis, regeneration of long bones in, (74) 1187
caused by bacillus of pneumonia, (58) 971
differential diagnosis of, (2) 1469
epiphyseal, (31) 1701
following measles, (89) 128
involving superior maxilla, (40) 1698
of tibia, (73) 275
Osteophytes of nasal chambers, notes on, (70) 533
Osteosarcoma, clinical aspects of, (174) 1329
of elbow, (32) 1271
of inferior maxillary treated by incisions, (25) 786
Osteotomies for the correction of genu varum and genu valgum, (9) 60
Osteotomy in genu valgum, (47) 1477
Otalgia, case of, (98) 896
Otitis, Libby's method of treating, (68) 1405
media, acute, treatment of, by general practitioner, (101) 728
media, catarrhal, as factor in etiology of facial paralysis, (77) 1179
media, epidemic occurrence of, in children, (121) 1406
media, infective, (94) 350
media, mastoid operation for, (84) 1329
media neonatorum, (129) 62
media, suppurative, and some of its dangers, (23) 1534
paralysis of facial nerve from, (171) 1406
Otogenous disease of brain, meninges and sinuses, (69) 421
Otologic clinic, an, (94) 1399
Otology, debt of, to Helmholtz, *561
Otorrhea in children, (93) 728
in course of typhoid, (79) 896
Outline of stomach without artificial aid, to see, (91) 1477
Ovarian cyst, removal of, (88) 1329
pain, misleading significance of, (102) 728, (37) 1106
tension-pain, surgical procedure for relief of, (74) 1671
transplantation, (58) 610, (121) 1593
Ovaries and Fallopian tubes, surgical conservatism of, *1440
and hydrops follicuii, small cystic degeneration of, (36) 617
diseases of, (144) 728
involvement of, in epidemic mumps, (171) 1478
orthopedics of, (98) 1042
Ovary, adenoma of, (170) 477
and tubes, conservative surgery of, (61) 896
case of removal of portions of, (105) 1329
dermoid cyst of, (185) 897
hematoma of, (39) 610, (62) 1271
obturator hernia of, (17) 903
Ovum in ovary, study of, (23) 1701
utilization of extra-embryonal part of, (30) 1113
Oxalic acid eliminated in urine, source and solubility of, (71) 541
Oxidizing ferments, (155) 1478
substances in organism, new reaction of certain, (103) 971
Oxygen, inhalation, experimental study of, (83) 1477
Oxyurides in Douglas' pouch, (53) 1187
Ozena, causes of, (93) 1542
phototherapy of, (95) 1113
Ozonation, electric, influence of, on disease, (2) 349
artificial, to purify air, (29) 483
in tuberculosis, (72) 963

Pachymeningitis, internal hemorrhagic, (107) 611
Paget, A., skill of, (83) 1593
Paget's disease, existence in horse of affection analogous to, (64) 1279

Pain, (69) 1113
and its indications, (153) 611, (161) 787, (119) 1035, (98) 1399, (125) 1672
and patient, plea for, (17) 128
Palmar reflex, (5) 1398
Palsy, cerebral bulbar, (30) 533
infantile cerebral, with autopsy finding, *1068
median nerve, (114) 787
Panama and Nicaragua canals, sanitary aspects of, (27) 200
Pan-American exposition, medical department of, (83) 200
Pancreas, affections of, and diabetes, (98) 1477
cancer of head of, (126) 896
cyst of, (110) 896
does it secrete a sugar-splitting enzyme, (72) 421
in diabetes mellitus, histopathology of, (102) 422
postmortem changes in, simulating fat necrosis, (137) 669
primary sarcoma of tail of, (72) 841
removal of sarcomatous tumor of tail of, in child, (5) 793
study of, in relation to tuberculosis, (132) 1478
surgical treatment of injuries and diseases of, (11) 610
Pancreatic disease, cases of, (14) 421
disease, diagnosis of, (11) 727
injuries, acute, surgical treatment of, (36) 349
juice in its relation to ferment, study of, (78) 1701
Pancreatitis, acute hemorrhagic, (103) 1336, (81) 1600
acute hemorrhagic gangrenous, (92) 1271
chronic interstitial, causes and varieties of, (59) 1398
hemorrhagic, in acute malaria, (17) 735
Pan-hysterectomy, abdominal, for cancer of uterus, (10) 276
Panopthalmia bovina carcinomatosa, (68) 971
Papilloma laryngitis, treatment of, in children, (95) 904
of bladder, (19, 20, 21,) 1592
of caruncle, (79) 61
Papillo-retinitis due to chlorosis, (50) 610
Papular disease affecting axillary region, (78) 350
Para-colon bacillus, (61) 1470
Paraffin injections, (61) 1698
injections, treatment of Gersuny, *1000, (4) 1404
in nasal deformities, (1) 1469
in surgery, (73) 1398
Paraldehyd, delirium tremens from abuse of, (83) 1542
Paralyses, ocular, diagnosis of, (119) 275
Paralysis, (134) 728
acute anterior spinal, (23) 1476
acute ascending spinal, (39) 274, (88) 668
agitans, cases of, (11) 1278
agitans, overflow facial contraction in, (62) 1106
asthenic bulbar, (31) 533
case of Brown-Sequard's, *685
deformities of infantile, (71) 1106
facial, (47) 1470
family periodic, (48) 970
hystero-neurasthenic, (84) 610
infantile, etiology of, (54) 1398
infantile spastic spinal, (73) 357
infantile, treatment of deformities of, (36) 61
in lead poisoning, (32) 735
muscular, deformities due to, (11) 1328
ocular, (119) 787
of heart, death under chloroform from, (57) 735
of legs, go-carts for, (69) 356
of limbs of child, complete and and temporary, (3) 1599
of organs of sense after pertussis, (60) 848
of serratus magnus and trapezius, *300
peripheral anesthesia, (5, 15) 533
post-diphtheric, (50) 274
recurrent laryngeal, (155, 156) 201
unilateral facial and ocular, (35) 848
Paralytic attacks, treatment of, (29) 533
Paralytics, walking apparatus for, (98) 971
Parametritis, posterior, (85) 668, (85) 1042
Paramyoclonus multiplex, (30) 1042
Paranoia, initial manifestations of, (59) 483
Paraplegia, cure of, by suggestion, (113) 971
Parasitic disease in horses, mules and caribao in Philippines, (16) 963
theory, evolution of, (140) 1043
Parasoriosis, (24) 1675
Parasyphilis, question of, (56) 1279
Parasyphilitic disorders, (22) 1675
Parathyroid glands, (39) 617
Paratyphoid, (9) 421
infections, (152) 1536
Paratyphus, (79) 422, (36) 1336
Paresis, (19) 963
comparative frequency of general, (74) 1593
early diagnosis of, (16) 1469, (73) 1593
etiology of, (14) 1469, (72) 1593
following typhoid, (168) 611
gemellar homomorphous, (21) 1600
general, (182) 534, (15) 1469
treatment of, (17) 1469, (75) 1593
Parkhill, teacher of medicine, (71) 668
Parkinson's disease, (86) 1336
Paronychia, tuberculous, (19)
Parotid gland, complete extirpation of, for recurring carcinoma, (140) 1478
Parotitis, hemichorea and, complicating diabetes, (15) 276
Parovarian cyst complicated by presence of myomatous uterus filling pelvis, (6) 1592
Parrot's pseudo-paralysis in congenital syphilis, (49) 1701
Parturition, immediate repair of injuries of, (32) 349
methods of artificial dilatation of os in, (30) 1592
Patella, acquired habitual luxation of, (118) 1478
congenital luxation of, (65) 1279
Pathogenic germs, influence of cold on, (120) 1478
organisms, report of transmission of, by house-fly, *1291
Pathogenic secretions of single bacteria, multiplicity of, (97) 1406
Pathognomonic signs in practice, (24) 847
Pathology, discoveries in, (4) 727
Patrol ambulance, the, (19) 1398
Pauper labor of Providence, (143) 1536
Pediatric practice, (50) 128
Pediatrics, progress in, during 1901, (143) 1406
Pedicle, twisted, in ovarian tumors, (70) 128
Pellagra, blood reaction in, (112) 1477
infantilism from, (100) 1113
Pelvic cavity, female, massage in diseases of, (129) 201
connective tissue, inflammation of, (44) 1535
disease, prevention of, during and after labor, *437
diseases before and during puberty, prevention of, *442
floor and its injuries, (50) 1179
fracture during labor, (63) 476
inflammatory diseases after marriage, prevention of, *440
lesions in relation to mental disease, (163) 477, (153) 534, (111) 669
suppuration, treatment of, 413, (100) 1034
Pelvis deformed, intervention in case of, (29) 1113
female, tripartition in study of, (33) 896, (103) 1671
intraperitoneal inflammation and suppuration in, by post-cervical incision, (67) 128
lowering the, in operations of biliary passages, (59) 617
two cases of contracted, (122) 1329
Pemphigus, (102) 1034
contagiosus in measles, (119) 1406
Pemphigus, foliaceus, case of, (32) 841
Penis, amputation of, followed by multiple pregnancy in wife, *1442
cancer of, *499
congenital defect of, (48) 1034
epithelioma amputated from, (104) 201
transplantation, to close extensive defects in urethra, (146) 1043
Pentosuria, (72) 484, (84) 1279
Pepsin digestion, estimation of, by modern instruments of precision, 1210
Peptomangan Gude, its therapeutic value, (152) 129, (53) 1336
Percussion, auscultatory, as means of diagnosis in thoracic disease, (20) 616
improved method of, (44) 1335
Perforated disc in subjective testing of refraction, value of, (119) 477
in typhoid, (16) 349, (95) 896, (99) 963
peritonitis, healed by laparotomy, (62) 1541
technic of, (89) 1405
Pericarditis, diagnosis of, (23) 533, (94) 668, (38) 1271
obliterative, case of, (18) 841
tubercular, (27) 786
Pericardium, free foreign bodies in, (31) 1476
puncture of, (132) 1406
Perichondritis, auricular, case of, (137) 1329
Perineal section in stricture, indications for, (24) 668
Perinephritis, lipomatous, following pyelitis, (98) 668
Perineum during labor, method of protecting, (10) 60
lacerations of, (1, 2, 3) 127, (118) 534, (126)) 728, (81) 1671
manual retraction of, (9) 128
operations for lacerated, (48) 963
repair of complete laceration of, in girl of nine years, (56) 963
Perioscopic lenses, remarks on Percival's article on, (54) 610
Peristaisis, intestinal, experimental research on, (103) 1113
Peritoneal cavity, natural method of draining, (82) 61
Peritoneum, new method of dealing with, in operations for hernia, (11) 793
Peritonitis, acute, (27) 1701
acute general, (13) 727
acute, treatment of, (147) 201
by propagation, (60) 1405
diffuse, from appendicitis, (16) 421, (113) 422
diffuse, from perforation of appendix, recovery after operation for, (6) 616
due to rupture of gall-bladder, treatment of, (56) 735
experimental, (138) 1043, 158, 1478
gonococcal, (55) 963
in children, tubercular, diagnosis of, (35) 356
suppurative tubercular, (131) 201, (92) 1179
treatment of inoperable septic, *1343
tubercular, consideration of, (12) 610
Peritonsillar abscess, (27) 1179, (61) 1271
Perityphlitis, cases of, (1) 616
indications for operative intervention in, (83) 357
medicinal treatment of, (66) 1701
Permanganate of potassium, use of solution of, in purulent ophthalmia, (99) 1535
Persia and her doctors, (77) 61
Personal factor in disease, clinical importance of, (77) 1477
liberty plea and medical legislation, (12) 421
Pertussis, etiology of, (54) 1187
treatment of, (52) 903
vaccination in prophylaxis of, (133) 1043
with cerebral engorgement, treatment of, (54) 533
Perverts, Wm. Lee Howard on, (108) 842
Pessaries vs. operation, (88) 128
Pessary therapy, notes on, (88) 896
Pfannenstiel's high tranverse incision of fascia, (88) 1405
Phagedena, chronic, due to mixed infection, (68) 1470
Phagocytes, endothelial, of tonsillar ring, (80) 1470
Phagocytosis, rôle of between bodies in, (14) 1041
Phantom, gynecologic, (80) 1405
tumors, causes and significance of, (6) 276
Pharmacy, practical, for the physician, (32) 668
Pharyngitis, a fatal case of acute primary infectious, (10) 1179
acute, of streptococcal type, (103) 422
granulosa and pharyngitis lateralis, (87) 1477
Pharynx, diagnosis of tertiary syphilis of, (59) 675
operative cure of chronic gangrene of, (110) 1406
Pheno-bromate, therapeutic value of, (132) 1329
Philippines, tropical diseases as observed in the, (79) 533
Phimosis, complications of, (2) 1670
congenital, treatment of, (85½) 736
treatment of, (76) 736
Phlebitis in secondary manifestations of syphilis, (50) 735
Phleboliths, of ovarian veins simulating ureteral stones, (68) 1271
Phlegmon and fistula of lower jaw, (4) 533
Phlorhizin diabetes in goats and cats, (101) 534
Phlyctenosis, recurring, of extremities, (28) 970
Phorometric mirror, (90) 1187
Phosphates and carbonates, deposits of, in skin, (158) 1406
Phosphoric acid, indications and contra-indications for, (29) 428
Phosphorus and nitrogen, utilization of, (54) 1042
cod liver oil, (56) 1042
in phosphorated oil, estimation of, (92) 1405
sesquisulphid, non-toxicity of, (112) 1114
influence of, on organic substances in pills, (3) 847
organic, excretion of, in urine, (105) 534
Phthisis, intratracheal "direct" methods of treating, (4) 1700
ization in treatment of, (10) 428
produced by foreign body in bronchus, (16) 1671
prophylactic and therapeutic indications in, (27) 617
pulmonalis, prevention of, (100) 1179
pulmonalis, reasons against public registration or notification of, (3) 1179
pulmonary infantile, (63) 675
rest and exercise in treatment of, (53) 848
thoracic, study of, (8) 1041, (7) 1112, (8) 1278
Phthisiophobia, (31) 274, (30) 1328, (120) 1593
Physical chemistry, application of to balneology, (166) 1478
diagnosis as related to dental college curriculum, *1617
science, Helmholtz's contribution to, *562
Physician and dentist, plea for more intimate relation between, (103) 1470
and laity, some relations of, (127) 1035
as a business man, the, (37) 841
as social economic factor, *1688
consideration of the, from a philanthropic aspect and as a member of the society, (130) 1593
reflections of a, (116) 1470
Physicians' privilege, needed amendments regarding, (90) 1329
Physics and chemistry, application of laws of, to pathology of stomach, (60) 1676
Physiology in Colorado, sketch of workers in, (133) 1329
Picric acid, (170) 1329
Pigmentation, cutaneous, with lesions in the adrenal gland, (182) 897
Pile shield, the, *941
Piramidone, clinical and experimental observations on, (87) 1600

Pirogallol intoxication, alterations of nerve centers in, (71) 904
Pitie, record of operations at, in 1901, (34) 735
Pituitary bodies, treatment of acromegaly with, *295
Placenta, artificial delivery of, (177) 534
pathology of, (87) 841
previa, (23) 847, (14) 1335, (118) 1593
previa, cases of, (32) 1698
previa, impropriety of Cesarean section in, (4) 274
previa, treatment of, (13) 200
retained, (42) 1328
Plague, (146) 129, (43) 356, (41) 541
and its extinction by serotherapy, (165) 1406
bacilli found in mosquito in sick room, (41) 1278
clotting power of blood in, (17) 1113
disinfection of floors for, (15) 1700
epidemic, first, at Changpoo, China, (100) 484
inoculation in incubation stage of, (92) 484
iodin terchlorid treatment of, (26) 1405
of Thucydides was the bubonic plague, (69) 617
on Austrian steamer, (80) 1113
on a German steamer, (41) 903
part played by fleas, rats and mice in, (14) 674
prevention and treatment of, (86) 357
prophylaxis in Formosa, (19) 1405
transmission of, by fleas and relapsing fever by bedbugs, (17) 847
Plasma cells, (71) 736
Plastic surgery of eyelids, *763
surgery of the face, (43) 274, (136) 534
surgery, with cases, *1203
Platysma myoides, unusual development of, (80) 1535
Plehn's method of treating dysentery, (33) 541
Pleural effusions, pressure of, (59) 1405
effusions with heart disease, (37) 541
Pleurisy, (73) 668
acute, with effusion, (9) 1599
errors in diagnosis and treatment of, (100) 611, (112) 842
mediastinal serous, (38) 1405
with serous effusion, prognosis of, (24) 1671
Pleuritic adhesions from standpoint of diascopic diagnosis, (50) 428
effusions, (152) 1471
effusions, diagnosis of, (33) 1106, (71) 1600
Pleuritis, case of biliary, (180) 1407
from malignant disease, (27) 1278
statistics of, (49) 1113
with effusion, early symptom of, (81) 1279
Plexus, celiac, hypophrenic pains and neuroses of, (74) 736
Plimmer's bodies, analogies between, and certain structures found normally in cytoplasm, (79) 1470
Pneumatic massage in aural practice, (87) 1671
Pneumo-bacillus angina, (20) 903
Pneumococcus, degenerative forms of, in pleurisy, (61) 1676
meningitis, results of lumbar puncture in, (26) 1113
Pneumococcus suppurations in joints and bones, (124) 1406
Pneumogalactocele of breast, (11) 895
Pneumonia, (1) 1271
acute, (143) 728, (27) 1405
antipneumococcic serum in treatment of, *1681
can it be aborted, (84) 896
carbonate of creosote in, (27) 476
clinical features, diagnosis and treatment of, (30) 1398
complicating la grippe, typical forms of, (53) 727
creosote in, (127) 350, (135) 1593
crupal, delirium in, (131) 1478
diagnosis and treatment of, (116) 611
epidemic, at West Townsend, Mass., (45) 786
Pneumonia, extensive varices on trunk consecutive to, (90) 1279
important subjects connected with treatment of, *163
in children, treatment of, (132) 275, (104) 1470
in light of modern research, (3) 785
influence of suprarenals in, (29) 1034
lobar, (99, 124) 275, (162) 1329
lobar, in infants, (64) 1179
lobar, treatment of, (27) 128
nervous complications and sequelæ of, (120) 669
prophylaxis in, (23) 1470
resume of remedies used in treatment of, (98) 1593
segmental topography of, (31) 617
serum treatment of, (7) 1271
seventy cases of, (131) 1536
statistics bearing on mortality of, (16) 903
treatment of, (59) 1671
treatment of lobar, (26) 610, (133, 167) 787, (15) 1271
use of creosote in, (155) 787
with pyemia as complication, case of, (134) 1593
with right side endocarditis, (107) 1329
Pneumonitis, veratrum in, (95) 963
Pneumothorax, improved aspirating apparatus for thoracentesis in, (23) 1187
in childhood, etiology of, (77) 357
peculiar, (88) 1187
Pneumo-typhoid fever, cases of, (43) 421, (32) 794
Podophyllin, ocular affection caused by manipulation of, (51) 735
Poisoning, diseases and accidents which may simulate, (33) 1278
Poisons, effects of, in inorganic ferments, (58) 1470
Poliomyelitis, acute anterior, (17) 786, *1357, (16) 1541
Political influence of physicians, 404
Polyarteritis, septic, (9) 1541
Polyhydramnios and post-partum hemorrhage, (8) 1469
diagnosis of, (7) 1469
Polyneuritis, malarial, (33) 794, (61) 1405, (86) 1477
Pons, tumor of the, (8) 970
Ponto-bulbar heat center, *143
Pooley, P. R., the sideroscope, 413
Porencephalia, (53) 1042
Post-dysenteric affections, (40) 428
Post-pneumonic condition, peculiar, (131) 1406
Posterior and lateral columns, symptom-complex in affections of, (60) 356
Postoffice criminals, study of, (117) 534
Posterior fossa of cranium, surgery of, (91) 786
Postpartum surgery, (73) 533
Post-typhoid affections of bones, (48) 483
Potassium nitrate in chronic arterial hyper-extension, (96) 1406
Pott's disease, advantages of correction of deformity of, (34) 1271
disease, importance of early diagnosis and treatment of, (53) 1328
disease of spine, rotary lateral curvature and, *1437
disease, recovery from, without deformity, (19) 668
disease, study of case of cervical, (57) 971
Ponitice method for abscess cavities, (33) 668
Practical points, some, (47) 200
Preceptor, passing of the, (128) 1593
Precursor of Harvey, German, (68) 794
Pregnancy, anatomy of tubal, (26) 1042
and labor, neoplasms complicating, (85) 533
benign tumors complicating, (2) 1534
case of double extra-uterine, (70) 1328
cases of extra-uterine, (23) 895
case of relaxation of pubic joints in, *33
Pregnancy, complicated, requiring surgical interference, (129) 1672
early extra-uterine, (12) 356
early interruption of tubal, (63) 1477
ectopic, case of, (36) 1698
extrauterine, (68) 349, (47) 610, *631, (123) 728, (34) 1042, (85) 1113, (93, 158) 1329, (33) 1592
extra- and intra-uterine case of combined, (24) 895
extra- and intra-uterine, with tabulated cases, (92) 1470
extrauterine, diagnosis of, (41) 476
fibroid tumors and, (117) 1672
hemoglobinuria of, (52) 1701
management of cases of ruptured extra-uterine, (5) 668, (113) 1470
nausea and vomiting of, (102) 963
ovarian, is it explanation of ovarian hematoma, (121) 669
ovarian, question of, (14) 61
ovarian tumors and ovariotomy during and after, (13) 616
remarks on diagnosis of, (15) 1398
signs of commencing, (47) 903
smallpox and, (91) 1106
ten months of, (43) 483, (79) 1405
toxemia of, (82) 896
traumatisms of, (9) 1106
tubal, (92) 61, (67) 476
tubal, case of, diagnosed one week previous to rupture, (12) 1592
tubal, operation for, (144) 62
tubal, resembling appendicitis, (145) 129
tubal, with double pyosalpinx, (16) 128
tubo-uterine, (25) 1042
uterine displacements complicating, (4) 1534
vomiting of, (106) 786
Pregnant state, malignancy complicating the, (3) 1534
Premature infant, problems of, (2) 1541
Prepared food, stain analysis of, (39) 428
Prepuce, anomalies of, (42) 841
Preputial adhesions in female, (150) 964
Prescaphoid and transcuboid amputation, (21) 541
Prescribe, how to, (105) 669
Pre-senility, neurotic indications for, (18) 128
Pre-service surgeons, (105) 484, (13) 793
President McKinley, autopsy of, (132) 62
McKinley, bacteriologic examination of, (133) 62
McKinley, case of, (131) 62
address, American Medical Association, *1551
President's address, American Medical Association, (1, 5, 12, 16, 21, 28, 34, 38) 1698
Pressor substance of pituitary body, medicinal use of, (13) 674
Pretubercular state, the, (154) 1593
Preventive medicine, (129) 534
Primary intention, union by, (52) 1671
Primiparæ, mammary glands in, (4) 1106
Primroses, cutaneous affections from, (75) 1701
Primula obconica as cause of disease, (97) 1279
Private medical college, the, (27) 668
Privileged medical communications, (22) 895
Problems, unsolved, in medicine and surgery, (140) 787
Procidentia of uterus, (68) 1106
uteri, operative cure of, (1) 274
Protoscope, the pneumatic, (26) 1034
Professional injury from loss of one eye, (159) 1478
life, (108) 350
Prognosis, therapeutic value of, (22) 349
Progress, medical and surgical, (141) 1329
Projectile, modern small-bore, (131) 534
Prokhoroff's method of treating syphilis, (37) 970
Prolapse of uterus and vagina in nulliparous women, (34, 95) 1470
operative treatment of, (36) 1042
Prolapsed liver, use of gall-bladder to restore, *803
Prolapsus of rectum, (73) 275
uteri, (54) 963
Pronunciation by sight, instruction in, (36) 848
Prostate, cancer of, (28) 1328
enlarged, (2) 1041
enlarged, what is best form of operative treatment for, (19) 616
extirpation of, for cure of enlargement, (3) 1041
gonorrheal infection of, (1) 667, (27) 1271
hypertrophied, radical operation of, (64) 794
hypertrophy of, (96) 963
hypertrophy of, in absence of testicles, (124) 62
suprapubic cystotomy in operations on, (24) 349
the, *743, *816
total extirpation of, for enlargement, (1) 540
Prostatectomy, (36) 668, (34) 727, (51) 1106, (17) 1476
Bottini's cases benefited by, (19) 128
by the perineal route, (99) 1271
forceps, a, (10) 962
median perineal, *501
perineal, (19) 1179
perineal, intravesical prostatic levator for, (67) 1698
suprapubic, (33) 1535
Prostatic enlargement, instrumental relief of retention from, (111) 963
enlargement, treatment of chronic, (82) 1593
obstruction, application of cautery by new method for reduction of, (37) 1698
Proteosoma-malaria in sparrows, (157) 1593
Prostitution, regulation of, in middle ages, (163) 1406
Protargol in opththalmia neonatorum and trachoma, (166) 534
Proteids, biologic relationship of, (38) 61
physiology of, with its bearing on dietetics and treatment of uremia, (56) 1034
Proteolysis, (39) 1034
Proteosuria, (26) 786
Providence Lying-in Hospital, notes from, (98) 728
Pruritus after internal use of arsenic, (56) 1541
and eczema of anus and rectum, (163) 669
ani, (121) 842, (59) 1698
post-operative, (124) 1535
vulvae, (41) 794
Psammo-sarcoma, endothelial, of spinal pia mater, (74) 904
Psammoma in brain, (54) 1113
Pseudo-angina pectoris, myogenic, (66) 1113
Pseudo-appendicitis in children, (42) 200
Pseudoleukemia, acute lymphatic, (17) 1106
chlorosis and anemia and, treatment of, (68) 1535
relation of tubercle bacillus to, (13) 1034
Pseudomeningitis, (103) 1406
Pseudo-specialists, (34) 200
Pseudo-tubercle bacilli, newest data on, (85) 1542
Pseudo-tuberculosis, arthritic, (34) 794
streptobacillary, of the rat, (13) 1041
Pseudo-tumors, leukemic, of retina, (53) 610
Psilosis, (83) 1179
Psoriasis, (77) 896
after vaccination, (70) 848
and glycosuria, (42) 617
Psychiatry in twentieth century, (122) 787
outlines of, in clinical lectures, (79) 1398
recent advances in, (87) 668, (69) 896
Psychic conditions in children, abnormal, (7) 1279
quackery, lessons from, (147) 669
treatment, (95) 275
Psychology in 1900, (81) 736
Psychopathic hospital, the, (123) 477

Psychoses, observations on elimination of indican, acetone, and diacetic acid in various, (78) 1593
Pterygium colli, (29) 1701
Ptosis and ptosis operations, (106) 1336
Puberty and genius, (82) 1398
Public health law in France, new, (42) 1278
health organizations in United States, (30) 274
hygiene, (75) 350
sanitaria, *160
Pudic nerve, resection of, in vaginismus and pruritus of vulva, (42) 735
Puerperal convulsions, (46) 274, (175) 534, (146) 964
convulsions, malarial toxemia as cure of, (71) 728
convulsions, thyroid gland and, (16) 793
fever, (52) 421
fever, ergotin as prophylactic and specific in, (56) 794
fever, prevention of, (61) 1600
fevers, (55) 1671
infection, (123) 350
infection, diagnosis, prevention and treatment of, *1005
infections of Boston City Hospital, (87) 128
sepsis, (119) 611
sepsis, acute, treatment of, (114) 1672
sepsis, brief resume of, and its treatment on surgical principles, (100) 1593
sepsis, mixed infection in, (90) 1671
sepsis, prophylaxis and treatment of, (58) 1034
sepsis, treatment of acute, (24) 1034
Puerperium, pyrexia of gastro-intestinal origin during, (13) 1278
Pulmonary artery, thrombosis of, (179) 897
circulation, in relation to variations in cardiac activity, (12) 970
disease, Roentgen rays in, *1142
fearlessness, *223
Pulse, graphic tracings of, (53) 428
irregular, analysis of, (65) 541
irregular, explanation of, (62) 484
Pupil center for reflex contraction of, (85) 971
disturbances and deformities in mentally unbalanced, (8) 483
disturbances with lesions of aorta, association of, (25) 847
history of lid closing reaction of, (33) 675
immobility, study of, (85) 971
technic of examining, (51) 1113
Pupillary area, ciliary processes in, (51) 610
immobility, localization of reflex, (42) 1701
Purdy's and Haines' solutions in rapid sugar testing, *317
Purgatives, new, (65) 1600
Puro, (67) 484
Purpura, (122) 275, (157) 422
hemorrhagica, (74, 75) 128, (120) 1043
hemorrhagica, pathology of case of, (75) 128
metameric, (24) 1541
treatment of, (52) 476
Pus dilatation of one member of double ureter, (71) 1470
foci in bone, (78) 422
tubes, removal of large, (84) 200
Pyelitis, chronic, methylene blue in, (83) 1405
Pyelonephritis, acute, (49) 1328
incising kidney in acute, with miliary abscesses, (56) 1113
Pyemia, puerperal, experimental investigation of, (69) 841
puerperal, surgical treatment of, (73) 1187
Pyloric stenosis in infants, (87) 1271
Pylorus, acute perforation of malignant ulcer of, (26) 727
hypertrophic stenosis of, (32) 1541
infantile stenosis of, (51) 1600
observations relative to non-malignant stenosis of, (66) 1698
partial gastrectomy for cancer of, (6) 356
Pyopneumothorax, subphrenic, (53) 903
Pyosalpinx, (136) 1536
superiority of colpotomy for treatment of, (23) 1042
uterus didelphys found with, (57) 476
Pyramidal tracts, primary degeneration of, (55) 1470

Quackery, danger to public health and morals from, (31) 786
some phases of, (144) 201, (98) 422, (110) 728
Quadriceps femoris, substitution of, by flexuor muscles of leg, (63) 736
Quarantine stations, sanitary service and, (30) 970
study of, (2) 962
Quartan fever in Calcutta and Dacca, (19) 1113
Question of figures, a, (83) 1398
Quinin, accidents of, (43) 1405
associations with, (46) 1405
cosolate of, (177) 1536
how should it be administered, (49) 971
in treatment of wounds, (101) 1477
lygosinate as styptic and antiseptic, (38) 356
poisoning, (108) 896
rash, (97) 200, (145) 422
sulphate of, (47) 668, (93) 841, (115) 1470
susceptibility, extraordinary case of, (80) 350
transformations of, (53) 1477
why and when should it be administered, (40) 1113
Quininization of cord, (87) 1542
Quinsy, (157) 611

Rabbit disease, a, (40) 1137
Rabies, (43) 533
Rachitis, antiquity of, (27) 428
thymus gland and, (48) 541
Radial pulse, return, (100) 1477
Radio-active substances in therapeutics, (34) 421
Radiography as aid to diagnosis in renal disease, (56) 356
experimental negative results of, of internal infections, (39) 483
screen to prevent burns in, (33) 1405
stereoscopic, (98) 1271
Radioscopy, locating foreign bodies in brain by, (74) 1042
Radiotherapy, exact measures in, (21) 674
improved technic for, (20) 674
Radium, vision of, by the blind, (23) 1335
Railroad wrecks, rendering first aid in, (16) 200
Railway spine, 171) 1329
Rations for cavalry and infantry, (43) 1278
Rats and plague, (19) 1476
tests of Danysz and new bacillus pathogenic for, (58) 1187
Rawed peritoneal surfaces in abdominal operations, treatment of, (76) 128
Raynaud's disease, case of, (14) 476, (39) 1470
Recent theses at Paris, (33) 735
Reciprocity, away with, (79) 841
desirability of, (78) 841
from standpoint of physician who changes his residence, (76) 841
is demand of, based on fact or fancy, (77) 841
Rectal cases, clinical memoranda of, (49) 727
diseases, facts vs. fallacies in treatment of, (44) 476
diseases, practical suggestions on treatment of, (129) 422, (133) 1035
examination for life insurance, (87) 533
feeding, (47) 1328
instruments, new and improved, (132) 534
prolapse, abdominal section for, (128) 964
prolapse treated by intra-abdominal traction and fixation, (150) 611
valve and obstipation, (10) 786
Rectocele, (48) 963
Recto-perineo-vaginal laceration prophylaxis and suture of, (94) 904
Rectum and anal region, syphilis of, (88) 422
cancer of, (162) 477
imperforate, case of, (113) 963
importance of digital examination in diseases of, (34) 841
Rectum, infection of, (119) 129
lower, fecal accumulation in, (131) 275
malignant disease of, (112) 1671
malignant diseases of, and ulceration, (71) 1593
perforation of, into peritoneal cavity; laparotomy, (14) 1599
simultaneous invasion of, by cancer and tuberculosis, (84) 357
stricture of, (44) 896
study of innervation of, (61) 356
tuberculosis of, (64) 786
Recurrent nerve, bilateral total paralysis of, (76) 1113
Red corpuscles, granular degeneration of, (85) 1279
Reducative sutures, indications for, (41) 1671
Reflex, frontal or supra-orbital, note concerning, (96) 484
Reflexes in early childhood, (127) 1406
in their relation to life expectancy, (154) 422, (94) 533
modifications of, in spinal traumatisms, (29) 617
Reforms in medical education, (100) 477
Refraction, (120) 422
errors of, as cause of eye diseases, (125) 1471
imperfect eye muscles and errors of, (50) 896
Regenticides, (18) 1271
not abnormal as a class, (27) 533
Regurgitation, pulmonary, case of, (98) 484
Relation of medical science to commerce, *1555
Remedial agents, notes on the immediate and remote effects of, *1415
Remedies, neglected, (142) 422
Remittent or Pretoria fever, (4) 674
Renal colic, (39) 794
disease, electricity in, (6) 349
disease, radiography as aid to diagnosis in, (56) 356
tension, (107) 787
Report of cases, (76) 61
Residual sensation as test for diplopia or heterophoria, (75) 786
Respiration and circulation, mechanical by-effects of, (38) 1187
artificial, by direct intra-laryngeal intubation, (11) 349
exceedingly rapid and very slow, (129) 1536
experiments with certain poisons, (56) 1477
irregular, in meningitis, periarteritis and hysteria, (59) 668
treatment of diseases of organs of, (129) 350
Respiratory apparatus, auscultation of, (46) 541
gymnastics, (14) 610
tract, antiseptic nebulae as medication of, *709
Responsibility, few instances of medical, (34) 1278
Rest and recreation by a busy physician, (37) 727
Retention of urine, unusual case of, (145) 787
Retina, anesthesia of, (106) 1535
detachment of in nephritis of pregnancy, (37) 675
leucemic pseudo-tumors of, (53) 610
Retinal lesions of chronic interstitial nephritis, (35) 610
Retraction ring, high, as contraindication to version, (93) 668
theory from psychical standpoint, (102) 275
Retractor, self-folding abdominal, (49) 675
Retrocolis spasm operative treatment of, (101) 1042
Retrodeviations of womb, treatment of, (112) 201
Retrodisplacement, new operation for, (94) 1470
Retroflexion and prolapse, results of operative treatment of, (31) 483
Retrospect, a farewell, (1) 970
Retroversions of uterus, experience with Alexander's operation for, (2) 667
Revaccination, facts as regards susceptibility to, (5) 356
Revolutionary times, medical men prominent in civil and military affairs of, (75, 78) 1535
Rhabdomyoma of tests, specimen of, (160) 1593
Rheumatic fever and its counterfeits, (24) 200
Rheumatism, acute, (173) 477, (42) 1034, (38) 1398, (60) 1535
acute articular, case of, of crico-arytenoid joints, (61) 1592
acute articular, in infant, (169) 477
acute, articular, with pyemic temperature, treated with anti-streptococcic serum, (30) 476
articular, with typhoid, coincidence of, (79) 1477
and renal calculi, successful treatment of, (79) 1034
articular, acetopyrin in, (61) 794
articular, treated with electric-light apparatus, (122) 1279
as cause of epistaxis, (15) 735
chronic, specific for, (40) 349
chronic, what is, (16) 895
clinical observations on treatment of, (38) 1034
gonorrheal, (39) 1106, (133) 1272, (29, 45) 1328, (167) 1329 (65, 70) 1398, (155) 1471, (63) 1535, (142, 148) 1536, (116) 1672
gonorrheal, treatment of, (112) 1535
hot-air treatment of, (88) 610
modern treatment of, (68) 728
puerperal, (77) 1600
study of gastric ulcer and, (167) 611
treated by aspirin, (45) 668
Rhinophyma, operative treatment of, (83) 1113
Rhinitis, virulent diphtheria bacilli in, (41) 675
Rhinoscleroma bacilli, identity of ozena and with Friedlander's, (87) 1187
Rhinoplasty, two cases of partial unilateral, (74) 971
Rhodan combinations, study of, (92) 1279
Rhode Island, early history of medicine in, (134) 787
Rhythmic jerking of head in persons with affection of aorta, (48) 1676
Rib, cervical, (56) 610
Rickets in girls, importance of, from obstetric standpoint, (87) 1034
Rigid spine, (48) 1600
Rigidity of spine with Kernig's sign, (90) 675
Riga's disease, (46) 735
Ringworm and favus, (58) 61
treatment of, (28) 476
Roborat in diet of consumptives, (63) 1600
Rod optometer in determining errors of refraction, (130) 477
Rodent ulcer treated by x-rays, (3) 1186
Roentgen method, advances made in medical and surgical diagnosis by, (136) 422
method in calculi, (34) 610
ray, office methods of diagnosis and, (6) 199
rays, *28, (23) 349, (129) 1272
rays, bactericidal action of, (84) 971
rays, cases treated with, (79) 1328
rays, diagnostic and therapeutic uses of, (75) 1398
rays in diagnosis of intrathoracic tumors, (1) 903
rays in pulmonary disease, *1142
rays, pathology of tissue changes caused by, (31) 1535
rays, report of cases treated with, *911
rays, some diagnostic and therapeutic uses of, (81) 1271
Rohleder's work on sexual instinct and sexual life, comments on, (148) 669
Rosacea, (81) 1179
Röthein, (31) 1398
Rothesay Cottage Hospital, some cases from, (16) 1278
Rupture, circular, of iris, (117) 275
of spinal ligaments, (12) 200
spontaneous, of eye ball, (30) 421

Rupture, spontaneous, of heart, (111) 611
Russia, antituberculosis campaign in, (41) 1600

Sacrococcygeal dimples, sinuses and cysts, the (57) 1398
Saddle-nose, operative treatment of, (81) 841
St. Anthony's Hospital, history of, (51) 349
St. Joseph's Hospital, history of, (51) 349
St. Louis City Hospital, annual report of, (35) 200
St. Petersburg, hospitals of, (26) 617
Salicylates, new substitute for, (68) 1600
Salicylic intoxication, (119) 1593
Saline injections and retention of chlorids in certain morbid states, (32) 1476
solution, intravenous infusion of, (31) 1328
Salophen, (94) 841
Salpingitis, (62) 896, (136) 1593
causes of, (68) 841
tuberculous, case of, (3) 1398
Sanatoria for consumptives, report of committee on, (3) 421
Sanatorium and tuberculin treatment, (30) 674
treatment, question of the day in, (65) 1701
Sand filtration, (13) 962
San Francisco health conditions, address on (138) 129
Sanitarium treatment of consumptives, prophylatic measures to supplement, (43) 617
Sanitary obligations existing between the social unit and the community, (96) 350
Saponin, action of, (60) 1034
Sarcoma and Hodgkin's disease treated by x-ray, *166
giant-celled, and plasma cells, (74) 1477
grape-like, of cervix uteri, (53) 963
idiopathic cutaneous, (79) 350, (73) 675.
inoperable, round-celled, of upper jaw, (24) 1328
nasal, case of, (124) 350
of face, case of, (7) 1675
of femur, (47) 727
of large intestine, (120) 129
of radix linguae, (83) 275
of right tonsil, case of, (125) 477
of tail of pancreas, primary, (72) 841
of testicle, (50) 476
of tibia, cured case of, (46) 356
of tonsil, (7) 1106
of uterus, (85) 477, *1059 (11) 1592
parasitic origin of, (53) 735
primary, of esophagus and stomach, *392
primary, of iris, (51) 841
primary, of small intestine, (12) 1469
primary pigmented, of fourth ventricle, (183) 897
recurrent, with shrinking of tumor, (13) 541
report of a, (122) 728
round-celled, of stomach, (2) 1106
round-celled, treated by x-ray exposures, (85) 610
spinal case of, (40) 1106
spindle-cell, of thorax, in child, (107) 1470
tubular perivascular, (69) 610
two cases of, (52) 1179
Sarcoptes, invasion of, (49) 903
Sarcosporidiosis, production of, in mouse by feeding infected muscular tissue, (60) 200
Sauce for the goose, what is, is sauce for the gander, (53) 61
Scalp, avulsion of, (9) 1670
wounds, and cranial and brain injuries, clinical lecture on, (23) 421
Scandinavian pediatric literature, review of, (51), 1701
Scapula, acquired elevation of, (39) 903
congenital elevation of, caused by defect in trapezius (48) 794
Scarlatina, prophlyaxis of septic, (84) 1542
symptoms and diagnosis of, (40) 668
Scarlet fever, (145) 477, (40) 841, (96) 1671
fever, bacteriologic study of, (49) 1042
fever, ear and kidney in mild, (155) 964
fever, echthol in, (90) 1399
fever epidemic, report of, (43) 1535
fever, eradication of, (85) 350
fever, etiology and incubation of, (51) 421
fever, measles and German measles, (18) 616
fever nephritis, (50) 1042
fever, prophylaxis and treatment of, (39) 668
fever, relations between spindle-spirillae symbiosis and, (38) 970
fever, restrictioon of, (58) 727
fever, some of the more uncommon symptoms of, (92) 422
fever, sore throat in, (39) 1477
fever, traumatic, (35) 617
Schleich method, modified, (32) 128
School children, medical inspection of, (107) 1180, (52) 1328
girls, health of, (22, 23) 1106
hygiene, mental, (3) 356
life in New Zealand, diseases incidental to, (1) 356
life, influence of, over health, (36) 963
sanitation and hygiene, report and commentary on, (13) 428
Schools, league of families and physicians for amelioration of physical and intellectual hygiene in, (50) 1405
medical inspection of, (140) 534
Sciatica, Kernig's sign in, (153) 1478
proposed operative treatment of, (38) 793
spinal cocainization in, (86) 1600
treatment of, (37) 428, (94) 1593, (52) 1676
Science and "Christian science," (80) 477
and education, modern subjection of, to propaganda, *455
and pseudo-science in medicine, (119) 201
Scientific research, (104) 61, (110) 477
Sclerodactylia and scleroderma, (32) 533
Sclerosis, incipient amyotrophic lateral, *377, (169) 1593
inflammation and, (17) 274
multiple, (57) 1701
multiple, of central nervous system, (57) 356
of lung, (31) 848
Sclerotic, suture of perforating wound of, (13) 1328
Sclerotomy in glaucoma, operation in, (18) 1469
Scoliosis, congenital, (76) 1336
corsets for, (81) 1336
treatment of, (43) 1042, (74) 1336
Scopolamin, cycloplegic and mydriatic actions of, (50) 1535
Screen, prophylactic, in treatment of tuberculosis of larynx and pharynx, (10) 668
Scrotum, new, plastic operation of, (68) 1398
Scurvy, etiology and pathology of, (9) 276
in rickety boy, (15) 1405
Seborrhea, microbacillus of, (99) 896
new theory of pathogenesis of, (91) 1600
senile, (31) 1675
Seborrheic eczema, clinical importance of, (71) 1187
Secrecy, principles underlying physician's obligation to, (8) 1328
Sections of American Medical Association, history of, *1504
Sediments, preservation of, for microscope, (94) 1405
Seed and the soil, (1) 1476
Self-consciousness and its relation to crime and abortion, (64) 1328
Semen, biologic test for, (70) 421
Semilunar valves, perforation of, (82) 848
Seminal vesicles, anatomy and pathology of, (149) 1406
Sense of obstacles, (24) 1187
Senility and senile dementia, (7 1593
of uterus, case of premature, (6) 1541
Sensibility, cutaneous, alteration of, in vesical lesions, (96) 1113
Sensory ganglia, pathology of, (85) 1336
Sepsis, acute, ileus, pseudo-ileus, (42) 483
anti-diphtheria serum in, (143) 787
following abortion or labor, how shall we treat, (15) 1534
pneumococcal, (42) 1600
puerperal, results of operative treatment of, (27) 349, (54) 735, (54) 786, (135) 1329
puerperal, sections of liver, kidney and bladder from, (56) 1271
remarks on, (78) 786
treatment of, (77) 1042
Septal spurs, operation for removal of, (115) 1329
Septic diseases, superheated dry air in treatment of acute, localized, infective and, (82) 128
poisoning, what constitutes, (4) 610, (97) 963
problem, solution of, (23) 970
processes, carbolic treatment of, (63) 794
Septicemia and pyemia following criminal abortion, (156) 1471
medical aspects of, (103) 896
new species of bacilli of hemorrhagic, (59) 971
puerperal, (137) 842
puerperal, treated with antistreptococcus serum (127) 1672
Septicemic disease of certain animals, notes on, (112) 1279
Septum, modification, v-shaped operation for deflection of, (3) 1592
narium, perforation of, (110) 1272
Septums, deflected and deformed, etiologic factors in production of, (15) 610
Sera, bactericidal immune, action of, (84) 1113
Serotherapy (31) 793 (72) 794
in epilepsy, (35) 786
of tuberculosis, (58) 428
preventive, in diphtheria, resolutions on, (52) 1278
Serous fluids, hemolytic properties of, (65) 736
fluids, superficial tension of, in organism, (78) 1542
membranes, inflammations of, (79) 675
Serratus magnus and trapezius, paralysis of, *300
Serum diagnosis of tuberculosis, (53) 483
exanthemata, (48) 1701
multiplicity of complements in, (35) 1335
normal, in pneumo-enteritis, (24) 735
Serumtherapy in disease, (55) 61, (164) 611, (44) 963
in typhoid fever, (25) 963
new phase of, (118) 1329
present status of, (27) 61
problems of, *435
Serum treatment of acute, infectious diseases, (44) 1113
Sewage, bacterial purification of, (14) 1034
disposal, (111) 787
purification, (77) 1034
Sex, study in evolution and psychology of, (143) 477, (81) 728, (109) 1535
Sexual anomalies, (31) 1113
function in man, disorders of, (93) 61, (127) 275
inversion among primitive races, (74) 476
organs, male presenting certain feminine characteristics, with hypoplasia of, (81) 1535
perversions, prophylaxis and treatment of, (69), 728
Shakespeare's plays, medical allusions in, (17) 610
Sham operations in cases of imaginary affections, (55) 541
Ship physicians in Byzantine epoch, (70) 617
Ships, ventilation of, (10) 1700
Shock and intra-abdominal operations, (141) 787, (106) 1034
prevention and treatment of, (83) 533
surgical, from clinical standpint, (6) 1106
Shotgun wound of thoracic cavity, (141) 129
Shot wounds of hand and forearm, (82) 668
Shoulder, congenital elevation of, (15) 128
luxation, an old, (109) 1272
presentation occurring twice, (83) 1106
Sick children, how to study, (129) 1471
Sideroscope, the (13) 786
Sigmoid and colon, inflammation of, (137) 477
flexure, diseases of, (37) 1271
flexure, false diverticula of, (159) 1593, (52) 1600
Signatures, doctrine of, (172) 1536
Silicic acid, study of, (115) 1043
Silk tendons, further experience with, (64) 356
Silver city with a golden gate, a, (143) 897
nitrate and chromic acid, action of, on chronic glossitis, *1427
nitrate, new substitute for, (5) 1534
Singing voice, pathologic conditions impairing, (127) 728
Sinus, frontal, x-ray determining limits of, *764
of Valsalva, aneurysm of, (57) 1271
thrombosis, (8) 1179
Sinuses, callous, of abdominal walls, influence of x-rays on, (6) 1675
Sinusitis, latent frontal, diagnosis of, (91) 477, (67) 841
orbito-ocular complications of, (21) 1541
Situs inversus, partial, and large intestine on right side, (30) 356
Skiagraphic study, a (30) 896
Skin-cancers, epithelial, and sycosis non-parasitica with x-ray, treatment of, (19) 476
disease, aseptic treatment of, (26) 1541
disease, indigenous, (132) 350
diseases and longevity, (89) 533
diseases, formalin in, (161) 669
diseases, Roentgen treatment of, (66) 736
eruptions in malaria, (7) 895
general principles of treatment of diseases of, (7), 276
grafting, (123) 964, (40, 51) 1034
grafting for symblepharon of lower lid, (80) 128
nursing in diseases of, (76) 896
remarks on disease of, (9) 841
retrogressive alterations in elastic fibers of, (147) 1406
sensibility, alterations of, in visceral lesions, (79) 1542
signs on, in certain common diseases, (1) 1404
Skull and its contents, (120) 62
necrosis of bones of, *249
osteoplastic trephining of, (66) 794
perforator, new, (57) 428
Sleep and insomnia, (111) 1593
anesthesia during, (109) 896
Sleeping cars, disinfection of, (106) 534
disease, the (18) 1599
sickness in Uganda, (16) 735
Slides, can we do without, (23) 256
Small doses, therapeutics of, (139) 1536
intestine, attempts to disinfect, in man, (47) 794
intestine, congenital malformation of, (111) 1043
Smallpox, (59) 963, (35) 1329
and its treatment, (65) 1179
and pregnancy, (91) 1106
and vaccination, (107) 728, (85) 841, (120) 1329, (141) 1406
and vaccination in Bangkok, (17) 1405
bichlorid of mercury in treatment of, (111) 1671
cases at Ann Arbor and Bronson, (94) 1106
Cleveland and, (91) 1034
consideration of, (91) 668
cures, (152) 787
diagnosis of, *215, (24) 674, (37) 1328
differential diagnosis of, (84) 1398
difficulties in diagnosis of, (36) 1328

Smallpox epidemic in Alma, Mich., (65) 668
hospital ships and dissemination of, (10) 735
hospitals and spread of infection, (11) 1335
in Buffalo, present outbreak of, (156) 534
in England, (49) 735
initial symptoms of, (20) 61
injections of antistreptococcus serum in, (49) 1278
management of, (144) 1107, (69) 1535
ocular lesions of, (52) 61
problem, the (27) 1592
vaccination and, (15) 476, (147) 534
value of state control and vaccination in management of, *1434
varieties, complications and sequelæ of, (1) 727
variola or, (21) 610
with cases in Mendon, Mass., (159) 1329
with report of cases in Franklin, Mass., (160) 1329
Smegma bacillus, the (57) 1187
Snake-bite, case of (17) 1700
poisoning in South Africa, (22) 356
venom in relation to hemolysis, bacteriolysis, and toxicity, (74) 728, (61) 1034
Soaps, disinfecting, study of, (62) 794
of lime and magnesia in urine, (24) 610
Social evil, difficulties in management of, (99) 668
Society, parturition and posterity, (101) 668
Soda salt solution in surgery, (30) 1541
Sodium chlorid injections in treatment of detachment of retina (178) 1478
cinnamate, tuberculosis treated by, (32) 727
methylarsinate or arrhenal, (22) 847
tungstate test for combined chlorids, (37) 1470
Solanum carolinense, investigation of, in epilepsy, (17) 1328
Sole leather bougie, removal of, from male urethra, (89) 963
Solitary abscess of left lobe of liver, simulating abscess in abdominal wall, *1440
Soluble silver, some further experiences with, (105) 1671
Somatic cells, role of certain nongranular and granular, in infection, *633
Somnolence caused by ear lesion, (102) 201, (20) 963
Sore throat in scarlet fever, (39) 1477
Southern California, adaptability of, to needs of consumptives, *289
Southwest, arid and semi-tropic, climatic, study of, (88) 275, (6) 1398, (40) 1470
Soxhlet's sugar food, (51) 428
Spasm of cardia, surgical treatment of, (116) 1043
Special license tax, repeal the, (48) 476
Specialism in education of undergraduates, place of, (42) 1106
in medical work, (19) 970
Specialization in medicine and surgery, word on, (11) 476
Specific plans of treatment, plea for, (15) 895
Specimens for microscopic diagnosis, method of preserving, (67) 736
Speech defects, correcting, (141) 1035
of persons deaf or hard of hearing, (37) 1541
some defects of, of peripheral origin, (86) 896
treatment of principal defects of, (47) 1698
with artificial larynx, study of, (38) 848
Spermatic cord, gumma of, (139) 534
Spermatigenesis and internal secretion of genital glands, independence of, (22) 1476
Sphenoidal sinus, empyema of, (111) 1272
sinus evacuation of, (51) 848
Sphincter ani, plastic operation for restoration of, (30) 1034
Spina bifida, (49) 61, (164) 201, (46) 421, (49) 896, (154) 897, (41) 1042, (46) 1592
contribution to surgery of, (125) 1035, (74) 1470
bifida operation for, (60) 349, *755
Spinal anaglesia and distribution of sensibility according to segments of spinal cord, (59) 1541
braces in lateral curvature, *508
cocainization, (92) 1542
cord, case of multiple lesions of, (57) 1179
cord, changes in, in case of cerebral compression, (45) 1701
cord disease consequent on syphilis, (1) 847
cord, wound of, with manifestations of Brown-Sequard's paralysis, (76) 904
curvatures, (159) 422
curvature, braces for, (77) 1336
fracture, study of, (57) 421, (43) 787
Spindle-spirillæ symbiosis and scarlet fever, relations between, (38) 970
Spine, ankylosis of, (103) 1279
chronic ankylosing inflammation of, (72) 848
fractures of, (34) 356
myogenic rigidity of, (32) 1187
surgery of, (35) 533, (6) 610, (20) 668
Splanchnoptosis, surgical treatment of, (78) 963
Spirillum fever, (16) 674
Splashing sound, (138) 275
Spleen, partial resection of, with hemostasis by steam, (37) 356
traumatic rupture of, (36) 735, (104) 534.
Splenectomy, a, with remarks, (160) 1471
and Talma operation in Banti's disease, (147) 1478
in malarial spleen, (89) 1600
in splenic anemia, (87) 896
Splenomegalia, chronic, (30) 617
Spondylitis, tuberculous, (82) 1542
tuberculous, prognosis in, (73) 421
Sponge found in operation wounds, (156) 1593
Spongifying of labyrinth, (104) 842
Spoon-nails, (26) 1675
Srpue or psilosis in Manila, (28) 786, (30) 841
Sputum, sedimentation process for study of, (76) 794
Squint, plea for early treatment of, *1362
Stab wound of diaphragm, with thoracic hernia of colon, (116) 350
wounds in abdomen, (22) 1470, (165) 1478
Stains, remarks on current receipts for, (58) 1541
"Stammering" bladder and urethra, (4) 540
Staphylococcus albus, hydroa gestations due to, (17) 356
as cause of benign bone neoformations, (76) 1477
aureus and streptococcus, infections produced by, (14) 970
vaccine in furunculosis, (9) 1041
Stas-Otto and Kippenberger methods of determining alkaloids, (44) 903
State medicine, past, present and future, *1568, (4, 8, 17) 1698
preventive medicine, (98) 610
society and the American Medical Association, (131) 1593
Static electricity in hysteric affections, (126) 668
electricity, some uses of, (73) 728
wrinkles, (18) 895
Steam, partial resection of spleen with hemostasis by, (37) 356
saw for resection of liver, (75) 1405
Stenosis and atresia of rectum and anus, (7) 349
aortic, sudden death in, (14) 1398
bronchial, (51) 1470
cicatricial, of pylorus, (44) 735
in throat from perforation of abscess, (115) 1406
Stenosis, infantile, of pylorus, (51) 1600
intestinal, syphilitic, (32) 1335
lachrymal, in infants, (121) 611
laryngeal, intubation and tracheotomy in, (46) 1701
laryngeal, persistent, (12) 727, (116) 896
laryngeal diphtheritic, indications for operative treatment in, (51) 1042
mitral, case of, (101) 1593, (96) 1034
mitral, associated with mitral and tricuspid incompetency, (128) 1471
mitral, possibility of treating, by surgical methods, (11) 616
of pylorus, cases of, (21) 1534
of pylorus, gastro-jejunostomy for, *582
of superior vena cava, (27) 848
peculiar, of small intestine, (117) 1043
Stereoscope on eyes, use of, (49) 274
Stereoscopic photograph, the, (49) 274, (40) 476
Sterile fluids, burette for, (62) 1187
Sterility, causes and treatment of, (77) 533
surgical treatment of, (85) 1106
tubal, (21) 1701
Sterilization of rubber gloves, (25) 1671
Sterilized vellum for preventing adhesions after laparotomy, (52) 727
Sternberg's disease, (13) 1034, (30) 1106
Sternum, fractures of, (164) 787
transverse fracture of, (5) 1670
Stethoscope, new model of, (20) 1476
"Stick auscultation," determination of outline of internal organs by, (36) 1600
Stillbirths and general mortality in Prussia, (142) 1406
Stitch abscesses, (62) 274
Stock's acetone test, criticism of, (58) 903
Stomach and bowels, care of, (121) 1672
and duodenum, address on ulcerations of, (4) 616
and intestinal affections, dietic treatment of, (79) 736
and jejunostomy, general contraction of, (36) 356
and omentum, colloid cancer of, (47) 128
application of laws of physics and chemistry to pathology of, (60) 1676
atony of, (95) 971
case of cancer of, (45) 841
chemistry of, (9) 895
contents in insane, examination of, (93) 275
contents, practical results from examination of, (152) 897
contents, thread-test of acidity of, (108) 534
curvatures, how to use, with our naked eyes, (28) 610
determination of outlines of, (20) 793
dilatation of, (106) 129
diseases of, (51) 200, (40) 896, (42) 1698
diseases of, functional signs of, (163) 611
elastic tissues in, (40) 903
fatal hemorrhage from, due to cancerous ulcer, (103) 1329
gunshot and stab wounds of, (61) 610, (169) 897
gunshot wound of, (32) 476
hygiene and dietetics of, (89) 1113
immediate and remote causes of death in operations on, (46) 1698
mistakes in regard to diseases of, (158) 787
palpation of, (87) 1336
perforation of, resulting from gastric ulcer, (85) 963
problems relating to surgery of, (20) 1328
relation between cutaneous affections and the size of the, (42) 970
rinsing, with nitrate of silver solutions, (94) 1279
simple and accurate method of outlining the, *1578
small apparatus for determining acidity of, (63) 1701
Stomach, some points in diagnosis of diseases of, (128) 1272
tonic contraction of, (58) 848
troubles, place of drugs in treatment of, (24) 1698
tube, improved method of introducing, (8) 60
tube, improvement for, (41) 428
ulcer, surgeon's view of, (44) 1698
value of analyses in diseases of, (74) 61
Stomatitis and Vincent's angina, contagion of, (36) 1476, (37) 1477
aphthous, (41) 1034
gangrenosa, case of, (70) 1034
gangrenous, protozoa in, (36) 476
uremic, (70) 1405
Stone in bladder of female child, (61) 128
Strabismus, concomitant convergent, insufficiency of divergence as etiologic factor in, (55) 1535
cosmetic consideration not the only ones in, (4) 962
functional and paralytic, (26) 1328
observations on internal, (92) 963
Strangulation of bowel in slit in mesentery, case of, (138) 1035
of small intestine, cause of death in, (40) 1042
Street cars in New York, sanitary condition of, (15) 1179
Strength, (102) 477
Streptococci pyogenic for man, unity of, (45) 1378
unity of pathogenic, (29) 1335
Streptococcus affections, serotherapy of, (115) 1279
mucosus, (104) 1107
mucosus and its relation to micrococcus lanceolatus, (138) 897, (74) 1535
toxin, (33) 1187, (44) 1278
Striated muscle, inhibition of contraction of, (13) 610
Stricture of rectum in women, (97) 1329
organic, of urethra, (79) 1271
rectal, treated by electrolysis, (79) 610
urethral, by electrolysis, treatment of, (80) 610
Strictures, gastrotomy and retrograde dilatation in, (165) 201
multiple, of small intestine, (27) 1042
treatment of, (63) 1405
Stridor, congenital, (47) 735
Striped muscle, changes occurring in neighborhood of malignant tumors, (67) 533
muscles, coagulation necrosis of, (37) 617
Stroke auscultation and resonance, (84) 1477
Strongyloides intestinalis in United States, (64) 200
Strumectomy, consequences of almost total, (41) 1701
Strychnin in nephrectomized rabbits, effects of subminimum doses of, (94) 610
tolerance of, (88) 736
Student life in middle ages, (86) 1106
Stukowenkow's quantitative test for mercury in urine, (55) 675
Stypticin as local hemostatic (46) 1541
Subclavian vessels, traumatic arterio-venous aneurisms of, *242, *318
Subcoracoid dislocation, suturing head of humerus to acromion in old, (6) 727
Sublimate, experimental injection of, (150, 154) 1478
intravenous injections of, (94) 1477
Submaxillary gland, transplantation of, (74) 1701
Sub-phrenic zone, suppurations in, (41) 1113
Substance in organism, changes of, (121) 1180
Sub-standard risks, (103) 1593
Substitution, remedy for, (90) 61
Suctorial bulb in culex, (90) 484
Sugar-forming ferment in suprarenal extract, concerning, (13) 349
Sugar in urine, (108) 963
in urine, detection and estimation of, by Elliott method, (106) 1593

Sugar, nitropropiol test for, (27) 483, (124) 1114
testing, rapid, with Haines' and Purdy's solutions, *317
Suggestion in medicine, (13) 476
Suggestions, timely, (160) 611
Suggestive therapeutics, (73) 1106
Suicide, contribution to study of, (55) 421
unusual attempts at, (29) 674
Sulphaturia and sulphated saline injections, (40) 1477
Sulphite of soda as meat preservative, (57) 675
Sulphonal, aspirin, hedonal and lycetol as anti-arthritics, (151) 787
Sulphur miners, work and disease of, (168) 1406
of urine, clinical significance of, (77) 1535
waters in syphilis, (41) 848
Summer complaint, further observations on treatment of, (105) 1180
Sun play-rooms on city roofs, (167) 477
Sunburn with fatal termination, case of, (135) 787
Superfetation, (131) 1272
Superheated dry air in treatment of acute localized infective and septic diseases, (82) 128
Superior vena cava, stenosis of, (27) 848
Superstitution, influence of, in therapeutic doctrine, (172) 1536
Suppression of urine due to obstruction of ureters, (10) 970
Suppuration, acute pelvic, (8) 727
chronic, of middle ear, microscope in, (67) 421
tonsillar and peritonsillar, (9) 1179
Suppurations, leucocyte count in diagnosis of, (71) 1405
Supra-orbital reflex, (22) 963
Suprapubic division of skin, transverse, in performing abdominal section, (67) 349
Suprarenal capsule, hemorrhage treated with, (30) 200
capsules, difference in action between extracts of medulla and of cortex of, (79) 484
extract, concerning sugar-forming ferment in, (13) 349
extract, mode of action of, (78) 848
extract, treatment of gastrointestinal hemorrhage by, (90) 1271
gland, active principle of, in genito-urinary work, (27) 610
gland, blood-pressure raising principle of, *153
gland, new use of, (145) 1536
gland, pharmacology of, *150
Suprarenals, essential principle of, (59) 794
experimental proof of internal secretion of, (137) 1043
in pneumonia, influence of, (29) 1034
Surgeon, passing of the, in Toronto, (108) 275
Surgery as a last resort, (79) 1106, (105) 1399
borderline of, (92) 1106
in America and Europe, (47) 1271
in its relation to neurasthenia, (63) 786
interesting cases in, (140) 728
lecture on, (55) 668
meddlesome, (111) 422
of liver, *1063
relation of to obstetrics, (1 962
thoughts on, (146) 787
Surgical assistant, the, (128) 422, (147) 611, (134) 1035, (137) 1107, (116) 1399
cases, notes in, (76) 1398
clinic, a, (117) 1035, (124) 1672
diagnosis, clinical laboratory in, (90) 200
dressing, new dry, *1207
methods, comments on some, (45) 349
methods, progress of, (94) 484
needle encysted in abdominal cavity, (161) 1593
operation, preparation of patient for, (135) 842
operations on the aged, (35) 421
practice, report of cases from, (133) 422
Surgical talent, plea for dissemination of, through country towns, (125) 611
tendencies, (26) 128, (12) 129
Surra, notes on outbreak of, (15) 793
Suture of arteries, (32) 963
of heart wounds, *1560
Switzerland, sanatoria for poor consumptive patients in, (168) 1536
Sycosis, (95) 129
acne and, treated by exposures to Roentgen rays, (67) 1398
non-parasitic, of beard, cured by Roentgen treatment, (87) 675
non-parasitica, epithelial skin-cancers, treated with x-ray, (19) 476
treatment of, (9) 1041
Sydenham's chorea, (52) 200, (43) 1398
Symblepharon of lower lid relieved by skin grafting, (80) 128
Sympathetic ganglion, reflexes from, (62) 963
nerve, pathology of, (74) 794
ophthalmia, abscess of orbit in relation to, (129) 897
Sympathectomy in exophthalmic goiter, (71) 1477
Sympatheticectomy in simple optic nerve atrophy, (39) 476
Symphysiotomy, *645
drainage after, (81) 1405
with drainage from the prevesical space, (20) 1701
Symptoms and signs in disease, significance of, (156) 1035
Sympus, case of, (93) 350
Syndrome, cerebrospinal, in lead poisoning, (91) 675
Synovitis, gonorrheal, of knee-joint, (40) 1698
simple traumatic, of knee, (37) 896
Syphilid, primary, diffuse, pigmented, (61) 903
Syphilids, palmar and plantar, (19) 1106
tertiary, rare localizations of, (66) 904
Syphilis, (44) 727
and marriage, (134) 964
as legal cause for divorce, (55) 848
bacteriology of, (37, 72) 1187
brain lesions resulting from, *1
cerebral, simulating general paralysis, (18) 483
concerning hepatic, (5) 349
congenital, malnutrition as shown in, (34) 896
difficulties in diagnosis of, (18) 349
domestica, (55) 1034
general medical treatment of, (8) 349
general pathology of, (93) 786
hereditaria tarda, (92) 477
in Vienna, extragenital, (89) 1279
in infants, hereditary, early diagnostic signs and symptoms in, (136) 964
infection, extra-genital, (93) 1477
initial lesion of, at heel, (102) 896
intracranial, and hemiplegia, (77) 422
is milk non-infectious in cases of recent syphilis, (44) 483
Justus' test for, (28) 1398
lactate of mercury in treatment of, (36) 970
manner of transmission of, (41) 617
mercurial injections in, (117) 1279
mercurial treatment of severe, (72) 1405
mercury benzoate in, (24) 541
mercury in, (128) 350
modern treatment of, (64) 61, (151) 728
neurologic aspects of, (135) 964
nutritive disorders in, (23) 674
of alimentary canal, (85) 904
of cord, (69) 1671
of nervous system, remarks on treatment of, (37) 533
of rectum and anal region, (88) 422
origin of, (72) 617
Prokhoroff's method of treating, (37) 970
secondary, atypical manifestations in course of, (63) 1676
Syphilis, spinal cord disease consequent on, (1) 847
sulphur waters in, (41) 848
Syphilis, tertiary, of pharynx, diagnosis of, (59) 675
three cases of, (24) 970
treatment of, (51) 727, (63) 963
ulcus molle and, (79) 357
unrecognized, (56) 349
Welander's treatment of, (98) 1336
Syphilitic disease of cerebral arteries, (60) 1470
insanity and partial dementia simulating syphilitic insanity, (111) 129
lesions of nose and throat, treatment of, (114) 1272
Syringe, automatic, (86) 1113
holder, aseptic glass, (45) 483
new, for bacteriologic investigations, (70) 971
Syringomyelia, spasmodic form of, (29) 1476
Systemic infection by paracolon bacillus probably secondary typhoid, *1493

Tabes, childbirth in advanced, (91) 1405
dorsalis, (142) 1043
dorsalis, treatment of, (26) 1335, (166) 1536
infantile, (43) 1701
superior, (26) 1698
hydrotherapy in, (43) 1600
mercurial treatment of, (72) 736
recent work on, (82) 736
temperature crises in, (39) 1335
Tachodylic medication, (20) 1335
Tachycardia, interesting phenomena occurring in, (6) 1476
Talipes, paralytic, tendon transplantation for relief of, (69) 200
Tallquist hemoglobin scale, value of, to general practitioner, (167) 1593
Talma operation, (148) 1478
Tamponing uterus postpartum, new method of, (31) 349, (119) 669
Tannigen, indications for, in medical practice, (46) 1470
Tannopin in summer bowel troubles, (99) 610
Tansy and carbolic acid poisoning, (114) 62
Tar vasogen, (45) 1541
Taste, nerves of the, (98) 1113
Taxis, dangers of, (54) 617
Technic, evolution of instrumentation and medical, (28) 1137
Teeth and palate, influenzal of nasal and nasopharyngeal obstruction upon development of, (4) 1278
Tendo Achillis, ruptured, ambulatory treatment of, (4) 428
Tendon into bone, implantation of, (90) 1477
reflexes, study of, (44) 1701
transplantation for relief of paralytic talipes, (69) 200
transplantation in muscular paralysis, (11) 1328
transplantation, neurologic questions in operation of, (10) 1398
transplantation, technic and results of, (9) 1398
Tendons, dislocation of, (94) 1042
restoration of function by implantation of, (47) 848
transplantation of, (144) 1043, (59) 1179
Tenement-house life, unsolved problems in, (111) 728
Tenifuges, therapeutic efficacy of, (84) 848
Tenotomies for muscular insufficiencies, search for truth concerning, (78) 128
Tenotomy, graduated, (13) 1469
Ternary aliments, utilization of, (48) 1278
Tertain fever, peculiar case of malignant, (24) 1405
remittent fever with skin eruption, (67) 963
Test, new, of lungs, for forensic cases, (75) 736
serum in rabbits, production of, (30) 1271
Testicle, cancer of, in abdominal ectopia, (11) 483
in scrotum, transplantation of, (66) 1187
recurrent malignant disease of, (136) 1035
sarcoma of, (50) 476
Testicle, new conservative operation on, (39) 1042
replacements of, with vaselin (101) 1336
Testis, imperfectly descended, (1, 10) 793, (2) 847, (10) 903
Tetanus, (115) 129, (159) 611, (34) 1034
antitoxin, point attacked by, (52) 541
carbolic injections in, (116) 1477
antitoxin, facts about, (115) 62
cured by Baccelli method, (135) 1043
death after antitoxin treatment of, (74) 1113
following aseptic celiotomy, (65) 349
following revaccination on leg, (13) 735
following vaccination, two cases of, (99) 200, (150, 152) 534, (92) 668, *1147, *1222, (95) 1329, (88) 1470, (10) 1534
germs in gelatin, (61) 736, (77) 971
in children, rare forms of, (61) 1279
study of, (108) 1279
traumatic, (162) 964
traumatic, case of, treated with beechwood creosote hypodermically, (174) 1536
treated by instillation of antitetanus serum in spinal cord, (109) 971
treated with antitetanic serum, (67) 61
treatment of, (183) 1407
Tetany, (118) 896, (21) 1398
in case of gastrosuccorrhea, (174) 1407
trophic disturbances in, (46) 903
Text-book teaching of alcohol, history of, (122) 896
Therapeutic agnosticism, are we undergoing process of, (153) 1471
measures, neglected, but valuable, *155, (143) 1471
notes, (57) 200
resources, practical, (113) 1034
Therapeutics, personal element of error in, (5) 199
points in hygienic and dietetic, (77) 1113*
practical, (132) 201, (166) 669, (22) 1534
progress of, for last year, (18) 1671
rational, (23) 1179
Thermic trauma, (70) 476
Thermoplasma, electric, (66) 1405
Thiersch grafts for healing of large bone cavity, *1433
Thigh, static relations of bones in, (46) 1042
Thiocol in tuberculosis, (14) 541
Thiosinamin in chronic joint affections, (18) 421
in stenosis of esophagus, (67) 794
Thiry fistula in man, (46) 794
Thomas, T. Gaillard, (24) 1042
Thoracic cavity, shotgun wound of, (141) 129
injuries involving the lungs, (64) 1470
viscera, some uncommon diseases of, (68) 1593
Thoracocentesis, albuminous expectoration following, (67) 1034
Thoracoplasty for chronic purulent pleurisy, (63) 1279
modified for liver abscess, (118) 1279
Throat mirror, new aseptic, *1161
reflexes in hysteria, (42) 1335
swabs, examination of, as test for freedom from diphtheria, (109) 275
Thrombosis, associated with cardiac disease, (4) 667
case of, (17) 1034
intracranial, as cause of double optic neuritis, (7) 616
of cavernous sinus, (21) 1328
of central vein of retina complicating uterine carcinoma, (15) 1671
of central vein of right adrenal, (139) 897
of sinuses, experimental study of, (50) 794
Thrush, pathogenesis of, (108) 1043
Thuja occidentalis, (123) 1180

Thymus gland and rachitis, (48) 541
gland, enlarged, (110) 1470
Thyreotoxin, specific, (111) 971
Thyroid, case of enlargement of middle lobe of, (83) 841
gland and puerperal convulsions, (16) 793
histology of, in syphilis and non-viable fetuses, (67) 904
iodin and iodid treatment, comparison of, (25) 674
liquid, (115) 1180
Thyroiditis, (150) 728
complicating typhoid, (79) 275, (98) 477
Tibia, transverse, supramalleolar fracture of, (53) 1278
Tic douloureux, division of sensory root of trigeminus for relief of, (91) 128
douloureux, therapeutic indications for facial, (28) 1541
Tinea versicolor, (74) 1328
Tinnitus aurium, (84) 350, (127) 477, (112) 1329
case of respiratory, (35) 1179
Tobacco, impotence from abuse of, (22) 1600
ocular and vascular disturbances induced by, (89) 1187
Toe reflex, (59) 1701
Tongue, clinical significance of the, (62) 1271
phenomena observed on, in acute malarial infection, (8) 1106
remarks on congenital cysts of, (9) 793
Tonsil, epipharyngeal, nature and histo-pathology of, *25
right, sarcoma of, case of, (125) 477
Tonsils, primary gangrene of, (12) 1700
Tonsillar inflammations, pathology and quarantine of, (23) 1592
Tonsillitis, follicular, (26) 274, (2) 727
Tonsillotomy, fatal hemorrhage after, (65) 848
Tonsils, are they normal physiologic organs, (33) 274
cysts of, (32) 61
function of, (80) 841
lacunar keratosis of, (60) 610
pharyngeal, importance of hyperplastic and tubercular processes in, (118) 1114
Tooth, case of congenital, (95) 1593
Torsin, axial, of small intestines, (68) 1336
Torticollis, bloodless treatment of muscular, (68) 848
true, (143) 669
Torulæ, four pathogenic, (138) 1272
Toxalbumins, neutralization of, by sodium hyposulphite, (23) 617
Toxemia as factor in prognosis of typhoid, (144) 1272
puerperal, etiology of, (16) 1534
puerperal, treated by accouchement force, (96) 1470
Toxemias of young children, to high temperature in, (159) 787
Toxi-infections, infantile gastro-intestinal, (128) 1478
Toxic dosage, (8) 1398
Toxicity, variation in, of mineral and organic compounds, (55) 1405
Toxicology, medical jurisprudence of, (46) 668
Toxinemia, (89) 1042
Toxins, study of production of, with regard to culture media, (42) 675
susceptibility of insects to tubercular and diphtheric, (80) 848
Trachea, foreign body in, (35) 1034
Tracheal injections in the treatment of bronchial and lung disease, (34) 1535
Tracheotomy and intubation in diphtheria, (61) 1042
preliminary, and ligature of external carotid in severe operations on face, advisability of, (16) 1675
Trachoma, influence of immigration on, in U. S., (70) 1671
of female tract, observations on recognition and treatment of, (49) 1179
operative treatment of, (103) 1399, (178) 1536
Trachoma, treatment of, with copper citrol, (70) 1542
Trachomatous spots in the Malay, (72) 786
Traction diverticulum in esophagus, (71) 675
Trained nurse a "lifter" not a "leaner," (144) 1471
nurse, importance of, (58) 533
nurse, the, (44) 1470
Transplantation of tendon, indirect, (58) 1701
Transverse arrest of the head as indication for forceps, (88) 1535
Trapezius, defect in, cause of congenital deviation of scapula, (48) 794
Trauma, etiologic importance of, (60) 675
Traumatic neuroses, some, (50) 1592
Traumatism, intra-abdominal lesions following, (64) 1592
Traumatisms, chemical treatment of, (144) 611
Tremor from standpoint of life insurance, (71) 848
Trephine, passing of the, (123) 422
Trephining in cortical epilepsy, (72) 1477
per se, curative effect of, (73) 1470
Trichina spiralis, (24) 1278
Trichinosis, sporadic, case of, (108) 129, (57) 786
Trichophyton, cultivation of, (45) 1187
Trigeminus, division of sensory root of, (91) 128
Trip abroad, reminiscences of, (113) 477, (117) 611, (152) 964
Trivalve speculum, (38) 1477
Tropa-cocain in spinal anesthesia, use of, *758
Tropa-cocainization, spinal, (45) 541
Trophoneurosis affecting the hair, (34) 128, (100) 201
Tropical abscess of liver, contribution to study of, (10) 1599
diseases as observed in the Philippines, (68) 203, (
533
Trunecek's inorganic serum, (12) 483
serum, action of, (16) 483
Trunk, re-education of, in tabetics, (28) 428
Trypanosoma, observations on the, (15) 793
Tsetse fly disease, study of trypanosoma of, (20) 735
Tubal abortion, histology of, (93) 904
pregnancies, two, in one patient, (124) 964
pregnancy, ruptured, (137) 1035
Tube casts, microchemical reactions of, (20) 786, (124) 896
in pregnant rabbits, histology of, (149) 1478
Tubercle bacilli, absorption of alexins by, (32) 200
bacilli agglutination of, and their application in phthisis, (41) 421, (62) 736
bacilli, tests of pathogenic action of human and bovine, (28) 483
bacilli, to obtain rapid proliferation of, (69) 904
bacillus and pseudoleukemia, (30) 1106
bacillus, implantation of, (2) 895
Tubercles, experimental, in liver, histogenesis of, (150) 1406
Tubercular affections, cutaneous, and their relation to internal organs, (80) 1477
diathesis, (132) 1272
disease of bones and joints, (129) 611
disease of middle ear, (134) 611
Tuberculids, cutaneous, (155) 1406
Tuberculin and products of tubercle bacillus, (42) 349
in diagnosis and treatment of tuberculosis, (78) 200, (141) 275, *996, (37) 1600
in medicine, use of, (103) 1535
in treatment of tuberculosis, (56) 1676
in tuberculosis of lungs, (1) 1700
reaction to, in convalescents from serofibrinous pleuritis, (79) 848
Tuberculin test of dairies at Syracuse, N. Y., *226
treatment, present status of, (36) 675
uses of, *336
Tuberculosa verrucosa cutis, (90) 1042
Tuberculosis, (110) 787, (160) 964, (123) 1329, (59) 1336
acute miliary, (127) 611
alcohol in, (35) 903
altitude of Rocky mountain plateau in, (31) 476
and Arizona, *229
and childhood, (105) 786
and endocarditis, (81) 275
apical, chronic swelling of bronchial glands as factor in, (36) 903
as insurance problem, (151) 422
association for prevention of, (112) 275
at home, treatment of, (103) 786
bacillus, bovine, virulence of, for monkeys, (2) 199
bacteriology of, (70) 200
bovine, (54) 1405
bovine, and protection of milk supplies, (72) 200
brief review of subject of, (167) 897
cervical, pathology and diagnosis of, (83) 1042
chronic, care of incurable, (11) 786
chronic hyperplastic, of intestine, (61) 200
chronic pulmonary, (145) 1471
cinnamic acid in, (19) 541, (153) 1406
comparison between dissemination of human and bovine, (19) 793
compulsory notification of cases of, (75) 971
consideration of, (118) 62
cough and treatment in, (169) 534
culture products in treatment of, (146) 422, (45) 1271
cured with antitoxin, (134) 1043
cutaneous, (81) 477
duty of medical profession in prevention of, (157) 787
early diagnosis of, (116) 1593
effects of forced feeding in, (8) 735
etiology and diagnosis of, (126) 611
experience with creosote in, *291
experimental inoculation with, (151) 1406
general, with cerebellar tumor, (109) 1329
genesis of, (106) 1406
genito-urinary, (131) 611
glandular, (132) 611, (107) 971
government action re, (76) 200
great fluctuations in temperature in terminal stage of, (43) 128
guaiacol in infantile, (44) 128
heredity and infection in, (121) 477
herniosa and appendicitis tuberculosa, (56) 128
human, inoculation of calves with, (139) 669
hydrotherapy in, (91) 971, (72) 1042
hygiene and treatment of, (118) 728
hygienic cure of, outside closed sanatoria, (15) 274
hyperplastic, of mediastinal lymph glands, (125) 896
ichthyol in, (103) 201, (118) 842, (27) 903
importance of fats in, (99) 841
in a bear, (50) 1187
in Argentina, campaign against, (174) 1478
in Boston, plan for municipal control of, (40) 533
in Canada, (138) 611
in cold blooded beings, (60) 971
in Providence, methods for restriction of, (99) 728
in the individual, development of, (102) 786
in relation to live stock industry, (29) 1698
in state institutions, *157
incipient, diagnosis and treatment of, (97) 1106
indications for utility of altitude treatment in, *288
Tuberculosis, industrial insurance and prevention of, (153) 422
infant, cow's milk and, (7) 421
infantile laryngeal, (19) 483
intercommunicability of human and bovine, (76) 1535, (89) 1671
intestinal, and amyloid degeneration, (48) 428
intraperitoneal, (77) 200
is it contagious, (36) 421
kidney in, (35) 735
Koch's latest method of treating, (13) 483
laryngeal, (133) 611, (56) 1600
laryngeal, diagnosis and treatment of, (48) 841
laryngeal, early appearance of, (124) 477
laryngeal, operative intervention in, (42) 1271
laryngeal, treatment of, (145) 534, (71) 1113
latent tonsillar, (28) 356
light in, (41) 1271
malnutrition of, (168) 477
management of, outside sanatoria, (2) 60
mechanical treatment of, (31) 1335
medicinal treatment of, (74) 200, (51) 1676
mensuration as aid to diagnosis of, (5) 1592
municipal sanitation for treatment of, (8) 421
new explanation of etiology of, (25) 483
notes on, (19) 727
nutrition in, (43) 1271
observations on, (35) 128
of alimentary tract, (130) 611
of bladder, (138) 534
of bone, treatment of, (150) 897
of cecum, (95) 1542
of choroid, (58) 963
of conjunctiva, (3) 1404
of eye, (2) 533
of kidney treated surgically, (100) 786
of left hip joint, (112) 422
of lungs, signs and symptoms of, (71) 200
of lymph glands, (33) 356
of lympathic glands of neck, conservative surgery for, (142) 897
of pelvic organs in female, (128) 611
of the pharyngeal tonsils, (93) 1600
of rectum, (64) 786
of skin following accidental inoculation with bovine tubercle bacillus, (113) 611, (76) 728
of testicle, analysis of ninety-six operations for relief of, *1607
of testicle and epididymis, treatment of, (78) 1271
of testicle, surgical treatment of, (32) 428
of tubes, ovaries and peritoneum, (151) 129
of ureter, nephrectomy for, (117) 62
origin and dissemination of, (153) 897
ozone in, (72) 963
peculiar odor of breath in incipient, (47) 541
peritoneal, (54, 55) 128
peritoneal, resume of surgical treatment of, (53) 668
plea for accepted nomenclature in classification of, (9) 668
possibilities of transmission of, from cattle to man, (100) 129
present status of operation in, (115) 422, (46) 727
prevention and treatment of, (138) 787
primary abdominal, (55) 200, (150) 201
primary hepatic, (68) 1034
primary intestinal, (42) 128, (108) 1470
primary intestinal, in children, (41) 128
pulmonary, (169) 201, (70) 350
pulmonary, clinical course of, (15) 1541
pulmonary, etiology of, (76) 675, (16) 847
pulmonary, home treatment of, (73) 200
pulmonary, organotherapy of, (43) 1541
pulmonary, surgical procedures for, (44) 349
pulmonary, treatment of, (43) 349

Tuberculosis, pulmonary, treatment of, by carbonic acid, (154) 669
question, the, (54) 541, (41) 1335
relation between human and bovine, (29) 61, (8, 16) 668, (4) 735
relation of alcoholism to, (39) 1592
relative to home and herd, (81) 896
renal and bladder, (154) 534
report of Committee on Inspection of, (51) 128
review of literature on, (28) 668
sanatorium treatment of, (109) 787
serodiagnosis of, (85) 357, (30) 1187
sero-therapy of, (58) 428
serum diagnosis of, (53) 483
some means of preventing its dissemination, (151) 1471
some needed regulations of, (137) 611
Southwest for, (53) 1271
study of sero-agglutination in, (32) 1113
suggestions relative to the treatment of, (26) 1592
surgical, treated with high frequency current, (39) 735
thiocol in, (14) 541
treated by carbonic acid, (154) 787
treated by sodium cinnamate, (32) 727
treatment of, (45) 533, (72) 541, (62) 610, (148) 787, (116) 971, (52) 1592
treatment of laryngeal, (115) 1272
treatment of, with sulphid of allyl, (110) 1114
tuberculin in treatment of, (56) 1676
unity of human and bovine, (24) 793
unusual family history of, (33) 1271
vaginal, (100) 1279
value of rectal temperature in, (22) 61
what should be attitude toward sufferers of, (104) 786
when is surgical interference indicated in, (140) 1329
why not forestall, and blot it from the face of the earth, (65) 1535, (113, 124) 1593
Tuberculous and public, relations of, (136) 611
diseases, administrative control of, (2) 1700
exudates, experimental research on, (100) 1336
farm colonies and tent life for, (11) 421
lungs, obstetric forceps in relation to, (14) 349
predisposition, inherited, (29) 1398
sputum, on disposal of, (135) 611
Tubes, ovarian and peritoneum, tuberculosis of, (151) 129
Tubo-abdominal pregnancy, interesting case of, (106) 896
Tulane University of Louisiana, medical department of, (23) 841
Tumor cells, structure of archiplasma of, (120) 1114
cerebellar, (38) 533
cerebellar, and abscess, unusual case of, (111) 1399
cerebellar, case of tuberculosis with, (109) 1329
congenital perithelial, (24) 1701
mediastinal, (135) 534
of base of skull, (145) 1478
of cerebral cortex, (5) 847
of female breast, (150) 1471
of left pre-frontal lobe removed by operation, (15) 616
of middle ear consisting of calcareous laminæ, (66) 421
of optic-nerve sheath removed by Kronlein's method, (47) 1535
of superior maxilla, case of, (96) 1593
ovarian, (82) 533, (13) 1405
solid abdominal, with ascites, (10) 616
surgery in Kashmir Mission Hospital, (14) 1700
Tumors, (80) 200, (51) 794
abdominal, (52) 668, (61) 963
and their treatment, (158) 534
benign, complicating pregnancy, (2) 1534
Tumors, cell inclusion, cell degeneration, and endo-cellular parasites in, (52) 1187
cerebral, (127) 1478
estimation of malignancy of, (85) 200
fibromyomatous, of vagina, (106) 669
general pathology of, (9) 674, (9) 735
inoperable, treatment of, (24) 274
intracranial, surgical aspect of, (45) 610
intrathoracic, Roentgen rays in diagnosis of, (1) 903
involving corpus callosum, (111) 275
lectures on, (76) 533, (71) 786, (89) 1034, (126) 1329, (112) 1593
lymphomatous, of dog's spleen, (82) 1470
malignant, culture experiments with, (137) 1272
malignant, medicinal treatment of, (147) 1536
nasal, uncommon cases of, *765
of central nervous system, (7) 610
of the periphery of the body, (114) 1399
ovarian, and ovariotomy, during and after pregnancy, (13) 616
pelvic and abdominal, some points in differential diagnosis of, *927
some, that require operation, (134) 1107
traumatic genesis of, (46) 356
treatment of pelvic and abdominal, complicating pregnancy, (72) 350
Turbinal, middle, large growths in posterior tip of, (110) 1535
Turbinals, enlarged, (120) 1107
Turkish bath, the, (75) 963
Twin pregnancy, (135) 1471, (145) 1593
Tympanites and phantom tumors, (32) 675
Tympanitic abdomen with fluid, (54) 841
Typhoid, (138) 62, (137) 129, (133) 842, (102) 1179, (133) 1536, (118) 1672
abscess formation in, (77) 1701
acetonuria in, (109) 1279
agglutinating test in puerperal fever, positive, (52) 794
air-borne, (3) 674
antiseptic and eliminative treatment of, (150) 275, (149) 1536
as common, continued fever, (106) 484
bacilli, early diagnosis of, (56) 675
bacilli in feces, detection of, in typhoid, (27) 963
bacilli in sputa of typhoid patients, (66) 848
bacillus, isolation of, (4) 970
bacillus, new method of isolating, (77) 617
bacteriologic diagnosis of, (13) 274
bacteriology of, (132) 842
case of, *824
cause, prevention of, (91) 963
coincidence of articular rheumatism with, (79) 1477
complicated by noma, (78) 275
complications and sequelæ of, (141) 477
cultures, active substances in, (142) 1478
differential diagnosis of, *1300
difficulty in diagnosing certain cases of, and appendicitis, (92) 1600
early diagnosis of, by bacilli in blood, (24) 428
early diagnosis of relapse in, (3) 483
epidemic at Iowa State Agricultural College, *509
epidemic of, in Maine, (22) 1034
epidemic, study of, (68) 61
etiology and prevention of, (8) 1335
etiology and spread of, *979
etiology of, (11) 970, (9) 1186, (8) 1112, (8) 1404, (16) 1476
eye, ear and throat sequelæ of, (29) 610
frequent, serious and unrecorded complication of, (161) 1471
Typhoid in children, some remarks on, (66) 1592
in hospital of St. Peter, history of, (85) 1593
in Mexico, (88) 1542
in natives of India, (14) 793
in South Africa, (7) 428, (2) 674
infantile, of fetal origin, (73) 1328
influence of antipyresis on agglutinating power of blood in, (86) 1187
interesting case of, (97) 61
isolation of, from water, (81) 1701
kidney complications of, (26) 1398, (173) 1593
laboratory diagnosis of, (124) 1272
laparotomy for perforation in, (77) 275
Ludwig's angina complicating, (37) 128
management and treatment of, (48) 727
mastitis in, (122) 534
modified treatment of, *708
mortality from, in Lima, (86) 1542
mortality, comparison of, (70) 1535
nature of, (1) 533
new diagnostic point in, (5) 970
notes on treatment of, (115) 201
or enteric fever, (143) 275
passage of agglutinin from mother to fetus in, (38) 1115
pathology of, (31) 963
peculiar symptom in, (12) 1271
perforation, (58) 274, (147) 275, (16) 349, (26) 476, (161) 534, (95) 896
practical points in treatment of, (99) 477
prophylaxis of, (91) 1542
relapse of, (44) 1328
remarks on, (50) 1106
serumtherapy in, (25) 963
some observations in, (29) 963
specific treatment of, (93) 1042
spine, the, (22) 128
statistics regarding effect of inoculation against, (11) 1404
surgical complications of, (26) 963
symposium on, (157) 1471
thyroiditis complicating, (79) 275, (98) 477
treated by Brand plan, (152) 275
treated by Woodbridge method in India, (25) 1405
treated with castor oil, (101) 1399
treated with water bath, (94) 200
treatment of, (140) 275, (163) 787
treatment of, with reference to use of water, (68) 476
ulcer, perforating intestinal, (165) 787
value of gelatinized urine method of bacteriologic diagnosis of, (73) 617
with spinal symptoms, (28) 1476
Typho-malarial fever, (45) 476
from clinical standpoint, (132) 1593
fever, plea for, (137) 1593
fever, so-called, (112) 1399

Ulcer, chronic, non-malignant, gastric, (3) 616
gastric, and rheumatism, study of, (167) 611
gastric, consideration of, (43) 1698
gastric, due to disturbance in circulation, (87) 736
gastric, feeding of, (7) 793
gastric, operative treatment of, (66, 74) 484
gastric, surgery and pathology of, (80) 1328
gastric, treatment of, (88) 1279, (109) 1406
of the bladder, single, non-tuberculous, (6) 1041
of breast, cure of, after oöphorectomy, (11) 841
of esophagus diagnosed as tuberculosis, (5) 727
perforating gastric, (74) 422, (75) 1470
perforating, of foot, in lepers, amputation for, (24) 356
recurring, traumatic leg, cured by stretching the sciatic nerve and partial resection of the saphena, (41) 735
Ulcer, round, of duodenum, (43) 1113
Ulcerated sore throat, (17) 1675
Ulceration of stomach and duodenum, address on, (4) 616
of stomach simulating cancerous disease, (146) 534
marginal, of gums, (18) 735
Ulcerations, uremic, in stomach and small intestines, (22) 617
Ulcers, general remarks on treatment of, (141) 422
rate of growth of epithelium of, (27) 841
Ulcus cruris, chlorinated lime in treatment of, (40) 1600
rodens cornæ, (54) 1535
rodens, diagnosis and clinical history of, (25) 1675
Ultra-violet light, (9) 540, (6) 970
Umbilical cord, management of, (89) 896, *1071
vein, double rupture of, (77) 1405
Umbilicus, sensory segmental area of, (36) 533
Uncinaria Americana, (1) 1398
Uncinariosis, (76) 275
Uncooked milk in atrophy and gastro-intestinal catarrh in nurslings, (50) 483
Unfriendliness among doctors, (94) 963
Unique case, report of a, (129) 1593
United States Army, history of medical department of, (79) 668
University ear department, ten years' work of, (79) 1535
hospital, reasons why there should be a consumptive hospital in connection with, (115) 1535
of Toronto, new medical building of, (84) 1593
Unna's plasma-cells, study of, (53) 356
Upper respiratory tract, morbid conditions of, (29) 1535
Upton Scott, (78) 1106
Urea estimation, value of, (31) 841
Uremia, dyspneic coma in, (75) 1600
physiology of, with its bearing on dietetics and treatment of, (56) 1034
treated by venesection, (54) 903
Ureter, catheterization of, (29) 1405
complete double, of each side, (162) 1536
cyst formations in, (71) 1336
cysts of, (4) 1328
nephrotomy, with drainage of right, (91) 1179
obliteration of, and consecutive cystic degeneration of kidney, (122) 1478
obstruction of, (69) 1271
Ureteral catherization, work in, (154) 201, (54) 356
surgery, cases illustrating, (71) 275
Ureters, method of treating, severed during abdominal operations, (74) 1034
topography of, (101) 350
transplantation of, into rectum for exstrophy of bladder, (76) 1034
Urethra, male, pointers on, (126) 275
new tissue formation in, (101) 896
stricture of, (101) 129, (79) 1271
surgical intervention in laceration of, (18) 1041
Urethral discharges, (73) 841, (67) 1279
fever, bacterial invasion of circulation cause of, (76) 1187
reinfection, posterior, from bladder, (95) 668
sound, vibrating, (69) 1187
Urethritis, chronic, non-gonorrheal, (59) 903
chronic, treated by extract of suprarenal capsule, (86) 963
eosolate of silver for, (44) 668
impotency due to, (100) 896
neurasthenic, (158) 129
non-gonococcic, (85) 1600
post-gonorrheal, bacillus coli in, (32) 1600
Urethrotomy, (114) 275 (147) 897
Uric acid, (3) 841

Uric acid and xanthin bases, relation of, to gout, (15) 1328
acid, clinical odds and ends of, (100) 350
acid diathesis, (99) 350, (153) 669
acid in urine, rapid test of quantity of, (44) 617
acid poisoning, treatment of, (134) 62
acid, some evils of, (75) 668
Uricacidemia, hay fever, and asthma, (110) 1671
Urinalysis in children, (44) 1671
in gynecic surgery, (45) 1671
Urinary analysis, (147) 964
bladder, on association of stone and tumor of, (69) 1034
deposit, undescribed, (12) 1404
fever, (136) 842
infections, permanent sound in treatment of, (22) 1113
sediment, staining, with sodium alizarin-sulphonate, (53) 675
Urine, albumin in, (32) 1535
analysis, in determining age of neonatorum, (92) 1113
as a soil for bacterial growth, (107) 534
disturbances in evacuation of, (71) 1279
examination of, (105) 1593
examination of, for life insurance, (130) 1329
from ureters without catheterization, to separate, (31) 428
gelatinous, (79) 1701
in genito-urinary diseases, study of, (46) 1671
in young children, study of, (43) 1671
incomplete retention of, in stricture of male urethra, (115) 963
information to be derived from, in nutritional diseases, (5) 483
soaps of lime and magnesia in, (24) 610
tests of antiseptics for, (71) 1542
turbidity of, cold weather accountable for, *446
what can be learned by study of, without a microscope, (73) 61
Urobilinuria in pregnancy, (90) 1405
Uro-genital tract, senile changes of, (148) 964
Urologist, notes of, (157) 1478
Urology, application of, in the clinic, (62) 1405
Urotropin in eunresis, (80) 422
in pyuria, notes from use of, (75) 1671
in typhoid bacteriuria, (84) 736
Urticaria of upper respiratory tract, (40) 786
pigmentosa, (48) 1541
thyroid extract in, (116) 1107
Uterine adnexa, treatment of inflammatory conditions of, (39) 1535
appendages, suppuration in, (15) 963
displacements complicating pregnancy, (4) 1534
displacements, suspension and fixation for, (88) 786
displacements, prevention of, (122) 477
Uterus and bladder, topography of, after Alexander-Adams operation, (48) 617
and broad ligaments, fibroids of, (85) 1535
and vagina, medical treatment of diseases of, (63) 1698
bicornis, twin pregnancy in, (127) 1043
bipartitus, twin pregnancy in a, (24) 1179
cancer of, (132) 422, (133) 477, (39) 1179
classification of displacements of, (104) 484
curettage of puerperal septic, (6) 421
defective development of, (56) 476, (19) 610, (28) 1278, (98) 1470
didelphys found with pyosalpinx, (57) 476
fetal, bone focus in cervix of, (74) 675
fibroid tumors of, (135) 1035
foreign bodies in, (59) 1600
gravid, stab wound of, (124) 1035
in cystocele operations, plastic use of, (16) 274
incarceration of, in ring pessary, (96) 1477
Uterus, instrumental perforation of, (168) 1593
inversion of, (83) 477, (20) 610, (7) 1541
median incision of, in total extirpation, (47) 617
menstruating, anatomy of, (65) 1271
new method of bisecting, (4) 1271
operation for congenital absence of, (38) 421
operations on, (86) 1042
pregnant, myomectomy upon, (156) 275
primary carcinoma of body of, (122) 963
progress in treatment of malignant disease of, (69) 736
retrodisplacements of, two methods of operating for, (35) 963
retroflexion of, (118) 1107
retroversion and retroflexion of, (46) 963
round ligament ventrosuspension of, (19) 200
rupture of, in cicatrices, (47) 675
treatment of rupture of, (66) 356
Uvula, supernumerary, (84) 1671

Vaccination, (51) 786, (149) 787, (29) 1106
and common sense, (1) 1335
and smallpox, (15) 476
comparative merits of, (101) 1034
compulsory, essential, (13) 1179
fatal, which resembled appendicitis, *34
from standpoint of surgeon, (38) 1470
in relation to skin disease, (24) 421
is it what it should be, (148) 534
of 1,060 adults, results of, (9) 1112
question of, (5) 476
various methods of, (3) 895
what constitutes efficient, (66) 1179
Vaccinations, history of six, (49) 1034
Vaccine, micro-organisms of, (121) 1114
propagation of, from calf to calf, (98) 1187
virus, *217
virus with reference to danger of glycerinated lymph, (173) 534
Vaccinia generalisata, (78) 668
genuine, characteristics of, (98) 200
tetanus appearing in course of, (99) 200, (150) 534, (92) 668, *1222
Vaccinium vitis-idae therapeutic value of, (92) 1336
Vagi, effect of severing and mechanically irritating the, (72) 1034
Vagina, atresia of, (95) 1671
complete absence of, (109) 1593
congenital malformation of, (7) 274, (82) 1042
section, (121) 1329, (92) 1399
Vaginitis, gonorrheal, new treatment of leucorrhea and, (56) 61
Vagino-fixation, complicated birth after low, (81) 1042
Vagitus uterinus, case of, (76) 1042
Vagus reflex, the, (20) 349
Valedictory, University of Louisville, (35) 1398
Valve, ileocecal, frequency of, (73) 1542
Valvular heart disease, physical and dietetic treatment of, (17) 1534
lesions of heart, (131) 1471
Vanadium, biologic study of, (109) 1114
Vapor massage, (116) 1329
Varicose veins, etiologic classification of, (35) 1106
veins of right, upper extremity in child, (164) 1593
Variola in fetus without traces of it in mother, (141) 1478
observations about, (126) 1107
or smallpox, (21) 610
Variolation in French colonies, (19) 1186
Variolization, the, (160) 1406
Vasa deferentia, severing of, (14) 786
Vascular system after death by asphyxia and cardiac failure, (6) 1112
Venereal disease, contagion of, (21) 1335
disease, notes on, (44) 841
disease, prophylaxis of, (41) 1405
disease, report of committee on prophylaxis of, in New York City, (5) 60, (34) 61, (6) 128
diseases, circumcision and, (130) 422
diseases, directions to sufferers from, (11) 1671
diseases, problems concerning, (13) 1671
diseases, prophylaxis of, (30) 903, (39) 1113, (117) 1114
ulcer, treatment of, with cold, (66) 1542
Venesection, critical-historical essay on, (29) 903
uremia treated by, (54) 903
Venom and antivenene, (5) 610, (18) 668, (30) 727, (23) 786, (21) 841
Ventrofixation, (9) 727
and ventral suspension in subsequent pregnancy and labor, (5) 274
Ventrosuspension, round ligament, of uterus, (19) 200
of uterus and ovaries, operation for, (109) 728
uterine, new operation for, (123) 62
Venous pulse, dissociated, (81) 1477
pulse, observations on, (58) 1477
Vera Cruz, crime of, (47) 533
Veratrum in pneumonitis, (95) 963
viride, notes on treatment of, (108) 1107
Vermiform appendix, the, (84) 1106
appendix, are seeds potent factors in production of disease in, (36) 1034
appendix as cause of intestinal obstruction, (19) 1534
appendix, foreign bodies in, (84) 841, (91) 1593
appendix, reasons for considering a gland, (11) 1469
Vertigo, malarial, (84) 1336
psychic, (49) 1676
Vesical capacity, note on gauging, *391
emergencies, (88) 200
Vesico-vaginal fistula cured by method believed to be new, (5) 1541
Vessels from yellow fever ports, treatment of, (25) 533
Veterinary medicine and public health, (29) 476
Villi, deportation of, (78) 1042
Vincent's angina and stomatitis, contagion of, (36, 37) 1476
angina, cure of, with methylene blue, (23) 428
Virchow, Rudolph, (125) 129
Virus, filtration of, (21) 735
Viscera, complete transposition of, (145) 669
Vision, peculiarity of, (36) 1106
Visual acuity, economic limitation of, in various trades and professions, *380
center, apoplexy in, (37) 963
defect, what amount of, should disqualify in railroad service, *382
system, complete absence of, in adult, (75) 728
test, criticism of, used in British army, (16) 970
Vitiligo, extensive case of, (77) 728
Vitreous humor, origin of, (117) 1478
Vocal nodules, (99) 61
Volkmann's contracture, (4) 356
Voluntary Board of National Examiners, a, *1215
Vomiting, hysteric, in children, (43) 970
in infancy and childhood, (111) 1107
in pregnancy, pernicious, (91) 841
of pregnancy, case of, (128) 1672
of pregnancy, treatment of, (49, 50) 786
with tracheotomy tube in situ, (63) 421
Von Helmholtz, Herman, the inventory of the ophthalmoscope, *552
Von Mansfelde, Alexander S., (125) 201
Voltaization, tests of, (61) 483
Vulvovaginitis, gonorrheal, in young children, (2) 274
infantum, (72) 1113

Walking apparatus for paralytics, (98) 971
Warrior microbe, (75) 1271
Water bath in typhoid, (94) 200
itch, or sore feet of coolies, (16) 1186
supply, (112) 787
supply, problem of safe and adequate, for twin cities, (129) 842
Weak ankles of children, misapplied mechanical support of, (83) 963
Wearing apparel, new, and hygiene, (38) 476
Weighted vaginal speculum, danger from use of, (19) 1469
Weil's disease, with delirium grave, (105) 275
Welander's treatment of syphilis, (98) 1336
Well-tried combination, a, (170) 611
What should the patient know about his disease and treatment? (35) 1592
Whisky, injurious constituents of, (8) 1700
White corpuscles in suppurative processes, behavior of, (85) 1405
corpuscles in surgical affections, behavior of, (64) 1541
Whooping cough, (96) 129
cough and quarantine, (44) 1106
cough, formol in, (48) 735
cough, modern treatment of, (122) 669
Why doctors disagree, (42) 963
Widal reaction, remarks on some experience with, (28) 963
Will, the, (85) 1187
Wills of lunatics, notes on, (94) 275
Winkelmann's hydrocele operation, (27) 1600
Windpipe, nail in, (112) 62
Witch, thou shalt suffer no, to live, (95) 1271
Woman physician in the country, (63) 668
Woman's Hospital reports, (153) 129
Womb, treatment of retrodeviations of, (112) 201
Women, gonorrhea in, (29) 421
in Russia, history of medical education of, (128) 1329
Wood-Holmes introducer for tamponing uterus post-partum, (31) 349
Word-blindness, cases of, (14) 616
Work in hysteria and neurasthenia, therapeutic value of, (59) 1592, (43) 1470
Worm, lumbricoid, in intestine causing fever in puerperium, (71) 128
Worms in intestines, (133) 534
two new nematoid, (40) 675
Wounds of diaphragm, study of, (6) 483
perforating abdominal, (142) 964
treatment of, (60) 1271, (97) 1535
Wrench, new, for use in correction of stubborn deformities, (109) 201
Wryneck, combination of high scapula and, (79) 1336
spasmodic, in case of exophthalmic goiter, (77) 1470

Xanthin bases, uric acid and, (15) 1328
X-light, notes on, (31) 61, (36) 274, (34) 421, (31) 1271
X-ray and dissection of arteries, (117) 422
burns, accidental, (18) 786, (22) 841
diagnosis and operation in injuries for foreign bodies in the eye, (16) 476
determining limits of frontal sinus, *764
image of, from medico-legal standpoint, (15) 421
in diagnosis and wiring in treatment of fractures, (23) 610
in diagnosis of certain surgical cases, (149) 275
in fractures and dislocations, (134) 201

X-ray in treatment of cutaneous epithelioma, (2) 421
lupus erythematosus cured by, (122) 129
burns, notes on, (58) 128
sarcoma and Hodgkin's disease treated by, *166
therapy, technique of, (49) 668
treatment of malignant growths by, (1) 785
and lupus and epithelioma, (92) 841
X-ray in diagnosis of stones in kidney, (78) 1113
in treatment of cutaneous cancer, (110) 963
in so-called sprains, (17) 421
on callous sinuses of abdominal walls, effects of, (6) 1675
roden ulcer treated by, (3) 1186
therapeutic employment of, (5) 1675
therapeutics of, (142) 534
Yellow fever, agreement between the history of, and its transmission by culex mosquito, *993
fever and quarantine regulations, on transmission of, (20) 128
fever, are vessels infected with, (12) 895
fever, etiology of, (21) 668
fever fomites, experiments with, (86) 1399
fever, infectious agent of, (2) 785
Yellow fever, mosquito theory of, (114) 971
fever, note on spread of, (15) 1186
fever of U. S. of past does not sustain mosquito theory, (142) 275, (118) 350
fever, propagation of, by mosquitoes, (23) 200
Yohimbin, hypodermic injection of, (67) 1676
Young physician, the, (5) 895

CURRENT MEDICAL LITERATURE

INDEX OF AUTHORS

This Index includes the names of authors of articles which have appeared in this journal, as well as of those listed under Current Medical Literature. This practically includes the names of those who have published articles in most of the leading journals of the world. The * preceding the page reference indicates that the article appeared in full in THE JOURNAL.

Aaron, C. D., (128) 728, (56) 1671
Abbe, R., (26) 963
Abbott, A. W., (53) 274, (54) 668, (41) 1106, (47) 1398
Abbott, G. E., (14) 349
Abel, J. J., (45) 61, (81) 786
Abell, I., (78) 1271
Abrahams, R., (13) 1534
Abrams, A., (14) 533, (14) 610, (15) 727, (10) 895,* 1142, (43) 1271, (68) 1328, (51) 1470
Abt, I., (40) 727, (51) 1698
Abt, I. A., (39) 1671
Achard, C., (26) 1113, (32, 33) 1476, (40) 1477
Acker, G. N., (62) 727, (109) 1329
Acland, T. D., (17) 1186, (1) 1335
Adam, G., (161) 422
Adam, J., (8) 793
Adami, J. G., (16) 668, (83) 841, (29) 1698
Adamkiewicz, A., (10) 540, (31) 541, (85) 1187
Adams, F. L., (33) 1592
Adams, J. H., (87) 422, (37) 841, (35) 1592
Adams, S. S., (43) 128, (70) 350
Addario, C., (117) 1478
Addinsell, A. W., (6) 1541
Addison, W. L. T., (93) 1399
Adil-Bey, Dr., (21) 735
Adler, Dr., (95) 1279
Adler, I., (11) 1398
Agatston, S. A., (5) 1469
Agius, B. Q., (32) 1701
Agostini, C., (100) 1113
Ahlstroem, G., (106) 1336
Aiken, H. K., (135) 1593
Aikin, J. M., (88) 1179, (105) 1272, (14) 1698
Akerman, J., (20) 421
Albarran, J., (42) 1676
Albeck, V., (40) 1042
Alberg, G., (53) 1042
Alberto, C. E., (123) 1478
Albright, C. E., (149) 897
Aldrich, C. J., (120) 669, (80) 963, (17) 1034, (73) 1470, (15) 1671
Alexander, G., (61) 617, (63) 1336
Alexander, W., (59) 541, (13) 970
Alfthan (von), K., (52) 848
Allaben, J. E., (70) 786
Allbutt, T. C., (14) 428
Allen, C. L., (23) 963, (54) 1470
Allen, C. W., (2) 421, (89) 533
Allen, D. P., (47) 1271
Allen, F. E., (93) 275
Allen, L., (10) 1534
Allen, M. K., (60) 1328
Allen, S. B., (12) 962
Allen, S. E., (60) 421
Allen, S. W., (9) 1033
Allingham, H. W., (12) 903
Allis, O. H., (58) 476, (82) 963
Allison, C. C., (131) 477
Allport, F., (78) 128, *382
Alsberg, G., (51) 1042
Alter, F. W., (93) 610, (101) 1107
Alterthum, E., (83) 1042
Altobello, A. (46) 1187
Alvarez, B. G., (88) 736
Amann, Jr., J. A., (113) 1043
Amberg, E., (57) 727, (5) 895
Amberg, S., (135) 422
Ambler, C. P., *160
Ameiss, F. C., (42) 1470
Ames, A., (13) 1179
Ames, J. W., (85) 350
Amyot, J. A., (109) 275
Amyx, R. F., (137) 964
Anders, J. M., (81) 275, (113) 534, (109) 611, (60) 786, (13) 962, (14) 1398, (128) 1471
Andersch, H., (31) 483
Anderson, A. B., (131) 201, (135) 477, (92) 1179
Anderson, A. L., (162) 964
Anderson, H. B., (86) 1271
Anderson, H. E., (90) 1034
Anderson, J. C., (98) 275
Anderson, M., (140) 534
Anderson, T., (129) 201
Anderson, W., (83) 61
Anderson, W. M., (132) 1593
Anderson, W. S., (114) 1535
Andrade, E., (68) 533
Andrewes, F. W., (5) 356
Andrews, A. H., (139) 1471
Andrews, E. W., (56) 128, (44) 1698
Andrews, R. R., *1619
Andrews, R. W., (68) 200, (79) 533
Angell, A. B., (57) 841
Anglin, W. G., (127, 128) 534, (76) 1398
Anjesky, A., (65) 971
Anschutz, W., (45) 794
Antonio, N., (120) 1478
Anzinger, F. P., (67) 533
Appelbaum, L., (35) 428
Aranoff, A. B., (77) 1701
Archambault, L., (27) 1335
Archangelskaya, Dr., (30) 1278
Archibald, F. M., (71) 476
Ardery, M. D., (134) 1471
Arloing, S., (24) 793
Arlt, V., (70) 1542
Armstrong, G. C., *824
Armstrong, H., (7) 1335
Armstrong, V. P., (118) 1180
Armstrong, W. A., (139) 422, (164) 669, (97) 841, (129) 1107
Arneil, J. R., (94) 1106
Arnold, H. D., (80) 275
Arnsperger, H., (34) 903
Aronsohn, E., (51) 617
Aronstam, N. E., (139) 62, (55) 421, (143) 477, (46) 668, (81) 728, (109) 1535
Arthur, R., (25) 1278
Ascoli, G., (81) 1477
Ascoli, M., (82) 971
Ashby, H., (10) 1278
Ashmead, A. S., (47) 1671
Asman, B., (74) 350
Aspinall, F. S., (12) 847
Assfalg, K., (66) 541
Astrachan, J. D., (27) 903
Atkins, F. H., (119) 1593
Atlee, L. W., (128) 669, (55) 1398
Atonelli, Dr., (26) 1335
Atrega, J. F., (101) 534
Audard, E., (46) 735
Audry, C., (23) 1675
Audry, Dr., (21, 22) 1335, (31, 32) 1675
Auerbach, M. A., (167) 1536
Auld, A. G., (14) 1675
Aulde, J., (166) 1329, (130) 1471
Ayers, E. A., *645, (5) 1106, (69) 1179, (4) 1534
Ayres, S., *315, (112) 477
Ayres, W., (128) 350, (121) 1107
Baas, K., (85) 971
Babcock, W. W., (90) 422
Babonneix, L., (37) 735
Bacialli, P., (173) 1407
Backman, W., (83) 1187
Bacon, C. S., (118) 422, (89) 896, (87) 1034, *1071
Bacon, K., (92) 350
Badger, G. S. C., (14) 476
Baginsky, A., (49, 50) 1042
Bahr, M. A., (90) 668
Bailey, M. H., (13) 1671
Bailey, P., (22) 1671
Bain, F. D., (105) 350
Baird, J. B., (157) 1471
Baker, C. H., (24) 128, *1135
Baker, L. W., (42) 1592
Baker, T. H., (129) 534
Balacescu, Dr., (71) 1477
Baldwin, J. F., *437, (36) 841, (10) 1271
Baldy, J. M., (30) 349, (116) 669, (29) 841, (47, 122) 963, (8) 1271, (94) 1470
Ball, C. B., (1) 735
Ball, F. P., (70) 1328
Ball, J. M., (58) 963
Ballantyne, J. W., (11) 356, (2) 1541
Ballard, A., (43) 1278
Ballard, J. C., (114) 1180
Ballenger, W. L., (93) 477, (86) 896, (84) 1329, (94) 1399
Ballet, G., (27) 1541
Ballin, M., (109) 477, (46) 1106
Balloch, E. A., (117) 669
Baloff, A., (73) 904
Bamberg, G., (69) 736
Bancroft, T. L., (22) 970
Bandelier, Dr., (37) 1600, (62) 1701
Bandaline, I. G., (82) 904
Bandaline, Y. G., (91) 1336
Bandler, S. W., (113) 669, (51) 963, (91) 1470
Bang, S., (43) 428, (57) 541
Banker, A. J., (60) 1271
Banks, W. M., (2) 275
Bankston, R. C., (129) 350, (155) [illegible], (131) 1272
Bannan, T., (9) 128, (4) 1106
Banti, B., (156) 1478
Bar, P., (26) 674, (29) 1113
Baracz (von), R., (38) 794
Barannikow, J., (56) 1187
Barbarroux, T., (131) 1405
Barbat, J. H., (145) 129, (110) 422
Barbellion, Dr., (51) 1278
Barber, C. F., (91) 786
Barber, H. T., (5) 841
Barbiani, G., (181) 1407
Barbour, P. F., (91) 1271, (61) 1535
Barclay, W. F., (18) 274
Barcus, P. J., (169) 477
Bard, L., (59, 73) 1405
Bardach, B., (55) 675
Bardswell, N. D., (8) 735
Barie, E., (37) 541, (27) 674, (42) 1405
Barkan, A., (48, 49) 610
Barker, A. E., (3) 616, (4) 1041
Barker, A. E. J., (8) 276, (15) 1599
Barker, L. F., *577
Barlow, H. C., (5) 847
Barlow, W. J., (148) 477
Barnes, A. C., (25) 61, *1207, (5, 22) 1534
Barnes, W. G. K., (18) 847
Barnett, L. E., (21) 1278
Barnhill, J. F., (110) 1535
Barnhill, J. U., (118) 1107
Barr, H. A., (142) 728
Barr, M. W., (32) 727
Barreneche, J., (91) 1542
Barringer, Jr., T. B., (3) 727
Barstow, D. M., (27) 1179
Barth, A., (28) 1701
Bartholomew, J. N., (109) 963
Bartle, I. B., (84) 533, (135) 1536
Bartlett, W., (116) 62
Bartley, E. H., (49) 1592
Barton, J. L., (44) 1271
Baruch, S., (58) 841
Bass, A., (54) 735
Bass, C. C., (101) 1399
Bass, H. T., (144) 964
Bate, R. A., (31) 963
Bates, J. P., (134) 842
Bates, W. H., (10) 1328
Bateson, J. C., (61) 786
Batten, J. M., (102) 477
Battle, W. H., (9) 428
Batueff, N. A., (163) 1478
Baudouin, M., (29) 1541
Baumgart, Dr., (48) 675
Baumgarten, E., (115) 1406
Baumgartner, Dr., (48) 848
Baughman, G., (56) 1034
Baughman, J. A., (93) 200
Baumm, P., (34) 483, (36) 1042
Bay, W. F., (110) 1399
Bayer, L., (53) 1336
Bayne, F. C., (24) 1534
Bazart, L., (67) 1698
Bazzicarupo, G., (91) 675
Beach, W. M., (64) 786
Beahan, A. L., (32) 349
Beard, C. H., (116) 787
Beard, R. O., *299
Beaudoux, H. A., (53) 1179
Bechterew, W., (98) 1406, (40) 1701
Beck, C., *28, (39, 53, 73) 128 (23) 349, (148) 422, (6) 727, (18, 66) 1034, *1063, (114) 1406, (31) 1535
Becker, E. W., (18) 841
Becker, P. F., (31) 1701
Becker, W., (74) 1336, *1578
Beclere, A., (39) 848
Beclere, Dr., (21) 674
Beddard, A. P., (3) 970
Beebe, B. F., (29) 1592
Beecher, C. H., (152) 534
Beehler, L. L., *1081
Beeler, G. B., (141) 422
Beffel, J. M., (153) 1329
Begg, C. L., (11) 1671
Behr, A., (83) 1542
Behrend, E. B., (31) 841
Behrens, L. H., (50) 668, (131) 1471

Behring (von), E., (72) 794
Bellfield, W. T., (111) 963
Bell, J. M., (108) 963
Bell, S., (107) 477
Bellei, G., (14) 970
Belli, C. M., (119) 1478
Below, E., (26) 903, (68) 1279
Belt, E. O., (23) 1534
Bender, O., (39) 903, (34) 1701
Bendix, E., (44) 356, (57) 848
Benedict, A. L., (112) 963, (116) 1035, (58) 1106, (96) 1399, (37) 1470, (153) 1593, (27) 1671, (122) 1672
Benedict, H., (104) 1406
Beniasch, M., (26) 1187
Benjamins, C. E., (39) 617
Bennett, T. J., (140) 728
Bennett, W., (17) 668
Bennett, W. H., (6) 276
Bensen, R., (63) 1113
Bentley, C. A., (85, 108) 484
Bentley, W. H., (131) 1107
Beretta, A., (95) 1187
Berg, A. A., (25) 1328, *1493
Berger, Dr., (50) 1541
Berger, P., (20) 483
Bergey, D. H., (30) 1535
Bergh, R., (70) 736
Bergmann, E., (44) 1042, (64) 1187
Berkeley, W. N., (157) 1593
Berliner, C., (53) 1541
Bernady, E. P., (97) 61
Bernart, W. F., (19) 1106
Bernays, A. C., (11, 48) 668
Berndt, F., (29) 356, (54) 794, (74) 1187
Berne, J. G., (91) 484
Bernert, R., (109) 1279
Berry, J., (7) 1404
Berry, W. D., (147) 787
Bertelsmann, R., (76) 1187
Berthier, H., (22) 1113
Bertrand, G., (46) 1278
Bertrand, L. E., (233) 1187
Beshoar, M., (167) 787
Bethea, P. K., (131) 350
Bettmann, Dr., (103) 1477
Bettmann, M., (72) 533
Betts, C., (102) 1107
Betts, W. W., (88) 275, (6) 1398, (40) 1470
Beyea, H. D., (34, 95) 1470 (166) 1593
Beyer, G. E., (118) 201
Beyer, H., (87) 1042
Bial, M., (84) 1279, (60) 1676
Bickel, A., (44) 356, (57) 848
Bicknell, G. H., (132) 477
Bidder, A., (36) 1541
Bidwell, L. A., (5) 616
Biedert, C. C., (37) 128, (98) 1034
Bier, A., (65) 1113
Bierhoff, F., (28) 128, (37) 786, (34) 1328
Biffi, L., (77) 617
Biggam, W. H., (74) 1398
Biggs, G., (175) 897
Biggs, G. P., (172) 897
Biggs, M. H., (92) 129
Bikeles, G., (60) 356
Biller, J. G., *4
Billet, A., (47) 1278
Billings, F., (32) 610, (160) 787, *1496, *1555, (1) 1592, (2, 6, 19) 1698
Binder, G., (49) 848
Binet, M., (27) 617
Bingel, A., (77) 675
Bingham, G. A., (131) 611, (94) 896
Binnie, J. F., (147) 129, (121) 963
Biondi, C., (104) 1113
Biondi, D., (118) 1478
Bird, U. S., (63) 476
Birdsall, S., (99) 477
Birdwood, G. T., (13) 1112
Birt, C., (20) 356, (4) 903
Bisbee, A. B., (151) 1035
Bischoff, E., (73) 357
Bishop, F. H., (84) 610
Bishop, L. F., (39) 200, (152) 275, (100) 534, (15) 895, (45) 1106
Bissell, J. B., (22) 1470
Bissell, W. G., (23) 1592
Bivings, W. T., (9) 1670
Björkman, G., (159) 129, (115) 1035, (146) 1536
Black, M., (115) 1329, (130) 1536
Black, N. M., (15) 610, *1362
Blackader, A. D., (29) 61
Blackwood, W. R. D., (97) 129, (151) 787, (94) 841
Blad, A., (20) 793, (84) 1477
Blair, B. H., (177) 534
Blair, V. P., (156) 422
Blake, D. B., (166) 787
Blake, F. W., (119) 1107
Blake, J. A., (18) 1398
Blake, L. I., (57) 1671
Blakelidge, R. M., (135) 1471
Bland-Sutton, J., (11) 276
Blaschko, A., (55) 1676
Blaumier, Ch., (59) 736
Bleyer, A. S., (108) 1034
Bleyer, J. M., (41) 1271
Bliss, T. F., (148) 897
Blitz, A., (126) 1272
Bloch, Dr., (148) 1406
Bloch, I., (70) 617
Block, J., (148) 964
Blodgett, W. E., (21) 349, (35) 1271
Bloomhardt, F. H., (8) 274
Bluhm, A., (50) 675
Blumer, L., (48) 1541
Blumfield, J., (12) 1675
Blumreich, L., (45) 428, (38) 1042
Boas, I., (58) 848
Boas, J., (40) 1335
Bocchi, A., (136) 1043
Bobroff, A. A., (76) 1477
Bochroch, M. H., (57) 1179, (26) 1698
Bock, F., (70) 1701
Bockenheimer, P., (41) 1042
Bodenhamer, W., (4) 127
Bockart, M., (44, 47) 1541
Bodin, E., (21) 1675
Boetzelen, E., (43) 903
Boggess, W. F., (48) 727, (46) 1179, (33) 1398
Boise, E., (6) 1106
Boix, E., (23) 617
Bolduan, C., (180) 897
Boltenstern (von), Dr., (147) 1536
Bolton, P. R., (67) 1470
Bommier, R., (44) 970
Bonduraut, E. D., (182) 534, (121) 728, (24) 1592
Bonifield, C. L., (98) 1470
Bonne, G., (71) 1187
Bonney, S. G., (11) 1534
Bonney, V., (89) 422
Boot, G. W., (68) 476
Booth, A. W., (12) 1469
Booth, B. S., (125) 477
Bordier, H., (27) 541
Borelius, J., (145) 1043
Borini, A., (84) 848
Borland, E. B., (95) 477
Borri, L., (106) 1113
Bose, K. C., (14) 1113, (4) 1335
Bosher, L. C., (50) 476
Bossi, L. M., (169) 1406
Boston, L. N., *446, (148) 1329, (32) 1535
Bosworth, F. H., (33) 274
Bottomley, J. T., (12) 610
Bouchacourt, L., (30) 1113
Bourget, L., (66) 1701
Bourneville, Dr., (42) 848
Bousfeld, E. C., (17) 1675
Bontelle, J. T., (55) 1034
Bovaird, Jr., D., (41, 42) 128
Bovee, J. W., (10) 421, (53) 786, (49) 963, (105, 111) 1329
Bowditch, V. Y., (100) 841, (99) 1671
Bowen, D. C., (47) 610
Bowen, W. S., (69) 128
Bowman, D. E., (111) 350, (104) 963, (72) 1179
Box, C. R., (4) 616
Boyd, H., (145) 1593
Boyer, A. I., (13) 421
Boynton, C. E., (114) 62
Bracken, H. M., *157
Brackett, A. R., (52) 274
Brackett, E. G., (21) 1106
Bradburne, A. A., (16) 670
Bradbury, A. J., (139) 1107
Bradford, E. H., (89) 1470
Bradford, W. G., (52) 896
Bradshaw, T. R., (60) 617, (1) 847, (12) 1404
Brady, G. T., (20) 200
Brahmachari, J. R., (19) 1113
Brahmachari, U. N., (107) 484
Braine-Hartuell, J. C., (22) 61
Brainerd, I. N., (65) 668
Braislin, W. C., (66) 421
Braitenberg, J., (83) 736
Brancati, A., (131) 1478
Brandenburg, Dr., (52) 617
Braudweiner, A., (66) 1542
Brannan, J. W., (17) 200, (4) 667
Braswell, M. R., (122) 611
Brat, H., (38) 428
Brauer, L., (52) 1701
Brauser, H., (58) 483
Bray, H. A., (34) 841
Brawner, J. N., (153) 897
Bray, J. L., (115) 201
Brayton, A. W., *313, (115) 350, (91) 668, (59) 963, (35) 1328
Brayton, N. D., (75) 1034
Breakey, W. F., (54) 727
Brecht, O., (56) 1535
Breitmann, M. I., (86) 904
Brennan, M. T., (29) 1187
Brewer, G. E., (8) 533
Brettauer, J., (16) 274
Brick, J. C., (20) 1271
Brickner, S. M., (66) 1271
Brickner, W. M., (128) 422, (147) 611, (134) 1035, (137) 1107, (116) 1399
Bridge, N., *21, *289
Bridges, W. O., *1300
Brieger, L., (34) 1187, (52) 1676
Briggs, C. E., (77) 275
Briggs, W. A., (7) 476, (176) 1329
Brill, N. E., (16) 1398
Brinckerhoff, W. R., (134, 135) 897
Brindel, Dr., (53) 971
Briquet, Dr., (25) 674
Brissaud, E., (18) 483
Bristow, A. T., (144) 534
Broadbent, W. H., (1) 275
Broca, A., (29) 1675
Brockway, C. H., (114) 963
Brocq, L., (18) 674, (24) 1675
Brodhead, G. L., (63) 1179
Brodie, T. G., (12) 970
Brodnax, H. H., (140) 422, (117) 1180
Brook, W. F., (11) 793
Brooks, H., (105) 275, (136) 669, (182) 897, *1051
Brophy, T. W., (67) 786
Brosch, A., (76) 848
Brose, L. D., (29) 610, (80) 1034
Brothers, A., (59) 476, (34) 1671
Brouardel, P., (33) 1278
Broughton, W. R., (75) 786
Broun, LeR., (66) 128, (2) 667
Browd, E. K., (33) 349
Brower, D. R., (65) 200, (152) 611, (56) 841, (47) 1470
Brown, C. H., (136) 129
Brown, E., (138) 477
Brown, E. D., (59) 1034
Brown, E. J., (46) 476, (49) 1786
Brown, G. H., (6) 1592
Brown, G. L., (59) 1698
Brown, G. Y. I., *169, *237
Brown, J. K., (139) 728
Brown, J. M., (162) 787, (123) 1180, (97) 1399, (47) 1698
Brown, J. P. C., (115) 1272
Brown, O. C., (100) 129
Brown, P. K., (113) 129, (20) 200, (25) 896, (10) 1179
Brown, P. F., (144) 62
Brown, R. C., (2) 727
Brown, S. A., (63) 1592
Browne, H. L., (2) 1335
Browne, V., (31) 1034
Browning, C. C., (117) 1593
Browning, W., (22) 610
Brownlee, J. W., (15) 1278
Brownson, W. C., (176) 534
Bruandet, L., (48) 1405
Bruce, H. A., (132) 611, (95) 896, (99) 963, (110) 1107
Bruce-Porter, H. E., (5) 1041
Bruck, A., (40) 1541
Brummitt, R., (102) 484
Brunazzi, G., (174) 1407
Bruner, W. E., (120) 275
Bruuner, F. R., (124) 1107
Brunner, H., (42) 356
Bruno, J., (49) 541
Brnns, C., (69) 356
Bruns, Dr., (128) 842
Bruns, H., (61) 736
Brunton, L., (11) 616, (7) 793, (96) 1406, (3) 1700
Brush, A. C., (57) 1470
Brush, E. C., (34) 200
Brush, E. F., (22) 1034
Bryan, W., (94) 786
Bryaut, E. A., (124) 201
Bryant, E. A., (124) 201
Bryant, J. D., (21) 1470
Bryce, P. H., (75) 200, (147) 534, (77) 1034
Bryson, J. P., (36) 668, (34) 727
Buch, M., (74) 794
Buchanan, S. A., (143) 422
Buchanan, W. J., (17) 793
Buchard, O., (44) 1600
Buchler, A. T., (102) 896
Buckler, W. H., (94) 275
Buckley, A. C., (55) 1179
Buckley, S. S., (63) 200
Buckner, J. H., (33) 200
Budd, G. A., (104) 896
Budgett, S. P., (62) 963
Buettner, Dr., (36) 483
Buffa, E., (94) 1113, (78) 1542
Buhlig, W. H., (85) 1470
Bulius, G., (48) 617
Bulkley, L. D., *98, (56) 349
Bull, C. S., (10) 349, (39) 727
Bullard, R. T., (62) 128, (140) 1329
Bullard, W. D., (5) 962
Bullard, W. L., (112) 62
Bullitt, J. B., (67) 1106
Bulloch, W., (17) 356
Bullock, E. S., (36) 896, (143) 897
Bulow-Hansen, Dr., (144) 1043
Bulsou, Jr., A. E., (103) 1399, (178) 1536
Bunts, F. E., (51) 1271
Burch, J. H., (16) 1592
Burch, L. E., (57) 1328
Burchardt, L., (111) 1535
Burdick, F. E., (135) 787
Burke, W. C., (128) 1035
Burlingame, J. H., (65) 1592
Burlureaux, Dr., (20) 1335
Burnett, C. H., (65) 841, (20) 963
Burnett, S. M., (148) 201, (116) 477, (66) 1671
Burnham, F. R., (147) 477
Burns, R. G., (111) 129
Burr, C. W., (4) 199, (20) 1179
Burrell, H. L., (15) 200, (38) 274
Burroughs, J. A., *291, (65) 1535, (113, 124) 1593
Burt, S. S., (47) 128, (3) 785, (1, 15) 1271
Burt, W., (17) 1592
Burwash, H. J., (82) 128
Bury, J. S., (11) 1278, (3) 1599
Busch, F. C., (82) 1470
Buschke, A., (72) 1113
Bush, B. E., (164) 1593
Busquet, Dr., (14) 483, (32) 794
Butler, B. F., (98) 896
Butler, G. F., *155, (5) 199, *363 (143) 1471
Butler, T. L., (131) 534
Butler, W. J., (44) 610
Butlin, H. T., (3) 275
Butte, L., (42) 970
Buttersack, Dr., (38) 1187
Buxton, B. H., (14) 1034, (152) 1536
Bychowsk, Z., (41, 42) 428
Byelonoff, G., (72) 904
Bylsma, R., (76) 786
Byrne, J., (113) 1035
Caberly, C. S., (150) 534
Cabot, A. T., (41) 786
Cabot, H., (33) 963
Cabot, R. C., (64) 610, (24) 1671
Caccini, A., (20) 1405, (19) 1600
Cackovic, M., (36) 356
Cahen, F., (116) 1043
Cahn, A., (55) 1600
Caille, A., (50) 128, (38) 200, (110) 1470
Cain, J. S., (139) 611
Cajal, R., (95) 1406
Caldwell, J. J., (118) 1470
Callaway, W. H., (16) 786
Calvert, W. J., (123) 534
Cambiaso, A., (134) 1043
Camerer, Jr., W., (94) 971
Cameron, C. A., (6) 674
Campbell, A. J., (5) 903
Campbell, C., (4) 1700
Campbell, C. A., (85) 1271
Campbell, F. J., (91) 1593
Campbell, G., Jr., (152) 201
Campbell, H., (17) 1599, (20) 1675
Campbell, M., (143) 62, (159) 201
Campbell, O. B., (42) 727
Campbell, R. N., (107) 484
Campbell, R. R., (139) 534
Campbell, T. F., (29) 1106
Candler, G. W., (96) 841
Canevazzi, S., (75) 1336
Canuon, W. B., (67) 610
Cantalupo, R., (69) 848
Cantlie, J., (13) 847
Cantreil, J. A., (148) 1272
Cantrell, W., (102) 1179
Capogrossi, A., (152) 1478
Carbone, T., (133) 1478, (77) 1542
Cargile, C. H., (52) 727
Carinl, F., (89) 1600
Carle, Dr., (28) 970
Carmalt, C., (100) 1470
Carnett, J. B., (85) 1106
Carnot, P., (31) 617
Carpenter, D. N., (84) 668
Carpenter, E. W., (139) 1593
Carpenter, G., (15) 1405
Carpenter, J. G., (118) 534
Carpenter, J. W., (37) 1034
Carr, W. L., (64) 727, (115) 896
Carr, W. P. (70) 128
Carrier, A. E., (38) 896
Carriere, G., (43, 46) 970

Carroll, C. C., (148) 787
Carroll, F. J., (145) 275
Carroll, J., (21) 668
Carrow, F., (102) 1535
Carruthers, J. G., (10) 356
Carson, M. F., (149) 275
Carson, N. B., (34) 786
Carstens, J. H., (4) 349, (61) 476, (86) 477, *1294
Carstens, J. H., *1614
Carter, H. R., (12) 895
Carter, H. S., (124) 129
Carter, J. M. G., (51) 200, (11) 274, (40) 896, (42) 1698
Carter, J. M. G., (77) 1671
Cartledge, A. M., (130) 534, (89) 841, (170) 897, (42) 1328, (115) 1672
Carveth, G. H., (81) 1593
Carveth, G. N., (95) 1593
Carwardine, T., (12) 356
Cassidy, H. F., (24) 1534
Cassirer, Dr., (32) 1187
Cassirer, R., (71) 1042
Castellani, A., (12) 674
Castelli, E., (12) 1033
Castresana, B., (86) 736, (178) 1478
Castro, J. G., (177) 1478
Cathelin, F., (60) 1279
Caton, R., (16) 428
Cattaneo, C., (127) 1406
Catterjee, G. C., (24) 1405
Cattle, C. H., (4) 735
Cauteley, E., (98) 484
Cavazzani, Dr., (126) 1478
Cavazzani, E., (166) 1406
Cavazzani, G., (75) 617
Caven, J., (107) 728, (120) 1329
Cecil, J. G., (91) 841, (36) 1398, (58) 1535
Ceni, C., (24) 841
Centanni, Dr., (80) 848
Centanni, E., (69) 971, (41) 1187, (111) 1477
Cervera, V. P., (181) 1478
Cestan, R., (35) 1675
Chadbourne, T. L., (92)1034
Chalmers, A. J., (16) 1405
Chambers, G., (81) 477
Chambliss, E. L., (75) 668
Chance, B. K., (82) 1034
Chapelle, P., (56) 61
Chapin, C. V., (99) 728, (36) 786
Chapman, J. E., (8) 735
Chapman, V. A., (94) 1593
Charrin, A., (97) 1406
Chartier, M. E., (98) 534, (155) 1035
Chase, R. F., (15) 668, (23) 1698
Chase, R. F., (23) 1698
Chase, R. H., (16) 1328, (165) 1593
Chase, W. B., (62) 476
Chassaignac, C., (27) 610, (126) 842
Chassel, L., (93) 971
Chatin, Dr., (29) 1675
Chauffard, A., (23) 428, (31) 848, (38) 1405
Cheatham, W., (64) 1106, (115) 1180, (107) 1671
Cheever, D. W., (22) 895
Chelmonski, A., (57) 1405
Cheney, W. F., (105) 1535
Chenoweth, J. S., (66) 1106
Cherry, T., (22) 1278, (16) 1476
Chesebro, E. D., (133) 787
Chetta, M., (70) 356
Chetwood, C. H., (30) 1034, (13) 1592
Chiari, O., (58) 1336
Childs, C., (6) 903
Chipault, Dr., (28) 1541
Chipman, R. J., (30) 476
Chisholm, H., (125) 842
Chisolm, F. M., (130) 477, (65) 896
Chittick, W. R., (98) 1106
Chlumsky, Dr., (63) 794
Christian, H. A., (66) 610
Christian, H. M., (73) 841, (46) 1671
Christian, J., (90) 275
Christison, J. S., (111) 477
Christopherson, J. B., (6) 1041
Christy, C., (16) 674, (15) 1186
Church, B. F., (141) 1329
Churchill, D., (134) 787
Churchill, F. S., (87) 1535
Cioffi, E., (58) 428, (116) 1477
Claermont, P., (60) 541
Claflin, T. C., (95) 534
Claiborne, J. H., (52) 476
Clapp, H. T., (108) 896
Clark, E .D., (60) 61, (114) 350
Clark, F. E., (149) 787
Clark, F. S., (51) 1398
Clark, J. G., (82) 61, (68) 1271, (171) 1592
Clark, J. P., (42) 786
Clark, L. P., *1068
Clarke, J. F., (50) 1671
Clarke, J. J., (109) 422
Clarke, J. M., (157) 1329
Claude, H., (41) 1477
Claudius, M., (79) 1113
Claytor, T. A., (76) 275
Cleaver, I., (23) 128
Clemensen, P. C., *919
Clements, J., (104) 611, (80) 896
Clemm, N., (51) 1336
Clendenen, F., (137) 129, (142) 422
Clevenger, W. F., (124) 1535
Cline, L. C., (119) 1535
Clough, H. T., (127) 1536
Clow, G. B. N., (126) 62
Coates, H., (127) 669
Cobb, C. M., (114) 1272, (29) 1535
Cobb, J. O., (19) 1271
Coblentz, V., (124) 669, (119) 963, (119) 1180
Coburn, E. B., (146) 1593
Cochrane, H. D., (20) 274
Cocks, E. L., (89) 200
Codman, E. A., (26) 727, (18) 786, (22) 841
Coe, H. C., (71) 275, (65) 349
Coert, J., (85) 728
Coggeshall, F., (8) 962, (35) 963
Cohen, B., (141) 897
Cohen, D. D., (47) 727
Cohen, S., (63) 1600
Cohn, A., (131) 897, (98) 1179
Cohn, B., (91) 1405
Cohn, H., (62) 675
Cohn, P., (166) 897
Cohn, T., (31) 903
Cohnheim, P., (68) 1113, (39) 1600
Coit, H. L., (105) 1470
Cole, L. G., (26) 841
Cole, R. I., (2) 1592
Cole, W. G., (156) 897
Cole, W. U., *249
Coleman, J. E., (75) 1106
Coleman, J. W., (134) 1329
Coleman, W., (129) 669, (24) 786, (30) 963, (152) 1536, (161) 1593
Coles, A. C., (9) 1476
Coles, S., (109) 669
Coley, T. L., (172) 1536, (169) 1593
Coley, W. B., (140) 787, (9) 962
Collamore, G. A., (103) 350
Collier, W., (18) 428
Collina, M., (91) 1187
Collinet, Dr., (25) 1541
Collingswood, G. C., (90) 484
Collins, E. T., (18) 1186
Collins, J., (37) 533, (7) 610, *1216, (10) 1398, (9) 1592
Collins, M. H., (130) 1272
Colombini, Dr., (57) 1541
Colvin, A. R., (90) 1593
Compaired, C., (176) 1478
Concetti, L., (23) 1113, (128) 1478
Condit, J. D., (158) 1593
Condon, A. S., (58) 896
Coni, E. R., (174) 1478
Conklin, W. L., (105) 1034
Connell, J. C., (78) 1398
Conner, L. A., (138) 669
Conroy, P. J., (33) 1698
Constensoux, G., (28) 428
Contri, L. G., (134) 534
Converse, G. M., (10) 533
Cook, A. R., (17) 674, (19) 735, (19) 847
Cook, G. W., (52) 963
Cook, J. C., (32) 1398, (45) 1535
Cook, L. B., (162) 1329
Cooke, A. B., (44) 476, (112) 1671
Cooke, D. M., (143) 728
Cooke, W. H., (62) 61
Coolidge, J. W., *1623
Coomes, M. F., (43) 274, (42) 421, (70) 728
Cooper, C. E., (25) 668
Cooper, C. M., (120) 1470
Cooper, H. M., (10) 1476
Cooper, J. M., (99) 841
Copetti, G., (135) 1043
Coplin, W. M. L., (20) 786, (128, 129, 130, 131) 787, (124) 896, (20, 56) 1271, (68) 1470
Coplin, W. M. L., (90) 1671
Cordell, E. F., (78) 1106
Cordier, A. H., *582, (126) 964, (148) 1471
Corfield, W. H., (11), 970, (8) 1112, (9) 1186, (8) 1335, (8) 1404
Coriat, I. H., (78) 1593
Corlett, W. T., (37) 1328
Corner, E. M., 1599
Cornick, B., (141) 275
Corning, J. L., (23) 61
Corson, E. R., (8) 895, (103) 1271
Corthorn, A. M., (92) 484, (17) 1113
Corwin, R. W., (89) 275, (48, 52) 349
Cote, A. H., (101) 129
Coston, H. R., (175) 534
Cott, G. F., (8) 1479
Cottam, G. G., (122) 1035
Cottell, H. E., (65) 1106
Cotterill, J. M., (14) 735
Cotton, A. C., (165) 477, (86) 827, (113) 896, (40) 1671
Cotton, F. J., (35, 68) 274, (92) 728, (34, 84) 963
Coudray, P., (45) 1477
Coughlin, R. E., (22) 274
Coultas, J., (95) 200
Couret, M., (118) 201
Courmont, J., (24) 428
Courtney, J. E., (31, 73) 476
Courtney, J. W., (23) 1328
Cousins, J. W., (9) 793
Cousins, W. L., (109) 728
Couvelaire, A., (26) 1042
Coville, Dr., (36) 735.
Cowan, J. M., (17) 1278
Cowan, R. H., (113) 1399
Cowen, H. O., (21) 1113
Cowie, D. M., (96) 1106
Cowles, E., (17) 1469, (75) 1593
Cox, A. E., (164) 964
Cox, E. E., (95) 1671
Cozzolino, O., (62) 1042
Crafts, L. M., *377, (129) 842
Cragin, E. B., (1) 962
Craig, C. F., (8) 610
Craig, D. H., (19) 610
Craig, J. D., (131) 1672
Craig, M. A., (141) 129
Craig, R. W., *229
Craig, W. F., (94) 422
Crain, E. A., (111) 842
Cramer, H., (56) 483, (55) 1336
Crandall, F. M., (12) 421, (92) 422, (168) 477, (44) 1671
Crandon, L. R. G., (15) 200
Crane, A. W., (6) 199
Crawford, D. G., (105) 484, (13) 793
Crawford, J. M., (120) 350
Creel, M. P., (114) 842
Crendiropoulo, M., (2) 1112
Crenshaw, H., (8) 60
Crespin, Dr., (34) 970
Creveling, H. C., (67) 963
Criegern, Dr., (50) 428
Crile, G., (97) 1271, (31) 1328
Crile, G. W., *491, (72) 1034
Crockett, L. A., (82) 728
Crocq, J., (154) 422, (94) 533
Crofton, A. C., (29) 274, (86) 275, (13, 37) 349, (73) 1034, *1123, (6) 1469, (164) 1471
Crombie, A., (11) 1404
Cronkhite, C. C., (105) 1180
Crook, J. K., (31) 668, (33) 1106
Crothers, T. D., (21) 128, *307, (122) 896, (41) 963, (36) 1592
Crouch, J. F., (64) 896
Crough, H. C., (11) 1599
Crouzon, O., (23) 674
Crowell, H. C., (119) 611, (125) 964, (147) 1471
Crozer-Griffith, J. P., (25) 1106
Crummer, L., (103) 669
Crutcher, H., (137) 1035
Crutchfield, P. H., (38) 1398, (60) 1535
Cullen, T. S., (128) 611
Cumston, C. G., (67) 274, (31) 421, (54) 476, (91) 728, (75) 841, (46) 896, (40) 1179
Curry, J. J., (16) 963, *1130, (4) 1592
Curschmann, Dr., (45) 1335
Curschmann, H., (101) 1406
Curtin, R. G., (130, 131, 132) 129, (66) 533, (111) 611
Curtin, T. H., (33) 1179
Curtis, F. C., (48) 1106
Curtis, F. H., (159) 964
Curtis, G. L., (2) 349, (24) 476
Curtis, H. H., (124) 477
Curwen, E., (19) 356
Cushing, E. W., (83) 477, (20) 610
Cushing, H., (54) 1600
Cushny, A. R., (12) 274
Cuthbertson, W., (81) 1328, (50) 1698
Cutler, E. G., (15) 841
Cutts, R. E., (151) 129
Czyhlarz, E., (70) 1600
Dabney, S. G., (92) 200, (63) 1398, (119) 1672
Dabney, T. S., (119) 201, (150) 1329
Da Costa, J. C., (108) 129, (39) 1398
Dahl, S., (98) 668
Dahlgren, K., (92) 1600
Dalche, P., (15) 541
Dahlquist, G .W., (57) 668
d'Allocco, O., (127) 1478
Dalmasso, C., (113) 1477
Dalton, W. R. I., (6) 60, (159) 534
Dalous, Dr., (19) 1335
Daly, F. J., (17) 793
Damel, B., (88) 1405
Damianos, N., (65) 848
Dana, C. L., (30) 533, (3) 667, (9) 1692
Dandridge, N. P., (37) 1271
Daniels, C. W., (17) 735
Danlos, H., (26) 1476
Dardenne, H., (11) 847
Darier, A., (22) 674, (157) 669, (64) 1405
Darnall, W. E., (7) 274, (38) 786
Daugherty, C. A., (93), 1106
Davidson, D., (17) 786
Davies, A. T., (9) 1278
Davis, A. E., (49) 274, (40) 476, (115) 477, (70) 1671
Davis, B. B., *1208
Davis, B. M., (144) 1329
Davis, C. E., (146) 477
Davis, E. C., (106) 1180
Davis, E. P., (108) 669, (46) 963, (129) 964, (7) 1469
Davis, F. E., (129) 350
Davis, F., Jr., (116) 129
Davis, G. A., (167) 201, (163) 1329
Davis, G. G., (75) 1328
Davis, J. E., (55) 727
Davis, N. S., *1415, (83) 1535
Davis, R. T., (16) 349
Davis, T. D., (122) 422
Davis, T. G., *1503
Davis, W. B., (53) 61, (31) 786
Davison, C., (76) 963
Davison, J. L., (74) 200
Dawson, W. J. G., (119) 1470, (104) 1535
Dawson, W. R., (14) 276
Day, Jr., G. W., (70½) 1535
Day, L. W., (50) 533
De Agreda, Dr., (85) 736
Dean, L. W., (5) 1328
De Armand, J. A., (130) 1107
Dearing, W. H., (139) 477
Deaver, H. C., (4) 895
Deaver ,J. B., (19) 61, (45) 421, 683, (17, 68) 841, (19) 1179, (161) 1329, (98) 1671
De Blasi, A., (139) 1043
Debove, Dr., (32) 735, (34) 1113
de Bovis, R., (35) 617
de Britto, V., (142) 1043
de Brun, H., (34) 1405
Decastello, A., (123) 1043
de Cristofaro, M., (97) 1113
de Francesco, G. M., (33) 1541
de Gaetano, L., (75) 1477, (130) 1478
DeGarmo, W. B., (84, 95) 728, (115) 842
de Gephardt, F., (27) 483
de Grandmaison, F., (24) 617
De Grazia, F., (30) 1187
Degroat, H. K., (77) 668
Deibert, C. M., (89) 61
De Illyés, Dr. (29) 1405
de Jong, D. A., (28) 483
Delachaux, C., (66) 484
de Lange, C. .(63) 1042
de Lapersonne, F., (53) 1405, (21) 1541
de Lavarenne, E., (25) 793, (41) 1405
Delearde, A., (30) 617
Delearde, Dr., (41) 970
De Lee, J. B., *33, (65) 128, (90) 477
de Leon, J., (92) 904
Delpeuch, A., (27) 428
de Luca, B., (78) 617
de Luna, G. M., (175) 1407
De Luda, G. N., (80) 484
Demateis, P., (140) 1043
de Mattos, T., (49) 483
Democh, I., (59) 1042
Demond, C. M., (104) 1593
de Montyel, E. M., (8) 483, (46) 1676
Denecke, Dr., (107, 108) 1043
Dench, E. B., (52) 1398
Dendy, M., (12) 1599
Denig, R., (93) 1535
Deniges, G., (33) 848
Dennis, F. W., (68) 1179
Dennis, W. A., (107) 787, (54) 1106
Denison, C., *366
de Quervaln, F., (30 ,52) 356, (74) 971, (24) 1600
Derby, H., (29) 1470
Derby, R. H., (4) 962
Dercum, F. X., (33) 533, (28) 727, (70) 841, (16) 1469, (73) 1593
de Renzi, E., (167) 1406, (177) 1407, (51) 1676
De Roaldés, Dr. (27) 356
de Schweinitz, E. A., (2) 199, (42) 349

de Schweinitz, G. E., (109) 129, (118) 787, (162) 1471
Descos, A., (20) 903
Desesquelle, Dr., (24) 541
Desfosses, P., (45, 50) 1405, (40) 1675
Deshazo, J. B., (48) 476
Desnos, E., (63) 1405
Dessau, S. H., (42) 610, (22) 1592
De Tarnowsky, G., (8) 1469
Detweiler, B. H., (70) 1593
Deutsch, J., (160) 611
Deutsch, S., (27) 841
Devaux, A ..(39) 1405
DeVoe, A., (40) 200
Dewey, R., (43) 727
DeWolff, H., (98) 728
Dibailoff, S. I., (97) 1336
Dicken, W. E., (51) 896
Dickey, W. A., (104) 786, (103) 1470, (151) 1471
Dickinson, M. D., (69) 200
Dickinson, W. H., (1) 1476
Didsbury, H., (54) 1279
Diehl, A., (42) 903
Diehl, A. E., (104) 1034
Dienst, A., (35) 483
di Gaspero, H., (74) 1113
Dillard, J. B., (159) 1471
Dillard, J. W., (49) 421
Diller, T., (111) 129, (56) 1470
Diller, T., (26) 1671
Dindlay, W., (13) 735
Dionisio, I., (95) 1113
Disselhorst, (51) 794
Dittrick, H. S., (3) 1398
Dixon, C. H., (160) 422
Dixon, Jr., A., (45) 533
Doan, L. G., (126) 1107
Doane, W. C., (12) 1271
Dobbert, T., (63) 1477
Dobson, J. F., (13) 1675
Dock, G., (115) 1535
Doctor, E., (56) 1541
Dodds, W. T. S., (57) 61
Dodson, J. M., (63) 1328
Doepke, K., (60) 1701
Doerfller, H., (58) 483
Doerr, A., (50) 794
Doglioni, G., (148) 1478
Dohme, G. C., (83) 786
Dohrn, K., (56) 356
Dollinger, J., (47) 483
Dollner, M., (61) 1701
Dolloway, L. M., (86) 61
Dombrowski, P., (74) 1106
Domenici, E., (66) 904
Donaldson, J. B., (53) 200
Donath, J., (103) 1406
Donati, C., (82) 1042
Donnellan, P. S., (17) 610, (48) 841, (101) 1535
Donoghue, F. D., (60) 533, (19) 1398
Donovan, J. A., (54) 61
Dopter, C., (36) 1476
Dor, L., (21) 483, (64) 1279
Dore, S. E., (4) 1675
Doran, A. H. G., (13) 616
d'Ormea, A., (112) 1477
Dorsett, M., (3) 1033
Dorsett, R. S., (108) 129
Dotveaux, P., (164) 1406
Doty, A. H., (2) 785
Doughtie, C. W., (24) 1179
Douglas, B., (88) 1671
Douglass, H. B., (63) 896
Douglass, R., (162) 201, (165) 787
Dow, E. L., (176) 897, (156) 1536
Dow, W., (55) 61, (164) 611
Dowd, J. H., (154) 534, (101) 896
Down, E. A., (58) 668
Downes, A. J., (20) 1534
Downie, W., (4) 1404
Drago, S., (71) 904
Drahms, A., (78) 477
Drake, H. S., (113) 1671
Drake, G. W., (57) 1034
Drayton, H. S., *7
Drew, D., (4) 1541
Dreyer, Dr., (45) 483, (54) 848, (97) 1279
Druebert, J., (26) 1187
Drummond, W. B., (36) 200
Duane, A., (119) 275, (86) 1034, (3) 1670
Dubreuilh, Dr., (25, 30, 32) 1675
Dubdreilh, W., (18) 1335
DuCane, E., (16) 1599
DuCastel, Dr., (19) 674
Duckworth, D., (24) 200, (8) 847 (77) 1477
Dudgeon, L. S., (4) 356
Dudley, E. C., *805, (140) 964, (88) 1034, *1686
Dudley, W. H., *12
Duer, C., (16) 1700
Duffocq, Dr., (31) 1476
Duflocq, Dr., (42) 1477
Dufourth, E., (43) 1676
Dugan, R. C., (113) 787
Duke, J. B., (143) 1593
Dulles, C. W., (26) 274, (27) 1328
Dumont, J., (44) 1676
Dumstrey, F., (51) 356
Dunbar, Dr., (68) 1676
Duncan, T. C., (23) 274
Dunfield, Dr., (116) 201
Dunham, E. K., (108, 109) 534, (135) 669
Dunham, H. B., (35) 128
Dunham, J. D., (74) 61
Dunham, J. M., (115) 275
Dunlop, G. H. M., (2) 1404
Dunn, J., (46) 1328
Dunn, J. H., (55) 668
Dunn, J. T., (45) 610, (51) 1034
Dunn, J. W., (118) 275
Dunn, P., (6) 428
Dunn, R. M., (157) 964
Dunning, A. W., (96) 1329
Dunning, L. H., *925, (117) 1535
Dunsmoor, F. A., (52) 1179
Dunton, Jr., W. R., (82) 275
Dunwoody, J. A., (135) 1329
Dupaquier, E. M., (113) 1107, (151) 1329
Durand, W. S., (24) 963
Durgin, S. H., (15) 476
Dyer, I., (135) 62, (87) 1399
Dutzmann, M., (85) 1405
Duval, C. W., (96) 610, (66) 971
Dnxbury, J. E., (21) 610
Dwight, E. W., (21) 1328
Dwight, T., (70), 610
Dworetzky, A., (105) 1671
Dwyer, R. J., (130) 611
Eads, B. B., (42) 1671
Earles, W. H., (120) 62
Earnest, J. G., (160) 1471
Earp, S. E., (38) 668, (62) 1271
Eaton, F. B., (119) 477
Eaton, G. L., (86) 963
Eberlein, E. W., (134) 422
Ebstein, W., (70) 484, (69) 617, (87) 1113
Eccles, W. M., (1, 10) 793, (2) 847, (10) 903
Eddowes, A., (8) 674
Edebohls, G. M., (7) 60, (88) 728, (16) 1271
Edel, M., (29) 674
Eden, T. W., (10) 616
Edes, R. T., (14) 1671
Edgar, J., (15) 903
Edinger, L., (77) 736
Edlefsen, O., (69) 675
Edsall, D. L., (126) 787, (15) 1329, (71, 77) 1535
Edson, B., (92) 61
Edwards, A. R., (23) 533, *685, (94) 668, (43) 1034, (38) 1271
Edwards, E. G., (112) 728
Edwards, F. S., (12) 1186
Edwards, W. A., (14) 1106
Egan, P. R., (3) 1106
Ehrcke, Dr., (58) 794
Ehrendorfer, E., (21) 1701
Ehrenfest, H., (4) 274, (39) 1535
Ehret, H., (36) 428
Ehrlich, F., (94) 1279
Ehrlich, P., (35) 1335
Eichberg, J., (7) 1271
Eichholz, P., (45) 1042
Eichhorst, H., (102) 1406
Einhorn, M., *310, (17) 1179, (32) 1278
Eisendrath, D. N., (54) 128, (82) 1328
Ekblom, A. E., (113) 1114
Ekehorn, G., (146) 1043
Ekgren, E., (40) 794
Elder, J. M., (69) 1470
Elder, W., (15) 616
Eliot, J., (54) 1034
Eliot, L., (69) 1535
Ellett, E. C., (157) 611, (120) 787
Elliot, H. P., (85) 1398
Elliot, J. W., (5) 668
Elliot, R. H., (13) 1186
Elliott, A., (7) 428
Elliott, A. R., (80) 1671
Elliott, G., *814, (112) 1107
Elliott, J. H., (82) 477, (135) 611
Elliott, W. E. L., (16) 1186
Ellis, A. N., (38) 1328
Ellis, H. B., (138) 1329, (34) 1592
Ellis, J. N., (66) 349
Ellis, W. P., (53) 1034
Elmassian, Dr. (175) 1478
Elsberg, C. A., (52) 128, (17) 727, (32) 1034
Elschnig, Dr. (72) 357, (75) 484
Elsner, H. L., (1, 8, 12) 476, (78) 533, (2) 841
Elting, A. W., (46) 61, (67) 200, (59) 1179
Ely, J. D., (135) 275
Ely, R. S., (45) 786
Ely, W. S., (21) 1034
Embley, E. H., (1) 1112, (6) 1186, (6) 1278
Emerson, C. P., (80) 1179, *1359
Emerson, L., (12) 1179
Emmert, J. M., *1568, (4, 8) 1698
Emmet, B. McC., (53) 963
Emmet, B. M. E., (2) 1534
Enderlen, Dr., (53) 356
Engel, C. S., (56) 1676
Engelhardt, G., (102) 1042
Engelmann, G., (77) 484
Engelmann, G. J., (28) 349, (16) 533, (25) 610, (28) 1470, (9) 1534, (169) 1536
English, W. T., *223, (174) 534
Engman, M. F., (64) 963, (55) 1592
Enright, J. B., (40) 610, (49) 727
Ephraim, A., (28) 903
Eppinger, H., (146) 1406
Epstein, E. M., (123) 1672
Epstein, S., (62) 1187
Ercklentz, W., (81) 1187
Erdmann, J. F., (34) 1106
Erskine, J., (4) 275
Escomel, E. E., (87) 1542
Escudero, W. E., (96) 1542
Eshner, A. A., (70) 61, *300, (10) 1670
Eskridge, J. T., *1, (59) 668, (129) 1536
Esser, Dr., (36) 903
Estes, W. L., (134) 1107
Eulenberg, A., (67) 1676
Evans, E., (91) 350
Evans, G. B., (37) 1271
Evans, G. H., (139) 129
Evans, J. A., (170) 1536
Evans, S. M., (3) 962
Evans, T. C., (143) 1107, (64) 1398
Evans, W., (7) 276
Evans, W. A., (112) 1180
Eve, D., (155) 275
Eve, P. F., (4) 1670
Everett, H. H., (128) 201
Everington, H. D., (6) 1476
Ewald, C., (35) 1600
Ewald, C. A., (55) 349
Ewald, L. A., (85) 668, (68) 1535
Ewart, B. H., (106) 61
Ewart, W., (95) 484
Ewing, J., (85) 200, (95) 610, (129) 669, (25) 963
Ewing, R. B. (77) 1328
Eydam, Dr., (29) 483
Eyman, H. C., (92) 275
Fabian, E., (31) 356
Fackler, G. A., (29) 1398
Fairbairn, H. A., (61) 1671
Fairchild, D. S., (85) 477, *1059
Faltin, R., (20) 1041, (28) 1405
Fanning, F. W. B., (16) 847
Fanoni, A., (20) 533
Farnum, C. G., (70) 421
Farrell, P. J. H., (79) 1671
Fasola, G., (99, 103) 1113
Fattic, J. B., (94) 963
Faucher, E. F., (17) 541
Faust, E. S., (60) 1477
Federschmidt, Dr., (62) 1541
Fedoroff, S. P., (110) 971
Fehling, H., (50) 1600
Fehr, H., (22) 793
Feichenfeld, H., (53) 610
Feilchenfeld, W., (64) 1600
Fein, J., (63) 848
Feinberg, Dr., (47) 428, (76) 971
Fellenberg, R., (87) 1405
Fenger, C., (55) 128, (139) 275
Fenner, E. D., (63), 274
Fenton, F., (75) 1671
Fenwick, E. H., (4) 540, (19) 616, (7) 1041
Ferdinands, G. A., (9) 970
Fere, Ch., (24) 483, (51) 971, (58) 1405
Ferguson, E. D., (13) 61, (6) 476, *501
Ferguson, E. G., (102) 668
Ferguson, G. B., (104) 61, (110) 477, (82) 484, (6) 540, (2) 735
Ferguson, J., (137) 611
Fermi, C., (107) 1114, (33) 1600
Fernandez, J. S., (89) 1187
Ferran, J., (25) 483
Ferrannini, A., (50) 1676
Ferrarri, G., (103) 61
Ferras, Dr., (41) 848
Ferreri, G., (37) 848
Ferro, R., (65) 904
Fest, F. T. B., (53) 1592
Fibich, R., (53) 541
Fibiger, J., (73) 794
Field, C. W., (161) 1536
Fielder, F. S., (66) 1179
Finck, J., (82) 1542
Fincke, Dr., (29) 1701
Findlay, J. W., (13) 735
Findley, P., (65) 1271
Finger, E., (79) 357, (121) 1043
Finkelburg, R., (45) 1701
Finkelstein, B. K., (33) 356, (165) 1478, (36) 1701
Finlay, C., *993
Finlay, D. W., (1) 616
Finney, J .M., (1) 903
Finsen, N. R., (43) 428
Florani, P. L., (83) 848
Fiori, P., (149) 1478
Fiquet, E., (41) 1675
Fisch, C., (115) 62, (35) 727, (133) 964, (58) 1592
Fischer, G., (15) 483, (39) 1113
Fischer, H., (107) 1477
Fischer, L., (42) 200, (70) 1034, (11) 1106, (107) 1470
Fischer, M. H., (105) 842
Fischkin, E. A., (72) 61, (90) 1535
Fisher, E. D., (19) 841
Fisher, J. H., (52) 610
Fisher, J. M., (76) 1328
Fisher, T., (3) 903, (9) 1700
Fisk, E. L., (105) 1593
Fitch, W. E., (72) 728, (122) 1278, (130) 1329, (142) 1471
Fitz, G. W., (16) 841
Fitz, R. H., (12, 26) 128
Fitzgerland, G. H., (53) 1271
Flachs, Dr., (57) 1042
Flamini, M., (57) 1279
Flatau, G., (30) 1600
Flather, J. J., (112) 787
Flesch, M., (126) 1406
Fletcher, H. H., (54) 349
Fletcher, H. M., (125) 1593
Fletcher, W. B., (80) 728, (108) 1535
Flexner, S., (90) 200, (5) 349, (55) 610, (74) 728, (61) 1034, (72) 1328, (147) 1329
Flick, L. F., (55) 200, (150) 201, (2) 895
Flickwir, A. H., (50) 786
Fliesburg, O. A., (43) 1106, (54) 1179
Flint, J. M., (84) 786, (87) 1470
Flintermann, J., (105) 477
Floderus, B., (118) 1114, (93) 1600
Floersheim, S., (30) 200
Flynn, J., (103) 484
Fontan, J., (22) 1042
Fontana, A., (80) 1542
Foote, C. G., (85) 422
Forchheimer, F., (103) 896
Ford, J. H., (28) 1034
Fordyce, J. A., (78) 350, (85) 1179
Forshaw, C. F., (96) 1593
Forester, O. H., (93) 129
Forsyth, E. A., (4) 60, (103) 1034
Fort, R. E., (156) 275, (133) 1107
Foshay, P. M., (121, 152) 422, *625
Fossel, V., (71) 617
Foster, B., (85) 128, (87) 1593
Foster, C. C., (143) 275, (83) 668, (8) 1534
Foster, M. L., (4) 841
Foster, W. L., (102) 534
Fothergill, J. Milner, autobiography of, (142) 1272
Fotheringham, J. T., (136) 611, (94) 896
Fonlerton, A. G. R., (11) 1186, (43) 1187
Fonstanos, J., (85) 675
Fowler, G. R., (15) 533
Fowler, R. S., (48) 1592, (64) 1671
Fowler, W. S., (137) 728
Fox, L. W., (1) 349, (17) 476, (104) 477, (66) 727, (78) 896, (82) 1179
Foxwell, A., (17) 428
Fraenkel, A., (70) 1113, (132) 1406, (45) 1600
Fraenkel, C., (75) 971
Fraenkel, E., (75) 675, (91) 1279
Fraid, N. I., (20) 895
Francesco, P., (69) 904
Francine, A. P., (25) 1698
Francis, L. A., (15) 356
Franck, E., (87) 971
François, R., (69) 1405
Frank, A., (45) 903
Frank, E. R. W., (27) 1271
Frank, J., (66) 274
Frank, L., (168) 611, (55) 963, (68) 1034, (117) 1672
Frank, L. F., (11) 199
Frank, R., (101) 275
Frankenberger, J. M., (118) 611, (60) 1671
Frankhanser, F. W., (154) 1035
Frankl, O., (57) 428
Franklin, M. W., (29) 1179
Franz, K., (23) 1701
Franzoni, C. W., (104) 1329
Fraser, A., (16) 903

Frazier, B. C., (118) 1672
Frazier, C. H., (91) 128, (94) 129
Frazier, L. G., (165) 1329
Freche, Dr., (26) 1675
Freeland, J. T., (59) 61
Freeman, E. C., (7) 1599
Freeman, J. K., (68) 1106
Freeman, L., (110) 129, (60) 349, *755, (92) 1271
Freeman, R. B., (50) 349
Freeman, R. G., (61) 727, (3) 1328
Freer, O. T., (79) 128, *636
French, J. M., (101, 150) 422, (123) 896, (120) 1272, (159) 1329
Freudenberg, A., (89) 904
Freudenthal, W., (11) 421, (42) 1271
Freund, E., (68) 1542
Freund, S. A., (82) 533
Freund, W. A., (33) 428, (64) 484
Freyer, P. J., (1) 540
Freytag, B., (32) 1042
Freytag, R., (56) 1600
Friedberger, E., (34) 428
Friedenwald, H., *549, (148) 1593
Friedlander, A., (65) 727, (38) 1535
Friedlander, E., (89) 1271
Friedlander, G., (74) 1477
Friedlander, R., (46) 1470
Friedländer, W., (41) 617
Friedmann, Dr., (43) 541
Friedmann, F. F., (57) 1676
Friedrich, M., (91) 1034
Friend, E., (92) 477
Frieser, J. W., (52) 903, (52) 1336
Frisch A., (56) 1336
Froehlich, Dr., (48) 1477
Frommer, A., (91) 1042, (70) 1477
Frost, H. P., (72) 896
Frucht, Dr., (51) 428
Fry, F. R., (151) 201, *1357
Fry, H. D., (163) 201, (64) 349
Fuchs, E., (84) 736
Fuchs, K., (67) 848
Fuchsig, E., (70) 1336
Fuetterer, G., *76, *693, (47) 841
Fuhs, F. C., (5) 786
Fuller, E., (88) 200
Fullerton, R., (12) 1700
Fulton, D., (58) 1179
Fulton, J. S., (108) 62
Funck, C. J., (19) 895
Funk, D. S., (69) 1328
Fürst, L., (67) 484
Fussell, L., (57) 200
Fussell, M. H., (126) 896, (167) 1471, (167) 1593
Füth, H., (24) 1701
Fütterer, G., (43) 1698
Gabbi, U., (101) 1113
Gabrilovitch, D. L., (90) 1336
Gabritchesky, G. N., (103) 971
Gaertner, F. W., (69) 841
Gage, H., (33) 61, (79) 963
Gajjar, T. K., (26) 1405
Galebowski, E., (35) 1278
Galeotti, G., (38) 617, (102) 1113
Gallant, A. E., (33) 896, (16) 1534, (103) 1671
Gallerani, G., (72, 73) 1701
Galli-Valerio, B., (14) 674
Galloway, J., (1) 1404
Galloway, W. A., (46) 610
Galton, J. H., (12) 1041
Gamaleia, N., (19) 1476
Ganghofner, Dr., (46) 1701
Gann, T. W. F., (13) 276
Gans, E. S., (76) 896
Gans, F., (111) 1406
Gant, S. G., (93) 422, (95) 728, (123) 1272
Garaizabal, I., (90) 1542
Garber, F. W., (122) 275, (147) 422
Garceau, E., (12) 1671, (31) 1698
Garcera, J., (116) 971
Gardiner, C. F., (46) 128
Gardiner, E. J., (121) 787
Gardner, J. C., (112) 1399
Garnault, P., (54) 1405
Garner, J. R., (154) 897
Garnerus, H., (73) 971
Garnier, P., (38) 1278
Garre, Dr., (43) 794
Garrett, F. D., (106) 129
Garrett, R. E., *1622
Garrod, A. E., (54) 675, (8) 847
Garson, J. G., (2) 1476
Gasser, H., (140) 62, (155) 611, (99) 1399
Gassmann, A., (66) 736
Gaston, Dr., (27) 1675
Gau, H. F., (30) 1592
Gaucher, Dr., (36) 970
Gaucher, E., (23) 674, (26) 793
Gauss, C. J., (62) 971
Gautier, A., (25) 735, (22) 847, (21) 1476
Gavino, A., (88) 1542
Gay, F. P., (62) 1398
Gaylord, H. R., (132) 62
Gebele, Dr., (50) 541
Gebhard, H., (43) 617
Gehring, J. G., (94) 1329
Geib, D., *1304
Geisenberg, K., (50) 1187
Gelpke, Dr., (154) 1406
Gemelli, E., (56) 675
George, Jr., C., (24) 274
George, W. J., (59) 200
Gerbsman, I. I., (98) 1336
Gerhard, G. S., (17) 349
Gerhardt, D., (58) 1477
Gerlinger, P., (92) 1405
German, W. H., *317
Gerson, T. P., (38) 533
Gerster, A. G., (140) 897
Gescheit, J., (30) 1335
Gessner, H. B., (25) 786
Ghillini, C., (46) 1042, (75) 1336, (43) 1477
Ghon, A., (68) 541
Gibb, J. S., (47) 349, (143) 611
Gibbes, H., (5) 970
Gibney, C. C., (172) 477
Gibney, H., (9) 60, (20) 1469
Gibney, V. P., (9, 25) 1398
Gibson, G. A., (14) 847
Gibson, J. D., (72) 963, (129) 1272
Giddings, W. P., (22) 1398
Gies, W. J., (26) 786, (173) 1536
Gifford, H., (130) 201, (46) 1535
Gilbert, A., (25) 428, (7) 483, (35) 1476
Gilbert, G. A., (161) 897
Gilbert, J. A., (28) 1179, (64) 1328, *1436
Gilbert, W. W., (90) 1179
Gilchrist, H. L., *988
Gilcreest, J. E., (104) 129
Gildersleeve, N., (80) 61
Gilfillan, W. W., (30) 421
Gill, J. C., (76) 1671
Gilleland, W. E., (82) 841
Gillespie, R. L., (92) 896, (108) 1593
Gillespie, G. B., (97) 1671
Gillette, W. J., (85) 61, (89) 610, (102) 1470
Gilliam, D. T., (19) 200, (163) 534
Gilliam, E. M., (114) 275
Gillmor, B. F., (75) 1271
Giovanni, V., (92) 1187
Girardot, A. J., (153) 1471
Girvin, J. H., (97) 1470
Gladstone, R. J., (57) 128, (7) 1675
Glasgow, W. C., (52) 1592
Gleason, E. B., (62) 841
Glenard, F., (17) 483, (55) 971
Glennan, A. H., (2) 962
Gnekow, A., (87) 841
Goadby, K. W., (101) 484
Godlee, R. J., (10) 1599
Goebel, Dr., (118) 1279
Goebel, W., (55) 1701
Goelet, A. H., (33) 128, (130) 1035, (60) 1106
Goffe, J. R., (71) 1271
Gold, J. D., (88) 610
Goldberg, B., (50, 64) 1113, (93) 1405
Goldhorn, I. B., (104) 534
Goldhorn, L. B., (151) 1536
Goldmann, J. A., (45) 1541, (67) 1701
Goldsborough, B. W., *1681
Goldsborough, F. C., (60) 1470
Goldscheider, A., (133) 1406
Goldsmith, S. L., (43) 610
Goldspohn, A., (25) 1671
Goldstein, M. A., (27) 896, (113) 1329
Goldthwait, J. E., (15, 89) 128, (38) 274, (21) 895
Golla, F., (13) 674
Goltman, M., (130) 842
Golucci, C., (125) 1478
Gomez, G., (92) 1542
Gonzales, P., (86) 1336
Goodale, G. L., (80) 1470
Goodale, J. L., (32) 61
Goodbody, F. W., (8) 735
Goodrich, J., (67) 476
Goodsell, F. E., (61) 668
Goodspeed, A. W., *562
Goodwin, J. B., (73) 728
Gordon, A., (101) 201, (57) 1179
Gordon, D. G., (126) 611
Gordon, M. H., (9) 847
Gordon, W., (2) 903
Gordon, W. E., (165) 534
Gordon, W. S., (99) 350
Gorgas, W. C., (23) 200
Gorton, C. D., (35) 1671
Gossage, A. M., (54) 1398
Gosset, A., (43) 735
Gossner, Dr., (120) 1043
Gottheil, W. S., (29) 1179
Gottschalk, S., (35) 1042, (67) 1477
Gottlieb, R., (38) 903
Gottstein, A., (49) 1336
Gouget, A., (30) 428
Gouillioud, Dr., (28) 1042
Gould, A. P., (2) 793, (9) 903, (6) 1700
Gowers, W. R., (107) 1406
Gowers, W. R., (7) 1186, (1) 1599, (3) 1675
Gracey, J. A., (135) 1593
Gradle, H., *1421
Graef, C., (23) 610
Graefe, A., (78) 971
Graefe, M., (83) 1405
Graff, H., (109) 1043
Graham, A. B., (125) 422, (118) 1535
Graham, E. E., (112) 896
Graham, H., (24) 533
Graham, H. M., (79) 728
Graham, R., (67) 61
Grandin, E. H., (10) 1106
Grandis, V., (98) 1113
Grandy, C. R., (44) 963
Granjux, Dr., (35) 970
Grant, F. S., (93) 533
Grant, J., (80) 1271
Grant, J. A., (80) 1593
Grant, W. L., (5) 1271
Grant, W. W., (51) 349, *506, (61) 896, (107) 1272
Grassberger, R., (76) 357
Grasset, H., (34) 794
Grasset, J., (18) 903
Grassmann, K., (33) 903
Gravagna, Dr., (151) 1478
Graves, A. C., (74) 668
Gray, E. A., (29) 1034
Gray, G., (86) 484
Gray, J. P., (114) 728
Gray, St. G., (15) 674
Greanelle, W. J., (42) 841
Greeff, R., (56) 1535
Green, A. S., (14) 1476
Green, C. R. M., (16) 1113
Green, E. M., (54) 200, (26) 349
Green, F. R., (61) 533
Green, G. R., (89) 668
Green, Jr., J., (157) 201, (60) 963
Greene, A. A., (122) 728
Greene, C. L., (151) 422, (83) 728, (110) 787
Greene, J. B., (6) 841
Greene, R. H., *1051
Greene, W. D., (156) 534
Greenfield, E. J., (112) 350, (103) 963
Greenlea, J. S., (166) 201
Greenley, T. B., *708
Greenough, R. B., (140) 1272
Grekoff, I. I., (112) 971, (35) 1701
Grenet, H., 1476
Grieg, E. D. G., (15) 793
Griffin, J. F., (132) 1107, (115) 1470
Griffin, O. A., (117) 275
Griffith, F., (34) 476, (34) 1179, (19) 1469
Griffith, F., (2) 1670
Griffith, J. D., (28) 1592
Griffith, J. P. C., (12) 727, (116) 896, (1) 1328
Griggs, A. C., (40) 1328
Griggs, W. T., (146) 964
Grimes, E., (46) 727
Grimm, M., (58) 1187
Grimsdale, T. B., (94) 484
Grindon, J., (39) 61, (65) 963
Grimshaw, J., (3) 428
Grinewitsch, I. I., (66) 1279
Grisel, P., (46) 1477
Grober, J. A., (49) 1113
Gros, H., (160) 1406
Grosvenor, J. W., (102) 1034
Grosz, S., (68) 617
Groszmann, M. P. E., (25) 476
Grote, G., (52) 1113
Groth, A., (117) 1043
Grothau, G., (132) 275
Ground, W. E., (50) 1179
Grout, D. D., (168) 201, (20) 1106
Grube, W. W., (73) 1179
Gruber, M., (61) 1339
Gruenbaum, A. S. F., (8) 428
Gruenberger, Dr., (123) 1279
Gruzdeff, V. S., (96) 971
Gubareff, A. P., (167) 1478
Gubb, A., (49) 735
Guerra, L. F., (110) 1114
Guihal, E., (20) 541, (35) 735, (37) 1113
Guillain, G., (28) 848, (29) 1476
Guillet, Dr., (33) 970
Gullot, M., (9) 483
Guinard, A., (23) 1541
Guinard, L., (62) 736
Guiteras, R., (19) 128, (10) 962, (25) 1271, (85) 1329, (68) 1398, (3) 1469
Gulland, G. L., (5) 1112
Gumprecht, Dr., (94) 1405
Gunn, R. A., (132) 1329
Gunson, C. H., (7) 735
Guseff, G. A., (106) 971
Gussenbauer, Dr., (78) 357
Gussenbauer, K., (66) 794
Guthrie, L. G., (14) 1405
Gutzmann, H., (37) 1541
Guye, A. A. G., (51) 848
Guyon, Dr., (18) 1041, (67) 1405
Guyot, G., (131) 1043
Haasler, F., (40) 428
Haberern, J. P., (94) 1042
Habershon, S. H., (20) 616
Hadra, B. E., (36) 349, (111) 1399
Haeberlin, Dr., (42) 483
Haenel, H., (58) 356
Hagadorn, J. W., (97) 1106
Hagen-Thorn, I. E., (31) 1278
Haggard, G. D., (50) 274
Haggard, W. D., (156) 611, (168) 897
Hahn, E., (39) 356
Haig, A., *9
Haight, A. T., (2) 533
Hairgrove, J. W., (51) 786
Hajek, M., (64) 617
Halban, J., (55) 1113
Hale, A. B., (51) 841, (129) 897, *1428, (49) 1671
Hale, G. I., (89) 1106
Hale, J. A., (49) 1179
Hall, A., (4) 1599
Hall, A. J., (70) 1535
Hall, C. L., (102) 728, (37) 1106
Hall, E., (131) 275, (123) 477, (147) 669, (97) 786, (110) 842, (97) 896
Hall, F. B., (69) 963
Hall, F. D., (14) 1278
Hall, F. W., (159) 897, (84) 1271
Hall, J. M., (110) 129
Hall, J. N., (78) 841, (90) 1106, (131) 1536
Hall, R. B., (72) 350, *440, *927
Hall, W. S., *558, (119) 896
Hallager, G., (99) 1336
Hallberg, C. S. N., (114) 534
Halle, M., (87) 1477
Halle, N., (19) 1041
Halliburton, W. D., (2) 1186
Hallopeau, Dr., (34) 1675
Halstead, A. E., (100) 1271
Hamann, C. A., (110) 896, (75) 1470
Hamburger, F., (67) 617
Hamel, Dr., (108) 1406
Hamill, J. R., (136) 201
Hamilton, A. M., (18) 128
Hamilton, A. S., (17) 61
Hamilton, C. L., (51) 421
Hamilton, C. S., (146) 897, (11) 1592
Hamilton, H. P., (136) 477, (156) 787
Hamilton, W. D., (76) 61
Hamm, Dr., (57) 617
Hammerschlag, Dr., (66) 1600
Hammond, F. C., (6) 274, (83) 1106, (170) 1593
Hammond, P., (15) 1106, *1297, (30) 1470
Handwerck, C., (68) 675
Hanley, L. G., (84) 200, (88) 1329
Hannum, B. G., (95) 1034
Hansell, H. F., (4) 476, (99) 1535, (147) 1593
Hansen, C. C., (162) 422
Harbour, G. L., (136) 842
Hardaway, W. A., (63) 963, (134) 964, (36) 1328
Hardesty, W. H., (48) 274
Hare, C. H., (16) 128
Hare, H. A., (103) 1107, (152) 1329, (21) 1671
Hargrave, E. T., (32) 668
Harlan, E., (38) 421, (37) 668
Harland, W. G. B., (102) 201, (20) 963
Harpel, K. S., (45) 727
Harper, R. F., (124) 728
Harper, W. W., (117) 1399
Harriman, W. E., *509
Harrington, A. J., (117) 201, (148) 534
Harrington, E. D., (43) 1535
Harrington, F. B., (20) 1592
Harris, H., (4) 1328
Harris, H. F., *633
Harris, J. E., (128) 1107
Harris, J. S., (39) 274
Harris, M. L., (87) 896, *1137, (124) 1329
Harris, N. M., (63) 1470
Harris, S., (152) 477

Harris, T. J., (116) 1272, (112) 1329
Harrison, F. C., (51) 1187
Harrison, G. T., (5) 128, (72) 1271
Harrison, J. M., (6) 1335
Harrison, R., (5) 1335, (48) 1470
Harrison, W. G., (181) 534
Harsha, W. M., (124) 964
Hart, O. E. D., (141) 1035
Hart, D. D., (6) 1675
Harte, R. H., (73) 1535, (8) 1670
Hartley, F., (14) 1271
Hartmann, Dr., (38) 1541
Hartmann, H., (19) 903
Hartwell, E. M., (23) 1106
Hartz, H. J., (9) 1179
Hartzell, M. B., (65) 533, (110) 611, (142) 787
Hasencamp, O., (101) 1470
Haslund, P., (21) 793
Hatfield, M. P., (159) 787, (141) 964
Hauenstein, J., (101) 1034
Hawke, B. E., (111) 1107
Hawkins, J. A., (88) 422
Hawkins, M. P., (90) 963
Hawley, G. T., (116) 1329
Hawthorne, C. O., (7) 616, (15) 1675
Hay, E. C., (151) 728
Hay, J., (14) 1541
Hayashi, Dr., (56) 1477
Hayden, T. M., (169) 1329
Haymore, G. P., (113) 62
Head, G. D., (88) 1271, (40) 1535
Heath, F. C., (73) 786
Heath, W. H., *82
Hebbard, E. C., (140) 1107, (152) 1593
Hector, E. B., (12) 1335
Haddeus, Dr., (73) 1279
Hedinger, E., (72) 675
Hedlund, J. A., (122) 1114
Hefferan, M., (106) 842
Heffron, J. L., (17) 1106
Heiberg, P., (102) 1336
Heibronner, K., (121) 896
Heidenhain, L., (41) 483
Heidenhain, M., (114) 1043
Heidingsfeld, M. L., (39) 349, (38) 476, (78) 668
Heiduschka, A., (56) 1042
Heileman, J. H., (110) 350
Heinberg, M., (54) 421, (141) 1107
Heineck, A. P., (141) 62, (164) 787
Heinrich, Dr., (38) 1600
Heinz, R., (79) 675
Heise, E., (85) 841
Hektoen, L., (102) 842, (132) 897
Helbing, C., (87) 1279
Helbron, J., (37) 675
Heller, A., (41) 1335
Heller, Dr., (55) 848
Heller, J., (31) 1600
Heller, T., (81) 675
Hemmeter, J. C., (56) 1106, (20) 1671
Hemplemann, L. H., (156) 201
Hendley, A. G., (25) 1405
Hendrixson, O. S., (120) 1107
Henning, B. G., (133) 842
Henry, J. G., (32) 1698
Henry, J. N., (115) 129
Henry, W. O., (133) 477, (15) 1534
Henson, J. W., (49) 61, (164) 207, (46) 421, (51) 1328
Herff, O., (19) 1701
Hering, H. E., (62) 484, (120) 1279
Herman, G. E., (10) 1335, (1) 1541
Herman, H., (155) 669
Hermann, F. A., (59) 1600
Herrick, J. B., (49) 841, (43) 896, (70) 1106
Herrick, S. S., (91) 533
Herring, A., (105) 669
Herring, A. P., (78) 1179
Herring, E. K., (24) 970
Hershey, E. P., (69) 668
Herter, C. A., (9) 476, (133) 669, (171) 897
Hertle, J., (64) 1336
Hervieux, Dr., (19) 1186
Herzfeld, A., (15) 786
Herzog, H., (60) 971
Herzog, M., (72) 421, (102) 422, (87) 477, (87) 896
Hess, R. J., (6) 668
Heubner, O., (143) 1406
Heubscher, C., (78) 1336
Heusser, T., (19) 541
Heuze, Dr., (18) 1541
Hevesl, J., (38) 356
Hewes, H. F., (12) 841
Hewitt, J. H., (81) 668
Hewlett, A. W., (116) 129
Heyerdahl, S. A., (87) 675
Hibbs, R. A., (21) 476, (34) 668
Hicklung, D. P., (47) 1328
Hicks, E. S., (128) 1672
Hicks, J. R., (148) 275
Hiers, J. L., (166) 534, (151) 897
Higgins, F. A., (87) 128, (13) 200
Higgins, F. W., *233
Higginson, G., (174) 1536
Higley, H. A., (13) 274, (27) 963
Hilbert, R., (88) 1113
Hildebrand, O., (55) 735
Hilderbrandt, A., (47) 1042
Hildreth, H., (168) 1329
Hill, E. A., (127) 1329, (164) 1536
Hill, E. C., (51) 61, (153) 611, (161) 787, (119) 1035, (98) 1399, (125) 1672
Hill, G. H., (133) 275, (73) 896
Hill, H. W., (71) 610, (136) 897
Hill, J. F., (126) 1536
Hill, L. L., (179) 534
Hille, H., *1207, (5, 22) 1534
Hillemanns, Dr., (54) 1535
Hillsman, B. L., (56) 1328
Hingston, C. A., (13) 903
Hinshelwood, J., (14) 616
Hippius, A., (41) 1600
Hirota, K., (47) 1187
Hirschberg, (54) 1113
Hirschberg, J., (59) 1676
Hirschberg, L. K., (83) 786
Hirschfeld, Dr., (39) 1187
Hirschfeld, H., (67) 541, (58) 675
Hirschkron, J., (166) 1536
Hirst, B. C., (145) 201, (27) 349, (33) 1470
Hirtz, E., (70) 1405, (28) 1476
Hitchcock, S. A., (109) 350
Hitchcock, W. W., (150) 477
Hoag, E. B., (6) 1328
Hobbs, A. G., (145) 728
Hobbs, A. T., (163) 477, (153) 534, (111) 669
Hobby, C. M., (41) 1698
Hochsinger, C., (73) 848
Hocke, E., (82) 1477
Hodenpyl, E., (156) 1593
Hodgdon, A. L., (47) 668
Hoefler, M., (162) 1406
Hoelscher, F., (37) 428
Hoesslin, V., (108) 1477
Hoff, J. V., (79) 668
Hoffa, A., (34) 1541
Hoffman, F. L., (153) 422
Hoffman, P., (143) 669
Hoffmann, F. A., (74) 736
Hoffmann, J., (57) 356
Hofmaier, M., (61) 1600
Hoge, Jr., M. D., (101) 1180, (52) 1328
Hoge, M. W., (135) 964
Hoisholt, A. W., (107) 422, (113) 728
Holder, E. M., (160) 477
Holinger, J., (89) 477, (104) 842, (69) 1701
Hollaender, E., (68) 1187, (31) 1335, (74) 1405, (52) 1698
Holliday, W. Z., (52) 533
Hollopeter, W. C., (96) 129, (12) 533, (129) 1471
Holloway, T. B., (94) 129
Holman, M. T., (88) 1593
Holmes, A. D., (98) 129
Holmes, B., *247, (83) 422, (92) 1106
Holmes, E. W., (101) 477, (97) 1034
Holmes, N. W., (17) 356
Holmes, R. W., (64) 128, (31) 349, (93) 668, (119) 669
Holmes, T. B., (118) 728
Holmes, T. K., (129) 1672
Holmes, W. F., (94) 200
Holt, E. E., (125) 1536
Holt, L. E., (166) 477, (90) 1271, (109) 1470
Holtschmidt, Dr., (65) 356
Home, W. E., (10) 1700
Hon, A. W., (81) 1106
Hondo, T., (70) 1042
Honigmann, F., (28) 1600
Hoover, F. P., (111) 62, (108) 1180
Hopkins, E. G., (152) 897
Hopkins, G. G., (15) 1034
Hopkins, G. W., (41) 610, (168) 787, (162) 897, (112) 1272
Hopkins, H. R., (80) 786
Hopkins, J. A., (156) 669
Hopkins, S. R., *1355
Hoppe, H. H., *1345
Hoppe, J., (58) 1113, (106) 1477
Hopper, J. D., (137) 1593
Horder, E., (23, 24) 356
Horne, B. S., (31) 128, (37) 421, (47) 533, (33) 786
Hornibrook, E., (68) 1593
Horstmann, C., (56) 1535
Horwitz, O., *1607
Hotchkiss, L. W., (17, 71) 1398
Hotz, F. C., (80) 128
Houghton, E. M., *150
House, A. F., (114) 201, (84) 422
Howard, E. F., (69) 728, (100) 1399
Howard, H. C., (120) 728
Howard, Jr., W. T., *392
Howard, W. A., (45) 476
Howe, G. H. F., (121) 1535
Howe, L., (35) 349
Howell, C. A., (109) 1399
Howell, J. T., (8) 786
Howell, T., (8) 1033
Howitt, H., (74) 1671
Hoysted, C. G., (7) 1541
Hoyt, W. D., (161) 1471
Hubbard, J. C., (32) 963, (101) 1271
Hubbard, S. D., (65) 1179
Hubbard, T. V., (150) 275, (149) 1536
Huber, A., (98) 904
Huber, F., (37) 200, (114) 896, (18) 1328
Huchard, H., (26) 735
Hudson, W. H., (110) 62
Huepp, F., (54) 541
Huger, Jr., W. E., (28) 1398
Huger, W. E., (75) 1179
Hughes, C. H., (77) 477, (44) 1179
Hughes, D. E., (1) 895
Hughes, H., (3) 60
Hughes, M. A., (107) 1593
Hughes, M. R., (127) 129
Huismann, L., (70) 541
Huizinga, J. G., *1442
Hull, G. S., (118) 477, (136) 728
Humiston, W. H., *442, (106) 896
Humphrey, T. C., (157) 897
Humphreys, D. S., (144) 1107
Hunsberger, J. N., (30) 1535
Hunt, D., (137) 1471
Hunt, P. C., (54) 1328
Hunter, J., (110) 201
Huntington, F. W., (141) 201
Huntington, T. W., (58) 128, *762, (174) 1329, *1370, (66) 1698
Huntington, W. D., (170) 201
Hurd, A. W., (14) 1468, (72) 1593
Hurd, H. M., (122) 787
Hurtado, F., (93) 904
Hussey, C. B., (160) 1329
Hutchins, M. B., (33) 668
Hutchinson, E. N., (22) 668
Hutchinson, H. S., (83) 1593
Hutchinson, J., (21) 616
Hutchison, H. S., (96) 896
Hutchison, J. N., (69) 274
Hutinel, Dr., (59) 1279
Hyde, C. R., (69) 350
Hyde, E. E., (95) 61
Hyde, F. G., (71) 896
Idelsohn, H., (43) 1701
Iglauer, S., (101) 61
Illing, W. P., *758
Illoway, H., (71) 841
Illyes, G., (54) 356, (36) 1335
Imbert, L., (39) 735
Inch, G. F., (18) 1106
Ingalls, H. A., (38) 610, (78) 963
Ingalls, J. W., (95) 786
Ingals, E. F., (135) 534, *1684
Ingelrans, L., (27) 1187
Ingersoll, J. M., (12) 1106
Inghilleri, F., (70) 971
Inglis, D., (99) 129
Irigueros, I. R., (115) 971
Irish, J. C., (39) 1179
Irish, R. H., (61) 1179
Irwell, L., (41) 349
Israel, J., (39) 794
Issatschenko, B., (39) 675
Italia, F. E., (132) 1478
Ito, H., (55) 356
Jack, F. L., (13) 128
Jack, G. N., (72) 1398
Jack, H. P., (132) 422
Jackson, C., (114) 1329
Jackson, J. H., (11) 903
Jackson, T. W., (21) 1179, (19) 1328
Jacobsohn, W., (105) 786
Jacontini, G., (141) 1478
Jackson, D., (174) 477
Jackson, E., (52) 61, (117) 477, (35) 610, (67) 668, (76) 841, (92) 1535
Jackson, G. T., (28) 476
Jackson, H., (25) 727
Jackson, T. W., (16) 1034
Jackson, W. R., (180) 534, (125) 728
Jacob, P., (109) 971
Jacobi, A., (10) 274, (7) 421
Jacobi, M. P., (114) 669
Jacobs, H. B., (109) 62
Jacobsohn, L. I., (101) 971
Jacobson, A. C., (5) 274
Jacobson, J. H., (90) 610, (36) 1535
Jacobson, S. D., (3) 533
Jacoby, Dr., (30) 483
Jacquet, L., (27) 970, (17) 1335, (24) 1476
Jaenicke, C., (67) 1600
Jaffe, M., (134) 1406, (69) 1477, (47) 1600
James, J. H., (98) 1329
Jameson, H., (116) 1535
Jameson, P. C., (90) 786
Jamieson, J., (19) 1278, (15) 1476
Janes, H., (151) 534
Janeway, E. G., (7) 668
Janeway, T. C., (162) 1536
Jankelevitch, S., (28) 356
Janowsky, L., (32) 356
Jaquet, A., (53) 428
Janvrin, J. E., (93) 1470
Jaquith, W., (106) 1593
Jarvis, A., (130) 275
Javal, Dr., (24) 1187, (23) 1335
Jaworski, W., (42) 1541
Jehle, L., (66) 848, (76) 1542
Jelks, J. L., (129) 1593
Jellinek, S., (67) 1542
Jenkins, N. B., (13) 1469
Jenkins, W. A., (45) 841
Jenks, F. H., (78) 1671
Jepson, W., (103) 728, (165) 1536
Jerard, J., (73) 668
Jerowitz, H. D., (145) 477
Jerusalem, M., (69) 1336
Jessen, F., (55) 617
Jessup, G. P., (32) 476
Jewett, C., (29) 896, (143) 1272, (15) 1398
Joachim, O., (129) 62
Joal, Dr., (28) 1335
Joannovics, G., (101) 1279
Jochmann, G., (88) 1187
Jodlbauer, Dr., (95) 1477
Johannessen, A., (51) 1701
Johnson, A. B., (98) 1271, (33) 1328
Johnson, A. J., (93) 1593
Johnson, C., (51) 1179
Johnson, C. K., (63) 1698
Johnson, E. A., (24) 1278
Johnson, E. Y., (44) 421
Johnson, H. M., (117) 62, (91) 1179
Johnson, H. P., (137) 897, (62) 1034
Johnson, J. L., (61) 1328
Johnson, J. T., (20) 727
Johnson, M., (81) 1542
Johnson, S. F., (123) 201
Johnson, T. B., (162) 611
Johnson, W., (92) 1329
Johnson, W. L., (123) 275, (136) 964, (132) 1471
Johnston, G. C., (62) 610
Johnston, J. A., (35) 1698
Johnston, J. B., (138) 1593
Johnston, J. C., (79) 350, (18) 476
Johnston, L. N., (153) 477
Johnston, O., (50) 727
Jonas, A. F., (127) 201, *803, (104) 1272
Jonas, E., (68) 963
Jones, A. A., (61) 1106
Jones, E. H., (2) 428
Jones, H. C., (58) 1470
Jones, H. I., *815
Jones, J. D., *1594
Jones, J. R., (117) 963
Jones, M. D., (4) 727
Jones, P. S., (20) 970
Jones, R., (3) 793, (4) 84., (7) 903
Jones, T., (152) 1035
Jones, W. A., (41) 1535
Jopson, J. H., (120) 129, (74) 275
Jordan, E. O., (63) 610
Jordan, J. E., (140) 1536
Jores, L., (144) 1406
Joseph, M., (37) 1187
Jouron, Dr., (25) 1113
Jousset, A., (45) 970, (54) 971
Joseph, M., (90) 1042
Joy, H. M., (25) 1034
Judet, H., (29) 1042, (57) 1477
Judkins, E. H., (152) 787
Judson, A. B., *508, (77) 1336
Juergensohn, A., (128) 1406
Juillard, C., (45) 735
Jukovsky, W. P., (91) 904
Jump, H. D., (25) 274, (105) 1107, (174) 1593
Jung, F. A. R., *1210
Jurgensen, C., (77) 1113
Jurowski, D., (52) 675
Justi, Dr., (53) 356
Juvara, E., (43) 848

Kaan, G. W., (88) 128
Kaeppelin, C., (11) 483
Kahlden, C., (36) 617
Kahn, P., (50) 1278
Kaijser, F., (104, 105) 1336
Kakels, M. S., (72) 841
Kalincznk, Dr., (82) 1113
Kallionzis, Dr., (116) 1279
Kalteyer, F. J., (18) 61
Kamann, K., (54) 1701
Kaminer, S., (89) 1042
Kammerer, F., (26) 1600
Kane, E. O., *1003
Kanger, A., (92) 1336
Karewski, Dr., (92) 1042
Kashkadamoff, V. P., (86) 357, (96) 1336
Kasparek, T., (49) 1187
Kassowitz, Dr., (64) 1701
Katsurada, F., (147) 1406
Kattenbracker, Dr., (46) 617
Kaufmann, Dr., (82) 1187
Kaufmann, R., (46) 1541
Kaupe, W., (112) 1043
Kausch, O., (45) 617
Kausch, W., (48) 794
Kazarinoff, G. N., (85) 357
Kedzior, L., (72) 848
Keefe, D. E., (144) 1272
Keefe, J. W., (18) 610, (14) 668
Keene, G. F., (94) 728
Keetley, C. B., (10) 1041, (10) 1112
Kehr, H., (66) 675
Keim, G., (32) 1405
Keiper, G. F., (78) 728
Keister, B. C., (42) 963, (4) 1469
Keller, L., (126) 275
Kelley, S. W., (105) 896
Kelling, G., (68) 356
Kellner, B. O., (48) 356
Kellogg, C. W., (172) 1329, (176) 1536
Kellogg, W. H., (146) 129
Kelly, A. O. J., (96) 477, (71) 533, (59) 610
Kelly, H. A., (3) 540, (74) 1179
Kelly, W. D., (99) 1329
Kelsey, E. W., (7) 533
Kelso, M. A., (49) 896
Kelynack, T. N., (39) 1592
Kemper, G. W. H., (4) 610, (97) 963
Kempf, E. J., (113) 350, (127) 422
Kengla, L. A., (177) 1329
Kennan, H. C., (47) 1592
Kennedy, D., (62) 349, (30) 1179
Kennedy, J. C., (19, 36) 1034
Kennedy, W. A., (112) 1470
Kenner, R. C., (134) 62, (166) 669, (45) 1034
Kenney, W. L., (134) 1536, (53) 1671
Kennon, B. R., (148) 728
Ker, C. B., (18) 616
Keravel, P., (21) 1600
Kerley, C. G., (34) 896, (10) 1271
Kerr, C. L., (46) 1592
Kerrison, P. D., (127) 477, (35) 1179
Kettner, A., (54) 1477
Keyes, Jr., E. L., (20) 1034
Keyser, C. R., (16) 1675
Khonry, J., (22) 735
Kiefer, G. L., (83) 350, (58) 727
Klenboeck, R., (49) 668
Kiernan, J. G., *388, (79) 477, (31) 610
Kilbourn, C. L., (17) 274, (11) 1469
Killebrew, J. B., (29) 421, (126) 728
Kime, R. R., (100) 668
Kimmell, J. A., (108) 350
King, A. C., (89) 1399
King, A. E., (160) 201
King, A. F. A., (62) 533, (100) 1329
King, C. P., (36) 421
King, E., (39) 1470
King, E. E., (162) 477
King, G., (115) 1107, (45) 1179
King, J. C., (145) 1329
King, J. E., (78) 786
King, M. B., (134) 728
Kingsbury, J., (29) 128
Kinnaird, J. B., (92) 841
Kinnear, P. H., (55) 533
Kinnler, L., (63) 128
Kinsman, D. N., (73) 61, (52) 1271
Klonka, H., (57) 675
Klpp, C. J., *1351
Kipp, F., (69) 1279
Klrby, F. A., (85) 610
Kirkbridge, M. B., (60) 1398
Kirmisson, Dr., (28) 735
Kirstein, F., (62) 541
Klsch, J., (50) 903
Klser, J. D., (69) 1106
Kissel, A. A., (35) 356
Klstler, S. L., (144, 160, 162) 669
Kittrell, T. F., (170) 477
Klein, A., (62) 1339
Klein, E., (59) 971
Klemperer, F., (73) 1113, (87) 1187
Klemperer, G., (71) 541, (137) 1406
Klopstock, M., (73) 1042
Klng, F., (130) 1406
Knapp, A., (68) 421
Knapp, H., *557
Knapp, L., (80) 1405
Knapp, M. I., (28) 610, (5) 727, (9) 895, (91) 1477, (27) 1535
Knapp, R., (53) 675
Knight, C. H., (99) 61
Knight, J. A., (134) 1593
Knopf, S. A., (31) 274, (111) 728, *757, (13) 1271, (30) 1328
Knott, V., (125) 1035, (74) 1470
Knox, E. S., (116) 350
Kober, G. M., (106) 1329
Kobrak, E., (67) 1042
Koch, I. M., (95) 422
Kocher, A., (53) 617
Koehler, H. H., (55) 963
Koenig, E., (40) 848
Koenig, F., (56) 735, (45) 848
Kohn, B., (16) 61
Kohnstamm, O., (39) 1701
Kolb, R., (53) 1187
Kolipinski, L., (37) 61
Kolischer, G., (88) 896, (80) 1042
Kolle, W., (43) 356, (41) 541
Koller, C., (13) 1328
Konrad, F. S., (60) 668
Koplik, H., (60) 727
Koranyl, A., (71) 1600
Korczynski, V., (69) 1542
Körmöczi, E., (45) 356
Korschun, A., (38) 675
Koslenko, Dr. (75) 1405
Kossa, J., (63) 617
Koster, G., (102) 1477
Kouindjy, P., (1) 483
Kovas, J., (83) 1477
Kovesi, G., (36) 1335
Kozloffsky, B. S., (107) 971
Kraemer, Dr., (37) 1042
Kraft, L., (103) 1336, (81) 1600
Kramer, S. P., (39) 610
Kramsztyk, J., (120) 1406, (50) 1701
Kraske, P., (45) 675
Kraus, O., (72) 1542
Kraus, R., (66) 617, (44) 1187, (60) 1339
Krause, F., (63) 736
Krauss, W., (132) 842, (110) 1180
Krauss, W. C., (8) 1398, (76) 1592
Kravkoff, N. P., (79) 1701
Krebs, Dr., (39) 843 (38) 1592
Krebs, M. L., (157) 1478
Krebs, P. G., (110) 1406
Kreidl, A., (61) 617, (63) 1336
Kreissl, F., (114) 422
Kress, W. J., (62) 1592
Kretz, R., (57) 963, (102) 1279
Krender, H., (130) 897
Krentzmann, H. J., (67) 349, (48) 963
Kroenig, Dr., (47) 617
Krim, J. M., (43) 200, (49) 1034
Krokiewicz, A., (83) 675
Kronfeld, A., (75) 848
Krotoszyner, M., (84) 61, (124) 1471
Krueger, A. J., (144) 275
Kuemmell, H., (67) 1187
Krug, Dr., (77) 848
Krukenberg, H., (78) 1187
Krusen, W., (3) 199, (2) 1398, (168) 1593
Krnsen, W., (45) 1671
Kuh, S., *295, (18) 1534
Kuhn, E. T., (107) 1399
Kuhn, P., (57) 483
Kulesh, G. S., (74) 904
Kulp, J. S., (80) 668
Kunkel, Dr., (60) 1113
Kuttner, L., (84) 1187
Kyger, J. W., (99) 1179
Kyle, D. B., (3) 1592
Kyle, J. J., (149) 422, (61) 1271
Labbe, M., (22) 428, (33) 617, (49) 1405
La Bonnardiere, Dr., (41) 1278
Laborde, Dr., (23) 1600
Lacasse, Dr., (28) 1113
Lachs, J., (79) 1405
Lacy, R. Y., (158) 964
Ladd, L. W., (99) 1593
Ladinski, L. J., (60) 476, (26) 533, (64) 1271
Ladniewski, S. S., (131) 1406
La Fevre, E. B., (150) 964
Laffont, M., (55) 1279, (55) 1405
Lagarde, L. A., (46) 349, (7) 1534
Lake, A. D., (12) 786
Lamalleree, Dr., (48) 735
Lamb, D. S., (107, 110) 1329
Lamb, G., (9) 276, (14) 793
Lambinon, H., (19) 1541
Lambret, O., (6) 483, (29) 617
Lamicq, E. P., (121) 1114
Lamm, B., (79) 1336
Lamosakoff, S. P., (169) 1478
Lancashire, G. H., (5) 1675
Lancereaux, Dr., (31) 970
Landau, R., (68) 794
Landis, J. H., (6) 533
Lane, C. E., (160) 964
Lane, H., (121) 477
Lane, J. A., (8) 128
Lane, W. A., (10) 674, (11) 735
Lange, C., (80) 1336
Lange, F., (64) 356, (71) 1187
Lange, J. C., (56) 200
Langemak, O., (99) 1042
Langer, J., (48) 483, (47) 1701
Langstaff, J. E., (63) 1671
Lanstein, L., (52) 483
Lankester, E. R., (8) 903
Lankford, J. S., (155) 964
Lankford, L., (53) 476
Lankowski, Dr., (69) 1187
Lannois, Dr., (31) 794
Lanphear, E., (153) 129, (55) 1671
Landsteiner, K., (80) 357
Lanz, O., (54) 617
LaPlace, E., (65) 786
Laporte, G. L., (17) 1179
Lapthorn-Smith, A., (29) 349
Laquerriere, A., (34) 848
Laquenr, L., (57) 735
Larat, J., (66) 1405
Larkin, J. H., (183) 897, (159) 1536
Larkins, E. L., (141) 477
Larrabee, R. C., (68) 610
Lartigau, A. J., (61) 200, *930
Laspeyres, R., (43) 1113
Lassar, O., (71) 484
Lastett, E. E., (8) 970
Latta, J. M., (58) 1671
Lattes, Dr., (74) 617
Lauder, E., (50) 1271
Launois, P. E., (30) 541, (26, 27) 848, (47) 1477
Laurens, P., (53) 1278
Lautenbach, L. J., (71) 1328
Laval, E., (63) 61
Lavdovsky, M. D., (160) 1478, (76) 1701
Laveran, A., (20) 735
Law, M. E., (154) 1471
Lawless, C. L., (76) 1271
Lawrence, F. F., *631, (79) 1106
Lawrence, G. F., (105) 1399
Lawrence, J. C., (164) 534
Layne, P. C., (40) 349
Lazarns, P., (58) 541
Leach, W. J., (75) 350
Leadsworth, J. R., (89) 1593
Leake, G. D. N., (5) 674
Leary, T., (38) 1179
Leatherman, A. L., (149) 1035
Leavitt, F., (92) 1593
LeBontillier, W. D., (44) 349
LeBoutillier, W. G., (64) 1470
LeBreton, P., (21) 963, (58) 1698
Lecene, P., (22) 483
LeConte, R. G., (107) 129, (64) 841
LeCount, E. R., (103, 107) 842, (133) 897, (79) 1470
Lederer, W. J., (31) 1179
Ledermann, R., (32) 1600
Lee, J. A., (142) 534
Lees, B. D., (7) 540
LeFevre, C. W., (59) 1271
LeFevre, E., (141) 611
Leffmann, H., (18) 1179, (20) 1698
Lehmann, K. B., (119) 1043
Leigh, S., (59) 275, (48) 421
Leigh, S. U., (40) 128
Leiner, C., (119) 1406
Leishman, W. B., (18) 356
Leister, R. B., (86) 422
Leitner, W., (129) 1406
Lejars, Dr., (10) 483
Lejars, F., (32) 428, (41) 1113
Le Juge, Dr., (22) 1600
Leland, L. G., (76) 1470
Lemann, I. I., (118) 201
Lemanski, Dr., (22) 541
Lemarchand, A., (14) 1335
Lemke, A. F., (115) 422
Lemoine, G., (3) 483, (28) 1187
Lemoine, G. H., (34) 1476
Lenehan, W., (136) 1593
Lengemann, Dr., (53) 1600, (62) 1676
Lenglet, E., (23) 903
Lenhartz, H., (49) 128, (103) 611, (44) 794, (71) 1671
Lennander, Dr., (27) 1701
Lenne, Dr., (79) 971, (31) 1042
Lenoir, O., (117) 1272
Lenzmann, R., (86) 1279
Leof, M. V., (124) 275
Leonard, A. M., (88) 1399, (121) 1672
Leonard, A. R., (106) 963
Leonard, C. L., (15) 421, (136) 422, (20) 476, (34) 610
Leopold, G., (68) 1477
Lepine, R., (38) 541, (29) 793, (35) 794, (78) 1477
Lerch, O., (28) 274, (3) 1271
Lereboullet, P., (25) 428, (7) 483
Leredde, Dr., (56) 1279, (72) 1405, (22, 28) 1675
Leredde, L. V., (26) 1541, (39) 1675
Lermoyez, M., (34) 617
Lerner, A. A., (88) 971
LeRoy, L., (21) 428, (140) 1035
Leroy, R., (118) 1272
LeSourd, Dr., (32) 848
LeStrat, E., (18) 1335
Leudeking, R., (107) 1034, (111) 1035
Lenf, A. H. P., (93) 61, (127) 275
Levashoff, S. V., (82) 357
Leven, L., (44) 483
Levene, P. A., (38) 61, (32) 200, (104) 275
Levers, E. E., (121) 1035
Levi, H., (59) 1701
Levi, J. V., (85) 1106
Levi, L., (12, 16) 483
Levien, H., (169) 534
Levin, E., (115) 1114
Levinger, Dr., (59) 675
Levings, A. G., (66) 200
Levings, A. H., (5, 76) 533, (71) 786, (89) 1034, (126) 1329, (112) 1593
Levy, E., (61) 736
Levy, I. H., (26) 1106
Levy, R., (71) 668
Lewald, L. T., (139, 140) 669, (179, 186) 897, (155) 1536
Lewers, A. H. N., (10) 276
Lewi, M. J., (79) 786, (124) 787
Lewis, D., (116) 422, (9) 1106
Lewis, F. P., (115) 787, (86) 1329
Lewis, H. E., (118) 62, (169) 201, (102) 786, (109) 1107
Lewis, H. W., (146) 728
Lewis, Jr., R., (10) 841
Lewis, M. W., (58) 1398
Lewis, S., (19) 274
Lewkowicz, X., (117) 1406
Lexer, E., (42) 1042
Libman, E., (184) 897, (28) 963, *1493, (154) 1536
Lichem, T., (75) 1042
Lichtenstein, J., (60) 727
Lichtenwalner, A. B., (135) 129
Lichty, D., (99) 534
Lichty, M. J., (96) 1034
Lickley, J. D., (17) 903
Lieberthal, D., *93, (89) 1535
Liebreich, O., (60) 794
Liefmann, E., (37) 1701
Liell, E. N., (12) 1592
Lignieres, J., (172) 1478
Lilienfeld, S., (111) 1043
Lilienthal, H., (24) 349, (133) 422, (8) 1592
Lillie, C. F., (93) 484
Lincoln, H. W., (92) 786
Lind, G. D., (91) 963
Lindemann, E., (48) 903, (122) 1279
Lindley, W., (153) 964
Lindorme, C. A. F., (103) 1180
Lindsey, C., (95) 1399
Lindt, W., (95) 904
Linossier, G., (25) 617, (20) 1186
Linser, P., (80) 1279
Linstow, V., (40) 675
Lipes, H. J., (130) 1672
Lipman-Wulf, L., (90) 1279
Lissaman, T., (16) 616
Liston, W. G., (23) 1405
Litinski, O. A., (95) 1336
Littauer, A., (82) 1405
Litten, Dr., (65) 1676
Litten, M., (46) 428
Little, J. W., (46) 786
Livingston, J. L., (12) 793
Lloyd, J. H., (38) 533
Lloyd, S., (35) 533, (6) 610, (20) 668
Lobingier, A. S., *1074
Locke, E. A., (64) 610, (21) 1398
Lockwood, G. R., (10) 1592
Loeb, H., (161) 669
Loeb, L., (74) 610
Loeffler, Dr., (70) 1187
Loewenstein, H., (51) 675
Loewenthal, M., (98) 61
Loewenthal, W., (85) 1279
Lofton, L., (16) 200, (57) 274, (124) 611, (99) 786, (8) 1106, (25) 1179
Loftus, W. V., (100) 275, (47) 476
Lombroso, C., (82) 1398
Lommel, F., (52) 794

Lomonaco, D., (76) 617, (124) 1478
Londe, P., (23) 1476
Long, J. W., (171) 534, (120) 611
Long, R. D., (48) 896
Longcope, W. L., (138) 897
Longcope, W. T., (104) 1107, (74) 1535
Longenecker, C. B., (20) 421
Loomis, B. W., (23) 1179, (20) 1398
Lord, J. P., (105) 728, *1433
Lorenz, A., (68) 848
Lott, H. S., (145) 1593
Lott, M. K., (144) 787
Lottheissen, G., (65) 794
Loubet, L., (36) 1405
Loux, H. R., (68) 1470
Love, I. N., (126) 129, (113) 842, (144) 1471
Love, R. D., (133) 201
Lovelace, E., (1) 895
Loveland, B. C., (56) 1179
Lovett, R. W., (38) 274, (22) 1106
Low, G. C., (86, 89) 484
Low, H. C., (69) 610
Low, O., (... 675
Lowe, W. H., (29) 476
Lower, W. E., (156) 129
Lowman, W. R., (110) 1671
Lucas-Championniere, Dr., (28) 617
Lucas, V., (124) 1035
Lucchi, A., (143) 1478
Ludwig, S., (60) 1336
Lugaro, E., (85) 1336
Luhe, M., (60) 1187
Lukens, C., (100) 1106
Lull, C., (128) 1272
Lund, C. J., (56) 668
Lund, F. B., (69) 610, (18) 1592
Lund, G. J., (122) 201
Lundborg, H., (41) 1701
Lunin, N. I., (75) 904
Lundinghausen, Dr., (68) 1600
Lunz, Dr., (54) 1113
Lupp, A. P., (15) 847
Lusk, C. P., (138) 611
Lusk, G., (101, 102) 534
Luther, J. W., (113) 963
Lutz, F. J., (40) 421
Lutz, S. H., (143) 1035
Luys, G., (31) 428
Luzzato, A. M., (63) 904, (86) 1477
Luzzatto, R., (109) 1114
Lydston, G. F., (91) 61, (130) 62, (125) 129, (8) 349, *391, (53) 533, (146) 611 (24) 668, (150) 669, *1288, *1366, (44) 1470
Lynatz, A. L., (75) 1701
Lynds, J. G., (85) 533
Lyon, G., (25) 541
Lyon, I. P., (84) 275, (47) 421
Lyons, A. B., *17
Lytle, A. T., (11) 60
MacCallum, W. G., (62, 63) 200
MacCoy, A. W., (70) 533
MacDonald, A., (26) 668
MacDonald, C. F., (9) 199, (21, 25, 28) 200, (11) 540, (75) 610, (12) 616, (66) 896
MacDonald, D., (127) 964
MacDonald, G. C., (29) 786
MacDonald, J., (139) 201
MacDonald, J. F., (157) 787
MacDonald, J. M., (83) 1271
MacDonald, J. W., (61) 61
MacDonald, P. W., (6) 793
MacEvitt, J. C., (88) 786
MacFarlane, J. W., (59) 786
MacGaughey, J. D., (7) 128
MacGowan, G., (28) 1328, (142) 1329
MacIlwaine, S. W., (5) 1599
MacKenzie, J. J., (70) 200, (84) 1593
Mackin, W. F., (50) 1555
MacLaren, A., (72) 1470
MacLean, J. D., (69) 476
MacMillan, D. P., (54) 1271
MacMonagle, B., (100) 786
MacMorran, A. H. M., (3) 1335
MacPherson, J. D., (6) 786
MacPherson, H. M., (132) 350
Macvicar, N., (22) 356, (18) 735
MacWilliam, J. A., (6) 1112
McAlister, A., (118) 896
McAnally, J. T., (84) 1535
McArthur, L. L., (72) 1106
McBride, J. H., *855
McBurney, C., (31) 896
McCabe, N., (124) 1035
McCalla, L. P., (148, 162) 129
McCanless, J. W., (130) 1593
McCann, F. J., (5) 1541
McCarthy, D. J., (57) 610, (108) 611, (22) 963, (62, 87) 1106, (43, 53) 1398, (25) 1698
McCaskey, G. W., *379, (104, 106) 422, (10) 727, *812
McClintock, R. W., (64) 1034
McCollum, C. A., (96) 534
McConachie, A. D., (41) 668
McCone, J. A., (96) 1470
McCormack, A. T., (64) 1535
McCormack, J. N., *1434
McCorn, W. A., (141) 534
McCown, O. S., (93) 1671
McCoy, T. J., (135) 728
McCrae, J., (2) 1106
McCrae, T., *148, (122) 531
McCreary, M., (165) 669, (98) 841
McDaniel, O., *443
McDonald, A. C., (124) 842
McDonald, J. D., (97) 275
McDonnell, E. J., (23) 1278
McElroy, J. B., (109) 1180
McFarland, J., *217, (99) 422, *435, (113) 534, (5) 610, (109) 611, (18) 668, (30) 727, (23) 786, (21) 841, (128) 897, (40) 1398, (88) 1470
McGanon, M. C., (142) 62
McGaughey, J. B., (48) 533
McGee, J. B., (94) 1034, (98) 1593
McGrew, W., (50) 1671
McGuire, S., (146) 1035, (52, 109) 1671
McGraw, T. A., (120) 842
McGugan, A., *371, (23) 668
McGuire, S., (48) 61, (54, 86) 786, (66) 1535
McIntire, C., (..., 79) 841
McIlwraith, K. C., (122) 1329, (127) 1672
McKee, A. B., (9) 616, (51) 1535
McKee, C. S., (108) 728
McKenzie, B. E., (82) 350
McKenzie, J., (5) 1278
Mackenzie, S., (9) 1675
McKenzie, W. W., (82) 896
McKeown, W., (106) 786
McKibben, W. W., (27) 727
McKimmie, O. A. M., (39) 963
McKinney, R., *765
McLachlan, N. L., (107) 350
McLean, A., (59) 841
McMurtry, L. S., (105) 201, (141) 787, (106) 1...4
McNaughton, G., (87) 786
McNeer, R. L., (93) 350
McPhedran, A., (73) 200, (1..) 201, (11) 428, (101) 786, (100) 963
McRae, F. W., (33) 1535
McReynolds, R. P., (58) 4..6
McShane, J. T., (93) 963
McSwain, I. A., (147) 728
Maass, F., (96) 1535
Mabbott, J. M., (11) 895
Macon, R. B., (169) 611
Madden, F., (114) 1279
Madden, F. C., (14) 356, (19) 1675
Madden, J., (3) 476, (27) 668
Maddock, L., (170) 1329
Madison, J. D., (5) 1033
Maduro, M. L., (29) 668 (16) 1179
MaGahan, C. F., (103) 786
Magaw, A., (88) 350
Magaziner, W. E., (58) 1271
Magee, R. S., (116) 611
Magill, W. S., (25) 1592
Magnus, R., (55) 1477
Magnus-Levy, A., (48) 1600
Magri, A., (153) 1478, (86) 1600
Magruder, A. C., (91) 1106
Magruder, E. M., (51) 476
Mainzer, M., (58) 1701
Maitland, J., (83) 484
Major, E. E., (139) 1329
Maklakoff, A., (159) 1478
Maksutoff, A. M., (162) 1478
Malcolm, J. D., (5) 793
Mallett, G. H., (17) 963
Maly, G. W., (66) 1336
Manasse, K., (119) 62
Mandel, J. A., (105) 534
Mankoffsky, A. F., (84) 357, (111) 971
Manley, T. H., (23) 421, (123) 422, (4) 533, (78) 1034, (145, 156) 1035, (114) 1399, (114) 1470
Mann, A., (32) 727
Mannheimer, G., (86) 668
Manning, J., *1291
Manquat, A., (4) 483
Mansfelde, A. S. Y., (45) 1398
Manson, F. M., (52) 1106
Manson, P., (16) 735, (10) 1...1
Mantenffel (von), Z., (46) 483
Manton, W. P., (68) 128, (67) 1271
Mapes, C. C., (58) 533, (44) 841
Marchals, M., (32) 541
Marchant, G., (47) 970
Marcou, M., (26) 617
Marcuse, J., (138) 1536
Mardoff, W. C., (145) 669
Marechal, E. L., (140) 1493
Marfan, A. B., (34) 541
Marie, P., (36) 1675
Marinesco, G., (99) 1406
Marion, G., (38) 735
Markel, G., (42) 1187
Markl, Dr., (61) 541
Markl, G., (56) 428
Markley, P. L., (138) 534
Markoe, F. H., (57) 1598
Marlow, F. W., (121) 275, (56) 1179
Marmorek, A., (33) 1187, (44, 45) 1278, (29) 1335
Marple, W. B., (13) 1398
Mars, A., (128) 1043
Marschalko, T., (38) 1335
Marsh, F., (7) 1700
Marshall, E., (43) 476
Marshall, G. G., (107) 1107
Marshall, J. N., (13) 356, (16) 1278
Marston, D. W., *1437
Martin, A., (84) 1405
Martin, C. F., (57) 349
Martin, E., (85) 1106
Martin, E. D., (123) 611
Martin, E. W., (11) 1476
Martin, J. C., (89) 736
Martin, R. S., (148) 1035, (67) 1535
Martin, T. C., (10) 786, *1077, (113) 1535
Martin, W. A., *1442, (125) 1471
Martin, W. C., (47) 1106
Martindale, W. H., (3) 847
Martinelli, V., (144) 1478
Martinet, A., (29) 428, (49) 971, (40) 1113, (43, 46, 52) 1405
Martini, E., (43) 356, (41) 541
Martini, U., (172) 1407
Marx, H., (101) 1477
Marx, S., (3) 1534
Maschke, A. S., (111) 201, (97) 1593
Mason, G. W., (149) 964
Mason, H., (5) 428
Mason, J. M., (134) 1272
Mason, R. D., (137) 477, (87) 533
Massey, G. B., (82) 610, (126) 669, (142) 1593
Massie, J. M., (153) 669
Massini, L. C., (84) 1600
Masters, J. L., (92) 963
Matas, R., *103, (32) 128, *173, *242, *318, (11) 349
Matheny, R. C., (80) 841
Mather, E. L., (136) 1329
Mathes, C., (61) 1405
Mathews, G. S., (92) 533
Mathieu, A., (22) 617
Mathis, C., (33) 794
Matthes, M., (63) 356, (80) 736, (104) 1477
Matthews, W. J., (123) 1107
Matusewicz, J., (145) 1406
Matzinger, H. G., (133) 62
Mauclaire, Dr., (113) 1279
Maxwell, J. L., (19) 1405
Maxwell, J. P., (100) 484
Maxwell, M., (34) 1278
May, R., (48) 1113
Maya, F. P., (182) 1478
Mayer, A., (140) 611, (4) 785
Mayer, E., (59) 533
Mayet, Dr., (26, 29) 541
Mayet, L., (36) 1278
Mayfield, C., (44) 1328
Maylard, A. E., (62) 274
Mayo, C. H., (51) 1106
Mayo, W. J., *107, (51) 274, (20, 83) 1328
Mays, T. J., (20) 349
Maze, P., (48) 1278
Mead, E., (88) 841
Meara, F. S., (29) 963, (145) 1536
Meier, G. C. H., (55) 274
Meierhof, E. L., (84) 1179
Meillere, G., (26) 848
Meinel, A., (40) 903
Meirelles, Z., (88) 675
Meitner, W., (145) 1272
Mellish, E. J., (38) 1470
Meltzer, S. J., (9) 421, (79) 422, (94) 610, (32) 1671
Melville, G., (8) 199
Melzi, U., (68) 1405, (171) 1406
Menard, M., (33) 1405, (44) 1477
Mendel, F., (48) 541, (28) 674, (50) 1336
Mendez, J., (173) 1478
Menetrier, P., (30) 1476
Menger, R., (149) 669
Menzer, Dr., (38) 483
Meragliano, Dr., (93) 1187
Mercade, S., (23) 483
Mercier, C., (5) 275
Mering, L., (48) 1336
Mering, J., (62) 1600
Merk, A., (46) 1600
Merk, L., (74) 848
Merkel, A., (53) 1477
Merkel, S., (37) 903
Merklen, P., (39) 1405, (27) 1476
Merletti, C., (90) 1405
Merriam, L. A., (104) 728
Merrins, E. M., (16) 895
Mertens, V. E., (64) 848, (52) 1600
Meserve, A. K. P., (131) 964
Mesker, G. H., (51) 533
Mesnil, F., (20) 735
Metcalf, W. B., (170) 534
Metchnikoff, I. I., (81) 357
Mettler, L. H., (100) 1535, (11) 1698
Metzger, B., (96) 275
Metzger, L., (57) 1113
Mewborn, A. D., (58) 61, (41) 200
Meyer, A., (100) 1477
Meyer, J., (32) 483
Meyer, R., (74) 675
Meyer, W., (4) 421, (52) 735, (13) 1106, (62) 1179, (102) 1399
Meyerhof, Dr., (33) 675
Meyers, S. J., (41) 61
Michaelis, L., (64, 78) 675, (61) 1676
Michelazzi, A., (129) 1478
Miclescu, Dr., (65) 484
Middleton, W. D., (122) 62
Mieczowski (von), L., (47) 794
Miessner, H., (62) 848
Mignon, A., (63) 1279
Mikhloff, S. D., (164) 1478
Milbradt, Dr., (50) 848
Miles, A., (15) 616
Milian, Dr., (29) 848
Millard, C. K., (11) 1112
Millard, F. R., (150) 728
Millener, F. H., (28) 1106
Miller, D. J. M., (25) 421, (164) 477
Miller, D. L., (123) 842
Miller, H. T., (33) 476, (138) 1107
Miller, J., (150) 1406
Miller, J. E., (124) 62, (138) 1035
Miller, J. H., (49) 200
Miller, J. L., (1) 1592
Milliken, J. D., (107) 1535
Millikin, M., (36) 1698
Mills, C. K., (28) 531
Mills, J. J., (119) 842
Mills, W. S., (35) 668
Minor, C. L., (2) 60, (15) 274
Mintz, W., (101) 1042, (27) 1600
Mircoli, S., (35) 903
Mitchell, A. T., (91) 200
Mitchell, E., (74) 533
Mitchell, E. W., (27) 61
Mitchell, J. A., (7) 786
Mitchell, J. C., (18) 1405
Mitchell, J. K., (59) 421, (123) 669, (53) 1470
Mitchell, J. T., (25) 970
Mitchell, S. W., (52) 1470
Mitchell, W., (12) 1476
Miwa, Y., (37) 794
Mixter, S. J., (64) 274
Modica, O., (91, 92) 1113
Moebius, P. J., (82) 736, (80) 1398
Moechel, J. R., (101) 1179
Moeller, A., (57) 1187
Moeller, J., (83) 1600
Moffat, R. U., (88) 484
Mohr, L., (50) 617
Moir, J., (159) 669
Moiseiff, A., (..) 904
Molon, C., (178) 1407
Moncorge, Dr., (28) 541
Monrad, S., (50) 483
Monroe, G. J., (28) 61, (40) 274, (37) 476, (163) 669, (35, 93) 841, (38) 963, (38) 1106, (39) 1328, (37) 1535
Montano, E. F., (90) 1187
Montenyohl, E. A., (34) 1398
Montgomery, D. W., (26) 1179, (68) 1698
Montgomery, E. E., (70) 1179
Montgomery, F. H., *867, (66) 1398, *1486
Montini, A., (180) 1407
Moody, C. S., (158) 897
Moody, H. A., (114) 1035
Mooney, J. B., (142) 1107
Moore, A., (4) 970
Moore, B. S., *226
Moore, E. K., (19) 61, (45) 421, (68) 841, (98) 1671
Moore, E. M., (175) 477
Moore, J. E., (41) 476, (66) 1470, (86) 1593
Moore, J. T., (138) 62, (36) 128, (140) 275, (163) 787, (17) 970, (15) 1335

Moore, M., (22) 1405
Moore, M. L., (118) 1593
Moore, T. W., (125) 275
Moore, V. A., (14) 962
Moore, W., (20) 847
Moots, C. W., (106) 350
Moraitis, N., (61) 903
Moran, J., (14) 1592
Moran, J. F., (107) 669
Moras, E. R., (17) 128
Moreau, Dr., (33) 1675
Morel-Lavallee, A., (65) 1405
Morell, H., (34) 349, (53) 1106
Moren, J. J., (37) 1398, (59) 1535
Morestin, H., (21) 541, (36) 1113, (47) 1405, (49) 1477
Moreul, T., (30) 793
Morfit, J. C., (40) 1034
Morgan, E. E., (105) 422, (54) 1698
Mori, A., (182) 1407, (88) 1600
Mori, D., (70) 904
Moriarta, D. C., (123) 787
Morison, A., (12) 1278
Morison, J. R., (6) 356
Moritz, Dr., (62) 356
Moritz, E., (129) 1329
Morkovitine, A. P., (81) 904
Moro, E., (67) 617, (123) 1406
Morris, M., (4) 1675
Morris, R. T., (117) 350, (90) 728, (14) 895, (27) 1470, (121) 1593
Morrison, A. M., (161) 201
Morrow, P. A., (5) 60, (6) 128
Morse, E. E., (73) 1271
Morse, J. L., (2) 1033, (19) 1671
Morton, A. W., (173) 1329
Morton, C. A., (6) 616
Morton, H. H., *499, (93) 786
Morton, H. M., (42) 1535
Morton, L. J., (77) 422, (1) 1106
Morton, W. J., (1) 785, (1) 1534
Mosenthal, H. A., (26) 786
Moser, W., (36) 476, (24) 1271
Mosetig-Moorhof (von), R., (90) 971
Mosher, B. B., (73) 421
Mosher, H. P., (33) 421
Mosny, E., (40) 1278
Moss, R. H., (131) 1035
Mosse, A., (27) 735
Motais, Dr., (32) 970
Moynihan, B. G. A., (5) 540
Muckey, F. S., (42) 476, (48) 786
Mueller, A., (85) 1042
Mueller, E., (122) 1406, (38) 1701
Mueller, G. J., (92) 1477
Mueller, H., (33) 483
Mueller, J., (80) 971
Mueller, L. R., (61) 356
Mueller, P. T., (78) 736
Muench, C., (104) 1279
Muggia, G., (145) 1478
Mullen, J., (154) 964, (84) 1671
Mumford, J. G., (39) 533, (120) 534
Muncaster, S. B., (68) 1671
Munch, A. W., (159) 1406
Munch, F., (56) 971
Mundell, D. E., (126) 534
Munn, W. P., (70) 668
Munro, A. W., (104) 484
Munro, J. C., (19) 349, (32) 421, (71) 1470
Munro, W. L., (96) 728
Munster, H. V., (99) 484
Munter, S., (72) 1042, (43) 1600
Murdoch, F. M., (21) 1534
Muret, Dr., (25) 1042
Murison, C. C., (17) 1700
Murphy, J. B., *743, *816, (84) 1106, (45) 1698
Murphy, J. C., (149) 129, (48) 1671
Murphy, J. W., (126) 477
Murray, F. W., (14) 421
Murray, G. R., (9) 1599
Murri, A., (30) 1042
Murry, L. M., (124) 422
Musgrave, W. E., (28) 786, (30) 841
Musser, J. H., *71, (1) 199, (9) 274, (50) 421, (14) 1179
Mutterer, Dr., (20) 1600
Myer, J. S., (52) 668, (61) 963
Myers, M. M., (171) 477
Myers, T. H., (11) 1271
Mygge, J., (78) 1113
Mygind, H., (76) 1113
Mynter, H., (61) 1698
Naab, J. P., (60) 1600
Nadler, J., (156) 1406
Naegelsbach, Dr., (53) 848
Nagano, Dr., (46) 794
Nagel, C. S. G., (115) 728
Nageotte, Dr., (18) 541
Nahm, Dr., (65) 1701
Nammack, C. E., (86) 200, (10, 26) 610
Nance, W. O., (105) 61, (100) 422
Nancy, Dr., (33) 735
Nardi, C., (179) 1407
Nasi, C., (57) 428
Nassau, C. F., (55) 1271
Nathan, H., (46) 903
Naughton, M. T., *875
Naumann, A .G., (87) 904
Naumann, G., (114) 1114
Neesen, V. E., (21) 274
Neff, W., (97) 350
Negreto, C., (85½) 736
Nehrkorn, A., (47) 356
Netter, Dr., (21) 1042, (44) 1405
Neu, C. F., (101, 963
Neugebauer, F., (79) 1042, (59) 1541
Neuhoff, F., (41) 1034
Neumann, A. E., (78) 1405, (68) 1701
Neumann, Dr., (89) 1279
Neumann, R. O., (41) 675
Neve, E. F., (5) 1404, (14) 1700
Newcomb, P., (158) 422
Newcomb, P. B., (133) 1471
Newell, F. S., (13) 668
Newman, D., (18) 1278
Newman, H. P., *1501
Newman, L. E., (42) 274
Newman, R., (80) 610
Newton, C. B., (108) 1671
Newton, R. C., (11) 962
Niblock, W. J., (21) 1405, (13) 1700
Nichols, A. H., (14) 200
Nichols, E., (121) 842
Nichols, E. H., (93, 95) 1179, (139, 141) 1272
Nicholson, F. S., (10) 128
Nicholson, W. R., (58) 610, (74) 1034
Nicola, F., (93) 1113
Nicoladoni, C., (30) 1701
Nicolaysen, J., (143) 1043
Nicoll, Jr., M., (108) 1470
Nicolle, Dr., (21) 735
Niemack, J., (59) 128
Niessen, Dr. von, (72) 1187, (41) 1541
Nietert, H. L., (35) 200, (154) 201, (14) 1328
Nightingale, P. A., (17) 1405
Nikolsky, P. V., (93) 1336
Niles, H. D., *759, (81) 963, (108) 1272
Nippert, L. A., (30) 1398
Nobecourt, P., (35) 541
Noble, C. P., (1) 274, (118) 669, (15, 50) 963, (59) 1106, (172) 1593
Noble, G. H., (115) 669
Noe, J., (23) 617
Noguchi, H., (74) 728, (61) 1034
Nolan, H. R., (26) 970
Noorden (von), C., (85) 1477, (41) 1671
Noorden (von), W., (100) 1042, (17) 1534
Norbury, F. P., (50) 200, (53) 249, (52) 786, (39) 896
Norfleet, L. E., (10) 60
Norris, H., (77) 728
Norris, R. C., (110) 669
Northrup, W. P., (167) 477
Norton, G. M., (167) 534
Nothnagel, H., (69) 484
Nove-Josserand, G., (36) 541
Nowlin, J. B., (34) 1034
Noyes, P. J., (144) 201, (98) 422, (110) 728
Nuckols, M. E., (61) 274, (146) 275, (98, 122) 350
Nuel, J. P., (150) 1593
Numbers, J. R., (90) 896
Nutt, G. D., (63) 786
Nuttall, G. H. F., (17) 847, (3) 1112
Nuttall, Z., (79) 1179
Nuzum, T. W., (64) 668
Oakley, F., (155) 129
Oatman, L. J., (139) 964
Obermayer, F., (69) 1600
Oberndorf, E., (37) 617
Oberndorfer, S., (41) 903, (149) 1406
Obici, G., (70) 794
Obraztzoff, V. P., (87) 1336
O'Brien, T. J., (96) 963
O'Callaghan, R., (11) 847
O'Connor, J., (18) 1675
Ochsner, A. J., (113) 422, (49) 794, (45) 896
Oddo, C., (48) 970
Odhner, T., (43) 675
Oefele, F., (63) 484
Oertel, H., (105, 110) 534
Oertel, T. E., (167) 897
Oettinger, Dr., (50) 735, (32) 1541
Ogle, C., (10) 1476
Ogston, A., (12) 735
Ohlmacher, A. P., (71) 421, (72) 610, (107) 896, (83) 1470
Ohlmacher, J. C., (84) 1470
Ohls, H. G., (40) 668
Okunkova-Goldinger, Z., (128) (1329, (136) 1471
Oliver, C. A., (72) 275, (71) 1034
Oliver, J. P., (142) 275, (118) 350
Olmstead, L., (126) 1672
Olshausen, R., (40) 483
Olvera, J., (81) 484
Omi, K., (55) 356
O'Neill, E. D., (95) 1329
Onodi, A., (72) 1600
Onuf, B., (107) 275
Ophuls, W., (119) 129
Opie, E. L., (59) 1398
Oppel, V .A., (158) 1478
Oppenheim, A., (35) 675
Oppenheim, O., (53) 1113
Oppler, B., (39) 1335
Ord, G. W., (8) 356
O'Reilly, E. B., (146) 534
Oreline, A., (80) 422
Orendorf, H., (79) 1271
Orloffsky, V. F., (161) 1478
Orlow, L. W., (50) 356
Orr, C. J., (138) 964
Orr, H. B., (128) 62
Orr, H. W., (125) 201, (45) 1398
Orsman, W. S., (14) 1541
Osborne, A., (111) 1279
Osenbach, W., (38) 1034
Osgood, R. B., (12) 200, (32) 1271
Osler, W., (43, 44) 61, (6) 895, (31) 1106, (146) 1329, *1483, (25) 1535, (23) 1671
Ossig, C., (110) 1043
Ostranger, H. Y., (149) 728, (165) 897
Ostwalt, F., (54) 610
O'Sullivan-Beare, D. R., (8) 540
Otis, E. O., (22) 1328, (30) 1698
Otis, N. M., (39) 668
Otis, W. K., (2) 1179
Ott, A., (59) 1477
Otto, M., (40) 541
Ottolenghi, D., (74) 1701
Oudin, Dr., (20) 674
Overend, W., (96) 484
Owen, F. S., (101) 728
Owen, O. W., (131) 728
Packard, F. A., (30) 61, (125) 787, (64) 841, (26) 1535
Packard, F. R., (39) 786, (1) 841, (75, 78) 1535, (123) 1593
Paddock, C. E., (45) 200, (48) 1698
Page, H. W., (10) 1675
Pagenstecher, E., (96) 1042
Painblan, E., (39) 970
Paine, J. C., (51) 727
Paine, J. F. Y., (44) 200
Painter, C. F., (15) 128, (12) 200
Pal, J., (71) 357
Paladino-Blandini, Dr., (142) 1478
Palmer, C. D., (38) 1671
Palmer, L. W., (141) 1536
Pampoukis, P. S., (84) 675
Pancoast, H. K., (56) 610
Panichi, L., (76) 617
Pansier, P., (163) 1406
Panzer, T., (106) 1279
Pape, H., (22) 1701
Pappenheim, A., (71) 736
Paquin, P., (80) 477
Pardee, G. C., (119) 728
Parham, F. W., (150) 611, (128) 964
Paris, W. J. J., (45) 274
Pariser, C., (88) 1279, (109) 1406
Park, G., (69) 1593
Park, R., (83) 200, (11) 610, (86) 1106, (17) 1671
Park, W. H., (107)534, (132) 669
Parke, W. B., (121) 350
Parke, W. E., (12) 1534
Parker, G., (8) 1476
Parker, R., (2) 1599
Parker, R. M., *1000
Parker, W. R., (95) 1106
Parker, W. T., (47) 200
Parnell, G. C., (16) 356
Parrott, J. M., (142) 964
Parsons, E. B., (156) 964
Parsons, F. G., (7) 847
Parsons, H. C., (78) 200
Parsons, R. L., (8) 841
Parsons, W. B., (120) 1035, (94) 1271, (127) 1272, (122) 1470, (102) 1671
Pascoletti, S., (64) 904
Pascual, W. Y., (5) 421
Passini, F., (75, 76) 357
Patek, A. J., (6) 1033
Patel, Dr., (52) 971, (27) 1042, (52) 1477
Patella, V., (100) 1406
Paton, D. M., (143) 787, (23) 970
Paton, S., (87) 668, (69) 896, (79) 1593
Patrick, H. T., (54) 896
Patterson, H. S., (116) 129
Patterson, J., (84) 1398
Patterson, J. C., (167) 611
Patterson, R. A., (133) 728
Pattin, H. C., (2) 1700
Patton, C. J., (43) 533
Patton, J. M., (68) 786, (102) 1593
Patton, R. H., (116) 842
Paul, F. T., (7) 970
Paul, W. E., (7) 1033
Paulin, L. E., (162) 1593
Paulson, D., (81) 128, (41) 1592
Pautet, Dr., (31) 794
Pautrier, Dr., (28) 1675
Pawlof, P. A., (51) 1541
Payn, A. S., (131) 1329
Payr, E., (73) 1477
Peabody, G. L., (8) 421
Peacocke, G., (15) 276
Pearce, F. S., (34) 128, (52) 200, (100) 201, (53) 421, (72) 476, (67) 728 (55) 896, (50) 1470, (51) 1671
Pearce, G. S., (63) 841
Pearse, H. E., (26) 896, (150) 1471
Pearse, H. S., (25) 128
Pease, C. A., (64) 1698
Pechin, A., (35) 848
Pedersen, V. C., (9) 727
Pedigo, L. G., (100) 350
Pedlar, A .J., (171) 1329
Peham, H., (47) 675
Pel, P. K., (79) 1477
Pellizi, G. B., (71) 794
Pelnar, J., (81) 1113
Pels-Lensden, F., (116) 1406
Peltz, J. D., (90) 1329
Pemberton, R., (130) 350
Pembrey, M. S., (3) 970
Pendl, F., (125) 1043, (76) 1336
Penn, G. W., (131) 842
Pennebaker, W. F., (143) 201
Pennington, J. R., (132) 534
Pennington, M. E., (85) 1106
Pepper, W., (61) 1398
Pech, A. H., *1617
Perkins, H. P., (24) 895
Perkins, I. B., (148) 611, (96) 1271
Pernet, G., (87) 484
Perrando, G. G., (67) 904
Perrin, M., (19) 483
Perry, A. W., (146) 669, (109) 842, (43) 1271
Pernjo, A. M., (87) 736, (179) 1478
Perntz, F., (55) 483
Peskind, A., (81) 422
Peters, G. A., (109) 201, (161) 477, (93) 896., (76) 1034
Peters, H., (60) 1042
Peters, L., (69) 1271
Petersen, O., (85) 848, (80) 1477
Peterson, A. O., (106) 728
Peterson, F., (67) 896
Peterson, R., (2) 274, (81) 350
Petit, A., (25) 1476
Petit, J., (44) 735
Petit-Vendol, C. H., (56) 1405
Petrie, G. F., (11) 674
Petruschky, J., (36) 675, (93) 1042
Pettit, L. C., (74) 896
Pettey, G. E., (144) 1593
Pettus, W. J., (101) 1593
Pettyjohn, E. S., (144) 477
Peypers, H. F. A., (165) 1406
Peyser, M. W., (59) 1328
Pfahler, G. E., (28) 533, (24) 610, (100) 963, (22) 1179
Pfaundler, M., (63) 971
Pfeiffer, R., (34) 428
Pfeiffer, T., (108) 1279
Pfeisterer, G .,(124) 1406
Phelan, A. E., (117) 728
Phelps A. M., (9) 1329, (82) 1671
Phelps, C., (14) 274, (63) 1034, (48) 1398
Phelps, W. C., (155) 534
Philip, J. H., *764
Philipowicz, W., (85) 1113
Phillimore, R. H., (6) 1534
Phillip, R. W., (15) 1541
Philippson, L., (73) 675
Phillips, C. .(160) 1536
Phillips, L. C. P., (4) 1476, (13) 1541
Phillips, S., (15) 735
Phillips, W. C., (118) 129
Phillips, W. S., (154) 1593
Phocas, Dr., (50) 1477
Pichler, R., (78) 1279
Pick, A., (59) 483, (29) 533, (95) 971, (107) 1279, (73) 1600
Pick, F., (74) 1600
Pick, W., (42) 617

Pickett, W., (19) 963
Pierce, C. W., (121) 201
Pierce, F. E., (45) 963
Pierce, N. H., *25, (24) 61
Pierson, S., (64) 727
Pietrzikowski, E., (60) 903
Piffard, H. G., (18) 895
Pilcher, J. E., (104) 1399
Pilcher, L. S., (13) 533
Pillsbury, F. A., (47) 896
Pilnoff, M. S., (170) 1478
Pinard, Dr., (30) 735
Pinatelle, Dr., (31) 735
Pinckard, C. P., (52) 841
Pincus, L., (84) 1042
Pineles, F., (75) 1600
Pini, P., (86) 1336
Pinto, J., (89) 675
Placzek, Dr., (75) 736
Plant, H. C., (45) 1187
Pleasants, J. H., (28) 1535
Plesch, J., (44) 1335
Pleth, V., *941
Plicque, A. F., (28) 1541
Plumbe, E. O., (70) 476
Plunket, J. D., (96) 350
Pockley, F. A., (47) 1535
Polacco, R., (56) 675
Polak, J. O., (8) 727
Polianski, V., (80) 904
Polk, J. M., (24) 786
Polk, W. M., (11) 476
Poncet, A., (27) 1113, (22) 1186
Pond, E. M., (137) 842
Poutoppidan, F., (82) 1600
Pool, W. P., (45) 1592
Pooley, T. R., (13) 786
Pope, C., (61) 841
Pope, G. F., (16) 1671
Popelsky, L. V., (78) 1701
Porges, R., (74) 484
Porosz, M., (73) 736
Porter, C., (1) 674
Porter, C. A., (41) 533
Porter, J. L., (36) 61, (71) 1106, (35) 1470
Porter, M. F., (61) 128, *235, (41) 727
Porter, W. H., (100) 611, (112) 842, (32) 1328
Poschi, G., (133) 1043
Posey, W. C., (79) 61, (74) 786, (84) 1034, (22) 1271, *1418
Posner, C., (58) 1676
Potarca, J., (31) 1541
Pothier, O. L., (118) 201
Pottenger, F. M., (146) 422, (45) 1271
Potter, J. H., (163) 611
Potter, N. B., (141) 669
Potter, T., (123) 1535
Potter, W. W., (157) 534
Pottinger, F. M., (26) 1592, (120) 1593
Poulsson, E., (123) 1114
Pourpre, L., (40) 735
Powell, H. H., (111) 896
Powell, N. A., (76) 200
Powell, S. D., (94) 728, (72) 1671
Prather, D. J., (88) 963
Preble, R. B., (56) 421, (94) 477, *938
Price, J., (7) 1670
Prelsz, H., (71) 971
Prentiss, Jr., D. W., (71) 128
Pressly, G. W., (172) 534, (131) 1593
Preston, J. H., (159) 477
Pribram, Dr., (55) 903
Price, J., (50) 1328
Price-Brown, J., (145) 534
Price, M. G., (95) 841
Price, O. J., (77) 533
Pridham, A. T., (14) 903
Primrose, A., (70) 274, (137) 787, (98) 963
Prince, A. E., (73) 1106, (47) 1179, (67) 1328
Prince, L. H., (129, 130, 131) 787
Prioleau, W. H., (58) 786, (147) 964
Probst, C. O., (112) 275
Prochaska, A., (42) 1600
Prochnik, L., (65) 617
Procter, A. P., (138) 787
Prout, T. P., (112) 129, *1068
Prussian, A. K., (166) 1478
Pryor, J. H., (3) 421
Pryor, W. R., (6) 421, (100) 1034, (37) 1179
Przewalski, B., (81) 1279
Pugh, J. W., (3) 1186
Pugliese, A., (108) 1114
Punton, J., (107) 62, (117) 611, (113) 477, (152) 964
Purdy, H. R., (22) 533
Purjesz, S., (76) 1600
Pusateri, S., (140) 1478
Pusey, B., (50) 610, (81, 85) 1034, (48) 1535
Pusey, W. A., *166, *911, (79) 1328, (67) 1398
Putnam, H. C., *1364
Putnam, J. J., (111) 275, (16) 841
Pyle, E. W., (9) 349, (165) 611
Pyle, W. L., (91) 422, (7) 1179
Pynchon, E., (133) 129, (129) 477, (87) 1671
Quast (von), E., (118) 1329
Quensel, U., (76) 794
Quenu, Dr., (44) 735
Quill, R. H., (3) 674
Quimby, C. E., (43) 349, *700, (67) 1179
Quincke, H., (42) 794
Quine, W. E., (154) 1329
Qulutana, A., (180) 1478
Qurin, A., (63) 675
Rabe, Dr., (27) 793
Rachford, B. K., (68) 61, (44) 128, (63) 727, (25) 841
Radkey, O. H., (141) 728
Radestock, Dr., (64) 1676
Radsiewsky, A., (49) 1600
Raff, J., (61) 1541
Ragsdale, A. C. (81) 1671
Rahn, Dr., (113) 1406
Raimann, E., (105) 1279
Rambaud, G. G., (27) 1034
Randall, B. A., *561, (65) 1034, (113) 1272, (79) 1535
Randle, E. H., (158) 611
Randolph, J., (49) 1328, (164) 1329
Randolph, Jr., B. M., (55) 786
Ranke, K. E., (58) 1600
Rankin, E. G., (151) 275, (166) 611
Rankin, G., (12) 428
Ranney, G. E., *1060
Ransom, C. C., (32) 1106
Ransom, W. B., (3) 735
Raoult, A., (79) 896
Rardin, J. S., (56) 274
Rassieur, L., (112) 1035, (131) 1471, (60) 1592
Rasumowsky, W. J., (39) 1042, (72) 1477
Rath (von), F. A., (56) 541
Ravenel, M. P., (108, 113) 611, (76) 728, (87) 1106, (76) 1535, (89) 1671
Ravitch, M. L., *1427
Ravogli, A., (18) 200, (3) 349
Rawlins, J. S., (159, 161) 611
Raymond, Dr., (57) 971
Raymond, G. A., (42) 533
Rayuaud, L., (39) 1278
Razquin, R., (93) 1542
Reach, F., (57) 1477
Reagan, J. A., (178) 534
Reamer, E. F., (86) 128
Reamy, T. A., (56) 896
Rebuschini, E., (81) 848
Reck, J. A., (134) 201, (139) 1536
Redard, P., (73) 1336
Reed, B., *73, (59) 349, (99) 1034, (63) 1106, (24) 1698
Reed, C. A. L., (46) 533, (42) 1179
Reed, C. B., (71) 61, (88) 1535
Reed, R. H., (61) 349, (84) 477, (144) 611, *1302, (46) 1398, *1442
Reed, W., (21) 668
Rees, S. P., (47) 786
Refik-Bey, Dr., (17) 1041
Regis, E., (18) 1271
Regnault, J., (47) 1676
Regnier, Dr., (54) 1279
Regnier, P., (24) 903
Reich, Dr., (58) 794
Reichardt, Dr., (47) 848
Reichelt, J., (57) 794
Reichert, E. T., *143
Reichert, M., (53) 1676
Reichmann, E., (36) 1600
Reichmann, M., (59) 903
Reid, D. W., (48) 1179, (65) 1328
Reidhaar, L., (76) 1042
Reik, H. O., (77) 1179
Reilly, T. F., (144) 897
Reimann, H., (72) 1336
Reisinger, E. W., (102) 1329
Rematzky, Dr., (16) 1041
Remondino, P. C., (120) 896
Renard-Dethy, Dr., (20) 1541
Renaud, E. C., (39) 476
Renner, W. S., (57) 1698
Renon, L., (2) 483
Renvers, R., (135) 1406
Reuling, R., (95) 350
Reuter, F., (103) 1279
Rey, J. G., (121) 1406
Reynolds, C. V., (116) 1593
Reynolds, D. S., (37) 1671
Reynolds, E., *642, (23) 895
Reynolds, F. O., (77) 1271
Reznikoff, M., (99) 971
Rhamy, B. W., (53) 1698
Rhein, J. H. W., (80) 1106, (5, 44) 1398
Rhein, J. W., (149) 201
Rhein, M. L., (89) 1329
Rheiner, G., (157) 1406
Ribbert, H., (71) 675, (106) 1406
Rice, S. E., (135) 842
Richards, A. N., (9) 476
Richards, G. L., (121) 62, (131) 422, (145) 611, (66) 841, (132) 1035, (136) 1107, (115) 1399
Richards, L. G., (60) 274
Richardson, A. B., (91) 275
Richardson, C. H., (4) 1271
Richardson, C. W., (110) 1272
Richardson, D. A., (59) 896
Richardson, H., (20) 841
Richardson, J. H., (108) 201
Richardson, M. H., (34) 274, (12) 668, (24) 727, (36) 1179, (21) 1592
Richardson, O., (137) 1272
Riche, A., (23) 541
Richelot, L. G., (25) 1335
Richter, E., (59) 903
Ricketts, B. M., (43) 1179, (31, 54) 1592
Ricketts, E., *1440, (85) 1535, (15) 1592, (128) 1593, (54) 1671, (62) 1671
Ricketts, H. T., (79) 200
Riddell, J. S., (2) 540
Riddick, T. M., (132) 728
Ridings, E. W., (111) 1671
Rieder, H., (84) 971
Riedinger, J., (86) 971, (96) 1279
Riegel, F., (31) 675
Riegner, Dr., (103, 104) 1042
Ries, E., (80) 1328
Riesel, W., (41) 356
Riesman, D., (115) 534, (112) 611, (7) 895, (67) 1034, (166) 1471, (80) 1535
Rieux, Dr., (30) 793
Rigby, H. M., (97) 484
Riley, F. C., (17) 895, (36) 1106
Riley, W. B., (86) 350
Rille, Dr., (65) 1541
Rimscha, V., (90) 1113
Rinehart, J. F., (19) 476, (54, 69) 533
Rinker, C. F., (56) 786
Rishmiller, J. H., (44) 1535
Risley, S. D., (114) 477
Rist, E., (22) 735
Rittenshain, G. R., (48) 1701
Ritter, E. N., (58) 200, (138) 422, (117) 1470
Ritter, F., (60) 675
Ritter, J., (37) 1335
Rivet, A., (30) 1405
Rixford, E., (140) 129
Robbins, W. J., (5) 1670
Roberts, C., (3) 1041
Roberts, D. J., (170) 611, (164) 897, (55) 1328, (119, 178) 1329, (92) 1671
Roberts, F. T., (8) 1041, (7) 1112, (8) 1278
Roberts, H. H., (62) 1328
Roberts, J. B., (21) 1271
Roberts, W. O., (160) 534
Robertson, A., (5) 735
Robertson, W. E., (79) 275, (98) 477, (98) 1034
Robertson, W. H., (104) 1470
Robertson, W. M., (70) 963
Robertson, W. S., (37) 128
Robertson, W. W., (40) 841
Robey, Jr., W. H., (11) 1033, (136) 1272
Robin, A., (5) 483, (27) 617, (124) 1272, (24) 1335, (62) 1405
Robin, Dr., (128) 842
Robin, E. A., (114) 1107
Robinovitch, L. G., (78) 610
Robins, W. L., (117) 534
Robinson, A. R., (142) 611
Robinson, B., (147) 201, (63) 349, (101) 350, (117) 422, (63) 533, (9, 97) 610, (89) 728, (57) 896, (44) 1034 (71) 1179, (74) 1271, (146) 1471
Robinson, E. F., *871
Robinson, E. P., (73) 1398
Robinson, G. C., (76) 1179
Robinson, W. J., (119) 1272
Roblee, W. W., (120) 201
Robson, A. W. M., (1) 428, (1, 10) 1186
Rocaz, Dr., (47) 735, (58) 1279
Rochard, E., (51) 1405
Rochester, D., (145) 897
Rocca-Sera, Dr., (51) 735
Rochford, W. E., (49) 533
Rockwell, A. D., (6) 349, (81) 610, (55) 841
Rockwell, L. D., (34) 1535
Rodari, P., (97) 904
Rodman, W. L., (104) 201, *1215, (24) 1398, (127) 1471, (6) 1670
Roe, W. J., (66) 786, (29) 727
Roeder, H., (52) 1042
Roemele, E. C., (48) 200, (32) 1470
Roerdam, H., (19) 793
Roger, H., (25) 356, (24) 674, (31) 1113, (24) 1541
Roger, J., (110) 1279
Roger, S. A., (61) 1279
Rogers, A. C., (138) 728
Rogers, A. W., *873
Rogers, F. T., (132) 787, (143) 1536
Rogers, L., (106) 484, (4) 1112, (15) 1700
Rogers, S. J. S., (39) 1271
Rogers, W. K., (137) 1329
Rohnstein, R., (67) 736
Rolater, J. B., (83) 533, (115) 611, (53) 896
Rolleston, H. D., (4) 793
Rollins, W., (31) 61, (36) 274, (34) 421, (31) 1271
Roloff, F., (83) 1279
Romani, D., (79) 848
Romberg, E., (53) 483
Romer, C., (65) 1477
Romme, R., (13) 483, (33) 541, (33) 1113, (22) 1541
Roos, L. L., (33) 727
Roosa, D. B. S., (95) 728, (26) 1328
Root, A .G., (7) 1106
Root, E. F., (123) 1035
Root, E. H., (163) 1593
Roscher, A., (59) 1113
Rose, A., (48) 128, (138) 275, (151) 611, (59) 1470, (73) 1671
Rose, E., (98) 1042, (106) 1043, (65) 1187
Rose, W., (17) 1541
Rosenau, M. J., (6) 1179
Roseubach, O., (46, 47) 541, (61, 66) 1113, (105) 1477
Rosenbaum, Dr., (99) 1477
Rosenberg, L. J., (55) 421, (46) 668
Rosenberger, R. C., (128) 129, (21) 786, (112) 896, (103) 1107
Rosenblath, W., (40) 356
Rosenfeld, F., (32) 1335
Rosenfeld, G., (67) 356, (45) 1113
Rosenheim, T., (31) 1187
Rosenow, E. C., (68) 1034
Rosenthal, E., *750
Rosenthal, G., (40) 1405
Rosenwasser, M., (112) 201
Rosin, H., (44) 428, (42) 541, (25) 903
Ross, C. C., (31) 1398
Ross, G. G., (17) 421, (53) 841
Ross, J. F. W., (72) 128, (77) 200, (146) 534
Ross, J. W., (86) 1399
Ross, R., (8) 616
Ross, R. M., (44) 533
Rossi, B., (92) 971
Rossolino, G., (38) 1675
Rotch, T. M., (96) 422
Roth, A., (81) 1336
Roth, E., (64) 794
Rothe, H., (76, 77) 1279
Rothmaun, M., (64) 541, (54) 1676
Rothrock, J. L., (44) 896, (97) 1329
Rotondi, G., (105) 1113
Rouslacroix, A., (38) 1113
Roussel, J. N., (116) 1107
Rousselot, L., (36, 38) 848
Roux, J. C., (22) 617
Rovsing, T., (18) 793
Rowlands, R. P., (21) 356
Roy, D., (124) 350, (154) 477, (121) 611
Royster, H. A., (56) 963
Royster, L. T., (7) 727
Rozanoff, P., (105) 971
Rozsavolgyi, M., (60) 848
Rubovlts, W. H., (75) 128
Ruck (von), S., (103) 1535
Rudis-Jicinsky, J., (30) 896, (109) 1272
Rudl, O., (127) 1043
Rudolf, R. D., (71) 200
Ruehl, W., (59) 617
Ruffer, M. A., (2) 1112
Ruggi, G., (97) 1187
Rugh, J. T., (4) 1033
Ruhemann, I., (44) 617
Ruhemann, J., (29) 1600
Rullson, E. T., (6) 1271
Rumpf, E., (62) 736, (32) 1113
Rumyantzeff, F. D., (83) 904
Runge, E. C., (95) 275
Runyan, J. P., (156) 477
Runyon, F. J., (5) 476, (173) 534, (113) 1180
Rupp, A., (24) 1470
Ruppin, A., (142) 1406
Rusch, P., (83) 1113

Russ, W. B., (32) 841
Russell, F. H., *34
Russell, H. L., (72) 200
Russell, R. H., (18) 1476, (11) 1675
Russell, W. L., (77) 1593
Rust, E. G., (52) 1535
Rustin, F., (134) 477
Ruth, C. E., (96) 786, *1203, (26) 1470
Ryan, E., (125) 534
Rybiczka, E., (136) 275
Saalfeld, E., (64) 1113, (34) 1335
Sabin, F. R., (27) 786
Sabine, J. K., (24) 1106
Sabrazes, J., (13) 1041
Sachs, B., (32) 533, (64) 1042
Sachs, H., (58) 617, (35) 1335
Sachs, O., (71) 1542
Sack, A., (79) 1187
Sadolin, F., (75) 1113
Saenger, M., (76) 675
Sahli, Dr., (88) 1477
Sailer, J., (78) 275, (13) 1034, (30) 1106, (41, 49) 1398, (81) 1535
St. Bernheimer, Dr., (56) 1535
Sajine, I. V., (94) 1336
Salant, W., (94) 610
Salge, B., (112, 143) 1406
Salisbury, J. H., (112) 534, (158) 787
Salkowski, E., (68) 1042, (136) 1406
Salomon, H., (40) 617
Saltykow, S., (24) 735
Salus, Dr., (121) 1279
Salvatore, M., (132) 1043, (168) 1406
Salvioli, I., (137) 1043
Salvioli, J., (78, 79) 484, (78) 848
Sambon, L. W., (18) 970, (14) 1186, (68) 1335
Sampson, F. E., (107) 963
Sampson, J. A., (12) 349, (121) 534
Sanfelice, F., (52) 1187
Sanger, P., (137) 201
Sanguinetti, M. L., (95) 1542
Sanquirico, Dr., (71) 1701
Sansom, A. E., (20) 428
Santesson, C. G., (112) 1114
Sargent, G. W., (146) 201, (156) 1329
Sargis, Y. A., (77) 61
Satterthwaite, T. E., (101) 611, (7) 1398
Satterwhite, P. A., (9) 962
Sattler, M., (76) 484
Sauer, W. E., (155) 201, (61) 1592
Saunders, E. W., (109) 1034, (87) 1271
Saunders, G. R., (1) 356
Saunders, M. B., (149) 611
Sauter, C. F., (157) 275
Savage, S., (13) 1405
Savary, T., (16) 541
Savtchenko, J. B., (14) 1041
Sawyer, J., (158) 201
Scagliosi, G., (88) 1042
Scanzoni (von), C., (34) 1042
Schaechter, M., (55) 541
Schaefer, Dr., (60) 483
Schaeffer, G. C., (88) 668
Schaeffer, R., (66) 1042
Schamberg, J. F., (20) 61, (98) 200, *215, (19) 786, (99) 896, (127) 897
Schamberg, J. J., (165) 1471
Schanz, A., (83) 1336
Schanz, F., (54) 428
Scharffenberg, (100) 1336
Schauffer, W. D., (90) 533
Schauta, F., (51) 1592
Schell, T., (167) 1471
Schell, W., (142) 477
Schenck, F., (47) 903
Scherb, G., (37) 970
Scherer, A., (62) 1113
Scherer, F., (49) 1701
Scherer, S. P., (63) 1271
Scheube, B., (72) 617
Scheuer, H., (46) 848
Schild, W., (36) 1187, (34) 1600
Schilling, Dr., (89) 1113
Schirman, A., (129) 275
Schirmer, O., (51) 1113
Schlittenheim, Dr., (35) 1187
Schlack, E., (43) 1592
Schlagenhaufer, F., (58) 971, (75) 1542
Schlapp, M. G., (134) 669, (150) 1536
Schlechtendahl, E., (67) 675, (118) 1043
Schleich, C. L., (69) 1113, (97) 1535
Schlesinger, E., (118) 1406
Schlesinger, H., (74) 357
Schley, W. S., (57) 1398
Schlossmann, A., (55, 58, 60) 1042
Schmalhorst, M. D., (39) 1034
Schmidt, A., (79) 736
Schmidt, L. E., (88) 477, (95) 668, (100) 896, (26) 1271, (86) 1535
Schmidt, M. B., (49) 428
Schmieden, V., (46) 356, (95) 1042
Schmiedicke, Dr., (77) 971
Schmitt, A. E., (14) 727
Schmorl, Dr., (37) 483
Schnabel, Dr., (93) 1477
Schnitzler, J., (89) 971
Schoenborn, S., (63) 1676, (44) 1701
Schoenfeld, H., (76) 476
Scholl, J. B., (133) 534
Scholten, R., (78) 1042
Schooler, L., (28) 1271
Schott, T., (116) 963, (9) 1271
Schoull, Dr., (49) 1278
Schram, A. W., (74) 128
Schreiber, E., (154) 611
Schreiman, F., (117) 842
Schroeder, E. C., (2) 199
Schroeder, W. E., (61) 533
Schroen, Dr., (44) 848
Schuler, Dr., (96) 904
Schuller, M., (53) 735
Schultz, H., (49) 1535
Schultze, B. S., (43) 483
Schultze, O. H., (130, 137) 669, (159) 1593
Schulz, H., (115) 1043
Schwab, A. H., (142) 1035
Schwab, S. I., (51) 668, (43) 1470, (56, 59) 1592
Schwarz, Dr., (45) 541
Schwarz, L., (51) 903
Schwarz, L. E., (50) 841
Schwarzenbach, Dr., (26) 1701
Schweigger, R., (51) 610, (56) 1535
Scofone, Dr., (71) 1701
Scott, G. A., (19) 970
Scott, H., (66) 1592
Scott, J. A., (129) 129, (75) 275, (125) 896, (57) 1271
Scott, N. S., (121) 669, (109) 896, (48) 1271
Scruggs, S., (162) 534
Scully, T. P., (36) 1470
Searles, F. R., (33) 841
Secchi, T., (146) 1478
Secreti, E., (90) 736
Sedgewick, W. T., *455
Seelig, A., (67, 71) 1279
Seeligmann, L., (41) 794
Seeligmueller, A., (89) 1477
Seglas, J., (35) 1405
Seligmann, C. G., (74) 476
Selleck, N., (126) 350
Sellei, J., (49) 1541
Sellheim, H., (81) 971
Semidalow, B., (76) 610
Sen, G. N., (18) 1700
Sen, H. C., (15) 1113
Senator, H., (60) 736
Senator, M., (59) 848
Senn, E. J., (81) 841
Senn, N., (137) 62, (112) 422, (117) 1035, *1079, *1152, (110) 1593, (30) 1671, (124) 1672, (40) 1698
Serafini, A., (94) 1477, (150) 1478
Servoss, A. G., (128) 275
Sexton, J. C., (35) 421, (126) 422, (120) 1535
Sexton, N. O., (145) 1471
Seymour, G., (14) 1534
Seymour, W. W., *1078
Shaffer, N. M., (21) 533
Shallenberger, H. M., (100) 477
Shambaugh, G. E., (83) 275, (91) 477, (67) 841
Shand, J. C., (26) 1278
Shands, A. R., (42) 668, (53) 1328
Shane, J. F., (86) 841
Shane, J. T., (63) 668
Shannon, L. W., (81) 896
Sharp, H. C., (14) 786
Sharp, W. N., (92) 668
Sharpe, E. L., (127) 842
Shattuck, F. C., (13) 841
Shaw, J. W., (82) 1593
Shaw, T. C., (8) 1599
Sheffield, H. B., (64) 1179
Sheild, A. M., (6) 847, (1) 1278
Sheldon, J. G., (22) 786, (33) 1034, (11) 1179, *1356
Shellenberg, M., (64) 61
Shelmire, J. B., (28) 1671
Shepard, C. H., (75, 118) 963
Shepherd, F. J., (86) 1179, (70) 1470
Shepherd, L. C., (1) 727
Shepherd, W. E., (43) 421
Sherer, J. W., (132) 1536
Sherman, H. M., *1560, (3, 7, 18, 39, 68) 1698
Sherrill, E. S., (129, 130) 728
Sherrill, J. G., (71) 350
Sherwell, S., (9) 841
Shields, W. D., (132) 201
Shields, J. A., (89) 786
Shields, Jr., W. G., (50) 1398
Shimonek, G. F., (69) 786
Shively, H. L., (11) 786
Shoemaker, G. E., (21) 61, (62) 786
Shoemaker, J. V., (95) 129, (103) 477, (77) 896, (81) 1179, (74) 1328, (126) 1471
Shropshire, W., (116) 1180
Shuck, L. I., (133) 1536
Shuffeldt, R. W., (108) 842
Shumway, E. A., (79) 61, (109) 129, (23) 1271, (162) 1471
Shurly, E. L., (3) 1179
Shutt, M. T., (62) 668
Shuttleworth, E. B., (82) 1271
Siber-Shumova, N. O., (155) 1478
Sicard, A., (32) 617
Sicherer (von), Dr., (66) 668
Sickler, E. H., (57) 533
Siefert, E., (53) 1701
Sieger, F., (99) 1279
Siegert, Dr., (61) 1042
Siegert, F., (51) 483
Siegrist, V. F., (90) 904
Sievers, R., (65) 1042
Sifton, H. A., (125) 1329
Sightman, O. S., (22) 727
Silber, M., (36) 794
Silberstein, J., (68) 484
Silver, D. R., (38) 349
Silver, M. E., (44) 727, (67) 1593
Silvestri, T., (170) 1406
Simmons, W. H., (11) 841
Simmons, W. S., (44) 1592
Simon, C. E., (58) 1398
Simonin, Dr., (26) 428
Simons, M., (17) 533
Simpson, F. C., (154) 275
Simpson, F. E., (16) 727
Simpson, F. F., (66) 476
Sims, A. W., (165) 964
Sinexon, J., (30) 786
Singer, G., (77) 1600
Singer, H., (59) 794
Sinigar, H., (9) 1112
Sinkler, L. W., (31) 533
Sinkler, W., (59) 841
Sinnatamby, M., (16) 793
Sinnreich, C., (71) 1336
Sippy, A. F., (78) 1470
Sippy, B. W., *1195
Siredey, A., (97) 534, (38) 1477
Sisson, E. O., *84
Siter, E. H., (115) 963
Sjobring, N., (120, 121) 1114
Skeel, R. E., (82) 422, (100) 1593
Skelton, L. L., (111) 1593
Skillern, R. H., (127) 1107
Skinner, C. E., (83, 86) 610, (74) 963
Skutsch, F., (89) 1405
Slagle, C. D., *459
Slaughter, R. M., (57) 786
Slaymaker, S. R., (75) 533
Sledge, W. H., (123) 728
Sloan, F. B., (145) 62
Sloan, W. H., (172) 201
Sloane, J. B., (66) 61
Small, W. B., (130) 964
Smead, H. E., (152) 1471
Smith, A. C., (160) 129, (23) 1034
Smith, A. H., (7) 841, (96) 1179, (10) 1698
Smith, A. J., (22) 1698
Smith, A. L., (149) 534, (3) 610, (82) 1106, (158) 1329
Smith, C. A., (7) 1592
Smith, C. H., (95) 963
Smith, C. L., (125) 62
Smith, C. N., (134) 275
Smith, E., (19) 428
Smith, E. A., (13) 727, (4) 1398, (60) 1698
Smith, E. B., (138) 201
Smith, F. S. K., (155) 897
Smith, G. C., (13) 476
Smith, H., (1) 1469
Smith, L. C., (122) 1593
Smith, R. R., (106) 669
Smith, S., (30) 274
Smith, S. M., (27) 274
Smith, T., (60) 200, (8) 668, (62) 1034
Smith, T. C., (64) 476, (103) 1329
Smith, W. M., (123) 350
Smith, W. R., (116) 534, (54) 841
Smithwick, J. W. P., (44) 668, (83, 84) 896, (177) 1536
Smithwich, J. W. P., (104) 1671
Smyth, H. E., (102) 61
Smyth, J., (2) 1675
Smythe, F. D., (157) 477
Smythe, G. P., (77) 350
Sneguireff, W. F., (37) 356
Snell, A. C., (77) 786
Sneve, H., (87) 350, (114) 787
Snider, Q. H., (146) 1272, (48) 1328
Snodgrass, C. A., (62) 963
Snow, W. B., (73) 963
Snowden, J. A., (76) 350
Snydacker, E. F., (67) 421, (96) 668, (149) 1593
Snyder, D. J., (108) 1399
Snyder, E. R., (35) 1398, (57) 1535
Sobel, J., *690
Soboleff, L. A., (85) 904
Soboleff, L. V., (79) 904
Soca, F., (37) 1675
Sohn, W., (84) 1542
Soiland, A., (143) 1329
Sokoloff, D. A., (78) 904
Solieri, S., (121, 122) 1478
Solimann, T., (65) 610
Solimei, U. B., (90) 675
Sollmann, T., (59) 1034
Solly, S. E., *287
Solomon, L. L., (42) 61
Solovieff, N. S., (168) 1478
Solt, Dr., (56) 794
Somers, G. B., (142) 129
Somers, L. S., (157) 129, (103) 422, (40) 786
Sommer, A., (46) 1113
Sommerfeld, P., (54) 1042
Sommers, O., (63) 421
Sontag, F., (68) 728
Soper, G. A., (27) 200, (74) 841, (35) 896, (15) 1179
Souchon, E., (20) 128, (25) 533
Souder, C. F., (94) 61
Soule, C. B., (103) 1593
Soupault, M., (69) 1405
Souques, A., (33) 1476
Southam, F. A., (10) 1404
Southard, W. F., (106) 1535
Southworth, T. S., (17) 1271, (106) 1470
Spalding, J. A., (120) 422
Spangler, C. F., (103) 201, (118) 842
Spear, R., (5) 1179
Specker, Dr., (79) 896
Spence, T. B., (74) 422
Spencer, G. W., (29) 727, (66) 786
Spender, R. H., (102) 129
Spender, J. K., (1) 970
Spiegel, S., (34) 675, (86) 1113
Spiegelberg, J. H., (121) 1272
Spiess, G., (47) 1113
Spiller, W. G., (91) 128, (105, 106, 107) 611, (36) 533, (75) 728, (70) 841, (10) 1469, (55) 1470
Spineanu, G. D., (63) 1701
Spingarn, A., (13) 610
Spiridinow, J. S., (34) 356
Spissu, P., (154) 1478
Spitz, J., (172) 1478
Spitzka, E. A., (10) 199, (22, 26, 29) 200, (11) 540, (75) 610, (12) 616, (66) 896
Spitzka, E. C., (27) 531, (86) 1398
Spivak, C. D., (60) 896, (88) 1106
Spohn, A. E., (135) 1035
Spotzley, W. A., (130) 422
Spranger, Jr., F. X., (127) 728
Spratling, E. J., *1688
Spratling, W. P., *1126, (91) 1329
Springer, C., (54) 903, (100) 1279
Spuller, G., (61) 794
Squire, A. J. B., (11) 1041
Squire, B., (5) 1186
Staffel, F., (43) 1042
Stafford, A. A., (151) 477
Stafford, E. H., (91) 1399
Stahler, F., (81) 1042
Stamm, H., (74) 1042
Stamm, M., (93) 1034
Standish, M., (91) 1535
Stanley, A., (7) 674
Stanton, E. M., (81) 61
Staples, A., (98) 786, (85) 896
Staples, F., (142) 201, (98) 610
Starr, C. L., (110) 275, (139) 787
Starr, F. N. G., (108) 275
Starr, M. A., (26) 421, (34) 533
Staub, H., (153) 1406
Stavely, A. L., (56) 476
Stearns, W. G., (38) 841
Stebbins, W. W., (35) 1034
Steele, J. D., (96) 200, (22) 421, (97) 477, (105) 1107
Stefansky, W. K., (61) 971
Stein, R., (97) 1179
Steinach, W., (103) 275
Steiner, L., (72) 786
Stejskal, K., (80) 1187
Stella, Dr., (96) 1187
Stelwagon, H. W., (80) 350
Stembo, L., (64) 736, (61) 848, (113) 971

Stempel, W., (63) 1187
Stengel, A., (78) 61, (144) 422
Stephan, J. F., (46) 1271
Stephens, L. C., (127) 1593
Stephenson, C. C., (45) 1470
Stephenson, S., (13) 1335, (3) 1404
Sterman, W. F., (123) 62, (135) 1107
Stern, H., (32) 274, *447, (7) 962, (37) 1592
Stern, W. G., (77) 1470
Sternberg, G. M., (1) 1033
Steven, J. L., (2) 356
Stevens, W. M., (10) 970
Stevenson, M. D., (67) 1671
Stewart, A., (59) 727
Stewart, F. T., (114) 129, (8) 1670
Stewart, G. N., (60) 1034
Stewart, J., (12) 61
Stewart, S. J., (109) 1593
Stewart, W. D., (81) 533
Sticker, A., (48) 1042
Stieren, E., (47) 61
Stiles, C. W., (108) 1329, (1) 1398
Still, G. F., (8) 1186, (7) 1278, (9) 1335
Stiller, B., (66) 1676
Stimson, L. A., (65) 1470
Stinson, J. C., (67) 128, (108) 422, (116) 728, (84) 841, (13) 895
Stockton, C. G., (11) 60, *79, (27) 128
Stockwell, G. A., (140) 201
Stoddart, W. H. B., (13) 903, (12) 1541
Stoeckel, W., (49) 675
Stoeltzing, W., (97) 1477
Stokes, A. C., (140) 477
Stokes, W. R., (108) 62, (93) 350
Stokvis, B. J., (87) 728
Stolz, A., (36) 428, (75) 1279
Stolz, M., (33) 1042
Stone, B. H., (19) 421
Stone, I. S., (65) 476, (18) 533, (43) 668, (101) 1329
Stoner, H. H., (6) 962, (15) 1698
Stoope, R. P., (2) 476
Störch, L. A. E., (55) 1698
Storck, J. A., (127) 62
Stouffer, R. W., (99) 275
Storrs, C. B., (99) 610
Strada, F., (73) 617
Strasser, A., (78) 1600
Strassmann, P., (25) 1701
Stratton, R. F., (143) 129
Stratton, R. T., (85) 963
Strauch, A., (80) 1113
Strauch, C., (97) 1042
Strauss, F., (69) 1042
Strauss, H., (21) 421, (69) 541, (65) 736, (105) 1406
Sträussler, E., (55) 428
Strebel, H., (43) 428
Stricker, L., (26) 61, (37) 963
Strickler, O. C., (40) 1106
Strobell, C. W., (32) 1179
Strong, R. P., (61) 1470, (31) 1671
Strout, E. S., (44) 1106
Strubell, A., (29) 903, (43) 1335
Strunz, F., (161) 1406
Struppler, T., (46) 1336
Stuart-Low, W., (12) 1112
Stubbert, J. E., (10) 476, (9) 668, (19) 727
Stueber, F. G., (82) 610
Sturli, A., (80) 357
Sturm, Dr., (69) 421
Stursberg, H., (42) 1335
Stuver, E., (27) 421, (68) 668
Suchannek, H., (68) 736
Sudeck, O., (35) 1541
Sudeck, P., (42) 1113
Suker, G. F., (120) 477, (42) 1398
Sulli, G., (114) 1477
Summa, H., (158) 669
Summers, Jr., J. E., (106) 1272, (19) 1534, (64) 1592
Surmont, H., (40) 970, (25) 1187
Susswein, J., (82) 675
Sutcliffe, J. A., (89) 963, (112) 1535
Sutheriand, H. L., (111) 1180
Sutton, R. S., (73) 350
Swales, E., (10) 847
Swan, R. H. J., (21) 356
Swan, W. D., (37) 274
Sweet, W. M., (16) 476
Sweringen, H. V., (56) 1698
Swinburne, G. K., (87) 1179
Syers, H. W., (17) 616, (6) 1599
Sykow, W., (82) 1279
Sylvester, J. E., (41) 1328
Syme, G. A., (17) 1476
Symmers, W. St. C., (112) 1279
Symons, T. H., (27) 1405
Syms, P., (142) 897, (99) 1271
Taenzer, P., (54) 1541
Talt, D., (16) 1106
Tait, P. G., (99) 1106
Takamine, J., *153
Talbot, E. S., (69) 61, (75) 476, (150) 1035, (81) 1398
Talbot, E. S., (83) 1671
Talke, L., (79) 1279
Talley, J. E., (120) 963, (26) 1398, (173) 1593
Talma, S., (32) 675
Tamlesie, J. P., (122) 477
Tanner, Wm., (50) 896
Tansini, I., (13) 1599
Tansini, J., (24) 1113, (115) 1477, (147) 1478
Tarassevitch, L., (15) 1041
Tashiro, Y., (55) 1187
Tassoni, A., (141) 1043
Tate, M. A., (36) 727
Tate, R. W., (158) 477
Tauber, Dr., (57) 903
Tavel, E., (42) 735, (105) 1042, (30) 1541
Taylor, F. L., (171) 1536
Taylor, G. G. S., (6) 1404
Taylor, H., (7) 356, (9) 786
Taylor, H. L., (109) 787, (4) 1179
Taylor, H. M., (50) 61, (165) 201, (58) 274, (147) 275, (26) 476, (9, 19) 533, (161, 168) 534, (85) 786
Taylor, J., (2) 616
Taylor, J. B., (83) 1034
Taylor, J. G., (90) 1470
Taylor, J. J., (119) 422
Taylor, J. L., *1431
Taylor, J. M., (43) 1671
Taylor, P. R., (52) 1034
Taylor, R. T., (2) 1469
Taylor, W. J., (22) 128
Tcheruomordik, I. E., (28) 1278
Tchizh, V. F., (89) 1336
Teale, T. P., (9) 1404
Tedeschi, E., (96) 1113, (94) 1187, (79) 1542
Teichl, K., (53) 903
Teichmann, G., (82) 1336
Teleky, L., (67) 794
Tendlau, B., (128) 1536
Terrett, B. A., (125) 611
Terriberry, W. S., (35) 1106
Terrier, Dr., (34) 735
Terrier, F., (43) 735, (62) 1279
Terry, H. T., (136) 787
Teschemacher, Dr., (98) 1477
Tesdorpf, (52) 428
Tetau, J., (125) 350
Thayer, A. E., (173, 174, 178) 897, (158) 1536
Thayer, A. S., (23) 727
Thayer, F. C., (97) 422
Thayer, W. S., (64) 200, (11) 727, (101) 841, (50) 1106
Theilhaber, A., (49) 617, (61) 1477
Thesen, J., (124) 1114
Thevenot, Dr., (41) 735
Thieme, L., (56) 617
Thienhaus, C. O., (90) 350, (22) 476
Third, J., (127) 611, (81) 1271, (75) 1398
Thomas, C. P., (55) 1106
Thomas, G. C., (12) 541
Thomas, G. H., (45) 668
Thomas, G. N., (149) 1471
Thomas, H. M., *709
Thomas, J. L., (9) 356, (4) 428
Thomas, J. M., (158) 1471
Thomas, T. G., (30) 610
Thomas, W. E., (42) 1034
Thomas, W. S., (37) 896
Thompson, C. E., (78) 1328
Thompson, F. C., (108) 477
Thompson, G. H., (150) 129
Thompson, J. M., (158) 129
Thompson, St. C., (64) 421
Thomson, E. S., (46) 1034
Thomson, R. M., (101) 668, (94) 1179
Thomson, W., (1) 1675
Thomson, W. H., (27) 476, (18) 727, (1) 1179, (101) 1671
Thorn, W., (76) 1405
Thornbury, F. J., (15) 349
Thorndike, T. W., (49) 1106
Thost, A., (63) 1541
Thresh, J. C., (10) 735, (11) 1335
Thrush, M. C., (17) 1328
Thue, K., (75) 794
Tidey, S. A., (13) 428
Tigerstedt, R., (81) 736
Tilley, H., (2) 1278
Tiller, F., (86) 675
Tinkham, H. C., (171) 201
Tito, D. G., (91) 1600
Titoff, N. D., (27) 1278
Tobias, E., (58) 675
Todd, C. A., (140) 1471
Todd, C. H., (47) 274
Todd, F. C., (84) 128, (86) 533, (117) 787, (42) 1106, (95) 1535
Toepfer, A., (116) 1470
Toeplitz, M., (93) 728
Toff, E., (110) 1477
Tomasczewski, E., (56) 1701
Tomaselli, G., (176) 1407
Tomlinson, H. A., (83) 128, (85) 1593
Tonzig, C., (62) 794
Topfer, Dr., (124) 1043
Torbett, J. W., (173) 477
Torrance, G., (77) 963, (163) 964
Touche, Dr., (30) 848
Toulouse, Dr., (33) 735
Tovolgyi, E., (71) 1113
Townsend, C. W., (150) 787
Townsend, T. J., (38) 128, (46) 274
Townsend, W. R., (1) 60, (36) 610, (11) 1328, (141) 1493
Townsend, W. W., (155) 1329
Trantenroth, Dr., (51) 1600
Trautner, H., (101) 1336
Travis, C. H., (62) 1470
Tredgold, A. F., (11) 1541
Trekaki, Dr., (117) 1279
Trendelenburg, F., (73) 1187
Treub, H., (23) 1042
Treupel, G., (92) 1279, (57) 1701
Treves, F., (7) 1476
Treves, M., (77) 610
Triantaphyllides, T., (84) 1336
Triplett, J. S., (41) 1470
Tripp, S., (143) 201
Tritschler, F., (71) 541
Troitzky, I. V., (171) 1478
Trotter, A. P., (15) 970
Troussaint, Dr., (20) 1476
Trousseau, A., (35) 1113
Trow, C., (134) 611
Tschuschner, J. A., (49) 903
Tubby, A. H., (3) 1476
Tucker, E. J., (175) 1536
Tucker, H., (27) 1398
Tuckerman, L. B., (154) 129
Tuffier, T., (21) 903, (50) 971
Tuholske, H., (68) 350
Tunnicliffe, F. W., (10) 428, (8) 1700
Turck, F. B., (57) 1106, (46) 1698
Turck, R. C., (123) 964, *1075
Turk, J. M., (90) 1399
Türk, S., (53) 1535
Turner, D., (6) 970
Turner, G., (2) 674
Turner, G. I., (97, 104) 971, (70) 1279
Turner, G. R., (14) 1599
Turner, W. K., (60) 128
Turro, R., (72) 971
Tuthill, H. R., (23) 1470
Tuttle, A. H., (41) 1179
Tuttle, G. M., (157) 422
Tuttle, G. T., (70) 896
Tuttle, J. P., (129) 422, (26) 1034, (133) 1035
Twitchell, G. B., (1) 127
Twitchell, H. F., (93) 1329
Tyler, G. E., (25) 668
Tyndale, W., (4) 674
Tyson, J., (3) 841, (6) 1469
Tyzzer, E. E., (134, 135) 897, (135) 1272
Ucke, A., (59) 1187
Uffenheimer, A., (152) 1406
Uhlenhuth, Dr., (70) 1187
Ullmann, E., (122) 1043
Umber, F., (72) 484
Umeno, S., (98) 1187
Unna, P. G., (52, 55, 58) 1541
Unterberg, E., (65) 1600
Unterberger, S., (85) 1542
Upham, J. H. J., (113) 275
Upjohn, L. N., (137) 1536
Upson, C. R., (5) 1592
Upson, H. S., (113) 201, (18) 421
Upshur, I. N., (147) 1035
Upshur, J. N., (54) 274
Ussery, W. C., (35) 476
Vail, D. T., (35) 1535, (32) 1592, (85) 1671
Valentin, C., (26) 483, (48) 1676
Valentine, F. C., *570
Valerio, N., (138) 1043
Valltzkoy, M. K., (98) 971
Vamossy, Z., (65) 1600
Vance, A. M., (90) 841, (48) 1034
Van der Poel, J., (1) 667
Vander Veer, A., (67) 200, (67) 274, (91) 728
Vander Veer, E. A., (60) 1179
Van Fleet, F., (35, 102) 61, (25) 349
Van Gilder, D. W., (72) 668
Van Harlington, A., (85) 275, (24) 421
Van Hoesen, L., (122) 1180
Van Hook, W., (136) 534
Van Hoosen, B., (73) 533
Van Pelt, C. L., (80) 533
Van Zaudt, C. B., (133) 1329
Van Zandt, J. L., (127) 350, (155) 787
Van Zwalenberg, C., (149) 477
Vandervort, F. C., (137) 534
Vaphas, Dr., (85) 675
Vaquez, H., (25) 847
Varady, L., (129) 1043
Vargas, A. M., (94) 1542
Variot, Dr., (22, 33) 1476, (39) 1477
Vaschide, N., (49) 1676
Vassmer, W., (62) 1477
Vaudin, L., (23) 735
Vaughan, G. T., (40) 963
Vaughan, V. C., (28) 841, *979, (123) 1329
Veckl, V. G., (148) 669
Vedder, E. B., (96) 610, (86) 971
Vedeler, Dr., (66) 1477
Veenboer, W. H., (28) 841
Veidengammer, V. V., (76) 610
Veit, J., (47) 1336
Vejux-Tyrode, M., (81) 1470
Velyamiuoff, N. A., (100) 971
Velyamovitch, Dr., (29) 1278
Veras, S., (28) 793
Verbyck, G. G., (126) 1035
Verdale, H., (33) 1476
Verhoeff, F. H., (151) 1593
Veron, Dr., (37, 60) 1405
Vezina, S. V., (23, 24) 847
Viana, G., (183) 1407
Vidal, A., (29) 735
Vidal, E., (26) 356
Vietor, A. C., (40) 533
Vigdortchik, N. A., (84) 904
Vincent, G. A., (84) 484
Vincent, H., (37) 1477
Vincent, L., (22) 903
Vinceuzi, L., (54) 1187
Vincenzo, G., (82) 848, (87) 1600
Vincenzo, T., (85) 1600
Vindelbandt, A. V., (81) 1701
Vineberg, H. N., (24) 1034, (36) 1671
Vintschgau, M., (62) 617
Virchow, R., (70) 675
Visauska, S. A., (38) 727
Vogel, K., (53) 1701
Voges, O., (67, 68) 971
Vogt, E., (14) 541
Voigt, Dr., (64) 1477
Voigt, J., (60) 1541
Volcker, F., (74) 1279
Volk, R., (40) 1187
Von Vogl, Dr., (54) 483, (51) 541
Voronoff, Dr., (115) 1279
Vose, R. H., (35) 274
Voss, G., (59) 356
Vowinckel, F. W., (69) 1698
Vreden, R. R., (20) 1701
Wadsworth, W. S., (127) 787
Wagner, C., (49) 1698
Wagner, C. G., (15) 1469, (74) 1593
Wagner, Dr., (53) 794
Wagner, G. A., (74) 1542
Wagner, H. L., (61, 62) 421
Wahrer, C. F., *15, (49) 1470
Wainwright, J. M., (65) 274
Wainwright, J. W., (10) 1033, (121) 1180
Wainright, C. F., (59) 1671
Waite, L., (111) 422
Walker, C. S., (44) 786, *1369
Walker, D., (135) 201
Waldstein, E., (126) 1043
Walger, E., (44) 1113
Walker, E., (44) 274, (119) 534
Walker, E. W. A., (12) 276
Walker, F. B., (56) 727
Walker, G., (76) 1106, (138) 1471
Walker, G. S., (43) 1328
Walker, H. F., (22) 349
Walker, J. W., *867, (163) 897
Walker, M. A., (2) 127
Walker, W. K., (65) 61, (111) 129, (58) 421
Wallace, C. S., (2) 1041
Wallace, H., (75) 422
Waner, J. S., (134) 129
Wallerstein, P., (33) 1335
Wallhauser, T. F., (69) 1398
Walliug, W. H., (80) 200, (158) 534, (153) 787, (71) 1593
Wallis, C. E., (13) 1476
Walls, F. X., (47) 1034
Walsh, D., (4) 1186
Walsham, H., (9) 540
Walter, J., (112) 669
Walthard, M., (94) 904
Walther, W., (93) 1279
Walton, G. L., (14) 128, (57) 421, (43) 786, (7) 1033
Walz, K., (57) 1600
Ward, A. R., (123) 1470
Ward, B. F., (42) 896
Ward, H. B., (126) 201
Ward, J. M., (57) 476
Warden, C. C., (16) 421, *648, *1441

Warner, F., (3) 356, (150) 897
Warner, L. H., (107, 153) 201, (104, 152) 669
Warren, D. E., (144) 1035
Warren, H. S., (34) 1271
Warren, S. P., (11) 128, (55) 476
Warthin, A. S., (86) 1470
Wasdin, E., (1) 533, (98) 1535
Washbourn, J. W., (7) 428
Washburn, G. W., (19) 1592
Wassermann, A., (58) 736
Wassermann, M., (64) 1541
Watanabe, K., (151) 1406
Wathen, J. R., (43) 841
Wathen, W. H., (53) 668
Watkins, C., (53) 727
Watkins, J. T., (87) 963, (121) 1470
Watkins, R. L., (153) 1035
Watson, A. L., (13) 541
Watson, C., (2) 970
Watson, E. J. M., (1) 903
Watson, J. L., (156) 1471
Weaver, H. B., (126) 1593
Webb, C. S., (58) 1034
Weber, A., (61) 675, (109) 1477
Weber, A. C., (136) 1035
Weber, H., (154) 669, (154) 787
Weber, L., (141) 1471
Webster, D., (18) 1469
Webster, G. W., (114) 611
Webster, J. C., (14) 61, (76, 77) 128, (111) 534, *1299
Webster, R. E., (102) 1271
Webster, T. S., (121) 1329, (92) 1399
Wechsberg, F., (63) 541, (84) 1113
Wechsberg, L., (67, 68) 1336
Weichselbaum, A., (74) 357, (59) 1336
Weicker, Dr., (30) 674
Weidner, C., (46) 841
Weigert, E., (41) 421
Weil, R., (101) 275
Weiler, K., (57) 1336
Weinberg, W. G., (98) 1279
Weinstein, E., (70) 848
Weir, Jr., J., (95) 1271
Weir, W. H., (99) 1470
Weis, J. D., (138) 1272
Weismayr, A., (43) 1541, (79) 1600
Weiss, H., (73) 1542
Weiss, J., (44) 903
Weissbein, S., (39) 428
Welburn, W. C., (139) 1035
Welch, S. A., (144) 1536
Welch, W. M., (20) 61, (98) 200, (29) 1671
Wells, E. F., *163, (97) 668
Wells, H. G., *220, (64) 533
Wells, S. W., (10) 668
Wells, W. A., (49) 476, *861
Wenckebach, K. F., (65) 541, (67) 1113, (147) 1272
Wende, E., (71) 963, (27) 1592
Wende, G. W., (123) 129, (77) 668
Wenning, W. H., (54) 963
Wenzel, F., (76) 736, (25) 1600
Werler, O., (54) 1336
Wernicke, C., (79) 1398
Wernitz, J., (77) 1042
Wertheim, E., (86) 1042
Wertheim, J. K. A., (71) 848
Wertheimber, A., (125) 1406
Wesbrook, F. F., (89) 350
West, A. K., (136) 1536
West, J. N., (62) 896
West, J. P., (45) 128, (155) 422
Westbrook, R. W., (143) 534
Westcott, C. D., (50) 610, *763, (81) 1034
Westervelt, D., (142) 1536
Westervelt, H. C., (73) 1328
Westervelt, J. D., (39) 1106, (133) 1272, (29, 45) 1328, (167) 1329, (65, 70) 1398, (155) 1471, (63) 1535, (148) 1536, (116) 1672
Westphal, A., (39) 541
Westphalen, R., (77) 1405
Wetherill, H. G., *1243
Weymann, M. F., *513, (119) 783
Wharton, H. R., (73) 275
Wheatland, M. S., (87) 610
Wheaton, C. L., *707
Wheeler, D. E., (23) 476
Wheeler, F. R., (94) 1671
Wheeler, J. B., (146) 787
Wherry, W. B., (7) 199
Whitacre, H. J., (32) 786, (31) 1470
White, C. J., (76) 668, (136) 1272
White, C. P., (9) 674, (9) 735
White, C. Y., (78) 61, (120) 129, (61) 1398, (163) 1471, (72) 1535
White, G. R., (99) 688
White, J. A., (114) 1593
White, J. C., (18) 349, (18) 1113
White, R. P., (14) 1541
White, W. A., (102) 275
White, W. C., (117) 129, (75) 896
White, W. H., (79) 610
Whitefield, A., (121) 129
Whitehead, A. L., (4) 1278
Whitehead, H., (75) 61
Whitehead, W., (1) 1041
Whitledge, G. A., (116) 275
Whitman, R., (12) 1328
Whitney, E. L., (58) 1328
Whitney, W. F., (30) 1271
Whittier, E. N., (14) 841
Wicherek, L., (80) 675
Wicherkiewicz, B., (88) 61
Wickman, I., (116) 1114
Wicks, J. L., (127) 1035
Wiczkowski, J., (80) 1600
Widal, F., (32) 848
Widmark, V. J., (119) 1114
Wieber, F. W. F., (82) 668
Wieg, K., (130) 1043
Wiener, E., (83) 971
Wiener, G., (66) 356, (96) 1477
Wiener, Jr., J., (12) 1398
Wiener, M., (28) 896
Wiesinger, Dr., (49) 356
Wiesner, D. H., (25) 1470
Wiggin, F. H., (142) 669, *1005, (13, 62) 1698
Wight, J. S., (50) 1592
Wight, Jr., J. S., (78) 422
Wightman, O. S., (181) 897
Wilbert, M. I., (17) 421, (16) 610
Wilbur, R. L., (175) 1329
Wilcox, S. S., (117) 1107
Wilcox, R. W., (18) 1671
Wildbolz, H., (64) 971, (158) 1406
Wilder, H. M., (145) 964
Wilkin, W. P., (69) 1671
Wilkinson, C. H., (122) 1107
Wilkinson, W. C., (1) 1700
Willard, D., (21) 727
Williams, A. E., (40) 1535
Williams, A. H., (33) 1271
Williams, A. W., (155) 1593
Williams, C., (108) 787
Williams, C. E., (132) 964
Williams, E. G., (104) 1180
Williams, E. M. N., (13) 1278
Williams, E. R., (111) 275
Williams, E. T., (2) 1271
Williams, F. H., (105) 129
Williams, H., (129) 611
Williams, H. U., (82) 1470
Williams, J. D., (90) 61
Williams, N. C., (49) 349
Williamson, A. R. B., (77) 1398
Williamson, E. O., (71) 728, (132) 1272
Williamson, J. M., (138) 129
Williamson, J. R., (20) 1113
Williamson, O. K., (11) 1476
Williamson, R. T., (16) 1541
Williamson, W. T., (125) 1272
Willard, A. J., (65) 1698
Willis, P. W., (161) 129
Willoughby, E. F., (5) 1476
Willson, R. N., (99) 200, (18) 963, *1147, *1222, (91) 1671
Wilms, Dr., (56) 1113
Wilms, M., (75) 1187
Wilson, A. L., (116) 350
Wilson, C. R., (56) 533
Wilson, D. S., (33) 610
Wilson, E. F., (106) 1399
Wilson, F. C., (41) 841
Wilson, G. L., (111) 787
Wilson, H., (106) 477
Wilson, H. A., (32) 896, (83) 963
Wilson, J. C., (103) 129, (11) 533, (2) 610, (23) 1398
Wilson, J. T., (21) 970
Wilson, N. W., (87) 1329
Wilson, R., (27) 1106
Wilson, R. E., (40) 61
Wilson, R. J., (106) 534, (177) 897
Wilson, W. R., (7) 349
Wiltse, M. J., (106) 1107
Winberg, O. K., (24) 1328
Winders, F., (49) 1271
Windscheid, Dr., (32) 903
Wingrave, W., (8) 1541
Winn, J. F., (43) 963
Winslow, R., (61) 610, (169) 897
Winter, G., (46) 675
Winter, H. L., (31) 200, (103, (106) 275, (103) 534
Winternitz, W., (91) 971
Winters, J. E., (1) 421
Wise, A. T. T., (6) 735
Wishard, W. N., (37) 1698
Wishart, D. J. G., (133) 611
Wising, P. J., (117) 1114
Witherspoon, T. C., (41) 274, (159) 422
Witte, Dr., (69) 421
Woehnert, A. E., (87) 200
Wolfe, J. L., (111) 1470
Wolfe, S., (90) 128, (152) 129, (60) 841
Wolff, A., (44, 65) 675
Wolff, B., (32) 483
Wolff, G., (42) 1701
Wolff, J., (65) 421, (73) 484, (66) 1187, (90) 1477
Wolff, L., (107) 1336
Wolff, W., (65) 736
Wolkowitsch, N., (32) 1701
Wollstein, M., (114) 669, (117) 896, (56) 1398
Woltemas, Dr., (141) 1406
Wood, C. A., (136) 62, (81) 200, (137) 275, *552, (118) 1035, (120) 1672
Wood, C. M., *996
Wood, D. D., (89) 1179
Wood, E. S., (29) 1271
Wood, F. C., (131) 669, (185) 897, (153, 157, 163) 1536, (160) 1593
Wood, F. M., (3) 895
Wood, G. B., (60) 610
Wood, G. E. C., (48) 1187
Wood, I., (124) 534
Wood, Jr., H. C., (97) 200, (145) 422, (2) 1328, (80, 82) 1535
Wood, W. A., (100) 1179
Wood, W. C., (30) 668
Wood, W. C., (65) 1671
Woodbury, F. T., (83) 1179
Woodhead, G. S., (40) 1592
Woodhull, A. A., (149) 1329
Woodruff, T. A., (136) 62, (137) 275, (118) 1035, (120) 1672
Woods, A. M., (144) 129
Woods, J. T., (87) 61, (104) 350, (122) 842, (105) 963
Woods, Jr., H., (94) 350
Woods, R. F., (122) 129
Woodward, A. T., (108) 1107
Woodward, J. T., (52) 421
Woodward, W. C., (8) 1328, (9) 1469
Woodworth, R. G., (93) 1271
Woody, S. E., (62) 1535
Woodyatt, J. F., (5) 1700
Woolley, P. G., (139) 897
Woolman, H. M., (96) 61
Wooten, J. S., (161) 964
Wootton, H. W., (55) 1535
Work, H., (87) 275
Wormley, H. W., (125) 1107, (113) 1470
Wormley, W., (153) 275, (40) 1271, (66) 1328
Worrall, R., (20) 1278
Wren, A. A., (110) 534
Wright, A. E., (9) 1041
Wright, C. E., (122) 1535
Wright, E. W., (76) 422
Wright, F. O., (30) 128
Wright, F. R., (14) 962
Wright, F. T., (25) 1034
Wright, F. W., (36) 963
Wright, G. A., (9) 1541
Wright, H. A., (102) 350, (91) 610, (27) 1698
Wright, J., (100) 61, (128) 477, (28) 668, (111) 1272, (117) 1329, (86) 1671
Wright, J. A., (102) 963
Wyeth, J. A., (45) 349, *1551, (33) 1671, (1, 5, 12, 16, 21, 28, 34, 38) 1698
Wright, J. H., (73) 610
Würdemann, H. V., (15) 61, *380, (94) 1535
Wutzdorff, Dr., (56) 848
Wylie, W. G., (144) 728, (143) 964
Wyller, T. C., (72) 541
Wyman, H. C., (46) 200, (88) 533, (41) 896
Wymann, W. A., (129) 1035
Wynkoop, E. J., (7) 1328
Xanutina, M. D., (108) 971
Xoltzoff, B. N., (102) 971
Yanez, B. J., (89) 1542
Yarbrough, L. A., (96) 1671
Yarrow, T. J., (125) 669
Yates, J. L., (137) 422
Yeakel, W. K., (100) 728
Yeo, I. B., (15) 428
Yonge, E. S., (3) 1278
Youmans, T. G., (147) 897
Young, A., (8) 1675
Young, G. B., (50) 1034
Young, H. H., *86, (3) 274, (82) 786, (77) 1106
Young, J. K., (58) 349, (19) 668
Young, O. C., (28) 421
Young, W. A., (79) 1034
Young, W. M., (11) 1700
Yutzy, S. M., (84) 350
Zahn, F. W., (48) 428
Zahorsky, J., (37) 610, (110) 1035, (57) 1592
Zahradnicky, Dr., (65) 1336
Zander, G., (86) 1405
Zangger, T., (122) 669, (168) 1536
Zanietowski, Dr., (61) 483
Zanoni, Dr., (74) 617
Zanoni, G., (62) 904
Zaudy, Dr., (140) 1406
Zausailoff, M. A., (88) 1336
Zavadsky, M. L., (76) 904
Zavaldi, P. R., (90) 1600
Zdekauer, A., (56) 903
Zeidler, H. F., (83) 357
Zeigler, A., (91) 896
Zenoni, C., (68) 904
Zervos, S. G., (69) 794
Zesas, G., (65) 1279
Zeuner, W., (40) 1600
Zickler, H., (58) 903
Ziegler, C. E., (145) 787
Zinke, E. G., (92) 1470
Zinno, A., (42) 675
Zollikofer, R., (155) 1406
Zschokke, F., (61) 1187
Zuntz, L., (120) 1180
Zupnik, L., (52) 541
Zuppinger, Dr., (77) 357
Zvyerjxovsky, F. A., (88) 904
Zweifel, P., (81) 1405, (20) 1701

been wanting heretofore that the efforts of The Journal in this direction are not appreciated by the profession, its index of current literature will continue to appear with each volume and such features as may seem to increase its value will be added from time to time. The publication of the index in this issue encroaches on the usual number of reading pages of The Journal.

Medical News.

MASSACHUSETTS.

Medical College Site Secured.—By the purchase of three parcels of land, June 13, Harvard University Medical School has practically completed the acquisition of the property whereon its new buildings will be erected.

Personal.—Dr. Lewis M. Palmer, South Framingham, has been appointed medical examiner for the Eighth Middlesex district, vice Dr. Zabdeal B. Adams, deceased.——Dr. J. Addison Sawyer, Haverhill, has moved to Bradford.——Dr. James C. White delivered his last lecture before the students of Harvard Medical School, May 28. He has been a member of the faculty for 44 years.

The Hospital's Work.—The eighty-eighth annual report of the Massachusetts General Hospital shows that the average weekly cost per patient was $15.17, as against $15.05 in 1900. In the out-patient department the number of new cases treated was 27,667 in 1901, 31,043 in 1900. The whole number of patients treated last year in the hospital was 5353, as against 4883 in 1900; the number of free patients was 3527, against 3136 in 1900, and the number of patients paying in whole or in part was 1836. The number of patients treated in the accident room was 5777, as compared with 5262 in the previous year.

MICHIGAN.

Personal.—Dr. C. M. Ryno, Kalamazoo, sailed, June 18, for Antwerp. He will spend about six months in study abroad.——Drs. W. S. Brownell and Nicholas M. Spranger, Detroit, have been appointed city physicians.

Mercy Hospital.—Mr. Charles H. Hackley, Muskegon, has given to that city a site on which he will erect a hospital, the entire expense being about $75,000. He has also promised to endow the hospital, when completed, with $50,000.

Grand Rapids Medical College held its sixth annual commencement exercises, June 2, graduating a class of 19. Dr. Clarence H. White delivered the address; Dr. William Fuller, dean of the faculty, made his report; Hon. Willis B. Perkins administered the hippocratic oath and Dr. Frank J. Lee presented the diplomas.

May Michigan Mortality.—There were 2686 deaths in the state during May, a decrease of 164 from the preceding month, and an increase of 22 over May, 1901. The death-rate was 12.8 per 1000 per annum. There were 465 deaths of infants under 1 year of age; 194 deaths of children aged 1 to 4 inclusive, and 769 deaths of persons aged 65 years and over. Important causes of death were as follows: Tuberculosis, 246; typhoid fever, 34; diphtheria, 31; scarlet fever, 25; measles, 43; whooping cough, 29; pneumonia, 311; diarrhea, children under 2 years, 60; influenza, 27; cancer, 101; accidents and violence, 152.

NEW YORK.

Faculty Accretions.—The faculty of Albany Medical College has appointed Dr. William S. Hailes demonstrator of anatomy, Dr. Christian G. Hacker instructor of materia medica and therapeutics, Dr. H. W. Carey, instructor of histology, and Dr. Peter H. Moak instructor of pathology.

Personal.—Dr. John T. Harris has been appointed health physician of Tonawanda.——Dr. Frederick W. Smith has been appointed health officer of Syracuse, vice Dr. Bernard S. Moore, resigned.——Dr. Robert H. Pierson, Syracuse, has passed the examination for the medical corps of the army.——Dr. Henry C. Sutton has been appointed health officer of Rome.——Dr. Alpheus L. Price, Byron, has been commissioned a member of the board of pension examiners, succeeding the late Dr. Morris W. Townsend of Bergen.

Improved Diet List for State Hospitals.—An increase in the diet of 23,000 insane persons in the eleven state hospitals has been ordered at an additional expense of about $50,000. The action follows the recommendation contained in a report made by a commission composed of the superintendents of the Binghamton, Ogdensburg and Poughkeepsie hospitals. Even with this change the per capita cost by reason of improved administration and closer inspection of the buying and distribution of supplies will be lower than ever.

New York City.

Lebanon Hospital, the Bronx, has received $60,000 from Mrs. Clara Simon, in memory of her husband, who died three years ago.

Dr. Sweet's Portrait Presented.—At a recent meeting of the New York Academy of Medicine, a portrait of Dr. John Appleton Sweet was presented to the Academy.

For Sick Hebrew Children.——Contracts have been let for the construction of a large pavilion in the grounds of the Sanitarium for Hebrew Children at Rockaway Park. The pavilion will accommodate 600 mothers and children.

Dormitory for Sanitarium.—Henry Siegel has presented $20,000 to the Stony Wold Sanitarium for a dormitory in memory of two of his trusted employes, who died from tuberculosis, and a memorial tablet will be placed in the dormitory. The gift is conditional on the raising of a sufficient sum to finish the structure.

Emergency Hospital at Coney Island.—The reception hospital at Coney Island opened, May 25, for the season. It has accommodation for 20 patients and is conducted as a branch of the King's County Hospital. The hospital is not a fully-equipped general hospital, its character and equipment having been planned for the purpose of giving first-aid only; but dispensary cases of an urgent character are also treated. Those cases requiring major surgery receive first aid at the reception hospital, and are then transferred to the Kings County Hospital.

Personal.—Drs. Alexander Hugh Ferguson, Chicago, and Andrew B. Somers, Omaha, were entertained in New York last week by Dr. Thomas H. Manley. On invitation of Dr. Manley, Dr. Ferguson operated on a case of gangrenous femoral hernia, resecting 13 inches of mortified intestine and making an end-to-end anastomosis with the Murphy button.——Dr. Alfred S. Ambler, superintendent of the Brooklyn Hospital, has resigned.——Dr. Seymour Oppenheimer has been appointed laryngologist and otologist to Gouverneur Hospital.——Dr. John T. Sprague, Stapleton, has been appointed sanitary superintendent for the Borough of Richmond, at a salary of $3500.

Tablet in Memory of Honored Dead.—A memorial tablet has been presented to the College of Physicians and Surgeons, Columbia University, by the alumni, in honor of the graduates who died during the Spanish-American war. In presenting the tablet Dr. John G. Curtis, professor of physiology, made a short address, giving an account of the careers of the Columbia men who lost their lives in the war. President Butler responded for the university. The tablet, which is of oxidized bronze with raised letters of bright bronze, is in memory of John Blair Gibbs, assistant surgeon U. S. Navy, killed at Guantanamo; George Washington Lindheim, assistant surgeon, Eighth Regiment, N. G. S. N. Y., who died of typhoid, Sept. 16, 1898, and Harry Augustus Young, Eighth Utah Light Artillery, who was killed at Manila, Feb. 6, 1899.

Buffalo.

The Emergency Hospital, which has always been under the same administration as the Sisters of Charity Hospital, has been reorganized under its own board of managers, and will be independent of the Sisters' hospital, although the Sisters of Charity still supervise both institutions.

Personal.—Dr. James S. Porter has succeeded Dr. William B. May as milk inspector and Dr. Edward L. Frost has been appointed inspector of foods and drugs, vice Dr. William H. Heath.——Dr. Herman Mynter and wife have sailed for Europe. After visiting relatives in Copenhagen they will make a tour of the medical centers of Europe.

PENNSYLVANIA.

Hospital Saturday and Sunday.—As a result of the annual collection for the benefit of the hospitals of Pittsburg and Allegheny, $5700 was distributed among these institutions.

Personal.—Dr. Bert K. Vannaten, Venango, has been appointed assistant surgeon and assigned to the Sixteenth Infantry, N. G. P.——Dr. John M. Duff, Pittsburg, has been elected a director of the South Side hospital for five years.

Hospital Sued.—Dr. Susan J. Tabor, late a member of the staff of the State Hospital for the Insane, Norristown, has sued

that institution for $11,454.66, salary alleged to be due her. She claims that her appointment was for five years, and that she was discharged without reasonable cause.

West. Penn. Commencement.—The sixteenth annual commencement exercises of Western Pennsylvania Medical College, Pittsburg, were held, May 29, when a class of 48, including two women, was graduated. Dr. Samuel C. Milligan delivered the annual address and the degrees were conferred by John A. Brashear, acting chancellor of the university.

Philadelphia.

Hospital Bequest.—By the will of James H. Grier, Warrington township, Presbyterian Hospital receives $10,000.

Dr. J. Norman Risley has been commissioned lieutenant and assistant surgeon, N. G. P., and assigned to the Third Infantry.

Pennsylvania Hospital Report.—The one hundred and fifty-first annual report of the managers of this institution shows that 4705 ward and private patients were treated during the year, an increase of 702 over the previous year. The number of patients admitted during 1901-1902 was 360 more than in any year of the hospital's century and a half of existence. The daily average was 251. The number of cases admitted to the receiving ward was 23,142, a daily average of 63. Of these 3435 were sent to wards. This is an increase of 2781 over the preceding year. At the out-patient department 16,388 persons were treated, 1508 more than the year before. The total number of visits to the out-patient department was 58,727, compared with 54,295 a year ago; 39,800 cases were treated in all, or 4285 more than last year. The resident physicians made 83,869 examinations, besides attending 251 ward patients, daily. At one time 301 patients were in the wards, a larger number than ever before, except during the late war. The cost of maintenance increased $4,506.51 during the year, and reached $126,020.41. Legacies to the hospital amounted to $50,747.57 during the year and $26,930 came in the form of contributions. The sum of $227,437.43 was expended in maintaining the insane department.

TENNESSEE.

Personal.—Dr. Larkin Smith, health officer of Nashville, has gone to London, where he will spend several months in study and research.

Knoxville Medical College graduated a class of two, May 27. Dr. Henry M. Green delivered the charge to the graduates and Dr. Edward L. Randall presented the diplomas.

Memphis Hospital Medical College.—This college graduated a class of 171 at its recent commencement. Hon. Josiah Patterson delivered the address to the graduates, and Dr. Bennett G. Henning conferred the degrees. The new building for the college has been completed in every detail and is now ready for the reception of students. It is provided with five large lecture halls, commodious laboratories, and will comfortably accommodate more than a thousand students.

Vanderbilt Faculty Changes.—The medical department of Vanderbilt University, Nashville, announces the following changes: Dr. Richard A. Barr, adjunct to professor of abdominal surgery; Dr. Lucius E. Burch, adjunct to professor of diseases of women; Dr. John T. Altman, professor of obstetrics; Dr. Worcester A. Bryson, adjunct professor of surgery; Dr. A. Bennett Cooke, professor of anatomy; Dr. John A. Gaines, adjunct professor of practice of medicine, and Dr. Owen Wilson, clinical professor of diseases of children.

TEXAS.

Waco Board of Health.—The new board of health has organized with Dr. Charles T. Young, president, and R. D. Dickey, ex-officio member, secretary.

San Antonio Hospital Incorporated.—The Physicians' and Surgeons' Hospital of San Antonio has been incorporated with a capital stock of $50,000, by Drs. Francis M. Hicks, Frank Paschal, Dabney Berrey, John S. Lankford, William E. Luter, James H. Bindley, Robert E. Moss, Witten B. Russ and others.

Commencements.—Dallas Medical College, medical department of Trinity University, graduated a class of ten. Dr. William M. Yates, Cleburne, delivered the faculty address; Rev. R. L. McElree, Alvarado, discussed medical ethics and Rev. L. C. Kirkes presented the diplomas.——The Medical Department of the University of Texas, Galveston, conferred degrees on a class of 16, May 31. Prof. Edward Randall delivered the address of the evening, and President Prather of the University presented the diplomas.

Dallas Medical College.—Dallas Medical College, medical department of Trinity University, held its annual stockholders' meeting, May 31. The election resulted as follows: Directors, Drs. John C. Armstrong of Garland, Franklin U Painter of Pilot Point, Peyton L. Campbell, James E. Wilson and Hugh L. McNew; Dr. Painter was elected president; Dr. McNew dean, and Dr. Wilson secretary. The directors will select a new faculty.

Harmonization of Dallas Colleges.—The stockholders of the medical department of the University of Dallas, on May 24, elected the following board of trustees: Drs. Edward H. Cary, Charles M. Rosser, Samuel E. Milliken, Vene P. Armstrong, James M. Inge of Denton, J. H. Florence, E. Dunlap, Alexander M. Elmore, Joe Beeton, and Jesse B. Titterington. By unanimous vote it was agreed to effect a consolidation with the Dallas Medical College under the original charter of the University of Dallas, the institution to continue the medical department of the University of Dallas and to be hereafter known as the Dallas University Medical College.

VIRGINIA.

University College of Medicine, Richmond, graduated a class of 8, May 15. Hon. John Goode delivered the address of the evening.

Cancer Hospital in Norfolk.—A hospital for the treatment of cancer and kindred trouble is to be opened shortly in Norfolk under the professional charge of Dr. Patrick H. C. Noble of Richmond.

Dixie Hospital.—At a recent meeting of the incorporators of the Dixie Training School for Colored Nurses and the Dixie Hospital, Newport News, it was decided to erect a new hospital building to cost not less than $25,000.

Nash Semi-Centenary.—Dr. Herbert M. Nash, Norfolk, on the occasion of the fiftieth anniversary of entering the practice of medicine in that city, was given a banquet by the physicians of Norfolk and vicinity, at which Dr. Israel Brown presided as toastmaster.

Medical College of Virginia.—At the commencement exercises of this college, held May 8, Dr. Christopher Tompkins presided and awarded diplomas to a graduating class of 13. Rev. William E. Evans, D.D., was the orator of the evening, his topic being "The Dynamics of Germs."

Personal.—Dr. Joseph I. McCool has been appointed assistant surgeon of the second class, vice Dr. John K. Knorr, resigned, in the National Soldiers' Home, Hampton, Va.——Dr. Harry B. Struble, interne in the hospital, has resigned and gone north.——Dr. A. T. Nelson, Rapidan, has been appointed assistant physician at the Western State Hospital, vice Dr. William H. Yeakley, resigned.——Dr. Moses D. Hoge, Jr., Richmond, has resumed the chair of histology and clinical diagnosis at the University College of Medicine; Dr. H. Stuart MacLean has been elected professor of bacteriology and pathology, and Dr. Alfred L. Gray, professor of physiology.——Dr. John M. Henderson, for several years assistant physician at the Central State Hospital, Petersburg, has resigned and will enter private practice.

WISCONSIN.

Private Hospital.—Dr. William F. Malone, Milwaukee, has purchased a building which he will fit up and equip as a private hospital.

Fifty Years in Practice.—Dr. Thomas P. Russell, Oshkosh, has just passed the fiftieth anniversary of his entry into the ranks of practicing physicians.

Donation to Hospital.—Oriden Evanson, a farmer living near La Crosse, has given $5000 to the Norwegian Lutheran Hospital in that city, to be used in caring for the needy poor.

New Hospital at Madison.—A new hospital is to be erected at Madison to cost $25,000. Of this amount $10,000 has been donated by citizens and $15,000 appropriated by the city council.

Graduation Exercises.—The Wisconsin College of Physicians and Surgeons, Milwaukee, graduated a class of 19, April 30. Dr. Alfred H. Levings conferred the degrees, and Dr. William F. Becker delivered the doctorate address.——Milwaukee Medical College graduated a large class, April 14. Dr. William H. Earles presented the diplomas and Rev. D. J. O'Hearn delivered an address on "Medical Ethics."

Personal.—Dr. John W. Coon, registrar of vital statistics, Milwaukee, has resigned and will spend several months in post-graduate study in the East.——Dr. Leonard E. Spencer, Wausau, has been appointed a member of the State Board of Health,

vice Dr. J. Henry McNeel, Fond-du-lac, term expired.——Dr. Theodore Koch has been made health officer of Baraboo.——Drs. Moses J. White and William F. Beutler, Wauwatosa, will spend the summer in visiting European hospitals for the insane. ——Dr. Bertha V. Thomson, Neeedah, has been appointed assistant physician at the Northern Hospital for the Insane, Oshkosh. ——Dr. Arthur T. Holbrook, Milwaukee, has sailed for Europe.

GENERAL.

Cholera in the Philippines.—The total number of cases of cholera to June 22 in the Philippines is 8899, of which 1530 were in Manila, 6676 of these died, of which number 1236 were in Manila. Ninety American soldiers have been among the dead.

Beneficent Sanitation in the Philippines.—Major-General Lloyd Wheaton, U. S. A., who arrived, June 22, from the islands, having completed three and a half years' hard service there, and who will be retired, July 15, after 41 years' service in the Army, bears testimony to the great saving of life in the islands by the measures taken by the Army. The stamping out of smallpox by isolation and vaccination, the warding off of bubonic plague by inoculation and quarantine and the limiting of the cholera epidemic by the stringent measures taken have saved hundreds of thousands of lives. The loss of life by war, he says, seems infinitesimal in comparison.

Smallpox.

Colorado: In May 130 cases of smallpox were reported, a decrease of 6 cases compared with the preceding month. The deaths from the disease numbered 13.

Illinois: Seven new cases of smallpox were discovered in Chicago during the week, and for the first time in some months they were all of white persons. None, of course, had been vaccinated, although one, a woman, was 75 years old. Two of these new cases were pupils attending the McLaren School. Investigation shows that these children were in attendance on transfer slips of vaccination furnished from other schools. Personal examination proves that the attempted vaccinations in 1899 and 1900 were failures, as there is not the slightest trace of the characteristic vaccination scar. Yet the vaccination certificates were issued by physicians as "successful vaccinations," upon which the children had been admitted to school attendance. No blame can possibly be attached to the principal nor to any of the teachers of the school. But it is a serious question what should be done with physicians who certify to successful vaccination without ever taking the trouble to examine the arm after the operation to determine success or failure.

Maryland: The secretary of the State Board of Health reports that from May 11 to June 16 there were 5 cases in Dorchester County, 1 in Caroline County, 1 in Somerset, 5 in Washington County, and 1 in Baltimore County. One death occurred in Washington County. The outbreak in Somerset and Caroline counties was said to be checked, which left only Dorchester, Baltimore and Washington counties in the list of affected counties.

Michigan: Smallpox was reported to the State Board of Health from 154 places, 82 places less than in the preceding month.

FOREIGN.

Statistics of Plague in India.——A government statement regarding the condition of India in respect to the plague, says the Chicago *Inter-Ocean*, from its first outbreak in Bombay in September, 1896, to March, 1902, shows a total of reported deaths from the disease during that period of 536,600 in the Bombay Presidency and 315,400 in other parts of India, or a total of 852,000 for the whole of British India and the native states. Making allowance for untraced and unreported deaths, it is calculated that a million died during the period mentioned. During the first three months of 1902, the deaths reported in the Bombay presidency were 62,667, compared with 17,806 in the corresponding period of 1901. Other parts of India show a corresponding increase, especially in the Punjab, where the deaths in 1900 were 515; in 1901, 15,245, while in the first month of 1902 the figures have risen enormously, the deaths reported in March alone numbering 42,788.

LONDON LETTER.

The Smallpox Epidemic.

The epidemic continues steadily to decline. There are 1162 cases in hospital, against 1360, 1344 and 1274 in the preceding weeks; 188 new cases were admitted during the week against 233, 307 and 251 in the three preceding weeks.

South African Civil Surgeons' Dinner.

About 100 of the civil surgeons who had served in the South African war held a dinner at the Hotel Cecil, with Sir Frederick Treves in the chair. In proposing the toast of "The Imperial Forces" Dr. Conan Doyle, the celebrated novelist, who has served at the front as a civil surgeon, said that the Army Medical Department had been starved in time of peace, but when it suddenly found itself face to face with war and was in need of help, hundreds of civil surgeons sprang to the front. Surgeon-General Taylor, director-general of the Army Medical Department, in responding to the toast, said that the help derived from the volunteers was the most wonderful thing in the history of the war. He looked on the union of the civil and military portions of the medical profession as one of the best auguries of good for the Army Medical Department.

Festival Dinner of the Medical Graduates' College and Polyclinic.

The annual festival dinner was held in the Criterion restaurant, with the Right Hon. H. H. Asquith, K.C., M.P., in the chair. The guests, who numbered about 300, were received by the president, Sir W. Broadbent. The chairman in proposing the toast of the "The London Polyclinic" pointed out that the institution had a double object: It was charitable in the best sense of the word, and without coming into competition with the hospitals it provided the best medical advice for patients who could not pay a consultation fee. It thus filled a gap in the machinery of philanthropy. During 1901 nearly 1200 patients received advice. There was another side still more important: it provided the means for qualified physicians continuing their medical education. The Polyclinic was still in an embryonic condition, and was in want of funds. There were nearly 900 members and the classes were well attended. Sir W. Broadbent, in responding to the toast, said that the medical student, after passing his examination and qualifying for practice, was faced by problems in diagnosis and treatment for which his preparation for examination helped him only in small degree. The object of the Polyclinic was to afford these medical men the opportunities for what might be called secondary education. A collection was made after the dinner and $2500 was subscribed in aid of the Polyclinic.

The Plague.

The returns for the week ending May 17 show that in India there is a marked decrease in the number of deaths from plague. They were 7008 against 11,612 in the preceding week. The chief fall has been in the Punjab, where nearly two-thirds of the total deaths and cases in India have occurred. In Bombay city the deaths from plague during the week ending May 17 were 300, against 391 in the corresponding week of 1901. In the other Bombay districts there were 429 deaths against 583 in the previous week; in Calcutta 209 against 280; in Bengal 136 against 237; in the northwest provinces and Oudh 266 against 280; in the Punjab 5453 against 9122. In Egypt, during the week ending May 25, 28 fresh cases of plague and 16 deaths occurred. All the new admissions and deaths occurred in natives. The number of cases under treatment on May 25 was 31, the same as last week.

Correspondence.

A Unique Case.

PITTSBURG, PA., June 14, 1902.

To the Editor:—I have thought the following case of sufficient interest to report. My friend, Dr. R. J. Phillips of this city, attended a woman in her second confinement yesterday. There was a twin birth (boys), both children well delevoped except that each one had a harelip and one has five fingers on one hand and only partial development of the thumb.

Yours, etc., JOHN MILTON DUFF.

Corrections in the History of the Sections.

Recent letters report two corrections in the "History of the Sections of the American Medical Association," which appeared in THE JOURNAL of June 7. The chairman of the Section on Dermatology and Syphilography for 1894 is credited to Colorado, when California was meant. This was a typographical error. The names of chairman and secretary of the Section on Laryngology in 1898 were transposed. The names as given in the history were quoted from the official minutes printed of that Section. The printed minutes were therefore at fault.

Societies.

COMING MEETINGS.

Medical Association of Nevada, Virginia City, July 7, 1902.
American Ophthalmological Society, New London, Conn., July 16, 1902.

Platte County (Mo.) Medical Society.—In honor of the semi-centennial of practice of its president, Dr. E. McD. Coffey, the annual meeting of this Society on July 12 will be held at Platte City.

Physicians' Club of Chicago.—The annual meeting of the club took place May 26. The following officers were elected: Secretary, Dr. L. Harrison Mettler; board of directors, Drs. Alfred C. Cotton, president; Joseph Zeisler, treasurer; G. Frank Lydston, Walter S. Christopher, J. Clarence Webster and John M. Dodson.

American Roentgen Ray Society.—The next meeting of this Society will be held in Chicago, December 10 and 11. The local committee of arrangements is composed of Drs. Ralph R. Campbell, John B. Murphy, Louis E. Schmidt, Malcolm L. Harris, William L. Baum, Henry G. Anthony and William Allen Pusey.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-seventh Annual Meeting, held at Atlantic City, N. J., May 27-29, 1902.

(Concluded from p. 1668.)

President, Seth C. Gordon, M.D., Portland, Maine, in the Chair.

The Relative Advantages of the Complete and Partial Hysterectomy.

DR. E. E. MONTGOMERY of Philadelphia spoke of the difficulty the present student had in appreciating the slow process of development in the operation of hysterectomy, whether partial or complete. The procedure as perfected by Goffe and Baer marked an epoch in the progress of partial hysterectomy. Without intending to disparage the work of these gentlemen, he pointed out that the operation in many of its details had been done before these gentlemen had essayed their first operation; that Charles T. Parkes of Chicago was probably the first to resort to the supravaginal amputation of the body of the uterus, with the return of the stump to the abdomen after ligation of the uterine arteries. In the complete operation he advocated the Doyen procedure as the one most desirable. He preferred the panhysterectomy to the partial operation, for the reasons that it was more expeditious, it rendered hemostasis more secure, it decreased the danger from sepsis in removing any dead space in which fluids could accumulate and become infected. The cervix retained by the former method is not always free from danger from subsequent degenerative processes.

A paper by Dr. George H. Noble, Atlanta, Ga., on "A New Operation for Complete Laceration of the Perineum," will appear in full, illustrated, in THE JOURNAL.

Treatment of Placenta Previa—Cesarean Section Not Justifiable.

DR. ROBERT A. MURRAY, New York, in a contribution on this subject, referred to a paper read last year before the American Association of Obstetricians and Gynecologists, by Dr. Zinke, Cincinnati, on this subject, also to a discussion which it elicited. In Zinke's paper a strong plea was made for the treatment of placenta previa by Cesarean section. Dr. Murray protested against such a radical measure, and believes that by proper treatment one can avoid the performance of this operation in many instances. In fact, only a very small minority of cases of placenta previa should, in his opinion, be treated by Cesarean section.

DR. J. WHITTREDGE WILLIAMS, Baltimore, questioned the propriety of Cesarean section for placenta previa, and said the operation was done too frequently. Recent statistics as to the great safety attending this operation were liable to do almost as much harm as good. If the society did not take a decided position in regard to Cesarean section in cases of placenta previa, he feared that this operation might be practiced as frequently and indiscriminately as was oöphorectomy. In his opinion there was a small field for Cesarean section in placenta previa.

DR. EDWIN B. CRAGIN, New York, said the conditions were so numerous which would justify Cesarean section in placenta previa that they were seldom found present, and among them were a good condition of the child, good surroundings for the patient, and a cervix so rigid that there would be great difficulty in dilating it and resorting to version. These three conditions were rarely met with in cases of placenta previa. A fourth condition was central implantation of the placenta.

DR. PHILANDER A. HARRIS, Paterson, N. J., said that when the statistics were analyzed as to the mortality of the mother and child, it would be found that the more rapid, prompt, and effective the delivery, the less the mortality, and the better the general results. If the case could be seen when the first hemorrhage occurred, it would be a favorable time for Cesarean section, but which he would not advise, but try to effect delivery by other methods.

DR. CHARLES JEWETT, Brooklyn, said the results under modern obstetric methods of treatment of placenta previa were good, whereas the mortality from Cesarean section was much larger than had been claimed by its advocates.

DR. A. PALMER DUDLEY, New York, said the general practitioner should be educated in regard to placenta previa. He should study his cases more carefully, and make a diagnosis of placenta previa sufficiently early to refer them to specialists, thus saving the lives of many children and mothers which otherwise would undoubtedly be sacrificed. He thought there was not much use in performing Cesarean section after a profuse hemorrhage had taken place. The danger of this operation, when properly and promptly performed, was almost nil.

DR. EGBERT H. GRANDIN, New York, said he would treat a case of placenta previa after the same manner that he would a case of carcinoma or sarcoma of the uterus. He would go at it with hammer and tongs, just as soon as he was sure of his diagnosis, and no matter what the period of gestation, he would empty the uterus. His experience had been fairly extensive, and his results from this hammer-and-tongs policy had been very favorable as regards saving the mothers. He had never had a mother die, although the mortality was considerable as far as the children were concerned. But usually these children were nearly dead when seen.

Two Conditions Simulating Ectopic Gestation.

DR. EDWARD P. DAVIS, Philadelphia, read a paper reporting a case of hematocele and one of retroverted gravid, simulating ectopic gestation. Segond, Rontier and Varnier have recently reported to the Obstetrical Society of Paris similar cases. In obscure cases of hemorrhage in which a diagnosis is not evident, he thinks abdominal section is safer than continued uncertainty. Conditions simulating ectopic gestation usually require prompt interference and surgical treatment.

DR. CHARLES P. NOBLE, Philadelphia, presented a clinical report on ureteral surgery.

DR. EDWARD REYNOLDS, Boston, discussed the principles underlying the repair of cystocele, and an operation founded thereon.

DR. E. E. MONTGOMERY, Philadelphia, spoke of the relative advantages of complete and partial hysterectomy.

A New Method of Anterior and Posterior Colporrhaphy.

DR. I. S. STONE, Washington, D. C., read a paper on this subject. In the anterior operation the vaginal wall is incised in the median line and, after clamping the sides of this incision, the bladder is pushed away, upwards and backwards, until its entire base is separated from the vaginal wall and from the anterior surface of the uterus, if desired. He extends this separation as far out laterally as possible, for the whole pelvic roof shares in the prolapse. He proceeds now to lift the bladder with fingers or gauze packing, or with a sound inside the organ as far upward as possible to assure the extent of liberation. The excessively long flaps which presented

over the base of the bladder as a cystocele (the distended anterior vaginal wall) are now excised, and the wound brought together edge to edge, taking care to entirely obliterate the cystocele and to leave the new anterior vaginal wall straight across. The method of applying the sutures is important, for he invariably sutures the flaps near the center of the wound to the anterior surface of the uterus with silkworm gut, silk or chromicized catgut. This is done for the double purpose of holding the bladder high above the former attachment on the uterus, and to hold the uterus forward if it has been retroverted. The bladder is held away and the deep sutures passed through the uterine wall between the attachments of the round ligaments. The wound is then entirely closed with catgut sutures. It will be noticed that he has applied the Mackenrodt method of vaginal fixation to his operation, but it was primarily to hold the bladder higher upon the uterus rather than to cure the displacement. In very large cystoceles the vaginal wall is greatly lengthened and can be shortened by removing a V-shaped section from each side of the incision in front of the cervix. The longitudinal wound in the median line will then join one made transversely across the vagina in front of the cervix.

As a test of the efficiency of the method, two patients with procidentia were selected, each with large cystoceles, who consented to operation in two stages. Both women were nearly sixty years of age. One had prolapse of twenty years' standing; the other, a stout, fleshy woman, had not suffered so long, and her disability was largely due to increase in weight. The vaginal relaxation of the thin woman was extensive and complete. The fat woman had not sustained as severe laceration as the other, but was hardly as good a subject, owing to the size of her abdomen. The anterior operation alone was done on these women, and while the uterus was not entirely retained within the vagina as a result of the work done, the cystocele was cured. One of these women had the final operation upon the posterior wall before she left the hospital; the other returned nearly a year later, was treated in the same manner, and now both are well.

Posterior Secondary Operation.

Injury to the posterior vaginal wall and perineum differs greatly in its extent, and in the direction of the tear. The rent may be longitudinal or transverse, and in any event needs to be fully exposed below the vaginal mucous membrane, which in the past has borne the brunt of surgical attack, while the fascia, the objective point, is hiding with the much-discussed and rarely seen levator ani muscle, and is only influenced by sundry excursions of needle and suture, which, after all, only hold a denuded or scarified mucous membrane together while union progresses. The chest of the rectocele is grasped with the left hand, making a transverse fold which is divided with the scissors down to the rectum. Clamps are applied to the edges of the incision, and the rectum pushed away on both sides with union progresses. The crest of the rectocele is grasped with the vaginal wall. The incision in the vaginal wall is extended above and below until we are satisfied that we can secure sufficient narrowing of the vagina to answer the purpose in view. The sutures are placed with greater facility when the rectum is separated freely on each side, and one need not have any fear of not obtaining good union after the operation. After he has completed the liberation of the rectum, and has clamped such hemorrhoidal vessels as give trouble, he closes the wound in the following manner: With tissue forceps he catches up two points, one on either side, which he wishes to unite in front of the rectum. These points are usually about one and one-half inches below the edge of each flap, but the size of the rectocele will necessitate a test in each case, as directed, so that good approximation of the fascia over the rectum may be secured, which will not exert undue traction upon the sutures. The fascia is firmly and thoroughly united along the entire length of the wound. In some instances he has used a double tier of sutures which gives excellent support to the floor of the vagina, and makes a firm obstruction to the exit of a procident uterus. After the buried sutures are placed, he excises the long flaps from each side, and closes the vaginal incision with interrupted catgut down to and rather below the former site of the crest of the rectocele. Emmet's or Hegar's method may now be selected for the final stage of the operation, according to the predilections of the operator. The operation in some respects resembles that of Hegar's, the chief difference being in the method of exposing the fascia.

A Consideration of Ovarian Fibromata, Based on a Study of Two Recent Cases, and Eighty-two Collected from the Literature.

DR. REUBEN PETERSON, Ann Arbor, Mich., after narrating cases said that while fibroma is one of the rarest forms of ovarian new growths, it is by no means such a rarity as was formerly supposed, as has been conclusively shown by Dornan, Briggs and Coe.

In the 84 tabulated cases, the age is mentioned in all but one. Fibromyomatous uterine tumors were about twice as often discovered from 40 to 50, as are ovarian fibromata, the percentage of the former being 51, as compared with 28 in the latter.

The conclusions were that (1) fibromata of the ovary occur earlier and in relatively greater numbers during early sexual life than do fibrous growths of the uterus; (2) while relatively the largest number of ovarian fibromata are to be found during or just after the menopause, a considerable percentage of cases occur proportionately later in life than do uterine fibromyomata.

Of the 66 cases in which the social state was mentioned, 22 were single, and 44 were married, showing the disease to be twice as common in married as in single women. The statistics do not bear out the statement of Dartigue, that pregnancy prior to the development of the tumor is rather a rare occurrence, since 75 per cent. of the 33 women, where fecundity is recorded, had had one child or more. The 28 women averaged four children each.

The cases were carefully reviewed regarding the effect of the ovarian fibromata upon the menstrual function. In only two cases is it definitely stated that the tumors gave rise to irregularity in the menstrual period. In 49 per cent. the statement is made that the patients were regular; six patients, or 12 per cent., are recorded as having had painful periods, but there is no evidence to show that the pain was produced by the ovarian growths.

The author thinks that neither menorrhagia nor metrorrhagia is a very constant accompaniment of fibroma of the ovary. It is more apt to occur where both ovaries are affected by the disease. The growth of an ovarian fibroma may exist for many years before the tumor reaches large proportions or gives rise to marked symptoms. In other cases the growth is more rapid, reaching considerable proportions and giving rise to noticeable symptoms in a comparatively short time, say a few months. Pain is present to a greater or less degree in nearly one-half the cases of ovarian fibromata. Freedom from pain means, as a rule, the absence of adhesions of the growth to the surrounding organs. Pain is more frequently met with in tumors of moderate size. Dysuria is a symptom in about 15.6 per cent. of the cases.

The growths were described as fibromatous in 63 out of the 84 cases, or in 75 per cent.; 48 of these were fibromata, 12 pure fibromata, and fibroma with colloid infiltration, fibrous with mucoid degeneration, and fibroid with hyalin and myomatous changes, one each; 17, or 20 per cent., were found to be fibromyoma; 2 were called myofibroma, and there was one each accredited to the myomas and to the myofibromas with hyalin degeneration.

Closure of Suppurating Abdominal Wounds Following Laparotomies.

DR. PHILANDER A. HARRIS, Paterson, N. J., said, when abscess forms in the abdominal incision the skin is reopened in the line of incision to the upper and lower limits of the mural abscess. The wound is then treated as an open one until the flow of pus becomes greatly reduced in quantity. All the granulations are then removed with a sharp curette until the muscle, fascia, fat and other tissues are distinctly recognizable. The separated edges of the deep fascia are then drawn together

by a series of silkworm gut sutures, which interlock each other at the apposition line of the fascia. Each one of these sutures is introduced through the skin about one inch away from the incision, and each one is brought out either just above or below the point of its introduction. If the first suture both enters and emerges from the right of the median line, the next one is introduced and emerges at a point to the left of the incision, and is so introduced as to interlock the first or preceding suture. The third suture is introduced and brought out from the same side as the first suture and interlocks the second one. The fourth suture is introduced from the same side as the second suture and interlocks the third or preceding one. This singular suture has for its chief object the coaptation of the deep fascia, and, when properly introduced and tied, it is claimed that the fat and opposing edges of the skin fall in apposition, adhere and heal without additional sutures. Most of the few cases thus treated promptly heal and generally do so without suppuration. A not unimportant part of the technic of operation is the thorough and repeated washing with a solution of bichlorid of mercury, always followed with a normal salt solution irrigation. The stitches are all removed on the twelfth and fourteenth day.

Fifteen photographs, which were exhibited, illustrate much of Dr. Harris' work in this relation. A not uninteresting part of the photographic illustration was the appearance of the wound after the sutures were introduced and tied, as they converted the area of the open and large wound into an elongated mound at whose base, on either side, there appears a row of knots, while at the summit of the mound the opposing edges of skin simply lie in apposition awaiting adherence and healing.

Dr. Harris is of the opinion that the stronger solutions of carbolic acid or possibly other disinfectants might serve as good, if not better, purpose than the solution of bichlorid of mercury which he has employed for this work.

Officers.

The following officers were elected for the ensuing year: President, Dr. Joseph E. Janvrin, New York; vice-presidents, Drs. Edward W. Jenks, Detroit, Mich., and A. Palmer Dudley, New York; secretary, Dr. J. Riddle Goffe, New York; treasurer, Dr. J. Montgomery Baldy, Philadelphia.

Washington, D. C., was selected as the place for holding the next annual meeting in conjunction with the Triennial Congress of Physicians and Surgeons, the first week in May, 1903.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine (Philadelphia), June 14.

1 *The President's Address, American Medical Association. John A. Wyeth.
2 *The Relation of Medical Science to Commerce. Frank Billings.
3 *Suture of Heart Wounds. Harry M. Sherman.
4 *State Medicine, Past, Present and Future. J. M. Emmert.

New York Medical Journal, June 14.

5 *President's Address, American Medical Association. John A. Wyeth.
6 *The Relation of Medical Science to Commerce. Frank Billings.
7 *Suture of Heart Wounds. Harry M. Sherman.
8 *State Medicine, Past, Present and Future. J. M. Emmert.
9 *Basedow's Disease; Report of an Acute Fatal Case and of a Chronic Fatal Case with Bulbar Lesions. Charles L. Dana.
10 *Two Cases of Supposed Gastric Perforation in Which No Explanation of the Symptoms Was Found at Operation. Andrew H. Smith.
11 Cerebral Localization and Brain Function. (Continued.) L. Harrison Mettler.

Medical News (N. Y.), June 14.

12 *The President's Address, American Medical Association. John A. Wyeth.
13 *Intestinal Anastomosis: Further Remarks Thereon. Frederick H. Wiggin.
14 Hysteria, Its Etiology and Management. John M. Aiken.
15 Stone in the Female Bladder. Report of a Case. H. H. Stoner.

Medical Record (N. Y.), June 14.

16 *The President's Address, American Medical Association. John A. Wyeth.
17 *State Medicine, Past, Present and Future. J. M. Emmert.
18 *Suture of Heart Wounds. Harry M. Sherman.
19 *The Relation of Medical Science to Commerce. Frank Billings.

Philadelphia Medical Journal, June 14.

20 *Food Preservatives. Henry Leffmann.
21 *President's Address, American Medical Association, John A. Wyeth.
22 *Suggestions for Certain Cheap and Convenient Forms of Apparatus for Class Work in the Bacteriological Laboratory. Allen J. Smith.
23 *Some Gastric Conditions as Found in Forty Healthy Persons. Richard F. Chase.
24 The Place of Drugs in the Treatment of Stomach Troubles. Boardman Reed.
25 Focal Facial Epilepsy, Followed by Temporary Unilateral Paralysis of the Face and Tongue. D. J. McCarthy and A. P. Francine.
26 Superior Tabes. M. H. Bochroch.
27 A Study of Heredity. Hiram A. Wright.

Boston Medical and Surgical Journal, June 12.

28 *The President's Address, American Medical Association. John A. Wyeth.
29 *On Tuberculosis in Relation to the Livestock Industry. J. G. Adami.
30 The Struggle Against Consumption. Edward O. Otis.
31 Cystoscopic Appearances in Non-tubercular Cystitis and Pyelonephritis in Women. (Concluded.) Edgar Garceau.
32 Seven Cases of Placenta Previa. J. G. Henry.
33 Cesarean Section for Placenta Previa. P. J. Conroy.

Cincinnati Lancet-Clinic, June 14.

34 *President's Address, American Medical Association. John A. Wyeth.
35 Intestinal Obstruction. J. Ambrose Johnston.
36 Case of Ectopic Pregnancy; Rupture of Sac; Operation; Secondary Hemorrhage; Recovery. Mark Millikin.

St. Louis Medical Review, June 7.

37 The Application of the Cautery by a New Method for the Reduction of Prostatic Obstruction. Wm. N. Wishard.

June 14.

38 *President's Address, American Medical Association. John A. Wyeth.
39 *Suture of Heart Wounds. Harry M. Sherman.

Medical Fortnightly (St. Louis), June 10.

40 Gonorrheal Synovitis of the Knee-Joint; Tubercular Coxitis; Osteomyelitis Involving the Superior Maxilla; Fracture of the External Malleolus; Amputation of the Thigh for Advanced Tuberculosis of the Knee-Joint. N. Senn.
41 A Psychological Study of Hysteria. C. M. Hobby.
42 Diseases of the Stomach. (Continued.) J. M. G. Carter.

Chicago Medical Recorder, June 15.

43 *Considerations of Gastric Ulcer and Its Pathology, Diagnosis and Treatment. Gustav Fütterer.
44 *A Surgeon's View of Stomach Ulcer. E. Wyllys Andrews.
45 *Surgical Treatment of Gastric Carcinoma. J. B. Murphy.
46 *The Immediate and Remote Causes of Death in Operations on the Stomach—Treatment Before, During and After Operation. Fenton B. Turck.
47 Treatment of Principal Defects of Speech. James M. Brown.
48 Two Cases of Cesarean Section. C. E. Paddock.
49 Cesarean Section, Abdominal Removal of the Uterus at Full Term of Pregnancy on Account of Large Fibroid of Cervix and Lower Segment of Uterus Blocking the Pelvic Cavity; Recovery. Carl Wagner.
50 Exhibition of Specimens (Appendicitis from Oxyuria, Gallstones, etc.). William Cuthbertson.
51 Nodding Spasms with Nystagmus. Isaac A. Abt.
52 Stereopticon Demonstration of Mastoid Specimen. J. Hoinger.

Fort Wayne Medical Journal-Magazine, May.

53 Blood Examinations and Their Clinical Value. B. W. Rhamy.
54 Diarrhea in Children. E. E. Morgan.
55 Some Clinical Observations on the Uses of Chloretone. L. A. E. Storch.
56 Christian Science—Some Quotations from Mrs. Eddy. H. V. Sweringen.

Buffalo Medical Journal, June.

57 The Indications for the Radical Mastoid Operation with a Description of Its Technique. W. Scott Renner.
58 Treatment of Rotary Lateral Curvature of the Spine. Prescott Le Breton.
59 Pruritus Ani. George L. Brown.
60 The Relation Between the Dentist and the Surgeon. Eugene A. Smith.
61 Paraffin Injections. Herman Mynter.

Vermont Medical Monthly (Burlington), May 25.

62 Preparation of Patients for and Their Treatment After Laparotomy. Frederick H. Wiggin.
63 The Medical Treatment of the Diseases of the Uterus and Vagina. C. K. Johnson.
64 Locomotor Ataxia. C. A. Pease.
65 The Influence of La Grippe on the Nervous System. A. J. Willard.

Occidental Medical Times (San Francisco), June.

66 Some Observations Relative to Non-Malignant Stenosis of the Pylorus. Thos. W. Huntington.
67 Intravesical Prostatic Levator for Perineal Prostatectomy. Louis Bazart.
68 Epithelioma of the Upper Lip: Removal of the Lip and Its Reconstruction. Douglass W. Montgomery and H. M. Sherman.
69 Operative Treatment of Fibromyomata Uteri. F. W. Vowinckel.

70 Diseases of the Uterus and Appendages Treated per Vaginam with Expositions on Diagnosis and Treatment. A. Miles Taylor.

1.—See THE JOURNAL of June 14, p. 1551.

2.—Ibid., p. 1555.

3.—Ibid., p. 1560.

4.—Ibid., p. 1590.

5.—Ibid., p. 1551.

6.—Ibid., p. 1555.

7.—Ibid., p. 1560.

8.—Ibid., p. 1590.

9. **Basedow's Disease.**—Dana discusses the theory of the disease, giving his own view that the primary disease is in the nervous centers that control the nutrition of the thyroid and regulate its circulation. The factor of infection is also recognized, and he believes that the order of things when the disease has occurred is due to this perverse activity of the nervous centers, and that by building them up so that they recover their balance the thyroid becomes less stimulated and the system ceases to be poisoned by its excessive secretion. In cases where death occurs, the bulbar centers seem to be overpowered or exhausted. This is shown in a case that he reports here. The rarity of cases ending in death is remarked upon and the literature discussed. The characteristics shown in the fatal cases are the presence in the terminal stages of headache, vomiting, some fever, insomnia, delirium and evidences of paralysis of the cranial nerves. A second case is also reported running its course in 13 months, and is of interest, showing the rare accident of embolism in this disease.

10. **Supposed Gastric Perforation.**—In one of Smith's cases there was an autopsy performed showing a fatty degeneration of the liver and tuberculosis of the mucous membranes of the stomach, supporting the diagnosis of ulcer, but not explaining the symptoms.

12.—See THE JOURNAL of June 14, p. 1551.

13. **Intestinal Anastomosis.**—Wiggin describes the Maunsell methods of intestinal anastomosis, giving his reasons for preferring it to the Murphy button, and his objections to the latter. He criticises Connell's knot within the lumen method as of slight practical value and suggests that the passage of the needle from the outside in completing the knot might leave a point for leakage. He says in conclusion, the surgeon should remember, when he wishes to unite severed portions of the intestinal tract, that only normal and clean peritoneal surfaces should be united; that hydrozone diluted 50 per cent. with saline solution can be safely used to disinfect the peritoneum; that when employing the Lembert suture the needle must be made to include some fibers of the submucosa; that special care must be exercised in approximating the mesenteric borders of the intestine to include a portion of the mesentery; that there is no danger of cicatricial contraction following end-to-end union of divided intestinal ends; that there is no objection to the placing of secondary sutures in intestinal tissue when for any reason it seems necessary to do so; that the formation of intestinal adhesions can be prevented by leaving behind in the peritoneal cavity a quantity of saline solution when closing the abdominal wound; that ordinarily there is less danger to the patient in closing the abdominal wound after suturing the gut than in leaving the wound open and surrounding the injured parts with gauze packing; that union of the parts under favorable conditions is effected in about sixty hours; that a simple procedure by means of which an intestinal anastomosis can be easily effected, and which is adaptable to all parts of the intestinal tract, requiring in its performance only a few round sewing needles and suture material of either horsehair or silk, is decidedly preferable to methods necessitating the use of specially constructed instruments.

16.—See THE JOURNAL of June 14, p. 1551.

17.—Ibid., p. 1590.

18.—Ibid., p. 1560.

19.—Ibid., p. 1555.

20. **Food Preservatives.**—Leffmann finds little evidence to show that boric acid or borax, in the methods used, is harmful. Large doses have caused harm, but the same has been done by salt, saltpeter, etc., which are in other preservatives.

21.—See THE JOURNAL of June 14, p. 1551.

22. **Laboratory Apparatus.**—Smith's article describes and illustrates the Matlock bucket as a substitute for the steam bath, a special type of filtration bath, the U. T. thermostat, arrangements for incubators, and an anaërobic jar.

23. **Gastric Conditions.**—Chase has experimented on forty students, presumably healthy, of the Tufts Medical College. The subjects were instructed to fast from the evening meal until the time of examination on the following morning; with two exceptions they fasted for over ten hours. Then the Ewald test meal was given, and at the end of one hour the stomach contents were removed with a suction bulb. Water was poured into the stomach until the subject felt he could stand no more, when the amount was recorded, and on its withdrawal, an approximate idea of any residual contents from the test-meal was obtained, but rarely did it seem of an appreciable amount. By means of a two ounce or 60 c.c. inflation bulb the stomach was moderately distended with air, the number of bulbs required being noted. The area of stomach resonance was then determined by gentle to moderate percussion; when doubt existed, auscultatory percussion was also employed. The relation of the greater curvature to the center of the navel in the median line was ascertained, then the highest zone of stomach resonance in the same line, the distance between the two points being recorded as xipho-umbilical resonance. The greatest distance of stomach resonance to the right of the median line is recorded as pyloric resonance. The costal cartilage under which the greater curvature passed was noted, also the rib corresponding to the greatest height of the stomach-lung resonance and the axillary line to which the resonance extended to the left. The iodoform test for motility was made but is not discussed in this article. The amount of contents in the stomach averaged in 39 cases, 13.5 ounces, the maximum being 190 c.c., the minimum 30. The results correspond very closely with those of Hewes; a little lower than the German standard. In 23 of the 39 cases the lower border of the stomach was found above the umbilicus, in 16 it was at or below. The average distance above was one inch. Chase is inclined to think that there is a certain degree of atony or dilatation existing without symptoms in many cases, and he quotes a special one to prove this point. If the Germans, however, excluded in their statistics such cases as these the difference in results can be attributed to the presence of such cases in his own series. If not, atony or dilatation with stasis but without subjective symptoms would seem to be a common condition in the American stomach. He thinks the difference between the positions of the lower border in the inflated and the uninflated stomach is about one inch. In the 39 cases the average xipho-umbilical resonance was 4½ inches, the maximum 6⅛, the minimum 2¼. In 28 of the 39 the greater curvature was found to pass under the ninth costal cartilage, in 7 cases it was at the eighth, and in the remaining 4 cases it passed under the tenth cartilage. In 3 of the 4 cases in which the curvature passed under the tenth cartilage it was also found below the navel. The stomach-lung resonance in 39 cases was found to extend up to the sixth rib in 19, to the seventh rib in 15, to the fifth rib in 4, and to the eighth rib in one case. In 18 cases this resonance extended to the left, to the anterior axillary line, in 17 cases to the midaxillary line, and in 4 cases to the posterior axillary line. The average range of pyloric resonance was 2¼ inches, the greatest 3½, and the least 1½. The liquid capacity of the stomach averaged about 2 3/5 pints; the largest 5 1/5, and the smallest 4/5 of a pint. He thinks the results of the test probably depends more on the tolerance of the stomach than on its capacity, and that it is of little importance and should not be relied on to the prejudice of inflation and percussion tests. In 31 cases where free HCl was present the mean amount was 1.7 per m.; the largest amount in any case was 3.6 per m.; the smallest amount .8 per m. In four cases no free HCl was detected. He wishes to call attention especially to the larger amount of contents than has been considered normal and to the relation of the lower border

of the stomach to the navel, as, according to Ewald, pathologic conditions must have been present in nearly one-half these cases, but in no case was there any gastric disturbance.

28.—See The Journal of June 14, p. 1551.

29. **Tuberculosis.**—The relation of bovine tuberculosis to human health is thoroughly treated by Adami, who notices the spread of tuberculosis among cattle and the necessity of its arrest. In his opinion as to the danger of milk from tuberculous animals, germs may be present, whether the udder is diseased or not, though their numbers would be very few in the latter case. He thinks that there is a possibility of infected milk starting up infection in young children and in susceptible individuals and that, therefore, we should not belittle the risk. Every community has a right to demand pure milk, as badly kept milk, milk utensils, etc., may be a very serious cause of infant mortality.

34.—See The Journal of June 14, p. 1551.

38.—See The Journal of June 14, p. 1551.

39.—Ibid., p. 1560.

43. **Gastric Ulcer.**—Fütterer notes the forms of gastric ulcer and criticises the term round ulcer as not usually being sufficiently descriptive. He lays special stress on the fishhook form of ulcer as indicating the secondary development of carcinoma. This is as characteristic as the Hauser sign or bending forward of the muscularis toward the mucosa. As regards diagnosis he does not think it well to lay too much stress on the so-called classical symptoms. Pain is most constant, and when it occurs he is inclined to suspect ulcer if the patients are chlorotic or have secondary anemia, and are afraid to eat solid food, and it is better to anticipate than to wait for hemorrhage to confirm the diagnosis. He would treat every case of gastric ulcer as if it were in danger of hemorrhage and perforation. All cases that do not call for immediate surgical interference should be subjected to thorough medical treatment.

44. **The Surgeon's View of Stomach Ulcer.**—Andrews believes that there is an inaptitude and want of originality in stomach surgery and a false conservatism and timidity that keeps back operative interference when it is desirable. He pleads for early operation in stomach ulcer, which is a surgical disease like appendicitis, but with less chance of recovery. He reviews the methods of operating, and thinks that any case that has resisted medical treatment should be considered suitable for operative interference.

45. **Gastric Carcinoma.**—The importance of operation for gastric carcinoma is indicated by the fact that life expectancy is put down by Osler as less than one year in 75 per cent. of cases and less than 6 months in 50 per cent. of cases; Murphy thinks the period, however, longer than this. The younger the patient the more rapid the disease. Exploratory laparotomy is too infrequently performed. The various operations of gastrostomy, pylorectomy, gastroenterostomy, gastrectomy, jejunostomy, etc., are noticed. Gastrostomy should be limited to cases where there is annular carcinoma of the esophagus. The Frank and Witzel operations are the ones of choice, with many points in favor of the former. The paper is largely a review of the literature and the opinions of others in regard to the estimation of recovery, successful operations, etc.

46. **Death from Stomach Operations.**—Turck's paper reviews the literature of operations on the stomach, noting the causes of death, and remarks that in every operation we should regard the stomach as an infected cavity. There is usually a condition of chronic toxemia and the remedy lies in the more careful treatment of the infected stomach on the one hand and on the other increase of the physiologic resistance of the patient. He speaks particularly about the danger of shock and narrates experiments made on dogs from which he deduces the following conclusions: 1. Shock lessens the resistance to infection. 2. In prolonged shock some toxin seems to be formed that can produce shock in another animal of similar species. 3. Toxins possess a degree of hemolysis. We are, therefore, confronted with three principal dangers, viz., toxemia, infection and shock, and any operation may so precipitate the latent symptoms that we must in every case use proper prophylaxis against such conditions before attempting operation. He insists on the importance of rendering the stomach as aseptic as possible and securing a reduction of toxemia, protecting from shock, reduction of splanchnic congestion and other cardiovascular disturbances and anemia, reducing atony of the stomach and intestines, and the restoration as far as possible of the nutritive standard and general metabolism. During and after operation we should seek to preserve the equilibrium of the circulation, restore the gastrointestinal atony that follows every operation, encourage elimination, keep the stomach as aseptic as possible, and employ appropriate diet to meet the conditions. The details of treatment are mentioned, though he remarks that they require much more extensive treatment than he has space for here. He insists on the importance of thorough washing out of the stomach and suggests, among other things, spraying it with oil of cloves which acts as an antiferment and analgesic. He also recommends the use of his double tubes with cold and hot moist air stimulation and also the intragastric bag. These methods have been found advantageous not only by himself but by Herschel, Treves, Gillespie and others. As regards dietetics, he speaks particularly of gelatin as a valuable addition. It is not only an albumin sparer, but a preventive of hemorrhage. Rectal feeding will have to be resorted to to some extent and from one to several days before the operation no food should be taken by the mouth, rectal feeding and saline infusion being relied upon. He remarks particularly as to the use of his intragastric bag as a preventive of shock when employed with heated water. To prevent skin infection rubber shields or artificial skin applied around the operative field is of value. Instead of wet sponges for heat applied to the viscera he would use the small thin rubber hot water bags. The rubber bags to be placed within the cavity should be made absolutely sterile, then partially filled with sterile water and heated in a receptacle to the desired temperature, which he has found to be 118 F. and a fraction. Following the operation the stomach should be washed if there are any signs of vomiting and other undesirable symptoms. Gastric and colonic lavage repeated, salt infusion, feeding by rectum and no food by the mouth for twenty-four to forty-eight hours are in order. In case of rapid depression the hot water intragastric bag with a continuous flow will be found of service. In operations for gastric fistula, we can use lavage of the stomach through the fistula, especially when the valve operation of the author is used. The keynote of success is the preparation of the patient's general condition before operation. For further details the article itself should be consulted.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), June 7.

1 *Tuberculin as a Remedy in Tuberculosis of the Lungs. W. Camac Wilkinson.
2 *The Administrative Control of the Tuberculous Diseases. H. Cooper Pattin.
3 On a Model Sanatorium for Consumptives. Lauder Brunton.
4 The Technic of the Intratracheal "Direct" Methods of Treatment of Phthisis. Colin Campbell.
5 Arsenical Beer Poisoning at the Halifax Union Poor-Law Hospital. J. F. Woodyatt.

The Lancet (London), June 7.

6 *Certain Diseases of the Blood Vessels. A. Pearce Gould.
7 Chronic Hypertrophy of the Faucial and Pharyngeal Lymphoid or Adenoid Tissues. F. Marsh.
8 Concerning Injurious Constituents in Whisky and Their Relation to Flavor. Lauder Brunton and F. W. Tunnicliffe.
9 Dilatation of the Heart and Other Manifestations of Weakening of the Heart as Results of Rheumatism. Theodore Fisher.
10 The Ventilation of Ships, with a Description of an Efficacious Method. William Edward Home.
11 Difficulties in Diagnosis: Chicken-pox or Smallpox? W. M. Young.
12 Primary Gangrene of the Tonsils. Robert Fullerton.

Indian Medical Gazette (Calcutta), May.

13 *Cancer in India. W. J. Niblock.
14 *A Decade of Tumor Surgery in the Kashmir Mission Hospital. Ernest F. Neve.
15 Report of an Experimental Enquiry on the Disinfection of Floors for Plague. Leonard Rogers.
16 The Best Operation for Radical Cure of Inguinal Hernia. C. Duer.
17 A Case of Snake-Bite. C. C. Murison.
18 Some Important Indigenous Drugs and Their Uses. (To be continued.) Guru Nath Sen.

Beitraege z. Geb. u. Gyn. (Leipsic), vi, 1.

19 *Extirpation of Glands in Case of Carcinoma Uteri. O. v. Herff (Basle).—Zur Drüsenausräumung bei Carc. uteri.
20 *Die Symphysiotomie mit besonderer Drainage des Spatium prevesicale sive Cavum Retzii per vaginam. P. Zweifel (Leipsic).
21 *Beitrag zur tubaren Sterilitat. E. Ehrendorfer (Innsbruck).
22 Zur künstlichen Fruhgeburt bei Beckenenge; Modifizierte Technik der Metreuryse und ihre Erfolge. H. Pape (Giessen).
23 Study of the Ovum in the Ovary. K. Fränz (Halle).—Ueber Einbettung und Wachsthum des Eies im Eierstock.
24 *Congenital Perithelial Tumor. H. Füth (Leipsic).—Ueber eine angeborene Geschwulstbildnng perithelialer Natur.
25 Der Verschluss des Ductus arteriosus. P. Strassmanu (Berlin).
26 *Cases of Myoma at Zurich Clinic in 13 Years. Schwarzenbach.—Die Myomfälle der Frauenklinik in Zürich in den letzten 13 Jahren.

Deutsche Zeitft. f. Chir. (Berlin), lxiii, March and April.

27 (Nos. 1 and 2.) Acute (eitrige) Peritonitis. Lennander (Upsala).
28 Incarceration of Appendix in Hernia. A. Barth. Ueber Brucheinklemmung des Processus vermiformis.
29 *Pterygium colli. Fiucke (Melle).
30 *Treatment of Flatfoot. C. Nicoladoni (Graz).—Zur Plattfuss-Therapie.
31 Beiträge zur Keuntniss der Epiphysen-Osteomyelitis und deren Behandluug. P. F. Becker (Aix).
32 (Nos. 3 and 4.) Results of Personal Method of Treating Fractures and Resections of Long Bones aud Joints. N. Wolkowitsch (Kiev).—Ueber die von mir angewandten Behaudlungsmethoden von Fracturen der grosseu Kuochen der Extremitäten und Gelenksresectionen.
33 *Klin. und exp. Beiträge znr Frage der peritonealen Adhäsionen nach Laparotomien. K. Vogel (Bonn).
34 Metastatic Lime in Neoplasms. O. Beuder (Leipsic).—Ueber eiu periostales Rundzellensarkom und ein Myelom mit Kalkmetastasen.
35 Stab Wouuds of Liver. I. I. Grekow (St. Petersburg).—Beitrag zur Casuistik der Stich-Schnittverletzungen der Leber.
36 *Ruptures of Liver. B. K. Finkelstein (St. Petersburg).—Beitrag zur Frage der Leberrupturen.

Deutsche Zeitft. f. Nervenheilkunde (Leipzig), xxi, 3 and 4.

37 Fall von asthenischer Bulbärparalyse mit Sectionsbefund. E. Liefmann (Freiburg).
38 Psychic Troubles in Cases of Tumors and Injuries of the Frontal Lobes. E. Mueller.—Ueber psychische Störungen bei Geschwülsten und Verletzungen des Stirnhirnes.
39 Die Centrifugale Leituug im sensiblen Eudneurou. O. Kohnstamm (Königstein).
40 Ueber operative Eingriffe bei Epilepsie choreica. W. v. Bechterew.
41 Consequences of Almost Total Strumectomy. H. Lundborg (Upsala).—Ueber die Folgeu fast totaler Strumectomien.
42 Zur Frage der Localisatiou der reflectonischen Pupillenstarre. G. Wolff (Basle).
43 Beitrag zur Frage ueber infantile Tabes. H. Idelsohn (Riga).
44 Study of Tendon Reflexes. S. Schoeuborn (Heidelberg).—Bemerkungen zur klin. Beobachtung der Haut und Sehnenreflexe der unteren Körperhalfte.
45 Changes in the Spinal Cord in Case of Cerebral Compression. R. Finkeluburg (Bonn).—Ueber Rückeumarksveränderungen bei Hirndrucke.

Jahrbuch f. Kinderheilkunde (Berlin), May.

46 Ueber das Verhältniss von Intubation und Tracheotomie bei der Behandlung der diphtheritischen Larynxsteuose. Ganghofner (Prague).
47 Albuminuria in Diphtheria. J. Langer (Prague).—Zur Beurtheilung der Eiweissbefunde im Harne diphtheriekranker Kinder.
48 *Serum-Exanthemata. G. R. v. Rittenshain (Prague).—Erfahrungen ueber die in den letzten 4 Jahren beobachten Serumexantheme.
49 Parrot's Pseudo-Paralysis in Congenital Syphilis. F. Scherer (Prague).—Die Parrot'schen Pseudoparalysen bei angeborener Syphilis.
50 Accidents from Swallowing Lye. J. Kramsztyk (Warsaw).—Ueber Vergiftung mit Natronlauge bei Kindern.
51 Review of Scandinavian Pediatric Literature. A. Johannessen (Christiania).—Uebersicht ueber die Nordische pädiatrische Literatur.

Muenchener Med. Wochenschrift, May 20.

52 Hemoglobinuria of Pregnancy. L. Brauer (Heidelberg).—Ueber Graviditäts-Haemoglobinurie.
53 Ueber die multiple Carcinomatose des Centralnervensystems. E. Siefert (Halle).
54 *Casuistischer Beitrag zur Eclampsie. K. Kamann.
55 Serum Treatment of Exophthalmic Goiter. Schultes (Hanau). W. Goebel (Bielefeld).—Zur Serumbehandlung der Basedow'schen Krankheit.
56 *Zur Frage des Malum perforans pedis, mit besonderer Berücksichtigung seiner Aetiologie. E. Tomasczewski.

May 27.

57 *Ueber multiple Sklerose in klinischer Beziehuug und ihre differentielle Diagnose. G. Treupel.
58 Indirect Transplantation of Tendons. M. Mainzer (Frankfurt).—Ueber indirekte Sehnenüberpflanzung.
59 Toe Reflex. H. Levi (Stuttgart).—Ueber Zehenreflexe.
60 Causal Agent of Actinomycosis. K. Doepke (Bamberg).—Beitrag zur Kenntniss des Erregers der menschlichen Aktinomykose.
61 *Zur Therapie der Melaena neonatorum. M. Döllner (Vallendar).
62 Spastic Mydriasis from Foreign Body in Ear. Bandeller.—Spastische Mydriasis durch Fremdkörper im Ohr.
63 Small Apparatus for Determining Total Acidity of Stomach. G. D. Spineanu (Bucharest).—Apparat zur Bestimmung des Gesammtsäuregehaltes des Magensaftes.

Therapeutische Monatshefte (Berlin), May.

64 The Successes of Serum Treatment of Diphtheria. Kassowitz (Vienna).—Die Erfolge des Diphtherieheilserums.
65 *Questions of the Day in Sanatorium Treatment. Nahm (Ruppertshain).—Heilstätten-, Zeit-, und Streitfragen.
66 Medicinal Treatment of Perityphlitis. L. Bourget (Lausanne).—Die medicinale Behandlung der Perityphlitis.
67 Dieto-therapeutic Value of the Prepared Food "Alcarnose." J. A. Goldmann (Vienna).—Das Nährpräparat Alcarnose.
68 Malaria Treatment of Cancer. A. E. Neumann (Berlin).—Zur Frage der Malariabehandlung des Krebses.
69 Mechanical Predisposition of Affections of the Mucous Membrane in Case of Lupus. E. Hollaender.—Ueber die mech. Dispositiou der Schleimhauterkrankungen bei Lupus vulgaris.
70 To Expel the Blood from the Finger. F. Bock.—Zur Erzielung localer Blutleere.

Giornale Accad. di Med. (Turin), March.

71 *Medicated Lavage of the Organism. Sanquirico and Scofone.—Lavatura medicata dell'organismo.
72 Natura psico-meccanica di alcuue sensazioni e rappresentazioni musicali. Analisi del prodotto geniale. G. Gallerani.
73 *L'iniblzione e gli stati ipnotici. Ibid.
74 Transplantation of Submaxillary Gland. D. Ottolenghi.—Ricerche sperimentali sul trapianto della ghiandola sallvare sottomascellare.

Russki Vratch (St. Petersburg), April 26 to May 17.

75 (No. 16.) *Cutaneous Affections from Primroses. A. L. Lyantz.—Porazhenie kozhi vyzyvaemoe nyekotoryml vldami primuly.
76 (No. 17.) Relations Between Elements of Nerves, Vessels, Etc. M. D. Lavdovsky.—O vzyamykh otnosheniakh mezhdu nervnymi, ne nervnymi i sosudistymi elementami.
77 (No. 18.) Abscess Formation in Typhoid Fever and the Agglutinating Reaction. A. B. Aranoff.—K voprosu o bryusnotyphoznom nagnoenie i reaktzi Vidal-Gruber'a.
78 Study of Pancreatic Juice in Its Relations to Ferments. L. V. Popelsky.—Pritchiny raznoobraziya svoistv rodzheludotchnova soka v otnosheni byelkovova brodlla.
79 (No. 19.) Gelatinous Urine. N. P. Kravkoff.—O studnevidnoi motchye.
80 Successful Application of Ring-finger in Autoplastic Restoration of Nose. R. R. Vreden.—Obrazovanie nosa iz paltza.
81 Isolation of Typhoid Bacilli from Water. A. V. Vindelbandt.—O izolatzi bryushnotyphoznol palotchki iz vody.

El Siglo Medico (Madrid), April 20 to May 18.

82 (No. 2521.) La diabetes sacarina y la terapeutica hidrologica. B. Q. Agius.

---

1. **Tuberculin.**—Wilkinson believes in tuberculin as a remedy for tuberculosis, but insists that it is a specific remedy not available in mixed infection, where it may do harm. Fever is a danger signal usually indicating this condition, though it may exist in its absence, and on the other hand may itself be absent in mixed disorders. Tuberculin can do no good for other infections than tuberculosis. He holds that it should be also used as a measure of prophylaxis in all sanatoria.

2. **Control of Tuberculosis.**—The conclusions of Pattin's article are given as follows: 1. Reliable information as to the whereabouts of tuberculous cases which, in his judgment, can be acquired by obligatory notification only. 2. Vigorous adoption of consequential administrative measures as to destruction of sputum, etc., and disinfection and improvement of affected dwellings, and sometimes their condemnation and removal. 3. Provision of sanatoria for recuperative treatment either by sanitary authorities singly or conjointly. 4. Instruction in all elementary schools in the means of propagation, and the methods of prevention, in dealing with tuberculous diseases. With the adoption of the above measures, he says we may hope greatly to diminish the untimely yield of human lives which is now garnered annually by the tubercle bacillus; to say nothing of the lessening of the pain and misery which too often makes those who should be healthy and useful members of our national family pathetically hopeless and practically dangerous.

6. **Thrombosis.**—Gould's third lecture, the former ones having been published in the *Lancet*, March 1 and 15, takes up the subject of thrombosis. He insists on the rejection of any theory of hyperinosis, but holds thrombosis is due to some agent inducing separation of the fibrin from the plasma and the causes of the change may be supposed to be either in the corpuscles, in an increase in viscosity of the platelets, an increase in the fibrin ferment, or an increased liberation of fibrin ferment. It is possible that various micro-organisms or their toxins may influence the formation of platelets or produce

fibrin fermentation; the tendency of the clot to extend bears on this question. The medical conditions which influence blood clotting are changes in the nutritive conditions of the walls and in the regular equable flow of the blood. The latter suggests a sudden dilatation, the entrance of a small vein into a larger one, etc. He calls attention to two modifications of the circulation, regurgitation from deep into superficial veins which is so constant in varicose conditions and there is no doubt that thrombosis is much more common in varicose veins than in others. The other alteration is that produced by a block in the main artery. The thrombosis extends up the artery toward the heart and not in the direction of the circulation, as in the cases of the vein. Another important modification is the great enfeeblement of the heart. He describes several forms of thrombosis, giving the name of endophlebitis obliterans to a type which he thinks is closely allied to cases of arteritis obliterans.

13. **Cancer in India.**—The prevalence of cancer in India is noticed by Niblock, who calls attention to the increased proportion of carcinomas of the cheek and jaws, which he thinks is due to betel-nut chewing, also carcinoma of the penis, which seems to be very common among the poorer classes, and due to unsanitary habits. The Mohammedans are comparatively free from it, being circumcised. In Madras cancer is by no means infrequently met with.

14. **Malignant Disease in Kashmir.**—Neve gives the facts of malignant disease in Kashmir, calling attention to the comparative frequency of cancer, the great majority of cases being epithelial, due to "kangri burns" from portable stoves, which they carry under their clothing. Sarcomata are also moderately common, the majority are of the large celled variety, round or spindle-celled. The patients frequently pay little attention to them as long as function is not impaired, hence surgical treatment is embarrassed.

19. **Extirpation of Glands in Case of Carcinoma Uteri.**—Herff reports a permanent cure in 21.7 per cent. of 213 cases of carcinoma in the uterus operated on more than three years ago. Omitting those that have been lost sight of, the percentage is 25.1 per cent. The proportion of permanent cures among 124 patients operated on more than seven years ago is 19.3 per cent., and omitting those lost sight of, 23.7 per cent. The total mortality in the group of 213 cases was 4.6 per cent. Assuming that no more than half of the cases had the glands involved, the recoveries would evidently have been more numerous if the glands had been extirpated at the same time. In order to simplify and facilitate the technic, Herff incises across from one spine to the other, above the pubis, and recommends this method of procedure for extirpating the glands in such cases.

20. **Drainage After Symphysiotomy.**—Zweifel reiterates that in comparison with the importance of the treatment of the prevesical space all the other steps of symphysiotomy are insignificant. He drains it through the vagina, using a glass tube long enough to project from the vulva. A double thread is fastened to its upper end and is brought out through the wound on the mons veneris, where it is loosely tied over one of the threads of the suture. In four days it is untied and the tube is drawn out from below, a little at a time.

21. **Artificial Tubal Sterilization.**—Ehrendorfer describes a case in detail to demonstrate the benefits of wedge excision for the removal of sound tubes on each side in case of imperative necessity for the prevention of conception. Menstruation is retained, while the power of conceiving is completely abolished.

24. **Congenital Perithelial Tumor.**—Füth claims that the tumor he describes is the only known example of its kind. It was in the gum of a girl baby two days old, and although it did not start in the enamel germ yet it had involved the latter in its growth. It was as large as a hen's egg and protruded from the mouth at birth. After its removal the teeth developed normally except the two upper incisors, which are rudimentary and gray in color. The child is now a healthy two-year-old. Six cases are on record of perithelial tumors of the ovary, of which three were malignant.

26. **Cases of Myoma Operated on at Zurich.**—Schwarzenbach reports the results of surgical intervention in 393 cases of myoma. The mortality of 77 treated by supravaginal amputation was only 4 per cent., while it was 9 per cent. in 31 treated by total hysterectomy.

29. **Pterygium Colli.**—Fincke operated on the patient whose case is described, and with the most satisfactory results. He attributes the deformity to amniotic adhesions and not to atavism as has been suggested.

30. **Treatment of Flat Foot.**—Nicoladoni divides the tendo Achillis lengthwise into two parts up into the triceps. One of the parts he passes through a slit in the tibialis and turns it back on itself and sutures it to fasten it with considerable traction. The loop thus formed, passing through the tibialis, strengthens the latter and induces correct anatomic traction which remedies the tendency to flat foot. The insole to be worn is mounted at the center on an axle which raises it about an inch above the sole of the shoe. A peg at the heel prevents the heel from falling below the level of the axle at the center, but the fore part of the foot has free motion up and down.

33. **Avoidance of Post-Operative Peritoneal Adhesions.**—Vogel does not assert that post-operative peritoneal adhesions can be banished from the world by following his suggestions, but he is evidently privately convinced that such is the case. His extensive experimental and clinical researches have demonstrated that the formation of adhesions can be prevented by not allowing the raw surfaces to rest against each other long enough for adhesions to form. If the position of the intestines in regard to each other is constantly altered, adhesions can not develop. After the injured surfaces of the serosa have become coated once more with endothelium this restores their normal protection against the formation of adhesions. Frequent changes in position after a laparotomy should be supplemented by measures to promote active and passive movements of the intestines. Active peristalsis was most effectually promoted in his experimental research by subcutaneous injection of physostigmin salicyl.; passive movements by separating the surfaces in contact by the intraperitoneal application of a thick solution of gum Arabic in physiologic salt solution. Physostigmin has a vigorous action in promoting peristalsis while it spares the stomach and does not affect the general health. He recently used it after a laparotomy done on account of ileus following long constipation. It proved remarkably successful. He has followed these principles in the post-operative treatment of five patients. The patient can be turned on the side five to eight days after a laparotomy if the suture was well done. If catgut was the only material used this might be dangerous, and he therefore advises a combination of silver wire and catgut. He urgently recommends to others the principles of early change of position, gentle massage during healing of wound and later gymnastics of the abdomen.

36. **Ruptures of the Liver.**—Finkelstein has collected 21 cases in which rupture of the liver was followed by recovery. Only 3 were sutured. In 14 tampons alone were used and in 1 tampons and sutures. One was cauterized with steam and in 2 the rupture was left to heal spontaneously as the operation showed that the hemorrhage had been spontaneously arrested. Secondary hemorrhage occurred later in these two cases, compelling resort to tampons. On account of the danger of this, it is always advisable to apply tampons even if there is no hemorrhage at the time. They should be detached and removed later one at a time.

48. **Serum Exanthemata.**—Rittershain announces that he has only been able to find 6.45 per cent. as the statistics of exanthemata following serum treatment during the last four years. Before that, the statistics showed that 22 per cent. were affected with an exanthem. When it resembles the eruption of scarlet fever it is advisable to isolate the child to avoid all chances of possible contagion.

54. **Tropacocain in Eclampsia.**—The case of eclampsia reported was distinguished by the immediate arrest of the eclamptic seizures by spinal tropacocainization. Not even an abortive attack occurred after it, although eighteen severe ones

had preceded it. The patient roused from profound coma and regained consciousness. Pulse and temperature returned to normal and a viable child was delivered without pain. After a period of euphoria the patient died with symptoms of a severe liver affection which could be attributed only to processes in the liver caused by the penetration of toxic substances from the fetus through the placenta into the maternal circulation. These processes terminated in necrosis and they must have occurred before the first appearance of the eclampsia or as a consequence of it. Death was due to insufficiency of the heart in consequence of pneumonia of the left upper lobe. This diagnosis was confirmed by the autopsy in every respect. Von Winckel asserted so long ago as 1865 that the danger for the pregnant woman in eclampsia is materially or entirely abolished by the death of the fetus, which arrests the passage of toxic substances from the fetal into the maternal circulation.

56. **Etiology and Significance of Malum Perforans Pedis.**—This communication from Neisser's clinic emphasizes the importance of this affection as an early manifestation of arteriosclerosis, diabetes mellitus or trophic disturbance dependent on some cerebral, spinal or peripheral nerve lesion. Cases are on record in which it was the first sign of impending tabes or other serious affection. The pulse in the foot should be investigated, the urine examined for sugar, etc. If ulcer does not occupy the typical spots and persists for years without evidences of a nervous or general affection, it is probably of another nature. He describes the case of a blacksmith who had suffered for twelve years from a chronic ulceration on the sole of one foot. Symptoms of syringomyelia then developed which brought him to the doctor. The ulceration healed completely in about four weeks under rest in bed, local treatment and a course of iodin.

57. **Differential Diagnosis of Multiple Sclerosis.**—The German regulations in regard to industrial insurance and pensions are producing a crop of traumatic affections which require the utmost skill on the part of the physician to distinguish between hysteria, simulation and actual morbid conditions. The contributions to literature in this line are becoming more and more numerous. Treupel describes several cases of multiple sclerosis which were puzzling at first. It developed in one case after getting chilled from standing in very cold water to the hips. The first symptom was a disturbance in the speech. This was followed by retention of urine and stools, neuralgias, staggering gait, irresistible laughing and tremor. Another case commenced after a trauma with paralysis of the legs and tremor with nystagmus, but time alone can decide whether it is not merely hysteria and simulation of which there is a suspicion. In another case the diagnosis wavers between sclerosis and paralysis agitans, although the atrophy of the optic nerve speaks in favor of the former. It occurs in 50 per cent. of all cases, he states, and in about 15 per cent. is the first and for a long time the only symptom of multiple sclerosis.

61. **Gelatin in Melena Neonatorum.**—Called to an emergency case of melena neonatorum in a healthy family, Döllner injected 40 c.c. of a 2 per cent. solution of gelatin in four doses in five hours. All the symptoms rapidly subsided. He attributes the melena in such cases to an abnormal permeability of the vessels which became rapidly repaired. This would explain why the melena did not recur after the action of the gelatin had subsided. He used a combination of 2 parts white gelatin to .12 parts sodium chlorid in 100 parts water, at the temperature of 100.5 F., making the injections near the inner margin of the scapula.

65. **Questions of the Day in Sanatorium Treatment.**—Among the points emphasized by Nahm is that before a patient is admitted to a tuberculosis sanatorium his teeth must be in good order and he must be free from complicating gastro-intestinal disorders, laryngeal tuberculosis and albuminuria. The prospects of recovery depend on a good stomach, good teeth and a good heart. Hemoptysis frequently sends the subject to the physician at an early stage and is thus an advantage. When patients are dismissed from a sanatorium they should reside permanently in the country. Immense progress would be gained if on leaving the sanatorium the patients could step at once into some remunerative occupation in the country. He urges the establishment of colonies for the purpose.

71. **Medicated Lavage of the Organism.**—Rinsing out the organism by means of the circulation will eliminate even a letal dose of toxin in certain circumstances, as Sanquirico has established by previous research. The injection into the circulation of bacterial products was able to enhance the resisting powers of the organism and render it an unfavorable soil for the development of certain microbes. He also found that the injection of a strongly bactericidal substance was compatible with life in certain conditions. He proclaims that the arresting of the vital processes of bacteria is not enough in the struggle against certain diseases. We must also aid in expelling their poisonous products from the system more rapidly than is possible by the natural emunctories alone. The experimental research reported in this communication was undertaken to determine the amount of an antiseptic substance which can be safely injected into the circulation to accomplish the desired medicated lavage of the organism. With sublimate, 2 mg. per kilogram seemed to be the limit of the dose that was tolerated; 20 cg. of thymol per kilogram in the twenty-four hours; 17 cg. of argonin per kilogram and 4 cg. of protargol per kilogram. Very toxic substances are not applicable for the purpose nor those affecting the heart or renal functions.

73. **Inhibition and the Hypnotic State.**—Gallerani reports the results of numerous tests with the sphygmograph, pneumograph, etc., to investigate the true essence of hypnotism. The conclusions are that the phenomena observed in the hypnotic state are due to an influence on the inhibiting centers of the brain or to superexcitation of the centers of automatic movements. The facts observed establish the existence of centers of interference, of inhibition, of control, in the cortex, which normally have an inhibiting action on the automatic functions, on the vascular and respiratory tonus. If these inhibiting centers are arrested in their action, the centers under their control behave irregularly and the eccentric electro-negative condition of the organism is increased, especially in the muscular domain.

75. **Cutaneous Affection from Primroses.**—Lyantz has observed four cases of the inflammatory process in the skin traceable to the primula obconica. All the patients were adults. The affection resembled in every respect acute eczema, and usually healed on the removal of the cause, as has been the experience of others who have observed this "primula inflammation." But in a few instances it has been known to persist as a chronic eczema.

Queries and Minor Notes.

TIME FOR EUROPEAN EYE AND EAR STUDY.

CROOKSTON, MINN., June 13, 1902.

To the Editor:—Would the summer or winter session be the best for studying at the London, Vienna or German eye and ear clinics? G. A. M.

ANS.—From good authority we learn that the best time for study or observation of methods at the London eye and ear clinics is the summer, and at the continental ones the winter session.

LAWS ON MEDICAL PRACTICE.

OXFORD, MD., June 18, 1902.

To the Editor:—Will you kindly give me the requirements of the different states for registration in medicine or let me know where I can get them and oblige. H. H. J.

ANS.—THE JOURNAL has published an abstract of the laws of the different states in its issue of Nov. 16, 1902, and revised to date Jan. 1, 1902, a copy of which may be had for 25 cents.

A WORK ON MASSAGE OF THE LIVER.

CHICAGO, June 16, 1902.

To the Editor:—Will you kindly inform me if the study of "Actual Massage of the Liver," by De Frumerie is obtainable and given in English? I. L. G.

ANS.—We are not informed of any English or American translation of the work; it is quoted as published at Paris in 1901

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., June 5 to 11, 1902, inclusive:

W. Edson Apple, captain and asst-surgeon, Vols., now at Philadelphia, Pa., will, on the expiration of his present leave of absence, report for temporary duty at Columbus Barracks, Ohio.

Harry D. Belt, contract surgeon, on the expiration of his present leave of absence, to proceed from Kenton, Ohio, to Fort Keogh, Mont., for duty.

Christopher C. Collins, lieutenant and asst.-surgeon, U. S. A., leave of absence for one month granted, with permission to apply for an extension of two months.

Elmer A. Dean, lieutenant and asst.-surgeon, U. S. A., relieved from further duty at the General Hospital, Presidio of San Francisco, and assigned to duty at Columbia Arsenal, Columbia, Tenn.

William H. Forwood, colonel and assistant surgeon-general, former orders directing him to proceed to Saratoga, N. Y., to represent the Medical Department of the Army at the fifty-third annual meeting of the American Medical Association, revoked.

Alfred C. Girard, lieut.-col. and deputy surgeon-general, on being relieved from command of the General Hospital, Presidio of San Francisco, to proceed to Washington, D. C., for duty in the office of the Surgeon-General.

Herbert I. Harris, contract surgeon, former orders relating to Contract Surgeon Herbert W. Hatch, amended to read Herbert I. Harris, member of a board at Chickamauga, Ga., to examine officers of the Army for promotion.

Eugene H. Hartnett, lieutenant and asst.-surgeon, U. S. A., leave of absence for two months granted, with permission to go beyond sea.

Oliver M. Holliday, contract surgeon, now at Burrton, Kan., to proceed to San Francisco, en route for assignment in the Division of the Philippines.

William P. Kendall, major and surgeon, U. S. A., on being relieved from duty at Fort Porter, N. Y., to proceed to San Francisco, for assignment to the command of the General Hospital at that place, relieving Lieut.-Col. Alfred C. Girard, deputy surgeon-general.

Donald P. McCord, captain and asst.-surgeon, Vols., now at San Francisco, to duty as transport surgeon of the transport *Warren*.

Edward L. Munson, captain and asst.-surgeon, U. S. A., member of a board of survey convened at the War Department, Washington, D. C.

Robert H. Pierson, contract surgeon, now at Syracuse, N. Y., to duty at Fort Columbus, N. Y.

Edward W. Pinkham, lieutenant and asst.-surgeon, U. S. A., former orders accepting his resignation, to take effect June 10, 1902, revoked.

John J. Reilly, lieutenant and asst.-surgeon, U. S. A., from Fort Slocum, N. Y., to duty at Fort Porter, N. Y., relieving Major William P. Kendall, surgeon, U. S. A.

George M. Sternberg, brigadier-general and surgeon-general, U. S. A., retired from active service, June 8, 1902, by operation of law, having reached the age of 64 years.

Frank F. Woodbury, lieutenant and asst.-surgeon, U. S. A., relieved from further duty in the Division of the Philippines, to proceed to San Francisco, and on arrival report by telegraph to the Adjutant-General of the Army for instructions.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending June 14, 1902:

Surgeon J. W. Ross, retired, detached from duty under the War Department at the Hospital Las Animas, Havana, Cuba, and ordered home.

Asst.-Surgeon E. M. Brown, ordered to the Naval Hospital, Mare Island, Cal., for duty.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ended June 12, 1902:

Surgeon L. L. Williams, granted leave of absence for ten days from June 10.

P. A. Surgeon C. P. Wertenbaker, granted leave of absence for ten days from June 9.

P. A. Surgeon A. C. Smith, granted leave of absence for thirty days from July 10.

P. A. Surgeon M. J. Rosenau, detailed to represent service at meeting of American Medical Association, Saratoga, N. Y., June 10 to 13.

P. A. Surgeon C. H. Gardner, granted leave of absence for one month from July 1.

P. A. Surgeon A. R. Thomas, granted leave of absence for one month, on account of sickness.

Asst.-Surgeon H. C. Russell, leave of absence for two weeks granted by Bureau letter of May 29, amended so that said leave shall be for four days from May 30.

A. A. Surgeon J. M. Keyes, granted leave of absence for twenty days from May 26.

A. A. Surgeon W. R. Mason, granted leave of absence for six days from June 22.

A. A. Surgeon J. C. Rodman, granted leave of absence for seven days from June 10.

A. A. Surgeon C. B. Sweeting, granted leave of absence for thirty days, on account of sickness, from June 1.

A. A. Surgeon C. F. Ulrich, granted leave of absence for 29 days from June 2.

Senior Pharmacist S. W. Richardson, relieved from duty at the South Carolina Interstate and West Indian Exposition, to take effect June 9.

PROMOTIONS.

Asst.-Surgeon John McMullen, promoted and appointed passed asst.-surgeon, and to rank as such from May 17, 1902.

Asst.-Surgeon S. B. Grubbs, promoted and appointed passed asst.-surgeon, and to rank as such from May 19, 1902.

BOARD CONVENED.

Board convened to meet in Washington, D. C., June 7, 1902, for the physical examination of candidates for admission to the Revenue Cutter Service. Detail for the Board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon A. J. McLaughlin, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended June 14, 1902:

SMALLPOX—UNITED STATES.

California: San Francisco, May 18-25, 6 cases.

Colorado: Denver, May 24-31, 1 case.

Florida: June 4, Oakhill, 4 cases; Palmetto, 1 case.

Illinois: Belleville, May 31-June 7, 1 case; Chicago, May 31-June 7, 21 cases; Freeport, May 24-31, 2 cases.

Indiana: Indianapolis, May 24-31, 8 cases; Muncie, May 1-31, 9 cases; South Bend, May 24-31, 2 cases; Terre Haute, May 24-31, 1 case.

Iowa: Ottumwa, May 3-31, 7 cases.

Kansas: Wichita, May 24-31, 4 cases.

Kentucky: Covington, May 31-June 7, 16 cases.

Maryland: Baltimore, May 31-June 7, 1 death; Cumberland, May 1-31, 1 case.

Massachusetts: May 31-June 7, Boston, 16 cases, 5 deaths; Cambridge, 3 cases, 1 death; Chelsea, 1 case; Everett, 2 cases; Lowell, 5 cases; Malden, 1 case, 1 death; Somerville, 4 cases.

Michigan: Detroit, May 31-June 7, 9 cases, 1 death; Grand Rapids, May 24-June 7, 2 cases; Ludington, May 17-June 8, 28 cases.

Nebraska: Omaha, June 1-8, 23 cases; South Omaha, May 25-June 1, 33 cases.

New Hampshire: Nashua, May 31-June 7, 7 cases.

New Jersey: Hudson County, Jersey City included, May 25-June 1, 38 cases, 6 deaths; Newark, May 31-June 7, 33 cases, 13 deaths; Passaic, May 25-June 7, 1 case.

New York: New York, May 31-June 7, 63 cases, 19 deaths; Yonkers, May 30-June 6, 1 case.

Ohio: Hamilton, May 31-June 7, 5 cases; Cincinnati, May 30-June 6, 12 cases, 1 death; Cleveland, May 31-June 7, 61 cases, 1 death; Toledo, May 25-31, 3 cases, 1 death.

Pennsylvania: Johnstown, May 31-June 7, 2 cases; McKeesport, May 31-June 7, 1 case; Philadelphia, May 31-June 7, 16 cases, 2 deaths; Pittsburg, May 24-June 7, 48 cases, 3 deaths.

Rhode Island: Providence, March 31-June 7, 1 case.

South Dakota: Sioux Falls, May 24-31, 1 case.

Utah: Ogden, May 1-31, 8 cases; Salt Lake City, May 25-31, 3 cases.

Wisconsin: Green Bay, June 1-8, 3 cases; Janesville, May 25-June 7, 3 cases; Milwaukee, May 31-June 7, 4 cases.

SMALLPOX—INSULAR.

Philippines: Manila, April 19-26, 4 cases, 2 deaths.

SMALLPOX—FOREIGN.

Belgium: Antwerp, May 17-24, 7 cases, 3 deaths.

Brazil: Rio de Janeiro, April 20-May 4, 8 deaths.

Canada: Quebec, May 24-June 7, 19 cases; Vancouver, May 1-31, 1 case; Winnipeg, May 31-June 7, 1 case.

China: Hongkong, April 12-26, 7 cases, 3 deaths.

Colombia: Bocas del Toro, May 12-19, 1 death.

France: Rheims, May 18-25, 1 case.

Great Britain: Birmingham, May 19-24, 6 cases, 1 death; Glasgow, May 22-29, 1 case, 1 death; Liverpool, May 19-24, 1 case; London, May 17-24, 307 cases, 24 deaths.

India: Bombay, April 29-May 13, 16 deaths; Calcutta, April 26-May 10, 8 deaths; Karachi, April 20-May 11, 8 cases, 5 deaths; Madras, April 26-May 2, 2 deaths.

Italy: Palermo, May 10-24, 24 cases, 9 deaths.

Japan: Formosa, Feb. 1-March 31, 169 cases.

Mexico: Vera Cruz, May 24-31, 2 cases, 1 death.

Russia: Moscow, May 10-17, 25 cases, 1 death; Odessa, May 17-24, 13 cases, 3 deaths; St. Petersburg, May 3-17, 21 cases, 3 deaths; Warsaw, April 19-May 3, 4 deaths.

YELLOW FEVER.

Brazil: Rio de Janiero, April 19-May 4, 93 deaths.

Mexico: Vera Cruz, May 24-31, 35 cases, 14 deaths.

CHOLERA—INSULAR.

Philippines: Manila, March 20-April 27, 496 cases, 400 deaths; Albay Province, March 30-April 27, 3 cases; Bataan Province, March 30-April 27, 694 cases, 555 deaths; Bulacan Province, March 30-April 27, 231 cases, 216 deaths; Camarines Province, March 30-April 27, 696 cases, 488 deaths; Cayite Province, March 30-April 27, 10 cases, 8 deaths; Ilocos Norte Province, March 30-April 27, 2 cases, 2 deaths; Laguna Province, March 30-April 27, 2 cases, 2 deaths; Pampanga Province, March 30-April 27, 292 cases, 202 deaths; Pangasinan Province, March 30-April 27, 3 cases, 3 deaths; Rizal Province, March 30-April 27, 163 cases, 112 deaths.

CHOLERA—FOREIGN.

China: Hongkong, April 12-26, 49 cases, 45 deaths.

India: Bombay, April 29-May 13, 3 deaths; Calcutta, April 26-May 10, 156 deaths.

Straits Settlements: Singapore, April 19-26, 52 deaths.

PLAGUE.

China: Hongkong, April 12-26, 12 cases, 11 deaths.

India: Bombay, April 26-May 13, 791 deaths; Calcutta, April 26-May 10, 721 deaths; Karachi, April 20-May 11, 393 cases, 342 deaths.

Japan: Formosa, Feb. 1-March 31, 375 cases, 277 deaths; Nagasaki, May 14, 1 case, 1 death.

UNIVERSITY OF ILLINOIS-URBANA
3 0112 110714547